T/MonXM

Version 6.5A

For T/Mon BAS

DPS Telecom

"Your Partners in Network Alarm Monitoring"

(800) 622-3314 • www.DPSTele.com

4955 E. Yale Avenue, Fresno, California 93727

T/MonXM Software
Version 6.5

User Manual

For T/Mon BAS

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"Your Partners in Network Alarm Monitoring"

4955 East Yale Avenue
Fresno, California 93727

(559) 454-1600
Fax (559) 454-1688

support@dpstele.com
www.dpstele.com

CHANGE NOTICE

This manual has been updated from version 6.3 to version 6.5.
Important changes and notes are indicated by a vertical bar in the margin,
as shown to the left

Retail price $79.

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About this Manual

This manual is divided into three parts:

Part I represents the installation and setup procedures supported for T/Mon and IAM systems. See Section 1 for the T/Mon NOC Hardware installation guide. For IAM-5 and T/MonXM Work Station hardware installation, see Appendix M.

Part II represents the Software Modules. This section supports the software modules available in T/MonXM software. Some are standard, others are optional.

Part III is the Appendix. Appendixes include tables and other support details that may be referred to in Parts I or II.

Document Number

This number appears in the lower left-hand corner of every odd-numbered page. The UM stands for user manual, TMN is for T/MonXM and '630' is the software version and document number: 63 for T/Mon Version 6.5 and '0' for the document number. Upon the tenth revision to the 6.5 manual, the numbering will continue with alphanumerical counting. (i.e., UM-TMN-63A, UM-TMN-63B, etc.)

Note: This manual is continually updated. DPS Telecom will make every effort to provide software owners with the most current manual as it becomes available. To assist us in supporting your manual, please send in the registration card included with your equipment.

NOTE: This user manual is derived from the T/MonXM 6.5 User Manual. It contains only the sections pertinent to the T/Mon BAS. Please note that it may also contain screens/elements **not** supported by the T/Mon BAS.

Supported Systems

T/Mon BAS

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Description

T/Mon BAS is the core of your Building Access System. It receives the additions and changes you make to the user database (either directly or via the Windows(R)-based editing software). The appropriate segments of your user database are then propogated to each NetGuardian at each access-controlled remote site.

When access attempts are made at a remote site (via keypad or proxy card), the local NetGuardian makes an access decision with the user database segment it received from T/Mon. Even if remote connectivity with T/Mon BAS is lost, the local NetGuardian can continue making access decisions.

T/Mon BAS also collects, logs, and reports every user access and intrusion alarm.

Remotes

NetGuardian 832

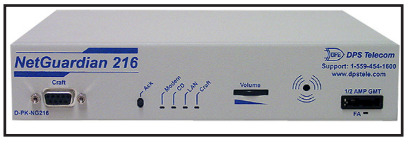
NetGuardian 832

Multifucntion LAN-based remote with 32 discrete alarms, 32 ping alarms, 8 analog alarms, 8 control relays, and 8 serial reach-through ports. Supports SNMP and DCPx. 1 RU for 19” or 23” rack.

NetGuardian 16S

NetGuardian 16S

With 16 serial ports, integrated local audiovisual notification, two separate NICs, powerful alarm collection and versatile alarm reporting via SNMP Trap, email and pager, the NetGuardian-16S can handle any alarm monitoring need. 1RU for 19” or 23” rack mount.



NetGuardian 216

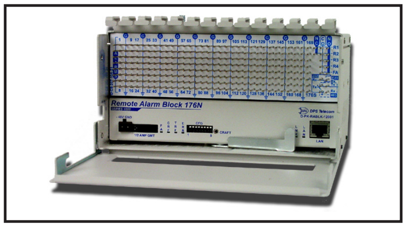
NetGuardian 216

Light-capacity LAN-based remote with 16 discrete alarms, 2 analog alarms, 2 control relays and 1 serial reach-through port. Supports SNMP, DCP, DCPf, DCPx and DCP1. Two form factors: 19” or 23” rack mount or wall mount.

NetGuardian 480

NetGuardian 480

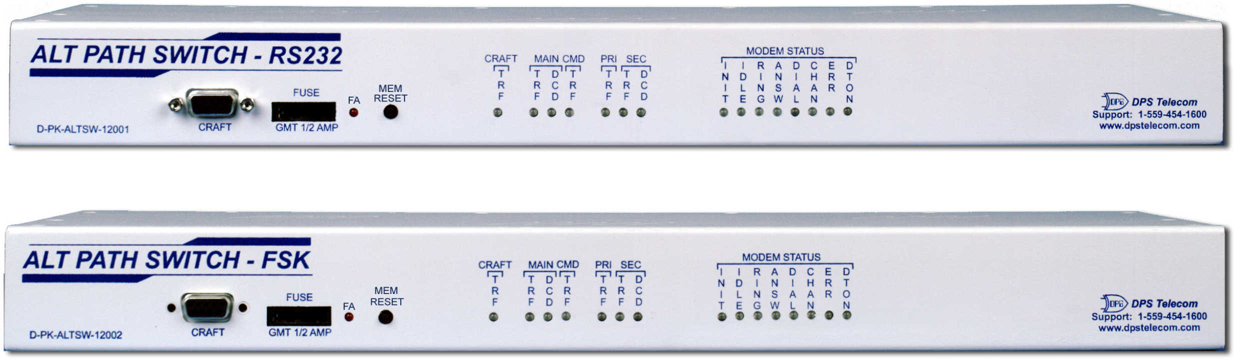
Large-capacity LAN-based remote with 80 discrete inputs and 4 control relays. for SNMP, TL1, DCP, DCPf, DCPx and DCP 1. 1RU for 19” or 23” rack mount.



Remote Alarm Block 176N

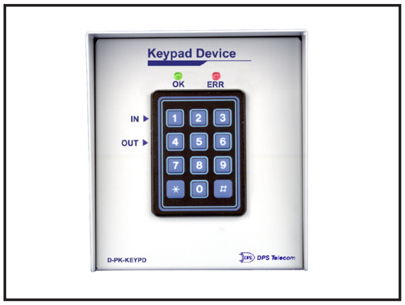
Remote Alarm Block (RAB) 176N

Compact, high-capacity, LAN or serial alarm block with 176 discrete alarms and 4 controls. Wire-wrap terminal connectors. Supports SNMP, DCP, DCPf, DCPx and DCP 1. LAN, RS-232 or RS-485 interface. Rack or wall mount.

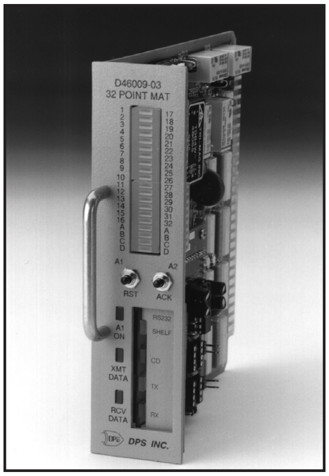


Alt. Path Switch RS232 and FSK

NetDog



Building Access System Keypad



Modular Alarm Transmitter

NetDog
Compact LAN-based remote with 32 ping alarms, 8 discrete alarms, 2 controls and 1 reach-through serial port.

KDA Remote Telemetry Unit
General-purpose LAN, serial or dial-up remote with 64 discrete alarms and 8 control relays. 1 RU for 19” or 23” rack. Provides space for one of several accessory cards to be installed to add additional relays, analog inputs, TBOS inputs and ASCII ports. Options available for TL1 output and time-stamping. Model KDA 832-T8 supports 32 alarms, 8 controls and 8 TBOS ports.

AlphaMax 82A
Compact dial-up remote with 8 alarm inputs and 2 control outputs.

Discrete Point Module (DPM)
Compact remote with 16 alarm inputs and 2 control outputs. Available for dial-up or dedicated line.

DPM 416-S2
Dial-Up DPM with 16 Alarms, 4 Controls and 2 ASCII Craft Access ports.

DPM 216-TL1 Dedicated line DPM with one TBOS serial input port and TL1 reporting.

Discrete Control Module
Compact remote with 2 alarm inputs and 16 control outputs. Available for dial-up or dedicated line.

APM 48 - ASCII Processor Module
Compact dial-up remote with ASCII string interpretation ability. Generates alarms upon reading pre-defined ASCII data string.

Alt Path Switch RS232 and FSK
The Alt Path Switch provides redundant communication channels between a T/Mon NOC network alarm management system and a DPS Telecom remote telemetry unit. There are two models of Alt Path Switch, the Alt Path Switch-RS232 and Alt Path Switch-FSK.

Building Status Unit
Alarm status indicator controlled by T/Mon NOC. Can be located in any remote building to show local alarms.

Building Access System
Centralized building access control system integrated into T/Mon NOC. Supports keybad entry, time-limited access codes, central database of persons permitted entry, real-time notification of unauthorized entry attempts and intrusions.

Modular Alarm System
Plug-in 400-type modules and sub-assemblies for configuring large alarm and control remotes. Modules currently available include:

MAT
Modular Alarm Transmitter. Supports 32 alarm inputs.

CPM
Control Processing Module. Supports 16 control outputs.

TBOS
TBOS Collector Module. Supports 8 TBOS ports. Reports direct to master or via protocol converter in shelf.

TL1 Responder
Assembles alarm data from MAT, TBOS, ADC or CPM modules into TL1 messages for direct reporting to TL1 OSS.

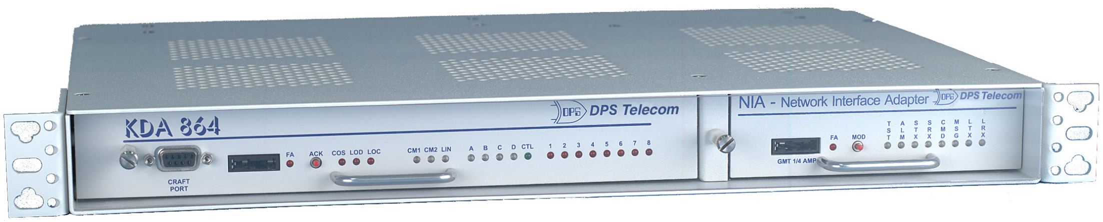
E2A Mediation Device
Assembles alarm data from MAT, TBOS, ADC or CPM modules into E2A protocol format for direct reporting to NMA center.

Fuse Module
Provides 13 1/4 amp fuses.

Sub-assemblies
Sub-assemblies support various communications interfaces, including RS 232, RS 422/485, 202 Modem and 212 Dial-Up Modem.
Support Services

Maintenance contracts for extended warranty are available on all products. Installation and turnup provides on-site factory support for installation and training.Custom programming and databasing services are available to meet specific customer needs.

For additional items visit our website at www.dpstele.com.



KDA 864 Remote with NIA expansion card

Section 1 - T/Mon NOC Hardware Installation Guide

Specifications

Dimensions:	10.5” (6 RU) H x 17”W X 14”D (26.7 cm x 43.2 cm x 35.6 cm)
Mounting:	19” or 23” rack
Power Input:	Dual –48 VDC or 110 VAC (depending on ordering options)
Current Draw:	–48VDC — 3.5 Amps Peak 110VAC — 2.0 Amps Peak
Fuse:	Two 5-AMP GMT
Serial Ports:	24 pre-populated ports (ports must have appropriate Port Interface Cartridge to be operational)
Serial Port Interfaces:	RS-232 RS-422/485 202 modem 1200 baud modem 33.6K modem FSK modem PSK modem
LAN Interface:	10/100 BaseT
T/AccessMW COM port:	1
Internal Modem:	56K baud (for dial-up console access)
Processor:	2.4 GHz Intel Pentium 4
Hard drive:	Dual SATA 80GB (7200 RPM)
Slots:	6PCI, 1 AGP
Fans:	2 internal, 1 CPU
Removable Storage:	1.44 MB floppy disk drive CD drive
Visual Display:	Front panel LCD SVGA monitor connection (SVGA LCD flat-panel monitor available separately)
Unit Controls:	4 LCD menu control buttons
Hardware Warranty:	2 years
Operating Temperature:	32°–95° F (0°–35° C)
Operating Humidity:	0%–90% noncondensing

Slide Rack Mounting

The vast majority of T/Mon NOC users order their unit with the accessory Slide Rack. The Slide Rack enables T/Mon NOC to easily slide out of its rack position for installation and service access.

Your T/Mon NOC shipped with the Slide Rack already mounted to the unit and with the specified rack ears in the correct position for installation.

Installing the T/Mon NOC with Slide Rack takes three steps:

1. Removing the Slide Rack from the T/Mon NOC
2. Mounting the Slide Rack on the equipment rack
3. Mounting the T/Mon NOC on the Slide Rack.

Note: The T/Mon NOC with Slide Rack occupies 10.5” (6 rack units) of rack space. At least 1 rack unit (1 3/4”) should be allowed above the T/Mon NOC for ventilation. The Slide Rack extends nearly 13” — be sure to provide adequate service loop in the connecting cables to allow the T/Mon NOC to extend to this distance. After installation and testing of the T/Mon NOC is completed, the slide lock screws should be installed in the Slide Rack to prevent accidental migration of the unit into the aisle space. The slide lock screws go into the equipment rack when flush mounted.

Removing the Slide Rack From T/Mon NOC
Removing the Slide Rack makes mounting the T/Mon NOC an easy, one person, job. To remove the Slide Rack, follow these steps:

1. Make sure the T/Mon NOC is off and disconnected from all network interfaces and power supplies.
2. Carefully place the T/Mon NOC upside down on a clean, even surface. (This will not damage the unit.)
3. The T/Mon NOC is secured to the Slide Rack by two screws — see Figure 1.1. Remove these screws and save them for reattaching the unit.
4. Gently lift the Slide Rack to remove it from the T/Mon NOC.

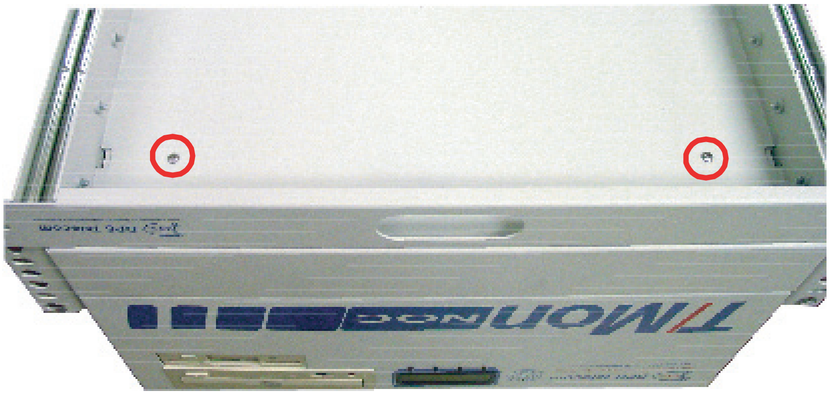


Fig. 1.1 - These screws secure the T/Mon NOC to the Slide Rack

Mounting the Slide Rack

The Slide Rack is light and can easily be mounted to the equipment rack by one person. The rack ears specified with your order (either 19” or 23”) are already attached to the Slide Rack. (If the incorrect ears have been attached to the Slide Rack, look for the extra ears included with your shipment.)

To mount the Slide Rack to the equipment rack, follow these steps:

1. Supporting the Slide Rack with one hand, align the mounting holes in the rack ears with the rack rails.
2. Secure both brackets with the rack screws provided in the hardware bag.

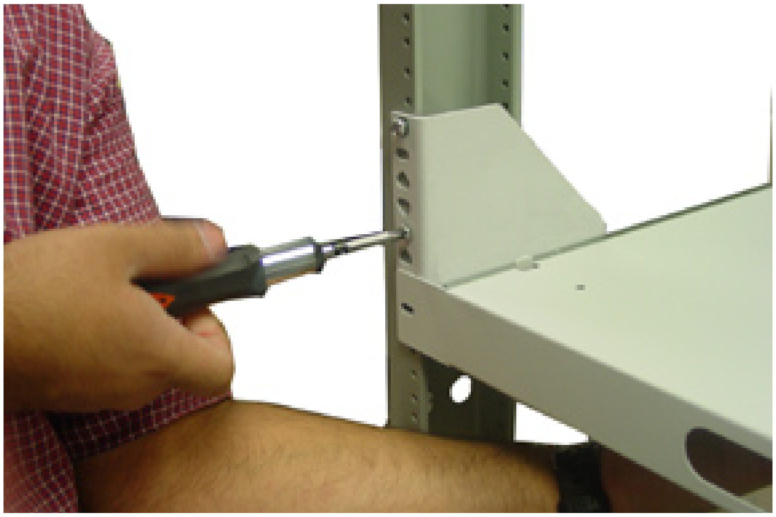


Fig. 1.2 - The Slide Rack can be easily mounted by one person

Mounting the T/Mon NOC on the Slide Rack

To mount the T/Mon NOC on the Slide Rack, follow these steps:

1. Extend the Slide Rack.
2. Lift the T/Mon NOC and place it on the Slide Rack.

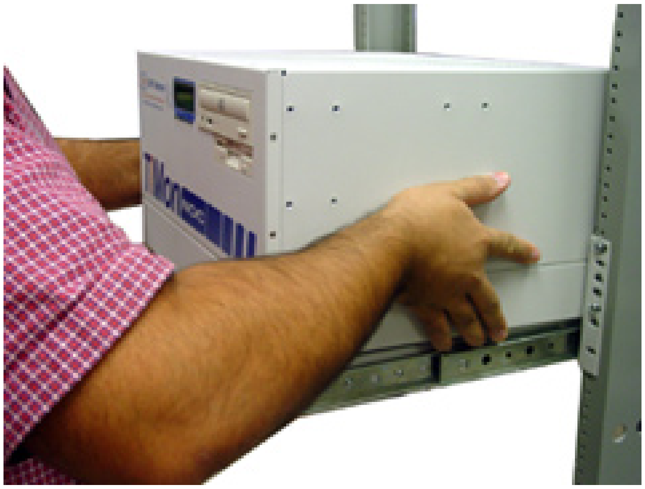


Fig. 1.3 - Place the T/Mon NOC on the extended Slide Rack

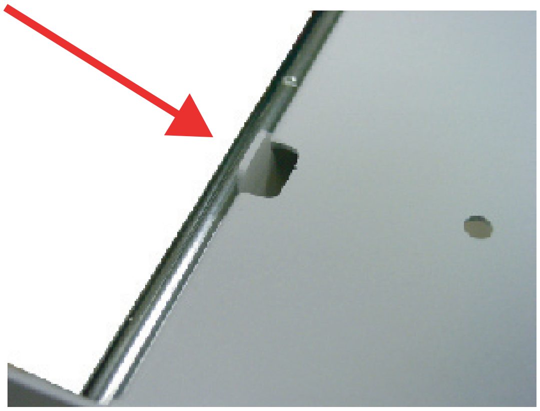


Fig. 1.4 - There is a mounting tab on either side of the Slide Rack approximately 2” from the front of the Slide Rack

3. Align the notches on the bottom of the T/Mon NOC with the mounting tabs on the Slide Rack — see Figure 1.4. There is a tab on either side of the Slide Rack, approximately 2” from the front of the Rack. Gently place the T/Mon NOC onto the mounting tabs.
4. From below the T/Mon NOC, insert the two screws that secure the T/Mon NOC to the Slide Rack.
5. Slide the Slide Rack back into place.

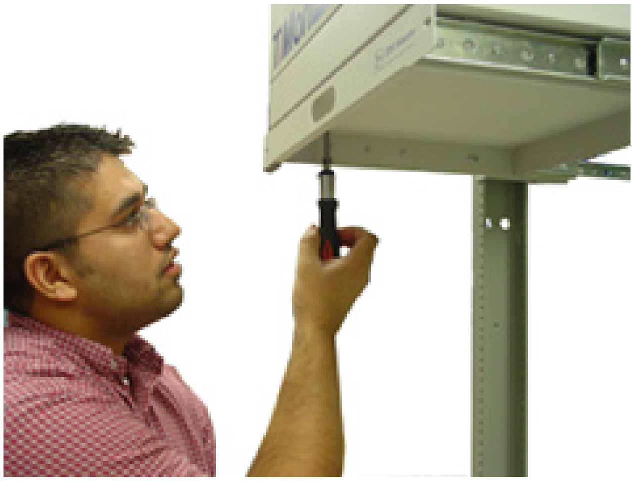


Fig. 1.5 - Secure the T/Mon NOC by inserting the two mounting screws from below

Rack Mounting
If you did not order the Slide Rack, your T/Mon NOC is equipped with rack ears that can be positioned for either 5” projection or flush mounting in either 23” or 19” racks.

To mount the T/Mon NOC directly to the equipment rack, follow these steps:

1. Determine which mounting configuration is required. The T/Mon NOC is supplied with the brackets in the 19”/5” projections position.

2. If a different configuration is required, remove the 8-32 screws, re-orient the brackets and re-install the screws.

3. Place the T/Mon NOC in the rack and align the mounting holes in the brackets with the holes in the rack rails. Secure each bracket with two 12-24 screws (provided in hardware bag).

Back Panel Connections

Power feeds, serial ports, the LAN port and the internal modem port are located on the back panel of the T/Mon NOC — see Figure 1.6. Here you will also find ports for connecting a VGA monitor and keyboard, and the Cartridge Extractor key used for removing Port Interface Cartridges. Connectors not labeled in Figure 1.6 are reserved for future use.

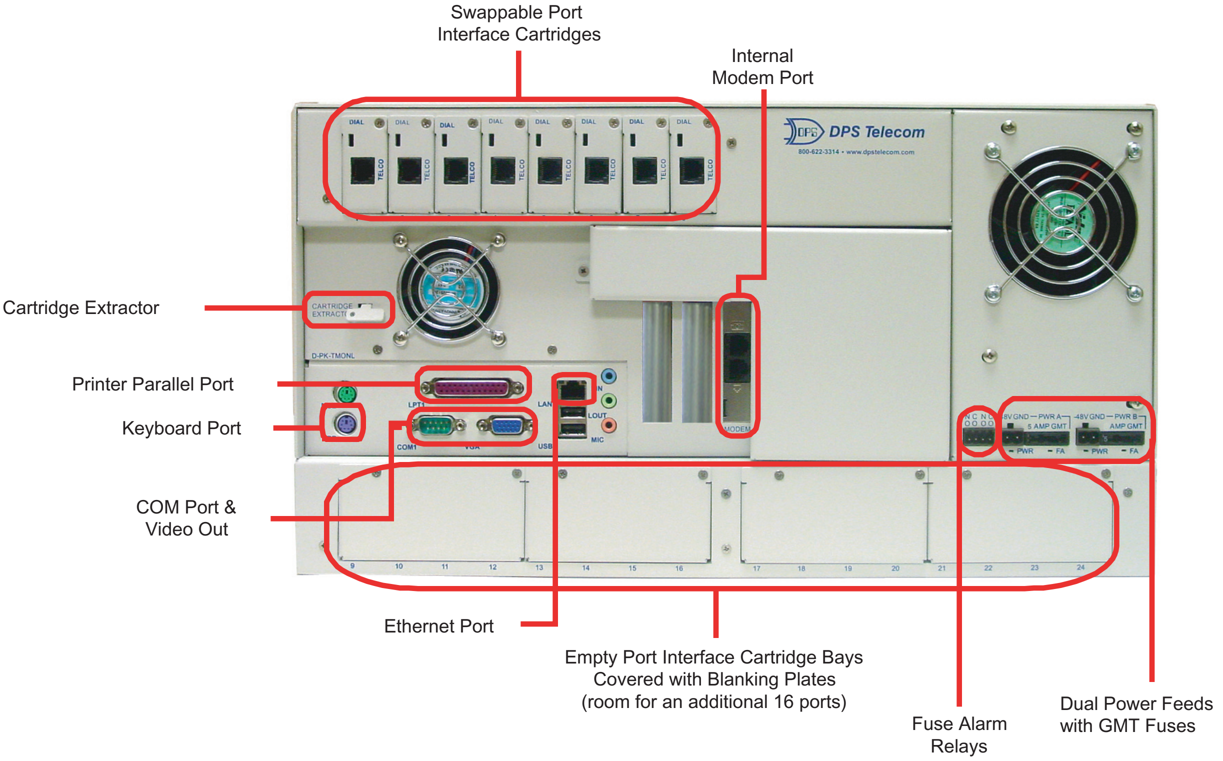

Swappable Port Interface Cartridges
Internal Modem Port
DPS Telecom
Cartridge Extractor
Printer Parallel Port
Keyboard Port
COM Port & Video Out
Ethernet Port
Empty Port Interface Cartridge Bays Covered with Blanking Plates (room for an additional 16 ports)
Fuse Alarm Relays
Dual Power Feeds with GMT Fuses

Fig. 1.6 - T/Mon NOC back panel

Power Connections

Dual –48 VDC Models

These instructions apply only to T/Mon NOC models with dual –48 power connections. To connect the T/Mon NOC to a power supply, follow these steps:

1. Remove T/Mon NOC fuses and appropriate fuses from power source.

2. Remove the power connector plugs from T/Mon NOC.

3. Connect a –48 VDC line to the –48 volt terminal and a battery ground to the GND terminal of each power connector plug. Seat the barrier screws firmly, but be careful not to nick the bare wire.

4. Push the power connector plugs firmly into their sockets. Not that the power connector plug is keyed and the plug must be properly aligned within the socket.
5. Reinstall power source fuses.
6. (Optional) Use voltmeter to check polarity Connect common lead to ground and V lead to –48V power. Meter should read from –48 to -56 volts.
7. Connect fuse alarm relay outputs. The fuse alarm relay provides dry open contact closure, which can hook into a remote or other device to give you visibility of a blown fuse.
   Note: T/Mon NOC also has an internal fuse alarm for blown fuses which can be viewed in Monitor Mode.
8. Reinstall T/Mon NOC fuses. The PWR LED for each power connection will light GREEN.

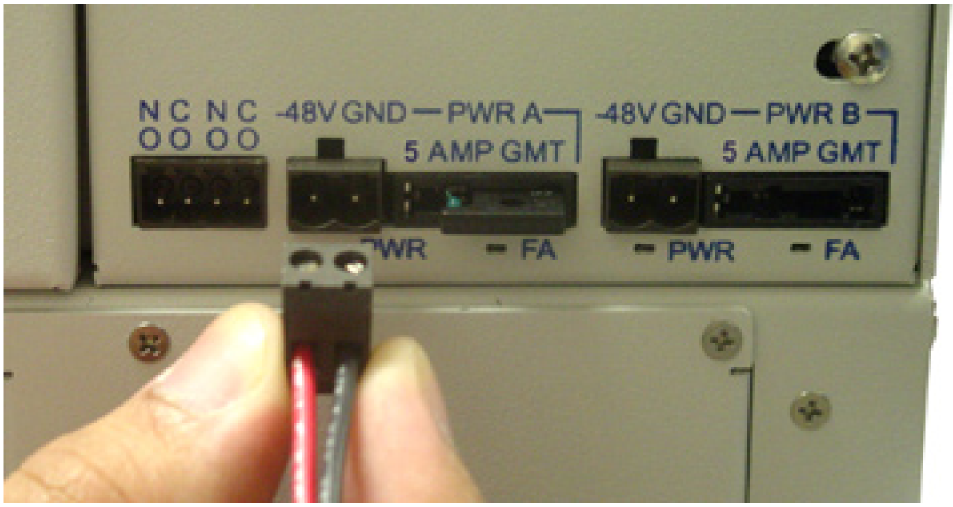


Fig. 1.7 - T/Mon NOC Power Connections

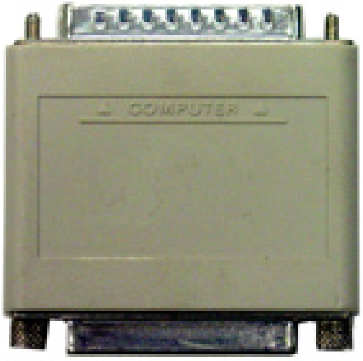
110 VAC Models
These instructions apply only to T/Mon NOC models with 110 VAC power connection. To connect the T/Mon NOC to a power supply, follow these steps:

1. Insert the power cord into the power inlet on the back of the T/Mon NOC. Connect the plug end to a 110 VAC outlet.
2. Turn on the power switch on the back panel to start the system.

Before powering the T/Mon NOC, make sure that the Security Key (shown in Figure 1.8) is inserted in the printer port (labeled LPT1 on the T/Mon NOC back panel.)

Insert the Security Key's male DB25 connector (on the end labeled "▲Computer▲") into the printer port.

If the Security Key is not inserted into the printer port, the T/Mon NOC will boot, but the T/MonXM software WILL NOT run, and you will see the error message in Figure 1.9.



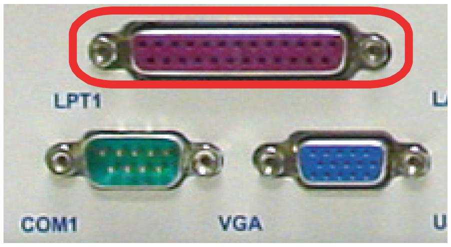
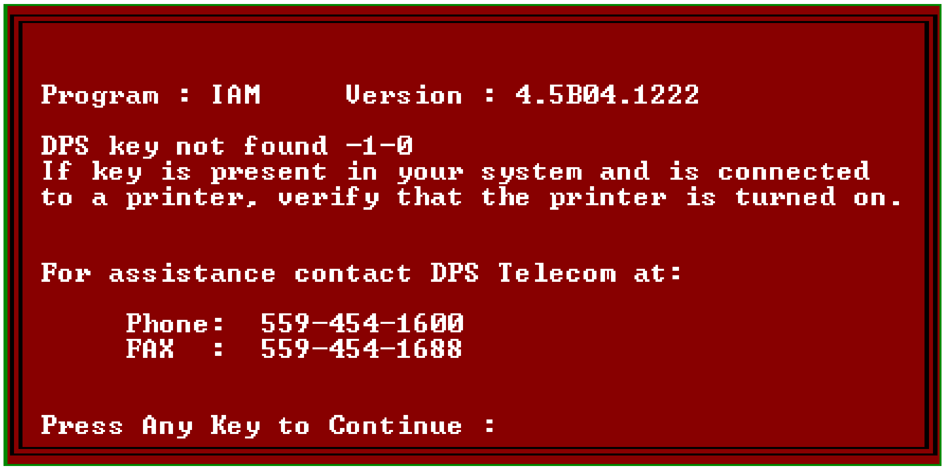


Fig. 1.8 - T/Mon NOC Security Key (left) and printer port



```
Program : IAM      Version : 4.5B04.1222

DPS key not found -1-0
If key is present in your system and is connected
to a printer, verify that the printer is turned on.


For assistance contact DPS Telecom at:

     Phone:  559-454-1600
     FAX  :  559-454-1688


Press Any Key to Continue :
```

Fig. 1.9 - Error message when Security Key is not inserted

If you want to connect a printer to your T/Mon NOC to print reports and logs, you can connect any standard parallel printer to the female DB25 connector on the other end of the Security Key.

To set up a printer in the T/MonXM software, choose Parameters > Hard Copy from the Master Menu.

Network Connections

LAN Connection
Connect the T/Mon NOC to your LAN by inserting a standard Ethernet cable into the 10/100 BaseT port located on the rear of the unit — see Figure 1.10.

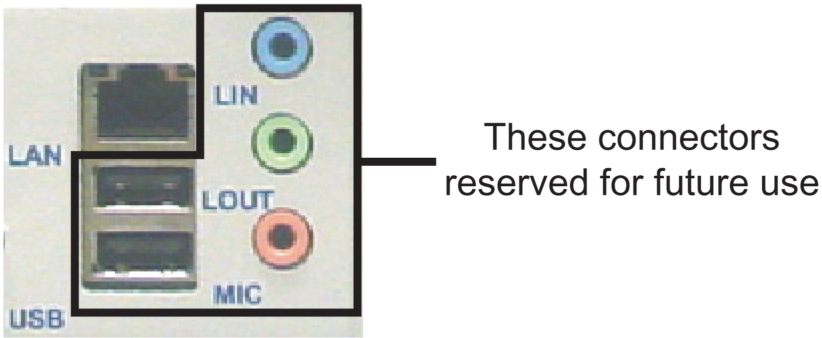


Fig. 1.10 - T/Mon NOC LAN connector

Internal Modem Connection
To connect to the T/Mon NOC's internal 56K modem (used for dial-up console access), connect a standard phone line to the internal modem port — see Figure 1.11. The modem port is the bottom RJ11 connector, labeled with the icon of an RJ11 plug. If you would like to use a telephone on the same line, plug the phone line into the telephone jack just above the modem port (labeled with a telephone icon).

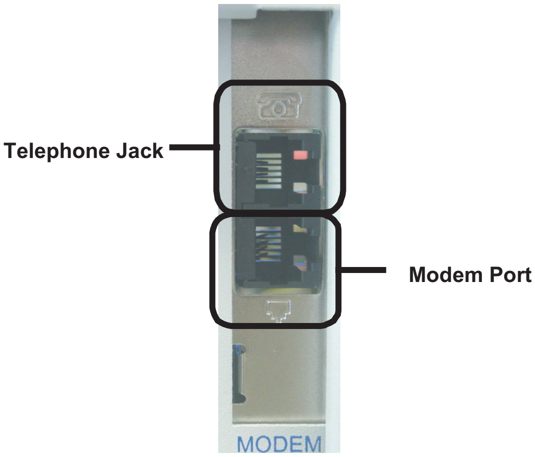


Fig. 1.11 - Internal modem port

T/Mon NOC's 24 serial ports can be individually configured for the interface you choose. Each port is housed in a removable Port Interface Cartridge (PIC). If you ever want to change your port configuration, or if a port is damaged, you can replace a single port without opening the case or disconnecting other ports.

If you ordered your T/Mon NOC with less than 24 ports populated, the empty Port Interface Cartridge bays will be covered with a blanking plate. This plate can be removed to add more Port Interface Cartridges later.

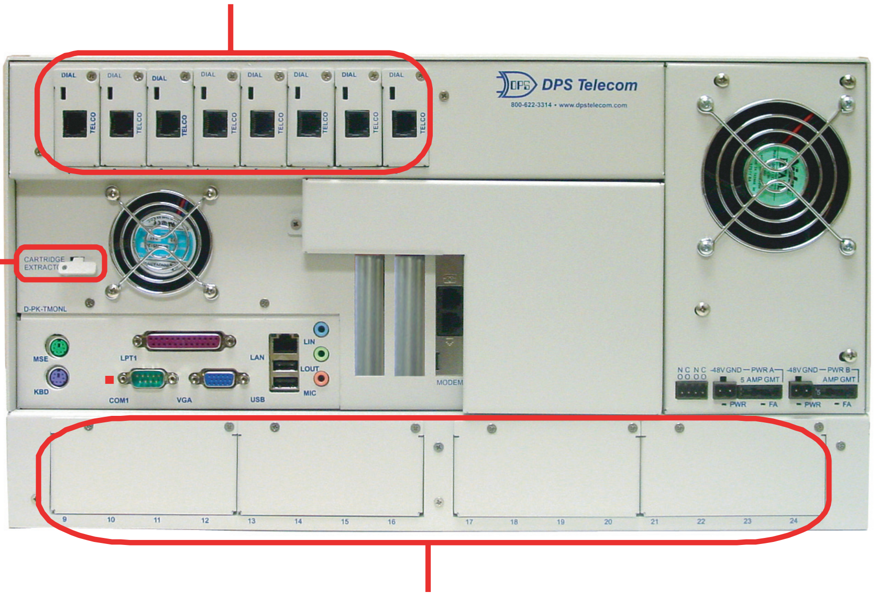
Port interface cartridges are available with the following interfaces:

- RS-232
- RS-422/485
- 202 modem
- 33.6K modem
- FSK modem
- PSK modem

T/Mon NOC Port Interface Cartridges are divided into three families, depending on their pinout compatibility: standard; pin compatible with the T/MonXM WorkStation; and pin compatible the IAM and IAM-5.

Swappable Port Interface Cartridges

Cartridge Extractor



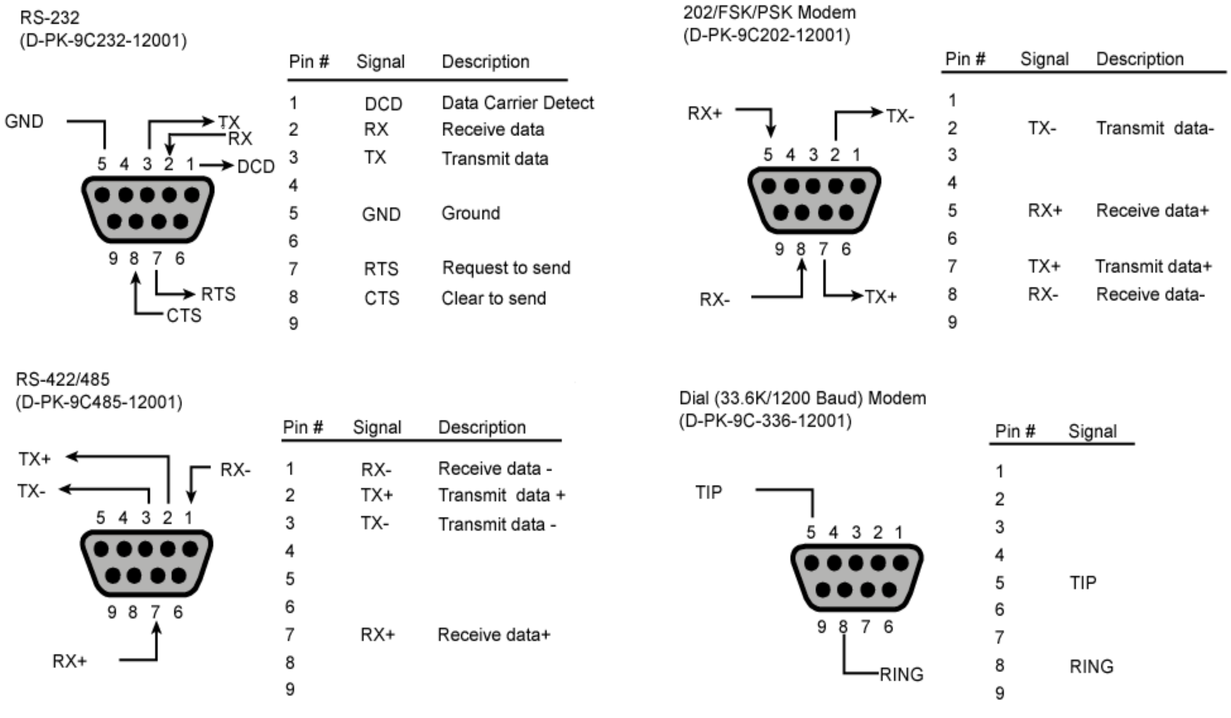
Empty Port Interface Cartridge Bays Covered with Blanking Plates (room for an additional 16 ports)

Fig. 1.12 - T/Mon NOC serial ports

Serial Port Pinouts

IAM-Compatible Port Pinouts

These Port Interface Cartridges are pin compatible with the IAM and IAM-5. Refer to these diagrams when making serial port connections to the T/Mon NOC.



RS-232
(D-PK-9C232-12001)

Pin #	Signal	Description
1	DCD	Data Carrier Detect
2	RX	Receive data
3	TX	Transmit data
4		
5	GND	Ground
6		
7	RTS	Request to send
8	CTS	Clear to send
9		

202/FSK/PSK Modem
(D-PK-9C202-12001)

Pin #	Signal	Description
1		
2	TX-	Transmit data-
3		
4		
5	RX+	Receive data+
6		
7	TX+	Transmit data+
8	RX-	Receive data-
9		

RS-422/485
(D-PK-9C485-12001)

Pin #	Signal	Description
1	RX-	Receive data -
2	TX+	Transmit data +
3	TX-	Transmit data -
4		
5		
6		
7	RX+	Receive data+
8		
9		

Dial (33.6K/1200 Baud) Modem
(D-PK-9C-336-12001)

Pin #	Signal
1	
2	
3	
4	
5	TIP
6	
7	
8	RING
9	

Fig. 1.13 - Pinouts for IAM-compatible Port Interface Cartridges

T/MonXM WorkStation-Compatible Port Pinouts

These Port Interface Cartridges are pin compatible with the IAM and IAM-5. Refer to these diagrams when making serial port connections to the T/Mon NOC.

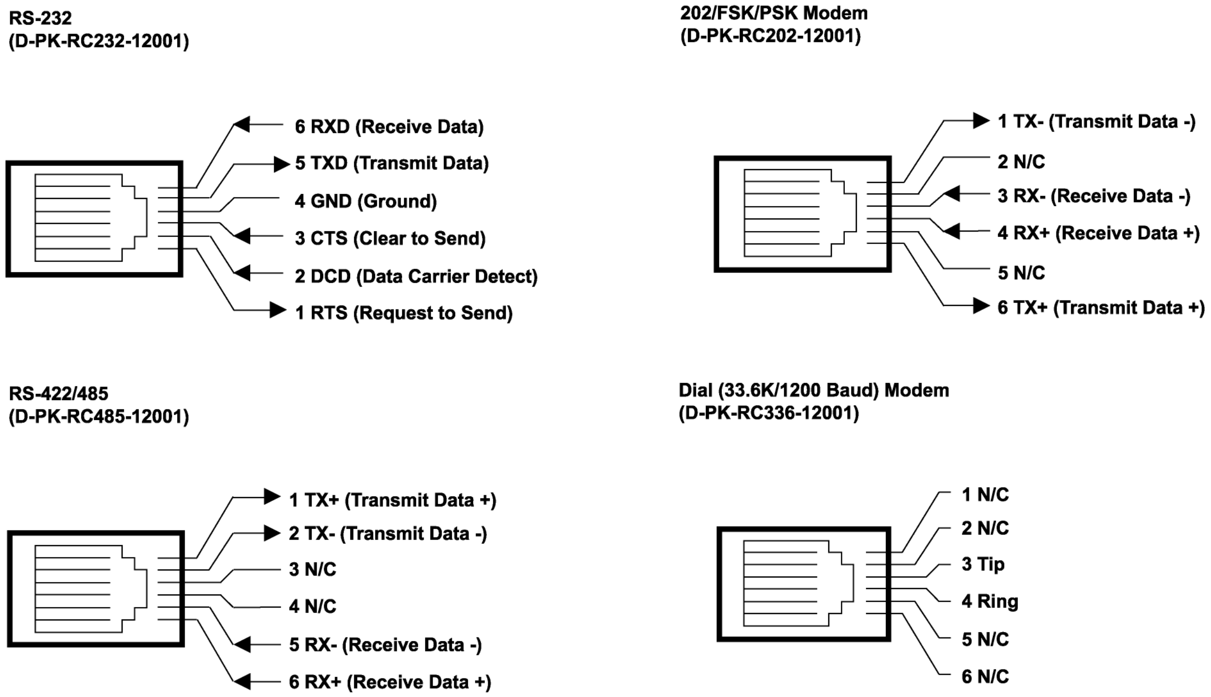


Fig. 1.14 - Pinouts for T/MonXM WorkStation-compatible Port Interface Cartridges

Changing Port Interface Cartridges

WARNING!

The Port Interface Cartridges are **NOT** hot-swappable! **DO NOT** remove them while the T/Mon is operational.

Port Interface Cartridges (PICs) can be easily replaced without opening the T/Mon NOC case.

Changing a Port Interface Cartridge takes three steps:

1. Shutting down the T/Mon NOC
2. Changing the Port Interface Cartridge
3. Defining the port parameters in T/MonXM

Shutting Down T/Mon NOC

1. Exit Monitor Mode by pressing F10 or Esc
2. Exit T/MonXM by pressing F10 or Esc
3. When the W/Shell screen appears, remove the fuses from T/Mon NOC and disconnect the power supply.

1. Remove the screw from the Port Interface Cartridge.
2. Remove the Cartridge Extractor from its slot and insert it into the vertical slot in the Port Interface Cartridge.
3. Turn the Cartridge Extractor and remove the Port Interface Cartridge from the cartridge bay — see Figure 1.15.
4. Insert the new Port Interface Cartridge into the slot. Do not force the PIC into the slot.

Note: Make sure the Port Interface Cartridge is compatible with the intended port usage. For example, you wouldn't want a 33.6K dial-up interface on a TBOS port.

5. Reinsert the screw and tighten to secure the Port Interface Cartridge. Do not overtighten the screw.

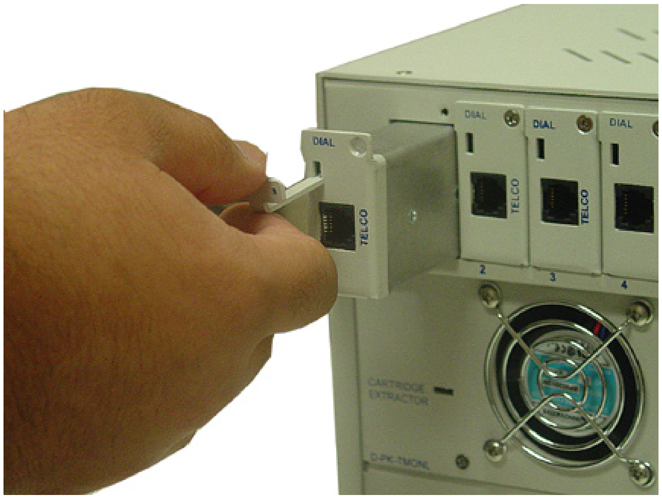


Fig. 1.15 - Use the Cartridge Extractor to remove the old Port Interface Cartridge

Configure Port Parameters

1. Reconnect the T/Mon NOC's power supply, and power up the unit.
2. When the W/Shell screen appears, choose Main > T/MonXM > Run T/MonXM to start T/MonXM.

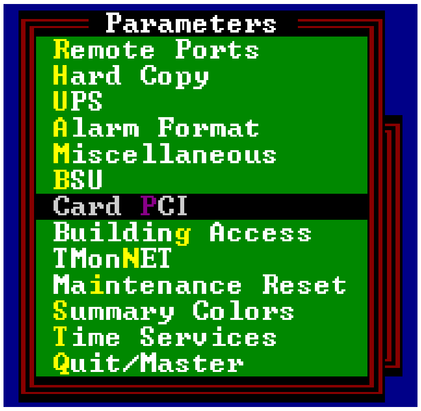
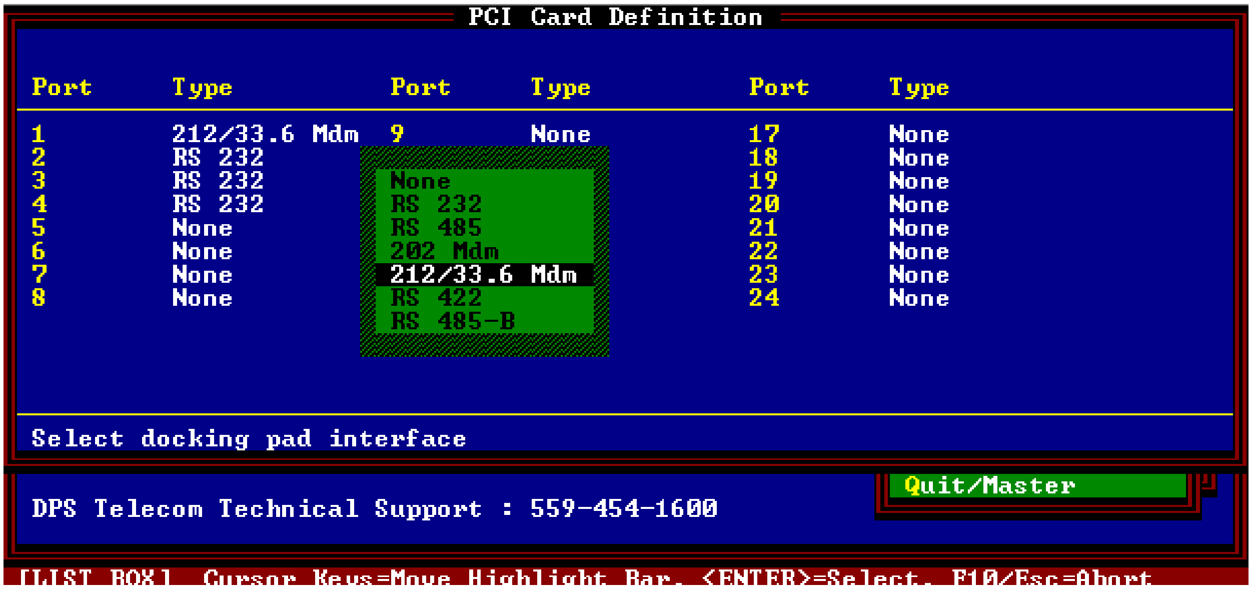


Fig. 1.16 - Choose Master > Parameters > Card PCI

3. From the T/MonXM Master Menu, choose Parameters > Card PCI — see Figure 1.16.
4. In the PCI Card Definition Screen, use the arrow keys to choose the port number you want to change.



```
                        PCI Card Definition

Port      Type           Port      Type           Port      Type

1         212/33.6 Mdm   9         None           17        None
2         RS 232                                  18        None
3         RS 232         None                     19        None
4         RS 232         RS 232                   20        None
5         None           RS 485                   21        None
6         None           202 Mdm                  22        None
7         None           212/33.6 Mdm             23        None
8         None           RS 422                   24        None
                         RS 485-B

Select docking pad interface

DPS Telecom Technical Support : 559-454-1600          Quit/Master

[LIST BOX] Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

Fig. 1.17 - Selecting the Port Interface Cartridge Type in the PCI Card Definition Screen

5. Press Tab to select the List Box. Use the arrow keys to choose the correct Port Interface Cartridge type — see Figure 1.17.
6. Press F10 or Esc to exit to the Parameters Menu
7. Press F10 or Esc to exit to the Master Menu
8. From the Master Menu, choose Monitor to enter Monitor Mode

LCD Display

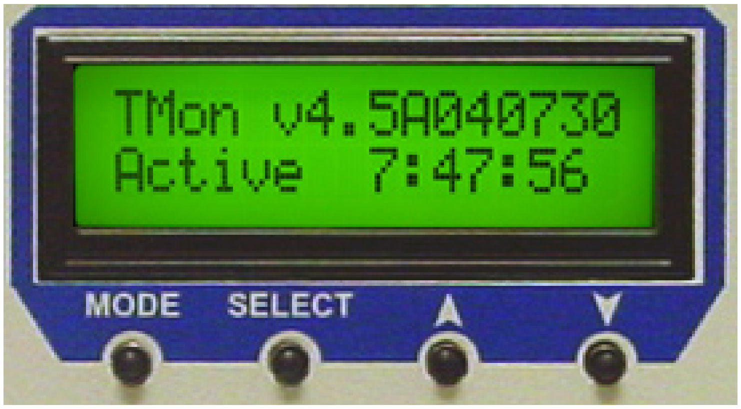
T/Mon NOC's front panel LCD display provides a convenient listing of system status messages. You can select what information is displayed by using the MODE, SELECT and ▲ and ▼ buttons.

When the T/Mon NOC is in Monitor Mode, the LCD display will show one of six screens.

The first is the Standard Prompt, which is displayed when no other menu item is selected — see Figure 1.18. The standard prompt shows three items:

- T/Mon software version
- Polling status. If the T/Mon NOC is polling alarms, the word "Active" will be displayed in the standard prompt. In redundant dual master configurations, the actively polling T/Mon NOC will display "Active" in the standard prompt, and the back-up T/Mon NOC will display the word "Inactive."
- Current time

To change the LCD display, press the MODE button.

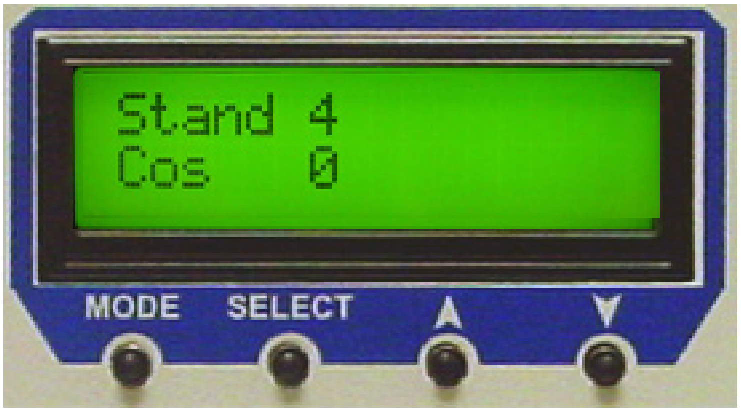


```
TMon v4.5A040730
Active  7:47:56
```

Fig. 1.18 - The T/Mon NOC LCD display, showing the Standard Prompt

Standing/COS Alarm Display
This screen lists the current number of standing and change-of-state (COS) alarms.

To see other screens, press the ▼ button to scroll down the list. You can also press the ▲ button to scroll the list backwards.

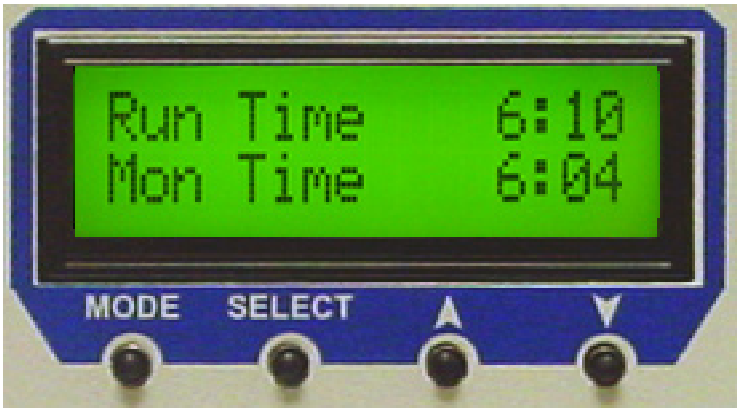


```
Stand 4
Cos   0
```

Fig. 1.19 - Standing/COS Alarm Display

Run Time/Mon Time Display

This screen lists the Run Time (total system uptime since the T/Mon NOC was powered up or rebooted) and the Mon Time (total time in Monitor Mode).

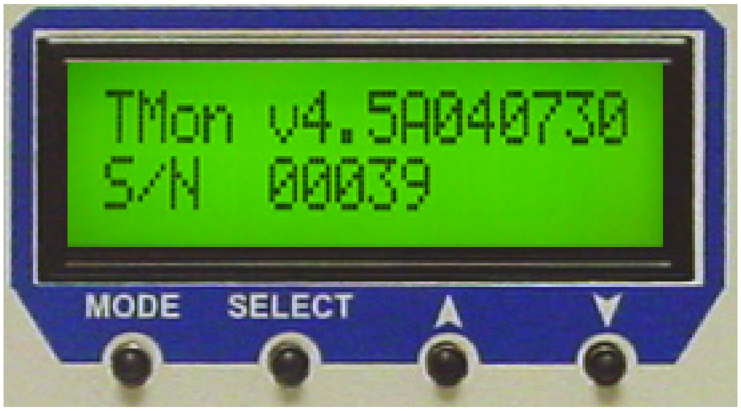


```
Run Time     6:10
Mon Time     6:04
```

Fig. 1.20 - Run Time Mon Time Display

System Name and IP Address Display

This screen lists the system name of the T/Mon NOC and its assigned IP address.

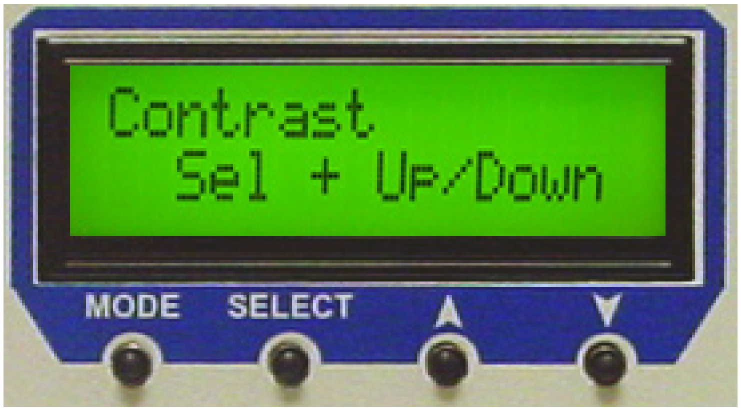


```
TMon v4.5A040730
S/N  00039
```

Fig. 1.21 - Software Version and Serial Number Display

Contrast Display

This screen provides controls for adjusting the contrast of the LCD display. To adjust the contrast, press MODE until this screen is displayed. Use the ▲ and ▼ buttons to adjust the contrast, then press SELECT to set your choice.



Contrast
Sel + Up/Down

Fig. 1.22 - Contrast Display

Other T/Mon Status Messages

When the T/Mon NOC is not in Monitor Mode, other status messages will appear in the LCD display. These status messages are described in Table 1.A.

Tbl. 1.A - Additional T/Mon status messages

Display Message	Description
TCPAgnt Outdated	The version of TCP Agent currently loaded is earlier than the earliest recommended version, TCP Agent 1.0D
TCPAgnt Not Load	TCP Agent is not loaded
Loading TMon	T/Mon software is loading from disk
Initializing	T/Mon is initializing in preparation for Monitor Mode
Closing Files	T/Mon is closing files during shut down
Offline	T/Mon is currently not monitoring
Halt Monitoring	T/Mon is in the process of leaving Monitor Mode

W/Shell Status Messages

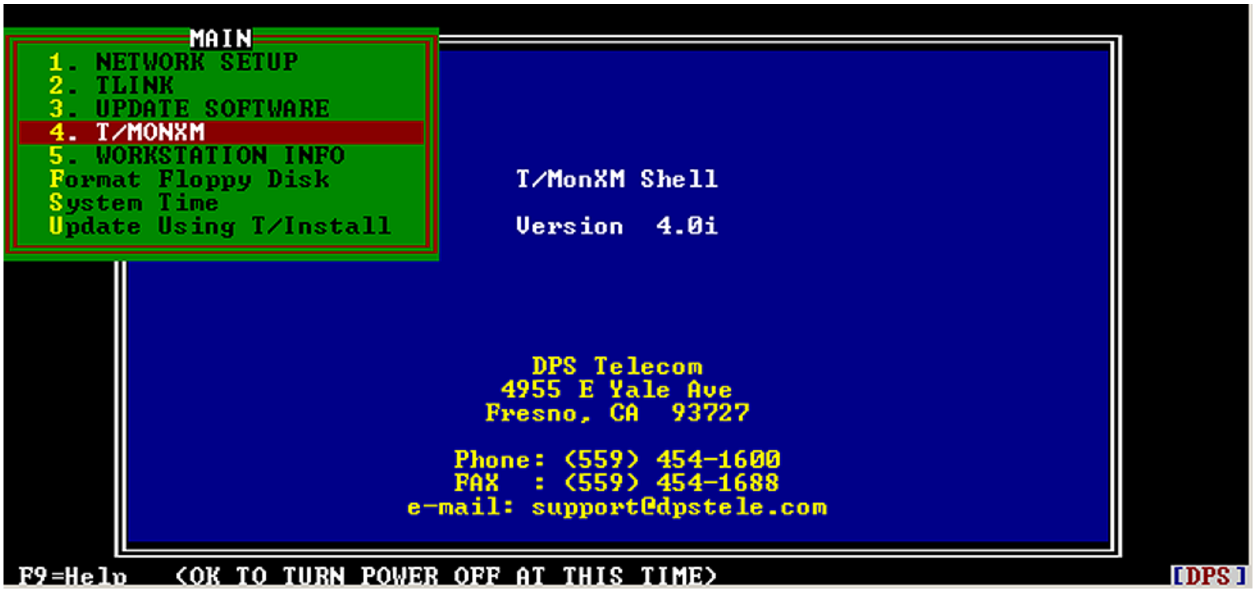
Other status messages appear in the LCD display only when the W/ Shell program is active. W/Shell status messages are described in Table 1.B.

Tbl. 1.B - W/Shell status messages

Display Message	Description
WShell Loading	W/Shell is loading
WShell Active	W/Shell is active.
WShell Format Floppy	W/Shell is formatting a floppy disk
W/Shell Closing Files	W/Shell is closing files and exiting

This page intentionally left blank.

Section 2 - Starting T/MonXM Software



```
T/MonXM Shell

Version  4.0i


DPS Telecom
4955 E Yale Ave
Fresno, CA  93727

Phone: (559) 454-1600
FAX  : (559) 454-1688
e-mail: support@dpstele.com
```

Fig. 2.1 - Main W/Shell screen

W/Shell

W/Shell is the lowest-level user interface for your T/MonXM system. This is the program you see when the system is on and T/MonXM is not running. Normally, you only need to work with W/Shell to start T/MonXM, to update your software, or to setup your network. The following sections explain the options in W/Shell. See the following pages for more information on each selection.

Table 2.A - W/Shell main menu itemized

Selection	Description
NETWORK SETUP	Run the Network Setup Utility for configuring systems IP connection (See Section 3 for details)
TLINK	Run the T/Link Utility for configuring remote connection via COM port or modem
UPDATE SOFTWARE	Upgrade IAM or T/MonXM software from CD
IAM or TMONXM	Run T/MonXM
WORKSTATION INFO	Display your IAM or T/Mon information
Format Floppy Disk	Use system floppy disk drive to initialize a disk
System Time	Manually set system date and time
Update Using T/Install	Upgrade, install, or remove DPS software from floppy disks

Run T/MonXM from W/Shell

When the T/MonXM system finishes booting, the W/Shell utility will run. Highlight IAM or TMONXM on the menu and press Enter. The program will load and the log on screen will be displayed.

Note: The other menu items in W/Shell are used under the direction of DPS Technical Support. The T/Mon comes from the factory with all the software loaded. Software installation is required only to install system upgrades or new software modules, or during system recovery.

Upgrading The Software from a CD

Note: When a software upgrade is installed, the original on-line/off-line settings and tagged alarms will be lost.

Note: The serial numbers of your software upgrade disks and T/Mon or IAM must match. If you have multiple T/Mons, make sure that you use the correct disk set with each machine.

The T/MonXM upgrade is installed from within your present T/MonXM installation, using the included T/Install program.

Note: This upgrade must be installed directly onto the internal hard disk of the T/Mon or IAM. This software cannot be installed through a remote or LAN connection.

To install the T/MonXM Version 4.6 upgrade, follow these step-by-step instructions.

Step One: Exit to W/Shell

1. If T/MonXM is running in Monitor Mode, press F10 or Esc to exit Monitor Mode. At the Log Off prompt, press R to return to the Master Menu.
2. From the Master menu, choose Quit to exit T/MonXM.

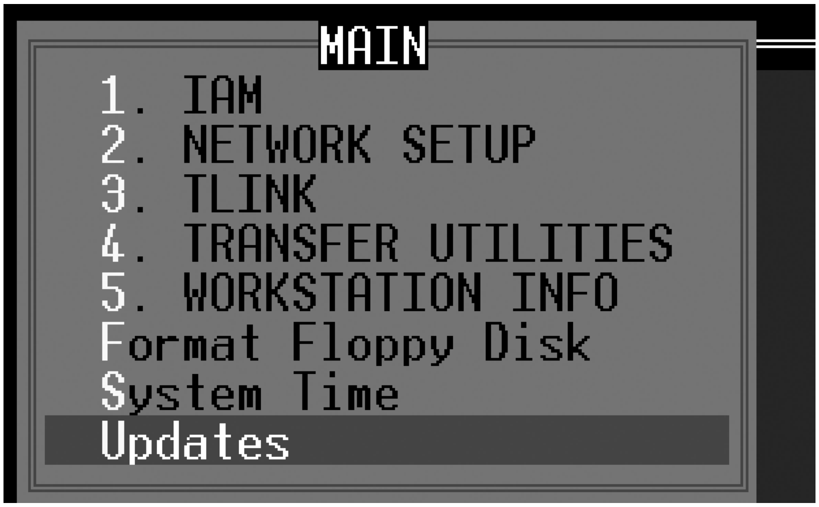


Fig. 2.2. Choose Updates from the W/Shell Main menu.

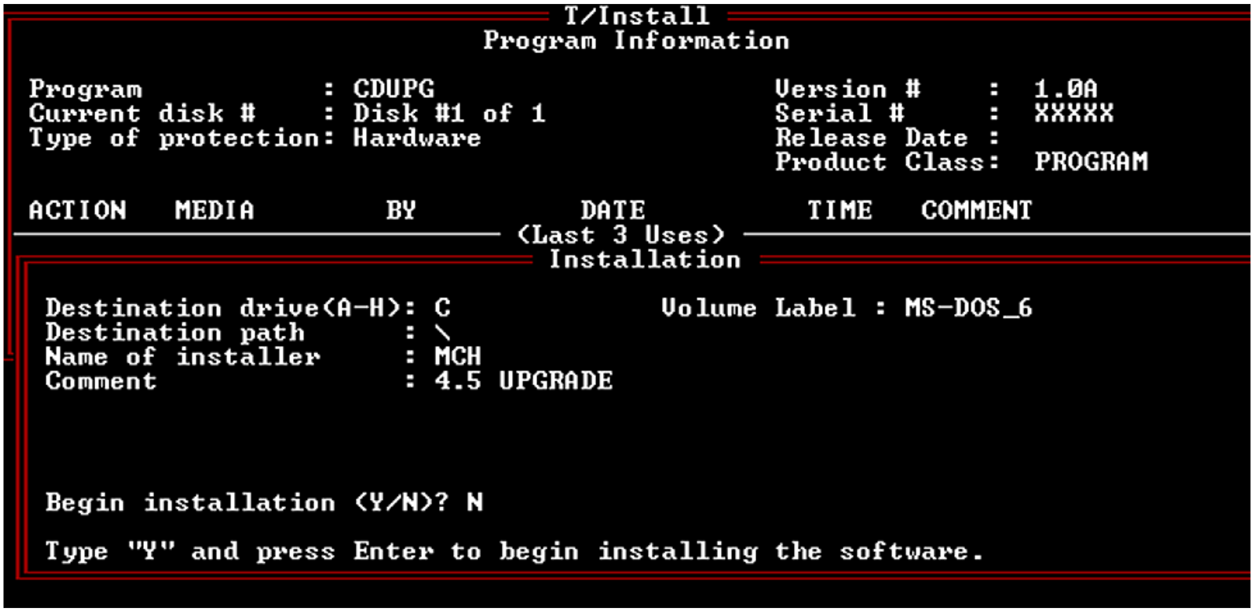
Step Two: Install W/Shell CD Support Upgrade

1. Insert the floppy disk labeled “W/Shell CD Upgrade.”
2. After exiting T/MonXM, the W/Shell screen will open to the TMonXM or IAM Menu.
3. Choose Quit to to exit to the W/Shell Main menu.
4. Choose “Updates” from the W/Shell Main menu, see Figure 2.2.

5. The Update Menu prompt screen will appear. Press Enter to launch T/Install.

Note: You can exit this screen by pressing F10 or Esc.

6. Your T/MonXM system will read the disk and the T/Install program will start.
7. The T/Install screen lists the program to be installed: CDUPG
8. Press Enter to choose the highlighted Install command.



```
                                T/Install
                           Program Information

Program             : CDUPG                      Version #     :  1.0A
Current disk #      : Disk #1 of 1               Serial #      :  XXXXX
Type of protection: Hardware                     Release Date  :
                                                 Product Class:   PROGRAM

ACTION   MEDIA        BY          DATE          TIME   COMMENT
                              (Last 3 Uses)
                               Installation

 Destination drive(A-H): C             Volume Label : MS-DOS_6
 Destination path      : \
 Name of installer     : MCH
 Comment               : 4.5 UPGRADE


 Begin installation (Y/N)? N

 Type "Y" and press Enter to begin installing the software.
```

Fig. 2.3. Installation setup fields

Step Three

Setup Installation

The Installation window, similar to that shown in Figure 2.3, will appear. Fill in the fields with appropriate information.

The fields in the Installation window are:

Destination drive: The disk on which the upgrade will be installed. On all standard installations you should accept the default destination, C, the internal disk of the T/MonXM system.

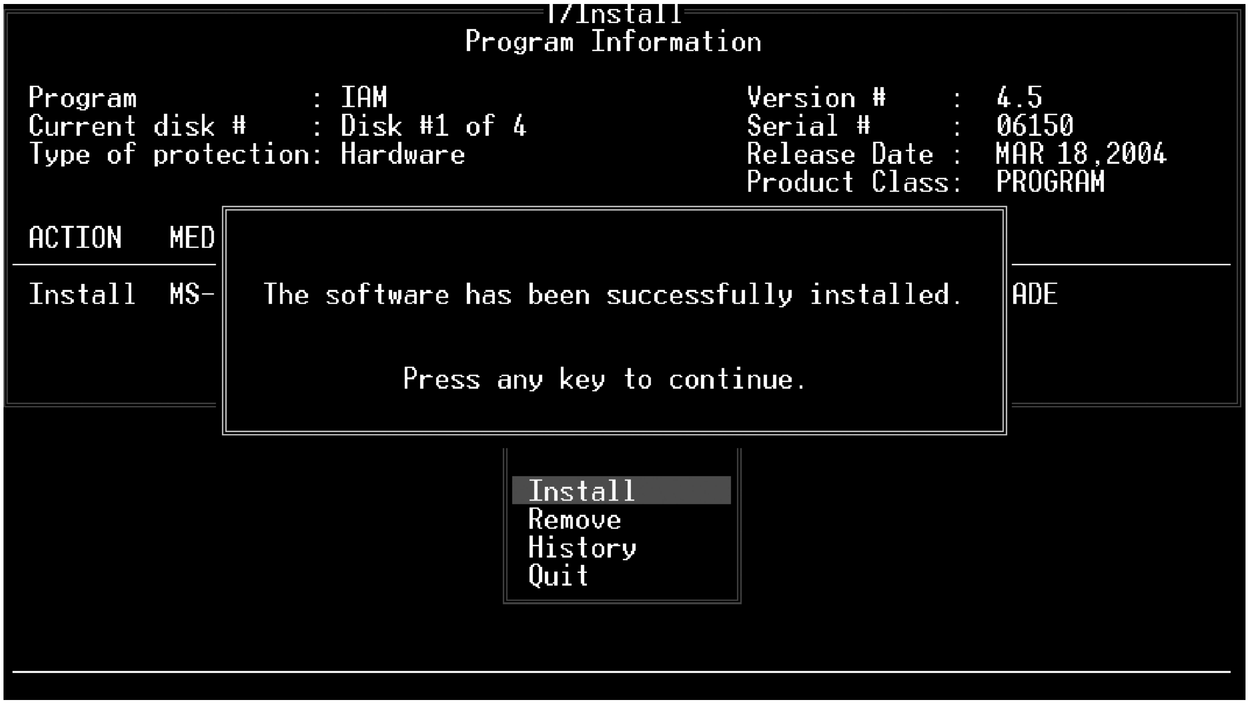
Volume label: This field will be automatically filled with the label of the destination disk.

Destination path: The directory where the upgrade will be installed. On all standard installations you should accept the default path: \ (the root directory).

Name of installer: Enter your name or initials here. Installers' names are used by T/Install's history function to track installations.

Comment: Enter a comment to identify the installation.

After filling in the installation setup fields, type Y and press Enter to begin installation.



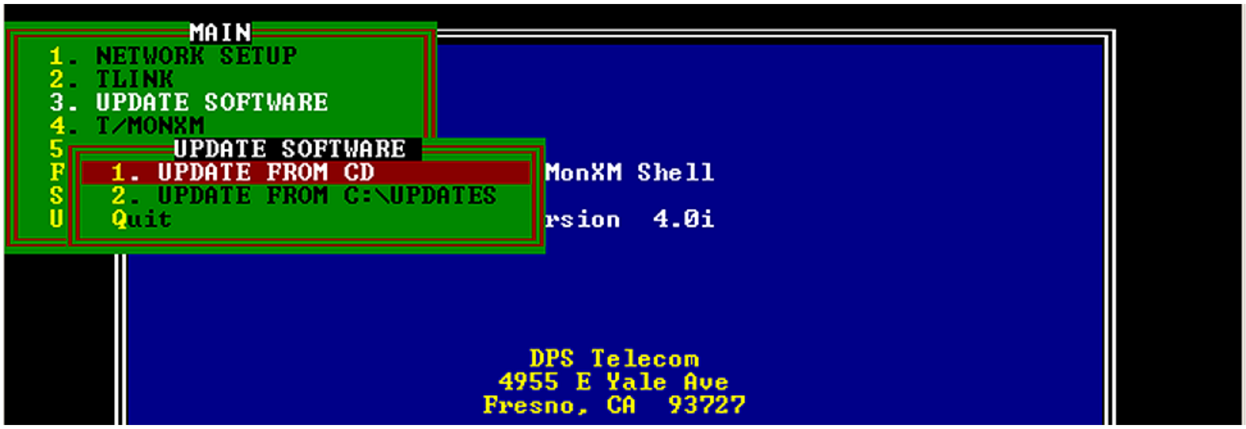
```
T/Install
Program Information

Program           : IAM                    Version #     :  4.5
Current disk #    : Disk #1 of 4           Serial #      :  06150
Type of protection: Hardware               Release Date  :  MAR 18,2004
                                           Product Class :  PROGRAM

ACTION   MED

Install  MS-     The software has been successfully installed.     ADE

                           Press any key to continue.
```

Fig. 2.4. Successful installation message prompt

Step Four

Run Installation

The installation process will only take a few minutes. After a successful installation, you will see the screen shown in Figure 2.4. Press any key to exit T/Install and return to the W/Shell Main menu.



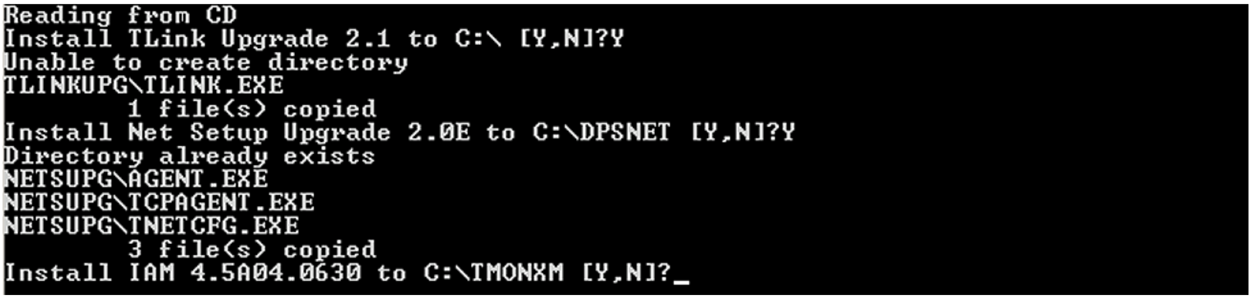
```
MonXM Shell

rsion   4.0i

DPS Telecom
4955 E Yale Ave
Fresno, CA   93727
```

Fig. 2.5. Select Update From CD from the Update Software Menu

Step Five

Update W/Shell, T/MonXM, NetSetup and T/Link from the CD

1. Insert the T/Mon or IAM Update CD into the CD-ROM drive of the T/Mon or IAM.
2. Choose “Update Software” from the Main menu. See Figure 2.5.
3. Choose “Update from CD.”



```
Reading from CD
Install TLink Upgrade 2.1 to C:\ [Y,N]?Y
Unable to create directory
TLINKUPG\TLINK.EXE
        1 file(s) copied
Install Net Setup Upgrade 2.0E to C:\DPSNET [Y,N]?Y
Directory already exists
NETSUPG\AGENT.EXE
NETSUPG\TCPAGENT.EXE
NETSUPG\TNETCFG.EXE
        3 file(s) copied
Install IAM 4.5A04.0630 to C:\TMONXM [Y,N]?_
```

Fig. 2.6. Enter Y to install each software upgrade

4. When prompted, press “Y” to install each software upgrade. See Figure 2.6.

Note: “Unable to create directory” or “Directory already exists” messages are a **normal** part of CD installations and do **not** indicate an error.

5. Press any key to return to W/Shell.

6. Restart the computer.

   On the **T/MonXM WorkStation**: Press CTRL-ALT-Delete

   On the **IAM-5:** In the T/AccessMW menu bar, choose Connection > Reboot Remote System.

Re-installing T/MonXM (complete system recovery)

Note: This procedure does not restore your database, but provides a clean copy of the original software.

Under normal circumstances installation will only need to be done for software updates or newly ordered modules. However, the original disks have been supplied with the workstation for archival or emergency recovery procedures.

This procedure should only be done when a complete system recovery is required, as with a hard disk failure. DPS technical support should be notified before undertaking these steps.

To re-install IAM or T/MonXM from a CD follow the instructions from sections 2-2 to 2-5. If you are re-installing IAM or T/MonXM from floppy disks use the instructions on the following sections.

Upgrading The Software from Floppy Disks

The latest T/MonXM version is installed from within your present T/MonXM installation, using the included T/Install program.

Note: This upgrade must be installed directly onto the internal hard disk of the T/Mon or IAM. This software cannot be installed through a remote or LAN connection.

To install the T/MonXM Version 4.6 upgrade, follow these step-by-step instructions.

Step One

Note: When a software upgrade is installed, the original on-line/off-line settings and tagged alarms will be lost.

Exit to W/Shell

1. If T/MonXM is running in Monitor Mode, press F10 or Esc to exit Monitor Mode. At the Log Off prompt, press R to return to the Master Menu.
2. From the Master menu, choose Quit to exit T/MonXM.
3. Quit again to exit to WShell.

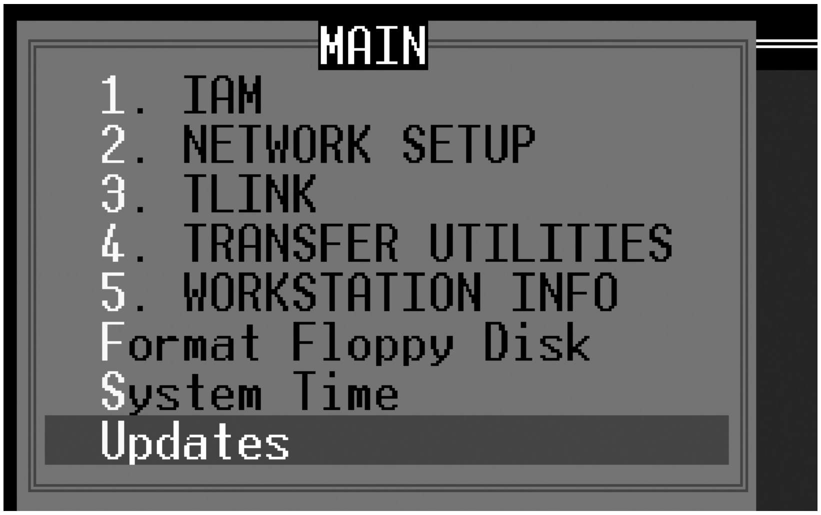


Fig. 2.7. Choose Updates from the W/Shell Main menu.

Step Two

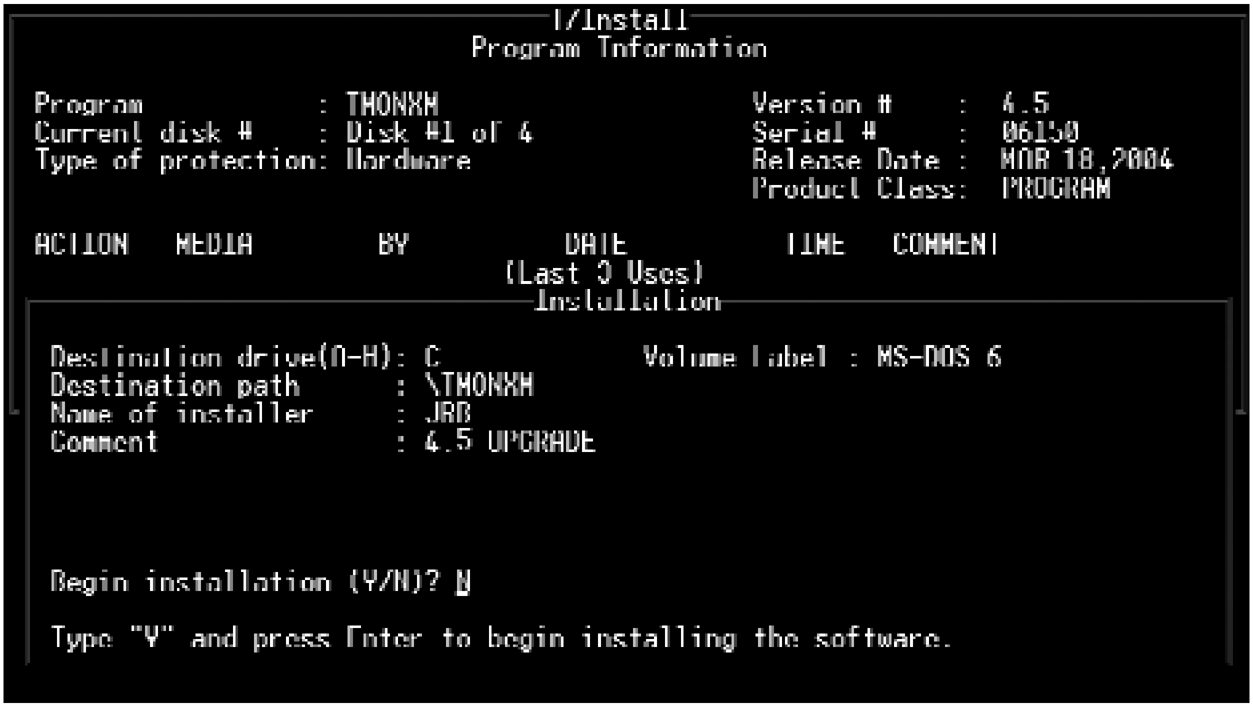
Note: The serial numbers of your software upgrade disks and T/Mon or IAM must match. If you have multiple T/Mons, make sure that you use the correct disk set with each machine.

Install W/Shell Upgrade

1. Insert the floppy disk labeled “WS XM or IAM UP-.”

Note: T/Mon users should use disks labeled “WS XM UP” disk. IAM users will should use disks labeled “WS IAM UP.”

2. After exiting T/MonXM, W/Shell will open to the TMonXM or IAM Menu. Choose Quit to exit to the W/Shell Main menu.
3. Choose “Updates” from the W/Shell Main menu. See Figure 2.7.
4. The Update Menu prompt screen will appear. Press Enter to launch T/Install.
5. Your T/MonXM system will read the disk and the T/Install program will start.
6. The T/Install screen lists the program to be installed: IAM Shell or XM Shell
7. Press Enter to choose the highlighted Install command.



```
                              T/Install
                         Program Information

Program            : TMONXM                 Version #    :  4.5
Current disk #     : Disk #1 of 4           Serial #     :  06150
Type of protection: Hardware                Release Date :  MAR 18,2004
                                            Product Class:  PROGRAM

ACTION   MEDIA       BY         DATE        TIME   COMMENT
                          (Last 3 Uses)
                           Installation

 Destination drive(A-H): C           Volume label : MS-DOS 6
 Destination path      : \TMONXM
 Name of installer     : JRB
 Comment               : 4.5 UPGRADE



 Begin installation (Y/N)? N

 Type "Y" and press Enter to begin installing the software.
```

Fig. 2.8. Installation setup fields

Step Three

Note: Program titles and default destination paths may vary according to your IAM or T/Mon and firmware versions.

Setup Installation

The Installation window, shown in Figure 2.8, will appear. Fill in the fields with appropriate information.

The fields in the Installation window are:

Destination drive: The disk on which the upgrade will be installed. On all standard installations you should accept the default destination, C, the internal disk of the IAM or T/MonXM system.

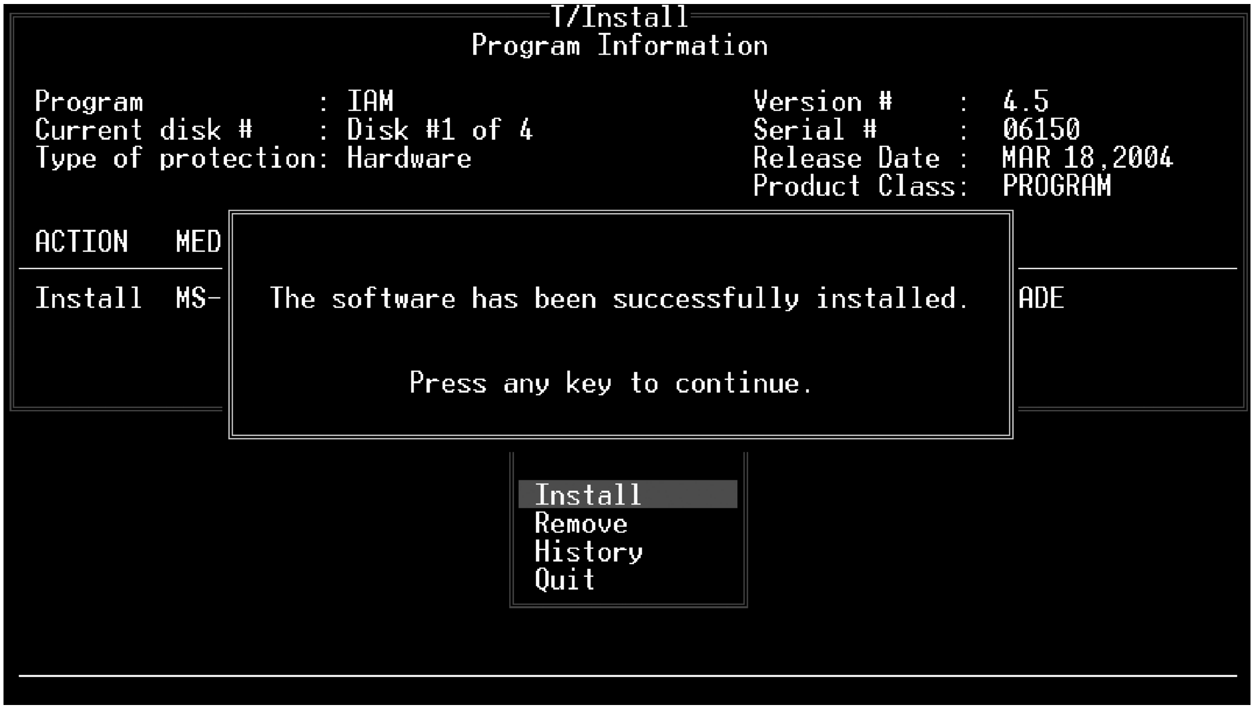
Volume label: This field will be automatically filled with the label of the destination disk.

Destination path: The directory where the upgrade will be installed. On all standard installations you should accept the default path: \ (the root directory). **Note:** Accept the default path unless you are instructed to do otherwise by a DPS Technical Support Representative.

Name of installer: Enter your name or initials here. Installers' names are used by T/Install's history function to track installations.

Comment: Enter a comment to identify the installation.

After filling in the installation setup fields, type Y and press Enter to begin installation.



```
                              T/Install
                         Program Information

Program           : IAM                      Version #    :  4.5
Current disk #    : Disk #1 of 4             Serial #     :  06150
Type of protection: Hardware                 Release Date :  MAR 18,2004
                                             Product Class:  PROGRAM

ACTION   MED

Install  MS-   The software has been successfully installed.   ADE

                     Press any key to continue.
```

Fig. 2.9. Successful installation message prompt

Step Four

Note: Program titles and default destination paths may vary according to your IAM or T/Mon and firmware versions.

Run Installation

The installation process will only take a few minutes. The prompt line at the bottom of the screen will list the files being installed and prompt you to swap installation disks when necessary.

After a successful installation, you will see the screen shown in Figure 2.9. Press any key to exit T/Install.

You will return to the W/Shell Main menu. From here you can run your upgraded IAM or T/MonXM software or you can choose Upgrades again to perform more installations.

Step Five

Quit T/Install

After the upgrade is finished press Enter to select Quit. Then press “Y” and remove the disk. Now you are ready to install updates, see The following page for more information.

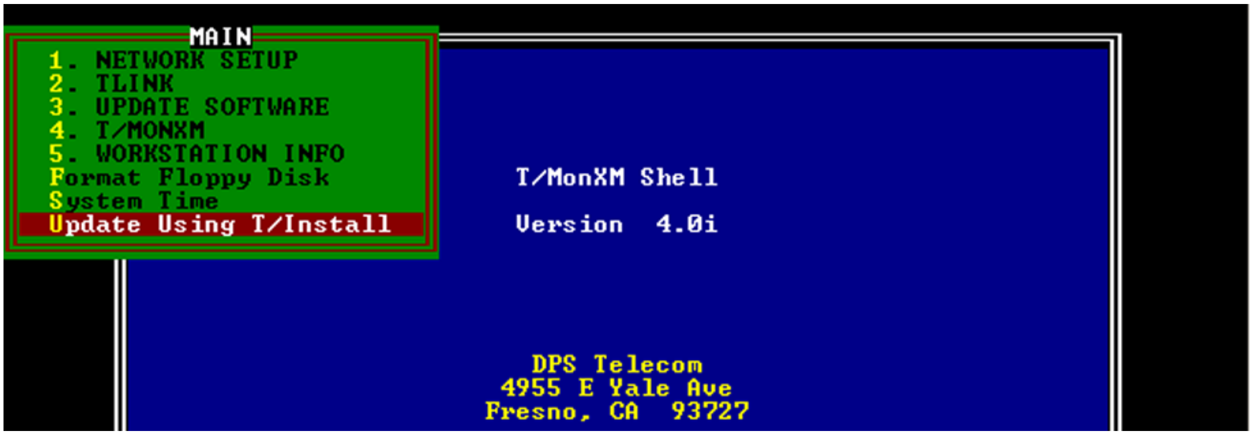


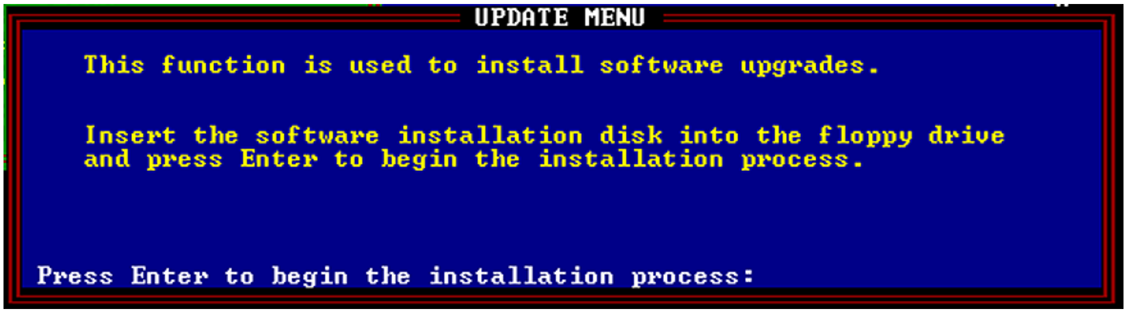
Fig. 2.10 Select Update Using T/Install to install updates from a floppy disk

Step Six

Install Updates Using T/Install

1. Insert Disk 1 of the T/Mon or IAM four-disk set.
2. Choose "Update using T/Install" from the W/Shell Main menu, see Figure 2.10.
3. The Update Menu prompt screen will appear, see Figure 2.11.
4. Repeat Steps 2-4 to install the other T/Mon or IAM floppy disks.

Once you have finished repeat steps 2-4 to install T/Link, NetSetup and any other Utilities using T/Install.



```
    This function is used to install software upgrades.

    Insert the software installation disk into the floppy drive
    and press Enter to begin the installation process.

 Press Enter to begin the installation process:
```

Fig. 2.11 Press Enter to being installation or F10/Esc to abort

Remove Software

Note: This option is typically not used.

There is no need to remove old versions before installing newer versions.

Start the T/Install utility using the original DPS software disk(s).

Choose the Remove option. A removal window will appear at the bottom of the screen. Note that the program will remove program files from the specified drive and path; however, files other than the program files (i.e. data files created by software) will remain. Before a removal starts, the following prompts must be answered.

Remove software from drive (A-H). The source drive cannot be the removal drive.

Drive from which the software will be removed. Enter the drive letter followed by Enter to select. Valid drives are A - H.

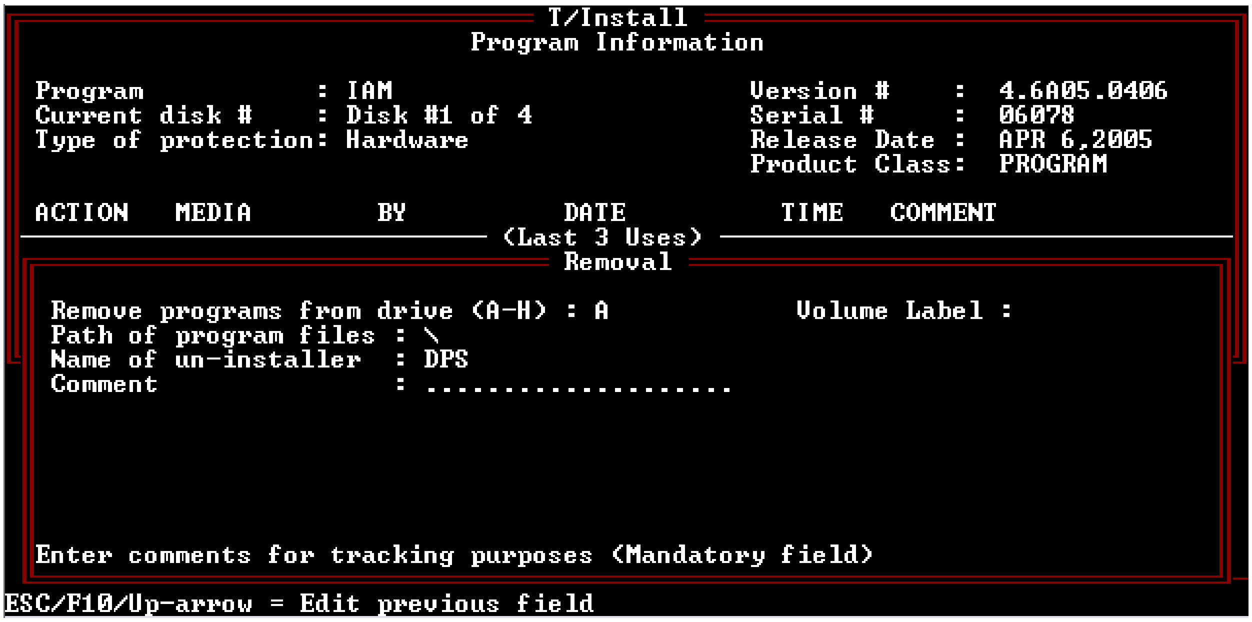
Path of program files. Path of installed software to be removed. Drive ID must be omitted since it has been already entered from the previous prompt. If software is in the root directory, type “\” or “ ” (space) followed by Enter.

Name of Uninstaller. Enter your name here and press Enter.

Comment. Enter an identifying comment in reference to this removal.

Confirm to remove (Y/N). Type “Y” and press Enter to start removal or “N” to go back to the beginning of removal procedure.

You have now removed a **working copy** from a disk and restored it back to the original DPS software disk.



```
                                   T/Install
                              Program Information

 Program            : IAM                          Version #     :  4.6A05.0406
 Current disk #     : Disk #1 of 4                 Serial #      :  06078
 Type of protection: Hardware                      Release Date  :  APR 6,2005
                                                   Product Class:   PROGRAM

 ACTION   MEDIA        BY          DATE        TIME   COMMENT
                              (Last 3 Uses)
                                 Removal

  Remove programs from drive (A-H) : A            Volume Label :
  Path of program files : \
  Name of un-installer  : DPS
  Comment               : ....................



 Enter comments for tracking purposes (Mandatory field)
ESC/F10/Up-arrow = Edit previous field
```

Fig. 2.12 - Removal screen

Installation History

Note: This feature is optional. Information about this feature is included for reference.

A history of installations and removals is kept on file so you may keep track of each transaction. Selecting History from the Main Menu will display the installation/removal history.

Note: The last 3 installation/removal histories will be shown at the Main Menu screen at all times, selecting History from the Main Menu will display the last 15 entries.

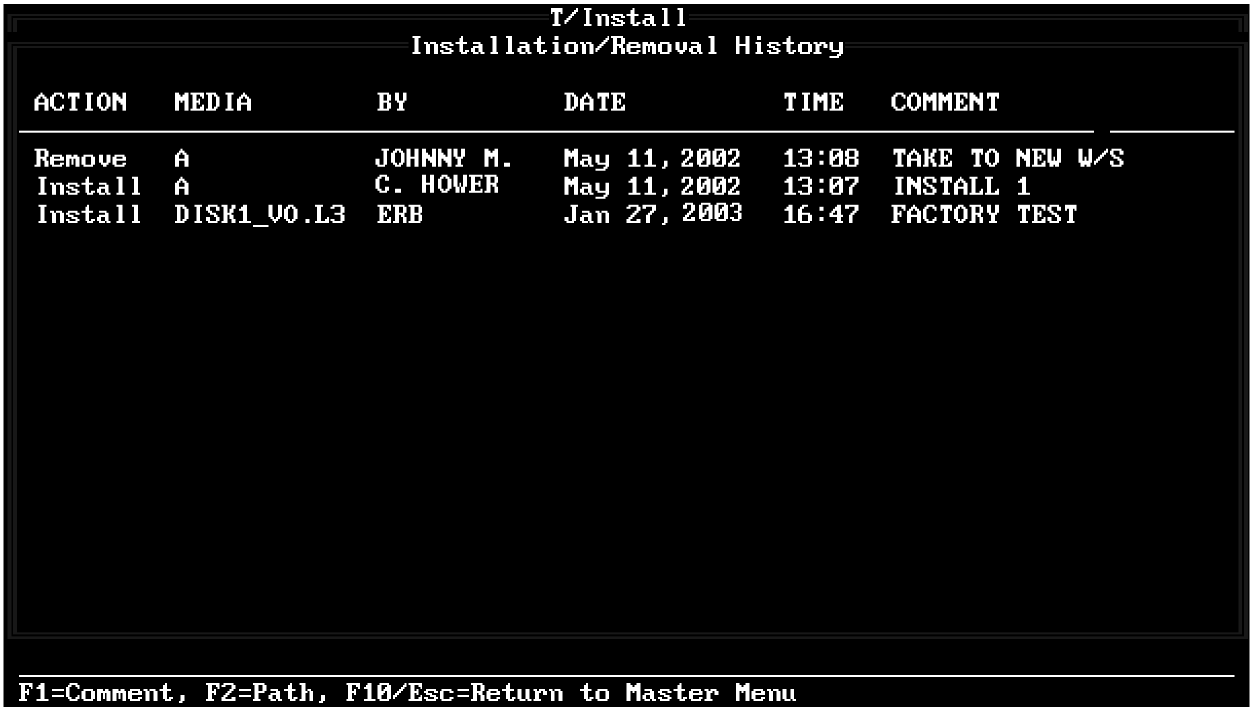
History Command Keys

The following keys are applicable when viewing the Installation/ Removal History screen:

F1 Toggles the Path column to display the Comment column.

F2 Toggles the Comment column to display the Path where the software was Installed/Removed.

F10/ESC Exits the History screen and returns to the Master Menu.



```
                              T/Install
                    Installation/Removal History

 ACTION    MEDIA        BY          DATE           TIME   COMMENT
 -------------------------------------------------------------------
 Remove    A            JOHNNY M.   May 11, 2002   13:08  TAKE TO NEW W/S
 Install   A            C. HOWER    May 11, 2002   13:07  INSTALL 1
 Install   DISK1_V0.L3  ERB         Jan 27, 2003   16:47  FACTORY TEST

F1=Comment, F2=Path, F10/Esc=Return to Master Menu
```

Fig. 2.13 - Installation /removal history screen

Quit

To exit the T/Install utility choose Quit from the Main Menu. You will return to the W/Shell Main Menu depending upon where you started.

T/Link

Note: Change the factory default password in T/Link for increased security.

The T/Link utility controls remote access of the T/Mon or IAM via T/Access. Normally you do not have to change the default T/Link settings—with one important exception. You should change the default factory password for increased security.

Edit T/Link Configuration Settings

Use the following instructions to edit your T/Link configuration settings:

1. To edit your T/Link configuration settings, use your arrow keys to highlight TLINK and press Enter. The TLINK menu will appear (see Figure 2.14).
2. Highlight and choose “Configure T/Link. The T/Link Configuration screen will appear. See Figure. 2.15.
3. Press E (Edit) to edit your configuration settings.
4. Press F8 to save your changes.

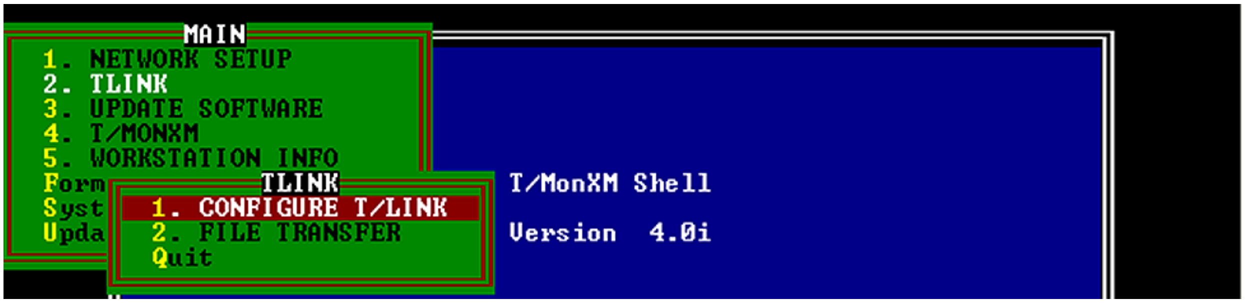
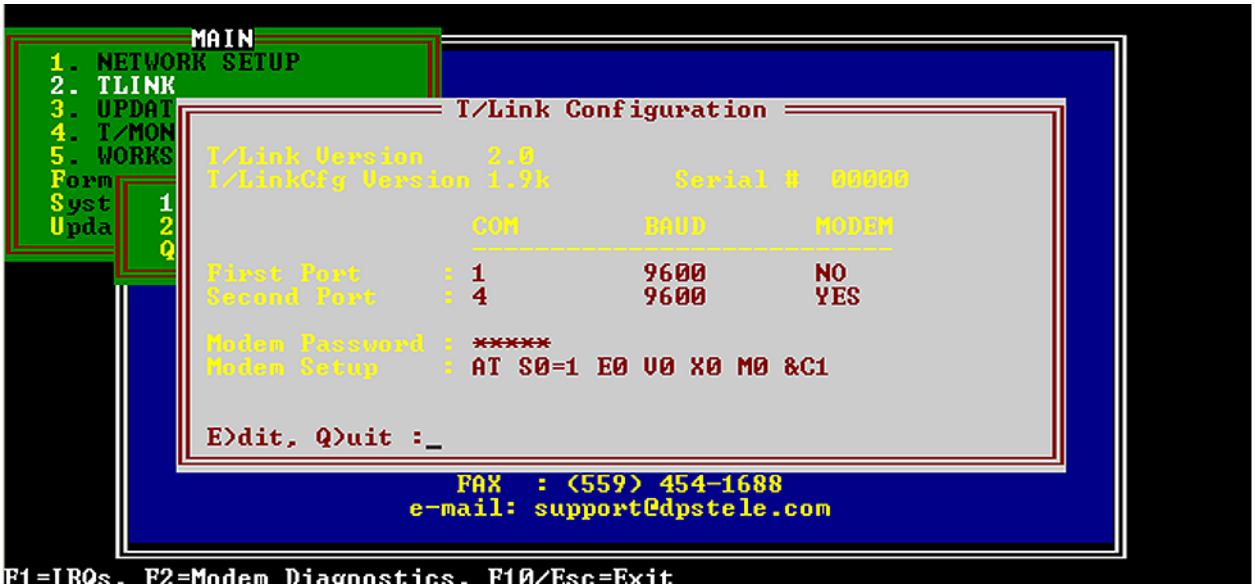


Fig. 2.14 - T/Link Utilities menu



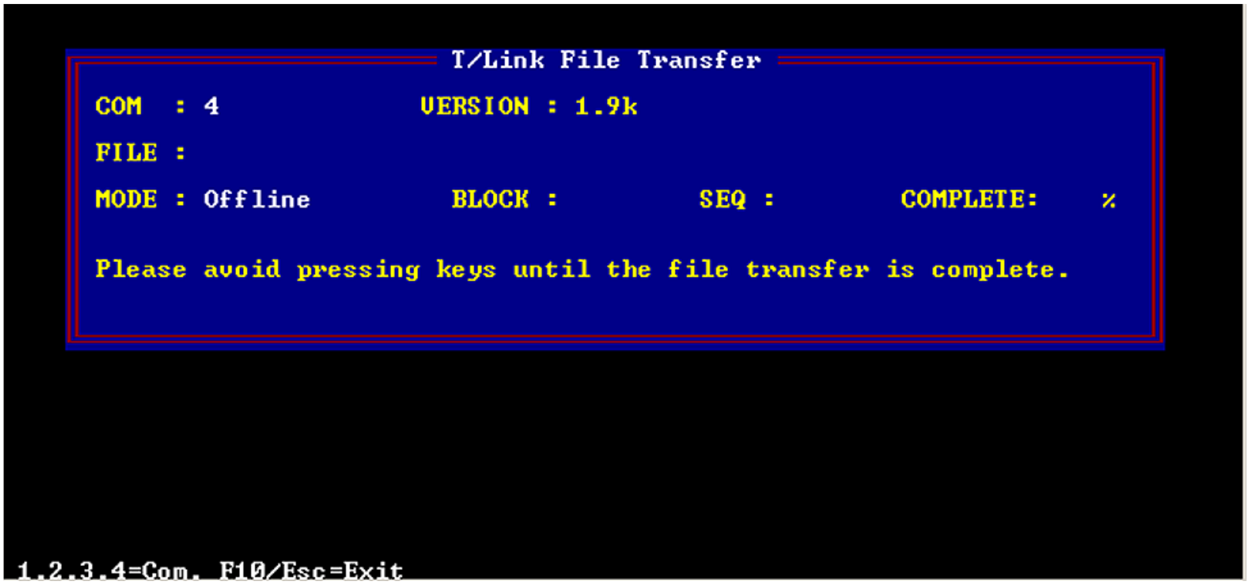
```
              MAIN
  1. NETWORK SETUP
  2. TLINK
  3. UPDAT
  4. T/MON
  5. WORKS
  Form
  Syst     1
  Upda     2
           Q

            ═══ T/Link Configuration ═══

  T/Link Version     2.0
  T/LinkCfg Version 1.9k        Serial #  00000

                      COM          BAUD         MODEM
                      ---------------------------------
  First Port       :  1            9600         NO
  Second Port      :  4            9600         YES

  Modem Password   :  *****
  Modem Setup      :  AT S0=1 E0 V0 X0 M0 &C1

  E>dit, Q>uit :_

                      FAX   : (559) 454-1688
                   e-mail: support@dpstele.com

F1=IRQs, F2=Modem Diagnostics, F10/Esc=Exit
```

Fig. 2.15 - Press E to edit your T/Link configurations

Table 2.B - Fields in the T/Link Configuration screen

Selection	Description
First Port (Typically T/Access port on computer)	
Com	Enter the T/Access Com port number (1-4, “-“ for none)
Baud	Select the baud rate for the T/Access Com port (300, 1200, 2400, 9600). Usually baud rate is 9600. **Note:** Press the Tab key to select rate from menu. Make sure Caps Lock is off.
Modem	Select N (No) for T/Access port (select No for no modem on this port)
Second Port (Typically Modem port on IAM or T/Mon) *	
Com	Enter the Modem Com port number (1-4, “-“ for none)
Baud	Select the baud rate for the T/Access Com port (300, 1200, 2400, 9600). Usually baud rate is 9600. **Note:** Press the Tab key to select rate from menu. Make sure Caps Lock is off.
Modem	Select Y (Yes) for Modem port
Modem Password	Enter a new password for increased security
Modem Setup	Enter your user defined modem init. string

* Typically modem for remote access.



```
                        T/Link File Transfer
COM   : 4                VERSION : 1.9k
FILE  :
MODE  : Offline            BLOCK :          SEQ :         COMPLETE:    %

Please avoid pressing keys until the file transfer is complete.

1.2.3.4=Com. F10/Esc=Exit
```

Fig. 2.16 - T/Link File Transfer screen

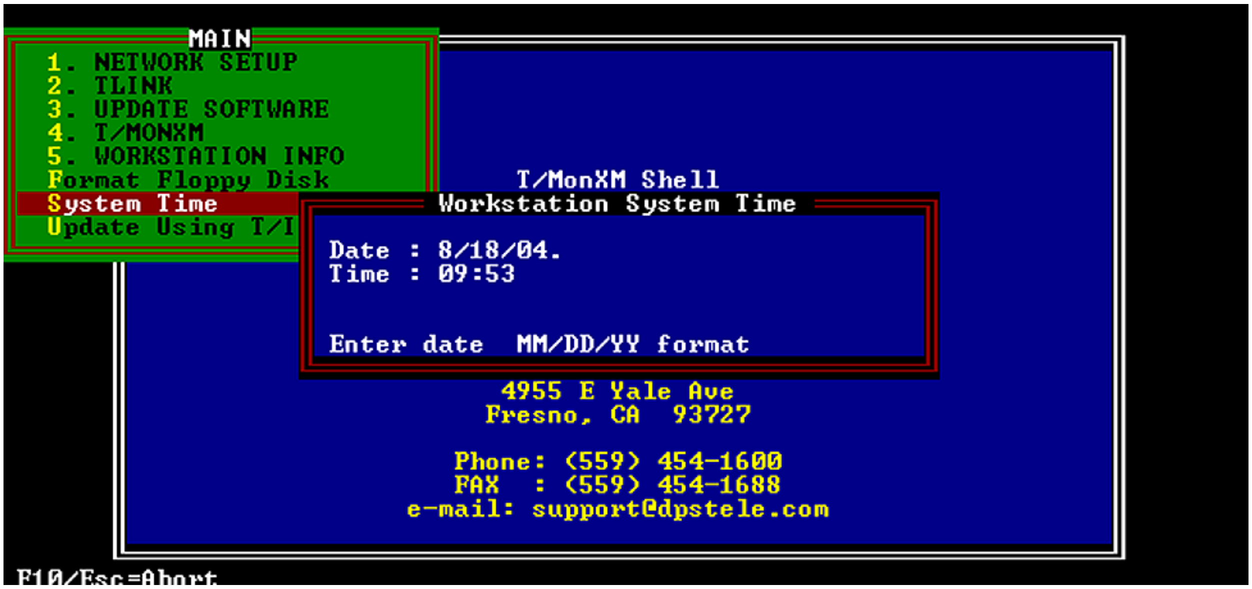
T/Link File Transfer

Selecting File Transfer from the TLINK menu allows you to transfer files via dial up from DPS Telecom for technical support purposes. Contact DPS Tech Support for more information.

System Time

Manually set your IAM or T/MonXM workstation system time by selecting System Time from the WShell Main menu. See Figure 2.17.

Note: Don’t forget to adjust time during day light saving and standard time.



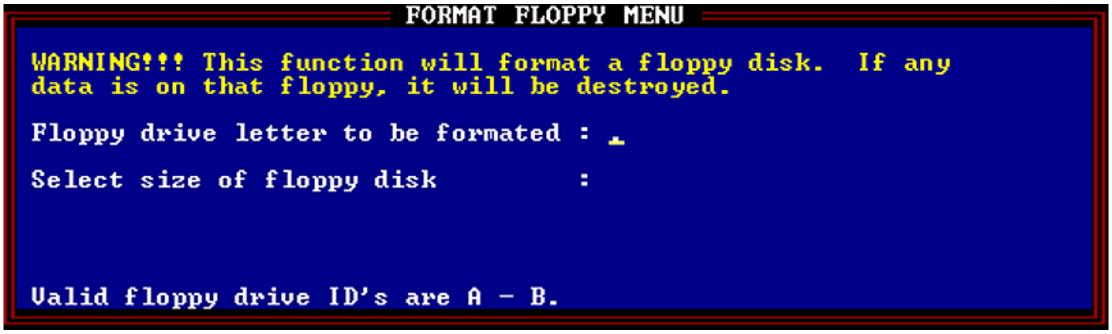
```
Workstation System Time

Date : 8/18/04.
Time : 09:53

Enter date  MM/DD/YY format

4955 E Yale Ave
Fresno, CA  93727

Phone: (559) 454-1600
FAX  : (559) 454-1688
e-mail: support@dpstele.com

F10/Esc=Abort
```

Fig. 2.17 - Manually set your workstation system time

Format Floppy Disk

You can format floppy disks in your IAM or T/Mon’s floppy drive by selecting the Format Floppy Disk option from the WShell Main menu. The Format Floppy Menu will appear — see Figure 2.18.

1. Insert a floppy disk and enter the floppy disk drive letter (normally A).
2. Then select the size of your floppy disk and press Enter to format the floppy disk.



```
FORMAT FLOPPY MENU

WARNING!!! This function will format a floppy disk.  If any
data is on that floppy, it will be destroyed.

Floppy drive letter to be formated : _

Select size of floppy disk         :


Valid floppy drive ID's are A - B.
```

Fig. 2.18 - The Format Floppy Menu screen

Workstation Info Menu

You can view general information on you IAM or T/Mon by selecting Workstation Info from the WShell Main menu (see Figure 2.18).

Note: Menu options will vary according to your IAM or T/Mon unit and firmware versions.

Figure 2.20 shows an example workstation information screen. Information will vary according to your IAM or T/Mon unit.

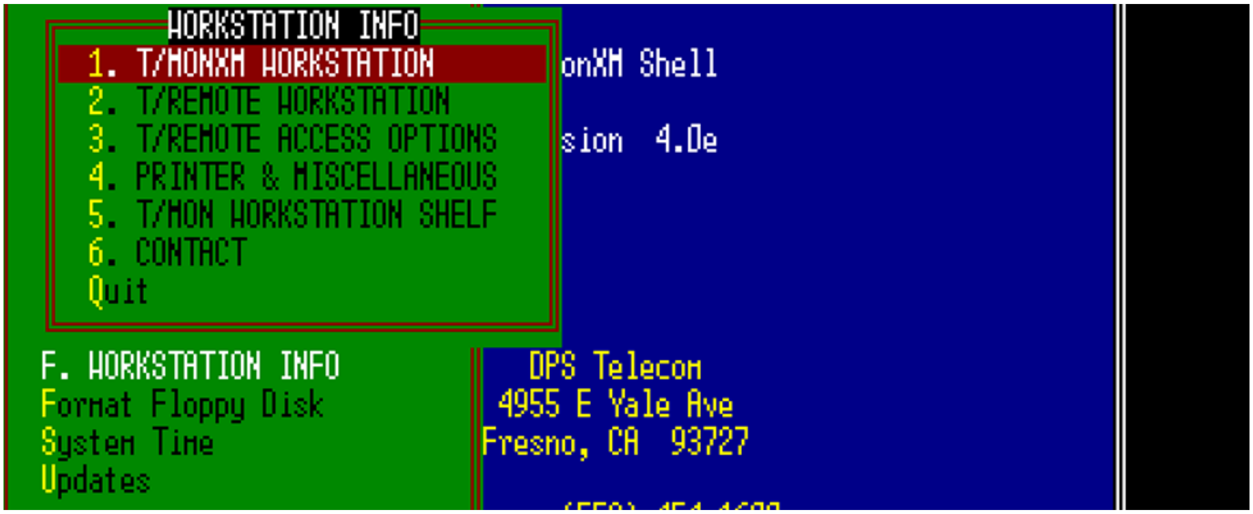
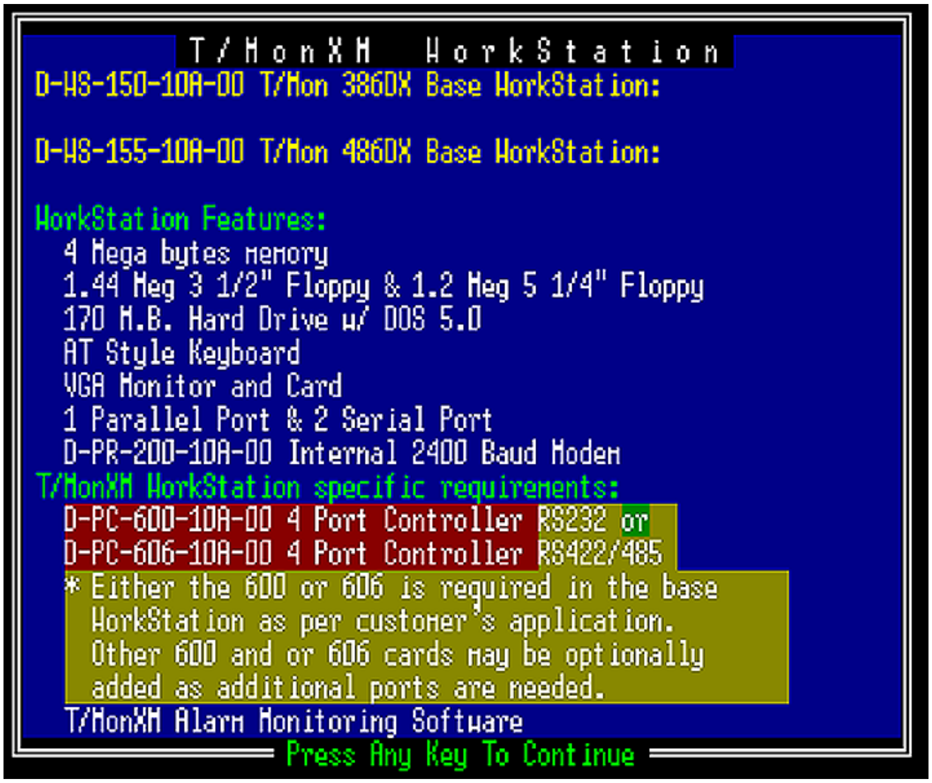


Fig. 2.19 - Example of Workstation Info menu for T/MonXM



```
T/MonXM WorkStation
D-WS-150-10A-00 T/Mon 386DX Base WorkStation:

D-WS-155-10A-00 T/Mon 486DX Base WorkStation:

WorkStation Features:
  4 Mega bytes memory
  1.44 Meg 3 1/2" Floppy & 1.2 Meg 5 1/4" Floppy
  170 M.B. Hard Drive w/ DOS 5.0
  AT Style Keyboard
  VGA Monitor and Card
  1 Parallel Port & 2 Serial Port
  D-PR-200-10A-00 Internal 2400 Baud Modem
T/MonXM WorkStation specific requirements:
  D-PC-600-10A-00 4 Port Controller RS232 or
  D-PC-606-10A-00 4 Port Controller RS422/485
  * Either the 600 or 606 is required in the base
    WorkStation as per customer's application.
    Other 600 and or 606 cards may be optionally
    added as additional ports are needed.
  T/MonXM Alarm Monitoring Software
                Press Any Key To Continue
```

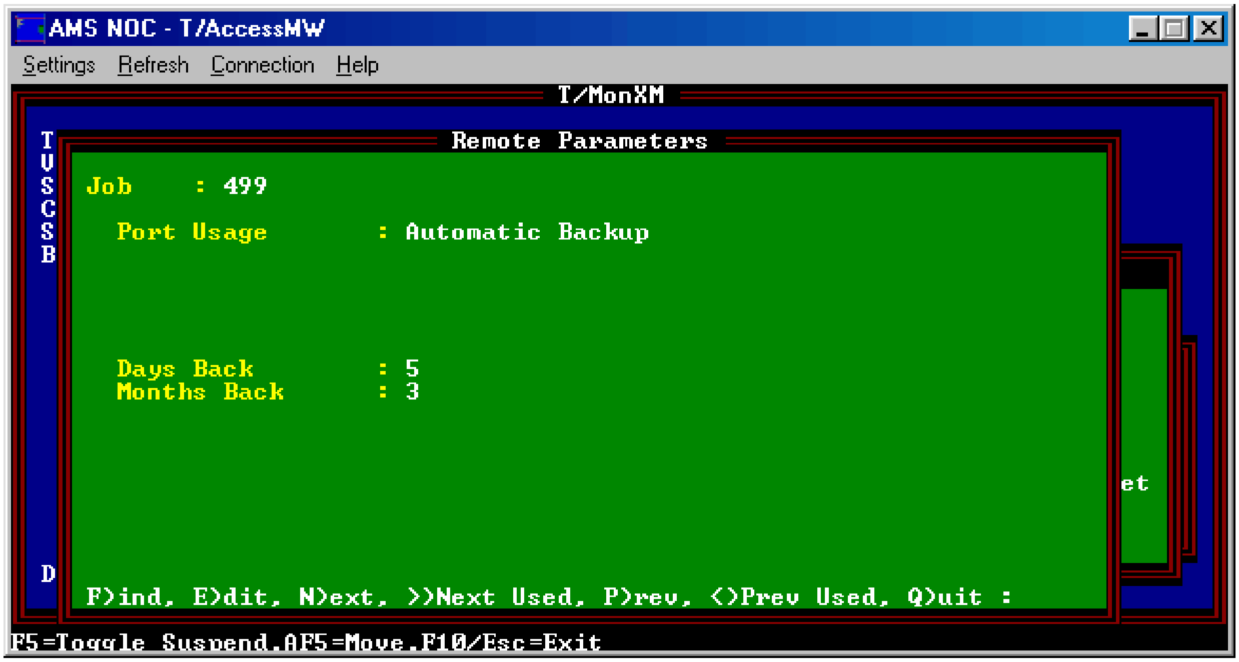
Fig. 2.20 - Example T/MonXM Workstation general information screen

Automatic Backup

T/Mon has support for automatically backing up its data and application files on the local hard drive at user-definable daily and monthly intervals. This allows for the system to have “go back” functionality, which includes the restoration of data files and the TMon application itself. This is particularly useful for reverting back to a previous version of the database if you find you’ve databased something incorrectly. This can also be used to revert back to a previous version of the software should you encounter a problem during the upgrade process.

There are two parts to the Automatic Backup:

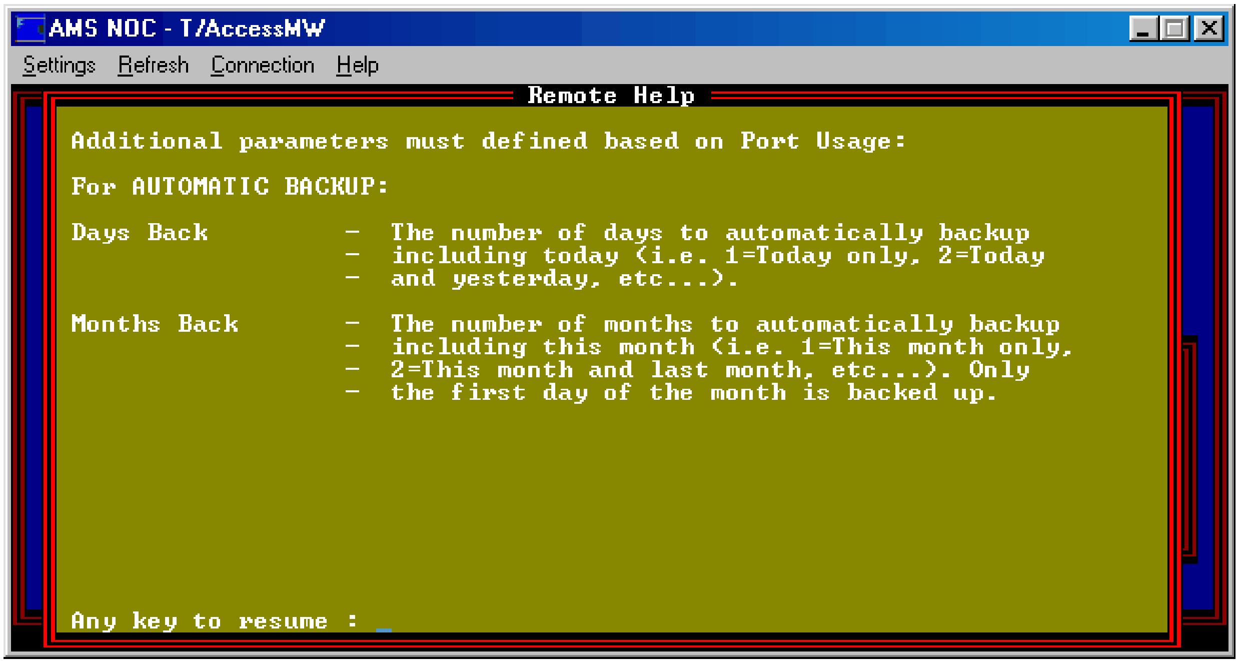
The first is to define the Automatic Backup job which is responsible for executing the automatic backups. If you define more backups than you have hard disk space for, only the maximum number of backups that can safely fit on the disk will be stored. The oldest backup will be purged automatically when it is no longer within the user-specified backup windows (“Days Back” or “Months Back”, see Fig. 2.20) or there is not enough disk space to store the newest automatic backup. You do not have to worry about purging old backups or running out of disk space, because the Automatic Backup job will purge old backups for you.



```
Job     : 499
  Port Usage         : Automatic Backup


  Days Back          : 5
  Months Back        : 3


F)ind, E)dit, N)ext, >)Next Used, P)rev, <)Prev Used, Q)uit :
F5=Toggle Suspend,AF5=Move,F10/Esc=Exit
```

Fig. 2.20 - Remote Parameters screen for Automatic Backup job

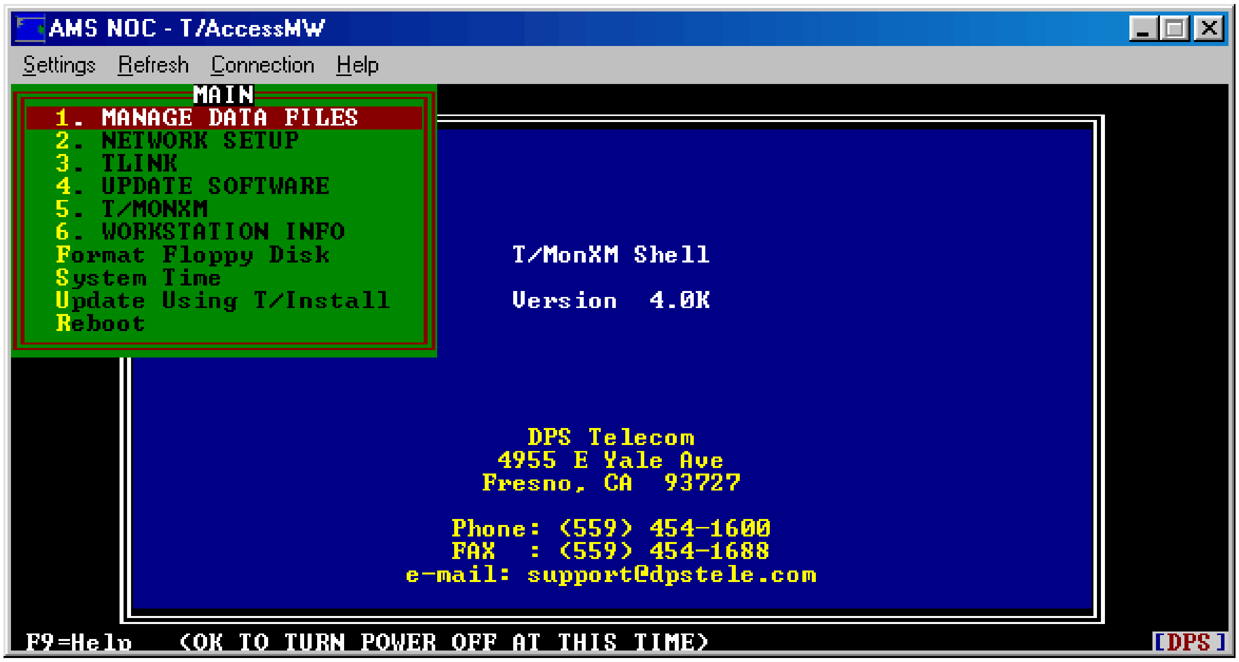
The parameters for the Automatic Backup job are as follows:



```
Additional parameters must defined based on Port Usage:

For AUTOMATIC BACKUP:

Days Back          -  The number of days to automatically backup
                   -  including today (i.e. 1=Today only, 2=Today
                   -  and yesterday, etc...).

Months Back        -  The number of months to automatically backup
                   -  including this month (i.e. 1=This month only,
                   -  2=This month and last month, etc...). Only
                   -  the first day of the month is backed up.



Any key to resume : _
```

Fig. 2.21 - Remote Help screen for Automatic Backup job

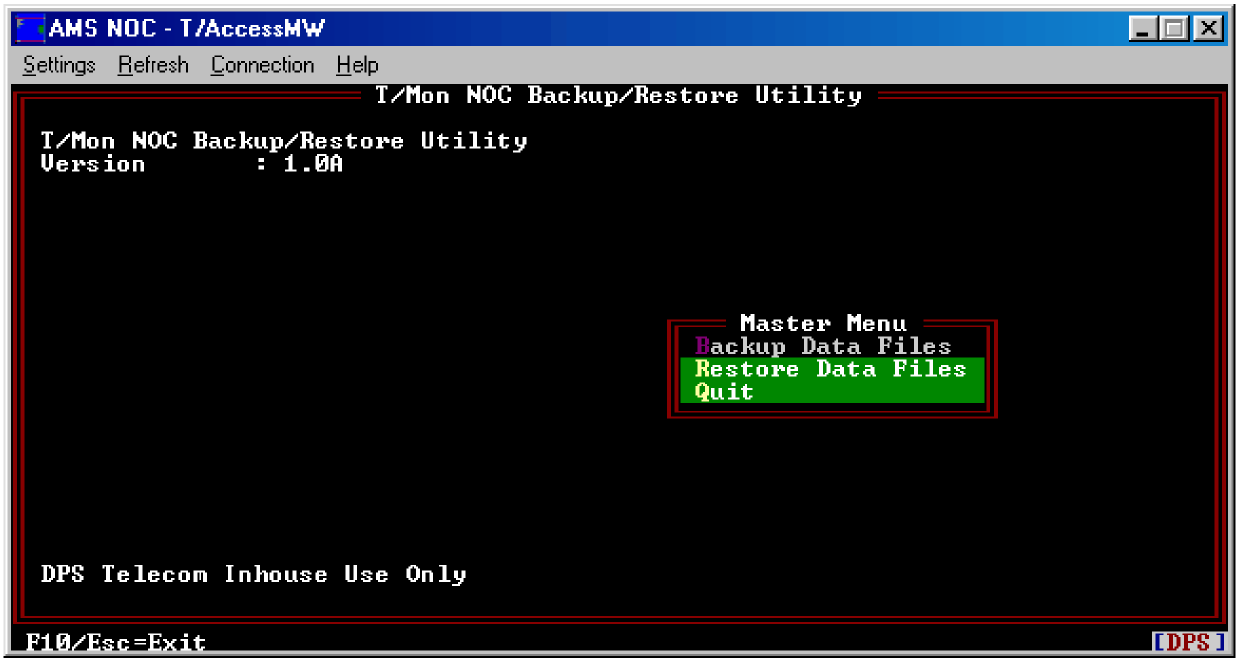
The second part of Automatic Backup is the Backup/Restore Utility, accessible from the “MANAGE DATA FILES” option in WShell. It requires no configuration.



```
T/MonXM Shell

Version  4.0K

DPS Telecom
4955 E Yale Ave
Fresno, CA  93727

Phone: (559) 454-1600
FAX  : (559) 454-1688
e-mail: support@dpstele.com

F9=Help    (OK TO TURN POWER OFF AT THIS TIME)
```

Fig. 2.22 - Select Manage Data Files from the Main Menu

The Master Menu of the Backup/Restore Utility gives the option to backup the data files, restore data files, or quit the program and return to WShell.



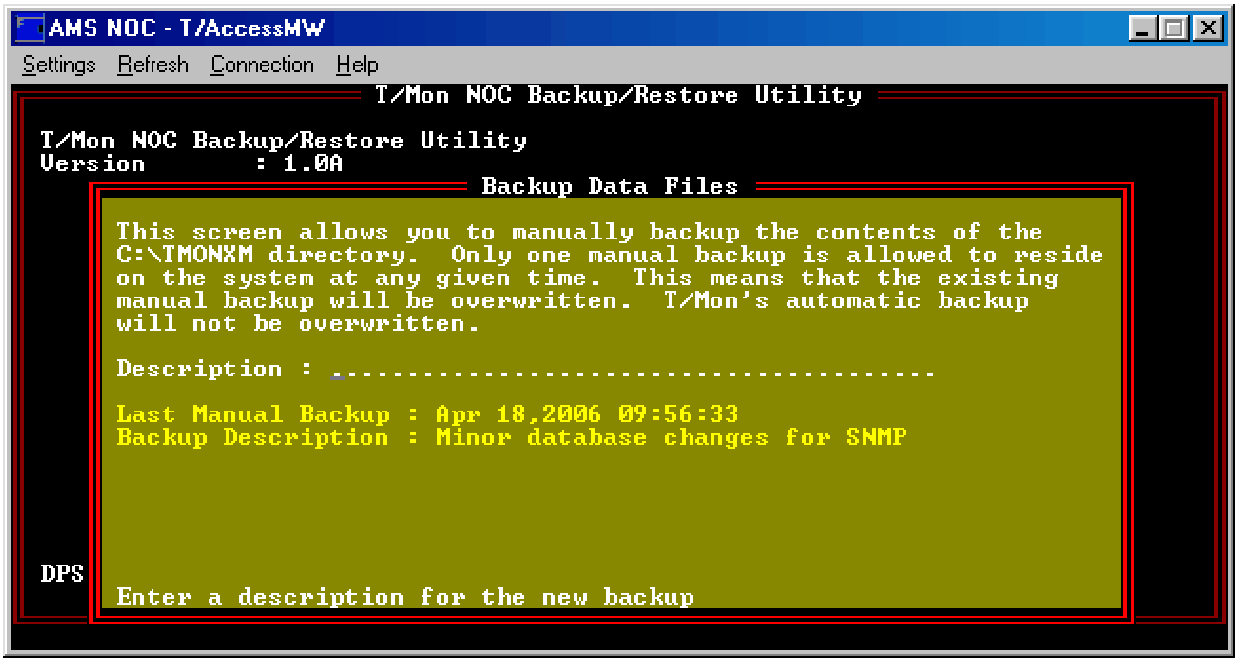
```
T/Mon NOC Backup/Restore Utility

T/Mon NOC Backup/Restore Utility
Version        : 1.0A

                                        Master Menu
                                     Backup Data Files
                                     Restore Data Files
                                     Quit

DPS Telecom Inhouse Use Only

F10/Esc=Exit                                                    [DPS]
```

Fig. 2.23 - The T/Mon NOC Backup/Restore Utility

Selecting the “Backup Data Files” option will allow the user to manually backup the data files and T/Mon application files. Only one manual backup can be stored on the local disk at a time. Therefore, **the new manual backup will overwrite the previous manual backup.**

The details of the previous manual backup are displayed upon entering this screen. Using them, you can determine if you want to overwrite your existing manual backup. Remember that this “manual backup” is separate from the “automatic backups” created by the TMon’s Automatic Backup job. Automatic backups will not overwrite the manual backup, even if there is insufficient disk space for the automatic backup. In this case, the oldest automatic backup will be purged.

Remember, there can be only one manual backup, but there can be multiple automatic backups (so long as there is sufficient disk space).

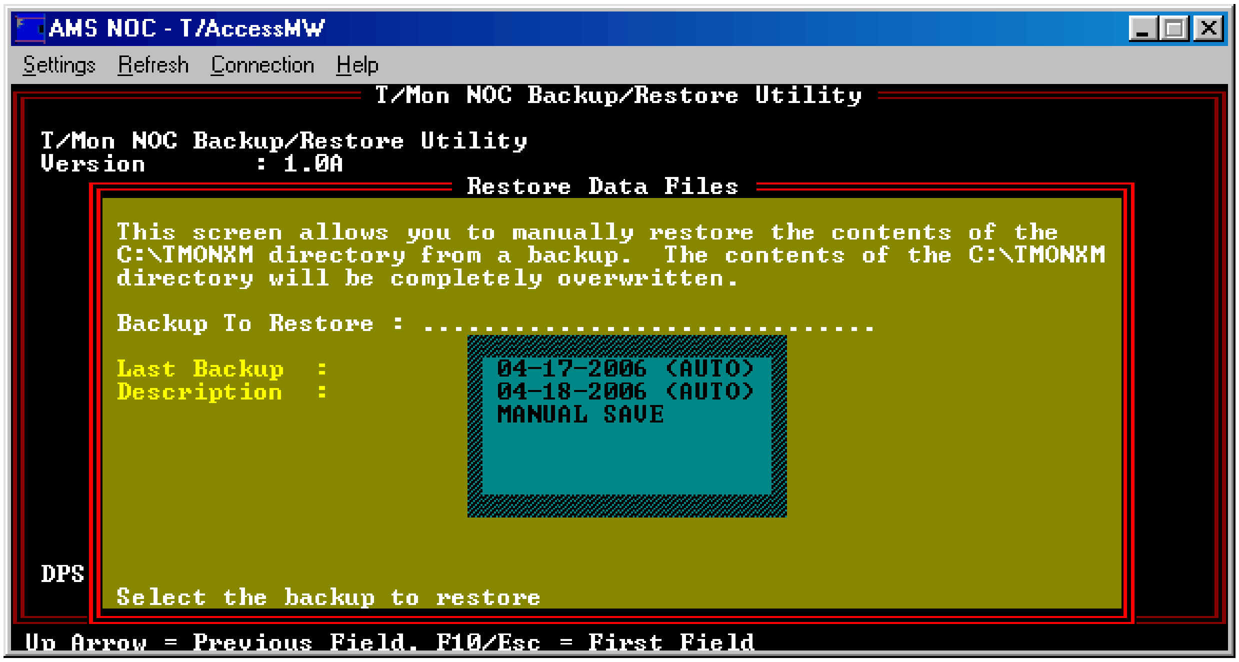


```
                    T/Mon NOC Backup/Restore Utility

T/Mon NOC Backup/Restore Utility
Version         : 1.0A
                          Backup Data Files

      This screen allows you to manually backup the contents of the
      C:\TMONXM directory.  Only one manual backup is allowed to reside
      on the system at any given time.  This means that the existing
      manual backup will be overwritten.  T/Mon's automatic backup
      will not be overwritten.

      Description : _.......................................

      Last Manual Backup : Apr 18,2006 09:56:33
      Backup Description : Minor database changes for SNMP

DPS
      Enter a description for the new backup
```

Fig. 2.24 - Backup Overwrite Warning

Selecting the “Restore Data Files” option from the Master Menu will allow the user to manually restore the data files and T/Mon application files from either a manual or automatic backup. The existing TMon data files and application will be overwritten, so use with caution.

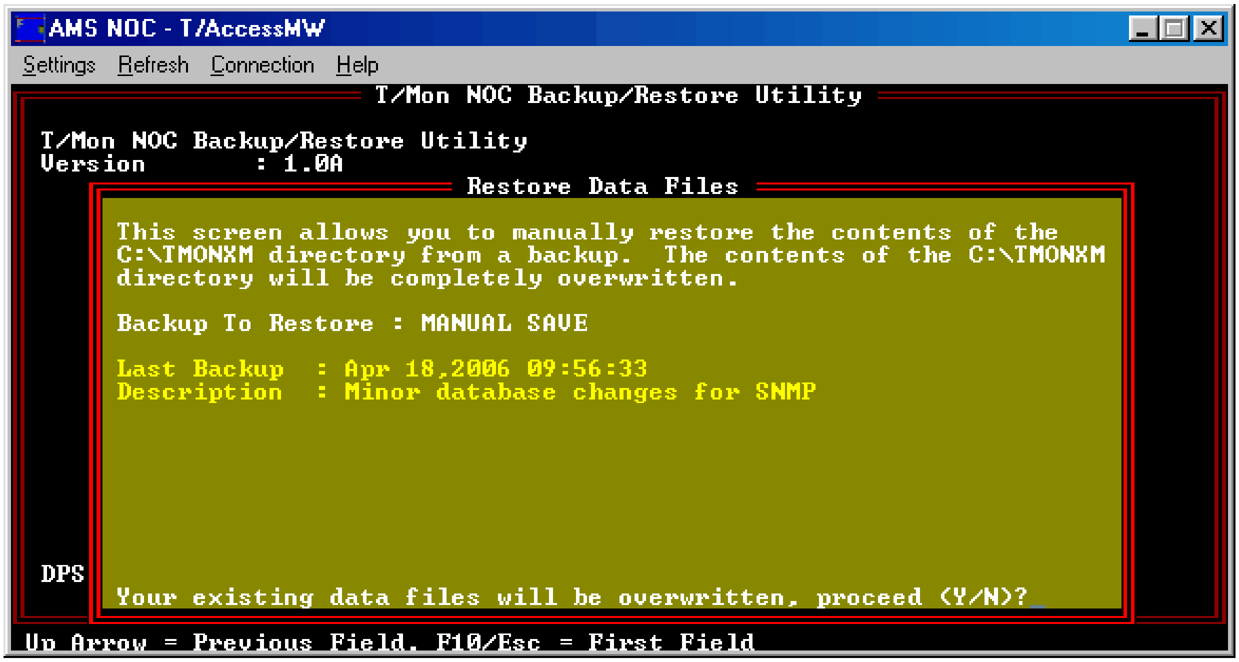
If you make database changes, install a new version of the software, then restore an old backup, you will be reverted back to both the old database and software version.



```
                    T/Mon NOC Backup/Restore Utility

T/Mon NOC Backup/Restore Utility
Version         : 1.0A
                          Restore Data Files

      This screen allows you to manually restore the contents of the
      C:\TMONXM directory from a backup.  The contents of the C:\TMONXM
      directory will be completely overwritten.

      Backup To Restore : ..............................

      Last Backup  :           04-17-2006 (AUTO)
      Description  :           04-18-2006 (AUTO)
                               MANUAL SAVE

DPS
      Select the backup to restore
Up Arrow = Previous Field, F10/Esc = First Field
```

Fig. 2.25 - Selecting a Backup to Restore

Selecting a backup will cause the information about the backup to be displayed and then you will be prompted as to if you want to continue with restoring the backup. **Selecting the backup alone will not restore it.**


AMS NOC - T/AccessMW
Settings Refresh Connection Help
T/Mon NOC Backup/Restore Utility
Restore Data Files
DPS

```
T/Mon NOC Backup/Restore Utility
Version         : 1.0A

This screen allows you to manually restore the contents of the
C:\TMONXM directory from a backup.  The contents of the C:\TMONXM
directory will be completely overwritten.

Backup To Restore : MANUAL SAVE

Last Backup   : Apr 18,2006 09:56:33
Description   : Minor database changes for SNMP

Your existing data files will be overwritten, proceed (Y/N)?_

Up Arrow = Previous Field, F10/Esc = First Field
```

Fig. 2.26 - Overwrite Existing Data Files Warning and Confirmation

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Section 3 - Network Setup

Ethernet I/O

All LAN usage is set up on Port 28 within T/MonXM > Parameters > Remote Ports.
Note: see Software Module 1 for LAN based remotes — NetGuardian.

Port 28 is reserved exclusively for configuring Ethernet input and output. This usage can be halted by selecting Halted in the Port Usage field or suspended by pressing F5, but no other usage can be assigned to Port 28.

Port 28 controls the number and type of TCP ports available to T/MonXM. Ethernet I/O must be set up on Port 28 to use LAN jobs on Ports 30-500.

Step One: Network Setup

To configure T/MonXM to use Ethernet I/O, you must first assign your T/MonXM system an IP address. To assign an IP address, follow these steps.

1. Exit T/MonXM to W/Shell.
2. From the W/Shell Main menu, choose Network Setup.

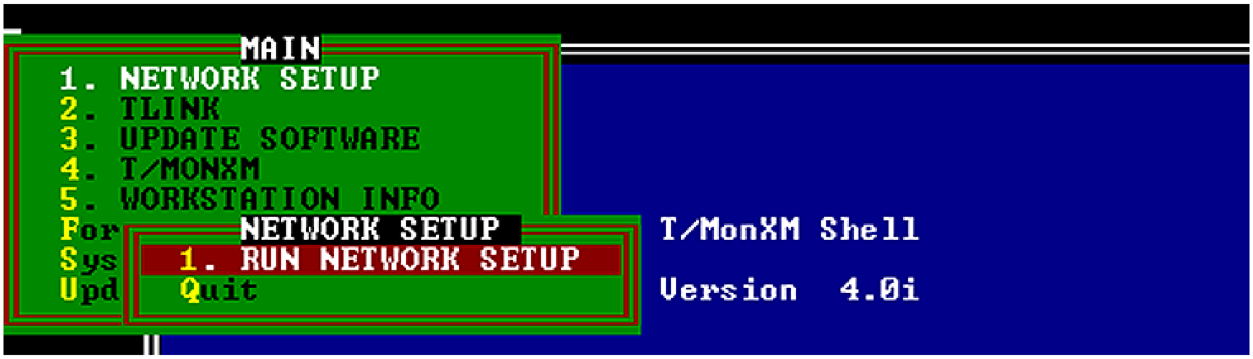
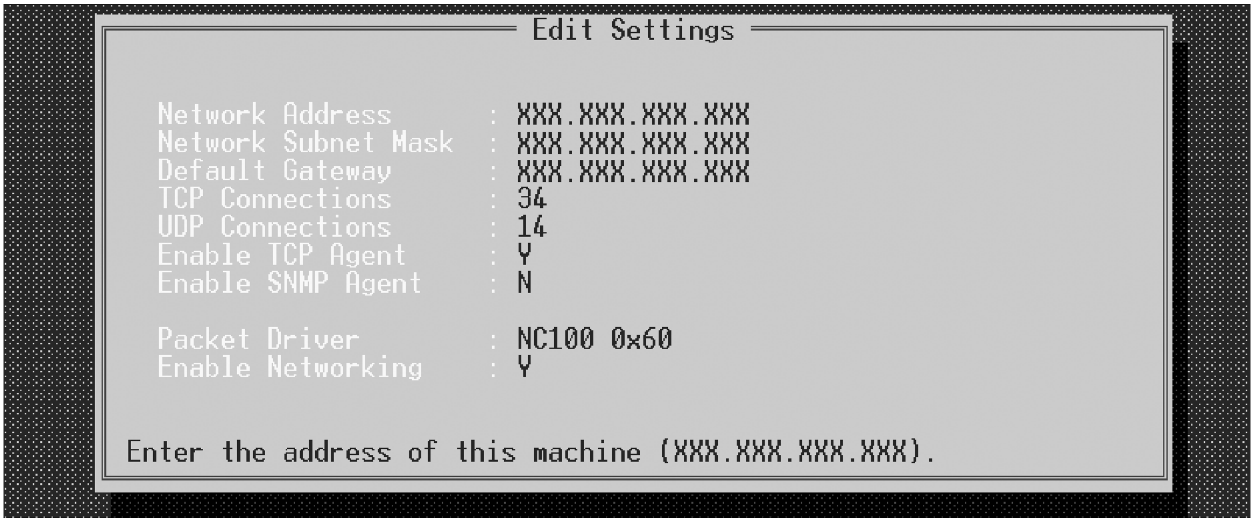


Fig. 3.1 - Choosing Network Setup

3. From the Network Setup menu, choose Run Network Setup. (See Figure 3.1.)
4. From the Network Setup Utility screen, select Edit Settings.
5. The Edit Settings screen will appear. (See Figure 3.2.) Enter IP



```
                         Edit Settings

  Network Address        : XXX.XXX.XXX.XXX
  Network Subnet Mask    : XXX.XXX.XXX.XXX
  Default Gateway        : XXX.XXX.XXX.XXX
  TCP Connections        : 34
  UDP Connections        : 14
  Enable TCP Agent       : Y
  Enable SNMP Agent      : N

  Packet Driver          : NC100 0x60
  Enable Networking      : Y


Enter the address of this machine (XXX.XXX.XXX.XXX).
```

Fig. 3.2 - Editing Network Settings

addresses for Network Address, Network Subnet Mask, and Default Gateway. If you don't know the correct addresses, ask your network administrator.

6. In the Edit Settings screen you can also select the number of possible TCP and UDP connections available in T/MonXM. By default, 40 TCP and 5 UDP connections are activated. Up to 49 UPD and TCP connections total can be activated.

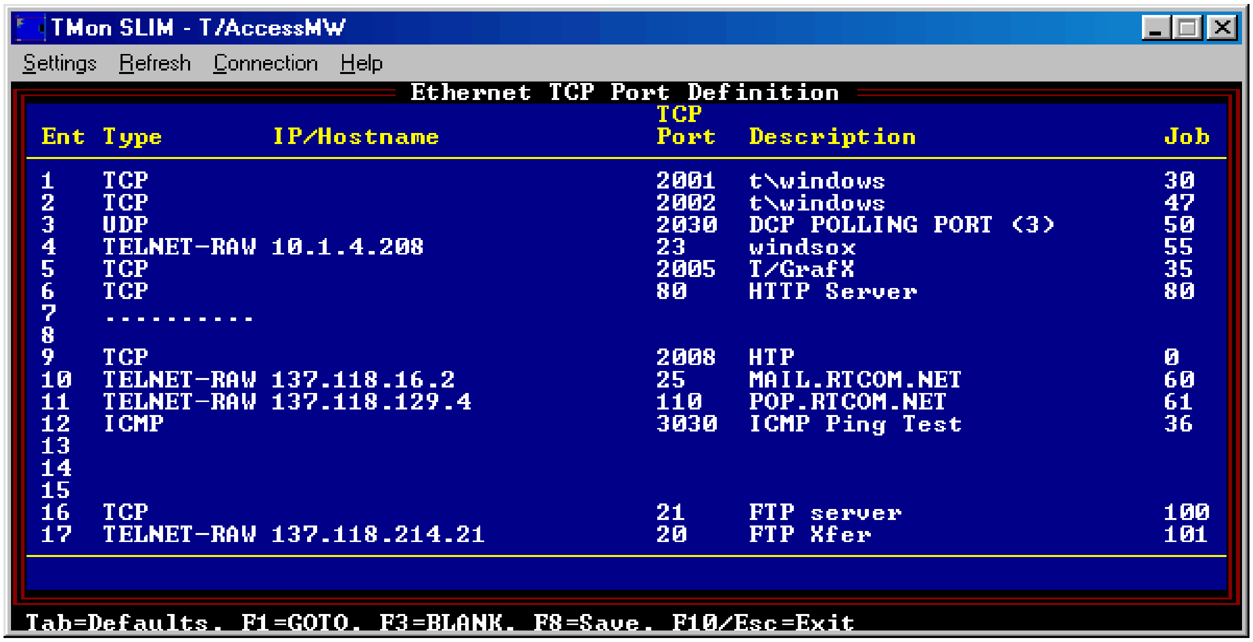
Note: If you have defined more TCP ports than are activated, T/MonXM will display an error message during initialization indicating that it can't get a network descriptor.

If you want to verify that your T/MonXM system is connected to your LAN, ping the network address assigned to the T/MonXM system from a computer on your network.

7. You must reboot before the changes can take effect.

T/Mon Data Connection Job Association Feature

When a data connection is assigned to a virtual job the data connection is said to be "associated" with that job. The data connections are edited in the Ethernet TCP Port Definition screen. From this screen you can easily tell if each data connection is associated with a job by checking the "Job" field. If the Job field is 0 then the data connection is not associated with a virtual job. If the Job field is not 0 then the data connection is associated with that job number. The Job field is populated automatically and is non-editable.



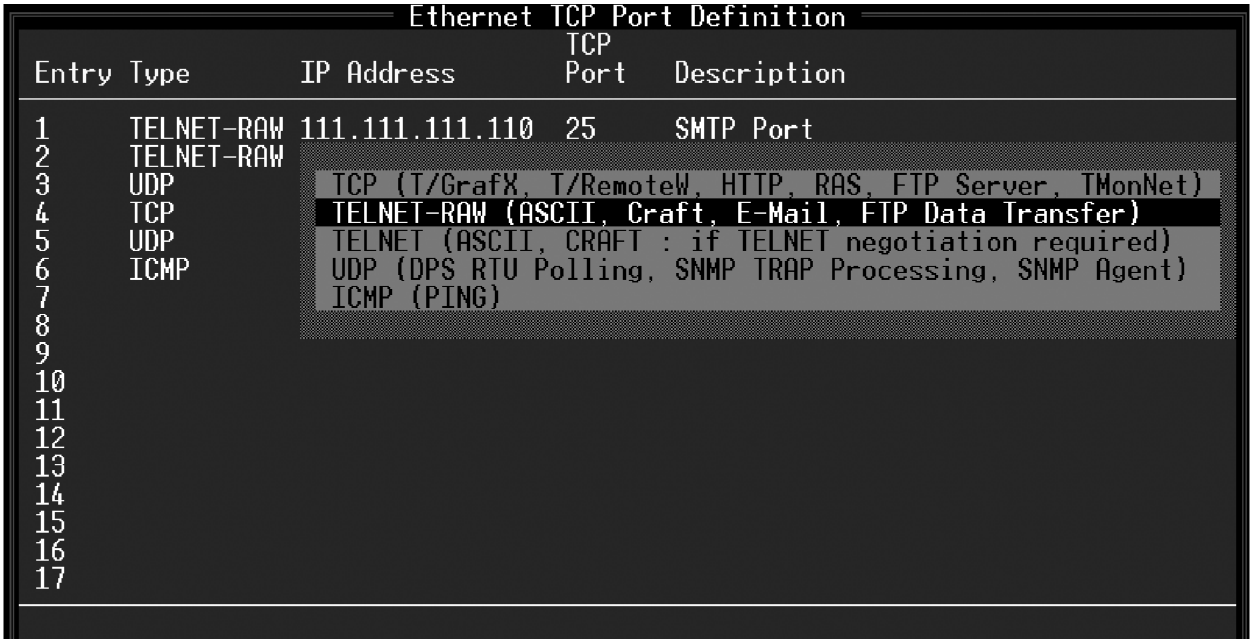
```
                      Ethernet TCP Port Definition
                                           TCP
 Ent  Type         IP/Hostname             Port  Description              Job

 1    TCP                                  2001  t\windows                 30
 2    TCP                                  2002  t\windows                 47
 3    UDP                                  2030  DCP POLLING PORT (3)      50
 4    TELNET-RAW 10.1.4.208                23    windsox                   55
 5    TCP                                  2005  T/GrafX                   35
 6    TCP                                  80    HTTP Server               80
 7    ..........
 8
 9    TCP                                  2008  HTP                       0
 10   TELNET-RAW 137.118.16.2              25    MAIL.RTCOM.NET            60
 11   TELNET-RAW 137.118.129.4             110   POP.RTCOM.NET             61
 12   ICMP                                 3030  ICMP Ping Test            36
 13
 14
 15
 16   TCP                                  21    FTP server                100
 17   TELNET-RAW 137.118.214.21            20    FTP Xfer                  101

 Tab=Defaults, F1=GOTO, F3=BLANK, F8=Save, F10/Esc=Exit
```

Fig. 3.3 - Ethernet TCP Port Definition Screen

Step Two: Port 28

Your next step is to assign Ethernet I/O to Port 28. Follow these steps:

1. Choose Master > Parameters > Remote Ports > F)ind and enter 28 <CR>.
2. Choose E)dit.
3. Press Tab to select the list box. Highlight “Ethernet I/O” and press Enter.



```
                          Ethernet TCP Port Definition
                                          TCP
Entry Type       IP Address       Port   Description

1     TELNET-RAW 111.111.111.110  25     SMTP Port
2     TELNET-RAW
3     UDP         TCP (T/GrafX, T/RemoteW, HTTP, RAS, FTP Server, TMonNet)
4     TCP         TELNET-RAW (ASCII, Craft, E-Mail, FTP Data Transfer)
5     UDP         TELNET (ASCII, CRAFT : if TELNET negotiation required)
6     ICMP        UDP (DPS RTU Polling, SNMP TRAP Processing, SNMP Agent)
7                 ICMP (PING)
8
9
10
11
12
13
14
15
16
17
```

Fig. 3.4 - Ethernet TCP Port Definition Screen

Step Three: TCP Ports

Finally, TCP ports must be defined to be available for use. Follow these steps:

1. From the Remote Parameters screen for Port 28, press F1. This command opens the Ethernet TCP Port Definition screen — See Figure 3.3.

Note: this screen can also be accessed from Ports 30-500 by pressing F6.

2. Press Tab to select the default list for port type. Your choices are TCP, TELNET-Raw, TELNET, UDP, and ICMP. For a description of TCP port types — see Table 3.A.
3. If you selected TELNET or TELNET-Raw, you must enter an IP address. If you selected other port types, the cursor will skip over the IP Address field.
4. You must enter a TCP port number. Certain port numbers are reserved for specific uses. If an application requires a reserved TCP port number, the correct number will be listed in the section of the T/MonXM User Manual that describes the application and on the Remote Parameters screen for the port.
5. If you want, enter a description in the Description field.
6. Press F8 to save your changes.

Table 3.A - Ethernet TCP Port types and applications

Field	Description
TCP	Responders, Remote Access, T/GrafX, HTTP Server, RAS, FTP Server, Craft, SNMP Processor Trap
TELNET-RAW	Interrogators, ASCII Input, Craft, E-Mail, FTP Data Transfer
TELNET	Same as Telnet-Raw Note: to be used only when Telnet Negotiation is required.
UDP	Interrogators, Responders, SNMP Trap Processor, SNMP Agent, Network Time
ICMP	Ping

Table 3.B - Key commands available in the Ethernet TCP Port Definition screen

Function Key	Description
Tab	Open default list of TCP port types.
F1	Interrogators, ASCII Input, Craft, E-Mail, FTP Data Transfer
F3	BLANK port definition entry.
F8	Save port definition entries.
F10/Esc	Exit Ethernet TCP Port Definition screen without saving changes.

Assigning a Data Connection

After you have set up the network, you will be able to assign a data connection to your remote ports when defining them to poll your remote devices via LAN.

Assigning a TCP port to a LAN job takes four steps:

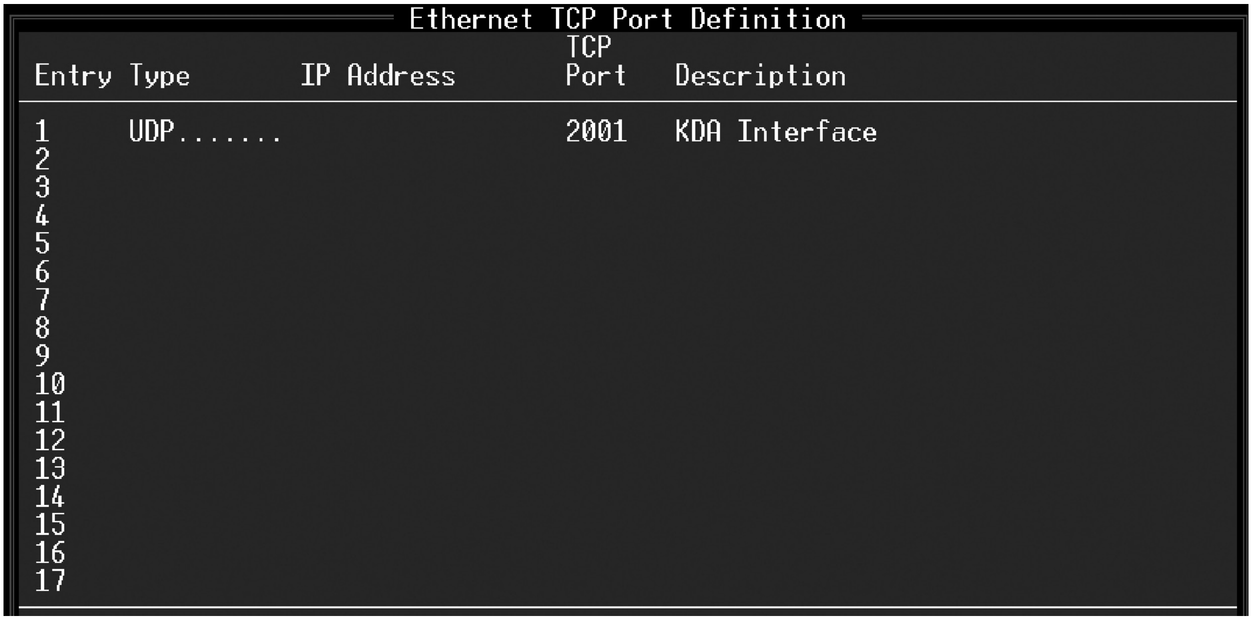
1. Define the TCP Port in the Ethernet TCP Port Definition screen.
2. Define the port usage in the Remote Parameters screen.
3. Assign the remote port a TCP port data connection in the Data Connection Assignment screen.
4. If necessary, provision the devices that will use the TCP data connection.

For example, let's say you want to configure a data connection for KDAs to report to T/MonXM over LAN. (These instructions apply equally well to the NetGuardian. For instructions on provisioning a NetGuardian, see Section M1-25, LAN-Based Remotes.) You would follow these steps:

Step One

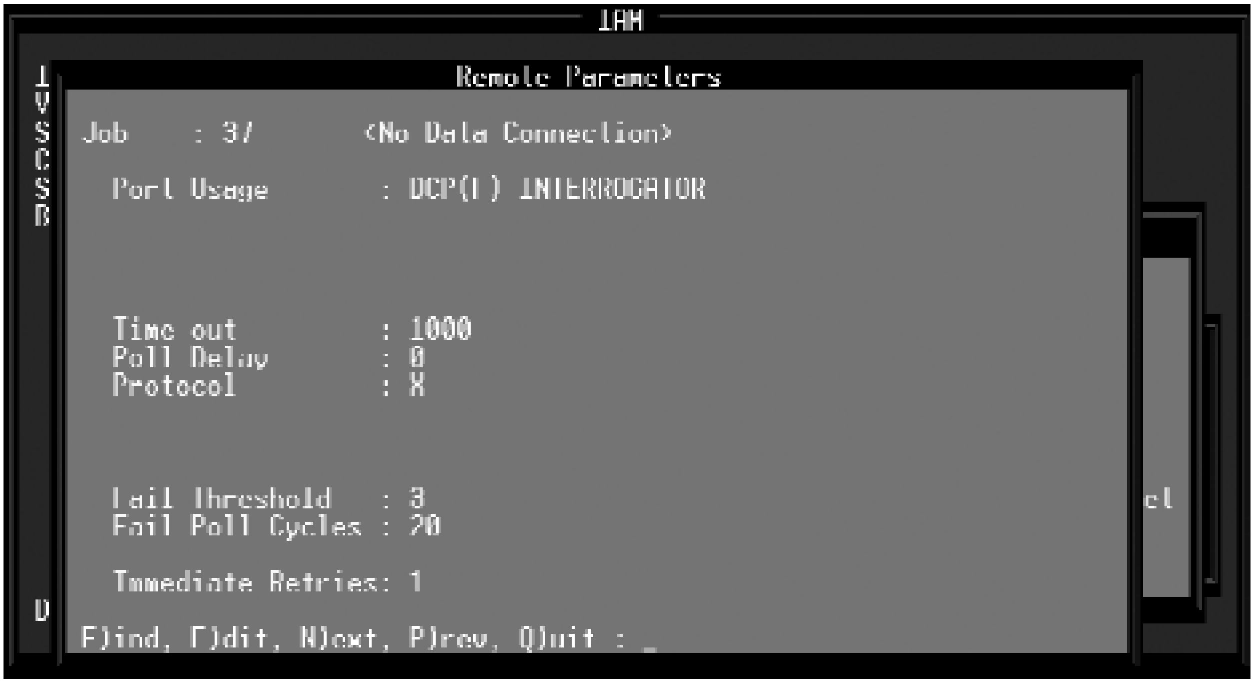
Define the TCP port

1. Choose Master > Parameters > Remote Ports > F (Find) > 28. Verify that Port 28 is assigned to Ethernet I/O.
2. Press F1 to open the Ethernet TCP Port Definition screen.
3. Select an unused entry and press Tab to select the default list box for the Type field.
4. Highlight UDP and press Enter.
5. Type "2001" in the TCP Port field.
6. Type a description in the Description field.



```
                    Ethernet TCP Port Definition
                                       TCP
Entry Type       IP Address            Port   Description

1     UDP.......                       2001   KDA Interface
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
```

Fig. 3.5 - A TCP Port Configuration Suitable for an RTU



```
Remote Parameters

Job    : 37       <No Data Connection>

  Port Usage       : DCP(F) INTERROGATOR

  Time out         : 1000
  Poll Delay       : 0
  Protocol         : X

  Fail Threshold   : 3
  Fail Poll Cycles : 20

  Immediate Retries: 1

F)ind, E)dit, N)ext, P)rev, Q)uit : _
```

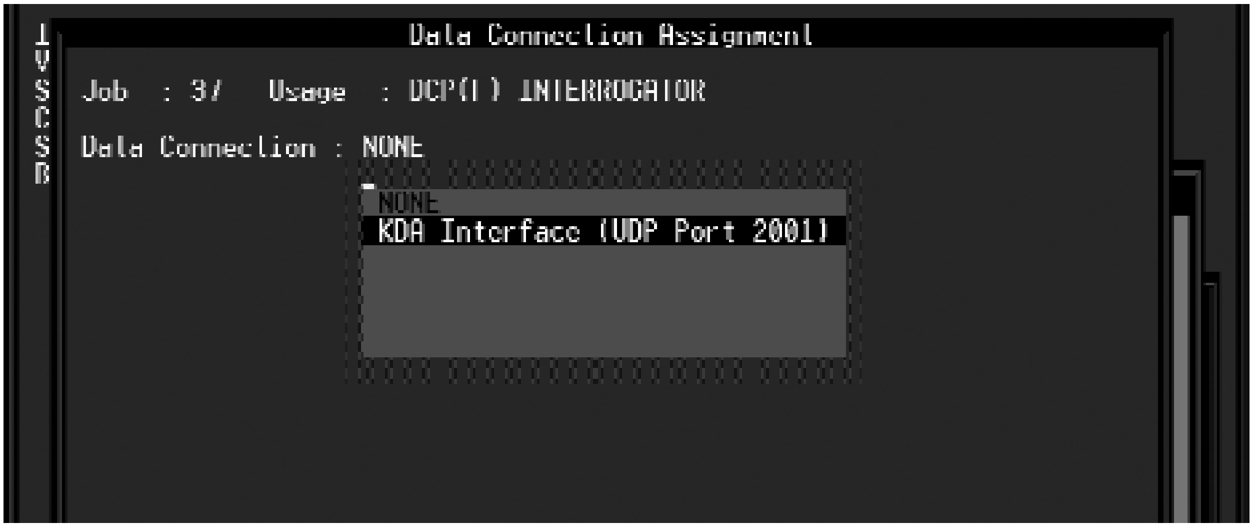
Fig.3.6 - Remote Parameters screen with “No Data Connection” prompt

Step Two

Define the port usage

1. Choose Master > Parameters > Remote Ports > F (Find). Select a port numbered 30 or higher. (Ports 30-500 are reserved for LAN jobs.)
2. Press Tab to select the default list box for the Port Usage field.
3. Highlight DCP(F) Interrogator and press Enter. See Fig. 3.5.
4. In the DCP(F) Mode field, select X. Fill in all other fields as you would for any DCP(x) port.

Note: If you are setting up a remote port and the selected port usage requires a TCP connection, T/MonXM will inform you by flashing “No Data Connection” at the top of the screen — see Figure 3.6.



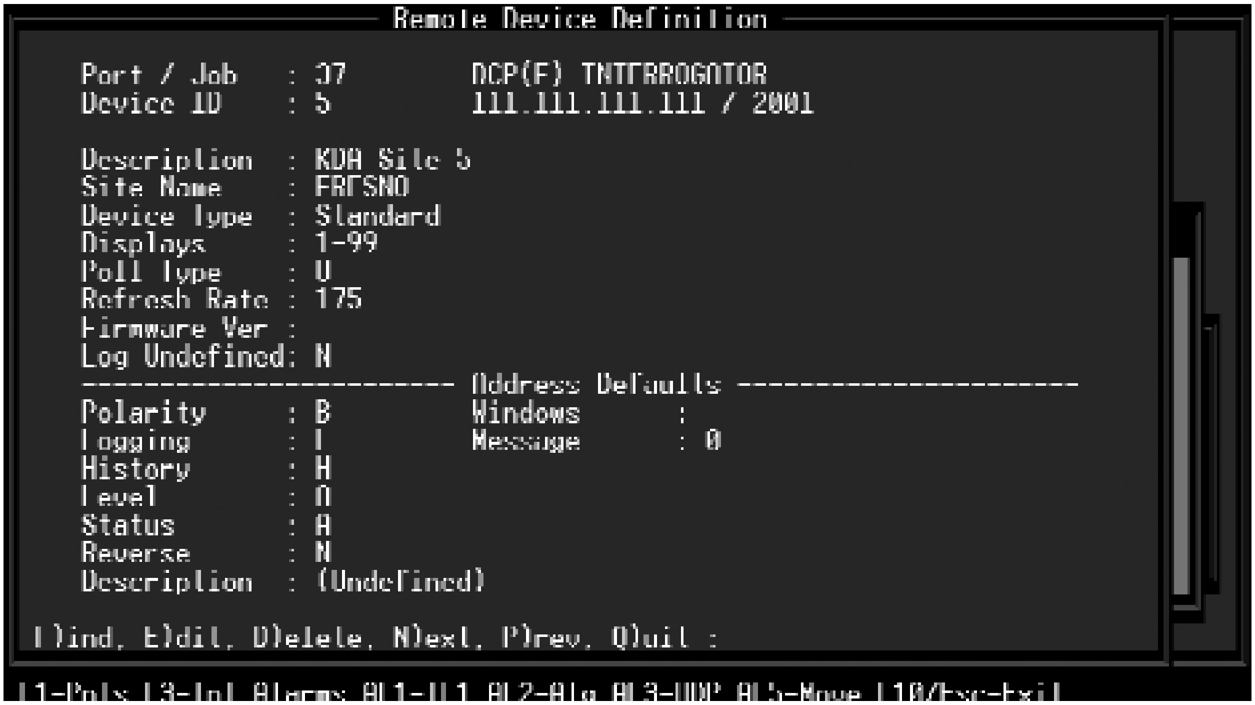
```
Data Connection Assignment

Job  : 37   Usage  : DCP(F) INTERROGATOR

Data Connection : NONE
```

Fig. 3.7 - Assigning a Data Connection to the KDA LAN Job

Step Three

Assign the data connection

1. From the Remote Parameters screen, press F6 to open the Data Connection Assignment screen.
2. Press Tab to select the default list box for the Data Connection field.
3. Highlight the data connection created for this port and press Enter.



```
                     Remote Device Definition

    Port / Job    : 37        DCP(F) INTERROGATOR
    Device ID     : 5         111.111.111.111 / 2001

    Description   : KDA Site 5
    Site Name     : FRESNO
    Device Type   : Standard
    Displays      : 1-99
    Poll Type     : U
    Refresh Rate  : 175
    Firmware Ver  :
    Log Undefined: N
    ------------------------ Address Defaults ----------------------
    Polarity      : B         Windows      :
    Logging       : I         Message      : 0
    History       : H
    Level         : 0
    Status        : A
    Reverse       : N
    Description   : (Undefined)

  F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :

F1-Pols F3-Inf Alarms: AL1-UL1 AL2-Alg AL3-UNP AL5-Move F10/Esc-Exit
```

Fig. 3.8 - KDA Shelf Remote Device Definition Screen

For the KDA example, your last step would be to provision the KDA.

1. Provision the KDA according to the instructions in Section M3-7, File Maintenance, KDA Shelves.
2. Repeat for each KDA on the TCP/IP port.
3. Choose Master > Parameters > Remote Ports > F (Find) and select the remote port you assigned for the KDA.
4. Press F1 to open the Remote Device Definition Screen.
5. Choose F)ind and select the ID number for the KDA.
6. Press Alt-F3.
7. Enter the KDA’s IP address and UDP port. This information must exactly match the value assigned when the KDA was first configured — see Figure 3.7 above.
8. Repeat steps 5 through 7 for each KDA.

Before uploading the provisioning file to the KDA, you must initialize the system and enter Monitor Mode. Upload the file according to

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Section 4 - T/MonXM Interface

The Fast Menus feature allows menu commands to be selected with a single press of the hot key. To turn off Fast Menus, choose the Miscellaneous command on the Parameters menu and set Fast Menus to "N."

Note: Always exit the program cleanly. This means that you must execute the Quit option from the Master menu. NEVER turn off the computer before exiting the program. Doing so could corrupt the data files!

T/MonXM Interface Menus

T/MonXM features many pop-up menus, providing quick selection of functions. Menus are displayed in a variety of styles between pages.

When a menu is available, you must select the menu by pressing the Tab key before you can choose commands from the menu.

Note: leaving the Caps Lock key on will disable the Tab key selection function. Unlock the Caps Lock key or press Alt-D to select an item from pop-up menus.

Selected menu commands are highlighted by a black bar. Menu commands are chosen by moving the bar to highlight the desired command and pressing the Enter key.

There are two ways to choose commands:

1. Use the Down Arrow or Tab key to move the highlight bar down and the Up Arrow key or Shift Tab to move the highlight bar up. The highlight bar wraps around the menu, so if the highlight bar is at the end of the menu and you continue to press Down Arrow, the highlight bar returns to the top of the menu. Similarly, if the highlight bar is at the top of the menu and you press Up Arrow, the highlight bar moves to the bottom of the menu.

   Once you have highlighted the command you want, press the Enter key to execute the command.

2. Use the shortcut key for the command you want. The shortcut key is shown by the highlighted character in the menu command. For example, to choose the command

   Monitor

   press M. The highlight bar immediately moves to highlight the Monitor command. Shortcut keys are not case sensitive.

If the Fast Menus feature is enabled, menu commands may be chosen by pressing only the shortcut key. If Fast Menus is disabled, press the Enter key to execute the command.

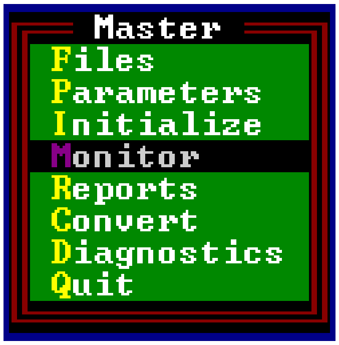


Fig. 4.1 - T/MonXM Master Menu

Table 4.A - Fast Menu hot key commands

Keys	Description
1-9	Range of acceptable keys. Examples: 1–9 = range 3– = range to end (all values from 3 to the end of the series) –8 = start to range (all values from the start of the series to 8) 2,4,9 = separate; i.e., 2, 4, 9
A-Z/F1-F10	Press the corresponding letter or function key on the computer keyboard
Alt A-Z/0-9	Press the Alt key at the same time with the corresponding letter key.
Ctrl A-Z/0-9	Press the Control key at the same time with the corresponding letter key.
Enter	Press the Enter key on the computer keyboard.
Space	Press the Space Bar on the computer keyboard.
[ ]	Indicates a default value.

Function Hot Key Commands

Some commands in T/MonXM are chosen by pressing function keys. Available key commands are listed in the message line at the bottom of the screen. Certain key commands are always available in T/MonXM:

F9

Pressing F9 opens a Help window that explains the currently available commands.

F10 or Esc

The F10 and Esc keys are interchangeable. Pressing either F10 or Esc exits the current function.

- If a menu is open, pressing Esc closes the submenu and open the parent menu from which you selected the submenu. Pressing Esc repeatedly moves step by step up the menu hierarchy, eventually returning to the Master menu. If the Master menu is open, pressing Esc quits T/MonXM.
- If you are editing a group of fields, pressing Esc selects the first field. If you are editing the first field in the group, pressing Esc exits the entire group.
- If you are in Monitor Mode, pressing Esc opens the Alarm Summary screen. If the Alarm Summary screen is open, pressing Esc opens the Log Off window.

Common Key Commands

Down Arrow

The Down Arrow key selects the next item.

- If you are editing a group of fields, pressing Down Arrow selects the next field.
- If you are monitoring alarms, pressing Down Arrow selects the next item.

Up Arrow

The Up Arrow key selects the previous item.

- In editing modes, pressing Up Arrow selects the previous field.
- In Monitor Mode, pressing Down Arrow selects the previous

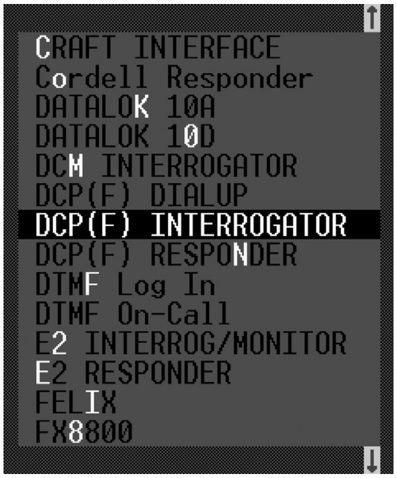
Menu List Box

The Menu List Box is a list of default choices that is available in certain fields. The List Box displays the possible entries for the current field. Figure 4.2 is an example of a list of choices available in the Remote Parameters screen.

To select an entry from the List Box, use the Up Arrow and Down Arrow keys to move the highlight bar to the entry you want. Some entries have highlighted shortcut keys — press the highlighted key to select the entry (refer to Figure 4.2).

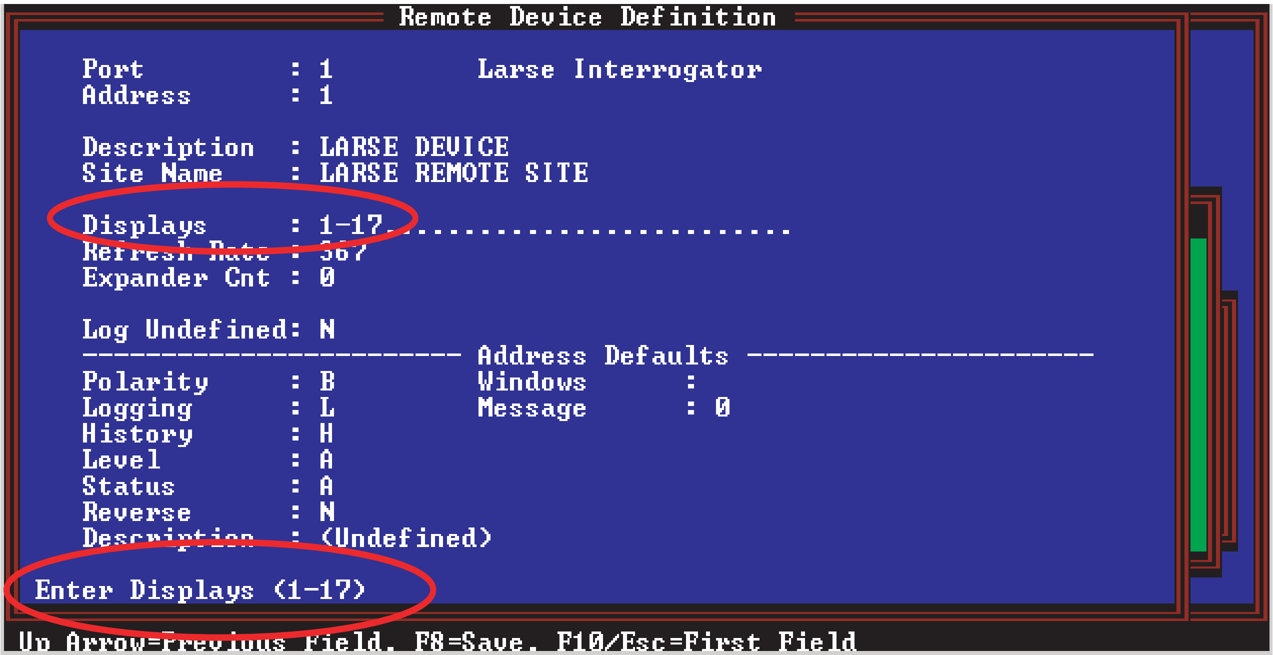
Note: The highlight bar does not wrap around the menu in the List Box.

Possible entries for fields also appear in the message line at the bottom of the screen — see Figure 4.3. To select an entry from the message line, press its shortcut key or enter the appropriate value.



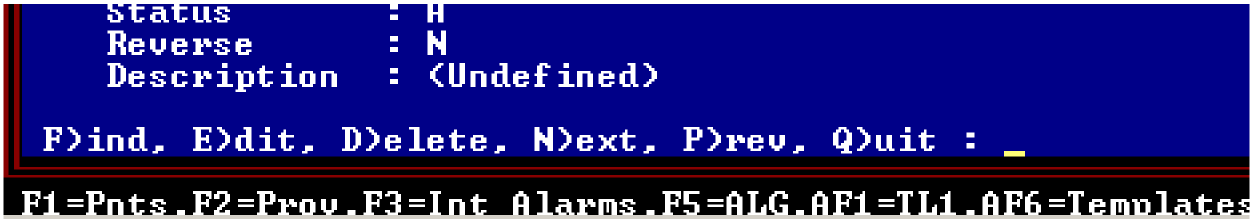
```
CRAFT INTERFACE
Cordell Responder
DATALOK 10A
DATALOK 10D
DCM INTERROGATOR
DCP(F) DIALUP
DCP(F) INTERROGATOR
DCP(F) RESPONDER
DTMF Log In
DTMF On-Call
E2 INTERROG/MONITOR
E2 RESPONDER
FELIX
FX8800
```

Fig. 4.2 - A typical list box



```
                      Remote Device Definition

   Port         : 1          Larse Interrogator
   Address      : 1

   Description  : LARSE DEVICE
   Site Name    : LARSE REMOTE SITE

   Displays     : 1-17..........................
   Refresh Rate : 367
   Expander Cnt : 0

   Log Undefined: N
   ------------------------ Address Defaults ----------------------
   Polarity     : B          Windows      :
   Logging      : L          Message      : 0
   History      : H
   Level        : A
   Status       : A
   Reverse      : N
   Description  : (Undefined)

Enter Displays (1-17)

Up Arrow=Previous Field, F8=Save, F10/Esc=First Field
```

Fig. 4.3 - A typical list box



```
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit : _

F1=Pnts,F2=Prov,F3=Int Alarms,F5=ALG,AF1=TL1,AF6=Templates
```

Fig. 4.4 - Hot Key Edit Commands

Hot Key Edit Commands

In most cases you are first asked to enter an ID field, name, or value. The T/MonXM database management system will then determine whether that ID has been defined previously. If the ID is not found in the database, you will be asked whether you would like to add it. If you don't add it, then the ID and data for the next alphanumeric entry is displayed.

If the ID is found in the database, then the T/MonXM will retrieve the other data associated with the ID and display it on the screen. The following menu of commands will then appear at the bottom of the current window:

F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit

These commands are defined as follows:

Delete
Deletes the current entry. (The current entry is the one that is displayed on the screen).

Edit
Allows the user to make changes to the current entry.

Find/(Create)
Searches the database for a specified entry. If the specified entry is in the database, then the other data associated with it is displayed.

The Find command can also be used to create a new entry in the database. To do this, try to Find an entry that is as yet undefined. When it is not found by the database management system, you will be asked if you want to create a new entry. Answer Yes to create the new entry.

Next
Locates and displays the data associated with the next alphanumeric entry in the database.

Prev
Locates and displays the data associated with the previous alphanumerical entry in the database.

Quit
Leaves the current database and returns to the previous command level.

Standard Database Field Editing

Fields are type checked. For example, if letters are entered in a numeric only field, the user is alerted to the error by a beep.

When editing all fields, the following keys are active:

Table 4.B - Key commands available in all fields

Function Key	Description
Backspace	Delete the character to the left of the cursor.
Ctrl-Z	Delete current line.
Ctrl-R	Restore field to its unedited state.
Enter	Enter text and moves cursor to the next field. Only text to the left of the cursor is entered.
Ctrl-H	Open Help screen.

Table 4.C - Common key commands available in most fields

Function Key	Description
Left Arrow	Move cursor left one space within field.
Right Arrow	Move cursor right one space within field.
Ctrl-Left Arrow	Move cursor left to the previous word.
Ctrl-Right Arrow	Move cursor right to the next word.
Ctrl-Home	Move cursor to beginning of the current field.
Ctrl-End	Move cursor to end of the current field.
Insert	Toggle insert and overtype modes.
Del	Delete the character to the right of the cursor.
Ctrl-K or Alt-K	Delete from cursor position to end of line.
Ctrl-D or Tab	Open List Box — see Figure 4.2.

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Section 6 - Define Windows

Windows Screen

The Master Menu > Files Maintenance Menu > Windows command organizes alarms into groups called windows. A window is a defined list of alarms that is displayed as a unit. Windows can be defined by geographic area, alarm priority, equipment type, security restrictions, Site 1, or other criteria.

An alarm point can belong to several different windows, defined in different ways, and be displayed in every window to which it belongs. For example, a fire in a generator room in Seattle would be displayed in the All Alarms window, the Critical window, the Fire window, the Power window, and in a Site Alarm window for that location.

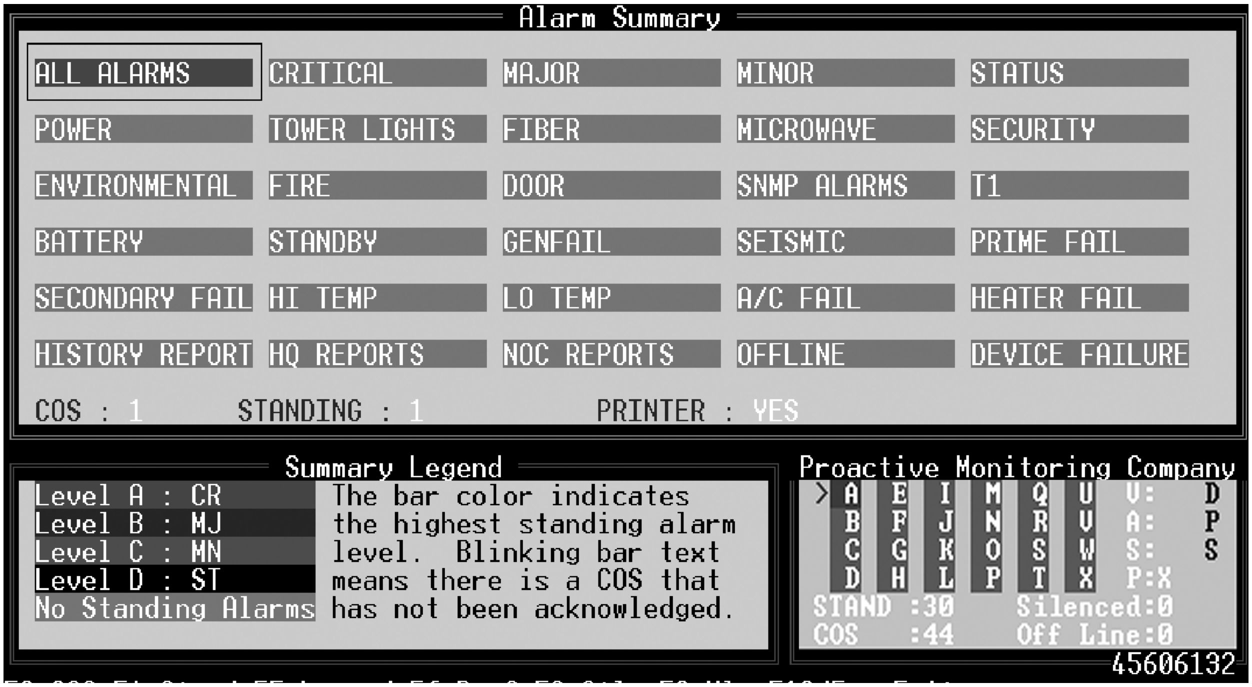
Define Windows First

Suggested order of Database Definition:
Windows
Data Ports*
Addresses*
Alarm Points*
Description*
Control Points
Derived Alarms/Controls
System Users
*Parameters Menu

Windows should be one of the first database items to be defined. They should be defined before the alarm points. Careful consideration should be given to windows strategy, because a small change to your window definition could entail extensive point modification which may take hours, depending on the complexity of your network.

DPS recommends the following approach to window assignment: Devote the first page of the alarm summary (windows 1 through 30) to severity, type and equipment alarms. Start Site alarms on page 2 (window 31). This will likely leave unused windows on page 1 for future assignment to new equipment types. In addition, all type and equipment alarms will appear on the same page, giving operators an overall picture of system status. This approach is illustrated in the example windows shown in Figure 6.1 and Figure 6.3.

Windows can also be used to conveniently sort alarms for reports.



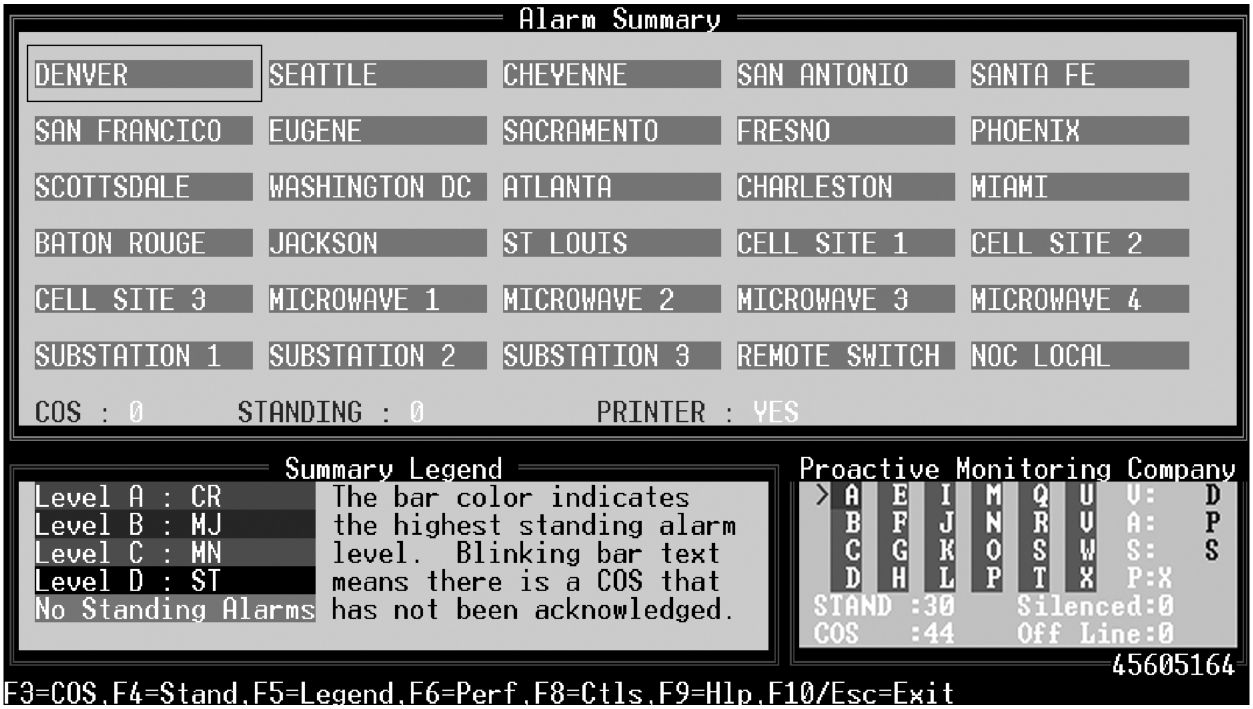
```
                               Alarm Summary
 ALL ALARMS       CRITICAL         MAJOR            MINOR            STATUS
 POWER            TOWER LIGHTS     FIBER            MICROWAVE        SECURITY
 ENVIRONMENTAL    FIRE             DOOR             SNMP ALARMS      T1
 BATTERY          STANDBY          GENFAIL          SEISMIC          PRIME FAIL
 SECONDARY FAIL   HI TEMP          LO TEMP          A/C FAIL         HEATER FAIL
 HISTORY REPORT   HQ REPORTS       NOC REPORTS      OFFLINE          DEVICE FAILURE

 COS : 1      STANDING : 1          PRINTER : YES

              Summary Legend                    Proactive Monitoring Company
 Level A : CR       The bar color indicates       > A  E  I  M  Q  U  V:   D
 Level B : MJ       the highest standing alarm      B  F  J  N  R  V  A:   P
 Level C : MN       level.  Blinking bar text       C  G  K  O  S  W  S:   S
 Level D : ST       means there is a COS that       D  H  L  P  T  X  P:X
 No Standing Alarms has not been acknowledged.    STAND :30    Silenced:0
                                                  COS   :44    Off Line:0
                                                                 45606132
```

Fig. 6.1 - Page 1 in Monitor Mode showing Severity and Equipment Alarms

If you regularly need reports on a diverse group of alarms that don't fit into a pre-existing category, they can be assigned to a special reports window and be automatically collected for you.

Severity Windows are usually classified as follows:
- Critical (Highest in severity)
- Major
- Minor
- Status (Lowest in severity)

Type/Equipment Windows Might Include:
- Fire
- Alarm Forwarding
- Site Controls
- Building Status Unit (BSU)
- Security Access to system
- Printer Logging
- History Reports
- Off Line
- Device Fail
- Microwave
- Fiber
- Radio
- Lights
- Door
- Power



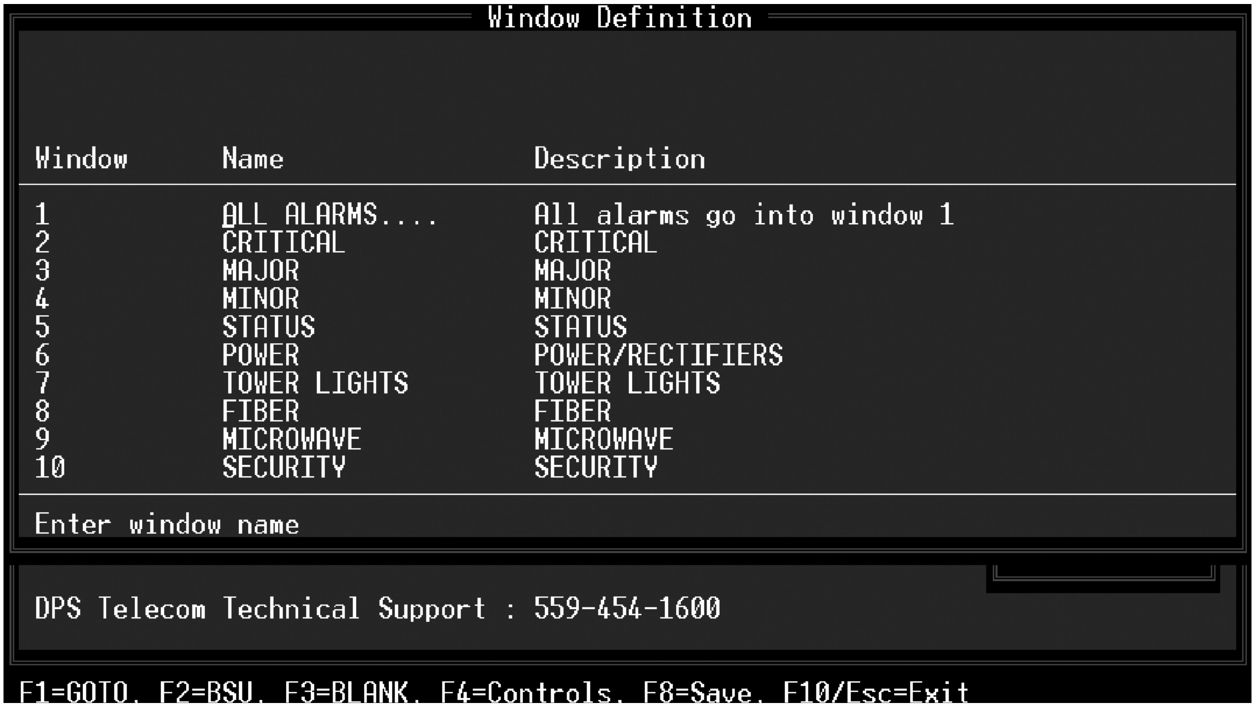
```
                          Alarm Summary
 DENVER          SEATTLE          CHEYENNE         SAN ANTONIO      SANTA FE
 SAN FRANCICO    EUGENE           SACRAMENTO       FRESNO           PHOENIX
 SCOTTSDALE      WASHINGTON DC    ATLANTA          CHARLESTON       MIAMI
 BATON ROUGE     JACKSON          ST LOUIS         CELL SITE 1      CELL SITE 2
 CELL SITE 3     MICROWAVE 1      MICROWAVE 2      MICROWAVE 3      MICROWAVE 4
 SUBSTATION 1    SUBSTATION 2     SUBSTATION 3     REMOTE SWITCH    NOC LOCAL

 COS : 0       STANDING : 0           PRINTER : YES

            Summary Legend                      Proactive Monitoring Company
 Level A : CR       The bar color indicates      > A  E  I  M  Q  U  V:   D
 Level B : MJ       the highest standing alarm     B  F  J  N  R  V  A:   P
 Level C : MN       level.  Blinking bar text      C  G  K  O  S  W  S:   S
 Level D : ST       means there is a COS that      D  H  L  P  T  X  P:X
 No Standing Alarms has not been acknowledged.   STAND :30   Silenced:0
                                                 COS   :44   Off Line:0
                                                                45605164
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

Fig. 6.2 - Page 2 in Monitor Mode showing Site Alarms

Window Definition

90 Alarm Windows is Standard

T/MonXM comes standard with 90 alarm windows. The first window always lists All Alarms. This leaves 89 user-definable windows. Alarm Windows Modules are available from DPS which provide an additional 90, 240 or 690 windows to give a total of 180, 330 and 720 windows, respectively (179, 329 and 719 available)



```
                           Window Definition

Window      Name                    Description

1           ALL ALARMS....          All alarms go into window 1
2           CRITICAL                CRITICAL
3           MAJOR                   MAJOR
4           MINOR                   MINOR
5           STATUS                  STATUS
6           POWER                   POWER/RECTIFIERS
7           TOWER LIGHTS            TOWER LIGHTS
8           FIBER                   FIBER
9           MICROWAVE               MICROWAVE
10          SECURITY                SECURITY

Enter window name

DPS Telecom Technical Support : 559-454-1600

F1=GOTO, F2=BSU, F3=BLANK, F4=Controls, F8=Save, F10/Esc=Exit
```

Fig. 6.3 - The window Definition screen

Window 1 is always the All Alarms window. All alarm information will be automatically sent to this window. If an alarm was assigned to another window, then it will be sent to both the All Alarms window and the other windows as well.

Window 1 is always the All Alarms window

To access the Window Definition screen, select Windows from the File Maintenance menu and press Enter. This screen allows you to assign individual names and descriptions to each of the alarm grouping windows. For example, if a group of alarms from fiber optic equipment were assigned to Window 6, you might want to rename Window 6 to “FIBER.”

The All Alarms Window (#1) can be renamed, but it will still show all alarms.

The window data is recorded to disk only when F8 is pressed. After F8 is pressed, the program will go back to the menu.

The Alarm Window Definition screen entries are explained in Table 6.A and Table 6.B.

Table 6.A - Fields in the Window Definition screen

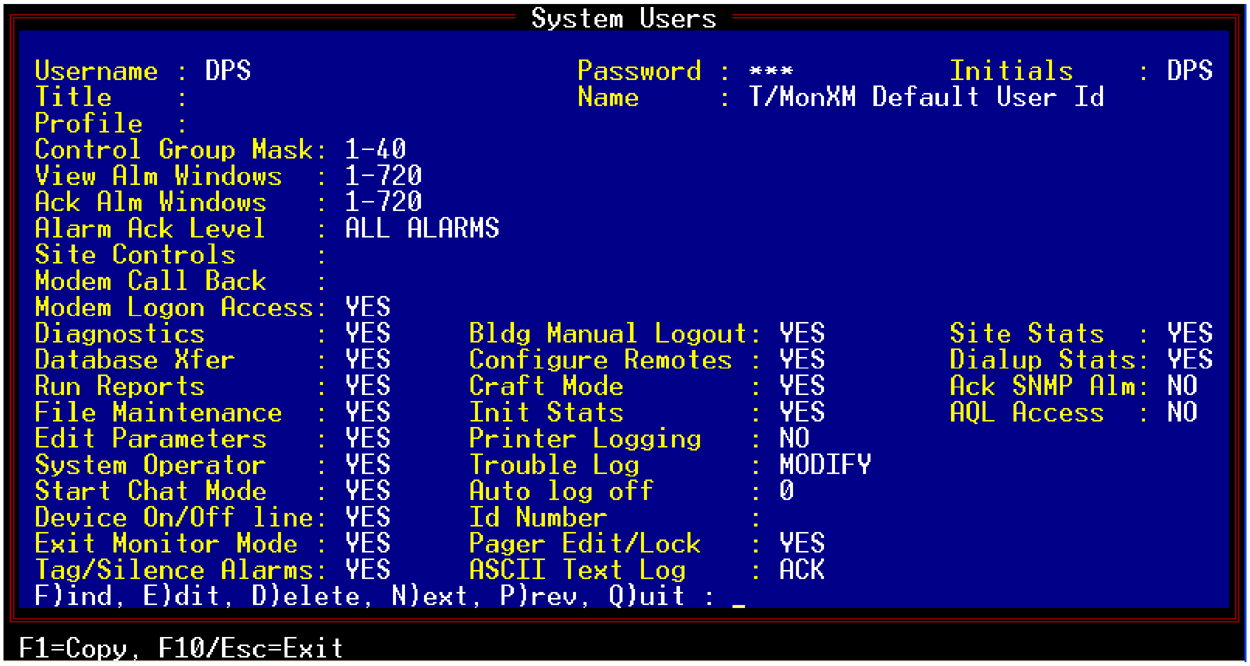
Field	Description
Window	Number of the window being defined. A number from 1 to the total number of windows in your system.
Name	Enter the name (up to 14 alphanumeric characters) for this window. This name will appear in the Alarm Summary Screen and other places in T/MonXM.
Description	When the cursor is moved to the Description field the name will appear in the field. This is the default. Press Enter to accept the default or enter a description up to 30 characters long. This description will appear in the title bar of the COS/LIVE window.

Table 6.B - Key commands available in the Window Definition screen

Function Key	Description
F1	Move to a specific window to edit. T/MonXM will prompt for window number.
F2	Activates the BSU Definition Screen to define the relay addresses where T/MonXM will direct alarm status.
F3	Deletes the current window entry. Window 1 can be re-named, but not deleted.
F4	Takes you to the Site Controls Category Definition screen.
F8	Saves the Window Definition database and returns to the File Maintenance menu.
F10/Esc	Returns to the File Maintenance screen without saving any changes.

Note: All undefined windows will have their window number displayed in the alarm summary screen to aid with window assignment. Once the window definition is complete, these place holders may be removed by entering a space into the name field.

Section 7 - Managing System Users



```
                                 System Users
 Username : DPS                     Password : ***          Initials    : DPS
 Title    :                         Name     : T/MonXM Default User Id
 Profile  :
 Control Group Mask: 1-40
 View Alm Windows  : 1-720
 Ack Alm Windows   : 1-720
 Alarm Ack Level   : ALL ALARMS
 Site Controls     :
 Modem Call Back   :
 Modem Logon Access: YES
 Diagnostics       : YES     Bldg Manual Logout: YES        Site Stats  : YES
 Database Xfer     : YES     Configure Remotes : YES        Dialup Stats: YES
 Run Reports       : YES     Craft Mode        : YES        Ack SNMP Alm: NO
 File Maintenance  : YES     Init Stats        : YES        AQL Access  : NO
 Edit Parameters   : YES     Printer Logging   : NO
 System Operator   : YES     Trouble Log       : MODIFY
 Start Chat Mode   : YES     Auto log off      : 0
 Device On/Off line: YES     Id Number         :
 Exit Monitor Mode : YES     Pager Edit/Lock   : YES
 Tag/Silence Alarms: YES     ASCII Text Log    : ACK
 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit : _

F1=Copy, F10/Esc=Exit
```

Fig. 7.1 - Make security restriction assignments at the system users screen

The System Users screen has been redesigned for better function and clarity.

Users can now log on with usernames instead of initials. New long format users name can be 3–20 characters long. Passwords can now be 3–8 characters long

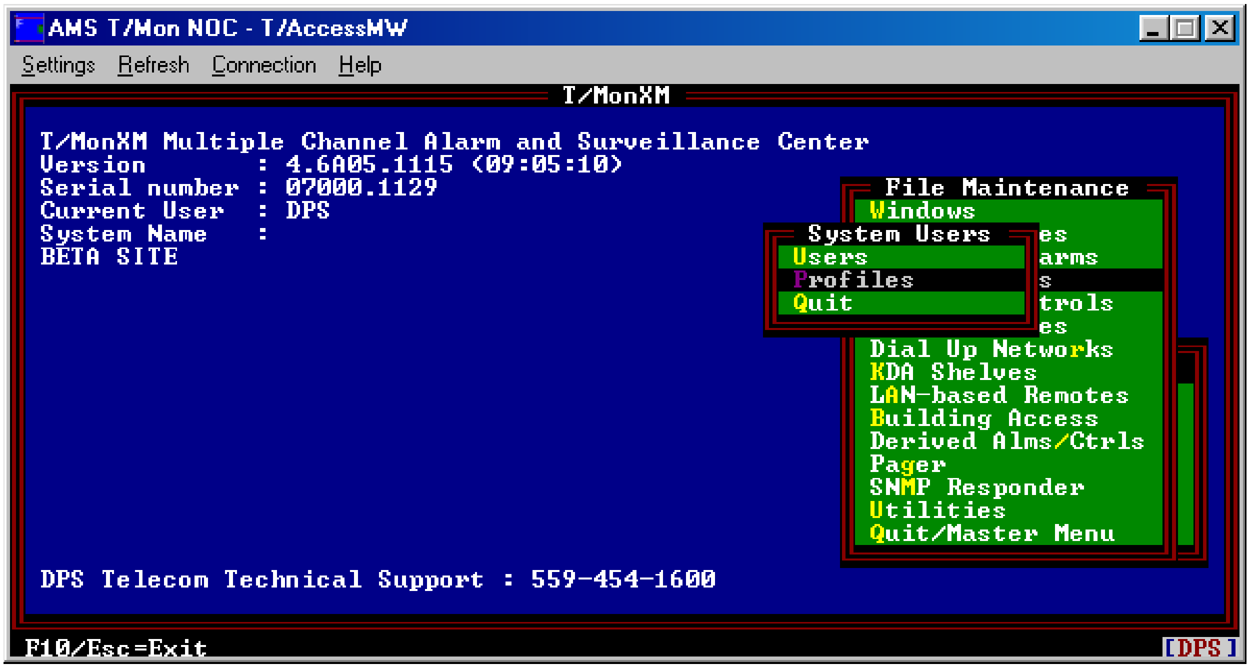
Note: Some security fields correspond to specific Software Modules and may not appear unless that module is present on your system.

Preventing unauthorized access to your system is very important for maintaining system security. Therefore, system security access controls are included as part of T/MonXM. System security access privileges can be accessed by choosing the System Users option from the File Maintenance menu (see Figure 7.1).

System users are designed to restrict access of the system to authorized users only. The following section explains the databasing of system users. Security rights are defined for each user to set the user's level of authorization. System profiles allow users to be put into groups by assigning multiple users to a single profile. The security rights for each user assigned to a profile are identical between users and to that of the profile itself. This allows the profile to be changed in a single spot and the changes to automatically propagate down to all of the users assigned to it.

Once a user has been assigned to a profile the user's security settings will turn green to indicate that they are locked to that of the profile. The user's security settings cannot be edited while they are green to ensure that all users assigned to a profile have identical settings. If a variation of an existing profile is needed then a new profile should be created to address that need.

It is not necessary for each user to be assigned to a profile. If security rights for a user are unique to that user then there is no reason to create a new profile. In this case the user would just leave the profile field blank. It is important to note that once a user is assigned to a profile the security settings for that user are permanently overwritten with that of the profile. This means that if a user is assigned and then unassigned from a profile, the original security settings for the user will not be restored after the profile is unassigned. The user would still possess the security settings of the profile, even after it has been unassigned, but would no longer inherit changes to the profile. At this point the user's settings will be white and can be edited.



```
T/MonXM Multiple Channel Alarm and Surveillance Center
Version        : 4.6A05.1115 (09:05:10)
Serial number  : 07000.1129
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. 7.2 - In the System Users menu you can create Users and Profiles

You can define security access levels for each user and also define the areas that each user is allowed to access. In this way, you are able to control who is monitoring and working in each area and can limit the actions a user can perform.

System User Access Overview

Many T/MonXM users have found it helpful to establish an access policy much like the following:

1. System Administrator = Full access.
2. Database administrators = Full access to system, except for system administrator features.
3. General Users = Limited to Monitor Mode access to view and acknowledge windows as needed.
4. View-Only Users = Access to view, but not acknowledge, alarms to a specified window.

To define a new user profile, type P from the System Users screen and begin entering new user information. The system will ask for a user name, if the user name is unique, the system requests acknowledgement to add the new user. Once defined, a user profile may be

Define System Users

Fields will appear on the System Users screen as software modules are installed.

> **Note:** *For security reasons, after creating your own user database you should delete the DPS default entry from the database.*

Table 7.A - Fields in the System Users screen

Field	Description
Username	The user's name for T/Mon and Remote Access logons. Must be 3–20 characters long.
Initials	You must enter 3 initials.
Name	The user's name — 3 to 30 characters long.
Password	The user's password. Password must be from 3 to 8 characters long. **Suggestion:** Avoid initials or names of family members or pets. Note: If Strict Passwords setting under Miscellaneous Parameters is enabled, the system user password field will enforce a strict password policy. The following rules will be enforced: 1. Passwords must be at least 7 characters. 2. Passwords must not contain the same consecutive character (two of the same characters in a row.) 3. Three of the following character classes must be used: • Uppercase alphabetic (A, B, C...) • Lowercase alphabetic (a, b, c...) • Numbers (0-9) • Punctuation (!, @, #...) 4. Password cannot be the same as any of the last four passwords.
Title	The user's title (e.g., supervisor, engineer). This field is optional. Use up to 20 characters.
Profile	The system profile to reference for security settings. Setting this field to a profile will overwrite the system user with the configuration of the system profile. If the system profile is changed, then the user configuration will be changed automatically. Note: This field is optional, You will be prompted to overwrite the current user rights, Press "Y" to accept.
Control Group Mask	The Labeled Control Categories the user can access. Range is 1-40.*
View Alm Windows	The Alarm Windows the user can view but not necessarily acknowledge. Valid view windows with standard features are 1-90. More view windows are available when additional Alarm Windows software modules are installed. Valid range is 1-720 (or maximum number of installed windows).* System users able to view Window 1 can view all the alarm in T/Mon. **Note:** If additional window software modules are subsequently added, you may need to update your security files.
Ack Alm Windows	The alarm windows in which the user may acknowledge alarms. Valid range is 1-720 (or maximum number of installed windows).* **Note:** Ack Alm windows must be a subset of the View Alm windows.
Alarm Ack Level	The authority level of the user to acknowledge alarms. Valid settings are: **None:** Can't acknowledge alarms. **Single:** Acknowledge only a single alarm at a time. **All Alarms:** Acknowledge alarms one-at-a-time or all at once (Alt F4).

* These fields are range variables. Numbers entered must be in some valid range. Example 1-3, 7.

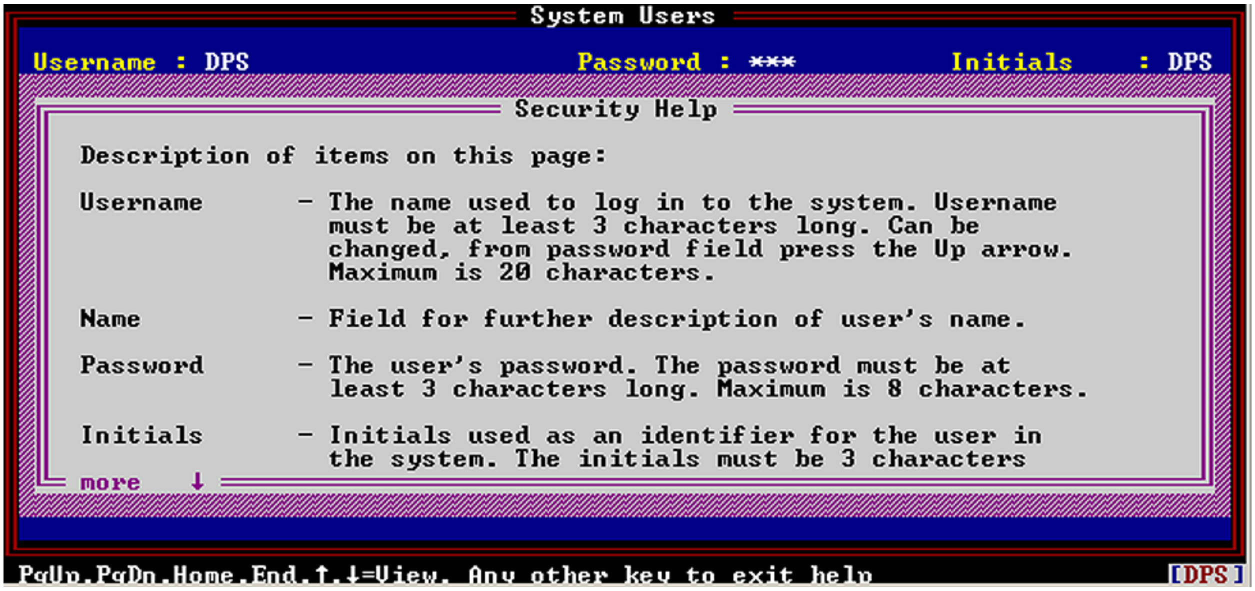
Table 7.A - Fields in the the System Users screen (continued)

Field	Description
Site Controls	Windows that the user may issue site controls from. Valid range is 1-720 (or maximum number of installed windows).* Note: Must be a subset of view alarm windows.
Modem Call Back	Allows modem access via number listed. User must identify and logon. T/Mon calls back to the specified number. This enables even greater security. Access requires modem and password at pre-designated location. Up to 30 characters.
Modem Logon Access	Allows access to the system using a modem. This permits you to restrict access so a user can only use dedicated terminals. **Hint:** You can give a user two codes— one is for local use and another for dial-up access with limited capabilities.
Diagnostics	Allows access to the Main Menu and Diagnostics Menu when offline. Y (Yes) or N (No).
Database Xfer	Allows access to Transfer the Database to another T/MonXM when multiple masters are in the system. Y (Yes) or N (No). (Also allows user to read/write via FTP sessions)
Run Reports	Allows access to the Report Generator. Y (Yes) or N (No).
File Maintenance	Allows access to the File Maintenance menu. Y (Yes) or N (No).
Edit Parameters	Allows access to the Parameters menu. Y (Yes) or N (No).
System Operator	Allows access to the System User database. Y (Yes) or N (No).
Start Chat Mode	Allows access to Chat Mode and lets a user chat with others or the host computer. Y (Yes) or N (No).
Device On/Off Line	Allows access to take devices on and off line. Y (Yes) or N (No).
Exit Monitor Mode	Lets the user exit Monitor Mode. Y (Yes) or N (No).
Tag/Silence Alarms	Lets the user tag or silence alarms in Monitor Mode. “Silence” has a time limit that is defined in Monitor mode. Y (Yes or N (No).
Bldg Manual Logout	Determines whether the operator is allowed to manually log persons out of a Building Access site. Y (Yes) or N (No).
Configure Remotes	Allows downloading configurations to remotes. Y (Yes) or N (No).
Craft Mode	Allows access to Craft Interface Mode which lets you talk to an ASCII device connected to T/MonXM. Y (Yes), N (No) or L (Log - captures all data on the craft port to a file on the hard drive. The files will be named cl-XXX.rep, where XXX=the user intials)
Init Stats	Allows the user to initialize port statistics. Y (Yes) or N (No).
Printer Logging	Allows the user to toggle printer logging. Y (Yes), N (No) Auto On permits the system to automatically begin logging after users log onto the system. Refer to the Printer Logging Section for more information.
Trouble Log	Valid settings are: None: Trouble Logs cannot be viewed or edited. View Only: Trouble Logs may be viewed but not edited. Modify: Trouble logs can be viewed or edited.
Auto log off	The number of minutes of no keyboard activity before the user will be automatically logged off. Valid values are 5-200. Enter 0 to disable. This protects your log-on code.
Id Number	Number used to log in at remote site. Up to 8 digits. Valid settings are: DTMF; 001-899; BAU: 001 - 89999999; Blank: None **Note:** T/Mon 4.2 and later version users can define Building Access System user profiles in the Main Menu > Files > Building Access > BAS Profiles.
Pager Edit/Lock	Setup pager schedules and set pager locks. Y (Yes) or N (No).

* These fields are range variables. Numbers entered must be in some valid range. Example 1-3, 7.

Table 7.A - Fields in the System Users screen (continued)

Field	Description
ASCII Text Log	Allows viewing or acknowledging ASCII text alarms. Valid settings are: **None:** ASCII text cannot be viewed or acknowledged. **View:** ASCII text may be viewed but not acknowledged. **Ack:** ASCII text can be viewed or acknowledged individually. **Ack All:** All ASCII text messages can be viewed or acknowledged.
Site Stats	Yes or No. Allows or prevents access to Site Statistics screens.
Dialup Stats	Yes or No. Allows or prevents access to Dial Up Site Monitor Screens.
Ack SNMP Alm	Yes or No. Allows manual acknowledging of an SNMP alarm in Monitor Mode while viewing the Standing List.
AQL Access	Yes or No. Allows access to view alarm windows through the AQL job.



```
                               System Users
Username : DPS                        Password : ***          Initials    : DPS
                               Security Help
  Description of items on this page:

  Username       - The name used to log in to the system. Username
                   must be at least 3 characters long. Can be
                   changed, from password field press the Up arrow.
                   Maximum is 20 characters.

  Name           - Field for further description of user's name.

  Password       - The user's password. The password must be at
                   least 3 characters long. Maximum is 8 characters.

  Initials       - Initials used as an identifier for the user in
                   the system. The initials must be 3 characters
  more   ↓
PgUp.PgDn.Home.End.↑.↓=View. Any other key to exit help                   [DPS]
```

Fig. 7.3 - Detailed definitions for each field can be found in the Security Help screen

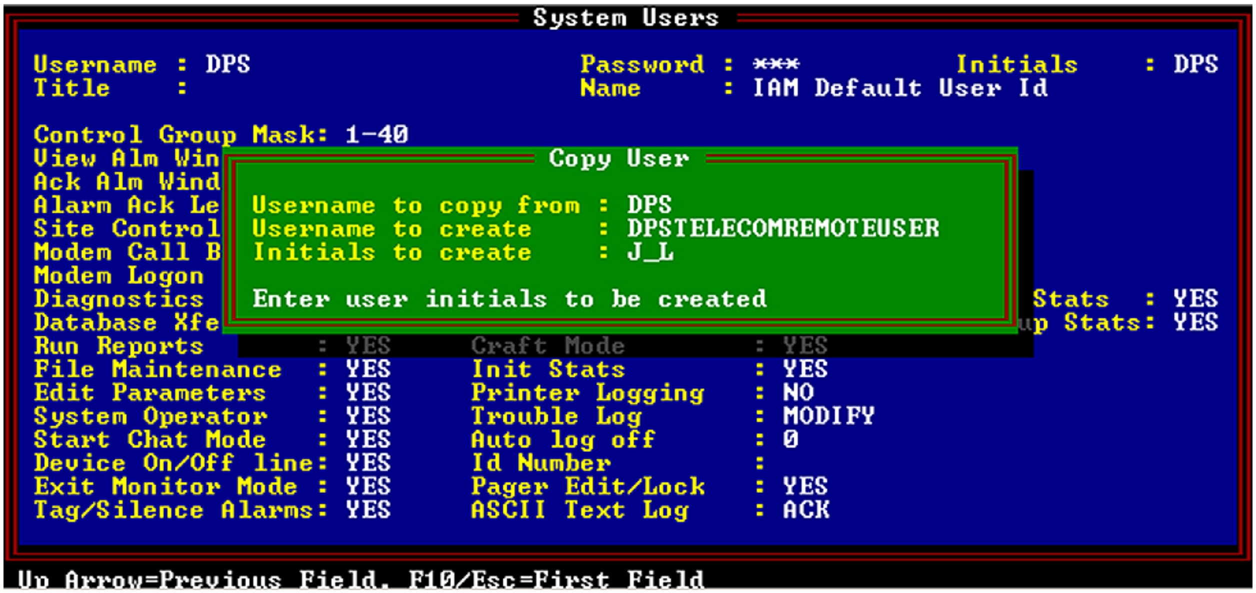
Security Help Screen

You can always find detailed definitions for each field in Security Help. To go to Security Help, press F9 in the File Maintenance > System Users > press E (Edit screen).

If you already have a Systems Users database and wish to keep it, your current database will transfer when you load the newer version of T/MonXM software.

You can edit user names and passwords from old databases by choosing Edit in the new version software. If you wish to edit your current username, you will have to create a new one and log on again.

If a user loses his password, you will not be able to retrieve it, but a user with System Operator privileges can access the Systems Users screen and change the password to a new password.



```
                                System Users
 Username : DPS                          Password : ***          Initials     : DPS
 Title    :                              Name     : IAM Default User Id

 Control Group Mask: 1-40
 View Alm Win ═══════════════════ Copy User ═══════════════════
 Ack Alm Wind
 Alarm Ack Le   Username to copy from : DPS
 Site Control   Username to create    : DPSTELECOMREMOTEUSER
 Modem Call B   Initials to create    : J_L
 Modem Logon
 Diagnostics    Enter user initials to be created               Stats    : YES
 Database Xfe                                                   up Stats: YES
 Run Reports      : YES       Craft Mode          : YES
 File Maintenance  : YES       Init Stats          : YES
 Edit Parameters   : YES       Printer Logging     : NO
 System Operator   : YES       Trouble Log         : MODIFY
 Start Chat Mode   : YES       Auto log off        : 0
 Device On/Off line: YES       Id Number           :
 Exit Monitor Mode : YES       Pager Edit/Lock     : YES
 Tag/Silence Alarms: YES       ASCII Text Log      : ACK

Up Arrow=Previous Field, F10/Esc=First Field
```

Fig. 7.4 - Copy attributes from existing users to a new user

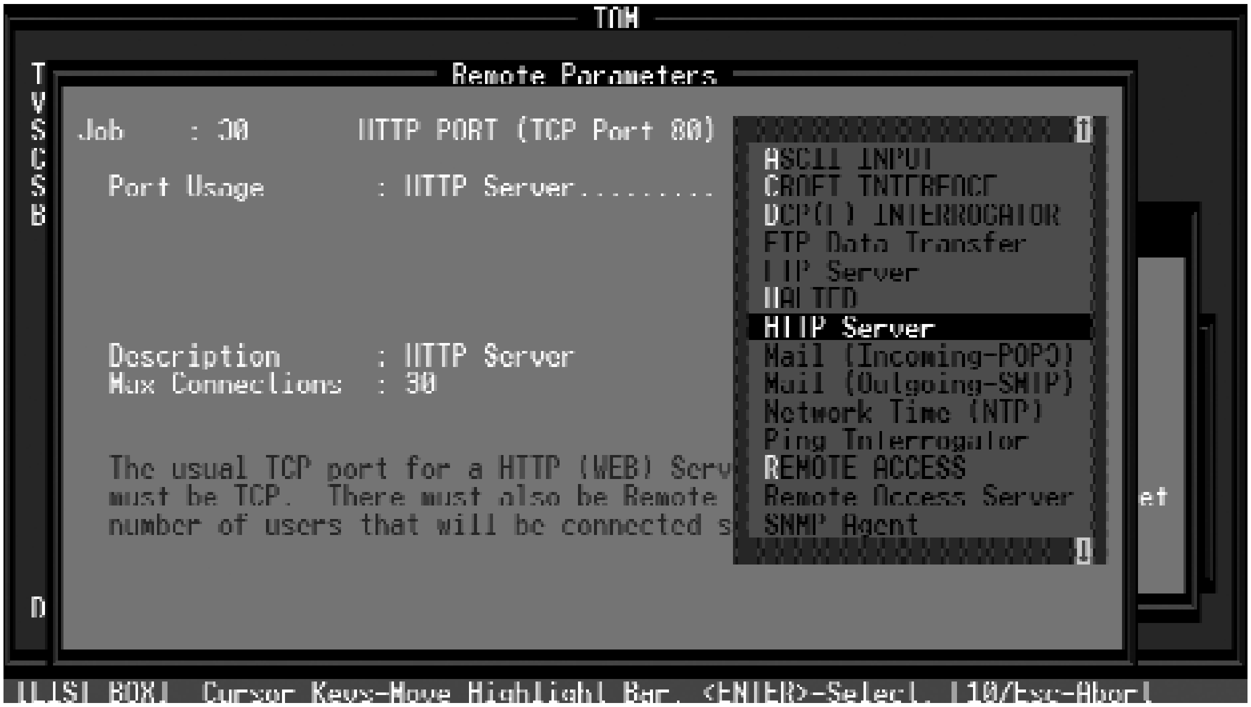
Copy System User Attributes

The Copy User command copies user permissions and attributes from an existing user to a new user. This makes it easier to access. To copy the current System User's attributes, press F1 from the System Users screen and enter the new user name and initials.

All other settings, including password will be copied to the new user.

The copy functionality (F1) is supported by both the user and profile editor. It is important to note that users can only copy users and profiles can only copy profiles.

Section 9 - Define Remote Ports and Virtual / LAN Jobs



```
                                   TMW
 T                        Remote Parameters
 V
 S  Job    : 30       HTTP PORT (TCP Port 80)   ASCII INPUT
 C                                              CRAFT INTERFACE
 S    Port Usage       : HTTP Server.........   DCP(F) INTERROGATOR
 B                                              FTP Data Transfer
                                                FTP Server
                                                HALTED
                                                HTTP Server
      Description      : HTTP Server            Mail (Incoming-POP3)
      Max Connections  : 30                     Mail (Outgoing-SMTP)
                                                Network Time (NTP)
                                                Ping Interrogator
      The usual TCP port for a HTTP (WEB) Serv  REMOTE ACCESS
      must be TCP.  There must also be Remote   Remote Access Server
      number of users that will be connected s  SNMP Agent

 D
[LIST BOX]  Cursor Keys-Move Highlight Bar, <ENTER>-Select, F10/Esc-Abort
```

Fig. 9.1 - Remote ports screen with port usage window

The Remote Ports command on the Parameters menu (see Figure 9.1, above) opens the Remote Ports screen, which is used to assign input and output functions to your T/MonXM system.

There are two kinds of Remote Ports in T/MonXM: “real” ports, which correspond to the physical serial ports of your T/Mon NOC, IAM or T/MonXM WorkStation; and “virtual ports” or “LAN jobs.” Virtual ports are a convenient way of configuring LAN-based network services on your T/MonXM system, such as polling LAN-based remotes, e-mail alarm notifications, and Internet-based system clock synchronization.

Port numbers are reserved for specific uses. Table 9.A illustrates remote port functions in the IAM. See Table 9.B for port functions in T/Mon NOC.

Table 9.A - Available port numbers and their functions in IAM-5

Field	Description
1-4	Intelligent Controller Card #1
5-8	Intelligent Controller Card #2
9-12	Intelligent Controller Card #3
13-16	Intelligent Controller Card #4
17-20	Intelligent Controller Card #5 (IAM-5 only)
21-24	Not used
25-27	X.25 (see Appendix C)
28	Ethernet I/O (see Section 3)
29	IAM 5 Front Panel
30-500	Virtual Ports/LAN Jobs

Table 9.B - Available port numbers and their functions in T/Mon NOC

Field	Description
1-24	External Serial Ports (Port Interface Cartridge) - “real ports”
25-27	X.25
28	Ethernet I/O (see Section 3 for more information)
29	Blank
30-500	Virtual Ports/LAN Jobs

Note: Only virtual ports 30-47 can be used for Remote Access. For more information, see Section 5, Remote Access.

Port functions must match the physical configuration of the port interface. For example, a pager or dial-up application must use a port that is equipped with a dial-up modem. Incorrect port assignments will cause system initialization to fail.

The remote ports you are able to define are dependent on the software modules you have installed.

Table 9.C - Typical T/Mon NOC Job and IP Port Associations

Job	IP Port	Application	Connection Type
1-24	-	Physical NOC ports	-
28	-	Ethernet	-
30-46	User-definable	Remote Access Jobs Remote Access Pool HTTP Pool	TCP
47	User-definable	Remote Access Server Job	TCP
80	80	HTTP Server	TCP
110	110	Incoming POP3	Telnet Raw
161	161	SNMP Agent (Responder)	UDP
162	162	Trap Processor	UDP (typical) TCP (rare)
420	20	FTP Transfer	Telnet Raw
421	21	FTP Server	TCP
425	25	Mail-Out SMTP	Telnet Raw
443	443	HTTPS (SSL)	TCP
444	444	SNPP (Paging)	Telnet Raw
500	-	Hard Drive Mirroring	-

NOTE: Jobs 48 and above are open for any LAN-based application. The jobs listed above are, however, generally associated with the listed functions/IP.

Remote Port Definition

To begin remote port definition you must first select a port to be defined. While in the Remote Parameters screen press F and enter the port number. You can also use the P (previous) and N (next) keys to move up and down the full list of available ports

Once a port number is selected press E and the cursor will be placed at the Port Usage field and you will see a window displaying all port usages. Use the Tab key or down arrow to move down the list and shift tab or up arrow to move up the list. When the desired usage is highlighted, press Enter to select it. The rest of the fields on the screen will be specific for that port usage. Refer to the corresponding Software Module sections for specific information and instructions. Table 9.C lists the port usages available in T/MonXM, see following page.

Table 9.D - Port usages available in T/MonXM

USAGE	STD	OPT	USAGE	STD	OPT
ABC Pattern Input		X	Hard Drive Mirroring		X
Direct Route		X	HTTP Server	X	
21SV Interrogator		X	LED Bar		X
ABC Pattern Output		X	Larse Interrogator		X
Alarm Forward		X	Mail (Incoming-POP3)	X	
ASCII Dial Up		X	Mail (Outgoing-SMTP)	X	
ASCII Input		X	Modbus Interrogator	X	
ASCII Query Language		X	Network Time (NTP)	X	
ASCII Responder		X	Pager	X	
Auto Databased TL1		X	Ping Interrogator	X	
Badger Interrogator		X	RAC Port		X
Craft Interface	X	X	Remote Access	X	
CSM Interrogator		X	Remote Access Server	X	
Cordell Responder		X	SNMP Agent		X
Datalok 10A		X	SNMP Trap Processor		X
Datalok 10D		X	T/Grafx Responder		X
DCM Interrogator		X	T/MonNET Responder		X
DCP (f/x) Dial-Up	X		TABS Interrogator		X
DCP (f/x) Interrogator	X		TABS Responder		X
DCP (f/x) Responder	X		TBOS Interrogator		X
DTMF Log In		X	TBOS Responder		X
DTMF On-call		X	Teltrac Interrogator		X
E2 Interrog/Monitor		X	TL1 Monitor		X
E2 Responder		X	TL1 Multiplexed Out		X
Ethernet I/O	X		TL1 Responder Out		X
Felix		X	TL1 Source In		X
FTP Data Transfer		X	TMonNET Interrogator		X
FTP server		X	TMonNET Responder		X
FX8800		X	TMon SQL		X
Granger Interrogator		X	Trip Dial-Up	X	
Halted	X		X.25 Audit		X

Remote Port Parameter Defaults

Parameter	Default Value
Port usage	: HALTED
Baud	: “Blank” (Unassigned)
Parity	: “Blank” (Unassigned)
Word Length	: “Blank” (Unassigned)
Stop Bits	: “Blank” (Unassigned)

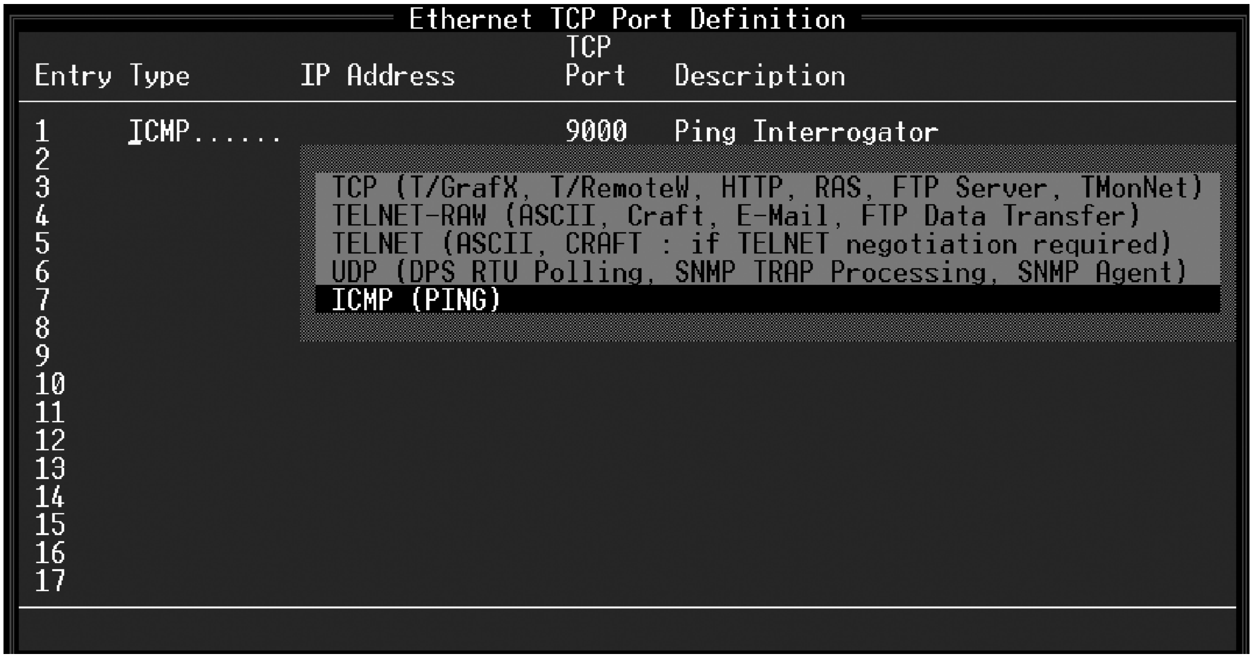
Ping Interrogator

The Ping Interrogator monitors basic IP connectivity. The Ping Interrogator can be used to ping any IP aware device, such as servers, routing equipment, etc.

You can only have one remote port configured for ping interrogation.

To prepare a T/Mon to utilize the Ping Interrogator, perform the following steps.

1. Go to Parameters/Remote ports. Navigate to Job (Remote) 28. This job should already have its port usage set to “Ethernet I/O.” Press F1 to open the Ethernet TCP Port Definition screen. Add an entry of type ICMP. Set the entry’s TCP Port to an ID number 1-65535 (this can be any arbitrary value, usually a number such as 9000, and simply identifies the process that is pinging.



```
                      Ethernet TCP Port Definition
                                    TCP
Entry Type       IP Address         Port   Description

1     ICMP......                    9000   Ping Interrogator
2
3                   TCP (T/GrafX, T/RemoteW, HTTP, RAS, FTP Server, TMonNet)
4                   TELNET-RAW (ASCII, Craft, E-Mail, FTP Data Transfer)
5                   TELNET (ASCII, CRAFT : if TELNET negotiation required)
6                   UDP (DPS RTU Polling, SNMP TRAP Processing, SNMP Agent)
7                   ICMP (PING)
8
9
10
11
12
13
14
15
16
17
```

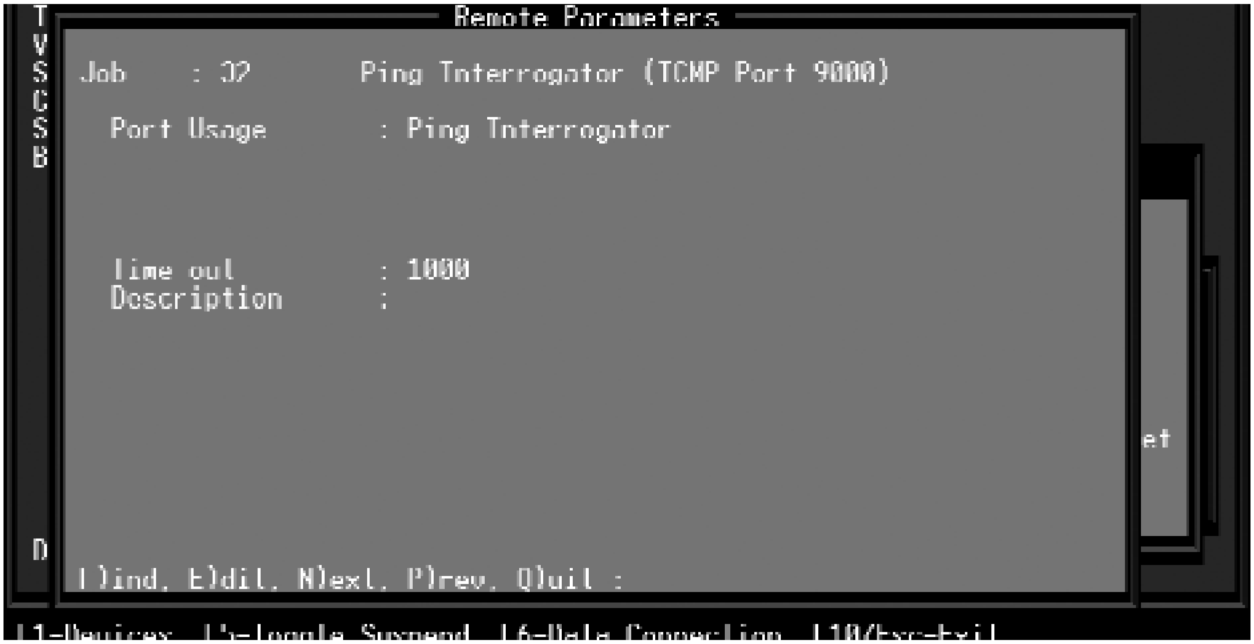
Fig. 9.2 - Ping Interrogator TCP Port Definition screen

2. Navigate to any unused job (Remote) 30 or higher.
3. Press “E” to choose the Edit command and set the job’s port usage as “Ping Interrogator.” Set Timeout to a value between 200 and 9999 milliseconds - an alarm will be declared if a PING response is not received in this time. A suggested initial value is 1000 (1 second), but this may need to be adjusted for optimum performance on your network. If you are failing to receive a ping response, try increasing this value. Also verify that you can ping the device from anther PC.

The Ping Interrogator can access 15 displays of 64 points each, for a total capacity of 960 devices that can be pinged.

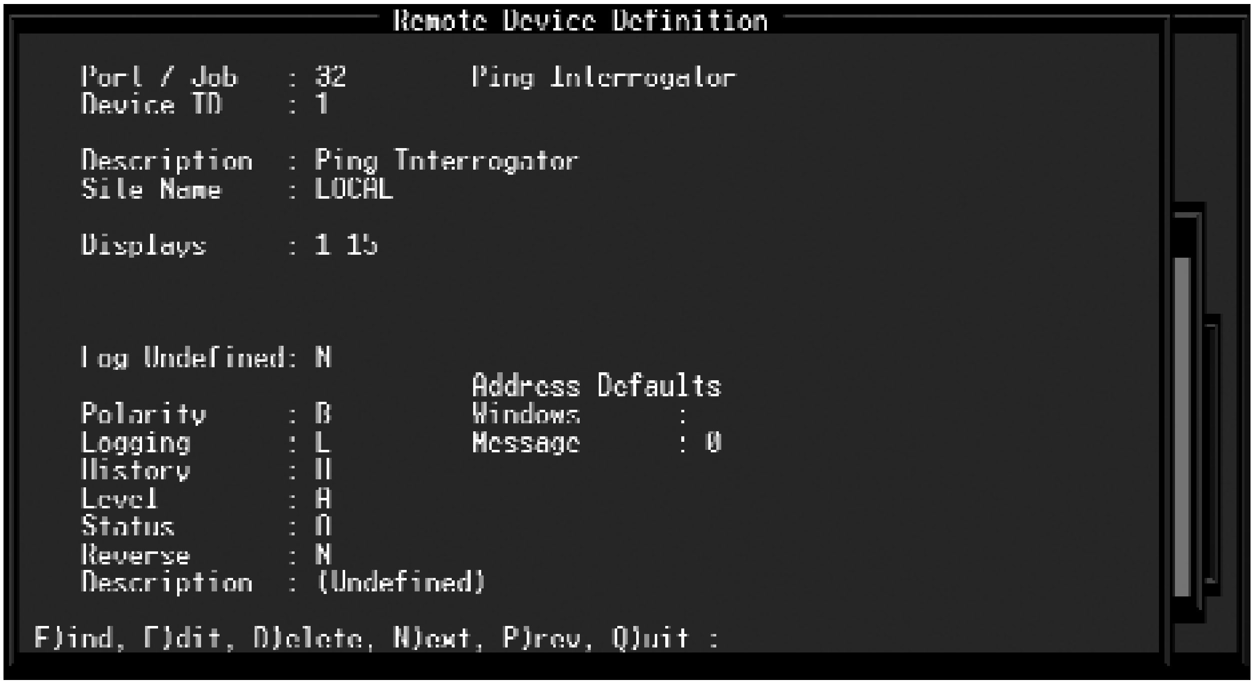
4. Press F6 to assign the TCP port entry that was defined under Step 1.

5. Press F1 to assign the devices to be pinged. Address will usually be 1. You will need 1 display for every 64 IP addresses that you will be pinging, which can be entered as one or more numbers 1-15 separated by commas or hyphens. You can usually accept defaults for other entries on this screen.



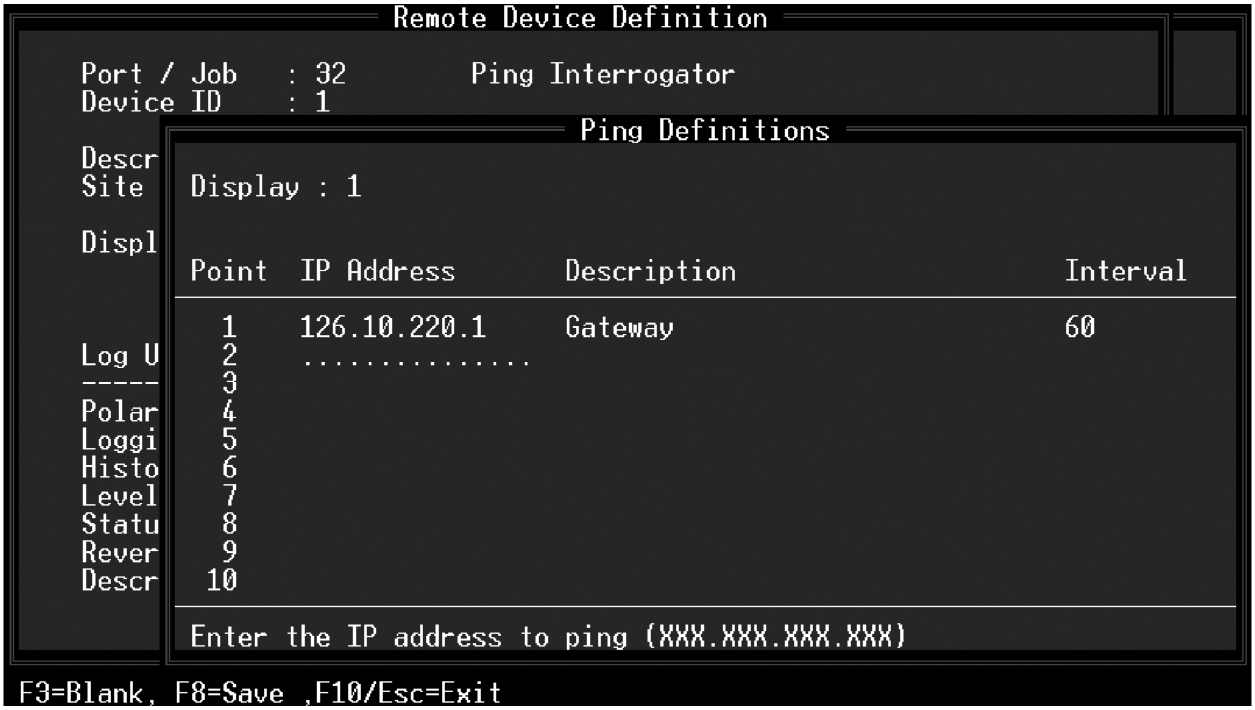
```
                         Remote Parameters
Job    : 32       Ping Interrogator (TCMP Port 9000)

  Port Usage       : Ping Interrogator



  Time out         : 1000
  Description      :









F)ind, E)dit, N)ext, P)rev, Q)uit :
F1-Devices  F5-Toggle Suspend  F6-Data Connection  F10/Esc-Exit
```

Fig. 9.3 - Ping Interrogator port usage screen



```
                   Remote Device Definition

    Port / Job   : 32        Ping Interrogator
    Device ID    : 1

    Description  : Ping Interrogator
    Site Name    : LOCAL

    Displays     : 1 15



    Log Undefined: N
                             Address Defaults
    Polarity     : B         Windows       :
    Logging      : L         Message       : 0
    History      : H
    Level        : A
    Status       : A
    Reverse      : N
    Description  : (Undefined)

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
```

Fig. 9.4 - Ping Interrogator Device Definition screen



```
                    Remote Device Definition

    Port / Job   : 32        Ping Interrogator
    Device ID    : 1
                                  Ping Definitions
    Descr
    Site     Display : 1

    Displ
             Point  IP Address       Description                       Interval

               1    126.10.220.1     Gateway                           60
    Log U      2    ...............
    -----      3
    Polar      4
    Loggi      5
    Histo      6
    Level      7
    Statu      8
    Rever      9
    Descr     10

             Enter the IP address to ping (XXX.XXX.XXX.XXX)

F3=Blank, F8=Save ,F10/Esc=Exit
```

Fig. 9.5 - Ping Interrogator Definitions screen

6. Press F2 to assign IP addresses. On the PING definition screen enter each address to be pinged, a brief description, and an interval in seconds (15-900) between pings.
7. Press F1 to assign corresponding alarms Use the same display and point number for each IP address that you assigned in Step 6.
8. Initialize the system and go to Monitor mode. PING alarms should now be active, and can be tested by disconnecting or disabling the various devices on your network.

An alarm is generated if a device fails to respond to a single ping. If this creates nuisance alarms for you, set the alarm qualification time to 2.5 to 3.5 times the frequency. This is done in the Point definition screen, F1=Pnts.

Table 9.E - Fields in the Ping Definitions screen

Field	Description
IP Address	Enter the IP address of each device to be pinged. Range is 000.000.000.000 to 255.255.255.255.
Description	Enter a description of the device being pinged. (A similar description should be entered in the point description as well.)
Interval	Interval in seconds (15-900) that the device is pinged. **Recommended:** 60 = 1 min or 300 = 5 min.

Caution: Do not set the ping frequency too low, especially with a large number of devices, or the network may become severely bogged down.

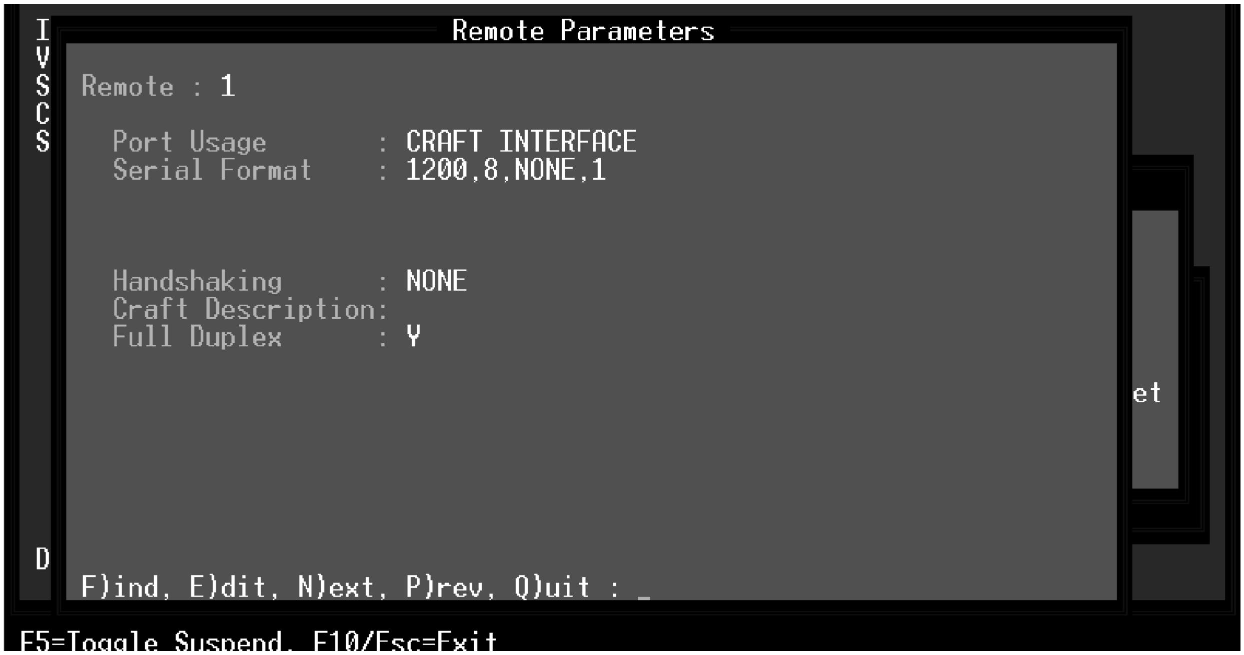
Craft Interface

Using the Craft Mode the T/MonXM can access an ASCII port, or any other port, on a remote device for troubleshooting and configuration. In addition, any remote terminal (T/Remote, T/Windows,laptop, etc.) can access the same devices through the T/MonXM. In this mode the T/MonXM or remote terminal operate as a dumb terminal. Example: A DPS DPM reports an alarm on a PABX it is monitoring. A technician is paged and requires more detail about the alarm from the PABX. The ASCII port on the PABX can be connected to the technician's laptop computer through T/MonXM's Craft Mode Interface.

Note: Refer to the Craft Mode sub-section in Section 16 (Monitor Mode) for more information on accessing Craft Mode from T/MonXM Monitor Mode.

Pressing Ctrl-F7 from the Alarm Summary Monitor mode screen will allow you go into Craft Mode from either the Main terminal or a Remote terminal — see Craft Mode sub-section in Section 16 (Monitor Mode) for more information. From the Craft Interface Mode window you will be able to select from a list of Craft terminals or ASCII ports. The Main terminal or T/Remote will be connected to the terminal of the port that you pick. You can at that time, send and receive from the Craft Mode Dialog window.

Selecting the Craft Interface port usage displays the associated fields which are explained in the table below. A prompt line at the bottom of the window list the choices for each field.



```
Remote Parameters

Remote : 1

  Port Usage       : CRAFT INTERFACE
  Serial Format    : 1200,8,NONE,1


  Handshaking      : NONE
  Craft Description:
  Full Duplex      : Y

F)ind, E)dit, N)ext, P)rev, Q)uit : _
F5=Toggle Suspend, F10/Esc=Exit
```

Fig. 9.6 - Define a remote port job for Craft Interface

Table 9.F - Fields in the remote parameters screen, craft interface usage

Field	Description
Port Usage	The Port Usage shows the selected port usage option. Refer to Table 9.B for a complete list of all standard and optional usages.
Serial Format	Baud rate, parity, word length, and stop bits settings that T/MonXM will use to communicate with the equipment.
Handshaking	The Handshaking field allows the user to select the type of communicate handshaking that the equipment is using to communicate. Valid entries are N (None), X (Xon/Xoff) and R (Rts/Cts). [N]
Craft Description	This field is optional and allows you to simply enter a 30 character description for the port and the device that it is communicating with.
Full Duplex	Determines whether the terminal operates in Full Duplex mode. When Full Duplex mode is active, characters typed on the keyboard are assumed to be echoed back to the screen by the terminal device. Valid entries are Y (full duplex) or N (half duplex). [Y]

Table 9.G - Key commands available in the Remote Parameters Screen, craft interface usage

Field	Description
F5	Allows you to suspend use of this port without loss of configuration data. Toggles the suspension state. Available only when cursor is on the prompt line at the bottom of the window.
F6	Data Connection
Up Arrow	Move to the previous field.
F8	Save.
F9	Help.
F10/Esc	Move to the first field or exit without saving (depending on which field the cursor is in).
Tab	List port usage (while cursor is in the Port Usage field.)

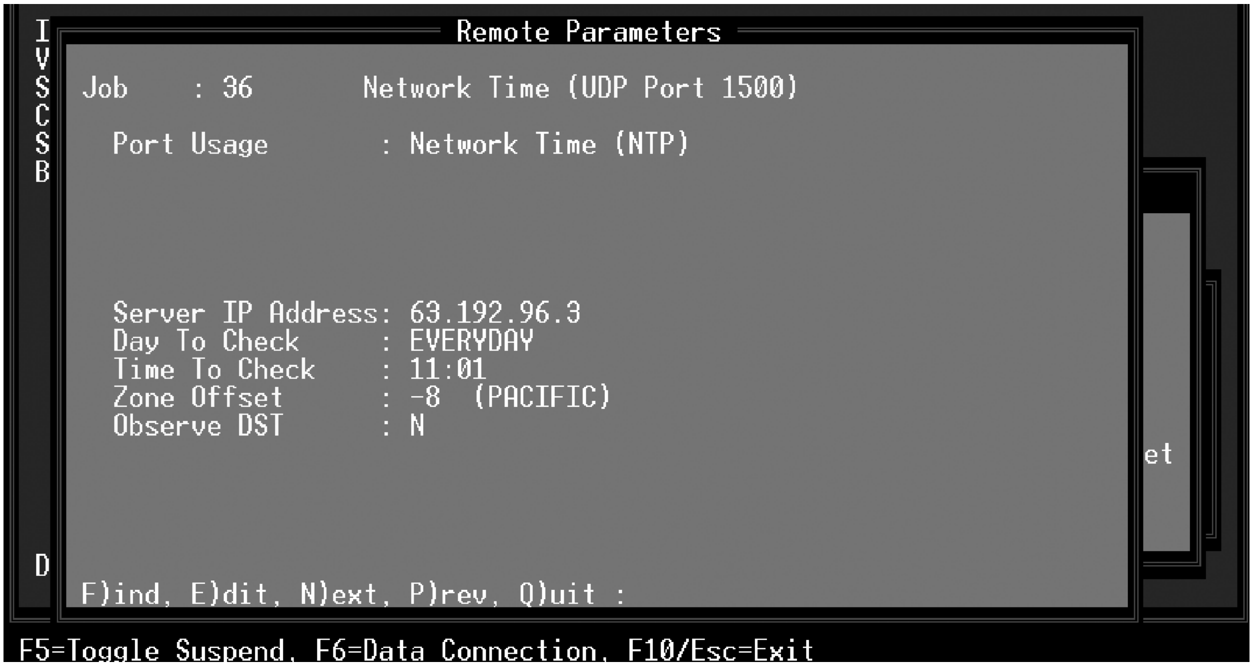
Network Time (NTP)

Network Time Protocol is available as a virtual job on Remote Ports numbered 48 or higher. An NTP job requires a UDP data connection. Typically, you should do Port | Job 23 as that is the port to be used

Now you can update the T/MonXM system clock using Internet Network Time Protocol servers at regular definable intervals.

The United States Naval Observatory provides a list of public Internet Network Time Protocol (NTP) servers at http://tycho.usno.navy.mil/ntp.html. Consult your network administrator for information about using an NTP server with your network.

Note: AZ is in the Mountain Time Zone and does not observe DST.



```
Remote Parameters

Job    : 36        Network Time (UDP Port 1500)

  Port Usage        : Network Time (NTP)


  Server IP Address: 63.192.96.3
  Day To Check     : EVERYDAY
  Time To Check    : 11:01
  Zone Offset      : -8  (PACIFIC)
  Observe DST      : N

F)ind, E)dit, N)ext, P)rev, Q)uit :

F5=Toggle Suspend, F6=Data Connection, F10/Esc=Exit
```

Fig. 9.7 - Network time port usage

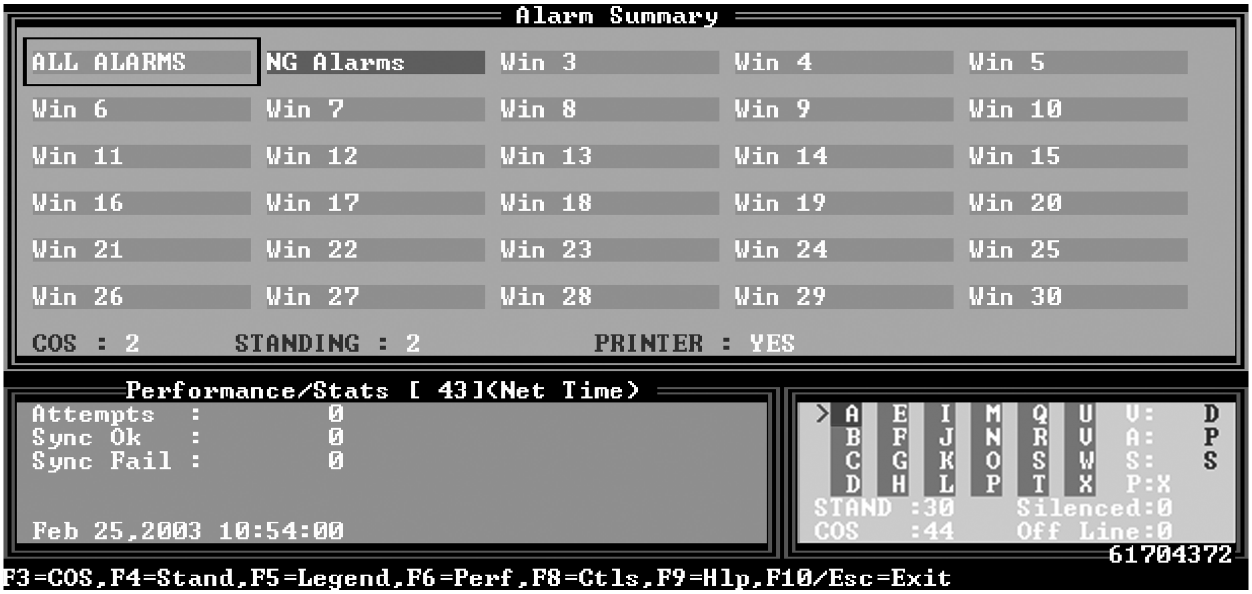
Table 9.H - Fields in the Remote Parameters Screen, Network Time usage

Field	Description
Server IP Address	IP Address of your network time server.
Day to Check	Select everyday or a day of the week to check the network time server. Use the Tab key to display the choices. Highlight a choice and press Enter.
Time to Check	This field selects the time of day to check the network time server. Type in time (0:00 to 23:59) and press Enter.
Zone Offset	Select your time zone as an offset of UST. Use the Tab key to display pre-calculated values for U.S. time zones. For time zones not listed type in the factor (-11 to 12) and press Enter.
Observe DST	Daylight Savings Time. If Daylight Savings Time is observed, selecting Y will cause T/MonXM to automatically adjust the internal clock at the appropriate time. Select N for no DST adjustment. **Note:** If set to 'Yes', a local RTC process will adjust the local time every 2 hours if needed up to 10 days after the DST dates. This will make sure that the local time will be adjusted even if NTP hasn't synced yet.

Table 9.I - Key commands available in the Remote Parameters Screen, Network Time usage

Field	Description
F5	Allows you to suspend use of this port without loss of configuration data. Toggles the suspension state. Available only when cursor is on the prompt line at the bottom of the window.
F6	Data Connection
Up Arrow	Move to the previous field.
F8	Save.
F9	Help.
F10/Esc	Move to the first field or exit without saving (depending on which field the cursor is in).

In Monitor Mode the Performance/Stats for the NTP job can be viewed along with the local time and date.



```
                              Alarm Summary
ALL ALARMS     NG Alarms      Win 3          Win 4          Win 5
Win 6          Win 7          Win 8          Win 9          Win 10
Win 11         Win 12         Win 13         Win 14         Win 15
Win 16         Win 17         Win 18         Win 19         Win 20
Win 21         Win 22         Win 23         Win 24         Win 25
Win 26         Win 27         Win 28         Win 29         Win 30
COS : 2      STANDING : 2           PRINTER : YES

      Performance/Stats [ 43](Net Time)
Attempts   :         0                   > A  E  I  M  Q  U  V:   D
Sync Ok    :         0                     B  F  J  N  R  V  A:   P
Sync Fail  :         0                     C  G  K  O  S  W  S:   S
                                           D  H  L  P  T  X  P:X
                                          STAND :30    Silenced:0
Feb 25,2003 10:54:00                      COS   :44    Off Line:0
                                                          61704372
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

Fig. 9.8 - Network time performance statistics

Performance/Stats Description:

Attempts: Number of attempts made at synchronizing time with NTP Server.

Sync Ok: Number of successful attempts at synchronizing time with NTP Server.

Sync Fail: Number of failed attempts at synchronizing time with NTP Server.

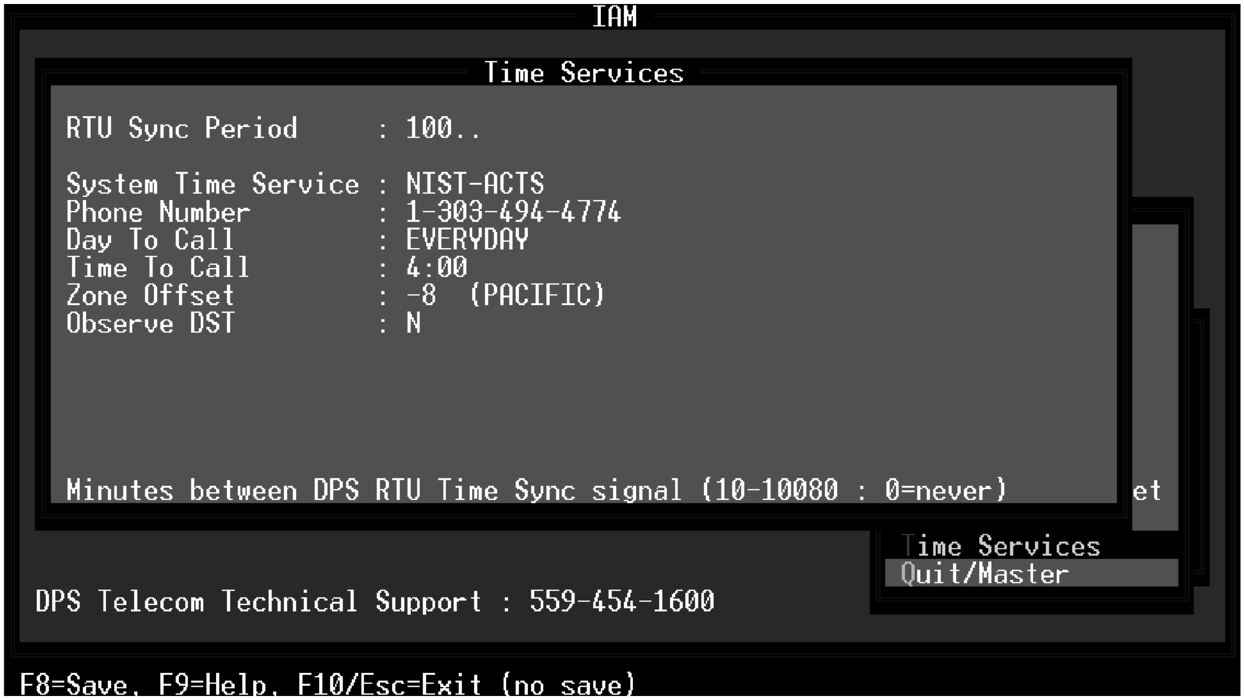
Time Service

Note: Dial-up Time Service cannot be used in conjunction with Network Time Protocol.

The Time Service function causes T/MonXM to periodically dial the National Institute of Standards and Technology's (NIST) Automated Computer Telephone Service in Denver, Colorado, to update the system clock. This feature uses the pager port. Be sure pager parameters have been set in Remote Ports and in the Pager sub-section of the File Maintenance section.

Table 9.I lists the screen options for the Time Service screen.

Note: Table 9.I continues on following page.



```
IAM
Time Services

RTU Sync Period     : 100..

System Time Service : NIST-ACTS
Phone Number        : 1-303-494-4774
Day To Call         : EVERYDAY
Time To Call        : 4:00
Zone Offset         : -8  (PACIFIC)
Observe DST         : N

Minutes between DPS RTU Time Sync signal (10-10080 : 0=never)

DPS Telecom Technical Support : 559-454-1600

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

Fig. 9.9 - The Time Service window

Table 9.J - Fields in the Time Service screen

Field	Description
RTU Sync Period	The number of minutes between automated synchronization of certain clock-enabled DPS Remote Telemetry Units. (10-10080, 0 = never) **Note:** RTU Sync period will synchronize RTU times with or without the System Time Service enabled.
Service	This field selects whether to use time service. Use the Tab key to display the choices. Highlight a choice and press Enter. NONE returns you to the Parameters menu. NIST-ACTS turns the feature on and move the cursor to the next field. [NONE]
Day to Call	Select daily or a day of the week to call time service. Use the Tab key to display the choices. Highlight a choice and press Enter.
Time to Call	This field selects the time of day to call time service. Type in time (0:00 to 23:59) and press Enter.
Zone Offset	This field is for the correction to apply to the UTC-based time transmitted by NIST. Use the Tab key to display pre-calculated values for U.S. time zones. Highlight a choice and press enter. For time zones not listed type in the factor (-11 to 12) and press Enter.

Table 9.K - Fields in the Time Service screen (continued)

Field	Description
Observe DST	Daylight Saving Time. If Daylight Savings Time is observed, selecting Y will cause T/MonXM to automatically adjust the internal clock at the appropriate time. Select N for no DST adjustment. Note: This field is editable even when System Time service is set to NONE. When it is, this option will be used by a local RTC process that will adjust the local date and time for Daylight Savings Time. If NTP-job defined, the RTC process will use the setting from the NTP job instead.
Phone Number	This field defaults to 1 (303) 494-4774, which is the phone number for NIST-ACTS. A different number may be manually entered. If a different time service is selected be sure to correct the Zone Offset value as appropriate.]

Table 9.L - Key commands available in the Time Service screen

Function Key	Description
F8	Save
F9	On-line help.
F10/Esc	Return to first filed, or exit without saving when cursor is in the last field.

Section 10 - Point Definition Tutorial

Introduction

This Section provides you with many helpful tips and shortcuts for preparing the alarm point definitions in your T/MonXM database. Suggested Routines in sub-section 1.0 outlines a quick method of database preparation based on the experience of many T/MonXM users. Editing Shortcuts in sub-section 2.0 lists all the editing functions and their associated “hot keys.” Special Operations in sub-sections 4.0 through 10.0 describe some editing procedures that use more complex series of steps. These features are only available by selecting the Range function (press F5) from the Point Definition screen — see sub-section 4.0.

1.0 Suggested Routines

1.1. Develop a Generic display

Evaluate your network for similarities in equipment and alarming characteristics (i.e.: number of doors, environmental sensors, power source and backup, security devices) at each site. Try to develop a generic alarm display for each major piece of equipment (up to 64 alarms) and for a typical site. List those alarm points that are used at every location at the front of the display, those that are less common next and leave the last part of the display open for later addition of unique alarms. Leave a few blank points within the display for insertion of additional alarms (example: skip 2 lines between door alarms and fire alarms for insertion of additional door alarms.) A generic display should be designed for the location that has the most alarms, then they can be eliminated for the locations that have fewer alarms.

Note: When developing displays for equipment with embedded protocol, such as TBOS, alarms may be preassigned in the equipment. Check equipment manuals for alarm assignments before proceeding.

1.2. Create the Generic display

1.1. 2. Develop a generic point (line), such as that illustrated in Figure 10.2.

1.2.2. Enter the line as point 1.

1.2.3. Copy the line to the total range of points* to be used. Use the procedure in sub-section 6.0. (See Figure 10.3.)

1.2.4. Change any column entries for individual points or ranges of points using the procedure in sub-section 4.0. (See Figure 10.4.)

1.2.5. Modify descriptions using the procedure in sub-section 5.0. (See Figure 10.5, 10.6, Figure 10.7 and Figure 10.8.)

1.3. Clone the display using the procedure in sub-section 8.0.

1.4. Modify each clone as required using the procedures outlined in sub-sections 4.0 through 8.0.

1.5. Repeat process for other generic displays.

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.

2.0 Point Editing

2.1 The following are descriptions of the fields in the point editing area:

Pt
The individual Alarm Point number. Note that there are 64 alarm points in one DCP(F) display.

Pol
Polarity attribute. This specifies if the alarm point will show alarm on Change of State (COS screen). “B” - Alarm point is to be Bipolar (show both alarm and clear). “U” - Alarm point is Unipolar (show only on alarm failure).

Log
Screen Logging attribute. “L” - Log alarms on the screen as well as to the printer (if Printer Logging is enabled, see Miscellaneous Parameters). “N” - Do not log alarms on the screen.

Hst
History Logging attribute. “H” - Log alarms to the History file on the disk. “N” - Do not log alarms to the History file.

Lev
Point Alarm Level. This specifies the priority of the alarm. Level “A” being the highest or “critical” priority. Valid values are A, B, C and D.

A = Critical

B = Major

C = Minor

D = Status

The default value for this parameter can be set by using the Parameters menu option (under the Misc. category).

Sts
Status Point. Specifies if the alarm point is to be indicated as an [A]larm point or a [S]tatus point. When this point is masked off the action of the point coming and going will not affect the DPS relay card.

Rvs
Reverse Attribute. Determines whether the point will be processed as “Not Reversed” or “Reversed” (for points that are reversed, a “0-state” is considered as failed and a “1-state” is considered clear). Not reversed is the default value.

Description
An English description of the alarm point that will appear when the alarm fails or changes state. The width of the description field is 40 characters.

Fail

This is the Fail Status Description. This will appear along with the alarm description when the alarm is in a failed state.

Clear
This is the Clear Status Description. This will appear along with the alarm description when the alarm is in a normal or cleared state.

Windows
Alarm Windows. Enter a value here if you desire the alarm point to appear in one of the Alarm Windows. Notice that alarms will always appear in the "All Alarms" window. Valid Values are 2-90 (expandable up to 720) alarm windows with the basic setup. Installation of Alarm Windows software modules will allow you to choose from more windows.

Note: You can assign a maximum of 8 separate alarm windows, with 3 digit window numbers, to a point. You can use the full 31 characters in the windows field to define a range of windows.

Msg
Text Message Number. Enter a value here if you desire to assign a Text Message/Pager Number to the alarm point. If no message is desired enter "0". Pressing "N" will allow you to create a new text message. This message will be numbered as the next available text/ message.

Note: Many different alarms can use the same standard Text/ Message.

While editing the Point Definitions Screen, you can access the "Line Edit Help Screen" for assistance on available editing keys by pressing "Ctrl-.H. The editing keys available are shown in Table 10.D.

Point Definition Commands

The commands described in Table 10.A are for defining and editing point definitions. These commands are only available when your cursor is on the first field (Polarity field) in the entry.

Table 10.A - Point Definition Commands for defining and editing

Function Key	Command
F1	Goto Point
F3	Blank
F5	Range Functions
F6	Read
F8	Save
F9	Help
Alt-F3	Delete Point
Alt-F4	Insert Point
Alt-F5	Block Move
Alt-F6	Block Copy
F10/Esc	Exit

Each of these commands is described in the following text:

(F1) Goto Point
This function allows the user to go directly to any point in the display currently being defined.

(F2) Desc
This function allows the user enter the display description.

Note: Accepts current value and F10/Esc=Exit returns you to point editing.

(F3) Blank Point
Deletes the attributes and english description for the current point.

(F5) Range Functions
Allows the user to use several field editing features that greatly enhance point editing. Refer to sub-section 4.0-9.0 for more information.

Once the Range function is invoked, the following commands are available:

DES Description. Selects special description functions that work with the specified range. The following commands are available:

Set Will prompt for a descriptive string and place that string in the specified range.

Prefix Will ask for a descriptive and prefix it to the fields.

Insert This will ask for a position value to indent into the description fields and then also a descriptive string. This string will then be inserted in the fields.

Append This will ask for a descriptive string and append it to the fields.

Translate This option will change target strings into desired replacement strings for the range specified.

POL Polarity. Use to set the Polarity attributes for the range specified.

LOG Logging. Use to set the Logging attribute for the range specified.

HST History. Use to set the History attribute for the range specified.

LEV Alarm Level. Use to set the alarm priority level attribute for the range specified.

STS Status Point. Specifies if the alarm point is to be indicated as an “A”larm point or a “S”tatus point.

RVS Reverse. Used to set the Reverse attribute for the range specified.

WIN Window. Use to set which alarm windows the alarms will be logged to for the range specified.

MSG Message. Use to assign the text message number for the range specified.

fai (fail column)
clr (clear)
qua (qualification)
aux (auxiliary)
pag (pager)
cou (counter)

RANGE Will prompt the user to specify the range parameters to be involved in the editing process. The following range parameters are acceptable:

COPY Copy Point. This will ask for the point to be copied and then the range of points to copy it to. The range will default to previously set range parameters. After the range is set, this will be the new default range.

Table 10.B - Acceptable Range Parameters

Range Field Entry	Points Specified
30	30
5-10	5, 6, 7, 8, 9, 10
20-30,35,37	20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 37

(F6) Read
The Read function is very powerful because it allows "reading in" the point definitions from an existing display (Source) into another display (Target). This powerful function will save you time because it will eliminate the necessity of re-entering already defined data.

You are able to access data created from any device that the point definition data never changes. For example, to get data from a source display to a target display you must do the following:

1) First, choose "Point" from the Remote Device Definition screen. From the Point Definition screen, enter the "Target" display you wish to create or update (such as Address 1, Display 5) and press <Enter>. Your "Target" display is the display in which you want to use the data.
Note: Make sure your addresses are defined on the DCP Address Definition screen.

2) Press "Edit" and then press the F6 key and you will be prompted for the following information:

Address The Address from which the point definitions are to be read.

Display The Display of the address from which the point definitions are to be read.

Enter the display data (such as Address 0, Display 4) from your "Source" display.

3) Finally, press <Enter> and your "Target" display will have the identical data you "Read In" from the "Source" display.

(F8) Save
Saves any and all changes to the point definitions.

(F9) Help
Brings up the Help screen that explains these commands.

(Alt-F3) Delete Point
This command will delete the point definition that the cursor is currently on and cause all points below it to move up one position.

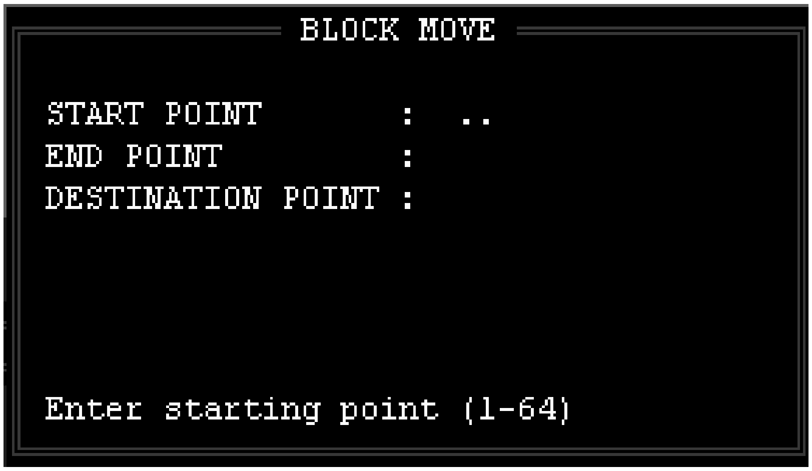
(Alt-F4) Insert Point
This command causes points under the current cursor position to move down one position so that a new point definition can be added. The last point will roll off the end of the definition list.

(Alt- F5) Block Move
The Block Move command will ask for a Start point, End point, and a Destination point with which it will move (Cut) this block of point definitions and place it (Paste) in another location within the point definitions list. This then sets the default range to the destination area.

For example, a Start point of 7 and a End point of 10 with a Destination point of 17 will change the default range to points 17 - 20. After selecting the block move function (press "Alt-F5") the following screen will appear.

Note: The selected destination block must be large enough to receive the entire source block. (For example, the block starting at point 1 and ending at point 10 could not be moved to a block starting at point 60 since there are only 5 positions available beginning at point 60.) This rule also applies to Block Copy.

The parameters for the Block Move screen are defined below:



```
BLOCK MOVE

START POINT       :  ..
END POINT         :
DESTINATION POINT :

Enter starting point (1-64)
```

Fig. 10.1 - Block Move screen

Table 10.C - Parameters for the Block Move screen

Prompt	Meaning
Start Point	The first point of the block to be moved.
End Point	The last point of the block to be moved.
Destination Point	The start of the new location for the block.

(Alt-F6) Block Copy

The Block Copy command will ask for a Start point, End point, and a Destination point with which it will copy this block of point definitions and place it in another location within the point definitions list. This then sets the default range to the destination area just as Block Move does.

Note: Block Copy is just like Block Move except that points in the source block are only changed if they're overwritten by the action of the copy itself. (Whereas with Block Move, all of the points in the source block will be either blanked or overwritten).

Address Defaults

The fields shown below are “Address Defaults” at the bottom of the Remote Device Definition screen. These are “values” that will be used as the defaults for undefined points that come into the alarm.

Polarity
Enter B=Bipolar, or U=Unipolar.

Logging
Enter L=Log, or N=No log.

History
Enter H=History, or N=No history.

Level
Enter default alarm level A, B, C, D.

Status
Enter A=Alarm, or S=Status.

Reverse
Enter R=Reverse, or N=No Reverse.

Description
Enter default point description.

Windows
Enter default windows with the basic setup. Installation of Alarm Windows software modules will allow you to choose from more windows. 8 windows maximum can be assigned here.

Message
Enter the message number. Enter “0” for no message. The maximum messages available are limited by the number of messages in the message file.

3.0. Editing Shortcuts

The procedures and tips outlined here apply to point definition for all protocols.

3.1. Key commands used to edit the current field are listed in Table 10.A

3.2. Keys used to move between fields are listed in Table 10.E.

Table 10.D - Field Editing Key Commands

Key	Function
BackSpace Arrow	Backspace and delete
Ctrl-R	Restore Default
Ctrl-Z	Zap - Clear field (Does not work on T/Access)
Ctrl-E	Erase - Clear field
Left Arrow	Move left
Right Arrow	Move right
Ctrl-Home	Start of field
Ctrl-End	End of field
Ctrl-K	Kill to end of line
Del	Delete character
Ins	Toggle insert mode (cursor expands vertically)
Ctrl-Left Arrow	Move to previous word
Ctrl-Right Arrow	Move to next word

Table 10.E - Vertical Editing Key Commands

Key	Function
Ctrl PgUp	Move to previous defined entry, but the current field.
Ctrl PgDn	Move to next defined entry, but in the current field.
PgUp, PgDn	Up/Down to the next page with a defined entry
Home, End	Move to first or last page with a defined entry
Ctrl Enter	Save field and record
Ctrl F	Move to first field (no save)
Ctrl L	Move to last field (no save)
Ctrl Q	Save cursor position and insert mode (no save). (See sub-section 3.4.3.)

3.3. Additional key combinations that perform useful editing functions are listed in Table 10.F.

Table 10.F - Point Editing Key Commands

Function	Key	Description
NOTE: The following keys are available only when the cursor is on the first column field, "POL."		
Toggle	F4	Moves between the two halves* of the point definition screen
Blank	F3	Deletes the contents of a line, leaving the line blank. (Figure 1)
Range	F5	To activate the line and column editing functions — see sub-section 4.0.
Read	F6	Copy an entire display to some other port, address and display location in the database. The display can then be further edited in the new location. (Original display is left intact.) (sub-section 8.0)
Delete	Alt-F3	Deletes the contents of a line and moves all lines below it up one position. (Figure 1)
Insert	Alt-F4	Moves all lines under the cursor and below, down one position, leaving an open line. (Figure 1) **Note:** The 64th point configuration will be deleted and replaced with the 63rd point configuration.
Block Move**	Alt-F5	Move a block of point lines. A box will appear for specifying the start and end lines of the block and the destination line for the new start position. The start and end lines will be left blank after the move.
Block Copy**	Alt-F6	Copy a block of point lines. A box will appear for specifying the start and end lines of the block and the destination line for the new start position. The start and end lines will be left intact after the move.
Extended Read*	Ctrl-F6	Copy selected portions of a display to some other port, address and display location in the database. The display can then be further edited in the new location. (Original display is left intact.) (sub-section 8.0)

*If the Auxiliary Description is turned on, (in the Miscellaneous Parameters screen) there will be three parts to the screen. Press F4 to move through the three parts.

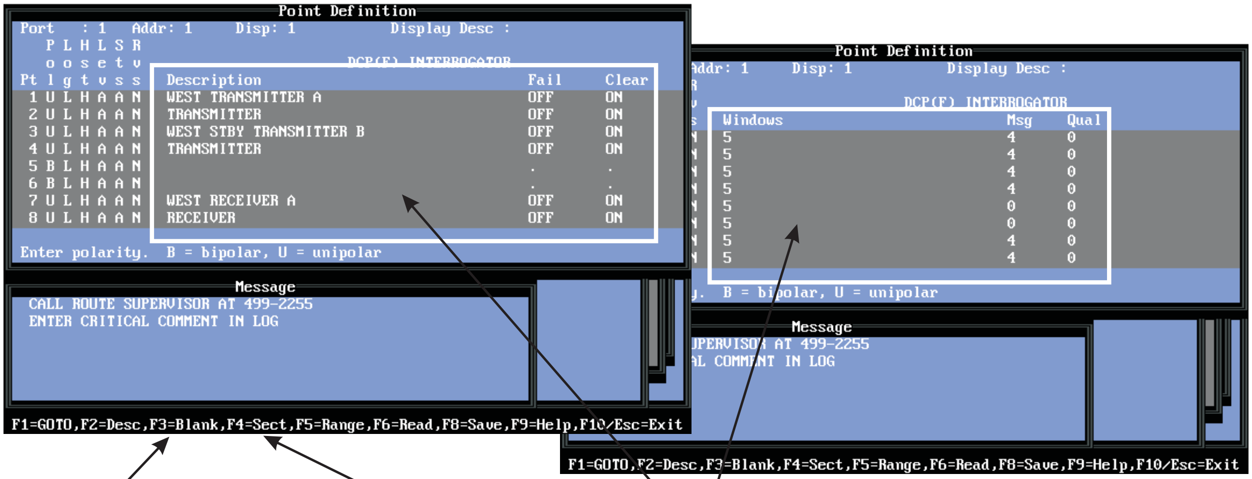
**These two functions automatically set the range for the "SET ATTR" functions (sub-sections 4.0 through 8.0).

3.4. Vertical Editing

3.4.1. Vertical editing is available in the point editing mode via the Ctrl-PgUp and Ctrl-PgDn keys.

3.4.2. The Ctrl-PgUp and Ctrl-PgDn key combinations move the cursor up and down the point list, within the same field. No matter where in the field the cursor is located, it will move to the start of the same field in the adjacent line when Ctrl-PgUp or Ctrl-PgDn is used.

3.4.3. If Ctrl-Q is pressed first, the cursor will remain on the same character position in the field when Ctrl-PgUp or Ctrl-PgDn is used. Once Ctrl-Q is invoked, the cursor will return to the specified character position when Ctrl-PgUp or Ctrl-PgDn is used. The position can be changed by moving the cursor with the left and right arrow keys and pressing Ctrl-Q. The cursor will then use the new position until again changed, the field is exited or the editing function is exited



```
                         Point Definition
Port    : 1   Addr: 1     Disp: 1           Display Desc :
   P L H L S R
   o o s e t v                          DCP(F) INTERROGATOR
Pt l g t v s s  Description                          Fail     Clear
 1 U L H A A N  WEST TRANSMITTER A                   OFF      ON
 2 U L H A A N  TRANSMITTER                          OFF      ON
 3 U L H A A N  WEST STBY TRANSMITTER B              OFF      ON
 4 U L H A A N  TRANSMITTER                          OFF      ON
 5 B L H A A N                                        .        .
 6 B L H A A N                                        .        .
 7 U L H A A N  WEST RECEIVER A                      OFF      ON
 8 U L H A A N  RECEIVER                             OFF      ON

Enter polarity.  B = bipolar, U = unipolar
                         Message
  CALL ROUTE SUPERVISOR AT 499-2255
  ENTER CRITICAL COMMENT IN LOG

F1=GOTO,F2=Desc,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9=Help,F10/Esc=Exit
```

```
                         Point Definition
Addr: 1     Disp: 1           Display Desc :
R
v                                   DCP(F) INTERROGATOR
s  Windows                                   Msg     Qual
N  5                                         4       0
N  5                                         4       0
N  5                                         4       0
N  5                                         4       0
N  5                                         0       0
N  5                                         0       0
N  5                                         4       0
N  5                                         4       0

y.  B = bipolar, U = unipolar
                         Message
UPERVISOR AT 499-2255
AL COMMENT IN LOG

F1=GOTO,F2=Desc,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9=Help,F10/Esc=Exit
```

F3 Blanks a line
Alt-F3 Deletes a line
Alt-F4 Inserts an open line

F4 moves between the two or three sections of the Point Definition Screen

Fig. 10.2 - F3 blanks a line, F4 toggles the screen view

4.0. Point (Line) Editing

4.1 Pressing F5 (Range) opens a sub-menu for point (line) editing functions. These functions allow a full display of point attributes and descriptions to be quickly defined by copying common elements from one point to another. Before the editing functions can be used at least one full point (line) must be defined. Editing functions are started by entering them in a SET ATTR field at the bottom of the window. The editing functions are listed on the prompt line.

5.0. Point (Line) Copying

5.1. The copy function copies all attributes from one specified point to other specified points (lines) within the same display.

5.1.1. Press F5 to activate the line and column editing functions.

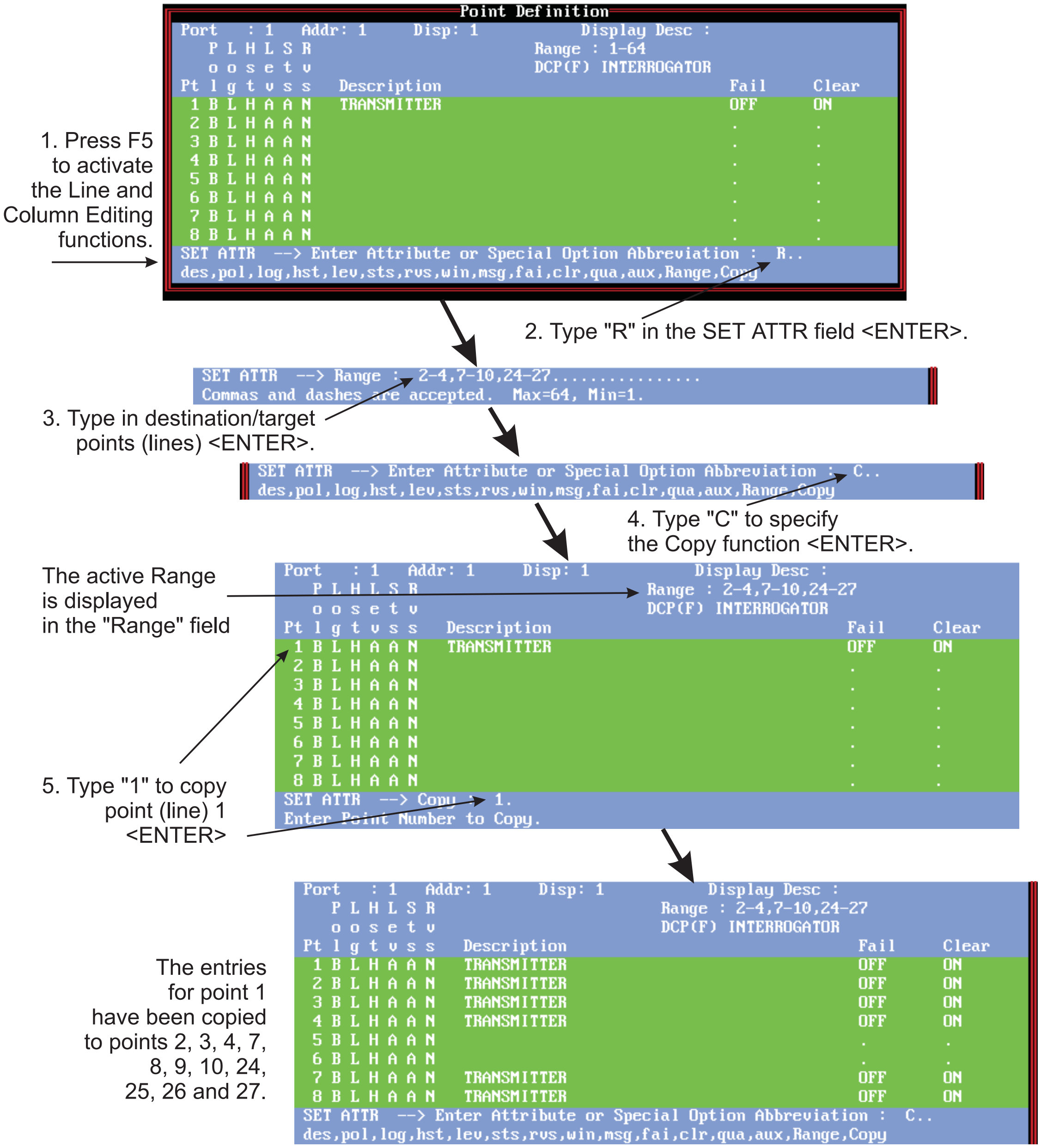
5.1.2. To copy a full point (line) definition from one point to one or more others type RAN (or R) in the SET ATTR field <ENTER>. (See Figure 10.2)

5.1.4. Type in the numbers* of the points (lines) to be copied to (destination or target) <ENTER>.

5.1.4. Type COP (or C) for copy <ENTER>.

5.1.5. Type in the number of the point (line) to be copied <ENTER>. The point to be copied will appear on the lines (range) specified.

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.



1. Press F5 to activate the Line and Column Editing functions.

```
                         Point Definition
Port    : 1   Addr: 1     Disp: 1        Display Desc :
   P L H L S R                          Range : 1-64
   o o s e t v                          DCP(F) INTERROGATOR
Pt l g t v s s   Description                        Fail     Clear
 1 B L H A A N   TRANSMITTER                        OFF      ON
 2 B L H A A N                                       .        .
 3 B L H A A N                                       .        .
 4 B L H A A N                                       .        .
 5 B L H A A N                                       .        .
 6 B L H A A N                                       .        .
 7 B L H A A N                                       .        .
 8 B L H A A N                                       .        .
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  R..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

2. Type "R" in the SET ATTR field <ENTER>.

```
SET ATTR  --> Range :  2-4,7-10,24-27................
Commas and dashes are accepted.  Max=64, Min=1.
```

3. Type in destination/target points (lines) <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  C..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

4. Type "C" to specify the Copy function <ENTER>.

The active Range is displayed in the "Range" field

```
Port    : 1   Addr: 1     Disp: 1        Display Desc :
   P L H L S R                          Range : 2-4,7-10,24-27
   o o s e t v                          DCP(F) INTERROGATOR
Pt l g t v s s   Description                        Fail     Clear
 1 B L H A A N   TRANSMITTER                        OFF      ON
 2 B L H A A N                                       .        .
 3 B L H A A N                                       .        .
 4 B L H A A N                                       .        .
 5 B L H A A N                                       .        .
 6 B L H A A N                                       .        .
 7 B L H A A N                                       .        .
 8 B L H A A N                                       .        .
SET ATTR  --> Copy  :  1.
Enter Point Number to Copy.
```

5. Type "1" to copy point (line) 1 <ENTER>

```
Port    : 1   Addr: 1     Disp: 1        Display Desc :
   P L H L S R                          Range : 2-4,7-10,24-27
   o o s e t v                          DCP(F) INTERROGATOR
Pt l g t v s s   Description                        Fail     Clear
 1 B L H A A N   TRANSMITTER                        OFF      ON
 2 B L H A A N   TRANSMITTER                        OFF      ON
 3 B L H A A N   TRANSMITTER                        OFF      ON
 4 B L H A A N   TRANSMITTER                        OFF      ON
 5 B L H A A N                                       .        .
 6 B L H A A N                                       .        .
 7 B L H A A N   TRANSMITTER                        OFF      ON
 8 B L H A A N   TRANSMITTER                        OFF      ON
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  C..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

The entries for point 1 have been copied to points 2, 3, 4, 7, 8, 9, 10, 24, 25, 26 and 27.

Fig. 10.3 - The Line Copy function copies a selected source line to multiple target lines

6.0. Column (Attribute) Entry

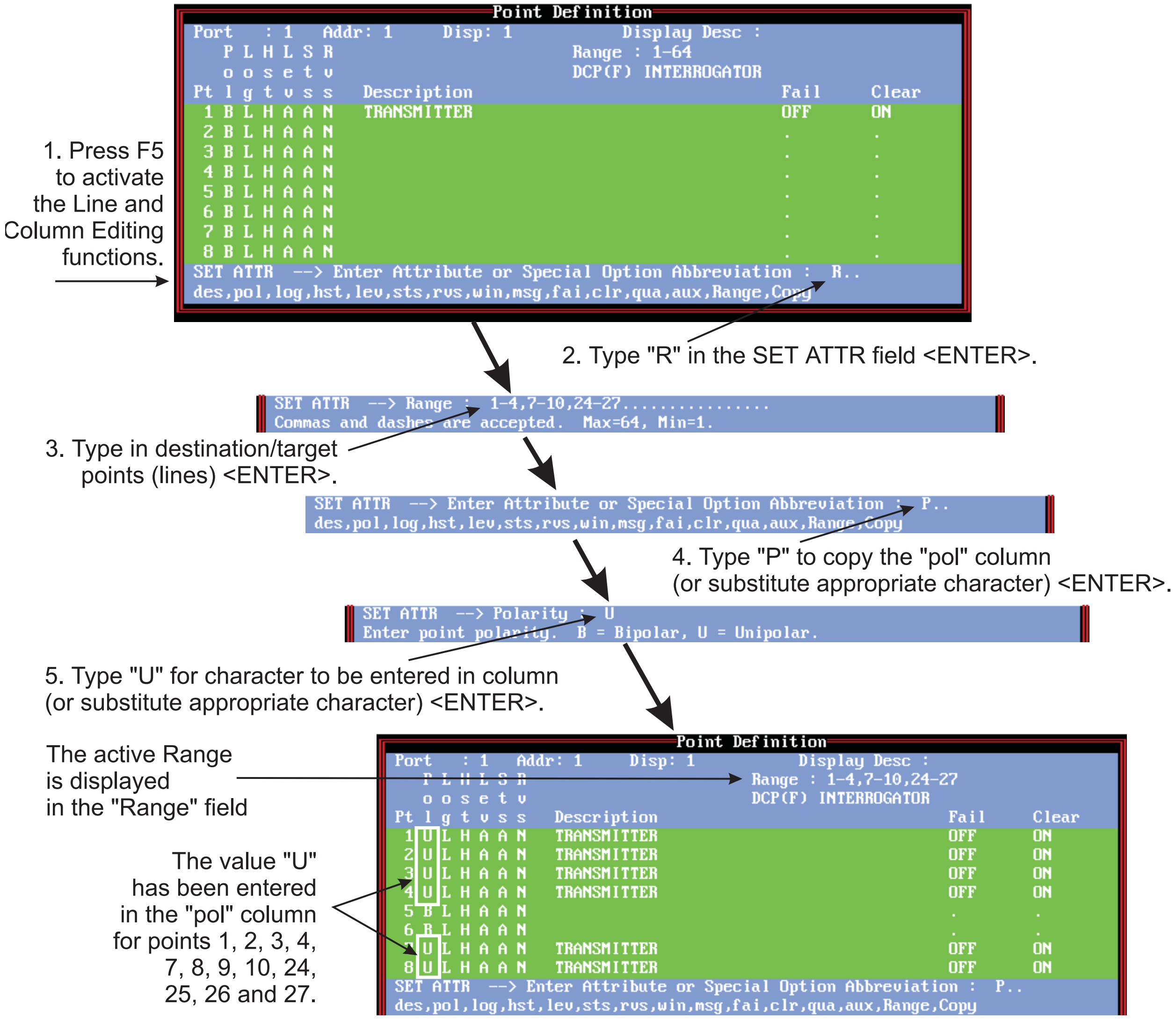
6.1. Press F5 (Range).

6.2 To enter any attribute (column entry) into several points (lines) at once type RAN (or R) in the SET ATTR field <ENTER>. (See Figure 10.4)

6.5. Type in the numbers of the points (lines) to be entered into (destination or target) <ENTER>. These can be can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.

6.4. Type in the abbreviation for the desired attribute (column). (pol, log, hst, lev, sts, rvs, msg, fail, clear or qual.) <ENTER>

6.5. Type in the characters to be entered in that attribute (column) <ENTER>. The characters will appear in the column designated.



1. Press F5 to activate the Line and Column Editing functions.

```
                              Point Definition
Port   : 1   Addr: 1     Disp: 1          Display Desc :
   P L H L S R                         Range : 1-64
   o o s e t v                         DCP(F) INTERROGATOR
Pt l g t v s s  Description                          Fail      Clear
 1 B L H A A N  TRANSMITTER                          OFF       ON
 2 B L H A A N                                       .         .
 3 B L H A A N                                       .         .
 4 B L H A A N                                       .         .
 5 B L H A A N                                       .         .
 6 B L H A A N                                       .         .
 7 B L H A A N                                       .         .
 8 B L H A A N                                       .         .
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  R..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

2. Type "R" in the SET ATTR field <ENTER>.

```
SET ATTR  --> Range :  1-4,7-10,24-27................
Commas and dashes are accepted.  Max=64, Min=1.
```

3. Type in destination/target points (lines) <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  P..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

4. Type "P" to copy the "pol" column (or substitute appropriate character) <ENTER>.

```
SET ATTR  --> Polarity :  U
Enter point polarity.  B = Bipolar, U = Unipolar.
```

5. Type "U" for character to be entered in column (or substitute appropriate character) <ENTER>.

```
                              Point Definition
Port   : 1   Addr: 1     Disp: 1          Display Desc :
   P L H L S R                         Range : 1-4,7-10,24-27
   o o s e t v                         DCP(F) INTERROGATOR
Pt l g t v s s  Description                          Fail      Clear
 1 U L H A A N  TRANSMITTER                          OFF       ON
 2 U L H A A N  TRANSMITTER                          OFF       ON
 3 U L H A A N  TRANSMITTER                          OFF       ON
 4 U L H A A N  TRANSMITTER                          OFF       ON
 5 B L H A A N                                       .         .
 6 B L H A A N                                       .         .
 7 U L H A A N  TRANSMITTER                          OFF       ON
 8 U L H A A N  TRANSMITTER                          OFF       ON
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  P..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

The active Range is displayed in the "Range" field

The value "U" has been entered in the "pol" column for points 1, 2, 3, 4, 7, 8, 9, 10, 24, 25, 26 and 27.

Fig. 10.4 - The Column Entry Function enters a value in a range of target columns

7.0 Description Modification

Be sure to use a unique pattern to prevent unwanted results.

7.1. Press F5 (Range). Description modification: You can add to, delete from or change the Description over a range of points. To modify the description type RAN (or R) in the SET ATTR field <ENTER>. (See Figure 10.4)

7.1.1. Type in the numbers* of the points (lines) to be modified <ENTER>.

7.1.2. Type in DES (or D) <ENTER>.

7.1.3. Type in the 3 letter abbreviation for the desired option (options are listed at the bottom of the window) <ENTER>.

7.1.3.1. Type SET (or S) <ENTER> to change the entire description. Type in description (1 to 40 characters) <ENTER>.

7.1.3.2. Type PRE (or P) <ENTER> to add something in front of the description. Type in the prefix (1 to 40 characters) <ENTER>. (See Figure 10.5)

7.1.3.3. Type APP (or A) <ENTER> to add something at the end of the description. Type in the suffix (1 to 40 characters) <ENTER>. (See Figure 10.8)

7.1.3.4 Type TRA (or T) <ENTER> to change a pattern of characters. Type in the characters to be changed (target) <ENTER>. Type in the characters to be inserted (replacement) <ENTER>. (See Figure 10.7)

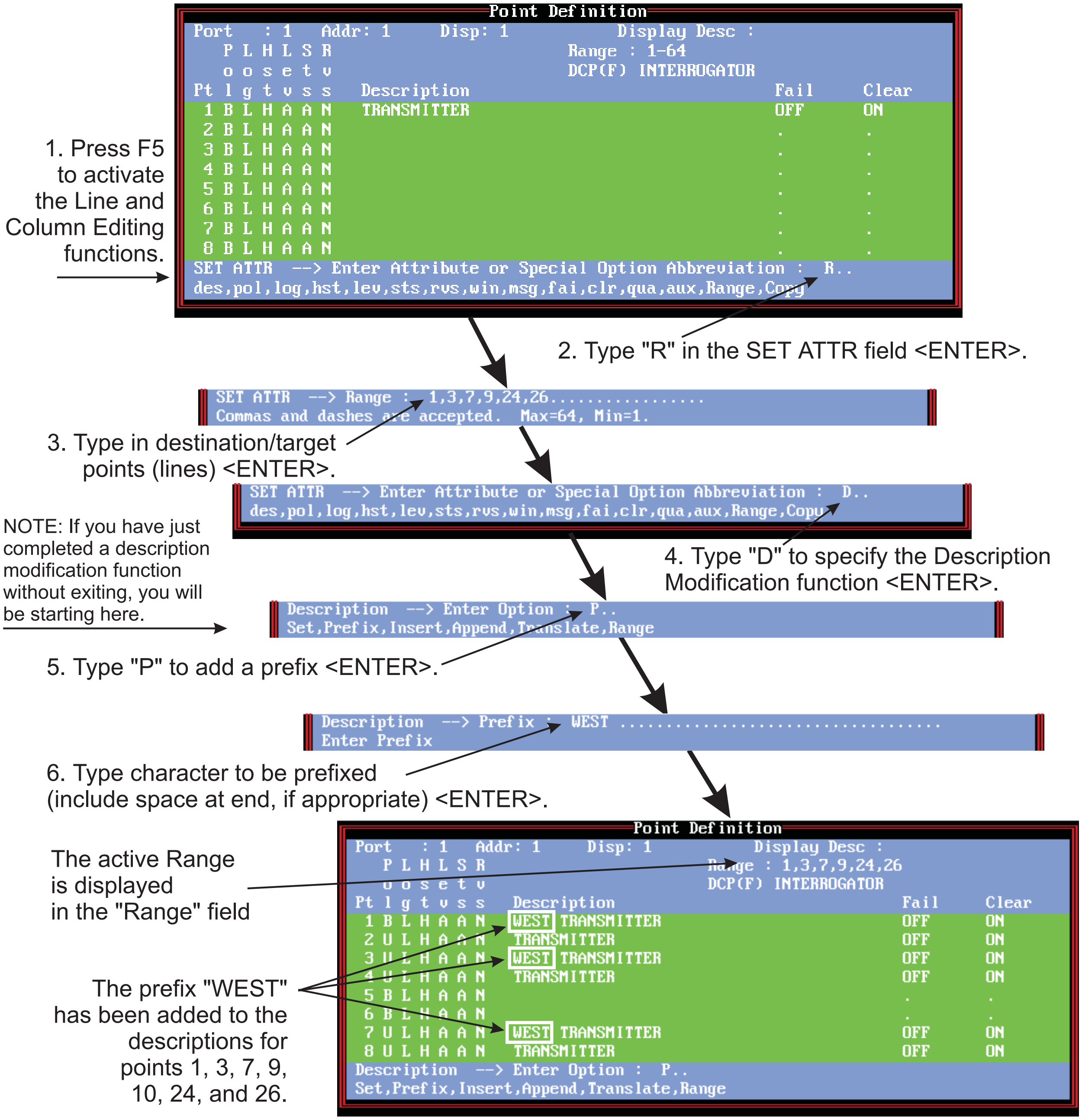
7.1.3.5. Type INS (or I) <ENTER> to add something within the description. Type in the position number (1-40) <ENTER>. This is the character position where the insert will begin. All text past this point will be moved to the right of the inserted text. Type in the string to be inserted (1 to 40 characters) <ENTER>. (See Figure 10.8)

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.

Note: Modifications can be done only to lines that are already defined.

Once a range is specified, all subsequent actions will apply to that range until the range is changed.

PREFIX
Once a range is specified, all subsequent actions will apply to that range until the range is changed.



```
                              Point Definition
Port    : 1    Addr: 1     Disp: 1            Display Desc :
   P L H L S R                             Range : 1-64
   o o s e t v                             DCP(F) INTERROGATOR
Pt l g t v s s  Description                               Fail      Clear
 1 B L H A A N  TRANSMITTER                               OFF       ON
 2 B L H A A N                                            .         .
 3 B L H A A N                                            .         .
 4 B L H A A N                                            .         .
 5 B L H A A N                                            .         .
 6 B L H A A N                                            .         .
 7 B L H A A N                                            .         .
 8 B L H A A N                                            .         .
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  R..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

1. Press F5 to activate the Line and Column Editing functions.

2. Type "R" in the SET ATTR field <ENTER>.

```
SET ATTR  --> Range : 1,3,7,9,24,26.................
Commas and dashes are accepted.  Max=64, Min=1.
```

3. Type in destination/target points (lines) <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  D..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

NOTE: If you have just completed a description modification function without exiting, you will be starting here.

4. Type "D" to specify the Description Modification function <ENTER>.

```
Description  --> Enter Option :  P..
Set,Prefix,Insert,Append,Translate,Range
```

5. Type "P" to add a prefix <ENTER>.

```
Description  --> Prefix :  WEST ..................................
Enter Prefix
```

6. Type character to be prefixed (include space at end, if appropriate) <ENTER>.

```
                              Point Definition
Port    : 1    Addr: 1     Disp: 1            Display Desc :
   P L H L S R                             Range : 1,3,7,9,24,26
   o o s e t v                             DCP(F) INTERROGATOR
Pt l g t v s s  Description                               Fail      Clear
 1 B L H A A N  WEST TRANSMITTER                          OFF       ON
 2 U L H A A N  TRANSMITTER                               OFF       ON
 3 U L H A A N  WEST TRANSMITTER                          OFF       ON
 4 U L H A A N  TRANSMITTER                               OFF       ON
 5 B L H A A N                                            .         .
 6 B L H A A N                                            .         .
 7 U L H A A N  WEST TRANSMITTER                          OFF       ON
 8 U L H A A N  TRANSMITTER                               OFF       ON
Description  --> Enter Option :  P..
Set,Prefix,Insert,Append,Translate,Range
```

The active Range is displayed in the "Range" field

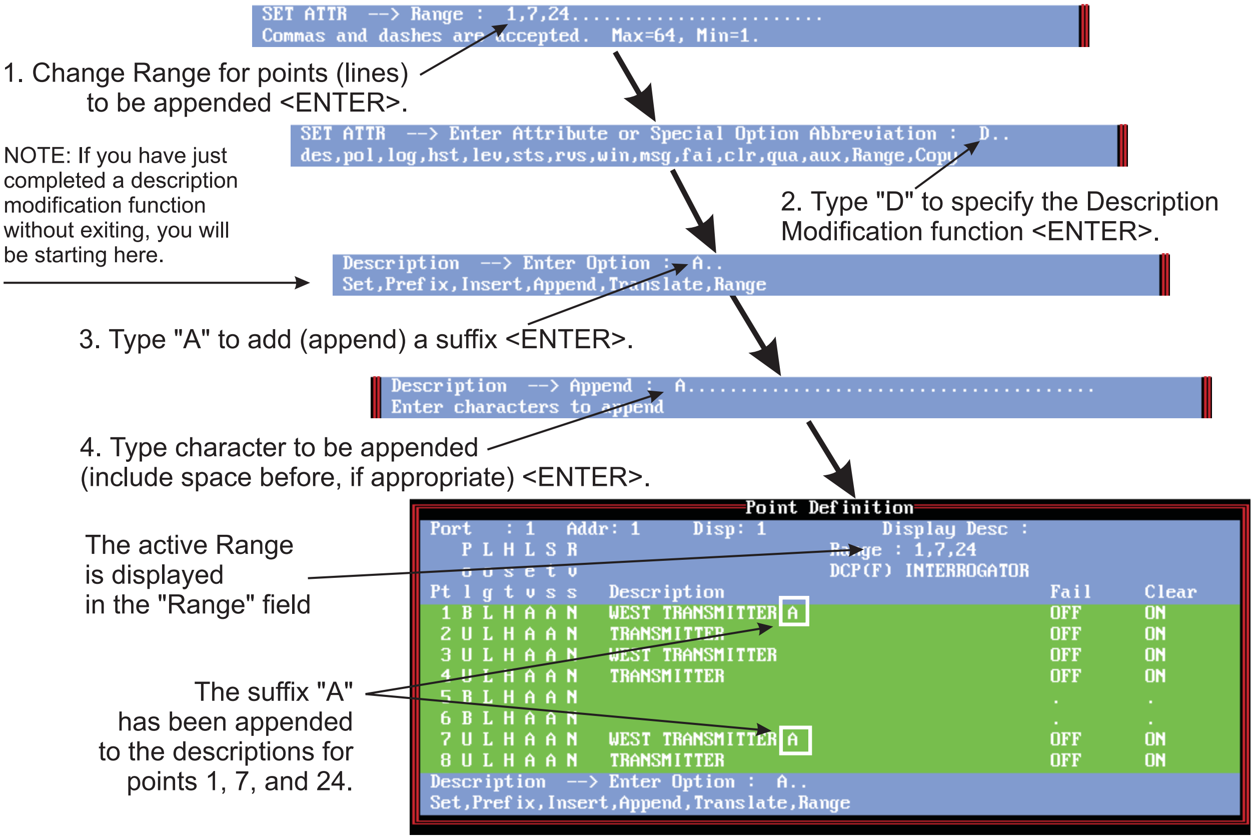
The prefix "WEST" has been added to the descriptions for points 1, 3, 7, 9, 10, 24, and 26.

Fig. 10.5 - Add a PREFIX to selected point descriptions with the Description Modification Function

APPEND

Once a range is specified, all subsequent actions will apply to that range until the range is changed.

WHILE STILL IN THE EDITING FUNCTION



```
SET ATTR  --> Range :  1,7,24........................
Commas and dashes are accepted.  Max=64, Min=1.
```

1. Change Range for points (lines) to be appended <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  D..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

2. Type "D" to specify the Description Modification function <ENTER>.

NOTE: If you have just completed a description modification function without exiting, you will be starting here.

```
Description  --> Enter Option :  A..
Set,Prefix,Insert,Append,Translate,Range
```

3. Type "A" to add (append) a suffix <ENTER>.

```
Description  --> Append :  A......................................
Enter characters to append
```

4. Type character to be appended (include space before, if appropriate) <ENTER>.

```
                         Point Definition
Port    : 1   Addr: 1     Disp: 1        Display Desc :
   P L H L S R                            Range : 1,7,24
   o o s e t v                            DCP(F) INTERROGATOR
Pt l g t v s s   Description                           Fail    Clear
 1 B L H A A N   WEST TRANSMITTER A                    OFF     ON
 2 U L H A A N   TRANSMITTER                           OFF     ON
 3 U L H A A N   WEST TRANSMITTER                      OFF     ON
 4 U L H A A N   TRANSMITTER                           OFF     ON
 5 B L H A A N                                          .       .
 6 B L H A A N                                          .       .
 7 U L H A A N   WEST TRANSMITTER A                    OFF     ON
 8 U L H A A N   TRANSMITTER                           OFF     ON
Description  --> Enter Option :  A..
Set,Prefix,Insert,Append,Translate,Range
```

The active Range is displayed in the "Range" field

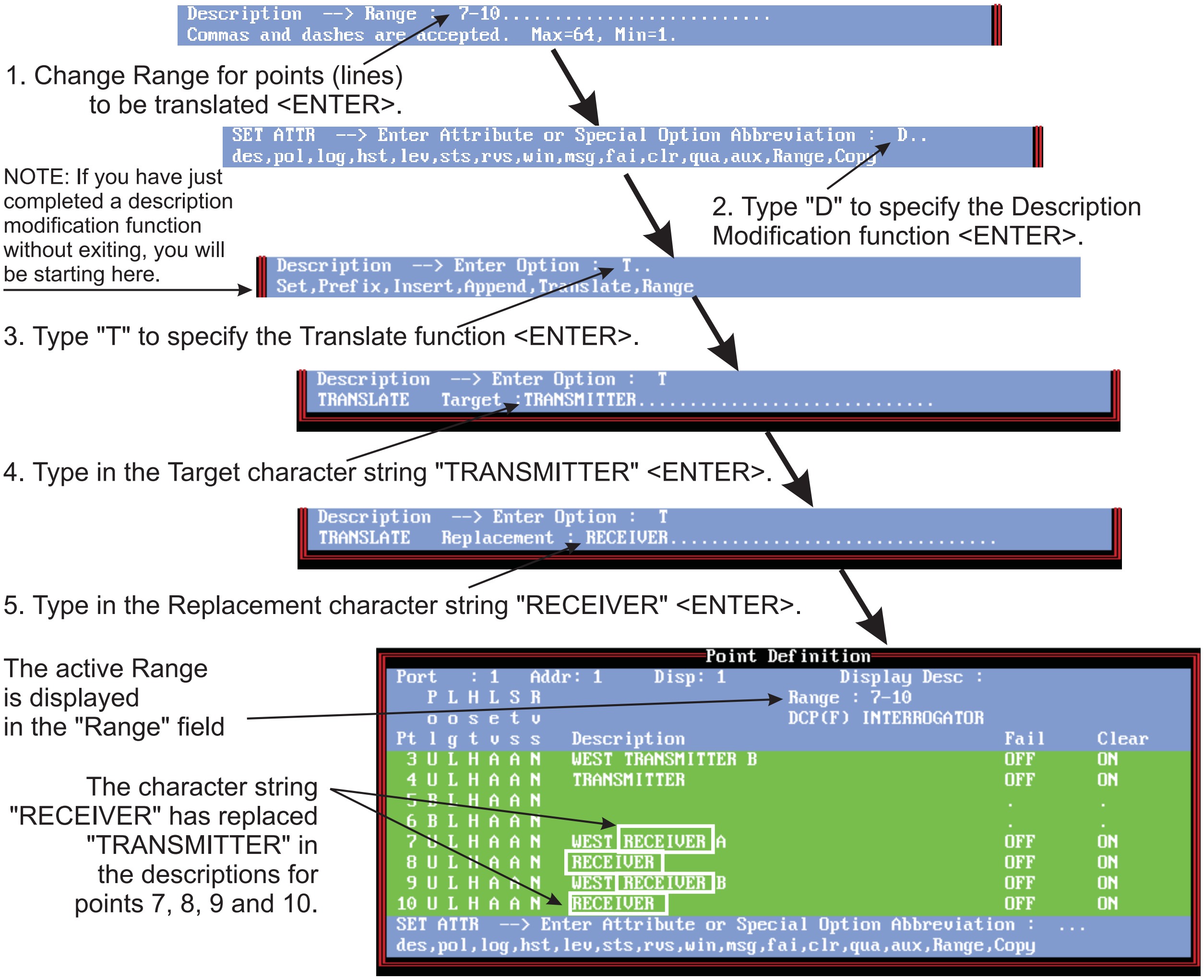
The suffix "A" has been appended to the descriptions for points 1, 7, and 24.

Fig. 10.6 - Append a SUFFIX to selected point descriptions with the Append Function

TRANSLATION
Once a range is specified, all subsequent actions will apply to that range until the range is changed.

Hint: This function is a very powerful and frequently used tool.

WHILE STILL IN THE EDITING FUNCTION



```
Description  --> Range :  7-10..........................
Commas and dashes are accepted.  Max=64, Min=1.
```

1. Change Range for points (lines) to be translated <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  D..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

2. Type "D" to specify the Description Modification function <ENTER>.

NOTE: If you have just completed a description modification function without exiting, you will be starting here.

```
Description  --> Enter Option :  T..
Set,Prefix,Insert,Append,Translate,Range
```

3. Type "T" to specify the Translate function <ENTER>.

```
Description  --> Enter Option :  T
TRANSLATE   Target :TRANSMITTER............................
```

4. Type in the Target character string "TRANSMITTER" <ENTER>.

```
Description  --> Enter Option :  T
TRANSLATE   Replacement : RECEIVER...............................
```

5. Type in the Replacement character string "RECEIVER" <ENTER>.

```
                              Point Definition
Port    : 1   Addr: 1     Disp: 1          Display Desc :
    P L H L S R                            Range : 7-10
    o o s e t v                            DCP(F) INTERROGATOR
Pt  l g t v s s   Description                                  Fail    Clear
 3 U L H A A N    WEST TRANSMITTER B                            OFF     ON
 4 U L H A A N    TRANSMITTER                                   OFF     ON
 5 B L H A A N                                                  .       .
 6 B L H A A N                                                  .       .
 7 U L H A A N    WEST RECEIVER A                               OFF     ON
 8 U L H A A N    RECEIVER                                      OFF     ON
 9 U L H A A N    WEST RECEIVER B                               OFF     ON
10 U L H A A N    RECEIVER                                      OFF     ON
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  ...
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

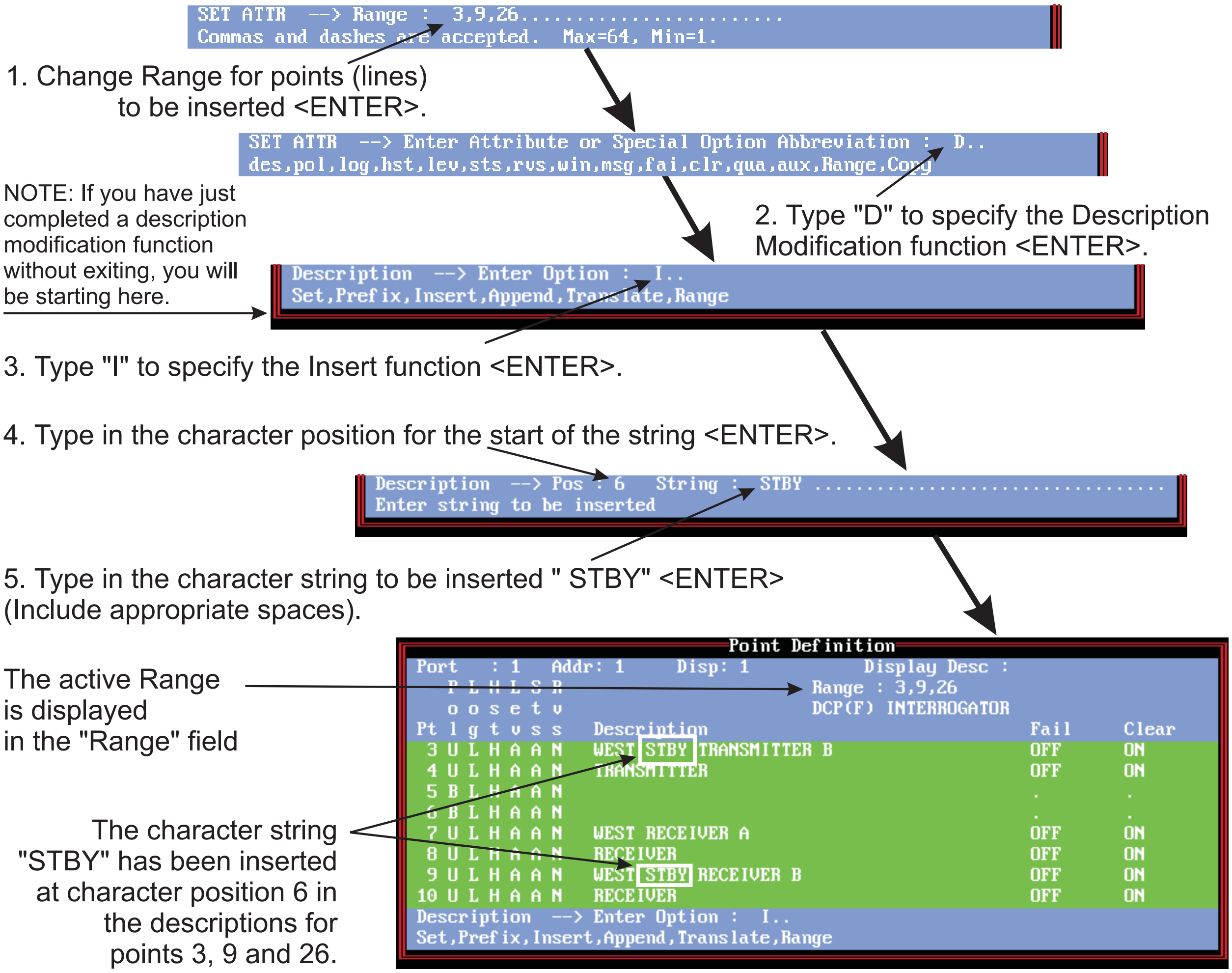
The active Range is displayed in the "Range" field

The character string "RECEIVER" has replaced "TRANSMITTER" in the descriptions for points 7, 8, 9 and 10.

Fig. 10.7 - TRANSLATE a character string in a range of to point descriptions with the Translate Function

INSERT
Once a range is specified, all subsequent actions will apply to that range until the range is changed.

WHILE STILL IN THE EDITING FUNCTION



```
SET ATTR  --> Range :  3,9,26.........................
Commas and dashes are accepted.  Max=64, Min=1.
```

1. Change Range for points (lines) to be inserted <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  D..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Conf
```

2. Type "D" to specify the Description Modification function <ENTER>.

NOTE: If you have just completed a description modification function without exiting, you will be starting here.

```
Description  --> Enter Option :  I..
Set,Prefix,Insert,Append,Translate,Range
```

3. Type "I" to specify the Insert function <ENTER>.

4. Type in the character position for the start of the string <ENTER>.

```
Description  --> Pos : 6   String :  STBY .................................
Enter string to be inserted
```

5. Type in the character string to be inserted " STBY" <ENTER>
(Include appropriate spaces).

```
                              Point Definition
Port   : 1   Addr: 1     Disp: 1            Display Desc :
   P L H L S R                                Range : 3,9,26
   o o s e t v                                DCP(F) INTERROGATOR
Pt l g t v s s   Description                                  Fail     Clear
 3 U L H A A N   WEST STBY TRANSMITTER B                      OFF      ON
 4 U L H A A N   TRANSMITTER                                  OFF      ON
 5 B L H A A N                                                 .        .
 6 B L H A A N                                                 .        .
 7 U L H A A N   WEST RECEIVER A                              OFF      ON
 8 U L H A A N   RECEIVER                                     OFF      ON
 9 U L H A A N   WEST STBY RECEIVER B                         OFF      ON
10 U L H A A N   RECEIVER                                     OFF      ON
Description  --> Enter Option :  I..
Set,Prefix,Insert,Append,Translate,Range
```

The active Range is displayed in the "Range" field

The character string "STBY" has been inserted at character position 6 in the descriptions for points 3, 9 and 26.

Fig. 10.8 - Insert a Character String in a Range of Point Description with the Insert Function

8.0. Windows Modification

This function is typically used after cloning a site to change the site window designation. Using the DEL and ADD options allows the window designation to be quickly changed without disturbing the “severity,” “type” or other window designations.

Once a range is specified, all subsequent actions will apply to that range until the range is changed.

Note: Modifications can be done only to lines that are already defined.

8.1. Windows modification: You can add to, delete from or change the Windows field over a range of points. Press F4 to see the “Windows” portion or the screen. Press F5 (Range). To modify the windows field type RAN (or R) in the SET ATTR field <ENTER>.

8.1.1. Type in the numbers* of the points (lines) to be modified <ENTER>.

8.1.2. Type in WIN (or W) <ENTER>.

8.1.3. Type in the 3 letter abbreviation for the desired option (options are listed at the bottom of the window) <ENTER>.

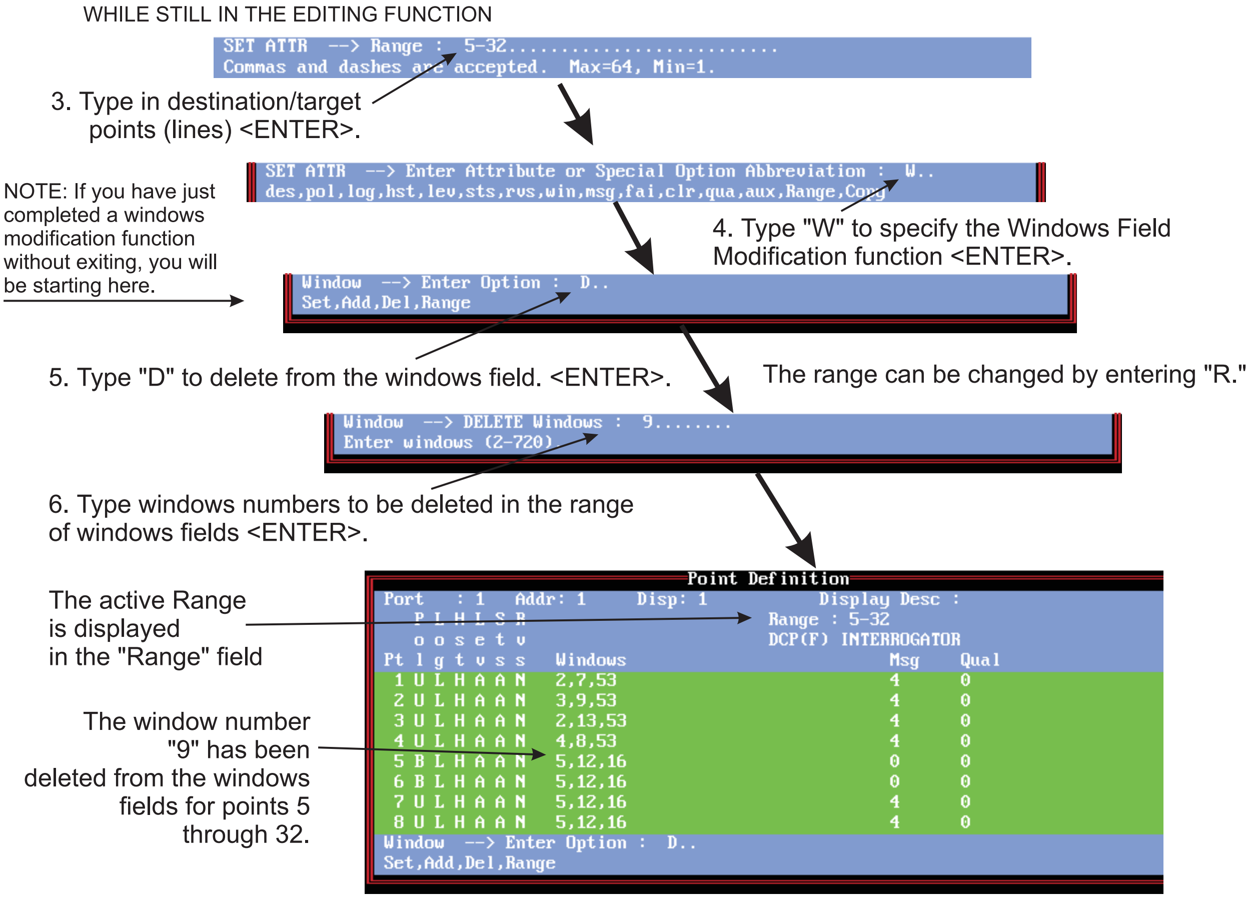
8.1.3.1. Type SET (or S) <ENTER> to change the windows field over the range.
Note: this will replace everything that’s in the corresponding window with your new value. Set the corresponding window to your new value.

Type in window numbers <ENTER>. (2-90 or greater, depending on equipped options. There is a maximum of 8 windows per point.)

8.1.3.2. Type ADD (or A) <ENTER> to add something in the windows field over the range. Type in window numbers <ENTER>. (2-90 or greater, depending on equipped options. There is a maximum of 8 windows per point.)

8.1.3.3. Type DEL (or D) <ENTER> to delete something from the windows field over the range. Type in window numbers <ENTER>. (2-90 or greater, depending on equipped options. There is a maximum of 8 windows per point.) (See Figure 10.10)

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.



WHILE STILL IN THE EDITING FUNCTION

```
SET ATTR  --> Range :  5-32..........................
Commas and dashes are accepted.  Max=64, Min=1.
```

3. Type in destination/target points (lines) <ENTER>.

```
SET ATTR  --> Enter Attribute or Special Option Abbreviation :  W..
des,pol,log,hst,lev,sts,rvs,win,msg,fai,clr,qua,aux,Range,Copy
```

NOTE: If you have just completed a windows modification function without exiting, you will be starting here.

4. Type "W" to specify the Windows Field Modification function <ENTER>.

```
Window  --> Enter Option :  D..
Set,Add,Del,Range
```

5. Type "D" to delete from the windows field. <ENTER>.

The range can be changed by entering "R."

```
Window  --> DELETE Windows :  9........
Enter windows (2-720).
```

6. Type windows numbers to be deleted in the range of windows fields <ENTER>.

```
                           Point Definition
Port    : 1    Addr: 1     Disp: 1         Display Desc :
    P L H L S R                          Range : 5-32
    o o s e t v                          DCP(F) INTERROGATOR
Pt  l g t v s s   Windows                                    Msg    Qual
 1 U L H A A N   2,7,53                                      4      0
 2 U L H A A N   3,9,53                                      4      0
 3 U L H A A N   2,13,53                                     4      0
 4 U L H A A N   4,8,53                                      4      0
 5 B L H A A N   5,12,16                                     0      0
 6 B L H A A N   5,12,16                                     0      0
 7 U L H A A N   5,12,16                                     4      0
 8 U L H A A N   5,12,16                                     4      0
Window  --> Enter Option :  D..
Set,Add,Del,Range
```

The active Range is displayed in the "Range" field

The window number "9" has been deleted from the windows fields for points 5 through 32.

Fig. 10.9 - Add a window number(s) in a range of points with the Windows Modification Function

9.0. Message Translation

This function is typically used after cloning a site to change the message field. Using the SET and TRANSLATE options allows the message number to be quickly changed.

Once a range is specified, all subsequent actions will apply to that range until the range is changed.

9.1. Message Translation: You can enter the same message number or translate a given message number (target) to another (replacement) in the Message field over a range of points. Press F4 to see the “Message” portion of the screen. Press F5 (Range). To modify the windows field type “R” in the SET ATTR field <ENTER>.

9.1.1. Type in the numbers* of the points (lines) to be modified <ENTER>.

9.1.2. Type “M” <ENTER>.

9.1.3. Type in the first letter for the desired option (options are listed at the bottom of the window) <ENTER>.

9.1.3.1. SET: Type “S” <ENTER> to change the message field over the range. Type in message number <ENTER>. (from 0 to the maximum number of messages that have been defined.) The chosen message will be displayed in the message window. The prompt line will ask if you wish to continue. Type “Y” to accept or <ENTER> to reject.

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.

9.1.3.2. TRANSLATE: Type “T” <ENTER> to change all target message numbers over the range to a replacement message number. Type in target and replacement numbers. NOTE: This function will affect only the lines within the range that contain the target message number.

9.1.3.3. RANGE: Type “R” <ENTER> to set a new range of points without leaving the message function.

*Ranges can be individual points (1,3,5,10), continuous points (8-20) or a combination of individual and continuous points (1,5,8-12). Do not use spaces.

10.0. Cloning Entire Displays or Sites

10.1. An entire display can be copied from one display to another within the same address and port or to another address and/or port.

10.1.1. The display to be copied (source) must be defined.

10.1.2. Enter the destination (target) port, address and display:

10.1.2.1. From the Main Menu select Parameters.

10.1.2.2. Select Remote Ports.

10.1.2.3. Select the destination port by using the P)revious, N)ext, or F)ind keys.

10.1.2.4. Press F1 (Devices).

10.1.2.5. Select the destination address by using the P)revious, N)ext, or F)ind keys.
Note: To create a new display, press F)ind and enter the appropriate display. T/Mon will prompt you to add the new display to the database. Press Y (yes) to save or Esc to cancel without saving.

10.1.2.5. Press F1 (Points).

10.1.2.6. Press E (Edit).

10.1.3. Press F6 (Read).

10.1.4. Enter the source port number (1-n or “RP, KI, and NG” for dial-up port), device number, address number and display number. (The cursor will skip fields that are not applicable to the type of port.)

10.1.5. The specified source display will be copied to the screen. It may now be modified as needed, using the procedures outlined in sub-sections 4.0-8.0.

11.0. Cloning Part of a Display

11.1. A portion of a display can be copied from one display to another within the same address and port or to another address and/or port. (See Figure 10.9) The advantage of this is that multiple parts of different displays can be quickly copied into a common display.

11.1.1. The display to be copied (source) must be defined.

11.1.2. Enter the destination (target) port, address and display:

11.1.2.1. From the Main Menu select Parameters.

11.1.2.2. Select Remote Ports.

11.1.2.3. Select the destination port by using the P)revious, N)ext, or F)ind keys.

11.1.2.4. Press F1 (Devices).

11.1.2.5. Select the destination address by using the P)revious, N)ext, or F)ind keys.
Note: To create a new display, press F)ind and enter the appropriate display. T/Mon will prompt you to add the new display to the database. Press Y (yes) to save or Esc to cancel without saving.

11.1.2.6. Press F1 (Points).

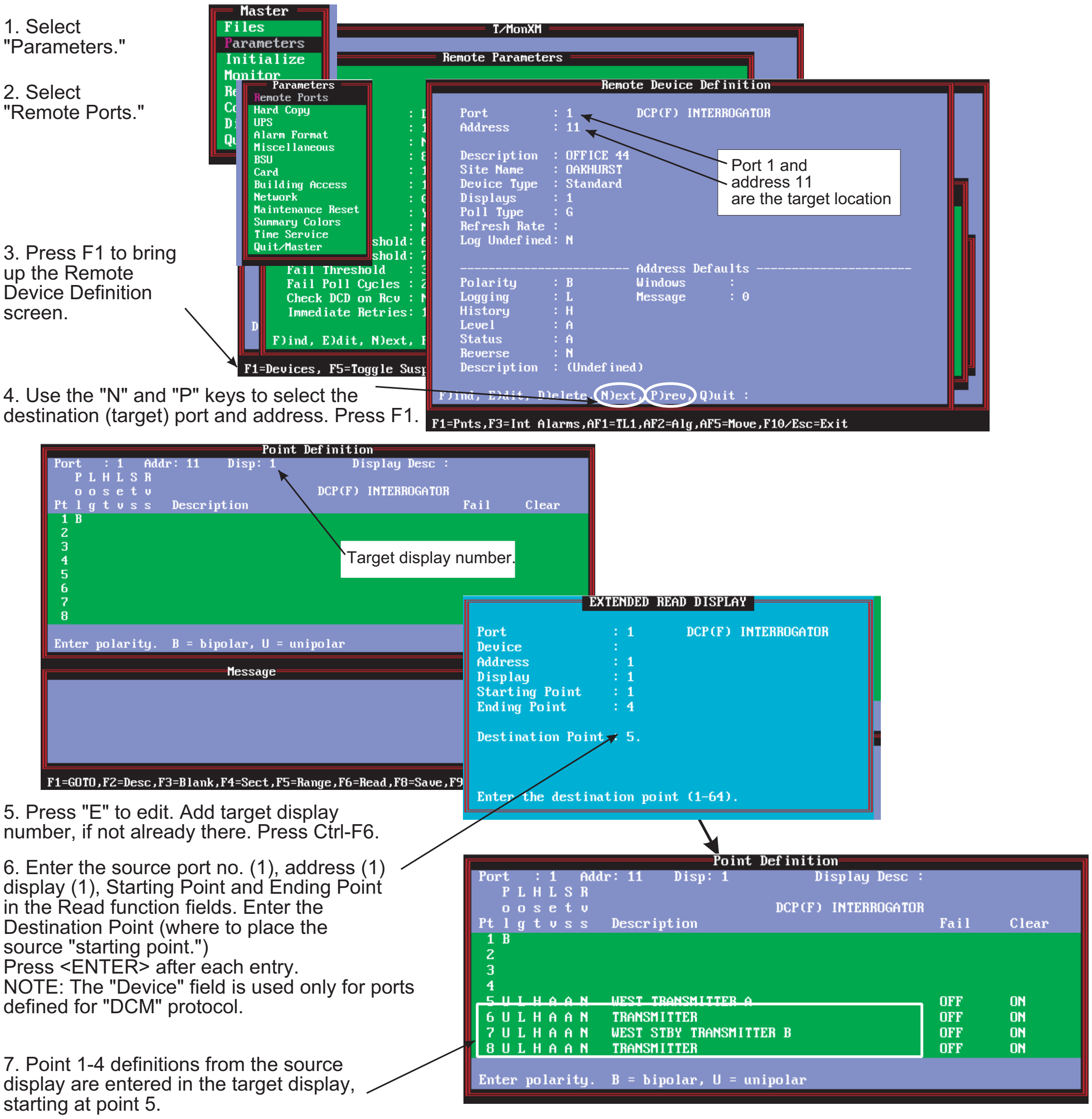
11.1.2.7. Press E (Edit).

11.1.3. Press Ctrl-F6 (Extended Read).

11.1.4. Enter the source Port number (1-n or “RP, KI, and NG” for dial-up port), Device number, Address number, Display number, Starting Point and Ending Point. (The cursor will skip fields that are not applicable to the type of port.)

11.1.5. Enter the Destination Point number. (Point to place the source “Starting Point” in the target.)

11.1.6. The specified source display will be copied to the screen. It may now be modified as needed, using the procedures outlined in sub-sections 4.0 through 9.0.



1. Select "Parameters."

2. Select "Remote Ports."

3. Press F1 to bring up the Remote Device Definition screen.

4. Use the "N" and "P" keys to select the destination (target) port and address. Press F1.

```
Remote Device Definition
Port          : 1          DCP(F) INTERROGATOR
Address       : 11

Description   : OFFICE 44
Site Name     : OAKHURST
Device Type   : Standard
Displays      : 1
Poll Type     : G
Refresh Rate  :
Log Undefined: N

---------------------- Address Defaults ----------------------
Polarity      : B          Windows      :
Logging       : L          Message      : 0
History       : H
Level         : A
Status        : A
Reverse       : N
Description   : (Undefined)

F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
F1=Pnts,F3=Int Alarms,AF1=TL1,AF2=Alg,AF5=Move,F10/Esc=Exit
```

Port 1 and address 11 are the target location

```
Point Definition
Port   : 1   Addr: 11    Disp: 1          Display Desc :
   P L H L S R
   o o s e t v                  DCP(F) INTERROGATOR
Pt l g t v s s   Description                        Fail     Clear
 1 B
 2
 3
 4
 5
 6
 7
 8

Enter polarity.  B = bipolar, U = unipolar

Message

F1=GOTO,F2=Desc,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9
```

Target display number.

```
EXTENDED READ DISPLAY
Port              : 1       DCP(F) INTERROGATOR
Device            :
Address           : 1
Display           : 1
Starting Point    : 1
Ending Point      : 4

Destination Point : 5.

Enter the destination point (1-64).
```

5. Press "E" to edit. Add target display number, if not already there. Press Ctrl-F6.

6. Enter the source port no. (1), address (1) display (1), Starting Point and Ending Point in the Read function fields. Enter the Destination Point (where to place the source "starting point.")
Press <ENTER> after each entry.
NOTE: The "Device" field is used only for ports defined for "DCM" protocol.

```
Point Definition
Port   : 1   Addr: 11    Disp: 1          Display Desc :
   P L H L S R
   o o s e t v                  DCP(F) INTERROGATOR
Pt l g t v s s   Description                        Fail     Clear
 1 B
 2
 3
 4
 5 U L H A A N   WEST TRANSMITTER A                 OFF      ON
 6 U L H A A N   TRANSMITTER                        OFF      ON
 7 U L H A A N   WEST STBY TRANSMITTER B            OFF      ON
 8 U L H A A N   TRANSMITTER                        OFF      ON

Enter polarity.  B = bipolar, U = unipolar
```

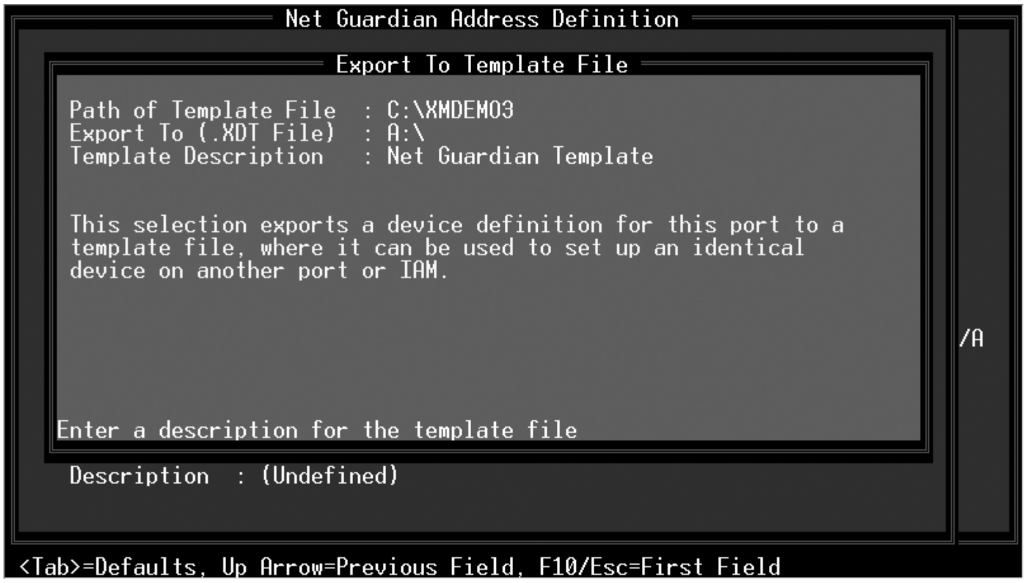
7. Point 1-4 definitions from the source display are entered in the target display, starting at point 5.

Fig. 10.10 - A portion of a display can be copied to another port, address and display

12.0 Device Templates

T/MonXM is the capability to create **device templates**, which can greatly speed the provisioning of KDAs, NetGuardians, and other devices.

Templates provide the ability to save device configurations and import that information into similar device profiles (available for dial-up and LAN devices). Once in the device configuration screen, hit Alt-F6 to bring up the Template Import/Export Menu. To export the devices' configuration into a template, select "Export to Template" and press Enter. Enter the path of the template file and the drive to export to. To import an existing template into a device, select "Import from Template" from the Template Menu and press Enter.Then enter the path of the template file and the drive where the file exists.



```
Net Guardian Address Definition
Export To Template File

Path of Template File  : C:\XMDEMO3
Export To (.XDT File)  : A:\
Template Description   : Net Guardian Template


This selection exports a device definition for this port to a
template file, where it can be used to set up an identical
device on another port or IAM.

                                                                /A

Enter a description for the template file
Description  : (Undefined)

<Tab>=Defaults, Up Arrow=Previous Field, F10/Esc=First Field
```

Fig. 10-11 - Example of device templates use

Section 11 - DPS Display Mapping Guide

Introduction

This section will assist you in determining the locations of alarms from remotes within the addressing and display scheme used by T/MonXM. Mapping varies with the device being used, so the section is organized with a different section for each device.

NetGuardian 832A/ NetMediator

Tables 11.A and 11.B refer to display mapping for NetGuardian 832A and NetMediator remotes.

Note: NetMediator display mapping may differ, see your NetMediator user manual for more details.

Table 11.A - Display mapping for the NetGuardian 832A/NetMediator

Display	Points	Description
1	1-32	Discrete Alarms
2	1-32	Ping Alarms
3	1-4	Analog Channel 1
4	1-4	Analog Channel 2
5	1-4	Analog Channel 3
6	1-4	Analog Channel 4
7	1-4	Analog Channel 5
8	1-4	Analog Channel 6
9	1-4	Analog Channel 7
10	1-4	Analog Channel 8
11	Relays/Housekeeping (See detail in Table 11.B below)	
Displays 12-17 refer to the NetGuardian Expansion (NetGuardian DX)		
12	NetGuardian Expansion 1 Alarms 1-48	
13	Expansion 1 Relays 1-8	
14	NetGuardian Expansion 2 Alarms 1-48	
15	Expansion 2 Relays 1-8	
16	NetGuardian Expansion 3 Alarms 1-48	
17	Expansion 3 Relays 1-8	

Table 11.B - Display Relays/Housekeeping Alarms for the NetGuardian 832A/NetMediator

Points	Description	Points	Description
1	Relays	47	Modem RcvQ Full
2	Relays	48	Serial 1 RcvQ Full
3	Relays	49	Serial 2 RcvQ Full
4	Relays	50	Serial 3 RcvQ Full
5	Relays	51	Serial 4 RcvQ Full
6	Relays	52	Serial 5 RcvQ Full
7	Relays	53	Serial 6 RcvQ Full
8	Relays	54	Serial 7 RcvQ Full
17	Timed Tick	55	Serial 8 RcvQ Full
33	Power Up	56	NetGuardian DX 1 Fail
36	Lost Provisioning	57	NetGuardian DX 2 Fail
37	DCP Poller Inactive	58	NetGuardian DX 3 Fail
38	LAN Not Active	59	GLD 1 Fail
41	Modem Not Responding	60	GLD 2 Fail
42	No Dial Tone	61	GLD 3+ Fail
44	Pager Queue Overflow	62	Channel Port Timeout
45	Notification Failed	63	Craft Timeout
46	Craft RcvQ Full	64	Event Queue Full

NetGuardian 216

Tables 10.C refer to display mapping for NetGuardian-216 SNMP remotes.

Table 11.C - Mapping in NetGuardian 216

Display	Description	Display	Points
Disp 1	Discrete Alarms and Controls	1	1-16
	Relays	1	17-18
	Undefined**	1	19-24
	Default Configurations	1	25
	Undefined**	1	26
	MAC Address Not Set	1	27
	IP Address Not Set	1	28
	LAN Hardware Not Found	1	29
	SNMP Processing Error	1	30
	SNMP Community Error	1	31
	LAN Tx Packet Drop	1	32

Note: Table 11.C continues on the following page.

** “Undefined” indicates that the alarm point is not used.

Table 11.C - Mapping in NetGuardian 216

Display	Description	Display	Points
Disp 2	Analog 1 MjO	2	1
	Analog 1 MnO	2	2
	Analog 1 MnU	2	3
	Analog 1 MjU	2	4
	Undefined**	2	5
	Undefined**	2	6
	Undefined**	2	7
	Undefined**	2	8
Disp 3	Analog 1 MjO	3	1
	Analog 1 MnO	3	2
	Analog 1 MnU	3	3
	Analog 1 MjU	3	4
	Undefined**	3	5
	Undefined**	3	6
	Undefined**	3	7
	Undefined**	3	8

** “Undefined” indicates that the alarm point is not used.

NetGuardian- Q8

Tables 11.D and 11.E refer to display mapping for NetGuardian-Q8 remotes.

Table 11.D - Display descriptions and SNMP Trap numbers for the NetGuardian-Q8

Display	Description	Set	Clear
1	Discrete Alarms 1-10	8001-8010	9001-9010
2	Ping Table	8065-8096	9065-9096
11	System Alarms	8641-8674	9641-9674

Table 11.E - Display 11 System Alarms point descriptions for NetGuardian-Q8

Points	Description	SNMP Trap #s	
		Set	Clear
17	Timed Tick	8657	9657
33	Unit Reset	8673	9673
36	Lost Provisioning	8676	9676
37	DCP Poller Inactive	8677	9677
38	LAN not active	8678	9678
46	Craft RcvQ full	8686	9686
47	Modem RcvQ full	8687	9687

KDA Remotes

Use Table 11.F, 10.G, and 10.H for KDA Remotes. Control points are mapped as alarms to reflect point status. Define control points like alarms to get meaningful status reports.

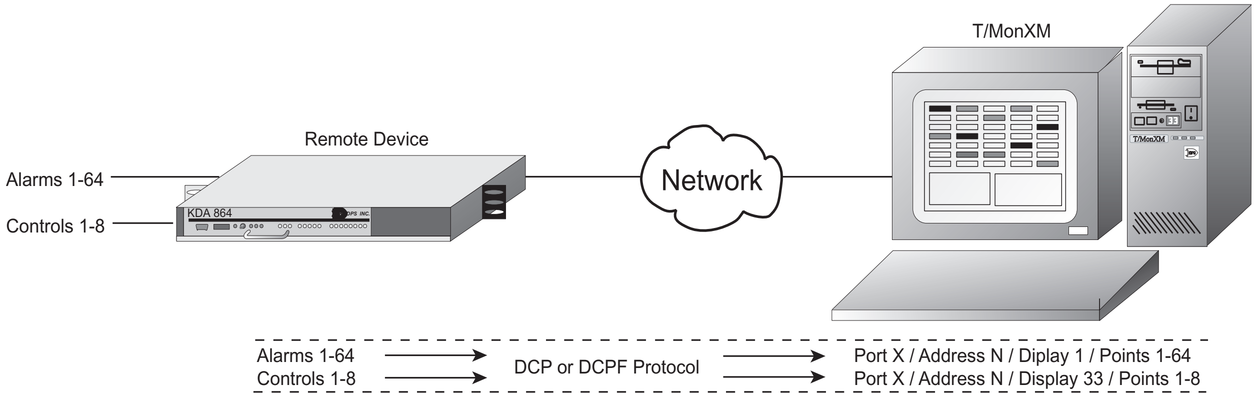


Fig. 10.1 - Mapping alarms places them in the correct location in the data base

Table 11.F - Mapping in KDA Remotes

Remote			T/MonXM		
Device	**Product**	**Points**	**Address**	**Display**	**Point**
Standard	Base KDA 864	Alarms 1-64	N	1	1-64
		Controls 1-8	N	33	1-8
	LR-24 Relay Expansion in Base	Control 1-24	M*	1	1-24
	4-Port TBOS Expansion in Base	Port 1, Displays 1-3	M*	1-8	1-64 in each display
		Port 2, Displays 1-8	M*	9-16	
		Port 3, Displays 1-8	M*	17-24	
		Port 4, Displays 1-8	M*	25-32	
		TBOS Device Failure	M*	65	See Table 11.H
	8-Port TBOS Expansion in Base	Port 1, Displays 1-3	M*	1-8	1-64 in each display
		Port 2, Displays 1-3	M*	9-16	
		Port 3, Displays 1-8	M*	17-24	
		Port 4, Displays 1-3	M*	25-32	

* When using KDA versions earlier than 2.1, M = N+2 and L = N=2. In versions 2.1 and later,, M and L can be any address not already assigned to another device.

Note: Table 11.F continues on the following page.

Table 11.F - Mapping in KDA Remotes (continued)

Remote			T/MonXM		
Device	**Product**	**Points**	**Address**	**Display**	**Point**
Standard	8-Port TBOS Expansion in Base	TBOS Device Failure	M*	65	See Table 11.H
		Port 5, Displays 1-3	L*	1-8	1-64 in each display
		Port 6, Displays 1-8	L*	9-16	
		Port 7, Displays 1-8	L*	17-24	
		Port 8, Displays 1-8	L*	25-32	
		TBOS Device Failure	L*	65	See Table 11.H
	EXP 832 Expansion in Base	Alarms 1-32	M*	1	1-32
		Controls 1-8	M*	33	1-8
	KDA 864 Satellite 1	Alarms 1-64	N	2	1-64
		Controls 1-8	N	35	1-8
	LR-25 in Satellite 2	Controls 1-24	N	5	1-24
	KDA 864 Satellite 3	Alarms 1-64	N	4	1-64
		Controls 1-8	N	36	1-8
	DPM 216	Alarms 1-16	N	1	1-16
		Controls 1-2	N	33	1-2
	DCM 216	Alarms 1-2	N	1	1-2
		Controls 1-16	N	33	1-16
8 Channel Analog Expansion Card in KDA 864 Base	Version A or B	Channel 1	M*	1	1 = Min Udr 2 = Min Ovr 3 = Maj Udr 4 = Maj Ovr 5-33 = Absolute value bits (no alarms to map)
		Channel 2	M*	2	
		Channel 3	M*	3	
		Channel 4	M*	4	
		Channel 5	M*	5	
		Channel 6	M*	6	
		Channel 7	M*	7	
		Channel 8	M*	8	
16 Channel Analog Expansion Card in KDA 864 Base and KDA 864 Time-Stamp Base		Channel 1	M*	1	1 = Min Udr 2 = Min Ovr 3 = Maj Udr 4 = Maj Ovr 5-33 = Absolute value bits (no alarms to map)
		Channel 2	M*	2	
		Channel 3	M*	3	

*When using KDA versions earlier than 2.1, M = N+2 and L = N=2. In versions 2.1 and later,, M and L can be any address not already assigned to another device.

Table 11.F - Mapping in KDA Remotes (continued)

Remote			T/MonXM		
Device	**Product**	**Points**	**Address**	**Display**	**Point**
16 Channel Analog Expansion Card in KDA 864 Base and KDA 864 Time-Stamp Base		Channel 4	M*	4	1 = Min Udr 2 = Min Ovr 3 = Maj Udr 4 = Maj Ovr 5-33 = Absolute value bits (no alarms to map)
		Channel 5	M*	5	
		Channel 6	M*	6	
		Channel 7	M*	7	
		Channel 8	M*	8	
		Channel 9	M*	9	
		Channel 10	M*	10	
		Channel 11	M*	11	
		Channel 12	M*	12	
		Channel 13	M*	13	
		Channel 14	M*	14	
		Channel 15	M*	15	
		Channel 16	M*	16	
TBOS / ASCII (7 Port Serial) Expansion Card in KDA 864 Base		ASCII Ports 1,2, 3	M*		
		TBOS Port 4	L*	1-8	1-64 in each display
		TBOS Port 5	L*	9-16	
		TBOS Port 6	L*	17-24	
		TBOS Port 7	L*	25-32	
		TBOS Device Failure	L*	65	See Table 11.H
KDA 864 Time-Stamp	Base	Alarms 1-64	N	1	1-64
		Controls 1-64	N	33	1-8
		Housekeeping	N		See Table 11.G
	16 Channel Analog Expansion Card in Base Unit	See above mapping information for Analog Card in KDA 864 Base			
	LR-24 Relay Expansion in Base	Controls 1-24	M*	1	1-24
	Satellite 1	Alarms 1-64	N	2	1-64
		Controls 1-3	N	34	1-8
		Satellite 1 Failure	N	33	25
	LR-24 in Satellite 1	Controls 1-24	N	5	1-24
	Satellite 2	Alarms 1-64	N	3	1-64
		Controls 1-8	N	35	1-8
		Satellite 2 Failure	N	33	26
	LR-24 in Satellite 2	Controls 1-24	N	6	1-24

* When using KDA versions earlier than 2.1, M = N+2 and L = N=2. In versions 2.1 and later,, M and L can be any address not already assigned to another device.

Table 11.F - Mapping in KDA Remotes (continued)

Remote			T/MonXM		
Device	**Product**	**Points**	**Address**	**Display**	**Point**
KDA 864 Time-Stamp	Satellite 3	Alarms 1-64	N	4	1-64
		Controls 1-8	N	36	1-8
		Satellite 3 Failure	N	33	27
	LR-24 in Satellite 3	Controls 1-24	N	7	1-24
KDA 832-T8	Base TBOS	Port 1, Displays 1-8	N	1-8	1-64 in each display
		Port 2, Displays 1-8	N	9-16	
		Port 3, Displays 1-8	N	17-24	
		Port 4 Displays 1-8	N	25-32	
		TBOS Device Failure	N	65	See Table 11.H
		Port 5, Displays 1-8	N	33-40	1-64 in each display
		Port 6, Displays 1-8	N	41-48	
		Port 7, Displays 1-8	N	49-56	
		Port 8, Displays 1-8	N	57-64	
		TBOS Device Failure	N	66	See Table 11.H
	Base	Alarms 1-64	N	69	1-64
		Controls 1-8	N	73	1-8
		Housekeeping	N	81	See Table 11.G
	Satellite 1	Alarms 1-64	N	70	1-64
		Controls 1-8	N	74	1-8
		Housekeeping	N	82	See Table 11.G
	Satellite 2	Alarms 1-64	N	71	1-64
		Controls 1-8	N	75	1-8
		Housekeeping	N	83	See Table 11.G
	Satellite 3	Alarms 1-64	N	72	1-64
		Controls 1-8	N	76	1-9
		Housekeeping	N	84	See Table 11.G
	LR-24 Relay Card in Base	Controls 1-24	N	77	1-24
	LR-24 Relay Card in Satellite 1	Controls 1-24	N	78	1-24
	LR-24 Relay Card in Satellite 2	Controls 1-24	N	79	1-24
	LR-24 Relay Card in Satellite 3	Controls 1-24	N	80	1-24

Table 11.G - Housekeeping Alarms (applies to all KDA Remotes with housekeeping alarms)

Point	Alarm Description
33	Power up
34	Watchdog reset
35	Points are locked
36	Lost provisioning
37	Memory diagnostic failed
38	CPU diagnostic failed
39	Expansion card error
40	Reserved
41	Modem not responding
42	No dial tone
43	Time stamp queue overflow

Table 11.H - TBOS Device Failures

TBOS Display at Remote			T/MonXM Alarm Point		
Device	TBOS Port	Displays	Address	Display	Point**
4-Port Expansion in KDA 864 Base or KDA 832-T8 Base	1	1-8	M*	65	1-8
	2	1-8			9-16
	3	1-8			17-24
	4	1-8			25-32
8-Port Expansion in KDA 864 Base or KDA 832-T8 Base	1	1-8	M*	65	1-8
	2	1-8			9-16
	3	1-8			17-24
	4	1-8			25-32
	5	1-8	L*	65	1-8
	6	1-8			9-16
	7	1-8			17-24
	8	1-8			25-32
TBOS/ASCII Expansion	4	1-8	L*	65	1-8
	5	1-8			9-16
	6	1-8			17-24
	7	1-8			25-32

Note: Table 11.H continues on the following page.

* When using KDA versions earlier than 2.1, M = N+1 and L = N+2. In version 2.1 and later, M and L can be any address not already assigned to another device.

** Failure of TBOS Port 2, Display 1 is reported at Point 1; port 1, Display 2 at Point 2;....;Port 2 Display 1 at Point 9; Port 2, Display 2 at Point 10, etc.

Table 11.H - TBOS Device Failures (continued)

TBOS Display at Remote			T/MonXM Alarm Point		
Device	**TBOS Port**	**Displays**	**Address**	**Display**	**Point****
KDA 832-T8	1	1-8	N	65	1-8
	2	1-8			9-16
	3	1-8			17-24
	4	1-8			25-32
	5	1-8		66	1-8
	6	1-8			9-16
	7	1-8			17-24
	8	1-8			25-32

* When using KDA versions earlier than 2.1, M = N+1 and L = N+2. In version 2.1 and later, M and L can be any address not already assigned to another device.

** Failure of TBOS Port 2, Display 1 is reported at Point 1; port 1, Display 2 at Point 2;....;Port 2 Display 1 at Point 9; Port 2, Display 2 at Point 10, etc.

TBOS Protocol

Alarms received on ports that are set for TBOS are reported directly as received, display-for-display and point-for-point. A port defined as TBOS accepts a maximum of 8 displays (512 points).

Table 11.I - Base KDA 864 Device Failure Alarms

Display	Point	Meaning
33	25	Failure in Satellite 1
	26	Failure in Satellite 2
	27	Failure in Satellite 3
	31	Failure in Expansion Card
	32	Failure in Expansion Card, Address #2 (8-port TBOS card only)

Modular Alarm System

Table 11.J refers to display mapping in Modular Alarm System devices.

Table 11.I - Mapping in Modular Alarm System

Remote			T/MonXM		
Device	**Product**	**Points**	**Address**	**Display**	**Point**
MAS 46009 MAT	Modular Alarm Transmitter (400Type)	Alarms 1-32	N	1	1-32
		Controls 1-4	N	33	1-4
		Acknowledge	N	33	31
		Reset	N	33	32
MAS 46028 CPM	Control Processing Module (400 Type)	Alarms 1-8	N	1	1-8
		Controls 1-4	N	33	1-16
		Acknowledge	N	33	31
		Reset	N	33	32
MAS 46030 ADC	16 Channel Analog Card (400 Type)	Channels 1-16	N	1-16	1 = Min Udr 2 = Min Ovr 3 = Maj Udr 4 = Maj Ovr 5-33 = Absolute value bits (no alarms to map)
MAS 46040	TBOS Collector (400 Type)	Port 1, Displays 1-8	N	1-8	1-64**
		Port 2, Displays 1-8	N	9-16	1-64**
		Port 3, Displays 1-8	N	17-24	1-64**
		Port 4, Displays 1-8	N	25-32	1-64**
		Port 5, Displays 1-8	N	33-40	1-64**
		Port 6, Displays 1-8	N	41-48	1-64**
		Port 7, Displays 1-8	N	49-56	1-64**
		Port 8, Displays 1-8	N	57-64	1-64**

** Bit 64 indicates a TBOS communications failure.

Protection Switch

Tables 10.K refers to display mapping in Protection Switch units.

Table 11.K - Mapping in Protection Switch

Remote			T/MonXM		
Device	Product	Points	Address	Display	Point
Protection Switch		Primary System Online	241-246	1	1
		Secondary System Online	241-246	1	2

NetMediator T2S

Tables 10.L-10.Q refer to NetMediator T2S remotes.

Table 11.L - Display mapping in NetMediator T2S

DISPLAY	DESCRIPTION	SNMP TRAP #	
		SET	CLEAR
1	BASE ALARMS	8001–8064	9001–9064
2	PING TARGET ALARMS	8065–8128	9065–9128
3–10	ANALOG CHANNEL 1..8	8129–8640	9129–9640
11	RELAY/HOUSEKEEPING	8641–8704	9641–9704
12	EXPANSION 1 ALARMS	6001–6064	7001–7064
13	EXPANSION 1 RELAY/HOUSEKEEPING	6065–6128	7065–7128
14	EXPANSION 2 ALARMS	6129–6192	7129–7192
15	EXPANSION 2 RELAY/HOUSEKEEPING	6129–6192	7129-7162
16	EXPANSION 3 ALARMS	6256–6320	7256–7320
17	EXPANSION 3 RELAY/HOUSEKEEPING	6321–6384	7321–7384
18–25	TBOS PORT 1 DISPLAYS 1–8	10001–10512	11001–11512
26–33	TBOS PORT 2 DISPLAYS 1–8	12001–12512	13001–13512
34–41	TBOS PORT 3 DISPLAYS 1–8	14001–14512	15001–15512
42–49	TBOS PORT 4 DISPLAYS 1–8	16001–16512	17001–17512
50–57	TBOS PORT 5 DISPLAYS 1–8	18001–18512	19001–19512
58–65	TBOS PORT 6 DISPLAYS 1–8	20001–20512	21001–21512
66–73	TBOS PORT 7 DISPLAYS 1–8	22001–22512	23001–23512
74–81	TBOS PORT 8 DISPLAYS 1–8	24001–24512	25001–25512

Table 11.M - Relay/Housekeeping Alarm Mapping in NetMediator T2S

POINTS	DESCRIPTION	SNMP TRAP #S	
		SET	CLEAR
1	RELAYS	8641	9641
2	RELAYS	8642	9642
3	RELAYS	8643	9643
4	RELAYS	8644	9644
5	RELAYS	8645	9645
6	RELAYS	8646	9646
7	RELAYS	8647	9647
8	RELAYS	8648	9648
17	TIMED TICK	8657	9657
18	EXP. MODULE CALLOUT	8658	9658
19	NETWORK TIME SERVER	8659	9659
33	UNIT RESET	8673	9673
36	LOST PROVISIONING	8676	9676
37	DCP POLLER INACTIVE	8677	9677
38	LAN NOT ACTIVE	8678	9678
41	MODEM NOT RESPONDING	8681	9681
42	NO DIAL TONE	8682	9682
43	SNMP TRAP NOT SENT	8683	9683
44	PAGER QUE OVERFLOW	8684	9684
45	NOTIFICATION FAILED	8685	9685
46	CRAFT RCVQ FULL	8686	9686
47	MODEM RCVQ FULL	8687	9687
48	DATA 1 RCVQ FULL	8688	9688
49	DATA 2 RCVQ FULL	8689	9689
50	DATA 3 RCVQ FULL	8690	9690
51	DATA 4 RCVQ FULL	8691	9691
52	DATA 5 RCVQ FULL	8692	9692
53	DATA 6 RCVQ FULL	8693	9693
54	DATA 7 RCVQ FULL	8694	9694
55	DATA 8 RCVQ FULL	8695	9695
56	NETGUARDIAN DX 1 FAIL	8696	9696
57	NETGUARDIAN DX 2 FAIL	8697	9697
58	NETGUARDIAN DX 3 FAIL	8698	9698
59	GLD 1 FAIL	8699	9699
60	GLD 2 FAIL	8700	9700
61	GLD 3+ FAIL	8701	9701
62	CHAN. PORT TIMEOUT	8702	9702
63	CRAFT TIMEOUT	8703	9703
64	EVENT QUE FULL	8704	9704

Table 11.N - MDR-4000E DS-3 point descriptions in NetMediator T2S

PT #	MDR-4000E DS-3	PT #	MDR-4000E DS-3
1	A COMMON LOSS ALARM	33	A COMBINER ALARM
2	A COMMON POWER SUPPLY	34	A CHANNEL FAIL
3	A RF TRANSMIT POWER ALARM	35	A RADIO FRAME LOSS
4	A PA POWER SUPPLY	36	A EYE CLOSURE
5	A TRANSMIT LO LOCK	37	A RECEIVER DS3 FAIL
6	A ATPC HIGH POWER	38	A WS DS1 RECEIVER ALARM
7	A TRANSMIT DS3 FAIL	39	NOT USED
8	A DS1 INPUT ALARM	40	A SYNC LOSS
9	B COMMON LOSS ALARM	41	B COMBINER ALARM
10	B COMMON POWER SUPPLY	42	B CHANNEL FAIL
11	B RF TRANSMIT POWER ALARM	43	B RADIO FRAME LOSS
12	B PA POWER SUPPLY	44	B EYE CLOSURE
13	B TRANSMIT LO LOCK	45	B RECEIVER DS3 FAIL
14	B ATPC HIGH POWER	46	B DS1 RECEIVER ALARM
15	B TRANSMIT DS3 FAIL	47	NOT USED
16	B DS1 INPUT ALARM	48	B SYNC LOSS
17	A TRANSMIT ON LINE	49	RECEIVER ON LINE
18	A TRANSMIT SERVICE CHANNEL	50	A RECEIVER SERVICE CHANNEL
19	ONLINE	51	ONLINE
20	A ATPC ACTIVE	52	A WS DS1 ON LINE
21	A AIS DETECT	53	A AIS DETECT
22	TRANSMIT OVERRIDE	54	PCA LOCKOUT
23	SWITCH OFF NORMAL	55	A ATPC DOWN COMMAND
24	COMMAND PATH FAIL	56	A ATPC UP COMMAND
25	CONTROLLER ALARM	57	RECEIVER OVERRIDE
26	B TRANSMIT ON LINE	58	B RECEIVER ON LINE
27	B TRANSMIT SERVICE CHANNEL ON	59	B RECEIVER SERVICE CHANNEL
28	LINE	60	ONLINE
29	B ATPC ACTIVE	61	B WS DS1 ON LINE
30	B AIS DETECT	62	B AIS DETECT
31	WS DS1 LOOPBACK LINE 1	63	PCA LOCKIN
32	WS DS1 LOOPBACK LINE 2	64	B ATPC DOWN COMMAND

Table 11.O - MDR-6000 alarm point descriptions in NetMediator T2S

PT #	MDR-6000	RELAY	PT #	MDR-6000	RELAY
1	A-SIDE COMMON LOSS ALARM	NO/NC	34	A-SIDE CHANNEL FAIL	NO/NC
2	A-SIDE POWER SUPPLY	NO/NC	35	A-SIDE RADIO FRAME LOSS	NO/NC
3	A-SIDE RF TRANSMIT POWER	NO/NC	36	A-SIDE EYE CLOSURE	NO/NC
6	A-SIDE ATPC HIGH POWER	NO/NC	37	A-SIDE RADIO DADE	
7	A-SIDE DS1/E1 MUX ALARM	NO/NC	38	A-SIDE DS1/E1 DEMUX ALARM	NO/NC
8	A-SIDE DS1/E1 INPUT ALARM		39	A-SIDE AGC STATUS	NO/NC
9	B-SIDE COMMON LOSS ALARM	NO/NC	40	A-SIDE SYNC ALARM	NO/NC
10	B-SIDE POWER SUPPLY	NO/NC	41	B-SIDE PATH DISTORTION	
11	B-SIDE RF TRANSMIT POWER	NO/NC	42	B-SIDE CHANNEL FAIL	NO/NC
14	B-SIDE ATPC HIGH POWER	NO/NC	43	B-SIDE RADIO FRAME LOSS	NO/NC
15	B-SIDE DS1/E1 MUX ALARM	NO/NC	44	B-SIDE EYE CLOSURE	NO/NC
16	B-SIDE DS1/E1 INPUT ALARM		45	B-SIDE RADIO DADE	
17	A-SIDE TRANSMIT ON LINE	NO/NC	46	B-SIDE DS1/E1 DEMUX ALARM	NO/NC
19	TRANSMIT OVERRIDE		47	B-SIDE AGC STATUS	NO/NC
20	A-SIDE ATPC ACTIVE		48	B-SIDE SYNC LOSS	NO/NC
21	PREVIOUS SECTION		49	A-SIDE RECEIVE ON LINE	NO/NC
22	SWITCH OFF-NORMAL	NO/NC	50	A-SIDE I/O ON LINE	NO/NC
23	COMMAND PATH FAIL		51	RECEIVE OVERRIDE	
24	CONTROLLER ALARM	NO/NC	52	A-SIDE ATPC DOWN COMMAND	
25	B-SIDE TRANSMIT ON LINE	NO/NC	55	A-SIDE ATPC UP COMMAND	
27	B-SIDE ATPC ACTIVE		56	B-SIDE RECEIVE ON LINE	NO/NC
29	DS1/E1 LOOPBACK LINES 1-4		57	B-SIDE I/O ON LINE	NO/NC
30	DS1/E1 LOOPBACK LINES 5-8		59	I/O OVERRIDE	
31	DS1/E1 LOOPBACK LINES 9-12		62	B-SIDE ATPC DOWN COMMAND	
32	DS1/E1 LOOPBACK LINES 13-16		63	B-SIDE ATPC UP COMMAND	
33	A-SIDE PATH DISTORTION		64	COMM FAILURE	

Table 11.P - MDR-7000 descriptions in NetMediator T2S

PT #	MDR-7000	PT #	MDR-7000
1	A-SIDE COMMON LOSS ALARM	32*	DS1/E1 LOOPBACK LINES 13-16
2	A-SIDE IDU POWER SUPPLY	33	A-SIDE BER ALARM
3	A-SIDE RF TRANSMIT POWER	34	A-SIDE CARRIER UNLOCK
4	A-SIDE ODU POWER SUPPLY	35	A-SIDE RX RADIO FRAME LOSS
5	A-SIDE TRANSMIT BLOCK SYNC	36	A-SIDE TX RADIO FRAME LOSS
6	A-SIDE PROVISIONING ERROR	37	A-SIDE RADIO DADE
7	A-SIDE DS1/E1 MUX ALARM	38	A-SIDE DS1/E1 DEMUX ALARM
8	A-SIDE DS1/E1 INPUT ALARM	39	A-SIDE RECEIVE RSL ALARM
9	B-SIDE COMMON LOSS ALARM	40	A-SIDE SYNC LOSS
10	B-SIDE IDU POWER SUPPLY	41	B-SIDE BER ALARM
11	B-SIDE RF TRANSMIT POWER	42	B-SIDE CARRIER UNLOCK
12	B-SIDE ODU POWER SUPPLY	43	B-SIDE RX RADIO FRAME LOSS
13	B-SIDE TRANSMIT BLOCK SYNC	44	B-SIDE TX RADIO FRAME LOSS
14	B-SIDE PROVISIONING ERROR	45	B-SIDE RADIO DADE
15	B-SIDE DS1/E1 MUX ALARM	46	B-SIDE DS1/E1 DEMUX ALARM
16	B-SIDE DS1/E1 INPUT ALARM	47	B-SIDE RECEIVE RSL ALARM
17*	A-SIDE TRANSMIT ONLINE	48	B-SIDE SYNC LOSS
18	A-SIDE IF SYNTHESIZER	49*	A-SIDE RECEIVE ONLINE
19	TRANSMIT OVERRIDE	50	A-SIDE SUPERVISORY ALARM
20	A-SIDE ODU RF SYNTHESIZER	51	A-SIDE I/O ONLINE
21	PREVIOUS SECTION	52	RECEIVE OVERRIDE
22	SWITCH OFF-NORMAL	53	TEMPERATURE ALARM
23	COMMAND PATH FAIL	54	OPTION KEY ABSENT
24	CONTROLLER ALARM	55	DS3 ID MISMATCH
25*	B-SIDE TRANSMIT ONLINE	57*	B-SIDE RECEIVE ONLINE
26	B-SIDE IF SYNTHESIZER	58	B-SIDE SUPERVISORY ALARM
28	B-SIDE ODU RF SYNTHESIZER	59	B-SIDE I/O ONLINE
29*	DS1/E1 LOOPBACK LINES 1-4	60	I/O OVERRIDE
30*	DS1/E1 LOOPBACK LINES 5-8	61-63	NOT USED
31*	DS1/E1 LOOPBACK LINES 9-12	64	COMM FAILURE

Table 11.Q - MDR-8000 DS-3 point descriptions in NetMediator T2S

PT #	MDR-8000 DS-3	PT #	MDR-8000 DS-3
1	A COMMON LOSS ALARM	33	A COMBINER ALARM
2	A POWER SUPPLY ALARM	34	A CHANNEL FAIL
3	A PA POWER ALARM	35	A RADIO FRAME LOSS
4	A TRANSMIT POWER ALARM	36	A EYE CLOSURE
5	A PA POWER SUPPLY	37	A RECEIVER DS3 FAIL
6	A ATPC HIGH POWER	38	A WS DS1 RECEIVER ALARM
7	A WS DS1 TRANSMIT ALARM	39	A RECEIVE SIGNAL LEVEL ALARM
8	A WS DS1 TRANSMIT LOSS OF INPUT	40	A REPEATER SYNC ALARM
9	ALARM	41	B COMBINER ALARM
10	B COMMON LOSS ALARM	42	B CHANNEL FAIL
11	B POWER SUPPLY ALARM	43	B RADIO FRAME LOSS
12	B PA POWER ALARM	44	B EYE CLOSURE
13	B TRANSMIT POWER ALARM	45	B RECEIVER DS3 FAIL
14	B PA POWER SUPPLY	46	B WS DS1 RECEIVER
15	B ATPC HIGH POWER	47	B RECEIVE SIGNAL LEVEL ALARM
16	B WS DS1 TRANSMIT ALARM	48	B REPEATER SYNC ALARM
17	B WS DS1 TRANSMIT LOSS OF INPUT	49	A RECEIVER ON LINE
18	ALARM	50	A RECEIVER SERVICE CHANNEL
19	A TRANSMIT ON LINE	51	ON LINE
20	A PA TEMPERATURE ALARM	52	A I/O ON LINE
21	TRANSMIT OVERRIDE	53	RECEIVER OVERRIDE
22	A ATPC OFF NORMAL	54	A RECEIVER AIS DETECT
23	A TRANSMIT AIS DETECT	55	FAN ALARM
24	OFF NORMAL	56	A ATPC LOCKED LOW
25	RF COMMAND PATH ALARM	57	A ATPC LOCKED HIGH
26	CONTROLLER POWER ON RESET	58	B RECEIVER ONLINE
27	B TRANSMIT ON LINE	59	B RECEIVER SERVICE CHANNEL
28	B PA TEMPERATURE ALARM	60	ON LINE
29	A ATPC OFF NORMAL	61	B I/O ON LINE
30	B TRANSMIT AIS DETECT	62	I/O OVERRIDE
31	WS DS1 LOOPBACK LINE 1	63	B RECEIVER AIS DETECT
32	WS DS1 LOOPBACK LINE 2	64	B ATPC LOCKED LOW

Table 11.R - MDR-8000 DS-1 point descriptions in NetMediator T2S

PT #	MDR-8000 DS-1	PT #	MDR-8000 DS-1
1	A COMMON LOSS ALARM	33	A PATH DISTORTION
2	A POWER SUPPLY ALARM	34	A CHANNEL FAIL
3	A PA POWER ALARM	35	A RADIO FRAME LOSS
4	A TRANSMIT POWER ALARM	36	A EYE CLOSURE
5	A PA POWER SUPPLY	37	A TERMINAL SYNC ALARM
6	A ATPC HIGH POWER	38	A DS1 RECEIVER ALARM
7	A WS DS1 TRANSMIT ALARM	39	A RECEIVE SIGNAL LEVEL ALARM
8	A WS DS1 TRANSMIT LOSS OF INPUT	40	A REPEATER SYNC ALARM
9	ALARM	41	B PATH DISTORTION
10	B COMMON LOSS ALARM	42	B CHANNEL FAIL
11	B POWER SUPPLY ALARM	43	B RADIO FRAME LOSS
12	B PA POWER ALARM	44	B EYE CLOSURE
13	B TRANSMIT POWER ALARM	45	B TERMINAL SYNC ALARM
14	B PA POWER SUPPLY	46	B DS1 RECEIVER ALARM
15	B ATPC HIGH POWER	47	B RECEIVE SIGNAL LEVEL ALARM
16	B WS DS1 TRANSMIT ALARM	48	B REPEATER SYNC ALARM
17	B WS DS1 TRANSMIT LOSS OF INPUT	49	A RECEIVER ON LINE
18	ALARM	50	NOT USED
19	A TRANSMIT ON LINE	51	A I/O ON LINE
20	A PA TEMPERATURE ALARM	52	RECEIVER OVERRIDE
21	TRANSMIT OVERRIDE	53	NOT USED
22	A ATPC OFF NORMAL	54	FAN ALARM
23	PREVIOUS SECTION ALARM	55	A ATPC LOCKED LOW
24	OFF NORMAL	56	A ATPC LOCKED HIGH
25	RF COMMAND PATH ALARM	57	B RECEIVER ONLINE
26	CONTROLLER POWER ON RESET	58	NOT USED
27	B TRANSMIT ON LINE	59	B I/O ON LINE
28	B PA TEMPERATURE ALARM	60	I/O OVERRIDE
29	A ATPC OFF NORMAL	61	NOT USED
30	DAD E ALARM	62	B ATPC LOCKED LOW
31	DS1 LOOPBACK LINE 1 - 4	63	B ATPC LOCKED HIGH
32	DS1 LOOPBACK LINE 5 - 8	64	COMM FAILURE

Table 11.S - JungleMux point descriptions in NetMediator T2S

PT #	JungleMux	PT #	JungleMux
1	NODE A MINOR	33	NODE B MINOR
2	NODE A SYNC/L	34	NODE B SYNC/L
3	NODE A MAJOR	35	NODE B MAJOR
4	NODE A POWER	36	NODE B POWER
5	NODE A CHAN/L	37	NODE B CHAN/L
6	NODE A JMUX/L	38	NODE B JMUX/L
7	NODE A SPE/L	39	NODE B SPE/L
8	NODE A AIS/L	40	NODE B AIS/L
10	NODE A SYNC/R	42	NODE B SYNC/R
13	NODE A CHAN/R	45	NODE B CHAN/R
14	NODE A JMUX/R	46	NODE B JMUX/R
15	NODE A SPE/R	47	NODE B SPE/R
16	NODE A AIS/R	48	NODE B AIS/R
32	NOT USED	64	COMM FAILURE

Table 11.T - Multiplex Lynx SC point descriptions in NetMediator T2S

PT #	Multiplex Lynx SC	PT #	Description
1	MODEL ID MSB	33	LINE CODE CH1
2	MODEL ID LSB+2	34	LINE CODE CH2
3	MODEL ID LSB+1	35	LINE CODE CH3
4	MODEL ID LSB	36	LINE CODE CH4
5	NOT USED	37	FAR-END ADDRESS INVALID
6	CHANNEL ID MSB	38	FAR-END ADDRESS MSB
7	CHANNEL ID LSB	39	FAR-END ADDRESS LSB+1
8	CHANNEL ID TX (HIGH/LOW)	40	FAR-END ADDRESS LSB
9	RADIO FAIL	41	NEAR-END RSL MSB
10	AIS OUT	42	NEAR-END RSL MSB-1
11	FAN	43	NEAR-END RSL MSB-2
12	RX SYNC	44	NEAR-END RSL MSB-3
13	LOOPBACK ERROR	45	NEAR-END RSL MSB-4
14	BER	46	NEAR-END RSL MSB-5
15	FAR END	47	NEAR-END RSL MSB-6
16	TELEMETRY DOWN	48	NEAR-END RSL MSB-7
17	DATA LOSS CH 1	49	NEAR-END TX MSB
18	DATA LOSS CH 2	50	NEAR-END TX MSB-1
19	DATA LOSS CH 3	51	NEAR-END TX MSB-2
20	DATA LOSS CH 4	52	NEAR-END TX MSB-3
21	DATA LOSS DISABLE CH 1	53	NEAR-END TX MSB-4
22	DATA LOSS DISABLE CH 2	54	NEAR-END TX MSB-5
23	DATA LOSS DISABLE CH 3	55	NEAR-END TX MSB-6
24	DATA LOSS DISABLE CH 4	56	NEAR-END TX MSB-7
25	LOOPBACK SOURCE	57	DUAL FAN FAIL
26	LOOPBACK ERROR MODE	58	TX SYNC UNLOCK
27	LOOPBACK CH1 ENABLE	59	RX SYNC UNLOCK
28	LOOPBACK CH2 ENABLE	60	INPUT LINEAR DRIVER
29	LOOPBACK CH3 ENABLE	61	DIGITAL HARDWARE
30	LOOPBACK CH4 ENABLE	62	NOT USED
31	AIS DISABLED	63	NOT USED
32	BRIDGE DISABLED	64	COMM FAILURE

NetGuardian 480

Table 11.U - Display Descriptions and SNMP Trap Numbers for the NetGuardian 480

Address	Display	Points	Description	Set	Clear
1	1	1-64	Discrete Alarms 1-64	8001-8064	9001-9064
1	2	1-16	Discrete Alarms 65-80	8065-8080	9065-9080
1	2	17-20	Relays 1-4	8081-8085	9081-9085
1	2	57-64	Housekeeping	8121-8128	9121-9128

Table A.1 Display descriptions and SNMP Trap numbers for the NetGuardian 480

The TRAP number ranges shown correspond to the point range of each display. For example, the SNMP Trap "Set" number for alarm 1 (in Display 1) is 8000, "Set" for alarm 2 is 8001, "Set" for alarm 3 is 8002, etc.

Table 11.V - Housekeeping Alarm Point Descriptions

			SNMP TRAP #s	
Disp	**Alarm Point**	**Description**	**Set**	**Clear**
2	17	Relays	8081	9081
2	18	Relays	8082	9082
2	19	Relays	8083	9083
2	20	Relays	8084	9084
2	21-56	Undefined*	8085-8120	9085-9120
2	57	Default Configuration	8121	9121
2	58	DIP Switch Config	8122	9122
2	59	MAC Address Not Set	8123	9123
2	60	IP Address Not Set	8124	9124
2	61	Net Hardware Error	8125	9125
2	62	SNMP Processing Error	8126	9126
2	63	SNMP Community Error	8127	9127
2	64	LAN Tx Packet Drop	8128	9128

Table A.2 Housekeeping alarm point descriptions

* "Undefined" indicates that the alarm point is not used.

NetGuardian 216T

Table 11.W - Display descriptions and SNMP Trap numbers for the NetGuardian 216T

Display	Description	Set	Clear
1	Discrete Alarms 1-16	8001-8032	9001-9032
2	Ping Table	8065-8096	9065-9096
3	Analog Channel 1**	8129-8132	9129-9132
4	Analog Channel 2**	8193-8196	9193-9196
5	Analog Channel 3**	8257-8260	9257-9260
6	Analog Channel 4**	8321-8324	9321-9324
7	Analog Channel 5–**Power Feed A****	8385-8388	9385-9388
8	Analog Channel 6–**Power Feed B****	8449-8452	9449-9452
9	Analog Channel 7–**Internal Temp Sensor****	8513-8516	9513-9516
10	Analog Channel 8–**External Temp Sensor****	8577-8580	9577-9580
11	Relays/System Alarms (See table below)	8641-8674	9641-9674
12	NetGuardian Expansion 1 Alarms 1-48	6001-6064	7001-7064
13	NetGuardian Expansion 1 Relays 1-8	6065-6072	7065-7072
14	NetGuardian Expansion 2 Alarms 1-48	6129-6177	7129-7177
15	NetGuardian Expansion 2 Relays 1-8	6193-6200	7193-7200
16	NetGuardian Expansion 3 Alarms 1-48	6257-6305	7257-7305
17	NetGuardian Expansion 3 Relays 1-8	6321-6328	7321-7328

*** The TRAP number ranges shown correspond to the point range of each display. For example, the SNMP Trap "Set" number for alarm 1 (in Display 1) is 8001, "Set" for alarm 2 is 8002, "Set" for alarm 3 is 8003, etc.**

**** The TRAP number descriptions for the Analog channels (1-8) are in the following order: minor under, minor over, major under, and major over. For example, for Analog channel 1, the "Set" number for minor under is 8129, minor over is 8130, major under is 8131, and major over is 8132.**

Table 11.W - Display 11 System Alarms point descriptions

		SNMP Trap #s	
Points	Description	Set	Clear
1	Relays	8641	9641
2	Relays	8642	9642
17	Timed Tick	8657	9657
19	Network Time Server	8659	9659
21	Duplicate IP Address	8661	9661
22	External Sensor Down	8662	9662
33	Unit Reset	8673	9673
36	Lost Provisioning	8676	9676
37	DCP Poller Inactive	8677	9677
38	T1 WAN Inactive	8678	9678
39	LAN Inactive	8679	9679
43	SNMP Trap not Sent	8683	9683
44	Pager Que Overflow	8684	9684
45	Notification failed	8685	9685
46	Craft RcvQ full	8686	9686
48	Data 1 RcvQ full	8688	9688
56	NetGuardian DX 1 fail	8696	9696
57	NetGuardian DX 2 fail	8697	9697
58	NetGuardian DX 3 fail	8698	9698
63	Craft Timeout	8703	9703
64	Event Que Full	8704	9704

Table 11.X - System Alarms Descriptions

Display	Points	Alarm Point	Description	Solution
11	17	Timed Tick	Toggles state at constant rate as configured by the Timed Tick timer variable. Useful in testing integrity of SNMP trap alarm reporting.	To turn the feature off, set the Timed Tick timer to 0.
	19	Network Time Server	Communication with Network Time Server has failed.	Try pinging the Network Time Server's IP address as it is configured. If the ping test is successful, then check the port setting and verify the port is not being blocked on your network.
	20	Accumulation Event	An alarm has been standing for the time configured under Accum. Timer. The Accumulation timer enables you to monitor how long an alarm has been standing despite system reboots. Only the user may reset the accumulated time; a reboot will not.	To turn off the feature, under Accum. Timer, set the display and point reference to 0.
	21	Duplicate IP Address	The unit has detected another node with the same IP Address.	Unplug the LAN cable and contact your network administrator. Your network and the unit will most likely behave incorrectly. After assigning a correct IP address, reboot the unit to clear the System alarm.
	22	External Sensor Down	External Sensor is not active	Check to see if External Sensor cable is properly connected.
	33	Unit Reset	The unit has just come online. The set alarm condition is followed immediately by a clear alarm condition.	Seeing this alarm is normal if the unit is powering up.
	36	Lost Provisioning	The internal NVRAM may be damaged. The unit is using default configuration settings.	Use Web or Edit216T to configure the unit. Power the cycle to see if the alarm goes away. May require RMA.

Note: Table 11.X continues on next page

Display	Points	Alarm Point	Description	Solution
11	37	DCP Poller Inactive	The unit has not seen a poll from the Master for the time specified by the DCP Timer setting.	If DCP responder is not being used, then set the DCP Unit ID to 0. Otherwise, try increasing the DCP timer setting under Timers, or check how long it takes to cycle through the current polling chain on the Master system.
	38	T1 WAN not active	T1 WAN port is down.	Check LAN/WAN cable. Ping to and from the unit.
	39	Ethernet not active	Ethernet LAN ports are down.	
	40	LNK Alarm	Hardware failure between integrated Ethernet Hub and the unit.	
	43	SNMP Trap not Sent	SNMP trap address is not defined and an SNMP trap event occurred.	Define the IP address where you would like to send SNMP trap events, or configure the event not to trap.
	44	Pager Que Overflow	Over 250 events are currently qued in the pager que and are still trying to report.	Check for failed notification events that may be filling up the pager queue. There may be a configuration or communication problem with the notification events.
	45	Notification failed	A notification event, like a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems.
	46	Craft RcvQ full	The Craft port received more data than it was able to process.	Disconnect whatever device is connected to the craft serial port. This alarm should not occur.
	48	Data 1 RcvQ full	Data port 1 receiver filled with 8 K of data.	Check proxy connection. The serial port data may not be getting collected as expected.
	56	NetGuardian DX 1 fail	NGDdx 1 Fail (Expansion shelf 1 communication link failure)	Under Ports>Options, verify the number of configured NGDdx units. Use EXP filter debug and port LEDs to help diagnose the problem. Use of DB9M to DB9M will null crossover for cabling. Verify the DIP addressing on the back of the NGDdx unit
	57	NetGuardian DX 2 fail	NGDdx 2 Fail (Expansion shelf 2 communication link failure)	
	58	NetGuardian DX 3 fail	NGDdx 3 Fail (Expansion shelf 3 communication link failure)	
	63	Craft Timeout	The Craft Timeout Timer has not been reset to the specified time. This feature is designed so other machines may keep the TTY link active. If the TTY interface becomes unavailable to the machine, then the Craft Timeout alarm is set.	Change the Craft Timeout Timer to 0 to disable the feature.
	64	Event Que Full	The Event Que is filled with more than 500 uncollected events.	Enable DCP timestamp polling on the master so events are collected, or reboot the system to clear the alarm.

NetGuardian 16S

Table 11.Y - NetGuardian 16S Alarm Map

			SNMP Trap #s	
Description	**Display**	**Points**	**Set**	**Clear**
NetGuardian-16S Base Unit				
Discrete Alarms	1	1-32	8001–8032	9001–9032
Ping Alarms	2	1-32	8065–8096	9065–9096
Control Relays	11	1-8	8641–8648	9641–9648
System Alarms 9–15	11	9-15	8649–8655	9649–9655
System Alarms 33–50	11	33-50	8673–8690	9673–9690
NetGuardian Expansion #1				
Discrete Alarms	12	1-48	6001–6064	7001–7064
Control Relays	13	1-8	6065–6072	7065–7072
NetGuardian Expansion #2				
Discrete Alarms	14	1-48	6129–6177	7129–7177
Control Relays	15	1-8	6193–6200	7193–7200
NetGuardian Expansion #3				
Discrete Alarms	16	1-48	6257–6305	7257–7305
Control Relays	17	1-8	6321–6328	7321–7328

Note: Table 11.Z - System alarm descriptions on next page

Point	System Alarm	Description
9	Modem not Responding	Modem not responding to initialization string
10	No Dialtone	Dial tone not detected during dial-out attempt
11	Pager Que Overflow	Over 250 unsent events in pager queue
12	Pager Notify Failed	Attempted pager notification unsuccessful
13	Callout Que Overflow	Over 8 unsent calls in Voice Call Out queue
14	Callout Notify Failed	Attempted Voice Call Out unsuccessful
15	Exp. Module Callout	Alarm collected from Entry Control Unit (ECU)
33	Unit Reset	Toggles whenever unit reboots
34	Lost Provisioning	Unit using default configuration settings. NVRAM may be damaged
35	Intra-communication Fail	Communications failure between the NetGuardian-16S's two circuit boards
36	Private LAN not Active	Ethernet link not detected on Private port
37	Public LAN not Active	Ethernet link not detected on Public port
38	Duplicate Private IPA	Unit detects another node with same IP address as the Private port
39	Duplicate Public IPA	Unit detects another node with same IP address as the Public port
40	DCP Poller Inactive	Unit has not received poll from T/Mon for longer than DCP Timer period set by system administrator
41	DCP Event Que Full	More than 500 uncollected events in DCP event queue
42	SNMP Trap not Sent	SNMP trap address is not defined and an SNMP Trap event occurred
43	Network Time Server	Communication to network time server failure
44	BSU Standalone Mode	Communication with CopperControler failure and BSU enters Standalone Mode.
45	Serial Rcv Overflow	UART hardware overflowed during receive
46	Serial Rcv Que Full	Alarm set when any data port is filled with more than 16K of information
47	Timed Tick	Toggles state at constant rate set by Timed Tick period configured by system administrator
48	Channel Port Timeout	Channel port has not forwarded any traffic for longer than Channel Port Timeout period set by system administrator
49	Craft Port Timeout	Craft Timeout Timer has not been reset in the period set by system administrator
50	NGDdx Expansion Fail	Communication to NetGuardian Expansion unit(s) failure

BAS for NetGuardian

Table 12.A - N2 Mapping (BAS Device) **Note:** See next table for specific ECU mapping

Display	Mapping	Display	Mapping	Display	Mapping
1	Internal	7	ECU 5	13	ECU 11
2	Internal	8	ECU 6	14	ECU 12
3	ECU1	9	ECU 7	15	ECU 13
4	ECU 2	10	ECU 8	16	ECU 14
5	ECU 3	11	ECU 9	17	ECU 15
6	ECU 4	12	ECU 10	18	ECU 16

Table 12.B - ECU Mapping

Point	Description	Mode
1-8	Unused	N/A
9	Door Sensor (Opto 1)	Status**
10	Motion Sensor (Opto 2)	Status**
11	Opto 3 sensor	Status**
12	Door violation alarm	Status
13-16	Unused	N/A
17	Door strike active (relay #1)	Status/Control * **
18	Relay #2 active	Status/Control * **
19	Hack lockout	Status
20	Exit password OK	Status**
21	Propped-Door Mode active	Status/Control*
22	Stay-Open Door or Extended Propped-Door Mode active	N/A
23	Unused	N/A
24	Speaker active	Status**
25-61	Unused	N/A
62	ECU is using defaults	Status
63	ECU enabled	Status**
64	ECU polling error (device failure)	Status

*** When using controls from alarm masters, only issue the momentary (MOM) commands**

**** DPS recommends these alarms be set to “No Log” and “No History” in T/Mon point setup**

RAB 176N

Table 12.C - Display Descriptions and SNMP Trap Numbers for the RAB 176N

Display	Description	Set	Clear
1	Discrete Alarms 1-64	8001-8064	9001-0964
2	Discrete Alarms 65-128	8065-8128	9065-9128
3	Discrete Alarms 129-175	8129-8175	9129-9175
3	Relays/System Alarms (See Table Below)	8176-8191	9176-9191

The TRAP number ranges shown correspond to the point range of each display. For example, the SNMP Trap "Set" number for alarm 1 (in Display 1) is 8000, "Set" for alarm 2 is 8001, "Set" for alarm 3 is 8002, etc.

Table 12.D- Housekeeping Alarm Point Descriptions

Points	Description	Set	Clear
49	Relays	8176	9176
50	Relays	8177	9177
51	Relays	8178	9178
52	Relays	8179	9179
53	Relays	8180	9180
54	Relays	8181	9181
55	Relays	8182	9182
56	Relays	8183	9183
57	Default Configuration	8184	9184
58	DIP Switch Config	8185	9185
59	MAC Address Not Set	8186	9186
60	IP Address Not Set	8187	9187
61	Net Hardware Error	8188	9188
62	SNMP Processing Error	8189	9189
63	SNMP Community Error	8190	9190
64	LAN Tx Packet Drop	8191	9191

NetDog-82IP G2

Table 12.E- Display Descriptions and SNMP Trap Numbers for the NetDog G2

Display	Description	Set	Clear
1	Discrete Alarms 1-8	8001-8008	9001-9008
2	Ping Table	8065-8096	9065-9096
3	Analog Channel 1**	8129-8132	9129-9132
4	Analog Channel 2**	8193-8196	9193-9196
5	Internal Temp. Sensor*	8257-8260	9257-9260
6	External Temp. Sensor*	8321-8324	9321-9324
7	Reserved	8385-8388	9385-9388
8	Reserved	8449-8452	9449-9452
9	Reserved	8513-8516	9513-9516
10	Reserved	8577-8580	9577-9580
11	Relays/System Alarms (See Table Below)	8641-8704	9641-9704

* The TRAP number ranges shown correspond to the point range of each display. For example, the SNMP Trap “Set” number for alarm 1 (in Display 1) is 8001, “Set” for alarm 2 is 8002, “Set” for alarm 3 is 8003, etc.

** The TRAP number descriptions for the Analog channels (1-8) are in the following order: minor under, minor over, major under, major over. For example, for Analog channel 1, the “Set” number for minor under is 8129, minor over is 8130, major under is 8131, and major over is 8132.

Table 12.F- Display 11 System Alarms Point Descriptions

		SNMP Trap #s	
Points	**Description**	**Set**	**Clear**
1	Relays	8641	9641
2	Relays	8642	9642
17	Timed Tick	8657	9657
19	Network Time Server	8659	9659
21	Duplicate IP Address	8661	9661
33	Power Up	8673	9673
36	Lost Provisioning	8676	9676
37	DCP Poller Inactive	8677	9677
38	LAN not active	8678	9678
41	Modem not responding	8681	9681
42	No Dial Tone	8682	9682
43	SNMP Trap not Sent	8683	9683
44	Pager Que Overflow	8684	9684
45	Notification failed	8685	9685
46	Craft RcvQ full	8686	9686
47	Modem RcvQ full	8687	9687
63	Craft Timeout	8703	9703
64	Event Que Full	8704	9704

See Table 12.G “System Alarms Display Map” for detailed descriptions of the NetDog’s system alarms.

Table 12.G- System Alarms Display Map and Descriptions

Display	Points	Alarm Point	Description	Solution
11	17	Timed Tick	Toggles state at constant rate as configured by the Timed Tick timer variable. useful in testing integrity of SNMP trap alarm reporting.	To turn feature off, set the Timed Tick timer to 0.
	19	Network Time Server	Communication with Network Time Server has failed.	Try pinging the Network Time Server's IP address as it is configured. If the Ping test is successful, then check the port setting and verify the port is not being blocked on your network.
	20	Accumulation Event	An alarm has been standing for the time configured under Accu. Timer. The Accumulation timer enables you to monitor how long an alarm has been standing despite system reboots. Only the user may rest the accumulated time, a reboot will not.	To turn off the feature, under the Accum. Timer, set the display and point reference to 0.
	21	Duplicate IP Address	The unit has detected another node with the same IP address.	Unplug the LAN cable and contact your network administrator. Your network and the unit will most likely behave incorrectly. After assigning a correct IP Address, reboot the unit to clear the System alarm.
	33	Power Up	The unit has just come online. The set alarm condition is followed immediately by a clear alarm condition.	Seeing this alarm is normal if the unit is powering up.
	36	Lost Provisioning	The internal NVRAM may be damaged. The unit is using default configuration settings.	Use Web or latest version of NG Edit4 to configure unit. Power cycle to see if alarm goes away. May require RMA.

Table 12.G continues on the following page

Table 12.G (continued)- System Alarms Display Map and Descriptions

Display	Points	Alarm Point	Description	Solution
11	37	DCP Poller Inactive	The unit has not seen a poll from the Master for the time specified by the DCP timer setting	If DCP responder is not being used, then set the DCP Unit ID to 0. Otherwise, try increasing the DCP timer setting under timers, or check how long it takes to cycle through the current polling chain on the Master system.
	38	NET1 not active	The Net1 LAN port is down	Check LAN cable. Ping to and from the unit.
	39	NET2 not active	The Net2 LAN port is down	
	40	LNK Alarm	No network connection detected	
	41	Modem not responding	An error has been detected during modem initialization. The modem did not respond to the initialization string.	Remove configured modem initalization string, then power cycle the unit. If alarm persists, try resetting the Modem port from the TTY interface, or contact DPS for possible RMA.
	42	No Dial Tone	During dial-out attempt, the unit did not detect a dial tone.	Check the integrity of the phone line and cable.
	43	SNMP Trap not sent	SNMP trap address is not defined and an SNMP trap event occurred.	Define the IP Address where you would like to send SNMP trap events, or configure the event not to trap.
	44	Pager Queue Overflow	Over 250 events are currently queued in the pager queued and are still trying to report	Check for failed notification events that may be filling up the pager queue. There may be a configuration or communication problem with the notification events.
	45	Notification failed	A notification event, like a page or email, was unsuccessful.	Use RPT filter debug to help diagnose notification problems
	46	Craft RcvQ full	The Craft port received more data than it was able to process.	Disconnect whatever device is connected to the craft serial port. This alarm should not occur.
	47	Modem RcvQ full	The modem port received more data than it was able to process.	Check what is connecting to the NetDog. This alarm should not occur.
	63	Craft Timeout		
	64	Event Queue full	The Event Queue is filled with more than 500 uncollected events	Enable DCP timestamp polling on the master so events are collected, or reboot the system to clear the alarm.

Larse 1200/Badger RTU

Table 12.G- Display Map and Descriptions

Display	Point	Description
1	1-32	Discrete Alarms
2	1	Analog- Channel 1 Minor Over
2	2	Analog- Channel 1 Minor Under
2	3	Analog- Channel 1 Major Under
2	4	Analog- Channel 1 Major Over
2	5-64	Analog Data- Channel 1
3	1	Analog- Channel 2 Minor Over
3	2	Analog- Channel 2 Minor Under
3	3	Analog- Channel 2 Major Under
3	4	Analog- Channel 2 Major Over
3	5-64	Analog Data- Channel 2
4	1	Analog- Channel 3 Minor Over
4	2	Analog- Channel 3 Minor Under
4	3	Analog- Channel 3 Major Under
4	4	Analog- Channel 3 Major Over
4	5-64	Analog Data- Channel 3
17	1	Analog- Channel 16 Minor Over
17	2	Analog- Channel 16 Minor Under
17	3	Analog- Channel 16 Major Under
17	4	Analog Channel 16 Major Over
17	5-64	Analog Data- Channel 16
18	1-32	Relay Status (Base 1-16, Expansion 17-32)

Note: Badger is the same except without Display 18-34

Table 12.G (cont.) - Display Map and Descriptions

Display	Point	Description
19	1	Analog - Channel 17 Minor Over
19	2	Analog - Channel 17 Minor Under
19	3	Analog - Channel 17 Major Under
19	4	Analog - Channel 17 Major Over
19	5-64	Analog Data - Channel 17
20	1	Analog - Channel 18 Minor Over
20	2	Analog - Channel 18 Minor Under
20	3	Analog - Channel 18 Major Under
20	4	Analog - Channel 18 Major Over
20	5-64	Analog Data - Channel 18
34	1	Analog - Channel 32 Minor Over
34	2	Analog - Channel 32 Minor Under
34	3	Analog - Channel 32 Major Under
34	4	Analog - Channel 32 Major Over
34	5-64	Analog Data - Channel 32

DPM/DCM

Table 12.H- DPM Display Map

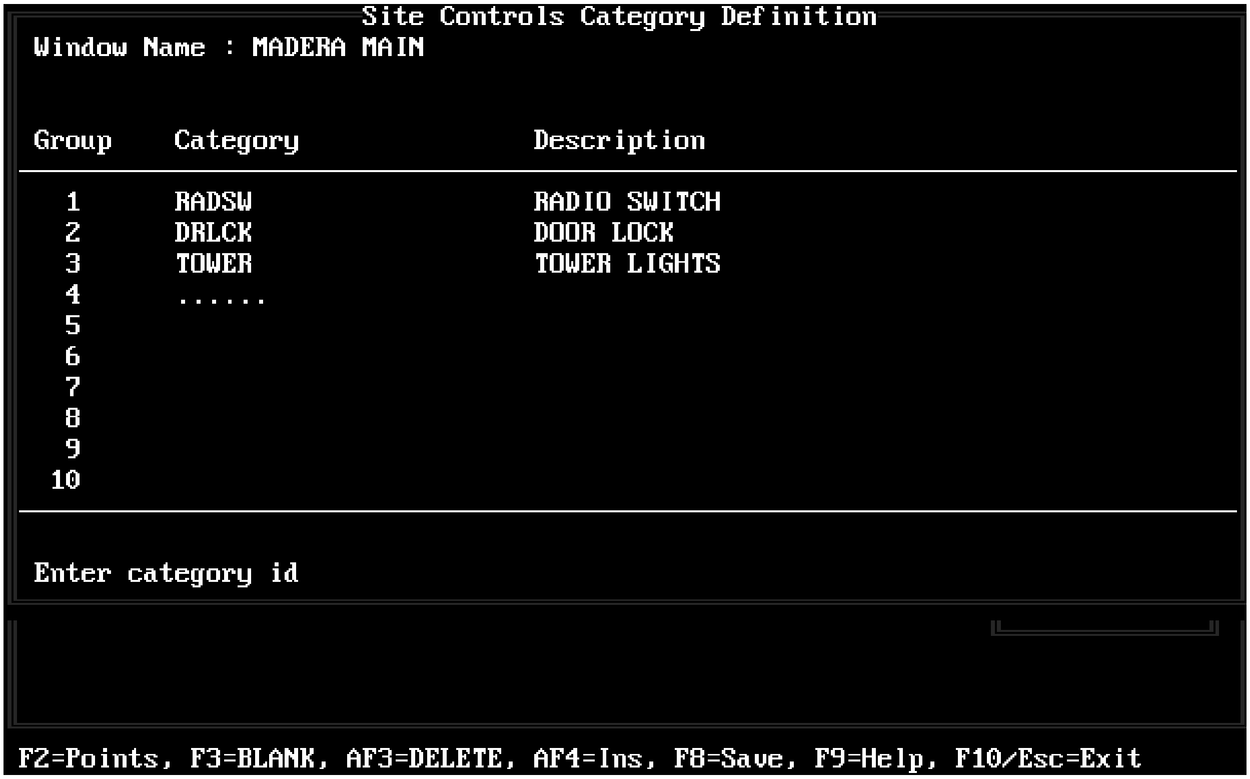
Display*	Points	Description
1	1	Discrete Point
	2	Discrete Point
	3	Discrete Point
	4	Discrete Point
	5	Discrete Point
	6	Discrete Point
	7	Discrete Point
	8	Discrete Point
	9	Discrete Point
	10	Discrete Point
	11	Discrete Point
	12	Discrete Point
	13	Discrete Point
	14	Discrete Point
	15	Discrete Point
	16	Discrete Point
33	17	Control/Relay
	18	Control/Relay

Note: The DPM and DCM 216 use the DCP protocol and require display information shown.

Table 12.I- DCM Display Map

Display	Points	Description
1	1	Control/Relay
	2	Control/Relay
	3	Control/Relay
	4	Control/Relay
	5	Control/Relay
	6	Control/Relay
	7	Control/Relay
	8	Control/Relay
	9	Control/Relay
	10	Control/Relay
	11	Control/Relay
	12	Control/Relay
	13	Control/Relay
	14	Control/Relay
	15	Control/Relay
	16	Control/Relay
33	17	Discrete Point
	18	Discrete Point

Section 12 - Configure Controls



```
                    Site Controls Category Definition
 Window Name : MADERA MAIN


 Group    Category               Description

   1      RADSW                  RADIO SWITCH
   2      DRLCK                  DOOR LOCK
   3      TOWER                  TOWER LIGHTS
   4      ......
   5
   6
   7
   8
   9
  10


 Enter category id




F2=Points, F3=BLANK, AF3=DELETE, AF4=Ins, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. 12.1 - The site controls category definition screen.

Site Controls

Site controls are operated from the Monitor Mode, see Section 16 for more information.

The Site Controls Definition function is accessed while in the Window Definition screen by pressing F4. They allow you to define English look-up tables that can be accessed from Monitor Mode for operating control equipment within the alarm network. Site controls are normally assigned to each equipment site window that has control points. This makes it easy to quickly select the right control since you are only selecting from one site as opposed to the whole network. The fact that these controls can be initiated by referring to an English table instead of cryptically (DCPF Address, Display, etc.), makes it easier for the end user to work with the system and less likely to cause inadvertent error.

T/MonXM provides three methods of operating control points at RTU's: Site Controls, Labeled Controls and Derived Controls. Site Controls, described here, are operated through windows, by site or other window category. Labeled Controls, are very similar to site controls, but are operated from a type of control grouping rather than from a site window. Derived controls are automatically operated by T/MonXM from user-defined formulas that evaluate certain alarm points to determine if an automatic control point operation is appropriate. See description of derived controls in this section.

Refer to Figure 12.2 for an illustrated explanation of the differences between Site Controls and Labeled Controls.

Site Controls are issued in the Monitor Mode by selecting a site window and pressing F8. The Site controls Category table for the site appears. Highlight the desired category and press Enter. The Control Point table for that category at that site then appears. To operate the point, highlight the point and press Enter. Follow instructions in the Controls window at the lower left corner. Press F10/Esc when done.

Site Controls are a privileged area and users must be granted access in order to issue controls. This is done in the System Users window.

The Site Controls Definition section consists of two input screens, the Site Controls Category Definition screen (Figure 12.1) and the Control Point Definition screen (Figure 12.3.

You can define up to 40 categories of control points. Each category can consist of up to 200 control point entries. before you can define a control point entry you must define a category. Enter a category name and description, then go on to Control Point Definition.

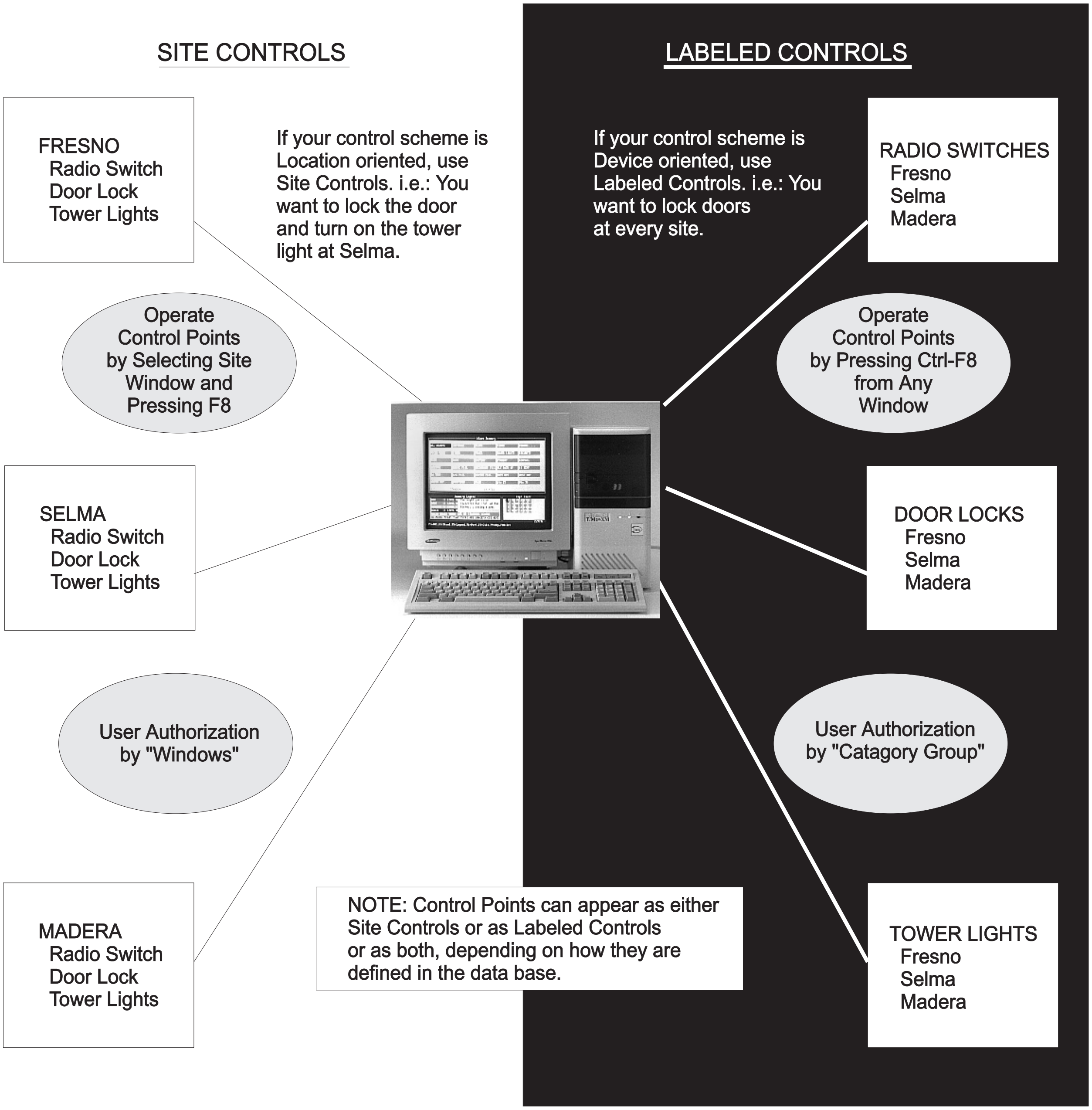
Note: System Security provides security lockouts on Site Controls by Windows, not by category group or control point entries. Keep this in mind when setting up your control categories and the control point entries under them. See Table 12.A.

Table 12.A - Fields in the Site Controls Category Definition screen

Field	Description
Category	A six-character title for the category.
Description	The description for the category.

Table 12.B - Key commands available in the Site Controls Category Definition screen

Function Key	Description
F2	Move to the Control Point Definition screen.
F3	Blank - Deletes current category entry and control point definitions for the category. Leaves an open line. Control Point Definitions deleted in this way cannot be recovered by using F10 or Esc.
Alt-F3	Delete - Deletes entry N and its points. Moves all other lines up.
Alt-F4	Inserts an undefined point above cursor.
F8	Save point definitions and return to polling list.
F9	Save the category database.
F10/Esc	Exit.



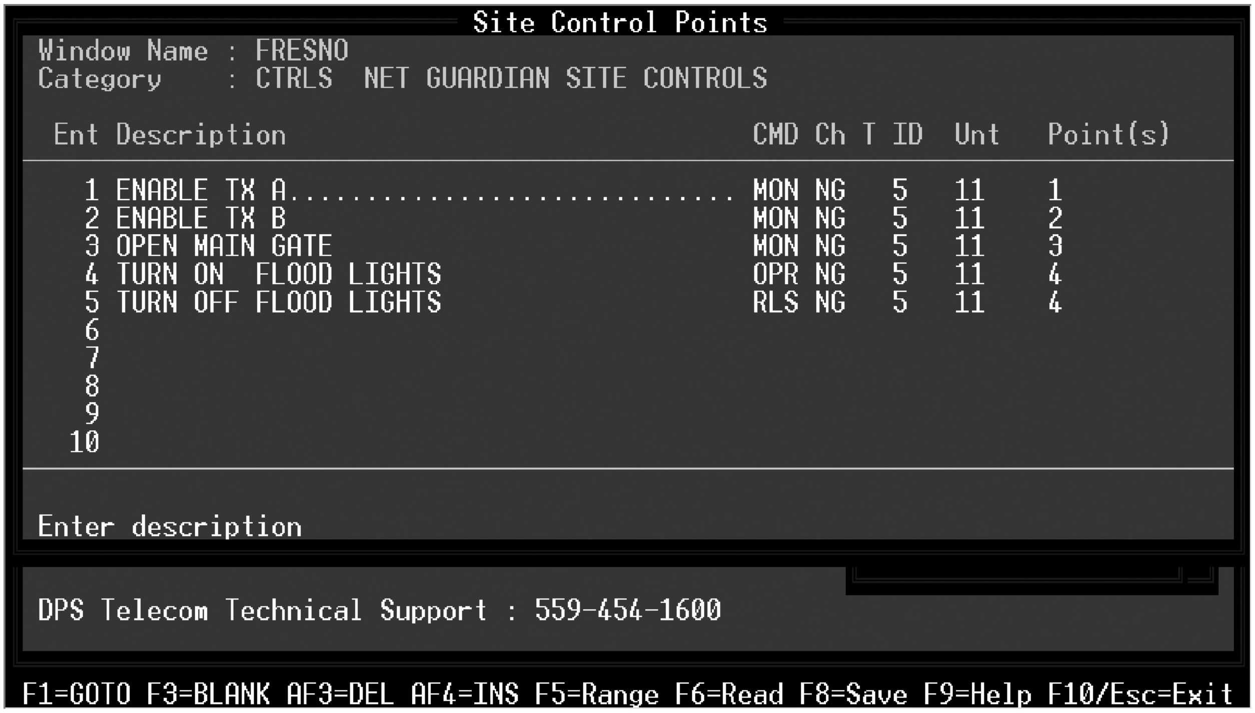
If your control scheme is Location oriented, use Site Controls. i.e.: You want to lock the door and turn on the tower light at Selma.

If your control scheme is Device oriented, use Labeled Controls. i.e.: You want to lock doors at every site.

NOTE: Control Points can appear as either Site Controls or as Labeled Controls or as both, depending on how they are defined in the data base.

Fig. 12.2 - The differences between site controls and labeled controls

Note: Site controls are the most commonly used method among T/Mon users.



```
                           Site Control Points
Window Name : FRESNO
Category    : CTRLS  NET GUARDIAN SITE CONTROLS

 Ent Description                                CMD Ch T ID  Unt   Point(s)

   1 ENABLE TX A............................   MON NG   5   11    1
   2 ENABLE TX B                                MON NG   5   11    2
   3 OPEN MAIN GATE                             MON NG   5   11    3
   4 TURN ON  FLOOD LIGHTS                      OPR NG   5   11    4
   5 TURN OFF FLOOD LIGHTS                      RLS NG   5   11    4
   6
   7
   8
   9
  10

Enter description

DPS Telecom Technical Support : 559-454-1600

F1=GOTO F3=BLANK AF3=DEL AF4=INS F5=Range F6=Read F8=Save F9=Help F10/Esc=Exit
```

Fig. 12.3 - Point definition screen

Control Point Definition

The Control Points Definition screen is used to define the control points for Site Controls.

Table 12.C - Fields in the Control Point Definition screen

Field	Description
Ent	The entry number within the group selected (200 entries per group).
Description	The description of the control points. Up to 40 characters

CMD	The command to be sent to the control point.
	OPR = OPERATE RELAY
	RLS = RELEASE RELAY
	MON = MOMENTARY ON
	MOF = MOMENTARY OFF
	SOP = SBO Operate*
	SRL = SBO Release*
	SMO = SBO Momentary On*
	EXE = SBO Execute*
	CLR = SCO Clear All*

*SBO = Select before operate. This method of control point operation offers extra security by requiring two operator steps before the point actually operates. The desired operation (SOP, SRL, SMO or CLR) is specified and a response from the remote is displayed, indicating that the point is “selected.” Then the EXE command is sent to perform the specified operation. Another use of SBO is to operate several control points simultaneously. The desired control points are “selected” at the remote and one execute command operates all at the same time. This is useful in controlling functions that must occur together, such as channel switching.	

Table 12.C - Fields in the Control Point Definition screen (continued)

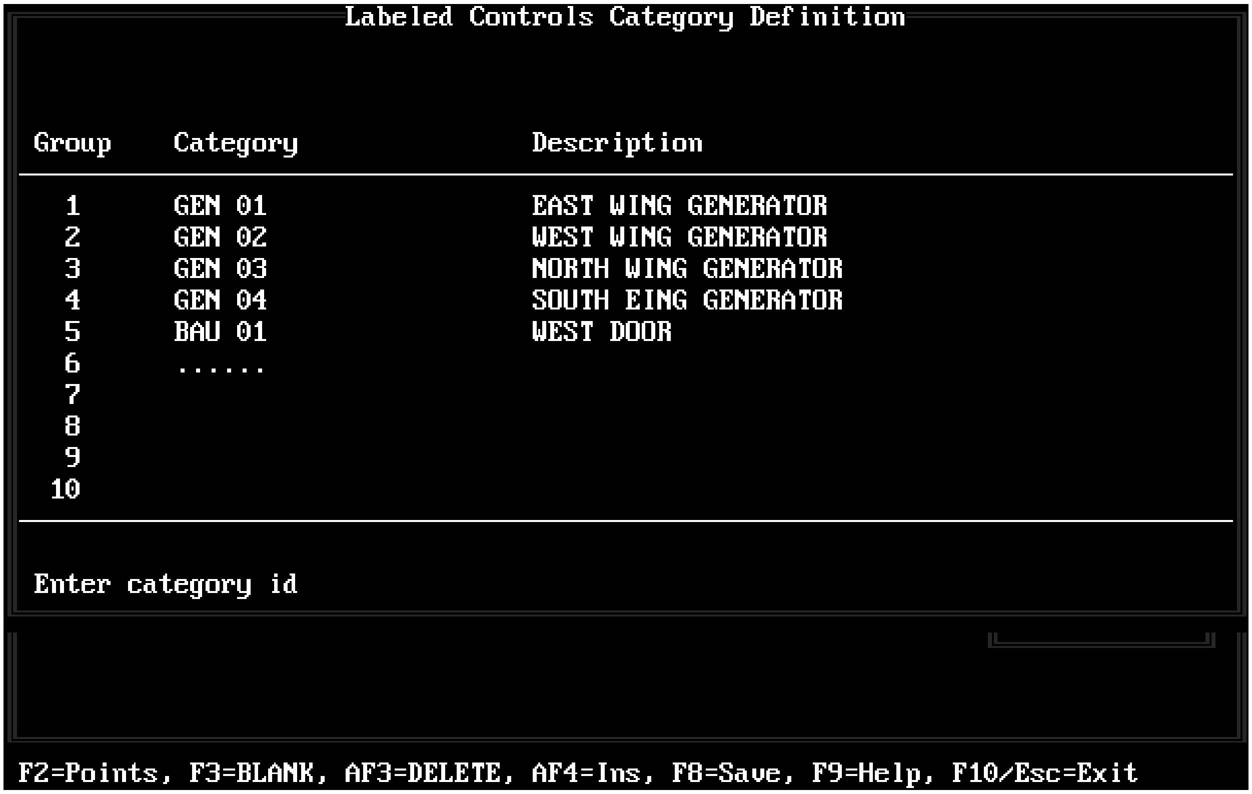
Field	Description

Ch	Channel Number.
	NG = NetGuardians
	N2 = Building Access System
	K1 = VIRTUAL PORT (base and satellite KDAs with relay exp. card)
	K2 = VIRTUAL PORT (relay and other expansion cards in base KDAs)
	RP = REMOTE PORT (Modem port)
	RC = RELAY CARD (102 card - local controls only)
	AV = AUDIO/VISUAL CARD (108 Card -Only relays 9-12 can be used.)
	1-29 = Port Number.
	IAM Users - Relays 9-12 are not available on IAM.

D	Device Type. This field is selected only when the selected port is defined for DCM protocol. Selections are: C = CPM S = SBP (Smart Bypass Card -Used only with the Building Access Unit. Three controls may be user-defined for a BAU. See the BAU Operation Guide for details.)
Add	The device address. Valid range is 1-999. This field is skipped when the selected port has been defined for TBOS protocol.
Unt	Unit. The Display (1-64) in which the control points reside. This field is skipped when the selected port has been defined for DCM protocol.
Points	A control point or range of control points that you wish to operate. Ranges may be entered using dashes and/or commas (no spaces). Valid control point ranges may be from 1-64.

Table 12.D - Key commands available in the (Site) Control Point Definition screen

Function Key	Description
F1	Moves the cursor to a selected entry point.
F3	Blank - Deletes current point entry. Leaves an open line. Control Points deleted in this way cannot be recovered by using F10 or Esc.
Alt-F3	Delete - Deletes entry and moves all other lines up.
Alt-F4	Insert - Moves current line down one group and inserts a blank line.
F6	Read - Read points from window___, Group____. Enter window number to read from (1-720, or 0 for labeled controls)
F8	Saves the control point entries and returns to the Site Controls Category Definition screen.
F9	Displays help for this screen.
F10/Esc	Exit or return to start of line.



```
                     Labeled Controls Category Definition

 Group    Category                Description
 ------------------------------------------------------------------------------
   1      GEN 01                  EAST WING GENERATOR
   2      GEN 02                  WEST WING GENERATOR
   3      GEN 03                  NORTH WING GENERATOR
   4      GEN 04                  SOUTH EING GENERATOR
   5      BAU 01                  WEST DOOR
   6      ......
   7
   8
   9
  10
 ------------------------------------------------------------------------------

 Enter category id

F2=Points, F3=BLANK, AF3=DELETE, AF4=Ins, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. 12.4 - The labeled controls category definition screen

Labeled Controls Definition

The Labeled Controls Definition function is accessed by selecting Labeled Controls from the File Maintenance Menu. Labeled Controls allow you to define English look-up tables that can be accessed from Monitor Mode for operating control equipment within the alarm network.* The fact that these controls can be initiated by referring to an English table instead of cryptically (DCPF Address, Display, etc.), makes it easier for the end user to work with the system and less likely to cause inadvertent error.

T/MonXM provides three methods of operating control points at RTUs: Site Controls, Labeled Controls and Derived Controls. Site Controls are operated through windows, by site or other window category. Labeled Controls, described here, are very similar to site controls, but are operated from a type of control grouping rather than from a site window. Derived controls are automatically operated by T/MonXM from user-defined formulas that evaluate certain alarm points to determine if an automatic control point operation is appropriate.

* Labeled controls are assigned to equipment types (radio switches, door locks, tower lights) rather than site windows. This makes it easy to control similar devices across the network without having to move between site windows.

A higher level of system security can be assigned to the use of Labeled Controls because of the grouping structure with which they are built. Control groups can be setup with system security arrangements so that accessibility is on a user-by-user basis.

Labeled Controls are easily operated in the Monitor Mode by pressing Ctrl F8 regardless of which site window is highlighted. The Labeled Controls Category table for the entire system appears. Highlight the desired group/category and press Enter. The control point table for that group/category over the entire system then appears (see Figure 12.4). The point is operated by highlighting the desired point and pressing Enter. Follow instructions in the controls window at the lower left corner of the screen. Press Esc/F10 when done.

Refer to Section 16 - Monitor Mode for details on operating labeled controls.

The Labeled Controls Definition section consists of two input screens. The first screen (see Figure 12.4) is the Labeled Controls Category Definition screen and control points are defined on the second screen, the Control Point Definition screen (see Figure 12.5).

Before operating Labeled Controls authorize the System User to operate controls. This is done in the System Users definition.

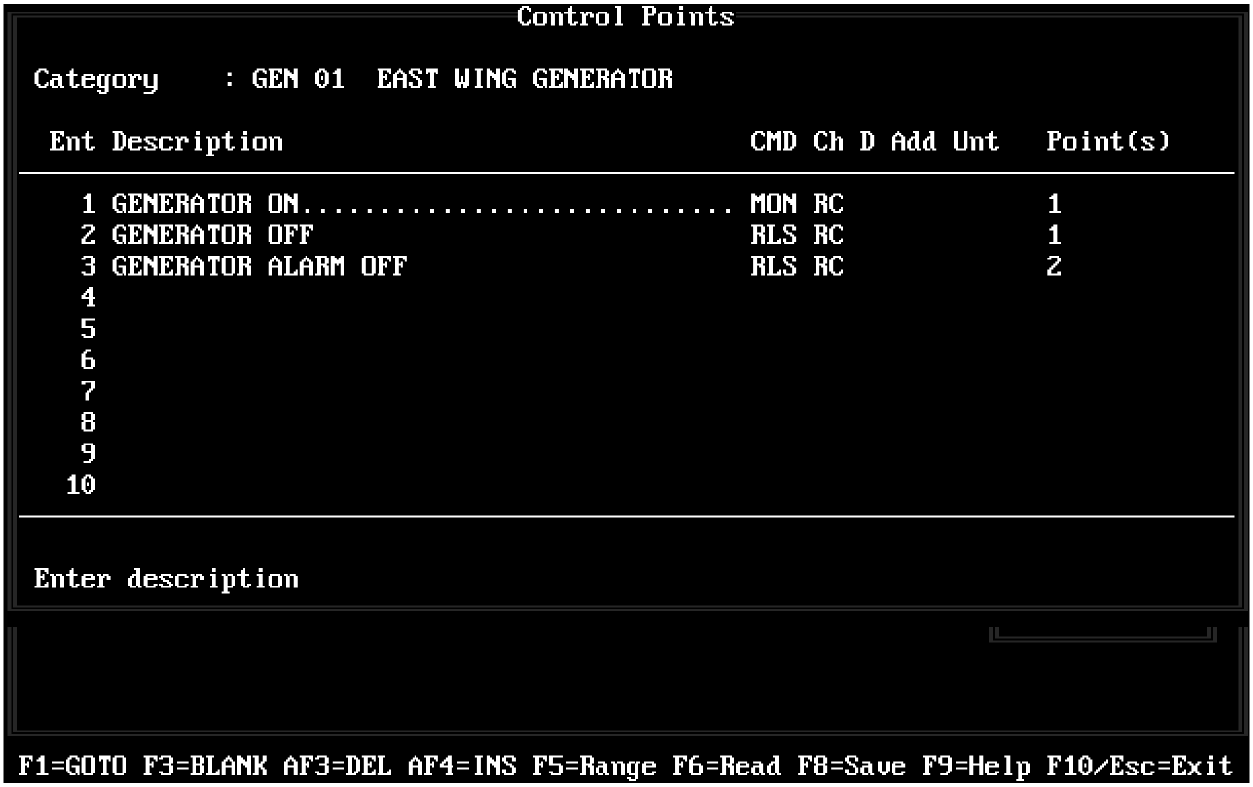
You can define up to 40 categories of control groups. Each group can consist of up to 200 control point entries. In order to define a control point entry you must first define a category. Defining a category requires that you Enter a category name and description. After you’ve done this you can go on to Control Point Definition.

Note: System Security provides security lockouts on Labeled Controls by Category not by control point entries. Keep this in mind when setting up your control categories and the control point entries under them. (See Table 12.A.*)*

Refer to Figure 12.2 for an illustrated explanation of the differences between Labeled Controls and Site Controls.

Table 12.E - Key commands available in the Labeled Controls Category Definition screen

Function Key	Description
F2	Go to the Control Point Definition screen (see Figure 12.5) for the category that the cursor is on.
F3	Blank - Deletes the current category entry. Also deletes any control point definitions for the category. **Note:** Control Point Definitions deleted in this way cannot be recovered by exiting the screen using F10 or Esc.
Alt-F3	Delete - Deletes entry and moves all other lines up.
Alt-F4	Insert - Moves current line down one group and inserts a blank line.
F8	Save the category database.
F9	Displays help for this screen.
F10/Esc	Exit.



```
                                Control Points

 Category    : GEN 01  EAST WING GENERATOR

  Ent Description                             CMD Ch D Add Unt   Point(s)
 ─────────────────────────────────────────────────────────────────────────
    1 GENERATOR ON............................ MON RC             1
    2 GENERATOR OFF                            RLS RC             1
    3 GENERATOR ALARM OFF                      RLS RC             2
    4
    5
    6
    7
    8
    9
   10
 ─────────────────────────────────────────────────────────────────────────

 Enter description

F1=GOTO F3=BLANK AF3=DEL AF4=INS F5=Range F6=Read F8=Save F9=Help F10/Esc=Exit
```

Fig. 12.5 - The control point definition screen

Control Point Definition Screen

The Control Points Definition screen is used to define the control points for Labeled Controls. See Figure 12.5, Table 12.F, and Table 12.G.

Table 12.F - Fields in the (Labeled) Control Points Definition screen

Field	Description
Ent	The entry number within the group selected (200 entries per group).
Description	The description of the control points. Up to 40 characters

CMD	The command to be sent to the control point.
	OPR = OPERATE RELAY
	RLS = RELEASE RELAY
	MON = MOMENTARY ON
	MOF = MOMENTARY OFF
	SOP = SBO Operate*
	SRL = SBO Release*
	SMO = SBO Momentary On*
	EXE = SBO Execute*
	CLR = SCO Clear All*
	*See Table 12.C for an explanation of the SBO Commands.

Table 12.F - Fields in the (Labeled) Control Points Definition screen (continued)

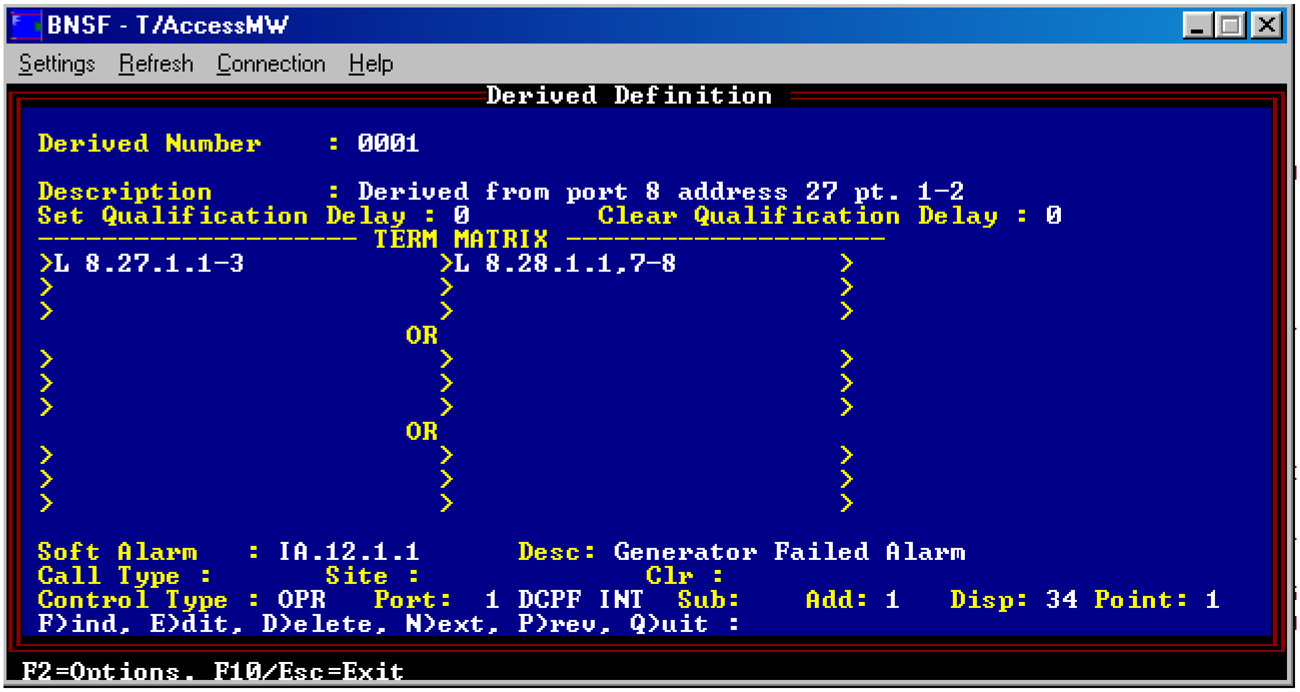
Field	Description

Ch	Channel Number.
	NG = NetGuardians
	N2 = Building Access System
	K1 = VIRTUAL PORT (base and satellite KDAs with relay exp. card)
	K2 = VIRTUAL PORT (relay and other expansion cards in base KDA's)
	RP = REMOTE PORT (Modem port)
	RC = RELAY CARD (102 card - local controls only)
	AV = AUDIO/VISUAL CARD (108 Card -Only relays 9-12 can be used.)
	1-29 = Port Number.
	IAM Users - Relays 9-12 are not available on AV Card.

D	Device Type. This field is selected only when the selected port is defined for DCM protocol. Selections are: C = CPM S = SBP (Smart Bypass Card - Used only with the Building Access Unit. Three controls may be user-defined for a BAU. See the BAU Operation Guide for details.)
Add	The device address. Valid range is 1-999. This field is skipped when the selected port has been defined for TBOS protocol.
Unt	Unit. The Display (1-64) in which the control points reside. This field is skipped when the selected port has been defined for DCM protocol.
Points	A control point or range of control points that you wish to operate. Ranges may be entered using dashes and/or commas. Valid control point ranges may be from 1-64.

Table 12.G - Key commands Available in the (Labeled) Control Point Definition screen

Function Key	Description
F1	Moves the cursor to a selected entry point.
F3	Blank - Deletes current point entry. Leaves an open line. Control Points deleted in this way cannot be recovered by using F10 or Esc.
Alt-F3	Delete - Deletes entry and moves all other lines up.
Alt-F4	Insert - Moves current line down one group and inserts a blank line.
F8	Saves the control point entries and returns to the Site Controls Category Definition screen.
F9	Displays help for this screen.
F10/Esc	Exit or return to start of line.



```
                         Derived Definition

Derived Number     : 0001

Description        : Derived from port 8 address 27 pt. 1-2
Set Qualification Delay : 0       Clear Qualification Delay : 0
-------------------- TERM MATRIX --------------------
>L 8.27.1.1-3              >L 8.28.1.1,7-8              >
>                          >                            >
>                          >                            >
                        OR
>                          >                            >
>                          >                            >
>                          >                            >
                        OR
>                          >                            >
>                          >                            >
>                          >                            >

Soft Alarm    : IA.12.1.1       Desc: Generator Failed Alarm
Call Type :          Site :              Clr :
Control Type : OPR    Port:  1 DCPF INT  Sub:    Add: 1    Disp: 34 Point: 1
F>ind, E>dit, D>elete, N>ext, P>rev, Q>uit :

F2=Options, F10/Esc=Exit
```

Fig. 12.6 - The derived alarm definition screen

Derived Alarms/ Controls

Derived Alarms allow you to take the alarm status of various other alarm points and feed them into an equation to develop a virtual alarm. Based on that, you can declare an alarm or issue a control or do both. Derived Alarms process alarms by using three sections of OR statements. If either of the three sections of OR statements are true then the alarm is considered true. Within each of the OR statements there are up to nine fields. Every field listed in that section is put together using the AND statement. For example, on the Derived Definition screen shown in Figure 12.6 you will note the following equation in the Term Matrix:

```
>L 8.27.1.1-3          >L 8.28.1.7,8
```

Devices must be defined before entering them in an equation.

A derived equation can trigger an alarm, control or both.

The alarms to be evaluated are live (standing) alarms at port 8, address 27, display 1, points 1 or 2 or 3 and at port 8, address 28, display 1, points 1, 7 or 8. The condition is considered true (alarm state) if both sides of the statement are true (alarm state). You can use up to 9 statements but only two are shown here. Any set of OR statements can have elements from both Live or COS alarms. Live must be currently in the standing alarms list. COS must be currently in the unacknowledged alarms list.

The example screen also defines the Soft alarm that is to occur:

```
Soft Alarm      : IA.12.1.1...
```

Soft alarms are User Defined Internal alarms at address 11 thru 13.

When a derived alarm is determined from this equation, the soft alarm will produce a User Defined Internal Alarm at Port IA address 12, display 1, point 1.

The bottom of the Derived Definition screen (see Figure 12.6), defines the control to be issued. Shown are the following settings: Control Type:OPR Port: 2 DCPF INT Add: 1 Disp: 34 Point: 1

When this equation evaluates true, T/MonXM will issue that control. When the condition is no longer true, then T/MonXM will issue the inversion of that control. In this situation, a release (RLS) control would be issued instead of an operate (OPR) control. If it originally issued a momentary (Mon) control it would issue another momentary control.

Equations can also be cascaded. The Soft Alarm that you set can in turn be used as an input into another equation.

Example application of derived alarms:
For example, a power failure alarm might not be a critical alarm, nor a low backup battery. But it is a critical situation if the power fails when the backup battery is low, and you can create a derived alarm, with a severity level of critical, that will occur in that situation. You can also create derived alarms that take time into account. For example, a exterior light failure alarm can be a minor alarm between 6 A.M. and 7 P.M., and a major alarm between 6 P.M. and 7 A.M.

Table 12.H- Fields in the Derived Definition screen

Field	Description
Description	Enter the description of the derived definition.
Set Qualification Delay	Time in minutes that is waited after the equation evaluates and remains true before the equation state is officially declared and actions are taken. [0]
Clear Qualification Delay	Time in minutes that is waited after the equation evaluates and remains false before the equation state is officially cleared and actions are taken. [0]
Term Matrix	Enter term. ({/}{L|C}{S} [Port|IA|RP].{SubDev}address.DispRng.PntRng). Ranges are allowed. See the following pages for a more detailed explanation of Derived Alarm syntax and term evaluation.
Soft Alarm	Internal alarm point to set when the equation evaluates true (or to clear when the equation evaluates false). (PORT.ADD.DISP.PNT) Ranges are not allowed. An asterisk can be used as a wild card in the address field only. This will correspond with an asterisk entered in the address field of the Term Matrix. This permits a derived alarm to work with ASCII Templates, which define common displays and points that can be applied across multiple addresses.
Soft Alarm Desc	Description of the Soft Alarm. Changing this field will alter the description of the User Internal Alarm Point. If the User Internal Alarm is not defined, then this field will default to the value of the Derived Alarm Description field.
Call Type	Call to make when soft alarm is set. Valid call types are: None: Don't call. DPM: Call a DPM (Discrete Point Module). ALP: Call an ALP (AlphaMax 82A). KDA: Call a KDA 864. KDA: Call a Time-Stamp KDA KDA: Call a KDA 832-T8 D10: Call a Datalok 10D. ASC: Call an ASCII device.

Table 12.H - Fields in the Derived Definition screen (continued)

Field	Description
Site	Site number specified in your dial up device. Only active if you are using a dial-up call. (Refer to Call Type.)
Clr	Call when equation clears. [N] (Refer to Call Type and Site.)
Control Type	Select the type of control (if any) to issue. Valid controls are: None: Don’t do anything. RLS: Release. OPR: Operate. MON: Momentary.
Port	This is the Port to issue command. [0]. Valid entries are: 1-500: Device on port 1-500. NG = NetGuardians N2 = Building Access System K1 = VIRTUAL PORT (base and satellite KDAs with relay exp. card) K2 = VIRTUAL PORT (relay and other expansion cards in base KDA’s) RP = REMOTE PORT (Modem port) RC = RELAY CARD (102 card - local controls only) AV = AUDIO/VISUAL CARD (108 Card -Only relays 9-12 can be used.) 1-29 = Port Number. IAM Users - Relays 9-12 are not available on AV Card.
Sub	Sub Device Type. Valid types are C (CPM) and S (SBP). (DCM only)
Add	Address of control. Valid addresses are protocol and device dependent.
Disp	Display of control. Valid displays are protocol and device dependent.
Point	Point of control. Valid points are protocol and device dependent.

Table 12.I - Key commands Available in the Derived Definition Screen

Function Key	Description
F1	Skips to the next term (group of OR statements) in the Term Matrix.
F2	Options - Issue momentary control on true only; Y/N?
F3	English translation of the term matrix
F6	Read. Load an existing display of alarm point definitions into the Internal Alarms Point Definition Screen. May be further edited.
F8	Saves the Derived Definition database.
F9	Online help.
F10/Esc	Exit.

Note: For aid in control point definition refer to the point mapping information in Section 10.

Defining Term Syntax - The syntax for creating a term is as follows:

```
{/} {L|C}  {S} PORT.ADDRESS.DISPLAY RANGE.POINT RANGE
or
TIME<HH:MM or TIME>HH:MM
or
DATE>MM–DD–YYYY or DATE<MM–DD–YYYY
or
{/}DAY={SUNDAY:MONDAY:TUESDAY:WEDNESDAY:THURSDA
Y:FRIDAY:
SATURDAY:WEEKDAYS:WEEKENDS}
```

Table 12.J - Rules for creating a term

Term	Definition
/	Logical Not. Reverses the state of the term evaluation.
L	All elements in the term evaluated from the Standing Alarms. (default)
C	Selected points in the term are evaluated from the “Failed COS” list.
S	Ignore silenced alarms. Silenced alarms will be evaluated as false.
PORT	This can be either a single port or a range of ports
Special Ports	IA: Internal alarms (Device/on-off line & Derived). RP: Rac Port. K1 and K2: Virtual ports.
TIME	Time variable in 24 hour format. The time statement <ENTER>ed will be either later than (>) or earlier than (<) the specified time.
DAY	Day of week. Specify SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, WEEKDAYS, WEEKENDS. Specify only one day or expression in each term.
DATE	Date variable in DD-MM-YYYY format (e.g. 02-14-2002). Specify only one day or expression in each term. The date statement entered will be either later than (>) or earlier than (<) the specified time.

DISPLAY and POINT can reference a single item or a range of items. The values in the RANGE are grouped together with “OR” operators. Please see the examples below. ADDRESS can also be a wildcard (*) to accommodate use with ASCII Templates.

Table 12.K - Term syntax examples

Term	Definition
1.2.3.4	Port 1, Address 2, Display 3, Point 4
1.*.2.3	Point 3 of Display 2 in any Address on Port 1
2.1.1-32.64	Port 2, Address 1, Point 64 in Displays 1-32
3.2.1-7,9.64	Port 3, Address 2, Point 64 in Displays 1-7 and 9
3.7.5-10, 12-14	Address 3, Display 7, Points 5-10 and 12-14
IA.11.4.1-3	Internal Alarm, Address 11, Display 4, Points 1-3
TIME>13:00	Time of day is after 13:00 (1:00PM)

Note: To improve processing efficiency when the same time qualification is used on multiple occasions, use only a single time equation that sets an internal alarm. This can be used in other more detailed terms. This has the added benefit of being able to change such time terms as “daylight” or “first shift” in a single place.

Example: The base time qualification is between 5 AM and 5 PM, Monday through Thursday. The point to be set during this time is internal alarm address 11, display 15, point 1. The statement in the derived definition screen is:

```
>TIME>5:00          >TIME<17:00          >MONDAY
>TUESDAY            >WEDNESDAY                >THURSDAY
>                   >                         >
Soft Alarm: 11.15.1
```

This time qualification is used in a derived alarm as follows:

```
>1.2.3.7                    >IA.11.15.1                 >
>                           >                           >
>                           >                           >
Soft Alarm: 11.5.5
```

This derived definition will produce an internal alarm at address 11, display 5, point 5 between the hours of 5 AM and 5 PM, Monday thru Thursday, whenever a live alarm exists at port 1, address 2, display 3, point 7.

How an Equation is Evaluated
Each equation consists of up to three OR statements. Each OR statement contains up to nine terms that are put together using the AND statement (the between each field). Therefore, each OR statement will only be true if all terms in that statement (up to nine) evaluate true. Blank terms evaluate true. The entire equation is considered true if any of the three OR sections are true.

You don't have to fill in each group of OR statements. You can have as few as 1 term and as many as 27 (9 per OR statement with 3 groups of OR statements).

To summarize, T/MonXM first looks at each statement independently, then each AND is evaluated. Finally, the ORs are checked to see if there is a true statement among them. If there is, the equation is true.

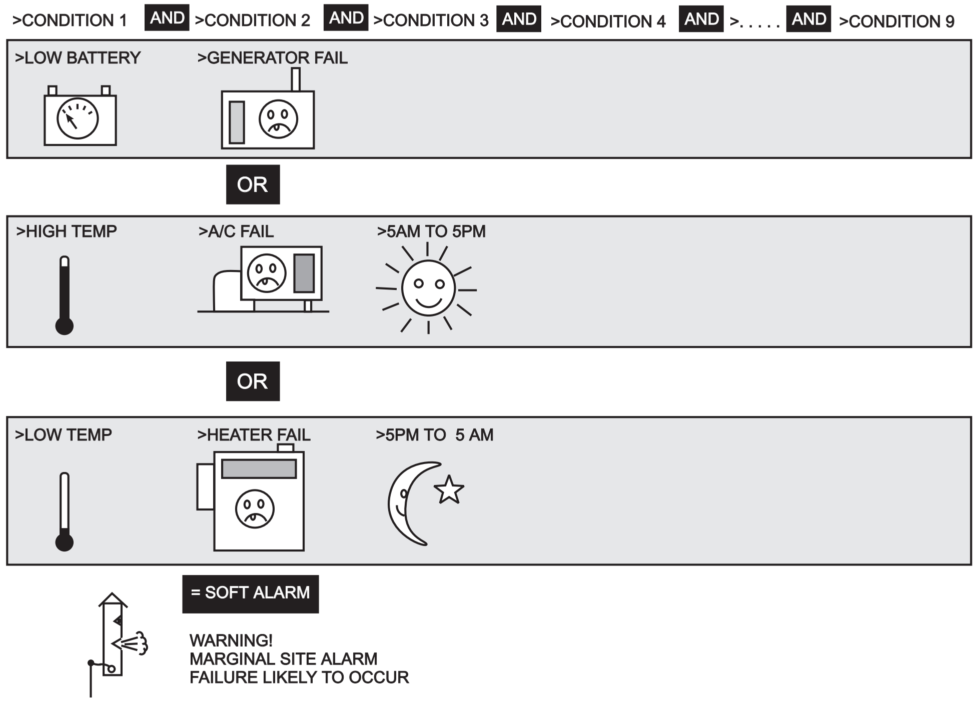
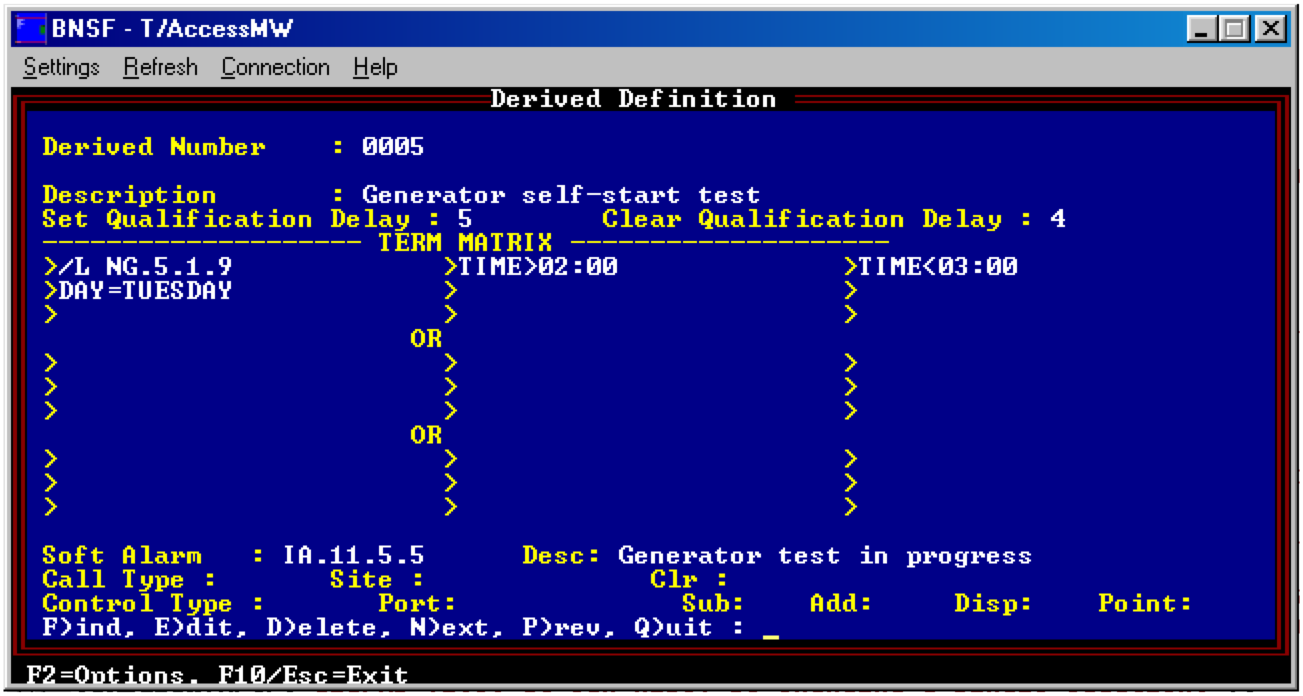


Fig. 12.7 - Diagram of derived alarm logic in T/MonXM.



```
                              Derived Definition

 Derived Number     : 0005

 Description        : Generator self-start test
 Set Qualification Delay : 5        Clear Qualification Delay : 4
 -------------------- TERM MATRIX --------------------
 >/L NG.5.1.9             >TIME>02:00              >TIME<03:00
 >DAY=TUESDAY             >                        >
 >                        >                        >
                        OR
 >                        >                        >
 >                        >                        >
 >                        >                        >
                        OR
 >                        >                        >
 >                        >                        >
 >                        >                        >

 Soft Alarm    : IA.11.5.5      Desc: Generator test in progress
 Call Type :        Site :              Clr :
 Control Type :        Port:               Sub:    Add:     Disp:     Point:
 F>ind, E>dit, D>elete, N>ext, P>rev, Q>uit : _

 F2=Options, F10/Esc=Exit
```

Fig. 12.8 - An alarm that's set only if the specified event *doesn't* happen

Creating Derived Alarms for Events That Don't Happen

An interesting and useful application of derived alarms is creating alarm formulas that alert you when events do *not* happen. These alarms can inform you of failures where equipment should start and run automatically but does not.

This is particularly useful for maintaining visibility of recurrent background events, such as periodic equipment tests. A weekly alarm informing system operators that all is well is a nuisance alarm that will be ignored, and no one will notice when the alarm doesn't happen. A negative derived alarm will instead inform system operators only when the equipment test fails.

For example, let's say a generator is supposed to run a self-start test early every Tuesday morning, and you want to know if the generator doesn't self-start. When the generator starts, it sends an alarm signal to a NetGuardian, which is mapped in T/MonXM to the alarm point NG.5.1.9.

So you could create the alarm formula shown in Figure 12.8, which states: /L.NG.5.1.9 and TIME>02:00 and TIME<03:00 and DAY=TUESDAY.

Translated into English, this says, "Declare an alarm if no alarm signal is received at NG.5.1.9 between 2:00 and 3:00 A.M. on Tuesday."

By adding the "/" (NOT) symbol before the alarm point, you have defined the derived alarm to occur when the alarm at the NetGuardian point doesn't happen.

The time and day terms are important, because they define when the test should happen. The NetGuardian alarm point will, of course, be inactive all other times as well, but you're only interested in the alarm point's inactivity during the time the test should take place.

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Section 14 - Define Internal Alarms

Selecting the Internal Alarms option from the Files Maintenance menu will bring up the Internal Alarms menu. From this menu, you will be able to edit Standard Alarms and User Defined Alarms.

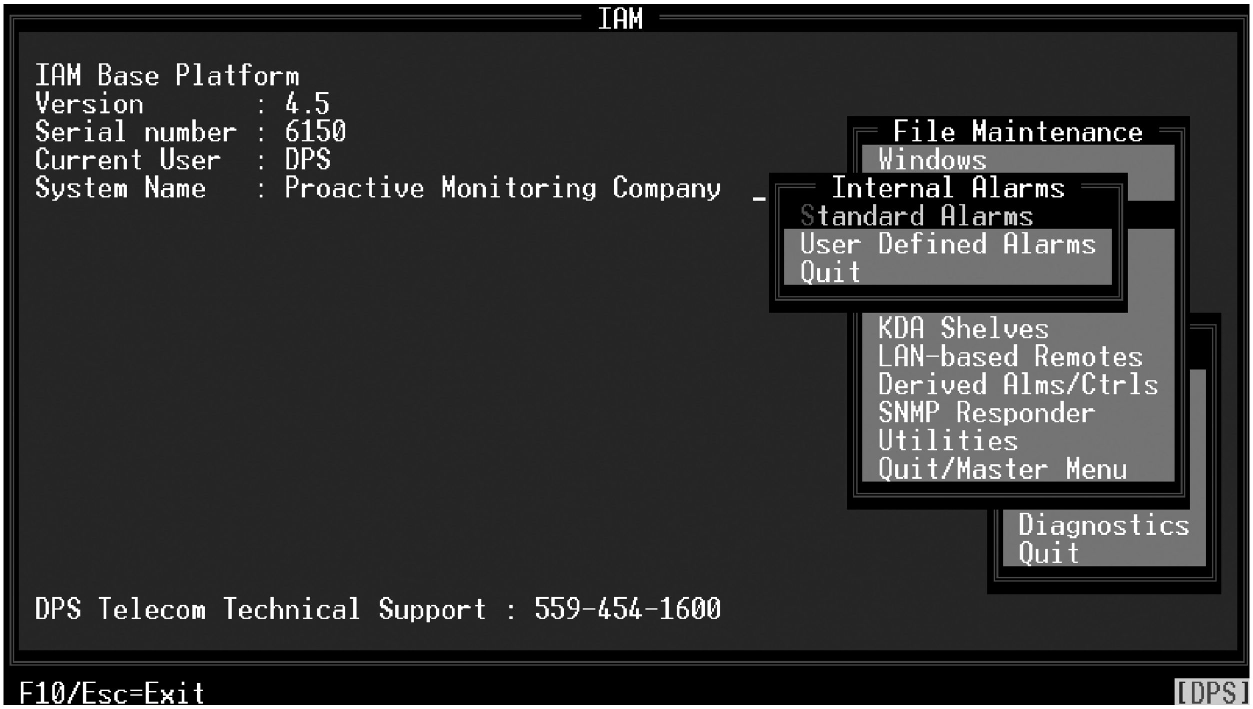
Internal Alarms are handled by T/MonXM to report events developing within the system environment. There are two (2) types of Internal Alarms, Standard and User-Defined (see Figure 14.2).

Standard Alarms are pre-defined alarms processed exclusively by T/MonXM. Standard Alarms use address 0, display 1, points 1-64, display 2, points 1-7, and address 13, Display 1, points 1-2 — see Table 14.A and 14.B

System Health Alarms are predefined alarms. System Health Alarms use address 14, display 1, points 1-64

User Defined Alarms are defined by the user and are activated either by a device going online or offline, or by a user defined equation (derived alarm). User Defined Alarms occupy 2 addresses (11 and 12) with 157 displays, each with 64 points for a total of 8,192 addressable points. This expendability makes the management of such alarms very flexible.

ASCII template users may use Local Displays to store internal (derived) alarms. See the ASCII Templates in Software Module 6.



```
IAM Base Platform
Version       : 4.5
Serial number : 6150
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit                                                    [DPS]
```

Fig.14.1 - The Internal Alarms menu

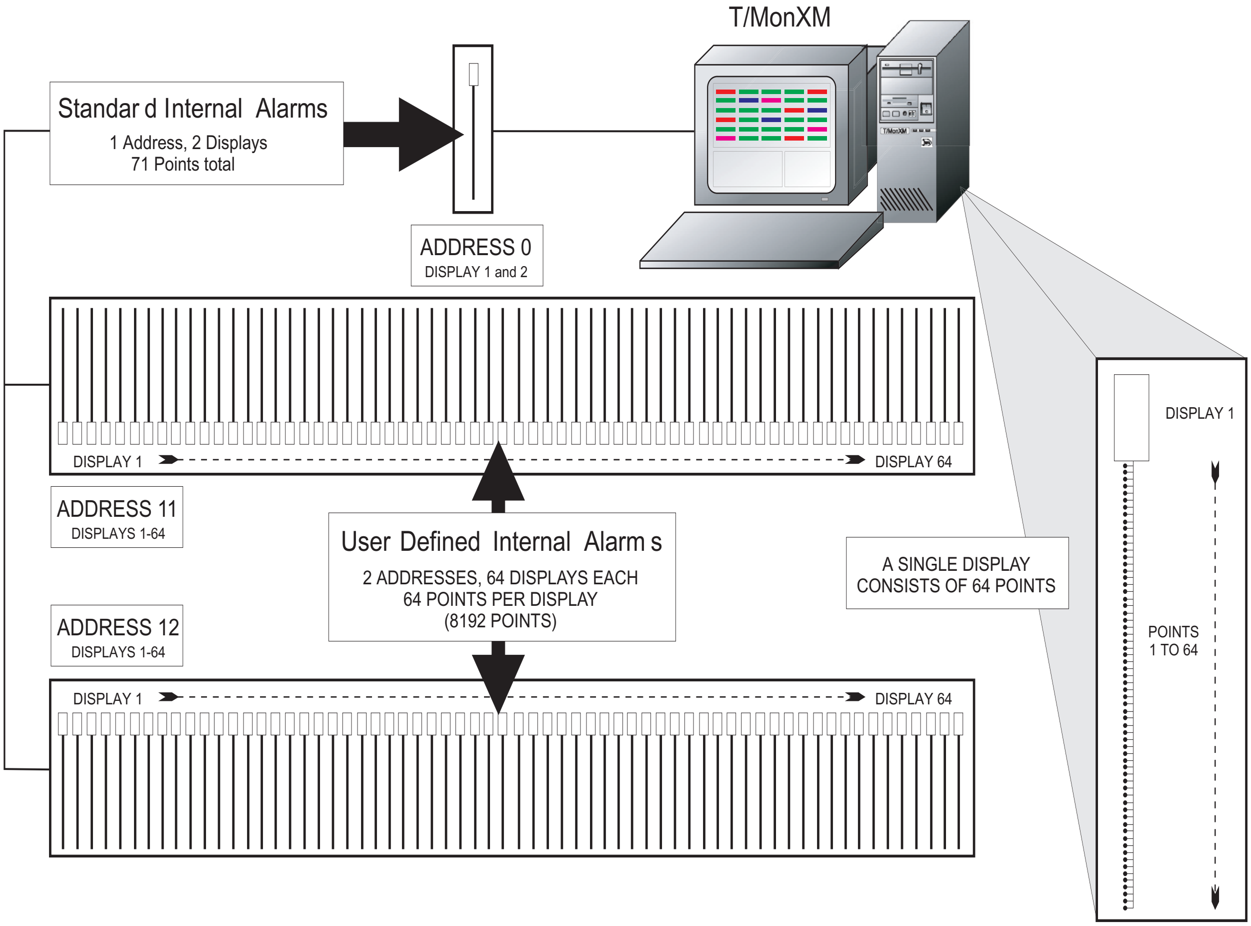
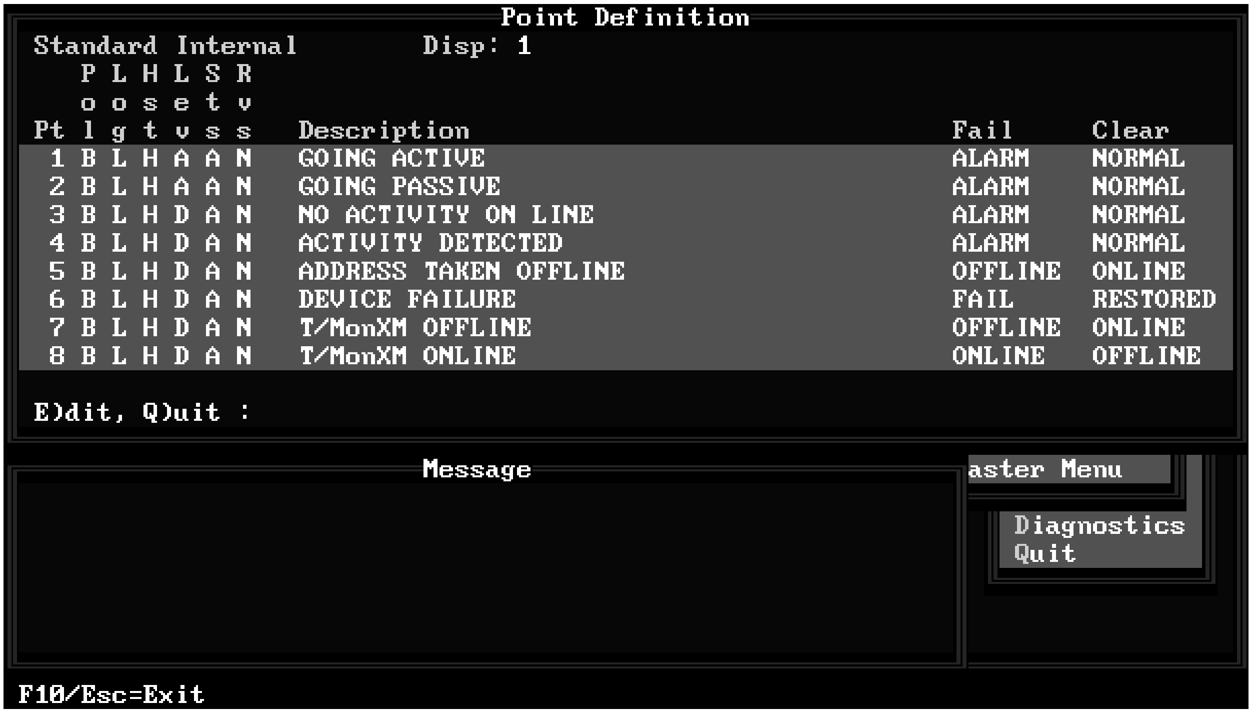


Fig. 14.2 - Standard and user defined internal alarms layout



```
                              Point Definition
Standard Internal        Disp: 1
   P L H L S R
   o o s e t v
Pt l g t v s s   Description                              Fail     Clear
 1 B L H A A N   GOING ACTIVE                             ALARM    NORMAL
 2 B L H A A N   GOING PASSIVE                            ALARM    NORMAL
 3 B L H D A N   NO ACTIVITY ON LINE                      ALARM    NORMAL
 4 B L H D A N   ACTIVITY DETECTED                        ALARM    NORMAL
 5 B L H D A N   ADDRESS TAKEN OFFLINE                    OFFLINE  ONLINE
 6 B L H D A N   DEVICE FAILURE                           FAIL     RESTORED
 7 B L H D A N   T/MonXM OFFLINE                          OFFLINE  ONLINE
 8 B L H D A N   T/MonXM ONLINE                           ONLINE   OFFLINE

E)dit, Q)uit :
```

Fig. 14.3 - Standard alarms are configured in the point definition screen

Internal Alarms Point Definition Screen

Internal Standard Alarms always have Address 0. User Defined Internal Alarms always have either address 11 or 12. Port related internal alarms have address 13.

The Point Definition screen is used to define alarm points for the Standard and User Defined Internal alarms. For more detailed information on Point Definition and editing procedures — see Section 10 (Point Definition Tutorial).

Internal alarms are reported on the screen in the following format:

IA Address. Display. Point

For example, IA 0. 1. 7 refers to an Internal Alarm in internal address 0, display 1, point 7. Because it is in address 0, this is a Standard Internal Alarm. IA 11.1.2 would refer to an Internal Alarm in internal address 11, display 1, point 2. Because it is in address 11, this is a User Defined Internal Alarm.

Standard Internal Alarms

Every time certain system specific actions are performed with T/MonXM, a standard alarm is reported. For example, when T/MonXM goes offline, the standard alarm point 7 “T/MonXM OFFLINE” is reported.

Standard alarms are pre-defined for use with T/MonXM and are activated internally. These internal alarms are reported on address 0 and display 1 and 2. Port-related internal alarms are reported on address 13 (Only two alarms are reported on address 13 and they apply to Alt Path and Teltrac Mux only). Selecting Standard Alarms from the Internal Alarms menu will bring up the Point Definition screen for Standard Internal Alarms (Figure 14.3).

This screen permits you to assign the editable options and window for a particular alarm. Press E to edit. Editable options include Log, History, Levels, Status, Fail, Clear, Windows and Message.

Standard Alarms in display 1 are listed in Table 14.A. Standard Alarms in display 2 are listed in Table 14.B.

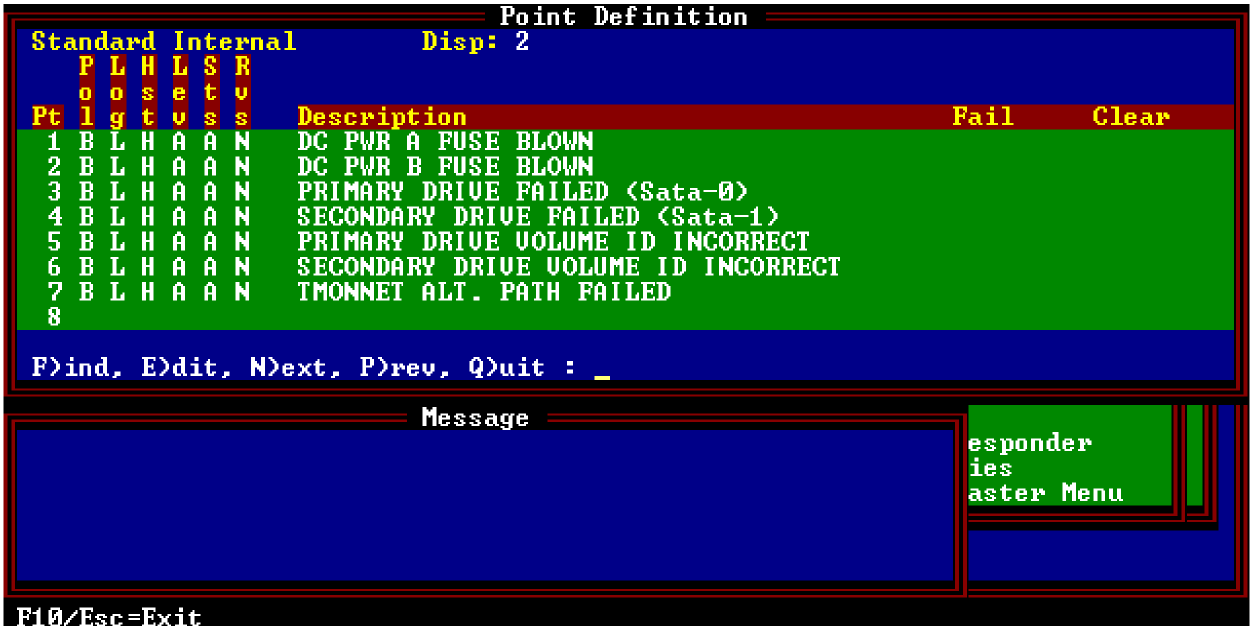
Table 14.A - Standard Internal Alarms in display 1

1 GOING ACTIVE
2 GOING PASSIVE
3 NO ACTIVITY ONLINE*
4 ACTIVITY DETECTED
5 ADDRESS TAKEN OFFLINE
6 DEVICE FAILURE
7 T/Mon (or IAM) OFFLINE*
8 T/Mon (or IAM) ONLINE*
9 TASK CARD NOT FUNCTIONING
10 HST COM ERROR WITH D/TASK CARD
11 UNABLE TO RESTART TASK CARD
12 Unassigned
13 REMOTE CARD 1 NOT FUNCTIONING
14 REMOTE CARD 2 NOT FUNCTIONING
15 ASCII DATABASE IS FULL - PORT
16 DIAL-UP DEVICE FAILURE
17 AUTO-CUTOFF ENABLED (LPT1)
18 AUTO-CUTOFF ENABLED (LPT2)
19 PRINT AUTO-CUTOFF ENABLED [1]
20 PRINT AUTO-CUTOFF ENABLED [2]
21 PRINT AUTO-CUTOFF ENABLED [3]
22 PRINT AUTO-CUTOFF ENABLED [4]
23 PRINT AUTO-CUTOFF ENABLED [5]
24 PRINT AUTO-CUTOFF ENABLED [6]
25 PRINT AUTO-CUTOFF ENABLED [7]
26 PRINT AUTO-CUTOFF ENABLED [8]
27 PRINTER HAS FAILED (LPT1)
28 PRINTER HAS FAILED (LPT2)
29 REMOTE TERMINAL HAS FAILED [1]
30 REMOTE TERMINAL HAS FAILED [2]
31 REMOTE TERMINAL HAS FAILED [3]
32 REMOTE TERMINAL HAS FAILED [4]
33 REMOTE TERMINAL HAS FAILED [5]
34 REMOTE TERMINAL HAS FAILED [6]
35 REMOTE TERMINAL HAS FAILED [7]
36 REMOTE TERMINAL HAS FAILED [8]
37 PWR FAILURE; SWITCH TO BATTERY
38 LOW BATTERY CONDITION DETECTED
39 UPS TIMEOUT OCCURRED
40 LED BAR OFFLINE
41 BLDG ACCESS LOG ON
42 BLDG ACCESS LOG OFF
43 RCVD CTL:
44 WORKSTATION RESET ATTEMPTED
45 REMOTE 3 CARD NOT FUNCTIONING
46 STANDBY IS ACTIVE
47 REMOTE LOG IN:
48 AUTO RESTART OCCURRED
49 REMOTE 4 CARD NOT FUNCTIONING
50 MAS DATABASE ERROR
51 REMOTE LOG OUT:
52 REMOTE LOG OUT:
53 REMOTE LOG OUT:
54 REMOTE LOG OUT:
55 ASCII LOG STOPPED: DISK FULL
56 DURESS LOG IN:
57 REMOTE 5 CARD NOT FUNCTIONING
58 DATABASE NEEDS TO BE BACKED UP**
59 REMOTE 6 CARD NOT FUNCTIONING
60 NO DIAL TONE ON PAGER PORT (Alpha, 2-Way, and Logger paging)
61 UNEXPECTED ENTRY:
62 UNAUTHORIZED ENTRY:
63 UNABLE TO ACCESS TIME SERVICE
64 NO DIAL TONE ON THE ASCII PORT

*Change of State (COS) alarm only.
**Set the number of days in Parameters/Misc.

The Pol, Rvs and Description fields cannot be edited for Standard Internal Alarms. See the following pages for more information.

The ADDRESS TAKEN OFFLINE (Point 5) and DEVICE FAILURE alarm (Point 6) alarms will report the site name (obtained from the database).



```
                              Point Definition
Standard Internal        Disp: 2
   P L H L S R
   o o s e t v
Pt l g t v s s   Description                                  Fail     Clear
 1 B L H A A N   DC PWR A FUSE BLOWN
 2 B L H A A N   DC PWR B FUSE BLOWN
 3 B L H A A N   PRIMARY DRIVE FAILED (Sata-0)
 4 B L H A A N   SECONDARY DRIVE FAILED (Sata-1)
 5 B L H A A N   PRIMARY DRIVE VOLUME ID INCORRECT
 6 B L H A A N   SECONDARY DRIVE VOLUME ID INCORRECT
 7 B L H A A N   TMONNET ALT. PATH FAILED
 8

F)ind, E)dit, N)ext, P)rev, Q)uit : _
```

Fig. 14.4 - Standard alarms in display 2

To edit standard alarms in display 2, press N (Next) and then press E (Edit). For alarm descriptions, see the following pages.

Table 14.B - Standard internal alarms in display 2

Point Number	Description
1	DC PWR A FUSE BLOWN
2	CD PWR B FUSE BLOWN
3	PRIMARY DRIVE FAILED (Sata-0)
4	SECONDARY DRIVE FAILED (Sata-1)
5	PRIMARY DRIVE VOLUME ID INCORRECT
6	SECONDARY DRIVE VOLUME ID INCORRECT
7	TMONET ALT. PATH FAILED
8	NIC IRQ UNDEF - LEGACY MODE ACTIVE
9	PCI SERIAL CARD 1 FAILED
10	PCI SERIAL CARD 2 FAILED
11	PCI SERIAL CARD 3 FAILED
12	SERIAL PORT FAILED
13	SERIAL PORT TX BUFFER OVERFLOW
14	DEVICES AVAILABLE LESS THAN 10%
15	POINTS AVAILABLE LESS THAN 10%
16	POINTS AVAILABLE EXCEEDED
17	CANNOT CONNECT TO SNPP SERVER
18	CANNOT CONNECT TO SNMP SERVER
19	CANNOT CONNECT TO DNS SERVERS
20	CPU TEMPERATURE OUT OF TOLERANCE
21	AMBIENT TEMPERATURE OUT OF TOLERANCE
22	CPU FAN SPEED OUT OF TOLERANCE
23	AUXILARY FAN SPEED OUT OF TOLERANCE
24	LOW DISK SPACE DETECTED

Internal alarms exist within T/MonXM for the purpose of indicating the status of the system. T/MonXM internal alarms are not directly generated from the outside environment. Internal alarms are created within the software when T/MonXM or its hardware have switched its mode or status of operation.

Below is a list of the internal alarms that may be generated from T/MonXM and a description of each. These alarms will show up while in monitoring mode just like a point alarm would.

Note: Internal alarms marked with an asterisk will only show up in the Change Of State window and will not show up in the Live Alarms window.

Address 0 Display 1 Alarms

1 GOING ACTIVE
A Level A internal alarm that indicates T/MonXM is actively polling the channel specified. This alarm will occur when you first go into monitor mode and T/MonXM is in Master Mode. This will also occur when in combined mode and T/MonXM switches from passive to active polling.

2 GOING PASSIVE
A Level A internal alarm that indicates T/MonXM is passively monitoring the channel specified. This alarm will occur when you first go into monitoring mode and T/MonXM is set to Passive Mode. This alarm will also occur when in combined mode and T/MonXM switches from active polling to passive monitoring.

3 NO ACTIVITY ON LINE
A Level D internal alarm that occurs when monitoring, and the period of Warning Threshold seconds expire, without any activity being detected on the line.

4 ACTIVITY DETECTED
A Level D internal alarm that is the complement of internal alarm number 3. It occurs if alarm number 3 has failed and activity is detected on the Line.

Note: The Offline and Device Failure alarms are system default alarms that share the same internal alarm point. DPS Telecom recommend you use user-defined device failure and offline alarms for improved granularity and control. For details, see section 14-11.

5 ADDRESS TAKEN OFFLINE
A Level D internal alarm that occurs when an address is manually taken offline.

6 DEVICE FAILURE
Occurs when a device has been determined to be non-responsive.

7 T/MonXM OFFLINE
A Level D internal alarm that occurs when the system returns to the Master Menu from Monitor Mode. Note: Each address can have its own internal alarm of this type.

8 T/MonXM ONLINE
A Level D internal alarm that occurs when Monitor Mode is selected from the Master Menu.

9 TASK CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Task Card. Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm of type 11 will be declared. Type: COS only.

10 HST COM ERROR WITH D/TASK CARD
Dtask report communication error

11 UNABLE TO RESTART TASK CARD
Occurs after an internal alarm of type 9 has occurred and activity still cannot be detected from the card. Type: COS only.

12 UNASSIGNED

13 REMOTE 1 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote 1 card (Intelligent Controller Card for ports 1-4). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm of type 15 will be declared. Type: COS only. Port related internal alarms are reported on address 13.

14 REMOTE 2 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote 2 card (Intelligent Controller Card for ports 5-8). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm of type 16 will be declared. Type: COS only.

15 ASCII DATABASE IS FULL - PORT
An auto ASCII port is full.

16 DIAL-UP DEVICE FAILURE
A dial-up address has failed (mat shelf).

17 AUTO-CUTOFF ENABLED (LPT1)
Occurs when the printer buffer for LPT1 is full or there is not enough disk space to expand the buffer. Type: COS and Standing alarms.

18 AUTO-CUTOFF ENABLED (LPT2)
Occurs when the printer buffer for LPT2 is full or there is not enough disk space to expand the buffer. Type: COS and Standing alarms.

19 PRINT AUTO-CUTOFF ENABLED [1]
Occurs when the printer buffer for Remote 1 is full or there is not enough disk space to expand the buffer. Type: COS and standing alarms.

20 PRINT AUTO-CUTOFF ENABLED [2]

21 PRINT AUTO-CUTOFF ENABLED [3]

22 PRINT AUTO-CUTOFF ENABLED [4]

23 PRINT AUTO-CUTOFF ENABLED [5]

24 PRINT AUTO-CUTOFF ENABLED [6]

25 PRINT AUTO-CUTOFF ENABLED [7]

26 PRINT AUTO-CUTOFF ENABLED [8]
Internal Alarms numbering 20 through 26 occur when the printer buffer for Remotes 2 through 8 are full or there is not enough disk space to expand the buffer. Type: COS and standing alarms.

27 PRINTER HAS FAILED (LPT1)
Occurs when the printer connected to LPT1 fails. Type: COS and Standing alarms.

28 PRINTER HAS FAILED (LPT2)
Occurs when the printer connected to LPT2 fails. Type: COS and Standing alarms.

29 REMOTE TERMINAL HAS FAILED [1]

Internal Alarms numbering 30 through 36 occur when Remotes 2 through 8 have failed.

30 REMOTE TERMINAL HAS FAILED [2]

31 REMOTE TERMINAL HAS FAILED [3]

32 REMOTE TERMINAL HAS FAILED [4]

33 REMOTE TERMINAL HAS FAILED [5]

34 REMOTE TERMINAL HAS FAILED [6]

35 REMOTE TERMINAL HAS FAILED [7]

36 REMOTE TERMINAL HAS FAILED [8]

37 PWR FAILURE; SWITCH TO BATTERY
Occurs when system power fails and the WorkStation switches to battery power.

38 LOW BATTERY CONDITION DETECTED
Occurs after an internal alarm of type 37 has occurred and line power still cannot be detected from the WorkStation. Occurs when a low battery condition is detected and UPS shutdown is imminent.

39 UPS TIMEOUT OCCURRED
Occurs after an internal alarm of type 37 has occurred and line power still cannot be detected from the WorkStation. Occurs when Uninterruptible Power System shutdown is imminent because of a user preset timeout.

40 LED BAR OFFLINE
Occurs when T/MonXM can’t communicate with the LED Bar and it goes offline.

41 BLDG ACCESS LOG ON
Occurs when T/MonXM acknowledges a building access Log On.

42 BLDG ACCESS LOG OFF
Occurs when T/MonXM acknowledges a building access Log Off.

43 RCVD CTL
Occurs when any of the responders receives a control. The port. address.display.point of the control that was received follows the colon. For example: RCVD CTL : 6.1.3.2

44 WORKSTATION RESET ATTEMPTED
CTRL-ALT-Delete reset attempted.

45 REMOTE 3 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote3 card (Intelligent Controller Card for ports 9-12). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm will be declared. Type: COS only.

46 STANDBY IS ACTIVE
Indicates secondary master is active.

47 REMOTE LOG IN
Occurs when a DTMF or BAU Log In occurs. The initials of the person logged in follows the colon.

48 AUTO RESTART OCCURRED
Occurs when T/MonXM automatically returns to Monitor Mode after a power failure.

49 REMOTE 4 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote 4 card (Intelligent Controller Card for ports 13-16). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm will be declared. Type: COS only.

50 MAS DATABASE ERROR
MAS database checksum error.

Internal Alarms numbering 51 through 54 occur when a Remote Log Out occurs.

51 REMOTE LOG OUT:
Internal Alarm number 51 occurs when a Level A alarm is the highest standing alarm at the time of the remote log out.

52 REMOTE LOG OUT:
Internal Alarm number 52 occurs when a Level B alarm is the highest standing alarm at the time of the remote log out.

53 REMOTE LOG OUT:
Internal Alarm number 53 occurs when a Level C alarm is the highest standing alarm at the time of the remote log out.

54 REMOTE LOG OUT:
Internal Alarm number 54 occurs when a Level D alarm is the highest standing alarm at the time of the remote log out. The initials of the person logged out follows the colon.

55 ASCII LOG STOPPED: DISK FULL
Occurs when there is not enough disk space to save the ASCII data.

56 DURESS LOG IN
Occurs when a Duress Log In occurs. The initials of the person logged in follows the colon.

57 REMOTE 5 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote 5 card (Intelligent Controller Card for ports 17-20). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm will be declared. Type: COS only.

58 DATABASE NEEDS TO BE BACKED UP

59 REMOTE 6 CARD NOT FUNCTIONING
Occurs when the program cannot detect activity from the Remote 4 card (Intelligent Controller Card for ports 21-24). Immediately after this alarm is declared, the program will reset the card. If activity is still not detected then an internal alarm will be declared. Type: COS only.

60 NO DIAL TONE ON PAGER PORT
Applies to alpha, 2-way and logger paging.

61 UNEXPECTED ENTRY
BAU at a remote site has a log in, but there is no door alarm.

62 UNAUTHORIZED ENTRY
BAU at a remote site has a door alarm with no log in.

63 UNABLE TO ACCESS TIME SERVICE
Occurs when the time synchronization is turned on and the system is unable to communicate with the time service. Can be caused by no phone line, no dial tone or wrong phone number. This applies to both the Dial-up and NTP time services.

64 NO DIAL TONE ON THE ASCII PORT
Applies to ASCII Dialup.

Address 0 Display 2 Alarms

1 DC PWR A FUSE BLOWN
Fuse A has blown on a DC powered T/Mon NOC.

1 DC PWR B FUSE BLOWN
Fuse B has blown on a DC powered T/Mon NOC.

3 PRIMARY DRIVE FAILED (Sata-0)
The primary hard drive on a T/Mon NOC has failed. Contact DPS Telecom Technical Support for a new hard drive.

4 SECONDARY DRIVE FAILED (Sata-1)
The secondary hard drive on a T/Mon NOC has failed. Contact DPS Telecom Technical Support for a new hard drive.

5 PRIMARY DRIVE VOLUME ID INCORRECT
Primary hard drive volume ID incorrectly named for hard drive mirroring. Contact DPS Telecom Technical Support.

6 PRIMARY DRIVE VOLUME ID INCORRECT
Secondary hard drive volume ID incorrectly named for hard drive mirroring. Contact DPS Telecom Technical Support.

7 TMONNET ALT PATH FAILED
The TMonNet alternate communication path has failed.

8 NIC IRQ UNDEF - LEGACY MODE ACTIVE
Your system is configured to run in enhanced mode and the TCP Agent cannot detect the IRQ of the network adapter. This is probably due to your system having an ISA network adapter that does not support the PCI BIOS. You will need to configure your system to run in legacy mode. This can be done from the W/Shell > Network Setup menu by setting the legacy mode field to "Y" and rebooting your system. If you would like to run your system in enhanced mode, contact DPS Technical Support and ask about upgrading your network adapter.

9 PCI SERIAL CARD 1 FAILED
10 PCI SERIAL CARD 2 FAILED
11 PCI SERIAL CARD 3 FAILED
System detected a parity error on serial card. The PCI card may need to be reseated to make sure connections are secure.

12 SERIAL PORT FAILED
Failed to transmit data out of serial port buffer. Try reseating the PCI card or reinitialize.

13 SERIAL PORT TX BUFFER OVERFLOW
Transmit buffer is full for serial port. When this alarm is created, it had already flushed out the current buffer. This indicates that the transmit buffer was full and was flushed out to make room for new data that needs to be transmitted.

14 DEVICES AVAILABLE LESS THAN 10%
Only applies to T/Mon SLIM. Gives warning if available devices are running low.

15 POINTS AVAILABLE LESS THAN 10%
Only applies to T/Mon SLIM. Gives warning if available points are running low.

16 POINTS AVAILABLE EXCEEDED
Only applies to T/Mon SLIM. Gives warning that all available points has been used up.

17 CANNOT CONNECT TO SNPP SERVER
Failed to connect to SNPP server.

1 ALTERNATE PATH ACTIVE
Teltrac Mux alternate path is in use. The main polling path has been disrupted.

2. ALTERNATE PATH FAILED
The Teltrac Mux alternate path connection failed.

Address 13 Display 1 Alarms

1. T/MON NRI QUEUE FULL
The T/Mon NRI Queue has reached its maximum capacity. Everything that needs to be sent will be dumped. This could indicate that NRI units are now out of sync.

Address 14 Display 1 Alarms

Entering F3 (Int Alarms) from the Remote Device Definition screen for defined Interrogators will bring you to the Device Internal Alarm Assignment screen — see Figure 14.5.

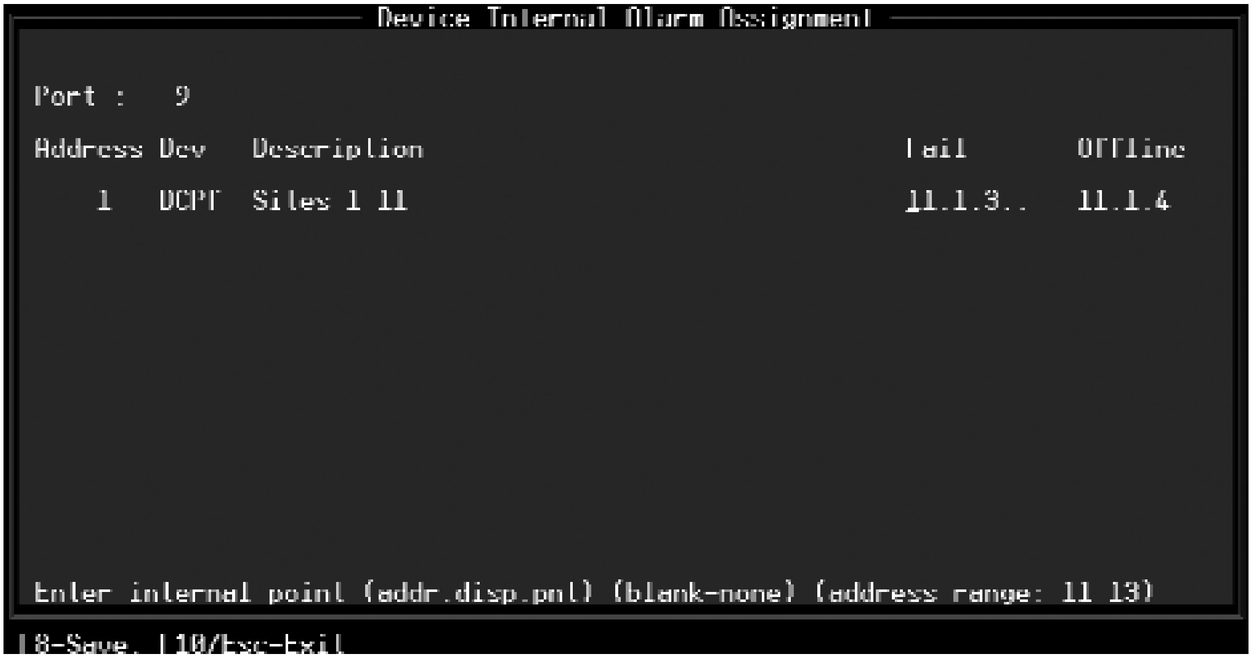
Internal Alarms Assignments

It's very important to define the internal alarms for each of your devices. If internal alarms are not defined for a device, any failure of that device will be reported by the default device failure alarm.

Undefined device failures are reported by the default device alarm, which always reports to the same point, IA.0.1.6. This default alarm simply informs you that an undefined device failure has occurred, and does not specify the device or the nature of the failure.

Internal device alarms are extremely useful for having better control of your devices, better descriptions of your alarms, and are essential for derived alarm applications.

The fields on the Device Internal Alarm Assignment screen are as follows:



```
                     Device Internal Alarm Assignment

Port :    9

Address Dev   Description                              Fail       Offline

    1   DCPT  Sites 1 11                               11.1.3..   11.1.4



Enter internal point (addr.disp.pnt) (blank-none) (address range: 11 13)
F8-Save, F10/Esc-Exit
```

Fig. 14.5 - Device Internal Alarm Assignment screen

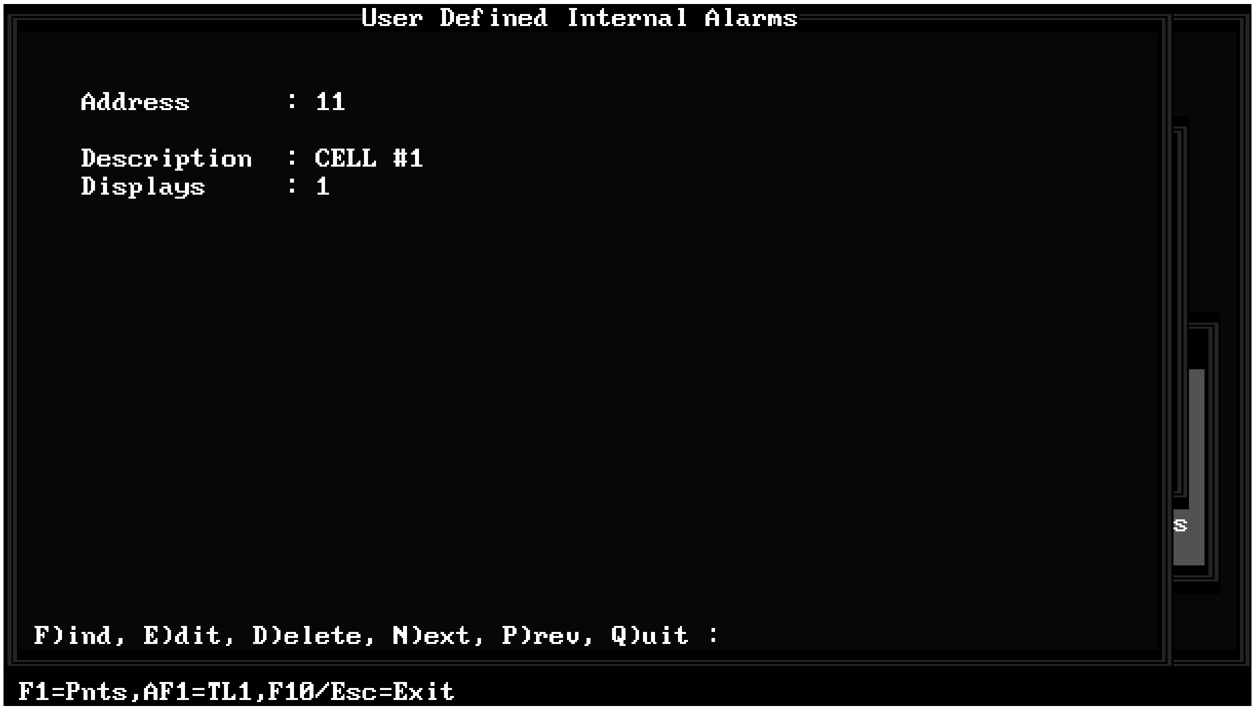
Table 14.C - Fields on the Device Internal Alarm Assignment screen

Field	Description
Port	The port used by the remote device.
Address	The address used by the remote device.
Dev	The remote device.
Description	The display description (optional).
Fail	This is the internal alarms point that is generated if it doesn't answer or is failed. Enter the internal point (address.display.point) for Fail. A blank entry indicates no Internal Alarm Assignment. Enter either Address 11 or 12.
Offline	Manually takes an address offline using line mode. This the alarm you would see. If you don't type anything here you get a standard alarm. Enter the internal point (address.display.point) for Offline. A blank entry indicates no Internal Alarm Assignment. Enter either Address 11 or 12.

Note: You can see the Internal Alarm Assignment from File Maintenance/Internal Alarms/User Defined Alarms. To do this, from the User Defined Internal Alarms screen, define the address and display if not already defined. Press F1 (Points) to see the Internal Alarm on the Point Definition screen.

User Defined Internal Alarms

Note: User Defined Internal Alarms originate from remote port device failures or derived alarms. These alarms must first be assigned in Remote Ports - Device Definition or in Derived Alarms. Next, the alarm is further defined on the screens described on the following page. This procedure creates the point and gives it a default description (which may be modified).



```
                         User Defined Internal Alarms

    Address       : 11

    Description   : CELL #1
    Displays      : 1

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
F1=Pnts,AF1=TL1,F10/Esc=Exit
```

Fig. 14.6 - The user defined internal alarms screen

The POL and RVS fields cannot be edited for User Defined Internal Alarms.

When the User Defined Alarms option is executed the User Defined Internal Alarms screen appears. enter either Address 11 or 12. Enter an optional description and the displays (1-64) to use. Selecting Points (F1) from the User Defined Internal Alarms screen takes you to the Point Definition screen for User Defined Internal Alarms. The pre-assigned internal alarms can be further defined from this screen. Refer to Section 10 for information on point definition.

Typing Alt-F1 takes you to the Sid Definition screen for TL1 Alarms. Refer to Software Module 13 (TL1Responder) for details.

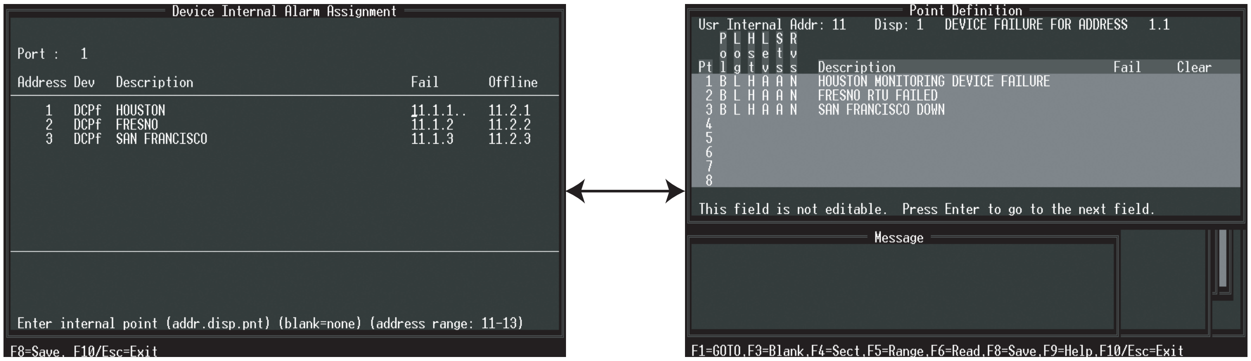
Note: Recommended pattern for internal alarm assignment:

Address 11, Display 1 = first 64 device failures;
Address 11, Display 2 = first 64 Off Line;
Address 11, Display 3 = next 64 device failures
Address 11, Display 4 = next 64 Off Line
Address 11, Display 21 = Derived Alarms; etc.

T/MonXM notes the alarms origin in the upper right corner so you'll know where it originated after editing its description.

How To Create User Defined Internal Alarms

User Defined Internal Alarms are created by assigning a derived alarm, device failure or device offline alarm. These are assigned in either the Remote Ports - Device Definition screen (see Figure 14.7) or the Derived Alarms screen. Then go to the Internal Alarms Point Definition screen to further define the alarm (refer to section 14-3). Note that the description for the alarm will already be in the Description field but can be edited.



```
                    Device Internal Alarm Assignment

Port :   1

Address Dev   Description                              Fail       Offline
-------------------------------------------------------------------------
    1   DCPf  HOUSTON                                  11.1.1..   11.2.1
    2   DCPf  FRESNO                                   11.1.2     11.2.2
    3   DCPf  SAN FRANCISCO                            11.1.3     11.2.3

-------------------------------------------------------------------------

Enter internal point (addr.disp.pnt) (blank=none) (address range: 11-13)
F8=Save, F10/Esc=Exit
```

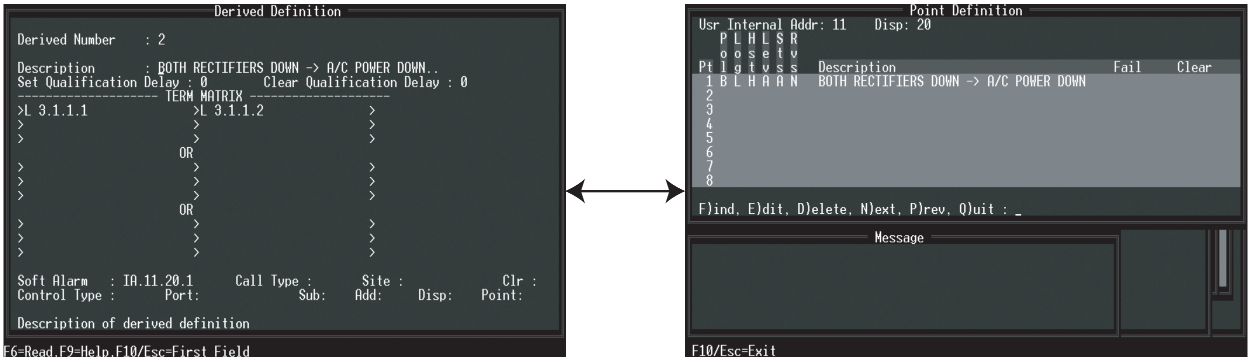
```
                         Point Definition
Usr Internal Addr: 11    Disp: 1   DEVICE FAILURE FOR ADDRESS   1.1
   P L H L S R
   o o s e t v
Pt l g t v s s   Description                              Fail     Clear
 1 B L H A A N   HOUSTON MONITORING DEVICE FAILURE
 2 B L H A A N   FRESNO RTU FAILED
 3 B L H A A N   SAN FRANCISCO DOWN
 4
 5
 6
 7
 8

This field is not editable.  Press Enter to go to the next field.
                         Message

F1=GOTO,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9=Help,F10/Esc=Exit
```

Device Failures and Offlines Alarm Definition

Internal Alarms Point Definition

Fig. 14.7 - User defined alarms mapped from device failures and offlines

Notice how the User Defined Alarms are mapped in both figures. In Figure 14.7 the alarm (11.1.2) comes from the device failure defined on Port 1, address 2. In Figure 14.8 the alarm (11.20.1) comes from the derived alarm defined as derived number 2.



```
                         Derived Definition

Derived Number    : 2

Description       : BOTH RECTIFIERS DOWN -> A/C POWER DOWN..
Set Qualification Delay : 0       Clear Qualification Delay : 0
-------------------- TERM MATRIX --------------------
>L 3.1.1.1              >L 3.1.1.2              >
>                       >                       >
>                       >                       >
                      OR
>                       >                       >
>                       >                       >
>                       >                       >
                      OR
>                       >                       >
>                       >                       >
>                       >                       >

Soft Alarm   : IA.11.20.1     Call Type :      Site :            Clr :
Control Type :       Port:             Sub:    Add:     Disp:    Point:

Description of derived definition
F6=Read,F9=Help,F10/Esc=First Field
```

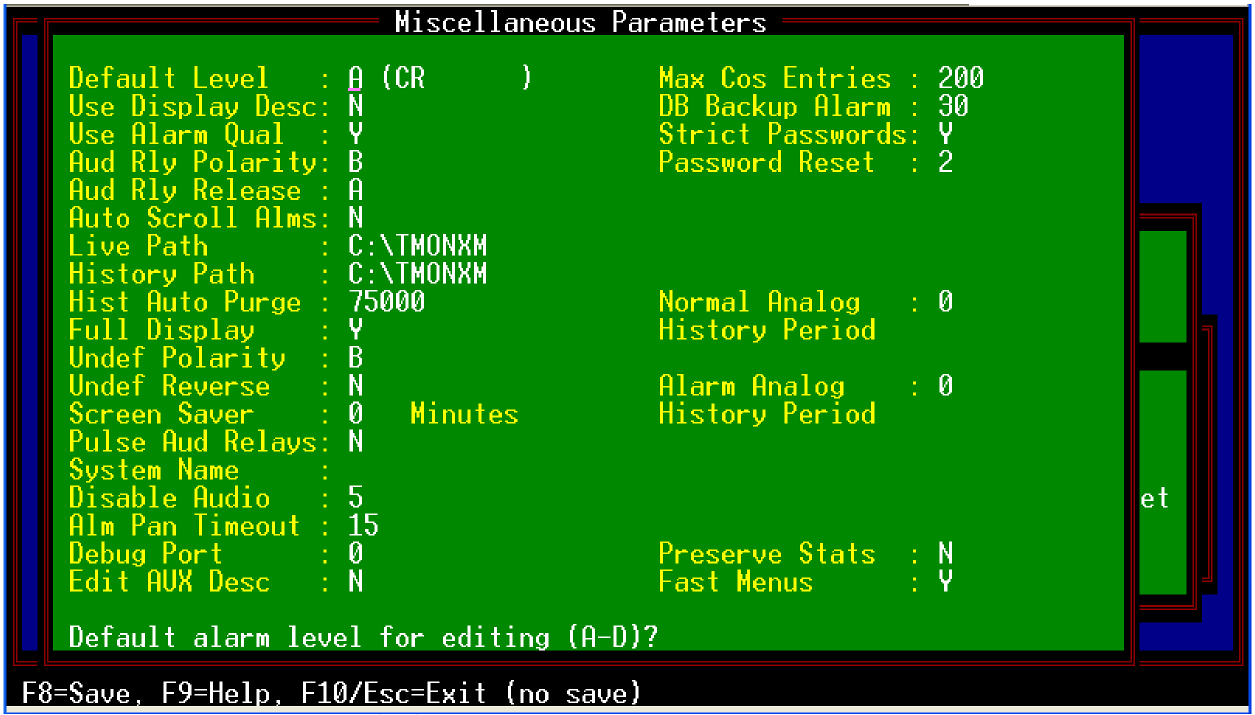
```
                         Point Definition
Usr Internal Addr: 11    Disp: 20
   P L H L S R
   o o s e t v
Pt l g t v s s   Description                              Fail     Clear
 1 B L H A A N   BOTH RECTIFIERS DOWN -> A/C POWER DOWN
 2
 3
 4
 5
 6
 7
 8

F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit : _
                         Message

F10/Esc=Exit
```

Derived Alarm Definition

Internal Alarms Point Definition

Fig. 14.8 - User defined alarms mapped from derived alarms

Section 15 - Define Miscellaneous Parameters



```
                         Miscellaneous Parameters
 Default Level     : A (CR       )          Max Cos Entries : 200
 Use Display Desc: N                        DB Backup Alarm : 30
 Use Alarm Qual    : Y                      Strict Passwords: Y
 Aud Rly Polarity: B                        Password Reset  : 2
 Aud Rly Release : A
 Auto Scroll Alms: N
 Live Path         : C:\TMONXM
 History Path      : C:\TMONXM
 Hist Auto Purge : 75000                    Normal Analog    : 0
 Full Display      : Y                      History Period
 Undef Polarity    : B
 Undef Reverse     : N                      Alarm Analog     : 0
 Screen Saver      : 0   Minutes            History Period
 Pulse Aud Relays: N
 System Name       :
 Disable Audio     : 5                                                       et
 Alm Pan Timeout : 15
 Debug Port        : 0                      Preserve Stats   : N
 Edit AUX Desc     : N                      Fast Menus       : Y

 Default alarm level for editing (A-D)?

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

Fig. 15.1 - The miscellaneous parameters screen.

Define Miscellaneous Parameters

Selecting Miscellaneous from the Parameters menu (press M to select Miscellaneous and press Enter) will allow you to setup the miscellaneous operating parameters. An example of the Miscellaneous Parameters screen appears in Figure 15.1.

The Miscellaneous Parameters are used to set various system settings not covered elsewhere.

Table 15.A continues on the following pages.

Table 15.A - Fields in the Miscellaneous Parameters screen

Field	Description
Default Level	Defines the default level of points on the Point Definition section. Valid values are: A (most critical), B, C and D (least critical). [A] The order (A-D) is important for the relay cards to function properly.
Use Display Desc	Answering Y will enable the user to enter a display description when editing the point definitions. Pressing F2 in the Point Definitions screen prompts for a display description. Valid answers are Y and N. This feature has been included in this menu for backward compatibility with older versions of T/MonXM. You are now able to enter a display description from any alarm formatting point screen.
Use Alarm Qual	Y = alarms report after the qualification time (Point Definition screen). N = report the alarm immediately (good while testing). When returned to Y after setting to N, all defined times are reactivated. **Note:** Select “N” if alarm qualifying not used. (Speeds up operation).

Table 15.A - Fields in the Miscellaneous Parameters screen (continued)

Field	Description

Aud Rly Polarity	Audible Relay Polarity - Determines whether audible relays will operate only when an alarms occurs or both when an alarm occurs and when it is restored to normal.
	U = Unipolar (failed COS alarms only)
	B = Bipolar (all COS alarms).

Aud Rly Release	Audible Relay Release - Determines whether audible relays will release only when an alarm is acknowledged or when an alarm is either acknowledged or cleared. A = Ack alarm C = Ack alarm or alarm clear.

Auto Scroll Alarms	Determines if alarm display in the monitor mode will automatically scroll to show newest alarms or scroll only by manual operation of the cursor keys.
	Y = Yes (auto scroll)
	N = No (manual scroll).

Live Path	This is the path (drive and directory) where T/MonXM will keep the Standing Alarms file. [C:\TMONXM], [C:\IAM], (or drive/directory you specify when installing T/MonXM software). The Standing Alarm File stores data on all alarms that have not been cleared, regardless of whether they have been acknowledged.
History Path	This is the path (drive and directory) where T/MonXM will keep the History file. [C:\TMONXM], [c:\IAM], (or drive/directory you specify when installing T/MonXM software).
Hist Auto Purge	With your cursor at this field, the description line at the bottom of the window will display the minimum value (which is the current total) of entries allowed. The maximum allowed is 999,999 entries. [75000] Once this is reached the oldest entries will be overwritten. 75,000 entries will last over a year in the typical system.
Full Display	Selecting Y (show all points in the display) will allow all undefined alarms to be displayed along with the defined alarms. Selecting N (show only defined points) will ignore all undefined alarms to be reported. **NOTE:** Y is recommended to help find points that were not previously defined.
Undef Polarity	Selecting B (bipolar) will allow COS undefined alarms to be reported and selecting U (unipolar) will only report failed undefined alarms. [B]
Undef Reverse	Selecting R (reverse) will process undefined alarms reversed (open relays) and selecting N (no reverse) will process undefined alarms normally (closed relays).
Screen Saver	Sets the number of minutes of keyboard inactivity before the screen saver will activate. (0 - 10 minutes, 0 to disable) If the Screen Saver is active while monitoring, new alarms will cancel the Screen Saver and return you to the Monitor Mode screen. The Screen Saver also displays the current Unacknowledged and Live Alarm count on the screen while it is active. Affective on T/MonXM Work Station display only.

Note: All values in [ ] are examples or defaults.

Table 15.A - Fields in the Miscellaneous Parameters screen (continued)

Field	Description
Pulse Aud Relays	Selecting Y (pulse audio relays) will open and close the relay every time a new alarm comes through. Selecting N (do not pulse audio relays), will keep the relays closed until there are no more alarms. [N] Mainly used for support with equipment connected with DPS' alarm monitoring equipment via the Audible Alarm Card.
System Name	The name (up to 30 characters) that will be displayed during Remote Log On. [BLANK] Typical names use the company name , division or department.
Disable Audio	Selecting Y (yes) allows the user to disable audio while in the monitor mode with Ctrl F4. The audio will remain disabled until manually re-enabled. Selecting N (no) will not allow the user to disable audio. Entering the number of minutes (1-60) allows the user to temporarily disable the audio, which will be automatically re-enabled after the specified time passes. (This is a safeguard feature so if the sound was disabled by the user and they forgot to turn it back on again, the audio will be enabled again after the set number of minutes.)
Alm Pan Time-out	Pans Alarm Monitor screen back to the left after a set number of seconds (0-180). This serves to keep the screen on the most critical part in case it has been panned left and forgotten. Entering 0 will disable this time-out feature. [15]
Debug Port	Used by DPS Technical Support to analyze abnormal protocol or line conditions. Enter port number for analyzer file capture (1-28) (0 = None). Note: save to the file protanal.rep.

Edit Aux Desc	The auxiliary description is a 30 character "bonus" field in the alarm description that can be used for additional information about the alarm point. This field appears on a third page in the alarm display. If an auxiliary description field is not being used, turning it off here will eliminate display of the third page, which may cause confusion.
	Y = Can edit Aux Desc.
	N = Cannot edit Aux desc.

Max COS Entries	Number of COS alarms before auto acknowledge. (200 to 3000) [200]
DB Backup Alarm	Threshold for database backup internal alarm (7 to 90 days) [30]
Strict Passwords	Enforces policy for strict system user passwords. When enabled, the following rules will be enforced: 1. Passwords must be at least 7 characters. 2. Passwords must not contain the same consecutive character (two of the same characters in a row.) 3. Three of the following character classes must be used: • Uppercase alphabetic (A, B, C...) • Lowercase alphabetic (a, b, c...) • Numbers (0-9) • Punctuation (!, @, #...) 4. Password cannot be the same as any of the last four passwords.

Note: All values in [ ] are examples or defaults.

Table 15.A - Fields in the Miscellaneous Parameters screen (continued)

Field	Description
Password Reset	Number of days before System Users must enter a new password. This will automatically prompt for a new password when the user attempts to login. (1 to 255 days.) [0]
Normal Analog History Period	Periodic analog history interval that applies when no analog threshold alarms exist. Takes snapshot of the existing analog values. Visible in History and Export Analog History Reports. (10 to 1440 min. 0 to disable) [0]
Alarm Analog History Period	Analog history interval that applies when analog threshold alarms do exist. Takes snapshot of the existing analog values. Visible in History and Export Analog History Reports. (10 to 1440 min.) (0 = disabled) [0] NOTE: Set this time shorter than the normal period to get a greater sampling rate when problems occur.
Preserve Stats	If set to Y, Site Statistics will be preserved when initializing. Setting to N will reset the stats on init. Stats will also be preserved when the software exits and starts up again.
Fast menus	Toggle menu command selection by single keystroke of hot key.

Section 16 - Monitor Mode Tutorial

Monitor Mode Overview

View alarm databasing while in monitor modem — see section 16-11.

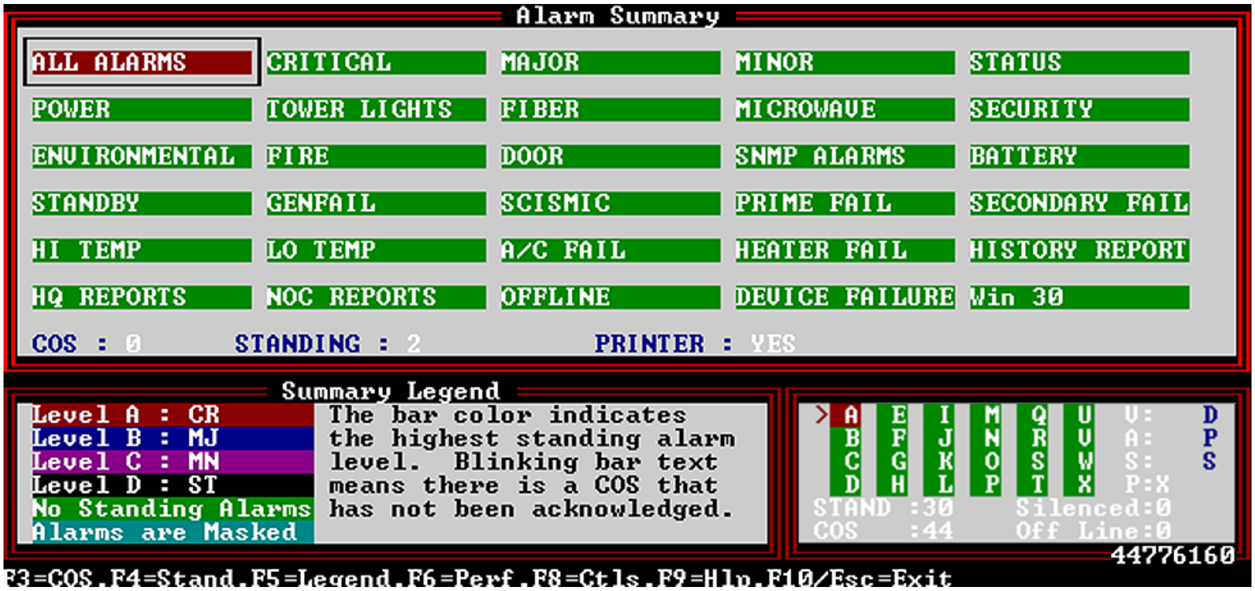
T/MonXM now features an intelligent help file to provide targeted information to what you are currently databasing, as opposed to the previous comprehensive summary.

This section generally applies to T/RemoteW and T/Windows monitoring T/MonXM screens. Differences are noted in underlined text where appropriate.

After all of the hardware has been installed properly and the software databases have been set up, most of your time will be spent in Monitor mode. Monitor mode is the heart of T/MonXM. While in this mode, T/MonXM begins the polling process and displays the status of the alarms. If an alarm is activated you'll receive visual and (optional) audio indication that an alarm has failed, allowing you to take action as soon as possible. You will be able to view the alarm's location, the type of alarm, and a description of the problem.

Operating within Monitor Mode is very simple. With a press of a key, you will be able to view the alarm and take care of it immediately depending on the severity of the alarm. T/MonXM provides three basic alarm viewing screens: Alarm Summary screen, COS (Change of State) Alarm screen and Standing Alarm screen. Each of these screens is explained in greater detail over the next few pages, but here is a quick overview.

The Alarm Summary screen allows you to see the big picture. You can view all your sites, devices, and alarm types from this display. This ability to consolidate data in one centralized location is what makes T/MonXM so useful.



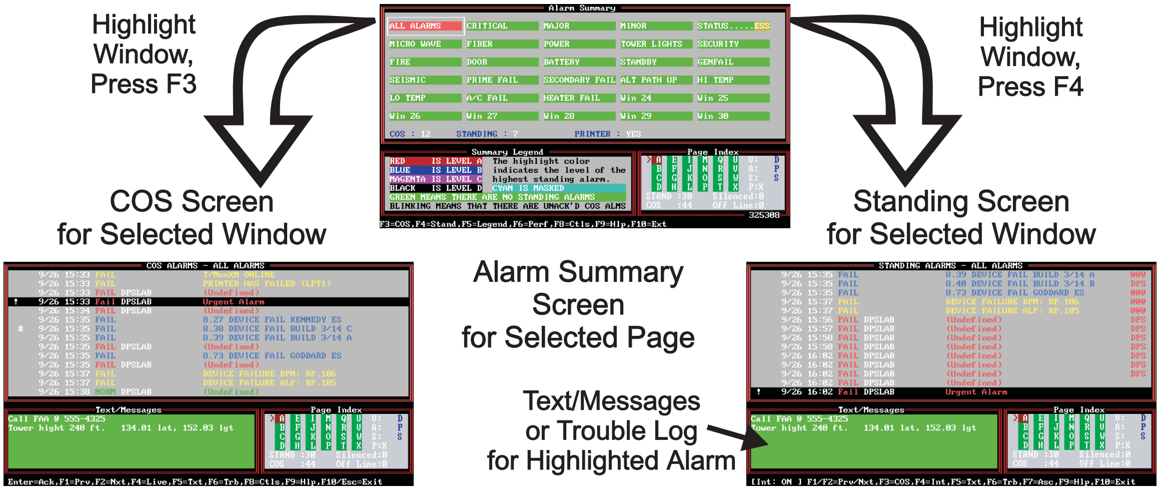
```
                              Alarm Summary
ALL ALARMS      CRITICAL        MAJOR           MINOR           STATUS
POWER           TOWER LIGHTS    FIBER           MICROWAVE       SECURITY
ENVIRONMENTAL   FIRE            DOOR            SNMP ALARMS     BATTERY
STANDBY         GENFAIL         SCISMIC         PRIME FAIL      SECONDARY FAIL
HI TEMP         LO TEMP         A/C FAIL        HEATER FAIL     HISTORY REPORT
HQ REPORTS      NOC REPORTS     OFFLINE         DEVICE FAILURE  Win 30

COS : 0        STANDING : 2              PRINTER : YES

                      Summary Legend
Level A : CR         The bar color indicates        > A  E  I  M  Q  U  V:    D
Level B : MJ         the highest standing alarm       B  F  J  N  R  V  A:    P
Level C : MN         level.  Blinking bar text        C  G  K  O  S  W  S:    S
Level D : ST         means there is a COS that        D  H  L  P  T  X  P:X
No Standing Alarms   has not been acknowledged.     STAND :30     Silenced:0
Alarms are Masked                                   COS   :44     Off Line:0
                                                                     44776160
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

Fig. 16.1 - Monitor mode begins with the alarm summary screen.

The COS Alarm screen (press F3) allows you to view any alarms that have had a change of state whether they've failed or cleared.

The Standing Alarms screen (press F4) allows you to view any alarms that are currently active. The alarms will stay on this screen as long as they are active, regardless of whether they've been acknowledged.

The hierarchical format for viewing the windows is shown below:


Highlight Window, Press F3
Highlight Window, Press F4
COS Screen for Selected Window
Standing Screen for Selected Window
Alarm Summary Screen for Selected Page
Text/Messages or Trouble Log for Highlighted Alarm

```
Alarm Summary
ALL ALARMS    CRITICAL      MAJOR           MINOR          STATUS.....ESS
MICRO WAVE    FIBER         POWER           TOWER LIGHTS   SECURITY
FIRE          DOOR          BATTERY         STANDBY        GENFAIL
SEISMIC       PRIME FAIL    SECONDARY FAIL  ALT PATH UP    HI TEMP
LO TEMP       A/C FAIL      HEATER FAIL     Win 24         Win 25
Win 26        Win 27        Win 28          Win 29         Win 30
COS : 12      STANDING : 7            PRINTER : YES

Summary Legend                                        Page Index
RED     IS LEVEL A  The highlight color              >A E I M Q U  V:  D
BLUE    IS LEVEL B  indicates the level of the        B F J N R V  A:  P
MAGENTA IS LEVEL C  highest standing alarm.           C G K O S W  S:  S
BLACK   IS LEVEL D  CYAN IS MASKED                    D H L P T X  P:X
GREEN MEANS THERE ARE NO STANDING ALARMS              STAND :30  Silenced:0
BLINKING MEANS THAT THERE ARE UNACK'D COS ALMS        COS   :44  Off Line:0
                                                                    325308
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

```
COS ALARMS - ALL ALARMS
     9/26 15:33 FAIL                T/MonXM ONLINE
     9/26 15:33 FAIL                PRINTER HAS FAILED (LPT1)
     9/26 15:33 FAIL DPSLAB         (Undefined)
 !   9/26 15:33 Fail DPSLAB         Urgent Alarm
     9/26 15:34 FAIL DPSLAB         (Undefined)
     9/26 15:35 FAIL                8.27 DEVICE FAIL KENNEDY ES
 #   9/26 15:35 FAIL                8.38 DEVICE FAIL BUILD 3/14 C
     9/26 15:35 FAIL                8.39 DEVICE FAIL BUILD 3/14 A
     9/26 15:35 FAIL DPSLAB         (Undefined)
     9/26 15:35 FAIL                8.73 DEVICE FAIL GODDARD ES
     9/26 15:35 FAIL DPSLAB         (Undefined)
     9/26 15:37 FAIL                DEVICE FAILURE DPM: RP.106
     9/26 15:37 FAIL                DEVICE FAILURE ALP: RP.105
     9/26 15:38 NORM DPSLAB         (Undefined)

Text/Messages                                  Page Index
Call FAA @ 555-4325                           >A E I M Q U  V:  D
Tower hight 240 ft.   134.01 lat, 152.03 lgt   B F J N R V  A:  P
                                               C G K O S W  S:  S
                                               D H L P T X  P:X
                                               STAND :30  Silenced:0
                                               COS   :44  Off Line:0
Enter=Ack,F1=Prv,F2=Nxt,F4=Live,F5=Txt,F6=Trb,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

```
STANDING ALARMS - ALL ALARMS
     9/26 15:35 FAIL                8.39 DEVICE FAIL BUILD 3/14 A     @@@
     9/26 15:35 FAIL                8.40 DEVICE FAIL BUILD 3/14 B     DPS
     9/26 15:35 FAIL                8.73 DEVICE FAIL GODDARD ES       @@@
     9/26 15:37 FAIL                DEVICE FAILURE DPM: RP.106        @@@
     9/26 15:37 FAIL                DEVICE FAILURE ALP: RP.105        @@@
     9/26 15:56 FAIL DPSLAB         (Undefined)                       DPS
     9/26 15:57 FAIL DPSLAB         (Undefined)                       DPS
     9/26 15:58 FAIL DPSLAB         (Undefined)                       DPS
     9/26 15:58 FAIL DPSLAB         (Undefined)                       DPS
     9/26 16:02 FAIL DPSLAB         (Undefined)                       DPS
     9/26 16:02 FAIL DPSLAB         (Undefined)                       DPS
     9/26 16:02 FAIL DPSLAB         (Undefined)                       DPS
     9/26 16:02 FAIL DPSLAB         (Undefined)
 !   9/26 16:02 Fail DPSLAB         Urgent Alarm

Text/Messages                                  Page Index
Call FAA @ 555-4325                           >A E I M Q U  V:  D
Tower hight 240 ft.   134.01 lat, 152.03 lgt   B F J N R V  A:  P
                                               C G K O S W  S:  S
                                               D H L P T X  P:X
                                               STAND :30  Silenced:0
                                               COS   :44  Off Line:0
[Int: ON ] F1/F2=Prv/Nxt,F3=COS,F4=Int,F5=Txt,F6=Trb,F7=Asc,F9=Hlp,F10=Exit
```

Fig. 16.2 - Monitor mode shows alarm details in COS and standing alarm screens.

Page Index shows alarm levels for the entire network

The Alarm Summary screen has a smaller window at the lower right called the Page Index window. This window uses color to show the highest order alarm existing on each of the pages in the Alarm Summary. Since T/MonXM can accommodate up to 720 Alarm Windows, it wouldn't be realistic to try and fit them all on the same screen. This window represents each block of 30 Windows, a page, by a square of its own. The illustration on the next page shows the different parts of the display.

Note the relationship between the Alarm Summary and Page Index Windows. The Page Index Window represents groups of 30 Alarm Windows (another full screen). If you've purchased additional Alarm Windows the Page Index window will contain the appropriate number of squares. When adding additional windows, System User Accounts need to be updated to view the new windows.

The standing and COS screens automatically switch between trouble logs and text messages as alarms are browsed.

From a selected window, access to the COS Alarms screen or to the Standing Alarms screens is gained by a single key stroke (F3 or F4).

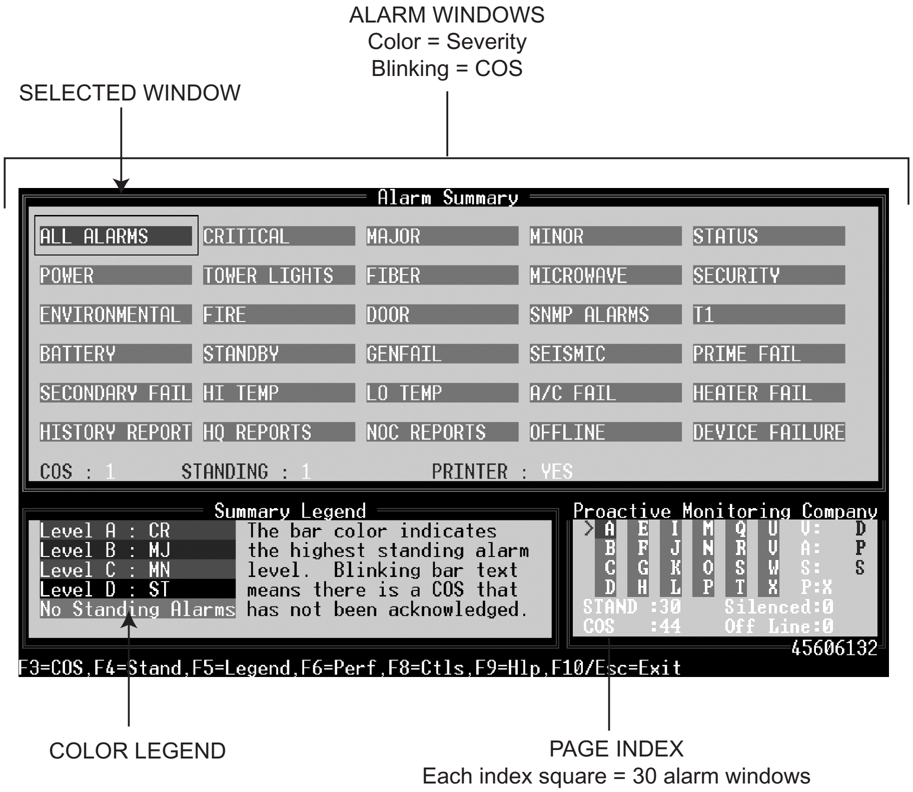
Both the COS and Standing Alarms screens have their own windows for more detailed information. Either screen can display the Text Messages or Trouble Log windows at the lower left portion of the screen (where the Summary Legend window was in the Alarm Summary screen).

Entering Monitor Mode for the first time will automatically initialize the system. .

Initialize from the Master Menu before entering Monitor Mode when logging on or after changing the database. This is necessary so the system can read the databases and prepare for monitoring.

Alarm Summary Screen

The Alarm Summary screen is the first alarm viewing screen T/MonXM displays when Monitor Mode is initiated. The Alarm Summary screen presents status information for the entire network on one screen. This screen is comprised of three separate status windows: the Alarm Summary window, the Summary Legend window and the Page Index window. Each is explained in greater detail on the following pages.



```
                                Alarm Summary
 ALL ALARMS      CRITICAL        MAJOR           MINOR           STATUS
 POWER           TOWER LIGHTS    FIBER           MICROWAVE       SECURITY
 ENVIRONMENTAL   FIRE            DOOR            SNMP ALARMS     T1
 BATTERY         STANDBY         GENFAIL         SEISMIC         PRIME FAIL
 SECONDARY FAIL  HI TEMP         LO TEMP         A/C FAIL        HEATER FAIL
 HISTORY REPORT  HQ REPORTS      NOC REPORTS     OFFLINE         DEVICE FAILURE
 COS : 1       STANDING : 1            PRINTER : YES

               Summary Legend                   Proactive Monitoring Company
 Level A : CR      The bar color indicates       > A  E  I  M  Q  U  V:    D
 Level B : MJ      the highest standing alarm      B  F  J  N  R  V  A:    P
 Level C : MN      level.  Blinking bar text       C  G  K  O  S  W  S:    S
 Level D : ST      means there is a COS that       D  H  L  P  T  X  P:X
 No Standing Alarms has not been acknowledged.   STAND :30    Silenced:0
                                                 COS   :44    Off Line:0
                                                                 45606132
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

Fig. 16.3 - The alarm summary screen presents three status windows.

Table 16.A - Commonly used key commands available in the Alarm Summary screen

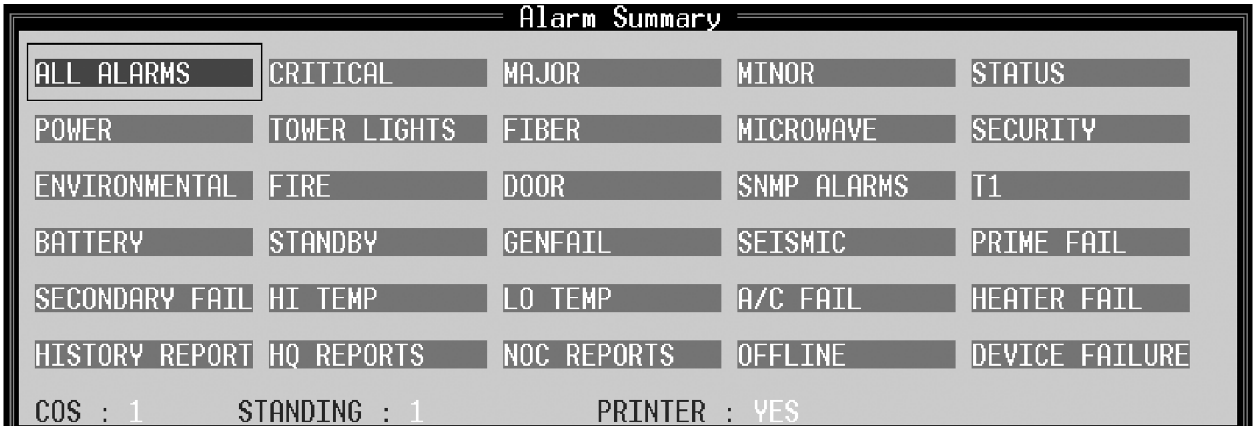
Field	Description
F3	COS. Show Change of State Alarms for selected window. See section 16-15 for more information.
F4	Show Standing Alarms for selected window. See section 16-18 for more information.
F5	Summary Legend. See section 16-8 for more information.
F6	Performance/Statistics Mode. See section 16-30 for more information.
F8	Site Controls for selected window. See section 16-34 for more information.
F9	Online help.
F10/Esc	Exit Monitor mode.

Note: Press F9 for a full description of all function keys — see Appendix I (Quick Reference Tables).

Alarm Summary Window

Fewer windows may be displayed for users with fewer security access permissions

The Alarm Summary window is located in the upper portion of the Alarm Summary Screen. It displays up to 30 alarm grouping windows per page. A total of 90 windows (or any increment of 90 windows up to 720 windows total) can be viewed in this window by using the PgDn/PgUp keys or the keyboard letter (A-X) corresponding to the page index letter. You will notice a box around one of the windows. This is the window selection box. It can be moved across the screen to the various windows using the editing keys listed in the table below.



COS : 1   STANDING : 1   PRINTER : YES

Fig. 16.4 - Upper portion of alarm summary screen shows 30 alarm windows.

Table 16.B - Editing key commands available in the Alarm Summary Window

Function Key	Description
Left Arrow/Right Arrow	Move left or right one window.
Up Arrow/Down Arrow	Move up or down one window.
PgUp/PgDn	Move up or down one page of windows.
Home	Go to first page of alarm windows.
End	Go to last page of alarm windows.
A-X	View alarm page that corresponds to the letter (30 Windows per page). See section 16-6 (Page Index Window) for more information.

Window titles blink when COS alarms appear.

When the box is over a particular window and you wish to view more information on the alarms in that window, press F3 to access the COS Alarm screen or F4 for the Standing Alarm screen. These are explained on the next few pages.

Window titles will blink when unacknowledged COS alarms appear in that window. An unacknowledged COS Alarm is one that you have not acknowledged previously as being active. When a window is blinking, you can move the window selection box to the window and press F3 to zoom in on the COS alarm.

Acknowledging indicates the alarm has been seen

Acknowledging alarms. The act of acknowledging an alarm simply indicates that the alarm has been seen by someone and that it is noted or that some form of action has been started. When an alarm is acknowledged it is no longer displayed in a manner intended to attract attention, such as blinking. (Acknowledging is done while in the COS Alarms screen — see Section 16-25.)

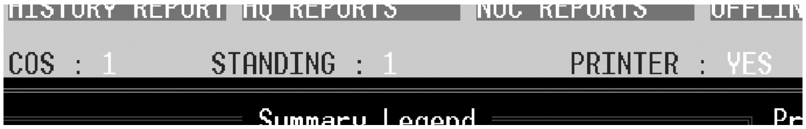
Colors denote severity

The priority or level of the most severe alarm can be easily determined by looking at the color of the window. (The color is the background color under the window title.) For example, if most of the alarm windows are green and one is red (the most severe alarm status), you know there is at least a critical alarm (Level A) in the alarm window that is red. The colors used on the Alarm Summary window coincide with the colors listed in the Summary Legend window located at the bottom left of the Alarm Summary screen (see Section 16-8).

Toward the bottom of the Alarm Summary window are three fields which give you additional information about the alarm window currently selected. The COS and Standing fields show the alarm count of the window you are currently positioned on. This is different from the Page Index window's Standing and Alarm fields which give alarm counts for all of the windows that you are authorized to access (see next page).

The Printer logging field is always Yes when you are logged on to the main system — see Figure 16.5. The printer logging field shows whether or not alarms for a window will be logged to the printer. Printer logging can be toggled off by pressing Ctrl-F1 (see Page Index window on section 16-6 for more information).

Note: There is a yes/no option for printer logging on remote systems if, for example, you didn't want your remotes to log alarms.

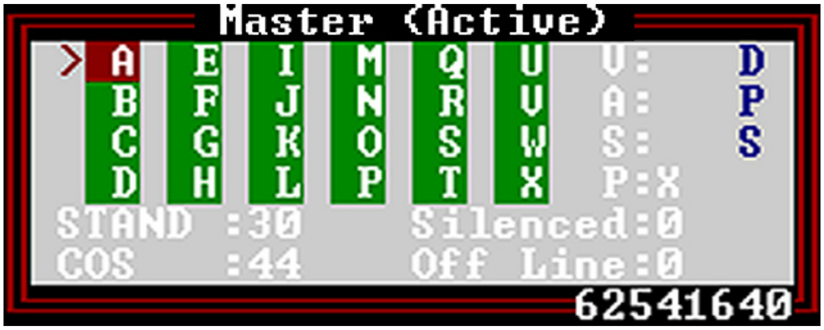


COS : 1   STANDING : 1   PRINTER : YES

Fig. 16.5 - COS, Standing, and Printer fields

Page Index Window

Page Index displays > next to the current alarm page number.



```
Master (Active)
>A  E  I  M  Q  U  V:   D
 B  F  J  N  R  V  A:   P
 C  G  K  O  S  W  S:   S
 D  H  L  P  T  X  P:X
STAND :30      Silenced:0
COS   :44      Off Line:0
                      62541640
```

Fig. 16.6 - Page index shows page and status

The Page Index window is located at the lower right portion of the Alarm Summary screen. It is the only window that is always displayed when in Monitor mode. This window will display a “>” symbol next to the alarm page letter you are currently viewing. Each illustrated page represents one (A) full page of Alarm Summary windows. For example, page A allows you to view the first 30 windows, page B you would see windows 31-60, etc.

Users can only view as many windows as they are authorized to access, regardless of how many windows are installed. Therefore, if you only see a few pages in the Page Index window but know you have more windows installed, you may want to check the View Alm Windows setting in the System Users screen from the Files menu to see if all installed windows are available.

The Page Index window also displays monitoring statistics and conditions as listed in Table 16.C.

Live status reports of your master and slave units also appear above the Page Index Window screen if you are using a network of T/Mons or IAMs. You’ll see the name of your unit and whether it’s active or passive, so you’ll always know whether your master or slave units are polling your remotes — see Figure 16.6.

Table 16.C - Fields in the Page Index window

Field	Description
Stand	Displays the alarm count of the total number of standing alarms for the windows in the system that you are authorized to access.
COS	Displays the alarm count of the total number of unacknowledged COS alarms for the windows in the system that you are authorized to access.
Off Line	Displays the count of the total number of addresses that have been manually taken offline. This reminds you if any addresses are now off line.
V	Visual Cutoff (VCO) status of the Audible Alarm Card. “X” indicates disabled. Alt F1 opens the Alarm Indicator Control window where the VCO is controlled. (See section 16-39 for further information.)

Note: Table 16.C continues on following section.

Table 16.C - Fields in the Page Index window (continued)

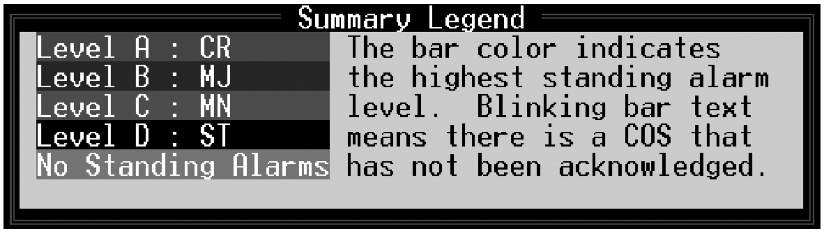
Field	Description
A	Audible Cutoff (ACO) status of the Audible Alarm Card. "X" indicates disabled. Alt-F1 opens the Alarm Indicator window where the ACO is controlled. (See section 16-26 for further information.)
S	Sound status of the Audible Alarm Card (refers to the on-board speaker on the Audible Alarm Card that emits warning sounds for different level alarms). "X" indicates disabled. Ctrl-F4 toggles.
P	Printer Logging status. "X" indicates disabled. Ctrl-F1 toggles.
Silenced	Shows number of silenced items in the system. That is, the number of entries in the list when Alt-F4 is pressed.
R	Indicates that the Report resource is in use.

Note: ACO and VCO control external devices that are connected to relays on the audible alarm card.

The Page Index window uses the same color scheme as the Alarm Summary window. The Page Index window colors, however, show the status of the entire set of windows on a page-by-page basis, rather than on a window-by-window basis. The highlight color indicates the level of the highest standing alarm on the page. If there is an unacknowledged COS alarm the page number will blink.

The initials of the person logged on are displayed vertically on the right side of the Page Index Window. In the example in Figure 16.6 the person logged in is "DPS."

Summary Legend Window



Summary Legend

Level A : CR

Level B : MJ

Level C : MN

Level D : ST

No Standing Alarms

The bar color indicates the highest standing alarm level. Blinking bar text means there is a COS that has not been acknowledged.

Fig. 16.7 - Summary legend window shows color scheme.

The Summary Legend window is located at the lower left portion of the Alarm Summary Screen. It shows the alarm color coding scheme that indicates alarm status/severity for the alarm summary and page index. The default colors are described in Table 16.D.

Table 16.D - Default colors in the Alarm Summary screen

Field	Description
RED	Indicates a level “A” alarm is the highest standing alarm.
BLUE	Indicates a level “B” alarm is the highest standing alarm.
MAGENTA	Indicates a level “C” alarm is the highest standing alarm.
BLACK	Indicates a level “D” alarm is the highest standing alarm.
GREEN	Indicates that there are no Standing alarms.
BLINKING	Indicates that there are unacknowledged COS alarms.
CYAN	Indicates masked alarms.

Note: These colors can be changed in the Alarm Summary Colors window under the Parameters menu — see section 16-23.

Table 16.E - Key commands available in the Alarm Summary screen

Function Key	Description
F3	Activates the Change-Of-State Alarm screen (COS) (see section 16-25) for the current alarm window selected.
F4	Activates the Standing Alarm screen (see section 16-28). This screen will only show alarms that are standing (failed) for the current alarm window selected.
F5	Selects the Summary Legend window to display T/MonXM’s color coding scheme for indicating alarm levels. This window will be displayed by default until you’ve selected one of the other sub-mode windows.
F6	Selects the Performance/Statistics window (see section 16-31) which shows a variety of information on the quality of alarm equipment’s’ communication link to T/MonXM.

Note: Table 16.E continues on following page.

Table 16.E - Key commands in the Alarm Summary screen (continued)

Function Key	Description
F8	Activates the Site Controls screen (see section 16-34) for the selected window.
F9	Displays on line help for the Alarm Summary Mode.
F10/Esc	Exit monitor mode or logoff. Press Y to logoff but continue monitoring alarms. Press R to logoff and quit monitoring alarms. **Note:** This selection can be activated only if security authorization has been given in the System Users screen — see Section 7, System Users Press N to continue monitoring and stay logged on.
Alt-F1	Allows editing of the Audible/Relay card configurations from the Alarm Indicator Control window (see section 16-39).
Alt-F2	Resets the statistics in the Performance/Stats window (see section 16-31).
Alt-F3	Silences the selected alarm window — see section 16-30 (Silence Alarm/ Window).
Alt-F4	Displays list of silenced items and their expiration dates/times (see section 16-30).
Alt-F5	Activates the English Analyzer window. Displays protocol traffic to and from the alarm equipment in English. (see section 16-42)
Alt-F7	Enables you to print a report by displaying the Report Mode menu (see section 16-44).
Alt-F8	Activates the Protocol Analyzer window to display protocol traffic to and from the alarm equipment in hexadecimal, decimal or ASCII format. (see section 16-46) **Note:** The Protocol Analyzer is available only from the Main Console, not from a remote access application.
Alt-F9	Activates the Channel Summary window (see section 16-35) to display the polling mode, status, error percentage and current polling of four channels at a time.
Ctrl-F1	Toggles printer logging in the Page Index window (see section 16-6). The printer which is connected on the main T/MonXM system will, if enabled, print all alarms that are displayed in the All Alarm window. On DPS T/Remote and T/Windows the user can select a Single alarm window to print an alarm from. **Note:** Do not enable this feature unless a printer is connected to the parallel printer port or an alarm will be reported.
Ctrl-F2	Activates the TL1 Observation screen if you have the TL1 Responder Software Module installed. For more information, see Software Module 13 — TL1 Responder.
Ctrl-F3	Activates the Building Access Site Status screen if you have the Building Access Software Module installed. For more information—see Software Module 22 — Building Access System.
Ctrl-F4	Controls the Audible/Relay card local sound cutoff (see section 16-39). Current status is displayed in the page index window.
Ctrl-F5	Activates English Filter window (see section 16-42). Use in conjunction with English Analyzer window to view data traffic from specific equipment.

Table 16.E - Key commands in the Alarm Summary screen (continued)

Function Key	Description
Ctrl-F6	Displays the System Information window (see section 16-51). This screen shows the current Standing Alarm Memory Threshold number, COS Auto Acknowledge Threshold number and history.
Ctrl-F7	Activates the Craft Mode screen (see section 16-53). Enables you to communicate with XM ports, typically ASCII and Craft.
Ctrl-F8	Activates the Labeled Controls screen (see section 16-55). This allows you to operate control equipment within your network using English-based look-up tables.
Ctrl-F9	Activates the Remote Access Chat Mode window (see section 16-45). Selects a communication chat mode that allows remote terminal users to communicate with each other and the T/Mon.
Shift-F2	Activates the X25 Statistics screen — see Appendix C for configuration information.
Shift-F3	Activates the Pager Status screen. For more information see section 16-60.
Shift-F4	Activates the Dialup Site Monitor screen (see section 16-49) if you have a dial-up remote connection. T/MonXM comes standard with TRIP software support. For more information see Software Module 3 (Standard Dial-Up Remotes).
Shift-F5	Activates the VDM Voltages screen if you have the VDM Software Module installed.
Shift-F6	Activates the Site Statistics screen. This screen gives you general statistics about a particular site. Allows you to take devices on/off line as well as other address specific special functions. (See section 16-62.)
Shift-F7	Activates the ASCII Analyzer screen if you have either Direct or Dial Up ASCII Software Module installed. For more information, see Software Module 6 -ASCII Interrogator.
Shift-F8	Activates the Datalok 10 Voltages screen if you have the Pulsecom Datalok Software Module installed. For more information, see Software Module 16 – Pulsecom Datalok.
Shift-F10	Activates the DCP(F) Network screen. For more information, see Software Module 1 – DCP(F) Interrogators/Responders. (This module is standard in T/MonXM.)
PgUp	Select the previous page of alarm widows.
PgDn	Select the next page of alarm windows.
Home	Positions first page (windows 1-30) of alarm windows on the screen.
End	Positions the last page of alarm windows on the screen.

Note: Appendix I provides helpful quick reference sheets.

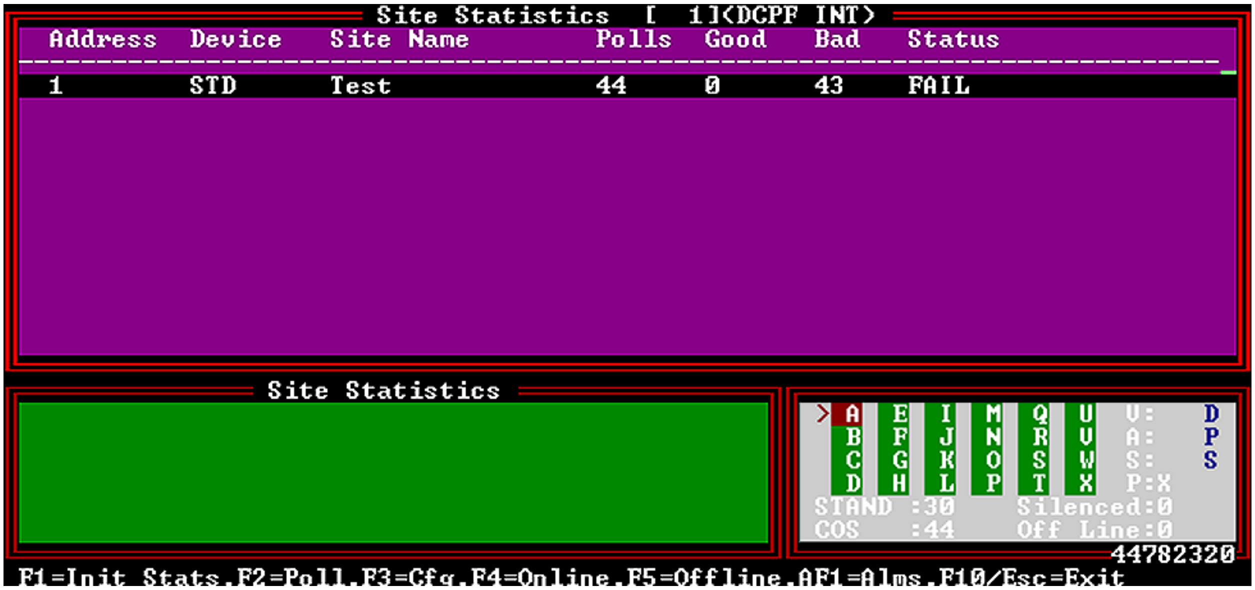
Monitor Sub-Mode Descriptions

T/MonXM's Monitor Mode allows a multitude of sub modes to be activated while polling. These include modes such as English Analyzer, Protocol Analyzer, and Report mode. Alarm equipment polling will continue in the background.

Monitor sub-modes are explained in greater detail throughout this section.

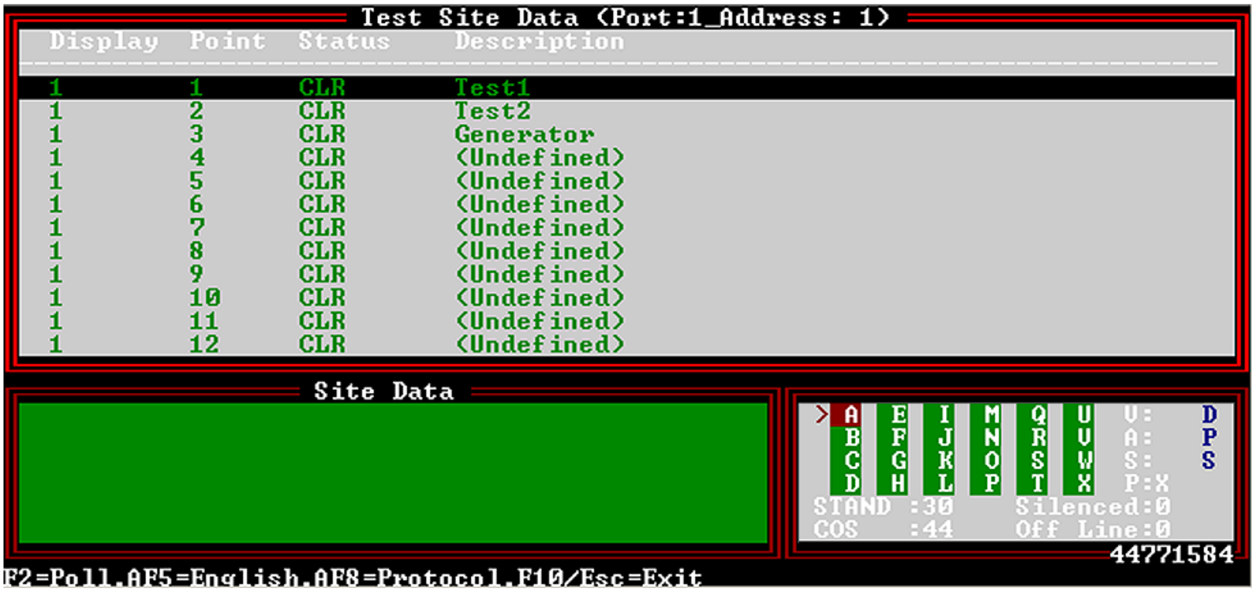
Monitor Alarm Point Descriptions

First, press Shift-F6 to monitor the status of your devices (see Figure 16.8). Select a device, and then press Alt-F1 to monitor your alarm point descriptions (see Figure 16.9).



```
Site Statistics  [  1](DCPF INT)
  Address  Device  Site Name        Polls  Good  Bad  Status
 -----------------------------------------------------------
  1        STD     Test             44     0     43   FAIL

Site Statistics
STAND :30      Silenced:0
COS   :44      Off Line:0
                                   44782320
F1=Init Stats,F2=Poll,F3=Cfg,F4=Online,F5=Offline,AF1=Alms,F10/Esc=Exit
```

Fig. 16.8 - Monitor Site Statistics in the Monitor Mode by pressing Shift-F6



```
Test Site Data (Port:1_Address: 1)
  Display  Point  Status   Description
 ---------------------------------------------
  1        1      CLR      Test1
  1        2      CLR      Test2
  1        3      CLR      Generator
  1        4      CLR      (Undefined)
  1        5      CLR      (Undefined)
  1        6      CLR      (Undefined)
  1        7      CLR      (Undefined)
  1        8      CLR      (Undefined)
  1        9      CLR      (Undefined)
  1        10     CLR      (Undefined)
  1        11     CLR      (Undefined)
  1        12     CLR      (Undefined)

Site Data
STAND :30      Silenced:0
COS   :44      Off Line:0
                                   44771584
F2=Poll,AF5=English,AF8=Protocol,F10/Esc=Exit
```

Fig. 16.9 - Monitor alarm points in the Monitor Mode by pressing Alt-F1

Monitor Mode Operation Notes

Monitor Mode is a conglomeration of many individual operations. Because of memory and storage limitations and the effect it has on the computer's speed of operation, T/MonXM uses every chance possible to conserve memory and disk storage. This conservation enhances the program's speed of execution.

When many large databases are defined and there are great amounts of data that must be polled or monitored, program speed of execution becomes crucial. T/MonXM uses the following techniques to increase the program's speed of execution and performance:

Automatic History Purging
T/MonXM will automatically purge History file entries based on the number of entries in the file. The selected level can be no less than the current number of entries in the history file (the exception being an absolute minimum level of 100). The default level is 75,000 entries. Entries are automatically purged if there is less than 200K of free disk space. The Auto History Purging option can be disabled by selecting a really large value (more entries than would fit on a hard disk). This option is called Hist Auto Purge and is located in Miscellaneous command on the Parameters menu.
Note: this is a first in, first out setup (i.e. oldest entry is deleted first).

Standing Alarm Virtual Mode
Standing alarms will be logged to disk when the total number of standing alarms is greater than the threshold computed at the time the system is initialized. The threshold is computed based on the amount of available memory after initialization. The threshold can be viewed by pressing Ctrl-F6 while in Monitor Mode. The oldest standing alarms are always stored in the computer's memory. Any other standing alarms will be stored on disk. There must be at least 100K of free disk space available for a standing alarm to be logged to disk. An alarm will not be logged if there is insufficient disk space. The standing alarm count will blink when alarms are not being logged.

Automatic Alarm Acknowledging
Change of state alarms will be automatically acknowledged in the order of occurrence, from the oldest to the newest, as needed. This is done to be sure that there is always sufficient computer memory available to log new alarms.

Alarms will be automatically acknowledged when the total number of occurrences of alarms in the change of state alarm windows is greater than the user-defined COS threshold. This option is set in the Parameters > Miscellaneous Parameters menu option when Offline, and has a maximum value of 3000.

If the Initials option is active, then the initials of an alarm that has been automatically acknowledged will be reported as @@@. (The initials are only displayed in Standing Alarm mode.)

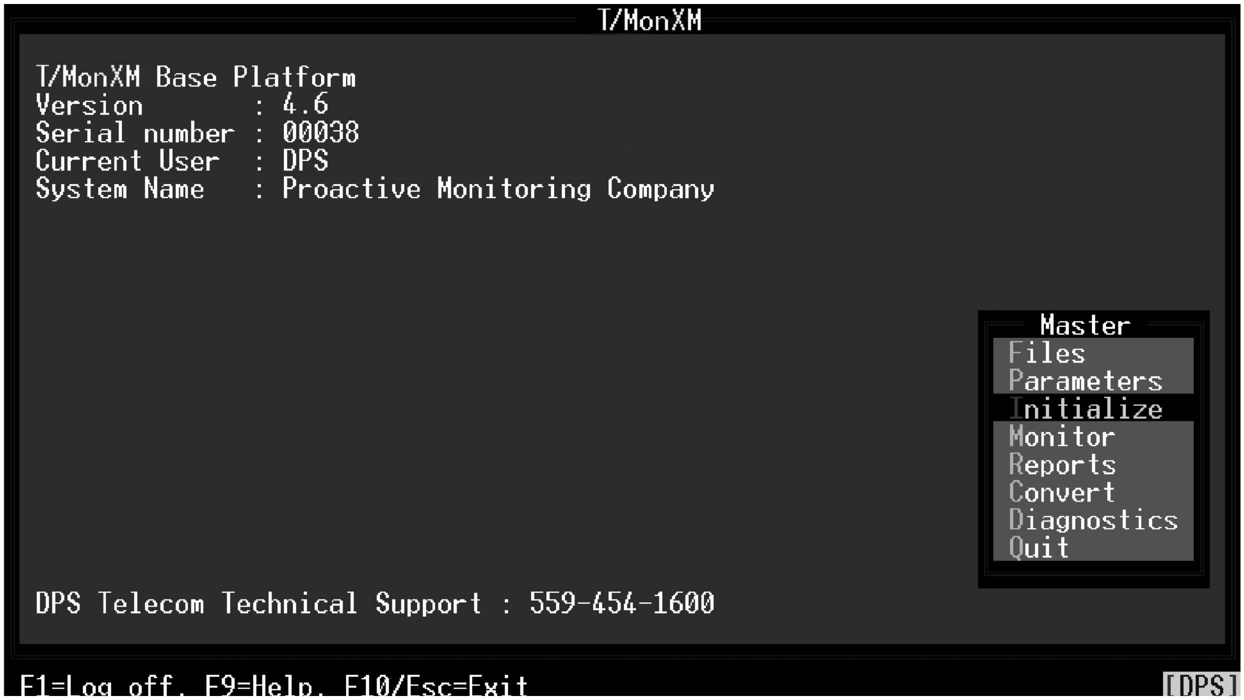
Initialization

Selecting Initialize from the Master menu will bring you to the Core Prep screen and start system initialization. Initialization and Core Prep makes ready all data structures and files Monitor mode uses. Any database changes you've made will not take effect until you've initialized after making the changes.

As of T/MonXM 4.2, it is no longer necessary to manually initialize the system before entering Monitor Mode. Choosing Monitor from the Master menu will automatically initialize the system.

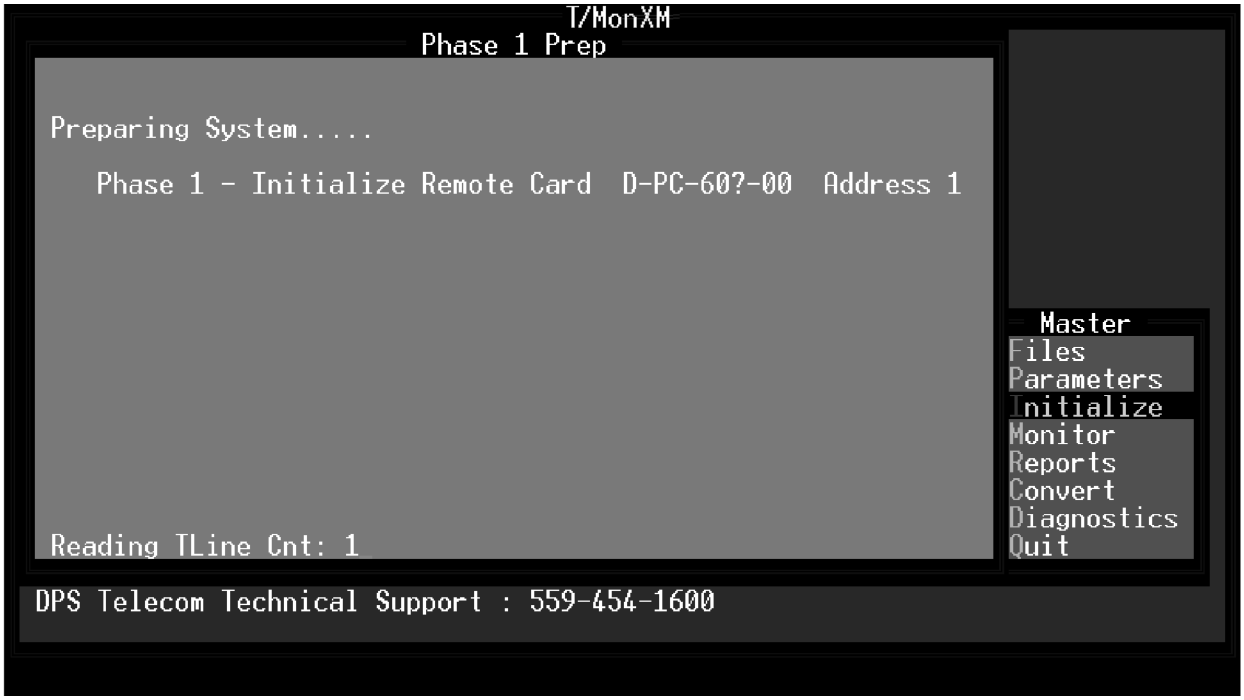
However, you must manually choose Initialize from the Master menu after making database changes for your changes to take effect.

Note: Always initialize after making Database changes as certain changes may cause problems if not initialized first.



```
T/MonXM Base Platform
Version       : 4.6
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600
```

Fig. 16.10 - The initialize function is selected from the master menu.



```
T/MonXM
Phase 1 Prep

Preparing System.....

   Phase 1 - Initialize Remote Card  D-PC-60?-00  Address 1

Reading TLine Cnt: 1

DPS Telecom Technical Support : 559-454-1600
```

Fig. 16.11 - The Core Prep screen appears during the initialize function.

Core Prep

This mode runs automatically upon selecting the Initialize function from the Master menu. Core Prep will automatically run the first time Monitor Mode is entered.

It must also be run again if you make any changes to database files or they will not take effect in the monitoring system.

When used with a large database, this function can be time intensive (on the order of a few minutes).

Alarm Formatting

Configure Monitor Screen format with Edit Alarm Format Screen

The Alarm Formatting screen allows you to configure the screen format for the alarm displays that will be shown in monitor mode. This allows formatting the alarm message so it is most useful for alarm system attendants. The Alarm Formatting screen is similar in operation to the Alphanumeric Pager Formats screen in the File Maintenance Section.

Alarm Format Definition allows the user to customize which alarm fields are defined, their position, and the colors used when an alarm is reported on the screen. The T/Mon system has a default alarm format to display the most common data, but can be customized to fit a user's information needs. Field position, width and color are all user definable. The text displayed for each alarm level is user definable.

The text displayed for the Status field is definable on an alarm-by-alarm basis. (Both a fail status description and a clear status description can be defined for each alarm. If a status description is not defined for a particular alarm, a global default description is displayed).

Special color options called FOLLOW STATUS, FOLLOW LEVEL and FOLLOW MATRIX allow the color of a field to be derived from the alarm's state or combination of states (failed, cleared, level A, etc.).

The width of the Alarm Format Definition may be up to 2 screens wide (a total of 153 characters). Pressing Tab while in Monitor mode toggles the format between being left justified and right justified. (A parameter in the Miscellaneous Parameters section called Alarm Pan Time-out determines when a right justified screen will

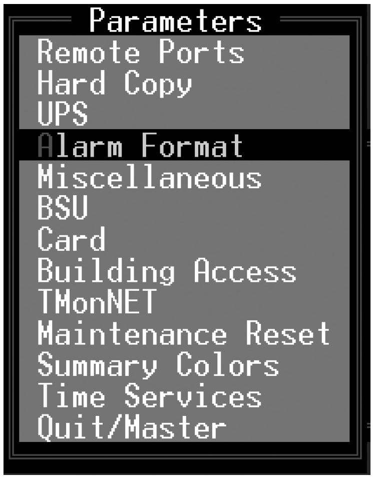
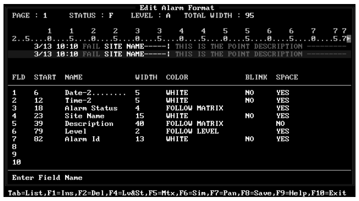


Fig. 16.13 - Alarm Format menu command



```
                       Edit Alarm Format
PAGE : 1      STATUS : F    LEVEL : A   TOTAL WIDTH : 95

        1    1    2    2    3    3    4    4    5    5    6    6    7    7 7
2..5....0....5....0....5....0....5....0....5....0....5....0....5....0....5.7
     3/13 10:10 FAIL SITE NAME-----| THIS IS THE POINT DESCRIPTION ---------
     3/13 10:10 FAIL SITE NAME-----| THIS IS THE POINT DESCRIPTION ---------


FLD  START  NAME            WIDTH  COLOR            BLINK  SPACE
-----------------------------------------------------------------------------
1    6      Date-2........  5      WHITE            NO     YES
2    12     Time-2          5      WHITE            NO     YES
3    18     Alarm Status    4      FOLLOW MATRIX           YES
4    23     Site Name       15     WHITE            NO     YES
5    39     Description     40     FOLLOW MATRIX           NO
6    79     Level           2      FOLLOW LEVEL            YES
7    82     Alarm Id        13     WHITE            NO     YES
8
9
10
-----------------------------------------------------------------------------
Enter Field Name

Tab=List,F1=Ins,F2=Del,F4=Lv&St,F5=Mtx,F6=Sim,F7=Pan,F8=Save,F9=Help,F10=Exit
```

Fig. 16.12 - Alarm formatting screen

automatically be restored to being left justified. This is safety feature designed to prevent confusion when reading the alarm display.)

To access the Alarm Formatting screen select Alarm Formatting from the Parameters menu and press Enter. The Edit Alarm Format screen will appear.

The screen presents status information at the top and two example format bars below that. The status information includes the page, status, level and total width. This information tells you what the format bars are showing. The upper format bar illustrates the message that will be shown on the screen as a highlighted window. The lower format bar illustrates the message that will be shown on the screen as an un-highlighted window. This simulates the two backgrounds as you would see them in Monitor mode. Do not pick one of these background colors as an alarm color because the alarm will not be visible.

Table 16.F explains how the format bar and associated function keys can be used to quickly pre-view a message.

Table 16.F - Status information fields in the Edit Alarm Format screen

Function Key	Description
Page	Portion of the format bar being shown. Page 1 always shows character columns 2 through 77. Page 2 shows the balance of the columns (up to 153). F7 toggles between the two pages.
Status	What alarm status (F = Failed, C = Clear) is represented on the format bar. If the status is changed by stepping through with F6 the status characters in the format bar will change to show how the message changes when status changes. The actual words used to describe the status can be changed by using the F4 key. (See additional information in the table that follows.)
Level	What alarm level (A, B, C, D) is represented on the format bar. If the level is changed by stepping through with F6 the level characters in the format bar will change to show how the message changes when alarm level changes. The actual words used to describe the level can be changed by using the F4 key. (See additional information in the table that follows.)
Total Width	Number of characters the message occupies at its present state of configuration. This number will increase as further fields are defined.

Fields allow you to keep track of what is being simulated.

By default, the first field starts at character 6.

When the Edit Alarm Format screen is opened the cursor will be located in the Name field. Up to 14 fields can be defined with a total of up to 153 characters. For each field you will enter a name, width and whether a space is to separate it from the following field. The name of the field must be selected from an established list that can be viewed by pressing the Tab key while the cursor is in the name column. Each item on the list also has a default value for the field width, which can be edited while the cursor is in the width column. The following table provides details.

The screen captures in this alarm formatting sub-section reflect the DPS default settings.

New systems will default to DPS recommendations. When creating an alarm format, always put the most important information on the first screen.

Table 16.G - Fields in the Edit Alarm Format screen

Field	Description	
FLD	Field position.	
START	The starting column of the field. Note that this item cannot be edited. (Start is automatically calculated based on field position and width).	
NAME	The name of field. Use the Tab key to bring up a list of names. Then use the Tab key to move the highlight bar and press Enter to select the highlighted item. Options available include:	
	Alarm ID	Port.Address.Display.Point
	Alarm Status	Fail and clear description
	Level	Severity (CR, MJ, MN, ST)
	Description	Alarm description
	Disp Desc	Display description
	Date-1 [MM/DD/YY]	Month/Day/Year
	Date-2 [MM/DD]	Month/Day
	Date-3 [JAN 12, 1992]	Date (text description)
	Date-4 [JAN 12]	Date (text description, year omitted)
	Time-1 [12:34:56]	Time (hour:minute:second)
	Time-2 [12:34]	Time (hour:minute)
	Site Name	Site name as defined in Parameters > Remote Ports > Device Definition screen.
	Protocol	Port type description
	Device Type	Device type description
	Aux Desc	Auxiliary description **Note:** you must enable this feature in the Parameters > Miscellaneous screen option.
	System Name	T/Mon system name as defined in Parameters > Miscellaneous screen option.
	Ack Label	“ACK:” (optional)
	Ack Initials	Initials of user who acknowledged alarm.
	Ack Date-1 [MM/DD/YY]	Date of Ack (Month/Day/Year)
	Ack Date-2 [MM/DD]	Date of Ack (Month/Day). No year shown.
	Ack Date-3 [JAN 12, 2003]	Date of Ack (text description)
	Ack Date-4 [JAN 12]	Date of Ack (text description, year omitted)
	Ack Time-1 [12:34:56]	Time of Ack (hour:minute:second)
	Ack Time-2 [12:34]	Time of Ack (hour:minute)

Note: Table 16.G continues on following section.

Table 16.G - Fields in the Edit Alarm Format screen (continued)

Field	Description	
NAME	Time Stamp	Time alarm was collected by remote unit.

	Ats Status	Absolute Status.
		A = Alarm
		C = Clear

	Event ID	Unique number associated with an alarm event.
	Pager Prof	Pager profile associated with alarm.
WIDTH	Width of the field. If the width is set to be less than the amount of data in the field then the right-hand part of the field will be truncated.	
COLOR	Color of the text. The following color choices are available: Black, Blue, Green, Cyan, Red, Magenta, Brown, Lt Gray, Drk Gray, Lt Blue, Lt Green, Lt Cyan, Lt Red, Lt Magenta, Yellow, and White. The entries FOLLOW STATUS, FOLLOW LEVEL and FOLLOW MATRIX are colors that are derived based on the state of the alarm. Use function keys F4 and F5 to set these up. See details in Level and Status Attributes and Level and Status Matrix on the following pages.	
BLINK	Determines whether the text will blink. This field does not apply to the derived colors. This is because BLINK is part of the derived definition.	
SPACE	Determines whether a trailing space follows the field. Use the Tab key to select Yes or No.	

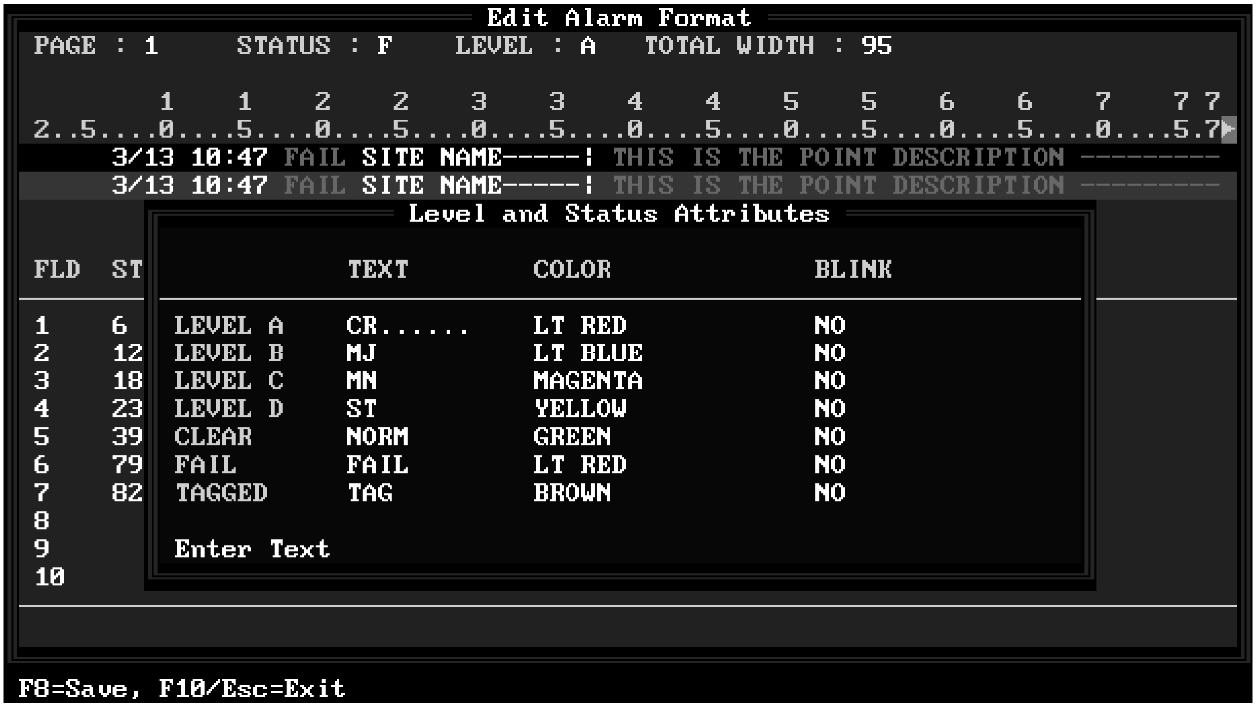
Table 16.H - Key commands available in the Edit Alarm Format Screen

Function Key	Description
Tab	List. This key displays optional entries in the field.
F1	Ins. Inserts a blank field entry at the current cursor position.
F2	Del. Deletes the field entry that the cursor is under.
F4	Lv&St. Allows editing of the Level and Status and Attributes — see details in section 16-19 (Level and Status Attributes).
F5	Mtx. Allows editing the color and blinking attributes of level and status matrix — see section 16-20 (Level and Status Matrix).
F6	Sim. Cycles through all combinations of level and status to allow pre-viewing the message in the format bar.
F7	Pan. Toggles the page number and format bar to show the portion not currently on the screen.
F8	Save. Saves the Alarm Format definition.
F9	Help. Online Help.
F10/Esc	Exit. Exits without saving any changes that may have been made.

Level and Status Attributes

Press F4 in the Edit Alarm Format screen to edit the Level and Status Attributes window.

This window allows editing level text, level colors, (used by the FOLLOW LEVEL color option), default status text (text used by the status field if no status description is defined on Point Definition screen), and status colors (used by the FOLLOW STATUS color option).



```
                          Edit Alarm Format
 PAGE : 1     STATUS : F    LEVEL : A   TOTAL WIDTH : 95

        1    1    2    2    3    3    4    4    5    5    6    6    7    7 7
 2..5....0....5....0....5....0....5....0....5....0....5....0....5....0....5.7
      3/13 10:47 FAIL SITE NAME-----¦ THIS IS THE POINT DESCRIPTION ---------
      3/13 10:47 FAIL SITE NAME-----¦ THIS IS THE POINT DESCRIPTION ---------
                          Level and Status Attributes

 FLD  ST              TEXT        COLOR             BLINK

 1    6    LEVEL A    CR......    LT RED            NO
 2    12   LEVEL B    MJ          LT BLUE           NO
 3    18   LEVEL C    MN          MAGENTA           NO
 4    23   LEVEL D    ST          YELLOW            NO
 5    39   CLEAR      NORM        GREEN             NO
 6    79   FAIL       FAIL        LT RED            NO
 7    82   TAGGED     TAG         BROWN             NO
 8
 9         Enter Text
 10

F8=Save, F10/Esc=Exit
```

Fig.16.13 - Level and status attributes screen

Table 16.I - Fields in the Level and Status Attributes screen

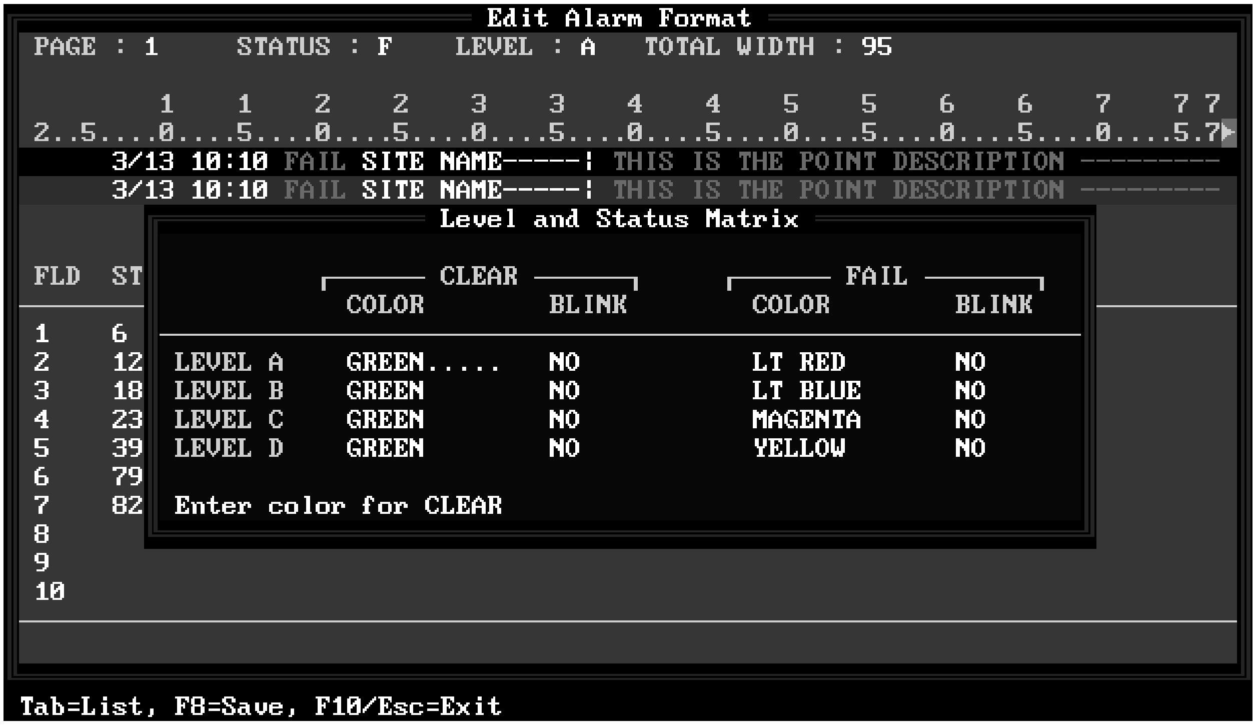
Function Key	Description
TEXT	Default text you would like displayed in the Alarm Status window. This lets you reason T/MonXM's alarm severity message text, and global default for fail and clear terminology.
COLOR	The text color for CLEAR or FAIL alarms. The following color choices are available: black, blue, green, cyan, red, magenta, brown, lt. gray, drk gray, lt blue, lt green, lt cyan, lt red, lt magenta, yellow, and white. Recommended defaults are: Crit: LT RED Maj: LT BLUE Min: MAGENTA Stat: YELLOW Norm: GREEN Alm: LT RED
BLINK	Determines whether the text will blink.

Level and Status Matrix

Press F5 on the Edit Alarm Format screen to edit the Level and Status Matrix window.

The Level and Status Matrix window allows you to define a color matrix based on the combination of Alarm Levels and Alarm Status. This is the matrix the system is going to use if you select as color FOLLOW MATRIX. (On the Edit Alarm Format screen)

T/MonXM is going to look at the alarm level status for the alarm and color those fields based on this matrix table. You can have a different color for failed alarms and cleared alarms for each level. i.e.: Use red for a critical failure, but color a critical normal green so that when the point returns to normal it does not appear to be another alarm. This takes advantage of the mind-set that red is bad and green is good.



```
                              Edit Alarm Format
 PAGE : 1     STATUS : F    LEVEL : A   TOTAL WIDTH : 95

        1    1    2    2    3    3    4    4    5    5    6    6    7    7 7
 2..5....0....5....0....5....0....5....0....5....0....5....0....5....0....5.7
      3/13 10:10 FAIL SITE NAME-----¦ THIS IS THE POINT DESCRIPTION ---------
      3/13 10:10 FAIL SITE NAME-----¦ THIS IS THE POINT DESCRIPTION ---------
                      Level and Status Matrix

 FLD  ST            ┌──── CLEAR ────┐          ┌──── FAIL ────┐
                      COLOR       BLINK          COLOR       BLINK

 1    6
 2    12   LEVEL A    GREEN.....  NO             LT RED      NO
 3    18   LEVEL B    GREEN       NO             LT BLUE     NO
 4    23   LEVEL C    GREEN       NO             MAGENTA     NO
 5    39   LEVEL D    GREEN       NO             YELLOW      NO
 6    79
 7    82   Enter color for CLEAR
 8
 9
 10

 Tab=List, F8=Save, F10/Esc=Exit
```

Fig. 16.14 - Level and status matrix screen.

Table 16.J - Fields in the Level and Status Matrix screen

Function Key	Description
COLOR	The text color for CLEAR or FAIL alarms. The following color choices are available: Black, Blue, Green, Cyan, Red, Magenta, Brown, Lt Gray, Drk Gray, Lt Blue, Lt Green, Lt Cyan, Lt Red, Lt Magenta, Yellow and White.
BLINK	Determines whether the text will blink.

Alarm Message Forwarding

The purpose of Alarm Forwarding is to send selected T/MonXM alarm data to another alarm master or master of masters in an easily parsed format.

Alarm message forwarding allows T/MonXM alarm information to be output in ASCII format via T/MonXM's remote access ports. To do this, the user selects a port as the forwarding output port. Then, after assigning the baud, parity, word length and stop bits the user assigns an alarm window to follow in T/MonXM as a forwarding window. All alarms that are assigned to the forwarding window will be displayed in that window. The alarms will also be set out the selected port in the same format as they appeared on the screen. The last parameter in the number of characters to transmit the field. This is the number of characters to transmit per message.

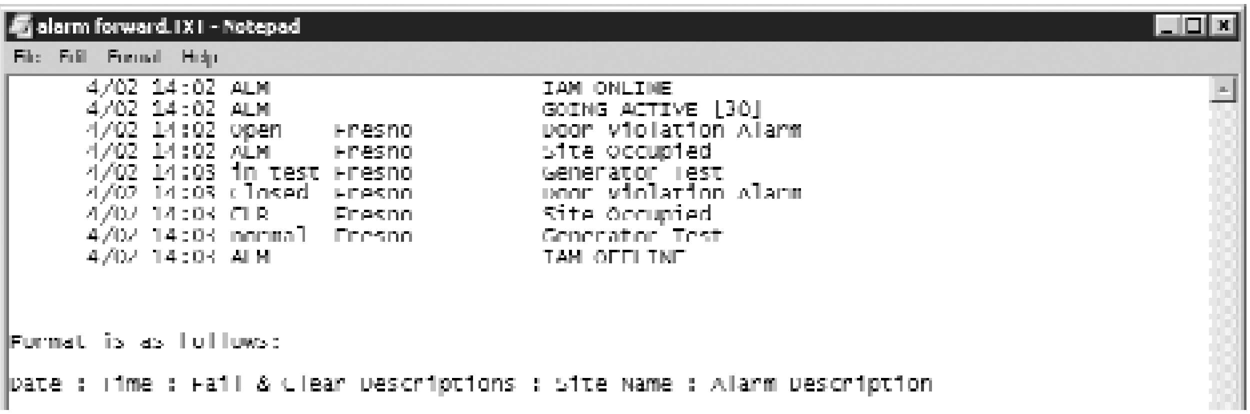
For example: All of the power related alarms from each central office are assigned to window 8. The, window 8 is set to alarm forward to one of the remote ports. This port is tied to a printer in another location. At that time, all of the alarms in the forwarding window are output to the printer while all other alarms are only seen at the main workstation.

Basic Operation and Setup

Installation of the optional alarm message forwarding software module is required to define or access a port for the Alarm Forward option. Refer to Section 2 (Software Installation) for installation procedures.

When the software module is installed, selecting Remote Ports from the Parameters menu will allow you to select and define the alarm forward port and parameters.

An example of the Remote Parameters screen defined for Alarm Forward is on the next page.



```
      4/02 14:02 ALM                          IAM ONLINE
      4/02 14:02 ALM                          GOING ACTIVE [30]
      4/02 14:02 open     Fresno              Door Violation Alarm
      4/02 14:02 ALM      Fresno              Site Occupied
      4/02 14:03 in test  Fresno              Generator Test
      4/02 14:03 closed   Fresno              Door Violation Alarm
      4/02 14:03 CLR      Fresno              Site Occupied
      4/02 14:03 normal   Fresno              Generator Test
      4/02 14:03 ALM                          IAM OFFLINE


Format is as follows:

Date : Time : Fail & Clear Descriptions : Site Name : Alarm Description
```

Fig. 16.15 - Example alarm forwarding text

Alarm Forward Parameters

Note: Alarm Forwarding can be assigned only to Intelligent Controller Card Ports (Ports 1-20).

Port Usage
Enter Alarm Forward in the port usage field. Use Halted (default) in Alarm Forward is not used.

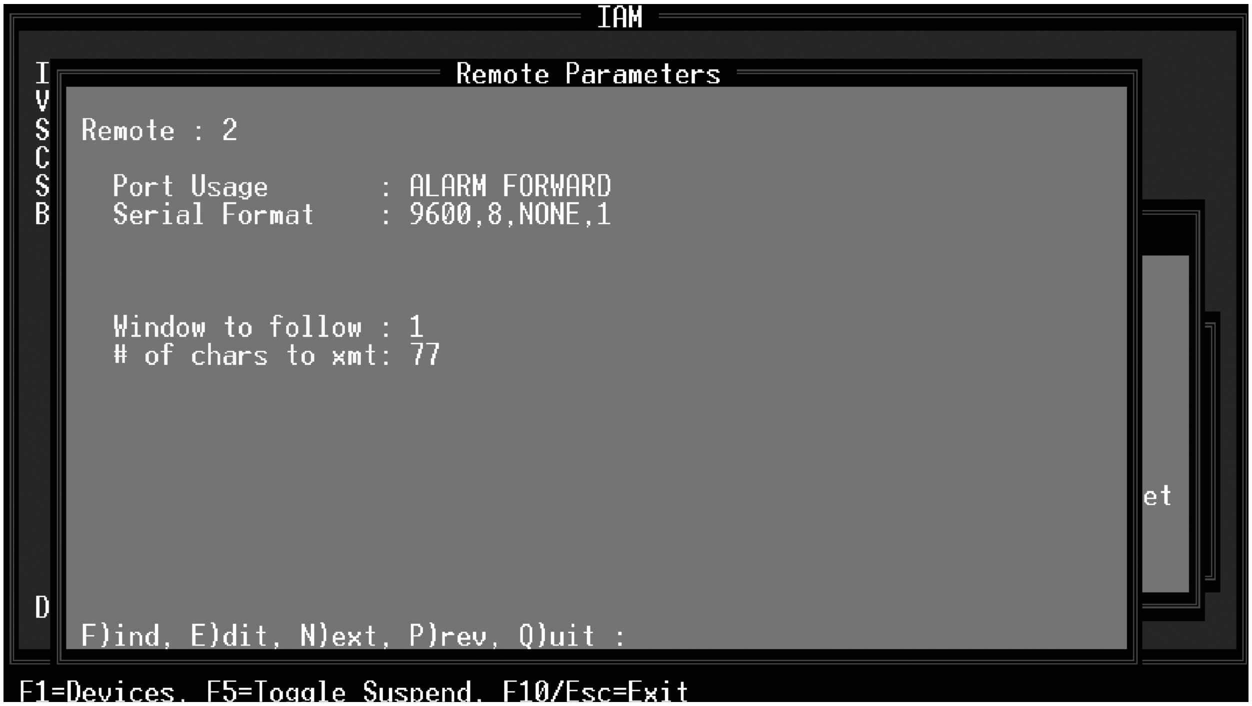
Note: The fields on the Remote Parameters screen vary according to port usage.

Serial Format
Baud rate, word length, parity, and stop bits settings. Default values are 9600 baud, 8 bits, none, and 1.

Window to Follow
Standard features allow 29 windows plus the All Alarms window. When you install the optional alarm window software modules, you will be able to access additional windows. Default value is Window 1 (All Alarms).

Note: A System User account can assign windows to Alarm Message Forwarding without having security access to those windows.

Number of Characters to Transmit
The valid range of characters to transmit per message is 10-200. Default value is 77.



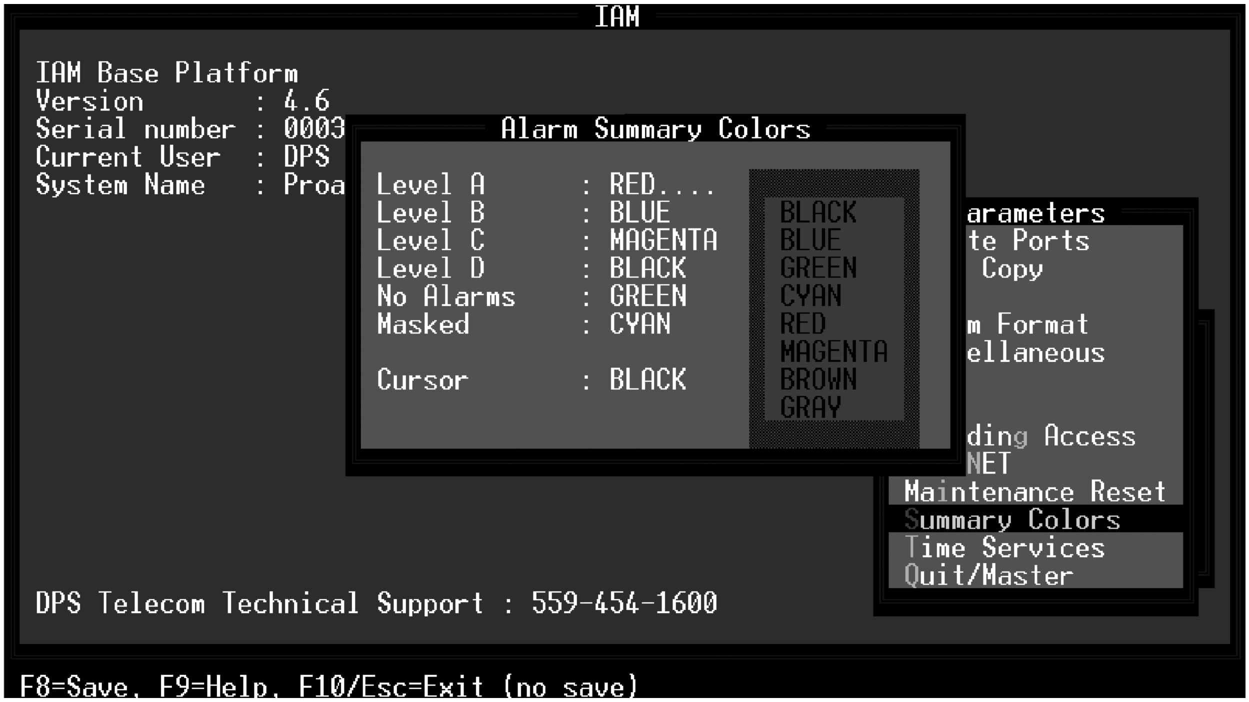
```
IAM
Remote Parameters

Remote : 2

  Port Usage       : ALARM FORWARD
  Serial Format    : 9600,8,NONE,1


  Window to follow : 1
  # of chars to xmt: 77

F)ind, E)dit, N)ext, P)rev, Q)uit :
F1=Devices, F5=Toggle Suspend, F10/Esc=Exit
```

Fig. 16.16 - Remote Parameters screen defined for Alarm Forward

Alarm Summary Colors

Selecting Summary Colors from the Parameters menu (press S to select Summary Colors and press Enter) will allow you to define colors used in backgrounds of the Alarm Summary screen.

Table 16.K lists screen options for the Alarm Summary Colors screen:



```
IAM

IAM Base Platform
Version       : 4.6
Serial number : 0003
Current User  : DPS
System Name   : Proa

Alarm Summary Colors

Level A      : RED....
Level B      : BLUE
Level C      : MAGENTA
Level D      : BLACK
No Alarms    : GREEN
Masked       : CYAN

Cursor       : BLACK

DPS Telecom Technical Support : 559-454-1600

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

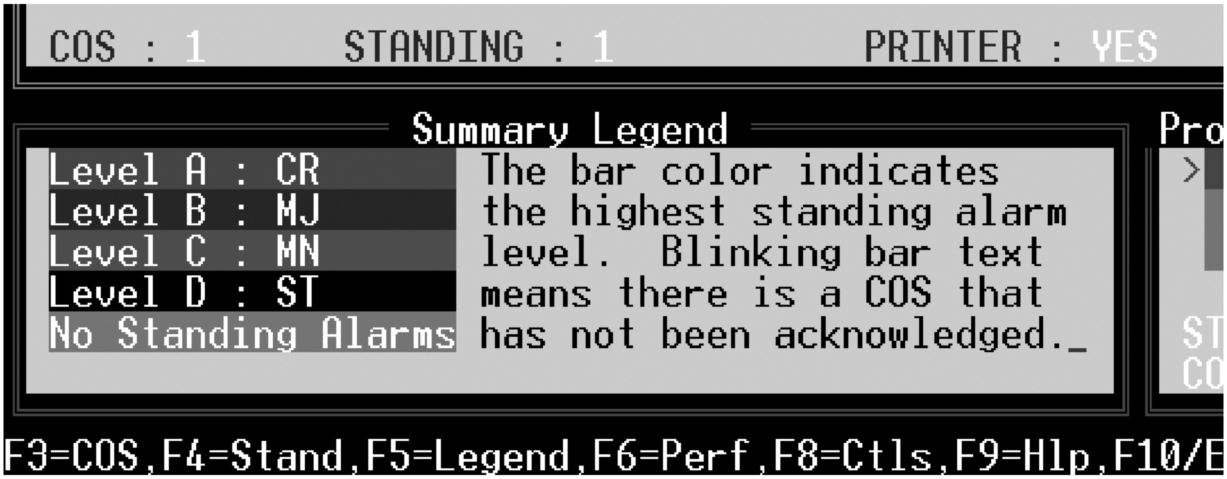
Fig. 16.17 - The Alarm Summary Colors screen

Table 16.K - Fields in the Alarm Summary Colors screen

Function Key	Description
Level A, B, C, D	Respective alarm level. Color choices for each field can be selected by hitting Tab and the arrow keys and Enter to select the color you'd like. Choices are BLACK, BLUE, GREEN, CYAN, RED, MAGENTA, BROWN and GRAY. **Note:** Recommended colors are shown in Figure 16.18.
No Alarms	Sets color for a no alarm (clear) condition window. Use the same method as above to select colors. **Note:** Using Gray for No Alarm makes sites with no alarms blend into the background which helps increase the visibility of sites with alarms.
Masked	Sets color for a masked window. Use the same method as above to select colors. (Masked windows represent sites where someone has logged on using one of the building access methods.)

Table 16.L - Key commands available in the Alarm Summary Colors screen

Function Key	Description
F8	Saves the Alarm Summary Colors settings
F9	On-line help
F10/Esc	Exit without saving



```
COS : 1        STANDING : 1          PRINTER : YES

              Summary Legend                      Pro
Level A : CR        The bar color indicates        >
Level B : MJ        the highest standing alarm
Level C : MN        level.  Blinking bar text
Level D : ST        means there is a COS that
No Standing Alarms  has not been acknowledged._    ST
                                                   CO
F3=COS,F4=Stand,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10/E
```

Fig. 16.18 - The Summary Legend in the lower left corner of the Alarm summary screen shows the meaning of the color codes

Change Of State (COS) Alarms

What is COS and why do I need it?

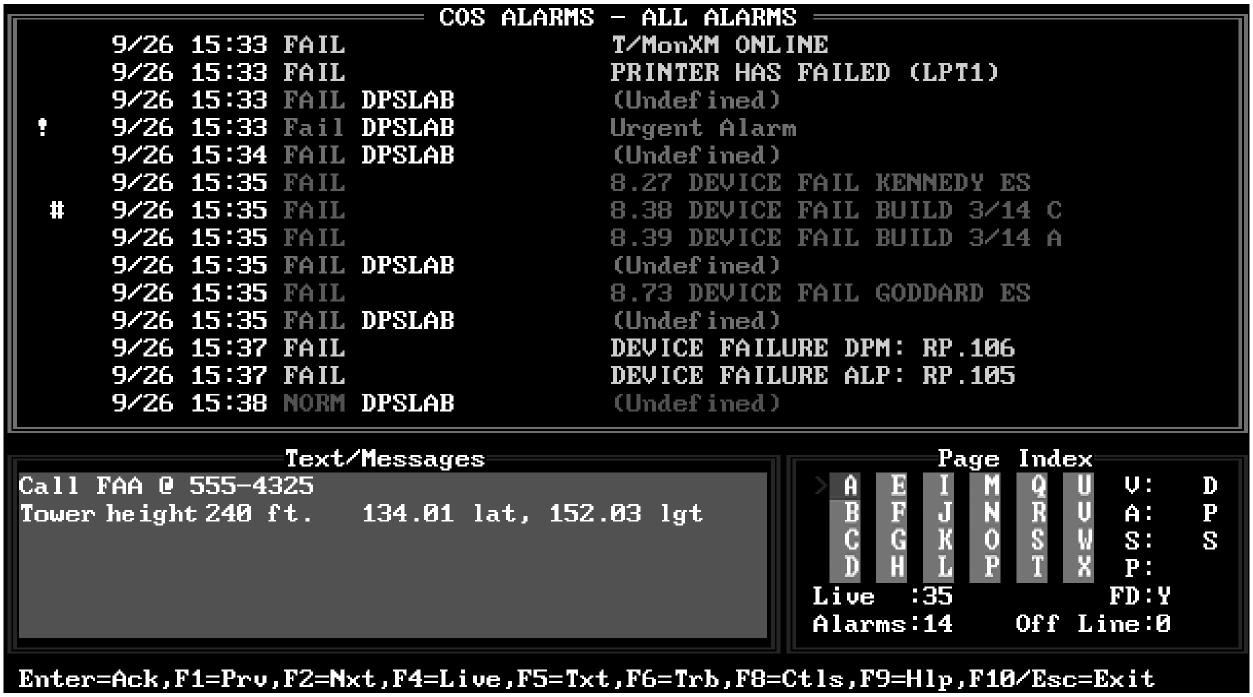
Unlike standing alarms which show all the alarms that are failed, COS alarms answer the question “what has changed in my network since the last time I looked at it?” This screen will tell you when an alarm occurred and will also tell you when it cleared.

How does T/MonXM know which alarms you already took action on? You tell it by acknowledging the alarm condition in question by moving the highlight bar to that alarm and pressing the Enter key. Assuming you have the appropriate security authorization, the alarm will disappear from the COS page. If you acknowledged an alarm that failed, you won’t lose the alarm because it will remain in the standing alarm screen until the alarm clears.

COS Alarm Window shows details of unacknowledged alarms.

The COS Alarm Screen is activated by pressing F3 from either the Alarm Summary Screen or the Standing Alarms Screen. The COS Alarm Window displays the alarm detail lines of unacknowledged alarms.

COS alarms are reported every time the state of the alarm changes. This means that the alarm is reported when it fails and also when it clears. These alarms are also known as audible alarms due to the user-defined sound that indicates the level of alarm. By default, alarms are reported in the following format:



```
                         COS ALARMS - ALL ALARMS
       9/26 15:33 FAIL                    T/MonXM ONLINE
       9/26 15:33 FAIL                    PRINTER HAS FAILED (LPT1)
       9/26 15:33 FAIL DPSLAB             (Undefined)
  !    9/26 15:33 Fail DPSLAB             Urgent Alarm
       9/26 15:34 FAIL DPSLAB             (Undefined)
       9/26 15:35 FAIL                    8.27 DEVICE FAIL KENNEDY ES
   #   9/26 15:35 FAIL                    8.38 DEVICE FAIL BUILD 3/14 C
       9/26 15:35 FAIL                    8.39 DEVICE FAIL BUILD 3/14 A
       9/26 15:35 FAIL DPSLAB             (Undefined)
       9/26 15:35 FAIL                    8.73 DEVICE FAIL GODDARD ES
       9/26 15:35 FAIL DPSLAB             (Undefined)
       9/26 15:37 FAIL                    DEVICE FAILURE DPM: RP.106
       9/26 15:37 FAIL                    DEVICE FAILURE ALP: RP.105
       9/26 15:38 NORM DPSLAB             (Undefined)

                 Text/Messages                        Page  Index
Call FAA @ 555-4325                             >A  E  I  M  Q  U  V:   D
Tower height 240 ft.   134.01 lat, 152.03 lgt    B  F  J  N  R  V  A:   P
                                                 C  G  K  O  S  W  S:   S
                                                 D  H  L  P  T  X  P:
                                                Live   :35          FD:Y
                                                Alarms:14     Off Line:0

Enter=Ack,F1=Prv,F2=Nxt,F4=Live,F5=Txt,F6=Trb,F8=Ctls,F9=Hlp,F10/Esc=Exit
```

Fig. 16.19 - COS screen shows details of latest changes.

SCREEN 1
(left-most or first page portion of screen):

```
Date/Time        Alarm Status         Site Name       Description
```

SCREEN 2
(right-most or second page portion of screen, reached by pressing Tab):

```
Alarm ID         Level
```

Note: This formatting is user-definable via the Alarm Formatting screen under the Parameters menu — see section 16-15.

First Column Descriptions

The first four character columns in each alarm display line of COS screens are reserved. They are used as follows: Column 1 is always blank on a T/Mon. (At remote terminals there may be a > character here. It indicates a highlighted alarm line). Column 2 will have an exclamation point (!) if the alarm point has a Text/Message. Column 3 will have a pound sign (#) if the alarm point has an open Trouble Log. Column 4 will have an at sign (@) indicating an ASCII alarm that has an associated text fragment. (A text fragment is the portion of an ASCII alarm message that actually triggers the alarm. This text can be viewed by pressing F7 while in the Standing Alarms screen.)

The Text/Messages Window appears at the lower left portion of the screen (in place of the Summary Legend Window), displaying the text message associated with the alarm under the selection (highlight) bar. If there is a text message on the line it may be viewed by pressing F5 to select text mode (this is the default) and then moving the highlight bar to the line containing the "!". To view a trouble log, press F6 and move to the line containing the "#".

COS shows Messages and Trouble Logs

After receiving a COS alarm some action should be taken, then it should be acknowledged by pressing Enter. Your logon initials along with the alarm information will then be logged. If the alarm is still active then it will remain in the Standing Alarms window along with the initials of the user who acknowledged the alarm.

CALL alarm occurrences send pages when the T/Mon Smart Paging is turned off in the Files > Pagers > Parameters menu option.

If the alarm is set to dial a pager and you acknowledge the alarm before T/MonXM dialed the pager, then the pager call will be aborted.

Note: COS Alarms Window can hold up to 3000 COS alarms. Once full and another COS alarm is logged, then the oldest COS alarm will be automatically acknowledged with the initials @@@.

The maximum number of COS entries can be set in Parameters > Miscellaneous

Table 16.F on the next page lists function keys for the COS Alarms window.

ACK Alarms

An operator acknowledges an alarm after he or she has initiated the proper response action. Acknowledgment indicates to other system observers that the alarm is being attended. Therefore acknowledged alarms no longer appear on the COS screen or generate other alerting functions, such as paging (with Smar Paging enabled) or audible indication.

Table 16.M - Key commands available in the COS Alarms window

Function Key	Description
Enter (ACK)	Acknowledges the selected alarm. Once this is done, the selected alarm will be removed from the COS Alarms window and from any other window that it may be displayed in. **Note:** If the alarm is still standing (Failed) it will remain in the Standing Alarms window. It will not be reported to the COS Alarms window again until it changes state (Cleared).
Home	Go to the first page of COS alarms.
End	Go to the last page of COS alarms.
PgUp/PgDn	Go to the previous or next page of COS alarms.
Tab	Pans the screen from left to right to view extended definition of alarms.
F1	Go to the previous alarm window.
F2	Go to the next alarm window.
F4	Activates the Standing Alarms screen (see Page 16-28).
F5	Displays the text message box for viewing additional alarm information if attached to the currently highlighted alarm.
F6	Activates the Trouble Log window for viewing or creating trouble logs for individual alarms.
F8	Activates Site Controls.
F9	Displays online help for the COS mode in the lower left window (where Text/ Messages normally appear).
Alt-F1	Lists the COS alarms for the first alarm window.
Alt-F2	Lists the COS alarms for the last alarm window.
Alt-F4	Acknowledges ALL the COS alarms for the current window. (Requires additional security authorization.)
Alt-F7	Prints out a hard copy report of all COS alarms in the current window.
Ctrl-F1	Lists the COS alarms for the previous window that contains COS alarms.
Ctrl-F2	Lists the COS alarms for the next window that contains COS alarms.

Note: The Ctrl-F1 and Ctrl-F2 functions are very useful in routine operation

Standing Alarms

Standing Alarms shows failed alarms

The Standing Alarms screen is enabled by pressing F4 from either the Alarm Summary screen or the COS Alarms screen. The Standing Alarms window displays a real-time image of all alarms that are currently failed (for the selected window). New alarms will automatically appear as they occur and disappear as they clear. Alarms are always listed in chronological order, with the newest alarm at the bottom of the screen.

By default, alarms are reported in the following format:

SCREEN 1
(left-most or first page portion of screen):

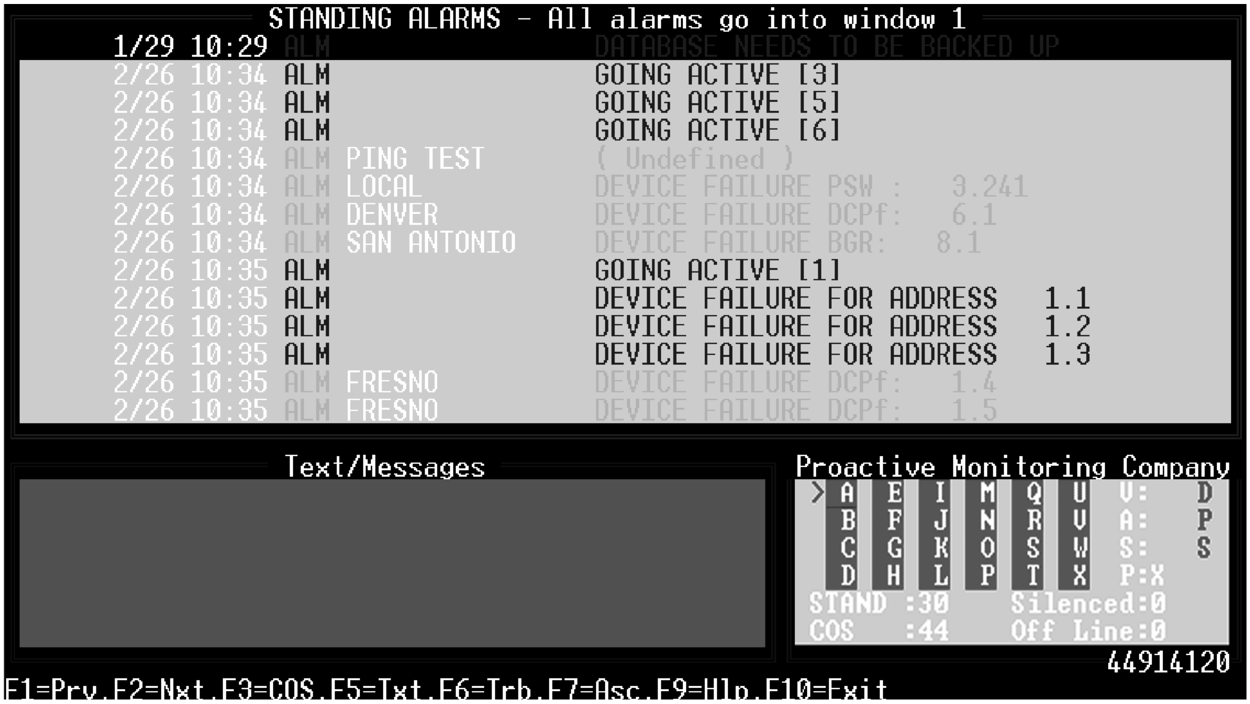
```
Date/Time        Alarm Status          Site Name       Description
```

SCREEN 2
(right-most or second page portion of screen, reached by pressing Tab)

```
Alarm ID     Level Ack Label   Ack Initials   Ack Date-2   Ack Time-2
```

Note: This formatting is user-definable via the Alarm Formatting screen under the Parameters menu.

The first four character columns in each alarm display line of Standing Alarms screens are reserved. They are used as follows: Column 1 is always blank on a T/MonXM WorkStation. (At remote terminals there may be a > character here. It indicates a highlighted alarm line). Column 2 will have an exclamation point if the alarm point has a Text/Message. Column 3 will have a pound sign (#) if the alarm point has an open Trouble Log. Column 4 will have an at sign (@) indicating an ASCII alarm that has an associated text frag-



```
                STANDING ALARMS - All alarms go into window 1
     1/29 10:29 ALM                    DATABASE NEEDS TO BE BACKED UP
     2/26 10:34 ALM                    GOING ACTIVE [3]
     2/26 10:34 ALM                    GOING ACTIVE [5]
     2/26 10:34 ALM                    GOING ACTIVE [6]
     2/26 10:34 ALM PING TEST          ( Undefined )
     2/26 10:34 ALM LOCAL              DEVICE FAILURE PSW :   3.241
     2/26 10:34 ALM DENVER             DEVICE FAILURE DCPf:   6.1
     2/26 10:34 ALM SAN ANTONIO        DEVICE FAILURE BGR:  8.1
     2/26 10:35 ALM                    GOING ACTIVE [1]
     2/26 10:35 ALM                    DEVICE FAILURE FOR ADDRESS   1.1
     2/26 10:35 ALM                    DEVICE FAILURE FOR ADDRESS   1.2
     2/26 10:35 ALM                    DEVICE FAILURE FOR ADDRESS   1.3
     2/26 10:35 ALM FRESNO             DEVICE FAILURE DCPf:   1.4
     2/26 10:35 ALM FRESNO             DEVICE FAILURE DCPf:   1.5

                 Text/Messages                       Proactive Monitoring Company
                                                     > A  E  I  M  Q  U  V:   D
                                                       B  F  J  N  R  V  A:   P
                                                       C  G  K  O  S  W  S:   S
                                                       D  H  L  P  T  X  P:X
                                                      STAND :30    Silenced:0
                                                      COS   :44    Off Line:0
                                                                     44914120
F1=Prv,F2=Nxt,F3=COS,F5=Txt,F6=Trb,F7=Asc,F9=Hlp,F10=Exit
```

Fig. 16.20 - Standing alarm window shows details of existing alarms.

ment. (A text fragment is the portion of an ASCII alarm message that actually triggers the alarm.) Press F7 to view this text.

Standing Alarms shows Messages and Trouble Logs

The Text/Messages Window appears at the lower left portion of the screen (in place of the Summary Legend Window), displaying the text message associated with the alarm under the selection (highlight) bar. If there is a text message on the line it may be viewed by pressing F5 to select text mode (if you are not already there) and then moving the highlight bar to the line containing the "!". To view a trouble log, press F6 and move to the line containing the "#".Table 16.N lists function keys for the Standing Alarms window:

Table 16.N - Key commands available in the Standing Alarms window

Function Key	Description
Home	Go to the first page of standing alarms in current window.
End	Go to the last page of standing alarms in current window.
PgUp/PgDn	Go to the previous/next page of standing alarms in current window.
Tab	Pans the screen from left to right to view extended definition of alarms.
F1	Go to the previous alarm window.
F2	Go to the next alarm window.
F4	Activates the Standing Alarms screen (see Page 16-28).
F5	Displays the Text/Message window for viewing additional alarm information if attached to the currently selected alarm.
F6	Activates the Trouble Log window for viewing or creating trouble logs for individual alarms.
F7	View ASCII text fragment.
F8	Activates Site Controls.
F9	Displays online help for the standing mode in the lower left window (where Text/Messages normally appear).
Alt-F1	Lists the alarms in the first alarm window.
Alt-F2	Lists the alarms in the last alarm window.
Alt F7	Prints out a window report of all standing alarms in the current window.
Ctrl-F1	Lists the alarms in the previous alarm window with standing alarms.
Ctrl-F2	Lists the alarms in the next alarm window with standing alarms.
Shift-F10	TAG/UNTAG alarm. Suspends alarm point from continued status change reporting. Use to control "nuisance" alarms.

Note: Standing alarms are always displayed until the condition causing the alarm is corrected, which clears the alarm and causes it to be automatically removed from the standing alarm list. Alarms will appear and disappear from the Standing Alarms screen without user intervention, regardless of acknowledgment. The alarm status changes are recorded in the COS Alarms screen, and must be acknowledged there.

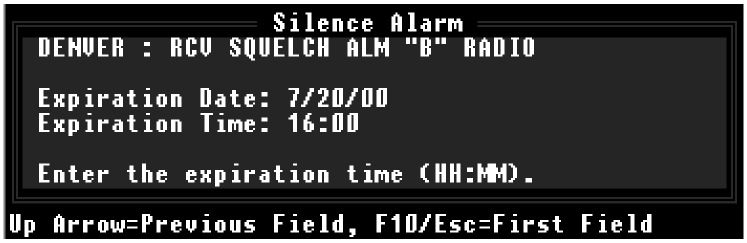
TAG Alarms

Tagging and silencing are different ways of doing the same thing. Most users prefer silencing.

An operator can Tag a nuisance alarm point that is cycling between alarm and clear to prevent the COS screen from filling with repeating alarms and to silence repeated pages to on-call personnel. In the Standing Alarm screen, highlight the point and press Shift-F10. When an alarm point has been tagged, the alarm status field in both the COS and Standing alarm screens will change to say “TAG.” Pressing F10 again will remove the Tag and return the point to normal operation.

Silence Alarms/Windows

Silencing allows selected alarms to be suspended for a specified period of time. When an alarm is silenced, it does not generate any COS entries and it does not appear in the standing alarm list. Each system account must have the Tag/Silence alarm field set to yes to enable the Silence Alarm Window Function



```
                    Silence Alarm
 DENVER : RCV SQUELCH ALM "B" RADIO

 Expiration Date: 7/20/00
 Expiration Time: 16:00

 Enter the expiration time (HH:MM).

Up Arrow=Previous Field, F10/Esc=First Field
```

Fig. 16.21 - Silence/alarms windows allows a nuisance alarm to be suspended for a limited time.

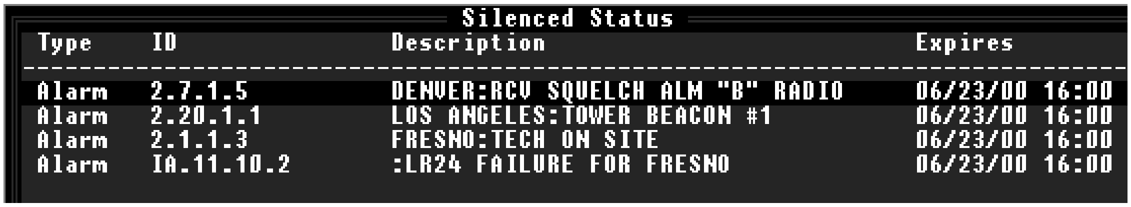
Single alarms can be silenced for a limited time.

There are two ways to silence alarms: An individual alarm may be silenced or a window may be silenced. When a window is silenced, all alarms in that window are silenced.

Entire windows can be silenced for a limited time.

To silence an individual alarm, highlight it in the COS or standing window and press Alt-F3. You will then be prompted for the date and time that the silenced condition will expire (Figure 16.21).

To silence a window, select it on the Alarm Summary screen and press Alt-F3. You will then be prompted for the date and time that the silenced condition will expire (similar to Figure 16.21).



```
                              Silenced Status
 Type    ID               Description                        Expires
------------------------------------------------------------------------------
 Alarm   2.7.1.5          DENVER:RCV SQUELCH ALM "B" RADIO      06/23/00 16:00
 Alarm   2.20.1.1         LOS ANGELES:TOWER BEACON #1           06/23/00 16:00
 Alarm   2.1.1.3          FRESNO:TECH ON SITE                   06/23/00 16:00
 Alarm   IA.11.10.2       :LR24 FAILURE FOR FRESNO              06/23/00 16:00
```

Fig.16.22 - Pressing Alt-F4 in the alarm summary screen displays a list of silenced items and their expiration dates/times.

Silenced alarms status can be checked for each window.

To view the list of items (alarms and windows) that have been silenced, press Alt-F4 from the alarm summary (Figure 16.22). You can manually un-silence an item by highlighting it and pressing F2.

Performance/ Statistics Mode

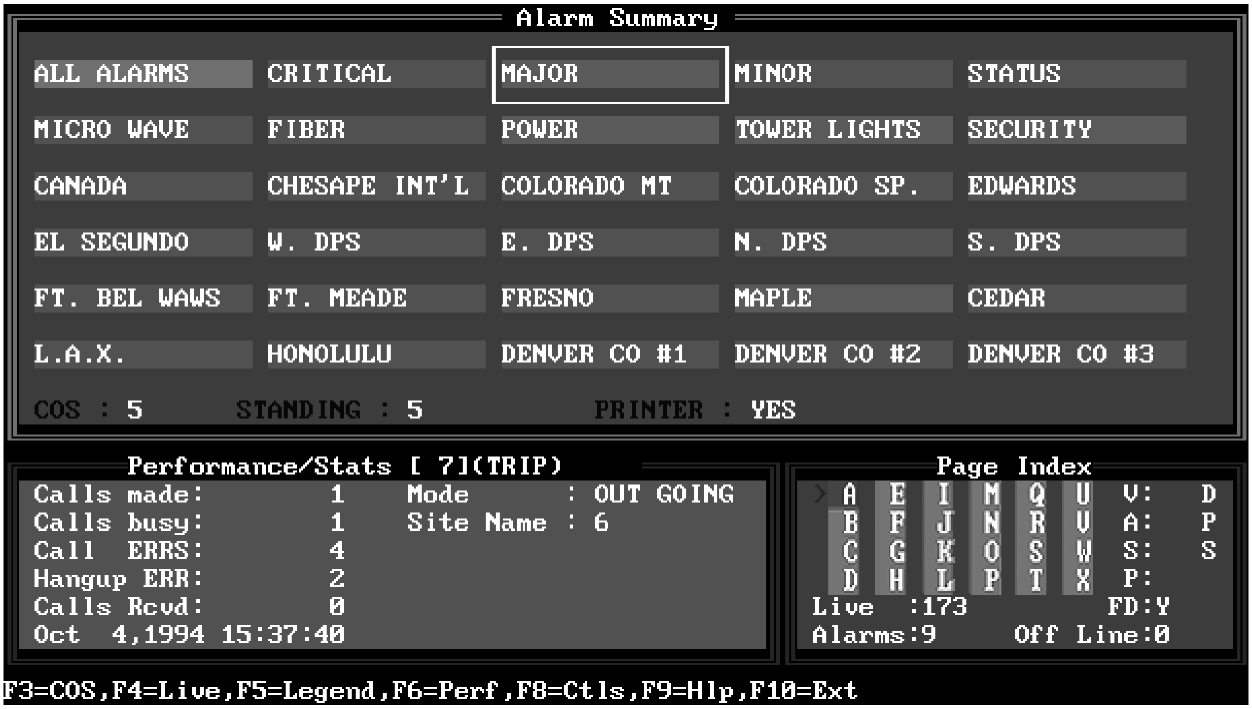
The Performance/Statistics window is enabled by pressing F6 while in the Alarm Summary screen. It appears in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This window shows statistical information accumulated by T/MonXM on the quality of communication links to each communication/polling port. This window differs for each port's protocol.

Full alarm monitoring operations are available while the Performance/Statistics Window is active. If you wish to reset the statistics in this window, press Alt-F2.

You will notice a number in brackets: "[7]". This is the port number currently being viewed. You can change to a different port by using the plus, minus, and numeric keys described later.

The protocol for the current port is displayed in parentheses "( )" after the port number. If SUSPENDED is displayed then the current port is suspended and can only be activated in the Remote Ports window from the Parameters menu. If HALTED is displayed then the current port is halted and no protocol is defined for this port.

The time and date appear in the lower left corner of the window.



```
                               Alarm Summary

 ALL ALARMS     CRITICAL       MAJOR          MINOR          STATUS
 MICRO WAVE     FIBER          POWER          TOWER LIGHTS   SECURITY
 CANADA         CHESAPE INT'L  COLORADO MT    COLORADO SP.   EDWARDS
 EL SEGUNDO     W. DPS         E. DPS         N. DPS         S. DPS
 FT. BEL WAWS   FT. MEADE      FRESNO         MAPLE          CEDAR
 L.A.X.         HONOLULU       DENVER CO #1   DENVER CO #2   DENVER CO #3

 COS : 5      STANDING : 5           PRINTER : YES

       Performance/Stats [ 7](TRIP)                    Page Index
 Calls made:        1    Mode      : OUT GOING    > A  E  I  M  Q  U  V:   D
 Calls busy:        1    Site Name : 6              B  F  J  N  R  V  A:   P
 Call  ERRS:        4                               C  G  K  O  S  W  S:   S
 Hangup ERR:        2                               D  H  L  P  T  X  P:
 Calls Rcvd:        0                             Live  :173         FD:Y
 Oct  4,1994 15:37:40                             Alarms:9     Off Line:0
F3=COS,F4=Live,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

Fig. 16.23 - Performance/statistics window replaces summary legend window

Note: The only protocols with performance/statistics standard with T/MonXM are TRIP (T/Mon Remote Interface Protocol) and DCP(F). Ports that are defined for remote access will also provide information in the performance/statistics window. The performance/ statistics fields associated with these protocols are explained in the table below. If you have other protocols available refer to the appropriate Software Module for an explanation of the performance/statistics fields.

Table 16.O - Fields in the Performance/Statistics window, Standard Protocols

Field	Description
TRIP Protocol	
Calls made	The total number of outgoing calls made.
Calls BUSY	The total number of attempted outgoing calls made but the line was busy.
Call ERRS	The total number of errors on outgoing call attempts.
Hang-up ERR	The total number of hang-up errors.
Calls Rcvd	The total number of incoming calls received.
Mode	Shows current port activity. This will display one of three messages: Waiting (waiting to make an outgoing or to receive an incoming call) Outgoing (placing an outgoing call) Incoming (receiving an incoming call).
Site Name	The name of the site connected.
DCP(F) Protocol	
Pol Cmds	Number of polling commands sent since last reset.
Polls OK	Number of polls that resulted in good responses.
Ctrl Cmds	Number of control commands sent since last reset.
Ctrls OK	Number of control commands resulting in confirmed responses.
Noise Chars	Number of characters received as unexpected data (“noise”).
No Response	A running statistic on alarm equipment that failed to respond when polled.
Time Out	Data time out. Only a partial response was received from the alarm equipment.
BCH Errors	The data frame failed the BCH data integrity check. (This is data transfer error checking.)
New CMD Err	A premature new command was received or data overflow (too much data was received).
Dsp Not Mon	Number of times a device responded with information for a display not defined in the T/MonXM database. **WARNING:** If this number is greater than zero then you may not be monitoring all the data from your RTUs.
Active/Passive	Shows polling status. Active = port is polling. Passive = port is listening only. The polling status is followed by a number indicating the address being polled. That is followed by letters and numbers indicating the type of polling (U = Upset, G = Group) and the number of the group. SKP indicates a skip in polling.

Note: Table 16.O continues on following page.

Table 16.O - Fields in the Performance/Statistics window, Standard Protocols continued

Field	Description
Remote Access Ports	
User	Log on initials of person using remote access.
Log On Date	Date of last log on.
Log On Time	Time of last log on.
Modem	Y = Modem present on port. N = Modem not present on port.

Table 16.P - Key commands available in the Performance/Statistics window

Function Key	Description
-	Minus key. Displays the previous port.
+	Plus key. Displays the next port
]	Advances 10 ports forward.
[	Returns 10 ports back.
1-0	Displays port numbers 1-10. If you're using your numeric keypad to select, make sure NUM LOCK is on.
Shift-1 ... Shift-0	Displays port numbers 11-20. **Note:** Not to be used with the numeric keypad.
Alt-F2	Reset contents of Performance/Statistics window for the current port. **WARNING:** Each port has one set of statistics that is shared by all users of the system (the remote access terminal and T/MonXM WorkStations). Resetting a port from one remote access location resets that port on all other locations.

Site Controls

The Site Controls screen can be accessed by pressing F8 from the Alarm Summary, COS or Standing Alarms screens. Site Controls allow the user to operate the controls for a whole window, usually defined by site, thus the name Site Controls. Site Controls can also be defined by status, by device or by any other category assigned to a window.

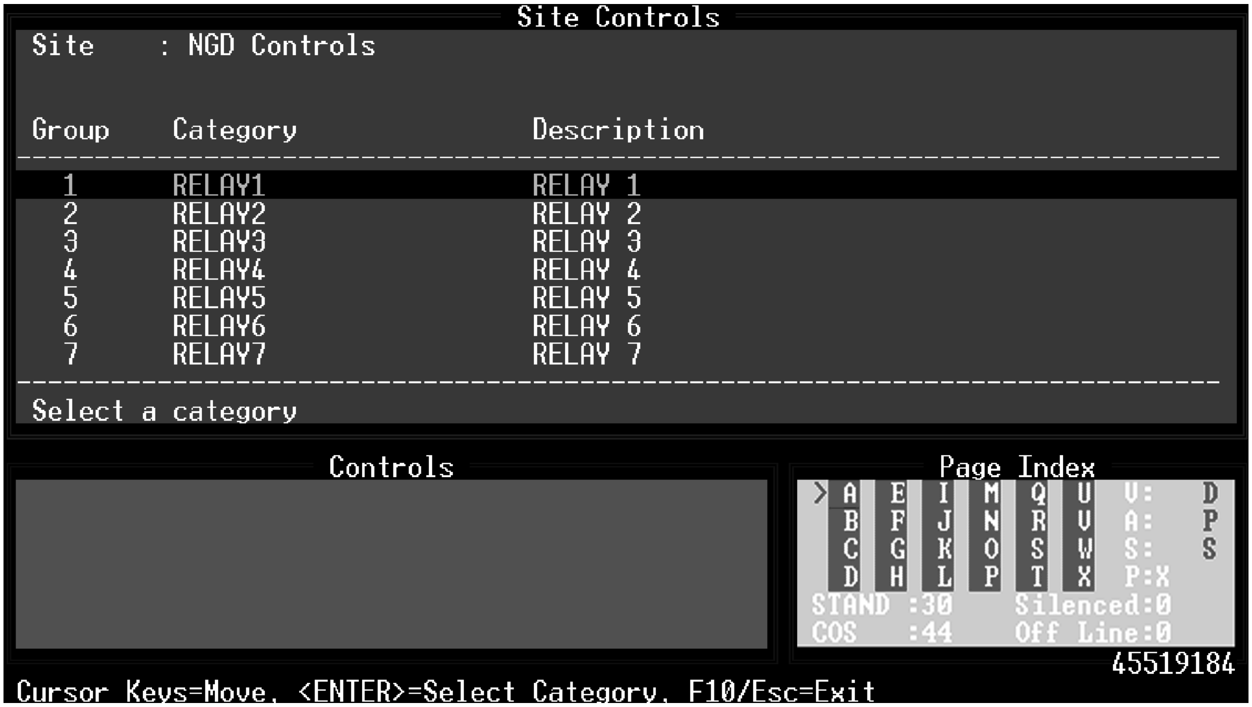
Site Controls operate the controls for a window

Before Site Controls can be operated they must be predefined. For more information on defining Site Controls see Section 12 (Configure Controls).

T/MonXM provides three methods of operating control points at RTUs: Site Controls, Labeled Controls and Derived Controls. Site Controls, described here, are operated through windows, by site or other window category. Labeled Controls, described later in this section, are very similar to site controls, but are operated from a type of control grouping rather than from a site window. Derived controls are automatically operated by T/MonXM from user-defined formulas that evaluate certain alarm points to determine if an automatic control point operation is appropriate.

Issuing Site Controls is a two step process. You must first select the category. Up to 40 categories of control groups can be defined in the data base, each containing up to 200 control point entries. Each of those entries can contain multiple points or ranges of points to give you great flexibility in issuing controls. To select a category, position the highlight bar on the line you want and press Enter. This is part of the first screen you’ll see (Figure 16.24). The second screen, Site Controls Point Selection allows you to issue the individual controls. Several controls can be grouped into a batch for simultaneous operation. Both individual point operation and batch operation are explained on the following pages.

Table 16.Q lists the field definitions for the Site Controls screen.



```
                              Site Controls
Site    : NGD Controls


Group    Category                 Description
-----------------------------------------------------------------------------
  1      RELAY1                   RELAY 1
  2      RELAY2                   RELAY 2
  3      RELAY3                   RELAY 3
  4      RELAY4                   RELAY 4
  5      RELAY5                   RELAY 5
  6      RELAY6                   RELAY 6
  7      RELAY7                   RELAY 7
-----------------------------------------------------------------------------
Select a category

                 Controls                              Page Index
                                             > A  E  I  M  Q  U  V:   D
                                               B  F  J  N  R  V  A:   P
                                               C  G  K  O  S  W  S:   S
                                               D  H  L  P  T  X  P:X
                                             STAND :30    Silenced:0
                                             COS   :44    Off Line:0
                                                                45519184
Cursor Keys=Move, <ENTER>=Select Category, F10/Esc=Exit
```

Fig. 16.24 - Site controls begins with the category selection screen.

Table 16.Q - Fields in the Site Controls screen

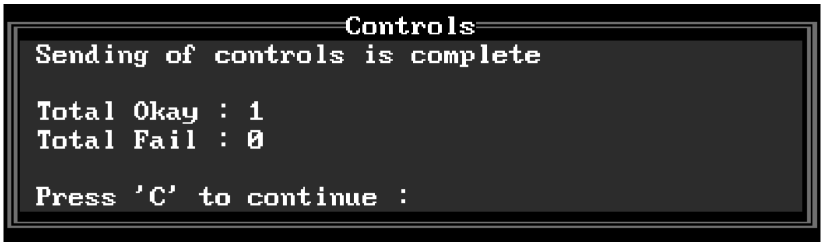
Field	Description
Category	The title for the category.
Description	A description for the category.

Site Controls Point Selection

Issue controls from the Site Controls Point Selection screen.

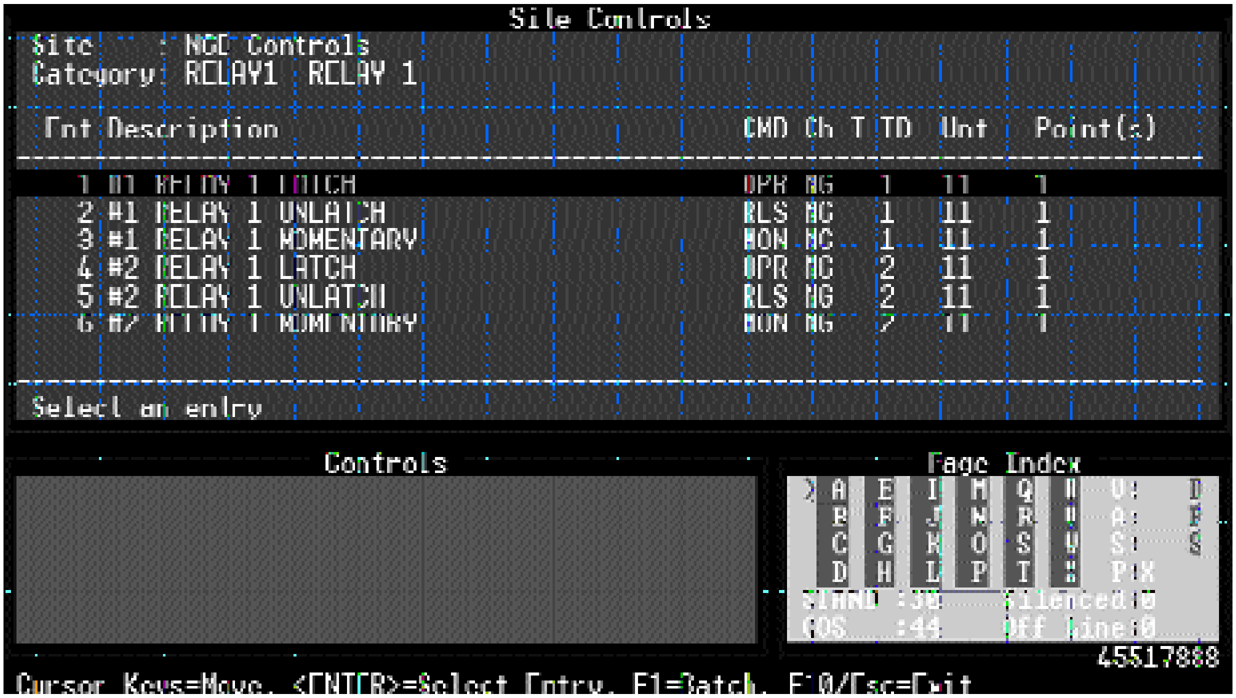
After you've selected your category, you can issue the individual or batch controls to the devices. This is done from the Site Controls Point Selection screen. The Control Points must also be predefined, just as the Categories must, from the File Maintenance menu.

Individual Point Operation
From Site Controls Point Selection screen, select the desired control entry based on description and press Enter. A verification window appears asking the you to press "C" to confirm the control command. After you confirm the command, another verification window appears (illustrated below) which shows the total points 'Okay' and the total points 'Failed'. If a control point fails, this window will allow you to either: A (Abort), R (Retry) or C (Continue to the next control point).



```
                      Controls
 Sending of controls is complete

 Total Okay : 1
 Total Fail : 0

 Press 'C' to continue :
```

Fig. 16.25 - Verification window shows controls sent.



```
                              Site Controls
 Site     : NGD Controls
 Category: RELAY1  RELAY 1

 Ent Description                          CMD Ch T TD  Unt   Point(s)
 ---------------------------------------------------------------------
    1 #1 RELAY 1 LATCH                    OPR NG   1   11     1
    2 #1 RELAY 1 UNLATCH                  RLS NG   1   11     1
    3 #1 RELAY 1 MOMENTARY                MON NG   1   11     1
    4 #2 RELAY 1 LATCH                    OPR NG   2   11     1
    5 #2 RELAY 1 UNLATCH                  RLS NG   2   11     1
    6 #2 RELAY 1 MOMENTARY                MON NG   2   11     1
 ---------------------------------------------------------------------
 Select an entry

                 Controls                           Page Index
                                          STAND :30      Silenced:0
                                          COS   :44      Off Line:0
                                                           45517888
 Cursor Keys=Move, <ENTER>=Select Entry, F1=Batch, F10/Esc=Exit
```

Fig. 16.26 - Control details are provided on the site control point selection screen.

The following tables list the field names, function keys and descriptions for the Site Controls Point Selection screen.

Table 16.R - Fields in the Site Controls Point Selection screen

Field	Description
Ent	The entry number within the group selected (200 entries per group).
Description	The description of the control points. Up to 40 characters.

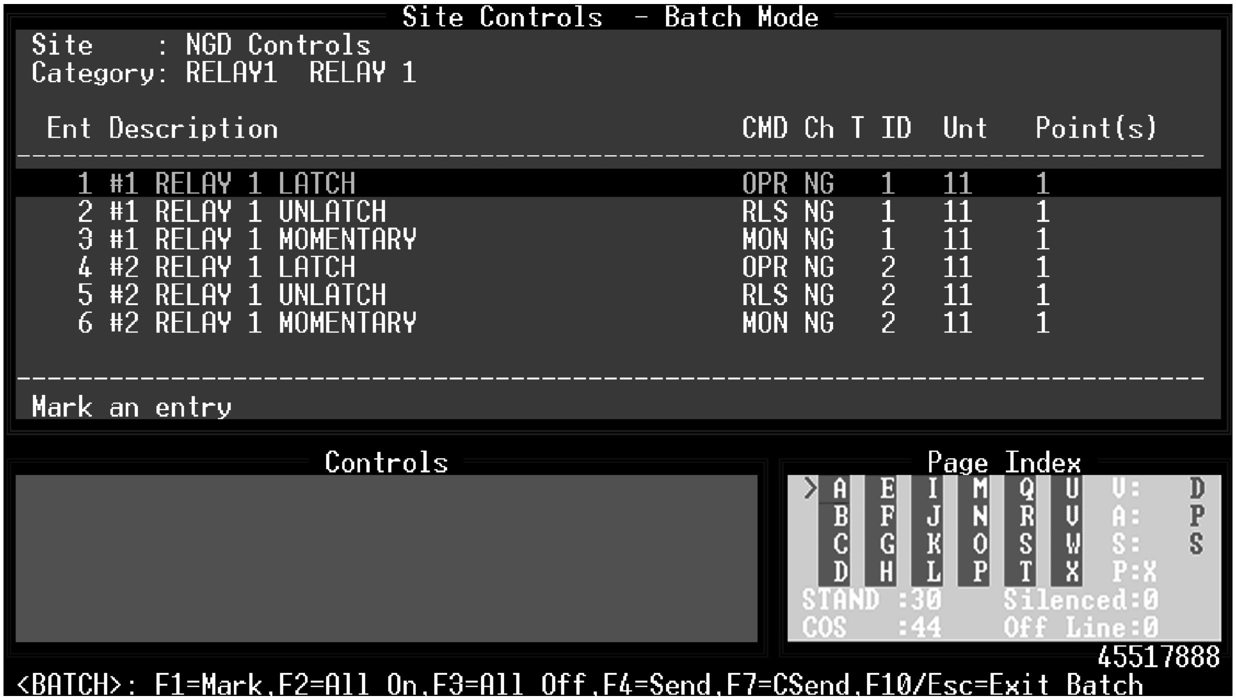
*CMD	The command that will be used to activate the control point.
	OPR = Operate Relay
	RLS = Release Relay
	MON = Momentary On
	MOF = Momentary Off
	SBO = Select Before Operate
	SBL = Select Before Release
	SMO = Select Before Momentarily Operating
	EXE = Execute Select Before Operate/Release Commands
	CLR = Clear all Select Before Operate/Release Commands

*Ch	Channel number to issue controls to.
	RP = Remote Port (Modem port)
	RC = Relay Card (102 Card)
	AV = Audio/Visual Card (101 or 108)
	1-500 = Port number
	K1-K2 = KDA Shelf
	NG, N2 = NetGuardian
	NW = NetWatchman

*D	Device Type
	C = CPM
	S = SBP (Smart Bypass Card)

*Add	The device's address.
*Unt	Unit. This varies depending on the protocol and serves as a data index. Typically a display or group.
*Point(s)	Control point(s) that control will be sent to.

*These fields are for system administrator troubleshooting and most users need not be concerned with them. The description field should contain all the necessary information to identify the proper control point.



```
                         Site Controls  - Batch Mode
 Site    : NGD Controls
 Category: RELAY1  RELAY 1

  Ent Description                              CMD Ch T ID  Unt   Point(s)
 ------------------------------------------------------------------------------
     1 #1 RELAY 1 LATCH                        OPR NG   1   11     1
     2 #1 RELAY 1 UNLATCH                      RLS NG   1   11     1
     3 #1 RELAY 1 MOMENTARY                    MON NG   1   11     1
     4 #2 RELAY 1 LATCH                        OPR NG   2   11     1
     5 #2 RELAY 1 UNLATCH                      RLS NG   2   11     1
     6 #2 RELAY 1 MOMENTARY                    MON NG   2   11     1

 ------------------------------------------------------------------------------
 Mark an entry
                     Controls                                  Page Index
                                                        > A  E  I  M  Q  U  V:   D
                                                          B  F  J  N  R  V  A:   P
                                                          C  G  K  O  S  W  S:   S
                                                          D  H  L  P  T  X  P:X
                                                        STAND :30    Silenced:0
                                                        COS   :44    Off Line:0
                                                                         45517888
<BATCH>: F1=Mark,F2=All On,F3=All Off,F4=Send,F7=CSend,F10/Esc=Exit Batch
```

Fig. 16.27 - Operate site control points in batches from the batch mode screen.

Batch Point Operation

From the Site Controls Point Selection screen press F1 to select the Site Controls - Batch Mode screen. The prompt line will display the commands in the table below. Highlight and mark points with F1. Execute control point operation with F4.

Table 16.S - Key commands available in the Site Controls - Batch Mode screen

Function Key	Description
Up Arrow/Down Arrow	Moves highlight bar up or down through the fields.
F1	Mark. Press to mark highlighted point. An asterisk (*) will appear at the left end of each marked line. Toggles mark on or off.
F2	All On. Marks all points in the category.
F3	All Off. Un-marks all points in the category.
F4	Send. Verification window asks you to press “C” to confirm sending the control command. After command is sent the window will show the results, as in individual point operation.
F7	Confirm Send. Use with Select Before Operate (SBO) points. Verification window will be presented a second time, after the initial operate command is sent.
F10/Esc	Exit Batch Mode.

Note: After control points are operated, points will remain marked in case additional operations are needed. To clear marks use F3 or F1.

Alarm Indicator Control

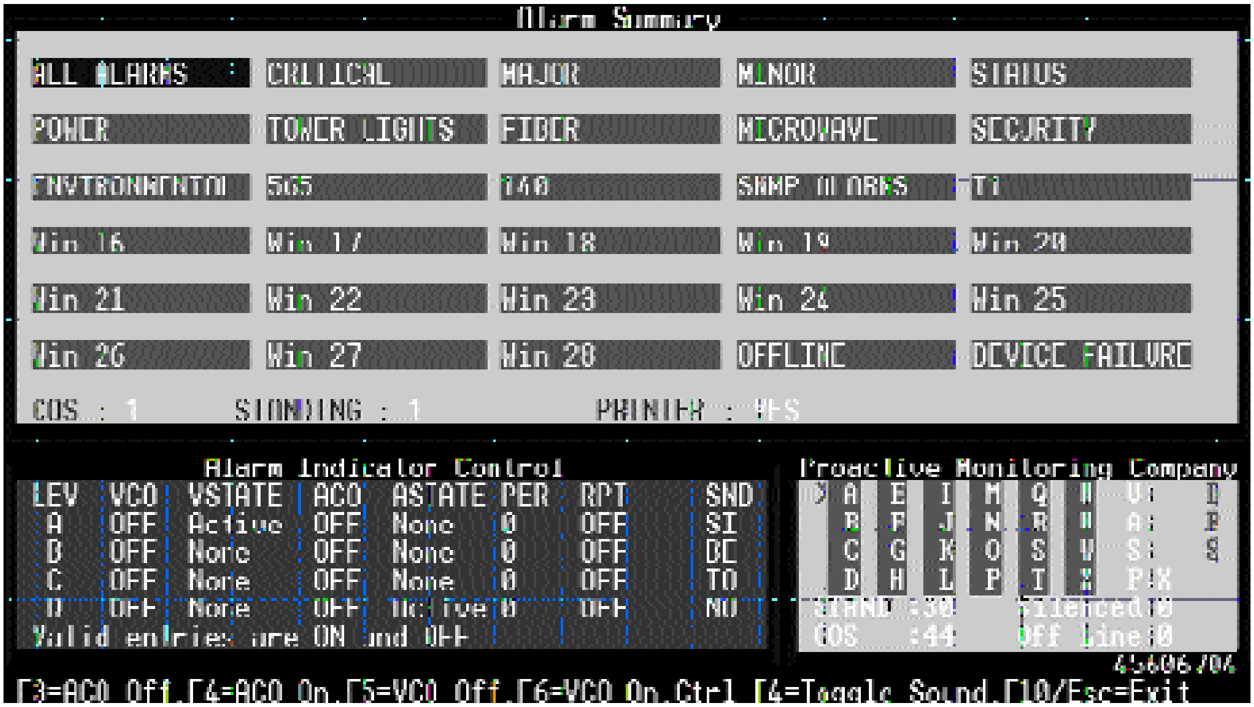
On the T/MonXM WorkStation, the Alarm Indicator Control window options only work if the DPS 108 Audible Alarm Card is installed. On the IAM-5, the Alarm Indicator Control is supported without the 108 card. For more information about the card, refer to Appendix M - Hardware Installation, Section M-17 Audible Alarm Card.

The DPS 108 Audible Alarm Card is standard in all T/MonXM systems, version 2.0 and later. This card supports external audible and visual alarm devices such as bells or lights or a DPS Building Status Unit. Up to four (4) audible and four (4) visual devices may be independently controlled. These devices are usually programmed to correspond to the four levels of alarm (A, B, C and D) used by T/MonXM. There are also four general purpose relays, a watchdog timer and an internal audible device that provides 3 distinctive sounds for different alarm levels.

The 108 Audible Alarm Card supports external audible and visual alarm devices, 4 general purpose relays and a watchdog timer.

The Alarm Indicator Control window is enabled by pressing Alt F1 while in the Alarm Summary screen. It appears in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This window allows you to turn the audible and visual devices on or off and to define the internal audible device sounds for the different levels of alarms.

The eight (8) relays each have an associated software switch, which, when turned on, suspends operation of the relay. Those associated with the visual control relays are called visual cut off (VCO) and those associated with the audible relays are called audible cut off (ACO).



```
                                Alarm Summary

ALL ALARMS      CRITICAL        MAJOR           MINOR           STATUS
POWER           TOWER LIGHTS    FIBER           MICROWAVE       SECURITY
ENVIRONMENTAL   565             140             SNMP ALARMS     T1
Win 16          Win 17          Win 18          Win 19          Win 20
Win 21          Win 22          Win 23          Win 24          Win 25
Win 26          Win 27          Win 28          OFFLINE         DEVICE FAILURE

COS : 1         STANDING : 1                PRINTER : YES

          Alarm Indicator Control                 Proactive Monitoring Company
LEV  VCO  VSTATE  ACO  ASTATE  PER  RPT   SND    > A  E  I  M  Q  U  V:   D
 A   OFF  Active  OFF  None    0    OFF   SI       B  F  J  N  R  U  A:   P
 B   OFF  None    OFF  None    0    OFF   BC       C  G  K  O  S  V  S:   S
 C   OFF  None    OFF  None    0    OFF   TO       D  H  L  P  T  X  P:X
 D   OFF  None    OFF  Inactive 0   OFF   NO     STAND :30    Silenced:0
Valid entries are ON and OFF                     COS   :44    Off Line:0
                                                                   45606/04
F3=ACO Off,F4=ACO On,F5=VCO Off,F6=VCO On,Ctrl F4=Toggle Sound,F10/Esc=Exit
```

Fig. 16.28 - Alarm indicator control window replaces summary legend window.

The relays are either opened or closed, depending on the state of the associated alarm level. When the relay is closed, the state field in the Alarm Indicator Control Window becomes Active (an alarm failed). When the relay is opened, the state field changes back to None (the alarm cleared).

Table 16.T - Fields in the Alarm Indicator Control window

Field	Description
LEV	Level. Displays the alarm level you are editing.
VCO	Visual Cut Off. If set to "ON" the relay is opened regardless of the state of the alarm level (the relay is disabled). If set to "OFF" the relay will function normally.
VSTATE	Visual State. Displays the visual state of the alarms for the current alarm level. If there are any standing alarms for this level then it will display "Active", otherwise it will display "None."
ACO	Audio Cut Off. If set to "ON" the relay is opened regardless of the state of the alarm level (the relay is disabled). If set to "OFF" the relay will function normally.
ASTATE	Audio State. Displays the audio state of the alarms for the current alarm level. If there are any COS alarms for this level then it will display "Active", otherwise it will display "None". **Note:** This shows you what the relay would have been doing if the cutoff were active. If the cutoff is not active, it shows the actual state of the relay.
PER	Period. The amount of time (in seconds from 1-100) that the relay will remain closed before automatically opening. If this is set to 0 the relay will remain closed until the alarm is acknowledged. If it is not set to 0, acknowledging the alarm will still cause the relay to open.
RPT	Repeat. If set to "ON" the relay will alternately open and close for the set period. If period is set to 0, this option will have no effect.
SND	Sound. This setting is independent of the relays. It sets the internal audible device sound for each alarm level. There are four possible settings: SI Siren [Default for Critical or "A" level alarms] BE Beep [Default for Major or "B" level alarms] TO Tone [Default for Minor or "C" level alarms] NO No sound [Default for Status or "D" level alarms]

Table 16.U - Key commands available in the Alarm Indicator Control window

Function Key	Description
Arrow Keys	Moves up, down, left and right, respectively, through the fields.
F3	Sets all ACOs to OFF. (Enables all external audible devices.)
F4	Sets all ACOs to ON. (Disables all external audible devices.)
F5	Sets all VCOs to OFF. (Enables all external visual indicators.)
F6	Sets all VCOs to ON. (Disables all external visual indicators.)
Ctrl F4	Toggles (enables/disables) the internal audible device. NOTE: Depending on how your T/MonXM has been configured by the system administrator this feature may do one of three things: 1. It may disable the sound until toggled back on. 2. It may temporarily disable the sound until an internal timer turns it back on. In this case it can still be manually toggled back on. 3. It may have no effect at all.
F10/Esc	Exit

NOTE: Two external switches can be wired to the DPS Audible Alarm Card. This will allow you to cutoff the alarm relays for level A and/or B with a flip of a switch. These switches take precedence over the software cutoffs and cannot be overridden.

English Analyzer Mode/English Filter

English Analyzer is primarily a diagnostic mode that is not part of typical system operations.

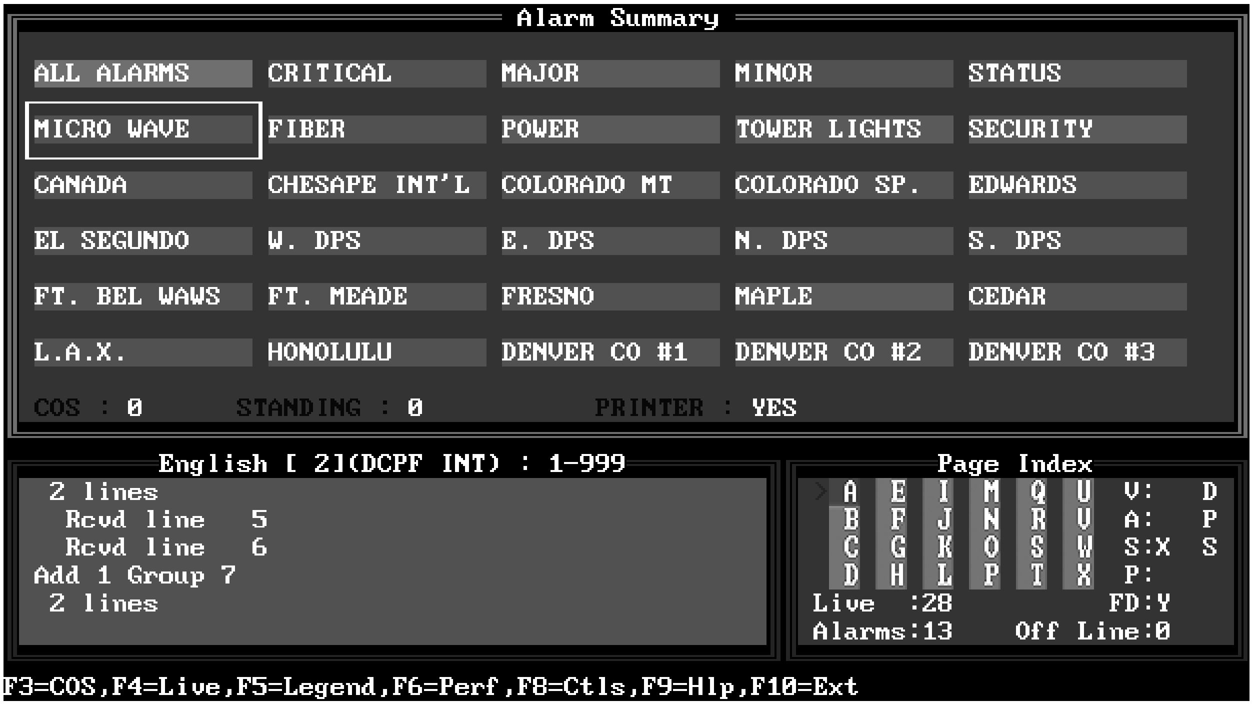
This window shows protocol traffic in ordinary English. Text varies according to protocol type—not all protocols support English descriptions.

An English Analyzer Mode can be activated from any of the alarm monitoring screens to provide an easy to read analysis of the protocol communications between T/MonXM and any remote device. The analysis is displayed in the English Analyzer window. This mode is port specific, and may be made address specific by using the English Filter window.

The English Analyzer window is enabled by pressing Alt F5 while in the Alarm Summary, Dialup Site Monitor, Site Statistics, COS or Standing Alarms screens. It appears in the lower left portion of the screen, in place of the Summary Legend window or Text/Messages window. This window displays protocol traffic in an English form. When the English Window is activated, protocol commands are translated and displayed. Function keys may be used to select a specific port for analysis.

To select a specific address for analysis, enter the English Filter window from the Alarm Summary screen. Press Ctrl F5 to enable the English Filter window. (This window may also be selected directly while in the Alarm Summary screen.) It appears in the lower left portion of the screen, in place of the Summary Legend window. Enter the desired information in the fields, as described in the second table on the following page, and press Enter. The English Filter window will change to the English Analyzer window, displaying data from the selected address.

The data that appears in the English Analyzer window will differ for each protocol in use. The Appendix lists the commands that will be seen for each of the common protocols. If you are debugging over the phone with a DPS technician you may be asked to read the



```
                                Alarm Summary

 ALL ALARMS      CRITICAL        MAJOR           MINOR           STATUS

 MICRO WAVE      FIBER           POWER           TOWER LIGHTS    SECURITY

 CANADA          CHESAPE INT'L   COLORADO MT     COLORADO SP.    EDWARDS

 EL SEGUNDO      W. DPS          E. DPS          N. DPS          S. DPS

 FT. BEL WAWS    FT. MEADE       FRESNO          MAPLE           CEDAR

 L.A.X.          HONOLULU        DENVER CO #1    DENVER CO #2    DENVER CO #3

 COS : 0      STANDING : 0           PRINTER : YES

          English [ 2](DCPF INT) : 1-999                    Page Index
  2 lines                                          > A  E  I  M  Q  U  V:   D
   Rcvd line   5                                     B  F  J  N  R  V  A:   P
   Rcvd line   6                                     C  G  K  O  S  W  S:X  S
 Add 1 Group 7                                       D  H  L  P  T  X  P:
  2 lines                                          Live  :28           FD:Y
                                                   Alarms:13     Off Line:0
F3=COS,F4=Live,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

Fig. 16.29 - English analyzer window replaces summary legend window.

data in this window. The line at the top of the window displays the following information:

```
English     [<Port#>:Module Number_<Protocol>]     (Protocol:Addresses)
```

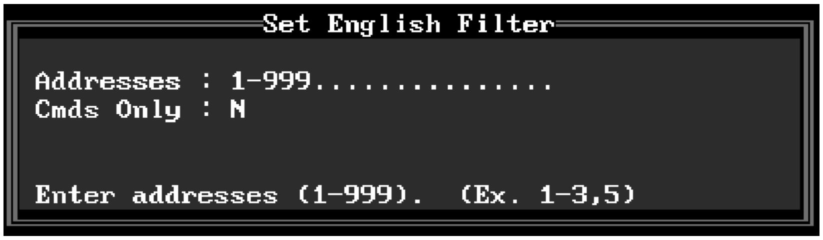
NOTE: Alarm polling will continue while in either of these windows and alarms will still be displayed on the screen, but polling speed may be affected. Therefore, you should not leave this mode constantly enabled.

```
English     [Port#: Protocol Number_Protocol Name]     (Addresses)
```

The following tables list the function keys and descriptions for the English Analyzer and English Filter mode windows.

Table 16.V - Key commands available in the English Analyzer window

Function Key	Description
Space	Space bar. Freezes (pauses) the window for you to inspect the information (monitoring still continues in the background). Press space bar again to continue viewing new data.
-	Minus key. Displays the previous port.
+	Plus key. Displays the next port
]	Advances 10 ports forward.
[	Returns 10 ports back.
1-0	Displays port numbers 1-10.
Shift 1-Shift 0	Displays port numbers 11-20.
F5	Leave English Analyzer mode and restore the Summary Alarm Legend window.
F10/Esc	Exit



```
Set English Filter

Addresses : 1-999...............
Cmds Only : N


Enter addresses (1-999).  (Ex. 1-3,5)
```

Fig. 16.30 - English filter window.

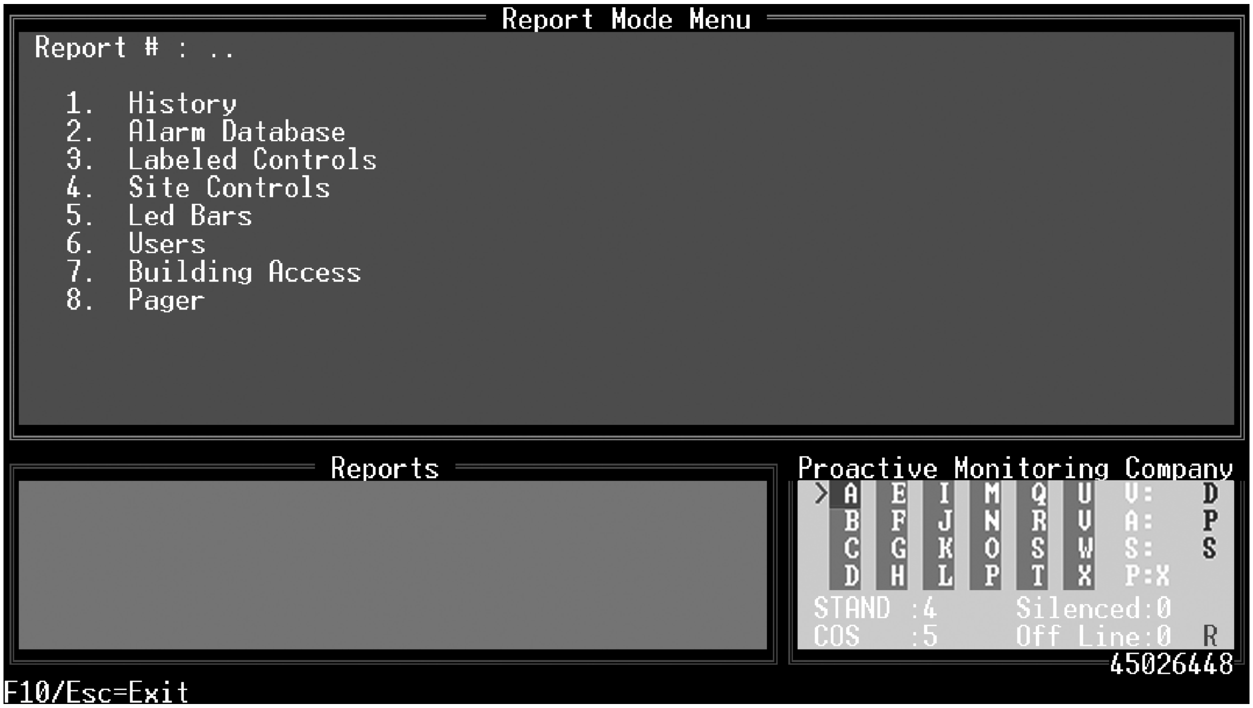
Table 16.W - Fields in the English Filter window

Field	Description
Addresses	Enter the addresses (1-999) that you wish to include in the English Analyzer window.
Cmds Only	Enter Y for viewing only polling commands or N for viewing both polling commands and responses from the monitored alarm equipment.

Report Mode

See Section 19 (Managing Reports) for additional information.

The Report Mode window is enabled by pressing Alt-F7 while in the Alarm Summary screen. This window shows a menu listing the available reports. Reports give a print out or file record of data base information. To select a report, type the number and press Enter. Table 16.X lists a summary of available reports.



```
                              Report Mode Menu
 Report # : ..

   1.  History
   2.  Alarm Database
   3.  Labeled Controls
   4.  Site Controls
   5.  Led Bars
   6.  Users
   7.  Building Access
   8.  Pager

                 Reports                    Proactive Monitoring Company
                                            >A  E  I  M  Q  U  V:   D
                                             B  F  J  N  R  V  A:   P
                                             C  G  K  O  S  W  S:   S
                                             D  H  L  P  T  X  P:X
                                             STAND :4     Silenced:0
                                             COS   :5     Off Line:0  R
                                                                45026448
F10/Esc=Exit
```

Fig. 16.31 - Report mode window

Table 16.X - Reports available in the Report Mode menu

Report	Description
History	Report for a selected period of time (or other criteria) that alarms occurred.
Alarm Database	Report on selected alarm items in the Alarm Database.
Labeled Controls	Report on labeled controls defined in the database. Corresponds with information on Labeled Controls editing screens.
Site Controls	Report on site controls defined in the database. Corresponds with information on Site Controls editing screens.
LED Bars	Report on LED Bars defined in the database. Corresponds with information in LED Bars editing screens.
Users	Report on users and security access privileges defined in the database.
Building Access	Report on building access sites defined in the database.
Pagers	Report on pager information in the database. Select from Pager Carriers, Pager Schedules or Pager Exceptions.

Some reports require additional information. This information will be requested in the window after a report number is selected. If you selected Reports from either the COS or Standing Alarms screens, you can generate a report for the specific window you're positioned in. See section 19 (Managing Reports) for more information on reports and report formatting.

When reports are created from monitor mode, T/MonXM is still actively monitoring the alarm equipment. The report can either be sent to the printer or saved to the hard drive. Only one report can be in progress at any one time. If you attempt to enter Alt F7 while a report is running, an error message will be displayed. As soon as the printer stops printing, you may start the next report. (If your printer has a large buffer, you may be able to start sooner).

User interaction may be a bit sluggish when reports are being processed.

Reports can be generated from console access, T/Remote, and T/Windows, but reports cannot be generated from the Web Browser Interface

Reports generated in the Monitor Mode allow monitoring to continue while the report is produced. Report selections 1 through 8 listed in the Report Mode Menu menu are available. In addition, by pressing Alt-F7 while in the COS or Standing Alarms screens you can generate a report of the COS or Standing alarms for a specific window. In this mode you cannot view the reports on screen.

Reports generated in the Reports screen under the Master Menu are produced while T/MonXM is off line (not monitoring alarms). In this mode you cannot generate a report for a specific window. In this mode you can view reports on screen. (Refer to Section 19 - Reports, for more information.

Technical note: Remote access users can also run reports. However, only one user can run a report at the same time.

T/RemoteW and T/Windows users can send reports directly to their local or network printer or save reports to a file on their PC.

Protocol Analyzer

Note: The protocol analyzer is available only at the main workstation or through T/Access. It is not available at remote terminals.

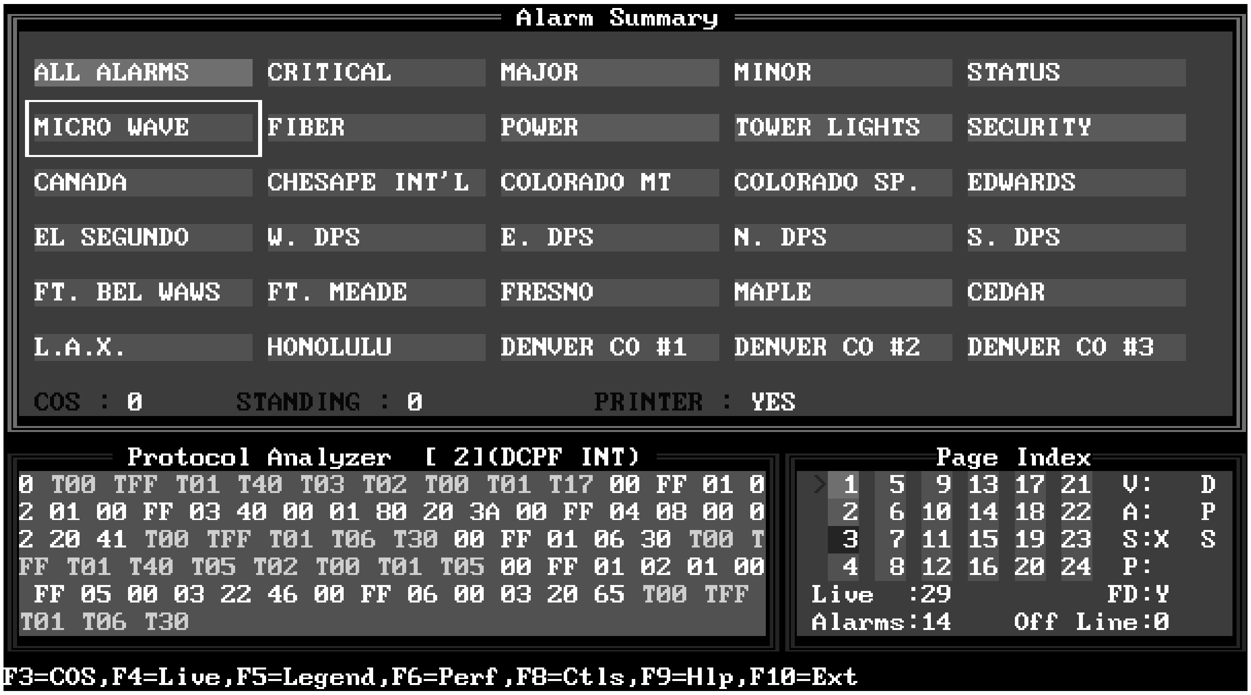
The Protocol Analyzer window is enabled by pressing Alt F8 while in the Alarm Summary, COS or Standing Alarms screens. It appears in the lower left portion of the Alarm Summary Screen, in place of the Summary Legend window or Text/Messages window. This window is used as a debugging tool for monitoring protocol traffic between the polling port of your computer and the alarm equipment. When the Protocol Analyzer is activated, protocol traffic commands are translated into hexadecimal or ASCII form and displayed in the window. This mode is port specific only. Function keys may be used to select a specific port for analysis.

Protocol traffic is displayed in hexadecimal or ASCII form

The data that appears in the Protocol Analyzer window will differ for each protocol in use. If you are debugging over the phone with a DPS technician you may be asked to read the data in this window. Transmitted characters are displayed in yellow and are prefaced with a "T" when viewed in HEX mode. Received characters are white. The line at the top of the window displays the following information:

```
      Protocol      [Port Number:Protocol Number_Protocol Name]
```

Note: Alarm polling will continue while in this window and alarms will still be displayed on the screen, but polling speed may be affected. Therefore, you should not leave this mode constantly enabled.



```
                                 Alarm Summary
 ALL ALARMS        CRITICAL          MAJOR             MINOR             STATUS

 MICRO WAVE        FIBER             POWER             TOWER LIGHTS      SECURITY

 CANADA            CHESAPE INT'L     COLORADO MT       COLORADO SP.      EDWARDS

 EL SEGUNDO        W. DPS            E. DPS            N. DPS            S. DPS

 FT. BEL WAWS      FT. MEADE         FRESNO            MAPLE             CEDAR

 L.A.X.            HONOLULU          DENVER CO #1      DENVER CO #2      DENVER CO #3

 COS : 0      STANDING : 0           PRINTER : YES

      Protocol Analyzer  [ 2](DCPF INT)                  Page Index
0 T00 TFF T01 T40 T03 T02 T00 T01 T17 00 FF 01 0     > 1  5  9 13 17 21   V:   D
2 01 00 FF 03 40 00 01 80 20 3A 00 FF 04 08 00 0       2  6 10 14 18 22   A:   P
2 20 41 T00 TFF T01 T06 T30 00 FF 01 06 30 T00 T       3  7 11 15 19 23   S:X  S
FF T01 T40 T05 T02 T00 T01 T05 00 FF 01 02 01 00       4  8 12 16 20 24   P:
 FF 05 00 03 22 46 00 FF 06 00 03 20 65 T00 TFF     Live   :29            FD:Y
T01 T06 T30                                         Alarms:14    Off Line:0
F3=COS,F4=Live,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

Fig. 16.32 - Protocol analyzer window replaces summary legend window

Table 16.Y lists the function keys and descriptions for the Protocol Analyzer window.

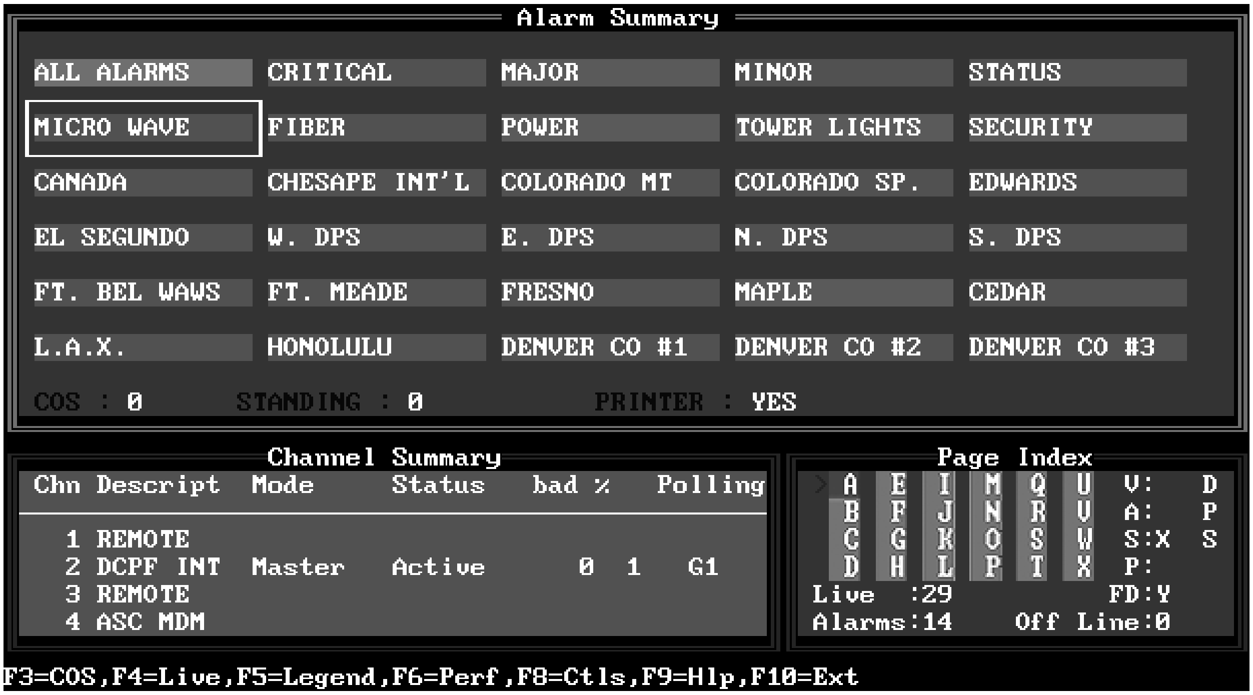
Table 16.Y - Key commands available in the Protocol Analyzer window

Function Key	Description
Space	Space bar. Freezes (pauses) the window for you to inspect the information (monitoring still continues in the background). Once you pause the display, you can select between hexadecimal or ASCII output by pressing either the H or A keys respectively. **Note:** ASCII output is limited to output that is between 32 and 127. Any data less than 32 or greater than 127 will continue to display in hexadecimal, even if you've selected ASCII. Protocol Analyzer shows characters as they are processed, therefore if paused, the display will not resume at the same place.
-	Minus key. Displays the previous port.
+	Plus key. Displays the next port
]	Advances 10 ports forward.
[	Returns 10 ports back.
1-0	Displays port numbers 1-10.
Shift 1-Shift 0	Displays port numbers 11-20.
F5	Leave Protocol Analyzer mode and return to the Summary Legend or Text/ Messages window.
F10/Esc	Exit

Protocol Analyzer is a turnup/diagnostic tool that requires specific protocol knowledge. It is not intended for general use.

Channel Summary

The Channel Summary window is enable by pressing Alt F9 while in the Alarm Summary screen. It appears in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This window shows the status of remote ports, four ports at a time.



```
                                  Alarm Summary
 ALL ALARMS      CRITICAL        MAJOR           MINOR           STATUS
 MICRO WAVE      FIBER           POWER           TOWER LIGHTS    SECURITY
 CANADA          CHESAPE INT'L   COLORADO MT     COLORADO SP.    EDWARDS
 EL SEGUNDO      W. DPS          E. DPS          N. DPS          S. DPS
 FT. BEL WAWS    FT. MEADE       FRESNO          MAPLE           CEDAR
 L.A.X.          HONOLULU        DENVER CO #1    DENVER CO #2    DENVER CO #3
 COS : 0      STANDING : 0            PRINTER : YES

               Channel Summary                              Page Index
 Chn Descript  Mode      Status    bad %    Polling    > A  E  I  M  Q  U  V:   D
                                                         B  F  J  N  R  V  A:   P
   1 REMOTE                                              C  G  K  O  S  W  S:X  S
   2 DCPF INT  Master    Active      0  1   G1           D  H  L  P  T  X  P:
   3 REMOTE                                            Live  :29           FD:Y
   4 ASC MDM                                           Alarms:14    Off Line:0
F3=COS,F4=Live,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

Fig. 16.33 - Channel summary window replaces summary legend window

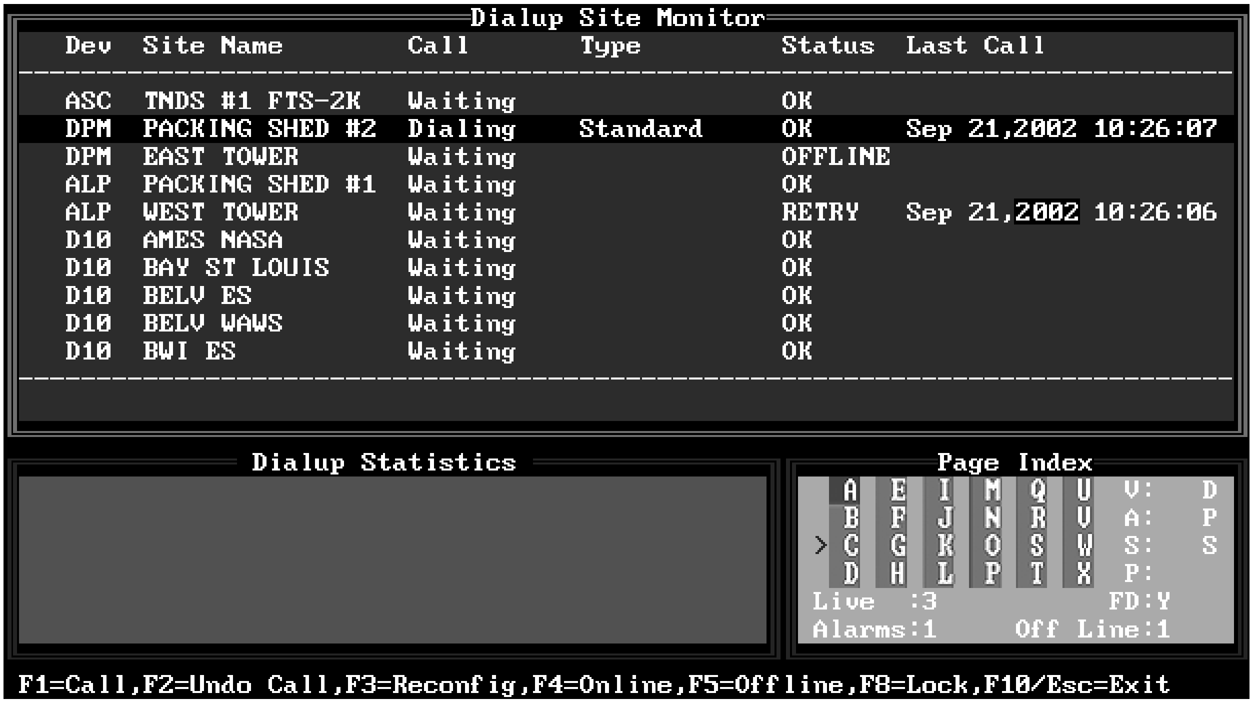
Table 16.Z - Fields in the Channel Summary window

Field	Description
Chn	Channel/Port. Displays the channel number. An asterisk (*) displayed in front of the number the channel indicates a communication link failure between the port and the equipment.
Descript	Displays the protocol description.
Mode	This field is only active with DCPf or E-Telemetry ports. It indicates either a Master, Combined or Passive configuration designation for the E2A and DCPf protocols. It shows what the port can do, not necessarily what it is doing. i.e.: In combined mode the port may be either active or passive at a particular time.
Status	Displays the status of the port. Indicates Stopped, Active or Passive.
bad %	Displays percentage of successful polls versus unsuccessful polls.
Polling	Displays a cryptic polling message. Refer to the appropriate section in the manual which describes the protocol being polled.
+/-	Press the + or - key to scroll up or down in this window.

Dialup Site Monitor

The Dialup Site Monitor screen is opened by pressing Shift F4 while in the Alarm Summary screen. It appears as a Dialup Site Monitor window in the upper portion of the screen, in place of the Alarm Summary Window, and as a Dialup Statistics window in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This screen shows the status of all currently defined dialup sites. From here you can tell T/MonXM to call the device next to gather alarm data, configure/re-configure or take the device on or offline.

Tables 16.AA and 16.AB List the field names and function key descriptions for the Dialup Site Monitor screen.



```
                              Dialup Site Monitor
   Dev  Site Name        Call       Type         Status  Last Call
---------------------------------------------------------------------------
   ASC  TNDS #1 FTS-2K   Waiting                 OK
   DPM  PACKING SHED #2  Dialing    Standard     OK      Sep 21,2002 10:26:07
   DPM  EAST TOWER       Waiting                 OFFLINE
   ALP  PACKING SHED #1  Waiting                 OK
   ALP  WEST TOWER       Waiting                 RETRY   Sep 21,2002 10:26:06
   D10  AMES NASA        Waiting                 OK
   D10  BAY ST LOUIS     Waiting                 OK
   D10  BELV ES          Waiting                 OK
   D10  BELV WAWS        Waiting                 OK
   D10  BWI ES           Waiting                 OK
---------------------------------------------------------------------------

              Dialup Statistics                         Page Index
                                                   A  E  I  M  Q  U  V:   D
                                                   B  F  J  N  R  V  A:   P
                                                 > C  G  K  O  S  W  S:   S
                                                   D  H  L  P  T  X  P:
                                                  Live  :3            FD:Y
                                                  Alarms:1     Off Line:1
F1=Call,F2=Undo Call,F3=Reconfig,F4=Online,F5=Offline,F8=Lock,F10/Esc=Exit
```

Fig. 16.34 - Dialup site monitor and statistics windows replace alarm summary.

Table 16.AA - Fields in the Dialup Site Monitor screen

Field	Description
Dev	Device type.
Site Name	Site name assigned to device.
Call	Incoming or outgoing call status.
Type	Indicates source of the outgoing call - user dial out (User), normal dial out (Standard) or Labeled Controls dial out (Lbl Ctrl).
Status	Status of the site. Indicates whether it OK, failed or offline. Retry indicates the initial contact was unsuccessful. Redial will occur after approximately one minute. After repeated re-dials the status is failed.
Made	How many calls have been made to that site.
Revd	How many calls have been received from that site.
Last Call	Last time site was called.

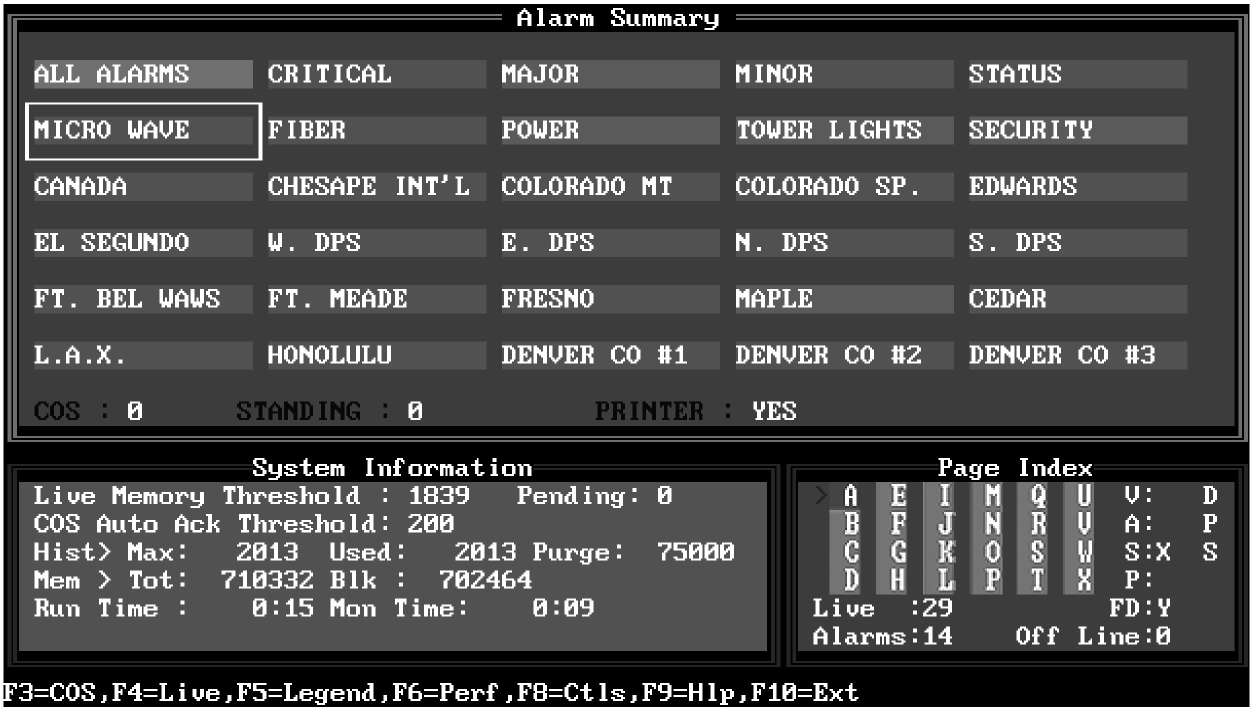
Table 16.AB - Key commands available in the Dialup Site Monitor screen

Function Key	Description
F1	Call Next. This function key allows you to immediately check on a site by assigning the site selected as the next site called. An asterisk appears to the left of the site selected when the Call Next option is chosen.
F2	Undo Call Next. This function key cancels the Call Next selection, if it is not already in progress.
F3	Reconfig. Instructs T/MonXM to re-send configuration to device. This is normally only done when T/MonXM first communicates with the device. **Note:** This function is applicable only to DPS KDA and Pulsecom Datalok 10D remote telemetry units. For further information refer to Module Section 15 - Dial Up Remotes or to Module Section 15 - Pulsecom Datalok Notes.
F4	Online. Put device online. Alarm data will be transmitted and received by the unit.
F5	Offline. Takes device offline. Alarm data will not be transmitted or received by the unit. T/MonXM will not continue to call the device for alarm data until it is put back online.
F6	Analogs. Brings up the KDA Analogs screen. Press F5 to cause the modem to dial the site for the latest analog data. The modem remains on line monitoring the analog values until F5 is pressed again to hang up the modem. During this function no other alarms can be received via the dial port. Other ports will continue to be monitored. The Page Index Window will indicate if any new alarms are received.
F8	Lock. Lock device. This is used to lock out alarms for maintenance, etc. **Note:** This function is applicable only to Datalok 10D units. For further information refer to the Datalok 15 Module section.
F10/Esc	Exit

System Information

The System Information window is enabled by pressing Ctrl F6 while in the Alarm Summary screen. It appears in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This window shows a general overview of Monitor mode resources.

Table 16.AC lists the field names and descriptions for the System Information window.



```
                              Alarm Summary

 ALL ALARMS     CRITICAL       MAJOR          MINOR          STATUS

 MICRO WAVE     FIBER          POWER          TOWER LIGHTS   SECURITY

 CANADA         CHESAPE INT'L  COLORADO MT    COLORADO SP.   EDWARDS

 EL SEGUNDO     W. DPS         E. DPS         N. DPS         S. DPS

 FT. BEL WAWS   FT. MEADE      FRESNO         MAPLE          CEDAR

 L.A.X.         HONOLULU       DENVER CO #1   DENVER CO #2   DENVER CO #3

 COS : 0      STANDING : 0          PRINTER : YES

              System Information                          Page Index
 Live Memory Threshold : 1839   Pending: 0          > A  E  I  M  Q  U  V:   D
 COS Auto Ack Threshold: 200                          B  F  J  N  R  V  A:   P
 Hist> Max:   2013  Used:   2013 Purge:  75000        C  G  K  O  S  W  S:X  S
 Mem > Tot:  710332 Blk :  702464                     D  H  L  P  T  X  P:
 Run Time :    0:15 Mon Time:    0:09                Live  :29           FD:Y
                                                     Alarms:14    Off Line:0
F3=COS,F4=Live,F5=Legend,F6=Perf,F8=Ctls,F9=Hlp,F10=Ext
```

Fig. 16.35 - System information window replaces summary legend window.

Table 16.AC - Fields in the System Information window

Field	Description
Live Memory Threshold	Number of live alarms that can be stored in memory before T/MonXM begins sending data to the hard drive.
Pending	Number of alarms with a qualification time that have not yet qualified.
COS Auto Ack Threshold	Maximum number of COS Alarms that can be active before they are automatically acknowledged is 200.
Hist Max	Total number of records defined in History file.
Used	Total number of records actually being used in History file.
Purge	Maximum number of records that will be kept on the T/MonXM hard drive before they are purged and new records begin writing over the old ones. This setting can be adjusted from the History Auto Purge setting in the Miscellaneous Parameters screen from the Parameters menu.

Table 16.AC - Fields in the System Information window (continued)

Field	Description
Mem Tot	Device type.Free system memory.
Blk	Largest contiguous block of free system memory.
Run Time	Time in T/MonXM since starting program.
Mon Time	Elapsed time since entering Monitor mode.

Table 16.AD - Key commands available in the System Information window

Function Key	Description
F3	Device type.Free system memory.
F4	Largest contiguous block of free system memory.
F5	Time in T/MonXM since starting program.
F6	Elapsed time since entering Monitor mode.

Craft Mode

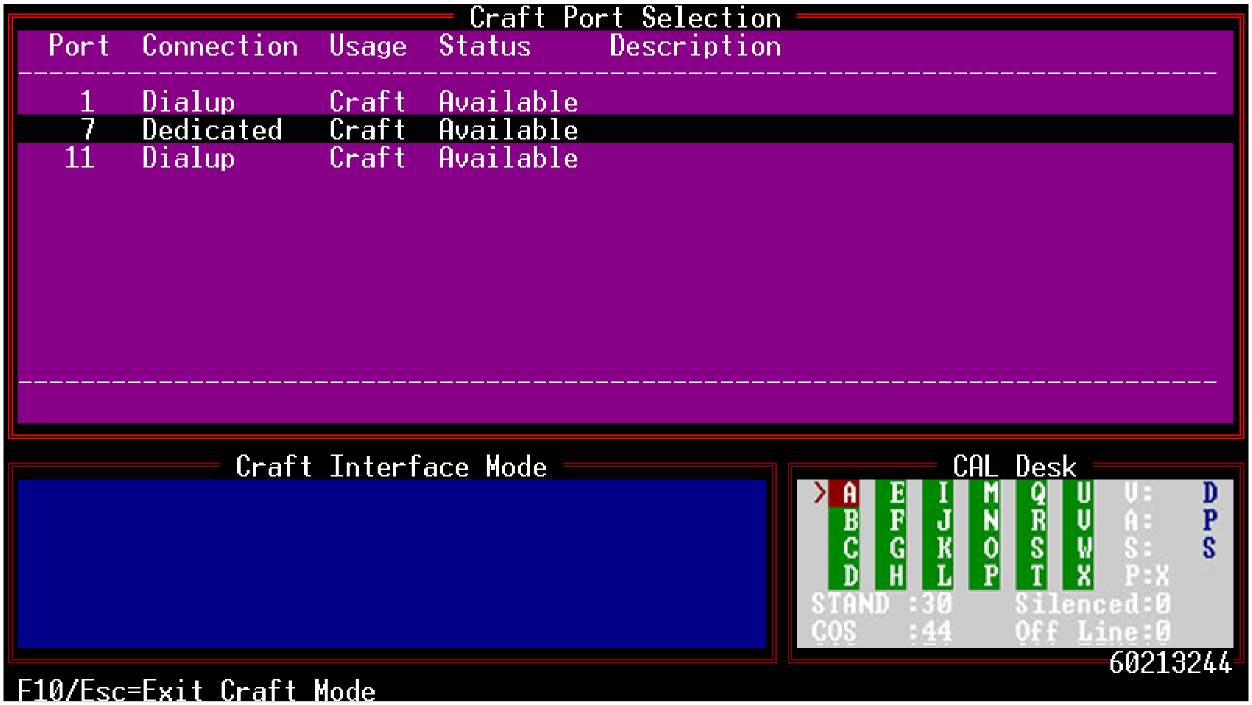
The Craft Mode screen is enabled by pressing Ctrl F7 while in the Alarm Summary screen. It appears as a Craft Mode Dialog window in the upper portion of the screen, in place of the Alarm Summary Window, and as a Craft Interface Mode window in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window.

Craft Mode allows communications with another network device

Craft Mode allows the keyboard and screen to be used for communications via ASCII text with another device in the alarm network. One use of this mode is to obtain data from the craft port of a remote PABX. The Craft Mode Dialog window shows the dialog text being returned from the remote device. The Craft Interface Mode window shows the port in use. This mode can be entered from either the main terminal or from a remote terminal. Highlight the desired port. Press Enter to establish the connection (Figure 16.36).

Craft Mode Interface parameters can be set from the Parameters menu > Remote Ports option — see Section 9 (Remote Ports and Virtual Jobs) for more information.

Note: Do not confuse Chat Mode with Craft Mode. While both are ways to communicate text between the T/MonXM and remote devices, Chat Mode is intended for communication between individuals using terminals and Craft Mode is for communication between devices.



```
                          Craft Port Selection
  Port  Connection  Usage  Status     Description
----------------------------------------------------------------------------
    1   Dialup      Craft  Available
    7   Dedicated   Craft  Available
   11   Dialup      Craft  Available

----------------------------------------------------------------------------

               Craft Interface Mode                        CAL Desk
                                                 > A  E  I  M  Q  U  V:   D
                                                   B  F  J  N  R  V  A:   P
                                                   C  G  K  O  S  W  S:   S
                                                   D  H  L  P  T  X  P:X
                                                  STAND :30    Silenced:0
                                                  COS   :44    Off Line:0
                                                                  60213244
F10/Esc=Exit Craft Mode
```

Fig. 16.36 - Craft mode dialog and craft interface mode windows replace alarm summary

Craft mode supports VT100 terminal emulation (default), WYSE 50 terminal emulation or no terminal emulation. VT100 emulation provides a full-screen display. If a half-screen display is preferred (so that the Page Index window is visible) emulation should be turned off. (Press F6, press F1.)

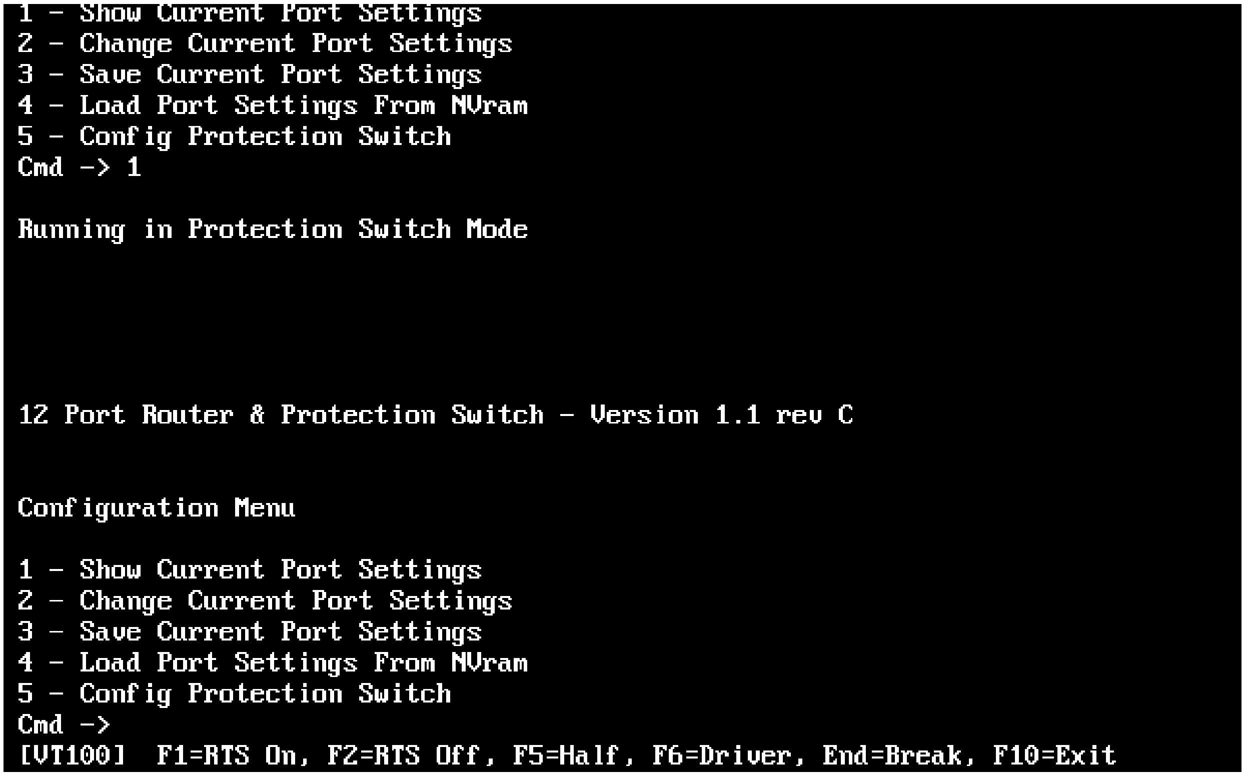
Note: Remote Access Terminals will show a half screen display with no terminal emulation.

Table 16.AE - Key commands available in the Craft Mode screen

Function Key	Description
F1	RTS on. Turns RTS on (low).
F2	RTS off. Turns RTS off (high).
F5	Half. Goes to half screen display. NOTE: Does not work with VT100 emulation.
F6	Driver. Select emulation. F1 = None,, F2 = VT100,, F3 = Wyse 50,,F10 = Exit.
End	Escape. Sends a break code to devices that make use of it.
F9	How many calls have been made to that site.
F10	Exit.

*The Esc key will not function as an exit key from this part of T/MonXM. This allows Escape key sequences to be sent to the remote terminal, if required.

Craft is also available for ASCII and TRIP jobs for debug purposes. Also craft job on network port call allows you to telnet to a device.



```
1 - Show Current Port Settings
2 - Change Current Port Settings
3 - Save Current Port Settings
4 - Load Port Settings From NVram
5 - Config Protection Switch
Cmd -> 1

Running in Protection Switch Mode




12 Port Router & Protection Switch - Version 1.1 rev C


Configuration Menu

1 - Show Current Port Settings
2 - Change Current Port Settings
3 - Save Current Port Settings
4 - Load Port Settings From NVram
5 - Config Protection Switch
Cmd ->
[VT100]  F1=RTS On, F2=RTS Off, F5=Half, F6=Driver, End=Break, F10=Exit
```

Fig. 16.37 - A craft mode connection in progress with a DPS 12-port router.

Labeled Controls Mode

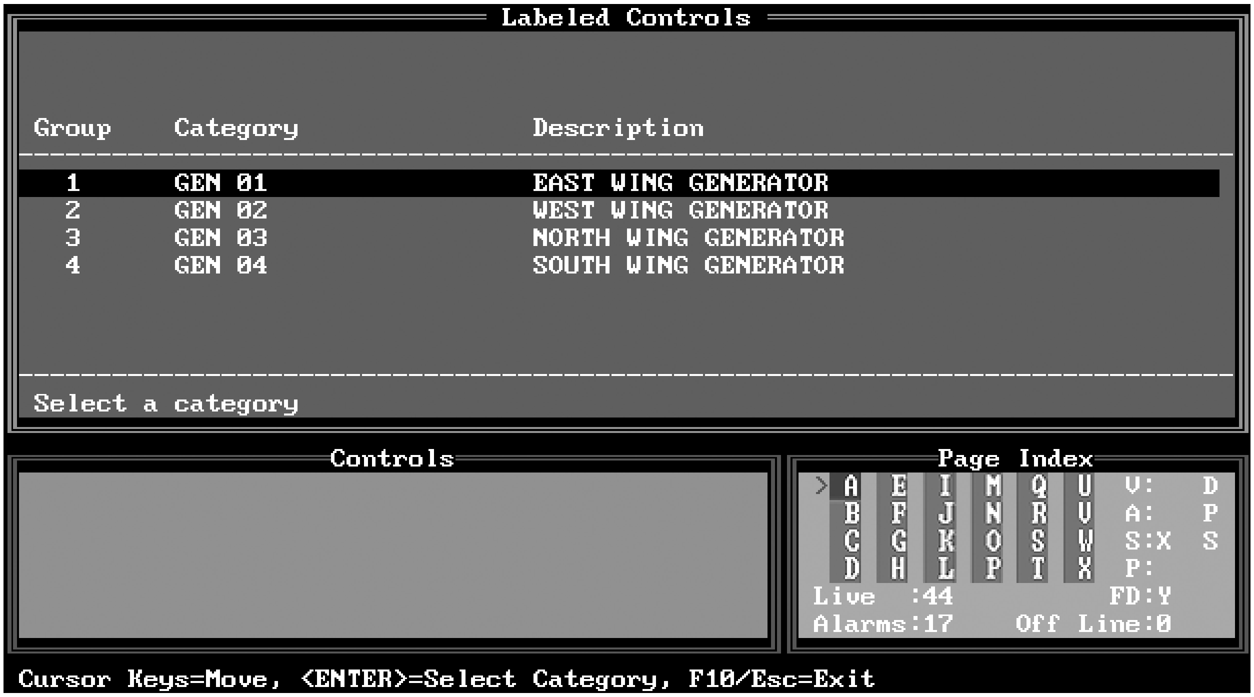
Labeled Controls operate the controls for a group of devices.

This feature allows users to operate control equipment from within the alarm network by referring to English look up tables that are accessed from within Monitor Mode. Labeled Controls differ from Site Controls, discussed earlier in this section, in that they will always bring up the same template, no matter which window you are positioned in. Labeled Controls give you the ability to issue network-wide controls as opposed to the site or device-based controls issued from the Site Controls screen.

The Labeled Controls screen can be accessed by pressing Ctrl F8 while in the Alarm Summary, COS or Standing Alarms screens. Labeled Controls allow the user to operate the controls for equipment types, usually defined by device, thus the name Labeled Controls.

Before Labeled Controls can be operated they must be predefined. For more information on defining Labeled Controls, see Section 12-6 (Labeled Controls Definition).

T/MonXM provides three methods of operating control points at RTUs: Site Controls, Labeled Controls and Derived Controls. Site Controls, described earlier in this section, are operated through windows, by site or other window category. Labeled Controls, described here, are very similar to site controls, but are operated from a type of control grouping rather than from a site window.



```
Labeled Controls

Group    Category              Description
------------------------------------------------------------------------
  1      GEN 01                EAST WING GENERATOR
  2      GEN 02                WEST WING GENERATOR
  3      GEN 03                NORTH WING GENERATOR
  4      GEN 04                SOUTH WING GENERATOR

------------------------------------------------------------------------
Select a category
```

```
Controls                      Page Index
                              > A  E  I  M  Q  U   V:    D
                                B  F  J  N  R  V   A:    P
                                C  G  K  O  S  W   S:X   S
                                D  H  L  P  T  X   P:
                              Live  :44          FD:Y
                              Alarms:17   Off Line:0
Cursor Keys=Move, <ENTER>=Select Category, F10/Esc=Exit
```

Fig. 16.38 - Labeled controls begins with the category selection screen.

Derived controls are automatically operated by T/MonXM from user-defined formulas that evaluate certain alarm points to determine if an automatic control point operation is appropriate.

Issuing Labeled Controls is a two-step process. You must first select the category. Up to 40 categories of control groups can be defined in the data base, each containing up to 200 control point entries. Each of those entries can contain multiple points or ranges of points to give you great flexibility in issuing controls. To select a category position the highlight bar on the line you want and press Enter. This is part of the first screen you'll see — refer to Figure 16.38. The second screen, Labeled Controls Point Selection allows you to issue the individual controls. Several controls can be grouped into a batch for simultaneous operation. Both individual point operation and batch operation are explained on the following pages.

The following tables list the field names, function keys and descriptions for the Labeled Controls screen.

Table 16.AF - Fields in the Labeled Controls screen

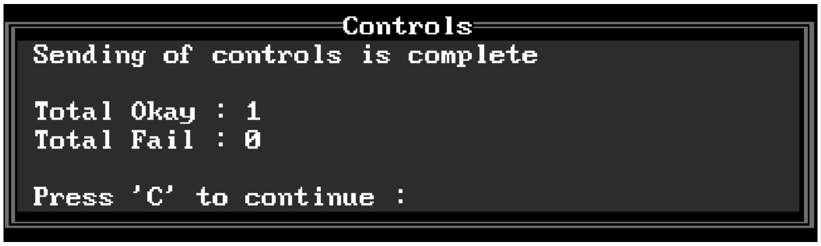
Field	Description
Category	The title for the category.
Description	A description for the category.

Labeled Controls Point Selection

Issue controls from the Labeled Controls Point Selection screen.

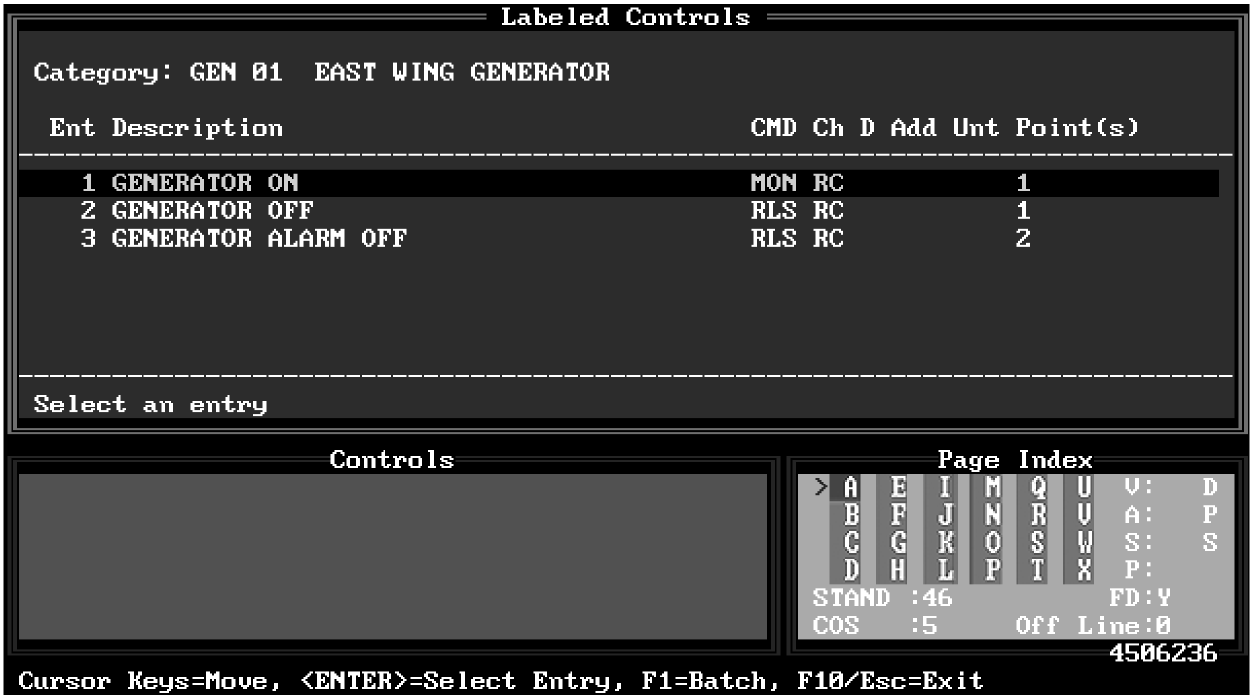
After you've selected your category, you can issue the individual or batch controls to the devices. This is done from the Labeled Controls Point Selection screen. The Control Points must also be predefined, just as the Categories must, from the File Maintenance menu.

Individual Point Operation
From Site Controls Point Selection screen, select the desired control entry based on description and press Enter. A verification window appears asking the you to press "C" to confirm the control command. After you confirm the command, another verification window appears (illustrated below) which shows the total points 'Okay' and the total points 'Failed'. If a control point fails, this window will allow you to either: A (Abort), R (Retry) or C (Continue to the next control point).



```
                        Controls
Sending of controls is complete

Total Okay : 1
Total Fail : 0

Press 'C' to continue :
```

Fig. 16.40 - Verification window shows controls sent.



```
                          Labeled Controls

Category: GEN 01  EAST WING GENERATOR

 Ent Description                             CMD Ch D Add Unt Point(s)
------------------------------------------------------------------------
    1 GENERATOR ON                           MON RC           1
    2 GENERATOR OFF                          RLS RC           1
    3 GENERATOR ALARM OFF                    RLS RC           2

------------------------------------------------------------------------
Select an entry

                Controls                          Page Index
                                          > A  E  I  M  Q  U  V:  D
                                            B  F  J  N  R  V  A:  P
                                            C  G  K  O  S  W  S:  S
                                            D  H  L  P  T  X  P:
                                           STAND :46          FD:Y
                                           COS   :5     Off Line:0
                                                           4506236
Cursor Keys=Move, <ENTER>=Select Entry, F1=Batch, F10/Esc=Exit
```

Fig. 16.39 - Control details are provided on the labeled controls point selection screen.

The following tables list the field names, function keys and descriptions for the Labeled Controls Point Selection screen.

Table 16.AG - Fields in the Labeled Controls Point Selection screen

Field	Description
Ent	The entry number within the group selected (200 entries per group).
Description	The description of the control points. Up to 40 characters.

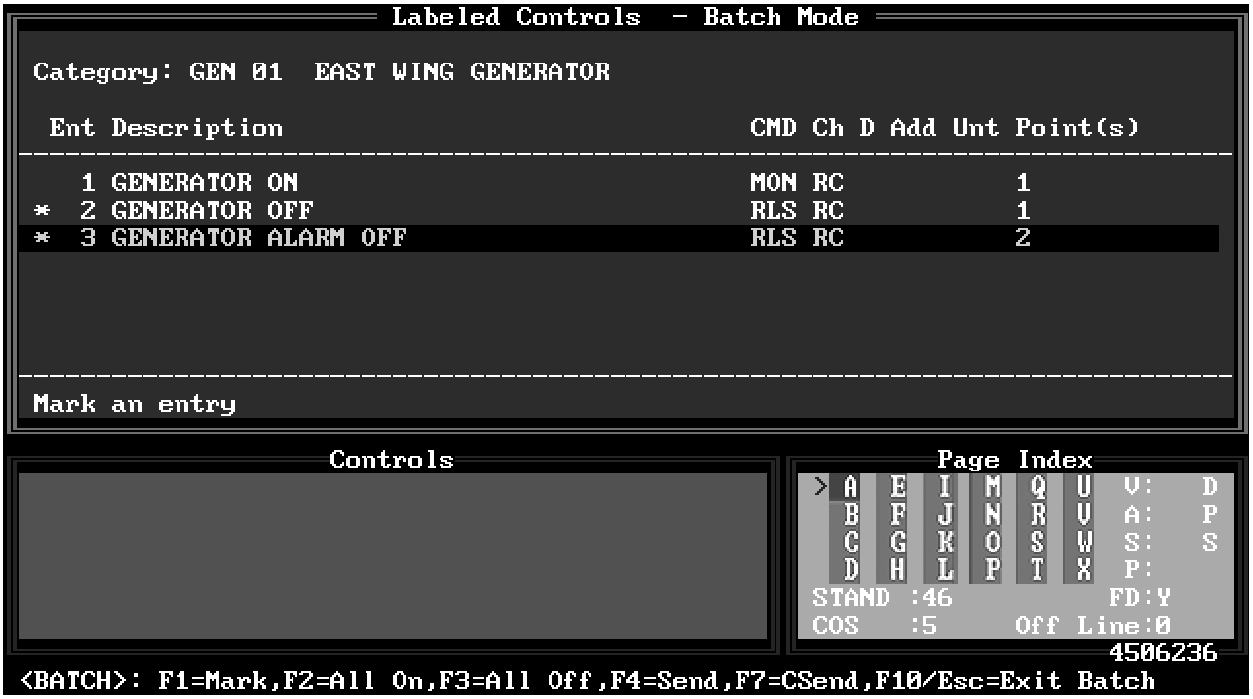
*CMD	The command that will be used to activate the control point.
	OPR = Operate Relay
	RLS = Release Relay
	MON = Momentary On
	MOF = Momentary Off
	SBO = Select Before Operate
	SBL = Select Before Release
	SMO = Select Before Momentarily Operating
	EXE = Execute Select Before Operate/Release Commands
	CLR = Clear all Select Before Operate/Release Commands

*Ch	Channel number to issue controls to.
	RP = Remote Port (Modem port)
	RC = Relay Card (102 Card)
	AV = Audio/Visual Card (101 or 108)
	1-500 = Port number
	K1-K2 = KDA Shelf
	NG, N2 = NetGuardian
	NW = NetWatchman

*D	Device Type
	C = CPM
	S = SBP (Smart Bypass Card)

*Add	The device’s address.
*Unt	Unit. This varies depending on the protocol and serves as a data index. Typically a display or group.
*Point(s)	Control point(s) that control will be sent to.

*These fields are for system administrator troubleshooting and most operators need not be concerned with them. The description field should contain all the necessary information to identify the proper control point.



```
Labeled Controls  - Batch Mode

Category: GEN 01  EAST WING GENERATOR

 Ent Description                                  CMD Ch D Add Unt Point(s)
---------------------------------------------------------------------------
   1 GENERATOR ON                                 MON RC           1
*  2 GENERATOR OFF                                RLS RC           1
*  3 GENERATOR ALARM OFF                          RLS RC           2

---------------------------------------------------------------------------
Mark an entry

              Controls                            Page Index
                                           >A  E  I  M  Q  U  V:   D
                                            B  F  J  N  R  V  A:   P
                                            C  G  K  O  S  W  S:   S
                                            D  H  L  P  T  X  P:
                                           STAND :46           FD:Y
                                           COS   :5     Off Line:0
                                                             4506236
<BATCH>: F1=Mark,F2=All On,F3=All Off,F4=Send,F7=CSend,F10/Esc=Exit Batch
```

Fig. 16.41 - Operate labeled control points in batches from the batch mode screen

Batch Point Operation

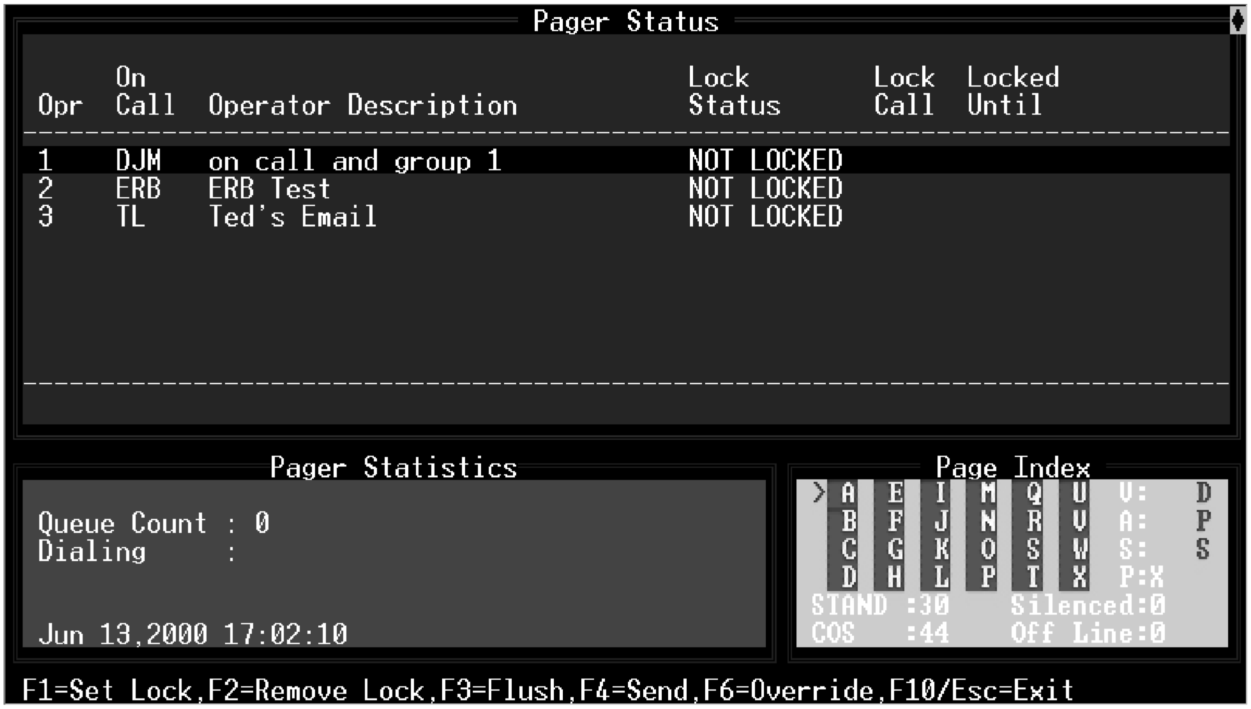
From the Labeled Controls Point Selection screen press F1 to select the Labeled Controls - Batch Mode screen. The prompt line will display the commands in the table below. Highlight and mark points with F1. Execute control point operation with F4.

Table 16.AH - Key commands available in the Site Controls - Batch Mode Screen

Function Key	Description
Up Arrow/Down Arrow	Moves highlight bar up or down through the fields.
F1	Mark. Press to mark highlighted point. An asterisk (*) will appear at the left end of each marked line. Toggles mark on or off.
F2	All On. Marks all points in the category.
F3	All Off. Un-marks all points in the category.
F4	Send. Verification window asks you to press “C” to confirm sending the control command. After command is sent the window will show the results, as in individual point operation.
F7	Confirm Send. Use with Select Before Operate (SBO) points. Verification window will be presented a second time, after the initial operate command is sent.
F10	Exit Batch Mode.

Pager Status in Monitor Mode

Lock Function
Pager status mode can be entered by pressing Shift-F3 (Pager Status) from the Monitor Mode Alarm Summary screen. The Pager Status screen is used to assign a pager carrier (initials and phone number) to pager operators. The Pager Statistics window (lower left) displays the amount of pager notifications in the pager queue (Queue Count) and shows the current phone number that is being dialed (Dialing field).



```
                              Pager Status

      On                                     Lock        Lock  Locked
Opr   Call  Operator Description             Status      Call  Until
-----------------------------------------------------------------------------
1     DJM   on call and group 1              NOT LOCKED
2     ERB   ERB Test                         NOT LOCKED
3     TL    Ted's Email                      NOT LOCKED

-----------------------------------------------------------------------------

               Pager Statistics                          Page Index
                                               > A  E  I  M  Q  U  V:   D
Queue Count : 0                                  B  F  J  N  R  V  A:   P
Dialing     :                                    C  G  K  O  S  W  S:   S
                                                 D  H  L  P  T  X  P:X
                                                STAND :30   Silenced:0
Jun 13,2000 17:02:10                            COS   :44   Off Line:0

F1=Set Lock,F2=Remove Lock,F3=Flush,F4=Send,F6=Override,F10/Esc=Exit
```

16.42 - Pager status screen

Table 16.AI - Fields in the Pager Status screen

Field	Description
Opr	Operator number. T/MonXM automatically lists all assigned operator schedules.
On Call	Initials of the pager carrier that would normally be called for the associated OPR (operator).
Operator Description	Description from the description field in the Weekly Operator Schedule screen
Lock Status	Indicates operator’s current pager carrier status (locked or unlocked).
Lock Call	Initials of the pager carrier that will be called if the operator is locked.
Lock Until	Date and time the lock will expire.

Table 16.AJ - Fields in the Set Lock screen

Field	Description
OPR	Enter the operator number. Valid OPR numbers are 1-99.
PGR	Initials of the pager carrier.
DATE	Enter expiration date. (MM/DD/YY)
HOUR	Enter the lock expiration hour. Valid entries are 0-23.

Flush Pager Queue

The queue of pagers to be dialed can be cleared by pressing F3 (Flush Pager Queue) from the Pager Status screen.

Sending Pager Messages

To send free form pager messages, press F4 (Send) from the Pager Status screen. A pager carrier list is displayed. To use this screen, highlight the pager carrier that you want. You have the option of pressing Enter to select the highlighted pager carrier or press F1 (Manual) to enter the information manually.

Note: In T/MonXM Version 4.5 and later, you can also send messages to pager groups and email addresses.

Pressing Enter selects the highlighted pager carrier and the highlighted pager information is automatically entered in the Pager Message window on the bottom left of the screen.

Pressing F1 (Manual) activates the Pager Message window on the bottom left of the screen. From this screen you can manually enter the Phone, Type, ID/Dly and Data fields.

A N (numeric) entry in the Type field will result in one 7 number data line being sent in a numeric page.

An A (alphanumeric) entry in the Type field will result in a maximum of 27 alphanumeric characters being sent per data line. Up to a maximum of 81 alphanumeric characters can be sent in a alphanumeric page.

Site Statistics

Site Statistics shows the quality of communication to each site.

Site Statistics also serves as a site selection tool for specific device-related operations

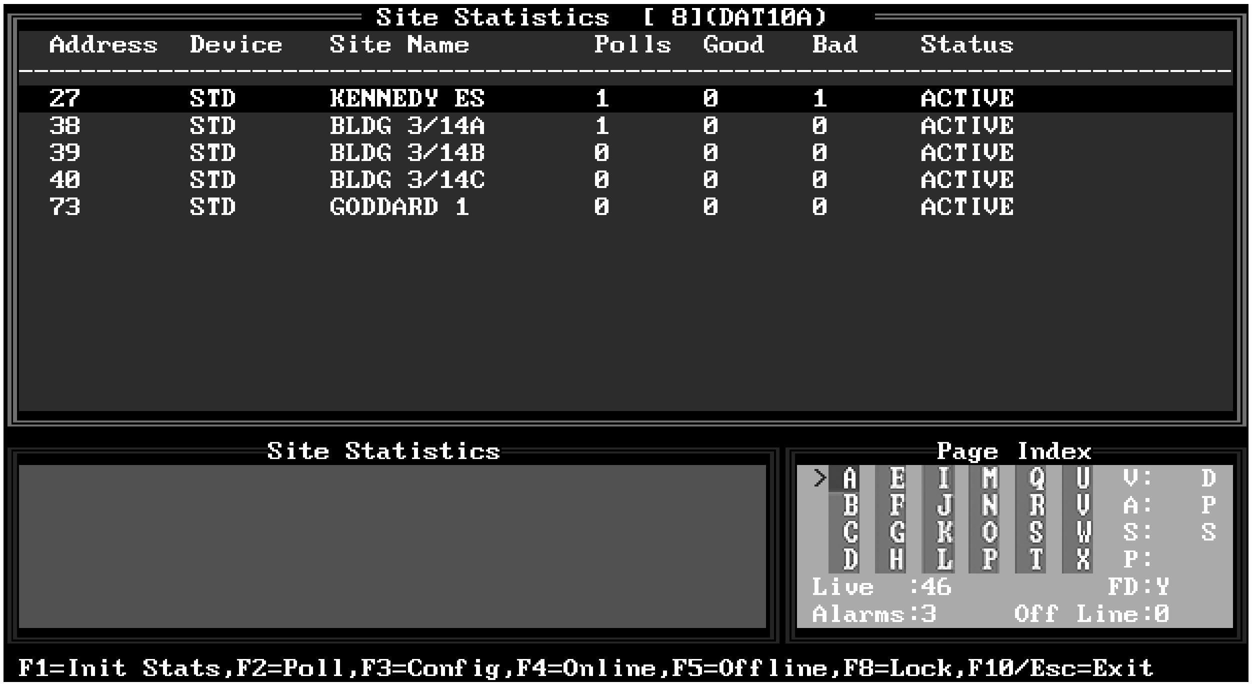
The Site Statistics screen is enabled by pressing Shift-F6 while in the Alarm Summary screen.

For HDLC Stats see Appendix C (Configuring a X.25 Port Card).

The Site Statistics window appears in the upper portion of the screen, in place of the Alarm Summary Window. A Site Statistics window appears in the lower left portion of the Alarm Summary screen, in place of the Summary Legend window. This screen allows you to view general performance statistics for individual sites on the selected port. Site Statistics are on a port basis. The line at the top of the window displays the following information:

```
             Site Statistics   [Port #]          (Protocol)
```

Tables 16.AK and 16.AL list the field names and function key descriptions for the Site Statistics screen.



```
                         Site Statistics  [ 8](DAT10A)
  Address   Device   Site Name        Polls  Good   Bad    Status
--------------------------------------------------------------------------------
  27        STD      KENNEDY ES       1      0      1      ACTIVE
  38        STD      BLDG 3/14A       1      0      0      ACTIVE
  39        STD      BLDG 3/14B       0      0      0      ACTIVE
  40        STD      BLDG 3/14C       0      0      0      ACTIVE
  73        STD      GODDARD 1        0      0      0      ACTIVE

                 Site Statistics                        Page Index
                                                 > A  E  I  M  Q  U  V:   D
                                                   B  F  J  N  R  V  A:   P
                                                   C  G  K  O  S  W  S:   S
                                                   D  H  L  P  T  X  P:
                                                  Live   :46          FD:Y
                                                  Alarms:3     Off Line:0
F1=Init Stats,F2=Poll,F3=Config,F4=Online,F5=Offline,F8=Lock,F10/Esc=Exit
```

Fig. 16.43 - Site statistics windows replace alarm summary.

Table 16.AK - Fields for Site Statistics screen

Field	Description
Address	Site Address
Device	Device address indicator. Since CPMs and MATs can have identical addresses, this field indicates which device is using the address. Devices other than CPMs and MATs use the STD designation. Options are: STD: Standard. CPM: Control Processing Module. MAT: Modular Alarm Transmitter NG: NetGuardian 216: NetGuardian 216 PSW: Protection Switch BAC: Building Access

Table 16.AK - Fields for the Site Statistics screen (continued)

Field	Description
Polls	Site Address Number of times the site has been polled since entering Monitor mode or stats have been reset.
Good	Number of successful polls.
Bad	Number of unsuccessful polls.
Status	Current status of the site. Options are as follows: FAILED: Unable to communicate with device. Device could be malfunctioning or transmission path may be disrupted. ACTIVE: Device is currently transmitting data. ONLINE: Device is currently online. OFFLINE: Device is not currently online.

Table 16.AL - Key commands available in the Site Statistics screen

Function Key	Description
F1	Init Stats. Reset stats on screen to 0 settings.
F2	Poll. Instructs T/MonXM to perform a full status poll next time through the polling loop. A full status poll gets all the alarm information from the remote, as opposed to getting only the alarms that have changed status since the last poll. T/MonXM will normally do this type pf poll periodically to ensure that alarms are in sync.
F3	Config. Sends configuration to device. This would be useful if you had powered down the device while logged on via T/MonXM and you didn't want to reinitialize T/MonXM. This function is applicable only to Datalok 10As.
F4	Online. Put device online. Alarm data will be transmitted & received.
F5	Offline. Takes device offline. Alarm data will not be transmitted or received by unit. T/MonXM will not poll the device until it is back online.
F6	Analogs. Analog values will be displayed. During this function other alarms can be received via the dedicated port being used for the analog values. Other ports will continue to be monitored. The Page Index Window will indicate if any new alarms are received.
F8	Lock. Lock device. This is used to lock out alarms for maintenance, etc. **Note:** This function is applicable only to Datalok 10D units. For further information refer to the Datalok 10D Module section.
F9	View help screen.
F10/Esc	Exit
Alt-F1	Show database for the remote that is highlighted.
Alt-F3	Force a dedicated connection to a Teltrac device.
Alt-F4	Force a dialup connection to a Teltrac device.
Alt-F5	View English Analyzer
Alt-F6	View Protocol Analyzer
Alt-F9	View accumulator values of DS5000 device.
Ctrl-F3	Force device time synchronization with T/Mon. This will signal T/Mon to set the device's time to match its own. This only applies to devices that support their time settings to be set remotely.
Shift-F1	Flag ALL NetGuardian devices for a firmware download. (Firmware download to flagged devices will begin when user presses Shift-F5.)
Shift-F4	Toggle firmware download flag for the selected NetGuardian device. This will flag or unflag the selected NetGuardian device to receive a firmware download.
Shift-F5	Begin download to flagged NetGuardian units. If the user presses Shift-F5 while a NetGuardian unit is highlighted, T/Mon will immediately begin downloading firmware to the selected unit AND all other units which have been previously flagged for download.
Shift-F9	Unflag ALL NetGuardian devices for a firmware download. This will unflag all NetGuardian devies that are flagged for download.
Shift-F10	Toggle priority polling for the selected device. When flagged, the selected device will be polled multiple times during each poll cycle, greatly increasing its responsiveness, for diagnostic purposes.
-	Minus key. Displays the previous port.
+	Plus key. Displays the next port
1-0	Displays port numbers 1-10.
Shift 1-Shift 0	Displays port numbers 11-20.

View Analogs

Poll type automatically changes from upset to full update when viewing a dedicated analog value.

Analog values are displayed in native units, e.g., degrees.

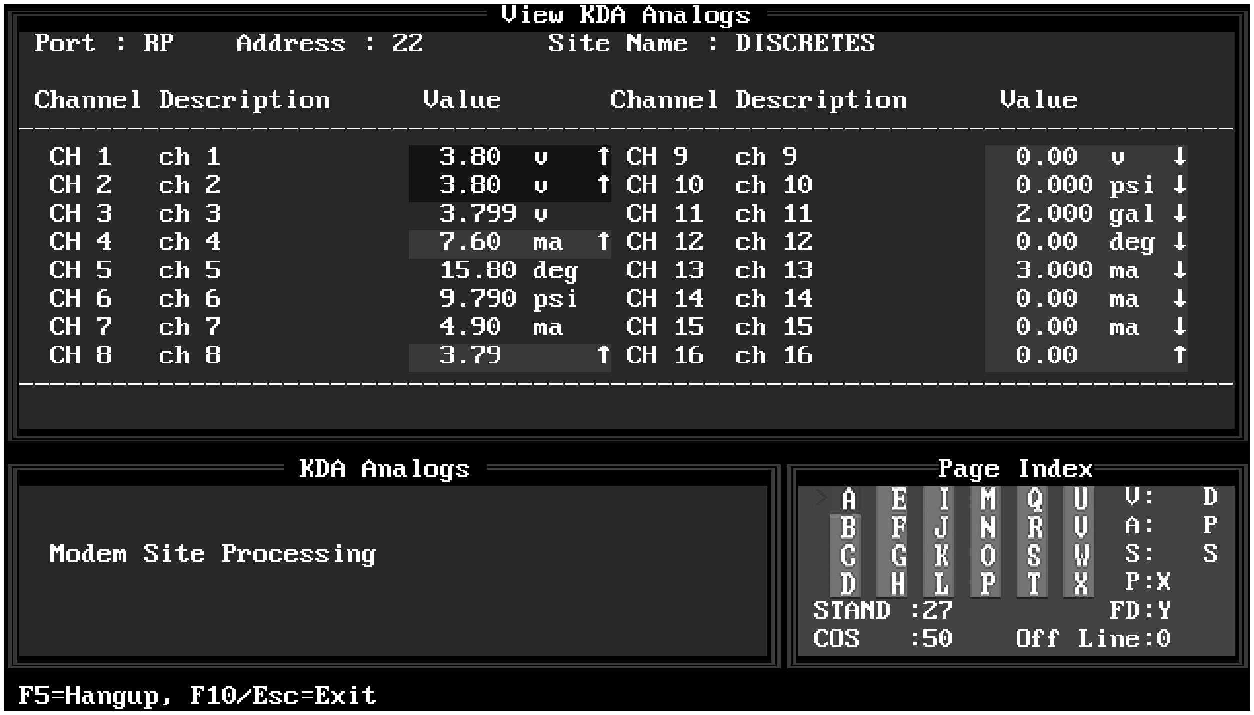
To read analog values from a (dedicated line) KDA remote equipped with an Analog Expansion Card or a 400-type analog card, or from a NetGuardian, press shift-F6 while in the main monitor screen. The Site Statistics screen will be displayed. Select the address/ device / site name for the desired remote.

Press F6 to see the View KDA Analogs or View NetGuardian screen. During this function other alarms will be received via the dedicated port being used for the analog values. Other ports will also continue to be monitored. The Page Index Window will indicate if any new alarms are received.

To read analog values from a (dial-up) KDA remote equipped with an Analog Expansion Card or a 400-type analog card, press shift-F4 while in the main monitor screen. The Dialup Site Monitor screen will be displayed. Select the address/ device / site name for the desired remote. Press F6 to see the View KDA Analogs screen. Press F5 to cause the modem to dial the site for the latest analog data.* The modem remains on line monitoring the analog values until F5 is pressed again to hang up the modem. During this function no other alarms can be received via the dial port. Other ports will continue to be monitored. The Page Index Window will indicate if any new alarms are received. You must press F5 again to cause the modem to hang up.

Points in alarm will display the severity (alarm level) color behind the point value, plus an arrow pointing up for over threshold alarms and an arrow pointing down for under threshold alarms.

*Does not work for a 400-type analog card.



```
                          View KDA Analogs
 Port : RP    Address : 22        Site Name : DISCRETES

 Channel Description      Value       Channel Description      Value
 ---------------------------------------------------------------------------
   CH 1   ch 1              3.80  v   ↑ CH 9   ch 9              0.00  v   ↓
   CH 2   ch 2              3.80  v   ↑ CH 10  ch 10             0.000 psi ↓
   CH 3   ch 3              3.799 v     CH 11  ch 11             2.000 gal ↓
   CH 4   ch 4              7.60  ma  ↑ CH 12  ch 12             0.00  deg ↓
   CH 5   ch 5              15.80 deg   CH 13  ch 13             3.000 ma  ↓
   CH 6   ch 6              9.790 psi   CH 14  ch 14             0.00  ma  ↓
   CH 7   ch 7              4.90  ma    CH 15  ch 15             0.00  ma  ↓
   CH 8   ch 8              3.79      ↑ CH 16  ch 16             0.00      ↑
 ---------------------------------------------------------------------------

                 KDA Analogs                             Page Index
                                                  >A  E  I  M  Q  U  V:   D
                                                   B  F  J  N  R  V  A:   P
   Modem Site Processing                           C  G  K  O  S  W  S:   S
                                                   D  H  L  P  T  X  P:X
                                                  STAND :27          FD:Y
                                                  COS   :50    Off Line:0
 F5=Hangup, F10/Esc=Exit
```

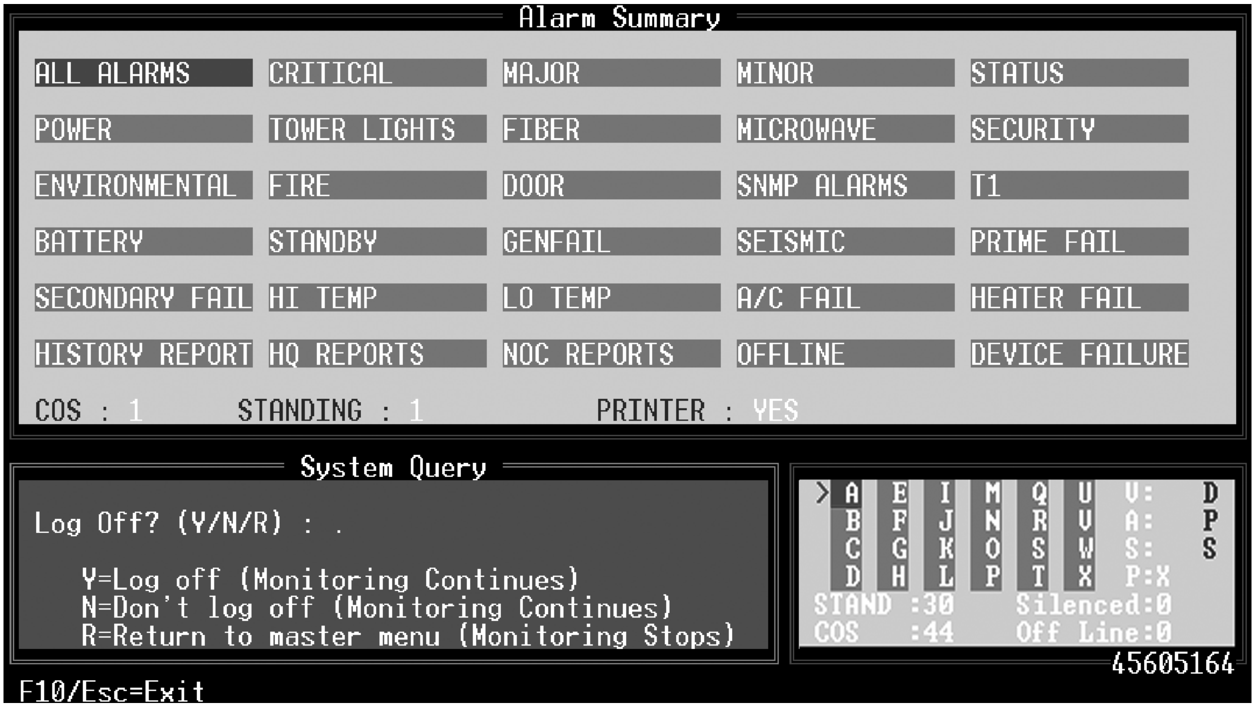
Fig. 16.44 - View KDA analogs screen shows each channel in converted value and units.

Exit Monitor Mode (Log Off/On)

To exit or log out of Monitor Mode press F10/Esc. The System Query window appears in the bottom left corner. Once you've logged out, the system will either return to the Master menu or continue to monitor for alarms without a user logged on, depending on how you exit. If you press Y, the system will continue to monitor but will log you out (see Figure 16.45). If you press R, the system will log out and return to the Master menu. (The R key will only appear if you have exit monitor privileges in the system user file and you are on the main console.)

NOTE: If you are using Remote Access on a port with auto logon inits defined and no one has logged back in within 60 seconds, your Remote Access user(s) will be logged in automatically with the initials defined for that Remote Access port. The initials used are set via the Auto Logon field in the Remote Access port definition under the Parameters menu. Refer to the Remote Access section (Section 5) for more information on Remote Access Log On/Off.

Table 16.AM explains the key choices available. Differences for remote access are noted in underlined text.

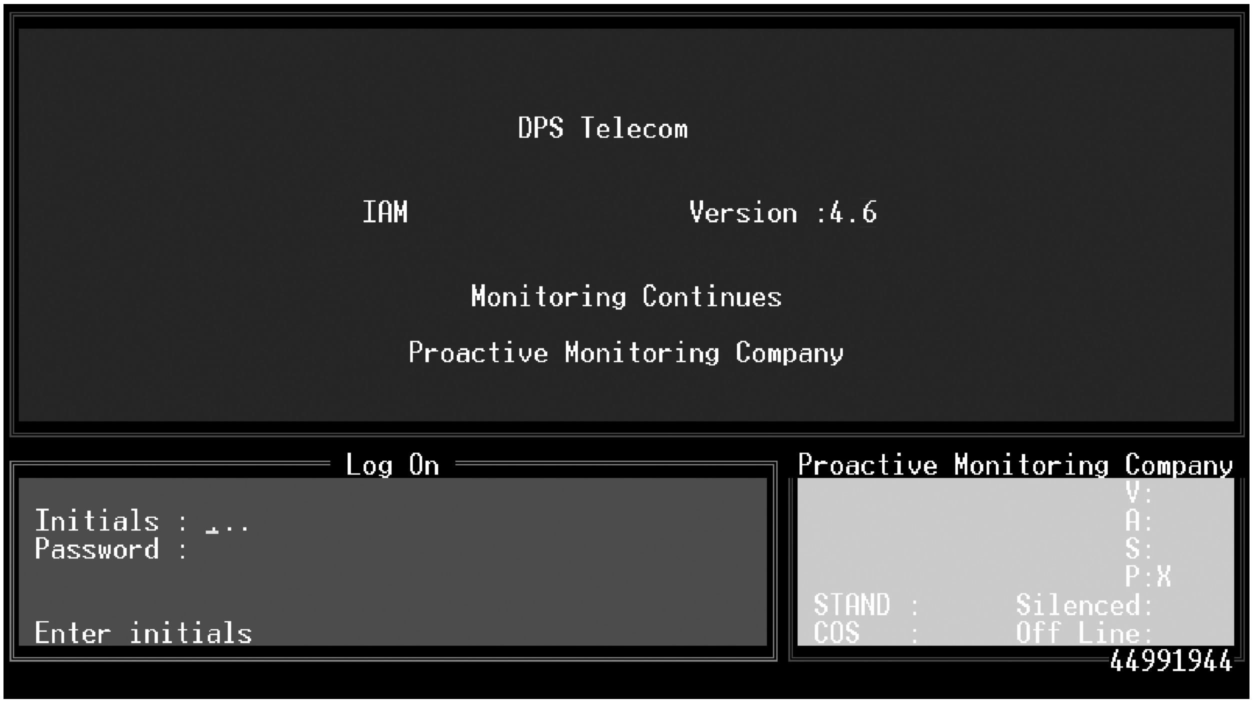


```
Alarm Summary
ALL ALARMS        CRITICAL          MAJOR             MINOR             STATUS
POWER             TOWER LIGHTS      FIBER             MICROWAVE         SECURITY
ENVIRONMENTAL     FIRE              DOOR              SNMP ALARMS       T1
BATTERY           STANDBY           GENFAIL           SEISMIC           PRIME FAIL
SECONDARY FAIL    HI TEMP           LO TEMP           A/C FAIL          HEATER FAIL
HISTORY REPORT    HQ REPORTS        NOC REPORTS       OFFLINE           DEVICE FAILURE
COS : 1       STANDING : 1            PRINTER : YES

System Query
Log Off? (Y/N/R) : .

   Y=Log off (Monitoring Continues)
   N=Don't log off (Monitoring Continues)
   R=Return to master menu (Monitoring Stops)

> A  E  I  M  Q  U  V:    D
  B  F  J  N  R  V  A:    P
  C  G  K  O  S  W  S:    S
  D  H  L  P  T  X  P:X
STAND :30      Silenced:0
COS   :44      Off Line:0
                          45605164
F10/Esc=Exit
```

Fig. 16.45 - System query window replaces summary legend window.

Table 16.AM - Key commands available in the Exit Monitor Mode

Field	Description
Y	Log off the user from the system. Monitoring Continues and the Monitor Mode Log on screen will appear or the next user to log on.
N	Abort the log off and return to Monitor mode.
R	Return to Master menu. Monitoring stops and you are returned to the Master menu. This is often used to get to the database editing section. **Note:** This key will only be visible (and available) if you gave authorization to leave monitor mode. Not available at dial-up or direct connect Remote Access Terminals.
D	Disconnect. Used only at dial-up Remote Access Terminals.



```
                         DPS Telecom

              IAM                  Version :4.6

                    Monitoring Continues

                Proactive Monitoring Company

 ======== Log On ========         Proactive Monitoring Company
                                                      V:
  Initials : _...                                     A:
  Password :                                          S:
                                                      P:X
                                    STAND :      Silenced:
  Enter initials                    COS   :      Off Line:
                                                     44991944
```

Fig. 16.46 - The monitor mode log on screen.

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Section 18 - Managing System Files

Utilities Menu

Database should be backed up at the end of any day in which changes have been made.

In primary/secondary systems in which databasing is done on the secondary system, database backup should be done on the secondary system.

The Utilities Menu consists of disk operations for backing up, restoring, and other operations on system files. The Utilities Menu and its selections are shown in Figure 18.1.

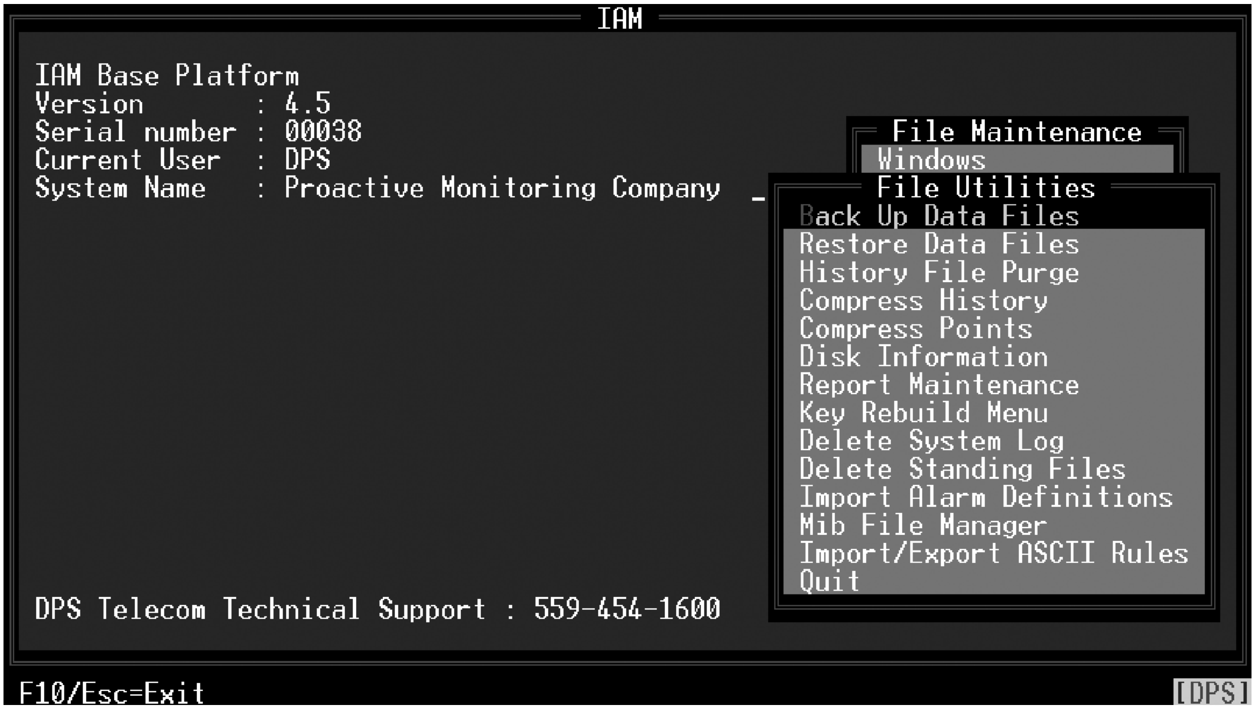
Back Up Data Files
Configuration files or History files can be copied or backed up.

This option will copy T/MonXM data files to diskettes. Diskettes must be preformatted and sequentially numbered. Files created on another computer using XMEdit software can also be loaded under this option.

Each backup set can have a 30-character description for reference.

Upon entering the Back Up Data Files screen a reminder will show the dates of the last configuration and history archive.

NOTE: System configurations are not only very valuable because of the time it takes to create them, the system cannot be fully operational without them. We cannot overemphasize the importance of having current data backups. Regular rotational backup procedures should be part of system operation. DPS recommends a MINIMUM of 4 sets of configuration backups, one of which should be located off site. If you don't want to re-enter the data you entered, BACK IT UP. Generally, backing up at the end of a day when changes were made is a good idea.


IAM

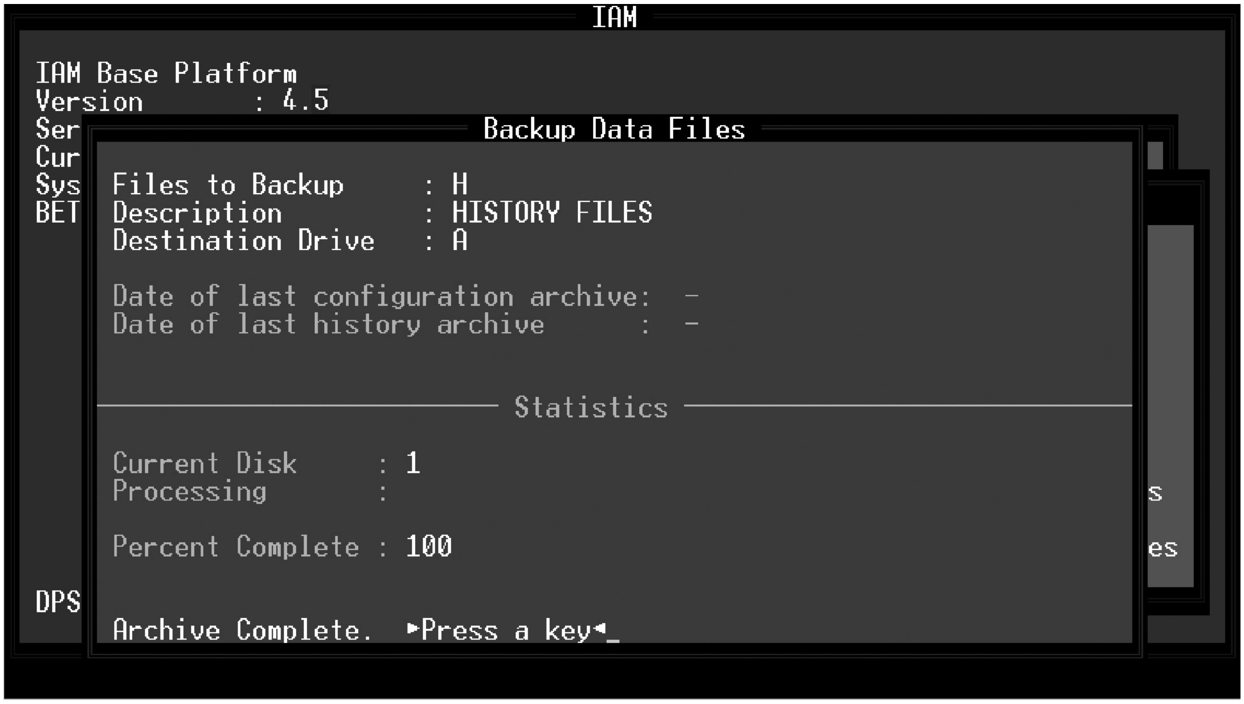
IAM Base Platform
Version   : 4.5
Serial number : 00038
Current User : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit

[DPS]

Fig. 18.1 - The File Utility menu.



```
                              IAM
IAM Base Platform
Version       : 4.5
Ser                 Backup Data Files
Cur
Sys  Files to Backup     : H
BET  Description         : HISTORY FILES
     Destination Drive   : A

     Date of last configuration archive:  -
     Date of last history archive      :  -

     ──────────────────────── Statistics ────────────────────────

     Current Disk     : 1
     Processing       :                                              s

     Percent Complete : 100                                          es

DPS
     Archive Complete.  ►Press a key◄_
```

Fig. 18.2 - The data files archive screen is used to back up the data files.

Table 18.A - Fields in the Data Files Archive screen

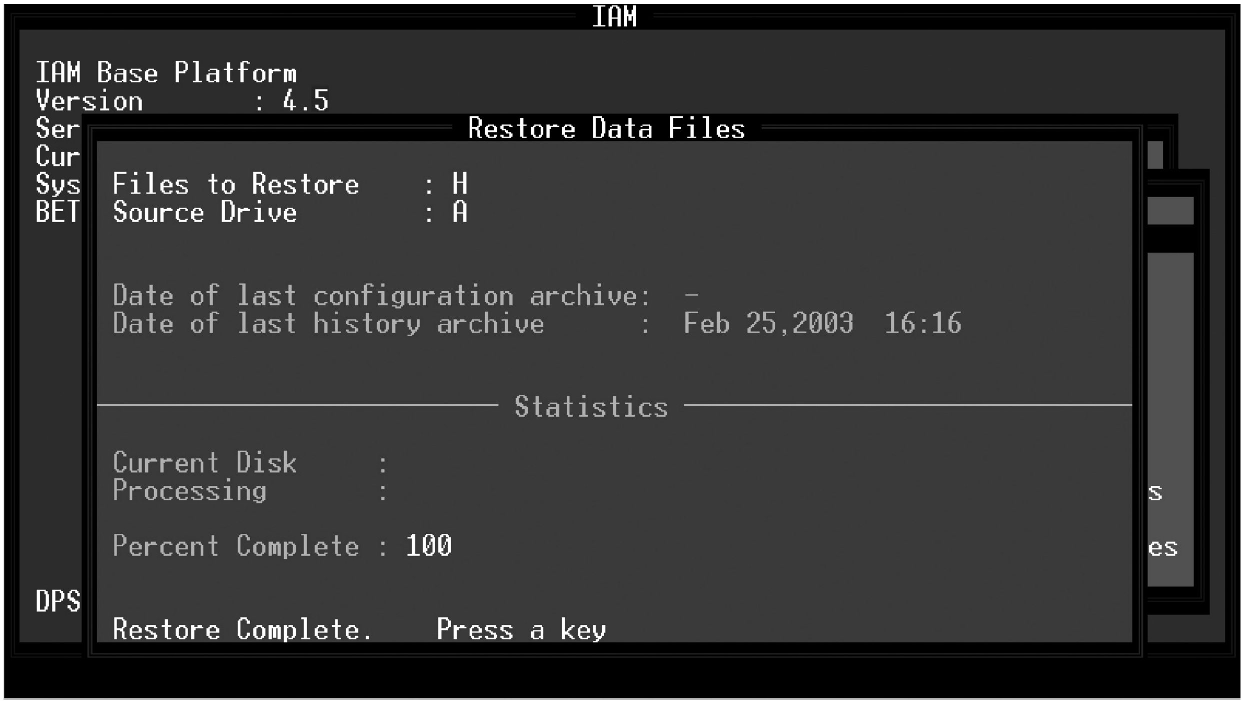
Field	Description
Files to Archive	Enter C to archive Configuration files or H to archive History file. (Configuration files include windows, ports, points, controls, etc.)
Description	Enter a description for the backup. Up to 30 characters are allowed. Time and date are automatically <ENTER>ed when backup is started.
Drive to Archive to	Set this option to the physical drive where the backed up files are to be stored (A-Z). **IAM and T/Mon users:** This is the drive on the IAM or T/Mon, not the PC you are running T/AccessM for Windows™ **All users:** If backup to a floppy ALWAYS remove floppy after backup is complete to ensure proper operation of Automatic Recovery function.

Changes to Backup Data Files in Version 4.2 and later:

- Configuration and History backups can share the same disk.
- Database Backup can now use drives other than A and B.
- Indexes can now be backed up, speeding restorations after file transfers via FTP.

Whenever you back up configuration files, T/MonXM will ask if you want to backup indexes as well.

Note: DPS Telecom recommends that you back up indexes only if you are backing up via FTP. If you are backing up on floppy disks, rebuilding your indexes will be quicker than restoring them. If you have a large database it is recommended that you back up the database using index files and Auto-ASCII.



```
                                IAM
IAM Base Platform
Version       : 4.5
Ser                          Restore Data Files
Cur
Sys  Files to Restore    : H
BET  Source Drive        : A


     Date of last configuration archive:  -
     Date of last history archive      :  Feb 25,2003  16:16


     ------------------------- Statistics -------------------------

     Current Disk     :
     Processing       :                                           s

     Percent Complete : 100                                       es

DPS

     Restore Complete.    Press a key
```

Fig. 18.3 - The data files restore screen.

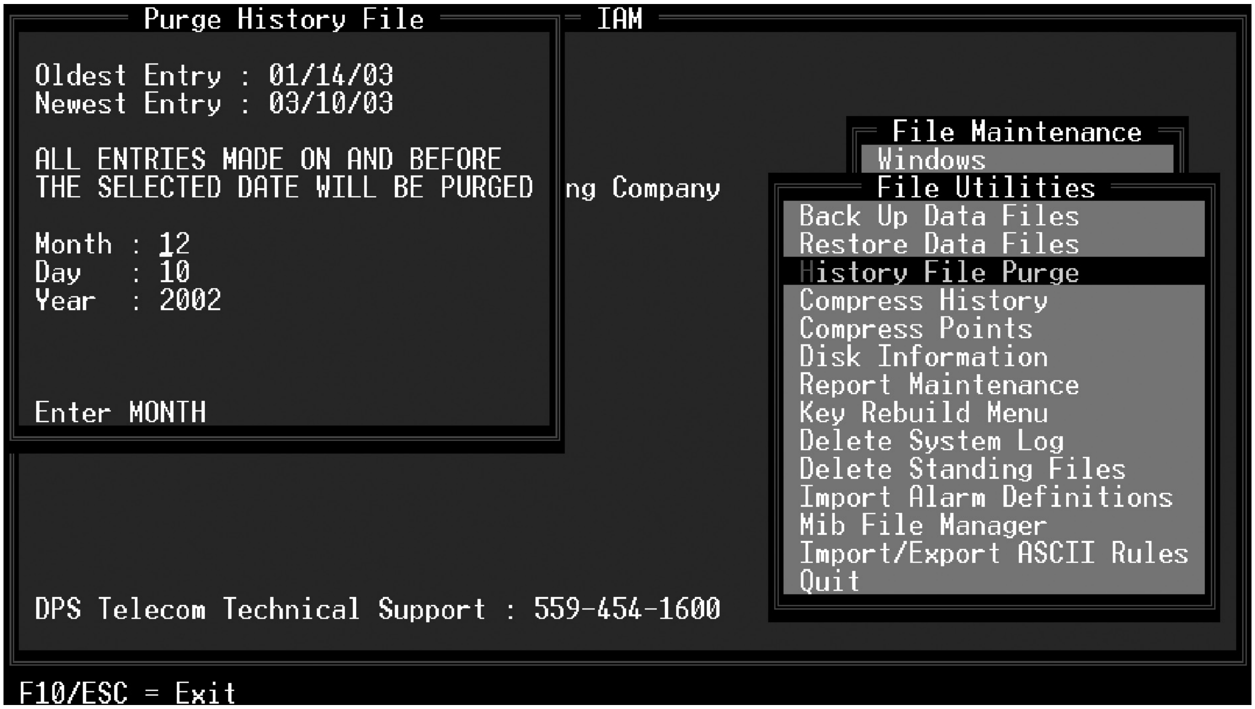
Restore Data Files

This option will restore the Configuration or History files that were previously backed up by the above Back Up Data Files option. Files created on another computer using XMEdit software can also be loaded under this option. When executing this option, T/MonXM will first alert the user that the restore will overwrite the current system files.To restore data files, follow these steps:

- From the File Utilities menu, choose Restore Data Files.
- The Restore Data Files screen will open. You will be prompted to select the data file to restore. Choose C)onfiguration or H) istory and press Enter.
- You will be prompted to select a drive to restore from. Type the drive letter and press Enter.
- T/MonXM will test the drive and prompt you to enter the first disk of the backup series. Insert the disk and press Enter.
- T/MonXM will display the backup description and prompt you to confirm the restoration. Answer Y to begin the restore process or N to abort the restore process.

If the backup disk is correct and you answered yes to the restore prompt, the program will flash the files being read at the processing field and prompt if you need to insert the next disk of the backupseries.

> **Note**: Restoring data files will erase the current data files that are present on T/MonXM.
> T/MonXM will re-index data files if needed.



```
Purge History File

Oldest Entry : 01/14/03
Newest Entry : 03/10/03

ALL ENTRIES MADE ON AND BEFORE
THE SELECTED DATE WILL BE PURGED

Month : 12
Day   : 10
Year  : 2002


Enter MONTH

DPS Telecom Technical Support : 559-454-1600

F10/ESC = Exit
```

Fig. 18.4 - The purge history file screen.

History File Purge

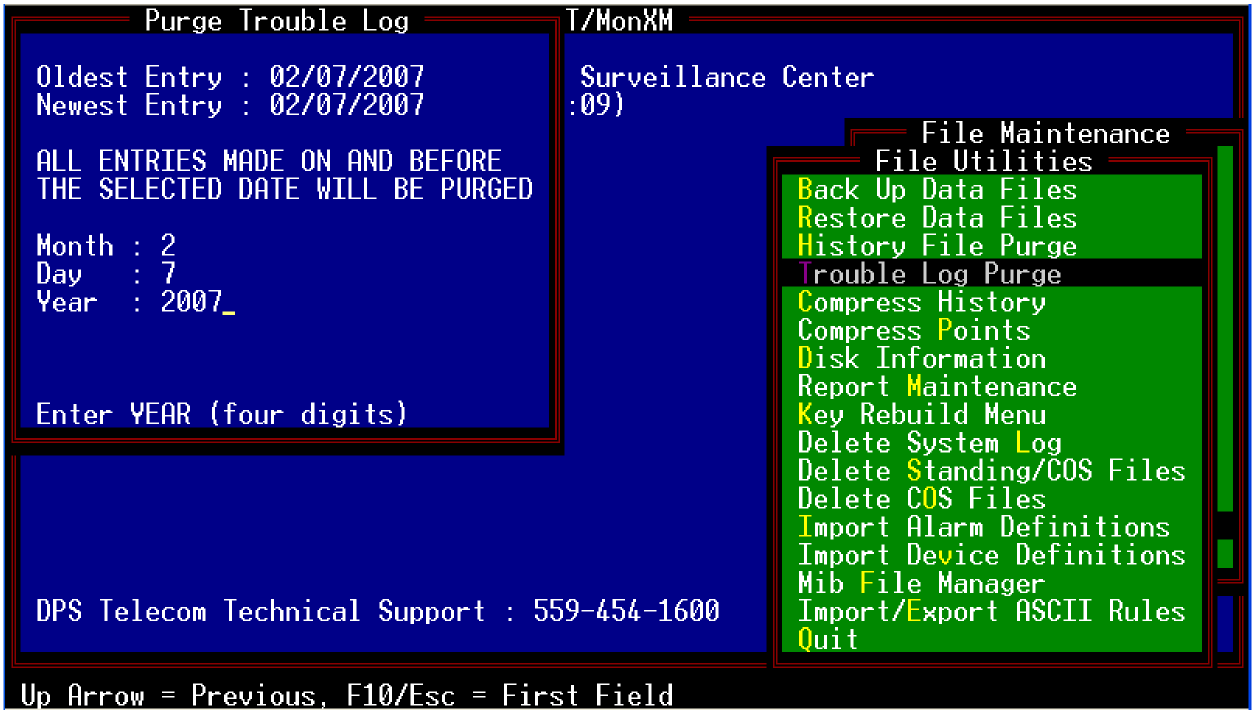
This option lets you delete the oldest entries from the History file.

At the top of the window, the dates of the oldest and newest entries are displayed. The user selects the last day that the purge will include. All entries made on or before the selected date will be deleted. As a safety feature, the system will default to 3 months prior to today's date. In addition, you will be prompted to type the word "ERASE" after entering a date to prevent inadvertent deletions.

After the History file has been purged, its size remains the same as before the purge. The space reclaimed within the file will be reused by subsequent History file entries.

History File Purge is not required for preventive maintenance. Older History file entries are automatically purged at the threshold set in the Miscellaneous Parameters screen — see Section 15 (Configuring Remote Access) for details.

Typically the user never needs to run this utility.



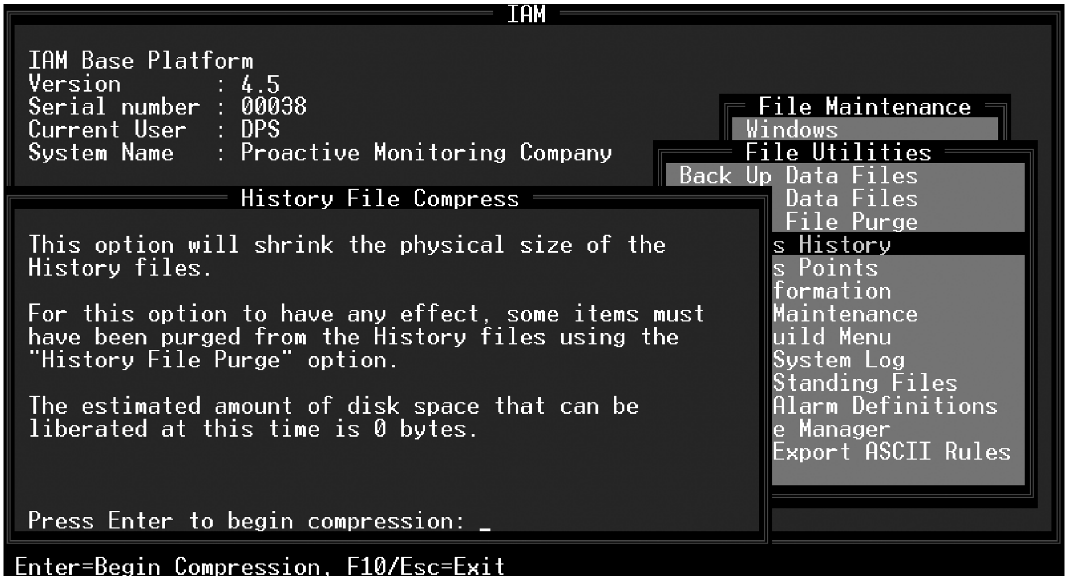
```
Purge Trouble Log

Oldest Entry : 02/07/2007
Newest Entry : 02/07/2007

ALL ENTRIES MADE ON AND BEFORE
THE SELECTED DATE WILL BE PURGED

Month : 2
Day   : 7
Year  : 2007_

Enter YEAR (four digits)
```

```
T/MonXM
Surveillance Center
:09)

DPS Telecom Technical Support : 559-454-1600

Up Arrow = Previous, F10/Esc = First Field
```

Fig. 18.5 - The purge trouble log screen.

Trouble Log Purge
This option lets you delete the oldest entries from the trouble log.

At the top of the window, the date of the oldest and newest entries are displayed. The user selects the last day that the purge will include. All entries made on or before the selected date will be deleted. As a safety feature, the system will default to 3 months prior to today's date. In addition, you will be prompted to type the word "ERASE" after entering a date to prevent inadvertent deletions.



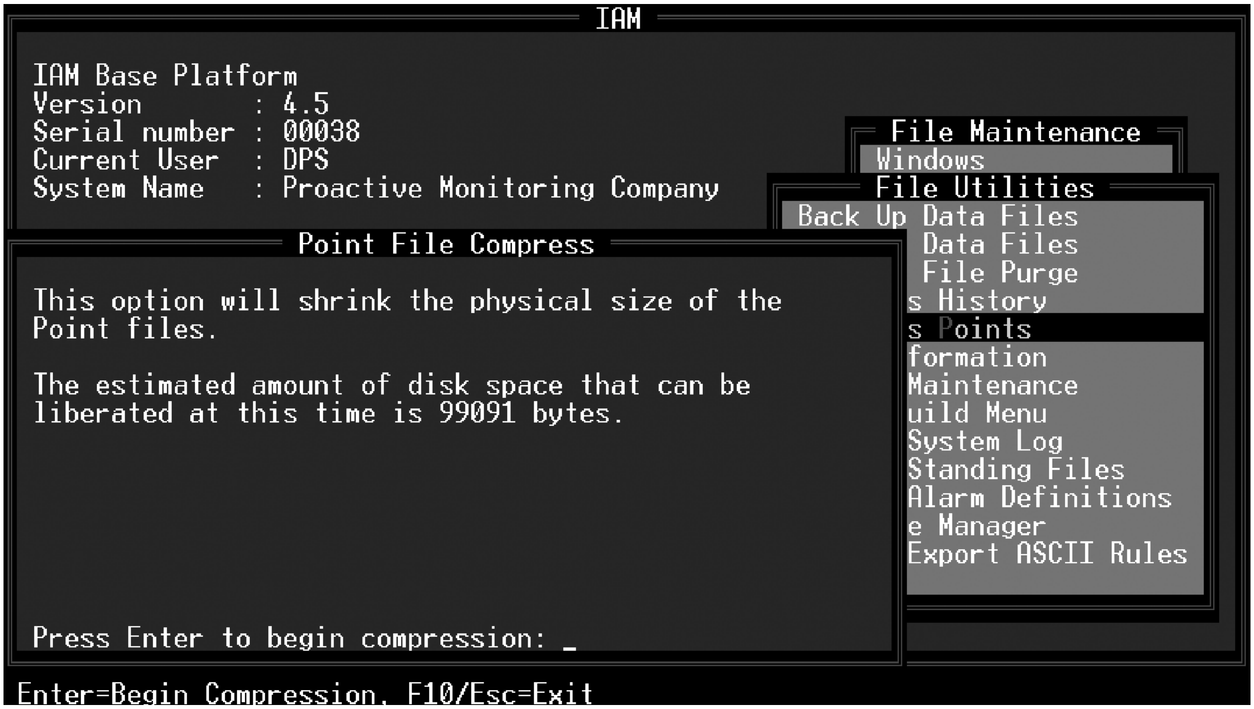
```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

This option will shrink the physical size of the
History files.

For this option to have any effect, some items must
have been purged from the History files using the
"History File Purge" option.

The estimated amount of disk space that can be
liberated at this time is 0 bytes.


Press Enter to begin compression: _
```

Fig. 18.6 - The history file compress screen.

Typically the user never needs to run this utility.

Compress History

This menu option will physically shrink the size of the History file. This option will only have an effect if entries have been purged from the file using the History File Purge option. In case there is insufficient disk space available, the user will be prompted for a DOS drive and path to use as temporary storage. The user will also be informed of the amount of disk space that will be freed by the compression.

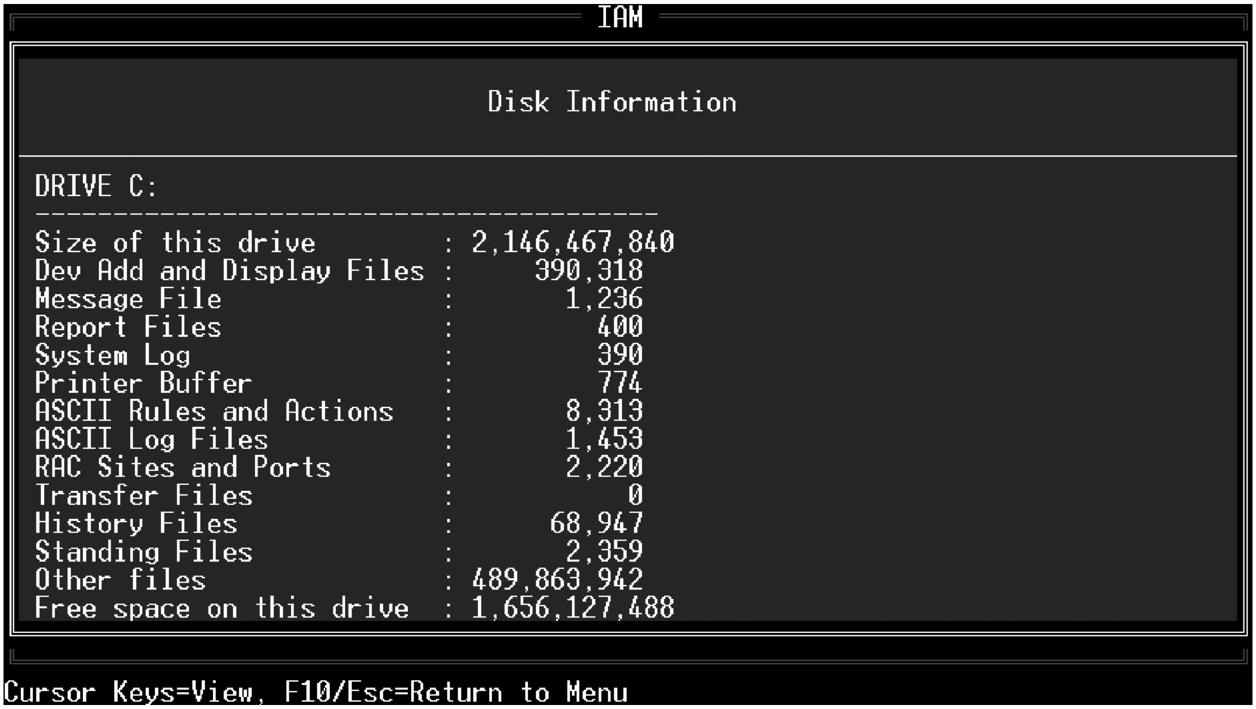


```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

                    Point File Compress

This option will shrink the physical size of the
Point files.

The estimated amount of disk space that can be
liberated at this time is 99091 bytes.

Press Enter to begin compression: _
Enter=Begin Compression, F10/Esc=Exit
```

Fig. 18.7 - The compress points screen.

Compress Points

This menu option will physically shrink the size of the Point files.

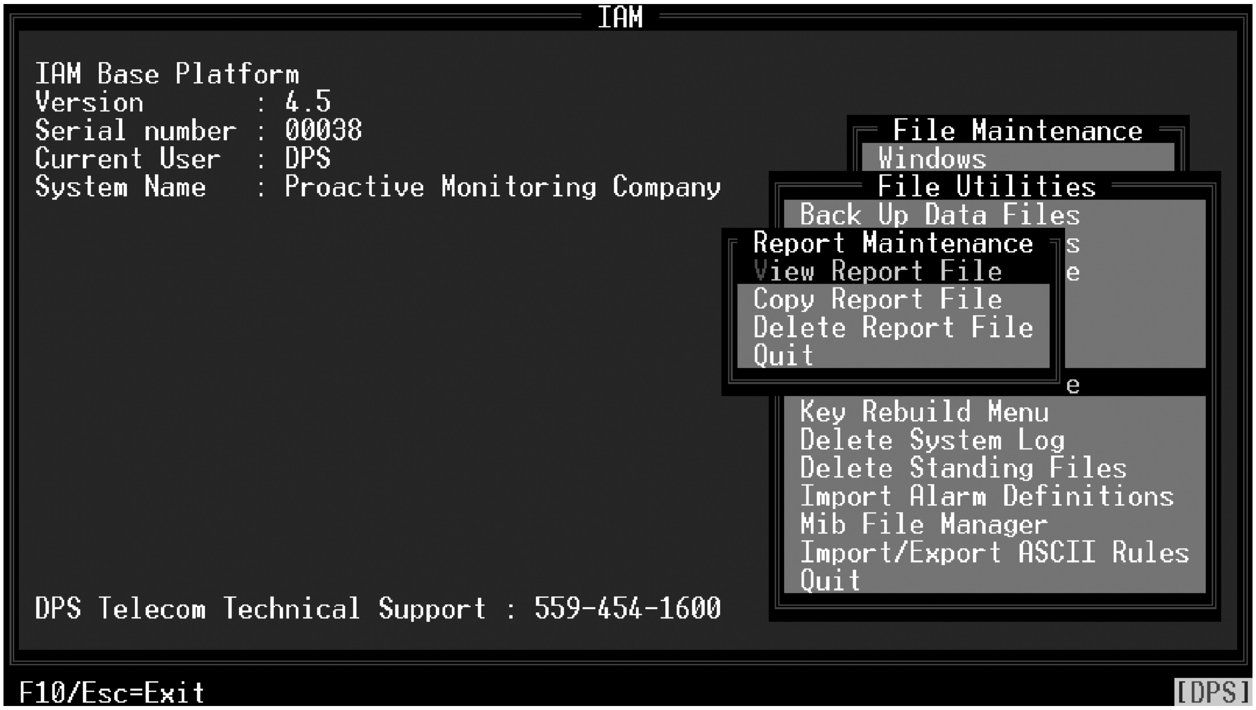


```
                      Disk Information

DRIVE C:
----------------------------------------
Size of this drive        : 2,146,467,840
Dev Add and Display Files :     390,318
Message File              :       1,236
Report Files              :         400
System Log                :         390
Printer Buffer            :         774
ASCII Rules and Actions   :       8,313
ASCII Log Files           :       1,453
RAC Sites and Ports       :       2,220
Transfer Files            :           0
History Files             :      68,947
Standing Files            :       2,359
Other files               : 489,863,942
Free space on this drive  : 1,656,127,488

Cursor Keys=View, F10/Esc=Return to Menu
```

Fig. 18.8 - The disk information screen

Disk Information

The Disk Information option generates a disk usage report displaying the number and size of configuration files on the internal hard disk.



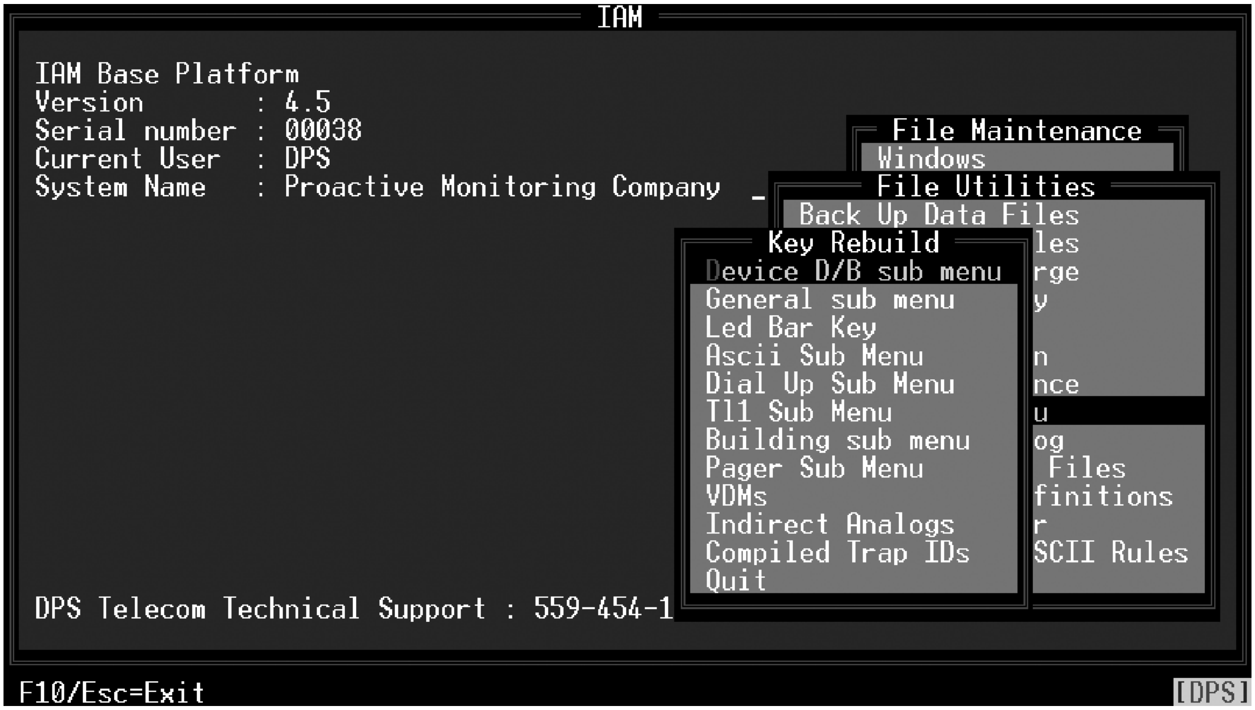
```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600
```

Fig. 18.9 - The report maintenance menu.

Report Maintenance

The three menu options on the Report Maintenance screen (see Figure 18.8) allows you to view, copy, and/or delete report files that you have previously generated.

For file viewing refer to section 19-1 in “Managing Reports.”



```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1
```

Fig. 18.10 - The key rebuild menu.

Preventative maintenance key rebuilds are not required.

It doesn’t hurt to perform a key rebuild—no data loss will occur because of a key rebuild. However, T/MonXM will usually perform a key rebuild automatically if one is ever required.

Rebuild Key Files

The Key Rebuild menu (see Figure 18.9) appears when you choose the Key Rebuild menu option from the File Utilities menu. The Key Rebuild menu options will rebuild an index file for the option you choose or take you to another menu of logically grouped files. It may be necessary to rebuild an index file if the data file and index file get out of synchronization. The Key Rebuild process deletes the out-of-sync index file and uses the data file to create a new index file for the chosen option.

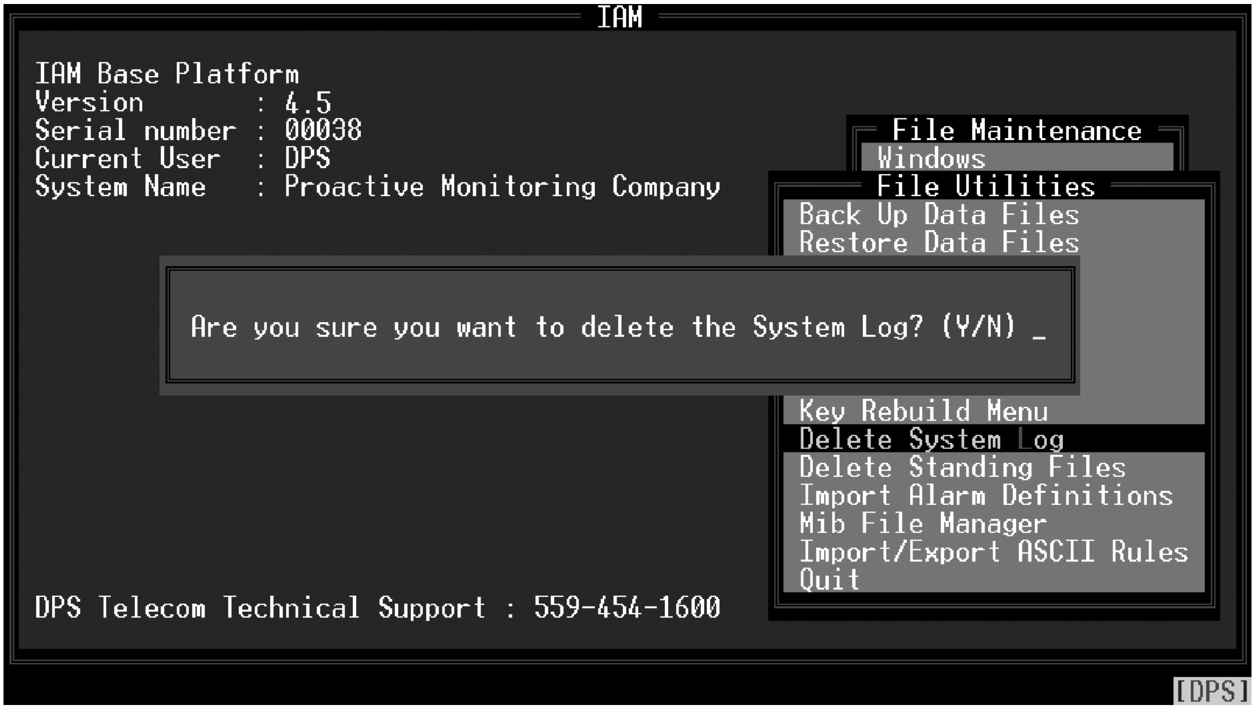
These options will be most often used in the event of a catastrophe with T/MonXM’s index files and when recommended by a DPS customer service representative. They are not used unless there is a problem. To execute the Key Rebuild menu options select an option and press Enter.

Table 18.B lists the options available under the Key Rebuild menu and sub menus. To rebuilt simply highlight the selection and press Enter

If there are over 100 keys, a progress box will appear showing the number of records restored and the total number of records.

Table 18.B - Key Rebuild Menu selections

Key Rebuild Menu Selection	Sub Menu Selection
Device D/B sub menu	Windows BSU Device Ports Device Address Device Point Responder Provisioning
General sub menu	History Key Security Derived Trouble Logs Labeled Control Cat Labeled Control Points Cards Data Connection
LED Bar Key	None
ASCII sub menu	ASCII Device Key ASCII Action Key ASCII Log Key
Dial Up sub menu	Dial Up Sites
TI1 sub menu	Route Sid Point Tables
Building sub menu	Site Key Log Key BAS Info Key
Pager sub menu	Pager Operators Pager Exceptions Pager Carriers
VDMs	None
Indirect Analogs	None
Compiled Trap IDs	None

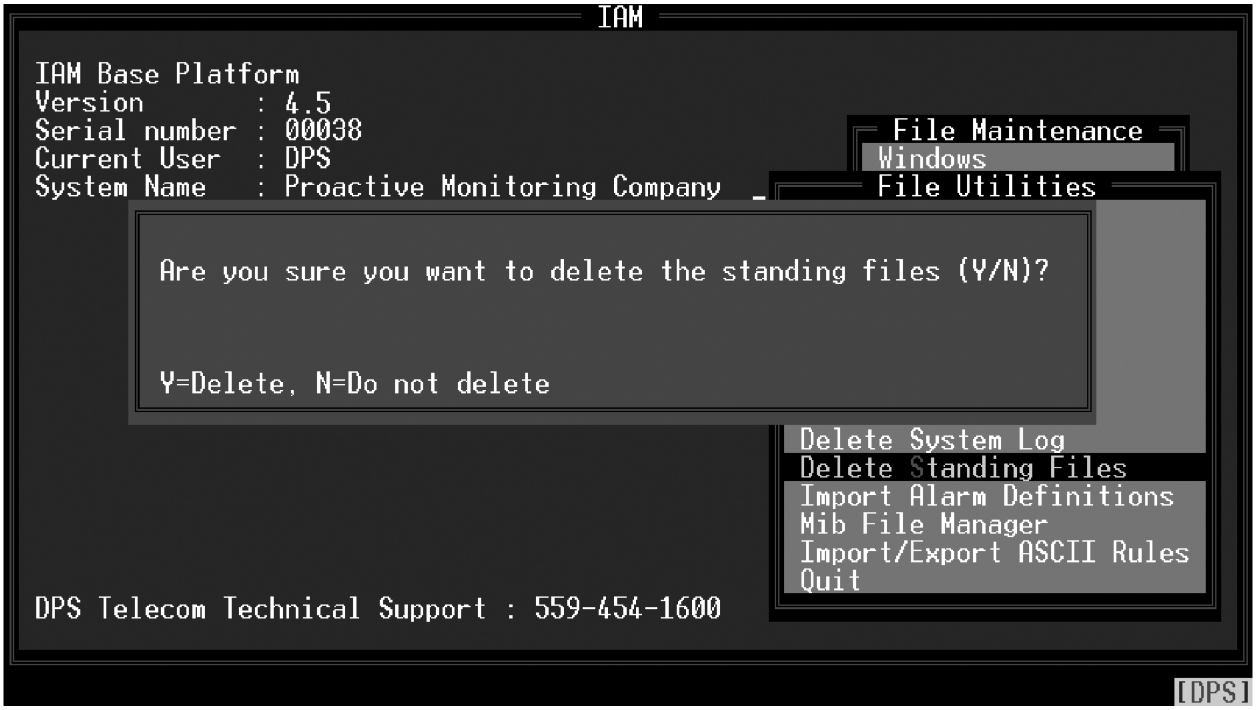


```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

Are you sure you want to delete the System Log? (Y/N) _

DPS Telecom Technical Support : 559-454-1600
```

Fig. 18.11 - You must confirm you want to delete the System Log

Delete System Log

The Delete System Log option will delete the System Log. This option should only be used when recommended by a DPS customer service representative. The Delete System Log contains vital information to correct program anomalies should they occur. To execute the Delete System Log option, simply select the option and press Enter. Then type “Y” at the warning prompt.



IAM Base Platform
Version : 4.5
Serial number : 00038
Current User : DPS
System Name : Proactive Monitoring Company

Are you sure you want to delete the standing files (Y/N)?

Y=Delete, N=Do not delete

DPS Telecom Technical Support : 559-454-1600

Fig. 18.12 - You must confirm you want to delete the standing files

Note: System must be initialized without entering Monitor mode for this to work.

This feature is also used when making rule changes for Auto ASCII databasing. See Software Module 6 for more information.

Delete Live Files

The Delete Live Files option will delete the live files which relate to live alarms and standing alarms. This option will most often be used when recommended by a DPS customer service representative. This is primarily used to delete standing alarms from the system that can never clear. (i.e.: A remote containing an alarm point that is no longer in the system.

To execute the Delete Live Files option, simply select the option and enter “Y” at the warning window (see Figure 18.11).

CAUTION — Deleting live alarms has two side effects:

1. Devices taken off-line will be turned back on.
2. Alarms that were previously in and possibly acknowledged will cause a new COS if they are still standing.

Preventive Maintenance

DPS Telecom recommends the following best practices for preventive maintenance:

- Back up your Configuration files whenever changes are made.
- Use the Export History Report on a weekly/monthly basis to archive your history events.
- Periodically review System User access and remove users who are no longer employed in your organization or no longer use T/MonXM.
- Regularly check the DPS Telecom website (www.dpstelecom.com) to make sure you are using the latest T/MonXM software.

Import Alarm Definitions

New in 4.6
Alarm Import Utility now has support for importing NetGuardian and KDA remotes.

Important Note: Alarm importation is an advanced tool for users who wish to maintain their database on another system. Most T/Mon users should use the built in point editing function.

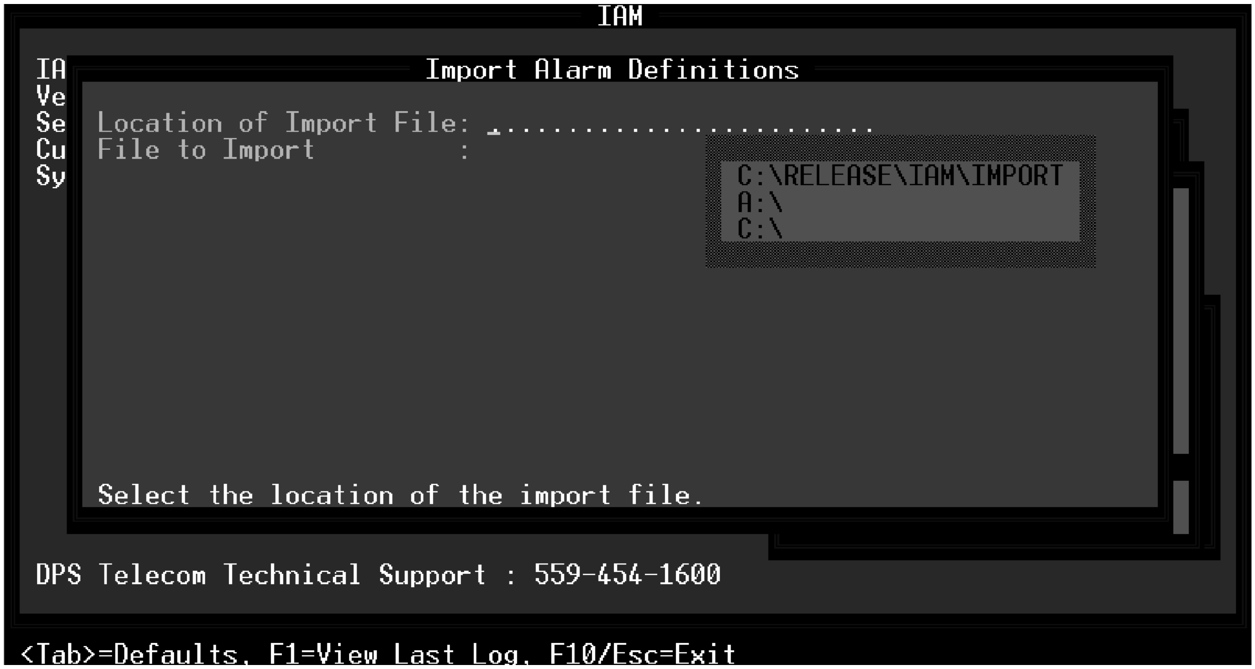
The Import Alarm Definitions feature allows alarm point definitions to be added by importing them from a delimited text file. The general format of the file is the same as that generated by the Export Alarms report.

The default format for the import file is tab delimited with no text qualifier. This can be changed by adding directives to the import file. See the File Preparation section below for more information about directives. A text qualifier indicates that the text includes the delimiting character but you do not want it to be treated as a delimiter in that one instance. Such text would be enclosed by the text qualifier to qualify it as text, and not a delimiter.

Note: Files must not contain spaces, or characters such as: \, /, ?, :, :, x, “, |, >, or <

File Preparation

1. Before a file can be imported it must be modified to contain the following line: #ALARM:1



```
                                    IAM
  IA                    Import Alarm Definitions
  Ve
  Se  Location of Import File: _........................
  Cu  File to Import         :
  Sy                                    C:\RELEASE\IAM\IMPORT
                                        A:\
                                        C:\

      Select the location of the import file.

  DPS Telecom Technical Support : 559-454-1600

<Tab>=Defaults, F1=View Last Log, F10/Esc=Exit
```

Fig. 18.13 - Import Point Database screen

Note that this line must come before the lines containing the data that is to be imported. This line tells the import processorwhat kind of data is being imported. (In the future the import feature may be expanded to import other kinds of records).

2. Any lines in the file that you do not want to be processed (headers for instance) may be prefixed with a pound sign (#). (However this is not absolutely necessary as lines processed that do not contain valid data will not generate fatal errors).
3. To change the delimiter, add the following line to the import file: #DELIMITER:18
   where 18 is the delimiting character.
4. To change the text qualifier, add the following line to the import file: #QUAL_CHAR:18
   where 18 is the text qualifier.

Importing a File
To begin importing a file, go to Files/Utilities/Import Alarm Definitions in the menus. Select the location of the file and the name of the file to import. Press Enter to begin importing. You may press Esc at anytime to pause.

A log file is kept of the import session. The name of this file is IMPLOG.REP. You can view it via the standard report viewing features in T/Mon or you can press F1 while the cursor is at the Location of Import File field on the Import Alarm Definitions screen.

ASCII Import

The ASCII Import option allows a user to import ASCII device information from an external file. This file needs to be in a tab-delimited formatted text file or a comma-delimited formatted text file. Using the export feature and modifying the file would be the best way to make sure that it is in the right format.

Exporting ASCII device data can be done from the main T/Mon screen. Navigate to Report > 2. Alarm Database > 16. Export Devices. This will export all devices within a specified range so the output file may contain data other than ASCII-specific data.

In order to import the file, it needs to have the proper header line. The first line should be “Report Port Export Device Report”. A delimiter line should also be in the first couple of lines. It should have a line of its own that says “Delimiter:” followed by the delimiter used in the file. It could be a tab or comma.

ASCII Report Format

The Export Device Report will contain different fields and only certain fields apply to the ASCII import. These fields reflect values found on the Remote Device Definition window.

Field	Definition
Port	This identifies which job/remote the ASCII job is set to. The ASCII job needs to be set up prior to importing ASCII device data. (*Required and cannot be left blank*)
Addr	This identifies the address to which the line will export the data. (*Required and cannot be left blank*)
Desc	This field is not necessary. It corresponds with description field when editing an ASCII job. Please try to keep this field under 40 characters.
Site Name	This field is optional and corresponds with the Site Name. Please try to keep this field under 30 characters.
Displays	This field will need to be numerical. This field can contain dashes and commas. It would be the same data that would be typed into the display field on the actual T/Mon screen. (*Required and cannot be left blank*)
Poll Type	Must be a numerical value. If this field is left blank, the default value of zero will be used. (*Default value is zero*)
Refresh	This is not relevant to ASCII device but must be a numerical value. If field is left blank, zero will be used. (*Default value is zero*)
Send CMD	This should be a numerical value. On an ASCII job on address zero, this would be the same field as Poll Interval. A zero value or if left blank will indicate that Poll Intervals are disabled. On an ASCII job on any address other than zero, this field would reflect the Send Cmds field. A zero (or if left blank) would indicate an N on the T/Mon ASCII Remote Device Definition screen. Anything other than a zero would display a Y. (*Default value is zero*)
Tokens 1-5	These are text strings which would display as Tokens 1 through 5 on the ASCII Remote Device Definition screen. Please try not to use more than 15 characters for these fields.
ascSite Key	This is another text string which can be found on the T/Mon auto-ASCII site definitions window. This field is optional but please try not to use more than 30 characters. This field can be left blank.
ascSite Window	This must be a numerical value and can be found on the T/Mon auto-ASCII site definition window as Site Window. Valid values for this field is 2-270 or blank for none. If this field is defined, please be sure to also define a Site Key.
ascSite Win Mode	This must be a numerical value and can be found on the T/Mon auto-ASCII site definition window as Window Mode. Zero corresponds with normal and 1 is row/site. If this field is defined, please be sure to also define a Site Window and Site Key.
ascDev Type	This is the device type from the drop-down menu on address 0 on the Remote Device Definition window. Please make sure that the device already exists. This field currently does not validate the device type and will copy whatever is in this field into the Remote Device Definition window. Invalid devices might cause undesired results.

The following fields are not used by the ASCII job and can be left blank:

- Firmware
- Device
- Log Undefined
- lulPol
- luHist
- luLev
- luStatus
- luReverse
- luDesc
- luWindows
- luMessage.

Importing the ASCII file

From the main screen navigate to Files>Utilities>Import Device Definitions. This will allow you to select a file to import. The ASCII jobs must already be defined prior to importing. The import process checks for ASCII jobs and will only import if the job is in ASCII.

Controls Import

The Controls Import option will allow a user to import labeled or site controls from an external file. This file needs to be in a tab delimited formatted text file. Using the export feature and modifying the file would be the best way to make sure that it is in the right format.

Exporting the Controls data can be done from the T/Mon's master menu. Navigate to Report. Select either Labeled Controls or Site Controls. Write to a file and make sure that the Export Format field is set to Y. This will format the report for export/import. Selecting N will provide a report that will be easier to read.

In order to import the file, it needs to have the proper header line. The first line should contain "Controls Export Report".

Before a file can be imported it must be modified to contain the following line:
#CONTROLS:1
Note that this line must come before the lines containing the data that is to be imported. This line tells the import processor what kind of data is being imported.

Make sure that all ports and devices are already databased on the T/Mon before importing.

Importing a file
To begin importing a file, go to Files/Utilities/Import Control Definitions in the menus. Select the location of the file and the name of the file to import. Press Enter to begin importing. You may press ESC at any time to pause.

A log is kept of the import session. The name of this file is IMPLOG.REP. You can view it via the standard report viewing feature in T/Mon or you can press F1 while the cursor is at the Location of Import File field on the Import Control Definitions screen.

Control Report Format
The Control Report will contain two different lines. One line is for defining Control Categories and the other is for defining the Control entry point.

A Control Category line must precede a Control Entry line. The basic structure of the import file is formatted in this manner:

```
        Category Definition
                Entry Definition
                Entry Definition
                Entry Definition
        Category Definition
                Entry Definition
```

All Control Entries defined after a Category Definition will fall under the last defined Category defined.

The Category line will have this format:
#CATEGORY {TAB} Entry Number {TAB} Category ID {TAB} Category Desc {TAB} Category window

Title	Definition
Entry Number	This is the entry number of the Category and must be a numerical value between 1-40.
Category ID	This defines the Category ID and will only use the first 6 characters defined.
Category Des	This is the Category description and is limited to 40 characters.
Category Window	This is the window if this is a Site Control Category. Enter 0 if it is a labeled control.

Control Category Lines

All fields are necessary. The Import process will return an error if any of the fields are missing. **#CATEGORY** must be at the beginning of the line and is case sensitive.

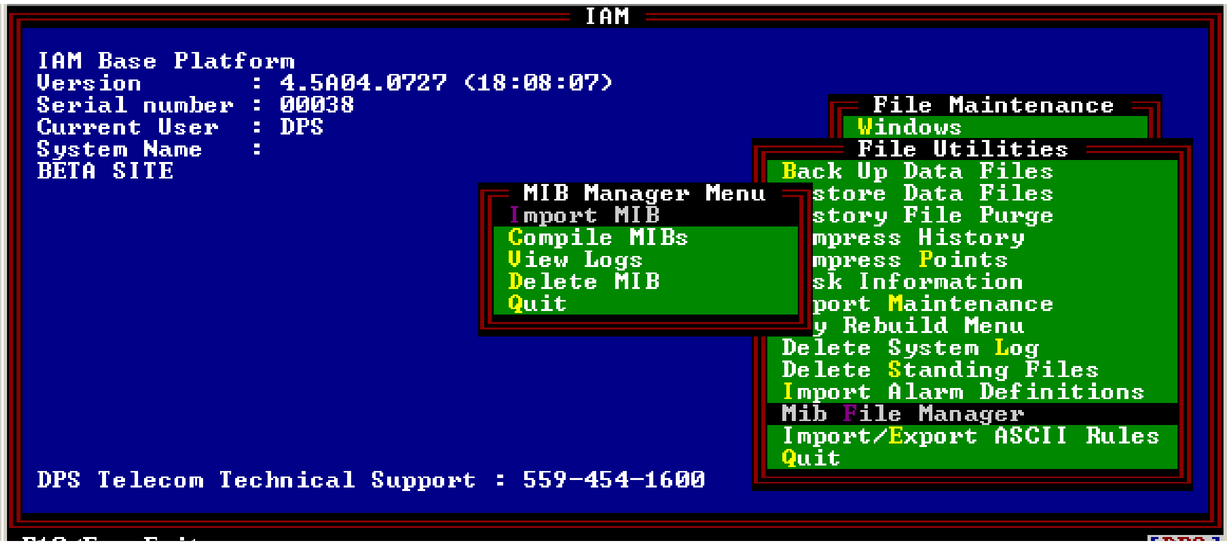
The Control Entry line will have this format:
Entry Number {TAB} Desc {TAB} CMD {TAB} Chan {TAB} T {TAB} Address {TAB} UNT {TAB} Pnts

Title	Description
Entry Number	This is the entry number for the control point and must be a numerical value between 1-200.
Desc	This is the description field for the control and is limited to 40 characters.
Cmd	This is the control command. It should only be 3 characters long and all upper case. Valid options are: OPR, RLS, MON, MOF, SET, GET, SOP, SRL, SMO, EXE, CLR, SWI and STS
Chan	This is the channel or port of the device that the control is going to be issued to. Should be a numerical. The import process will check if the port is capable of sending out controls and if only certain control commands are allowed on a certain port.
T	This is a special field and is only used if the device on channel/port is a DCM interrogator. This is a one character value containing either S or C. C is for CPM and S is for SBP. SBP will only allow momentary on for the control command.
Addr	Address of the control. This is a numerical value and the range varies depending on the device defined on the channel/port. If Port is NG, this is used as the Site ID.
UNT	This is the display for the control. This is a numerical value and the range also varies depending on the device.
Pnts	This is the points that the commands will be issued to. This field can contain commas and dashes. (ex. 1-64, 66)

Control Entry Lines

MIB File Manager

The MIB File Manager is used for loading, compiling, and deleting MIB files. You can also view the results of compiling a MIB by selecting View Logs or pressing V from the MIB Manager menu. To access the MIB Manager, select Files (File Maintenance) from the Master Menu, then select Utilities (File Utilities), and then select Mib File Manager.

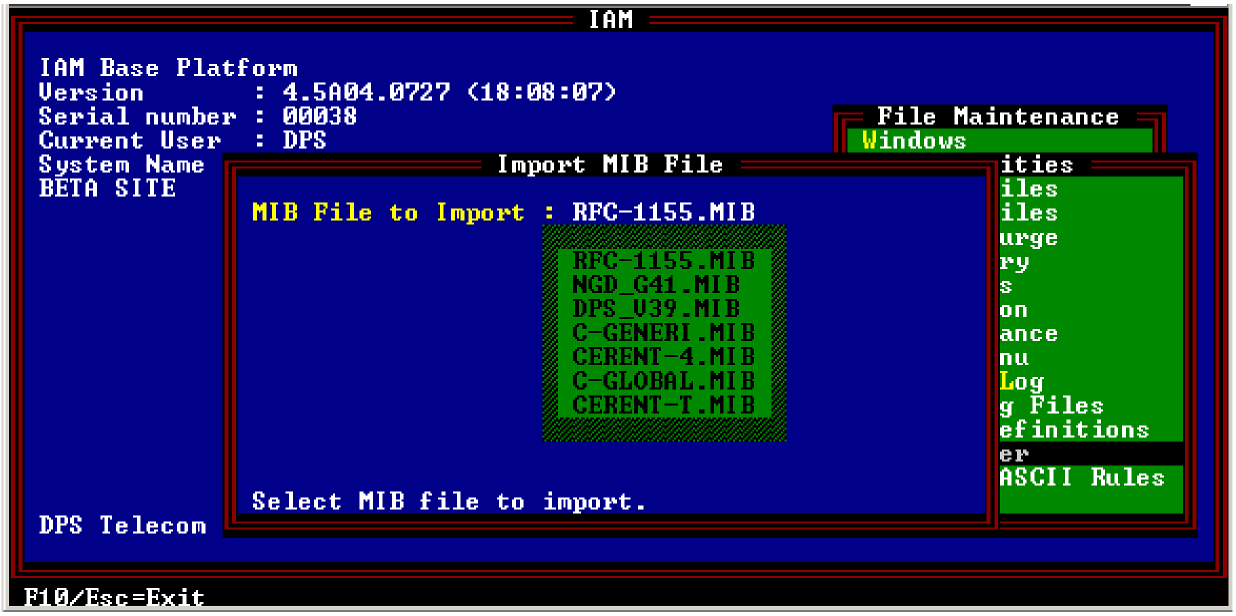


```
IAM Base Platform
Version        : 4.5A04.0727 (18:08:07)
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. 18.14 - MIB Manager Menu.

Import MIB

Copy your MIB files to the T/Mon or IAM by selecting Import MIB from the MIB File Manager Menu. The Import MIB File screen will appear. Place your disk into the T/Mon or IAM floppy drive and press the letter of the floppy drive. Your saved MIB files will appear as seen in Figure 18.14. Press the Tab key to highlight and select the file you wish to copy, and then press Enter.



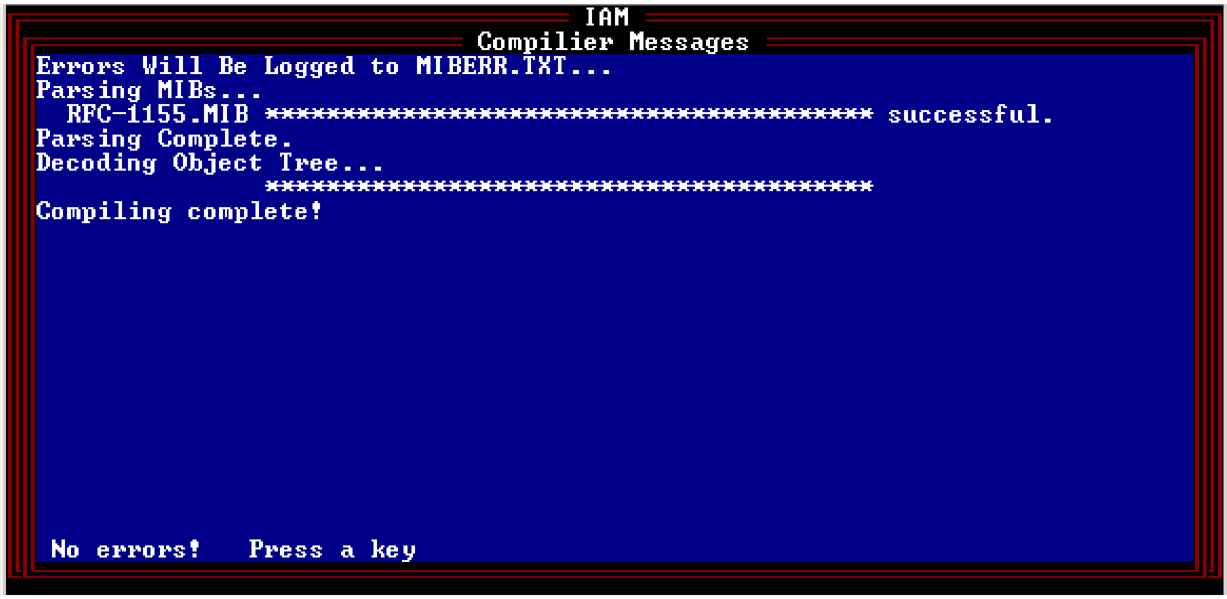
```
IAM Base Platform
Version        : 4.5A04.0727 (18:08:07)
Serial number  : 00038
Current User   : DPS
System Name
BETA SITE

MIB File to Import : RFC-1155.MIB

Select MIB file to import.

DPS Telecom
F10/Esc=Exit
```

Fig. 18.15 - Press the Tab key to select the MIB file.

Compile MIBs

This feature compiles all MIB files in the MIB directory of the T/Mon or IAM. Once compiled, you may use the TRAPS for databasing.

Select Compile MIBs from the File Utilites Menu. Then press C to compile your MIB files or press A to abort. The T/Mon or IAM will automatically compile MIB files as shown in Figure 18.15.

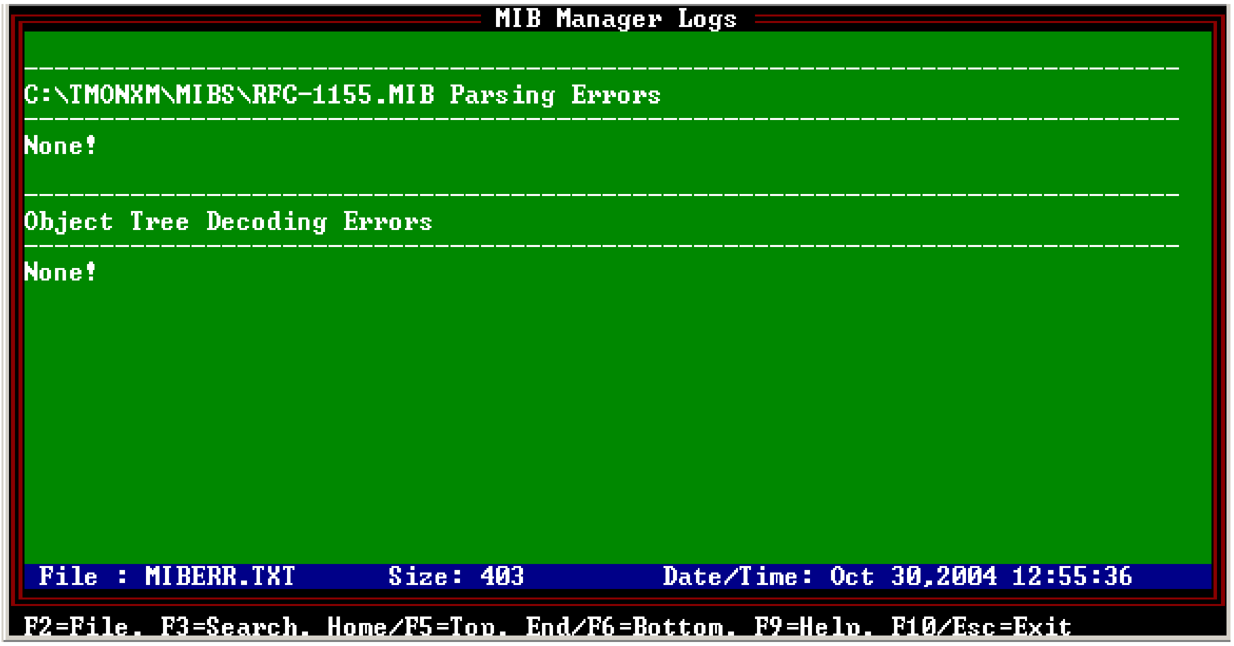


```
IAM
Compilier Messages
Errors Will Be Logged to MIBERR.TXT...
Parsing MIBs...
  RFC-1155.MIB ****************************************** successful.
Parsing Complete.
Decoding Object Tree...
               ******************************************
Compiling complete!

 No errors!   Press a key
```

Fig. 18.16 - The Compiler Messages screen.

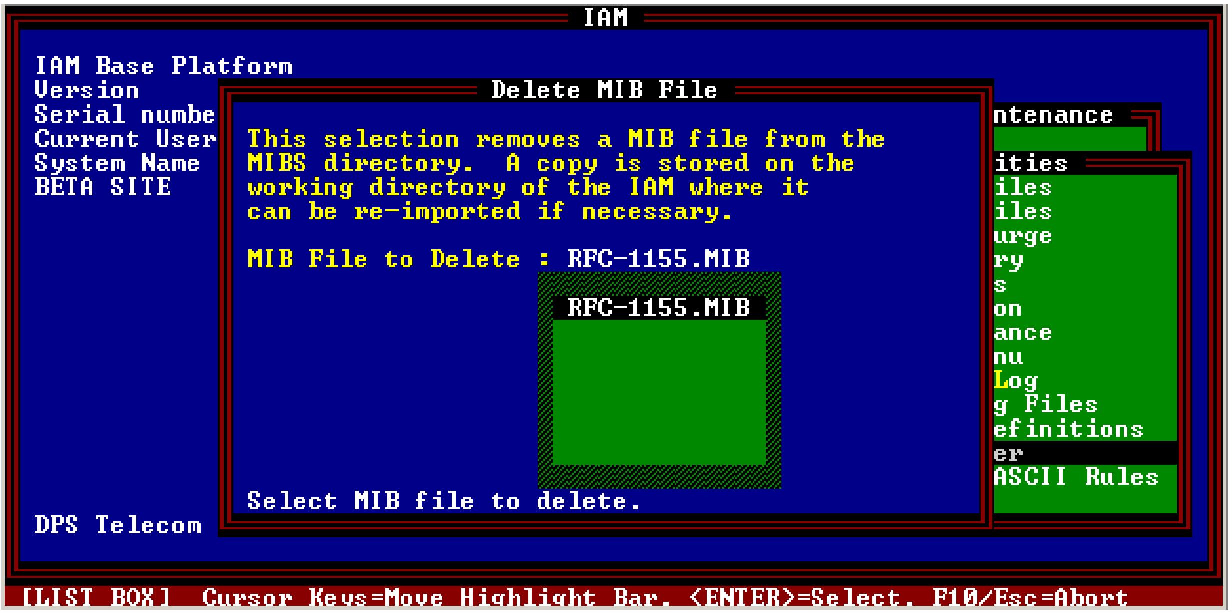
View Logs

You can view the results of your compiled MIB files by selecting View Logs from the MIB Manager Menu. The Manager Log will appear as shown in Figure 18.16. Select to view a different file by pressing F2 or F3 to search for a file.



```
MIB Manager Logs
------------------------------------------------------------------------------
C:\TMONXM\MIBS\RFC-1155.MIB Parsing Errors
------------------------------------------------------------------------------
None!

------------------------------------------------------------------------------
Object Tree Decoding Errors
------------------------------------------------------------------------------
None!

 File : MIBERR.TXT      Size: 403         Date/Time: Oct 30,2004 12:55:36
F2=File, F3=Search, Home/F5=Top, End/F6=Bottom, F9=Help, F10/Esc=Exit
```

Fig. 18.17 - View compiled MIB results in the MIB Manager Log screen.



```
IAM
IAM Base Platform
Version
Serial numbe
Current User
System Name
BETA SITE

Delete MIB File
This selection removes a MIB file from the
MIBS directory.  A copy is stored on the
working directory of the IAM where it
can be re-imported if necessary.

MIB File to Delete : RFC-1155.MIB

RFC-1155.MIB

Select MIB file to delete.

DPS Telecom

[LIST BOX]  Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

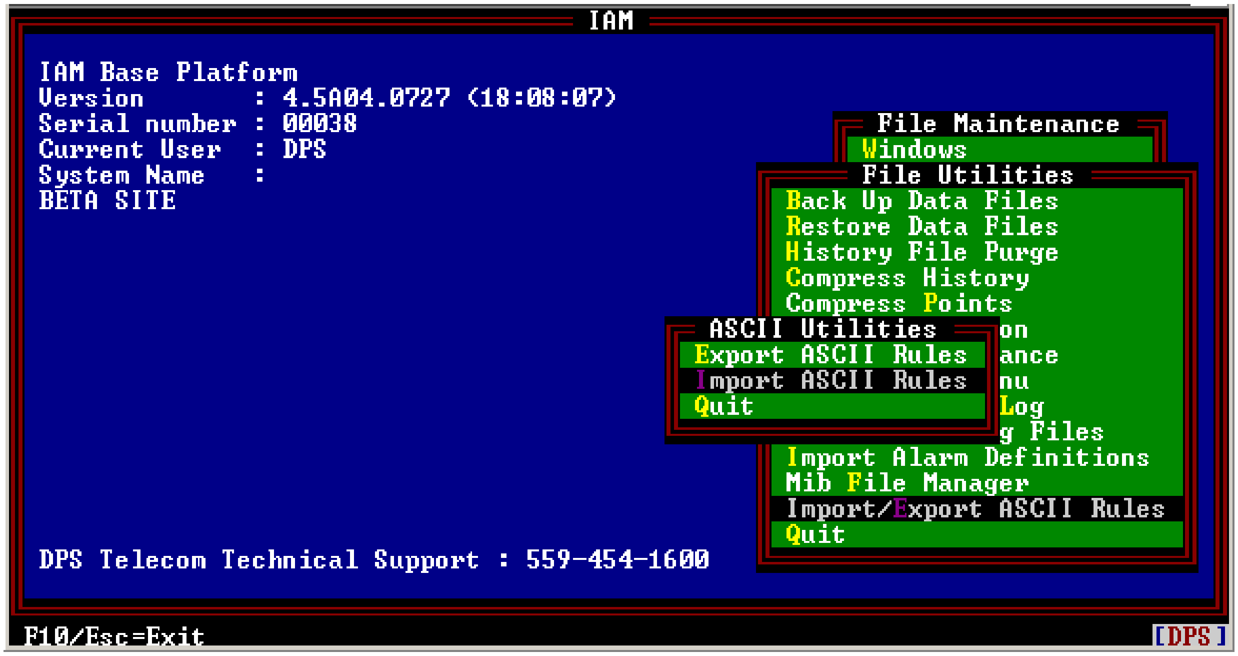
Fig. 18.18- Delete MIB files from the T/Mon or IAM internal drive.

Delete MIB

Delete MIB files from your T/Mon or IAM's internal drive by selecting Delete MIB from the MIB Manager Menu. Press the Tab key to select the MIB file, then press Enter.

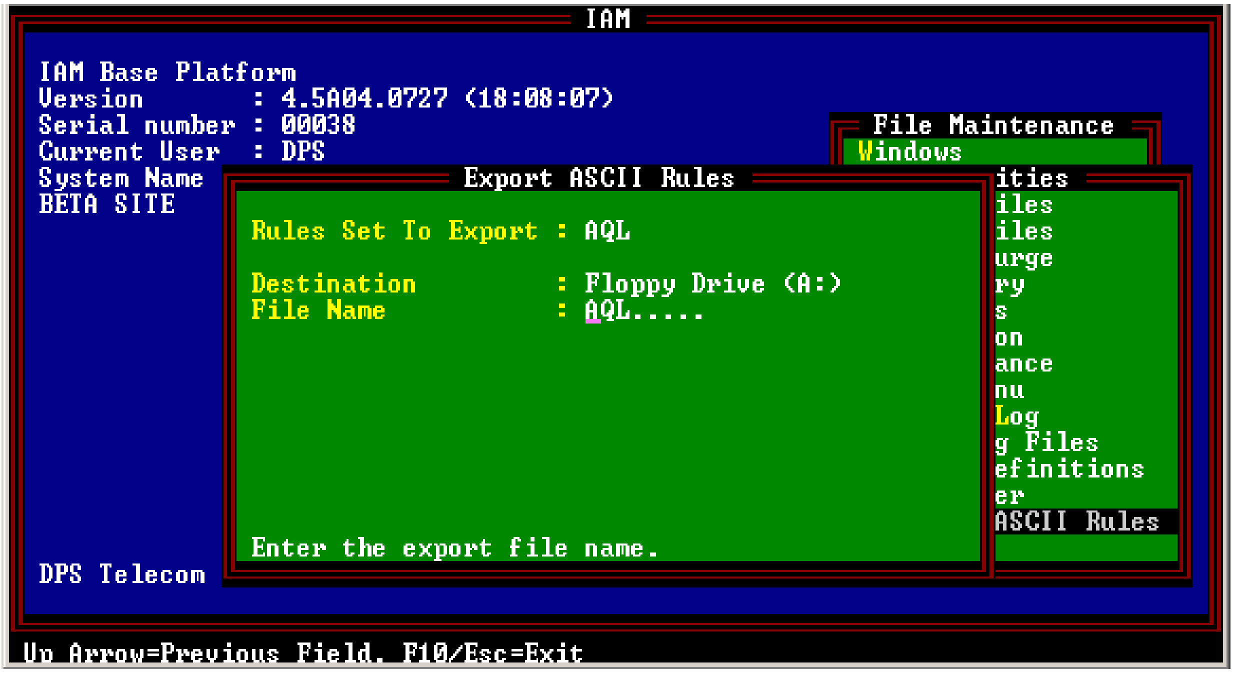
Import/Export ASCII Rules

Import or export your ASCII rules from your T/Mon or IAM using the ASCII Utilites Menu. To select the ASCII Utilites Menu, select Import/Export ASCII Rules from the Files Utilities Menu — see Figure 18.17.



```
IAM
IAM Base Platform
Version        : 4.5A04.0727 (18:08:07)
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit                                              [DPS]
```

Fig. 18.19 - Select Import/Export ASCII Rules from the File Utilites Menu.



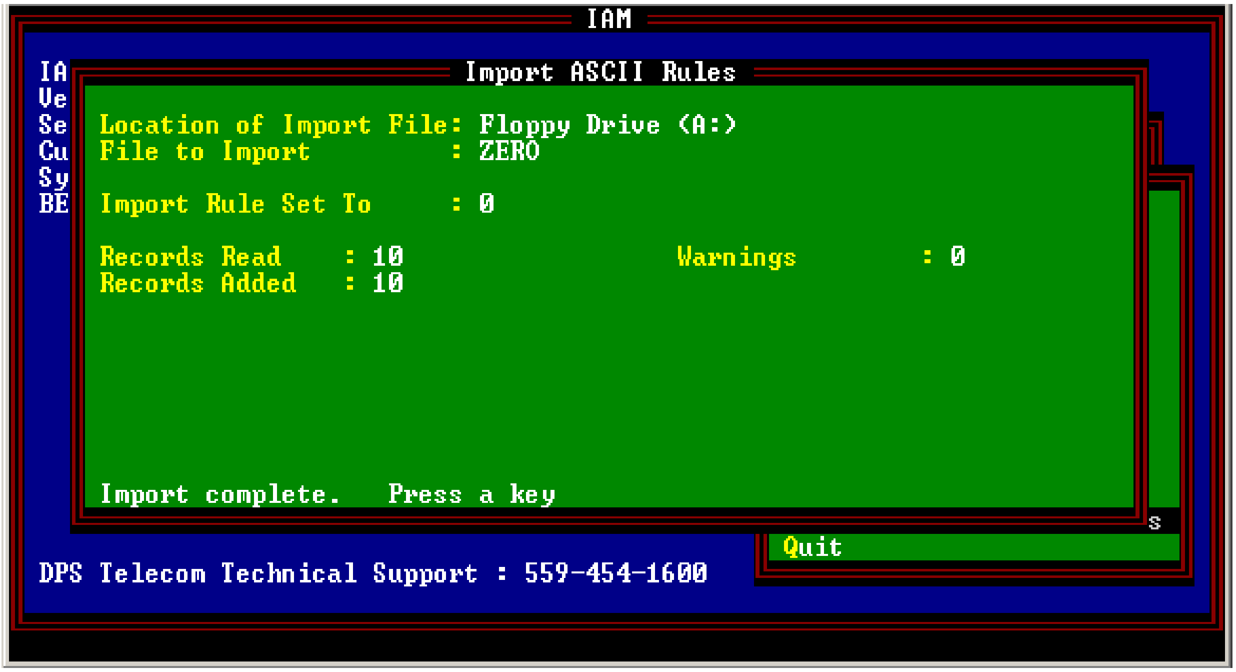
```
IAM
IAM Base Platform
Version       : 4.5A04.0727 (18:08:07)
Serial number : 00038
Current User  : DPS
System Name
BETA SITE

Export ASCII Rules
Rules Set To Export : AQL

Destination         : Floppy Drive (A:)
File Name           : AQL.....

Enter the export file name.

DPS Telecom
Up Arrow=Previous Field. F10/Esc=Exit
```

Fig. 18.20 - Press the Tab key to select the rule you wish to export.

Export ASCII Rules

Export your ASCII rules by selecting the Export ASCII Rules feature from the Files Utilities > Import/Export ASCII Rules Menu. Use the following rules to export your ASCII rules:

1. Press the Tab key to select the rule set you wish to export from the T/Mon or IAM hard drive— see Figure 18.17.
2. Press the Tab key to select the destination you wish to export the file to.
3. Enter a rule set name, then press Enter.
4. Press E to export the rules.



Import ASCII Rules

```
Location of Import File: Floppy Drive (A:)
File to Import         : ZERO

Import Rule Set To     : 0

Records Read    : 10                  Warnings        : 0
Records Added   : 10

Import complete.   Press a key
```

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Fig. 18.21 - Select Import/Export ASCII Rules from the File Utilites Menu.

Import ASCII Rules
Copy your ASCII rules from a disk to the T/Mon or IAM internal drive by selecting Import/Export ASCII Rules from the Files Utilites Menu.

Use the following steps to import ASCII Rules:

1. The Import ASCII Rules screen will appear as shown in Figure 18.18.
2. Press the Tab key to select the location of the ASCII rules, then press Enter.
3. At the prompt, enter the rule set you wish to save the rules to, then press Enter.
4. You may press F1 to view the import details.

Note: if you make a mistake press Esc to return to the previous field.

T/MonXM Disk Files

Program Files
The release disk contains the following files:

TMONXM.EXE	T/MonXM executable files.
TMONXM.OVR	
TASK.TSK	
BOOT.TSK	4 Channel Communication controller file.
REMOTE.TSK	4 Terminal Controller file.
TEST.TSK	4 Channel and 4 Terminal Controller diagnostic files.
COMINT.TSK	
MLECHO.TSK	
LOOP.TSK	
IDLE.TSK	
MAIL.TSK	
HIMEM.SYS	T/MonXM memory management file.

Database Files
As the system is used, the following files will be created in the T/MonXM account:

CTLCAT.DAT	Labeled Controls Files
CTLCAT.IDX	
CTLPNT.IDX	
CTLPNT.DAT	
DCTL2.DAT	Miscellaneous Files
DCTL2.IDX	
DEVPOINT.IDX	Point Files
DEVPOINT.DAT	
EMDEV.IDX	Address Files
EMDEV.DAT	
EMDEV2.IDX	
EMHIST2.IDX	History Files
EMHIST2.DAT	
EMLIVE.DAT	Live Files

EMLVDAT.IDX	
EMLVITEM.IDX	
EMMSG.DAT	Text Messages File
EMWIN.DAT	Window Files
EMWIN.IDX	
TBSALM.DAT	Miscellaneous File
TMONEM.DAT	Program Data File
TRB.DAT	Trouble Log Files
TRBDATE.IDX	
TRBPNT.IDX	

Note: As the system is used, the names of the configuration files in the T/MonXM account follow the standard rule "SYSTEMNAME. EXT".

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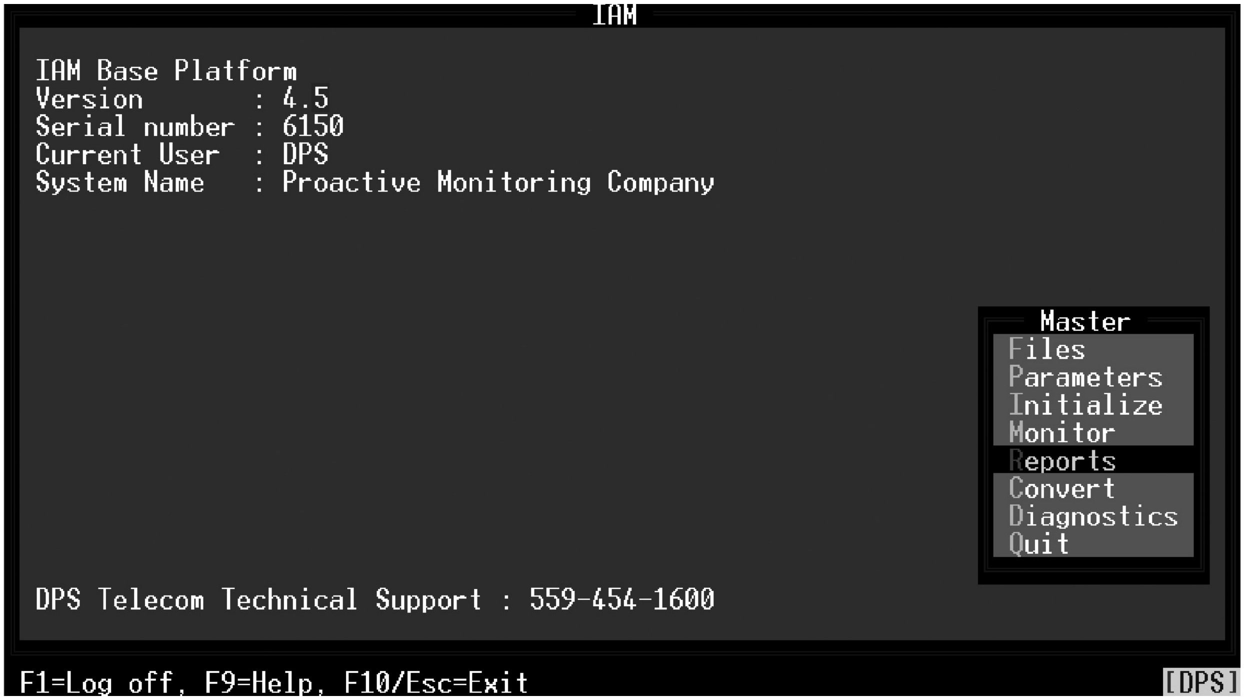
Section 19 - Managing Reports

Reports in Monitor Mode vs. Reports under the Master Menu

Reports can be run via the main T/MonXM WorkStation, T/RemoteW or T/Windows, if security access is provided. Only one user at a time can run a report.

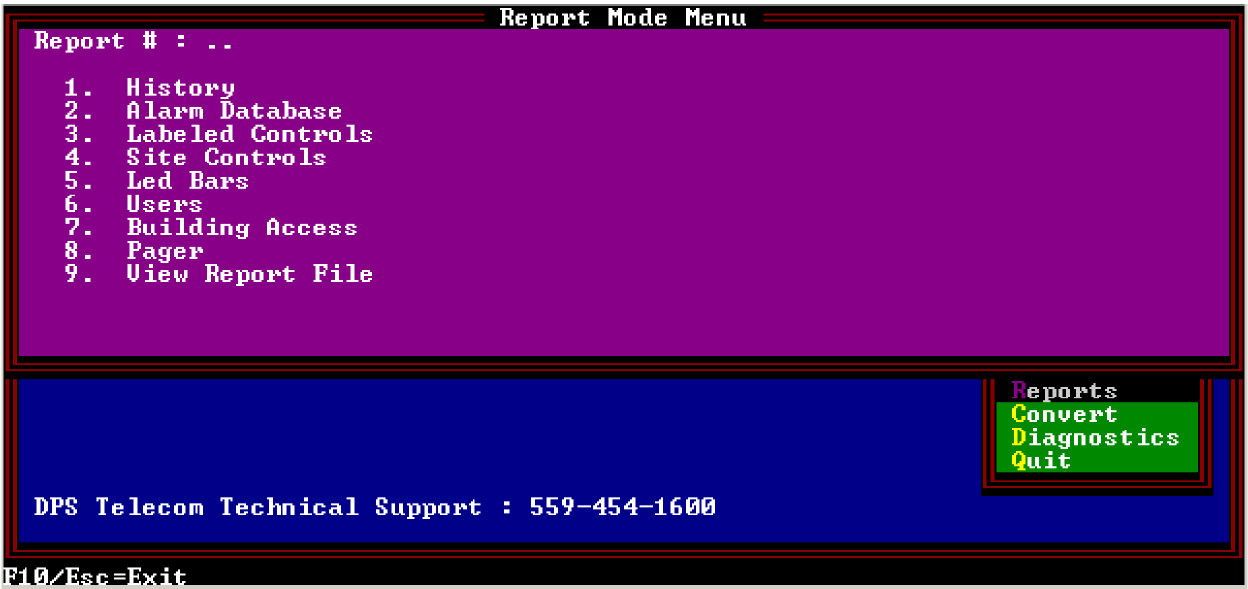
Reports generated in the Monitor Mode allow monitoring to continue while the report is produced. Report selections 1 through 8 listed in the Report Mode Menu are available. In addition, by pressing Alt-F7 while in the COS or Standing Alarms screens you can generate a report of the COS or Standing alarms for a specific window. In this mode you cannot view the reports on screen. Reports from T/RemoteW or T/Windows can be sent directly to a local printer or hard disk.

Reports generated in the Reports screen under the Master Menu are produced while T/MonXM is offline. In this mode you cannot generate a report for a specific window. In this mode you can view reports on screen.



```
IAM Base Platform
Version       : 4.5
Serial number : 6150
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600
```

Fig. 19.1 - Reports mode is selected from the master menu



```
                              Report Mode Menu
Report # : ..

  1.  History
  2.  Alarm Database
  3.  Labeled Controls
  4.  Site Controls
  5.  Led Bars
  6.  Users
  7.  Building Access
  8.  Pager
  9.  View Report File

                                                            Reports
                                                            Convert
                                                            Diagnostics
                                                            Quit
DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit
```

Fig. 19.2 - Report mode menu provides nine selectable options

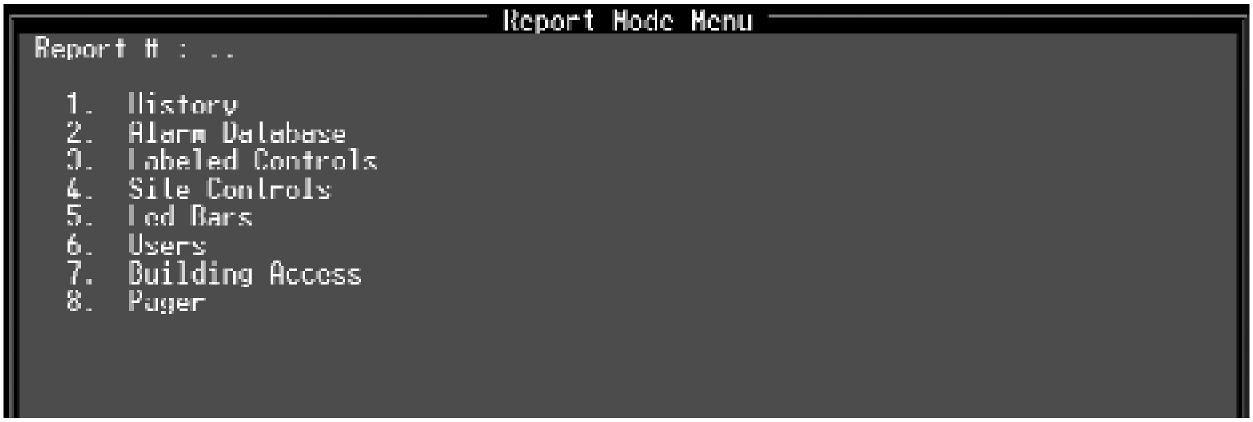
Report mode is used to generate reports based on your T/MonXM database definitions. Report mode can be entered via the Master menu by selecting Reports (see Figure 19.1) or by pressing Alt-F7 from within Monitor mode

If Report mode is entered from Monitor mode, the window will be displayed in the main window of the screen — see Figure 19.3.

Note that the View Report File option is available only when you select Reports from the Master menu. You cannot view reports while in Monitor mode.

Reports give a print out or file record of database information. To select a report, type the number and press Enter. The table on the next page lists a summary of the available reports.

Note: to view reports onscreen (option 9), you must save/output the report to a file and select it in the View Report File screen. See section 19-37 for more information.



```
                              Report Mode Menu
Report # : ..

  1.  History
  2.  Alarm Database
  3.  Labeled Controls
  4.  Site Controls
  5.  Led Bars
  6.  Users
  7.  Building Access
  8.  Pager
```

Fig. 19.3 - Report menu in monitor mode offers eight options

Tbl 19.1 - Reports available in the Report Mode menu

Field	Description	Options
1. History	Report for a selected period of time (or other criteria) that alarms occurred. (See Figure 19.3)	1. Standard History 2. Export History 3. Outage Summary 4. Duration History 5. Duration Summary 6. Export Analogs 7. Duration History (Incident) 8. Duration Summary (Incident) 9. Duration Detail (Incident)
2. Alarm Database	Report on selected alarm items in the Alarm Database. (See Figure 19.7)	1. Remote Ports 2. Windows 3. Text/Messages 4. ASCII Rules 5. ASCII Tables 6. ASCII Actions 7. Derived 8. VDMs 9. Site Reports 1. Sites by Address 2. Sites by Site 10. BSU 11. Cards 12. Dial Up Shelves 13. KDA Shelves 14. Net Guardians 15. Export Alarms 16. Export Devices 17. Export Ports 18. Export KDA Shelves 19. Trap Associations 20. Trouble Log By Point 21. Trouble Log by Date/Time 22. Export to NGEdit 23. SNMP Set Commands 24. SNMP Get Commands
3. Labeled Controls	Report on labeled controls defined in the database. Corresponds with information on Labeled Controls editing screens.	
4. Site Controls	Report on site controls defined in the database. Corresponds with information on Site Controls editing screens.	
5. LED Bars	Report on LED Bars defined in the database. Corresponds with information in LED Bars editing screens.	
6. Users	Report on users and security access privileges defined in the database	
7. Building Access	Report on building access sites defined in the database.	
8. Pager	Report on pager information in the database.	1. Pager Carriers 2. Pager Schedules 3. Pager Exceptions. 4. Pager Groups
9. View Report File	View existing report files on screen. A report must have been output to file before it can be viewed on screen.	

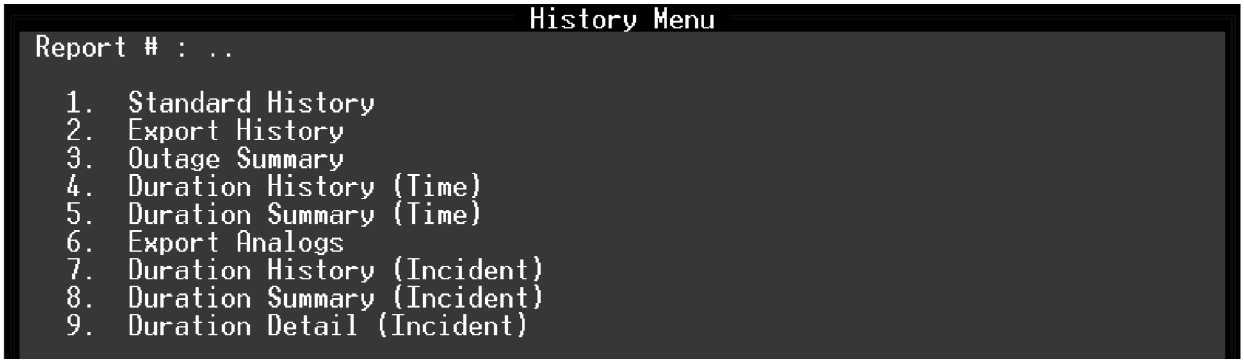
Report menus and options will change as software modules are installed.

Note: you can also FTP report files from the C Drive when the FTP server is set up on the T/Mon or IAM.

Reports can be sent to the printer or to a disk file. When a report type is selected, the user will be prompted for a file name to write the report to — see Figure 19.5. The file extension of report files is .REP.

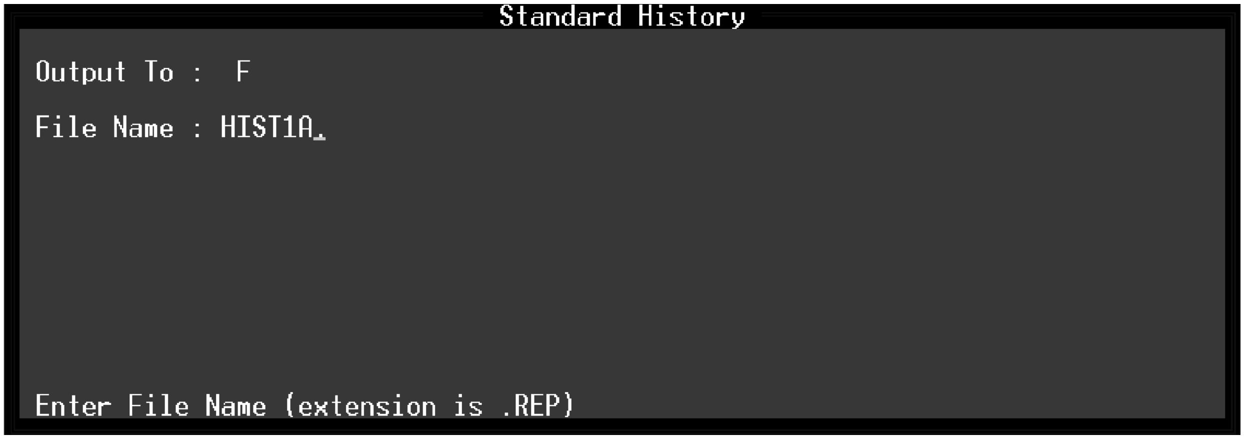
Reports that are sent to disk can be imported into spread sheets for detailed analysis or to include in other reports. You may also copy report files to floppy disks and delete them from your hard disk with the File Maintenance/Utilities/Report Maintenance menus.

Some reports require additional information. This information is explained in detail on the following pages.



```
                              History Menu
Report # : ..

  1.  Standard History
  2.  Export History
  3.  Outage Summary
  4.  Duration History (Time)
  5.  Duration Summary (Time)
  6.  Export Analogs
  7.  Duration History (Incident)
  8.  Duration Summary (Incident)
  9.  Duration Detail (Incident)
```

Fig. 19.4 - History menu offers nine selections



```
                           Standard History

Output To :  F

File Name : HIST1A_




Enter File Name (extension is .REP)
```

Fig. 19.5 - Reports can be sent to printer or file

Running Reports from T/RemoteW and T/Windows

The commands for generating reports in T/RemoteW and T/Windows are identical to those used with the T/Mon or console access to the IAM-5. However, by default, the output of the report is sent to the Report Preview window.

The report can be viewed in its entirety in the Report Preview window. The Report Preview window also has four toolbar buttons offering the following commands:

Open: Open any previously saved file.

Save: Save open report as either text file (.txt) or Rich Text Format file (.rtf). By default, T/RemoteW saves reports as text files in its own application directory.

Print: Print open report in any local or network printer accessible from your PC.

Exit: Close the Report Preview window.

History Report

History reports provide the means for tracking trends and determining problem areas in your network. By running a history report for suspected trouble spots you can obtain the data needed to support revision of maintenance schedules or equipment replacement plans.

Following are some events that can be entered in History Reports per the applicable configuration screens in the Parameters menu.

When Alarms fail and/or clear.
When pages are sent.
When you enter and exit Monitor mode.
When you initialize the system.
When Control Points are issued.
When T/MonXM goes on or off battery power.
When the system shuts down because the UPS battery is dead.
When the system automatically re-starts after a UPS shutdown.
When you exit the system.

The History Report Menu includes 9 types of history reports:

1. Standard History: history report in standard format — see Figure 19.7.
2. Export History: report in comma delimited format for export to a spread sheet — see Figure 19.8.
3. Outage Summary: outages summary report for up to 33 category windows and up to 150 site windows. For more information on this feature contact DPS Telecom.
4. Duration History: outages in excess of a specified time period — see Figure 19.9.
5. Duration Summary: total time and maximum time of outages — see Figure 19.10

6. Export Analogs - Comma delimited listing of analog values recorded per the Miscellaneous Parameters screen. For more information on this feature contact DPS Telecom.

7. Duration History (Incident)-Identical to report 4, Duration History (Time) except time reports are sorted by the time an alarm occurred, and Incident reports are sorted by site/alarm — see Figure 19.11

8. Duration Summary (Incident)-Identical to report 5, Duration Summary (Time) except time reports are sorted by the time an alarm occurred, and Incident reports are sorted by site/alarm — see Figure 19.12

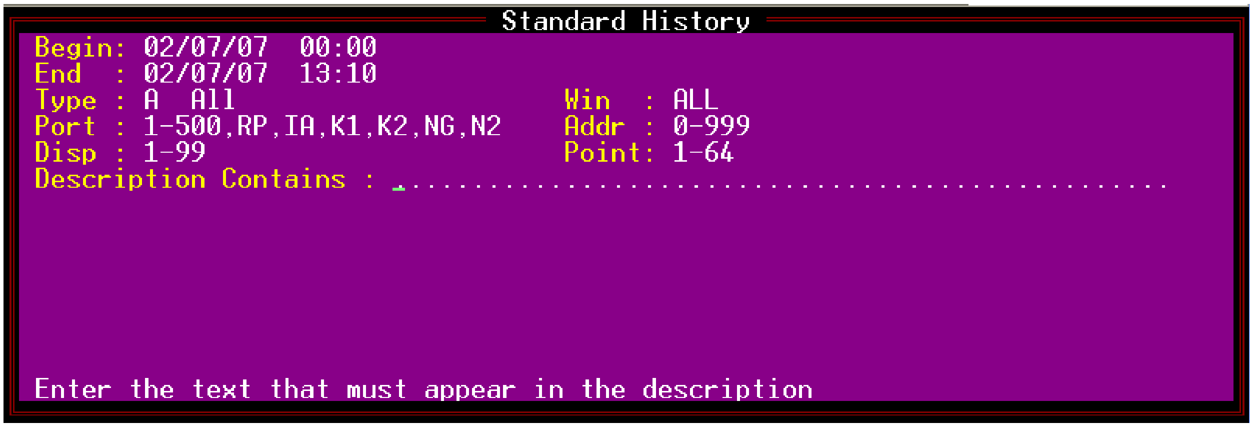
9. Duration Detail (Incident)-allows report to be filtered by alarm description text and site name text — see Figure 19.13.

Standard History

The Standard History Report window (see Figure 19.6) generates an alarm activity report (see Figure 19.7) for a selected time period. This report includes only alarms that are defined to be recording to history — see Section 10 (Point Definition Tutorial).

The Standard History Report window is selected from the Report Mode Menu. Type 1 and press Enter. In the window that appears you select the output destination (File or Printer) and the file name. Once this is done the Standard History report window appears. The following table explains the fields in the Standard History report window.

An example of a Standard History report is shown in Figure 19.7.



```
                              Standard History
Begin: 02/07/07  00:00
End  : 02/07/07  13:10
Type : A  All                       Win  : ALL
Port : 1-500,RP,IA,K1,K2,NG,N2      Addr : 0-999
Disp : 1-99                         Point: 1-64
Description Contains : _.................................................





Enter the text that must appear in the description
```

Fig. 19.6 - Standard History report screen

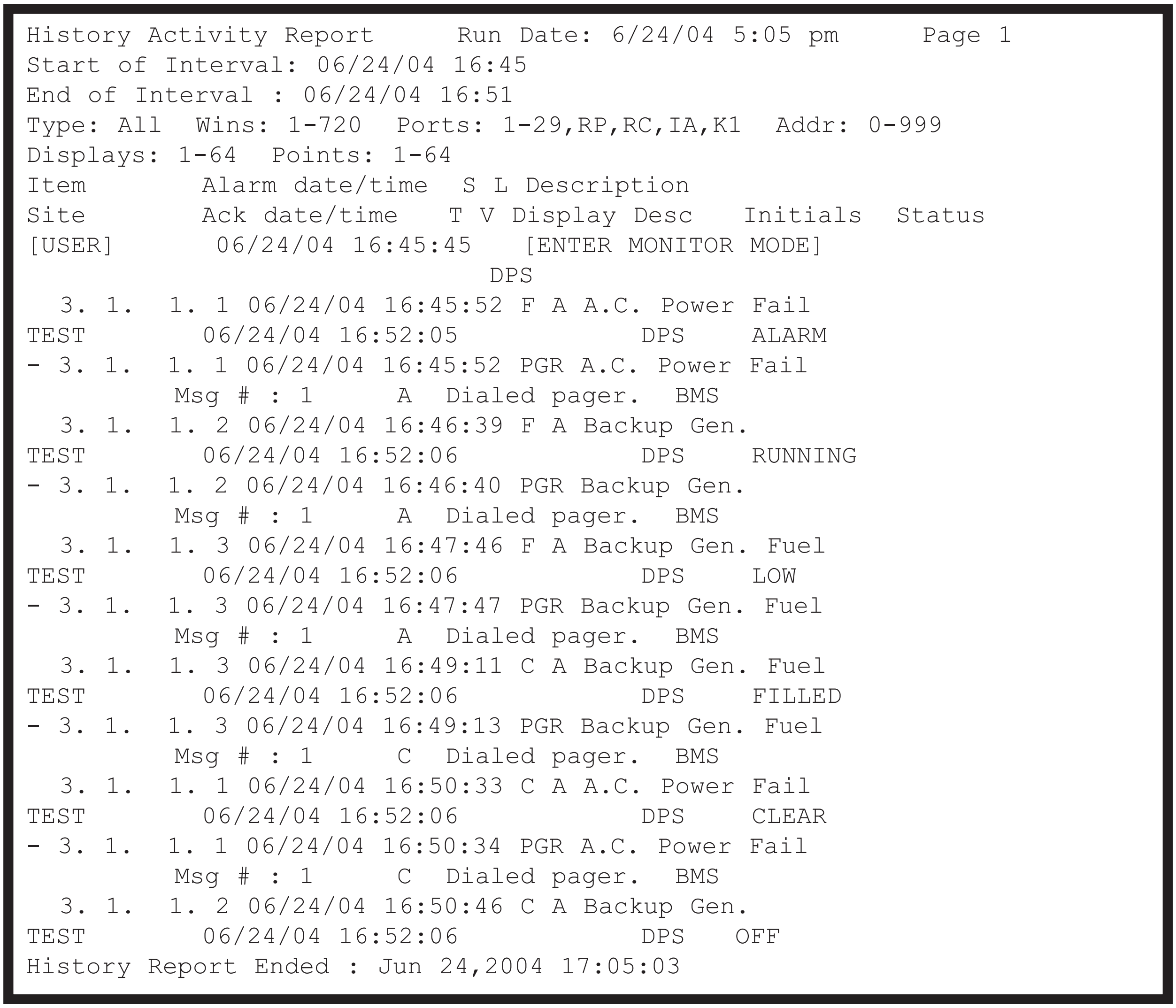
Tbl 19.2 - Fields in the Standard History Report window

Field	Description
Beg Date End Date	Enter the beginning and the ending dates of the alarm history you require. Dates are entered in the format: MM/DD/YY. [TODAY'S DATE] For example, November 5, 2000 would be entered as 11/05/00.
Time	Times are entered using standard military time in the format: HH:MM, where 0:00 = midnight. [CURRENT TIME] For example 2:39 PM would be entered as 14:39.
Type	Enter the type of alarms that will be required on the report. Valid selections are: A (All) P (Points) C (Controls) U (Users).
Win	Enter the range of windows (1-720) wanted on the report. [Defaults to maximum number of windows installed.] **Note:** This field is very useful for preparing reports of alarms based on severity, equipment type or location.
Add	Enter the range of addresses (0-999) wanted on the report.
Port	Enter the range of remote ports wanted on the report. Valid entries are: 1-28 RP (Modem Devices) RC (Relay Card) IA (Internal Alarms) K1, K2, K3 (Virtual Ports) You may select more than one entry by separating them with a comma.
Disp	Enter the range of displays (1-64) wanted on the report.
Pnt	Enter the range of points (1-64) wanted on the report. **Note:** Address and Point ranges interact to select a group that contains only the specified points within the specified addresses. For example, when addresses 1 and 2, points 6-12 are specified the report will include points 6-12 at addresses 1 and 2, but not points 1-5 or 13-up from any address, nor points 6-12 from address 3 or higher.
Desc	Enter a keyword or phrase that must appear in the point description. Entering several words will look for each individual word and include to the history report if any of the words appear. Using double quotes will match everything inside the quotes.

Note: For an event to be reported it must pass all of the selection criteria.

Table 19.3 - Key commands available in the History Report window

Function Key	Description
F10	Exit
Up Arrow	Go back to previous field.



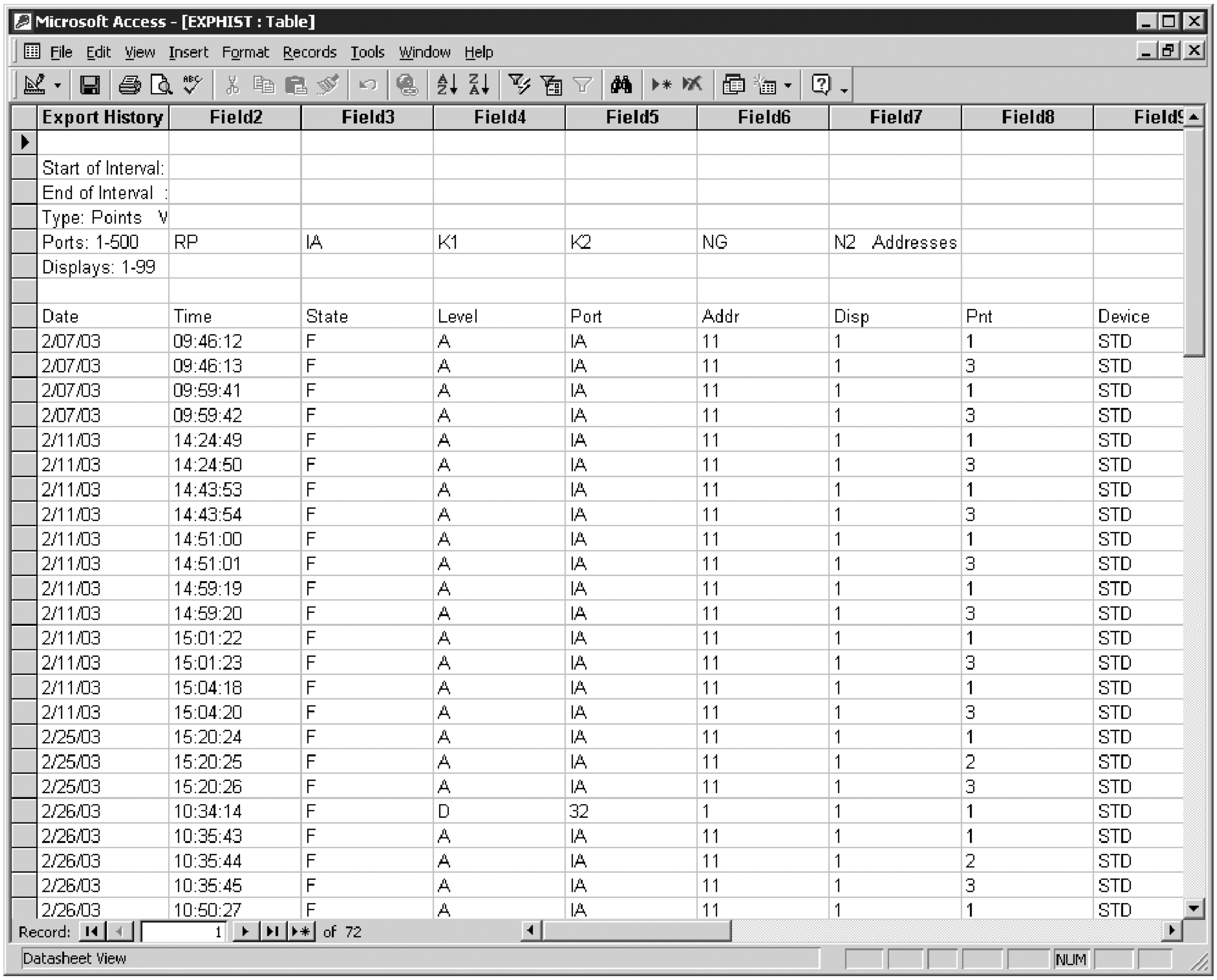
```
History Activity Report      Run Date: 6/24/04 5:05 pm      Page 1
Start of Interval: 06/24/04 16:45
End of Interval : 06/24/04 16:51
Type: All  Wins: 1-720  Ports: 1-29,RP,RC,IA,K1  Addr: 0-999
Displays: 1-64  Points: 1-64
Item        Alarm date/time  S L Description
Site        Ack date/time   T V Display Desc   Initials  Status
[USER]       06/24/04 16:45:45   [ENTER MONITOR MODE]
                               DPS
  3. 1.  1. 1 06/24/04 16:45:52 F A A.C. Power Fail
TEST        06/24/04 16:52:05            DPS    ALARM
- 3. 1.  1. 1 06/24/04 16:45:52 PGR A.C. Power Fail
          Msg # : 1     A  Dialed pager.  BMS
  3. 1.  1. 2 06/24/04 16:46:39 F A Backup Gen.
TEST        06/24/04 16:52:06            DPS    RUNNING
- 3. 1.  1. 2 06/24/04 16:46:40 PGR Backup Gen.
          Msg # : 1     A  Dialed pager.  BMS
  3. 1.  1. 3 06/24/04 16:47:46 F A Backup Gen. Fuel
TEST        06/24/04 16:52:06            DPS    LOW
- 3. 1.  1. 3 06/24/04 16:47:47 PGR Backup Gen. Fuel
          Msg # : 1     A  Dialed pager.  BMS
  3. 1.  1. 3 06/24/04 16:49:11 C A Backup Gen. Fuel
TEST        06/24/04 16:52:06            DPS    FILLED
- 3. 1.  1. 3 06/24/04 16:49:13 PGR Backup Gen. Fuel
          Msg # : 1     C  Dialed pager.  BMS
  3. 1.  1. 1 06/24/04 16:50:33 C A A.C. Power Fail
TEST        06/24/04 16:52:06            DPS    CLEAR
- 3. 1.  1. 1 06/24/04 16:50:34 PGR A.C. Power Fail
          Msg # : 1     C  Dialed pager.  BMS
  3. 1.  1. 2 06/24/04 16:50:46 C A Backup Gen.
TEST        06/24/04 16:52:06            DPS   OFF
History Report Ended : Jun 24,2004 17:05:03
```

Fig. 19.7 - Example history report to file

Export History

Export History exports a Standard History report as a comma-delimited text file.

This file is a tremendous resource of information about network events. The exported history file can be imported into a database or spreadsheet application, where it can be graphed and analyzed.


Microsoft Access - [EXPHIST : Table]
File Edit View Insert Format Records Tools Window Help
Record: 1 of 72
Datasheet View
NUM

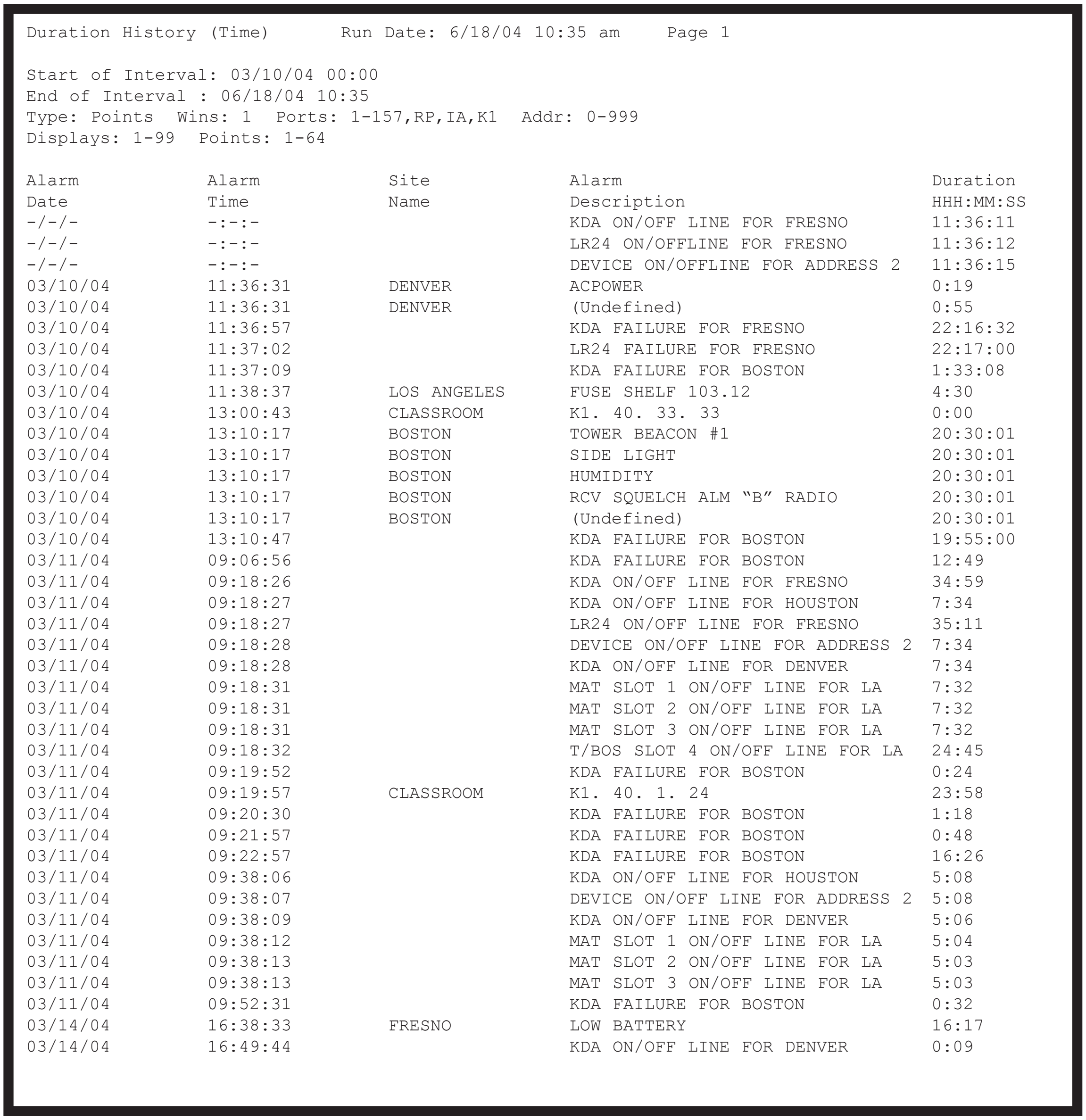
Export History	Field2	Field3	Field4	Field5	Field6	Field7	Field8	Field9
Start of Interval:								
End of Interval :								
Type: Points V								
Ports: 1-500	RP	IA	K1	K2	NG	N2 Addresses		
Displays: 1-99								
Date	Time	State	Level	Port	Addr	Disp	Pnt	Device
2/07/03	09:46:12	F	A	IA	11	1	1	STD
2/07/03	09:46:13	F	A	IA	11	1	3	STD
2/07/03	09:59:41	F	A	IA	11	1	1	STD
2/07/03	09:59:42	F	A	IA	11	1	3	STD
2/11/03	14:24:49	F	A	IA	11	1	1	STD
2/11/03	14:24:50	F	A	IA	11	1	3	STD
2/11/03	14:43:53	F	A	IA	11	1	1	STD
2/11/03	14:43:54	F	A	IA	11	1	3	STD
2/11/03	14:51:00	F	A	IA	11	1	1	STD
2/11/03	14:51:01	F	A	IA	11	1	3	STD
2/11/03	14:59:19	F	A	IA	11	1	1	STD
2/11/03	14:59:20	F	A	IA	11	1	3	STD
2/11/03	15:01:22	F	A	IA	11	1	1	STD
2/11/03	15:01:23	F	A	IA	11	1	3	STD
2/11/03	15:04:18	F	A	IA	11	1	1	STD
2/11/03	15:04:20	F	A	IA	11	1	3	STD
2/25/03	15:20:24	F	A	IA	11	1	1	STD
2/25/03	15:20:25	F	A	IA	11	1	2	STD
2/25/03	15:20:26	F	A	IA	11	1	3	STD
2/26/03	10:34:14	F	D	32	1	1	1	STD
2/26/03	10:35:43	F	A	IA	11	1	1	STD
2/26/03	10:35:44	F	A	IA	11	1	2	STD
2/26/03	10:35:45	F	A	IA	11	1	3	STD
2/26/03	10:50:27	F	A	IA	11	1	1	STD

Fig. 19.8 - Exported history file in database application

Duration History

The Duration History report generates a report of outages in excess of a specified time period — see Figure 19.9. This report is one-half the size of a regular history report because it correlates the alarms and clears.

The Duration History report screen is selected from the Report Mode Menu. Type 4 and press Enter. At the prompt, select the output destination — press F to save to a file and enter the file name, or press P to send the report to your printer.



```
Duration History (Time)      Run Date: 6/18/04 10:35 am     Page 1

Start of Interval: 03/10/04 00:00
End of Interval : 06/18/04 10:35
Type: Points  Wins: 1  Ports: 1-157,RP,IA,K1  Addr: 0-999
Displays: 1-99  Points: 1-64

Alarm          Alarm          Site           Alarm                          Duration
Date           Time           Name           Description                    HHH:MM:SS
-/-/-          -:-:-                         KDA ON/OFF LINE FOR FRESNO     11:36:11
-/-/-          -:-:-                         LR24 ON/OFFLINE FOR FRESNO     11:36:12
-/-/-          -:-:-                         DEVICE ON/OFFLINE FOR ADDRESS 2   11:36:15
03/10/04       11:36:31       DENVER         ACPOWER                        0:19
03/10/04       11:36:31       DENVER         (Undefined)                    0:55
03/10/04       11:36:57                      KDA FAILURE FOR FRESNO         22:16:32
03/10/04       11:37:02                      LR24 FAILURE FOR FRESNO        22:17:00
03/10/04       11:37:09                      KDA FAILURE FOR BOSTON         1:33:08
03/10/04       11:38:37       LOS ANGELES    FUSE SHELF 103.12              4:30
03/10/04       13:00:43       CLASSROOM      K1. 40. 33. 33                 0:00
03/10/04       13:10:17       BOSTON         TOWER BEACON #1                20:30:01
03/10/04       13:10:17       BOSTON         SIDE LIGHT                     20:30:01
03/10/04       13:10:17       BOSTON         HUMIDITY                       20:30:01
03/10/04       13:10:17       BOSTON         RCV SQUELCH ALM “B” RADIO      20:30:01
03/10/04       13:10:17       BOSTON         (Undefined)                    20:30:01
03/10/04       13:10:47                      KDA FAILURE FOR BOSTON         19:55:00
03/11/04       09:06:56                      KDA FAILURE FOR BOSTON         12:49
03/11/04       09:18:26                      KDA ON/OFF LINE FOR FRESNO     34:59
03/11/04       09:18:27                      KDA ON/OFF LINE FOR HOUSTON    7:34
03/11/04       09:18:27                      LR24 ON/OFF LINE FOR FRESNO    35:11
03/11/04       09:18:28                      DEVICE ON/OFF LINE FOR ADDRESS 2  7:34
03/11/04       09:18:28                      KDA ON/OFF LINE FOR DENVER     7:34
03/11/04       09:18:31                      MAT SLOT 1 ON/OFF LINE FOR LA  7:32
03/11/04       09:18:31                      MAT SLOT 2 ON/OFF LINE FOR LA  7:32
03/11/04       09:18:31                      MAT SLOT 3 ON/OFF LINE FOR LA  7:32
03/11/04       09:18:32                      T/BOS SLOT 4 ON/OFF LINE FOR LA   24:45
03/11/04       09:19:52                      KDA FAILURE FOR BOSTON         0:24
03/11/04       09:19:57       CLASSROOM      K1. 40. 1. 24                  23:58
03/11/04       09:20:30                      KDA FAILURE FOR BOSTON         1:18
03/11/04       09:21:57                      KDA FAILURE FOR BOSTON         0:48
03/11/04       09:22:57                      KDA FAILURE FOR BOSTON         16:26
03/11/04       09:38:06                      KDA ON/OFF LINE FOR HOUSTON    5:08
03/11/04       09:38:07                      DEVICE ON/OFF LINE FOR ADDRESS 2  5:08
03/11/04       09:38:09                      KDA ON/OFF LINE FOR DENVER     5:06
03/11/04       09:38:12                      MAT SLOT 1 ON/OFF LINE FOR LA  5:04
03/11/04       09:38:13                      MAT SLOT 2 ON/OFF LINE FOR LA  5:03
03/11/04       09:38:13                      MAT SLOT 3 ON/OFF LINE FOR LA  5:03
03/11/04       09:52:31                      KDA FAILURE FOR BOSTON         0:32
03/14/04       16:38:33       FRESNO         LOW BATTERY                    16:17
03/14/04       16:49:44                      KDA ON/OFF LINE FOR DENVER     0:09
```

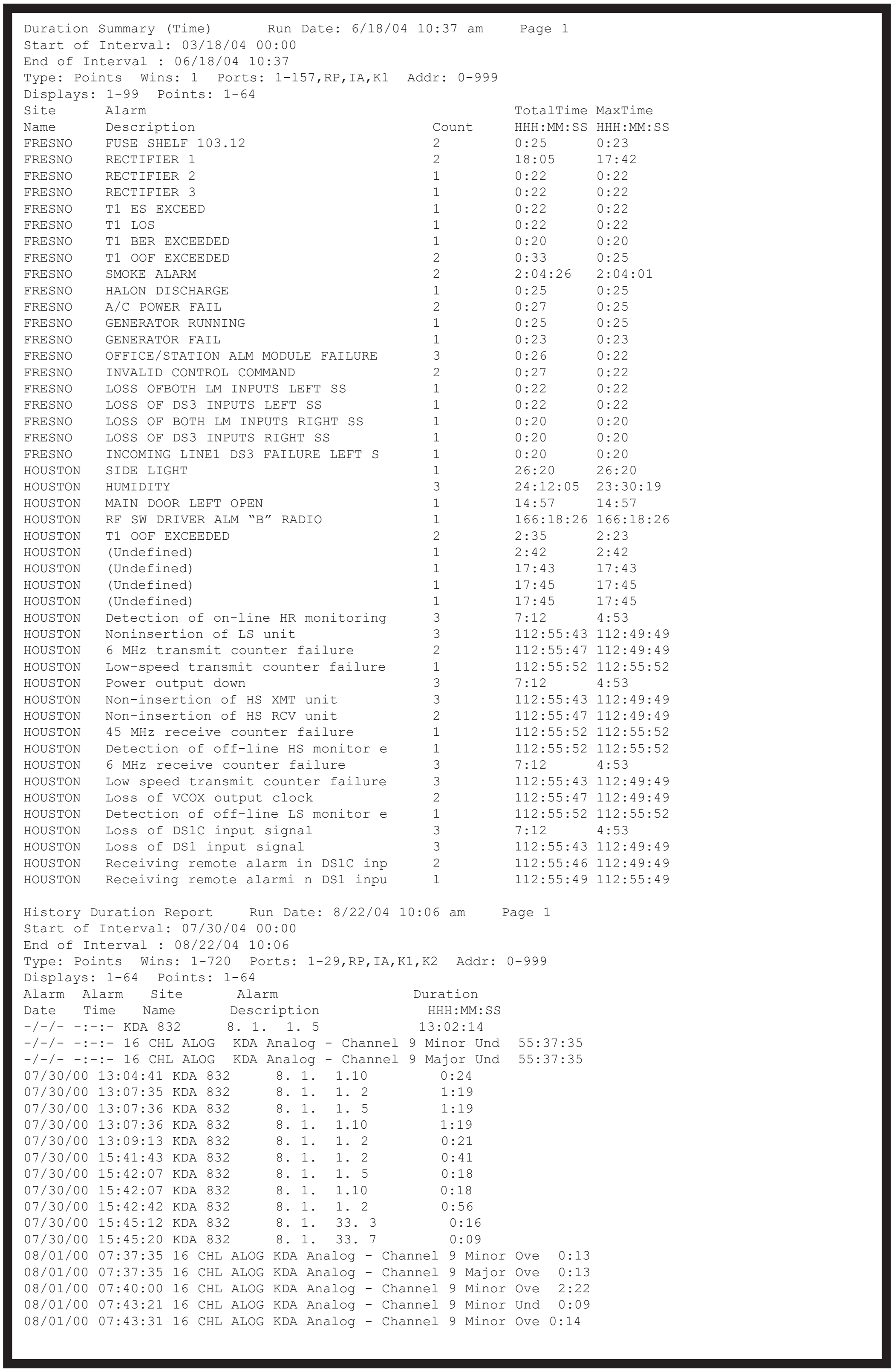
Fig. 19.9 - Example Duration History report sorted by time

Duration Summary (Time)

The Duration Summary (Time) report generates a report of the total time and maximum time of outages — see Figure 19.10. This report is a very useful point summary.

The Duration Summary (Time) report screen is selected from the

Report Mode Menu by typing 5. At the prompt you may press F and a enter a file name to save the report to a file, or press P to print.



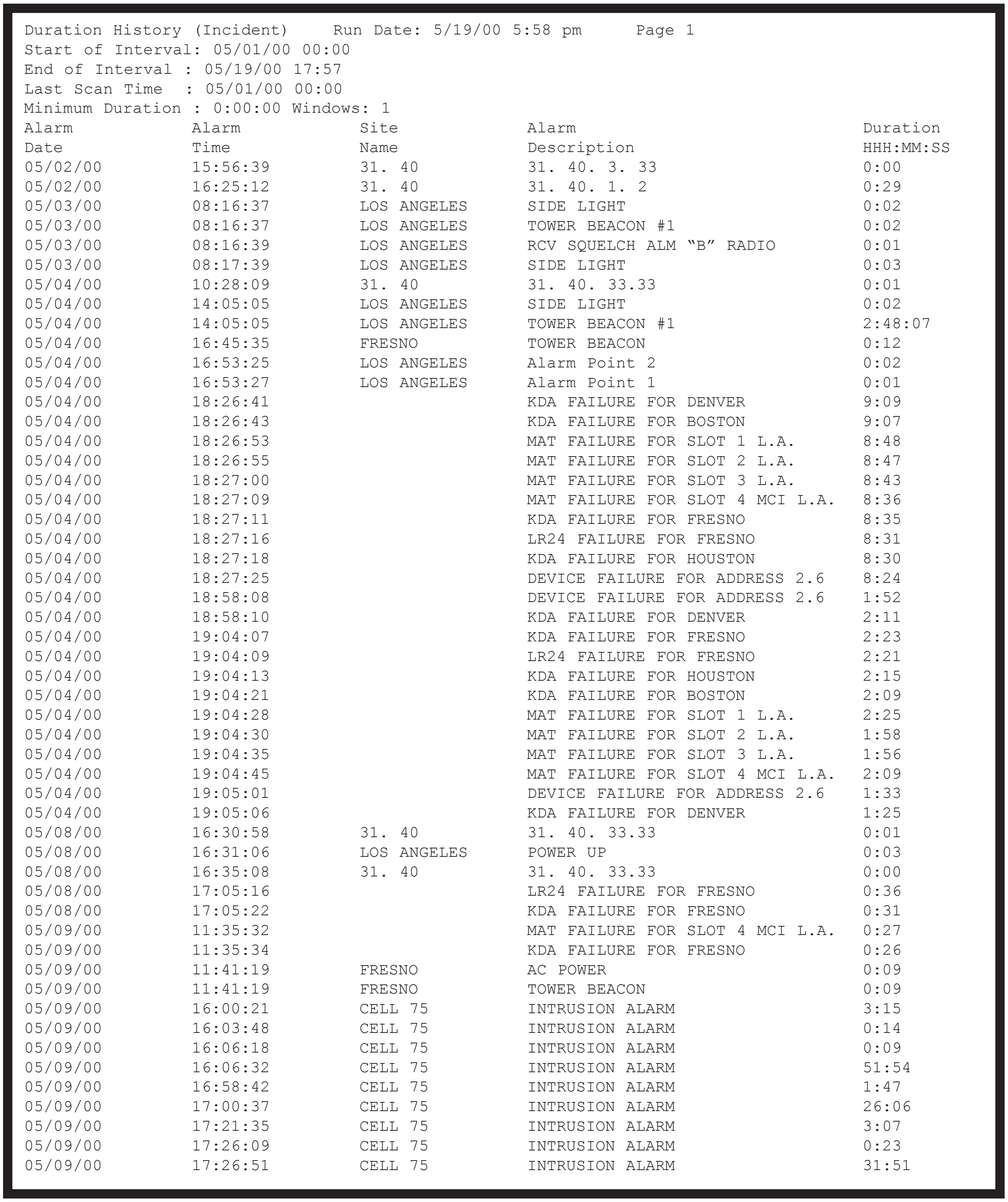
```
Duration Summary (Time)       Run Date: 6/18/04 10:37 am    Page 1
Start of Interval: 03/18/04 00:00
End of Interval : 06/18/04 10:37
Type: Points  Wins: 1  Ports: 1-157,RP,IA,K1  Addr: 0-999
Displays: 1-99  Points: 1-64
Site      Alarm                                         TotalTime MaxTime
Name      Description                         Count     HHH:MM:SS HHH:MM:SS
FRESNO    FUSE SHELF 103.12                   2         0:25      0:23
FRESNO    RECTIFIER 1                         2         18:05     17:42
FRESNO    RECTIFIER 2                         1         0:22      0:22
FRESNO    RECTIFIER 3                         1         0:22      0:22
FRESNO    T1 ES EXCEED                        1         0:22      0:22
FRESNO    T1 LOS                              1         0:22      0:22
FRESNO    T1 BER EXCEEDED                     1         0:20      0:20
FRESNO    T1 OOF EXCEEDED                     2         0:33      0:25
FRESNO    SMOKE ALARM                         2         2:04:26   2:04:01
FRESNO    HALON DISCHARGE                     1         0:25      0:25
FRESNO    A/C POWER FAIL                      2         0:27      0:25
FRESNO    GENERATOR RUNNING                   1         0:25      0:25
FRESNO    GENERATOR FAIL                      1         0:23      0:23
FRESNO    OFFICE/STATION ALM MODULE FAILURE   3         0:26      0:22
FRESNO    INVALID CONTROL COMMAND             2         0:27      0:22
FRESNO    LOSS OFBOTH LM INPUTS LEFT SS       1         0:22      0:22
FRESNO    LOSS OF DS3 INPUTS LEFT SS          1         0:22      0:22
FRESNO    LOSS OF BOTH LM INPUTS RIGHT SS     1         0:20      0:20
FRESNO    LOSS OF DS3 INPUTS RIGHT SS         1         0:20      0:20
FRESNO    INCOMING LINE1 DS3 FAILURE LEFT S   1         0:20      0:20
HOUSTON   SIDE LIGHT                          1         26:20     26:20
HOUSTON   HUMIDITY                            3         24:12:05  23:30:19
HOUSTON   MAIN DOOR LEFT OPEN                 1         14:57     14:57
HOUSTON   RF SW DRIVER ALM “B” RADIO          1         166:18:26 166:18:26
HOUSTON   T1 OOF EXCEEDED                     2         2:35      2:23
HOUSTON   (Undefined)                         1         2:42      2:42
HOUSTON   (Undefined)                         1         17:43     17:43
HOUSTON   (Undefined)                         1         17:45     17:45
HOUSTON   (Undefined)                         1         17:45     17:45
HOUSTON   Detection of on-line HR monitoring  3         7:12      4:53
HOUSTON   Noninsertion of LS unit             3         112:55:43 112:49:49
HOUSTON   6 MHz transmit counter failure      2         112:55:47 112:49:49
HOUSTON   Low-speed transmit counter failure  1         112:55:52 112:55:52
HOUSTON   Power output down                   3         7:12      4:53
HOUSTON   Non-insertion of HS XMT unit        3         112:55:43 112:49:49
HOUSTON   Non-insertion of HS RCV unit        2         112:55:47 112:49:49
HOUSTON   45 MHz receive counter failure      1         112:55:52 112:55:52
HOUSTON   Detection of off-line HS monitor e  1         112:55:52 112:55:52
HOUSTON   6 MHz receive counter failure       3         7:12      4:53
HOUSTON   Low speed transmit counter failure  3         112:55:43 112:49:49
HOUSTON   Loss of VCOX output clock           2         112:55:47 112:49:49
HOUSTON   Detection of off-line LS monitor e  1         112:55:52 112:55:52
HOUSTON   Loss of DS1C input signal           3         7:12      4:53
HOUSTON   Loss of DS1 input signal            3         112:55:43 112:49:49
HOUSTON   Receiving remote alarm in DS1C inp  2         112:55:46 112:49:49
HOUSTON   Receiving remote alarmi n DS1 inpu  1         112:55:49 112:55:49

History Duration Report     Run Date: 8/22/04 10:06 am    Page 1
Start of Interval: 07/30/04 00:00
End of Interval : 08/22/04 10:06
Type: Points  Wins: 1-720  Ports: 1-29,RP,IA,K1,K2  Addr: 0-999
Displays: 1-64  Points: 1-64
Alarm  Alarm   Site      Alarm                Duration
Date   Time   Name      Description             HHH:MM:SS
-/-/- -:-:- KDA 832     8. 1.  1. 5           13:02:14
-/-/- -:-:- 16 CHL ALOG  KDA Analog - Channel 9 Minor Und  55:37:35
-/-/- -:-:- 16 CHL ALOG  KDA Analog - Channel 9 Major Und  55:37:35
07/30/00 13:04:41 KDA 832      8. 1.  1.10         0:24
07/30/00 13:07:35 KDA 832      8. 1.  1. 2         1:19
07/30/00 13:07:36 KDA 832      8. 1.  1. 5         1:19
07/30/00 13:07:36 KDA 832      8. 1.  1.10         1:19
07/30/00 13:09:13 KDA 832      8. 1.  1. 2         0:21
07/30/00 15:41:43 KDA 832      8. 1.  1. 2         0:41
07/30/00 15:42:07 KDA 832      8. 1.  1. 5         0:18
07/30/00 15:42:07 KDA 832      8. 1.  1.10         0:18
07/30/00 15:42:42 KDA 832      8. 1.  1. 2         0:56
07/30/00 15:45:12 KDA 832      8. 1.  33. 3         0:16
07/30/00 15:45:20 KDA 832      8. 1.  33. 7         0:09
08/01/00 07:37:35 16 CHL ALOG KDA Analog - Channel 9 Minor Ove  0:13
08/01/00 07:37:35 16 CHL ALOG KDA Analog - Channel 9 Major Ove  0:13
08/01/00 07:40:00 16 CHL ALOG KDA Analog - Channel 9 Minor Ove  2:22
08/01/00 07:43:21 16 CHL ALOG KDA Analog - Channel 9 Minor Und  0:09
08/01/00 07:43:31 16 CHL ALOG KDA Analog - Channel 9 Minor Ove 0:14
```

Fig. 19.10 - Example Duration Summary (Time) report to file

Duration History (Incident)

The Duration History (Incident) report, like the Duration History (time) report, generates a report of the outages in excess of a specified time period sorted by site/alarm. This report is one-half the size of a regular history report because it correlates the alarms and clears — see Figure 19.11.

The Duration History (Incident) report screen is selected from the Report Mode Menu by typing 7. At the prompt you may press F and a enter a file name to save the report to a file, or press P to print.



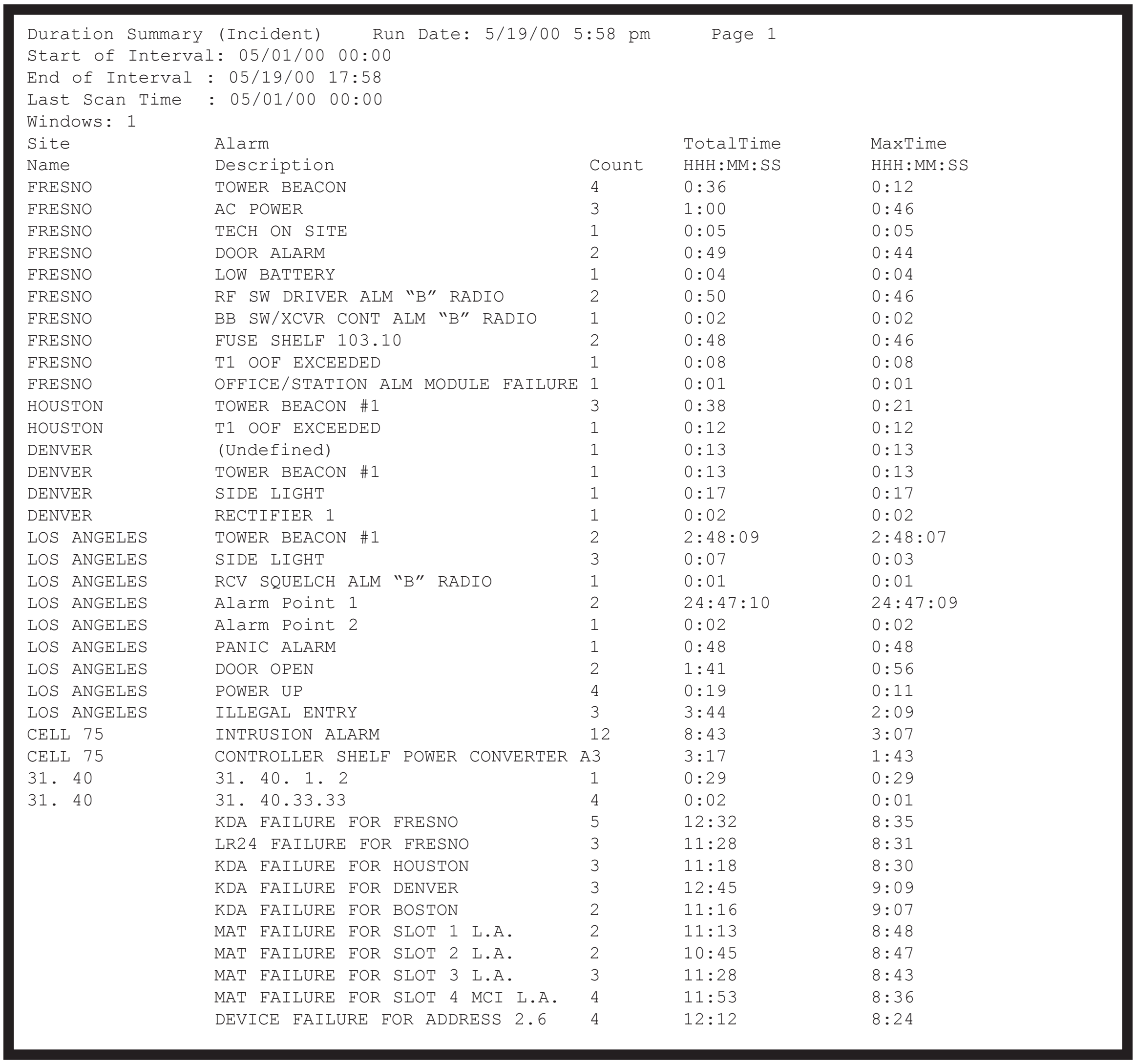
```
Duration History (Incident)    Run Date: 5/19/00 5:58 pm     Page 1
Start of Interval: 05/01/00 00:00
End of Interval : 05/19/00 17:57
Last Scan Time  : 05/01/00 00:00
Minimum Duration : 0:00:00 Windows: 1
Alarm            Alarm            Site             Alarm                            Duration
Date             Time             Name             Description                      HHH:MM:SS
05/02/00         15:56:39         31. 40           31. 40. 3. 33                    0:00
05/02/00         16:25:12         31. 40           31. 40. 1. 2                     0:29
05/03/00         08:16:37         LOS ANGELES      SIDE LIGHT                       0:02
05/03/00         08:16:37         LOS ANGELES      TOWER BEACON #1                  0:02
05/03/00         08:16:39         LOS ANGELES      RCV SQUELCH ALM “B” RADIO        0:01
05/03/00         08:17:39         LOS ANGELES      SIDE LIGHT                       0:03
05/04/00         10:28:09         31. 40           31. 40. 33.33                    0:01
05/04/00         14:05:05         LOS ANGELES      SIDE LIGHT                       0:02
05/04/00         14:05:05         LOS ANGELES      TOWER BEACON #1                  2:48:07
05/04/00         16:45:35         FRESNO           TOWER BEACON                     0:12
05/04/00         16:53:25         LOS ANGELES      Alarm Point 2                    0:02
05/04/00         16:53:27         LOS ANGELES      Alarm Point 1                    0:01
05/04/00         18:26:41                          KDA FAILURE FOR DENVER           9:09
05/04/00         18:26:43                          KDA FAILURE FOR BOSTON           9:07
05/04/00         18:26:53                          MAT FAILURE FOR SLOT 1 L.A.      8:48
05/04/00         18:26:55                          MAT FAILURE FOR SLOT 2 L.A.      8:47
05/04/00         18:27:00                          MAT FAILURE FOR SLOT 3 L.A.      8:43
05/04/00         18:27:09                          MAT FAILURE FOR SLOT 4 MCI L.A.  8:36
05/04/00         18:27:11                          KDA FAILURE FOR FRESNO           8:35
05/04/00         18:27:16                          LR24 FAILURE FOR FRESNO          8:31
05/04/00         18:27:18                          KDA FAILURE FOR HOUSTON          8:30
05/04/00         18:27:25                          DEVICE FAILURE FOR ADDRESS 2.6   8:24
05/04/00         18:58:08                          DEVICE FAILURE FOR ADDRESS 2.6   1:52
05/04/00         18:58:10                          KDA FAILURE FOR DENVER           2:11
05/04/00         19:04:07                          KDA FAILURE FOR FRESNO           2:23
05/04/00         19:04:09                          LR24 FAILURE FOR FRESNO          2:21
05/04/00         19:04:13                          KDA FAILURE FOR HOUSTON          2:15
05/04/00         19:04:21                          KDA FAILURE FOR BOSTON           2:09
05/04/00         19:04:28                          MAT FAILURE FOR SLOT 1 L.A.      2:25
05/04/00         19:04:30                          MAT FAILURE FOR SLOT 2 L.A.      1:58
05/04/00         19:04:35                          MAT FAILURE FOR SLOT 3 L.A.      1:56
05/04/00         19:04:45                          MAT FAILURE FOR SLOT 4 MCI L.A.  2:09
05/04/00         19:05:01                          DEVICE FAILURE FOR ADDRESS 2.6   1:33
05/04/00         19:05:06                          KDA FAILURE FOR DENVER           1:25
05/08/00         16:30:58         31. 40           31. 40. 33.33                    0:01
05/08/00         16:31:06         LOS ANGELES      POWER UP                         0:03
05/08/00         16:35:08         31. 40           31. 40. 33.33                    0:00
05/08/00         17:05:16                          LR24 FAILURE FOR FRESNO          0:36
05/08/00         17:05:22                          KDA FAILURE FOR FRESNO           0:31
05/09/00         11:35:32                          MAT FAILURE FOR SLOT 4 MCI L.A.  0:27
05/09/00         11:35:34                          KDA FAILURE FOR FRESNO           0:26
05/09/00         11:41:19         FRESNO           AC POWER                         0:09
05/09/00         11:41:19         FRESNO           TOWER BEACON                     0:09
05/09/00         16:00:21         CELL 75          INTRUSION ALARM                  3:15
05/09/00         16:03:48         CELL 75          INTRUSION ALARM                  0:14
05/09/00         16:06:18         CELL 75          INTRUSION ALARM                  0:09
05/09/00         16:06:32         CELL 75          INTRUSION ALARM                  51:54
05/09/00         16:58:42         CELL 75          INTRUSION ALARM                  1:47
05/09/00         17:00:37         CELL 75          INTRUSION ALARM                  26:06
05/09/00         17:21:35         CELL 75          INTRUSION ALARM                  3:07
05/09/00         17:26:09         CELL 75          INTRUSION ALARM                  0:23
05/09/00         17:26:51         CELL 75          INTRUSION ALARM                  31:51
```

Fig. 19.11 - Example Duration History (Incident) report to file

Duration Summary (Incident)

The Duration History (Incident) report generates a report of the total time and maximum time of outages sorted by alarm/site — see Figure 19.12.

The Duration History report screen is selected from the Report Mode Menu. Type 8 and press Enter. At the prompt, select the output destination — press F to save to a file and enter the file name, or press P to send the report to your printer.



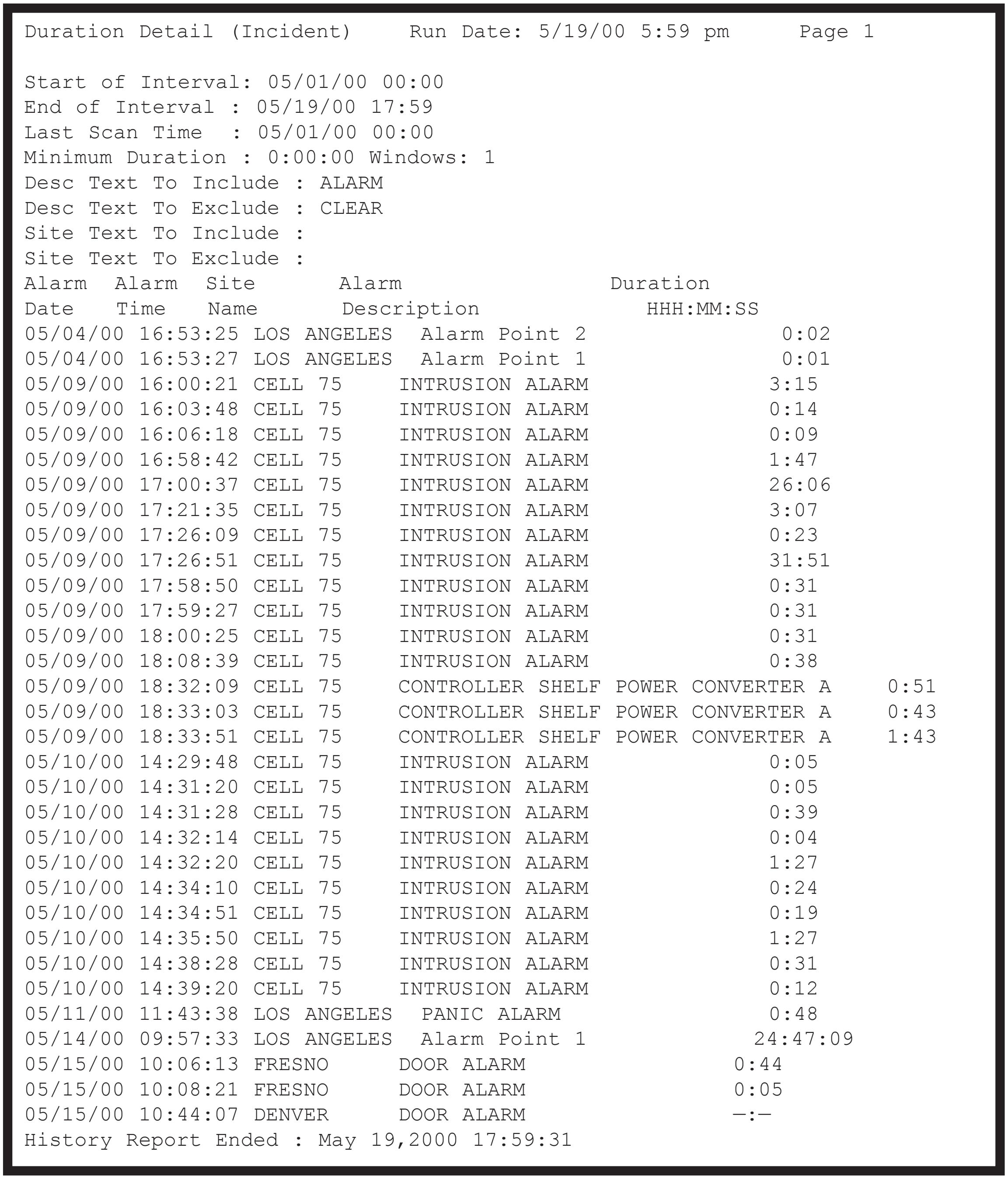
```
Duration Summary (Incident)    Run Date: 5/19/00 5:58 pm     Page 1
Start of Interval: 05/01/00 00:00
End of Interval : 05/19/00 17:58
Last Scan Time  : 05/01/00 00:00
Windows: 1
Site             Alarm                                     TotalTime        MaxTime
Name             Description                       Count   HHH:MM:SS        HHH:MM:SS
FRESNO           TOWER BEACON                      4       0:36             0:12
FRESNO           AC POWER                          3       1:00             0:46
FRESNO           TECH ON SITE                      1       0:05             0:05
FRESNO           DOOR ALARM                        2       0:49             0:44
FRESNO           LOW BATTERY                       1       0:04             0:04
FRESNO           RF SW DRIVER ALM “B” RADIO        2       0:50             0:46
FRESNO           BB SW/XCVR CONT ALM “B” RADIO     1       0:02             0:02
FRESNO           FUSE SHELF 103.10                 2       0:48             0:46
FRESNO           T1 OOF EXCEEDED                   1       0:08             0:08
FRESNO           OFFICE/STATION ALM MODULE FAILURE 1       0:01             0:01
HOUSTON          TOWER BEACON #1                   3       0:38             0:21
HOUSTON          T1 OOF EXCEEDED                   1       0:12             0:12
DENVER           (Undefined)                       1       0:13             0:13
DENVER           TOWER BEACON #1                   1       0:13             0:13
DENVER           SIDE LIGHT                        1       0:17             0:17
DENVER           RECTIFIER 1                       1       0:02             0:02
LOS ANGELES      TOWER BEACON #1                   2       2:48:09          2:48:07
LOS ANGELES      SIDE LIGHT                        3       0:07             0:03
LOS ANGELES      RCV SQUELCH ALM “B” RADIO         1       0:01             0:01
LOS ANGELES      Alarm Point 1                     2       24:47:10         24:47:09
LOS ANGELES      Alarm Point 2                     1       0:02             0:02
LOS ANGELES      PANIC ALARM                       1       0:48             0:48
LOS ANGELES      DOOR OPEN                         2       1:41             0:56
LOS ANGELES      POWER UP                          4       0:19             0:11
LOS ANGELES      ILLEGAL ENTRY                     3       3:44             2:09
CELL 75          INTRUSION ALARM                   12      8:43             3:07
CELL 75          CONTROLLER SHELF POWER CONVERTER A3       3:17             1:43
31. 40           31. 40. 1. 2                      1       0:29             0:29
31. 40           31. 40.33.33                      4       0:02             0:01
                 KDA FAILURE FOR FRESNO            5       12:32            8:35
                 LR24 FAILURE FOR FRESNO           3       11:28            8:31
                 KDA FAILURE FOR HOUSTON           3       11:18            8:30
                 KDA FAILURE FOR DENVER            3       12:45            9:09
                 KDA FAILURE FOR BOSTON            2       11:16            9:07
                 MAT FAILURE FOR SLOT 1 L.A.       2       11:13            8:48
                 MAT FAILURE FOR SLOT 2 L.A.       2       10:45            8:47
                 MAT FAILURE FOR SLOT 3 L.A.       3       11:28            8:43
                 MAT FAILURE FOR SLOT 4 MCI L.A.   4       11:53            8:36
                 DEVICE FAILURE FOR ADDRESS 2.6    4       12:12            8:24
```

Fig. 19.12 - Example Duration Summary (Incident) report

Duration Detail (Incident)

The Duration Detail (Incident) allows reports to be filtered by alarm description text and site name text — see Figure 19.13.

The Duration Detail (Incident) report screen is selected from the Report Mode Menu. Type 9 and press Enter. At the prompt, select the output destination — press F to save to a file and enter the file name, or press P to send the report to your printer.



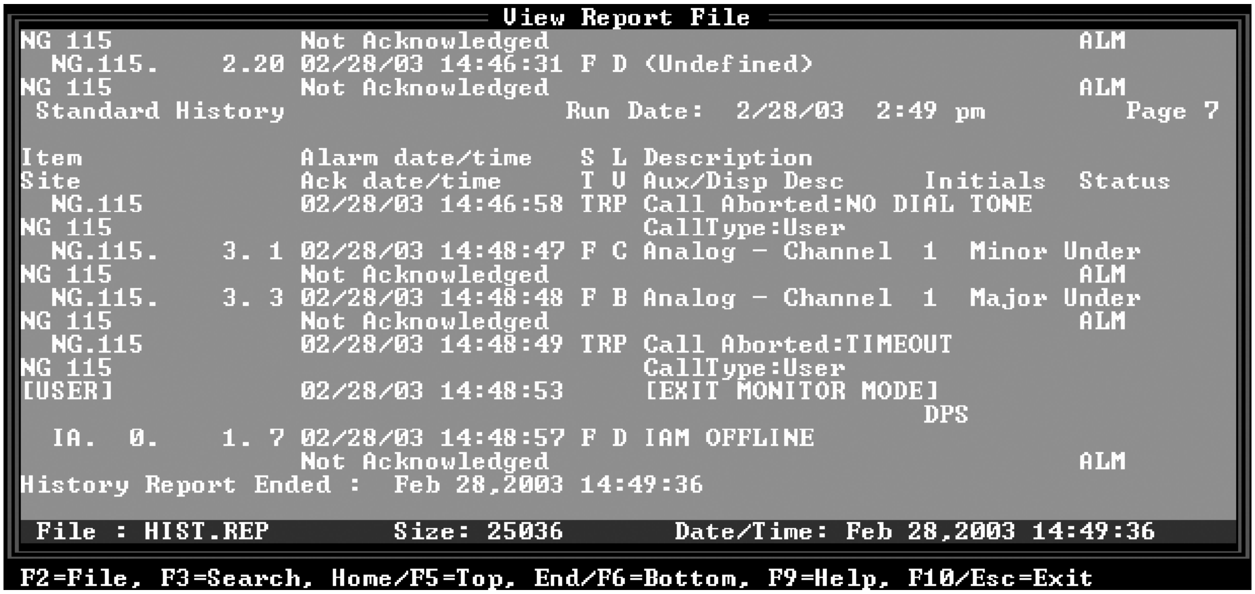
```
Duration Detail (Incident)    Run Date: 5/19/00 5:59 pm      Page 1

Start of Interval: 05/01/00 00:00
End of Interval : 05/19/00 17:59
Last Scan Time  : 05/01/00 00:00
Minimum Duration : 0:00:00 Windows: 1
Desc Text To Include : ALARM
Desc Text To Exclude : CLEAR
Site Text To Include :
Site Text To Exclude :
Alarm  Alarm  Site       Alarm                Duration
Date   Time   Name       Description             HHH:MM:SS
05/04/00 16:53:25 LOS ANGELES  Alarm Point 2               0:02
05/04/00 16:53:27 LOS ANGELES  Alarm Point 1               0:01
05/09/00 16:00:21 CELL 75    INTRUSION ALARM              3:15
05/09/00 16:03:48 CELL 75    INTRUSION ALARM              0:14
05/09/00 16:06:18 CELL 75    INTRUSION ALARM              0:09
05/09/00 16:58:42 CELL 75    INTRUSION ALARM              1:47
05/09/00 17:00:37 CELL 75    INTRUSION ALARM             26:06
05/09/00 17:21:35 CELL 75    INTRUSION ALARM              3:07
05/09/00 17:26:09 CELL 75    INTRUSION ALARM              0:23
05/09/00 17:26:51 CELL 75    INTRUSION ALARM             31:51
05/09/00 17:58:50 CELL 75    INTRUSION ALARM              0:31
05/09/00 17:59:27 CELL 75    INTRUSION ALARM              0:31
05/09/00 18:00:25 CELL 75    INTRUSION ALARM              0:31
05/09/00 18:08:39 CELL 75    INTRUSION ALARM              0:38
05/09/00 18:32:09 CELL 75    CONTROLLER SHELF POWER CONVERTER A     0:51
05/09/00 18:33:03 CELL 75    CONTROLLER SHELF POWER CONVERTER A     0:43
05/09/00 18:33:51 CELL 75    CONTROLLER SHELF POWER CONVERTER A     1:43
05/10/00 14:29:48 CELL 75    INTRUSION ALARM              0:05
05/10/00 14:31:20 CELL 75    INTRUSION ALARM              0:05
05/10/00 14:31:28 CELL 75    INTRUSION ALARM              0:39
05/10/00 14:32:14 CELL 75    INTRUSION ALARM              0:04
05/10/00 14:32:20 CELL 75    INTRUSION ALARM              1:27
05/10/00 14:34:10 CELL 75    INTRUSION ALARM              0:24
05/10/00 14:34:51 CELL 75    INTRUSION ALARM              0:19
05/10/00 14:35:50 CELL 75    INTRUSION ALARM              1:27
05/10/00 14:38:28 CELL 75    INTRUSION ALARM              0:31
05/10/00 14:39:20 CELL 75    INTRUSION ALARM              0:12
05/11/00 11:43:38 LOS ANGELES  PANIC ALARM                0:48
05/14/00 09:57:33 LOS ANGELES  Alarm Point 1             24:47:09
05/15/00 10:06:13 FRESNO     DOOR ALARM                 0:44
05/15/00 10:08:21 FRESNO     DOOR ALARM                 0:05
05/15/00 10:44:07 DENVER     DOOR ALARM                 —:—
History Report Ended : May 19,2000 17:59:31
```

Fig. 19.13 - Example Duration Detail (Incident) report

Dial-Up History Report

Dialup history events have been added to the Standard History report to give the user visibility to dial-up exceptions due to POTS connectivity (for example, No Dial tone, No Carrier, Busy) or mis-configuration (Incorrect Site Number, Site Offline). The new dial-up history events apply to both TRIP and ASCII dial-up connections. A filter has also been added to the Standard History reports to allow the option of displaying only these dial-up events.

You can run the Standard History report from the Main Menu by selecting Reports->Standard History. Figure 19.14 shows an example of a Standard History report with no filters activated. The report contains two TRIP history events (of type TRP) along with several alarm events.



```
                              View Report File
NG 115                  Not Acknowledged                               ALM
  NG.115.     2.20 02/28/03 14:46:31 F D (Undefined)
NG 115                  Not Acknowledged                               ALM
 Standard History                 Run Date:  2/28/03  2:49 pm           Page 7

Item                    Alarm date/time    S L Description
Site                    Ack date/time      T V Aux/Disp Desc     Initials   Status
  NG.115                02/28/03 14:46:58 TRP Call Aborted:NO DIAL TONE
NG 115                                         CallType:User
  NG.115.     3. 1 02/28/03 14:48:47 F C Analog - Channel  1  Minor Under
NG 115                  Not Acknowledged                               ALM
  NG.115.     3. 3 02/28/03 14:48:48 F B Analog - Channel  1  Major Under
NG 115                  Not Acknowledged                               ALM
  NG.115                02/28/03 14:48:49 TRP Call Aborted:TIMEOUT
NG 115                                         CallType:User
[USER]                  02/28/03 14:48:53     [EXIT MONITOR MODE]
                                                             DPS
  IA.  0.     1. 7 02/28/03 14:48:57 F D IAM OFFLINE
                        Not Acknowledged                               ALM
History Report Ended :  Feb 28,2003 14:49:36

 File : HIST.REP        Size: 25036       Date/Time: Feb 28,2003 14:49:36

F2=File, F3=Search, Home/F5=Top, End/F6=Bottom, F9=Help, F10/Esc=Exit
```

Fig. 19.14 - History report with no filters activated

Note: The Type can be either TRP to indicate that this event occurred on a TRIP port, or ASC to indicate that this event occurred on an ASCII port.

Dialup Events: There are essentially 3 types of dial-up events

1. CALLED REMOTE : T/MonXM has successfully dialed out and connected to the remote. It is still possible for the call to be aborted after this point; this just means the connection was successful.
2. RECEIVED CALL : T/MonXM has successfully connected to a remote which has called in. It is still possible for the call to be aborted after this point, this just means the connection was successful.
3. CALL ABORTED : The call has been aborted due to one of the following reasons:
   - Pre-Connection: The following events can occur only **before** T/MonXM has successfully connected with the remote due to reasons of POTS connectivity.

a. NO PHONE NUMBER : T/MonXM has no phone number defined for the remote.

b. LINE BUSY : The phone line was busy.

c. NO DIAL TONE : The phone line had no dial tone.

d. NO ANSWER : The remote did not reply to T/MonXM's connection attempt.

e. NO CARRIER : The phone line had no carrier.

- Post-Connection: The following events can occur only *after* T/MonXM has successfully connected with the remote.

f. TIMEOUT : The remote did not respond to one of T/MonXM's queries soon enough.

g. DID NOT RECEIVE QUERY : The remote did not query T/MonXM for its information.

h. NO DIAL PORT : T/MonXM does not have a dial-up port setup for the remote that is dialing in.

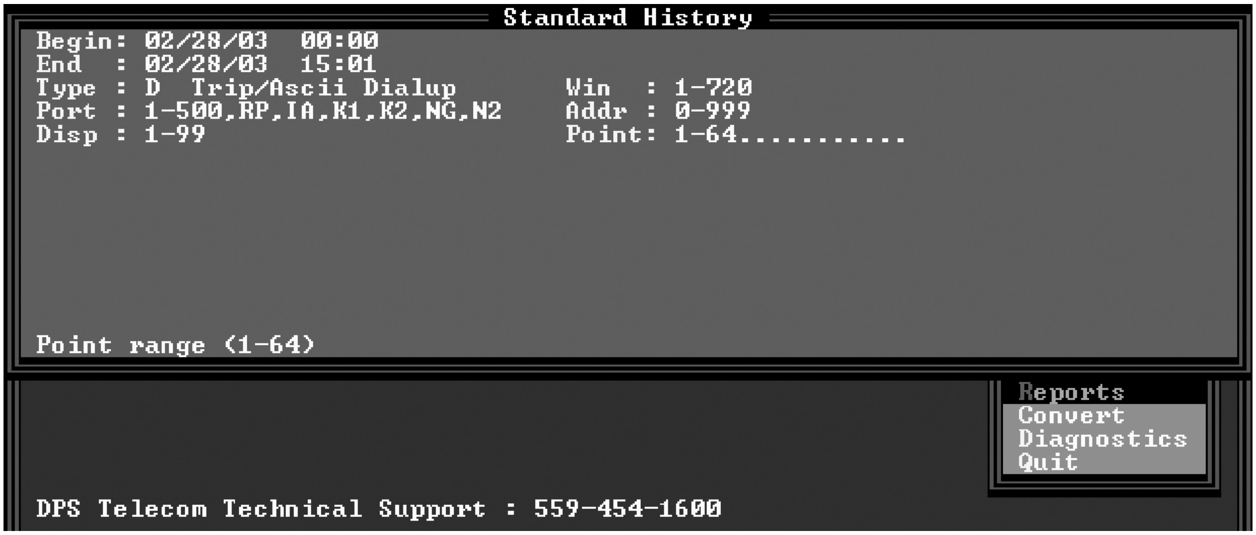
i. BASE UNIT MISMATCH : The remote calling in is not the same type as the remote databased for that port.

j. SITE OFFLINE : The remote dialing in is set as OFFLINE in T/MonXM.

k. SITE UNDEFINED : The site number given to T/MonXM by the remote did not match the site number databased for that device locally.

l. SITE NUMBER EXPECTED : T/MonXM did not expect to receive a site number from the remote at this time.

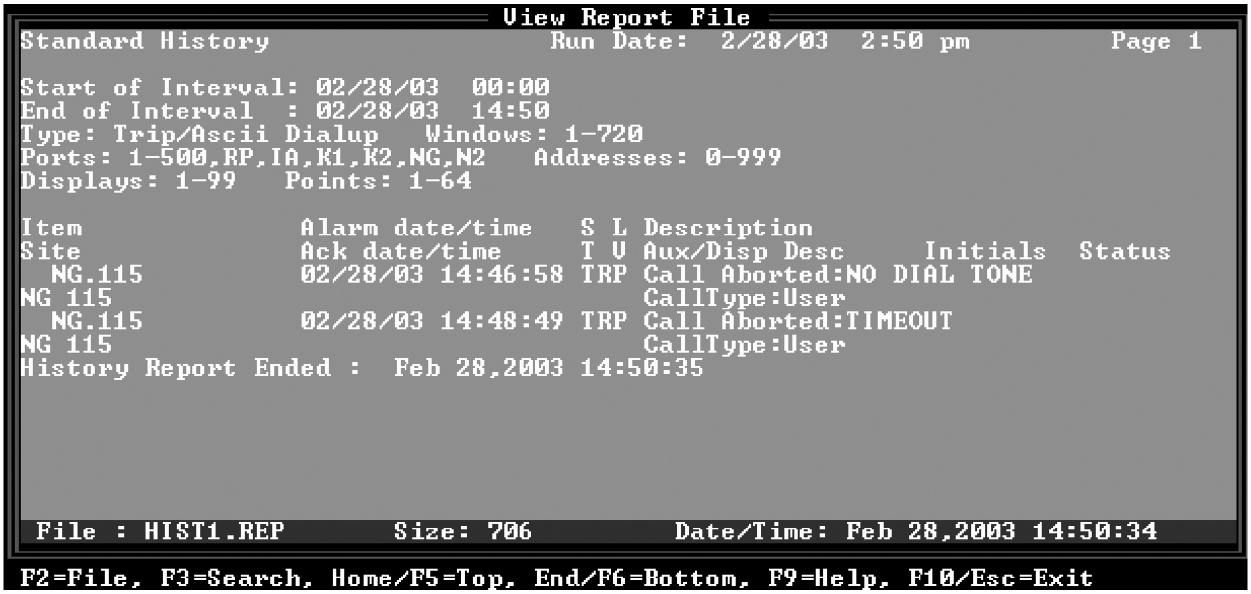
The Trip/ASCII Dialup Filter enables the user to run the Standard History Report and include only the dial-up history events. In order to use this filter the Type field must be set to D for Trip/Ascii Dialup — see Figure 19.15.



```
                         Standard History
Begin: 02/28/03  00:00
End  : 02/28/03  15:01
Type : D  Trip/Ascii Dialup       Win  : 1-720
Port : 1-500,RP,IA,K1,K2,NG,N2    Addr : 0-999
Disp : 1-99                       Point: 1-64...........

Point range (1-64)

DPS Telecom Technical Support : 559-454-1600
```

Fig. 19.15 - Setting the Trip/Ascii Dialup Filter

Figure 19.16 below shows a Standard History report filtered by the Trip/Ascii Dialup Filter. It is the same report as the unfiltered report shown in Figure 19.14, but with only dial-up history events displayed.



```
                                  View Report File
Standard History                  Run Date:  2/28/03  2:50 pm        Page 1

Start of Interval: 02/28/03  00:00
End of Interval  : 02/28/03  14:50
Type: Trip/Ascii Dialup   Windows: 1-720
Ports: 1-500,RP,IA,K1,K2,NG,N2   Addresses: 0-999
Displays: 1-99   Points: 1-64

Item                Alarm date/time   S L Description
Site                Ack date/time     T V Aux/Disp Desc      Initials  Status
  NG.115            02/28/03 14:46:58 TRP Call Aborted:NO DIAL TONE
NG 115                                    CallType:User
  NG.115            02/28/03 14:48:49 TRP Call Aborted:TIMEOUT
NG 115                                    CallType:User
History Report Ended :  Feb 28,2003 14:50:35

 File : HIST1.REP        Size: 706          Date/Time: Feb 28,2003 14:50:34
F2=File, F3=Search, Home/F5=Top, End/F6=Bottom, F9=Help, F10/Esc=Exit
```

Fig. 19.16 - Standard History report filtered by TRIP/ASCII Dialup Filter

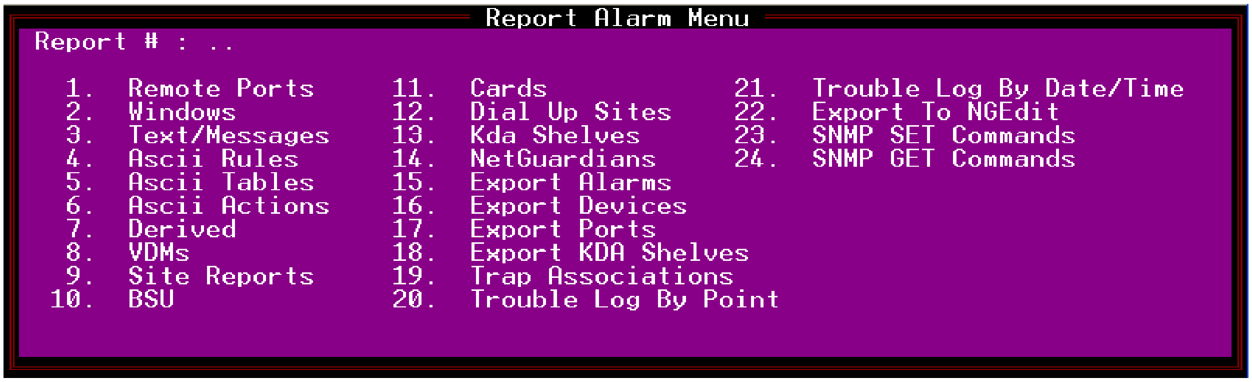
Alarm Database Report

Provides users with a hard copy of your various database elements.

The Alarm Database Reports offer many different reports based on your database files. When Alarm Database is selected from the Report menu (press 2 and then Enter), a Report Alarm Menu (see Figure 19.17) will appear with all of the available reports.

Reports are useful items when databasing or reviewing your network.

This menu will vary depending on the modules you have installed.

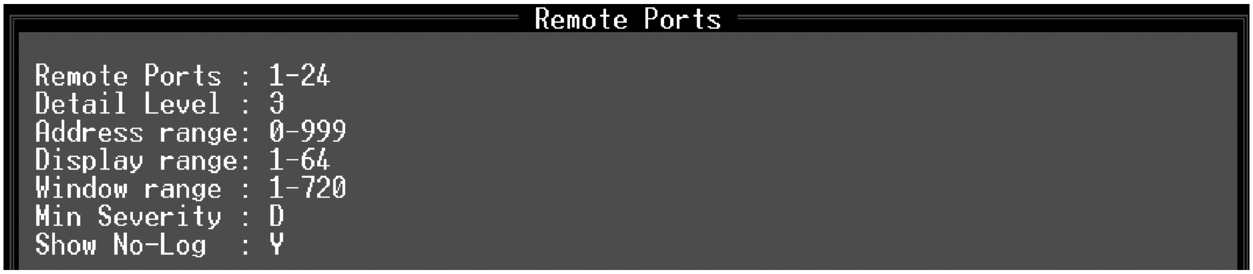


```
                              Report Alarm Menu
Report # : ..

  1.  Remote Ports      11.  Cards              21.  Trouble Log By Date/Time
  2.  Windows           12.  Dial Up Sites      22.  Export To NGEdit
  3.  Text/Messages     13.  Kda Shelves        23.  SNMP SET Commands
  4.  Ascii Rules       14.  NetGuardians       24.  SNMP GET Commands
  5.  Ascii Tables      15.  Export Alarms
  6.  Ascii Actions     16.  Export Devices
  7.  Derived           17.  Export Ports
  8.  VDMs              18.  Export KDA Shelves
  9.  Site Reports      19.  Trap Associations
 10.  BSU               20.  Trouble Log By Point
```

Fig. 19.17 - Report alarm menu

1. Remote Ports

Prints a report of all or a range of remote ports defined in the system. These reports reproduce the Port Parameters screen for the specified port(s). Several options can be selected to customize the report.



```
                              Remote Ports

Remote Ports : 1-24
Detail Level : 3
Address range: 0-999
Display range: 1-64
Window range : 1-720
Min Severity : D
Show No-Log  : Y
```

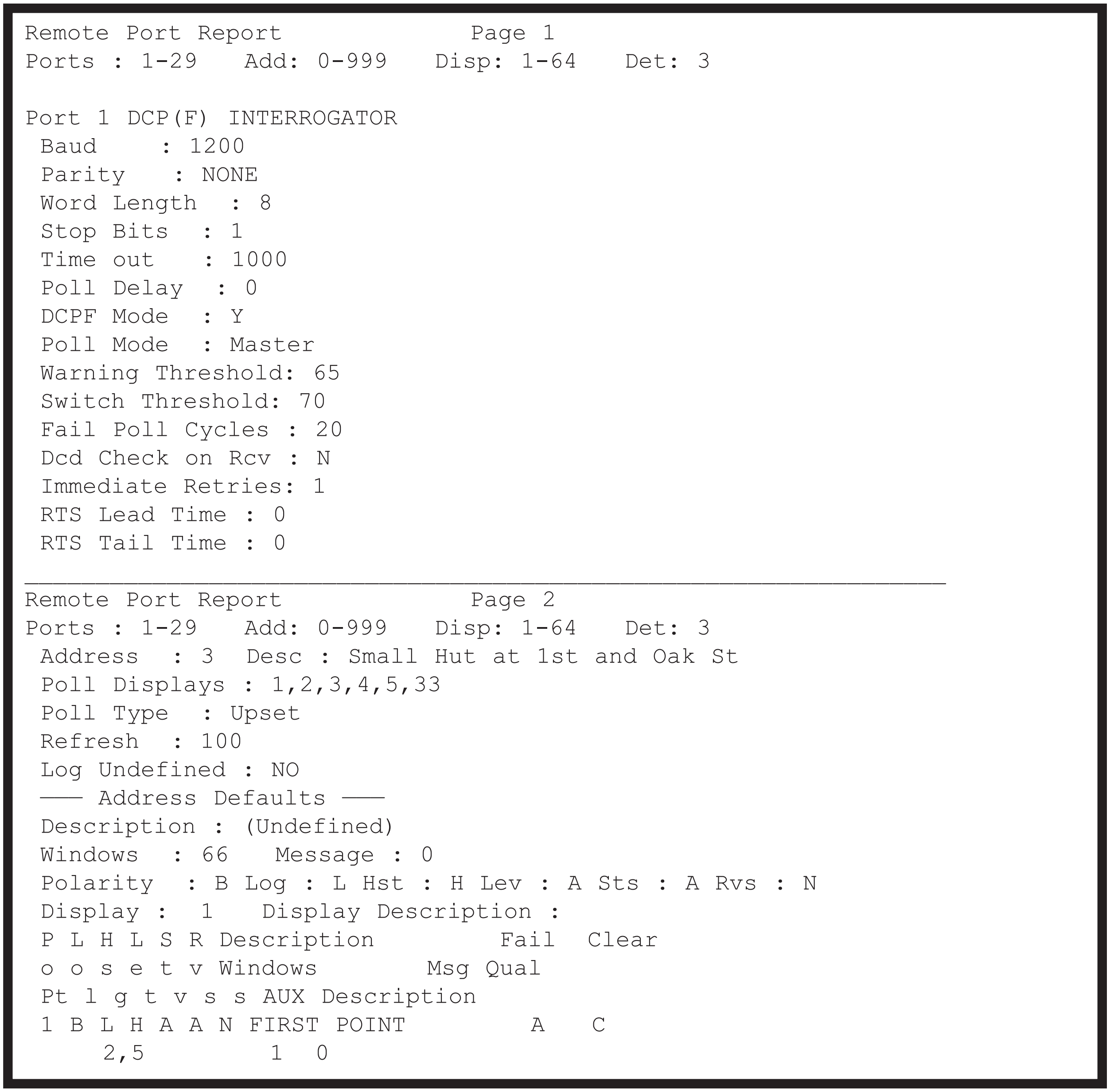
Fig. 19.18 - Remote ports menu

Table 19.4 - Fields in the Remote Ports Report window

Field	Description
Remote Ports	Enter the range of ports (1-500, IA) desired in the report. [1-500, IA]
Detail Level	Enter the detail level desired in the report. [1] Valid entries are: 1 (Minimum) Port information only 2 (Moderate) Port information and address 3 (Maximum) Port information, address, point and provisioning info
Address Range	Enter the range of addresses desired in the report. [0-999]
Display Range	Enter the range of displays desired in the report. [1-64] **Note:** Address and Display ranges interact to select a group that contains only the specified displays within the specified addresses. i.e.: A report for addresses 1 & 2, display 4 includes only display 4 at address 1 and display 4 at address 2. Address 1, displays 1-3 and 5-up are not included. Address 2, displays 1-3 and 5-up are not included. All other displays from all other addresses are not included.
Window Range Detail Level 3 only)	Enter the range of windows desired in the report.
Min Severity (Detail Level 3 only)	Enter severity levels desired in the report. Choices are: A (Critical alarms only) B (Critical and Major) C (Critical, Major, and Minor) D (Critical, Major, Minor and Status)
Show No Log (Detail Level 3 only)	Choose if No Log points will be included in report. Choice are Y (yes) and N (no).

Table 19.5 - Key commands available in the Remote Ports Report window

Function Key	Description
F10	Exit
Up Arrow	Go back to previous field.

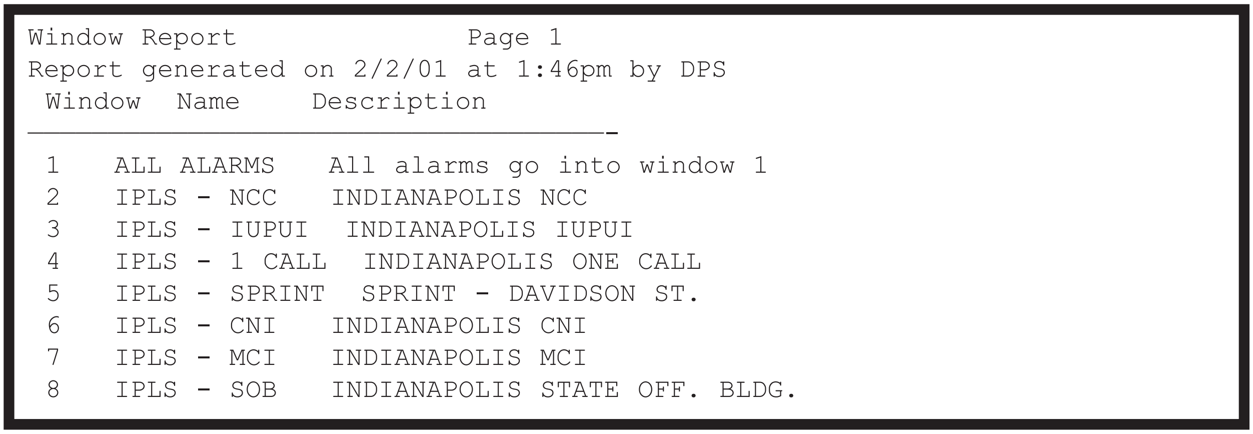


```
Remote Port Report            Page 1
Ports : 1-29   Add: 0-999   Disp: 1-64   Det: 3

Port 1 DCP(F) INTERROGATOR
 Baud    : 1200
 Parity   : NONE
 Word Length  : 8
 Stop Bits  : 1
 Time out   : 1000
 Poll Delay  : 0
 DCPF Mode  : Y
 Poll Mode  : Master
 Warning Threshold: 65
 Switch Threshold: 70
 Fail Poll Cycles : 20
 Dcd Check on Rcv : N
 Immediate Retries: 1
 RTS Lead Time : 0
 RTS Tail Time : 0
_______________________________________________________________
Remote Port Report            Page 2
Ports : 1-29   Add: 0-999   Disp: 1-64   Det: 3
 Address  : 3  Desc : Small Hut at 1st and Oak St
 Poll Displays : 1,2,3,4,5,33
 Poll Type  : Upset
 Refresh  : 100
 Log Undefined : NO
 ——— Address Defaults ———
 Description : (Undefined)
 Windows  : 66   Message : 0
 Polarity  : B Log : L Hst : H Lev : A Sts : A Rvs : N
 Display :  1   Display Description :
 P L H L S R Description        Fail  Clear
 o o s e t v Windows       Msg Qual
 Pt l g t v s s AUX Description
 1 B L H A A N FIRST POINT        A   C
     2,5        1  0
```

Fig. 19.19 - Example remote port report to file

2. Windows

Prints a report (see Figure 19.20) of all window names and indexes as currently defined.

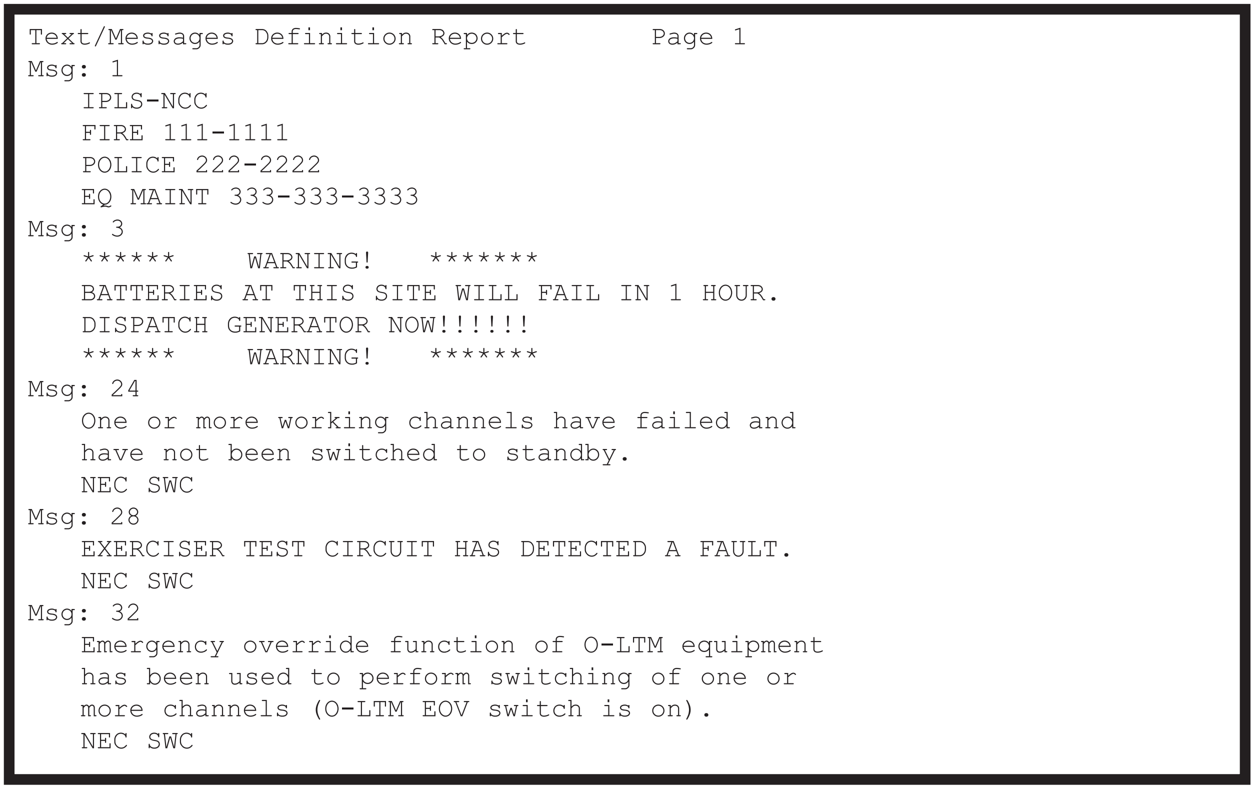


```
Window Report              Page 1
Report generated on 2/2/01 at 1:46pm by DPS
 Window  Name    Description
____________________________________-
 1   ALL ALARMS   All alarms go into window 1
 2   IPLS - NCC   INDIANAPOLIS NCC
 3   IPLS - IUPUI  INDIANAPOLIS IUPUI
 4   IPLS - 1 CALL  INDIANAPOLIS ONE CALL
 5   IPLS - SPRINT  SPRINT - DAVIDSON ST.
 6   IPLS - CNI   INDIANAPOLIS CNI
 7   IPLS - MCI   INDIANAPOLIS MCI
 8   IPLS - SOB   INDIANAPOLIS STATE OFF. BLDG.
```

Fig. 19.20 - Example window report to file

3. Text/Messages

Prints a report (see Figure 19.21) of all the standard text/messages that were defined in the system.



```
Text/Messages Definition Report       Page 1
Msg: 1
   IPLS-NCC
   FIRE 111-1111
   POLICE 222-2222
   EQ MAINT 333-333-3333
Msg: 3
   ******    WARNING!   *******
   BATTERIES AT THIS SITE WILL FAIL IN 1 HOUR.
   DISPATCH GENERATOR NOW!!!!!!
   ******    WARNING!   *******
Msg: 24
   One or more working channels have failed and
   have not been switched to standby.
   NEC SWC
Msg: 28
   EXERCISER TEST CIRCUIT HAS DETECTED A FAULT.
   NEC SWC
Msg: 32
   Emergency override function of O-LTM equipment
   has been used to perform switching of one or
   more channels (O-LTM EOV switch is on).
   NEC SWC
```

Fig. 19.21 - Example text /message report to file

4, 5, 6. ASCII Rules, Tables and Actions
Prints reports of all ASCII rules, tables or actions that were defined or took place in the system — see Figure 19.22.

```
ASCII Rule Report             Page 1
Report generated on 11/05/04 at 10:31am by DPS

Device            : AQL                        HEADER
Description       : Device Header for AQL devices
Soft Separators   : <SPC>   <CR>
Hard Separators   :
Line Terminator   :0A Hex     <LF>

Log On      : logon cbh;<CR>
CMD1        : AUTO ALARM ON;<CR>
CMD2        :
CMD3        :
```

Fig. 19.22 - Example ASCII Rules report to file

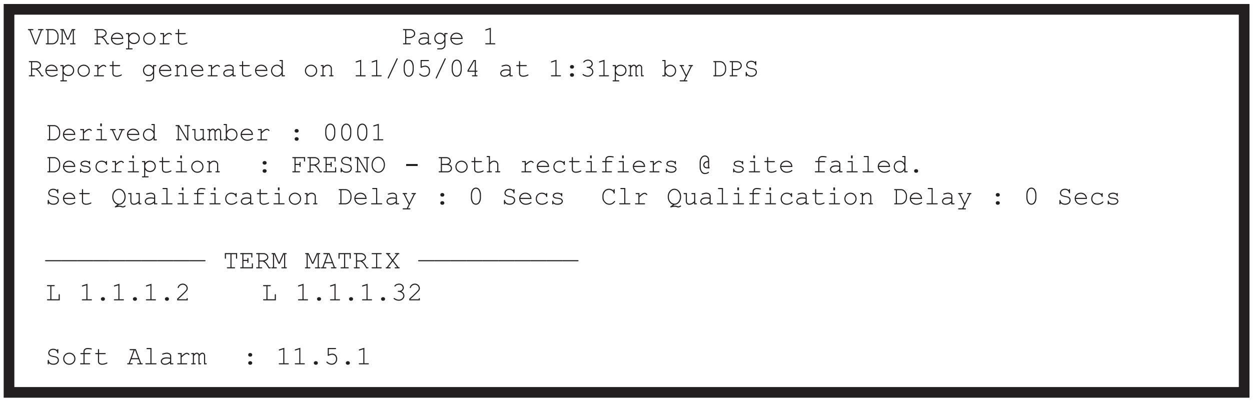
7. Derived
Prints a report (see Figure 19.23) of all derived definitions as currently defined.

```
Derived Report             Page 1
Report generated on 3/27/01 at 6:11pm by DPS

 Derived Number : 0001
 Description   : FRESNO - Both rectifiers @ site failed.
 Set Qualification Delay : 0 Secs  Clr Qualification Delay : 0 Secs

 ────────── TERM MATRIX ──────────
 L 1.1.1.2    L 1.1.1.32

 Soft Alarm  : 11.5.1
```

Fig. 19.23 - Example Derived report to file

8. VDMs

Only available if the Voltage Detector Module is installed. Generated reports include analog values for VDM devices. Refer to Figure 19.24 for example report.



```
VDM Report              Page 1
Report generated on 11/05/04 at 1:31pm by DPS

 Derived Number : 0001
 Description   : FRESNO - Both rectifiers @ site failed.
 Set Qualification Delay : 0 Secs  Clr Qualification Delay : 0 Secs

 —————————— TERM MATRIX ——————————
 L 1.1.1.2    L 1.1.1.32

 Soft Alarm  : 11.5.1
```

Fig. 19.24 - Example VDM report to file

9. Site Reports

Prints a report (see Figure 19.27) giving a list of the remote devices and descriptions for the ports or sites specified. They are intended to give a list of the equipment on any port in the network.

Upon selecting this report two more selections will become available in the window:

1. Sites by Address (Numerically sorted by port and address.) — see Figures 19.26 and 19.27.
2. Sites by Site. (Alphabetically sorted by name.) — see Figures 19.28 and 19.29.

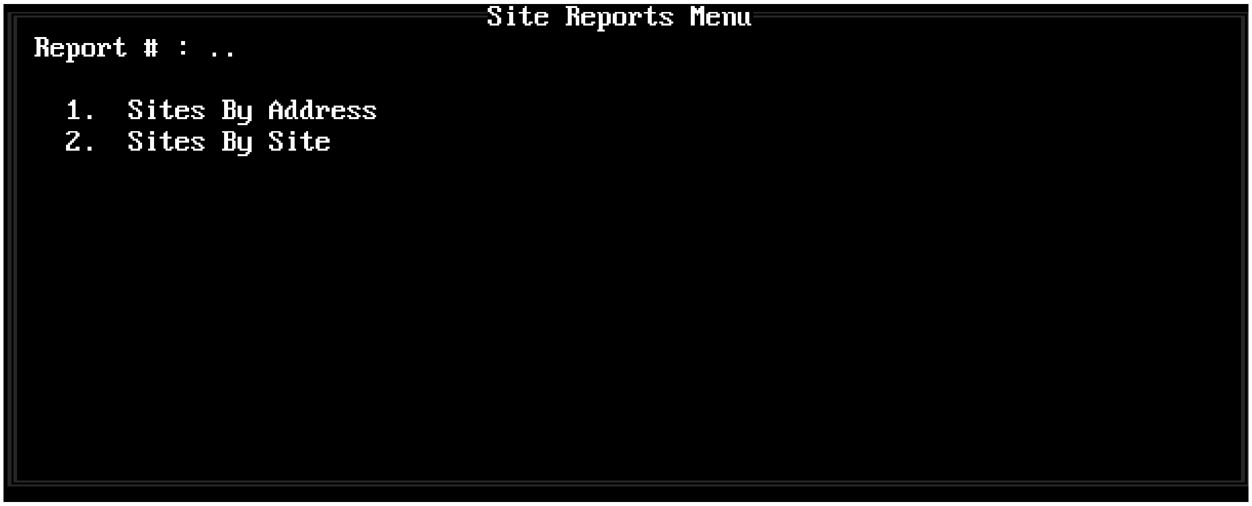
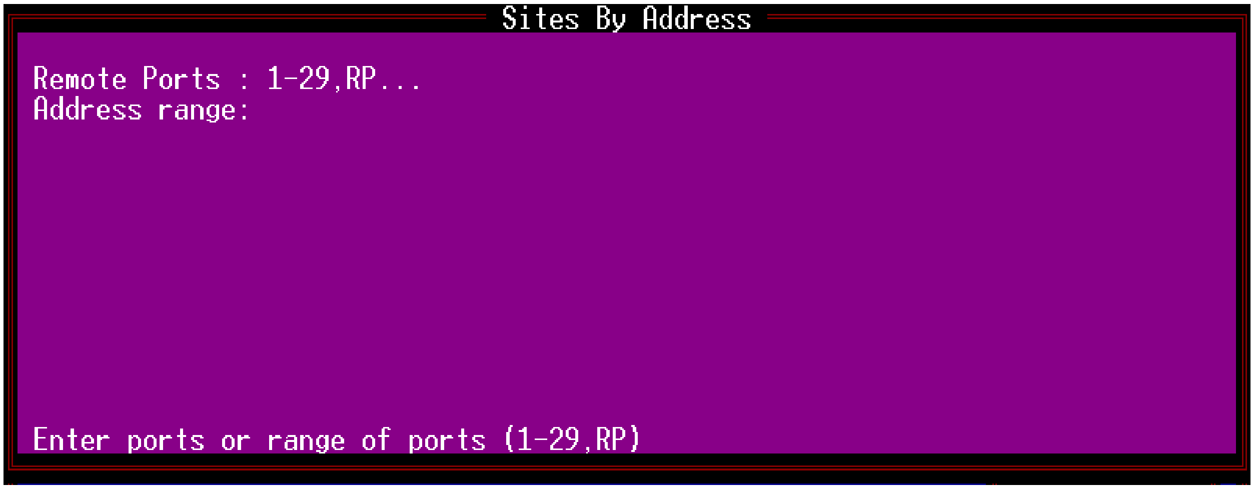


Fig. 19.25 - The site reports window presents a menu

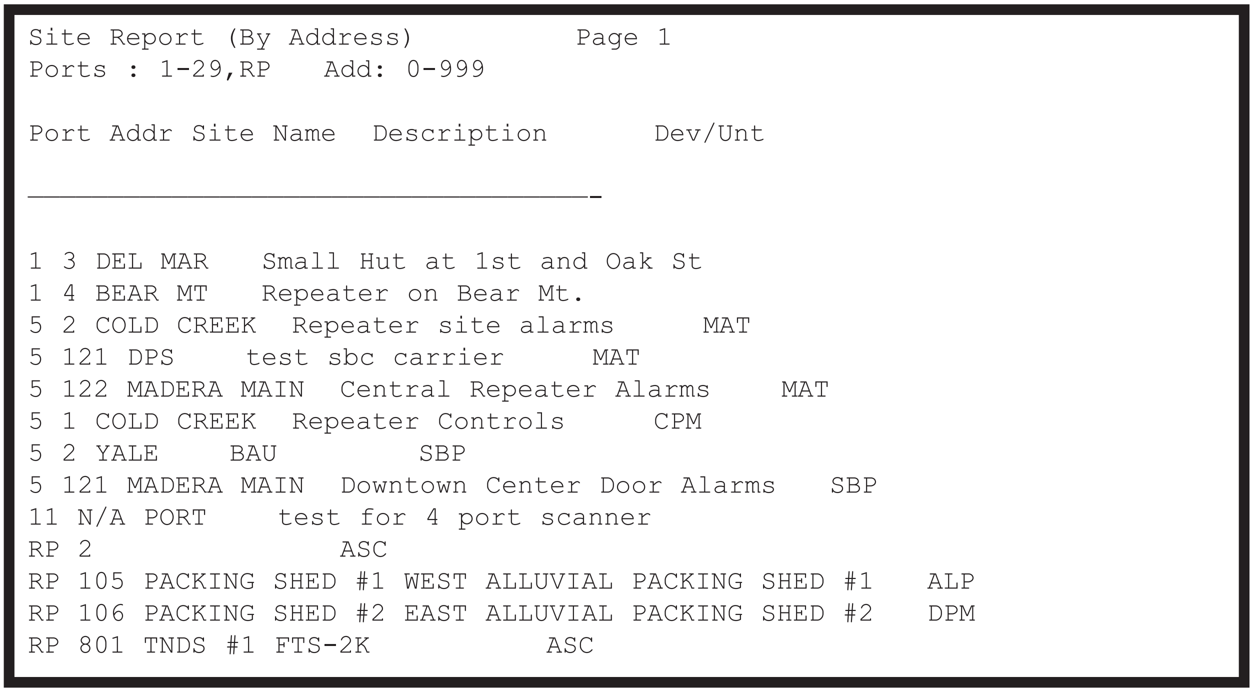


```
Sites By Address

Remote Ports : 1-29,RP...
Address range:

Enter ports or range of ports (1-29,RP)
```

Fig. 19.26 - Sites by address report window

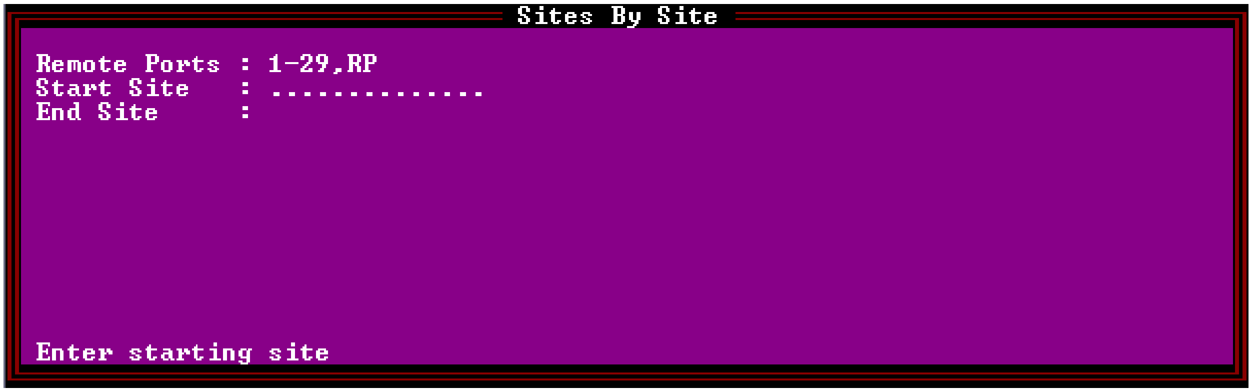
Table 19.6 - Fields in the Sites by Address Report window

Field	Description
Remote Ports	Enter the range of ports (1-29 or RP) desired on the report. [1-29]
Address Range	Enter the range of addresses desired on the report. [0-999]



```
Site Report (By Address)          Page 1
Ports : 1-29,RP   Add: 0-999

Port Addr Site Name  Description      Dev/Unt

___________________________________________


1 3 DEL MAR   Small Hut at 1st and Oak St
1 4 BEAR MT   Repeater on Bear Mt.
5 2 COLD CREEK  Repeater site alarms     MAT
5 121 DPS     test sbc carrier     MAT
5 122 MADERA MAIN  Central Repeater Alarms    MAT
5 1 COLD CREEK  Repeater Controls     CPM
5 2 YALE     BAU         SBP
5 121 MADERA MAIN  Downtown Center Door Alarms   SBP
11 N/A PORT     test for 4 port scanner
RP 2               ASC
RP 105 PACKING SHED #1 WEST ALLUVIAL PACKING SHED #1   ALP
RP 106 PACKING SHED #2 EAST ALLUVIAL PACKING SHED #2   DPM
RP 801 TNDS #1 FTS-2K          ASC
```

Fig. 19.27 - Example sites by address report to file



```
                         Sites By Site
Remote Ports : 1-29,RP
Start Site   : ..............
End Site     :






Enter starting site
```

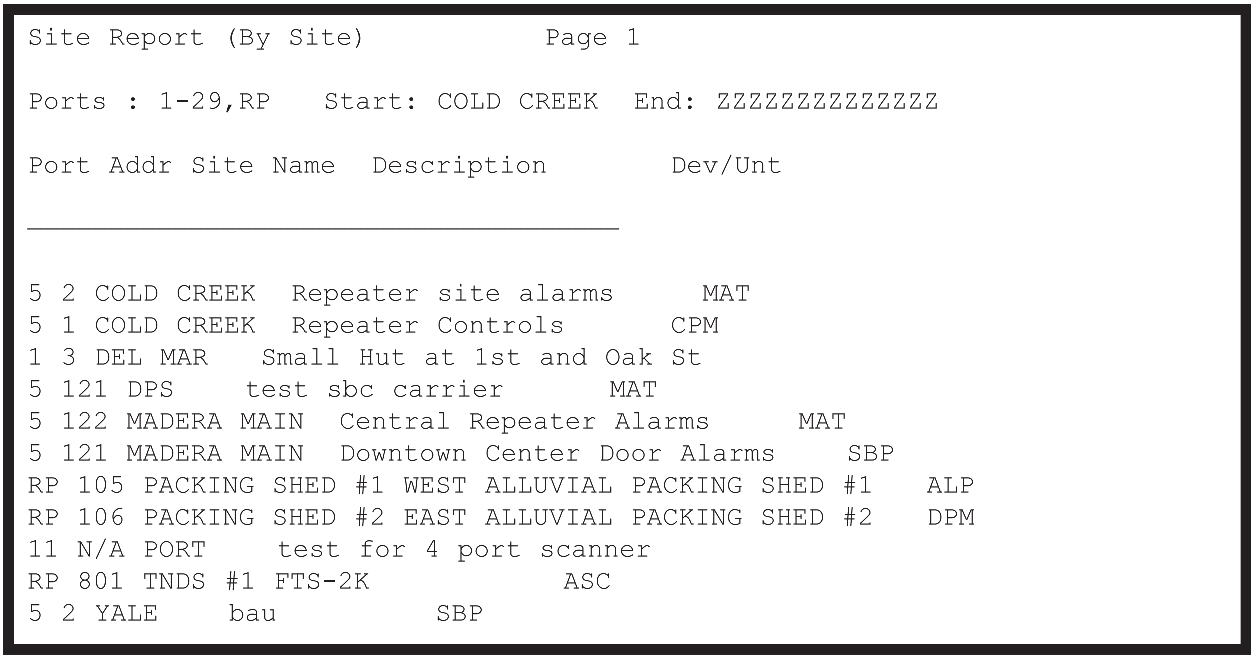
Fig. 19.28 - Sites by site report window

Table 19.7 - Fields in the Sites by Site Report window

Field	Description
Remote Ports	Enter the range of ports (1-29 or RP) desired on the report. [1-29]
Starting Site Ending Site	Enter the site names for the starting and ending range of sites to print on the report.

Table 19.8 - Key commands available in the Site report, Sites by Site Report window

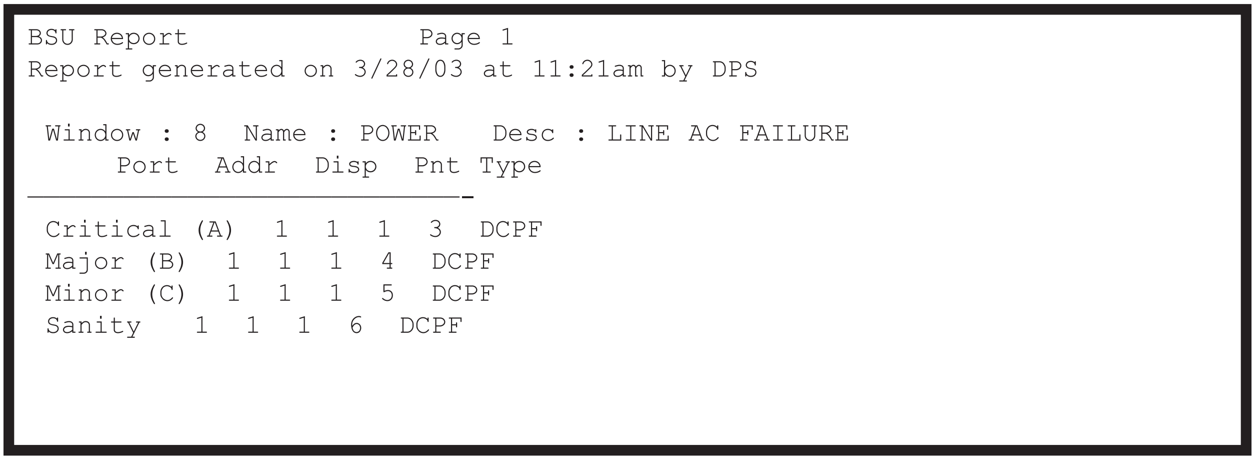
Function Key	Description
F10	Exit
Up Arrow	Go back to previous field.



```
Site Report (By Site)           Page 1

Ports : 1-29,RP   Start: COLD CREEK  End: ZZZZZZZZZZZZZZ

Port Addr Site Name  Description        Dev/Unt

____________________________________


5 2 COLD CREEK  Repeater site alarms     MAT
5 1 COLD CREEK  Repeater Controls       CPM
1 3 DEL MAR    Small Hut at 1st and Oak St
5 121 DPS     test sbc carrier       MAT
5 122 MADERA MAIN  Central Repeater Alarms     MAT
5 121 MADERA MAIN  Downtown Center Door Alarms    SBP
RP 105 PACKING SHED #1 WEST ALLUVIAL PACKING SHED #1   ALP
RP 106 PACKING SHED #2 EAST ALLUVIAL PACKING SHED #2   DPM
11 N/A PORT    test for 4 port scanner
RP 801 TNDS #1 FTS-2K            ASC
5 2 YALE     bau          SBP
```

Fig. 19.29 - Example sites by site report to file

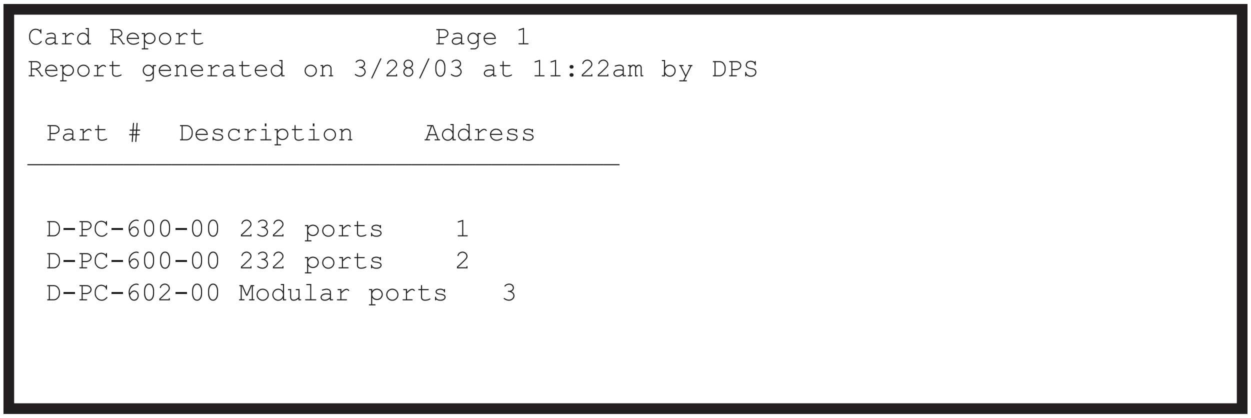
10. BSU
Prints a report (see Figure 19.30) of all BSU definitions as currently defined.



```
BSU Report               Page 1
Report generated on 3/28/03 at 11:21am by DPS

 Window : 8  Name : POWER   Desc : LINE AC FAILURE
     Port  Addr  Disp  Pnt Type
--------------------------------
 Critical (A)  1  1  1  3  DCPF
 Major (B)  1  1  1  4  DCPF
 Minor (C)  1  1  1  5  DCPF
 Sanity   1  1  1  6  DCPF
```

Fig. 19.30 - Example BSU report to file

11. Cards
Prints a report (see Figure 19.31) of all card definitions as currently defined.

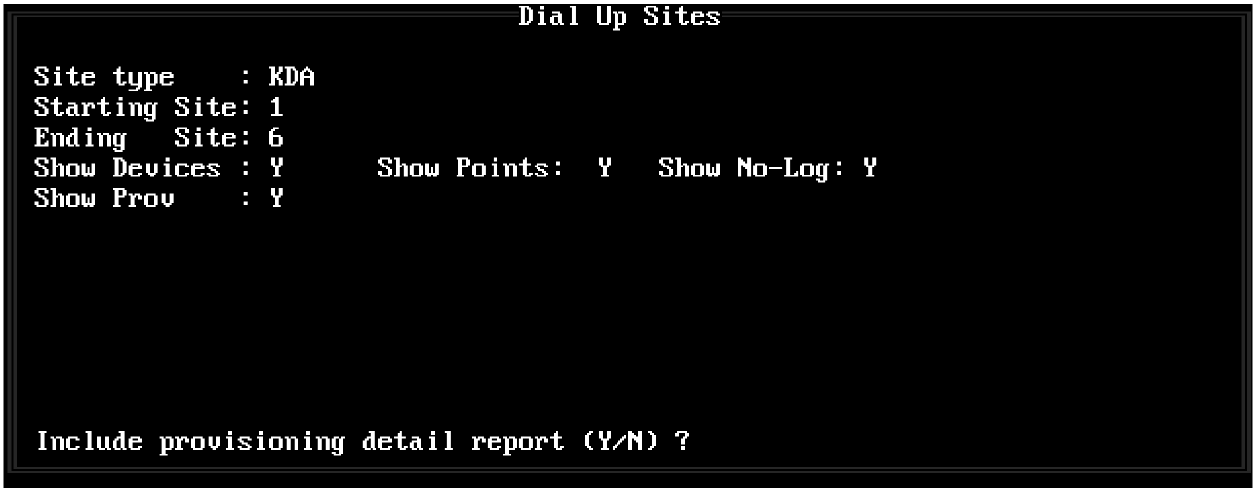


```
Card Report              Page 1
Report generated on 3/28/03 at 11:22am by DPS

 Part #  Description    Address
------------------------------------


 D-PC-600-00 232 ports    1
 D-PC-600-00 232 ports    2
 D-PC-602-00 Modular ports   3
```

Fig. 19.31 - Example cards report to file

12. Dial-Up Sites

View all your dial-up remotes from the Dial Up Sites screen, as shown in Figure 19.32.



```
                         Dial Up Sites

Site type    : KDA
Starting Site: 1
Ending   Site: 6
Show Devices : Y      Show Points:  Y   Show No-Log: Y
Show Prov    : Y






Include provisioning detail report (Y/N) ?
```

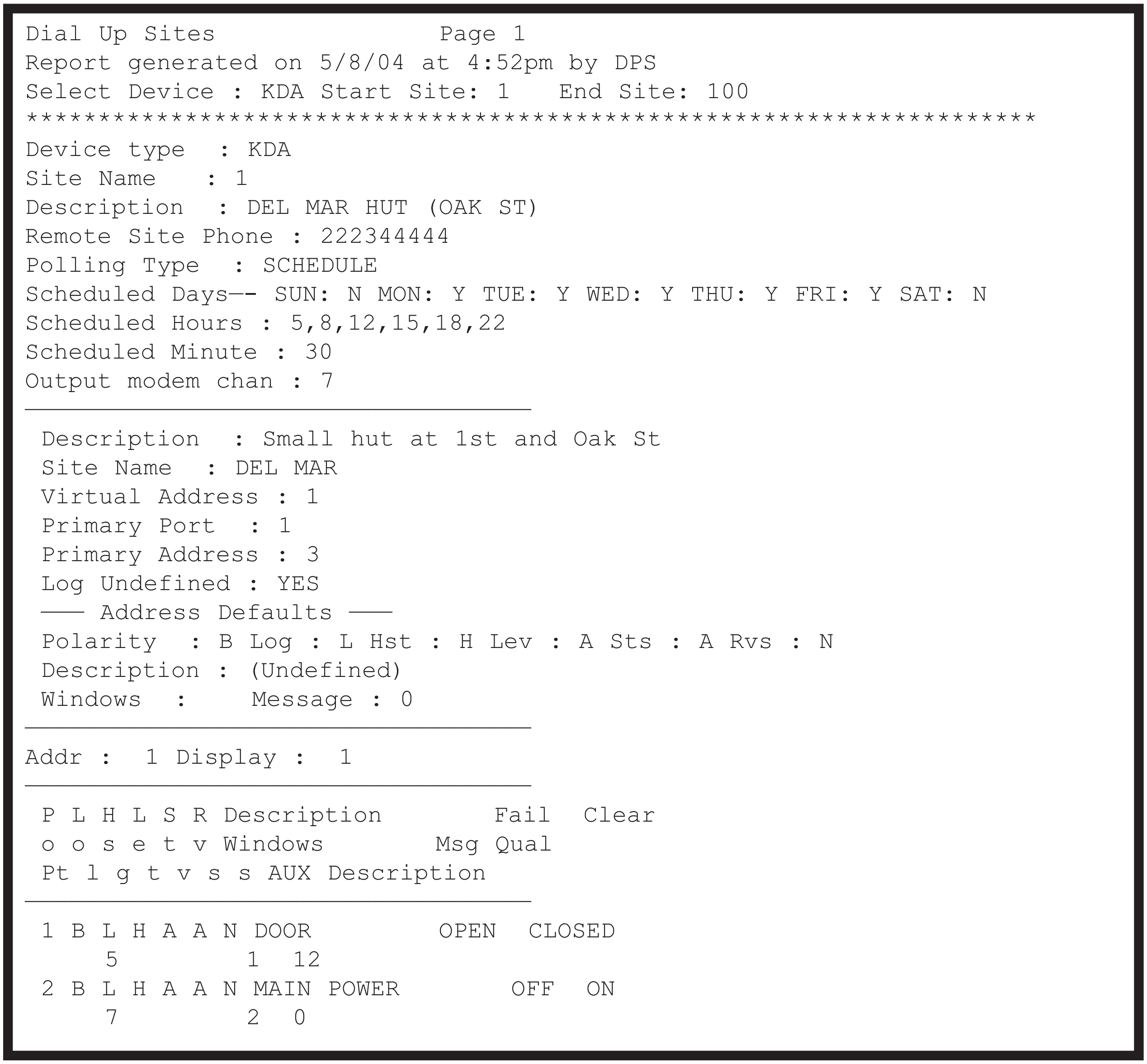
Fig. 19.32 - Dial-up sites window

Table 19.9 - Fields in the Dial-Up Sites Report window

Field	Description
Site type	Enter the equipment type desired on the report. Report will include only those locations that use the specified device. Valid entries are: 2 = DPM 3 = DLK (Datalok) 4 = KDA 5 = ALP 12 = Netdog 6 = ASC 8 = KDS-TS 9 = KDA 832 Enter (leave blank) = All. [All]
Starting Site Ending Site	Enter the site names for the starting and ending range of sites to print on the report. Sites will be reported in alphabetical order.
Show Devices	Include device detail report? (Y/N)
Show Points	Include point detail report? (Y/N)
Show No-Log	Include no log points? (Y/N)
Show Prov	Include provisioning detail report? (Y/N)

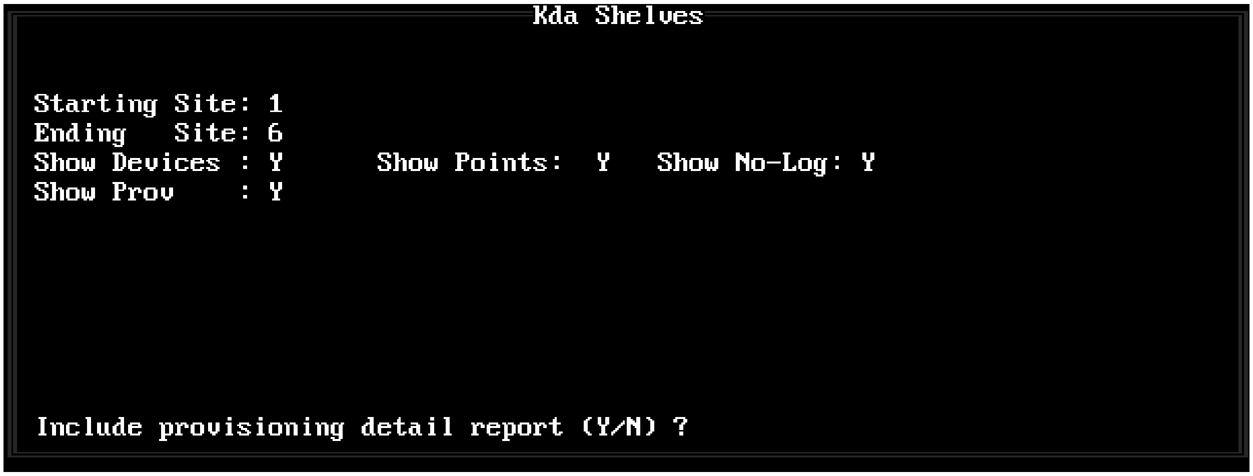
Table 19.10 - Key commands available in the Site Report, Dial Up Sites Report window

Function Key	Description
F10	Exit
Up Arrow	Go back to previous field.



```
Dial Up Sites                Page 1
Report generated on 5/8/04 at 4:52pm by DPS
Select Device : KDA Start Site: 1   End Site: 100
**********************************************************************
Device type  : KDA
Site Name    : 1
Description  : DEL MAR HUT (OAK ST)
Remote Site Phone : 222344444
Polling Type  : SCHEDULE
Scheduled Days—- SUN: N MON: Y TUE: Y WED: Y THU: Y FRI: Y SAT: N
Scheduled Hours : 5,8,12,15,18,22
Scheduled Minute : 30
Output modem chan : 7
───────────────────────────────────
 Description  : Small hut at 1st and Oak St
 Site Name   : DEL MAR
 Virtual Address : 1
 Primary Port  : 1
 Primary Address : 3
 Log Undefined : YES
 ─── Address Defaults ───
 Polarity  : B Log : L Hst : H Lev : A Sts : A Rvs : N
 Description : (Undefined)
 Windows  :    Message : 0
───────────────────────────────────
Addr :  1 Display :  1
───────────────────────────────────
 P L H L S R Description       Fail  Clear
 o o s e t v Windows       Msg Qual
 Pt l g t v s s AUX Description
───────────────────────────────────
 1 B L H A A N DOOR        OPEN  CLOSED
     5         1  12
 2 B L H A A N MAIN POWER       OFF  ON
     7         2  0
```

Fig. 19.33 - Example dial-up sites report to file



```
                              Kda Shelves


 Starting Site: 1
 Ending   Site: 6
 Show Devices : Y      Show Points:  Y   Show No-Log: Y
 Show Prov    : Y









 Include provisioning detail report (Y/N) ?
```

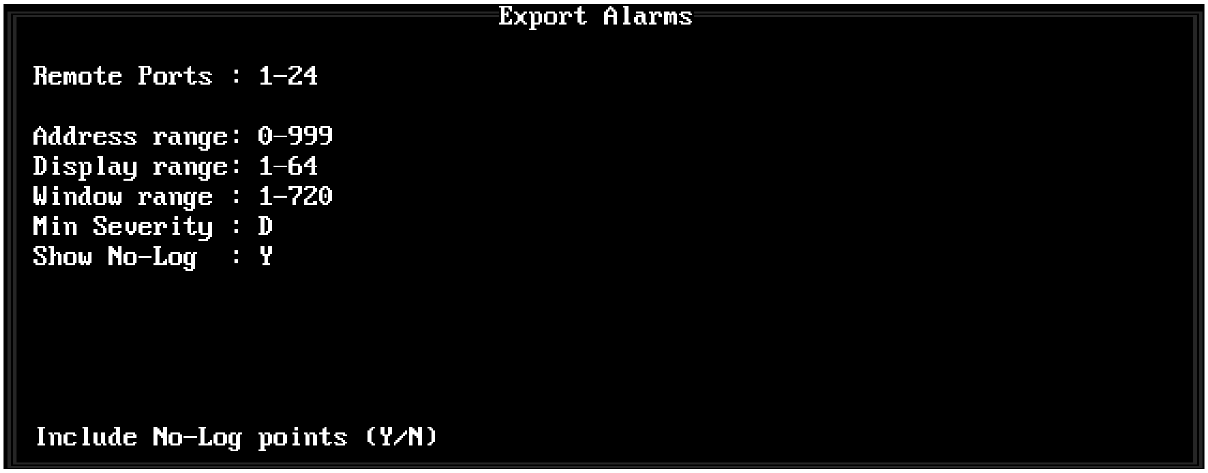
Fig. 19.34 - KDA shelves window

13. KDA Shelves
This option gives you all the information associated with KDA setup.

Table 19.11 - Fields in the KDA Shelves Report window

Field	Description
Starting Site Ending Site	Enter the site names for the starting and ending range of sites to print on the report. Sites will be reported in alphabetical order.
Show Devices	Include device detail report? (Y/N)
Show Points	Include point detail report? (Y/N)
Show No-Log	Include no log points? (Y/N)
Show Prov	Include provisioning detail report? (Y/N)

14. Export Alarms
This report is similar to the Export History and Export Analogs Reports (preparing a file with delineating commas) suitable for import into a spread sheet — refer to Figure 19.36. The report lists the alarms occurring within the specified parameters.



```
                              Export Alarms

Remote Ports : 1-24

Address range: 0-999
Display range: 1-64
Window range : 1-720
Min Severity : D
Show No-Log  : Y





Include No-Log points (Y/N)
```

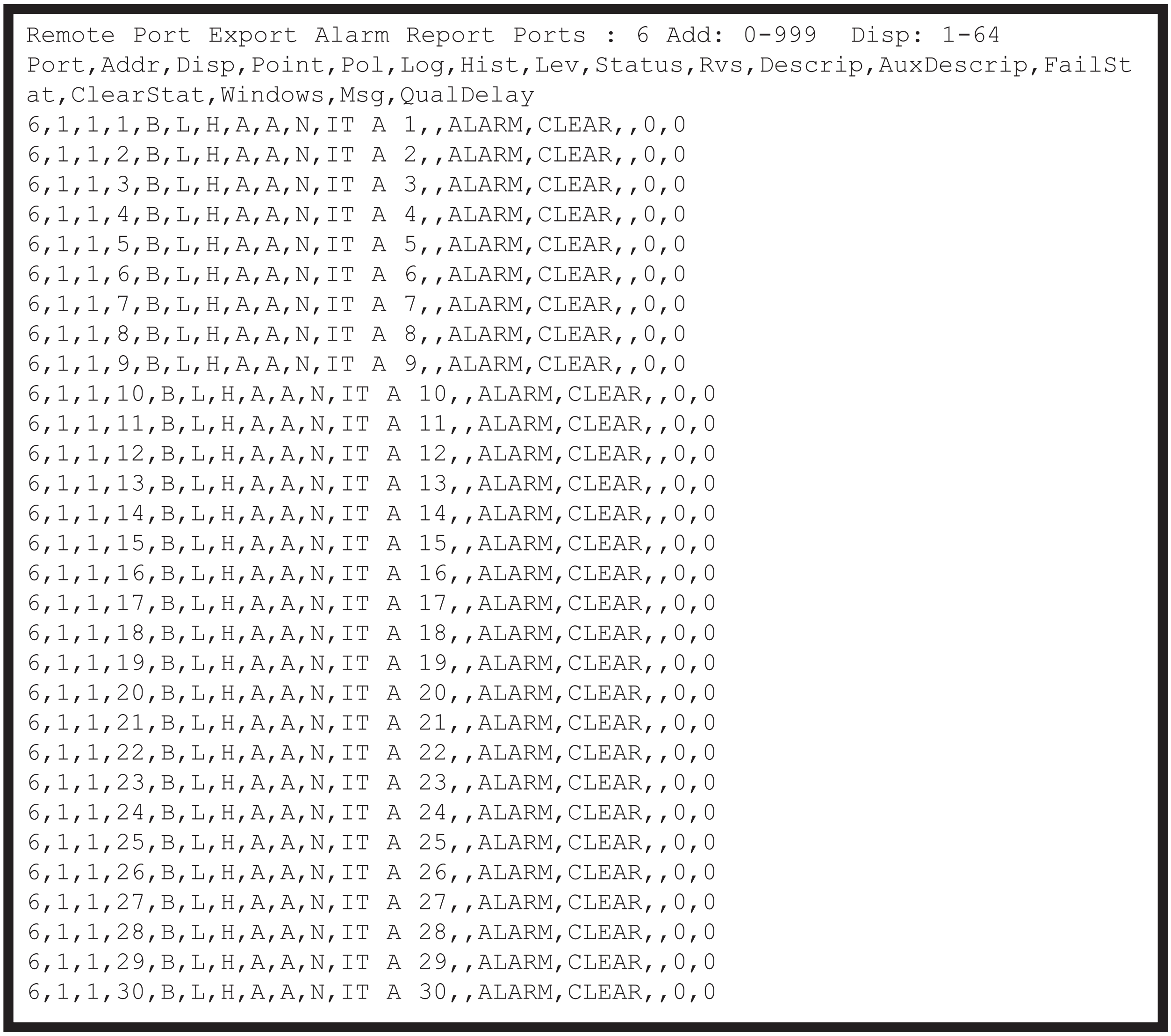
Fig. 19.35 - Export alarms window

Table 19.12 - Fields in the Export Alarms Report window

Field	Description
Remote Ports	Enter ports or range (1-n, IA)
Address Range	Enter address range (0-999)
Display Range	Enter display range (1-64)
Window Range	Enter window range (1-720)

Min Severity	Enter severity levels:
	A = Critical
	B = Critical and Major
	C = Critical, Major and Minor
	D = Critical, Major, Minor and Status

Show No-Log	Include no log points? (Y/N)

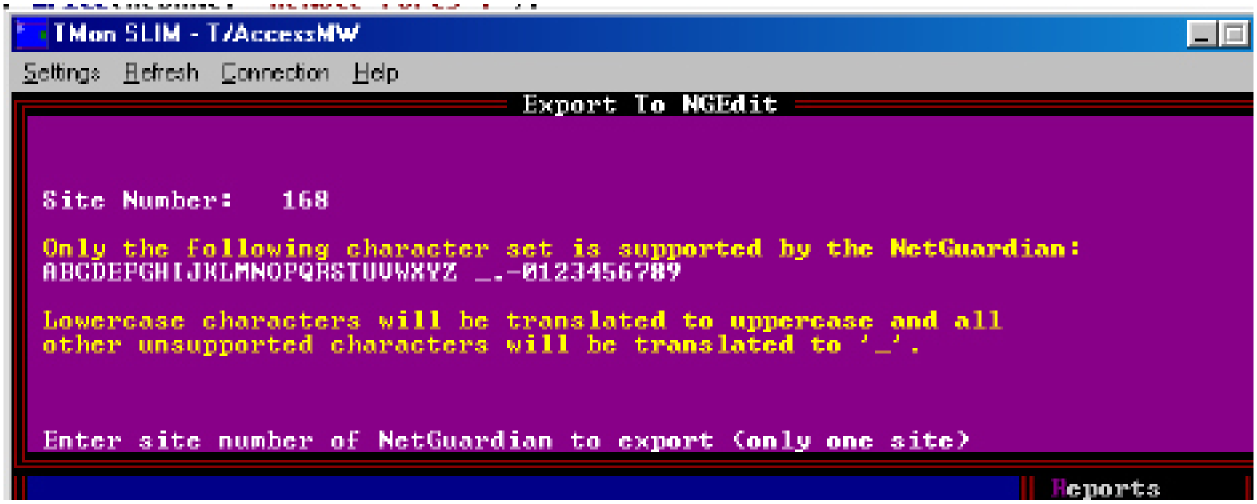


```
Remote Port Export Alarm Report Ports : 6 Add: 0-999  Disp: 1-64
Port,Addr,Disp,Point,Pol,Log,Hist,Lev,Status,Rvs,Descrip,AuxDescrip,FailSt
at,ClearStat,Windows,Msg,QualDelay
6,1,1,1,B,L,H,A,A,N,IT A 1,,ALARM,CLEAR,,0,0
6,1,1,2,B,L,H,A,A,N,IT A 2,,ALARM,CLEAR,,0,0
6,1,1,3,B,L,H,A,A,N,IT A 3,,ALARM,CLEAR,,0,0
6,1,1,4,B,L,H,A,A,N,IT A 4,,ALARM,CLEAR,,0,0
6,1,1,5,B,L,H,A,A,N,IT A 5,,ALARM,CLEAR,,0,0
6,1,1,6,B,L,H,A,A,N,IT A 6,,ALARM,CLEAR,,0,0
6,1,1,7,B,L,H,A,A,N,IT A 7,,ALARM,CLEAR,,0,0
6,1,1,8,B,L,H,A,A,N,IT A 8,,ALARM,CLEAR,,0,0
6,1,1,9,B,L,H,A,A,N,IT A 9,,ALARM,CLEAR,,0,0
6,1,1,10,B,L,H,A,A,N,IT A 10,,ALARM,CLEAR,,0,0
6,1,1,11,B,L,H,A,A,N,IT A 11,,ALARM,CLEAR,,0,0
6,1,1,12,B,L,H,A,A,N,IT A 12,,ALARM,CLEAR,,0,0
6,1,1,13,B,L,H,A,A,N,IT A 13,,ALARM,CLEAR,,0,0
6,1,1,14,B,L,H,A,A,N,IT A 14,,ALARM,CLEAR,,0,0
6,1,1,15,B,L,H,A,A,N,IT A 15,,ALARM,CLEAR,,0,0
6,1,1,16,B,L,H,A,A,N,IT A 16,,ALARM,CLEAR,,0,0
6,1,1,17,B,L,H,A,A,N,IT A 17,,ALARM,CLEAR,,0,0
6,1,1,18,B,L,H,A,A,N,IT A 18,,ALARM,CLEAR,,0,0
6,1,1,19,B,L,H,A,A,N,IT A 19,,ALARM,CLEAR,,0,0
6,1,1,20,B,L,H,A,A,N,IT A 20,,ALARM,CLEAR,,0,0
6,1,1,21,B,L,H,A,A,N,IT A 21,,ALARM,CLEAR,,0,0
6,1,1,22,B,L,H,A,A,N,IT A 22,,ALARM,CLEAR,,0,0
6,1,1,23,B,L,H,A,A,N,IT A 23,,ALARM,CLEAR,,0,0
6,1,1,24,B,L,H,A,A,N,IT A 24,,ALARM,CLEAR,,0,0
6,1,1,25,B,L,H,A,A,N,IT A 25,,ALARM,CLEAR,,0,0
6,1,1,26,B,L,H,A,A,N,IT A 26,,ALARM,CLEAR,,0,0
6,1,1,27,B,L,H,A,A,N,IT A 27,,ALARM,CLEAR,,0,0
6,1,1,28,B,L,H,A,A,N,IT A 28,,ALARM,CLEAR,,0,0
6,1,1,29,B,L,H,A,A,N,IT A 29,,ALARM,CLEAR,,0,0
6,1,1,30,B,L,H,A,A,N,IT A 30,,ALARM,CLEAR,,0,0
```

Fig. 19.36 - Example export alarms report to file

15. Export To NGEdit

This report allows the user to export the base alarms for a single NetGuardian into NGEdit. To do this the user must first define a NetGuardian device in TMon, along with its Base alarm points (Figure 19.37), and then run this report against the device. Only the base alarms will be exported because NGEdit automatically defines the System alarms when the device is created. The Tmon formats the report in a TAB delimited format which NGEdit can parse and use to auto-populate its base alarm points for the currently loaded device.



Site Number: 168

Only the following character set is supported by the NetGuardian:
ABCDEFGHIJKLMNOPQRSTUVWXYZ _.-0123456789

Lowercase characters will be translated to uppercase and all
other unsupported characters will be translated to '_'.

Enter site number of NetGuardian to export (only one site)

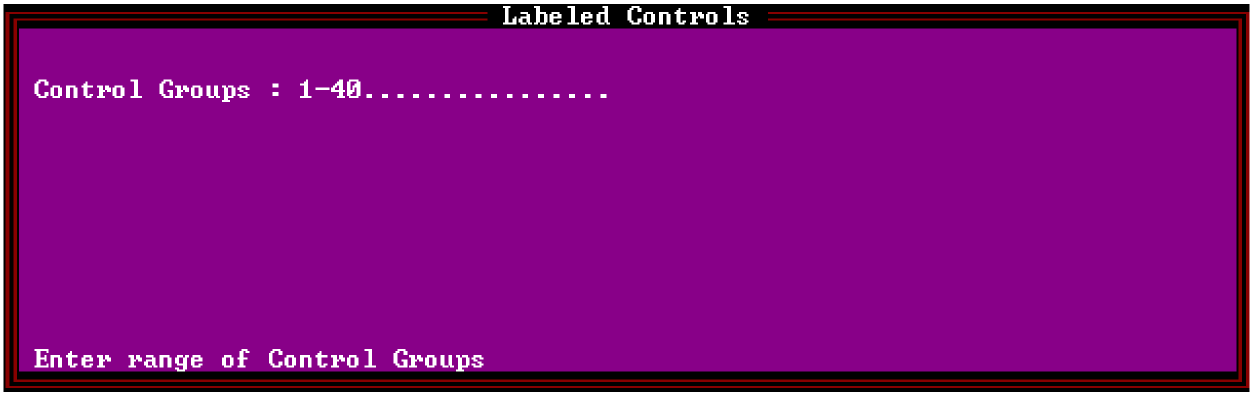
Fig. 19.37 -Export to NGEdit window

Table 19.13 - Fields in the Export to NGEdit window.

Field	Description
Site Number	Enter the site number of the NetGuardian to Export. Only one site can be exported per report.

Labeled Controls Report

Labeled Controls reports are device oriented, so they are done by groups — see Figure 19.39 for example report.



Labeled Controls

Control Groups : 1-40................

Enter range of Control Groups

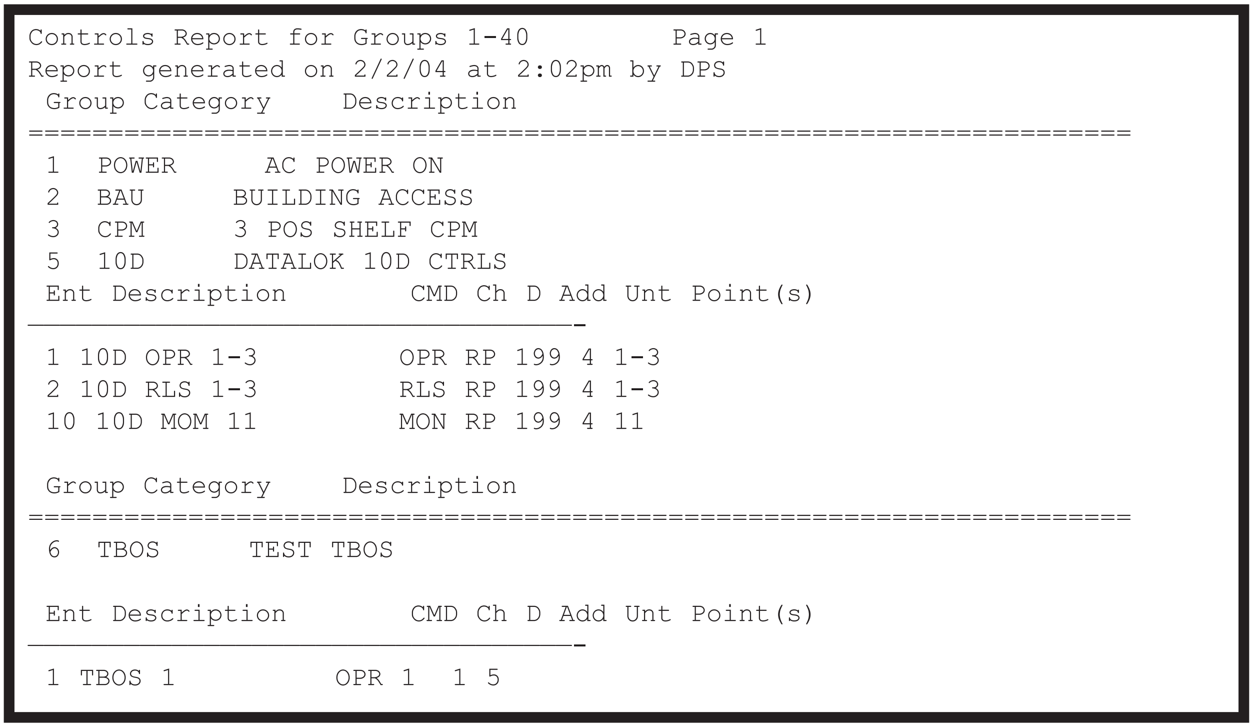
Fig. 19.38 - Labeled controls report window

Table 19.14 - Fields in the Labeled Controls Report window.

Field	Description
Control Groups	Enter the range of control groups (1-40) desired. [1-40]

Table 19.15 - Key commands available in the Export Alarms Report window.

Function Key	Description
F10	Exit



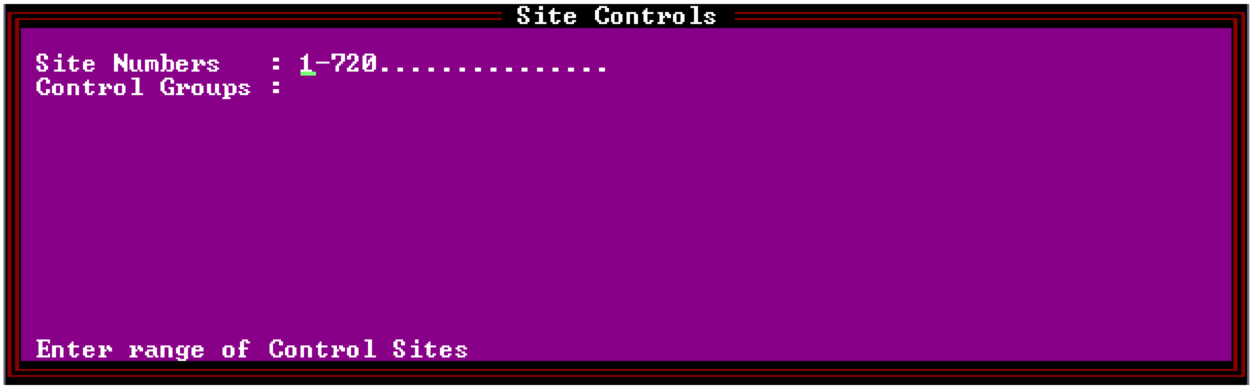
```
Controls Report for Groups 1-40         Page 1
Report generated on 2/2/04 at 2:02pm by DPS
 Group Category    Description
=================================================================
 1   POWER      AC POWER ON
 2   BAU      BUILDING ACCESS
 3   CPM      3 POS SHELF CPM
 5   10D      DATALOK 10D CTRLS
 Ent Description        CMD Ch D Add Unt Point(s)
---------------------------------
 1 10D OPR 1-3         OPR RP 199 4 1-3
 2 10D RLS 1-3         RLS RP 199 4 1-3
 10 10D MOM 11         MON RP 199 4 11

 Group Category    Description
=================================================================
 6   TBOS      TEST TBOS

 Ent Description        CMD Ch D Add Unt Point(s)
---------------------------------
 1 TBOS 1          OPR 1   1 5
```

Fig. 19.39 - Example labeled controls report to file is similar to site controls report

Site Controls Report

Site Controls reports are site oriented, so they are done by site and group — see Figure 19.40.

Note: Site controls will be linked to a specific window.



Site Controls

```
Site Numbers   : 1-720...............
Control Groups :
```

Enter range of Control Sites

Fig. 19.40 - Site controls report window

Table 19.16 - Fields in the Site Controls Report window

Field	Description
Site Numbers	Enter the range of control sites (1-720) desired. [1-720]
Control Groups	Enter the range of control groups (1-40) desired. [1-40]

Table 19.17 - Key commands available in the Site Controls Report window

Function Key	Description
F10	Exit
Up Arrow	Go back to previous field.

LED Bars Report

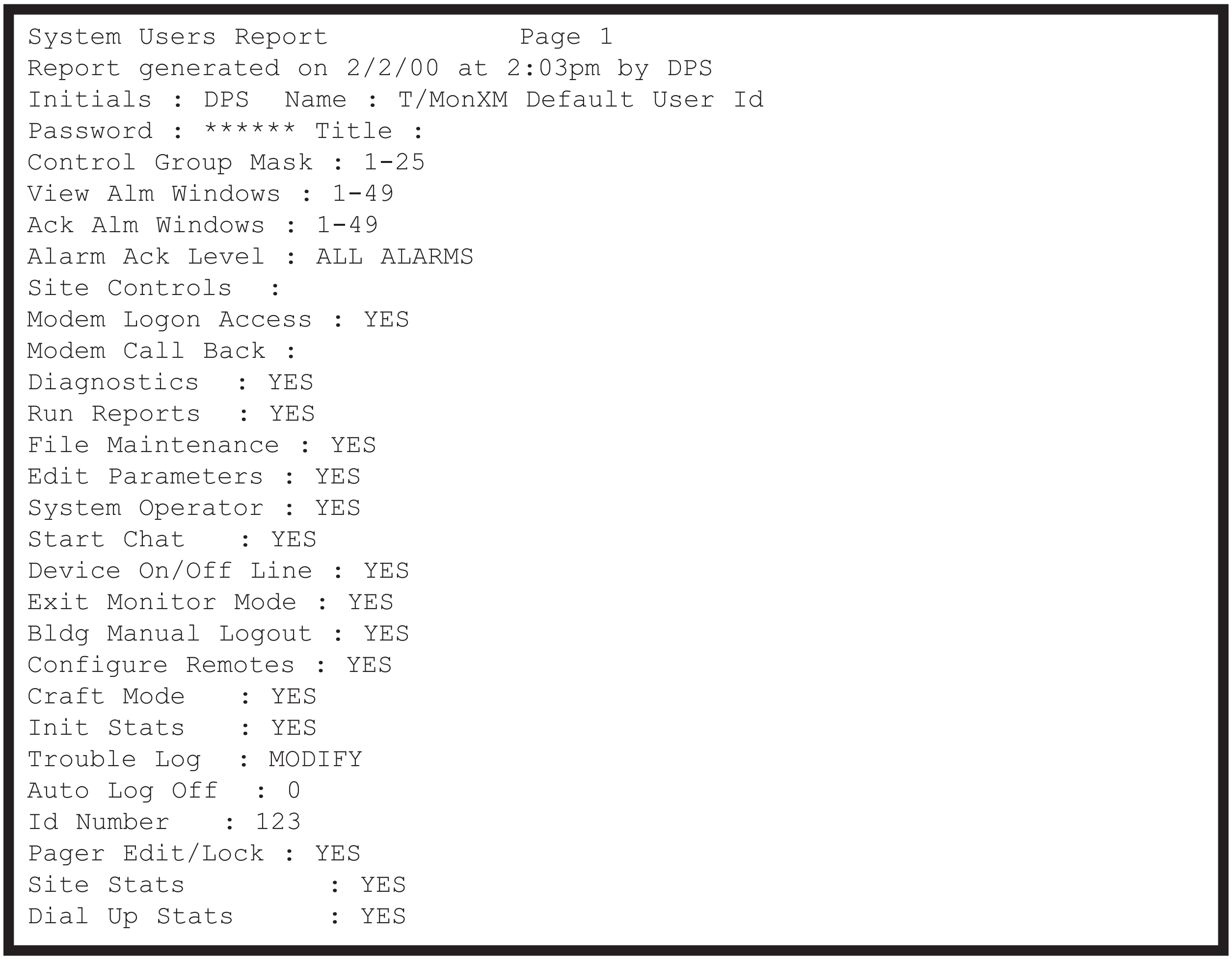
There is no input window for this report. To run it select 5 from the Report Mode Menu and press Enter. It runs as soon as you select printer or file and a file name. This report is available only if the LED Display Bar Module is installed. Refer to Appendix K (LED Display Bar).

```
LED Bar Report                  Page 1
Report generated on 3/28/95 at 11:30am by DPS

 LED Bar Alm
 Address Win          Description
__________________________________________

 1   2           CRITICAL ALARMS
 2   8           POWER ALARMS
 3   10          SECURITY BREACH
```

Fig. 19.41 - Example led bar report to file

Users Report

The Users Report is useful for system administration to keep track of all users' privledges. There is no input window for this report. To run it select 6 from the Report Mode Menu and press Enter. It runs as soon as you select printer or file and a file name. The Users option prints a report of all system users and their authorization levels. The password field is left blank for security reasons. Refer to Section 7 (Managing System Users) for more information.

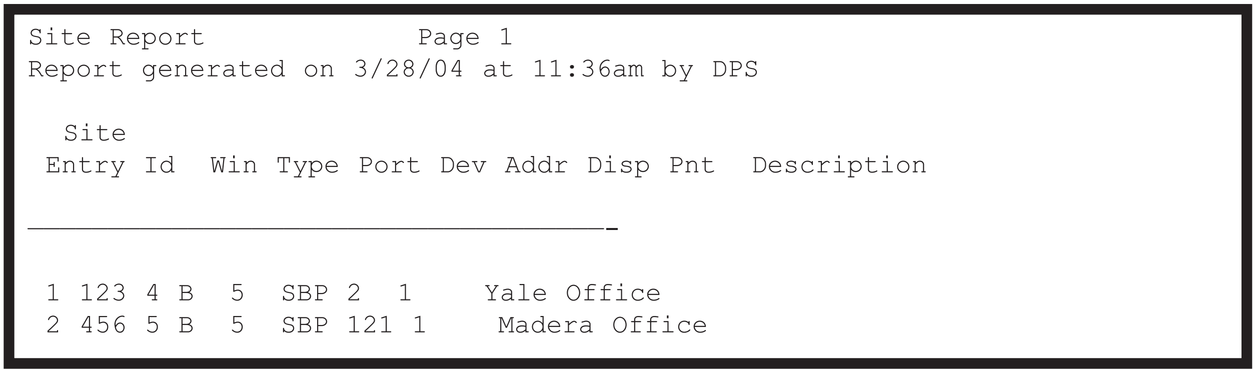


```
System Users Report            Page 1
Report generated on 2/2/00 at 2:03pm by DPS
Initials : DPS  Name : T/MonXM Default User Id
Password : ****** Title :
Control Group Mask : 1-25
View Alm Windows : 1-49
Ack Alm Windows : 1-49
Alarm Ack Level : ALL ALARMS
Site Controls  :
Modem Logon Access : YES
Modem Call Back :
Diagnostics  : YES
Run Reports  : YES
File Maintenance : YES
Edit Parameters : YES
System Operator : YES
Start Chat   : YES
Device On/Off Line : YES
Exit Monitor Mode : YES
Bldg Manual Logout : YES
Configure Remotes : YES
Craft Mode   : YES
Init Stats   : YES
Trouble Log  : MODIFY
Auto Log Off  : 0
Id Number   : 123
Pager Edit/Lock : YES
Site Stats        : YES
Dial Up Stats      : YES
```

Fig. 19.42 - Example users report to file

Building Access

There is no input window for this report. To run it select 7 from the Report Mode Menu and press Enter. It runs as soon as you select printer or file and a file name. The Site option prints a report of all Building Access Unit (BAU) sites in the network giving site information and descriptions — see Figure 19.43. Use this report to obtain a complete catalog of BAUs in your network.



```
Site Report              Page 1
Report generated on 3/28/04 at 11:36am by DPS

  Site
 Entry Id  Win Type Port Dev Addr Disp Pnt  Description

____________________________________-

 1 123 4 B   5  SBP 2   1    Yale Office
 2 456 5 B   5  SBP 121 1     Madera Office
```

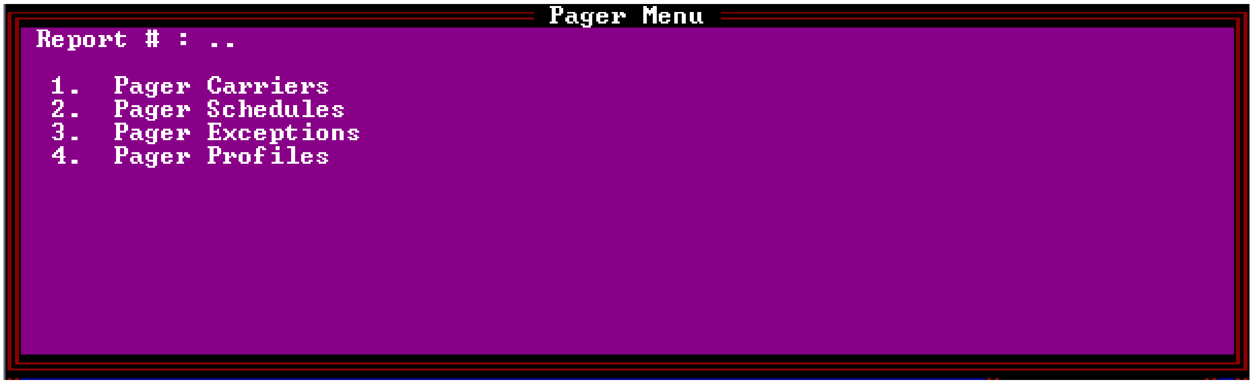
Fig. 19.43 - Example site report to file

Pager

The Pager option prints four different reports on pager definitions in the database. The reports are listed on the pager menu window (see Figure 19.44) when the pager option is selected from the Report Mode Menu as follows:

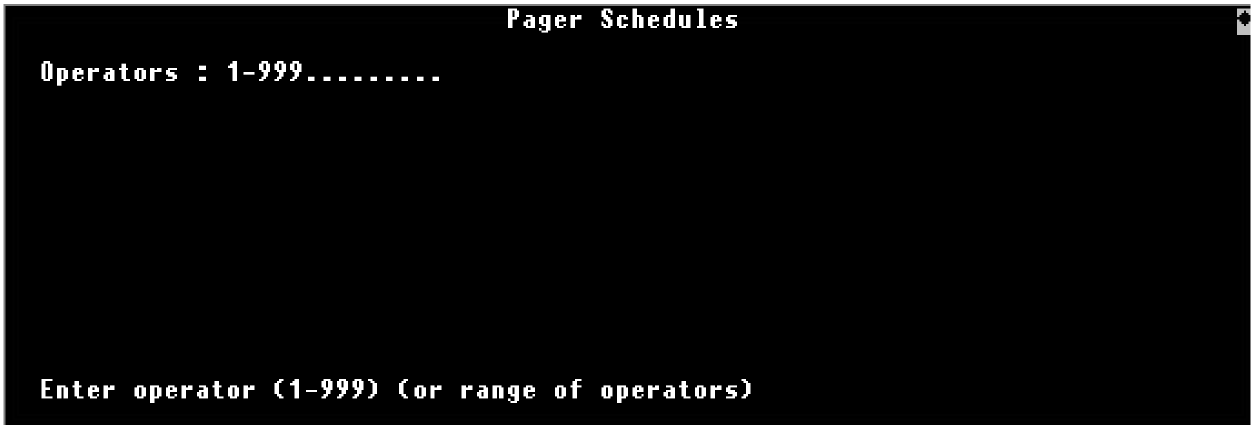
1. Pager Carriers
2. Pager Schedules
3. Pager exceptions.
4. Pager profiles.

Each of these reports gives a print out of their respective screen in the database. When Pager Schedules is selected a window appears for selecting the operator (1-9) to be printed (see Figure 19.45). Each operator prints on a separate page. Any or all may be selected.



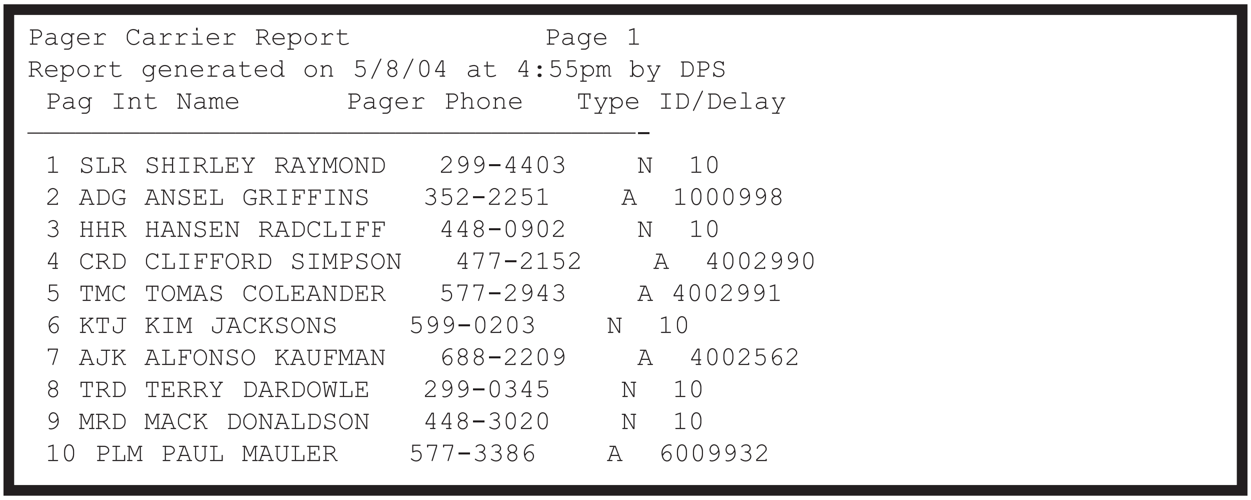
```
                              Pager Menu
Report # : ..

 1.   Pager Carriers
 2.   Pager Schedules
 3.   Pager Exceptions
 4.   Pager Profiles
```

Fig. 19.44 - The pager report menu presents four options



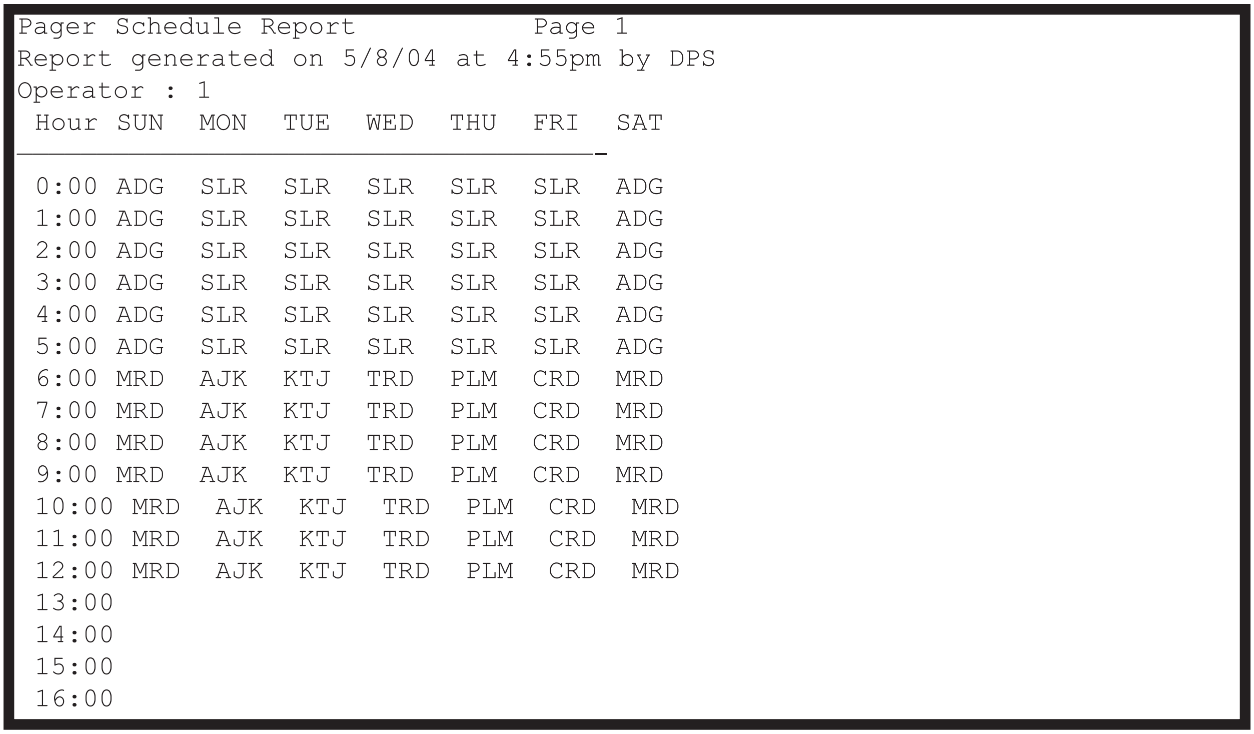
```
                              Pager Schedules

 Operators : 1-999.........







 Enter operator (1-999) (or range of operators)
```

Fig. 19.45 - Pager schedules window



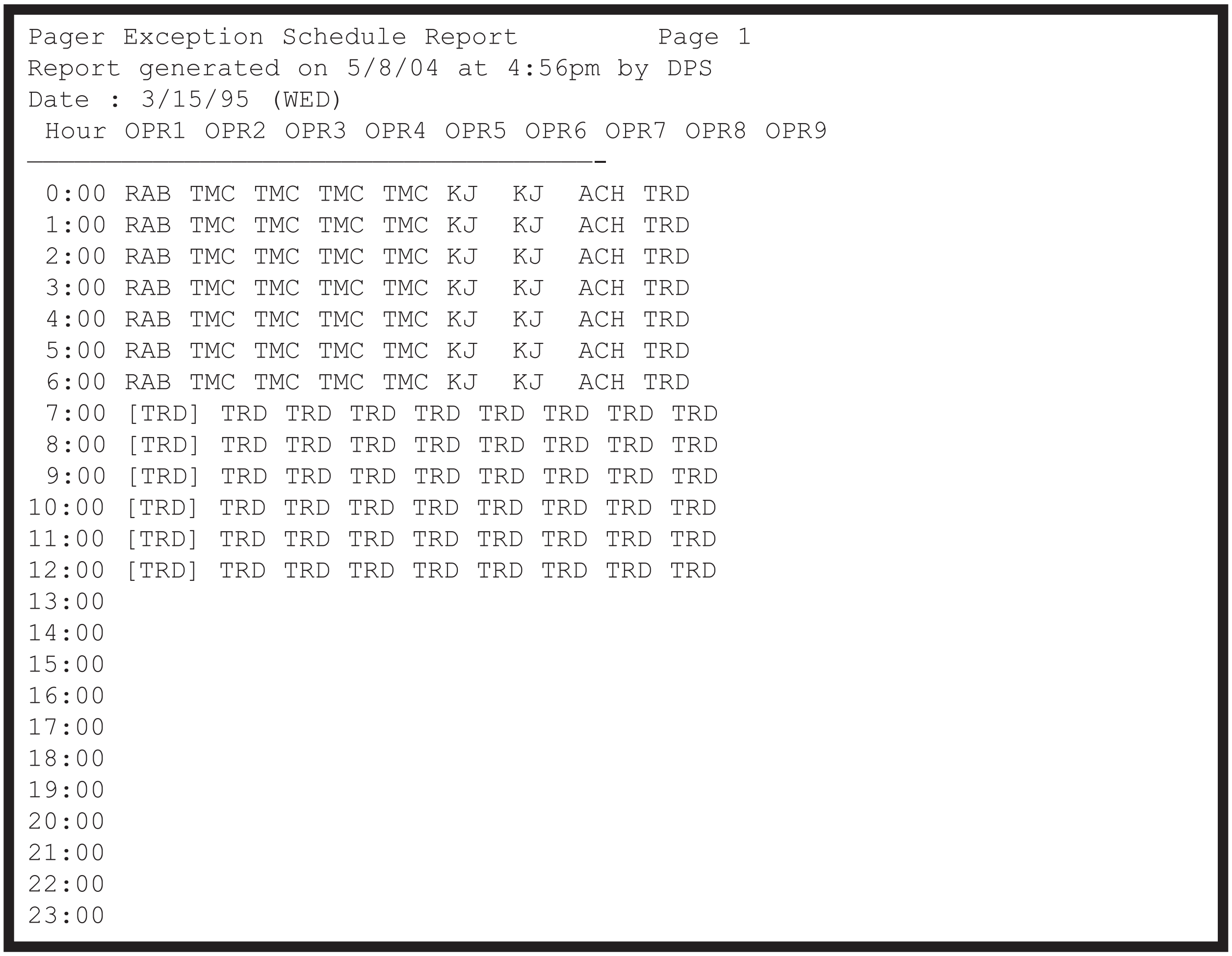
```
Pager Carrier Report            Page 1
Report generated on 5/8/04 at 4:55pm by DPS
 Pag Int Name       Pager Phone    Type ID/Delay
-------------------------------------------------
 1 SLR SHIRLEY RAYMOND   299-4403    N  10
 2 ADG ANSEL GRIFFINS   352-2251    A  1000998
 3 HHR HANSEN RADCLIFF   448-0902    N  10
 4 CRD CLIFFORD SIMPSON   477-2152    A  4002990
 5 TMC TOMAS COLEANDER   577-2943    A 4002991
 6 KTJ KIM JACKSONS    599-0203    N  10
 7 AJK ALFONSO KAUFMAN   688-2209    A  4002562
 8 TRD TERRY DARDOWLE   299-0345    N  10
 9 MRD MACK DONALDSON   448-3020    N  10
 10 PLM PAUL MAULER    577-3386    A  6009932
```

Fig. 19.46 - Example pager carriers report to file



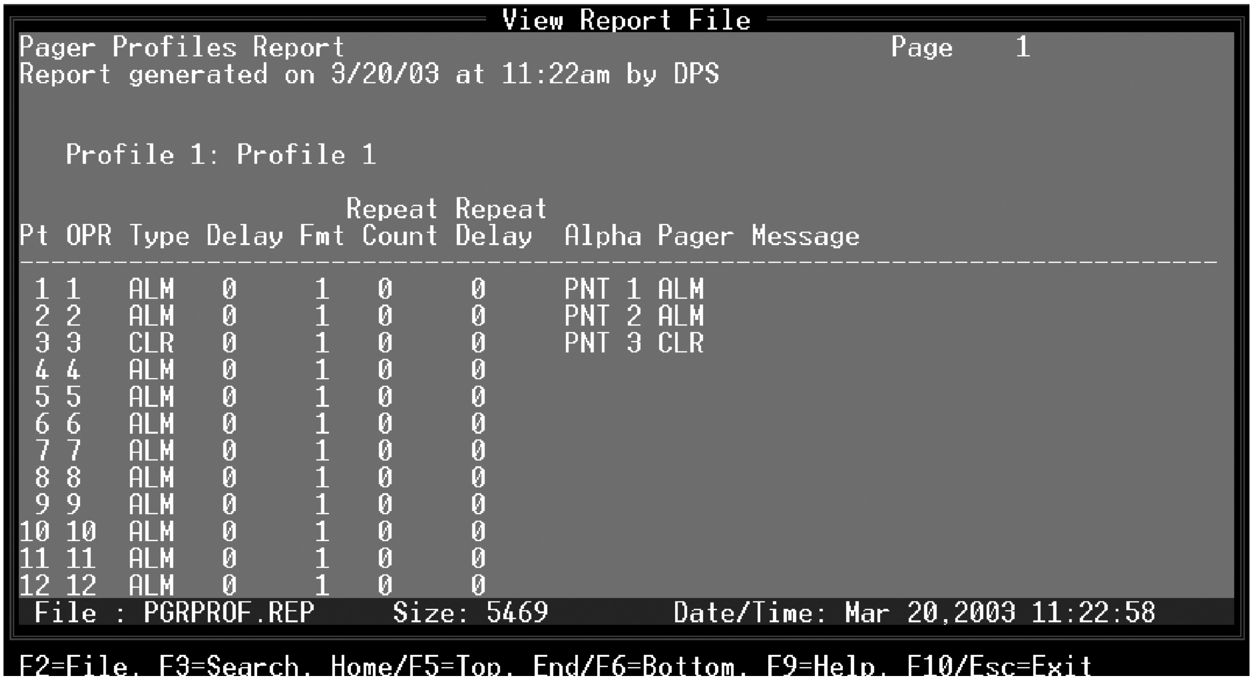
```
Pager Schedule Report          Page 1
Report generated on 5/8/04 at 4:55pm by DPS
Operator : 1
 Hour SUN  MON  TUE  WED  THU  FRI  SAT
________________________________________

 0:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 1:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 2:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 3:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 4:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 5:00 ADG  SLR  SLR  SLR  SLR  SLR  ADG
 6:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 7:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 8:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 9:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 10:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 11:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 12:00 MRD  AJK  KTJ  TRD  PLM  CRD  MRD
 13:00
 14:00
 15:00
 16:00
```

Fig. 19.47 - Example pager schedules report to file



```
Pager Exception Schedule Report         Page 1
Report generated on 5/8/04 at 4:56pm by DPS
Date : 3/15/95 (WED)
 Hour OPR1 OPR2 OPR3 OPR4 OPR5 OPR6 OPR7 OPR8 OPR9
------------------------------------
 0:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 1:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 2:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 3:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 4:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 5:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 6:00 RAB TMC TMC TMC TMC KJ  KJ  ACH TRD
 7:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
 8:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
 9:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
10:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
11:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
12:00 [TRD] TRD TRD TRD TRD TRD TRD TRD TRD
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
```

Fig. 19.48 - Example pager exceptions report to file



```
                               View Report File
Pager Profiles Report                                  Page    1
Report generated on 3/20/03 at 11:22am by DPS


   Profile 1: Profile 1

                     Repeat Repeat
Pt OPR Type Delay Fmt Count Delay  Alpha Pager Message
-----------------------------------------------------------------------------
 1 1   ALM   0     1   0     0     PNT 1 ALM
 2 2   ALM   0     1   0     0     PNT 2 ALM
 3 3   CLR   0     1   0     0     PNT 3 CLR
 4 4   ALM   0     1   0     0
 5 5   ALM   0     1   0     0
 6 6   ALM   0     1   0     0
 7 7   ALM   0     1   0     0
 8 8   ALM   0     1   0     0
 9 9   ALM   0     1   0     0
10 10  ALM   0     1   0     0
11 11  ALM   0     1   0     0
12 12  ALM   0     1   0     0
 File : PGRPROF.REP     Size: 5469        Date/Time: Mar 20,2003 11:22:58

F2=File, F3=Search, Home/F5=Top, End/F6=Bottom, F9=Help, F10/Esc=Exit
```

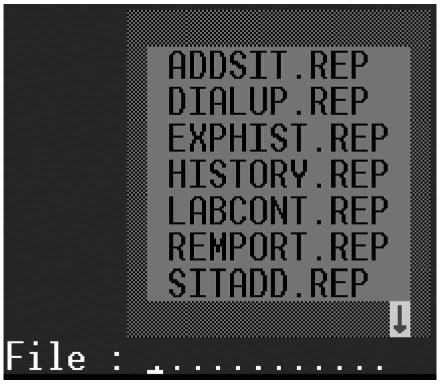
Fig. 19.49 - Example pager profiles report to file

View Report File

Note: You can view reports only from console access to the T/MonXM system.

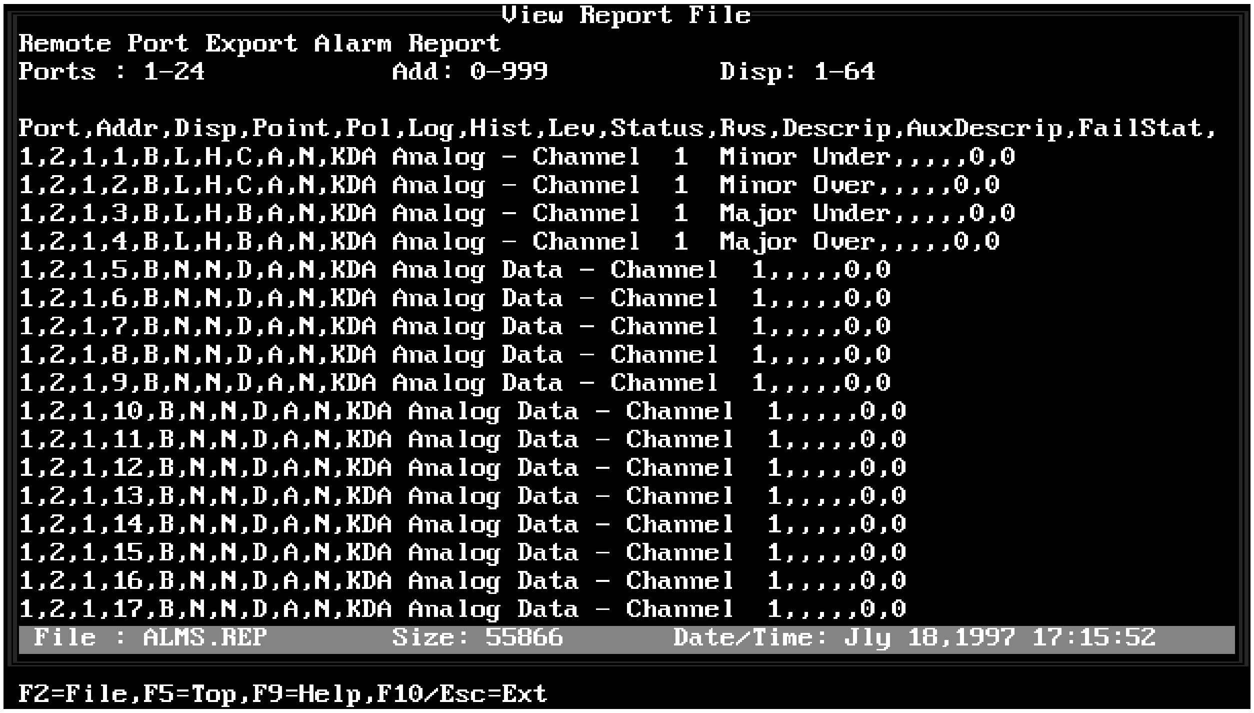
View Report File allows you to view on screen the existing report files that were generated with the Report feature in T/MonXM. Before using this option you must choose Output to File and enter a file name.

When you select this report option a file name field appears at the bottom of the screen. Above it is a default box that lists the existing report files. To select a file to view from the default box press Tab. Then use Tab to scroll down and Shift-Tab keys to shift up, or use the up and down arrow keys, then press Enter. **Note:** You cannot view reports while in Monitor Mode.



```
ADDSIT.REP
DIALUP.REP
EXPHIST.REP
HISTORY.REP
LABCONT.REP
REMPORT.REP
SITADD.REP

File : ...........
```

Fig. 19.50 - Select file from default box



```
View Report File
Remote Port Export Alarm Report
Ports : 1-24            Add: 0-999           Disp: 1-64

Port,Addr,Disp,Point,Pol,Log,Hist,Lev,Status,Rvs,Descrip,AuxDescrip,FailStat,
1,2,1,1,B,L,H,C,A,N,KDA Analog - Channel  1  Minor Under,,,,,0,0
1,2,1,2,B,L,H,C,A,N,KDA Analog - Channel  1  Minor Over,,,,,0,0
1,2,1,3,B,L,H,B,A,N,KDA Analog - Channel  1  Major Under,,,,,0,0
1,2,1,4,B,L,H,B,A,N,KDA Analog - Channel  1  Major Over,,,,,0,0
1,2,1,5,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,6,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,7,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,8,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,9,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,10,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,11,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,12,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,13,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,14,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,15,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,16,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
1,2,1,17,B,N,N,D,A,N,KDA Analog Data - Channel  1,,,,,0,0
 File : ALMS.REP       Size: 55866      Date/Time: Jly 18,1997 17:15:52

F2=File,F5=Top,F9=Help,F10/Esc=Ext
```

Fig. 19.51 - Example of a report shown in the view report file screen

Table 19.18 - Fields in the View Report File screen

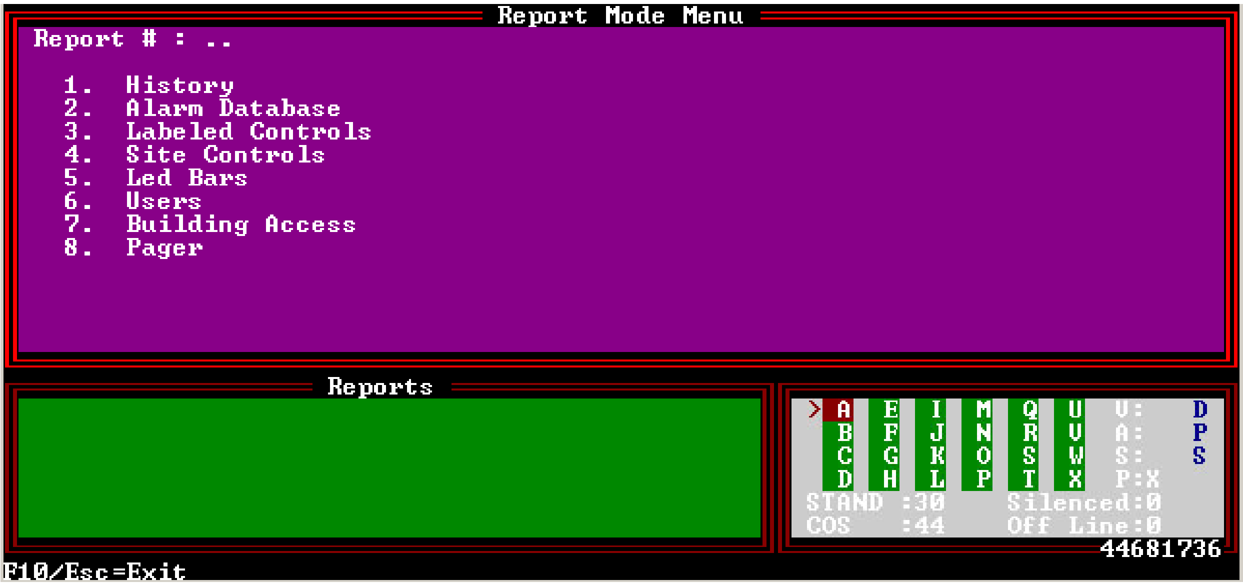
Function Key	Description
F2	Opens the file name field and default box to select a file to view
F3	Search feature
F5/Home	View the beginning of the file
F6/End	Move to the end file
F9	On line help screen
F10/Esc	Exit
PgUp	Go to previous page. **Note:** At the end of a large file it may be necessary to use F5 to return to the beginning of the file.
PgDn	Go to next page
Home	Move to the top file

Note: It is recommended that you review reports from T/RemoteW or T/Windows, where they can be easily previewed, printed, or saved to disk. See Running Reports from T/RemoteW, section 19-5.

Report Mode in Monitor Mode

The Report Mode window is enabled by pressing Alt F7 while in the Alarm Summary screen. This window shows a menu listing the available reports. Reports give a print out or file record of database information. To select a report, type the number and press Enter. Table 19.1 lists a summary of available reports.

Some reports require additional information. This information will be requested in the window after a report number is selected. The report will be sent to the printer.



```
Report Mode Menu
Report # : ..

  1.  History
  2.  Alarm Database
  3.  Labeled Controls
  4.  Site Controls
  5.  Led Bars
  6.  Users
  7.  Building Access
  8.  Pager

Reports

> A  E  I  M  Q  U  V:    D
  B  F  J  N  R  V  A:    P
  C  G  K  O  S  W  S:    S
  D  H  L  P  T  X  P:X
STAND :30      Silenced:0
COS   :44      Off Line:0
                     44681736
F10/Esc=Exit
```

Fig. 19.52 - Report Mode in Monitor Mode screen

Table 19.19 - Reports available in the Report Mode menu

Report	Description
History	Report for a selected period of time (or other criteria) that alarms occurred.
Alarm Database	Report on selected alarm items in the Alarm Database.
Labeled Controls	Report on labeled controls defined in the database. Corresponds with information on Labeled Controls editing screens.
Site Controls	Report on site controls defined in the database. Corresponds with information on Site Controls editing screens.
LED Bars	Report on LED Bars defined in the database. Corresponds with information in LED Bars editing screens.
Users	Report on users and security access privileges defined in the database.
Building Access	Report on building access sites defined in the database.
Pagers	Report on pager information in the database. Select from Pager Carriers, Pager Schedules or Pager Exceptions.

When reports are created from monitor mode, T/MonXM is still actively monitoring the alarm equipment. Only one report can be in progress at any one time. If you attempt to enter Alt-F7 while a report is running, an error message will be displayed. As soon as the printer stops printing, you may start the next report. (If your printer has a large buffer, you may be able to start sooner).

User interaction may be a bit sluggish when reports are being processed.

Note: Reports can be generated from console access, T/Remote, and T/Windows, but reports cannot be generated from the Web Browser Interface

Reports generated in the Monitor Mode allow monitoring to continue while the report is produced. Report selections 1 through 8 listed in the Report Mode Menu menu are available. In addition, by pressing Alt-F7 while in the COS or Standing Alarms screens you can generate a report of the COS or Standing alarms for a specific window. In this mode you cannot view the reports on screen.

Reports generated in the Reports screen under the Master Menu are produced while T/MonXM is off line (not monitoring alarms). In this mode you cannot generate a report for a specific window. In this mode you can view reports on screen. Refer to section 19-1 for more information.

Technical note: Remote access users can also run reports. However, only one user can run a report at the same time.

T/RemoteW and T/Windows users can send reports directly to their local or network printer or save reports to a file on their PC.

Hard Copy

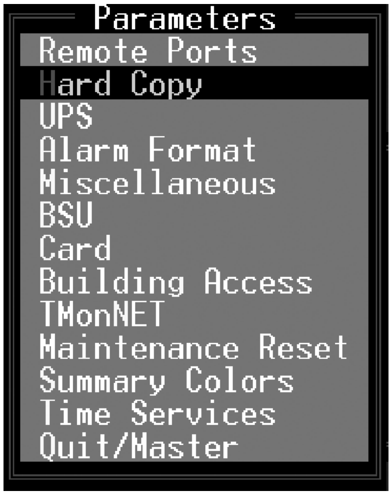


Fig. 19.53 - Hard Copy menu command

With the Hard Copy command you can:

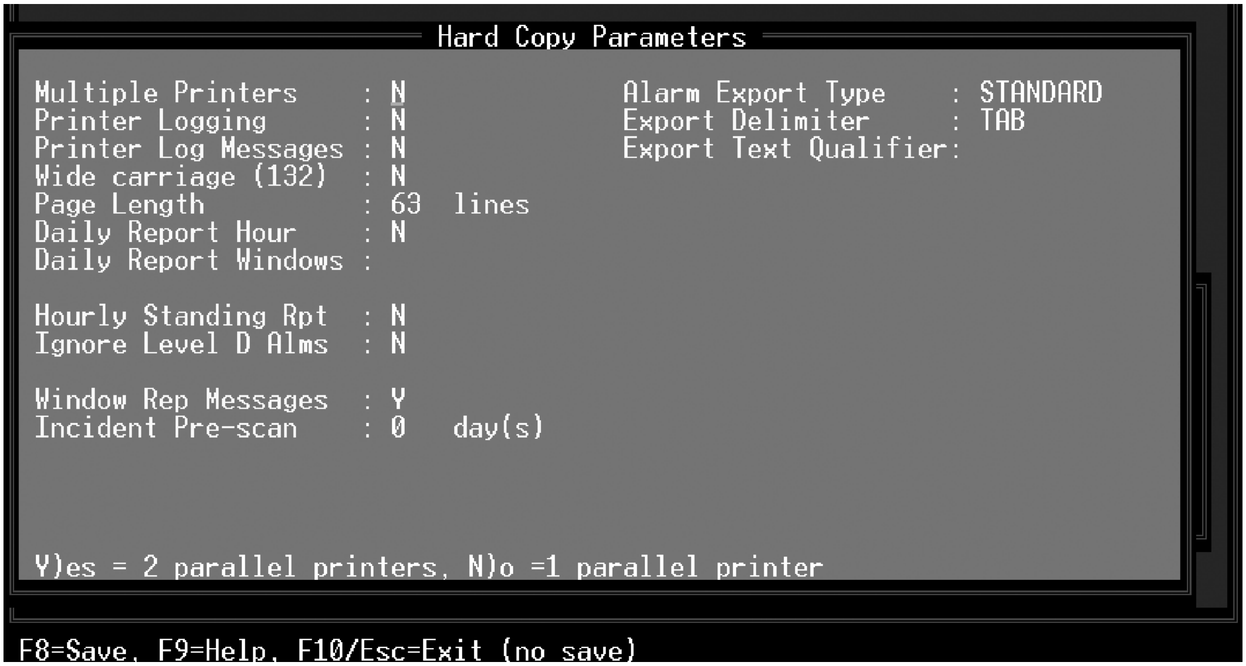
1. Log alarms to a printer as they occur.
2. Automatically generate daily printed reports of the alarms occurring in specified windows.
3. Produce hourly printed reports of all standing alarms (Status alarms can be omitted).

This function is helpful for producing log records of things like tower light operation or cable pressure variations.

Note: Two printers can be in use, one for the logging feature and the other to print the periodic and manual reports (see Reports section of this manual). With only one printer, the logging function will be suspended while reports are being printed and the alarms that occur during report printing will not be printed.

Selecting Hard Copy from the Parameters menu (press H to select Hard Copy and press Enter) will allow you to setup the operating characteristics of the printer logging feature.

Note: With only one printer logging is suspended when reports are printed.



```
                         Hard Copy Parameters

Multiple Printers    : N              Alarm Export Type    : STANDARD
Printer Logging      : N              Export Delimiter     : TAB
Printer Log Messages : N              Export Text Qualifier:
Wide carriage (132)  : N
Page Length          : 63  lines
Daily Report Hour    : N
Daily Report Windows :

Hourly Standing Rpt  : N
Ignore Level D Alms  : N

Window Rep Messages  : Y
Incident Pre-scan    : 0   day(s)



Y)es = 2 parallel printers, N)o =1 parallel printer

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

Fig. 19.54 - The hard copy screen

Table 19.20 - Key commands available in the Hard Copy screen

Function Key	Description
Up Arrow	Move to the previous field.
F8	Save
F9	Help
F10/Esc	Move to the first field or exit without saving if the cursor is in the first field.

Table 19.21 Fields in the Hard Copy screen

Field	Description
Multiple Printers	N = one printer. Y = two printers*. With one printer, no logging will occur during reports. With two printers, one printer logs and one printer reports.* [N]
Printer Logging	N = alarms will NOT be logged to the printer. Y = alarms WILL be logged to the printer. [N] Printer Logging can also be toggled while in Monitor mode using Ctrl-F1.
Printer Log Messages	Determines whether text messages will also be printed with logging. Y = Print alarm text messages. N = Do not print alarm text messages. [N] **Note:** Printer Logging will only print messages when alarms fail, not when alarms clear.
Wide Carriage	Set the Wide Carriage to Y if your printer supports up to 132 columns of text. The default setting (N) sets output at 80 columns for standard 8" paper. [N]
Page Length	Enter the page length (55 to 67 lines) [63 lines]
Daily Report Hour	Determines the hour when your alarm log will be sent to the printer. Settings are 0-23 and N for none. [N]
Daily Report Windows	Determines windows that will be sent to printer for automatic logging of standing alarms. Values are 1-720 (or maximum number of windows your T/MonXM supports). This field will be skipped if the Daily Report Hour field is set to N. [blank]
Hourly Standing Report	Y = Automatically generate standing alarm report hourly. N = Disable. [N]
Ignore Level D Alarms	Y = Level D alarms do not appear in hourly reports. N = Level D alarms do appear in hourly reports. [N]
Window Rep Messages	Y = Print text messages in COS or Live window reports. N = Don't print text messages in COS or Live window reports. [Y]
Incident Pre-Scan	The number of days prior to the start of the reporting period that the system will look for the start time of alarms that are active when the report begins. (0-99) [0]
Alarm Export Type	Standard: uses designated export delimiter, Original: always uses a comma delimiter, or Alarm Format: exports the alarms in an "onscreen" format. [STANDARD]
Export Delimiter	Either comma or tab. Using tab as the delimiter has an advantage over the comma because no text qualifier is needed since none of the T/Mon data contains tab characters. [TAB]
Export Text Qualifier	The text qualifier character used when Alarm Export Type is set to Standard. This character is used to enclose fields that contain the delimiter. It can be set to one of the following characters: double quote, single quote, or left blank. If left blank, then no text qualification is done. [blank]

* Two printers requires a second parallel port in the T/MonXM WorkStation. This will take the space of one 600 card, which means the maximum number of serial ports will be 12 on T/MonXM or 20 on the IAM-5. LPT 1 is for printer logging and LPT 2 is for reports.

[ ] = default

Trouble Log Mode in Monitor Mode

Trouble Logs are a record of operator reaction to alarms

Trouble Logs are ideal to bring operators up to date during shift changes

Each log is time- and user-stamped.

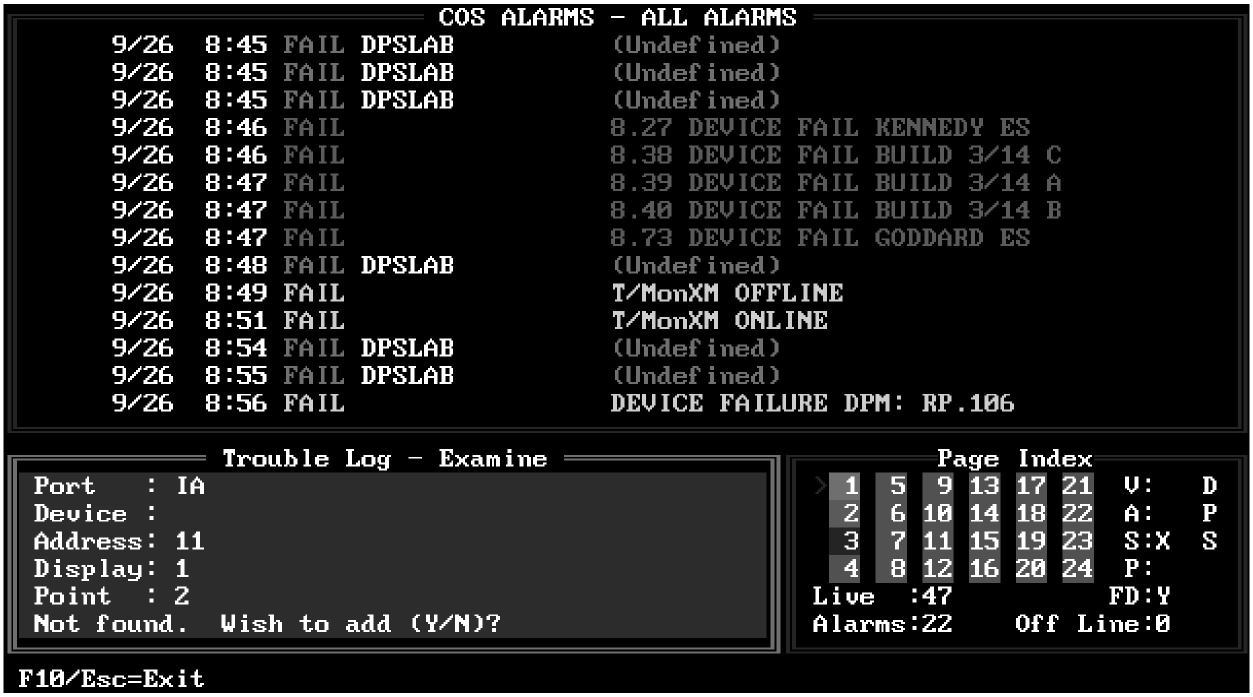
Multiple logs can create an action log history for an alarm.

The Trouble Log feature allows T/MonXM users to attach alarm notes or trouble tickets to individual alarm failures in the network. This allows other users of the system to access this information and know if an alarm has been purposely failed, serviced, etc. Once the problem is resolved, an operator can make a trouble log entry saying “This action is closed and has been taken care of.” As part of the history file an operator can bring up all the trouble logs for a certain point for trending and analysis. You can also have multiple Trouble Logs for a point.

Trouble logs apply to all external alarms and to user defined internal alarms in addresses 11 and 12. Trouble logs cannot be prepared for standard internal alarms.

Trouble logs can be written for either standing or COS alarms, from either of their respective screens. The COS screen is recommended because when the alarm clears it will remain on the COS screen until acknowledged. This makes the trouble ticket easy to prepare by simply highlighting the alarm and pressing F6 twice. (The trouble ticket notations should be performed before the alarm is acknowledged.) However, if a trouble log is created for an alarm that is being tracked from the standing alarm screen, once the alarm clears it will no longer appear on the screen and the trouble log will have to be manually accessed by entering the address, display and point information

There are two mode levels for the trouble log window, Trouble Log mode and Trouble Log Examination mode. The trouble log window appears at the lower left portion of the COS or Standing Alarms screen, in place of the Text/Messages window. To enter Trouble



```
                          COS ALARMS - ALL ALARMS
      9/26  8:45 FAIL DPSLAB          (Undefined)
      9/26  8:45 FAIL DPSLAB          (Undefined)
      9/26  8:45 FAIL DPSLAB          (Undefined)
      9/26  8:46 FAIL                 8.27 DEVICE FAIL KENNEDY ES
      9/26  8:46 FAIL                 8.38 DEVICE FAIL BUILD 3/14 C
      9/26  8:47 FAIL                 8.39 DEVICE FAIL BUILD 3/14 A
      9/26  8:47 FAIL                 8.40 DEVICE FAIL BUILD 3/14 B
      9/26  8:47 FAIL                 8.73 DEVICE FAIL GODDARD ES
      9/26  8:48 FAIL DPSLAB          (Undefined)
      9/26  8:49 FAIL                 T/MonXM OFFLINE
      9/26  8:51 FAIL                 T/MonXM ONLINE
      9/26  8:54 FAIL DPSLAB          (Undefined)
      9/26  8:55 FAIL DPSLAB          (Undefined)
      9/26  8:56 FAIL                 DEVICE FAILURE DPM: RP.106

          Trouble Log - Examine                       Page Index
 Port    : IA                              > 1  5  9 13 17 21  V:   D
 Device  :                                   2  6 10 14 18 22  A:   P
 Address: 11                                 3  7 11 15 19 23  S:X  S
 Display: 1                                  4  8 12 16 20 24  P:
 Point   : 2                               Live   :47        FD:Y
 Not found.  Wish to add (Y/N)?            Alarms:22    Off Line:0

F10/Esc=Exit
```

Fig. 19.55 - Trouble log replaces text/messages window in COS and standing screens

Log Mode, first highlight the alarm for which you wish to start a trouble log record.

Trouble Log Mode = Green

Press F6 to enable the Trouble Log window. If a trouble log already exists it will be displayed in the window. If you are starting a new trouble log or wish to add to the existing one, press F6 again to enable Trouble Log Examination mode.

Examine Mode = Magenta

The Trouble Log Examine window appears in the lower left bottom portion of the screen. If you have highlighted the alarm that is to have a new trouble log, the address, display and point numbers will be automatically entered in the fields in the Trouble Log Examination window. If not there, or if for a different alarm, you will need to enter the address, display, and point numbers manually.

Any trouble ticket for an alarm not shown on the screen can be accessed by pressing F3 and entering the port, address, display and point numbers manually.

Alarms with existing, active trouble logs will have a # symbol in character column 3 of the alarm reporting line.

# Symbol designates a trouble log is open

When a trouble ticket is totally cleared up it is closed by pressing F5. The # sign will then be removed from the alarm reporting line, but the closed message will still be displayed in the trouble log window, as long as this alarm remains on the screen (unacknowledged) and is highlighted.

The Trouble Log appears as shown in Figure 19.58 on the next page.

Table 19.22 - Key commands available in Trouble Log windows

Function Key	Description
F1	Previous. Select previous Trouble Log.
F2	Next. Select next Trouble Log.
F3	Select. Allows you to change the point you are on and check the message for another point.
F4	New. Allows you to create a new message.
F5	Close. Allows you to create a special kind of message called a “closed message”. Once you have closed a message you will not see a “#” pound sign for a point message.
F7	Print. Allows you to access Print Trouble Log Mode and to print Trouble Log reports — see section 19-45.

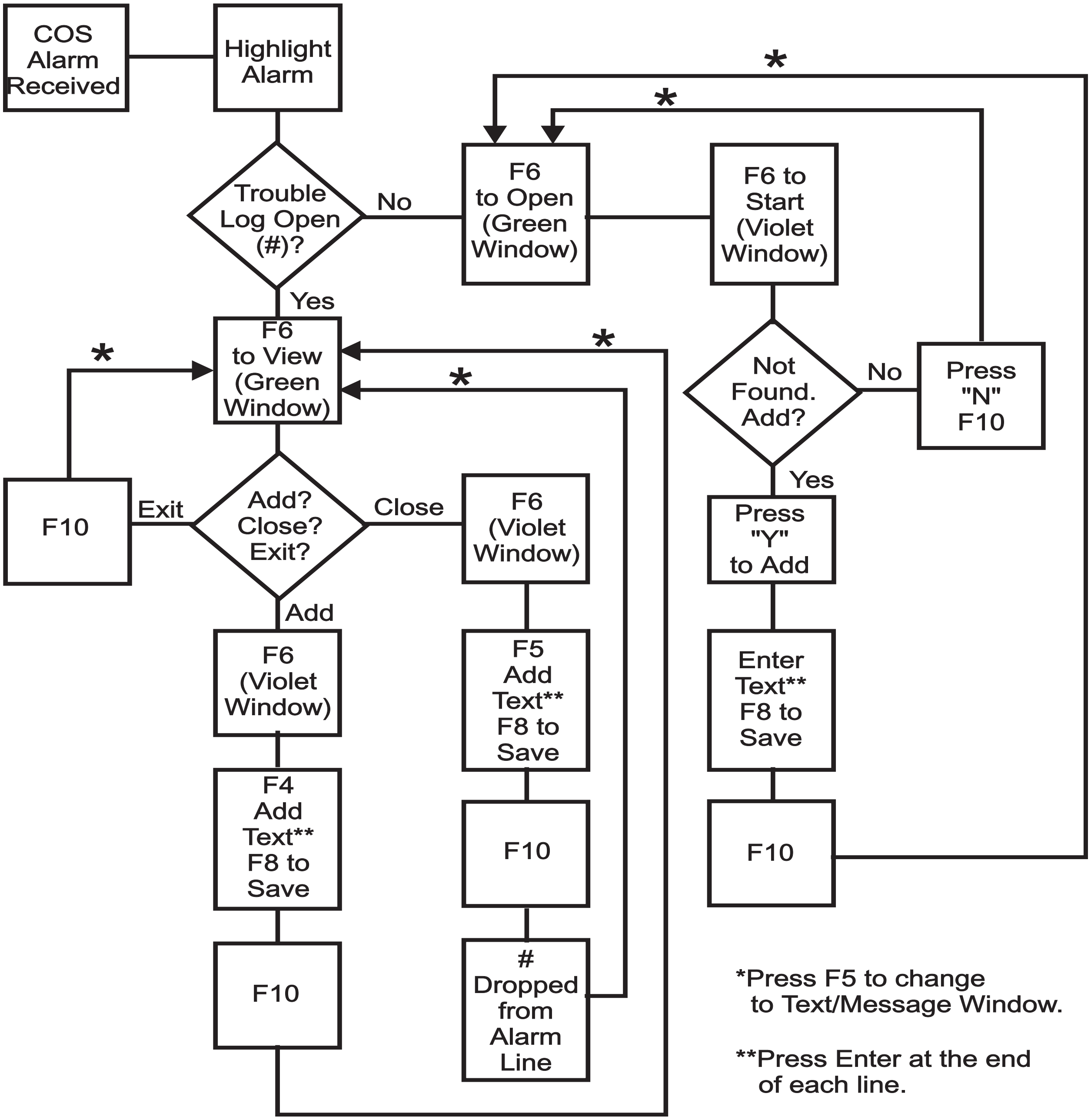
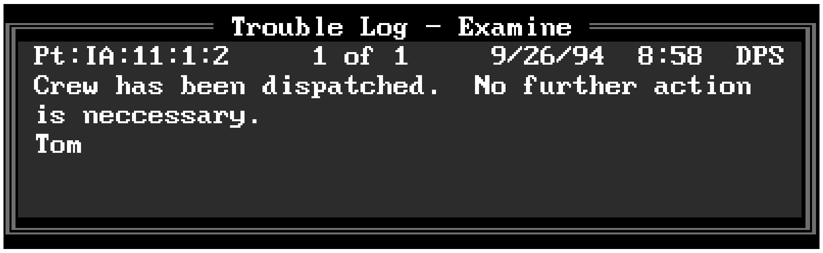


Fig. 19.56 - Trouble log sequence flow chart

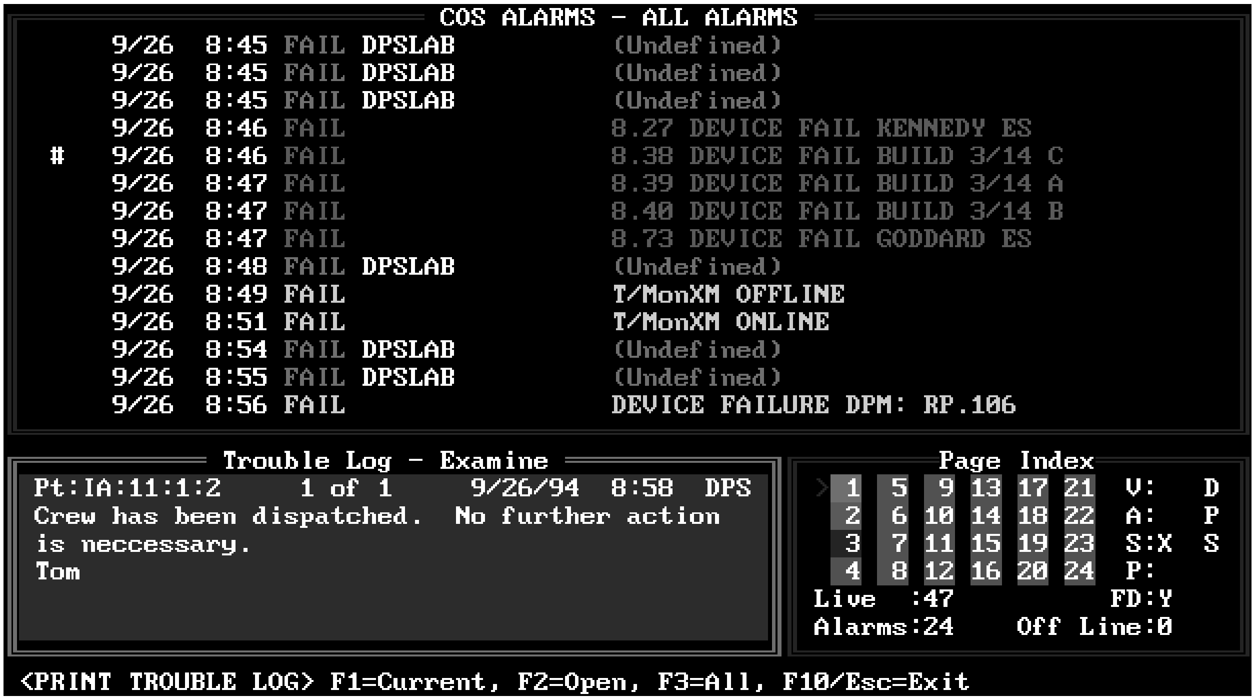


```
Trouble Log - Examine
Pt:IA:11:1:2     1 of 1     9/26/94  8:58  DPS
Crew has been dispatched.  No further action
is neccessary.
Tom
```

Fig. 19.57 - Trouble log examine window

Trouble Log Print Mode

The Print Trouble Log screen is accessed by pressing F7 from the Trouble Log - Examine screen. (The command line at the bottom of the screen changes to show print commands.)



```
                            COS ALARMS - ALL ALARMS
      9/26  8:45 FAIL DPSLAB           (Undefined)
      9/26  8:45 FAIL DPSLAB           (Undefined)
      9/26  8:45 FAIL DPSLAB           (Undefined)
      9/26  8:46 FAIL                  8.27 DEVICE FAIL KENNEDY ES
 #    9/26  8:46 FAIL                  8.38 DEVICE FAIL BUILD 3/14 C
      9/26  8:47 FAIL                  8.39 DEVICE FAIL BUILD 3/14 A
      9/26  8:47 FAIL                  8.40 DEVICE FAIL BUILD 3/14 B
      9/26  8:47 FAIL                  8.73 DEVICE FAIL GODDARD ES
      9/26  8:48 FAIL DPSLAB           (Undefined)
      9/26  8:49 FAIL                  T/MonXM OFFLINE
      9/26  8:51 FAIL                  T/MonXM ONLINE
      9/26  8:54 FAIL DPSLAB           (Undefined)
      9/26  8:55 FAIL DPSLAB           (Undefined)
      9/26  8:56 FAIL                  DEVICE FAILURE DPM: RP.106

             Trouble Log - Examine                        Page Index
 Pt:IA:11:1:2     1 of 1     9/26/94   8:58  DPS    > 1  5  9 13 17 21  V:   D
 Crew has been dispatched.  No further action         2  6 10 14 18 22  A:   P
 is neccessary.                                       3  7 11 15 19 23  S:X  S
 Tom                                                  4  8 12 16 20 24  P:
                                                     Live  :47          FD:Y
                                                     Alarms:24    Off Line:0

<PRINT TROUBLE LOG> F1=Current, F2=Open, F3=All, F10/Esc=Exit
```

Fig. 19.58 - Print trouble log screen has prompt line at bottom

Compile Trouble Log Reports

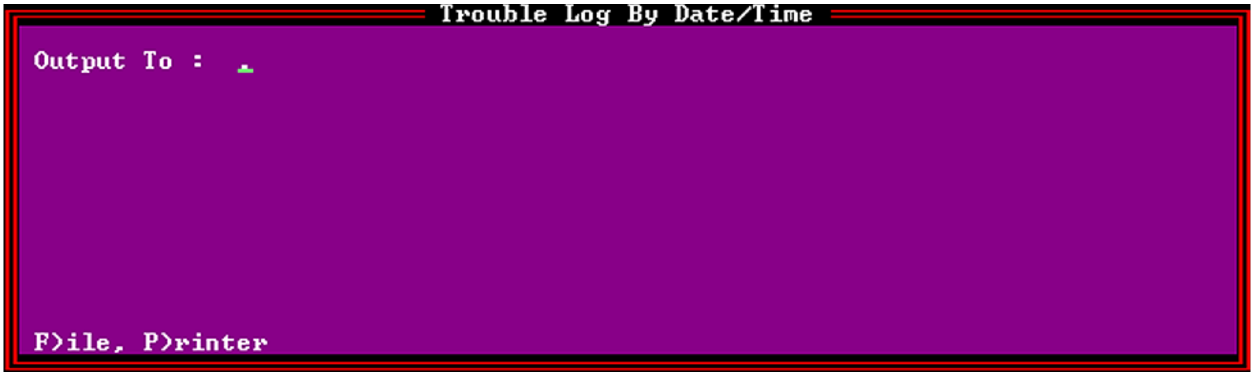
Compiling a Trouble Log report provides a summary of all trouble log entries. You can save or print a trouble log report from the Reports > Alarm Database Report Menu, or by pressing Alt-F7 in Monitor Mode to automatically go into the Reports screen.

Use the following steps to compile your trouble log entries into one comprehensive report:

1. From the Master file > Reports Mode menu, or press Alt-F7 while in Monitor Mode.
2. Enter 2 to view the Alarm Database reports
3. Enter 20 to compile trouble logs by point, or enter 21 to compile trouble logs by date/time.
4. Enter F to save a compiled report to a file or enter P to print a compiled report — see Figure 19.59.

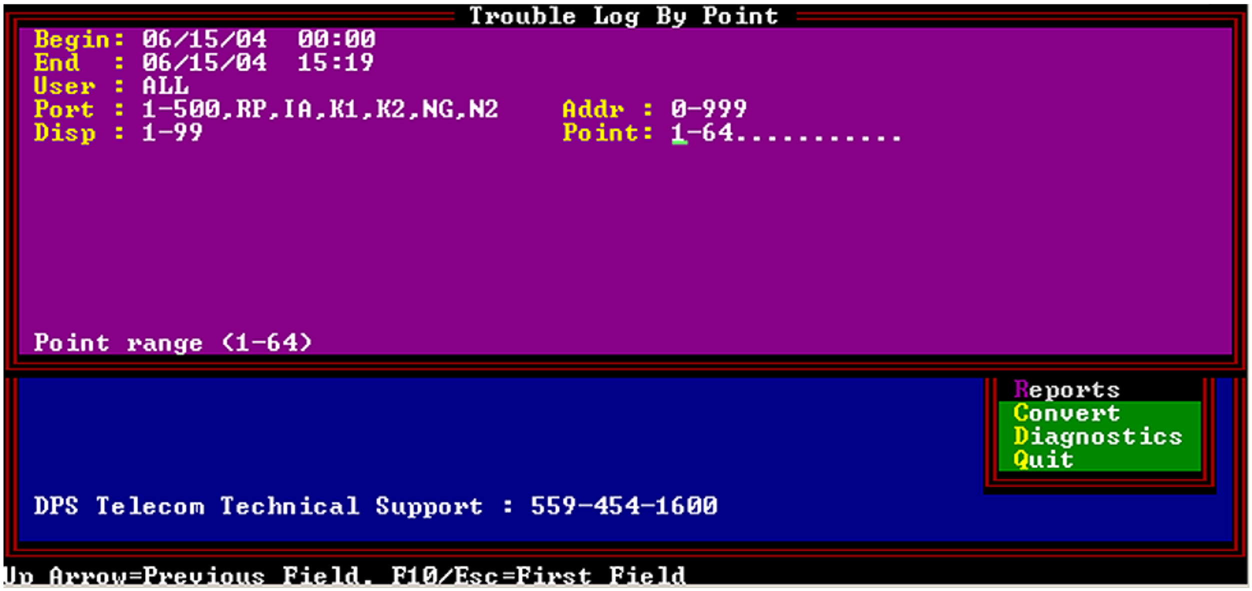
Note: If saving the report to a file, you will be prompted to enter a file name. A file name can only be seven characters long.

5. Enter your report filter parameters — see Figure 19.60 for report by point filter parameters, and Figure 19.61 for report by date/time filter parameters. See Table 19.23 for field definitions in these screens.



```
Trouble Log By Date/Time

Output To :

F)ile, P)rinter
```

Fig. 19.59 - Output a compiled trouble log report to a file or print a compiled trouble log



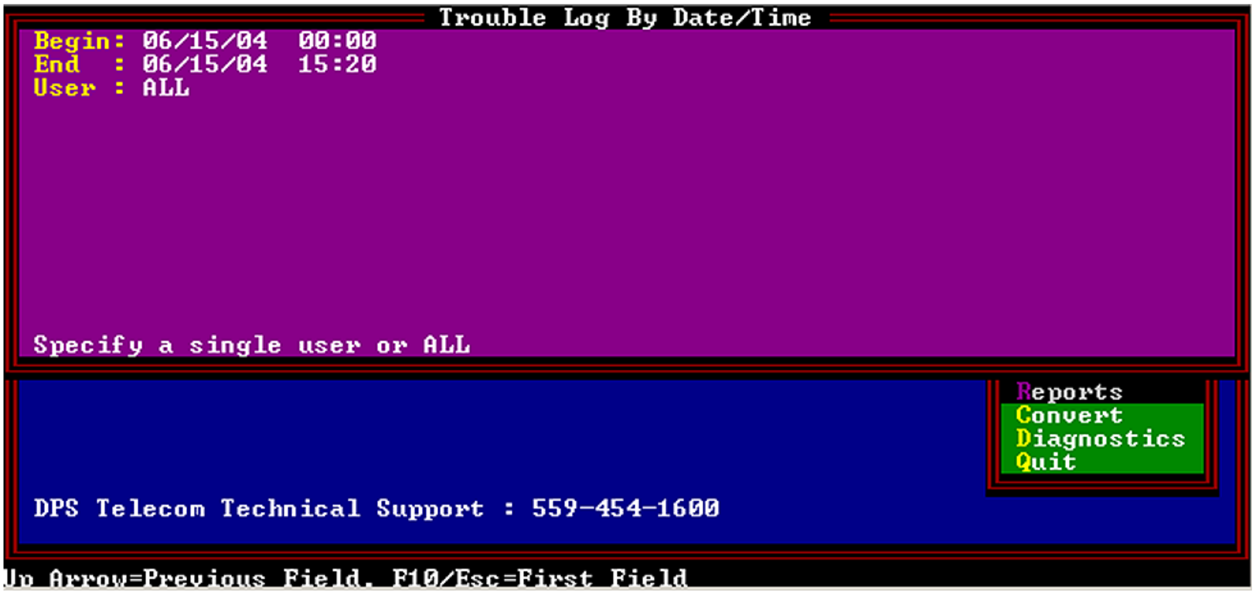
```
Trouble Log By Point
Begin: 06/15/04  00:00
End  : 06/15/04  15:19
User : ALL
Port : 1-500,RP,IA,K1,K2,NG,N2     Addr : 0-999
Disp : 1-99                        Point: 1-64...........

Point range (1-64)

DPS Telecom Technical Support : 559-454-1600

Up Arrow=Previous Field. F10/Esc=First Field
```

Fig. 19.60 - Compile a Trouble Log Report by point

Table 19.23 - Fields in the compile Trouble Log screen

Field	Description
Begin	Beginning date of report (mm/dd/yy). Beginning time of report (hh:mm, 00:00 = midnight)
End	Ending date of report (mm/dd/yy). Ending time of report (hh:mm, 00:00 = midnight).
User	Specify a single user or ALL
Port*	Remote Port range (1-500, RP, RC, IA, K1, K2, K3, NG, N2)
Addr*	Address range (0-999)
Disp*	Display range (0-65535)
Point*	Point range (1-64)

* Fields only available in the Trouble Log by point screen.



```
                         Trouble Log By Date/Time
Begin: 06/15/04  00:00
End  : 06/15/04  15:20
User : ALL

Specify a single user or ALL

DPS Telecom Technical Support : 559-454-1600

Up Arrow=Previous Field, F10/Esc=First Field
```

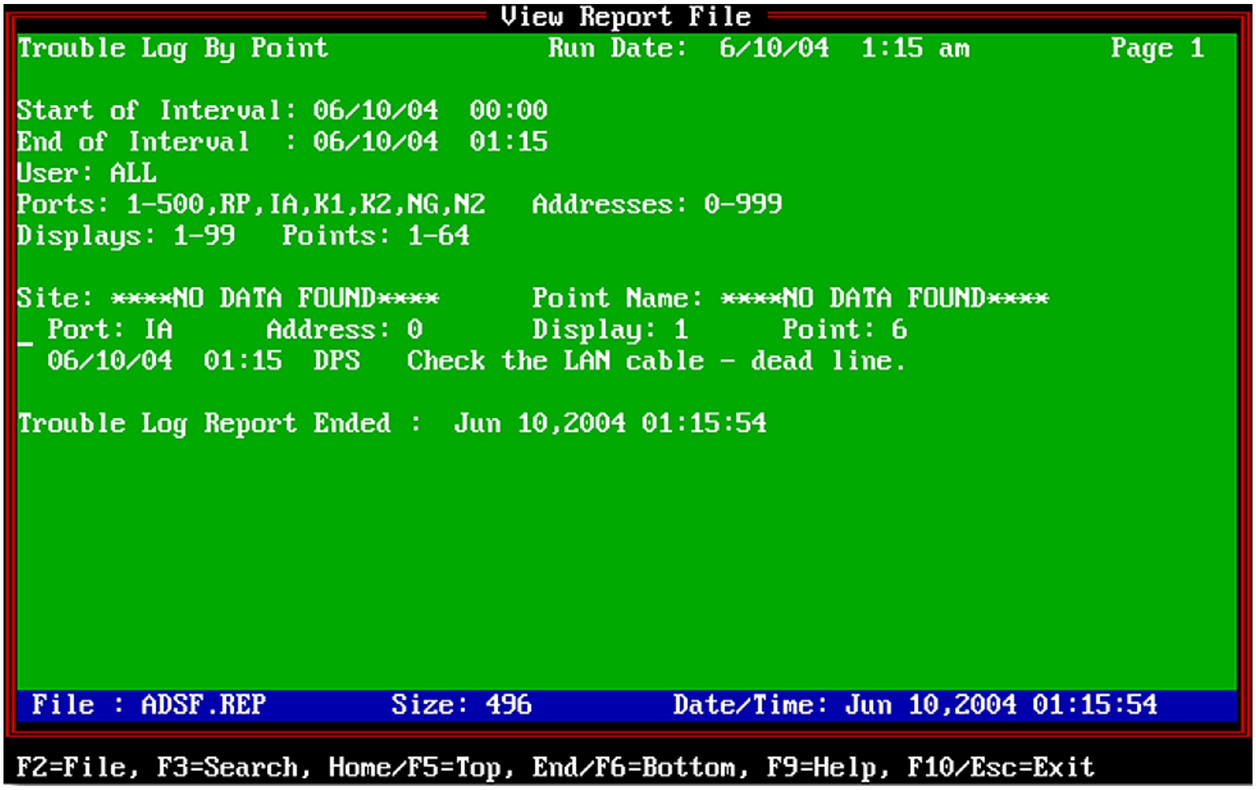
Fig. 19.61 - Compile a Trouble Log Report by date/time

View compiled Trouble Log reports.

1. Return to the Master menu > Reports menu and select 9(View Report file).

Note: Reports cannot be viewed while in Monitor mode.

2. Use the Tab key to select your compiled Trouble Log report file name and press Enter.



```
                           View Report File
Trouble Log By Point              Run Date:  6/10/04  1:15 am        Page 1

Start of Interval: 06/10/04  00:00
End of Interval  : 06/10/04  01:15
User: ALL
Ports: 1-500,RP,IA,K1,K2,NG,N2   Addresses: 0-999
Displays: 1-99   Points: 1-64

Site: ****NO DATA FOUND****      Point Name: ****NO DATA FOUND****
_ Port: IA      Address: 0       Display: 1      Point: 6
  06/10/04  01:15  DPS   Check the LAN cable - dead line.

Trouble Log Report Ended :  Jun 10,2004 01:15:54

 File : ADSF.REP          Size: 496          Date/Time: Jun 10,2004 01:15:54

F2=File, F3=Search, Home/F5=Top, End/F6=Bottom, F9=Help, F10/Esc=Exit
```

Fig. 19.62 - View a Trouble Log Report by point

Related Trouble Log Sections

Other Trouble Log sections include the following:

- **File Maintenance** - System Users
  The System Users screen has a Trouble Log access level field.
- **File Maintenance** - Utilities - File Utilities - Key Rebuild menu

The Key Rebuild Menu has a rebuild Trouble Log Key option.

- **Reports** - Alarm Database Report - Compile Trouble Log Reports menu.

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Software Module 1
DCP(F) Interrogators and Responders

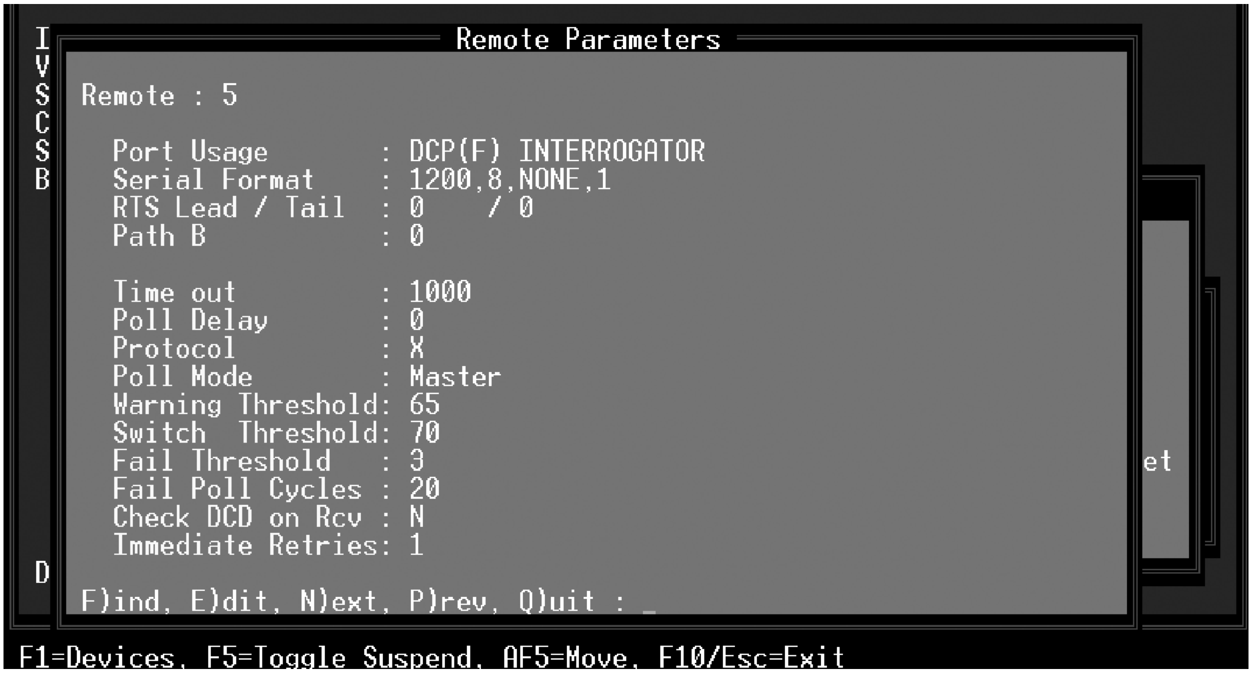
DCP(F) Interrogator

Interrogators allow data to be brought into the system. When you use Interrogators, you specify the display list of the items you want to have polled. You can show alarm points on the normal T/MonXM screens under COS windows and Live alarms. In addition to that, alarm points may also go out responder ports.

The DCP(F) Interrogator software module must be installed before you can access the DCP(F) Interrogator. Refer to Section 2 (Software Installation) for installation procedures.

To define a remote port for communication to DCP(F) equipment, select Remote Ports from the Parameters menu and then select DCP(F) Interrogator at the Port Usage field.

Note: An example of the Remote Parameters screen defined for a dedicated port for DCP(F) Interrogators is illustrated below. For instructions on defining a IP port for your DCP(F) Interrogators, see section M1-3.



```
                        Remote Parameters

Remote : 5

  Port Usage       : DCP(F) INTERROGATOR
  Serial Format    : 1200,8,NONE,1
  RTS Lead / Tail  : 0    / 0
  Path B           : 0

  Time out         : 1000
  Poll Delay       : 0
  Protocol         : X
  Poll Mode        : Master
  Warning Threshold: 65
  Switch  Threshold: 70
  Fail Threshold   : 3
  Fail Poll Cycles : 20
  Check DCD on Rcv : N
  Immediate Retries: 1

F)ind, E)dit, N)ext, P)rev, Q)uit : _

F1=Devices, F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

Fig. M1.1 - Example of a defined dedicated port for DCP(F) Interrogators

Table M1.A - Remote Parameters screen field descriptions

Field	Description
Port Usage	Select a port from 1-27. Valid port types are DCP(F) Interrogator and Halted. Use Halted (default) if no device is connected to the communication port. [DCP(F) INTERROGATOR]
Serial Format	Baud rate, word length, parity, and stop bits settings. [1200, 8, NONE, 1]
RTS Lead	RTS Lead is the time carrier is turned on before data is sent (0-2500 ms).* [0] **Note:** Set to 60 for 202 modems.
RTS Tail	RTS Tail is the time carrier is left on after the last byte is sent (0-2500 ms).* [0] **Note:** Set to 40 for 202 modems.
Path B	Port for secondary path for ring polling application. For more information about ring polling see section M1-38 (Ring Polling Application). [0]
Time Out	Time the interrogator will wait for a response before failing a poll. Valid entries are 200-9999 milliseconds. [1000]
Poll Delay	The Poll Delay is the time between polls. Valid entries are 0-9999 milliseconds. [0]
DCPF Mode	Enter "**F**" if you wish to use DCP(F) mode and "**N**" for DCP mode and "**X**" for DCP(X). Enter "**1**" for DCP1 mode. DCP(X) is better error detection. All DPS Telecom RTUs support DCP(F). Newer DPS Telecom RTUs support DCP(X). Use DCP and DCP1 when using third party RTUs. [F]
Poll Mode	These determine the way polling is performed. Valid entries are P)assive only, M)aster only, and C)ombined. Enter M if T/Mon is the is the only device polling the network. **Note:** If set for Master Mode, the system will ask for Warning Threshold and Time out settings. If set for Combined Mode, the system will ask for Warning Threshold and Switch Threshold settings. **Master Mode:** Will always attempt to poll RTUs. There should at most be one master in a network. **Passive:** Never polls network, but will detect alarms. **Combined:** Starts out passive, but if it senses no activity, it will become master. Will revert to passive if it detects online activity.
Warning Threshold	The Warning Threshold is the seconds of no activity before a warning is issued. Valid entries are 5-999 seconds. [65]
Switch Threshold	The Switch Threshold is the seconds of no activity before becoming master. Valid entries are 2-999 seconds. [70] **Note:** This field is only available when "Combined" is entered in the Poll Mode field.
Fail Threshold	Number of consecutive polls before device failure is declared. [3]
Fail Poll Cycles	The Fail Poll Cycles are the polling loop cycles allowed before failed devices are polled. Valid entries are 0-255. [20]
Check DCD on Rcv	Y = Enable DCD checking to validate Rcv. N = Disable. [N]
Immediate Retries	Number of retries before proceeding with next address. [1]

Once you have finished entering in the parameters for the DCP(F) remote port, the function keys shown below will become available. Press F1 (Devices) to define the DCP(F) equipment addresses and displays that you wish to monitor on the remote port.

***Note:** Setting the RTS Lead Time and RTS Tail Time both to 2500 will enable a DCP(F) constant carrier

Table M1.B - Key commands available in the Remote Parameters screen

Function Key	Description
F1	Devices. Define the DCP device addresses, alarm displays, and alarm points that are on the current remote port.
F5	Toggle Suspend. Allows you to define but temporarily halt or suspend this function.
F6	Data Connection (IP/virtual port connections only)
Alt-F5	Allows you to move the port.
F10/Esc	Exit.

Define a Virtual (IP) Port for DCP(F) Interrogators

Defining your remote port for polling your DCP(F) remote devices via the network is a two step process. Refer to Table M1.C to complete the fields on the Remote Parameters screen. See Table M1.B for function keys available.

Table M1.C - Remote Parameters screen field descriptions

Field	Description
Port Usage	Select a port greater than 49 (1–27 are defined for dedicated serial ports and 30–49 are typically used for remote access). Valid port types are DCP(F) Interrogator and Halted. Use Halted (default) if no device is connected to the communication port. **Note:** Unit must have IP hardware installed and port 28 must be set for Ethernet I/O.
Time Out	Time the interrogator will wait for response before failing the poll. Valid entries are 200-9999 milliseconds. [1000]
Poll Delay	The Poll Delay is the time between polls. Valid entries are 0-9999 milliseconds. [0]
Protocol (DCPF Mode)	Enter “X” for DCPX, “F” for DCPF, “N” for DCP, or “1” for DCP1 mode. [F]
Fail Threshold	Number of unanswered polls before device is declared failed. [3]
Fail Poll Cycles	The Fail Poll Cycles are the polling loop cycles allowed before failed devices are polled. Valid entries are 0-255. [20]
Immediate Retries	Number of retries before proceeding with next address. [1]

For detailed information on creating data connections see section 3-4.

Create a Data Connection

1. In the Remote Parameters screen press F6 to open the Data Connection screen.
2. Press F1 to open the Ethernet TCP Ports Definition screen.
3. Use the arrow keys to select a new connection.
4. Press Tab to select a port type. **Note:** Depending on your DCP remote, you may select UDP, TCP, etc.
5. Enter your IP port number and a description. See Section 3, Figure 3.5.
6. Press F8 to save your changes and return to the Data Connection Assignment screen.
7. From the Data Connection Assignment screen, press Tab to

select the List Box. Select the IP port you just defined for the data connection. (See Section 3, Figure 3.7). Then return to the Remote Parameters screen.

DCP(F) Device Definition

Note: DPS Telecom dial-up RTU users should refer to section M3 for Dial-Up Networks, KDA Shelves, and LAN-Based Remotes.

Pressing F1 (Devices) from a Remote Parameters screen that is defined for communicating to a DCP(F) device will bring you to the Remote Device Definition screen. The purpose of the Remote Device Definition screen is to create the alarm equipment polling list from which T/MonXM will use to gather its information. The addresses of each DCP(F) device that is to be monitored or polled within the alarm system must be entered from here. Each Address Definition represents one device.

An Address Definition consist of a DCP(F) device address, a user-definable name, device type, displays to monitored and if you are in active polling mode, the method of polling. The application drawing shown below depicts the alarm monitoring area that this definition affects:

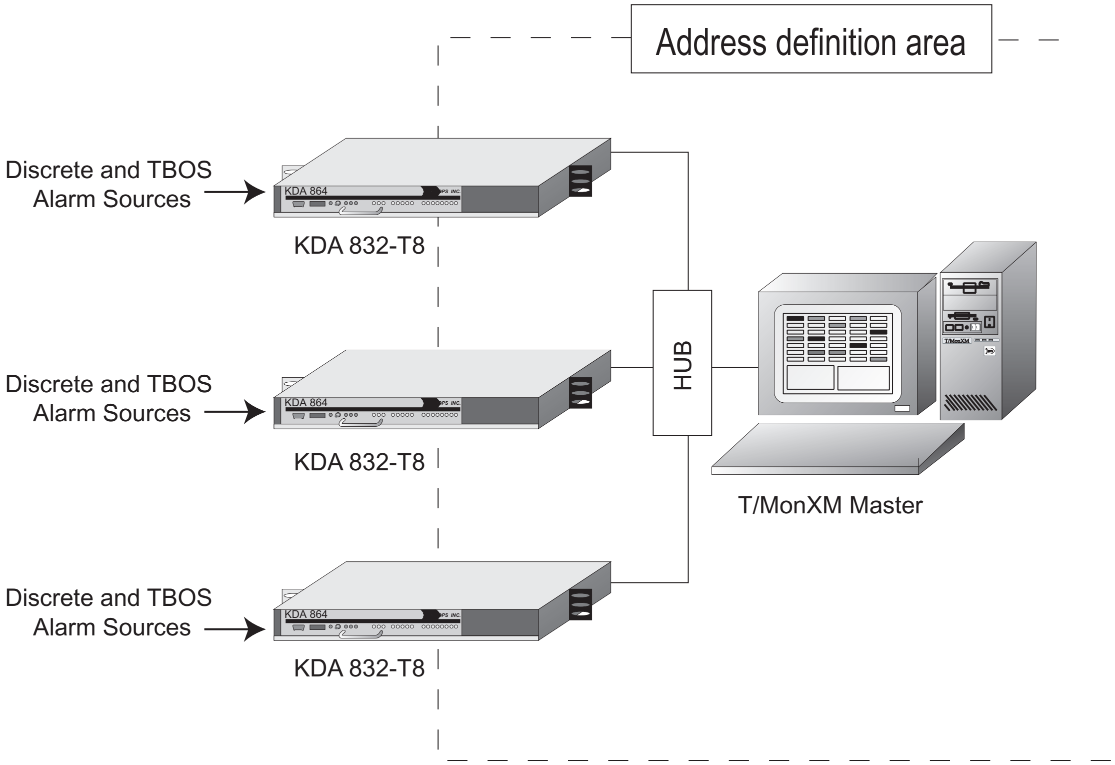
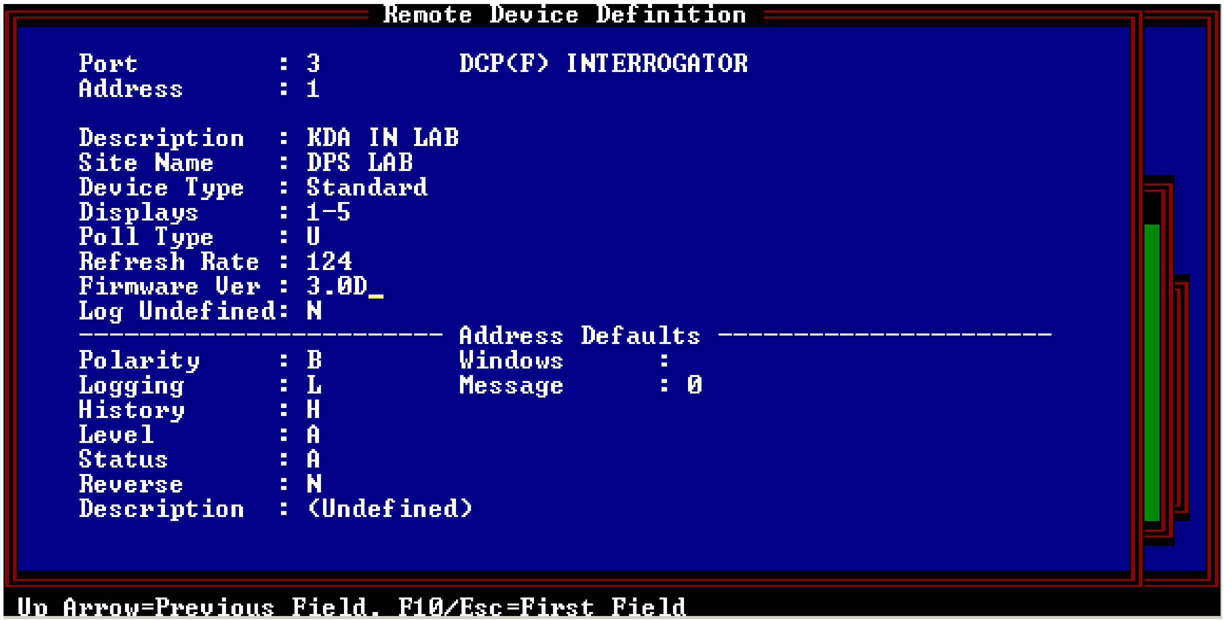

Address definition area
Discrete and TBOS Alarm Sources
KDA 864
KDA 832-T8
Discrete and TBOS Alarm Sources
KDA 864
KDA 832-T8
Discrete and TBOS Alarm Sources
KDA 864
KDA 832-T8
HUB
T/MonXM Master

Fig. M1.2 - Diagram of alarm monitoring area



```
                        Remote Device Definition

    Port          : 3          DCP(F) INTERROGATOR
    Address       : 1

    Description   : KDA IN LAB
    Site Name     : DPS LAB
    Device Type   : Standard
    Displays      : 1-5
    Poll Type     : U
    Refresh Rate  : 124
    Firmware Ver  : 3.0D_
    Log Undefined: N
    ----------------------- Address Defaults ---------------------
    Polarity      : B          Windows      :
    Logging       : L          Message      : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : (Undefined)

Up Arrow=Previous Field, F10/Esc=First Field
```

Fig. M1.3 - Defined Remote Device Definition screen

Note: Refer to Table M1.D on the following page for field descriptions.

In the example above, the device is defined to monitor alarm information from a KDA LR24 Card addressed as #1 and will report any alarm information that is stored in alarm displays 1 through 5. The polling type is what command will be used to gather information. In the example, the polling type is set to U (upset) — see "Poll Type" on following page.

Defining an Address

First enter the DCP(F) address number you wish to define or edit. At this point, T/MonXM will check the system for the address entered to see if it exists. If the address is found, any previously defined information for that address will then be displayed on the screen and an option line will be displayed at the bottom of the screen. If the address isn't found, T/MonXM will ask if you want to add it to the system:

"This item is not in the database. Would you like to add it (Y/N)?"

Once added, you may then go down, line by line, making changes as needed. After the last field has been entered, the cursor will go to the "Find, Edit, Delete, Next, Prev, Quit:" prompt to get ready for another definition.

Caution! Deleting a unwanted Address Definition will not delete the points that were defined for that address. Therefore, you should first delete all the points contained in a DCP(F) address before deleting the DCP(F) address. The delete function was implemented this way in order to protect the user from the deletion of a large point database because of the accidental erasure of the wrong DCP(F) address.

Table M1.D - Remote Device Definition screen field descriptions

Field	Description	
Port	The Port number used by the Remote Device.	
Address	The DCP(F) address that you want to create or edit. Valid DCP(F) addresses range from 1-255. These should match the addresses assigned to KDAs or other DCP(f/x) devices.	
Description	The description of the use of the address. A maximum of 50 Alphanumeric characters can be used.	
Site Name	This field allows you to assign a name to all alarm information that is gathered under the DCP(F) address. A maximum of 50 Alphanumeric characters can be used.	
Device Type	Enter the device type that you wish to define for the current Address Definition. Enter “S” for standard.	
Displays	The alarm displays of the DCP device address that are to be monitored. Valid alarm displays range from 1-140. Sample display range inputs: 5,7,20,30 or 5-20,30-45,8 **Note:** To maximize execution speed and minimize the amount of disk space used, define only the displays that are being monitored.	
Poll Type	Selects the refresh type of poll to be done for that DCP(F) address. Valid inputs are:	
	“U” - Upset Polling	Selects if Upset Polling (Change of State) is desired for the DCP(F) address. will assign a refresh rate.
	‘G’ - Group Polling	Group Poll will poll two displays worth of data at a time. Group polling will start with the first group defined in T/Mon **Note***:* This is the fastest polling method if the database is relatively small in size.
	‘F’ - Full Polling	Updates every single point status on every single poll. **Note:** After a user selectable number of poll cycles, a status poll cycle will be performed to verify alarm data.
Refresh Rate	Number of poll cycles before a FUDR is issued. Refresh Rate is the rate after which a full alarm status refresh will be performed. Refresh Rate is used only with Upset Polling.	
Log Undefined	Enter Y=Yes, N=No.	
Address Defaults	If an alarm point is reported from the RTU that does not have a definition in T/MonXM, it will use the following parameters to display the alarm.	
Polarity	Bipolar(B) or Uni-polar(U). [B]	
Logging	Log(L) or No Log(N) [L] **Note:** goes to screen.	
History	History(H) or No History(N). [H] **Note:** goes to history.	
Level	A (CR), B (MJ), C(MN) or D(ST) [A]	
Status	Alarm(A), Status(S) [A] Defines if T/Mon internal relay will change state.	
Reverse	Reverse(R) or No Reverse(N) [N]	
Description	Default point description. 40 characters (optional)	
Windows	Window in Monitor Mode in which undefined alarms from this site will appear. Enter the default windows. Valid windows are 2-30 with standard features. More windows are available with the Alarm Windows software modules installed. Eight (8) windows maximum can be assigned.	
Message	Enter the message number. Enter “0” for no message. The maximum messages available are limited by the number of messages in the message file.	

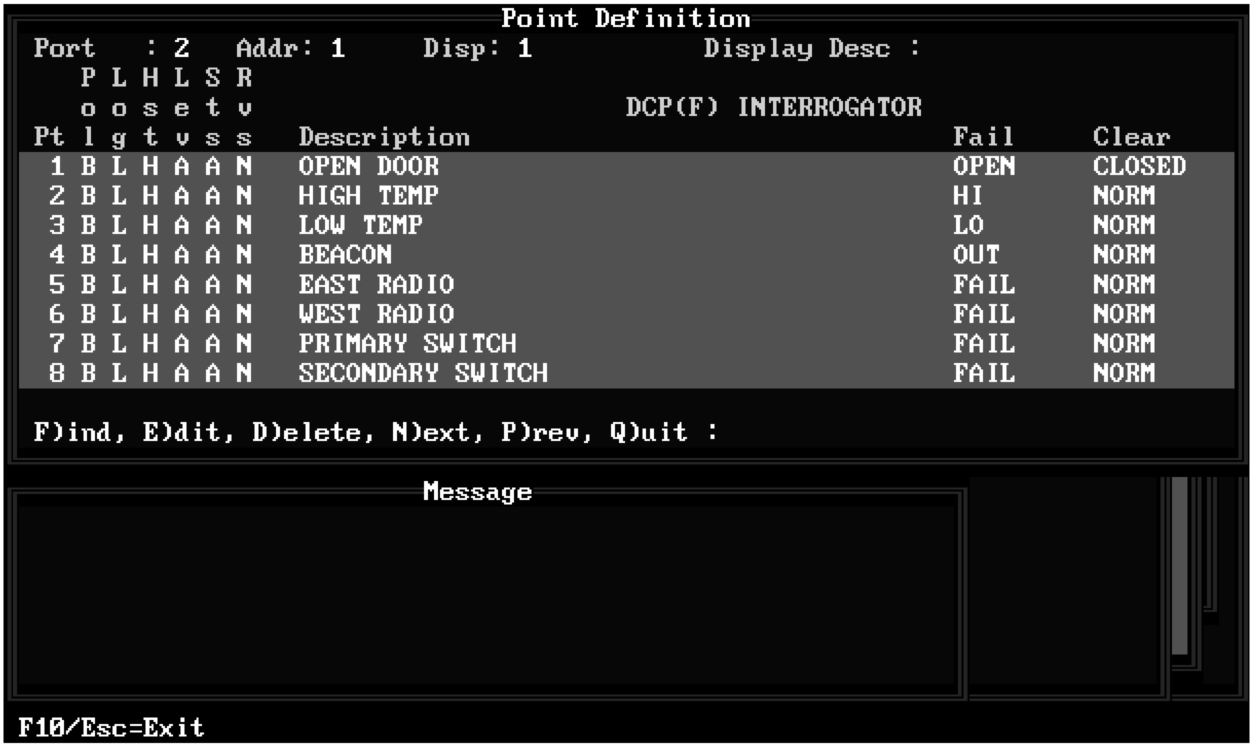
Point Definition (F1)

Note: For detailed information on point definition please refer to Section 10.

This option allows the user to assign attributes and English descriptions to individual alarm points within the selected displays of the DCP(F). Defining alarm point definitions are done on a display-by-display basis. Note that you must have defined the displays previously in the Address Definition section.

1. Entering F1 (Points) from the Remote Device Definition screen will bring you to the Point Definition screen — see Figure M1.4.
2. If no display was previously entered, the cursor will be at the display number from which the DCP(F) stores the alarm point information.
3. After <*Enter*> has been pressed at the Display field, the database management system checks to see if any points in that display have been defined previously. If none are found, then the cursor immediately moves into the point editing area.
4. If points in the display have been defined before, then the Standard Key Entry prompt, (See Section 4), appears at the bottom of the window. To edit the points, press ‘E’ to select the Edit option.
5. When the cursor is in the point editing area, the Message window displays the message associated with the point that is currently being edited.
6. The Up Arrow, Down Arrow, PgUp, PgDn, Home and End keys are used to select a point for editing. Note that these keys are only active when the cursor is at the Pol (polarity) field.

Note: For Point Definition Field descriptions refer to Section 10.

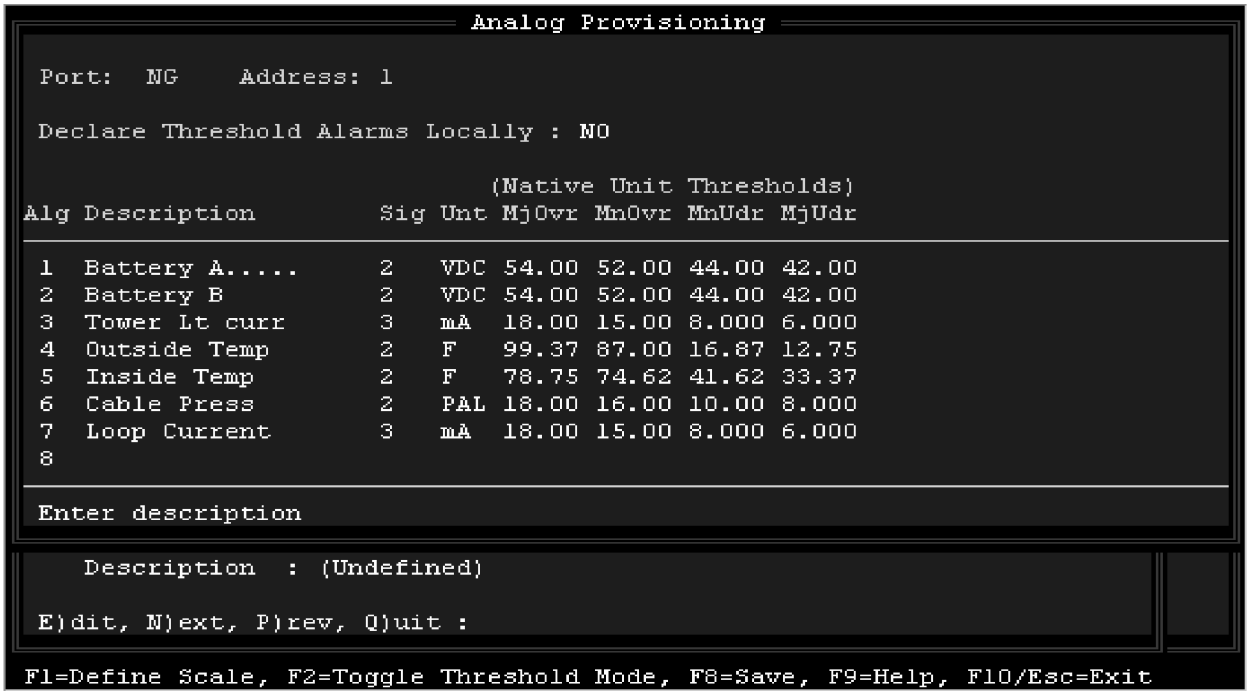


```
                              Point Definition
 Port   : 2   Addr: 1     Disp: 1         Display Desc :
    P L H L S R
    o o s e t v                         DCP(F) INTERROGATOR
 Pt l g t v s s   Description                              Fail     Clear
  1 B L H A A N   OPEN DOOR                                OPEN     CLOSED
  2 B L H A A N   HIGH TEMP                                HI       NORM
  3 B L H A A N   LOW TEMP                                 LO       NORM
  4 B L H A A N   BEACON                                   OUT      NORM
  5 B L H A A N   EAST RADIO                               FAIL     NORM
  6 B L H A A N   WEST RADIO                               FAIL     NORM
  7 B L H A A N   PRIMARY SWITCH                           FAIL     NORM
  8 B L H A A N   SECONDARY SWITCH                         FAIL     NORM

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :

                         Message

F10/Esc=Exit
```

Fig. M1.4 - Point Definition screen

Analog Point Definition (F5)

1. From the Remote Device Definition screen, press F5 to open the Analog Provision screen, shown in Figure M1.5. Table M1.E explains the fields in this screen.
2. Fill in the Description, Sig (Significant digits), and Unt (Units) fields.



```
                         Analog Provisioning

 Port:  NG    Address: 1

 Declare Threshold Alarms Locally : NO

                             (Native Unit Thresholds)
Alg Description        Sig Unt MjOvr MnOvr MnUdr MjUdr

 1  Battery A.....      2   VDC 54.00 52.00 44.00 42.00
 2  Battery B           2   VDC 54.00 52.00 44.00 42.00
 3  Tower Lt curr       3   mA  18.00 15.00 8.000 6.000
 4  Outside Temp        2   F   99.37 87.00 16.87 12.75
 5  Inside Temp         2   F   78.75 74.62 41.62 33.37
 6  Cable Press         2   PAL 18.00 16.00 10.00 8.000
 7  Loop Current        3   mA  18.00 15.00 8.000 6.000
 8

 Enter description

    Description   : (Undefined)

 E)dit, N)ext, P)rev, Q)uit :

F1=Define Scale, F2=Toggle Threshold Mode, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. M1.5 - Analog Provisioning screen

Table M1.E - Fields in the Analog Provisioning screen

Field	Description
Alg	Point number (fixed field)
Description	Enter the point description. Can be up to 14 characters.
Sig	Significant digits. Enter the number of digits to display after the decimal.
Unt	Enter the Units label, e.g., VDC, VAC F, C, psi, mA, etc.
F1 - Define scale	Calculates offset and scale values for each analog point. This should be done before entering Threshold values. See description below. Press F6 to set scale and offset value to unity.
MjOvr	Major over threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MnOvr	Minor over threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MnUdr	Minor under threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MjUdr	Major under threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).

Analog Display Worksheet

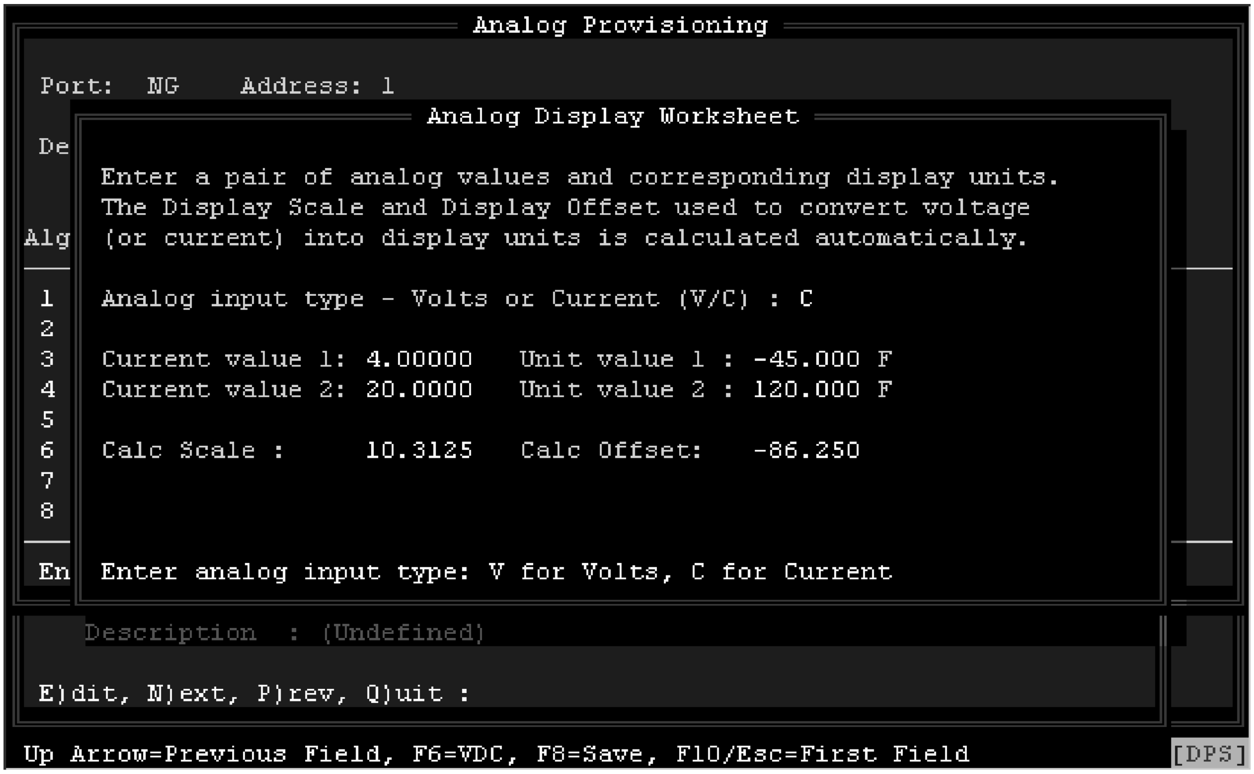
Note: This operation is optional for users who want to change the analog reference scale so that the displayed analog values correspond to real world values.

To define your analog reference scale, press F1 from the Analog Provision screen. The Analog Display Worksheet screen is used to convert the analog voltage and current readings into meaningful measurements and units. The analog inputs actually only measure either voltage or current. The values must be converted to to their actual units by determining the scale and offset for each input. By entering in a few simple values, T/Mon will make the conversion calculations automatically. Each field and its function are described below.

Analog input type - Volts or Current (V/C)
This field is where the type of electrical input to the analog channel is selected. This is either V or C for voltage or current. Determine this by the type of sensor or input device used for each input.

Voltage/Current value 1
This is the lowest/minimum voltage or current measurement in the range of the analog input. It is the actual voltage or current being input in to the analog channel. The minimum (value 1) and maximum (value 2) values must be entered in for conversion calculations.

Unit value 1
This is the lowest/minimum measurement in the native units of the analog input (degrees, % relative humidity, psi, etc.). The input device manual should specify its minimum and maximum range of measurement. Enter the minimum range here.



```
                    ═══ Analog Provisioning ═══

 Port:  NG    Address: 1
                  ═══ Analog Display Worksheet ═══
 De
      Enter a pair of analog values and corresponding display units.
      The Display Scale and Display Offset used to convert voltage
 Alg  (or current) into display units is calculated automatically.

 1    Analog input type - Volts or Current (V/C) : C
 2
 3    Current value 1: 4.00000   Unit value 1 : -45.000 F
 4    Current value 2: 20.0000   Unit value 2 : 120.000 F
 5
 6    Calc Scale :     10.3125   Calc Offset:   -86.250
 7
 8

 En   Enter analog input type: V for Volts, C for Current

     Description  : (Undefined)

 E)dit, N)ext, P)rev, Q)uit :

 Up Arrow=Previous Field, F6=VDC, F8=Save, F10/Esc=First Field       [DPS]
```

Fig. M1.6 - Analog Display Worksheet screen

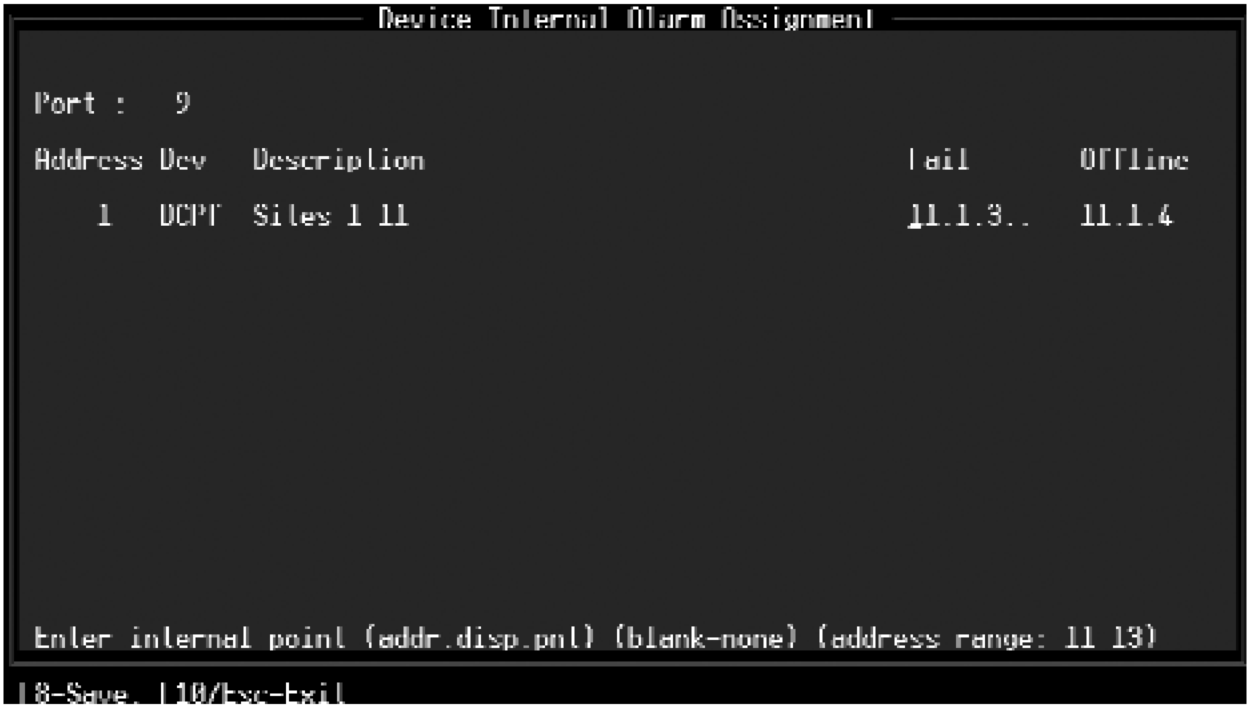
Voltage/Current value 2
This is the highest/maximum voltage or current measurement in the range of the analog input. It is the actual voltage or current being input in to the analog channel. The minimum (value 1) and maximum (value 2) values must be entered in for conversion calculations.

Unit value 2
This is the highest/maximum measurement in the native units of the analog input (degrees, % relative humidity, psi, etc.). The input device manual should specify its minimum and maximum range of measurement. Enter the maximum range here.

After entering the minimum and maximum ranges in both actual voltage or current values and native units, the calc scale and calc offset will automatically be calculated. After exiting the worksheet, key through the remaining entries for that input to make the changes effective.

Device Failures/ Offlines (F3)

Entering F3 (Int Alarms) from the Remote Device Definition screen for defined DCP(F) Interrogators will bring you to the Device Internal Alarm Assignment screen. Refer to Section 14 for more information on Internal Alarms.



```
                    Device Internal Alarm Assignment

Port :   9

Address Dev   Description                                  Fail       Offline

    1   DCPF  Sites 1 11                                   11.1.3..   11.1.4

Enter internal point (addr.disp.pnt) (blank-none) (address range: 11 13)
F8-Save, F10/Esc-Exit
```

Fig. M1.7 - Device Internal Alarm Assignment screen

Control Relays

Controls that are associated with a DCP device would be configured in Label Controls or Site Controls. For detailed instructions see Section 12 “Configure Controls.”

DCP(F) Database Transfer

Note: Only available if multiple TMonXMs are in use — see Section 20 (Configure Redundant Dual T/Mon Backup).

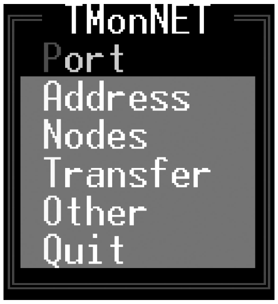


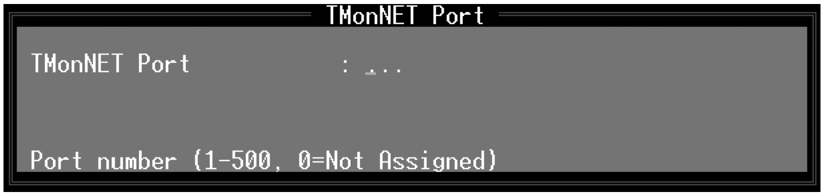
Fig. M1.8 - Network menu

The DCP(F) database transfer section allows you to setup your DCP(F) database transfer menus, selections for setting up slaves and setting up the network nodes and ports.

First, Define a remote port for communication to DCP(F) equipment. Do this by selecting Remote Ports from the Parameters menu and then define a port for DCP(F) Interrogator on the Remote Parameters screen. This is explained in the previous part of this software module documentation.

TMonNET Port
Select TMonNET from the Parameters menu, to set up the data transfer variables for T/MonXM. An example of the TMonNET menu is shown to the left.

To assign what port the job will setup select Port from the TMonNET menu. The TMonNET Port window will appear — see Figure M1.9. Enter the DCP(F) port number that you previously defined for the TMonNET Port. The TMonNET Port is the Port on both T/Mon systems that physically connect the system. It must also be set up for DCP(F) or DCP(X) protocol. This port is typically used to control protection switches. It may also be used to poll DCP(F) RTUs, though this is not recommended.



```
TMonNET Port

TMonNET Port           : _..


Port number (1-500, 0=Not Assigned)
```

Fig. M1.9 - TMonNET Port window

Table M1.F - Field in the TMonNET Port window

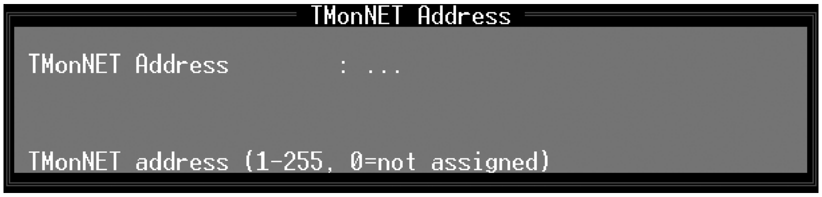
Field	Description
TMonNET Port	Enter the port number for DCPF database transfer. Valid entries are 1-500. A “0” (zero) entry assigns no port for transfer

Table M1.G - TMonNET Port window key command

Field	Description
F10/Esc	Exit. Exits from this portion of the program.

TMonNET Address

Selecting Address from the TMonNET menu allows you to access the TMonNET Address window and define the network address. This is the network address that you assign to **the T/MonXM system currently being edited** in the master/slave network. An example of the TMonNET Address window is shown below.



```
TMonNET Address        : ...


TMonNET address (1-255, 0=not assigned)
```

Fig. M1.10 - Network Address window

Note: *The network address can be indexed with other DCP(F) remote addresses.*

The field on the TMonNET Address window is as follows

Table M1.H - Field in the TMonNET Address window

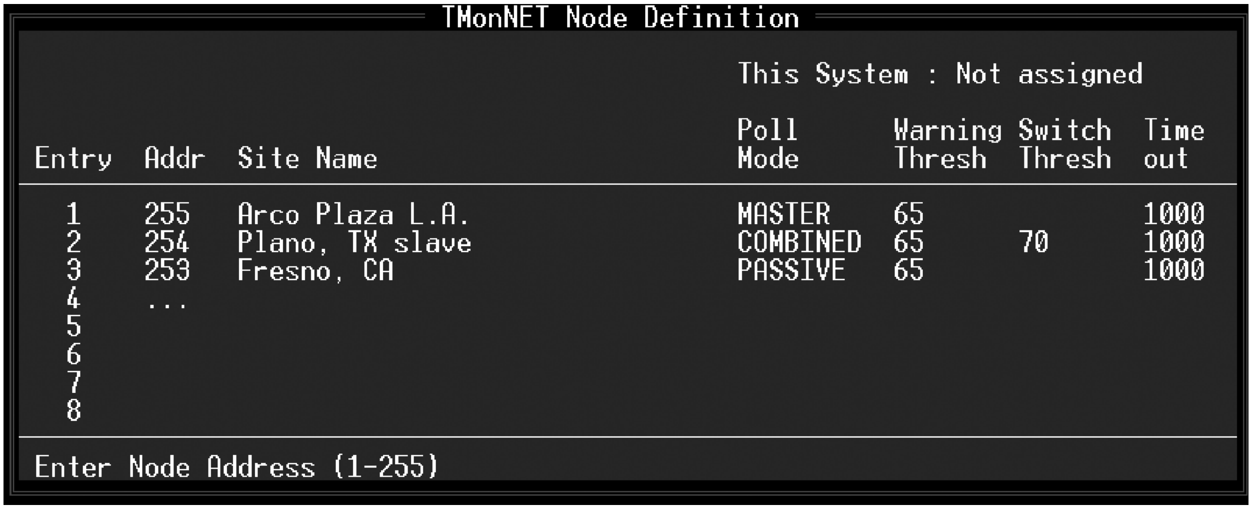
Field	Description
TMonNET Address	DCP address that you are assigning to the T/MonXM system. Valid entries are 1-255. A “0” (zero) entry assigns no address. Each T/MonXM system in the TMonNET network must have a unique address.

Table M1.I - TMonNET Address window key command

Field	Description
F10/Esc	Exit. Exits from this portion of the program.

TMonNET Nodes

Selecting Nodes from the TMonNET menu allows you to access the TMonNET Node Definition screen and define the network node definitions. This is where you define the master and slave addresses that are on the system. An example of the TMonNET Node Definition screen is shown below:



```
                                TMonNET Node Definition

                                                  This System : Not assigned

                                                  Poll      Warning Switch  Time
Entry  Addr  Site Name                            Mode      Thresh  Thresh  out

  1    255   Arco Plaza L.A.                      MASTER    65              1000
  2    254   Plano, TX slave                      COMBINED  65      70      1000
  3    253   Fresno, CA                           PASSIVE   65              1000
  4    ...
  5
  6
  7
  8

Enter Node Address (1-255)
```

Fig. M1.11 - TMonNET Node Definition screen

Note: The fields and function keys on the TMonNET Node Definition screen are described in Tables M1.J and M1.K on the following page.

Table M1.J - Fields in the TMonNET Node Definition screen

<table>
<tr><th>Field</th><th colspan="2">Description</th></tr>
<tr><td>Entry</td><td colspan="2">This is the entry reference number.</td></tr>
<tr><td>Addr</td><td colspan="2">Enter the DCPF address of the network node. Valid entries are 1-255.</td></tr>
<tr><td>Site Name</td><td colspan="2">Enter the node site name. (Maximum 15 character name.)</td></tr>
<tr><td rowspan="4">Poll Mode</td><td colspan="2">Enter the defined polling mode for that system. Valid entries are Passive, Combined, or Master. Note: If set for Master Mode, the system will ask for Warning Threshold and Time out settings. If set for Combined Mode, the system will ask for Warning Threshold and Switch Threshold settings.</td></tr>
<tr><td>Master Mode</td><td>Will always attempt to poll RTUs. There should at most be one master in a network.</td></tr>
<tr><td>Passive</td><td>Never polls network, but will detect alarms.</td></tr>
<tr><td>Combined</td><td>Starts out passive, but if it senses no activity, it will become master. Will revert to passive if it detects online activity.</td></tr>
<tr><td>Warning Thresh</td><td colspan="2">Enter the seconds of no activity before warning is sent. Valid entries are 5-999.</td></tr>
<tr><td>Switch Thresh</td><td colspan="2">The Switch Threshold is the amount of time after the slave site sees no activity before it will switch over to active polling mode and poll the network. Valid entries are 2-999.</td></tr>
<tr><td>Time out</td><td colspan="2">Enter the communication timeout that was set on the Remote Parameters screen. Valid entries are 200-9999 milliseconds.</td></tr>
<tr><td>IP Address</td><td colspan="2">If using a port job above port 30, enter the IP Address of the secondary T/Mon unit.</td></tr>
</table>

Table M1.K - Key commands available in the TMonNET Node Definition screen

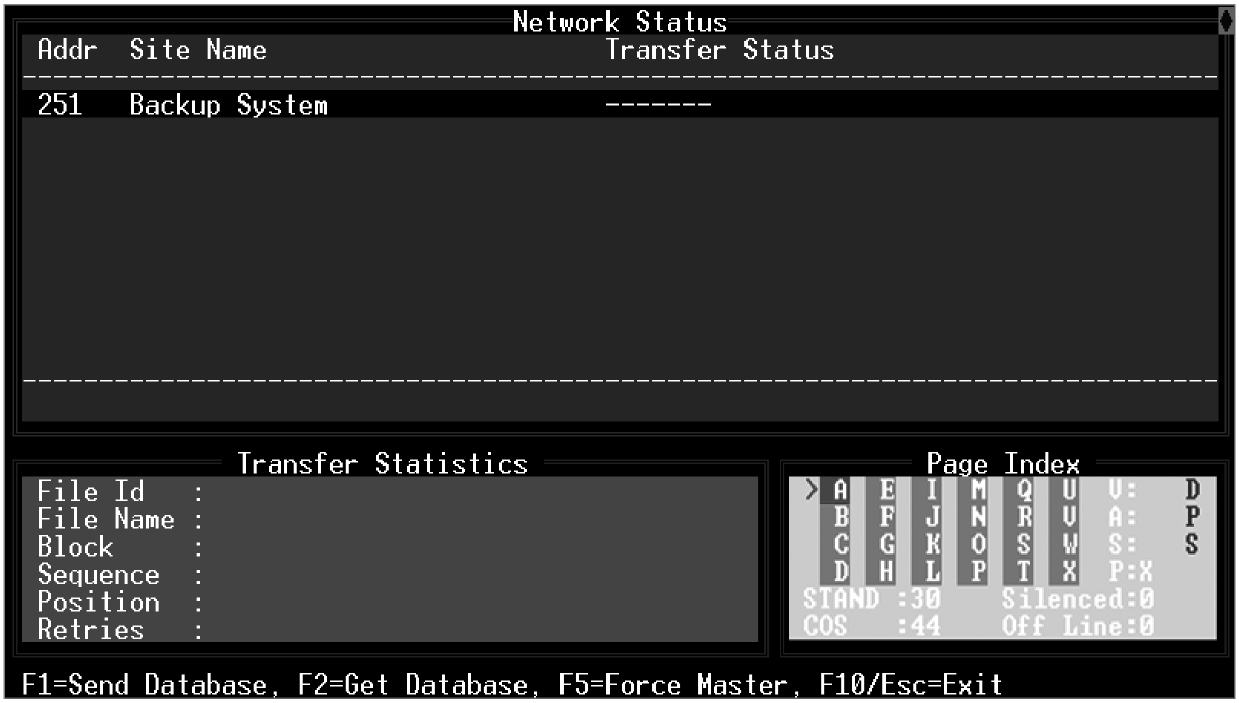
Function Key	Description
F2	Port Information which list which ports have a job.
F3	Blank. Deletes the current entry.
F8	Save. Saves the Network Node Definition database.
F9	Help. Online Help.
F10/Esc	Exit. Exits without saving any changes that may have been made.

DCP(F) Network Status (Monitor Mode)

Pressing Shift-F10 (DCP(F) Network) from the Monitor Mode Alarm Summary screen activates the database transfer screen. This screen displays the slave addresses and IDs in the Network Status window and shows the progress of the database transfer in the Download Statistics window. The standard Page Index window is also shown.

To perform a download, use the cursor keys to highlight the slave system that you wish to send the database (provision). Press F1 (Download) to initiate the download. Press F2 (Get Database) to retrieve a database.

Note: You can watch the download in the Download Statistics window. Refer to Table M1.L for field descriptions in the Network Status window. See Table M1.M for field descriptions in the Download Statistics window.



```
                                Network Status
 Addr  Site Name                           Transfer Status
-------------------------------------------------------------------------------
 251   Backup System                       -------

-------------------------------------------------------------------------------

        Transfer Statistics                           Page Index
 File Id   :                              > A  E  I  M  Q  U  V:    D
 File Name :                                B  F  J  N  R  V  A:    P
 Block     :                                C  G  K  O  S  W  S:    S
 Sequence  :                                D  H  L  P  T  X  P:X
 Position  :                              STAND :30     Silenced:0
 Retries   :                              COS   :44     Off Line:0

F1=Send Database, F2=Get Database, F5=Force Master, F10/Esc=Exit
```

Fig. M1.12 - Database Transfer screen

Table M1.L - Fields in the Network Status window

Field	Description
Addr	The slave’s address.
Site Name	The slave’s site name.
Transfer Status	Indicates the download status.

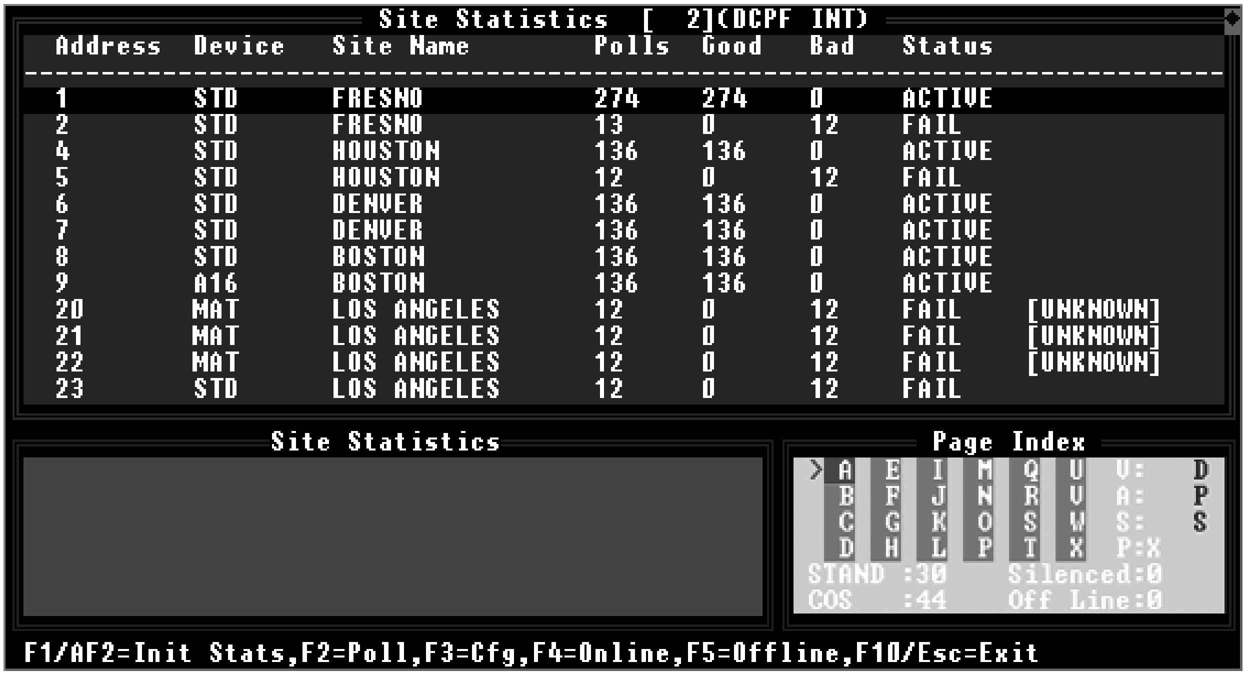
Table M1.M - Fields in the Download Statistics window

Field	Description
File Id	This is a description of the data is being transferred.
File Name	This is the name of the files that are being transferred.
Block	This the block number of the file name that is being transferee.
Sequence	Transfer packet information.
Position	Transfer packet information.
Retries	Indicates the number of retries because data wasn't acknowledged that it was sent correctly.

Address Statistics (Monitor Mode)

Pressing Shift F6 (Address Statistics) from the Monitor Mode Alarm Summary screen brings up the Site Statistics screen. An example of the Site Statistics screen is illustrated below:

The fields on the Site Statistics screen are described in Table M1.O.



```
                         Site Statistics  [   2](DCPF INT)
  Address  Device   Site Name        Polls  Good   Bad   Status
  ------------------------------------------------------------------------
  1        STD      FRESNO           274    274    0     ACTIVE
  2        STD      FRESNO           13     0      12    FAIL
  4        STD      HOUSTON          136    136    0     ACTIVE
  5        STD      HOUSTON          12     0      12    FAIL
  6        STD      DENVER           136    136    0     ACTIVE
  7        STD      DENVER           136    136    0     ACTIVE
  8        STD      BOSTON           136    136    0     ACTIVE
  9        A16      BOSTON           136    136    0     ACTIVE
  20       MAT      LOS ANGELES      12     0      12    FAIL     [UNKNOWN]
  21       MAT      LOS ANGELES      12     0      12    FAIL     [UNKNOWN]
  22       MAT      LOS ANGELES      12     0      12    FAIL     [UNKNOWN]
  23       STD      LOS ANGELES      12     0      12    FAIL

                   Site Statistics                          Page Index
                                                   > A  E  I  M  Q  U  V:    D
                                                     B  F  J  N  R  V  A:    P
                                                     C  G  K  O  S  W  S:    S
                                                     D  H  L  P  T  X  P:X
                                                   STAND :30    Silenced:0
                                                   COS   :44    Off Line:0
F1/AF2=Init Stats,F2=Poll,F3=Cfg,F4=Online,F5=Offline,F10/Esc=Exit
```

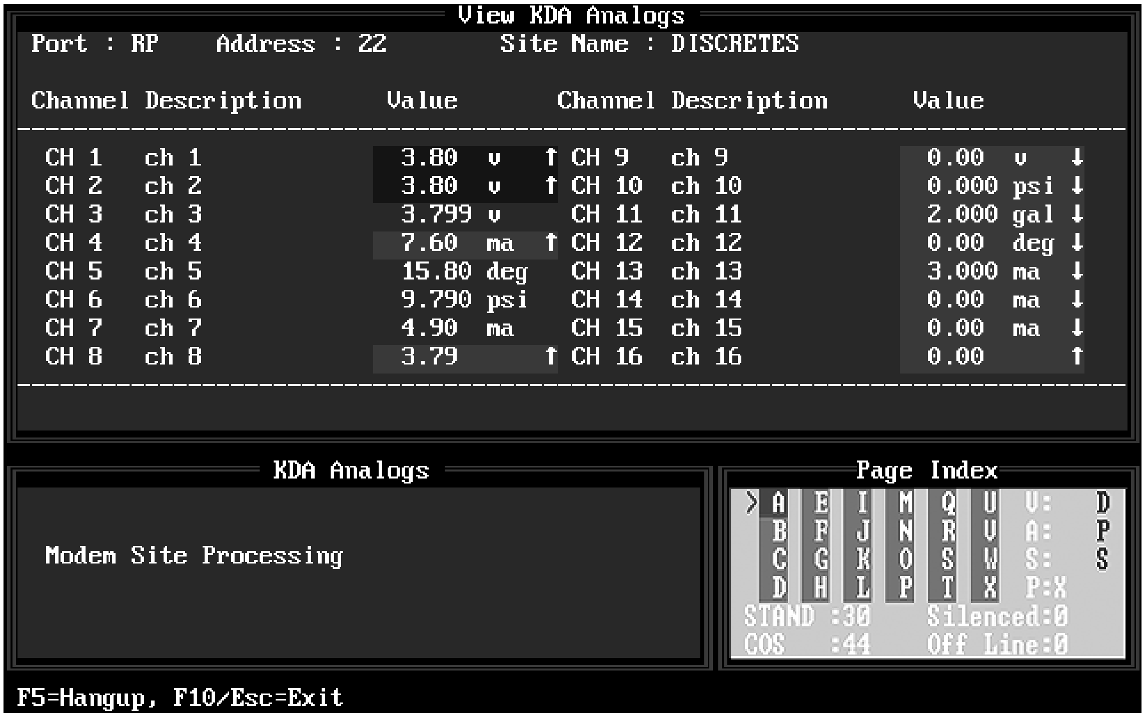
Fig. M1.13 - Site Statistics screen

Table M1.N - Key commands available in the Site Statistics screen

Function Key	Description
F1	Init Stats. This resets the counts back to zero to start fresh.
F2	Force poll to remote.
F4	Put unit online.
F5	Take unit offline.
F6	View analogs.
F10/Esc	Exit. Exits from this portion of the program.

Table M1.O - Fields in the Site Statistics screen

Field	Description	
Address	The device address that is assigned to that port.	
DCM Interrogator Devices	MAT	MAT (400)
	CPM	Critical Point Module
	VDM	Dantel™ Card
	SBP	Smart Bypass Card
DCP(F) Interrogator Devices	STD (DCPF)	Standard JACE-5XX (Modbus device) Testset
	NET	Network slaves that are on the system
	DPM	Discrete Point Module
	BVM	Battery Voltage Monitor Card
	PWS	Protection Switch
	DAS	TBOS/ASCII Expansion
	A08	8 Channel Analog (Exp)
8 Channel Analog (B) (Exp)	KDA	KDA Timestamp Base
KDA 832-T8	A16	16 Channel Analog (Exp)
16 Channel Analog (400)	A8T	8 Analog/4 TBOS
	T08	8 Channel TBOS (400)
	NG	NetGuardian
	NGC	NetGuardian C
	216	NetGuardian 216
	NW	NetWatchman
	GLD	General LED Display
	BAC	Building Access Controller
	APS	Alt Path Switch
	D5K	DS5000
	UNK	All other devices not listed
Site Name	This is the site name that was assigned to the device.	
Polls	This is a continuous count of the polls that have been sent out to the site	
Ok	This is the number of OK responses to the polls.	
Fail	This is the number of Failed responses to the polls.	
Status	Indicates whether or not the device is actively being monitored and is a good device that is answering. An OFFLINE statement occurs if the device is manually taken offline. A FAILED statement occurs if the device failed to answer in 3 consecutive polls.	



```
                              View KDA Analogs
 Port : RP    Address : 22       Site Name : DISCRETES

 Channel Description      Value      Channel Description      Value
--------------------------------------------------------------------------------
  CH 1   ch 1               3.80  v   ↑ CH 9   ch 9              0.00  v   ↓
  CH 2   ch 2               3.80  v   ↑ CH 10  ch 10             0.000 psi ↓
  CH 3   ch 3               3.799 v     CH 11  ch 11             2.000 gal ↓
  CH 4   ch 4               7.60  ma  ↑ CH 12  ch 12             0.00  deg ↓
  CH 5   ch 5               15.80 deg   CH 13  ch 13             3.000 ma  ↓
  CH 6   ch 6               9.790 psi   CH 14  ch 14             0.00  ma  ↓
  CH 7   ch 7               4.90  ma    CH 15  ch 15             0.00  ma  ↓
  CH 8   ch 8               3.79      ↑ CH 16  ch 16             0.00      ↑
--------------------------------------------------------------------------------

                KDA Analogs                              Page Index
                                                 > A  E  I  M  Q  U  V:   D
                                                   B  F  J  N  R  V  A:   P
  Modem Site Processing                            C  G  K  O  S  W  S:   S
                                                   D  H  L  P  T  X  P:X
                                                 STAND :30     Silenced:0
                                                 COS   :44     Off Line:0
F5=Hangup, F10/Esc=Exit
```

Fig. M1.14 - View KDA analogs screen shows each channel in converted value and units.

View Analogs

To read analog values from a (dedicated line) KDA remote equipped with an Analog Expansion Card or a 400-type analog card, or from a NetGuardian, press Shift-F6 while in the main monitor screen. The Site Statistics screen will be displayed. Select the address/ device / site name for the desired remote.

Press F6 to see the View KDA Analogs or View Net Guardian screen. During this function other alarms will be received via the dedicated port being used for the analog values. Other ports will also continue to be monitored. The Page Index Window will indicate if any new alarms are received.

Poll type automatically changes from upset to full update when viewing a dedicated analog value.

To read analog values from a (dial-up) KDA remote equipped with an Analog Expansion Card or a 400-type analog card, press Shift-F4 while in the main monitor screen. The Dialup Site Monitor screen will be displayed. Select the address/ device / site name for the desired remote. Press F6 to see the View KDA Analogs screen. Press F5 to cause the modem to dial the site for the latest analog data.* The modem remains on line monitoring the analog values until F5 is pressed again to hang up the modem. During this function no other alarms can be received via the dial port. Other ports will continue to be monitored. The Page Index Window will indicate if any new alarms are received. You must press F5 again to cause the modem to hang up.

Analog values are displayed in native units, e.g., degrees.

Points in alarm will display the severity (alarm level) color behind the point value, plus an arrow pointing up for over threshold alarms and an arrow pointing down for under threshold alarms.

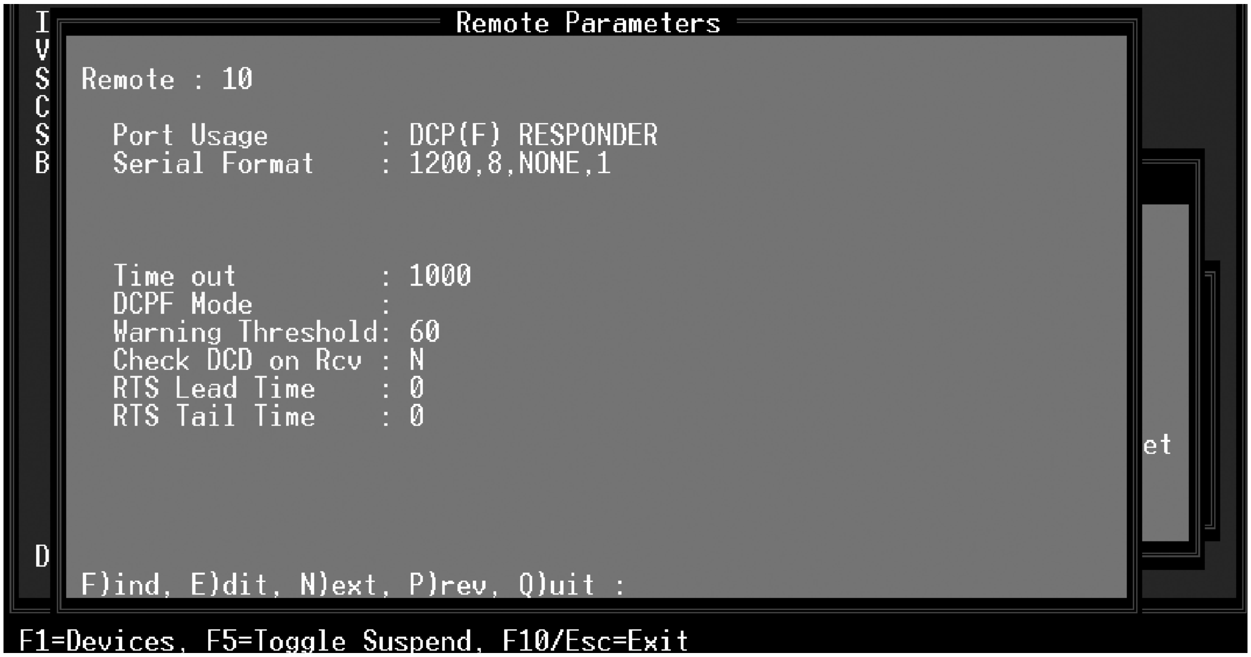
*Does not work for a 400-type analog card.

DCP(F) Responder

The DCP(F) Responder software module must be installed before you can access the DCP(F) Responder. Refer to Section 2 - Software Installation for installation procedures.

To define a remote port for communication to DCP(F) equipment, select Remote Ports from the Parameters menu and then select DCP(F) Responder at the Port Usage field.

An example of the Remote Parameters screen defined for DCP(F) Responders is illustrated in Figure M1.15. Refer to Table M1.P for field descriptions.



```
Remote Parameters

Remote : 10

  Port Usage       : DCP(F) RESPONDER
  Serial Format    : 1200,8,NONE,1


  Time out         : 1000
  DCPF Mode        :
  Warning Threshold: 60
  Check DCD on Rcv : N
  RTS Lead Time    : 0
  RTS Tail Time    : 0

F)ind, E)dit, N)ext, P)rev, Q)uit :
F1=Devices, F5=Toggle Suspend, F10/Esc=Exit
```

Fig. M1.15 - Remote Parameters screen defined for DCP(F) Responders

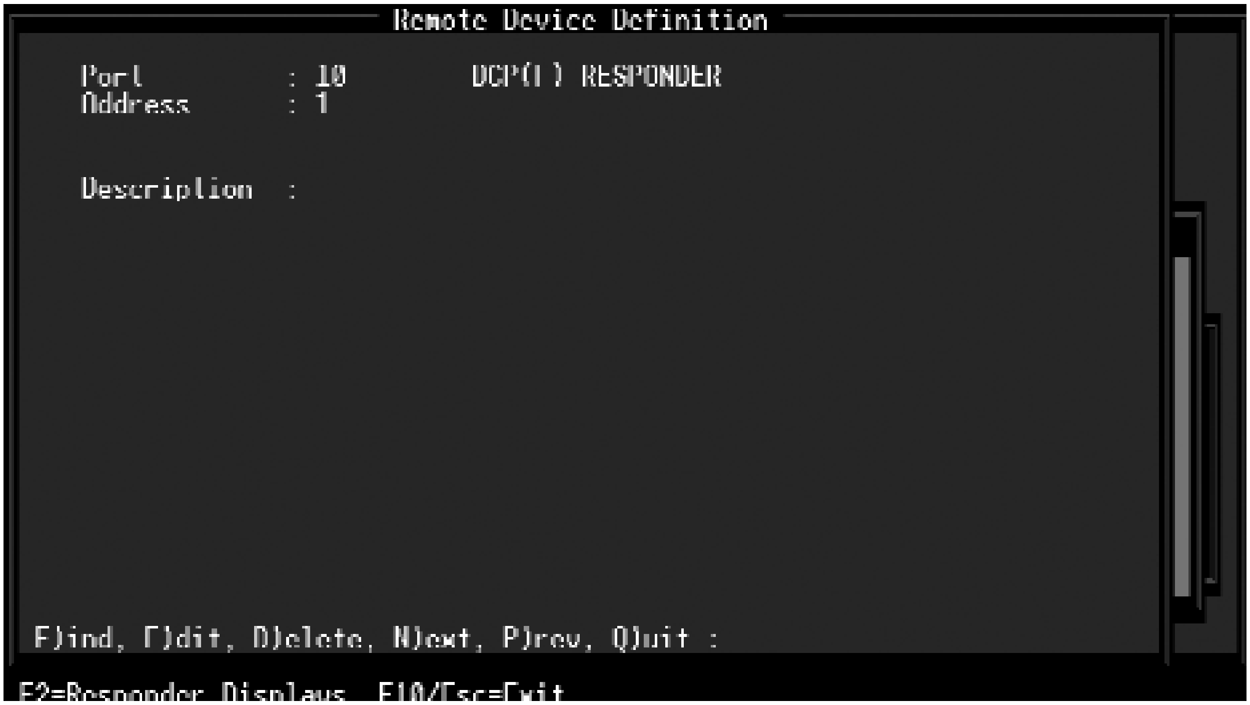
Table M1.P - Remote Parameters screen field descriptions

Field	Description
Port Usage	Valid port types are DCP(F) Responder and Halted. Use Halted (default) if no device is connected to the communication port.
Serial Format	Baud rate, word length, parity, and stop bits settings. [1200, 8, NONE, 1]
Time Out	Time the interrogator will wait for a response before failing a poll. Acceptable values are 200-9999 milliseconds. [1000]
DCPF Mode	Enter “F” if you wish to use DCP(F) mode and “N” for DCP mode and “X” for DCP(X). Enter “1” for DCP1 mode. DCP(X) is better error detection. All DPS Telecom RTUs support DCP(F). Newer DPS Telecom RTUs support DCP(X). Use DCP and DCP1 when using third party RTUs. [F]
Warning Threshold	The Warning Threshold is the seconds of no activity before a warning is issued. Acceptable values are 5-999 seconds. [60]
Check DCD on RCV	Y = Enable DCD checking to validate RCV. N = Disable. [N]
RTS Lead Time	RTS on time (0-2500msec). [0] **Note:** Set to 60 for 202 modems.
RTS Tail Time	RTS on time (0-2500msec). [0] **Note:** Set to 10 for 202 modems.

Remote Device Definition

Pressing F1 (Devices) at the Remote Parameters screen for defined DCP(F) Responders will bring you to the Remote Device Definition screen.

An example of the Remote Device Definition screen is illustrated in Figure M1.16.

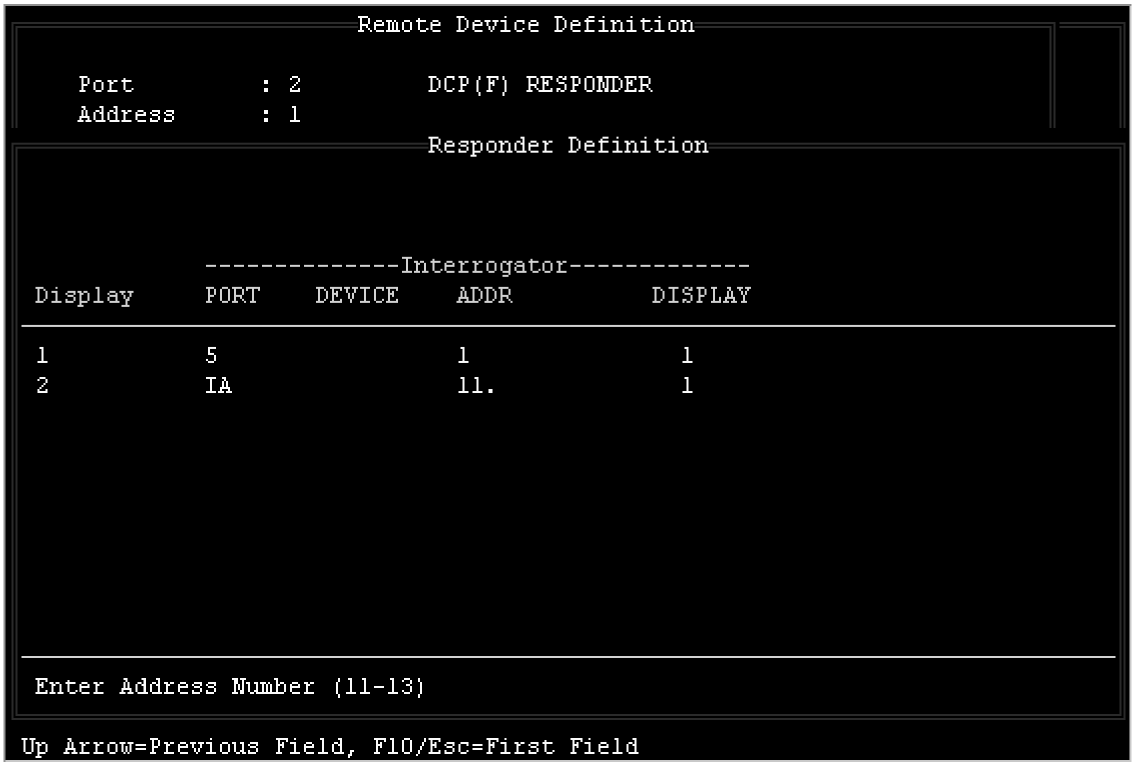


```
                        Remote Device Definition

    Port          : 10        DCP(F) RESPONDER
    Address       : 1

    Description   :




 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :

F2=Responder Displays, F10/Esc=Exit
```

Fig. M1.16 - Remote Device Definition screen

Fig. M1.Q - Fields in the Remote Device Definition screen

Field	Description
Port	Enter the Port. Valid entries are 1-500.
Address	Enter the Address of the device. Valid entries are 1-255.
Description	Enter the Description of the device.



```
                         Remote Device Definition

    Port          : 2         DCP(F) RESPONDER
    Address       : 1
                              Responder Definition



            --------------Interrogator-------------
 Display     PORT    DEVICE    ADDR          DISPLAY

 1           5                 1               1
 2           IA                11.             1








 Enter Address Number (11-13)

Up Arrow=Previous Field, F10/Esc=First Field
```

Fig. M1.17 - Responder Definition screen

Responder Definition

Entering F2 (Responder Displays) from the Remote Device Definition screen will bring you to the Responder Definition screen. See Figure M1.17.

Table M1.R - Fields in the Responder Definition screen

Field	Description
Display	Enter the Responding Display Number. Valid entries are 1-64.
Port	Enter the Port Number. Valid entries are Port 1-500, IA (User Internal), LC (Local Control), RP (Modem), K1, K2, NG, and N2.
Device	This field is an address modifier for applicable protocols such as DCM, ASCII, DCP.
Addr	Enter Address Number. Valid entries are 1-255. **Note:** Enter Address Number 11-12, when IA (User Internal) is selected on the port field.
Display	Enter Display Number. Valid entries for this field are relative to the device defined on the Port field

Table M1.S - Key commands available in the Responder Definition screen

Function Key	Description
F3	Blank. Deletes the current entry.
F8	Save. Saves the Network Node Definition database.
F10/Esc	Exit. Exits without saving any changes that may have been made.

LAN-Based Remotes — NetGuardian

This section is a step-by-step guide to configuring T/MonXM to receive alarms forwarded from the LAN-based NetGuardian alarm monitoring remote. Before you can poll your remote via the LAN you will need to create a port job first.

Note: The NetGuardian may also be configured as a dial-up device. You will have to create a TRIP Dial-up job port. See Software Module 2.

Step One

Define Port 28 for Ethernet I/O

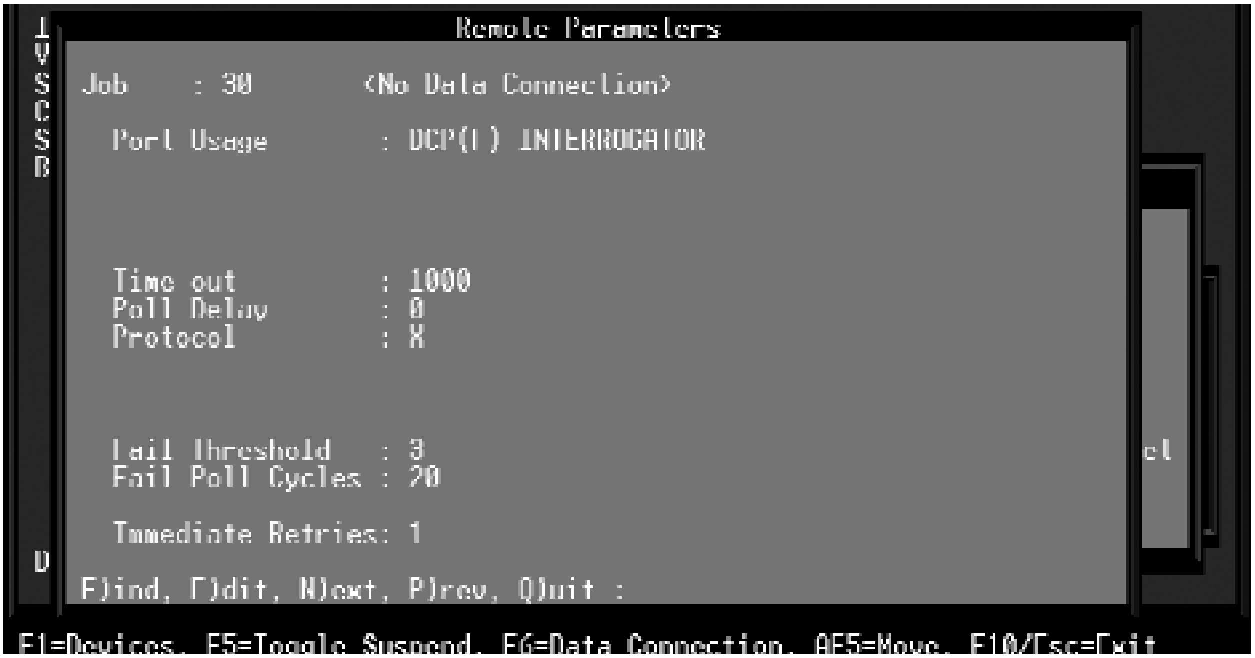
The NetGuardian will need a LAN connection to the T/MonXM system, so your first step is to make sure Port 28 is defined for Ethernet input and output. For instructions on defining Port 28, see Section 3.

Step Two

Define a job port for DCP(F) Interrogator

Next, find an unused port numbered 30 or higher, and define it for DCP(F) Interrogator port usage. Fill in the fields as shown in Figure M1.18 below.

Note: You must select X in the DCPF mode/Protocol field.



```
                      Remote Parameters

Job    : 30       <No Data Connection>

  Port Usage       : DCP(F) INTERROGATOR



  Time out         : 1000
  Poll Delay       : 0
  Protocol         : X



  Fail Threshold   : 3
  Fail Poll Cycles : 20

  Immediate Retries: 1

F)ind, E)dit, N)ext, P)rev, Q)uit :

F1=Devices, F5=Toggle Suspend, F6=Data Connection, AF5=Move, F10/Esc=Exit
```

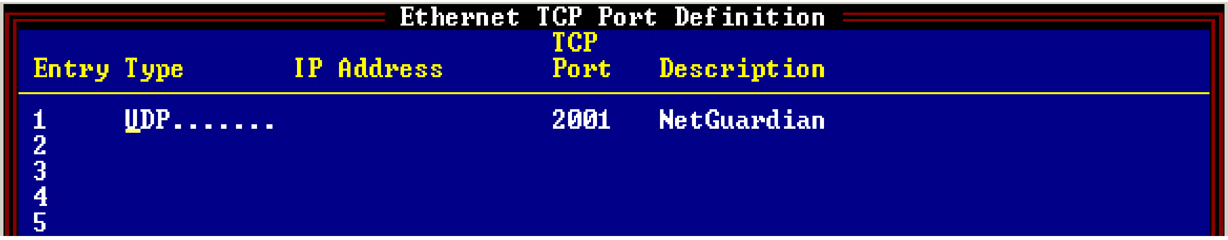
Fig. M1.18 - Define a Job for DCP(F) Interrogator

Step Three

Create a Data Connection

Next, create a data connection for the DCP(F) Interrogator.

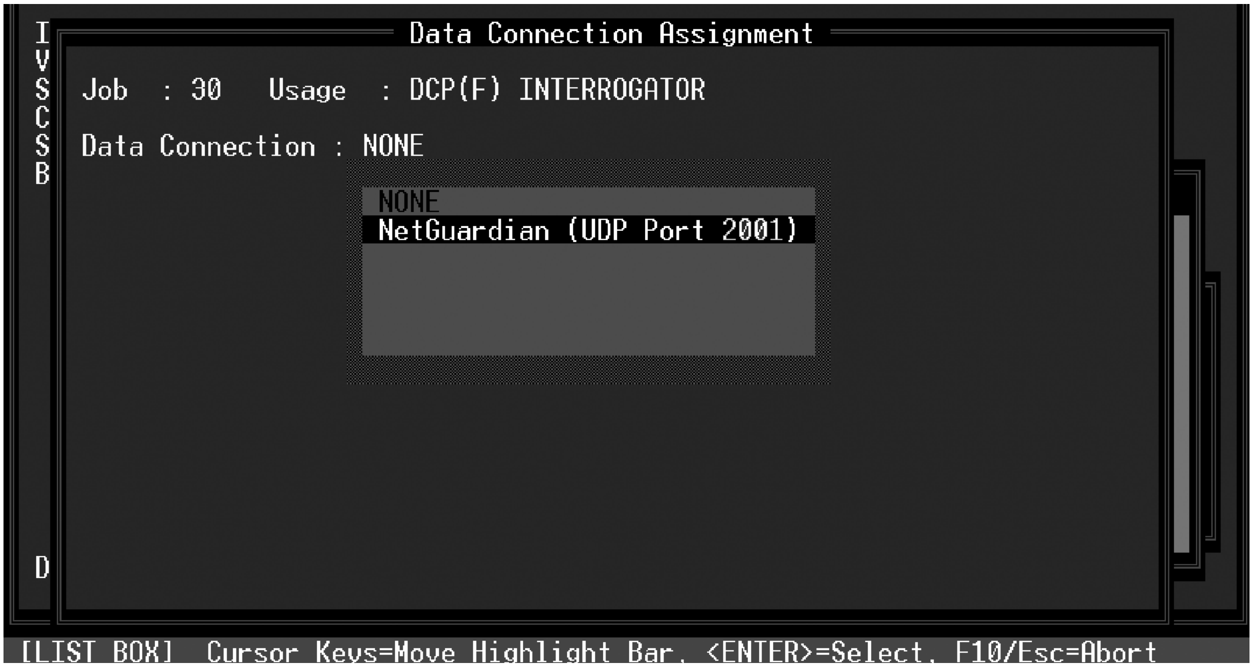
1. Press F6 to open the Data Connection screen.
2. Press F1 to open the Ethernet TCP Ports Definition screen.
3. Press Tab to select a port type. **Note:** You must select UDP.
4. Enter a port number and description. See Figure M1.19 below.



```
                         Ethernet TCP Port Definition
                                     TCP
Entry Type          IP Address       Port    Description

1     UDP.......                     2001    NetGuardian
2
3
4
5
```

Fig. M1.19 - Create a UDP port for a data connection

5. Press F8 to save your changes and return to the Data Connection Assignment screen.
6. From the Data Connection Assignment screen, press Tab to select the List Box. Select the UDP port you just defined for the data connection — see Figure M1.20.



```
I                     Data Connection Assignment
V
S  Job  : 30   Usage  : DCP(F) INTERROGATOR
C
S  Data Connection : NONE
B
                      NONE
                      NetGuardian (UDP Port 2001)





D
[LIST BOX]  Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

Fig. M1.20 - Select the UDP port in the Data Connection Assignment screen

Step Four

Define the NetGuardian

To Provision a NetGuardian in T/Mon, go to Master Menu > Files > LAN-based Remotes > Net Guardian. Then define the NetGuardian on the following screen — see Figure M1.22.

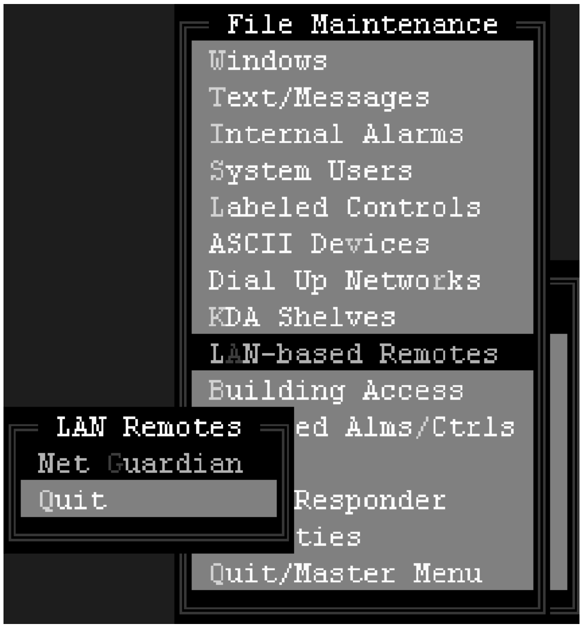
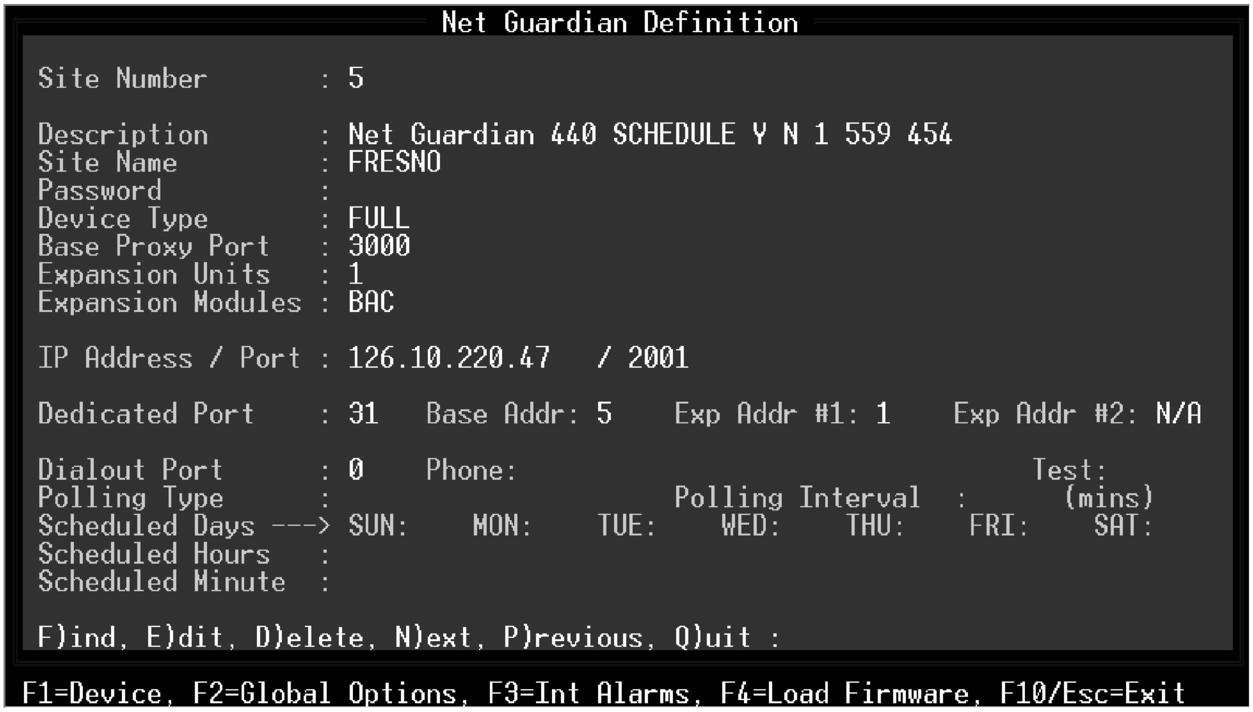


Fig. M1.21 - Select LAN-based Remotes to configure the NetGuardian



```
                         Net Guardian Definition

Site Number       : 5

Description       : Net Guardian 440 SCHEDULE Y N 1 559 454
Site Name         : FRESNO
Password          :
Device Type       : FULL
Base Proxy Port   : 3000
Expansion Units   : 1
Expansion Modules : BAC

IP Address / Port : 126.10.220.47   / 2001

Dedicated Port    : 31   Base Addr: 5    Exp Addr #1: 1    Exp Addr #2: N/A

Dialout Port      : 0    Phone:                                Test:
Polling Type      :                 Polling Interval  :       (mins)
Scheduled Days ---> SUN:    MON:    TUE:    WED:    THU:    FRI:    SAT:
Scheduled Hours   :
Scheduled Minute  :

F)ind, E)dit, D)elete, N)ext, P)revious, Q)uit :

F1=Device, F2=Global Options, F3=Int Alarms, F4=Load Firmware, F10/Esc=Exit
```

Fig. M1.22 - NetGuardian definition screen

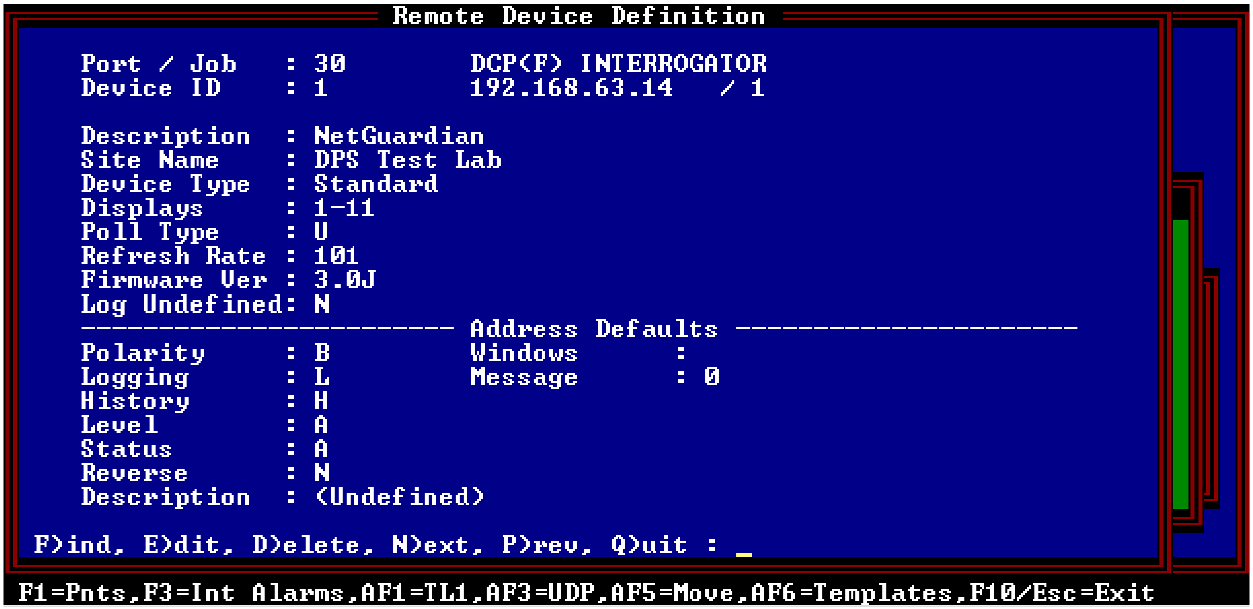
Table M1.T - Fields in the NetGuardian Definition screen.

Field	Description
Site Number	3-digit site number. This number is unique over the entire alarm network. This number is the “address” field for responders, derived alarms, and labeled controls.
Description	41 character description of site
Site Name	15 character site name
Password	20-character password. Only needed if T/Mon will be managing the proxy ports.
Device Type	Indicates if the NetGuardian is the standard version or the NetGuardian C version.
Base Proxy Port	Base TCP port for direct data port proxy.
Expansion Units	Number of NetGuardian expansion units connected to base unit.
Expansion Modules	Valid entries: None NMD 4 TBOS/TABS (NetMediator 4-Port TBOS/TABS module) BAC (Building Access Controller module)
IP Address	IP Address and TCP port of NetGuardian
Dedicated Port	If the NetGuardian reports on a dedicated line (DCPF), enter the T/MonXM port number. (Port must have been previously defined.) If the NetGuardian reports only on a dial line, enter ‘0’ (skips to Dial Port field).
Addr:	Enter the DCP(F) address for the unit. This is the address that T/Mon will use to poll the NetGuardian.
Dialout Port	Enter the port number used for dial out, if dial-out only or alternate path is used. Enter ‘0’ if dedicated line only (skips out of edit mode).
Phone	Enter the phone number to reach the remote. **Note:** See Section 16 (Monitor Mode > Dial-Up Site Monitor) for more information on Dial-up device management.
Test	Enter the number of minutes (0 to 9999) between dial-up integrity tests. This causes T/Mon to check the status of the dial-up link while the primary link is still functional. If T/Mon calls the unit and there is no response from the modem, an alarm condition will occur. The alarm will appear as an internal alarm.
Polling Type	Select Periodic or Schedule from the default box. Periodic polling polls at the interval specified in minutes in the polling interval field. Schedule sets a defined day and time in the week to poll the unit. If periodic is selected, the cursor will skip to the Polling Interval field. If schedule is selected, the cursor will skip to the scheduled days field.
Polling Interval	Periodic polling only. 0 to 9999 minutes. 0 = never. The cursor will skip out of edit mode after entering a value.
Scheduled Days	Enter the whole number of each hour (24 hour clock) to place a polling call (0-23, where 0 = midnight). **Example:** 0, 8-16 polls at midnight and every hour from 8 AM to 4 PM.
Scheduled Minutes	Enter the whole number of the offset from the hour each call is to be made. (0-59, where 0 = on the hour). **Example:** 30 polls at half past the hour.

Step Five

NetGuardian Device Definition

1. From the Net Guardian Definition screen, press F1 to open the NetGuardian Address Definition screen.
2. Fill in the fields as shown in Fig. M1.23. Be sure to enter the correct firmware version for the NetGuardian you will be using.



```
                           Remote Device Definition

    Port / Job    : 30         DCP(F) INTERROGATOR
    Device ID     : 1          192.168.63.14    / 1

    Description   : NetGuardian
    Site Name     : DPS Test Lab
    Device Type   : Standard
    Displays      : 1-11
    Poll Type     : U
    Refresh Rate  : 101
    Firmware Ver  : 3.0J
    Log Undefined: N
    ------------------------ Address Defaults ----------------------
    Polarity      : B          Windows       :
    Logging       : L          Message       : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit : _
F1=Pnts,F3=Int Alarms,AF1=TL1,AF3=UDP,AF5=Move,AF6=Templates,F10/Esc=Exit
```

Fig. M1.23 - Remote Device Definition screen

Table M1.U - Fields in the Remote Device Definition Definition screen

Field	Description
Port	Non-Editable field showing a virtual port assignment.
Address	Non-Editable field showing assigned address.
Displays	Non-Editable field showing assigned displays. List is automatically created based on the NetGuardian's capacity.
Firmware Ver	Enter the NetGuardian firmware version number. The firmware version is displayed on the LCD menu or immediately after logon via a telnet session. **Note:** Newer NetGuardian features will not function correctly if this field is left blank. If you do not know the firmware version of your NetGuardian unit, consult DPS Telecom.
Poll Type	Group, Upset or Full Update. Determines how much information to poll for. Group poll will poll for 4 displays at a time, cycling to the next 4 displays at the next poll. Upset will poll only for changes since the last poll. Full Update polls for all displays and information at each poll.
Refresh Rate	Number of polls before a refresh poll cycle occurs (full update). Only active when Poll Type is set to Upset.
Log Undefined	Yes (Y) or No (N). Creates a log of any undefined data received from a poll.

Note: Table M1.U continues on the following page.

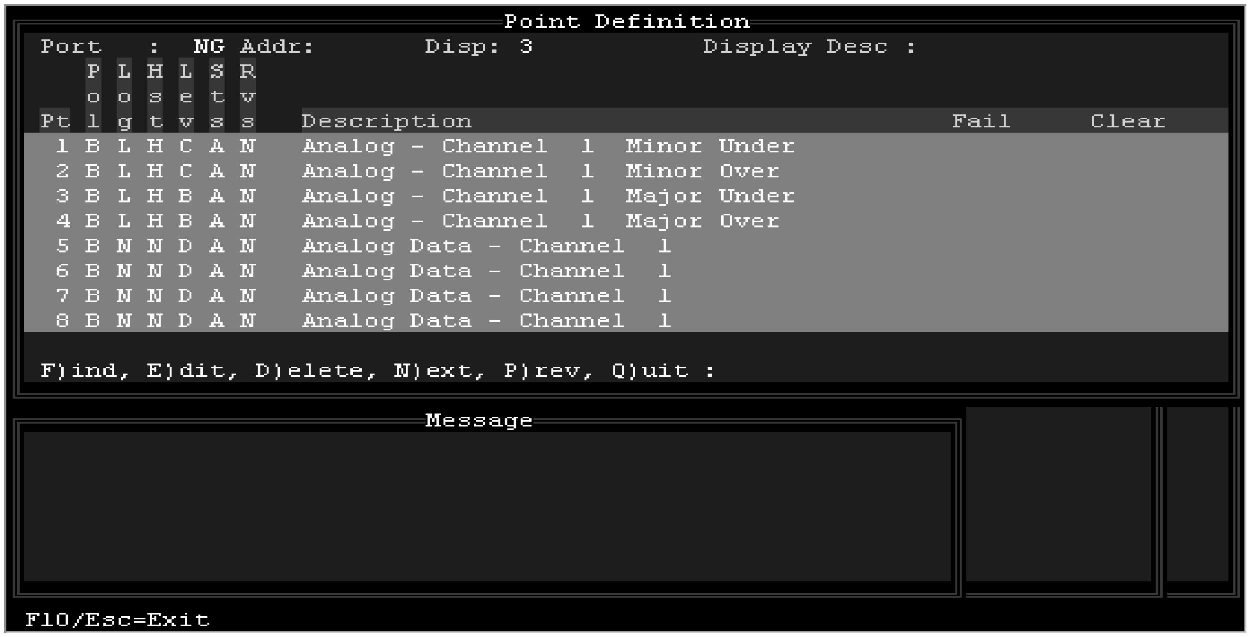
Table M1.U - Fields in the Remote Device Definition Definition screen (continued)

Field	Description
Address Defaults	If an alarm point is reported from the RTU that does not have a definition in T/MonXM, it will use the following parameters to display the alarm.
Polarity	Bipolar(B) or Uni-polar(U). [B]
Logging	Log(L) or No Log(N) [L] **Note:** goes to screen.
History	History(H) or No History(N). [H] **Note:** goes to history.
Level	A (CR), B (MJ), C(MN) or D(ST) [A]
Status	Alarm(A), Status(S) [A] Defines if T/Mon internal relay will change state.
Reverse	Reverse(R) or No Reverse(N) [N]
Description	Default point description. 40 characters (optional)
Windows	Window in Monitor Mode in which undefined alarms from this site will appear. Enter the default windows. Valid windows are 2-30 with standard features. More windows are available with the Alarm Windows software modules installed. Eight (8) windows maximum can be assigned.
Message	Enter the message number. Enter “0” for no message. The maximum messages available are limited by the number of messages in the message file.

Step Six

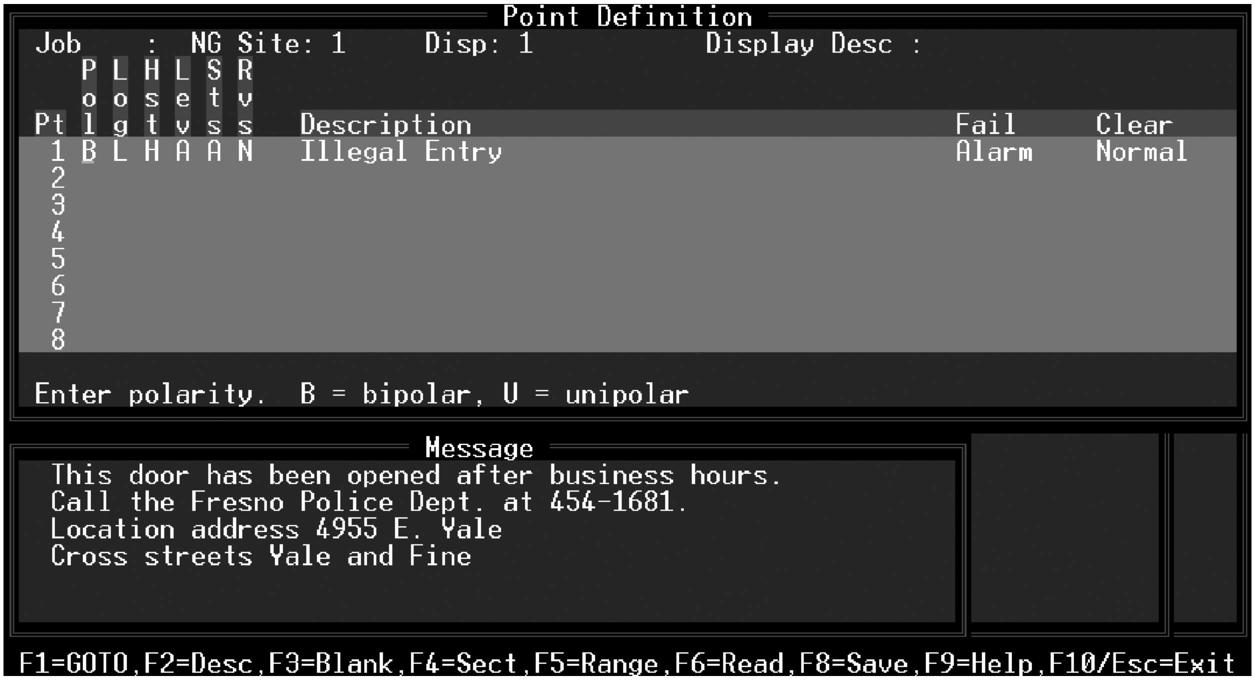
Define Points

1. Press F1 to open the Point Definition screen. By default, the screen will open to Display 3, which shows the first analog channel of the Net Guardian—see Figure M1.24.
2. Press F to use the F)ind command, and type 1. This command will add Display 1 to the NetGuardian definition.
3. Enter alarm information. (See Figure M1.25 for an example.) For complete instructions on defining points, see Section 10 and refer to Section 11 for display mapping.



```
                              Point Definition
 Port   :  NG Addr:       Disp: 3          Display Desc :
    P L H L S R
    o o s e t v
 Pt l g t v s s   Description                                 Fail      Clear
  1 B L H C A N   Analog - Channel  1  Minor Under
  2 B L H C A N   Analog - Channel  1  Minor Over
  3 B L H B A N   Analog - Channel  1  Major Under
  4 B L H B A N   Analog - Channel  1  Major Over
  5 B N N D A N   Analog Data - Channel  1
  6 B N N D A N   Analog Data - Channel  1
  7 B N N D A N   Analog Data - Channel  1
  8 B N N D A N   Analog Data - Channel  1

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :

                         Message

F10/Esc=Exit
```

Fig. M1.24 - NetGuardian Point Definition screen



```
                              Point Definition
Job    :  NG Site: 1     Disp: 1          Display Desc :
   P L H L S R
   o o s e t v
Pt l g t v s s   Description                                Fail     Clear
 1 B L H A A N   Illegal Entry                              Alarm    Normal
 2
 3
 4
 5
 6
 7
 8

Enter polarity.  B = bipolar, U = unipolar

                          Message
 This door has been opened after business hours.
 Call the Fresno Police Dept. at 454-1681.
 Location address 4955 E. Yale
 Cross streets Yale and Fine

F1=GOTO,F2=Desc,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9=Help,F10/Esc=Exit
```

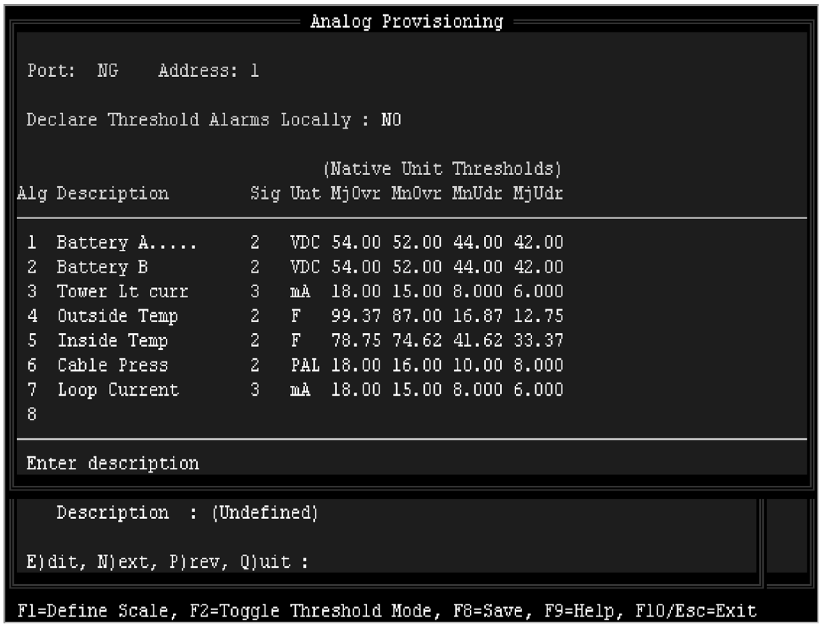
Fig. M1.25 - Point Definition, Display 1

Step Seven

Define Analog Points (Optional)

1. From the Remote Device Definition screen, press F5 to open the Analog Provision screen, shown in Figure M1.26. Table M1.U explains the fields in this screen.
2. Fill in the Description, Sig, and Unt fields.

Note: Provisioning of the NetGuardian through T/MonXM is not supported by recent NetGuardian firmware. This section is included for users of older NetGuardian firmware only.



```
                     Analog Provisioning

 Port:  NG    Address: 1

 Declare Threshold Alarms Locally : NO

                              (Native Unit Thresholds)
Alg Description        Sig Unt MjOvr MnOvr MnUdr MjUdr

 1  Battery A.....     2   VDC 54.00 52.00 44.00 42.00
 2  Battery B          2   VDC 54.00 52.00 44.00 42.00
 3  Tower Lt curr      3   mA  18.00 15.00 8.000 6.000
 4  Outside Temp       2   F   99.37 87.00 16.87 12.75
 5  Inside Temp        2   F   78.75 74.62 41.62 33.37
 6  Cable Press        2   PAL 18.00 16.00 10.00 8.000
 7  Loop Current       3   mA  18.00 15.00 8.000 6.000
 8

 Enter description

    Description  : (Undefined)

 E)dit, N)ext, P)rev, Q)uit :

F1=Define Scale, F2=Toggle Threshold Mode, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. M1.26 - NetGuardian Analog Provisioning screen

Table M1.V - Fields in the NetGuardian Analog Provisioning screen

Field	Description
Alg	Point number (fixed field)
Description	Enter the point description. Can be up to 14 characters.
Sig	Significant digits. Enter the number of digits to display after the decimal.
Unt	Enter the Units label, e.g., VDC, VAC F, C, psi, mA, etc.
F1 - Define scale	Calculates offset and scale values for each analog point. This should be done before entering Threshold values. See description below. Press F6 to set scale and offset value to unity.
MjOvr	Major over threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MnOvr	Minor over threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MnUdr	Minor under threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).
MjUdr	Major under threshold. Enter the threshold value in native units. **Note:** The bottom line in the window will show the available range in native units and the value of the input voltage or current (in mA).

Analog Display Worksheet

Note: This operation is optional for NetGuardian users who want to change the analog reference scale so that the displayed analog values correspond to real world values.

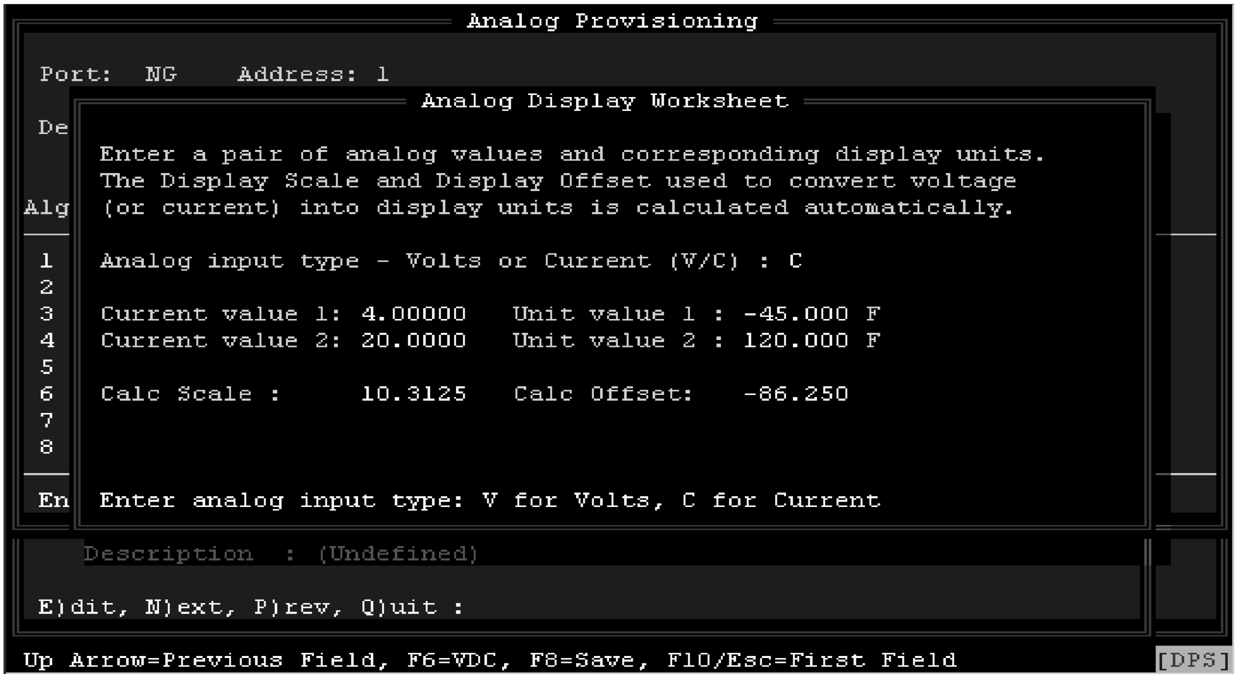
To define your analog reference scale, press F1 from the Analog Provision screen. The Analog Display Worksheet screen is used to convert the analog voltage and current readings into meaningful measurements and units. The analog inputs actually only measure either voltage or current. The values must be converted to to their actual units by determining the scale and offset for each input. By entering in a few simple values, T/Mon will make the conversion calculations automatically. Each field and its function are described below.

Analog input type - Volts or Current (V/C)
This field is where the type of electrical input to the analog channel is selected. This is either V or C for voltage or current. Determine this by the type of sensor or input device used for each input.

Voltage/Current value 1
This is the lowest/minimum voltage or current measurement in the range of the analog input. It is the actual voltage or current being input in to the analog channel. The minimum (value 1) and maximum (value 2) values must be entered in for conversion calculations.

Unit value 1
This is the lowest/minimum measurement in the native units of the analog input (degrees, % relative humidity, psi, etc.). The input device manual should specify its minimum and maximum range of measurement. Enter the minimum range here.

Voltage/Current value 2
This is the highest/maximum voltage or current measurement in the



```
                          Analog Provisioning

 Port:  NG    Address: 1
     ═══════════════ Analog Display Worksheet ═══════════════
 De
     Enter a pair of analog values and corresponding display units.
     The Display Scale and Display Offset used to convert voltage
Alg  (or current) into display units is calculated automatically.

 1   Analog input type - Volts or Current (V/C) : C
 2
 3   Current value 1: 4.00000   Unit value 1 : -45.000 F
 4   Current value 2: 20.0000   Unit value 2 : 120.000 F
 5
 6   Calc Scale :     10.3125   Calc Offset:   -86.250
 7
 8

 En  Enter analog input type: V for Volts, C for Current

     Description  : (Undefined)

 E)dit, N)ext, P)rev, Q)uit :

Up Arrow=Previous Field, F6=VDC, F8=Save, F10/Esc=First Field      [DPS]
```

Fig. M1.27 - NetGuardian Analog Display Worksheet screen

range of the analog input. It is the actual voltage or current being input in to the analog channel. The minimum (value 1) and maximum (value 2) values must be entered in for conversion calculations.

Unit value 2
This is the highest/maximum measurement in the native units of the analog input (degrees, % relative humidity, psi, etc.). The input device manual should specify its minimum and maximum range of measurement. Enter the maximum range here.

After entering the minimum and maximum ranges in both actual voltage or current values and native units, the calc scale and calc offset will automatically be calculated. After exiting the worksheet, key through the remaining entries for that input to make the changes effective.

Step Eight

Define Internal Alarms

Entering F3 (Int Alarms) from the Remote Device Definition screen for defined DCP(F) Interrogators will bring you to the Device Internal Alarm Assignment screen. Please refer to Section 14 for more information on Internal Alarms.

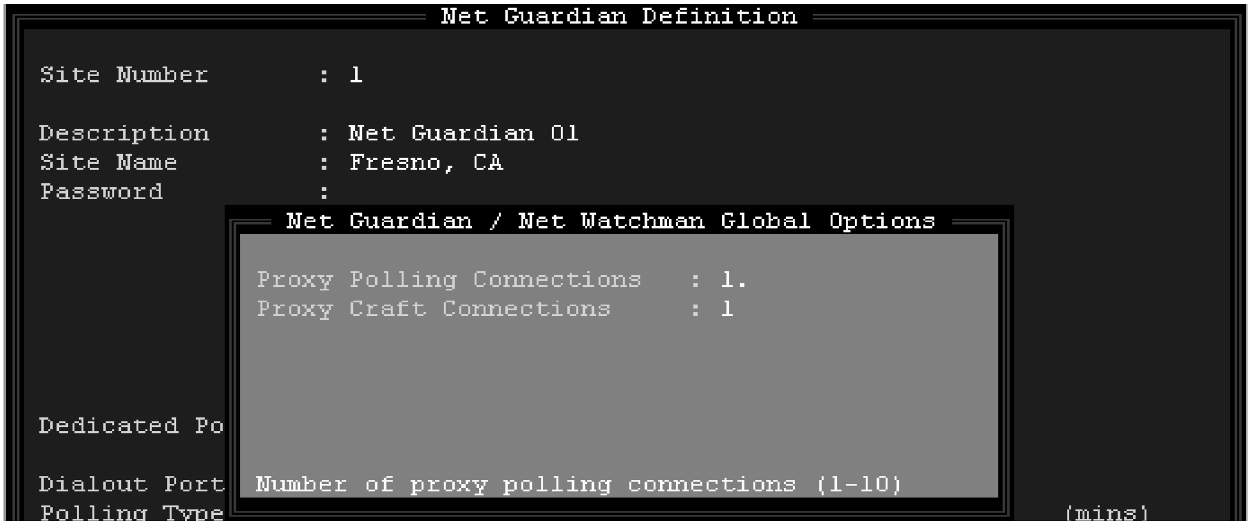
Step Nine

Define Control Relays (Optional)

You may define labeled, site, and derived control relays for the NetGuardian. See Section 12 (Configuring Controls) for more information.

Global Options

This option displays the number of connection types in the NetGuardian. The default setting is 1. To go to the Global Options screen press F2 from the NetGuardian Definition screen.



```
                         Net Guardian Definition

 Site Number       : 1

 Description       : Net Guardian 01
 Site Name         : Fresno, CA
 Password          :
              Net Guardian / Net Watchman Global Options

               Proxy Polling Connections   : 1.
               Proxy Craft Connections     : 1




 Dedicated Po

 Dialout Port  Number of proxy polling connections (1-10)
 Polling Type                                                  (mins)
```

Fig.M1.28 - NetGuardian Global Options screen.

Table M1.W - Fields in the NetGuardian Global Options screen

Field	Description
Proxy Polling Connections	Divides the polling of NetGuardians into as many as 10 proxy polling connections to improve speed. Setting it to ‘1’ causes each NetGuardian to be polled in series.(1-10)
Proxy Craft Connections	Sets the number of T/Mon users that are allowed simultaneous connections to devices connected to NetGuardian craft ports. (1-10)

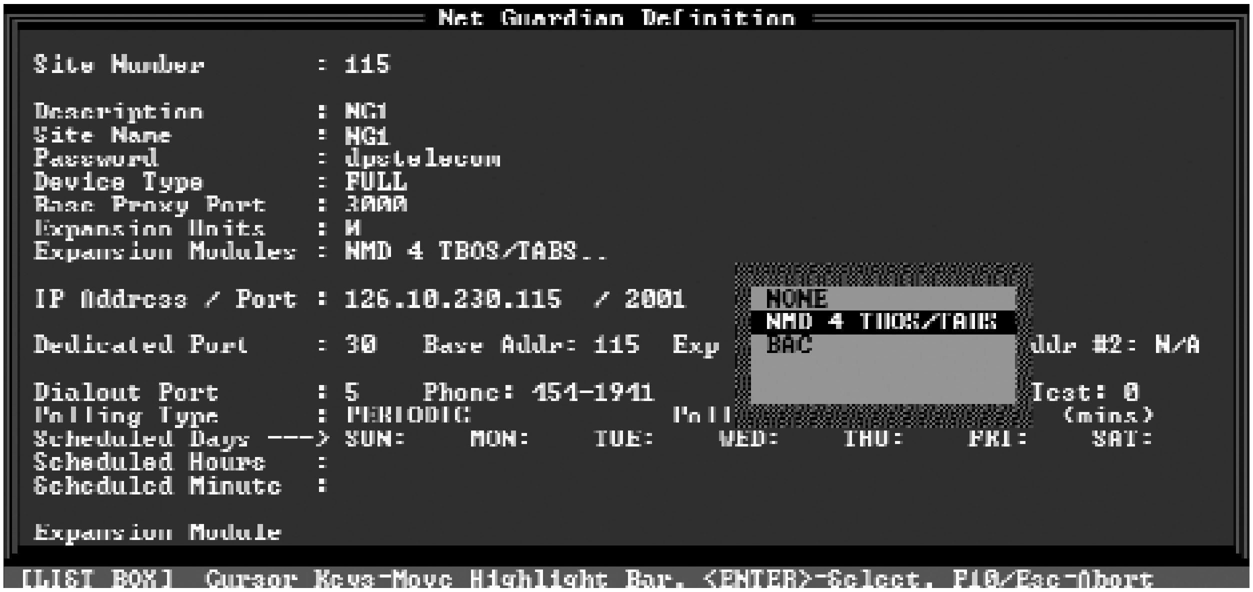
Expansion Module — NetMediator 4-Port TBOS/

BAC option is only available if the Building Access Manager Software module is installed. See Software Module 23 for details.

The NetMediator 4-port TBOS/TABS expansion module is an optional module defined in the NetGuardian Definition screen.

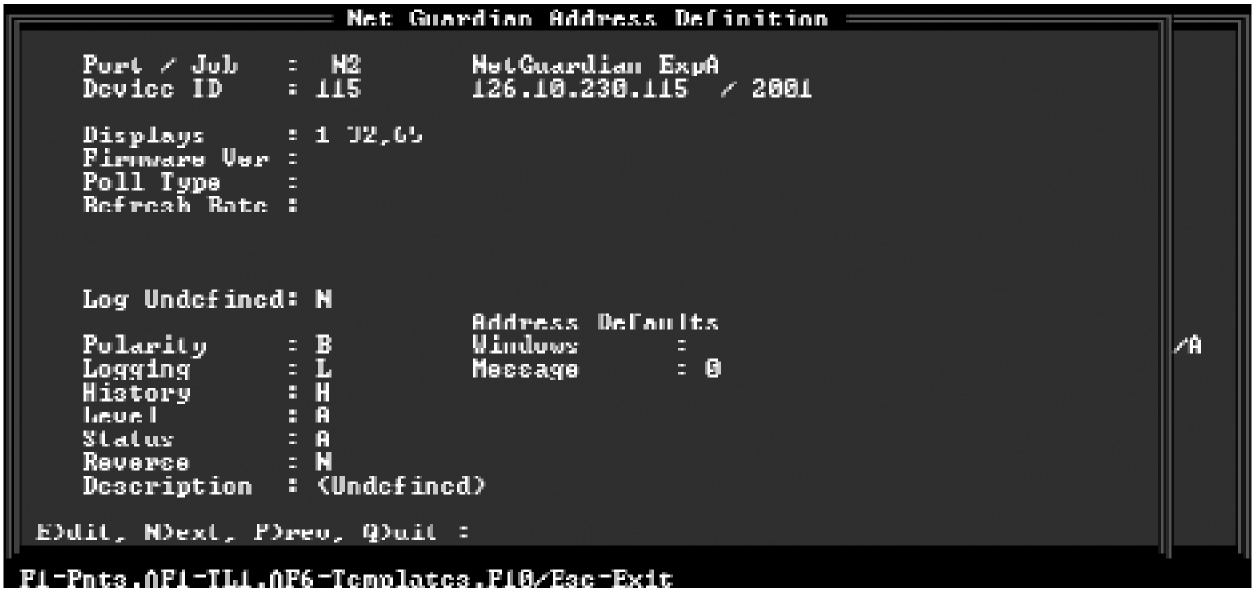
To configure T/MonXM to poll the NetMediator expansion module, the Expansion Modules field must be set to “NMD 4 TBOS/TABS” (see Figure M1.29 below) and the Exp Addr #1 field must be set to an available address.

This will create an address entry for the expansion module (see Figure M1.30 below). Displays 1-32 are for the TBOS/TABS alarm points and display 65 is housekeeping points. The next step is to define alarm points for the expansion unit, refer to Section 10 for detailed information on defining points.



```
                          Net Guardian Definition

 Site Number        : 115

 Description        : NG1
 Site Name          : NG1
 Password           : dpstelecom
 Device Type        : FULL
 Base Proxy Port    : 3000
 Expansion Units    : N
 Expansion Modules  : NMD 4 TBOS/TABS..

 IP Address / Port  : 126.10.230.115  / 2001    NONE
                                                NMD 4 TBOS/TABS
 Dedicated Port     : 30   Base Addr: 115  Exp  BAC             ddr #2: N/A

 Dialout Port       : 5    Phone: 451-1911                      Icst: 0
 Polling Type       : PERIODIC          Poll                     (mins)
 Scheduled Days ---> SUN:    MON:    TUE:    WED:    THU:    FRI:    SAT:
 Scheduled Hours    :
 Scheduled Minute   :

 Expansion Module
[LIST BOX]  Cursor Keys-Move Highlight Bar, <ENTER>-Select, F10/Esc-Abort
```

Fig. M1.29 - Select NMD 4 TBOS/TABS in NetGuardian Definition screen.



```
                    Net Guardian Address Definition

    Port / Job    :  N2        NetGuardian ExpA
    Device ID     : 115        126.10.230.115  / 2001

    Displays      : 1 32,65
    Firmware Ver  :
    Poll Type     :
    Refresh Rate  :



    Log Undefined: N
                               Address Defaults
    Polarity      : B          Windows       :                          /A
    Logging       : L          Message       : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 E)dit, N)ext, P)rev, Q)uit :

F1-Pnts,AF1-TLL,AF6-Templates,F10/Esc-Exit
```

Fig. M1.30 - Address Entry for NetMediator Expansion Module.

Define DCP1 Remotes — Harris™ DS5000

The DCP(F) Interrogator software module can be able to define either a dedicated or virtual (ip) job port to poll your DCP1 Remotes. More specifically, you can select and define your job port for Harris DS5000 Remotes.

There are nine steps to create and define your DCP(F) interrogator module to monitor your Harris DS5000 Remotes:

Note: the following pages will explain each step in detail.

1. Install or upgrade your DCP(F) Interrogator module software.
2. Define a remote port for the DCP(F) Interrogator.(Dedicated serial port or virtual port)
3. Create a data connection for polling your DCP over the network. (virtual ports only)
4. Define your Harris DS5000 or any other DCP1 remote device.
5. Define alarm points.
6. Define your analog points and thresholds. (optional).
7. Define internal alarms. (optional)
8. Provision the accumulator.
9. Define control relays. (optional).

Step One

Install or upgrade the software.

Under normal circumstances installation will only need to be done for software updates or newly ordered modules. The original disks have been supplied with the T/Mon for archival or emergency recovery procedures. See Section 2 for further instructions on upgrading or installing software.

Step Two

Define a Remote Port for the DCP(F) Interrogator

To define a remote port for communication to DCP(F) equipment, go to Parameters menu > Remote Ports, and then use the Tab key to select DCP(F) Interrogator at the Port Usage field.

Note: Do not leave your Caps Locked, or you will have to press Ctrl-D to select your interrogator/responder type.

Enter the appropriate information in each field on the screen, see Figure M1.1.

You must enter “1” in the Protocol (DCPF mode field). For detailed information on each field refer to section M1-1.

Step Three

For detailed information on creating data connections see section 3-4.

Create a Data Connection

1. In the Remote Parameters screen press F1 for the Device Definition screen. Then press F6 to open the Data Connection screen.
2. Press F1 to open the Ethernet TCP Ports Definition screen.
3. Use the arrow keys to select a new connection.

4. Press Tab to select a port type.

Note: Depending on your DCP remote, you may select UDP, TCP, etc.

5. Enter your IP port number and a description. See Section 3, Figure 3.5.
6. Press F8 to save your changes and return to the Data Connection Assignment screen.
7. From the Data Connection Assignment screen, press Tab to select the List Box. Select the IP port you just defined for the data connection. (See Section 3, Figure 3.7). Then return to the Remote Parameters screen.

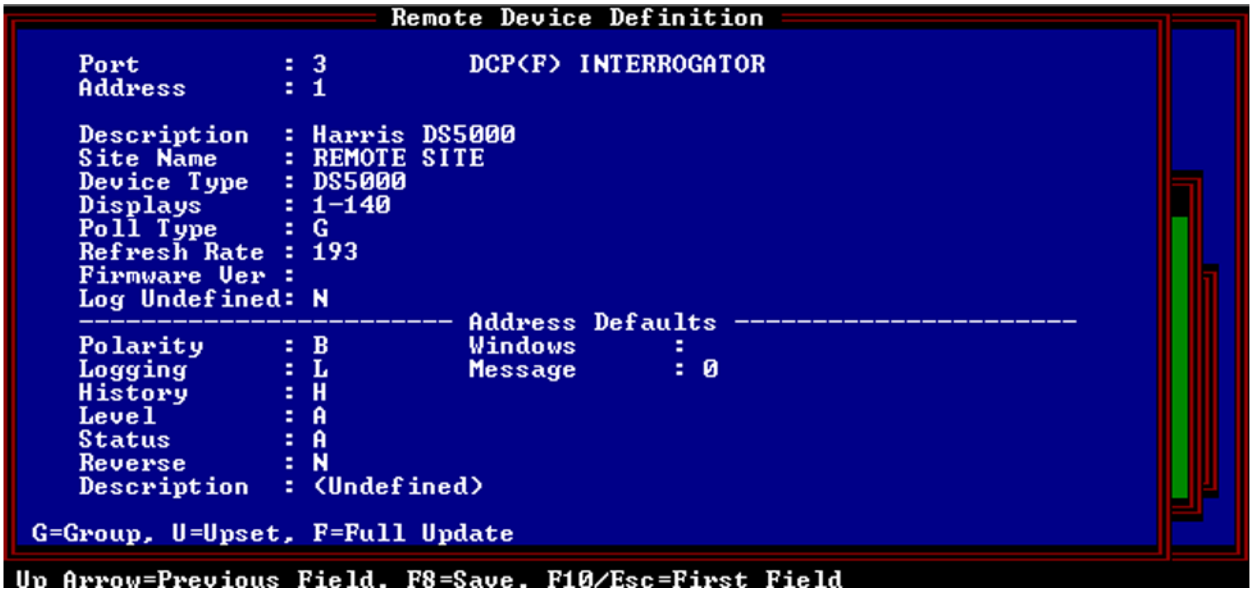
Step Four

Define your DCP1 devices

Note: See section M1-5 for detailed information on defining devices and addresses.

1. In the Remote Parameters screen press F1. THe Remote Device Definition screen will appear, see Figure M1.31.
2. Enter the port number of your device
3. Enter an address for your device.
4. Enter an optional description and name of the site where your device is located.
5. In the Device Type field use the Tab key to select the type of device. The example below is defined for the Harris DS5000.
6. Complete all the fields on the screen and press F8 to save your definitions.

Note: The above definition example will monitor alarm information from a remote addressed as #1 and will report any alarm information that is stored in alarm displays 1 through 140. The polling type is by groups, see Table M1.D for more information.



```
                    Remote Device Definition

    Port          : 3          DCP(F) INTERROGATOR
    Address       : 1

    Description   : Harris DS5000
    Site Name     : REMOTE SITE
    Device Type   : DS5000
    Displays      : 1-140
    Poll Type     : G
    Refresh Rate  : 193
    Firmware Ver  :
    Log Undefined: N
    ----------------------- Address Defaults ----------------------
    Polarity      : B          Windows       :
    Logging       : L          Message       : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 G=Group, U=Upset, F=Full Update
Up Arrow=Previous Field, F8=Save, F10/Esc=First Field
```

Fig. M1.31 - Example of defined Remote Device Definition screen for DCP(F) Interrogator.

Step Five

Define Alarm Points

This option allows the you to assign attributes and English descriptions to individual alarm points within the selected displays of the DCP(F). Note that you must have defined the displays previously in the Address Definition section.

1. From the Remote Device Definition screen press F1 (Points). The Point Definition screen will appear, see Figure M1.4
2. If no display was previously entered, the cursor will be at the display number from which the DCP(F) stores the alarm point information.
3. After <*Enter*> has been pressed at the Display field, the database management system checks to see if any points in that display have been defined previously. If none are found, then the cursor immediately moves into the point editing area.
4. If points in the display have been defined before, then the Standard Key Entry prompt, (See Section 4), appears at the bottom of the window. To edit the points, press 'E' to select the Edit option.
5. When the cursor is in the point editing area, the Message window displays the message associated with the point that is currently being edited.
6. The Up Arrow, Down Arrow, PgUp, PgDn, Home and End keys are used to select a point for editing. Note that these keys are only active when the cursor is at the Pol (polarity) field.

Note: For Point Definition Field descriptions refer to Section 10.

Step Six

Define Analog Points (Optional)

Note: refer to section M1-8 for examples.

1. From the Remote Device Definition screen, press F5 to open the Analog Provision screen, shown in Figure M1.5. Table M1.E explains the fields in this screen.
2. Fill in the Description, Sig, and Unt fields.
3. Once you have completely filled each field with the correct information you have the option to change your analog reference scale. Press F1 to go to the Analog Scaling Worksheet screen. For detailed information see section M1-9.

Step Seven

Define Internal alarm (Optional)

Entering F3 (Int Alarms) from the Remote Device Definition screen for defined DCP(F) Interrogators will bring you to the Device Internal Alarm Assignment screen. Please refer to Section 14 for more information on Internal Alarms.

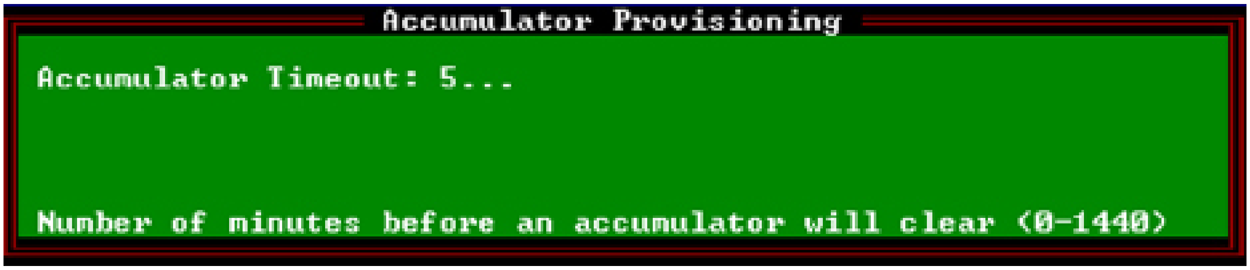
Step Eight

Provision the Accumulator Timer

Provisioning the Accumulator Timer will set the number of minutes before the accumulator will clear.

1. Press Alt–F7

2. Enter Accumulator Timeout in minutes (0-1440).



Accumulator Timeout: 5...

Number of minutes before an accumulator will clear (0-1440)

Fig. M1.32 - Accumulator Provision screen.

Step Nine

Define Control Relays (Optional)

You may define control relays for the DCP device by going to Master Menu > Files Maintenance Menu > Labeled Controls screen. See section 12-6 . See also section 12-10 for more information on derived controls.

Ring Polling Application

Note: The NetGuardian can be configured to use alternate path routing, but NetGuardians must be defined using the LAN-based Remotes command on the File Maintenance menu.

The ring polling application monitors network links between RTUs that are daisy-chained in ring configuration.T/MonXM to monitor the daisy chain from both ends, allowing for precise location of network breaks and continued full visibility, even during a break.

To use ring polling you must have a series of RTUs daisy-chained in ring configuration. Each RTU must be defined in the T/MonXM database, and internal alarms must be defined for the fail and offline conditions of each RTU.

One RTU is defined as the base interrogator, and the remote port of the base interrogator is defined as the Path A port. The final RTU in the daisy chain is connected to a second remote port, which is defined as the Path B port — see Figure M1.33.

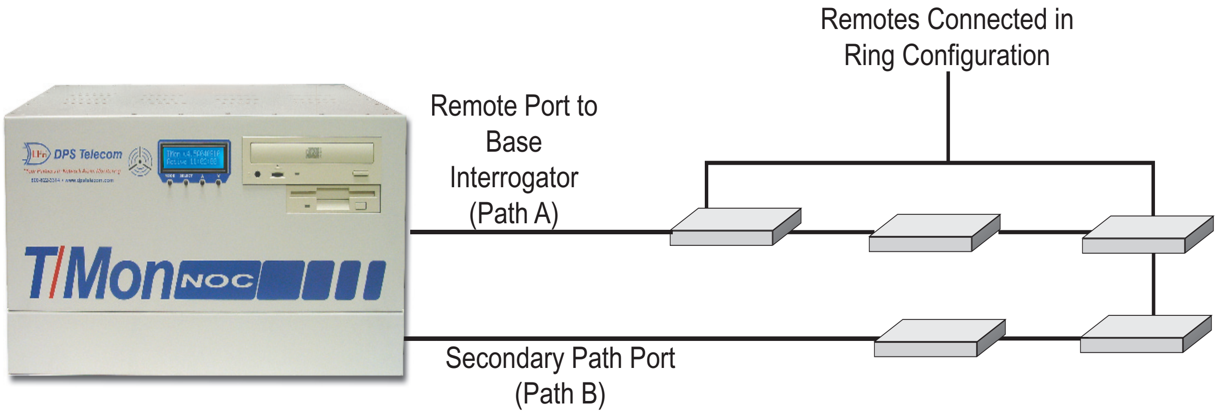
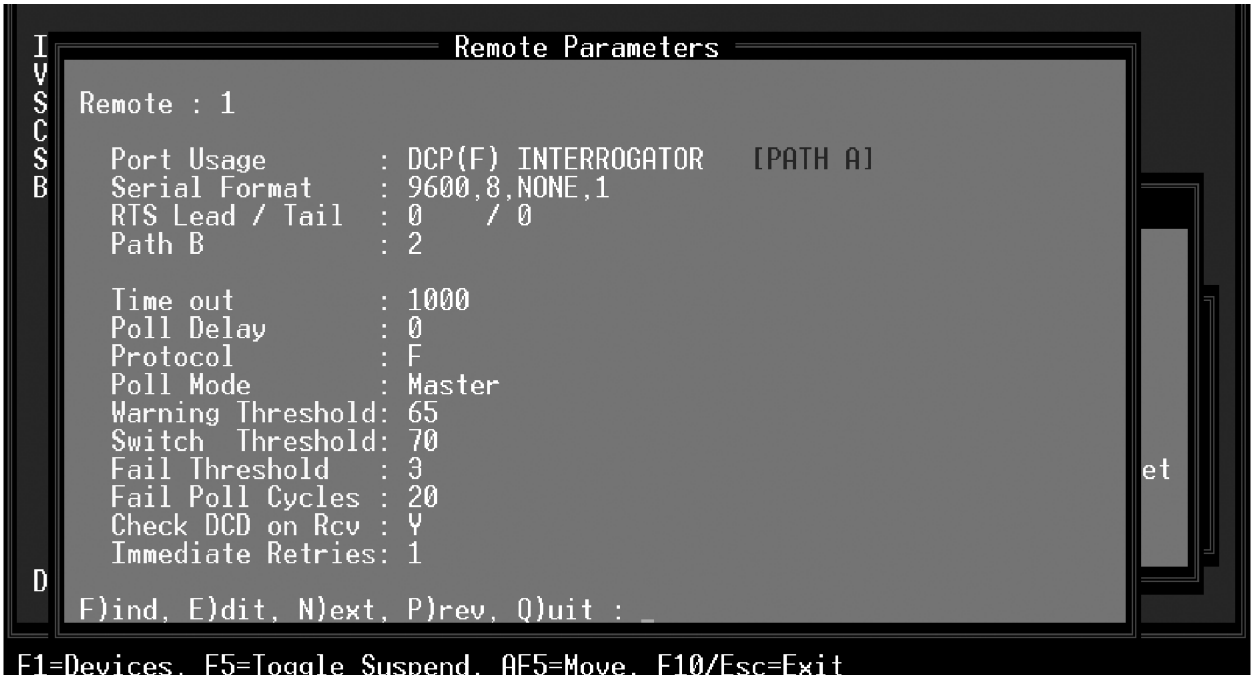

Remotes Connected in Ring Configuration
Remote Port to Base Interrogator (Path A)
Secondary Path Port (Path B)
T/Mon NOC
DPS Telecom

Fig. M1.33 - RTU configuration for ring polling



```
I                      Remote Parameters
V
S  Remote : 1
C
S    Port Usage        : DCP(F) INTERROGATOR   [PATH A]
B    Serial Format     : 9600,8,NONE,1
     RTS Lead / Tail   : 0    / 0
     Path B            : 2

     Time out          : 1000
     Poll Delay        : 0
     Protocol          : F
     Poll Mode         : Master
     Warning Threshold: 65
     Switch  Threshold: 70
     Fail Threshold    : 3                                        et
     Fail Poll Cycles : 20
     Check DCD on Rcv : Y
     Immediate Retries: 1
D
   F)ind, E)dit, N)ext, P)rev, Q)uit : _

 F1=Devices, F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

Fig. M1.34 - Enter a remote port number for Path B in the DCP(F) Interrogator Definition Screen

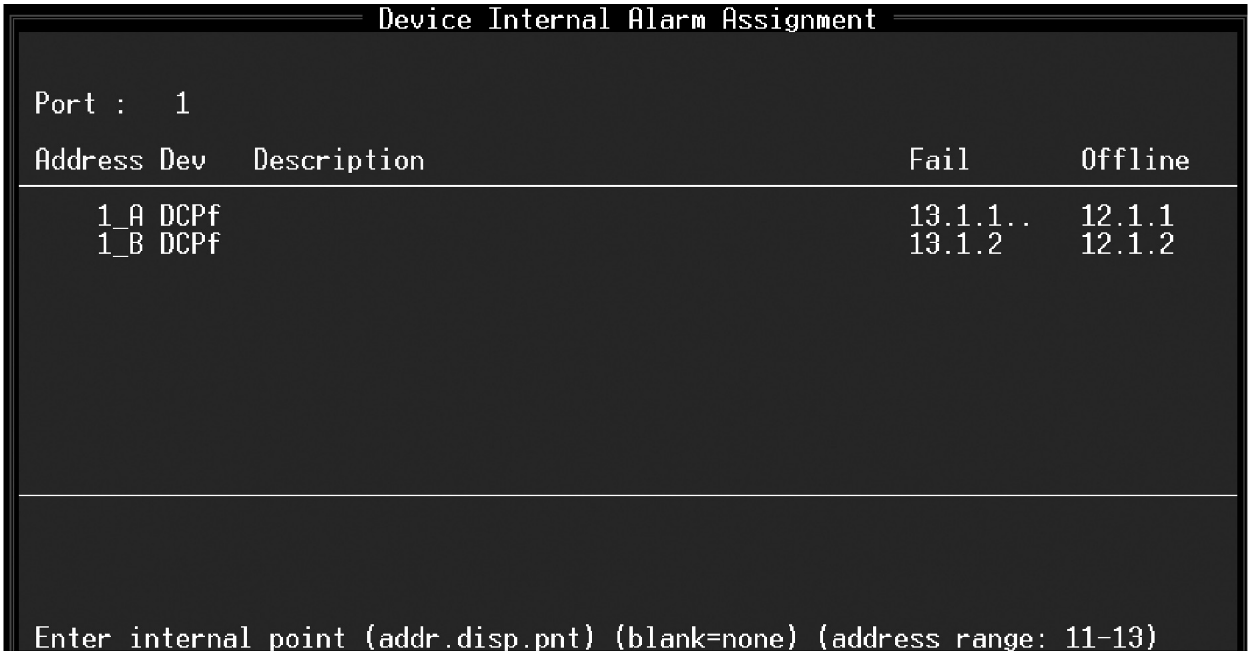
Note: Path B must be a halted port.

To enable ring polling, enter the ID number of the Path B remote port in the Path B field of the remote parameters screen for the base interrogator. T/MonXM will automatically configure the Path B port for ring polling. Press F1 to open the Remote Device Definition screen for the base interrogator. Press F3 to open the Device Internal Alarms Assignment screen.

In the Device Internal Alarms screen, you will see that two internal alarms have been automatically defined. (See Figure M1.35). One internal alarm, "<Port Number>_A," represents polls from the Path A port; the second, "<Port Number>_B," represents polls from the Path B port. Devices have unique device fail and offline alarms for each path.You must assign internal alarm points to the fail and offline conditions for both internal alarms.

Next create a derived alarm that represents a failure on Path A AND Path B. (For instructions on creating derived alarms, see section 12-10).

You now have a way of determining if there are breaks in your ring network and where they are. Suppose that you have six RTUs configured in a ring. If Path A reports that devices 5 and 6 have failed, while Path B reports that devices 1-4 have failed, there is a break in the network connection between devices 4 and 5. If there is an actual RTU failure, this will trigger the derived alarm representing a failure of both paths.



```
                    Device Internal Alarm Assignment

 Port :   1

 Address Dev   Description                              Fail       Offline

     1_A DCPf                                           13.1.1..   12.1.1
     1_B DCPf                                           13.1.2     12.1.2

 Enter internal point (addr.disp.pnt) (blank=none) (address range: 11-13)
```

Fig. M1.35 - The two internal alarms represent polls from different ends of the ring.

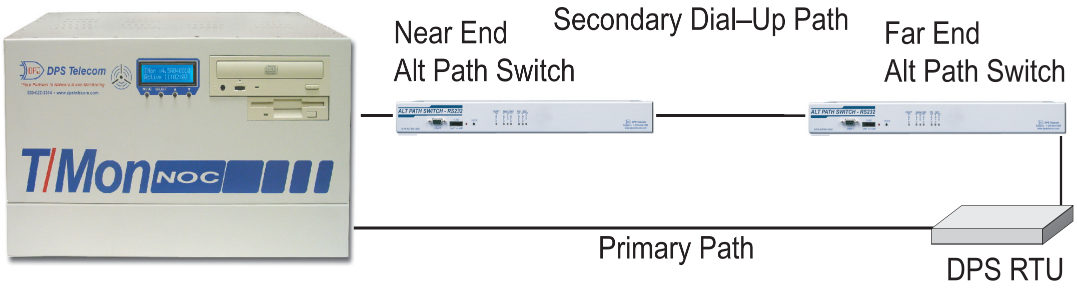


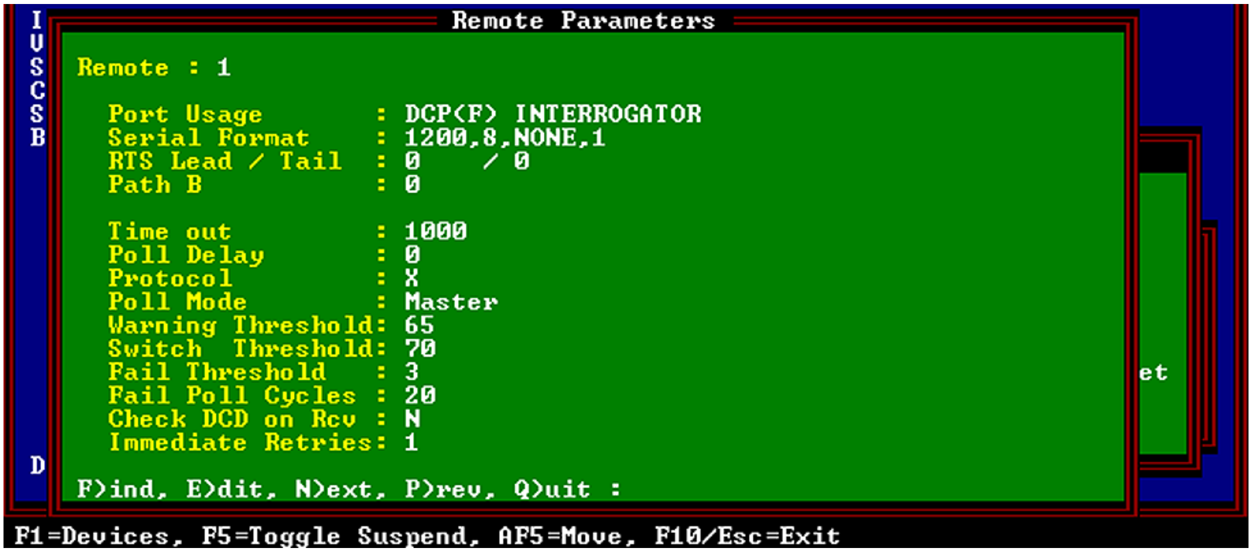
Fig. M1.36 - Typical Alt Path Switch application.

Alt Path Switch

Multiple near-end Alt Path Switches can be controlled through a single Command channel. For instructions on physically connecting multiple near-end Alt Path switches, see Section 5.6, “Connecting a Command Channel Daisy Chain”in the Alt Path Switch user manual. Software configuration is identical for single and daisy-chained Alt Path Switches.

There are two parts to configuring the Command channel:

1. Define a remote port, device, and alarm points associated with the Alt Path Switch.
2. Download to the near-end Alt Path Switch in Monitor Mode.



```
                    Remote Parameters
 Remote : 1

   Port Usage        : DCP(F) INTERROGATOR
   Serial Format     : 1200,8,NONE,1
   RTS Lead / Tail   : 0    / 0
   Path B            : 0

   Time out          : 1000
   Poll Delay        : 0
   Protocol          : X
   Poll Mode         : Master
   Warning Threshold: 65
   Switch  Threshold: 70
   Fail Threshold    : 3
   Fail Poll Cycles  : 20
   Check DCD on Rcv  : N
   Immediate Retries: 1

 F)ind, E)dit, N)ext, P)rev, Q)uit :
F1=Devices, F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

Fig. M1.37 - T/MonXM Remote Parameters screen, defined for Alt Path Switch Command channel.

Step One

Define the Remote Port

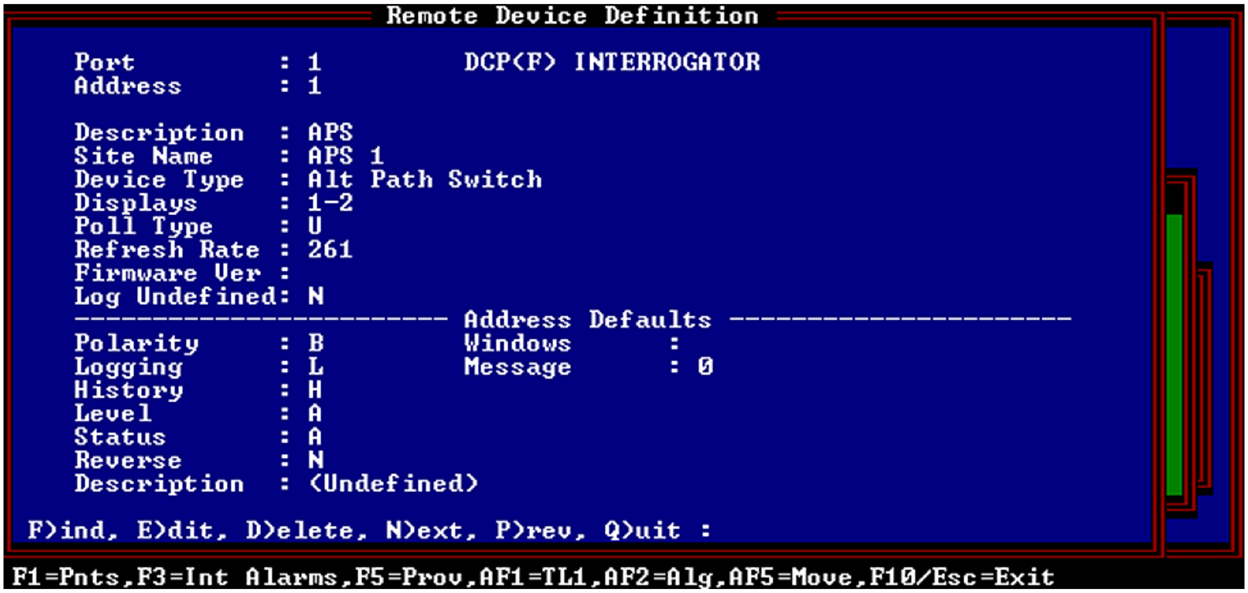
1. Go to Master > Parameters > Remote Parameters.
2. Choose F)ind and enter the port number of the RS-485 port connected to the Command connector of the near-end Alt Path Switch.
3. Choose E)dit.
4. In the Port Usage field, press Tab to select the List Box and choose DCP(F) Interrogator — see Figure M1.37.

5. Make sure that the Serial Format field is set to 1200, 8, None, 1.
6. Make sure that the Protocol field is set to X for DCP(X) polling.
7. All other fields will be automatically filled with the correct values.

Step Two

Define the Remote Device Definition

1. From the Remote Parameters screen, press F1 to access the Remote Device Definition screen .
2. Enter Address 1 in the Address field.
3. Enter an optional description and site name.
4. In the Device Type field, press Tab to select the List Box and choose Alt Path Switch.
5. All other fields will be automatically filled with the correct values.



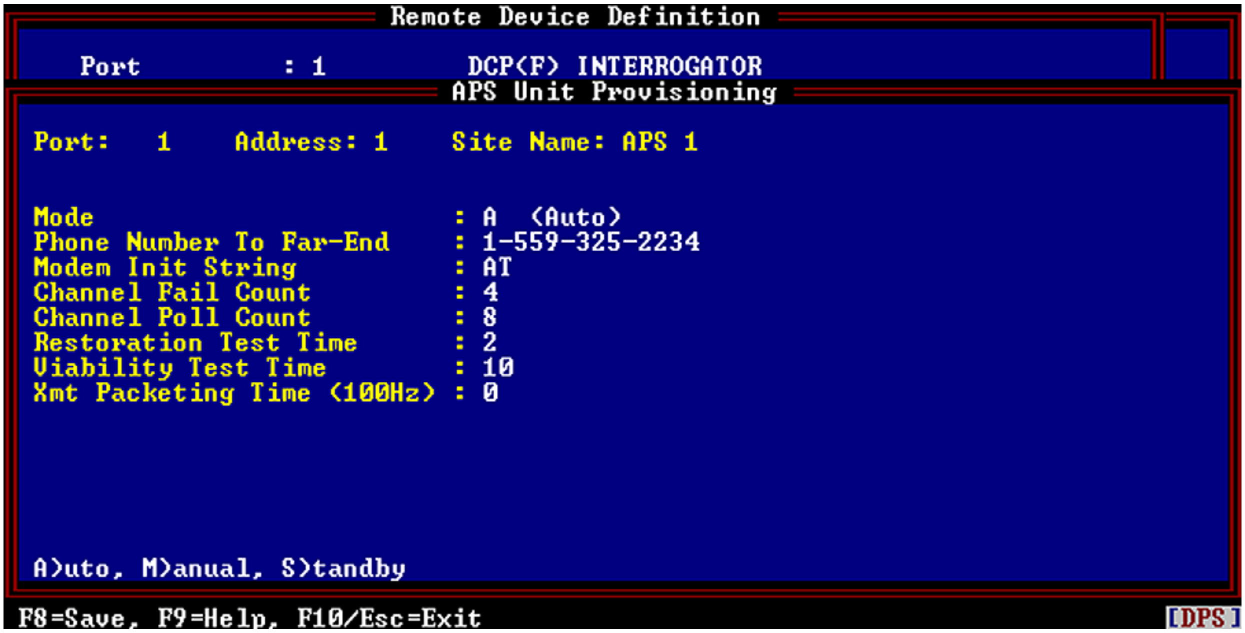
```
                         Remote Device Definition

    Port          : 1         DCP(F) INTERROGATOR
    Address       : 1

    Description   : APS
    Site Name     : APS 1
    Device Type   : Alt Path Switch
    Displays      : 1-2
    Poll Type     : U
    Refresh Rate  : 261
    Firmware Ver  :
    Log Undefined: N
    ----------------------- Address Defaults ----------------------
    Polarity      : B         Windows       :
    Logging       : L         Message       : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
F1=Pnts,F3=Int Alarms,F5=Prov,AF1=TL1,AF2=Alg,AF5=Move,F10/Esc=Exit
```

Fig. M1.38 - Remote Device Definition screen, defined for the Alt Path Switch.

Step Three

Provision the Unit

1. From the Device Definition screen, press F5 to access to APS Unit Provision screen — see Figure M1.39.
2. Enter your choice for each option in the appropriate field. See Table M1.X for an explanation of each option.



```
Remote Device Definition
   Port          : 1          DCP(F) INTERROGATOR
APS Unit Provisioning

Port:   1     Address: 1     Site Name: APS 1

Mode                          : A   (Auto)
Phone Number To Far-End       : 1-559-325-2234
Modem Init String             : AT
Channel Fail Count            : 4
Channel Poll Count            : 8
Restoration Test Time         : 2
Viability Test Time           : 10
Xmt Packeting Time (100Hz)    : 0

A)uto, M)anual, S)tandby
F8=Save, F9=Help, F10/Esc=Exit                                    [DPS]
```

Fig. M1.39 - APS Unit Provision screen.

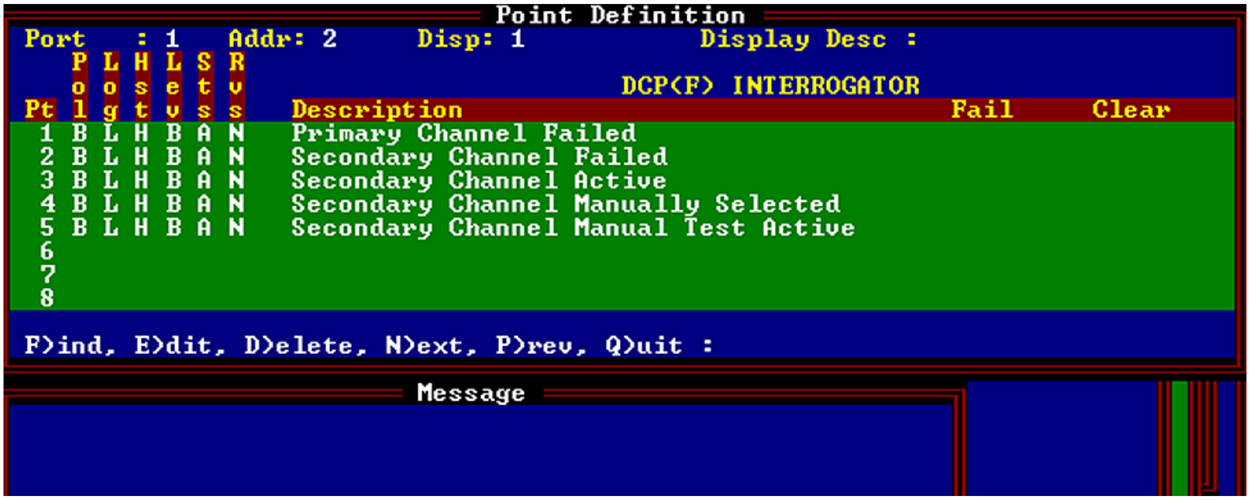
Table M1.X - APS unit provision options

Field	Description
Mode	Operation mode of the Alt Path Switch. Valid choices are: **Auto:** Switches between channels automatically when the active channel fails. If both channels are operational then the primary channel will be used. **Manual:** Switches between channels only when a control is issued. **Standby:** Both channels are idle. Will use the secondary channel only when a control is issued.
Phone Number to Far-End	Phone number of the far-end Alt Path Switch.
Modem Init String	Modem initialization message.
Channel Fail Count	Number of consecutive polls between the near-end and far-end APS without response before the channel is considered failed.
Channel Poll Count	Number of consecutive polls between the near-end and far-end APS when a scheduled test occurs.
Restoration Test Time	The interval in minutes between tests of the primary or failed channel.
Viability Test Time	The interval in minutes between tests of the inactive non-failed secondary channel.
Xmt Packeting Time (100 milliseconds)	The number of milliseconds which must pass without traffic before the accumulated traffic will be transmitted out of the main port. This is typically set to 0 unless going through a terminal server.

Step Four

Configure Alarm Points.

1. Press F10 to return to the Remote Device Definition screen.
2. Press F1 to access the Point Definition screen, see Figure M1.40.
3. Two displays of alarms are predefined for the Alt Path Switch. Display 2 alarms are for diagnostic purposes; these must be activated by Control 8 to be viewed (For more information see “Step Five: Configure Controls.”). For a description of the predefined alarms, see Table M1.Y.
4. To view Alt Path Switch alarms in monitor mode, assign the alarms to an alarm window. For full instructions on assigning alarms to alarm windows, see Section 10.



```
                              Point Definition
Port    : 1    Addr: 2      Disp: 1          Display Desc :
   P L H L S R
   o o s e t v                          DCP(F) INTERROGATOR
Pt l g t v s s    Description                                Fail      Clear
 1 B L H B A N    Primary Channel Failed
 2 B L H B A N    Secondary Channel Failed
 3 B L H B A N    Secondary Channel Active
 4 B L H B A N    Secondary Channel Manually Selected
 5 B L H B A N    Secondary Channel Manual Test Active
 6
 7
 8

F)ind, E)dit, D)elete, N)ext, P)rev, Q)uit :
                          Message
```

Fig M1.40 - The first five predefined alarms for the Alt Path Switch.

Table M1.Y - Alt Path Switch predefined alarms

Display 1 Alarms	
Alarm	**Description**
1	Primary Channel Failed
2	Secondary Channel Failed
3	Secondary Channel Active
4	Secondary Channel Manually Selected
5	Secondary Channel Manual Test Active
49	Modem Failed
50	No Dial Tone
51	No Carrier
52	Command Error
53	Busy
54	No Answer
55	Erroneous Command Received

Note: Table M1.Y continues on the following page.

Table M1.Y - Alt Path Switch predefined alarms (continued)

Display 2 Diagnostic Alarms	
Alarm	**Description**
1	Modem Initializing
2	Modem Initialized and Idle
3	Modem Line Ringing
4	Modem Answering Incoming Call
5	Modem Dialing
6	Modem Channel Established
17-24	Last Received 8-Bit Modem Connect Code

Step Five

Configure Controls

There are three controls available for the Alt Path Switch. Site Controls allow the user to operate the controls for a whole window, usually defined by site, thus the name Site Controls. Site Controls can also be defined by status, by device or by any other category assigned to a window. For a description of the controls, see Table M1.Y.

Note: Other controls are reserved for internal use. Do not attempt to send any controls other than those listed in this table.

There are two parts to configuring controls for the Alt Path Switch:

1. Define site control categories.
2. Issue site controls.

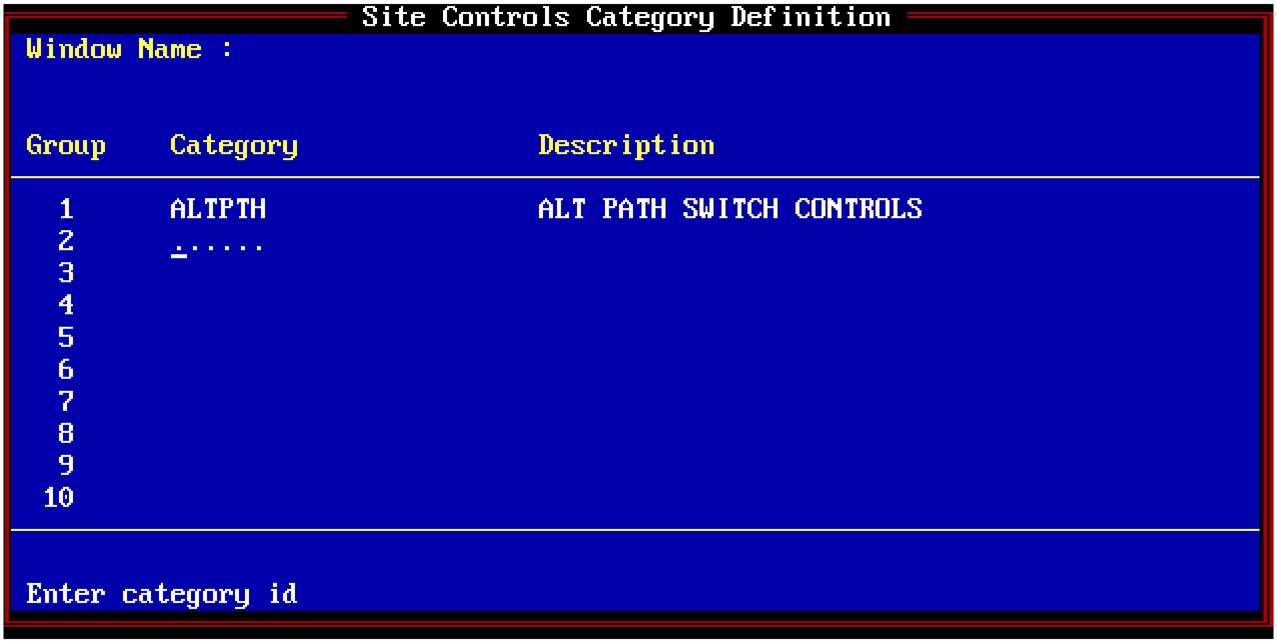
Part One

Define Site Control Categories

1. Go to the Files > Windows Definition screen, then press F4 to go to the Site Controls Category Definition screen. See Figure M1.41.
2. Enter a category title and description for the site control category. Press Enter and go to the Control Points screen. See Figure M1.42.

Table M1.Z - Alt Path Switch Controls

Control	Operation	Result
4	Operate	Manually lock into alternate path mode. Initiate dial out if secondary path not already active.
	Release	Manually unlock alternate path mode. Deactivates secondary channel. Resets modem. Activates primary channel if not failed.
5	Momentary	Manually test alternate path mode.
	Release	Cancel secondary dial out attempt.
8	Operate	Turn on diagnostic display 2 – info will be posted to Display 2
	Release	Turn off diagnostic display 2.



```
                    Site Controls Category Definition
Window Name :


Group     Category                 Description

  1       ALTPTH                   ALT PATH SWITCH CONTROLS
  2       ......
  3
  4
  5
  6
  7
  8
  9
 10


Enter category id
```

Fig. M1.41 - The site controls category definition screen.

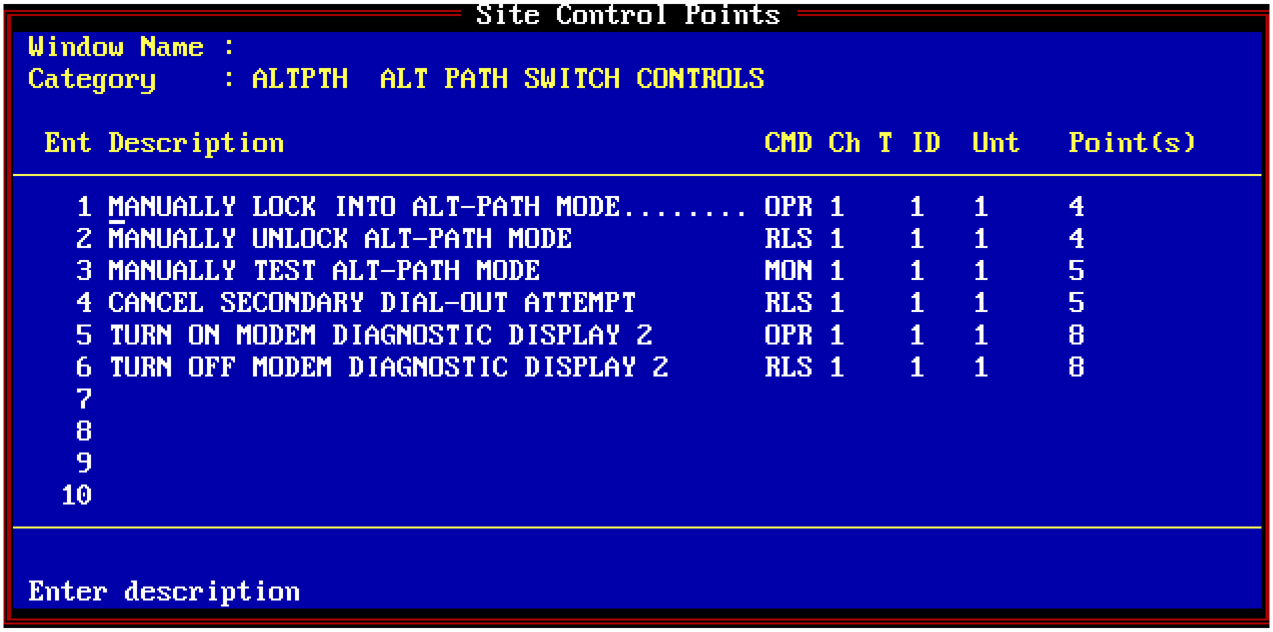
Note: System Security provides security lockouts on Site Controls by Windows, not by category group or control point entries. Keep this in mind when setting up your control categories and the control point entries under them. See Table M1.AA.

Table M1.AA - Fields in the Site Controls Category Definition screen

Field Name	Description
Category	A six-character title for the category.
Description	The description for the category.

Table M1.AB - Key commands available in the Site Controls Category Definition screen

Function Key	Description
F2	Move to the Control Point Definition screen.
F3	Blank - Deletes current category entry and control point definitions for the category. Leaves an open line. Control Point **Note:** Definitions deleted in this way cannot be recovered by using F10 or Esc.
Alt F3	Delete - Deletes entry N and its points. Moves all other lines up.
Alt F4	Insert - Moves current line down one group and inserts a blank line for the current group.
F8	Save the category database.
F9	Online help.
F10/Esc	Exit.



```
                          Site Control Points
 Window Name :
 Category     : ALTPTH  ALT PATH SWITCH CONTROLS

  Ent Description                                CMD Ch T ID  Unt   Point(s)

    1 MANUALLY LOCK INTO ALT-PATH MODE........ OPR 1    1   1     4
    2 MANUALLY UNLOCK ALT-PATH MODE            RLS 1    1   1     4
    3 MANUALLY TEST ALT-PATH MODE              MON 1    1   1     5
    4 CANCEL SECONDARY DIAL-OUT ATTEMPT        RLS 1    1   1     5
    5 TURN ON MODEM DIAGNOSTIC DISPLAY 2       OPR 1    1   1     8
    6 TURN OFF MODEM DIAGNOSTIC DISPLAY 2      RLS 1    1   1     8
    7
    8
    9
   10

 Enter description
```

Fig. M1.42 - Site control points for the Alt Path Switch.

3. Enter the control descriptions — refer to Table M1.Z
4. Enter your port number (1–24).
5. Enter 1 for ID.
6. Enter 1 for Unit (display).
7. Enter the control point — refer to Table. M1.Z.
8. Press F8 to save.

Table M1.AC - Fields in the Control Point Definition screen

Field	Description
Ent	The entry number within the group selected (200 entries per group).
Description	The description of the control points. Up to 40 characters

CMD	The command to be sent to the control point.
	OPR = OPERATE RELAY
	RLS = RELEASE RELAY
	MON = MOMENTARY ON
	MOF = MOMENTARY OFF
	SOP = SBO Operate*
	SRL = SBO Release*
	SMO = SBO Momentary On*
	EXE = SBO Execute*
	CLR = SCO Clear All*

*SBO = Select before operate. This method of control point operation offers extra security by requiring two operator steps before the point actually operates. The desired operation (SOP, SRL, SMO or CLR) is specified and a response from the remote is displayed, indicating that the point is “selected.” Then the EXE command is sent to perform the specified operation. Another use of SBO is to operate several control points simultaneously. The desired control points are “selected” at the remote and one execute command operates all at the same time. This is useful in controlling functions that must occur together, such as channel switching.	

Note: Table M1.AC continues on next page.

Table M1.AC - Fields in the Control Point Definition screen (continued)

Field	Description
Ch	Channel Number. K1 = VIRTUAL PORT (base and satellite KDA*s with relay exp. card) K2 = VIRTUAL PORT (relay and other expansion cards in base KDAs) RP = REMOTE PORT (Modem port) RC = RELAY CARD (102 card - local controls only) AV = AUDIO/VISUAL CARD (108 Card -Only relays 9-12 can be used.) 1-24 = Port Number. IAM Users - Relays 9-12 are not available on IAM.
T	Device Type. This field is selected only when the selected port is defined for DCM protocol. Selections are: C = CPM S = SBP (Smart Bypass Card -Used only with the Building Access Unit. Three controls may be user-defined for a BAU. See the BAU Operation Guide for details.)
ID	The device address. Valid range is 1-999. This field is skipped when the selected port has been defined for TBOS protocol.
Unt	Unit. The Display (1-64) in which the control points reside. This field is skipped when the selected port has been defined for DCM protocol.
Points	A control point or range of control points that you wish to operate. Ranges may be entered using dashes and/or commas (no spaces). Valid control point ranges may be from 1-64.

Table M1.AD - Key commands available in the (Site) Control Point Definition screen

Function Key	Description
F1	Moves the cursor to a selected entry point.
F3	Blank - Deletes current point entry. Leaves an open line. Control Points deleted in this way cannot be recovered by using F10 or Esc.
Alt F3	Delete - Deletes entry and moves all other lines up.
Alt F4	Insert - Moves current line down one group and inserts a blank line.
F6	Read - Read points from window___, Group____. Enter window number to read from (1-720, or 0 for labeled controls)
F8	Saves the control point entries and returns to the Site Controls Category Definition screen.
F9	Displays help for this screen.
F10/Esc	Exit or return to start of line

Part Two Issue Site Controls

Once you have set up your controls you will be able to issue them in the Monitor mode. For detailed instructions on how to issue your site controls see Section 12.

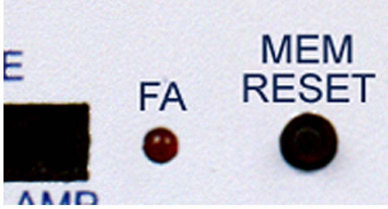


Fig. M1.43 - Pressing the Mem (Memory) Reset button will clear the APS memory.

Step Six

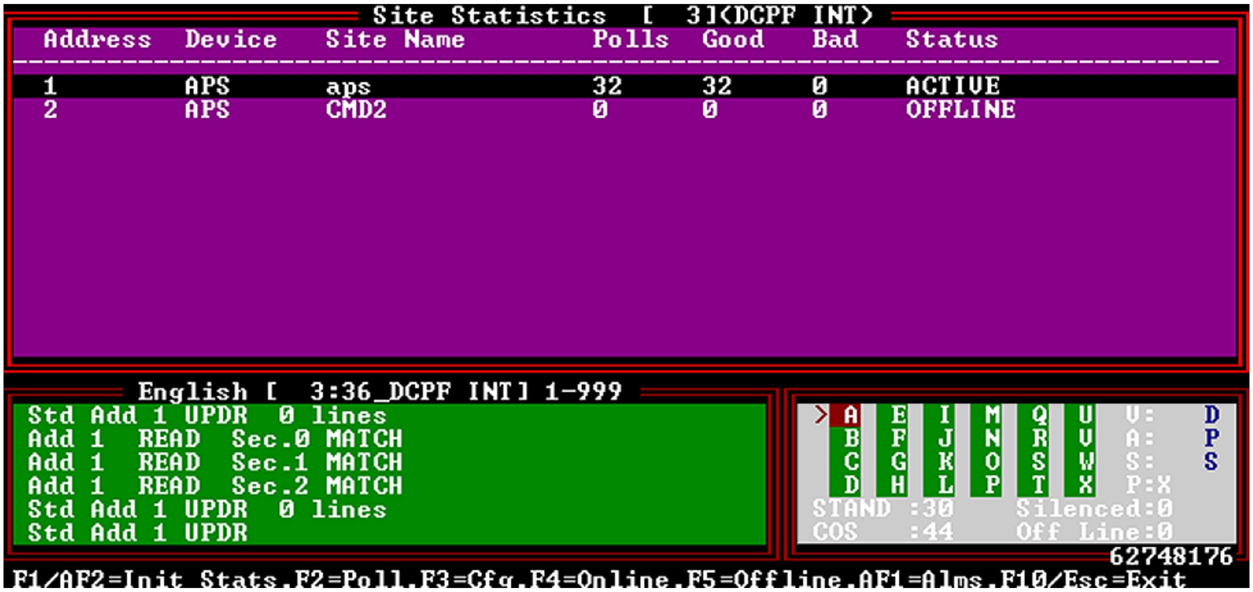
Download Configuration to the Alt Path Switch

Once you have completed configuration in T/MonXM, the configuration must be downloaded to the **near-end** Alt Path Switch. To download the configuration, follow these steps.

1. In T/MonXM, enter the Master menu > Monitor mode.
2. From the Alarm Summary screen, press Shift–F6 to access the Site Statistics screen.
3. Select the Port and Address for the Command channel for the Alt Path Switch.
4. Select all other near-end Alt Path Switches and press F5 to put them offline. Note: Each switch has to be taken offline individually.
5. At the point you can clear the Alt Path Switch Memory.
   Note: Clearing the memory of the Alt Path Switch puts the unit in auto-addressing mode. When the unit is in auto-addressing mode, it will accept any configuration data on the command channel. Therefore, only one Alt Path Switch can be provisioned at a time. All other near-end Alt Path Switches must be taken offline during provision.
7. Press and hold the Mem Reset button on the front panel of the Alt Path Switch. See Figure M1.43.
8. The front panel LEDs will flash ALL GREEN, then ALL RED, as during rebooting, and then repeat the sequence faster. Then the Modem Status LEDs will trace a left-to-right, right-to-left "Cylon" walk. This indicates the unit is in auto-addressing mode. You may now release the Mem Reset button.
9. Press F3. The configuration will be downloaded to the near-end Alt Path Switch. (See Figure M1.44.)
10. When the configuration is accepted by the Alt Path Switch, the Cylon walk of the modem LEDs will stop. Take device offline, and proceed with the next near-end Alt Pat Switch until you have provisioned all the units.
11. Then place all the near-end Alt Path Switches back online by selecting them and pressing F4.

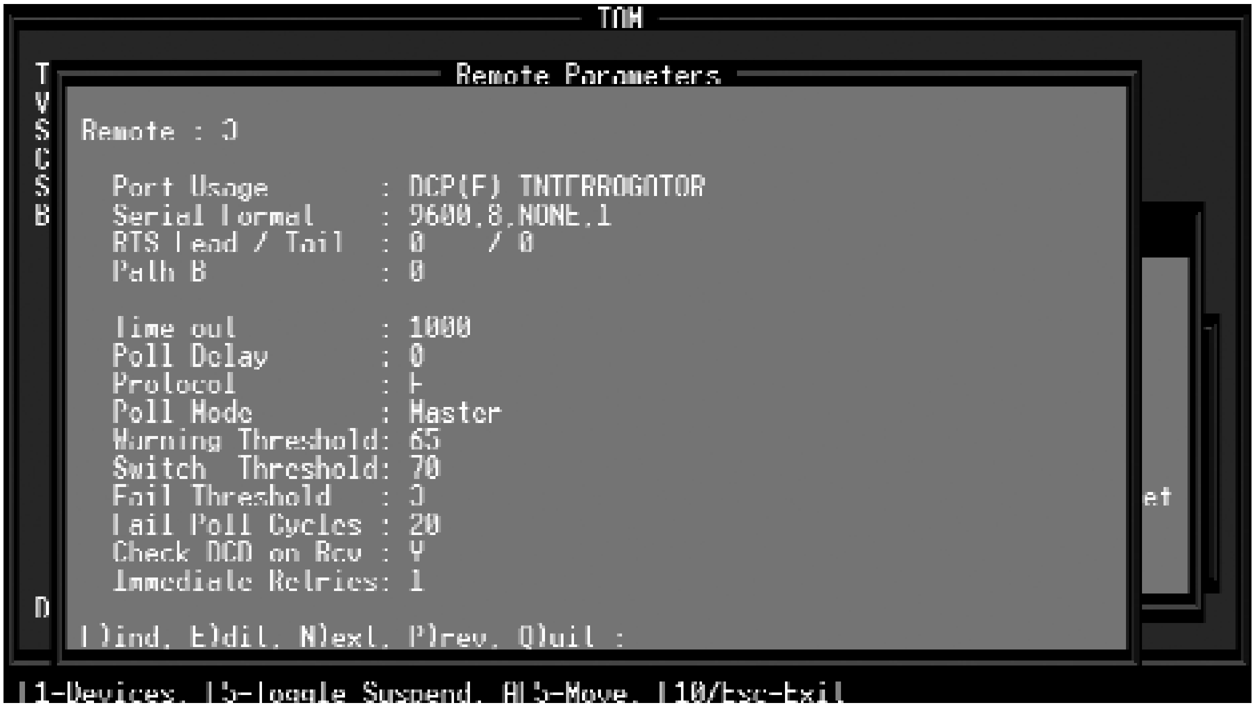
Note: Since no configuration is necessary for far-end Alt Path

Switches, units installed on the far end do not need their memory cleared. However, if you ever transfer an Alt Path Switch from the near end to the far end, its memory should be cleared before re–installation.



```
                    Site Statistics  [   3](DCPF INT)
 Address   Device    Site Name        Polls  Good   Bad    Status
------------------------------------------------------------------------------
 1         APS       aps              32     32     0      ACTIVE
 2         APS       CMD2             0      0      0      OFFLINE

         English [  3:36_DCPF INT] 1-999
 Std Add 1 UPDR  0 lines                        > A  E  I  M  Q  U  V:   D
 Add 1  READ  Sec.0 MATCH                         B  F  J  N  R  V  A:   P
 Add 1  READ  Sec.1 MATCH                         C  G  K  O  S  W  S:   S
 Add 1  READ  Sec.2 MATCH                         D  H  L  P  T  X  P:X
 Std Add 1 UPDR  0 lines                         STAND :30     Silenced:0
 Std Add 1 UPDR                                  COS   :44     Off Line:0
                                                                 62748176
F1/AF2=Init Stats,F2=Poll,F3=Cfg,F4=Online,F5=Offline,AF1=Alms,F10/Esc=Exit
```

Fig. M1.44 - Downloading the configuration to the Alt Path Switch.



```
Remote Parameters

Remote : 3

  Port Usage        : DCP(F) INTERROGATOR
  Serial Format     : 9600,8,NONE,1
  RTS Lead / Tail   : 0    / 0
  Path B            : 0

  Time out          : 1000
  Poll Delay        : 0
  Protocol          : F
  Poll Mode         : Master
  Warning Threshold: 65
  Switch  Threshold: 70
  Fail Threshold    : 3
  Fail Poll Cycles  : 20
  Check DCD on Rcv  : Y
  Immediate Retries: 1

F)ind, E)dit, N)ext, P)rev, Q)uit :

F1-Devices, F5-Toggle Suspend, Alt5-Move, F10/Esc-Exit
```

Fig. M1.45 - Set data rate to 9600 baud and DCD on for protection switch port.

Protection Switch

Implement protection switch in the T/MonXM software as follows:

A) Verify the network port is physically RS 445-B. Enter the Parameters > Card Definition sub-menu and verify the card definition is correct.

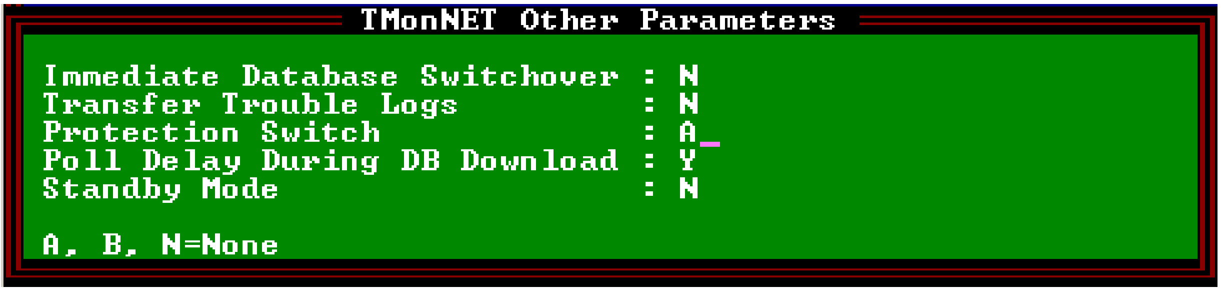
B) Enter the Parameters > TMonNET sub-menu.

C) Select TMonNET > Other from the Network sub-menu. A window with two questions will appear.

D) Answer the Protection Switch question with an “A” if the system is primary. Answer “B” if it is secondary (backup) — See Figure M1.46.

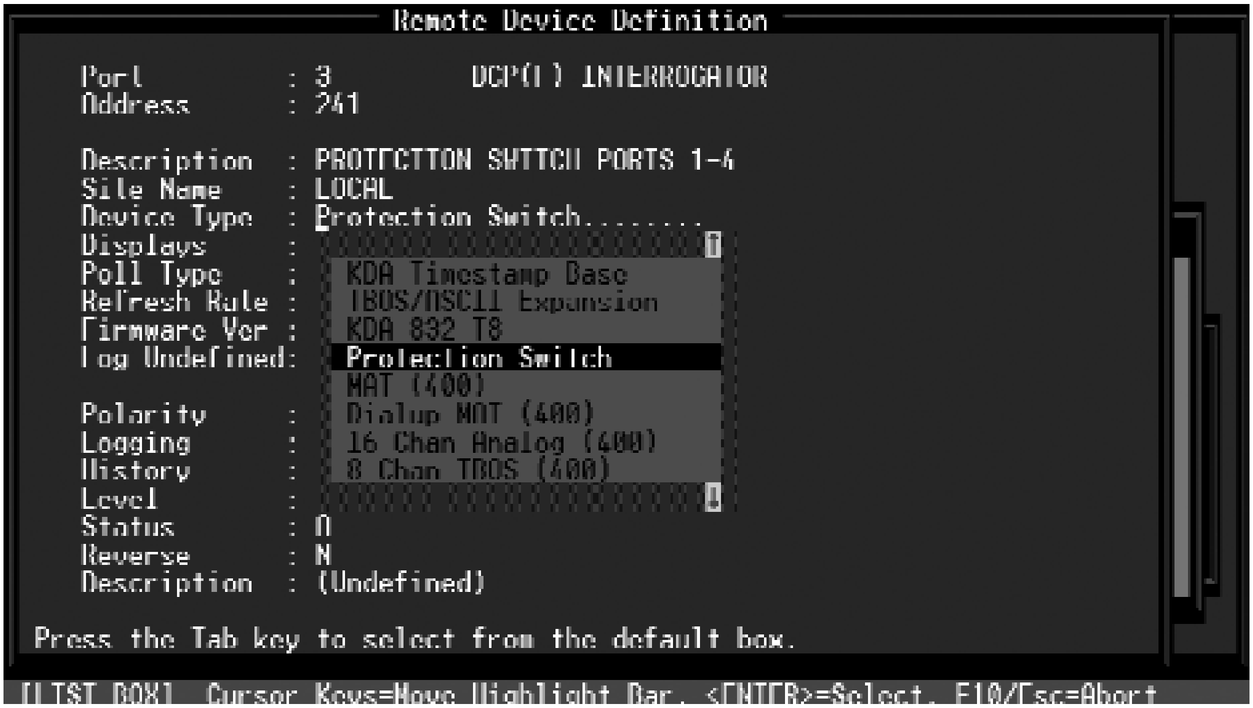
WARNING: These parameters must be set to match the corresponding cabling for proper operations.

E) Enter Parameters > Remote Ports menu. Set the port selected for control to DCP(F), 9600 Baud. Make sure DCP(F) Mode is set to “F” and Check DCD on Rcv are both set to “Y”.



```
TMonNET Other Parameters

Immediate Database Switchover : N
Transfer Trouble Logs         : N
Protection Switch             : A
Poll Delay During DB Download : Y
Standby Mode                  : N

A, B, N=None
```

Fig. M1.46 - Set your primary or secondary Protection Switch in TMonNET > Other Parameters.



```
                         Remote Device Definition

    Port          : 3         DCP(F) INTERROGATOR
    Address       : 241

    Description   : PROTECTION SWITCH PORTS 1-4
    Site Name     : LOCAL
    Device Type   : Protection Switch........
    Displays      :
    Poll Type     :  KDA Timestamp Base
    Refresh Rate  :  TBOS/ASCII Expansion
    Firmware Ver  :  KDA 832 T8
    Log Undefined:   Protection Switch
                     MAT (400)
    Polarity      :  Dialup MAT (400)
    Logging       :  16 Chan Analog (400)
    History       :  8 Chan TBOS (400)
    Level         :
    Status        : A
    Reverse       : N
    Description   : (Undefined)

 Press the Tab key to select from the default box.
[LIST BOX]  Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

Fig. M1.47 - Select protection switch as device type.

F) Create a DCP(F) device for each protection switch. (Press F1.) Note the protection switch address range of 241 to 246 — see Table 1.AE. Be sure to select "Protection Switch" for the device type field to tell T/Mon that the device is a protection switch.

G) Define two alarm points for each protection switch (press F1 while in the device definition screen for the switch address).

H) (Optional) Define Internal alarm by pressing F3 while in the device definition screen for the switch address. Enter the information for internal alarm points for device fail and device off-line.

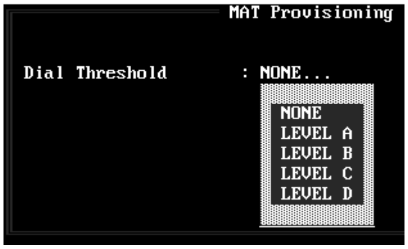
Table 1.AE - Protection switch address range is 241-246

Protection Switch Number	Ports	T/MonXM Address
1	1-4	241
2	5-8	242
3	9-12	243
4	13-16	244
5	17-20 (IAM only)	245
6	21-24 (IAM only)	246

Table 1.AF - Define two alarm points for each protection switch

Alarm Point	Description	Fail	Clear
1	Primary system on line	RUN	STBY
2	Secondary system on line	RUN	STBY

MAT (400) and Dial-Up MAT (400)



```
                                    MAT Provisioning

 Dial Threshold          : NONE...
                              NONE
                              LEVEL A
                              LEVEL B
                              LEVEL C
                              LEVEL D
```

Fig. M1.48 - Specify levels to initiate dial report if alternate path routing is used.

Note: See section M1-53 for Dial-up MAT instructions.

Dedicated Line Port To provision a MAT on a dedicated line port (RS232, RS422/485 or 202 modem), proceed as follows:

1. Define a DCP(F) port for the dedicated channel.
2. Press F1. Define the device type as “MAT (400).”
3. Press F5. Enter only the Dial Threshold. Select an alarm level for dial threshold. Exit to the Device Definition screen.
4. Press F1. Define alarm points. If Alternate Path Routing is used, be sure to specify the alarm level for dial threshold on all points that are to initiate dialing for that level.
5. Exit to Master Menu, Initialize and enter Monitor Mode.
10. Press Shift-F6. Use the + and - keys to find the dedicated port. Highlight the MAT to be provisioned and press F3.
11. Exit to monitor screen and test by generating an alarm.

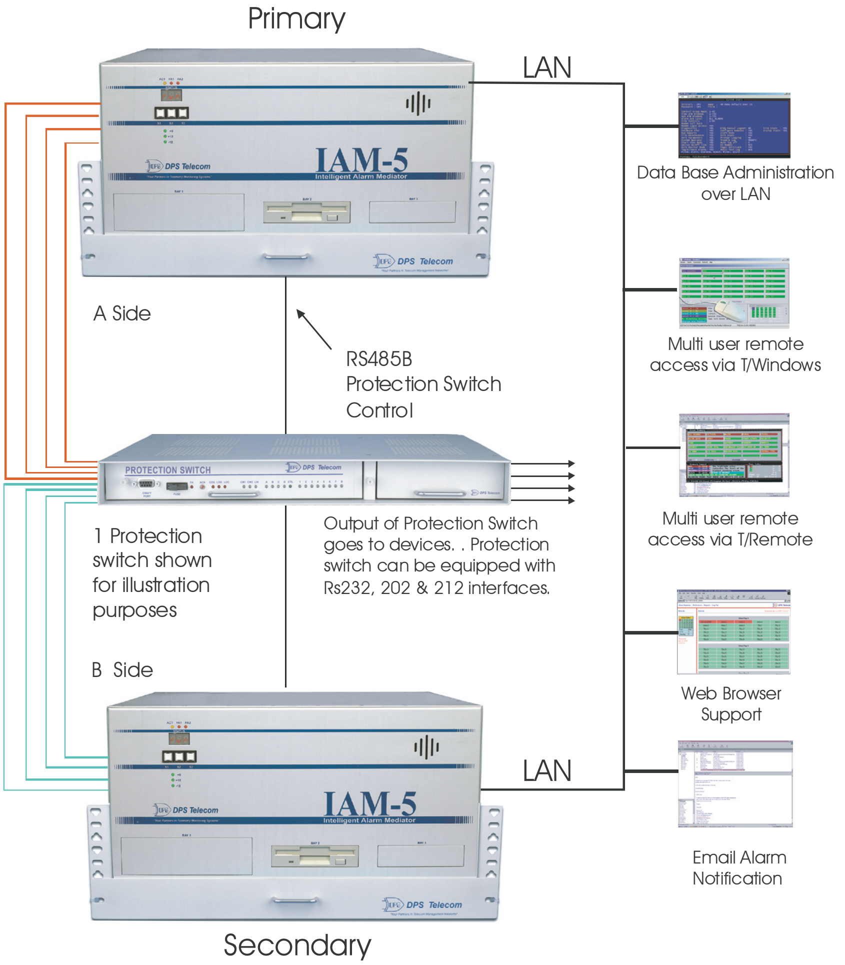
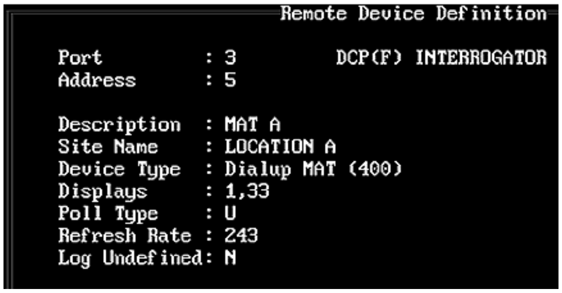
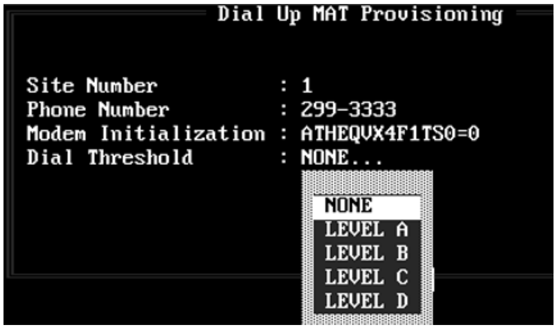

Primary
LAN
IAM-5
Intelligent Alarm Mediator
DPS Telecom
Data Base Administration over LAN
A Side
RS485B Protection Switch Control
Multi user remote access via T/Windows
PROTECTION SWITCH
Multi user remote access via T/Remote
1 Protection switch shown for illustration purposes
Output of Protection Switch goes to devices. . Protection switch can be equipped with Rs232, 202 & 212 interfaces.
Web Browser Support
B Side
LAN
IAM-5
Intelligent Alarm Mediator
Email Alarm Notification
Secondary

Fig. M1.49 - Block Diagram of Protection Switch application. For more information about the protection switch, see DPS Telecom Operation Guide OG109086, “Protection Switch Router.”



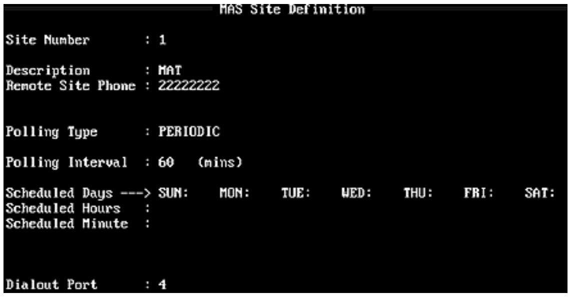
```
                                   Remote Device Definition

    Port        : 3          DCP(F) INTERROGATOR
    Address     : 5

    Description : MAT A
    Site Name   : LOCATION A
    Device Type : Dialup MAT (400)
    Displays    : 1,33
    Poll Type   : U
    Refresh Rate : 243
    Log Undefined: N
```

Fig. M1.50 - Define device type as “Dial-Up MAT.”



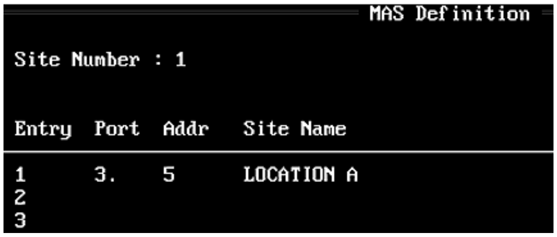
```
                    Dial Up MAT Provisioning

  Site Number          : 1
  Phone Number         : 299-3333
  Modem Initialization : ATHEQVX4F1TS0=0
  Dial Threshold       : NONE...
```

Fig. M1.51 - The dial-up MAT provisioning screen.



```
                              MAS Site Definition

Site Number       : 1

Description       : MAT
Remote Site Phone : 22222222


Polling Type      : PERIODIC

Polling Interval  : 60   (mins)

Scheduled Days ---> SUN:    MON:    TUE:    WED:    THU:    FRI:    SAT:
Scheduled Hours   :
Scheduled Minute  :



Dialout Port      : 4
```

Fig. M1.52 - Enter MAS site information.



```
                                          MAS Definition

Site Number : 1


Entry  Port  Addr   Site Name

1      3.    5      LOCATION A
2
3
```

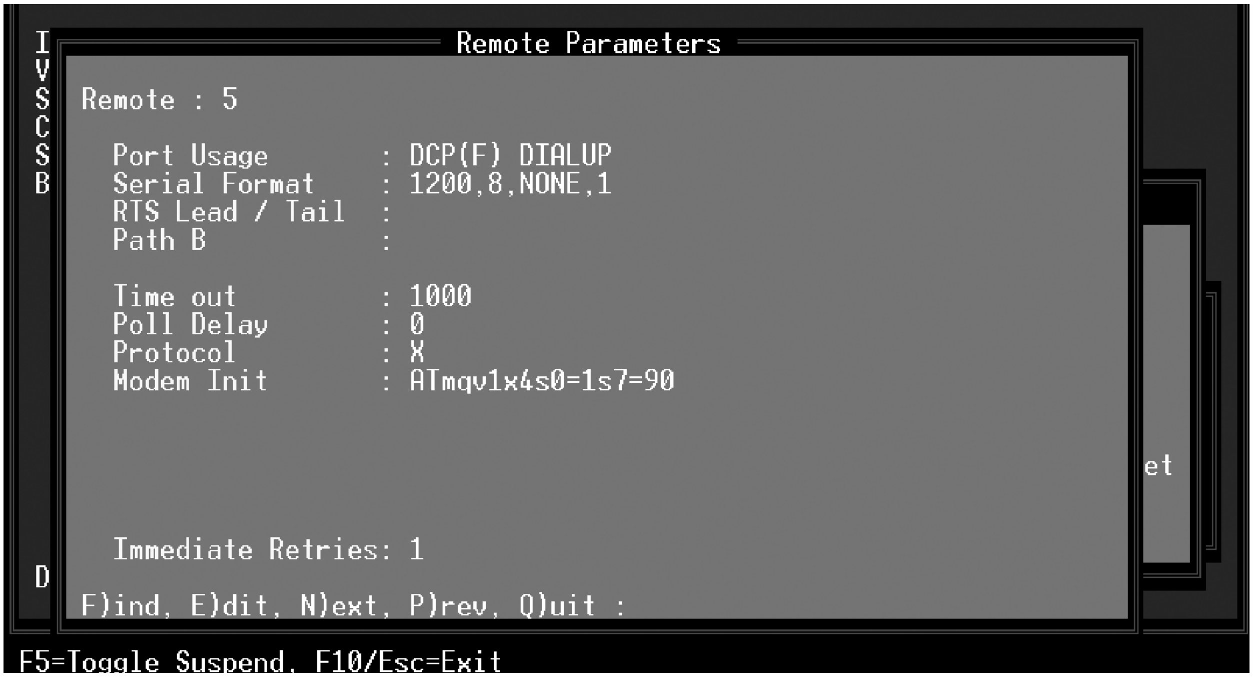
Fig. M1.53 - Entry #1 must be the MAT with the modem.

Dial-Up (Alternate Path) A MAT with dial-up modem is provisioned from the master for dialing information. Proceed as follows:

1. Define a DCP(F) port for the dedicated channel.
2. Press F1. Define the device type as “Dial-Up Mat.”
3. Press F5. Enter Site Number, Master Phone Number, Modem Init. string (use default) and Dial Threshold. Select an alarm level for dial threshold. Exit to the Device Definition screen.
4. Press F1. Define alarm points. Be sure to specify the alarm level for dial threshold on all points that are to initiate dialing for that level.
5. Define a port as DCP(F) Dial-Up (port must be equipped with a modem). Exit to the Master Menu.
6. Select Files / Dial Up Networks / MAS Sites. Enter information in the fields.
7. Press F2 (Shelf Provisioning)
8. Enter the Port and Address #. The site name field will be automatically entered.

Note: Entry #1 must be the MAT with the 212 Modem subassembly.

9. Exit to Master Menu, Initialize and enter Monitor Mode.
10. Press Shift-F6. Use the + and - keys to find the dial port (as defined in step 1). Highlight the MAT to be provisioned and press F3.
11. Exit to monitor screen and test by generating an alarm.



```
I                          Remote Parameters
V
S  Remote : 5
C
S    Port Usage       : DCP(F) DIALUP
B    Serial Format    : 1200,8,NONE,1
     RTS Lead / Tail  :
     Path B           :

     Time out         : 1000
     Poll Delay       : 0
     Protocol         : X
     Modem Init       : ATmqv1x4s0=1s7=90

                                                                   et


     Immediate Retries: 1
D
   F)ind, E)dit, N)ext, P)rev, Q)uit :

F5=Toggle Suspend, F10/Esc=Exit
```

Fig. M1.54 - Remote parameters screen, DCP(F) dial-up usage.

DCP(F) Dial-Up

Using the DCP(F) Dial-Up port usage, T/MonXM can access dial-up Remotes using DCP(F) protocol. DCP(F) dial-up offers several advantages over TRIP dial-up protocol, including multiple addressing, simplified setup and download provisioning. It can be used with KDAs and MAT 400 modules.

Refer to Table M1.AG for field descriptions and Table M1.AH for function key descriptions available on the Remote Parameters screen.

Table M1.AG - Fields in the Remote Parameters screen, DCP(F) Dial-Up usage

Field	Description
Port Usage	DCP(F) Dialup **Note:** This usage should only be defined on a physical port that contains a modem.
Serial Format	Baud rate, parity, word length, and stop bits settings that T/MonXM will use to communicate with the equipment.
Time Out	Timeout in milliseconds (200 to 9999) [1000 = 1 sec.] *
Poll Delay	Time between polls in milliseconds (0 to 9999) [0]
DCPF Mode	Enter X = DCP(X), F = DCP(F), N = DCP. [F]
Immediate Retries	Number of times to re-dial before moving on to the next address. [1]
Modem Init String	30 character configuration string. This field defaults to the correct string for standard DPS devices. If you are using a non-standard modem, Refer to Appendix K or consult the modem manufacturer’s instructions for details. Default: AT V1 M0 S0=1 Q0 S7=90 X4

Table M1.AH - Key commands available in the Remote Parameters Screen, DCP(F) Dial-Up usage

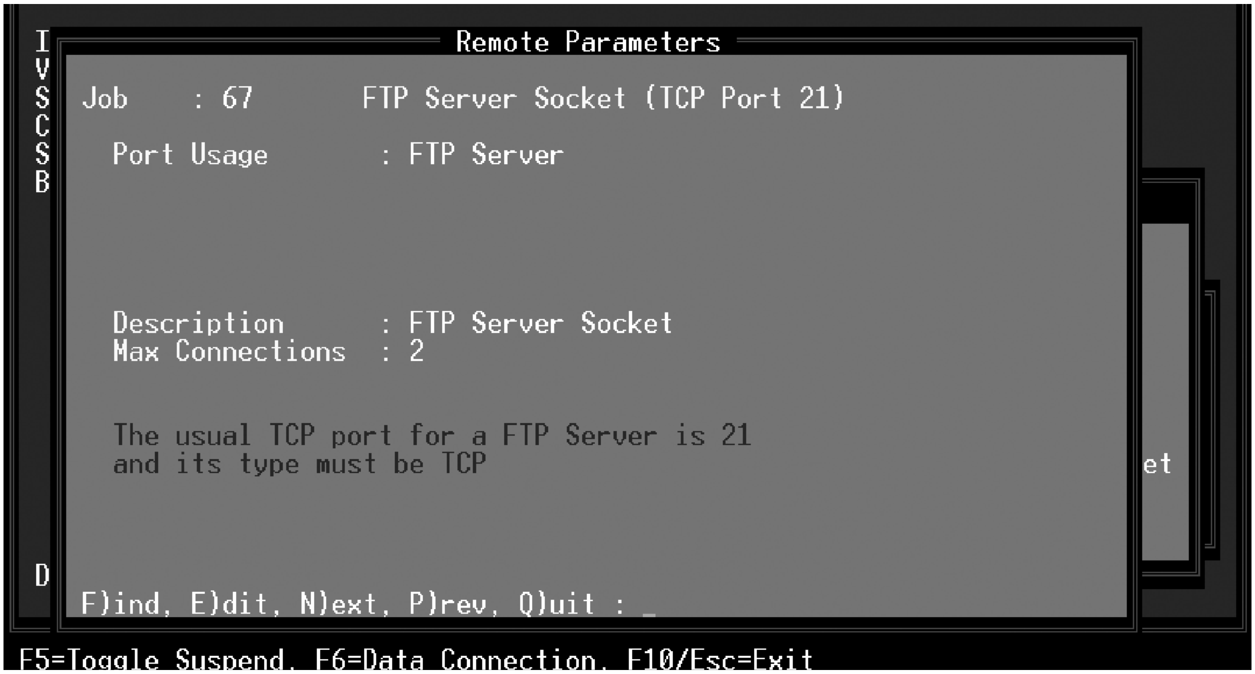
Function Key	Description
F5	Allows you to suspend use of this port without loss of configuration data. Toggles the suspension state. Available only when cursor is on the prompt line at the bottom of the window.
Up Arrow	Move to the previous field.
F8	Save
F9	Help
F10/Esc	Move to the first field or exit without saving (depending on which field the cursor is in).
Tab	List port usage (while cursor is in the Port Usage field.)

Note: This port definition only reserves the port for DCP(F) Dial-Up mode. The dial-up Remotes themselves are physically defined in another section of the software. Refer to Module 3 - Standard Dial-Up Remotes for additional information.

Software Module 15
FTP Server

The FTP (File Transfer Protocol) Server provision in T/MonXM provides for the capability of connecting to a T/MonXM as an FTP server using a standard Windows or other FTP client. This allows communicating machines of different types and operating systems to transfer information to and from T/MonXM.

Using the FTP Server, users are able to easily backup their systems, without exiting Monitor Mode, by simply transferring a copy of the database to a different terminal over LAN. Additionally, users are able to transfer MIB files and install T/MonXM updates remotely.



```
                         Remote Parameters
 Job    : 67       FTP Server Socket (TCP Port 21)

   Port Usage       : FTP Server




   Description      : FTP Server Socket
   Max Connections  : 2


   The usual TCP port for a FTP Server is 21
   and its type must be TCP



 F)ind, E)dit, N)ext, P)rev, Q)uit : _

F5=Toggle Suspend, F6=Data Connection, F10/Esc=Exit
```

Fig. M15.1 - Transfer MIB files and T/MonXM updates via the FTP Server

Set up a FTP Server

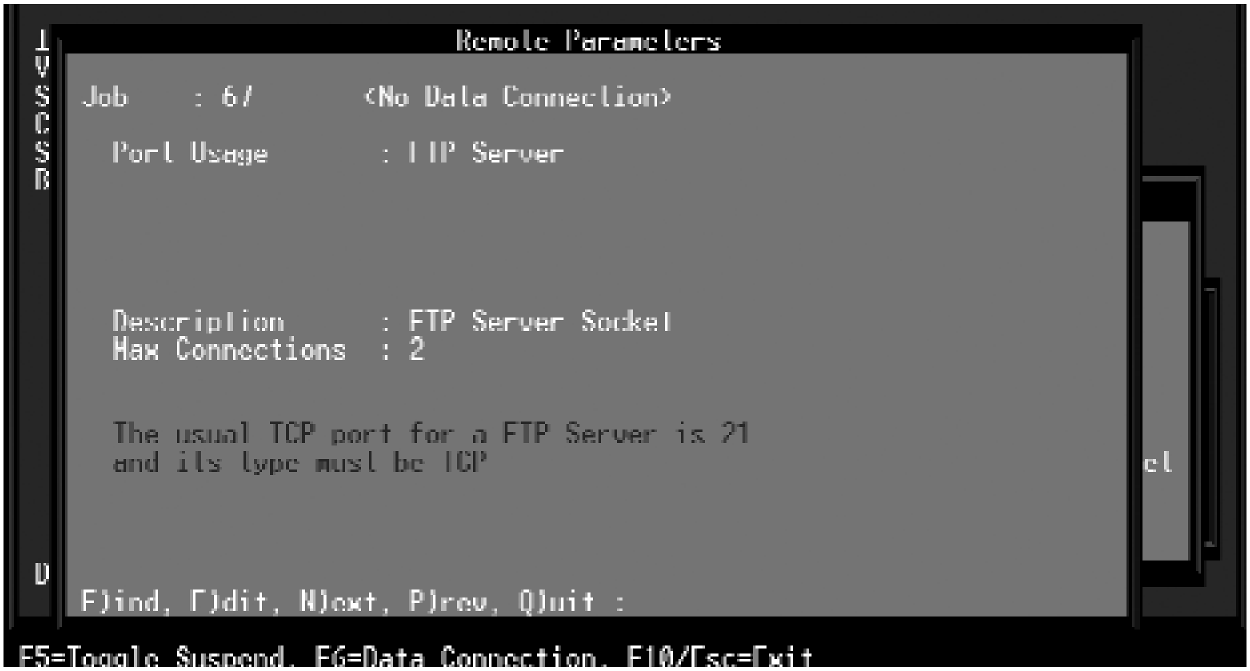
This section is a step by step procedure for configuring T/MonXM to use the FTP Server.

The following outlines the FTP Server configuration steps:

1. Setup a FTP Server Job
2. Setup a FTP Data Transfer Job
3. Test the FTP Connection

Setup a FTP Server Job

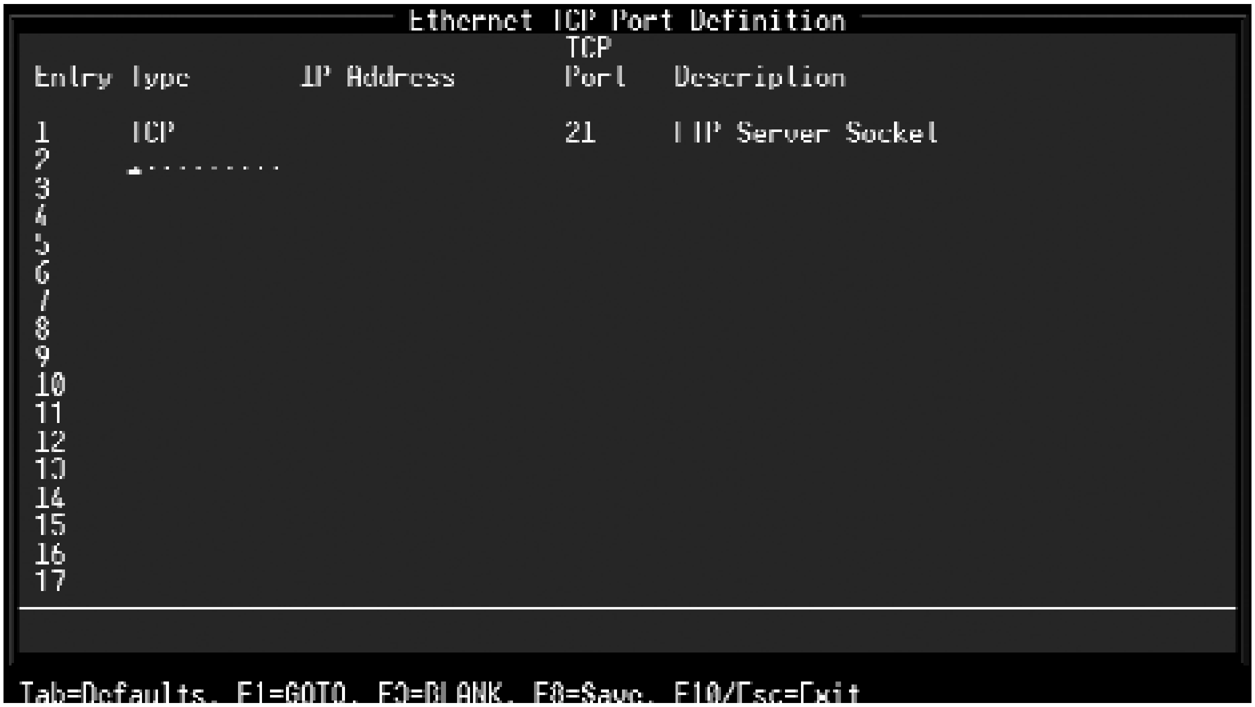
1. Choose Master > Parameters >Remote Ports.
2. Press F (Find) and enter a port above 48. Press E (Edit) to edit the port parameters.
3. Press Tab to enter the list box. Select FTP Server and press Enter.
4. Enter a description — see Figure M15.2 for example.
5. Enter the maximum number of simultaneous connections.



```
                         Remote Parameters
 Job    : 67       <No Data Connection>

   Port Usage       : FTP Server



   Description      : FTP Server Socket
   Max Connections  : 2

   The usual TCP port for a FTP Server is 21
   and its type must be TCP



 F)ind, E)dit, N)ext, P)rev, Q)uit :
F5=Toggle Suspend, F6=Data Connection, F10/Esc=Exit
```

Fig. M15.2 - Establish an FTP Server job

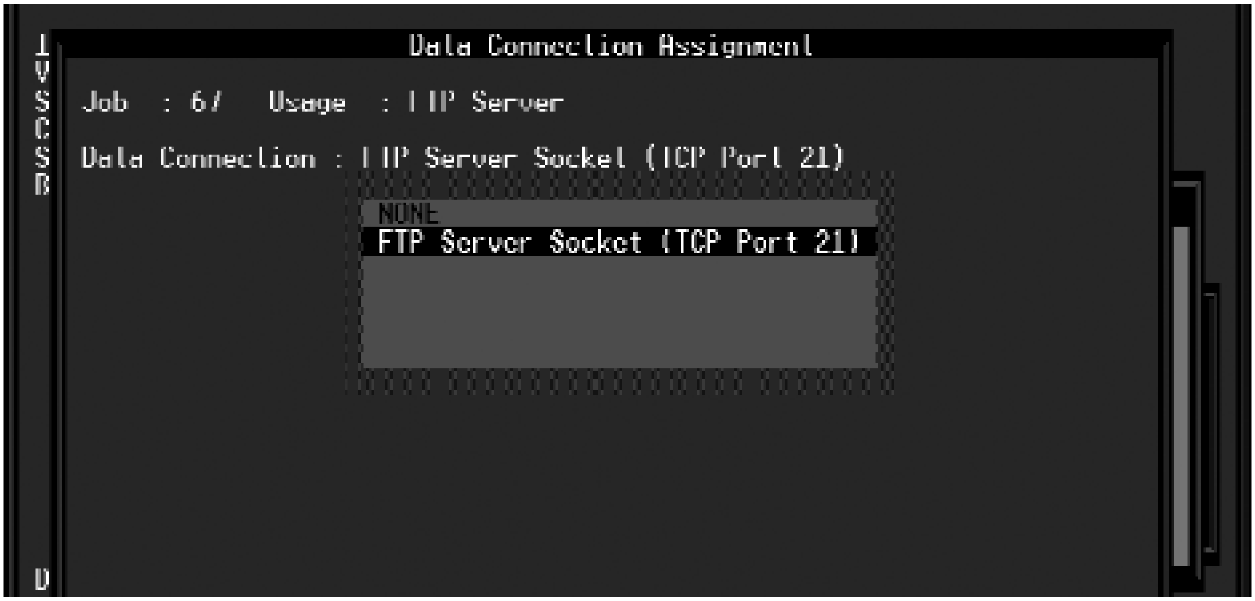
6. Press F6 to open the Data Connection Assignment screen — see Figure M15.3.
7. Press Tab to enter the list box. The usual TCP port for an FTP Server is 21 and its type must be TCP.



```
                    Ethernet TCP Port Definition
                                        TCP
Entry Type       IP Address             Port   Description

1     TCP                               21     FTP Server Socket
2     .........
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Tab=Defaults, F1=GOTO, F3=BLANK, F8=Save, F10/Esc=Exit
```

Fig. M15.3 - The FTP Server job must be on port 21

8. If no suitable data connection is available, press F1 to open the Ethernet TCP Port Definition screen and define a TCP connection on Port 21.
9. Press F8 to save your changes and return to the Data Connection screen.
10. From the Data Connection Screen, press Tab to enter the list box and select TCP Port 21. Press Enter to complete data connection assignment and return to the Remote Parameters Screen.

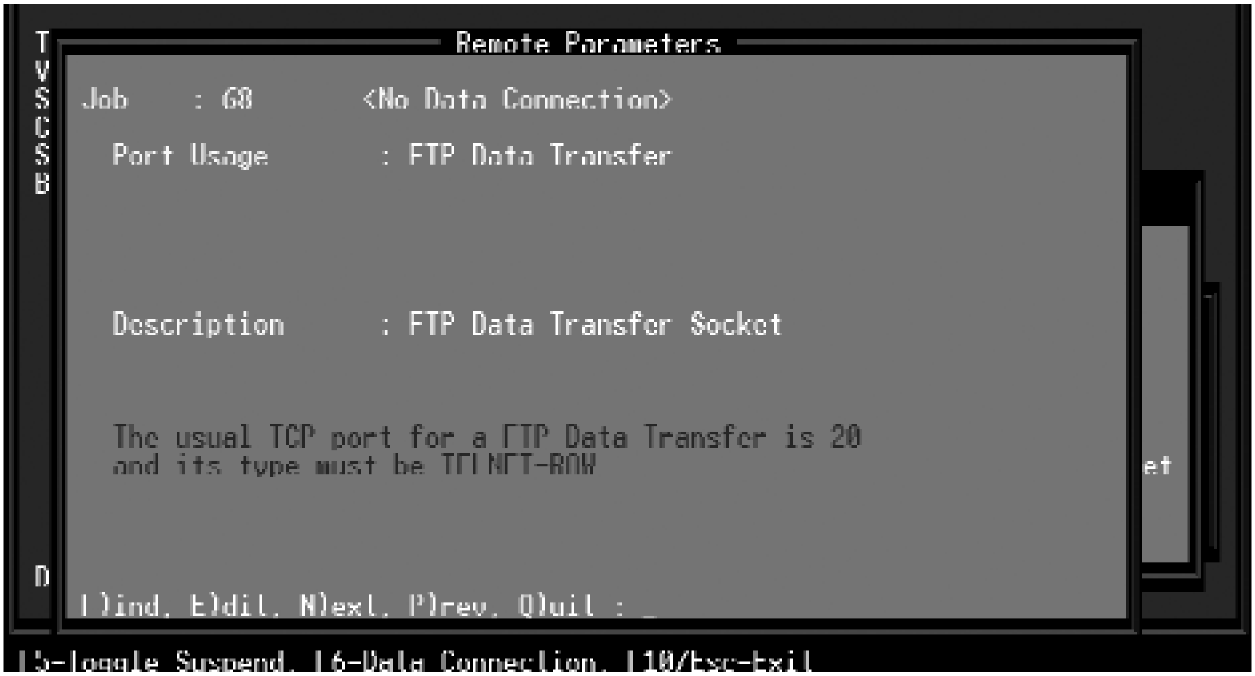


```
                 Data Connection Assignment

Job  : 67   Usage  : FTP Server

Data Connection : FTP Server Socket (TCP Port 21)
                  NONE
                  FTP Server Socket (TCP Port 21)
```

Fig. M15.4 - Assign TCP Port 21 to the FTP Server

Setup a FTP Data Transfer Job

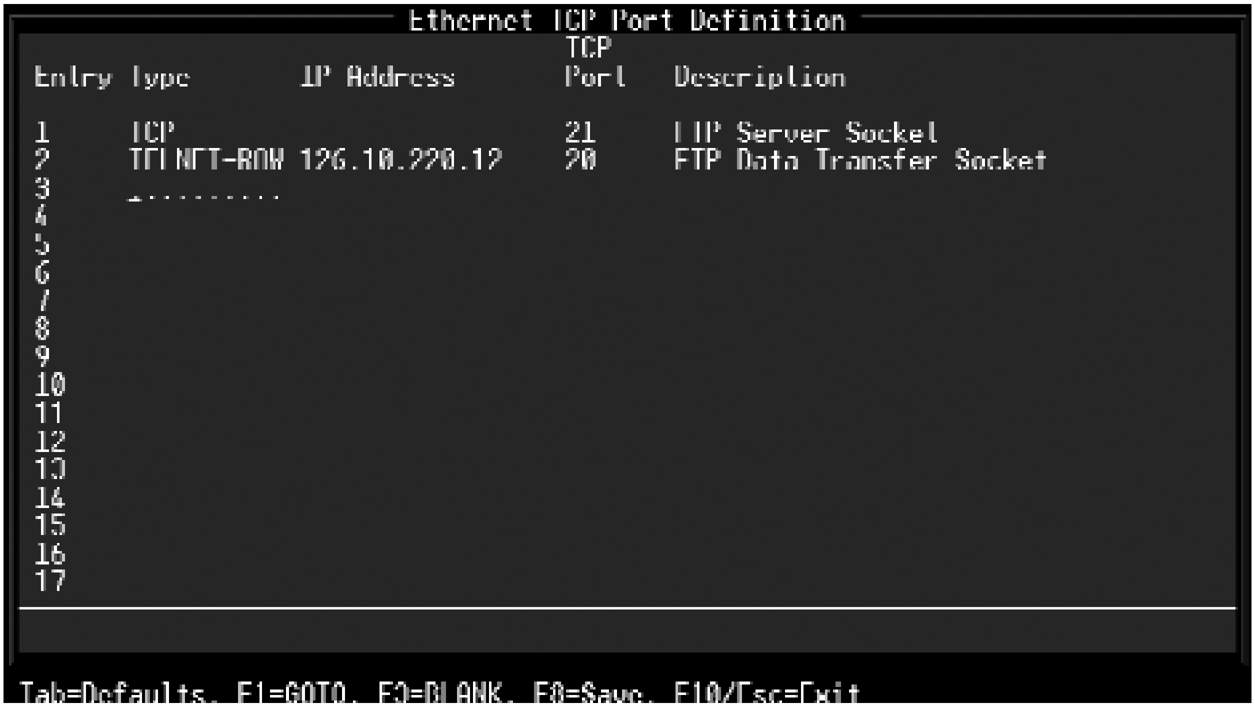
1. Choose Master > Parameters >Remote Ports. Press F (Find) and enter a port above 48.
2. Press E (Edit) to edit the port parameters. Press Tab to enter the list box and select FTP Data Transfer.
3. Enter a description — see Figure M15.5 for example.



```
                         Remote Parameters
Job    : 68       <No Data Connection>
  Port Usage       : FTP Data Transfer

  Description      : FTP Data Transfer Socket

  The usual TCP port for a FTP Data Transfer is 20
  and its type must be TELNET-RAW

F)ind, E)dit, N)ext, P)rev, Q)uit : _
F5-Toggle Suspend, F6-Data Connection, F10/Esc-Exit
```

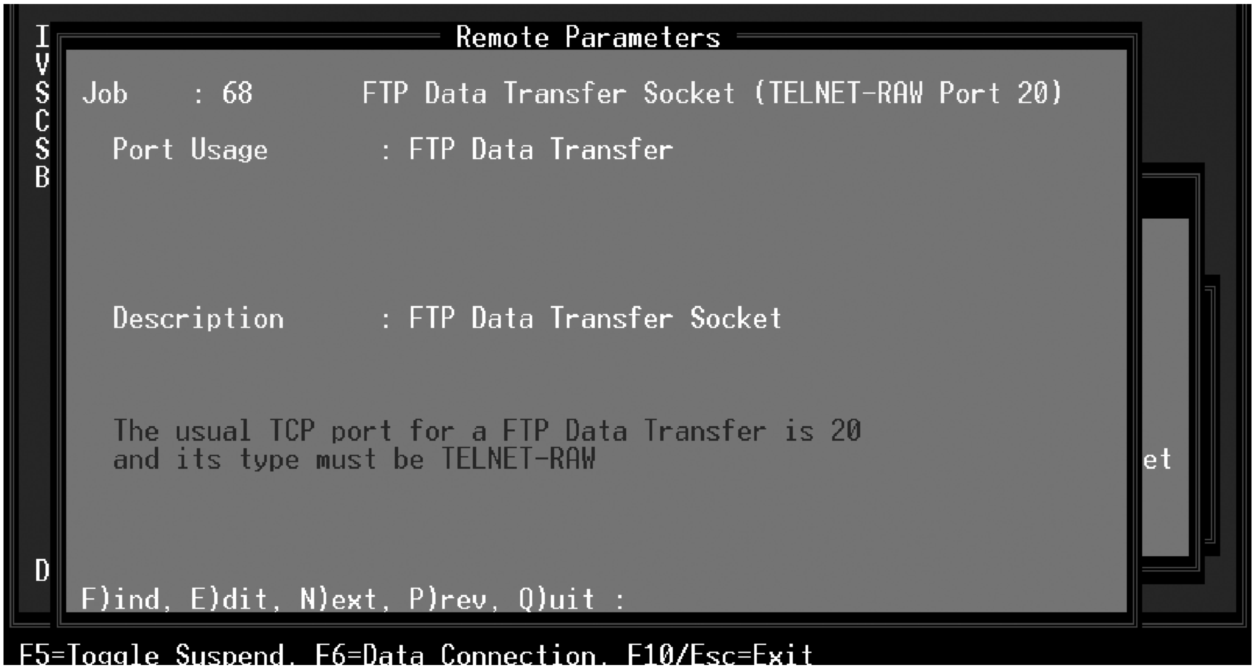
Fig. M15.5 - Establish an FTP data transfer job

4. Press F6 to open the Data Connection Assignment screen. Press Tab to enter the list box. The usual TCP port for an FTP Data Transfer is 20 and its type must be TELNET-RAW — see Figure M15.6.
5. If no suitable data connection is available, press F1 to open the Ethernet TCP Port Definition screen and define a TCP connection on Port 20. In the IP Address field of Port 20, enter the IP address of the T/Mon's IP Address.
6. Press F8 to save your changes and return to the Data Connection screen.
7. From the Data Connection Screen, press Tab to enter the list box and select TELNET-RAW Port 20.
8. Press Enter to complete data connection assignment and return to the Remote Parameters Screen — see Figure M15.7.



```
                      Ethernet TCP Port Definition
                                       TCP
Entry Type        IP Address           Port    Description

1     TCP                              21      FTP Server Socket
2     TELNET-RAW 126.10.220.12         20      FTP Data Transfer Socket
3     ..........
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Tab=Defaults, F1=GOTO, F3=BLANK, F8=Save, F10/Esc=Exit
```

Fig. M15.6 - The FTP Data Transfer job typically uses TCP port 20



```
                        Remote Parameters
Job    : 68       FTP Data Transfer Socket (TELNET-RAW Port 20)
  Port Usage        : FTP Data Transfer



  Description       : FTP Data Transfer Socket


  The usual TCP port for a FTP Data Transfer is 20
  and its type must be TELNET-RAW



F)ind, E)dit, N)ext, P)rev, Q)uit :

F5=Toggle Suspend, F6=Data Connection, F10/Esc=Exit
```

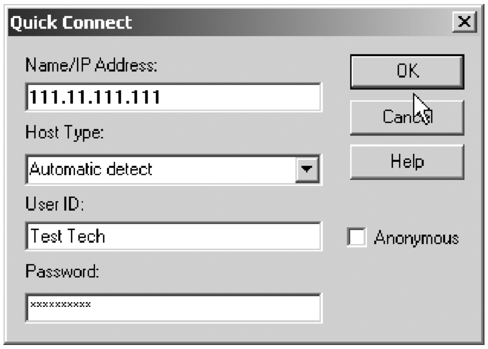
Fig. M15.7 - Completed FTP Data Transfer Job

Test the FTP Connection

FTP connection interfaces will vary depending which FTP client you are using. Refer to your FTP client for instructions. The example below will likely not be identical to your FTP client.

A typical FTP client requires the IP Address of the T/MonXM system and the user name and password in order to establish a connection — see figure M15.8. Once a connection is established, files may be transferred to or from the T/MonXM system.

Figure M15.9 illustrates an example of transferring an IAM version 4.0 firmware upgrade.


Quick Connect

Name/IP Address: 111.11.111.111

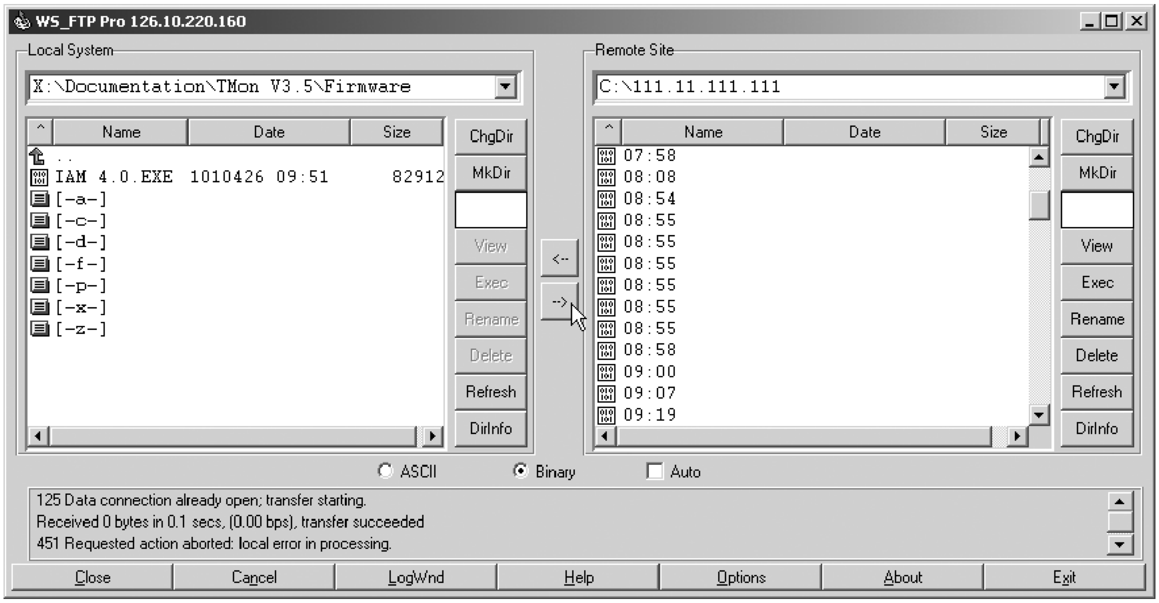
Host Type: Automatic detect

User ID: Test Tech

□ Anonymous

Password: xxxxxxxxxx

Fig. M15.8 - Enter the IP Address of the T/MonXM system and your user name and password


WS_FTP Pro 126.10.220.160

Local System: X:\Documentation\TMon V3.5\Firmware

```
Name           Date            Size
..
IAM 4.0.EXE    1010426 09:51   82912
[-a-]
[-c-]
[-d-]
[-f-]
[-p-]
[-x-]
[-z-]
```

Remote Site: C:\111.11.111.111

```
Name           Date            Size
07:58
08:08
08:54
08:55
08:55
08:55
08:55
08:55
08:55
08:58
09:00
09:07
09:19
```

○ ASCII ● Binary □ Auto

```
125 Data connection already open; transfer starting.
Received 0 bytes in 0.1 secs, (0.00 bps), transfer succeeded
451 Requested action aborted: local error in processing.
```

Fig. M15.9 - Example FTP IAM firmware upgrade

Software Module 22
Building Access System

This option is only available if the Building Access System (BAS) software module is installed.

Building Access System Module

The Building Access System (BAS) is a comprehensive building management system that provides centralized door access control. With the system in place, managers can maintain a database of all access privileges and access granting history. In addition, the BAS eliminates the concern and issues associated with key management (e.g. loss, duplications, and re-keying costs)

The BAS is a profile based access system that assigns each user with a unique user profile that contains information on which Building Access Systems are allowed to be accessed, the door numbers, days of the week access is allowed, a start/stop time, and a beginning and ending date.

Section Overview

This section is divided into five “How to” sections. See the section that corresponds to your system settings:

Define BAS for NetGuardian

Define BAS for KDA

Define BAU/ECU

Define DTMF Access

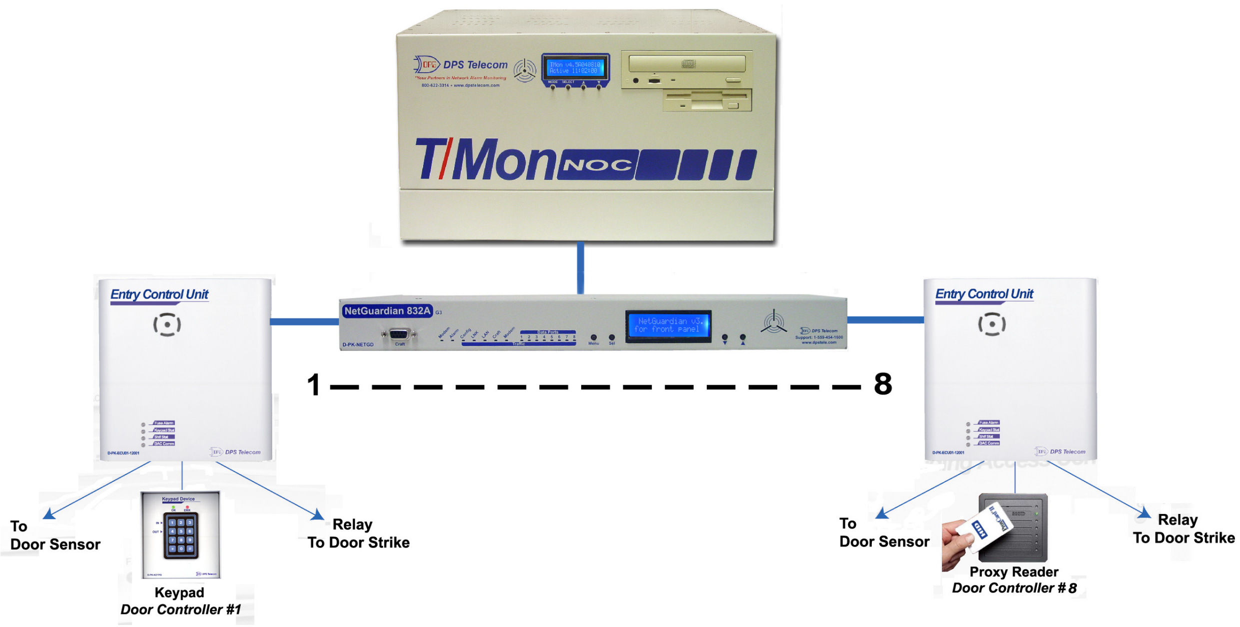


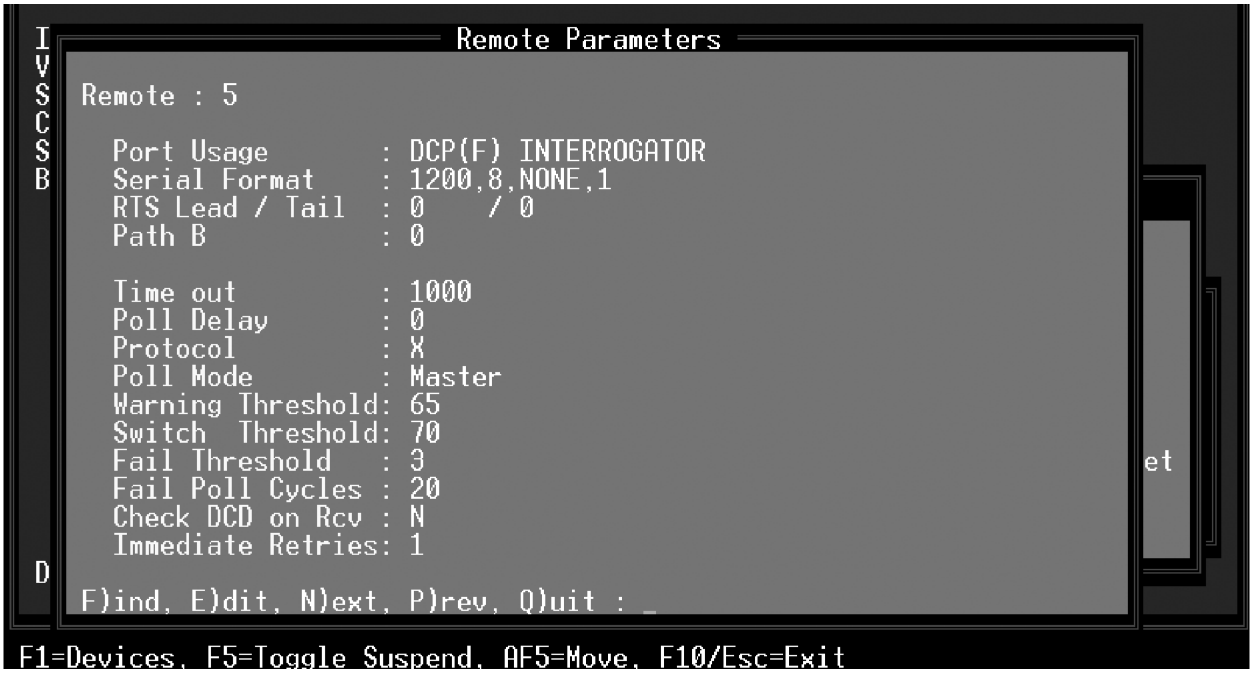
Fig. M22.1 - The BAS can control and regulate up to 16 door entry points.

BAS for NetGuardian

The following is an overview for configuring T/MonXM to use the Building Access System for a NetGuardian:

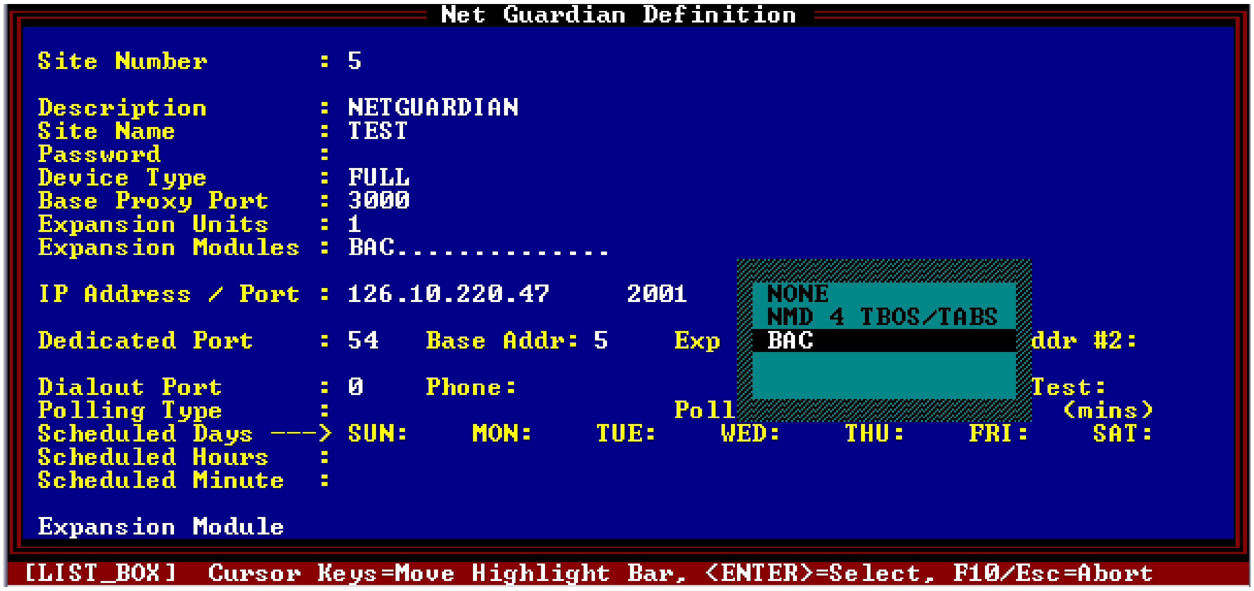
1. Set up a Remote Port.
2. NetGuardian Device Definition
3. Define the Site Definition
4. Define BAS user profiles
5. Example User Profile Using Groups
6. Display Mapping

Step 1 - Define a Remote Port
Set up a DCP polling port **i**n the Main menu > Parameters > Remote Parameters screen — see Figure M22.2. Create a dedicated port job for polling the BAS over serial connection, or create a virtual port job for polling over a TCP/IP connection. See Software Module 1 (DCPF Interrogator) for more information.



```
Remote Parameters

Remote : 5

  Port Usage       : DCP(F) INTERROGATOR
  Serial Format    : 1200,8,NONE,1
  RTS Lead / Tail  : 0    / 0
  Path B           : 0

  Time out         : 1000
  Poll Delay       : 0
  Protocol         : X
  Poll Mode        : Master
  Warning Threshold: 65
  Switch  Threshold: 70
  Fail Threshold   : 3
  Fail Poll Cycles : 20
  Check DCD on Rcv : N
  Immediate Retries: 1

F)ind, E)dit, N)ext, P)rev, Q)uit : _

F1=Devices, F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

Fig. M22.2 - Example of a defined dedicated port for DCP(F) Interrogators



```
                          Net Guardian Definition

 Site Number        : 5

 Description        : NETGUARDIAN
 Site Name          : TEST
 Password           :
 Device Type        : FULL
 Base Proxy Port    : 3000
 Expansion Units    : 1
 Expansion Modules  : BAC..............

 IP Address / Port  : 126.10.220.47     2001      NONE
                                                  NMD 4 TBOS/TABS
 Dedicated Port     : 54  Base Addr: 5    Exp     BAC              ddr #2:

 Dialout Port       : 0   Phone:                                   Test:
 Polling Type       :                     Poll                      (mins)
 Scheduled Days ---> SUN:    MON:    TUE:    WED:    THU:    FRI:    SAT:
 Scheduled Hours    :
 Scheduled Minute   :

 Expansion Module
[LIST_BOX]  Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

Fig. M22.3 - NetGuardian Device Definition screen.

Step 2 - Define the NetGuardian Device
To define the NetGuardian for BAS, go to the Master menu > Files Maintenance menu > LAN-Based Remotes option. The Net Guardian Definition screen will appear. Fill in the fields with the appropriate information — refer to Tables M22.A. Select BAC (Building Access Controller) in the Expansions Modules list box menu — see Figure M22.3.

Note: options will vary according to serial dial-up or TCP/IP mode.

Table M22.A - Fields in the NetGuardian Device Definition screen

Field	Description
Site Number	3-digit site number. This number is unique over the entire alarm network. This number is the address field for responders, derived alarms, and labeled controls.
Description	41 character description of the site.
Site Name	15 character site name. This will be stamped on every event from this RTU.
Password	20 character password. (Only needed if T/MonXM will be managing the proxy ports.)
Device Type	Indicates if the NetGuardian is the standard version or the NetGuardian C version.
Base Proxy Port	Set to 3000 (default) or the same as the Net Guardian.
Expansion Units	Enter the number of NetGuardian expansion units you are using. (Only needed if T/MonXM will be managing the proxy ports.)
Expansion Modules	Select the expansion modules you are using (select BAC).
IP Address / Port	Enter the IP address for the unit. This is the address that T/Mon will use to poll the Net Guardian. Also enter the UDP Port address of the NetGuardian(must match the NetGuardian).

Note: Table M22.A continues on following page.

Table M22.A - Fields in the NetGuardian Device Definition screen

Field	Description
Dedicated Port	If the NetGuardian reports on a dedicated or Ethernet line (DCP), enter the T/MonXM port number. If the NetGuardian reports only on a dial line, enter 0.
Base Address	The DCP address of the Net Guardian.
Exp. Addr. #1	Enter the DCP address being used for the BAC (must match the NetGuardian).
Exp. Addr. #2	N/A
Dialout Port	Enter the port number used for dial out, if dialout only or alternate path is used. Enter ‘0’ if dedicated line only (skips out of edit mode).
Phone	Enter the phone number to reach the remote.
Polling Type*	Select Periodic or Schedule from the default box. Periodic polling polls at the interval specified in minutes in the polling interval field. Schedule sets a defined day and time in the week to poll the unit. If periodic is selected, the cursor will skip to the Polling Interval field. If schedule is selected, the cursor will skip to the scheduled days field.
Polling Interval*	Periodic polling only. 0 to 9999 minutes. 0 = never. The cursor will skip out of edit mode after entering a value.
Scheduled Days*	Enter the whole number of each hour (24 hour clock) to place a polling call (0-23, where 0 = midnight). Example: 0, 8-16 polls at midnight and every hour from 8 AM to 4 PM.
Scheduled Minutes*	Enter the whole number of the offset from the hour each call is to be made. (0-59, where 0 = on the hour). Example: 30 polls at half past the hour.

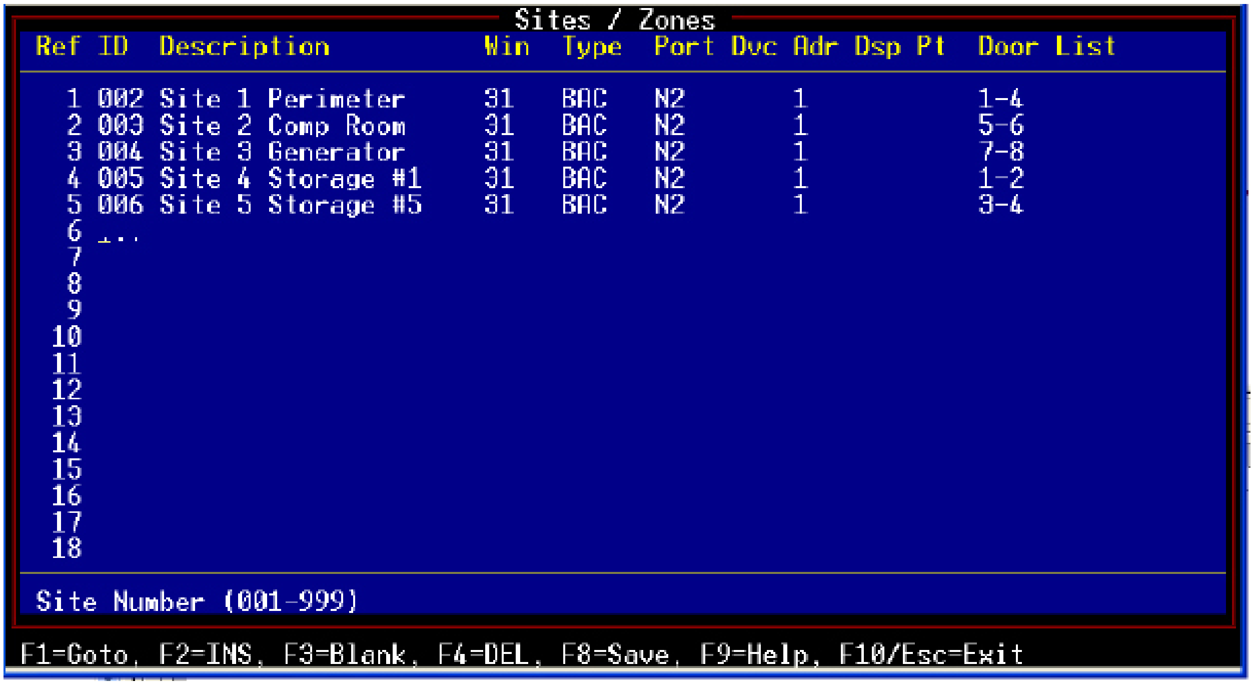
* Option available for dial-up only.

Table M22.B - Key commands in the NetGuardian Device Definition screen

Function Key	Description
F1	Devices. Allows you to view and edit Net Guardian address definition information.
F2	Global Options. Allows you to set the number of Proxy and Craft connections.
F3	Firmware. Copies a Net Guardian firmware file from a floppy disk.
F10/Esc	Exit. Returns you to the previous screen/menu.

Step 3 - Define Site Definition
From the Master menu, select Files, Building Access, and then Sites/Zones. Enter the appropriate information into the Site Definition fields. See Table M22.C for field names and descriptions.

The Site definition screen allows the user to define a physical relationship in the remote sites between the doors, zones, and sites. In order to save databasing time, managers can also setup groups of doors that can be assigned to a set of users (instead of entering site/ zone information for each separate user). Once a user profile is setup (see Step 4 on section M22-7), the user can be assigned to a group of doors instead of assigning doors to a user.



```
                              Sites / Zones
 Ref ID  Description          Win  Type  Port Dvc Adr Dsp Pt  Door List

   1 002 Site 1 Perimeter     31   BAC   N2        1          1-4
   2 003 Site 2 Comp Room     31   BAC   N2        1          5-6
   3 004 Site 3 Generator     31   BAC   N2        1          7-8
   4 005 Site 4 Storage #1    31   BAC   N2        1          1-2
   5 006 Site 5 Storage #5    31   BAC   N2        1          3-4
   6 _..
   7
   8
   9
  10
  11
  12
  13
  14
  15
  16
  17
  18

 Site Number (001-999)

F1=Goto, F2=INS, F3=Blank, F4=DEL, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. M22.4 - Select Building Access and the Site Definition from the Files menu.

Table M22.C - Fields in the Site Definition screen

Field	Description
Ref	Site definition reference number. This field cannot be edited.
ID	The Site ID is a logical group of one or more doors at a specific physical location. This Site can represent a room within the facility or simply a portion of the facility that only a sub-set of users cleared for the location can access. Users with valid access codes can access any of the doors within that specific Site. The Site ID is a unique 3-digit numeric code used when logging into a site. Valid site numbers are 001-999. You must enter 3 digits — see figure M22.5 for example of site diagrams.

Note: Table M22.C continues on following page.

Table M22.C - Fields in the Site Definition screen continued

Field	Description
Description	Site description (max. 20 characters).
Win	Window to report the login/logout. Valid windows are 2-90 with standard features.
Type	Manually enter the device type by typing BAC into the field.
Port	Designated port of the NetGuardian with BAC capabilities (N2 for NetGuardian, K2 for KDA).
Dvc	N/A
Adr	Site number of the NetGuardian or KDAwith BAC expansion module capabilities.
Dsp	N/A
Pt	N/A
Door List	List of ECU addresses (doors that create sites/zones) polled (door points) (e.g., 1-4, 9-12). Doors can be treated as individual (single) doors, or if, for example, there is a site/zone with multiple doors, it can be provisioned so that it does not make a difference which door a user comes in or out of. The use of sites/zones requires less databasing because users can be assigned to sites/zones rather than having to assign each door to each user. Alternatively, if a site/zone has a specific in or out door, the doors can be treated as individual doors. **Note:** Use "-" for ranges, or "," to separate doors.

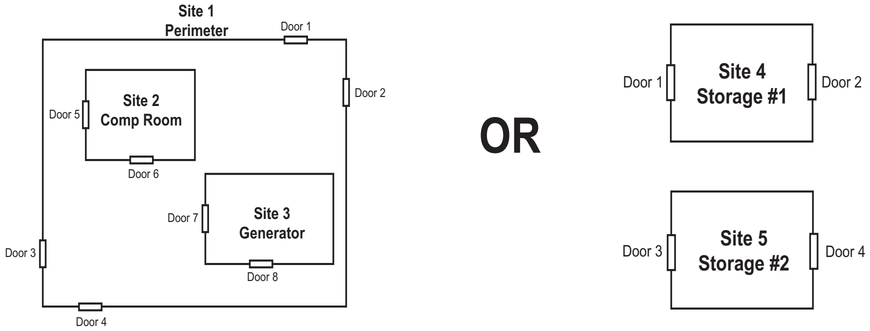


Fig. M22.5 - Example of site diagrams

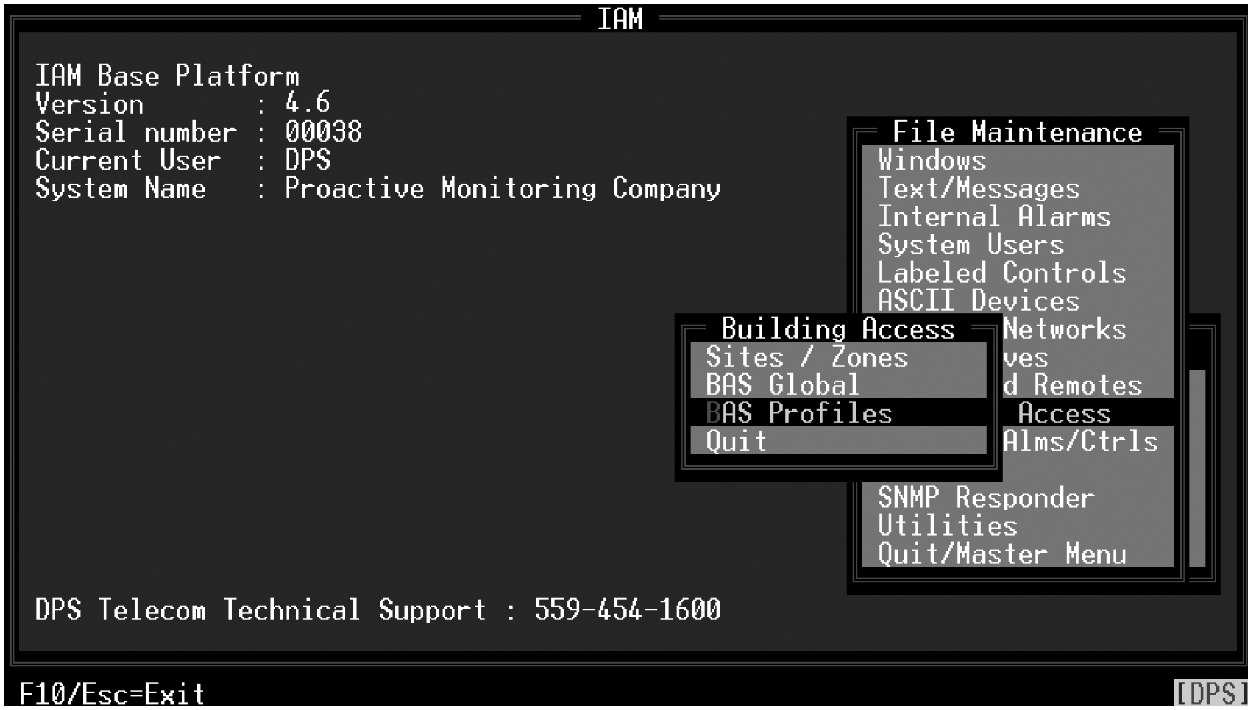
Table M22.D - Key commands available in the Sites/Zones screen

Function Key	Description
F1	Go to. Allows you to jump to a specific site reference ID by typing in the reference ID number.
F2	Insert. Insert a new line at the current position and moves everything down by one Note: If the very last entry contains data, a warning will appear to confirm insertion. If there are any blank lines available, use DEL (F4) to delete them. This will make more space to insert.
F3	Blank. Blanks out all the information in the line where the cursor is currently located.
F4	Delete. Deletes entire line at current position. Similar to F3 but will move everything up by one.
F8	Save. Saves the configuration information and returns you to the previous screen.
F9	Help. Brings up the help menu.
F10/Esc	Exit. Returns you to the previous screen/menu.

Step 4 - Define BAS User Profiles
Creating user profiles can be a time saving tool that allows you to assign all like users into a single group. It is also easy to maintain, in that if a change is made to a group, it affects all of the users in that group (instead of databasing each user profile individually). The Building Access System also allows managers to define specific user profiles. Here, the information defined in the Site Definition screen will be assigned to users. The user profile will determine which doors are allowed to be accessed, days of the week access is allowed, a start/stop time, and a beginning and ending date.

Based on the Site Definitions, users can be placed into groups as stated above. A type of user can be defined and then users of that type can be assigned to a group. Additionally, there may be groups within a group (up to 14 group layers) and a user profile can have a user name that has access to more than one group.

From the File Maintenance menu, select Building Access and then BAS Profiles.

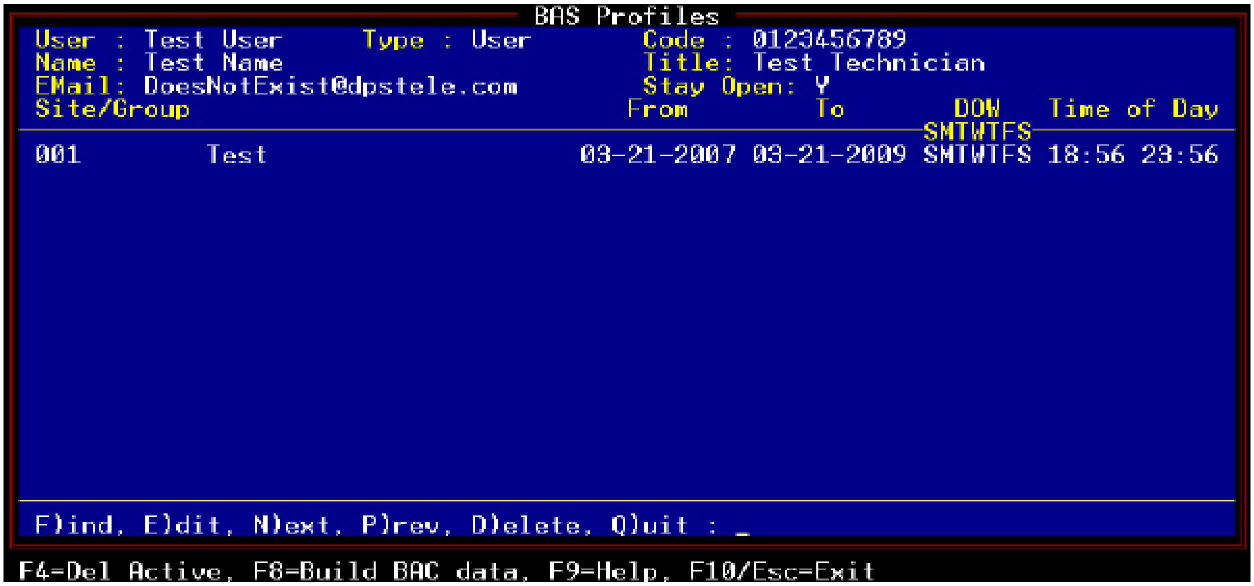


```
                                   IAM

IAM Base Platform
Version       : 4.6
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company
                                                       File Maintenance
                                                       Windows
                                                       Text/Messages
                                                       Internal Alarms
                                                       System Users
                                                       Labeled Controls
                                                       ASCII Devices
                                              Building Access  Networks
                                              Sites / Zones  ves
                                              BAS Global     d Remotes
                                              BAS Profiles    Access
                                              Quit           Alms/Ctrls

                                                       SNMP Responder
                                                       Utilities
                                                       Quit/Master Menu

DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit                                                              [DPS]
```

Fig. M22.6 - Select BAS Profiles Master menu > Files Maintenance menu > Building Access

Pressing E)dit allows you to begin entering the information from the first field in the BAS profiles screen. Pressing F)ind engages an alphabetical search function that allows you to find fields by typing the field name. Typing the first few letters of the field name will bring you to that field. To save a profile press F8.

Note: After saving a user profile, the information from the previous entry will remain on the screen. To enter a new user profile, type in new information over the existing profile or modify the information to fit the new profile and then save (F8).



```
                              BAS Profiles
User : Test User      Type : User         Code : 0123456789
Name : Test Name                          Title: Test Technician
EMail: DoesNotExist@dpstele.com           Stay Open: Y
Site/Group                              From        To        DOW    Time of Day
                                                           SMTWTFS
001        Test                    03-21-2007 03-21-2009 SMTWTFS 18:56 23:56

F)ind, E)dit, N)ext, P)rev, D)elete, Q)uit : _
F4=Del Active, F8=Build BAC data, F9=Help, F10/Esc=Exit
```

Fig. M22.7 - Enter the user profile information (group example shown)

Table M22.E - Fields in the BAS Profiles screen

Header Field	Description
User	Abbreviated user/group name (3-10 characters) (case sensitive).
Type	Individual User or Group of users.
Name	Name of user (3-30 characters).
Email	User's email address. **Note:** Used to notify users of Auto-cycled passwords. (Use Global Options for more information).
Code	Password code to be entered on the keypad for building access (7-14 digits). The code in parentheses represents the old access code. The system is designed to have a roll over period for codes (user definable in BAS Global). However, both the old access code and the new access code remain valid for the period designated in BAS Global. To manually roll the password over, select the Code field and press Enter while holding down the Ctrl key. Users will be notified via email (to the email address indicated on this screen) if their password has rolled over (See NetGuardian manual for information on entering RFID codes).
Title	Describes the users job title/position (max. 30 characters).
Stay-open	Enables user to keep the door open. When a code with this setting is used it will unlock the door and leave it unlocked. This will allow the user to put the ECU in Stay-open mode. Normal users will not be able to lock it once it has been put into Stay-open mode. Only another user /code with Stay-open may lock it again once it has been unlocked.
Detail Field	**Description**
Site/Group	Describes the site number as defined in the Site Definitions (Step B) or the BAS profile defined as type Group. This controls the sites the user is allowed to access (doors, times, dates, etc.). If a user is being assigned to a group, pressing the down arrow key causes the remaining fields to default to the group settings. However, any information entered into these fields will override the group settings.

Note: Table M22.E continues on the following page.

Table M22.E - Fields in the BAS Profiles screen

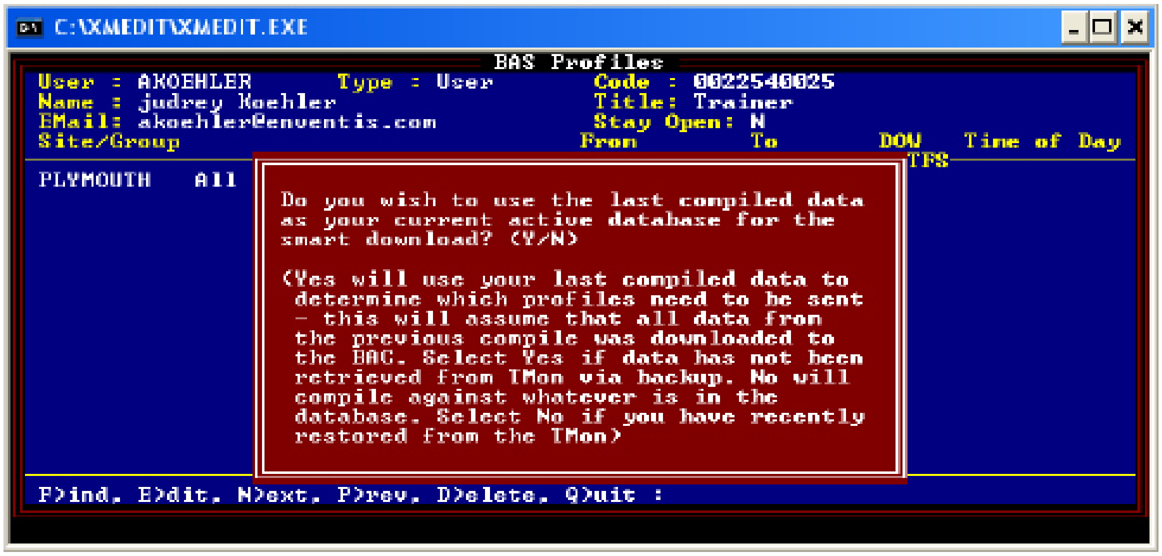
Header Field	Description
From	Indicates the date the user's password code becomes valid (mm/dd/yyyy).
To	Indicates the date the user's password code becomes invalid (mm/dd/yyyy). **Note:** cannot be longer than ten years.
DOW (SMTWTFS)	Indicates the day(s) of the week the user's password code is valid. Pressing X will automatically populate the space where the cursor is located. You can also use S for Sat/Sun, M for Mon, etc. Pressing the space bar clears the field.
Time of Day	Indicates the beginning and ending time of the day the user's password code is valid (hh:mm on 24 hour clock).

Table M22.F - Function Key Descriptions

Function Key	Description
F4	Deletes the active BAS download data. This is an image of the NetGuardian's BAC data. Deleting this data will force all profiles to be sent to the NetGuardian/KDA
F8	Build BAC Data. Compiles all profiles and builds data that will be sent to the NetGuardian. All new data will be stored into a new download table that contains all profiles that need to be sent or has already been sent. The current active data will be preserved for the smart download and will be used to determine which profiles have already been sent and which profiles need to be updated or added to the NetGuardian/KDA.
F10/Esc	Exit the BAS Profile window.

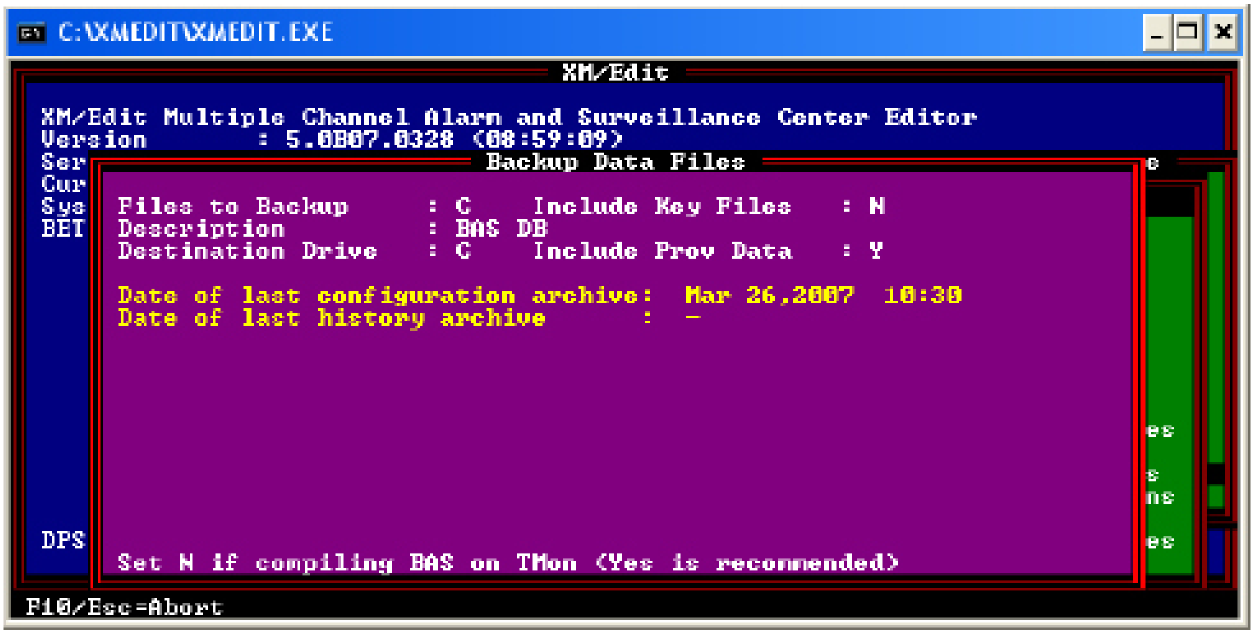
Special note for Xmedit users: T/Mon builds a database of what it has already sent while in monitor mode. The T/Mon uses this database so both T/Mon and the NetGuardian are in sync while it is still downloading. This database is also used to determine which profiles still need to be sent the next time it compiles the BAS profile data. It will skip the profiles that it knows have already been transferred. This was done so it will only transfer the changes. When compiling BAS profiles on XMEdit, it will not have this active database and will think that all of the profiles would still need to be downloaded to the NetGuardian. There are two ways of getting around this:

1. Compiling the BAS Profiles in XMEdit. This method is recommended because it minimizes the amount of time the T/Mon has to be offline. In the BAS Profiles window (in XMEdit), pressing **F8** will give a prompt asking if you wish to use the last compiled data as your current active database for the smart download. Selecting **Yes** will copy the last compiled set of data into the active database. This is the database that gets built in monitor mode and contains which profiles have already been downloaded. It will run through the normal compile process but will use the last compiled data in place of the active database. Compiling on XMEdit should only be done when you are ready to do a backup on XMEdit and restore on T/Mon.



```
                              BAS Profiles
User  : AKOEHLER        Type  : User         Code  : 0022540025
Name  : judrey Koehler                       Title: Trainer
EMail: akoehler@enventis.com                 Stay Open: N
Site/Group                                  From       To        DOW    Time of Day
                                                                 TFS
PLYMOUTH    All

        Do you wish to use the last compiled data
        as your current active database for the
        smart download? (Y/N)

        (Yes will use your last compiled data to
         determine which profiles need to be sent
         - this will assume that all data from
         the previous compile was downloaded to
         the BAC. Select Yes if data has not been
         retrieved from TMon via backup. No will
         compile against whatever is in the
         database. Select No if you have recently
         restored from the TMon)

F>ind, E>dit, N>ext, P>rev, D>elete, Q>uit :
```

Selecting **No** will use whatever is already in the database to determine which profiles are new/changed and needs to be downloaded to the BAC. The only cases where you would select no is if you press F4 to clear the active database and want to compile against an empty database. This will force a full download to the BAC. The other case where you would select no is if you had recently did a restore on XMEdit with the newest T/Mon database (this includes the active database after it had already sent everything to the NetGuardian). The data on XMEdit already has an updated active database to compile against so we would not want to use the last compiled data to determine which profiles need to be sent.
Once the data has been compiled on XMEdit, the database can be backed up for transfer to the T/Mon. The backup screen (Files -> Utilities -> Back Up Data Files) should have an extra field that appears only on XMEdit. This field gives the option to "Include Prov Data". We would want to select Yes and include everything since we have already compiled in XMEditRestore on T/Mon should update the database with the compiled BAS data and should be ready to go into monitor.



```
XM/Edit Multiple Channel Alarm and Surveillance Center Editor
Version         : 5.0B07.0328 (08:59:09)

                          Backup Data Files
Files to Backup      : C     Include Key Files    : N
Description          : BAS DB
Destination Drive    : C     Include Prov Data    : Y

Date of last configuration archive:  Mar 26,2007  10:30
Date of last history archive       :  -

Set N if compiling BAS on TMon (Yes is recommended)
F10/Esc=Abort
```

2. Compiling the BAS profiles in T/Mon. Changes can be made in Xmedit but do not compile on Xmedit. When you do a backup on XMEdit, set "Include Prov Data" to N. This will make sure that when you do a restore on the T/Mon, it will not overwrite the database that contains which profiles have already been downloaded.
Do a restore on T/Mon and go into the BAS Profiles window and press F8 to compile. This will compile against what the T/Mon had already sent to the NetGuardian. This method will allow you compile as many times as you want in case you made any mistakes in the XMEdit database editing. After it has compiled, it should be ready to go back into monitor mode.

Step 5 - Example User Profile Using Groups

Users may be assigned to groups or groups within groups. For example, if User 1 and User 2 needed full access to Site 1, but only partial access to Site 2, they would be assigned to a group or site designating which doors are allowed to be accessed. In the Sites/Zones screen, a site would be setup (and assigned a description; here - "Test Technicians") giving full access to Site 1 but only partial access to Site 2. In the BAS Profiles screen, User 1 and User 2 would be assigned to the site/group called "Test Technicians". Additional users may also be added to the "Test Technicians" site, thus saving database time.

Additionally, users may be assigned to more than one group or site. User 1 in the example above might also be given access to various other sites. This is accomplished by entering all the Sites/Groups that User 1 has access to in User 1's BAS profile. User 1's supervisor, however, might be assigned to a group that contains all the access privileges contained in the "Test Technicians" site as well as full access to Site 2 and perhaps other sites.

Step 6 - ECU Display Mapping

Tables M22.F and M22.G describe the BAS display mapping in T/Mon. Each of the points and descriptions in Table M22.G apply to displays 3-18 (ECUs 1-16) in Table M22.F.

Table M22.G - N2 Mapping (BAS device)

Display	Mapping	Display	Mapping	Display	Mapping
1	Internal	7	ECU 5	13	ECU 11
2	Internal	8	ECU 6	14	ECU 12
3	ECU 1	9	ECU 7	15	ECU 13
4	ECU 2	10	ECU 8	16	ECU 14
5	ECU 3	11	ECU 9	17	ECU 15
6	ECU 4	12	ECU 10	18	ECU 16

Note: See Table M22.G for specific ECU mapping.

Table M22.H - ECU Mapping

Point	Description	Mode
1-8	Unused	N/A
9	Alarm 1 (Door sensor)	Status **
10	Alarm 2	Status **
11	Alarm 3	Status **
12	Door violation alarm (Door opened without code)	Status
13-16	Unused	N/A
17	Door strike active (relay #1)	Status / Control* **
18	Relay #2 active	Status / Control* **
19	Hack lockout (5 invalid passwords have been entered, and BAS will not accept new input) for five minutes.	Status
20	Exit password OK	Status **
21	Propped door active (if door needs to be left open)	Status / Control*
22	Stay-Open Mode (Relay #6)	Status/Control **
23	Unused	N/A
24	Speaker active	Status **
25-61	Unused	N/A
62	ECU is using defaults	Status
63	ECU enabled	Status **
64	ECU polling error (device failure)	Status

* When using controls from alarm masters, only issue the momentary (MOM) commands.

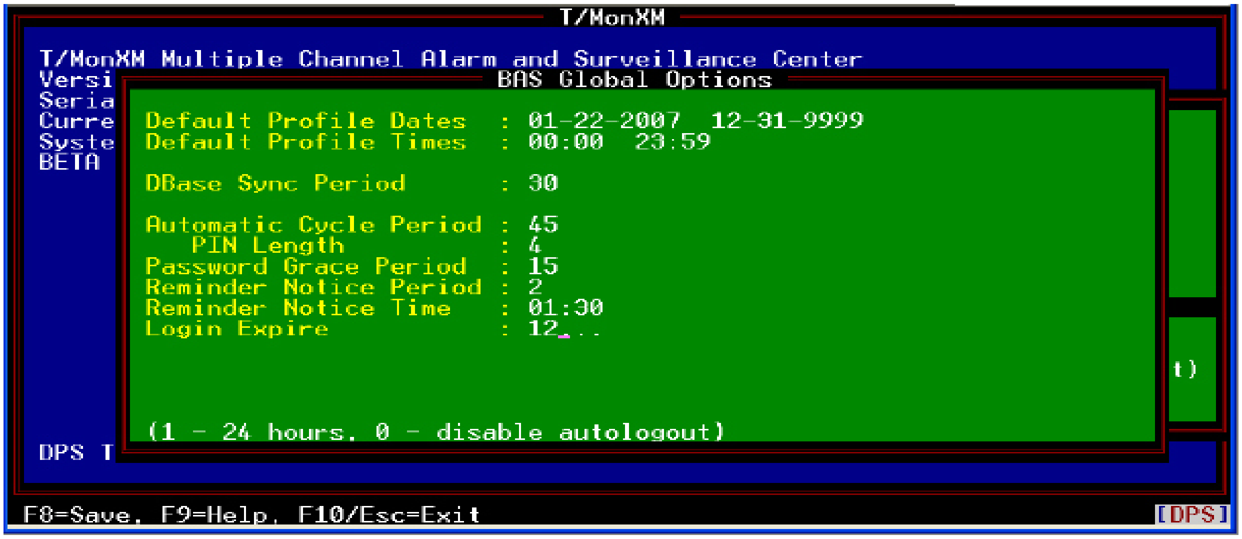
** DPS recommends these alarms be set to “No Log” and “No History” in T/MonXM point setup. T/MonXM uses this data internally for diagnostic purposes.

Note: Please refer to the FAQ section at the end of this document if you have any questions regarding building access.

BAS Global

To set BAS Global information, select Files, Building Access, and then BAS Global. The information entered here will determine specific criteria applicable to all BAS user profiles.

The table M22.H gives a description of the BAS Global screen fields.



```
T/MonXM
T/MonXM Multiple Channel Alarm and Surveillance Center
Versi
Seria
Curre
Syste
BETA
                    BAS Global Options
Default Profile Dates   : 01-22-2007  12-31-9999
Default Profile Times   : 00:00   23:59

DBase Sync Period       : 30

Automatic Cycle Period : 45
   PIN Length           : 4
Password Grace Period  : 15
Reminder Notice Period : 2
Reminder Notice Time    : 01:30
Login Expire            : 12_..

(1 - 24 hours, 0 - disable autologout)
DPS T
F8=Save, F9=Help, F10/Esc=Exit                                    [DPS]
```

Fig. M22.8 - The information entered in the BAS Global screen determines specific criteria applicable to all BAS user profiles

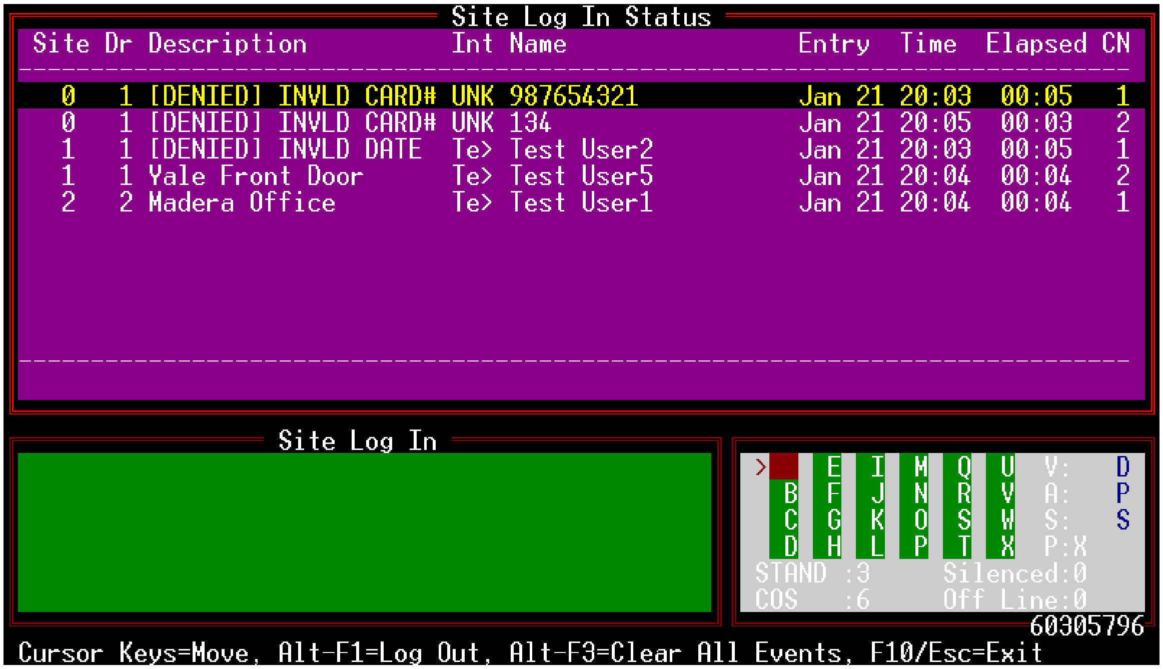
Table M22.I - Fields in the BAS Global screen

Field	Description
Default Profile Dates	Determines the default active dates that appear when entering user profiles. (mm/dd/yy)
Default Profile Times	Determines the default active times that appear when entering user profiles. (hh:mm)
DBase Synch Period	Determines the minutes between BAS profile checks (30-10080; 0=none).
Cycle Period	Determines the days between automatic password cycling (4-1096; 0=none). (Note: Should not be used with proximity version of ECU card).
PIN Length	Determines the number of PIN digits that will cycle when the password roll over occurs (1-4).
Password Grace Period	Determines the grace period that old passwords are still valid (0-15 days).
Reminder Notice Period	Determines the number of days between reminder email notices regarding password roll-over (1-5; 0=final only).
Reminder Notice Time	Determines the time of day at which to send notices (hh:mm).
Login Expire	Amount of time before site logins are automatically logged out of the Site Login Window. Enabling this will disable standard logouts when using cards. When a card is used and the user is already logged in, it would normally log the user off of the system. But this will reset the user's entry time instead. (1-24 hours)(0-disable auto logout)

Site Log In Status

Monitor the status of site access from monitor mode. From the Alarm Summary screen, press Ctrl-F3 to see the Site Login Status screen. All building access devices that are currently logged in will be show, along with identification of the persons logging in and login times.

This screen also allows you to log a user out. This is especially helpful in case a user neglects to logout from a site. You can log-out the site/user that is highlighted by pressing the Alt and F1 keys together. An example of the site login status screen is shown in Figure M22.9.



```
                                Site Log In Status
 Site Dr Description           Int Name                  Entry  Time   Elapsed CN
 -------------------------------------------------------------------------------
    0   1 [DENIED] INVLD CARD# UNK 987654321             Jan 21 20:03   00:05   1
    0   1 [DENIED] INVLD CARD# UNK 134                   Jan 21 20:05   00:03   2
    1   1 [DENIED] INVLD DATE  Te> Test User2            Jan 21 20:03   00:05   1
    1   1 Yale Front Door      Te> Test User5            Jan 21 20:04   00:04   2
    2   2 Madera Office        Te> Test User1            Jan 21 20:04   00:04   1

 -------------------------------------------------------------------------------

                  Site Log In
                                             >    E  I  M  Q  U  V:   D
                                                B F  J  N  R  V  A:   P
                                                C G  K  O  S  W  S:   S
                                                D H  L  P  T  X  P:X
                                              STAND :3     Silenced:0
                                              COS   :6     Off Line:0
                                                                   60305796
Cursor Keys=Move, Alt-F1=Log Out, Alt-F3=Clear All Events, F10/Esc=Exit
```

Fig. M22.9 - Site Log In Status screen

Table M22.J - Fields in the Site Log-In Status screen

Field Name	Description
Site	Number of the site as defined in the Site Definition screen
Description	Description of site as entered in the Site Definition screen
Int.	Initials of the person logging in, per the System Users screen
Name	Name of person logging in, per the System Users screen
Entry Time	Time log in occurred
Elapsed	Time that has passed since log in (Anything over 12 hours will appear as “**:**”.
CN (Count)	The number of times the user logged in before logging out or the number of times the error had occured before clearing the event. Count for users logged in will only increment to more than 1 if the auto log out feature is enabled.

Tbl. M22.K - Hot keys available in the site site

Function Key	Description
Alt-F1	Log Out. This function key allows you to log a user out of a site. The site/user that is highlighted when the Alt F1 keys are pressed together will be logged out and deleted from this screen.
Arrow Keys	Moves up, down, left and right, through the fields
F10/Esc	Exit. Exits Site Log in Status screen

BAS for KDA

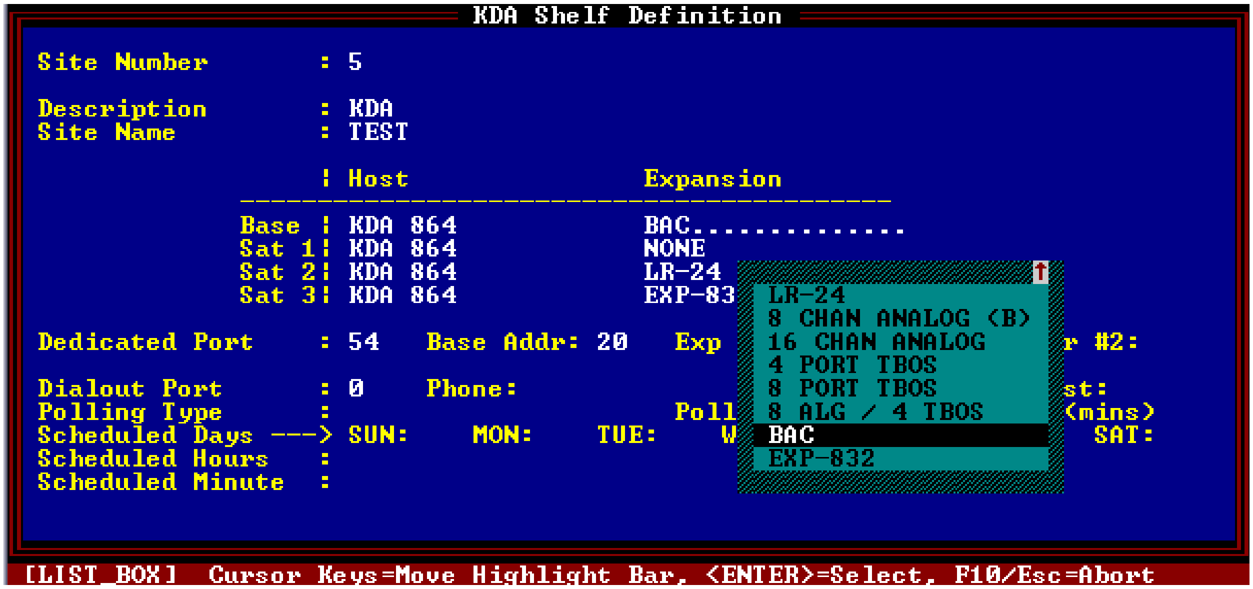
The following is an overview for configuring T/MonXM to use the Building Access System for a KDA:

1. Set up a Remote Port.
2. KDA Shelf Definition
3. Define the Site Definition
4. Define BAS user profiles
5. Example User Profile Using Groups
6. Display Mapping

Step 1 - Define a Remote Port
Set up a DCP polling port **i**n the Main menu > Parameters > Remote Parameters screen — see Figure M22.2. Create a dedicated port job for polling the BAS over serial connection, or create a virtual port job for polling over a TCP/IP connection. See Software Module 1 (DCPF Interrogator) for more information.

Step 2 - Define the KDA Shelf
To define the BAS for KDA, go to the Master menu > Files Maintenance menu > KDA Shelves option. The KDA Shelf Definition screen will appear — see Figure M22.10. Fill in the fields with the appropriate information — refer to Table M22.K for field descriptions. Select the BAC (Building Access Controller) under the Expansion list box menu.
Note: can only be base unit.

For more information on KDA shelf definition see Software Module 3 (Files Maintenance > KDA Shelves).



```
                              KDA Shelf Definition

 Site Number         : 5

 Description         : KDA
 Site Name           : TEST

                     ¦ Host                Expansion
           ------------------------------------------
           Base  ¦ KDA 864              BAC..............
           Sat  1¦ KDA 864              NONE
           Sat  2¦ KDA 864              LR-24                ↑
           Sat  3¦ KDA 864              EXP-83  LR-24
                                                8 CHAN ANALOG (B)
 Dedicated Port      : 54   Base Addr: 20   Exp 16 CHAN ANALOG   r #2:
                                                4 PORT TBOS
 Dialout Port        : 0    Phone:              8 PORT TBOS      st:
 Polling Type        :                      Poll 8 ALG / 4 TBOS  (mins)
 Scheduled Days ---> SUN:     MON:     TUE:    W BAC               SAT:
 Scheduled Hours     :                          EXP-832
 Scheduled Minute    :

 [LIST BOX]  Cursor Keys=Move Highlight Bar, <ENTER>=Select, F10/Esc=Abort
```

Fig. M22.10 - KDA Shelf Definition screen

Note: This section includes instructions for defining the BAC for KDA — for detailed information on defining a KDA unit, see Software Module 3 (Files Maintenance > KDA Shelves).

Table M22.L - Fields in the KDA Shelf Definition screen

Field	Description
Site Number	3-Digit site number. This number must be unique over the entire alarm network. It is used to describe this KDA remote, including satellites and expansion cards. This number is the address field for responders, derived alarms and labeled controls. (1-999)
Description	41-Character description of site.
Site Name	15-Character site name. This will be stamped on every event from this RTU.
Base Sat 1 Sat 2 Sat 3	Indicates base or satellite KDA position.
Host	Type of KDA unit. Select KDA-TS from default box (other models will be available in the future).
Expansion	Type of expansion card in host. For Base unit select NONE, LR-24 or 16, or BAC. CHAN ANALOG from default box. For satellite unit select NONE or LR-24 from default box.
Dedicated Port	If the KDA reports on dedicated line (DCPF) enter the T/MonXM port number. (Port must have been previously defined.) If KDA reports only on a dial line enter 0 (skips to Dial Port field).
Base Addr	Enter DCPF address for base unit (1-255). (This is the address that T/Mon will use to poll the KDA.)
Exp Addr #1	Expansion card address #1 (for 16 Chan Analog, or other expansion card in the base unit.)
Exp Addr #2	Expansion card address #2 (for future use to support 2 address exp. cards)
Dial Out Port	Enter port number used for dial, if dial only or alternate path routing is used. Enter “0” if dedicated line only (skips out of edit mode).
Remote Site Phone	Enter Phone Number to reach remote.
Polling Type	Select Periodic or Schedule from the default box. If periodic is selected, the cursor will skip to the Polling Interval field. If Schedule is selected, the cursor will skip to the Scheduled Days field.
Polling Interval	Periodic polling only. 0 to 9999 minutes. (0 = never) (Skips out of edit mode after entering value.)
Test	Enter the number of minutes (0 to 9999) between dial-up integrity tests. This causes T/Mon to check the status of the dial-up link while the primary link is still functional. If T/Mon calls the unit and there is no response from the modem, an alarm condition will occur. The alarm will appear as an internal alarm.
Scheduled Days	Schedule Polling only. For each day of the week enter “Y” to activate polling, enter “N” to deactivate.
Scheduled Hours	Enter the whole number of each hour (24 hour clock) to place a polling call (0 to 23, where 0 = midnight). Example: 0,8-16 polls at midnight and every hour from 8 AM to 4 PM.
Scheduled Minutes	Enter the whole number of the offset from the hour each call is to be made (0-59 where 0 = on the hour). Example: 30 polls at half past the hour.

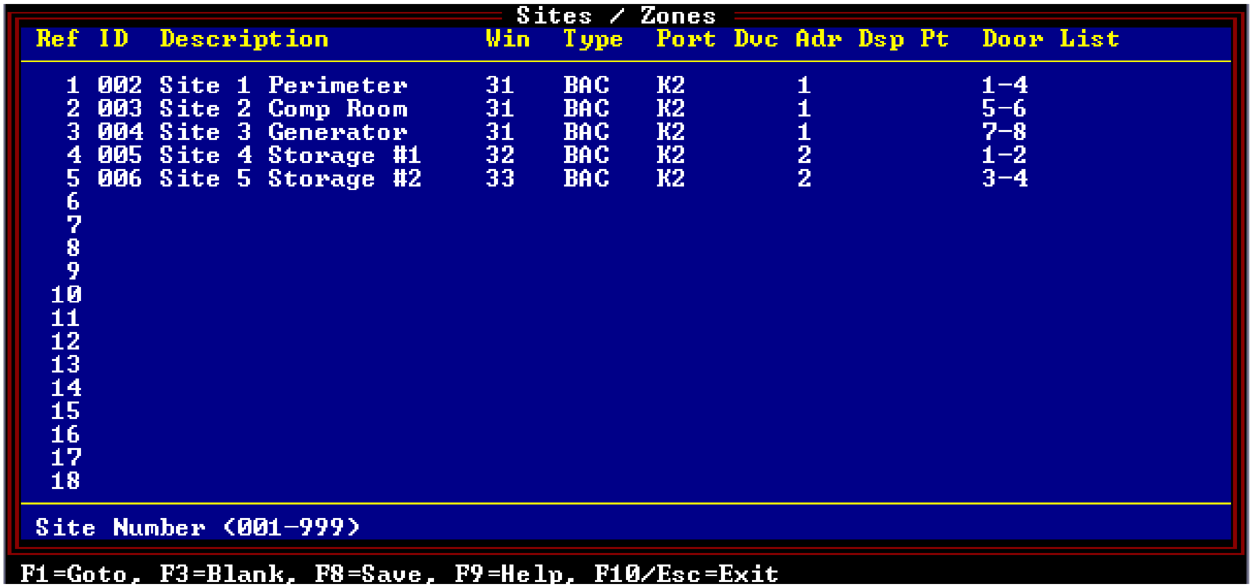
Table M22.M - Key commands available in the KDA Shelf Definition screen

Function Key	Description
F1	Device - Takes you to the Base KDA Shelf Address Definition screen.
F2	Provisioning - Takes you to the Provisioning Target Menu.
F3	Internal Alarms - Brings up a screen for assigning device fail and off-line internal alarms. Follow prompts to specify address, display and point for each device. (Address must be 11 or 12.)
F10/Esc	Exit.

Step 3 - Define Site Definition

From the Master menu, select Files, Building Access, and then Sites/Zones. Enter the appropriate information into the Site Definition fields. See Table M22.C for field names and descriptions.

The Site definition screen allows the user to define a physical relationship in the remote sites between the doors, zones, and sites. In order to save databasing time, managers can also setup groups of doors that can be assigned to a set of users (instead of entering site/zone information for each separate user). Once a user profile is setup (see Step 4 on section M22-7), the user can be assigned to a group of doors instead of assigning doors to a user.



```
                               Sites / Zones
 Ref  ID   Description          Win   Type   Port  Dvc  Adr  Dsp  Pt   Door List

   1  002  Site 1 Perimeter     31    BAC    K2         1              1-4
   2  003  Site 2 Comp Room     31    BAC    K2         1              5-6
   3  004  Site 3 Generator     31    BAC    K2         1              7-8
   4  005  Site 4 Storage #1    32    BAC    K2         2              1-2
   5  006  Site 5 Storage #2    33    BAC    K2         2              3-4
   6
   7
   8
   9
  10
  11
  12
  13
  14
  15
  16
  17
  18

 Site Number (001-999)
F1=Goto, F3=Blank, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. M22.11 - Select Building Access and the Site Definition from the Files menu

Steps 4, 5, and 6

For more information on defining BAS user profiles and ECU display mapping , see sections M22-7 through M22-9. Also refer to section M22-11 for BAS Global options and M22-12 for Site Login Status information.

DTMF Access

Note: DTMF Building access requires a dedicated port. This port cannot be used for any other devices.

This section is provided to support existing systems using DTMF/ ASCII converter, which is not available for new installations.

This function requires the BAU software module. If your T/ MonXM is not equipped with this module, this function will not appear on the Parameters menu.

Overview
This section is a step by step procedure for configuring T/MonXM to use the BAU module for DTMF building access.

1. Configure T/MonXM for DTMF login.
   A. Define a remote port.
   B. Define alarm forwarding variables.
   C. Define options
   D. Define a personal ID number
   E. Define a site ID number
2. Log in to the T/MonXM alarm center.
3. Monitor site log in.
4. Log off from the T/MonXM alarm center.

Step 1 - Configure T/MonXM for DTMF login
The first step in setting up DTMF building access is to configure T/ MonXM for DTMF login. To use DTMF login follow the subsequent procedure:

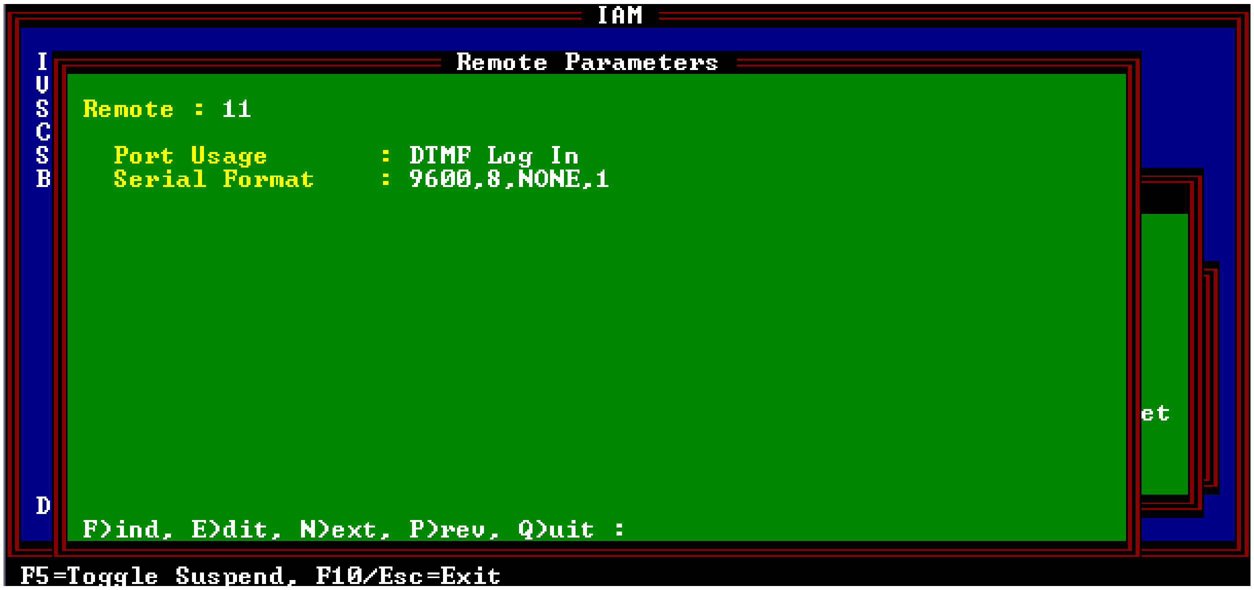
Step 1.A. - Define a remote port

1. Selecting Remote Ports from the Parameters menu (press R to select Remote Ports and press Enter) will allow you to select the remote terminals and define the parameters for the remotes.

2. To begin remote port definition, you must first select a port to be defined. Press “F” and enter the port number. You can also use the “P” (previous) and “N” next keys to move up and down the full list of available ports (1-4 standard, up to 24 optional).

3. Press “E” for edit and the cursor will be placed at the Port Usage field. Press the Tab key and select DTMF Log In from the list box by pressing Enter.

4. Enter the appropriate serial format settings — see Figure M22.12 and Table M22.M.



```
                              IAM
 I                 Remote Parameters
 U
 S   Remote : 11
 C
 S     Port Usage       : DTMF Log In
 B     Serial Format    : 9600,8,NONE,1

                                                      et

 D
     F)ind, E)dit, N)ext, P)rev, Q)uit :
F5=Toggle Suspend, F10/Esc=Exit
```

Fig. M22.12 - Remote port defined for DTMF Log In

Tbl. M22.N - Field names and descriptions for the Remote Parameters screen

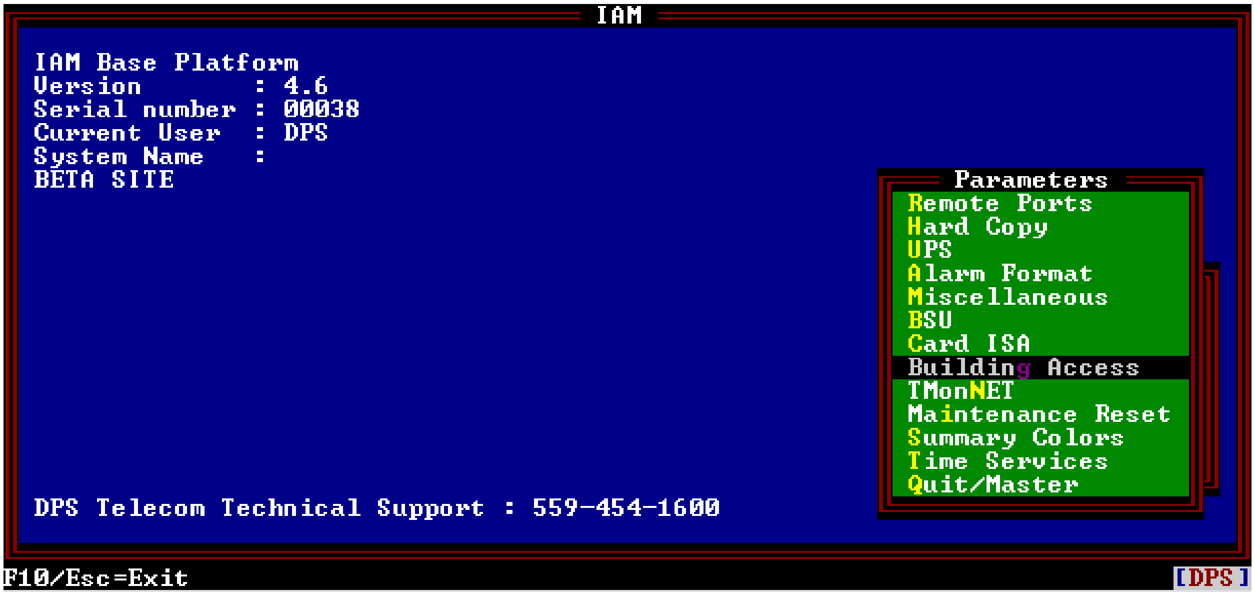
Field Name	Description
Port Usage	Valid port types are DTMF Log In and Halted. Use Halted if no device is connected to the communication port. [Halted]
Serial Format	Baud rate, data bits, parity, and stop bits.[9600, 8, NONE, 1]

The following table lists the hot keys you can use while in the Remote Parameters screen.

Tbl. M22.O - Hot Keys available in the remote parameters screen

Function Key	Description
F5	Allows you to define but temporarily suspend use of this port. Toggles the suspension state. Available only when cursor is on the prompt line at the bottom of the window.
Up Arrow	Move to the previous field
F8	Save
F9	Help
F10/Esc	Move to the first field or exit without saving (depending on which field the cursor is in)
Tab	List port usages (while cursor is in the Port Usage field)

Step 1.B. - Define BUilding Access variables
Select Building Access from the Parameters menu by pressing “g” to select Building Access and press Enter. Refer to Figure M22.13.

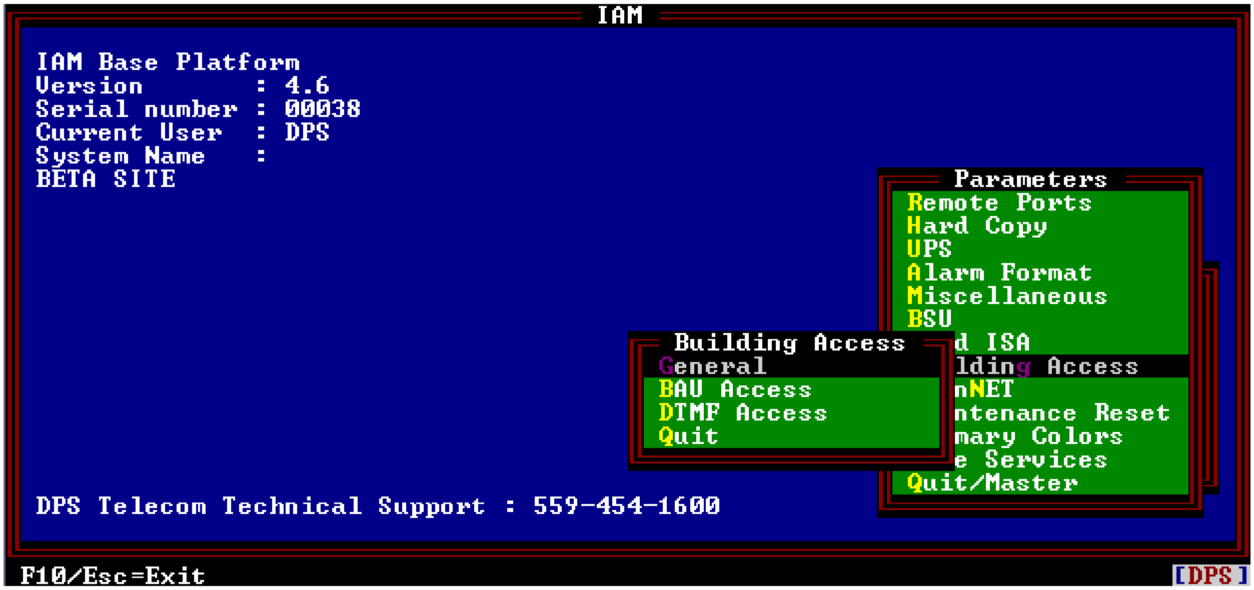


```
IAM
IAM Base Platform
Version        : 4.6
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600
F10/Esc=Exit                                        [DPS]
```

Fig. M22.13 - Select building access from the Parameters menu

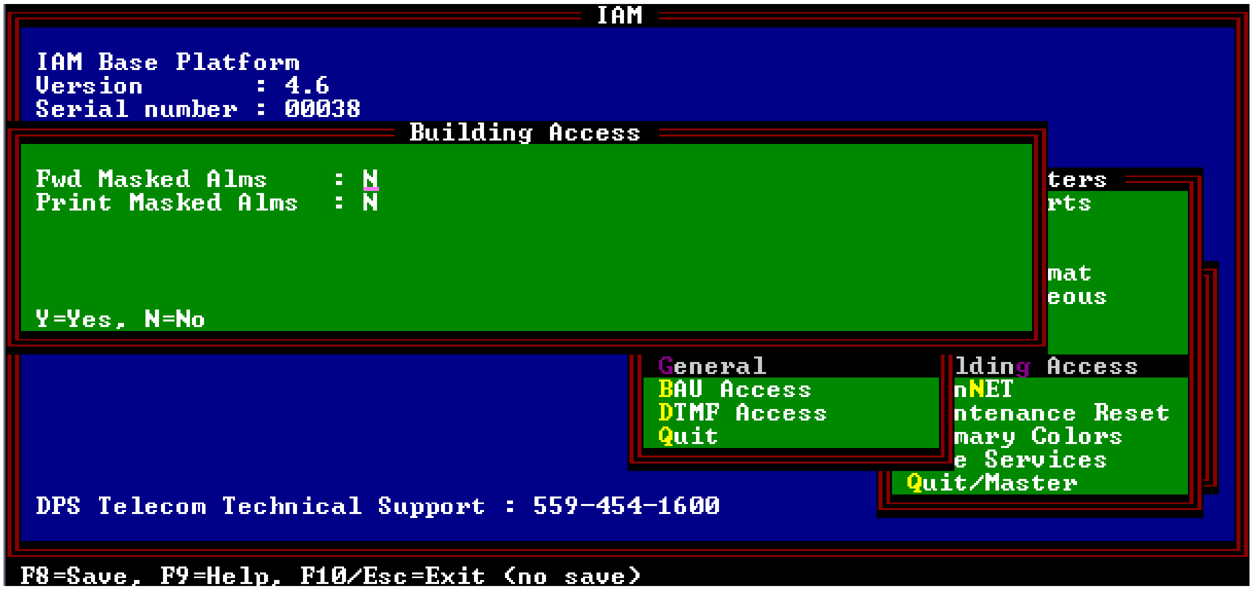
A submenu appears listing selections for both DTMF access and BAU access. See Figure M22.14.

Select the General option and press Enter. The Building Access screen, as shown in Figure M22.15, will appear.



```
IAM
IAM Base Platform
Version        : 4.6
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600
F10/Esc=Exit                                        [DPS]
```

Fig. M22.14 - Select general from the Building Access submenu



```
IAM Base Platform
Version        : 4.6
Serial number  : 00038

Building Access
Fwd Masked Alms    : N
Print Masked Alms  : N

Y=Yes, N=No

DPS Telecom Technical Support : 559-454-1600

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

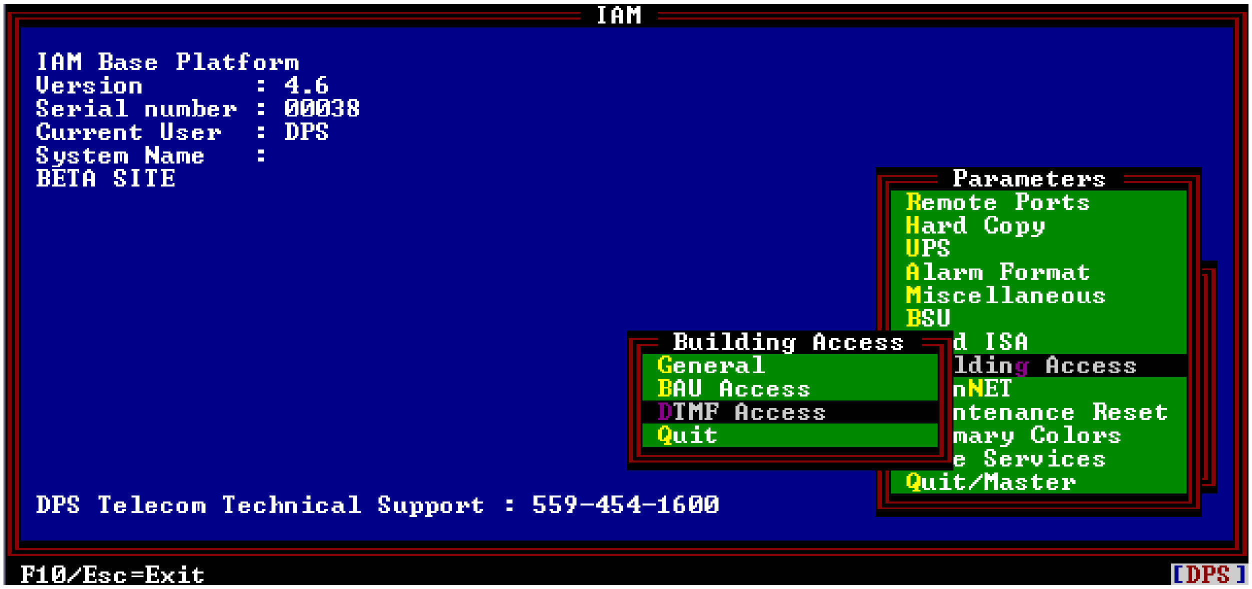
Fig. M22.15 - Define alarm forwarding variables

Building Access alarms are normally masked from the regular alarm display in monitor mode. (Press Ctrl-F3 while in the Alarm Summary screen to display building access status.) These masked alarms can be forwarded via a com port to another monitoring location or can be sent to a printer. Refer to Table M22.O for field definitions.

Tbl. M22.P - Field descriptions for the Building Access window

Field Name	Description
Fwd Masked Alms	Forward masked alarms. This allows you to send masked alarms to a location specified in the Alarm Forwarding Port.
Print Masked Alms	Print masked alarms. This allows you to print your masked alarms.

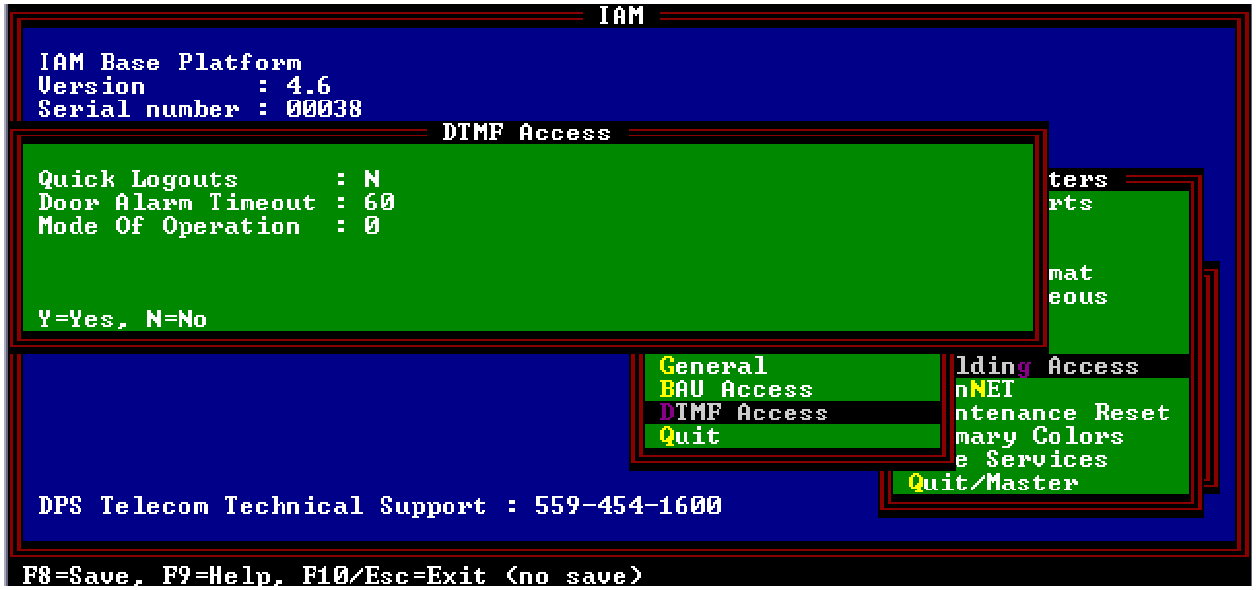
Step 1.C. - Define Options
From the Building Access menu, select DTMF Access and press Enter.



```
IAM Base Platform
Version        : 4.6
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600

F10/Esc=Exit
```

Fig. M22.16 - Highlight DTMF access and press enter

The DTMF Access screen will appear — see Figure M22.17. Refer to Table M22.P for field descriptions. Complete the fields with the appropriate information.



```
IAM Base Platform
Version        : 4.6
Serial number  : 00038

DTMF Access

Quick Logouts       : N
Door Alarm Timeout  : 60
Mode Of Operation   : 0

Y=Yes, N=No

DPS Telecom Technical Support : 559-454-1600

F8=Save, F9=Help, F10/Esc=Exit (no save)
```

Fig. M22.17 - DTMF access options are set in the DTMF access window

Tbl. M22.Q - Field names and descriptions for the DTMF access window

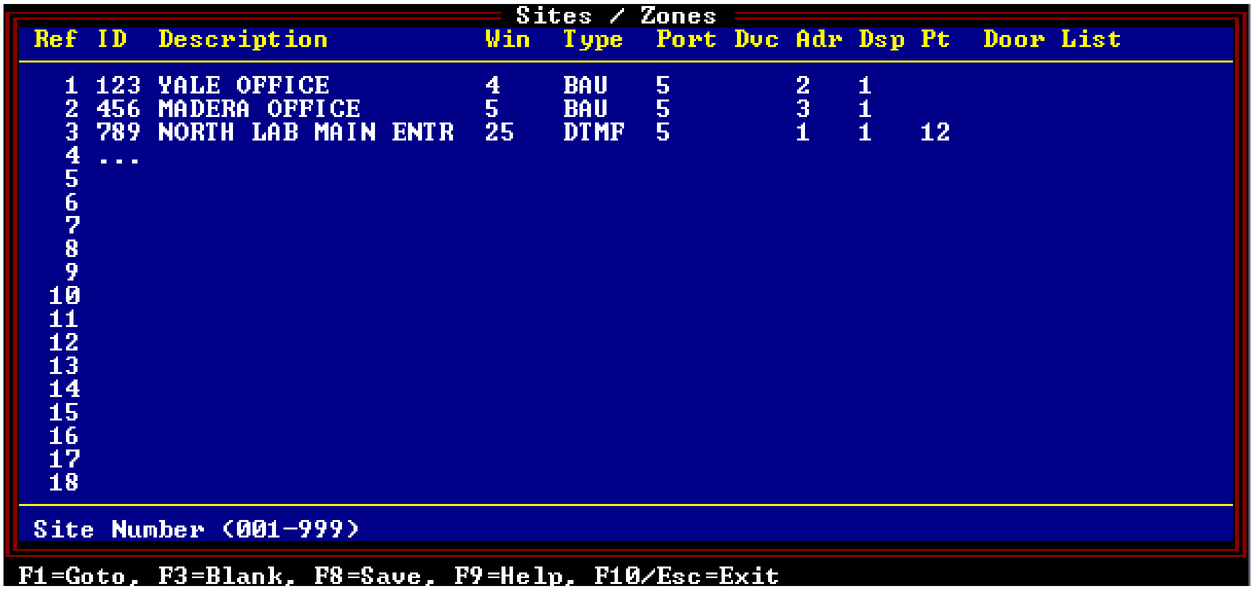
Field Name	Description
Quick Logouts	Selecting “Y” requires only the site ID to be entered. “N” requires site ID and password.
Door Alarm Timeout	Amount of time from door opening until an internal alarm is generated by T/MonXM. You must be logged in before this time expires to prevent an alarm.
Mode of Operation	“0” is standard. Selection “1” is special options only for one user.

Step 1.D. - Define a personal ID number
Select the system users option from the File Maintenance menu to define the personal ID number that allows you to log in at a remote site. Then press E)dit from the command menu at the bottom of the screen. Press Enter until you reach the ID number field. Select a 3-digit number to be used for personal ID. Valid ID numbers are 001-899. A blank entry here indicates no site access.

The personal ID number is also displayed on the Monitor Mode Alarm Summary screen on the name of the window assigned to the login site.

Step 1.E. - Define a site ID number
Define the site ID number by going to the File Maintenance menu > Building Access sub-menu > Sites/Zone option The Sites/Zone Definition screen will appear — see Figure M22.18. At this screen you can define a 3-digit site ID number and the window that will be used to report the login.

The fields in the Site Definition screen are listed in the following Table M22.Q.



```
                              Sites / Zones
Ref ID  Description          Win  Type  Port Dvc Adr Dsp Pt  Door List

  1 123 YALE OFFICE          4    BAU   5        2   1
  2 456 MADERA OFFICE        5    BAU   5        3   1
  3 789 NORTH LAB MAIN ENTR  25   DTMF  5        1   1   12
  4 ...
  5
  6
  7
  8
  9
 10
 11
 12
 13
 14
 15
 16
 17
 18

Site Number (001-999)
F1=Goto, F3=Blank, F8=Save, F9=Help, F10/Esc=Exit
```

Fig. M22.18 - Site definition screen

Tbl. M22.R - Field descriptions for the site definition screen

Field Name	Description
Entry	Site definition reference number. This field cannot be edited.
Site ID	The site ID is a unique 3-digit numeric code used when logging into a site. Valid site numbers are 001-899. You must enter 3 digits.
Win	Window to report the login/logout. Valid windows are 2-29 with standard features. Installation of alarm window modules will allow access to more windows. Each site must be assigned to a unique window. No two sites can share the same window.
BAU Source Data Use	Select “D” for DTMF use (The Port, Addr and Disp fields are used with the BAU).
Description	This is the description that will appear in the alarm that is generated when someone logs in or out of a site.

Tbl. M22.S - Hot keys available in the site definition screen

Function Key	Description
F1	Go to. Allows you to jump to a specific site reference ID by typing in the reference ID number.
F2	Insert. Insert a new line at the current position and moves everything down by one Note: If the very last entry contains data, a warning will appear to confirm insertion. If there are any blank lines available, use DEL (F4) to delete them. This will make more space to insert.
F3	Blank. Blanks out all the information in the line where the cursor is currently located.
F4	Delete. Deletes entire line at current position. Similar to F3 but will move everything up by one.
F8	Save. Saves the configuration information and returns you to the previous screen.
F9	Help. Brings up the help menu.
F10/Esc	Exit. Returns you to the previous screen/menu.

Step 2 - Login to the T/MonXM alarm center.
Login to the T/MonXM from a remote site. To login, call the T/MonXM alarm center from any telephone. An automated voice will ask you to enter data. Enter the 3-digit site ID first, followed by your 3-digit Personal DTMF login ID. The automated voice will tell you that the location entry has been accepted. At that point you can hang up the phone.

Step 3 - Monitor the site login
To see a remote site login select the Monitor option from the master menu. On the Alarm Summary screen, the window defined for the site’s alarm reporting will display three characters of the window name overwritten with the initials of the last person that has logged in. Since logins and logoffs are reported to the window defined for that sites alarm, they can be seen from the COS and Live alarm screens.

Step 4 - Logoff from the T/MonXM alarm center
The DTMF logoff procedure is similar to the logon procedure. The exception is that after you enter your site and personal ID numbers you must enter an asterisk. The automated voice will tell you that the location entry withdrawal has been accepted.

A site logoff will remove the personal ID from the Alarm Summary window name defined for that site’s alarm reporting.

Building Access Unit (BAU)

Note: The BAU application does not require a dedicated port. It does however, require a port that is defined for either TBOS or DCM protocol. A BAU that is reporting directly to T/MonXM needs to use a TBOS Port. A BAU that is reporting indirectly through a DPS Modular Alarm Transmitter (via a Smart Bypass Card) needs to use a DCM Port.

Overview
The following is a step-by-step procedure for configuring T/MonXM to use the Building Access Manager module for BAU building access.

1. Configure T/MonXM for network BAU login.
   A. Define a remote port.
   B. Define alarm forwarding variables
   C. Define BAU access parameters
   D. Define the alarm points
   E.Define a personal ID number
   F. Define a site ID number
2. Login to the T/MonXM alarm center.
3. Monitor site login.
4. Logoff from the T/MonXM alarm center.

Step 1 - Configure T/MonXM for BAU login
The first step in setting up the BAU for building access is to configure T/MonXM for BAU login using the following procedures:

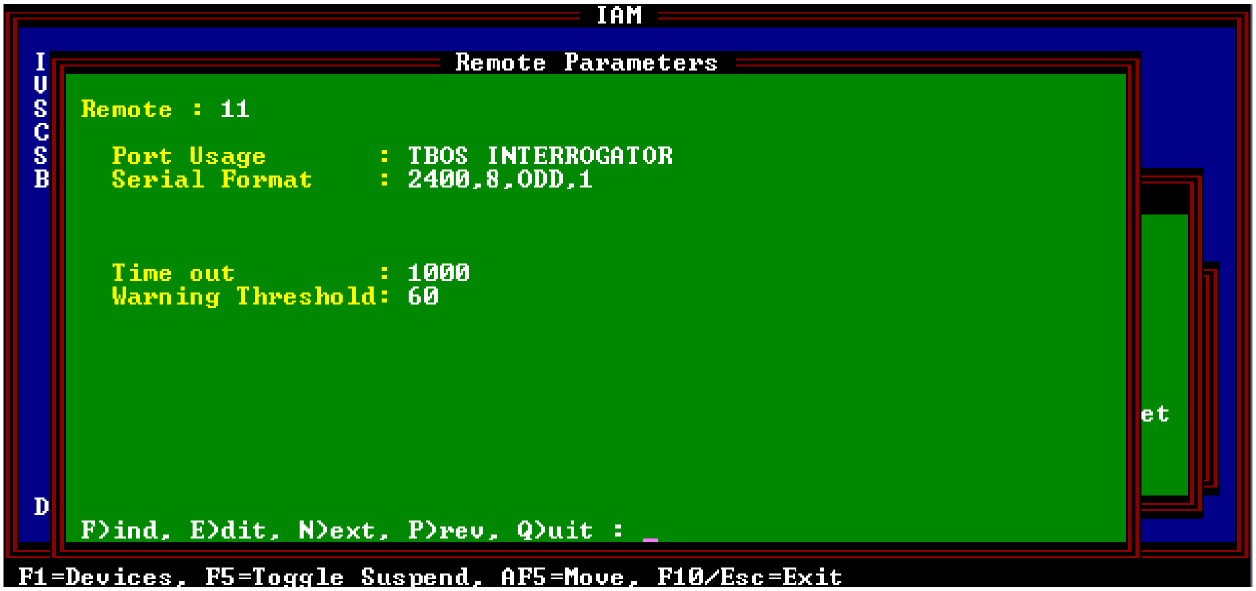
Step 1.A. - Define a remote port
Selecting remote ports from the Parameters menu (press R to select Remote Ports and press Enter) will allow you to select the remote terminals and define the parameters for the remotes.

If the port for the BAU has already been defined, proceed to B. If not, define the port per the TBOS (see Figure M22.19 and refer to Software Module 9) or DCM Interrogator (see Figure M22.20 and refer to Software Module 8) and then return to B in this section.

Step 1B. - Define alarm forwarding variables.
Select building access from the Parameters menu (press G to select Building access and press Enter). Refer to Figure M22.13.

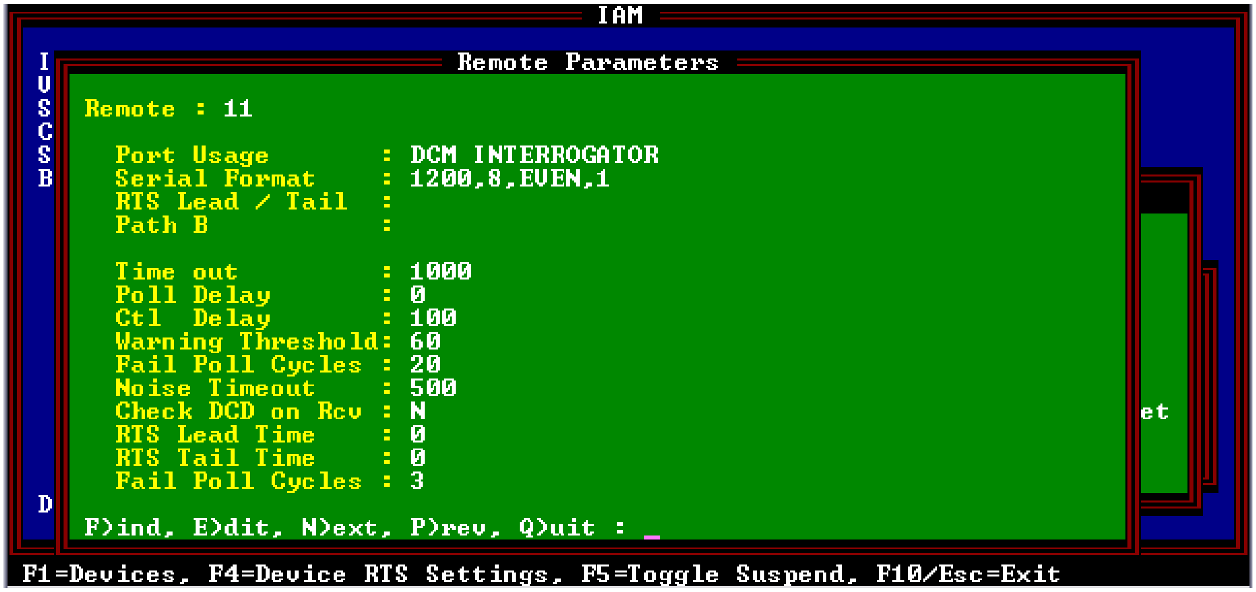
A submenu appears listing selections for both DTMF Access and BAU Access. See Figure M22.14. Highlight General and press Enter.

Building Access alarms are normally masked from the regular alarm display in Monitor Mode. (Press Ctrl-F3 while in the Alarm Summary screen to display BAU status.) These masked alarms can be forwarded via a com port to another monitoring location or can be sent to a printer. Refer to Figure M22.15 and Table M22.N for field definitions.



```
Remote : 11

   Port Usage        : TBOS INTERROGATOR
   Serial Format     : 2400,8,ODD,1


   Time out          : 1000
   Warning Threshold: 60






F)ind, E)dit, N)ext, P)rev, Q)uit : _
F1=Devices, F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

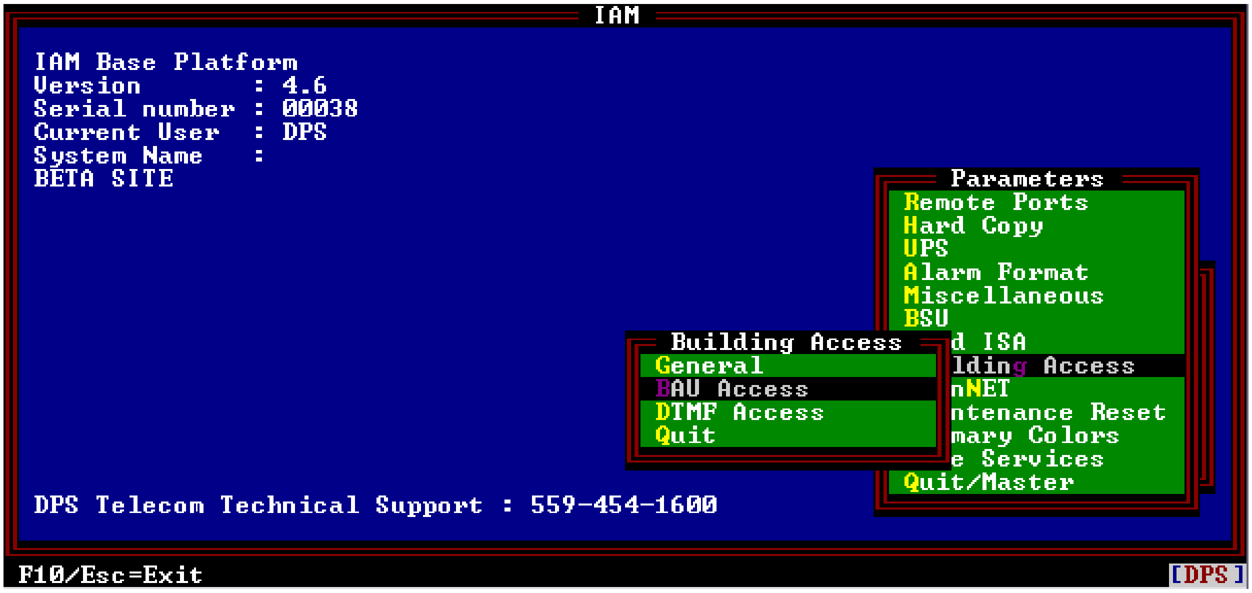
Fig. M22.19 - Remote port defined for TBOS Interrogator



```
Remote : 11

   Port Usage        : DCM INTERROGATOR
   Serial Format     : 1200,8,EVEN,1
   RTS Lead / Tail   :
   Path B            :

   Time out          : 1000
   Poll Delay        : 0
   Ctl  Delay        : 100
   Warning Threshold: 60
   Fail Poll Cycles : 20
   Noise Timeout     : 500
   Check DCD on Rcv  : N
   RTS Lead Time     : 0
   RTS Tail Time     : 0
   Fail Poll Cycles : 3
F)ind, E)dit, N)ext, P)rev, Q)uit : _
F1=Devices, F4=Device RTS Settings, F5=Toggle Suspend, F10/Esc=Exit
```

Fig. M22.20 - Remote port defined for DCM Interrogator

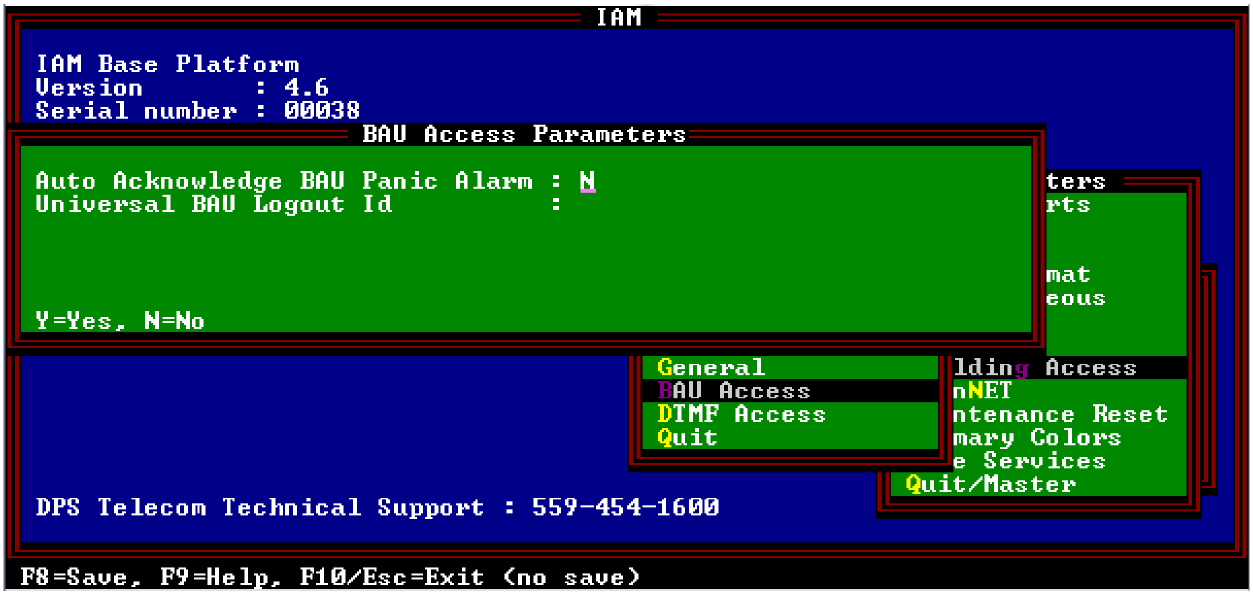
Step 1.C. - Define BAU Access Parameters
From the Building Access menu, select BAU Access and press Enter.



```
IAM Base Platform
Version        : 4.6
Serial number  : 00038
Current User   : DPS
System Name    :
BETA SITE

DPS Telecom Technical Support : 559-454-1600
F10/Esc=Exit
```

Fig.22.21 - Highlight BAU Access and press Enter

The BAU Access Parameters screen will appear — see Figure M22.22. Refer to Table M22.R for field descriptions. Complete the fields with the appropriate information.



```
IAM Base Platform
Version        : 4.6
Serial number  : 00038

BAU Access Parameters

Auto Acknowledge BAU Panic Alarm : N
Universal BAU Logout Id          :

Y=Yes, N=No

DPS Telecom Technical Support : 559-454-1600
F8=Save, F9=Help, F10/Esc=Exit (no save)
```

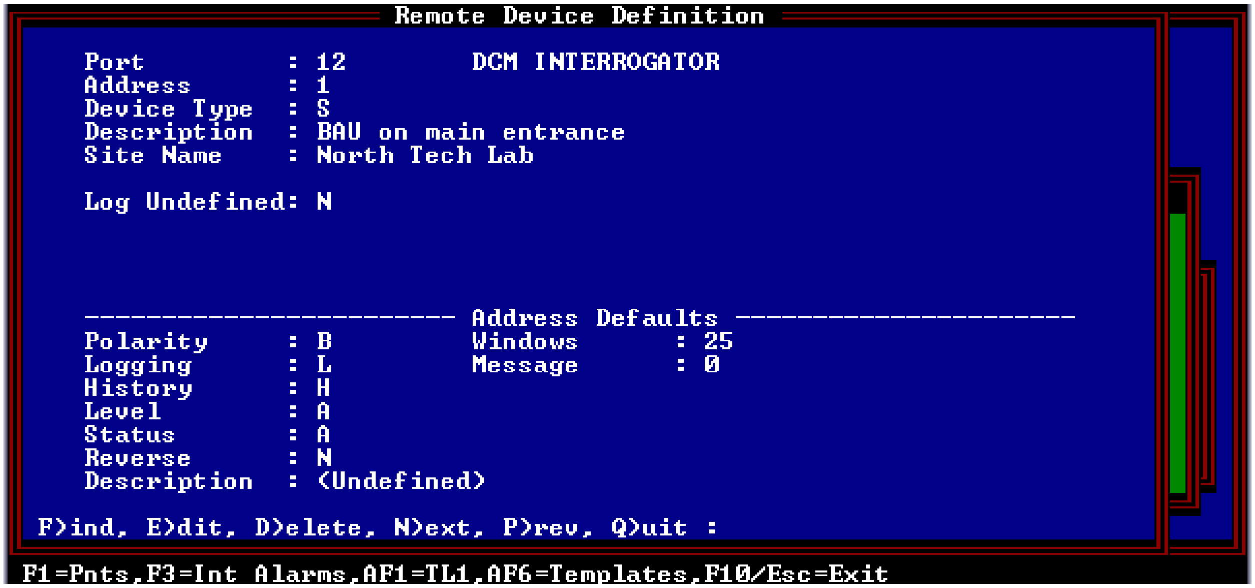
Fig. M22.22 - BAU Access Parameters screen

The BAU Access Parameters allow automatic operation of control point 7 (Clear Panic Alarm Point) as soon as a panic alarm is received. This selection eliminates the need to define control point 7 as either a site control or as a labeled control

The other parameter selection is for a universal logout ID code. It can be used when all logged in persons leave the building at the same time or at the end of a day to be sure all are logged out, incase someone may have left without logging out.

Tbl. M22.T - Field descriptions in the BAU Parameters screen

Field	Description
Auto Acknowledge BAU Panic Alm	When set to “Y” a command will automatically be sent to a BAU to acknowledge a panic alarm. When set to “N” the user must send the control manually.
Universal BAU Logout ID	Logout ID that will cause all persons logged into a site to be logged out. Starts re-arming in sequence.



```
                        Remote Device Definition

    Port          : 12         DCM INTERROGATOR
    Address       : 1
    Device Type   : S
    Description   : BAU on main entrance
    Site Name     : North Tech Lab

    Log Undefined: N



    ------------------------ Address Defaults ----------------------
    Polarity      : B          Windows       : 25
    Logging       : L          Message       : 0
    History       : H
    Level         : A
    Status        : A
    Reverse       : N
    Description   : <Undefined>

 F>ind, E>dit, D>elete, N>ext, P>rev, Q>uit :

F1=Pnts,F3=Int Alarms,AF1=TL1,AF6=Templates,F10/Esc=Exit
```

Fig. M22.23 - Remote device definition window

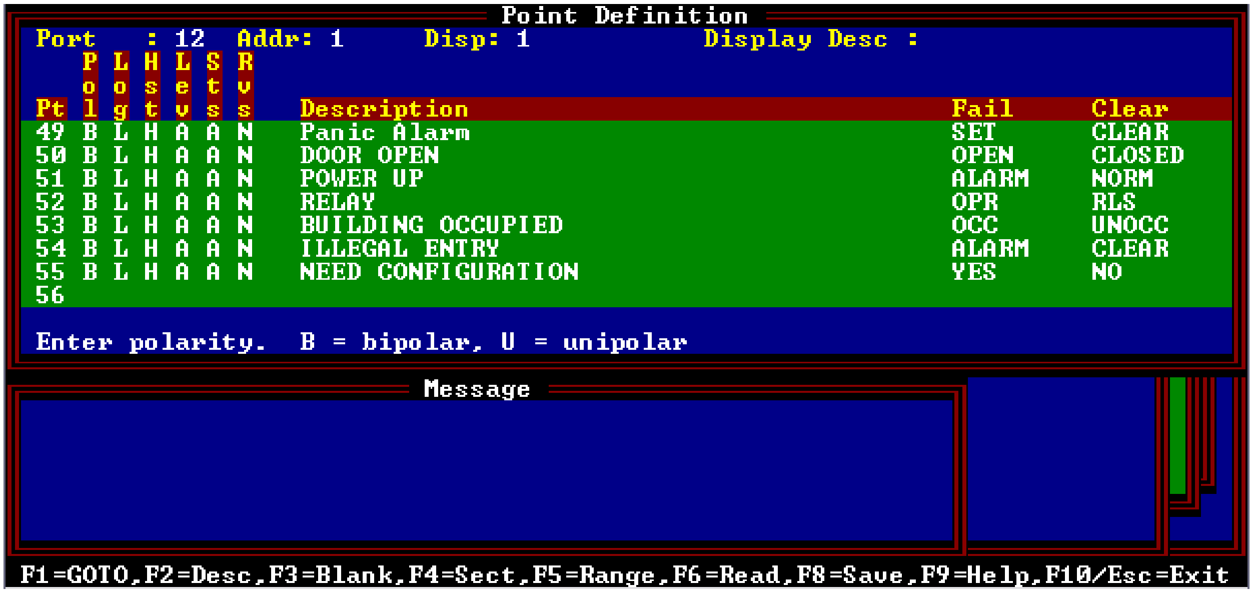
Step 1.D.- Define the alarm points
From the Master menu, select Parameters, then select Remote Ports and find the port assigned to BAUs from the Remote Parameters window.

Press F1 to reach the Remote Device Definition window. Find the address of the BAU to be defined and press F1 to reach the Point Definition window. Define the alarm points per instructions in the TBOS or DCM Module sections.

TBOS Display Interpretation
The following page describes the 64 alarm points on the TBOS display that are set/cleared by the BAU. The alarm point numbers are defined in T/MonXM under the Point Definition window. Points number are the same in either TBOS or DCM protocol.

Hint 1: Enter point 1 and copy to other 48 points.

Hint 2: All subsequent BAU definitions can be copied form the first definition.



```
                          Point Definition
Port    : 12  Addr: 1      Disp: 1          Display Desc :
   P L H L S R
   o o s e t v
Pt l g t v s s  Description                             Fail     Clear
49 B L H A A N  Panic Alarm                             SET      CLEAR
50 B L H A A N  DOOR OPEN                               OPEN     CLOSED
51 B L H A A N  POWER UP                                ALARM    NORM
52 B L H A A N  RELAY                                   OPR      RLS
53 B L H A A N  BUILDING OCCUPIED                       OCC      UNOCC
54 B L H A A N  ILLEGAL ENTRY                           ALARM    CLEAR
55 B L H A A N  NEED CONFIGURATION                      YES      NO
56

Enter polarity.  B = bipolar, U = unipolar
```

F1=GOTO,F2=Desc,F3=Blank,F4=Sect,F5=Range,F6=Read,F8=Save,F9=Help,F10/Esc=Exit

Fig. M22.24 - Point Definition window

Tbl. M22.U - Alarm point interpretations

Alarm Point Number	Interpretations
1-48	Reserved for internal communications. Set as no log and no history
49	Panic alarm
50	Door open alarm
51	Power up alarm
52	Relay status (This is set if relay is operated)
53	Building occupied alarm
54	Illegal entry alarm
55	Need configuration
56	Power loss at BAU or communications failure between BAU and SBC
57-64	Not used. Set as No Log and No History

TBOS Controls Sent to the BAU
Shown below is a description of the control points that can be sent to the BAU. Points 7, 9 and 12 are normally user operated. These must be defined as Site Controls, Labeled Controls or as Derived Controls before they can be operated. Control point 6 (clear power-up alarm point) is internally defined as a derived control point operating from alarm point 51. All other control points are for internal T/Mon use. Points number are the same in either TBOS or DCM protocol.

Tbl. M22.V - BAU control points

Control Point	Action
1	Valid entry code
2	Invalid entry code
3, 4, 5	Not used
6	Non-specific message ACK
7*	Clear panic alarm point
8	Declare building not empty
9*	Declare building empty
10	Request hardware information
11	Request firmware version
12*	Request serial number
13	Clear power-up alarm point

*Normally user operated - All others for internal T/Mon use.

An option can be selected to automatically operate control point 7 to clear a panic alarm as soon as it is received by T/MonXM.

Step 1.E. - Define a Personal ID Number
Select the System Users option from the File Maintenance menu to define the personal ID number that allows you to log in at a remote site. Then press E)dit from the command menu at the bottom of the screen. Press Enter until you reach the ID number field. Select an 8-digit number to be used for personal ID. Valid ID numbers are 1-89999999. A blank entry here indicates no site access.

Note: A users personal initials (defined at the top of the System Users screen in the “Initials” field) is displayed on the Monitor Mode Alarm Summary screen on the name of the window assigned to the logged-in site.

Step 1.F. - Define a site ID number

Select the Building Access option from the File Maintenance menu allows you to access the Site Definition screen. At this screen you can define a 3-digit Site ID number and the window that will be used to report the login. An example of the Site Definition screen is in Figure M22.18.

The fields in the Site Definition screen are listed in Table M22.U.

Tbl. M22.W - Field names and descriptions for the site definition screen

Field Name	Description
Entry	Site definition reference number. This field cannot be edited.
Site Id	The Site ID is a unique 3 digit numeric code used when logging into a site. Valid site numbers are 001-899. You must enter 3 digits.
Win	Window to report the LogIn/Out. Valid windows are 2-30 with standard features. Installation of Alarm Windows modules will allow access to more windows. Each site must be assigned to a unique window. No two sites can share the same window.
BAU Source Data Use	Enter BAU.
BAU source Data Port	Enter the port number for the door alarm. Valid Port numbers are 1-28
BAU source Data Addr	Enter the address of the source data. This field will be skipped over if not needed.
BAU source Data Disp	Enter the display number. Valid display numbers are 1-8. **Note:** The Port, Address and Display must be unique. You cannot assign another site with the same Port, Address and Display.
Description	This is the description that will appear in the alarm that is generated when someone logs in or out of a site.

Step 2 - Login to the T/MonXM alarm center (testing)

The next step is to login to T/MonXM from a remote site. To login, enter your 8-digit personal BAU ID number followed by a "#" pound sign. At that point you are logged in.

Duress entry login

A special security login called a Duress Entry Login can be utilized when personnel are forced to login to a site.

To login, using a duress entry login, enter your 8-digit personal BAU ID number prefixed by a "9" and followed by a # sign. For example, a duress login could result in the following sequence: "912345678#".

Step 3 - Monitor the site login

To see a remote site login, select the monitor option form the master menu. On the alarm summary screen, the window defined for that site's alarm reporting will have the last three characters of the window name overwritten with the personal initials of the last person that has logged in will be displayed. Since logins and logoffs are reported to the window defined for that site's alarm, they can be seen from the COS and Live alarm screens.

-or-

Select the site logon screen by pressing Control-F3 from the Alarm Summary screen. This screen shows the name and location of each person who has logged in, what time they entered the building and the elapsed time.

Since logins and logoffs are reported to the window defined for that site’s alarm, they can be seen form the COS and Live alarm screens.

Step 4 Logoff from the T/Mon alarm center
The next step is to logoff from T/MonXM from a remote site. To logoff, enter your 8-digit personal BAU ID number followed by an “*” asterisk sign. Then open and close the door. At that point you are logged off.

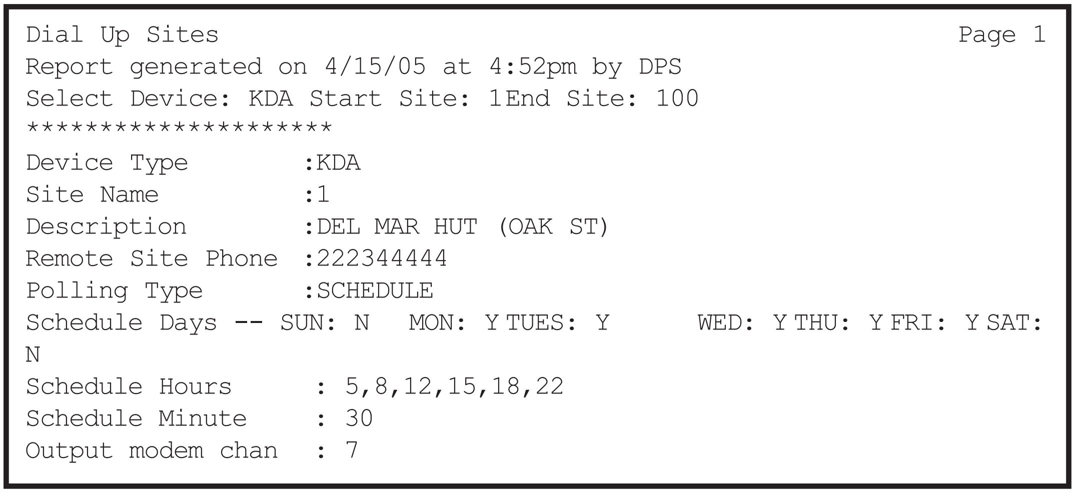
Duress Logout

A special security logout call a Duress Entry Logout can be utilized when personnel are forced to logout of a site. To logout,using a Duress Entry Logout, enter your 8-digit personal BAU ID number prefixed by a “9” and followed by an asterisk. For example, “912345678*”.

Refer to the Building Access Unit (Network Version) operation guide for specific details about operation on the BAU at the remote site.

Site Report

Selecting reports from the master menu allows you to print a report of the site definitions. An example of a site report is shown in Figure M22.26.



```
Dial Up Sites                                                   Page 1
Report generated on 4/15/05 at 4:52pm by DPS
Select Device: KDA Start Site: 1End Site: 100
*********************
Device Type        :KDA
Site Name          :1
Description        :DEL MAR HUT (OAK ST)
Remote Site Phone  :222344444
Polling Type       :SCHEDULE
Schedule Days -- SUN: N   MON: Y TUES: Y      WED: Y THU: Y FRI: Y SAT:
N
Schedule Hours      : 5,8,12,15,18,22
Schedule Minute     : 30
Output modem chan   : 7
```

Fig. M22.26 - Site report printout

Frequently-Asked Questions (FAQs)

Q: What is the difference between Stay-Open mode and Propped Door mode?
A: Stay-Open mode will unlock the door and allow it to be opened and closed without a door violation. It will stay in Stay-Open mode until a stay-open card/code is used to disable Stay-Open mode. The door can also be kept open for as long as needed. In Propped Door mode, the door may only be left open for a certain period of time (15 min.) before a slow beep starts warning the user. This will eventually turn into a door violation in Propped Door mode.

Q: How do I enable/disable Stay-Open mode?
A:There are several ways of doing this. One way is to use a stay-open card. This is a card or code that has the stay open setting enabled. When this card/code is used, it will put the unit in stay open mode. Another way to enable stay open mode is to use the T/Mon to send an OPR command to the ECU's point 22 and 17. To disable stay-open mode, send an RLS command to points 22 and 17 or use another stay-open card/code on the card reader/keypad. (see table M22.G – ECU Mapping on control points)

Q:How do I send a Propped Door command?
A:The propped door point is set on point 21 (see table M22.G). Define a Labeled Control on the T/Mon that would send a MON command to the ECU on point 21. When in Monitor mode, push Ctrl + F8 to bring up the labeled controls window. Select the control for point 21 and press Enter.
Note: ECU displays start on display 3 on the T/Mon. So ECU 1 on the NG would be display 3 on T/Mon.

Q:What is the difference between a site and a zone?
A:A site is defined with only one door. A zone is a site that has multiple doors defined. These are all defined on the T/Mon under Files -> Building Access -> Sites / Zones. A single site number with only 1 door under door list would be considered as a site. A single site number with more than 1 door under the door list would be considered as a zone.

Q:What does the Login Expire setting do in the BAS Global Options window?
A:It will automatically log users out of the Site Login Window when in monitor mode. This can be viewed by being in Monitor mode and pressing Ctrl + F3. This window will display all users that have logged in. Usually, when a card is used on a card reader for the first time, it will log them in. Then the second time they use the same card, it will log them out. But when the Login Expire setting is set for anything other than zero, it will not log users out. It will reset their entry time and allow the timer to log them out when it expires.
Login Expire takes values between 1 to 24 hours. This is how long the system will allow users to be logged in before automatically logging them out. If it is set to 1 hour, it automatically log users out if they have been logged in for more than 1 hour. The T/Mon scans this list every 15 minutes for anything that needs to be logged out. When this is set to zero, it will disable auto log outs. Which means that the second card read would log users out.

Q:How do I handle the need for extended propped doors?
A:Using the Stay-Open mode would allow the door to stay open for a longer period of time. This is done by sending an OPR command to points 17 and 22 to the ECU (see question about enabling/disabling Stay-Open mode). The door will remain open until it is taken out of Stay-Open mode.

Q:How do I "buzz" a person in?
This can be done remotely from the T/Mon by sending a MON command to point 17 (see table M22.G). This will unlatch the door long enough for the person to open and close it.

Q:How do I limit access to the Building Access menu?
One way of doing this would be to set user permissions so they cannot access File Maintenance. This is done by going to the T/Mon's master menu and going to Files -> System Users -> Users and setting File Maintenance to NO. However, this will restrict access to the entire File Maintenance menu. We currently don't have a way to restrict access to each individual submenus.

Q: When I modify the expansion module setting on the T/Mon's NetGuardian page, it removes the entries under Site / Zones for that address. Why is this?

A:Whenever the expansion module type changes, it deletes everything that use to make reference to it to make sure that data is valid. This includes the site/zone entry. If the site/zone entry had been left intact but the expansion module did not match, it would cause errors when it came to building or using the data.

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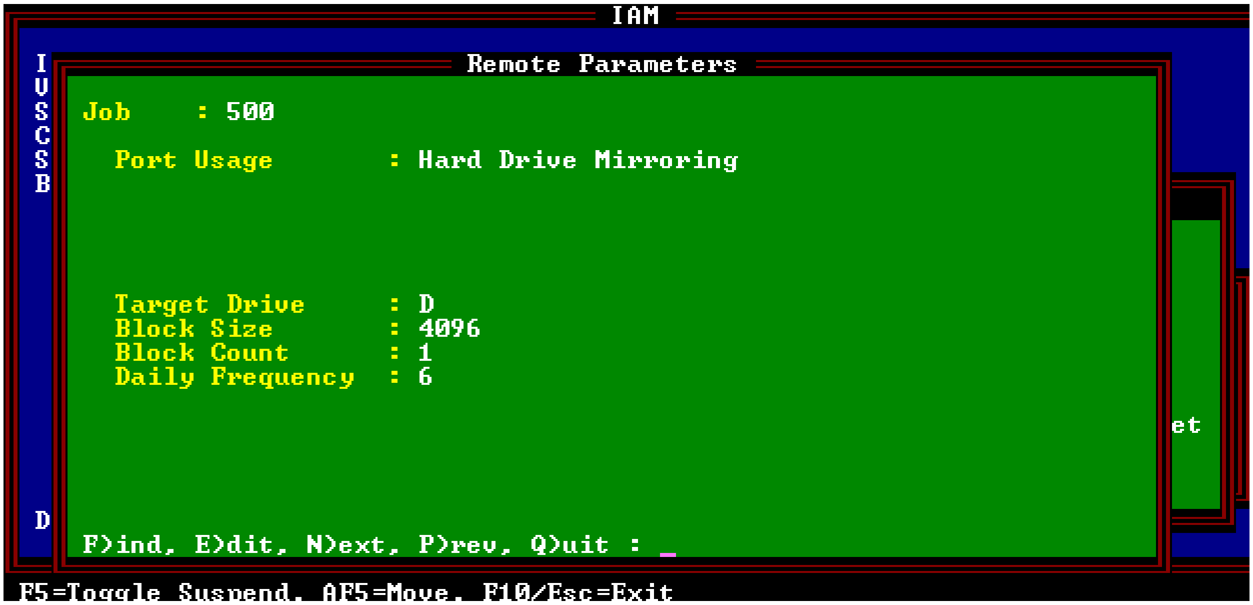
Software Module 25
T/Mon Hard Drive Mirroring

The T/Mon NOC has two hard drives for primary-secondary hard drive mirroring, which provides a back-up in case of hard drive failure. The data written to the primary hard drive is mirrored to the secondary hard drive at user definable intervals.

DPS predefines the hard drive mirroring job on remote port 500 before shipment. Using the default configuration is recommended, but the settings can be changed if necessary — see Table M25.A for field definitions.



```
                              IAM
                      Remote Parameters
 Job     : 500

   Port Usage        : Hard Drive Mirroring



   Target Drive      : D
   Block Size        : 4096
   Block Count       : 1
   Daily Frequency   : 6



 F>ind, E>dit, N>ext, P>rev, Q>uit : _
F5=Toggle Suspend, AF5=Move, F10/Esc=Exit
```

M25.1 - Remote parameters defined for Hard Drive Mirroring

Table M25.A - Fields in the Remote Parameters screen

Field	Description
Port Usage	Press the tab key. A list box menu will appear. Use the Up and Down Arrow keys to highlight and select Hard Drive Mirroring.
Target Drive	The drive letter of the secondary hard drive (e.g “D”), which will store the backup mirror image of the primary hard drive (“C:” drive).
Block Size	Size of the data block to copy from the primary hard drive to the secondary hard drive per pass.
Block Count	Number of data blocks to copy from the primary hard drive to the secondary hard drive per pass.
Daily Frequency	Number of times to mirror the primary hard drive to the secondary hard drive per day.

If your primary hard drive fails, your T/Mon NOC system will automatically be restored from the secondary drive, with minimal data loss and downtime.

If your hard drive fails, the T/Mon NOC will reboot, and an internal alarm in Monitor Mode will notify you of the hard drive failure.

If this happens, call DPS Telecom Technical Support at (559) 454-1600 to order a replacement drive.

To set up your replacement drive, follow the instructions in the "Hard Drive Recovery Program" section below.

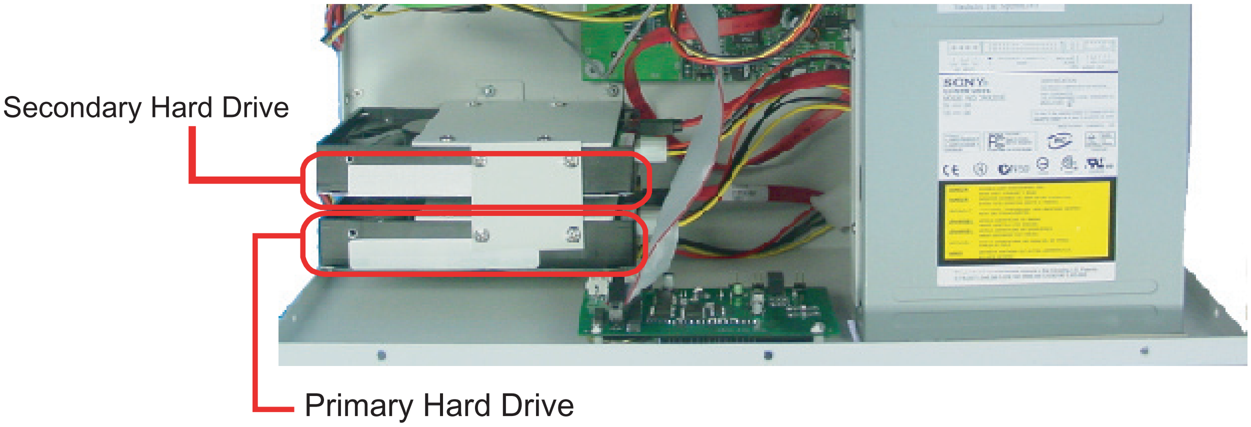


Fig. M25.2 - A portion of the interior of the T/Mon NOC, showing the primary and secondary hard drives

Hard Drive Recovery Program

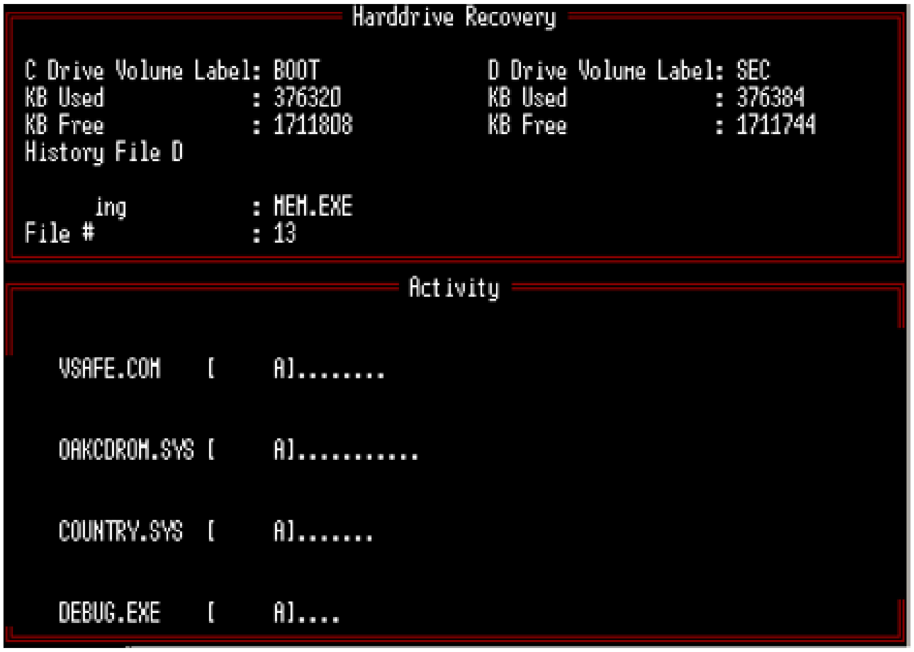
In most cases, replacing a failed hard drive is purely plug-and-play. All you have to do is install the new hard drive and the W/Shell Hard Drive Recovery Program will automatically set it up for you

To install a new hard drive:

1. Power down the T/Mon NOC by removing all fuses or power cables.
2. Open the T/Mon NOC case and install the new hard drive, following the instructions that shipped with the new drive.
3. Reconnect the T/Mon NOC to its power and network connections and power up the unit.

The Hard Drive Recovery program will automatically start and begin setting up the new disk. The disk set-up status will be displayed on the T/Mon NOC LCD display (see section M25-3, "Hard Drive Recovery Status Messages") and on screen on the T/AccessMW console. (See Figure M25.3) This is for your information only — no user action is required to successfully set up your new hard disk.

However, under certain abnormal conditions, you may need to provide the Hard Drive Recovery Program with additional information — see section M25-3 (Abnormal Hard Drive Recovery).



```
                         Harddrive Recovery

 C Drive Volume Label: BOOT            D Drive Volume Label: SEC
 KB Used             : 376320          KB Used             : 376384
 KB Free             : 1711808         KB Free             : 1711744
 History File D

       ing           : MEM.EXE
 File #              : 13

                              Activity


    VSAFE.COM    [     A]........


    OAKCDROM.SYS [     A]...........


    COUNTRY.SYS  [     A].......


    DEBUG.EXE    [     A]....
```

Fig. M25.3 - W/Shell Hard Drive Recovery Program

Hard Drive Recovery Status Messages

The Hard Drive Recovery status messages will appear in the LCD screen when the W/Shell Hard Drive Recovery Program is rebuilding a disk drive. Hard Drive Recovery status messages are described in Table M25.B.

Table M25.B - Hard Drive Recovery status messages

Field	Description
Rebuilding PRI File #…	Hard Drive Recovery Program is rebuilding primary drive “File #” line shows current file being rebuilt.
Rebuilding SEC File#…	Hard Drive Recovery Program is rebuilding secondary drive “File #” line shows current file being rebuilt.

Abnormal Hard Drive Recovery

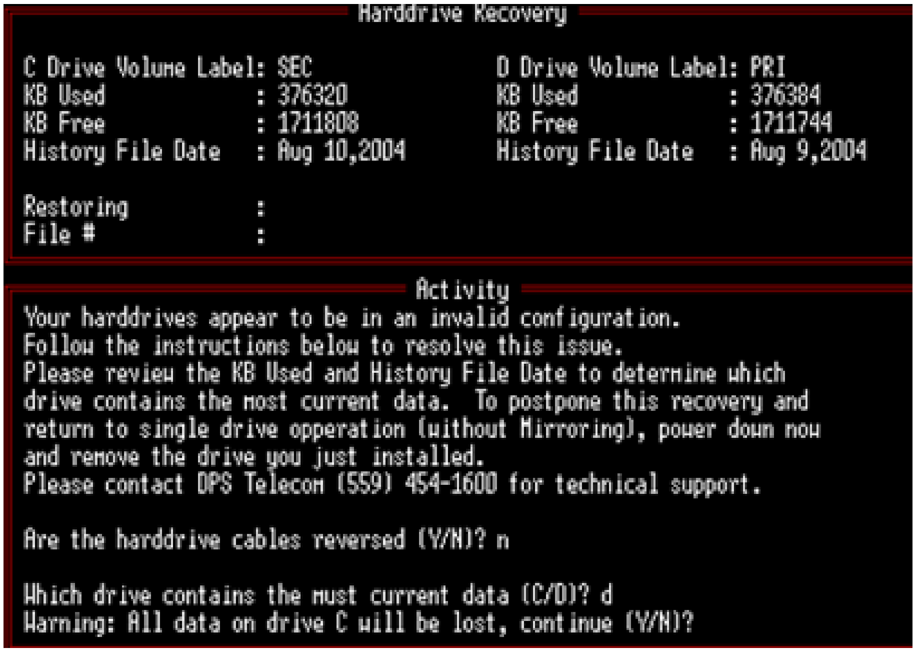
On rare occasions, the Hard Drive Recovery Program may not be able to determine which drive is the primary. If that happens, the program will prompt you to provide information to resolve the problem.

If the Hard Drive Recovery Program prompts you for information, please feel free to call DPS Technical Support at **(559) 454-1600** for help in resolving the problem. Alternatively, you can correct the problem yourself by following the on-screen instructions and prompts.

READ THE ON-SCREEN INSTRUCTIONS CAREFULLY AND FOLLOW THEM.

If the Hard Drive Recovery Program cannot determine which hard drive is the primary, it will first ask you to check if the hard drive cables are reversed. If you answer yes, the program will prompt you to power down the T/Mon NOC, swap the hard drive cables, and restart the T/Mon NOC — see Figure M25.4.

If the hard drive cables are correctly connected, the Hard Drive Recovery Program will ask you which hard drive has the most current data. Check in the disk information window of the Hard Drive Recovery screen (see Figure M25.4), where disk information, including the date of the History File, is displayed. This information will help you decide which is the most current disk.



```
                                Harddrive Recovery

C Drive Volume Label: SEC               D Drive Volume Label: PRI
KB Used             : 376320            KB Used             : 376384
KB Free             : 1711808           KB Free             : 1711744
History File Date   : Aug 10,2004       History File Date   : Aug 9,2004

Restoring           :
File #              :

                                     Activity
Your harddrives appear to be in an invalid configuration.
Follow the instructions below to resolve this issue.
Please review the KB Used and History File Date to determine which
drive contains the most current data.  To postpone this recovery and
return to single drive opperation (without Mirroring), power down now
and remove the drive you just installed.
Please contact DPS Telecom (559) 454-1600 for technical support.

Are the harddrive cables reversed (Y/N)? n

Which drive contains the must current data (C/D)? d
Warning: All data on drive C will be lost, continue (Y/N)?
```

Fig. M25.4 - The Hard Drive Recovery Program may prompt you to check the hard drive cables or select the drive with the latest data

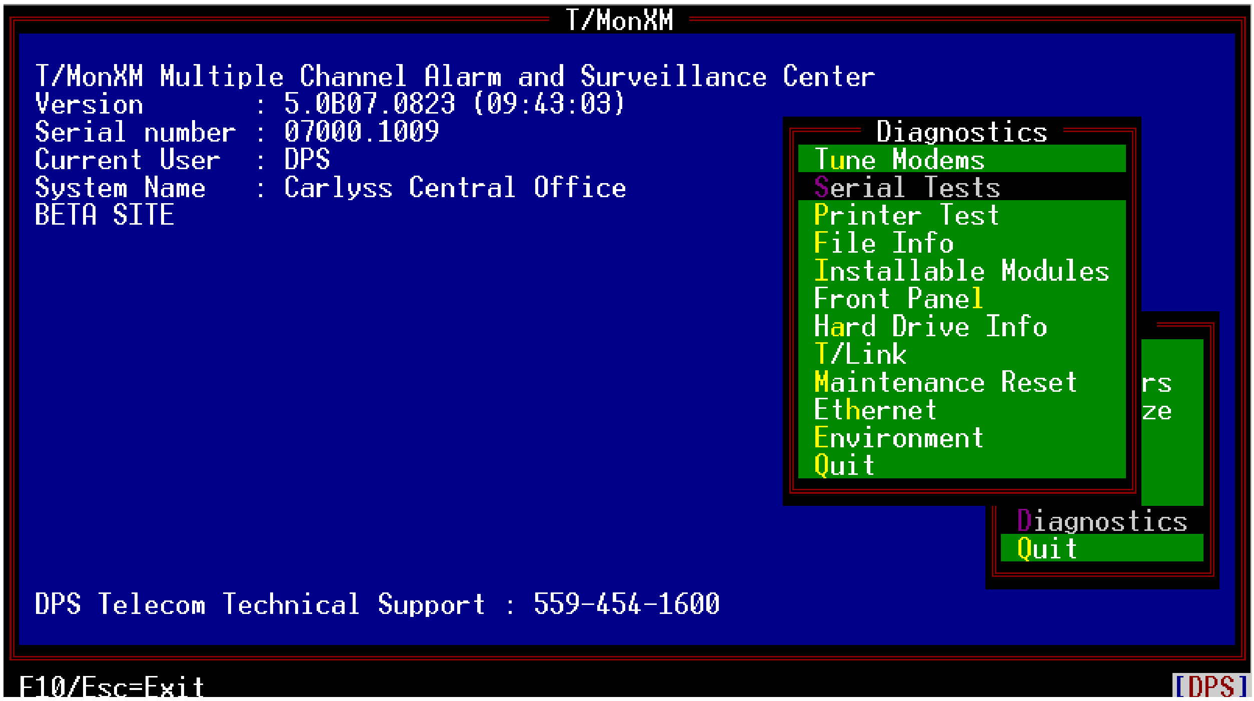
Appendix E
Diagnostics

Diagnostics should be used only under these conditions:

1. During the initial install when problems arise.
2. When board level problems are suspected.
3. When instructed to by a DPS technician.

T/MonXM features diagnostics options that completely test the standard and optional devices that work in conjunction with T/MonXM (inside the computer). This will assist you in troubleshooting your WorkStation in the event that problems arise.

Each option from the Diagnostics menu will allow you to test each device individually. Selecting the Diagnostics option from the Master menu will open the Diagnostics menu.



```
T/MonXM Multiple Channel Alarm and Surveillance Center
Version       : 5.0B07.0823 (09:43:03)
Serial number : 07000.1009
Current User  : DPS
System Name   : Carlyss Central Office
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.1 - Diagnostics mode is Selected from the Master menu

Remote Access Cards

Selecting one of the Remote Access Card options from the Diagnostics menu will perform extensive testing of that Remote Access Card. To fully test the card, its ports must be physically looped-back. Two diagnostic cables have been provided for this purpose. Plug one end of a diagnostic cable into port 1 and the other end into port 2. Use the other diagnostic cable to do the same for ports 3 and 4.

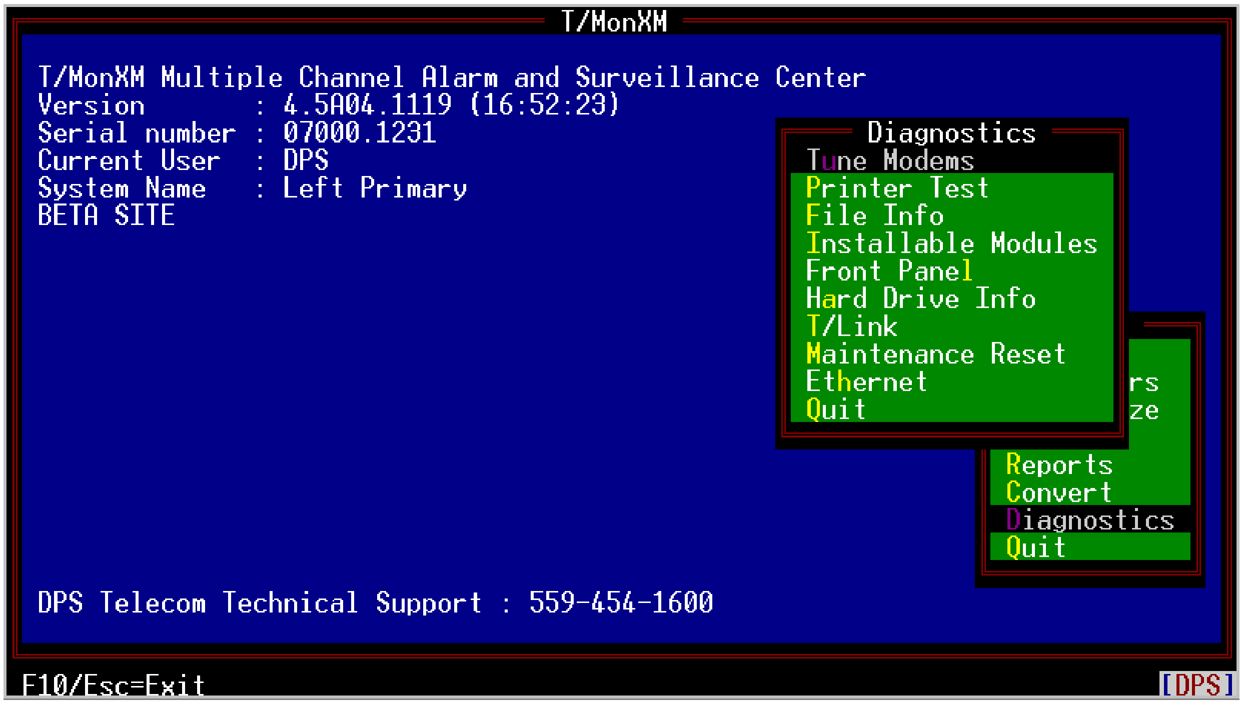
> Only RS232 ports can be looped back. i.e.:602 cards with 202 or 212 modems or RS485 cannot be looped. However, all other parts of the test are valid.

WARNING: Running Diagnostics while connected to the network can cause characters to be sent to network elements.

Figure E.3 illustrates the diagnostic cable connected to a remote access card for loop-back.

Remote Access Card Test Screen
The Remote Access Card is the communication link between the T/MonXM WorkStation running the T/MonXM software and the remote card. If you execute this test option and a fail message occurs, contact DPS Telecom..

Successfully completion of this test confirms that data is exchanged between T/Mon software and remote cards.



```
T/MonXM Multiple Channel Alarm and Surveillance Center
Version        : 4.5A04.1119 (16:52:23)
Serial number  : 07000.1231
Current User   : DPS
System Name    : Left Primary
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.2 - Diagnostic mode menu provides selections for the installed options

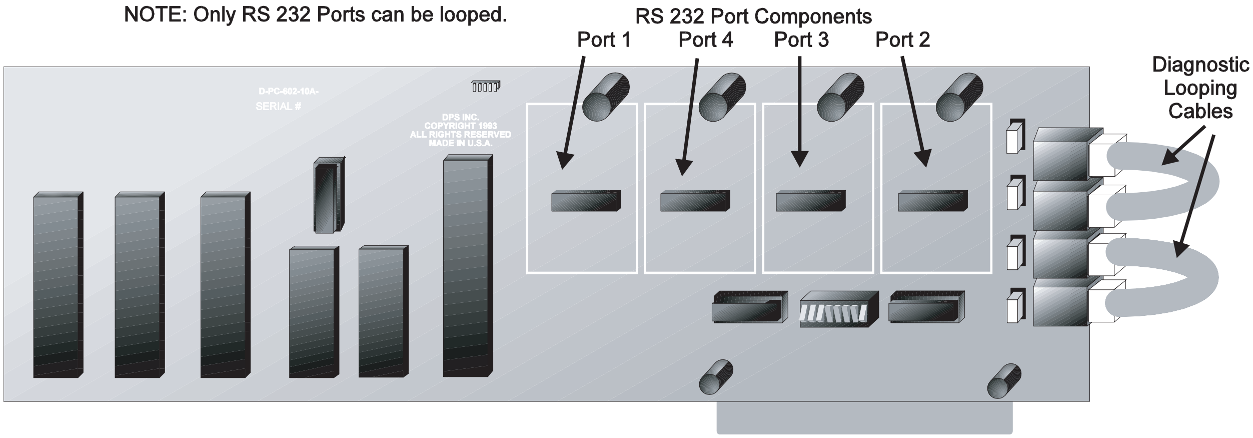
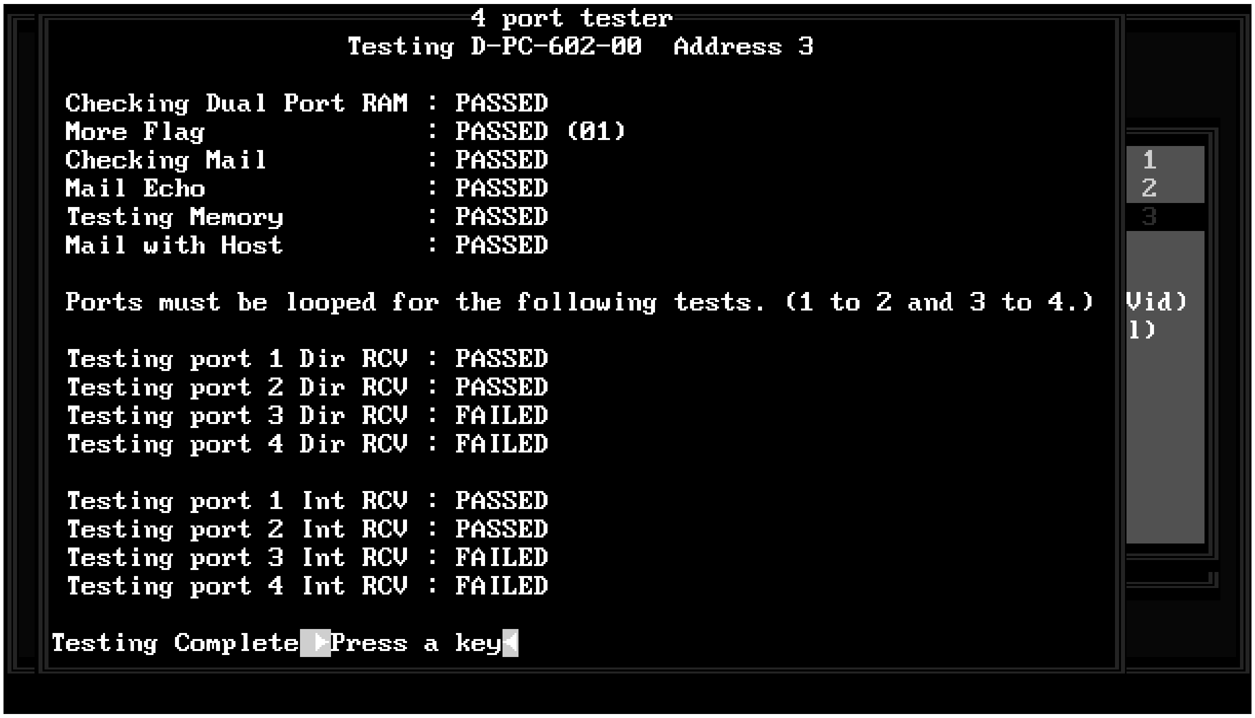


Fig. E.3 - A remote access card in loopback mode



```
                              4 port tester
                      Testing D-PC-602-00  Address 3

 Checking Dual Port RAM : PASSED
 More Flag              : PASSED (01)
 Checking Mail          : PASSED                                     1
 Mail Echo              : PASSED                                     2
 Testing Memory         : PASSED                                     3
 Mail with Host         : PASSED

 Ports must be looped for the following tests. (1 to 2 and 3 to 4.)  Vid)
                                                                     1)
 Testing port 1 Dir RCV : PASSED
 Testing port 2 Dir RCV : PASSED
 Testing port 3 Dir RCV : FAILED
 Testing port 4 Dir RCV : FAILED

 Testing port 1 Int RCV : PASSED
 Testing port 2 Int RCV : PASSED
 Testing port 3 Int RCV : FAILED
 Testing port 4 Int RCV : FAILED

Testing Complete ► Press a key◄
```

Fig. E.4 – Remote access screen shows test results.

Tune Modems

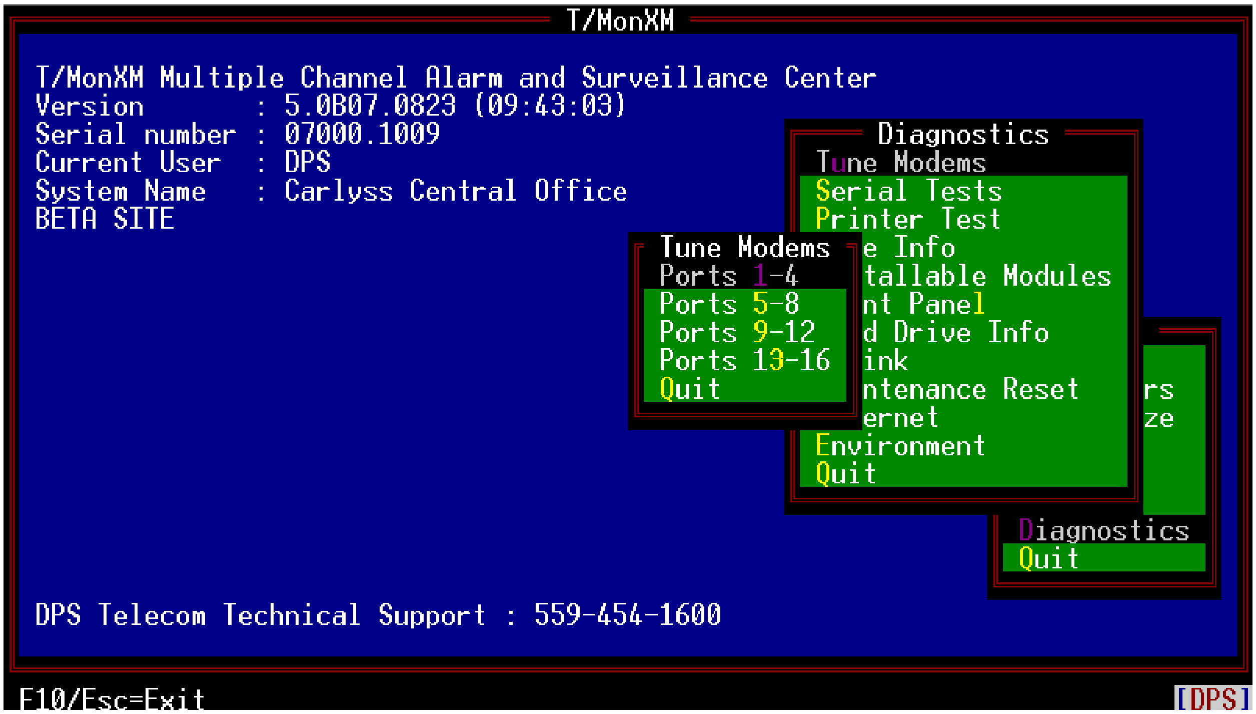
Do not tune modem below -2 db as the wave forms become distorted.

Any of the four docking pads on your 602 Card may be populated with 202 modems. If they are, they may need to be tuned to optimize signal quality. The 202 modem levels are software adjustable. The modems are shipped from the factory with the levels set at approximately -13 db — the common industry standard.

Before tuning your modems, you must first select the pad they are on. After selecting a pad to tune, you will be in the Tune Docking Pad screen (see Fig. E.6). Refer to Fig. E.7 for an illustration of the card and connector. From here you tune the modem using the following procedures:

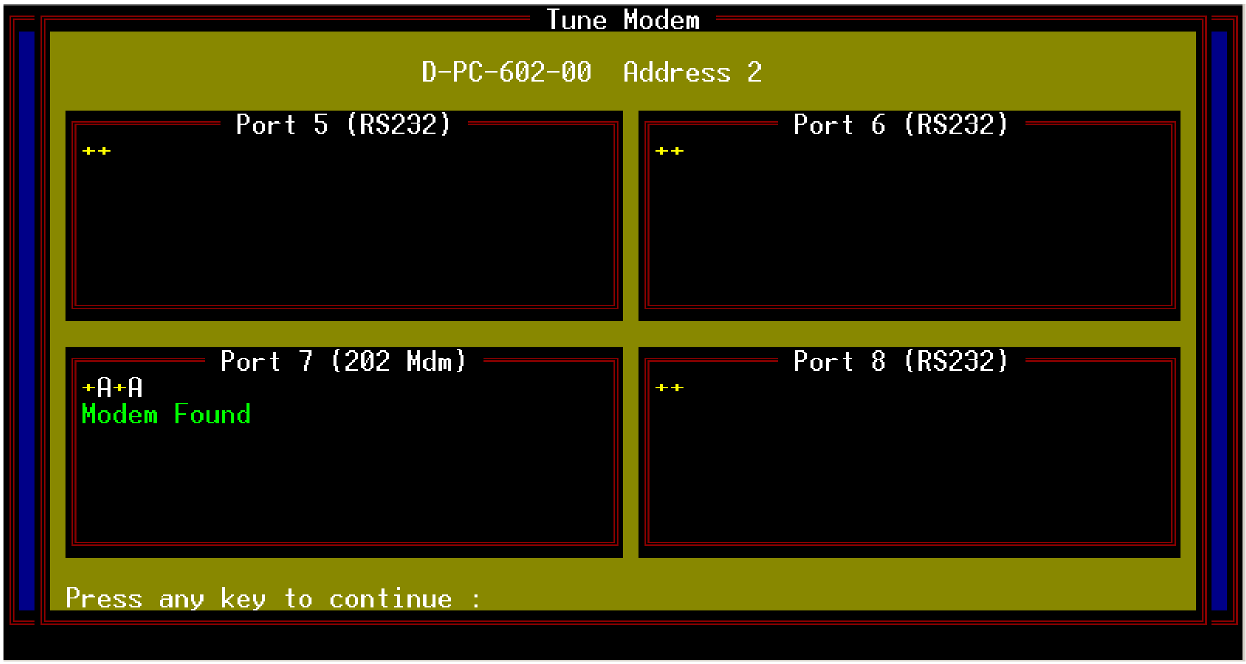
Tuning procedures

1. Put either a V.F. meter or scope across the transmit leads of the 202 Modem.
2. Set Transmit Low Tone (5).
3. Press the 1 - 4 keys to bring the transmit level to the desired range. If the level is initially too low, use Coarse Up (1). If it is too high, use Coarse Down (4). Once the level approaches the proper range use the 2 and 3 keys to fine tune it.
4. Once tuned, press 7, followed by F10 to return to the monitoring screen.



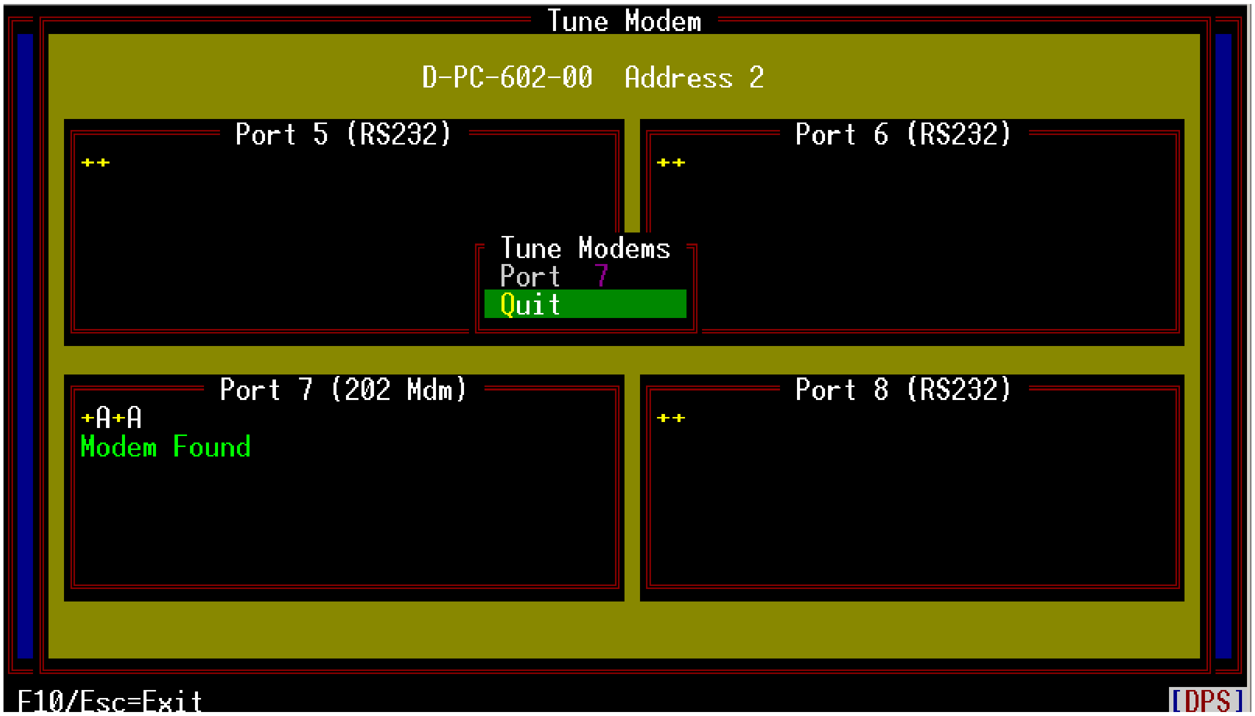
```
T/MonXM Multiple Channel Alarm and Surveillance Center
Version        : 5.0B07.0823 (09:43:03)
Serial number  : 07000.1009
Current User   : DPS
System Name    : Carlyss Central Office
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.5 – Select four port controller card from the tune modems screen



```
Tune Modem
D-PC-602-00  Address 2
Port 5 (RS232)
++
Port 6 (RS232)
++
Port 7 (202 Mdm)
+A+A
Modem Found
Port 8 (RS232)
++
Press any key to continue :
```

Fig. E.5A – The Tune Modems Window



```
Tune Modem
D-PC-602-00  Address 2
Port 5 (RS232)
++
Port 6 (RS232)
++
Tune Modems
Port  7
Quit
Port 7 (202 Mdm)
+A+A
Modem Found
Port 8 (RS232)
++
F10/Esc=Exit                                    [DPS]
```

Fig. E.6 – Select pad from the tune modems window

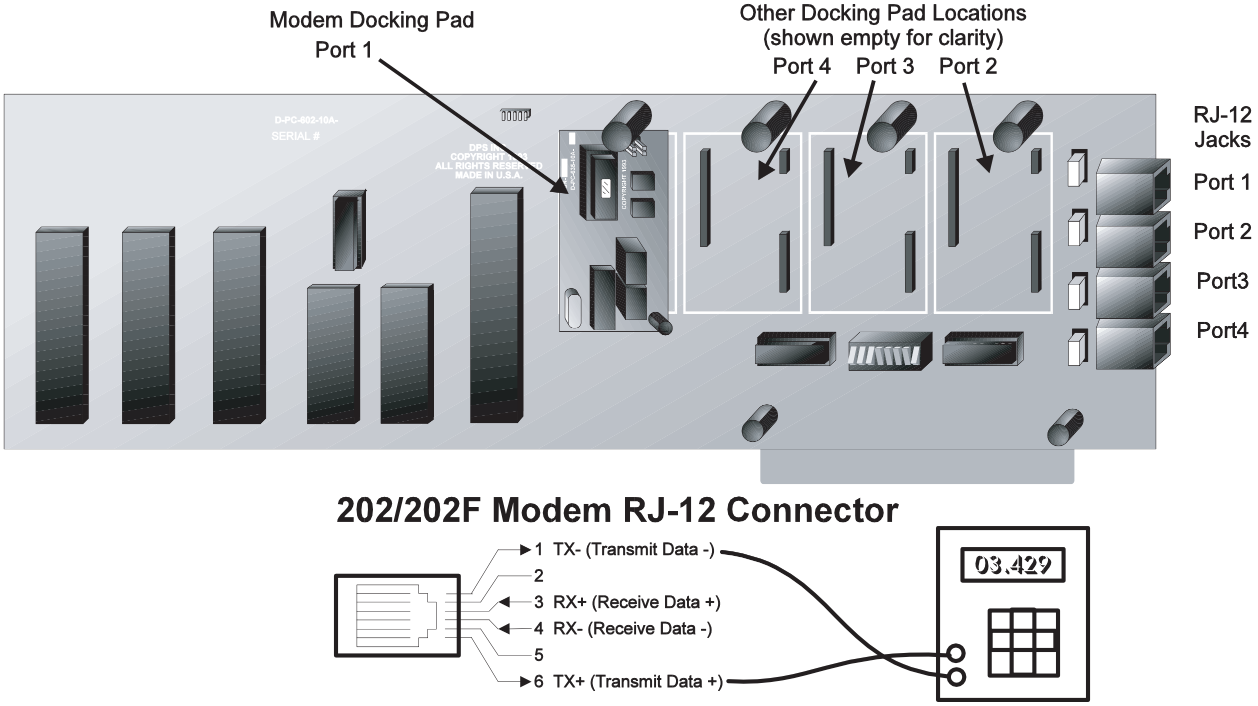
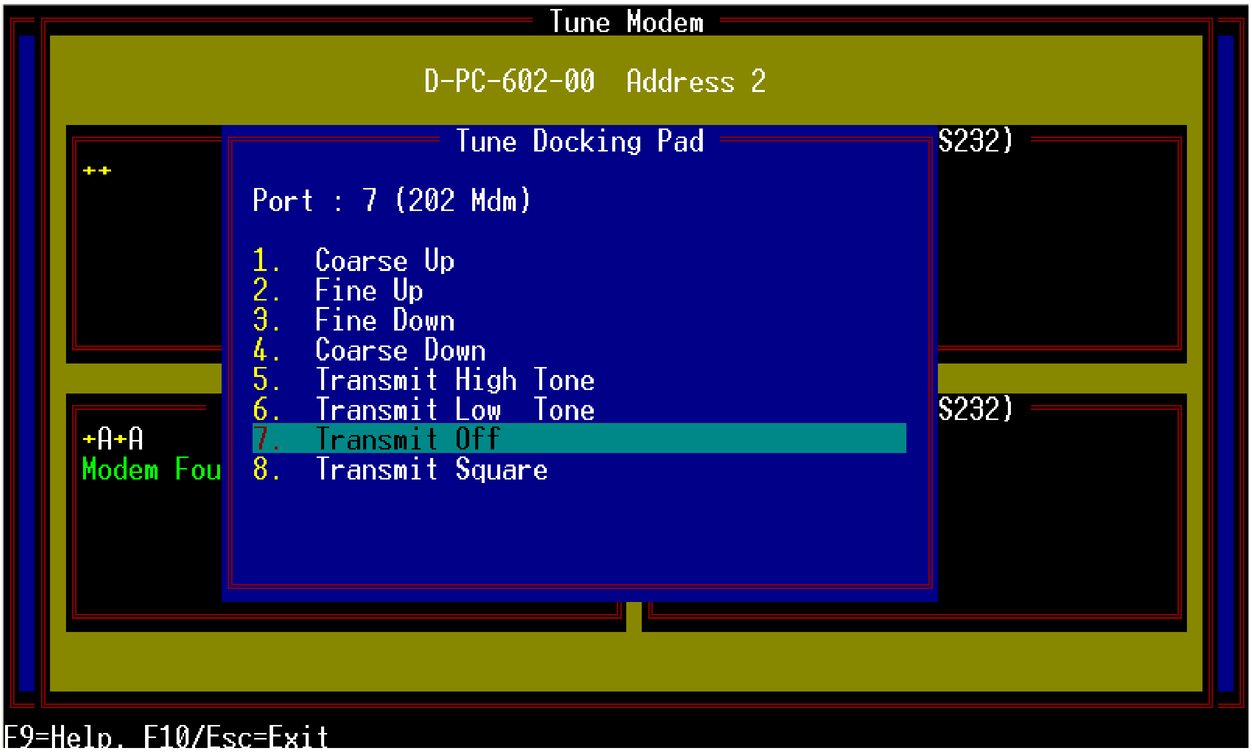


Fig. E.7 - Connect test leads to RJ-12 connector on controller card



```
                              Tune Modem

                     D-PC-602-00  Address 2

                Tune Docking Pad             S232)
 ++
       Port : 7 (202 Mdm)

       1.  Coarse Up
       2.  Fine Up
       3.  Fine Down
       4.  Coarse Down
       5.  Transmit High Tone
       6.  Transmit Low  Tone                S232)
 +A+A  7.  Transmit Off
 Modem Fou  8.  Transmit Square

F9=Help, F10/Esc=Exit
```

Fig. E.8 – The tune docking pad window lists levels setting choices

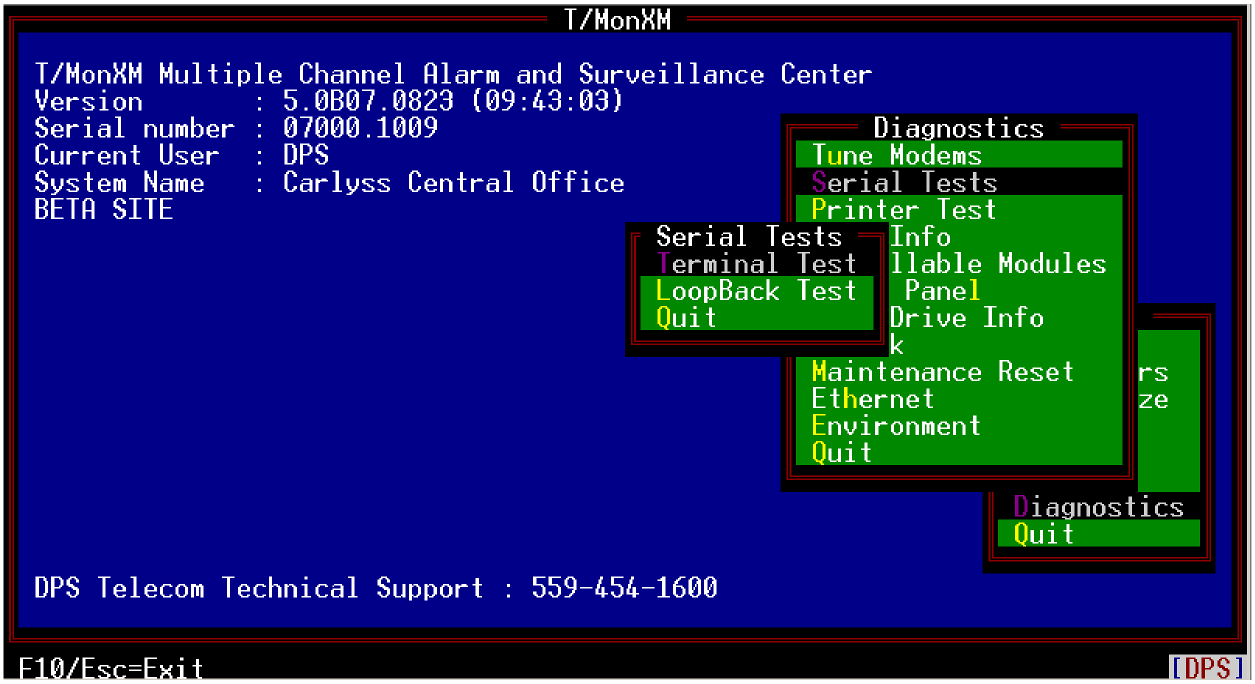
Table E.A - Fields in the Tune Docking Pad window

Field	Description
1. Coarse Up	Course (10 Step) LEVEL UP (hotter).
2. Fine Up	Single step LEVEL UP (hotter).
3. Fine Down	Single step LEVEL DOWN.
4. Coarse Down	Course (10 Step) LEVEL DOWN.
5. Transmit High Tone	Transmitter On - Xmit HIGH TONE.
6. Transmit Low Tone	Transmitter On - Xmit LOW TONE.
7. Transmit Off	Transmitter Off.
8. Transmit Square	Transmitter On - Xmit HIGH/LOW square wave.
F10/Esc	Exit.

Serial Tests

The purpose of this test is to verify that all RS232 ports are able to send and receive properly.

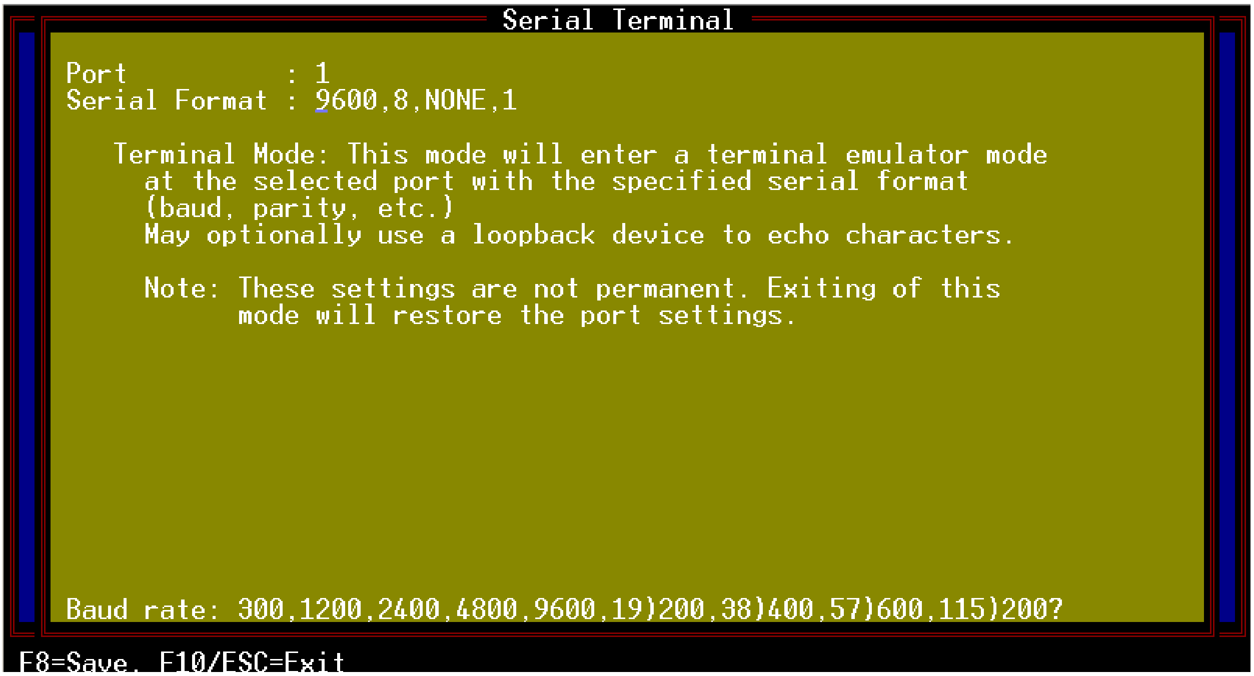
Serial tests consists of **2** modes: **Terminal Mode** and **Loopback Mode**.



```
T/MonXM Multiple Channel Alarm and Surveillance Center
Version        : 5.0B07.0823 (09:43:03)
Serial number  : 07000.1009
Current User   : DPS
System Name    : Carlyss Central Office
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

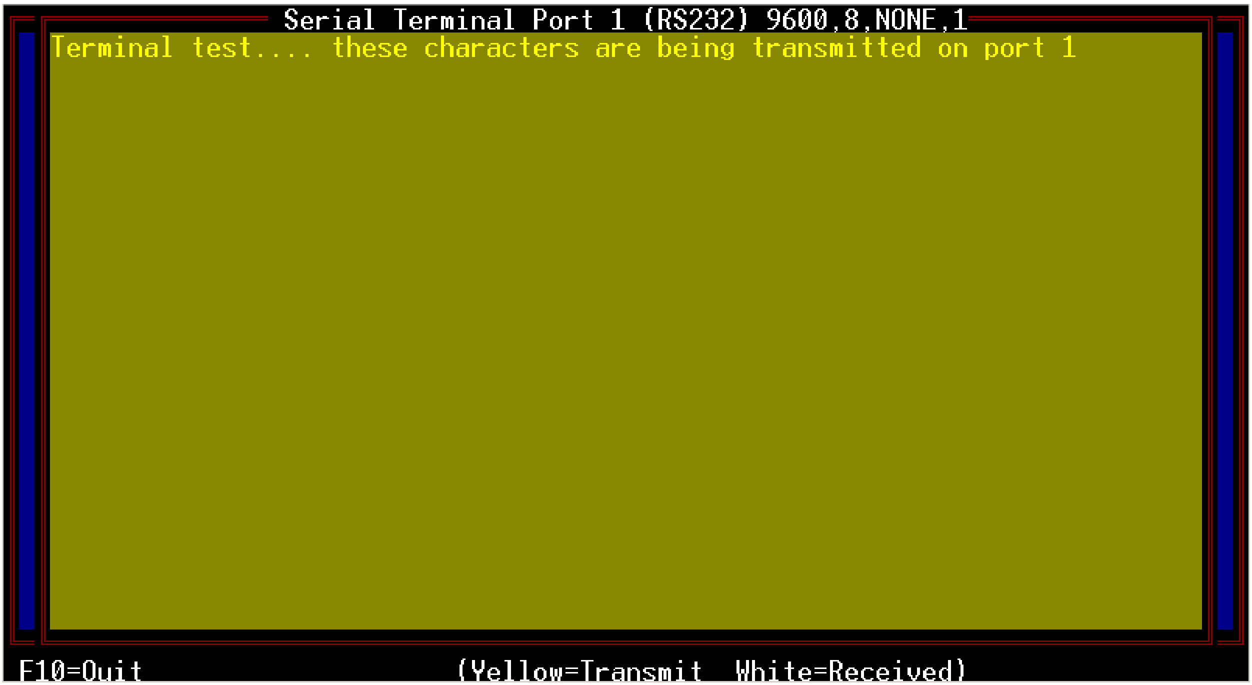
Terminal Mode

Terminal Mode will enter a terminal emulator for a specified port. This will allow a craft interface for a specific port without having to modify the database and running the craft mode in monitor mode.



```
                                Serial Terminal

Port          : 1
Serial Format : 9600,8,NONE,1

   Terminal Mode: This mode will enter a terminal emulator mode
     at the selected port with the specified serial format
     (baud, parity, etc.)
     May optionally use a loopback device to echo characters.

     Note: These settings are not permanent. Exiting of this
           mode will restore the port settings.

Baud rate: 300,1200,2400,4800,9600,19)200,38)400,57)600,115)200?
F8=Save, F10/ESC=Exit
```

These port settings will only be used for the terminal emulator. It will not affect how the port is databased for monitor mode.



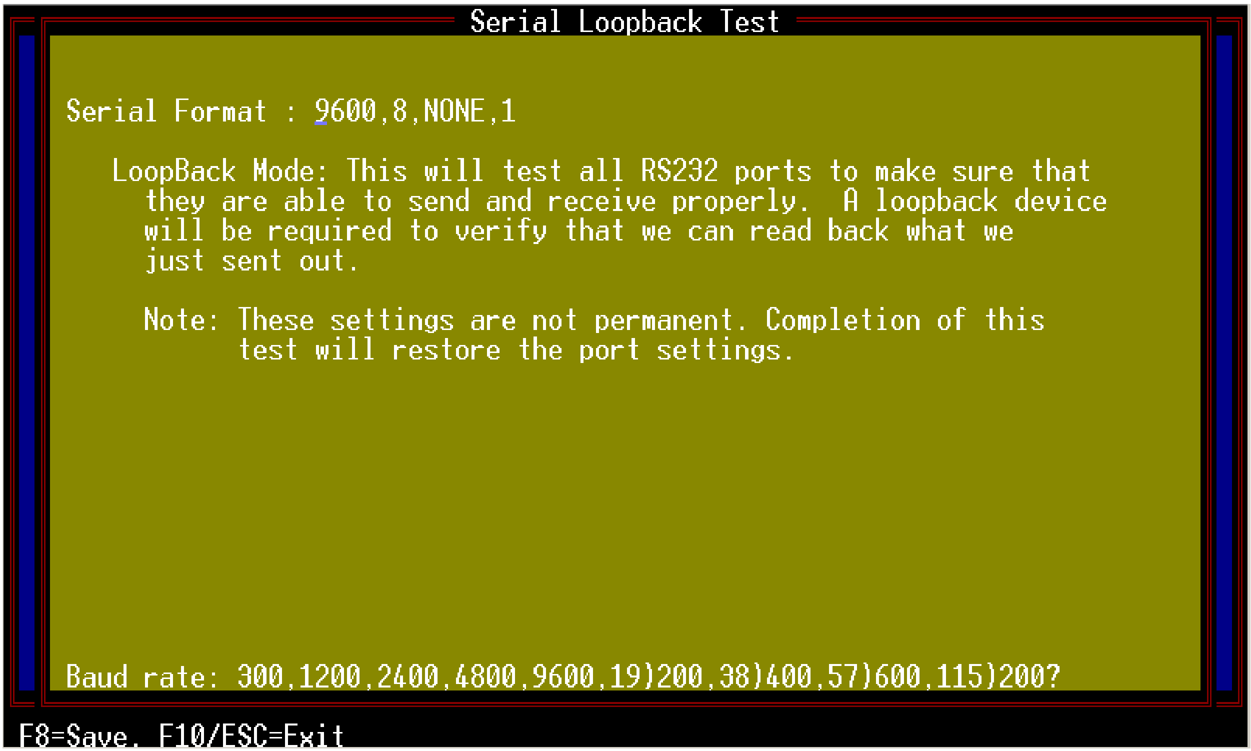
```
                 Serial Terminal Port 1 (RS232) 9600,8,NONE,1
Terminal test.... these characters are being transmitted on port 1

F10=Quit                    (Yellow=Transmit  White=Received)
```

Characters may be entered and will be sent out the port. Transmitted characters will appear in yellow. Received characters will appear in white.

A loopback device may be used for testing purposes to receive characters back.

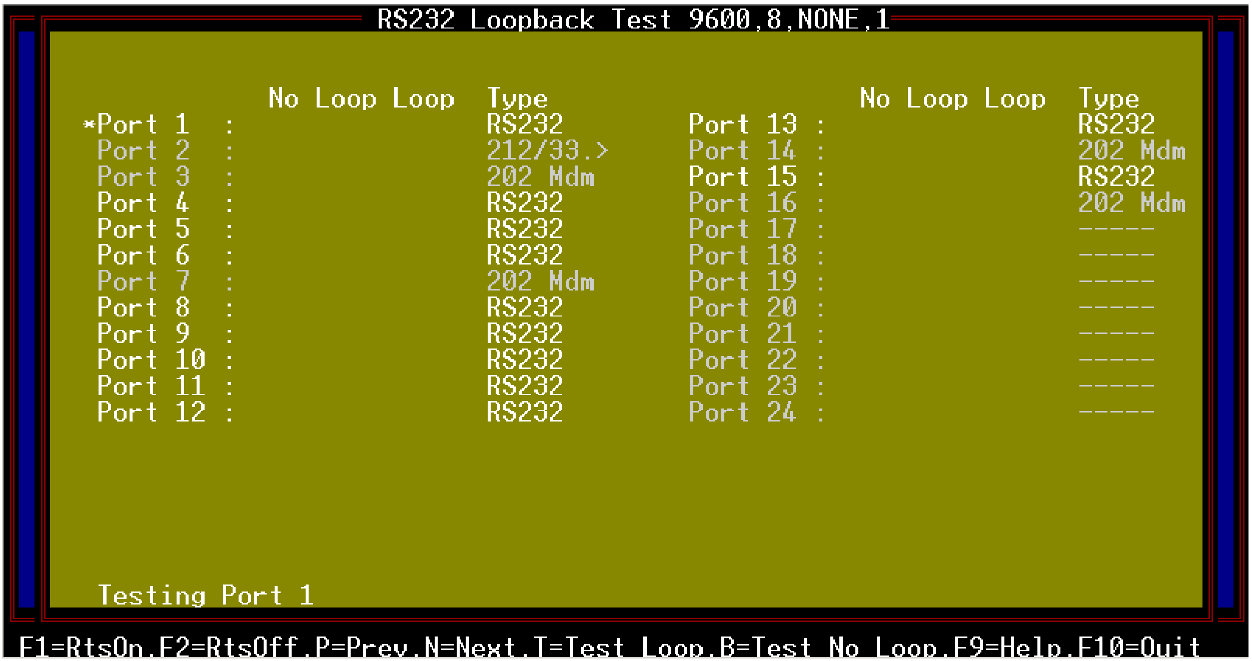
LoopBack Mode

LoopBack Mode will test all RS232 ports by sending out a known string and verifying that it is able to come back. A loopback device will be required for this test.



```
                           Serial Loopback Test

Serial Format : 9600,8,NONE,1

   LoopBack Mode: This will test all RS232 ports to make sure that
     they are able to send and receive properly.  A loopback device
     will be required to verify that we can read back what we
     just sent out.

     Note: These settings are not permanent. Completion of this
           test will restore the port settings.

Baud rate: 300,1200,2400,4800,9600,19)200,38)400,57)600,115)200?
F8=Save, F10/ESC=Exit
```

These port settings will only be used for the loopback test. This will not affect how the port is databased for monitor mode.



```
                       RS232 Loopback Test 9600,8,NONE,1

              No Loop Loop  Type                       No Loop Loop  Type
 *Port 1  :                 RS232        Port 13 :                   RS232
  Port 2  :                 212/33.>     Port 14 :                   202 Mdm
  Port 3  :                 202 Mdm      Port 15 :                   RS232
  Port 4  :                 RS232        Port 16 :                   202 Mdm
  Port 5  :                 RS232        Port 17 :                   -----
  Port 6  :                 RS232        Port 18 :                   -----
  Port 7  :                 202 Mdm      Port 19 :                   -----
  Port 8  :                 RS232        Port 20 :                   -----
  Port 9  :                 RS232        Port 21 :                   -----
  Port 10 :                 RS232        Port 22 :                   -----
  Port 11 :                 RS232        Port 23 :                   -----
  Port 12 :                 RS232        Port 24 :                   -----

  Testing Port 1
F1=RtsOn,F2=RtsOff,P=Prev,N=Next,T=Test Loop,B=Test No Loop,F9=Help,F10=Quit
```

Once all of the port information has been entered, an empty status screen with all 24 ports will show up. An “*” will mark which port is to be tested.

Move the marker to the next port by pressing N or Down arrow (next port). Move the marker to the previous port by pressing P or Up arrow (previous port). It will skip ports that are not defined as RS232 or if the PCI card was not detected.

Test the ports for loopback by pressing T or Right arrow. This will require a loopback device to be attached to the selected port to verify that transmitted data is coming back ok. The status will update once it has received and verified the data. “FAIL” will appear in black if the received data does not match what it had sent out or if it did not receive anything at all. “PASS” will appear in white if it was able to receive the same exact data that it had just sent out.

Test the port for no loopback by pressing B or Left arrow. This will require the loopback device to be removed so it does not receive anything after transmitting data. Data will be sent out the selected port and will fail if anything comes back.

Key commands available in RS232 LoopBack mode:

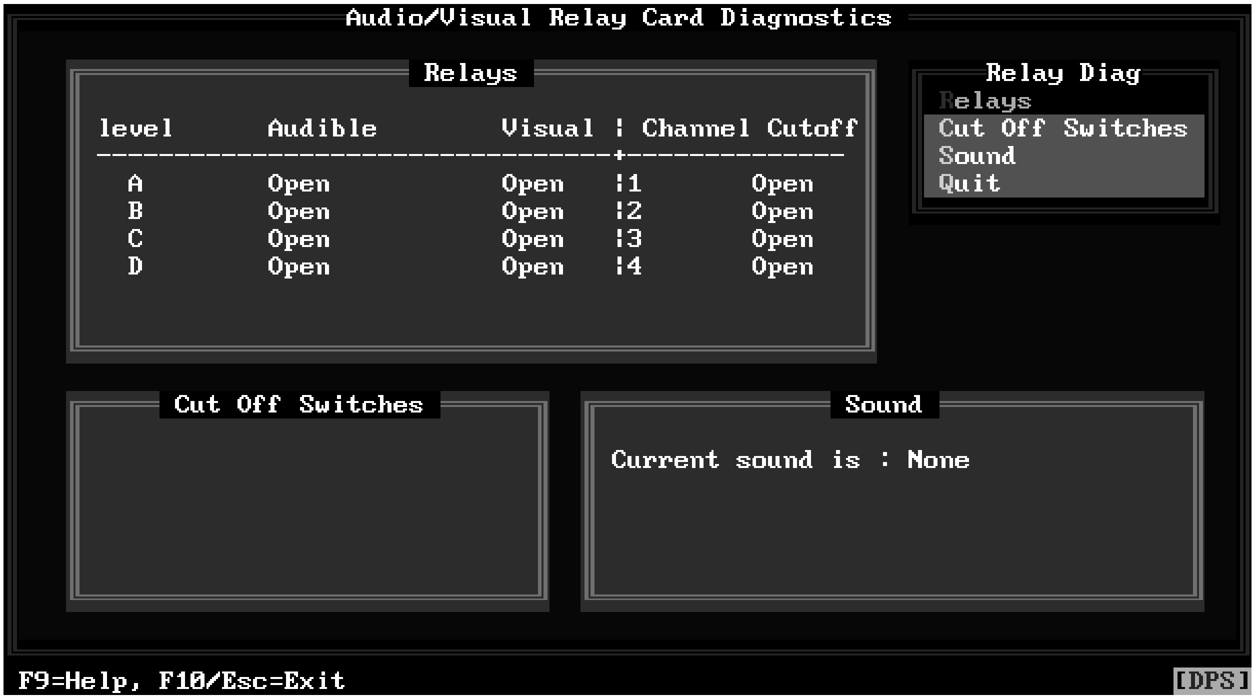
Function Key	Description
F1	Turns RTS on for the selected port.
F2	Turns RTS off for the selected port.
P or Up Arrow	Moves the marker to the previous available port. This will move up the list. (Marker will only stop on RS232 ports.)
N or Down Arrow	Moves the marker to the next available port. This will move up the list. (Marker will only stop on RS232 ports.)
T or Right Arrow	Will test the currently selected port for loopback. A loopback device will need to be attached for the transmitted data to be echoed back for verification. Will pass if the same string is received.
B or Left Arrow	Sends out data and expects nothing to come back. Remove any loopback devices currently attached to the port. This will test if there is a short between transmit and receive. Will fail if the port receives any data.
F9	Displays the help screen for the serial loopback test.
F10/Esc	Exit loopback mode.

108 Relay Card (Aud/Vid)

For diagnostic purposes only. This is not part of normal operation.

The 108 Relay Card is used to send controls to physical alarm indicators such as lights or buzzers/speakers connected to relays. The card reads the settings of cut-off switches and has an on-board speaker. The card comes with 4 relays for audio indicators, 4 for visual indicators and 4 for general purposes (identified as “Channel Cutoff” on the screen). The card also has a watchdog circuit that will automatically sense a critical operating condition within T/MonXM’s environment and issue a cold boot (the same operation as pressing the Reset switch on a PC) to the system when necessary. The 108 Relay Card supersedes the 101 Relay Card. Fig. E.7 illustrates the 108 Relay Card and connector.

When you enter the Diagnostics menu, T/MonXM will determine whether your system is running the 101 or 108 Card and will display the applicable card name on the menu (i.e., if you have an older 101 Card and run Diagnostics, you will see 101 Relay Card in the menu, not 108 Relay Card).

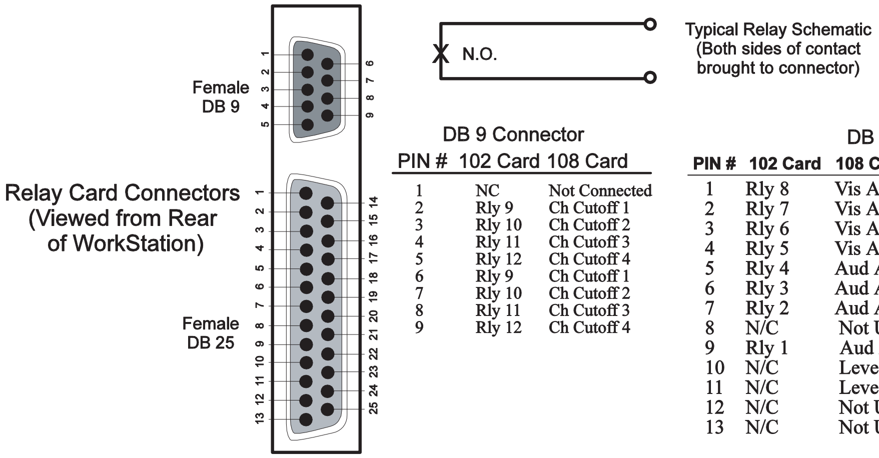


```
Audio/Visual Relay Card Diagnostics

Relays

level      Audible         Visual | Channel Cutoff
----------------------------------+--------------
  A        Open            Open   |1        Open
  B        Open            Open   |2        Open
  C        Open            Open   |3        Open
  D        Open            Open   |4        Open

Cut Off Switches

Sound

Current sound is : None

F9=Help, F10/Esc=Exit                         [DPS]
```

Fig. E.9 – Audio/visual relay card diagnostics screen tests A/V relay functions

Table E.B - Key commands available in the Aud/Vid Relay Diagnostics screen

Function Key	Description
F9	Online help.
F10/Esc	Exit.



DB 9 Connector

PIN #	102 Card	108 Card
1	NC	Not Connected
2	Rly 9	Ch Cutoff 1
3	Rly 10	Ch Cutoff 2
4	Rly 11	Ch Cutoff 3
5	Rly 12	Ch Cutoff 4
6	Rly 9	Ch Cutoff 1
7	Rly 10	Ch Cutoff 2
8	Rly 11	Ch Cutoff 3
9	Rly 12	Ch Cutoff 4

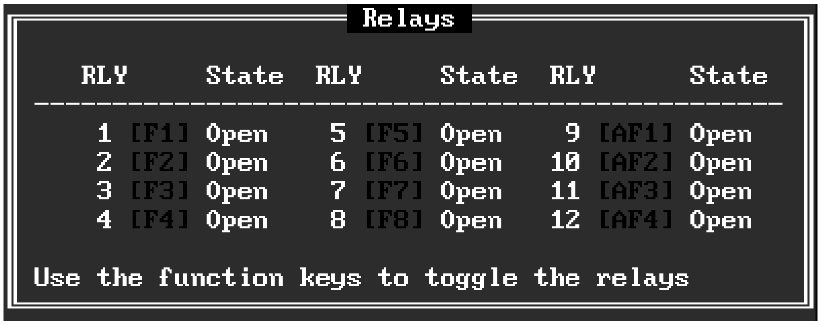
DB 25 Connector

PIN #	102 Card	108 Card	PIN #	102 Card	108 Card
1	Rly 8	Vis Alm D	14	Rly 8	Vis Alm D
2	Rly 7	Vis Alm C	15	Rly 7	Vis Alm C
3	Rly 6	Vis Alm B	16	Rly 6	Vis Alm B
4	Rly 5	Vis Alm A	17	Rly 5	Vis Alm A
5	Rly 4	Aud Alm D	18	Rly 4	Aud Alm D
6	Rly 3	Aud Alm C	19	Rly 3	Aud Alm C
7	Rly 2	Aud Alm B	20	Rly 2	Aud Alm B
8	N/C	Not Used	21	Rly 1	Aud Alm A
9	Rly 1	Aud Alm A	22	N/C	Not Used
10	N/C	Level B Cutoff	23	N/C	Cutoff Ground
11	N/C	Level A Cutoff	24	N/C	Cutoff Ground
12	N/C	Not Used	25	N/C	Not Used
13	N/C	Not Used			

Fig. E.10 – Pinout for 102 and 108 relay cards is identical

Relays

This option from the Audio/Visual Relay Diagnostics menu allows you to toggle on/off each of the relays. The table below shows the function keys available and their associated functions.



```
                          Relays

  RLY     State  RLY     State  RLY      State
 ------------------------------------------------
     1 [F1] Open    5 [F5] Open    9 [AF1] Open
     2 [F2] Open    6 [F6] Open   10 [AF2] Open
     3 [F3] Open    7 [F7] Open   11 [AF3] Open
     4 [F4] Open    8 [F8] Open   12 [AF4] Open

 Use the function keys to toggle the relays
```

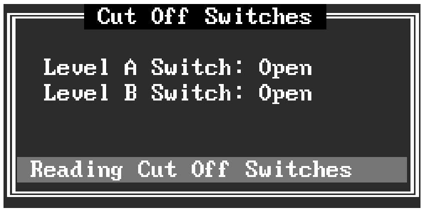
Fig. E.11 – A/V (108) relay diagnostic window

Table E.C - Key commands available in the Relays window

Function Key	Description
F1	Toggles Level A Audible relay.
F2	Toggles Level B Audible relay.
F3	Toggles Level C Audible relay.
F4	Toggles Level D Audible relay.
F5	Toggles Level A Visual relay.
F6	Toggles Level B Visual relay.
F7	Toggles Level C Visual relay.

Table E.C - Hot keys available in the Relays window (continued)

Function Key	Description
F8	Toggles Level D Visual relay.
Alt F1	Toggles General Purpose relay 1.
Alt F2	Toggles General Purpose relay 2.
Alt F3	Toggles General Purpose relay 3.
Alt F4	Toggles General Purpose relay 4.
Ctrl F1	Opens All relays.
Ctrl F2	Closes All relays.



Level A Switch: Open
Level B Switch: Open

Reading Cut Off Switches

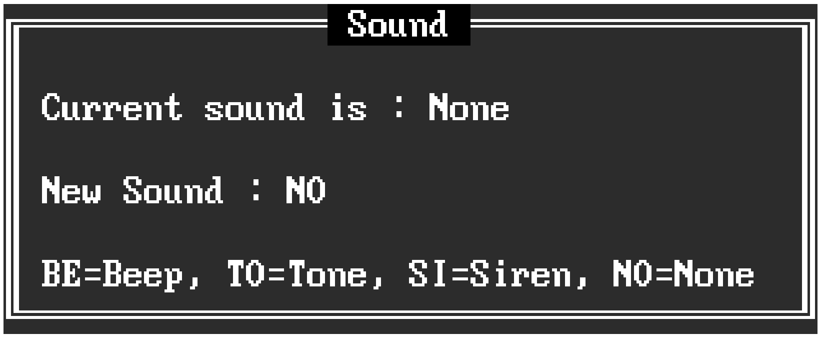
Fig. E.12 – Cut off switches diagnostic window

Cut Off Switches

This option will read each of the two cutoff switches located on the Audible Alarm Card. After reading the switches, this option will indicate if they are open or closed.

Table E.D - Hot keys available in the Cut Off Switches window

Function Key	Description
F10/Esc	Exit.



Current sound is : None

New Sound : NO

BE=Beep, TO=Tone, SI=Siren, NO=None

Fig. E.13 - Sound diagnostic window

This section and Table E.E apply to the 102 Relay card as well.

NOTE: T/MonXM will not use the sound on the 102 card.

Sound

This option will allow you to test each of the three different tones that the audible alarm card will generate. The three available tones and their corresponding letters are given in the following table.

Quit

This option will allow you to quit the Relay Diagnostics menu and return to the Diagnostics menu.

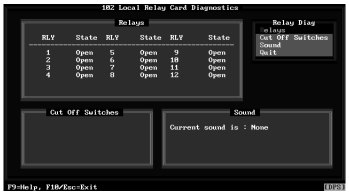
Table E.E - Test entry codes in the Sound window

Entry	Description
BE	Periodic beeping sound.
TO	Steady sound.
SI	High and low pitch sound.
NO	No Tone generated.
F10/Esc	Exit.

102 Relay Card (local)

The 102 Local Relay Card is identical to the 108 Relay Card but doesn't have an audible sounding device and is set for a different I/O location.

Relays
This option from the Relay Card Diagnostics menu allows you to toggle on/off each of the relays. The pin-out for the connectors on the 102 Relay Card are the same as those on the 108 Relay Card. Refer to Figure E.7. The table and window illustration on the next page show the function keys and their associated functions.

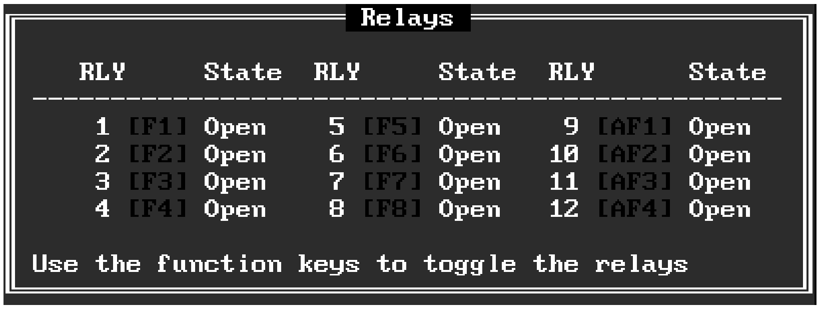


```
102 Local Relay Card Diagnostics

Relays
  RLY     State  RLY     State  RLY     State
  ---------------------------------------------
   1      Open    5      Open    9      Open
   2      Open    6      Open   10      Open
   3      Open    7      Open   11      Open
   4      Open    8      Open   12      Open

Cut Off Switches

Sound
Current sound is : None

F9=Help, F10/Esc=Exit                    [DPS]
```

Fig. E.14 – Local relay card diagnostics screen tests local relay functions

Table E.F - Key commands available in the 102 Local Relay Diagnostics screen

Function Key	Description
F9	Online help.
F10/Esc	Exit.



```
                         Relays

   RLY     State  RLY     State  RLY      State
 ------------------------------------------------
     1 [F1] Open    5 [F5] Open    9 [AF1] Open
     2 [F2] Open    6 [F6] Open   10 [AF2] Open
     3 [F3] Open    7 [F7] Open   11 [AF3] Open
     4 [F4] Open    8 [F8] Open   12 [AF4] Open

 Use the function keys to toggle the relays
```

Fig. E.15 – Local (102) relay diagnostics window

Table E.G - Key commands available in the Relays window

Function Key	Description
F1	Toggles relay 1 between open and closed.
F2	Toggles relay 2 between open and closed.
F3	Toggles relay 3 between open and closed.
F4	Toggles relay 4 between open and closed.
F5	Toggles relay 5 between open and closed.
F6	Toggles relay 6 between open and closed.
F7	Toggles relay 7 between open and closed.
F8	Toggles relay 8 between open and closed.
Alt F1	Toggles relay 9 between open and closed.
Alt F2	Toggles relay 10 between open and closed.
Alt F3	Toggles relay 11 between open and closed.
Alt F4	Toggles relay 12 between open and closed.
Ctrl F1	Opens All relays.
Ctrl F2	Closes All relays.

Cut Off Switches
Refer to Cut-Off Switches sub-section under the 108 Relay.

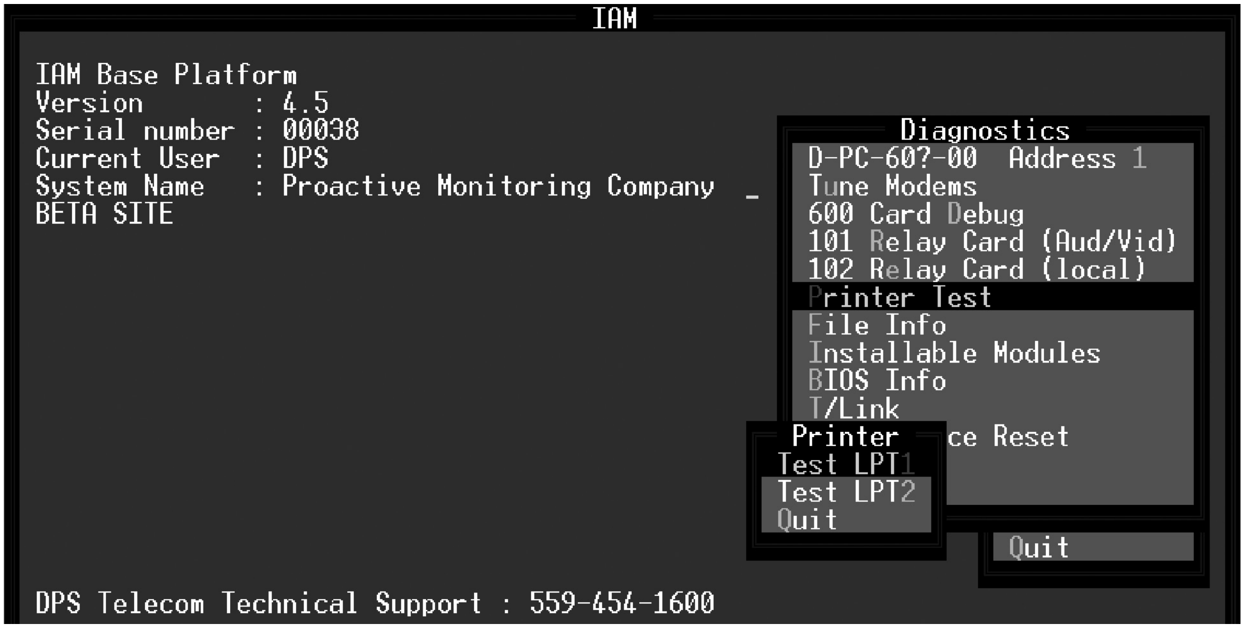
Sound
Refer to Sound sub-section under the 108 Relay.

Quit
This option will allow you to quit the Relay Diagnostics menu and return to the Diagnostics menu.

Printer Test

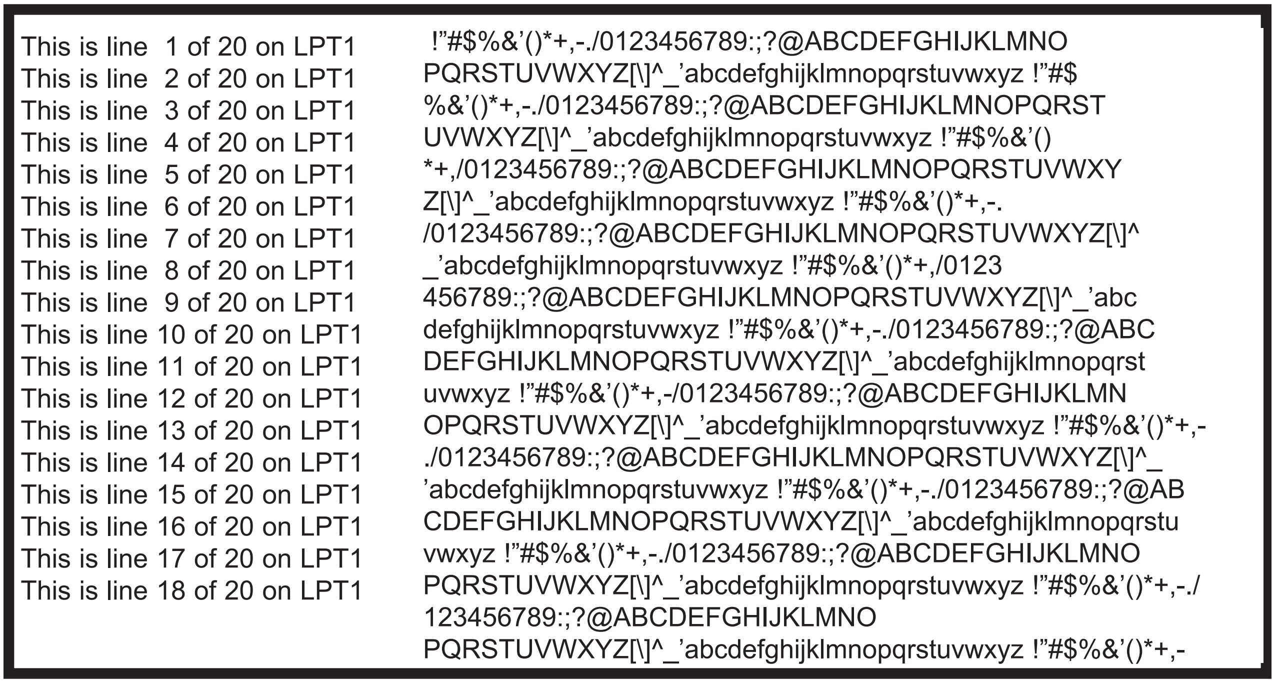
Printer Test is only valid for printers directly connected to the T/Mon or IAM-5 unit.

Selecting the Printer Test option from the Diagnostics menu will perform a quick test on any parallel printer connected to either LPT1 or LPT2 printer ports. When the Printer Test option is chosen, the following printer dump will be sent to the printer:



```
IAM

IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.16 – Select printer port to test from the printer test screen

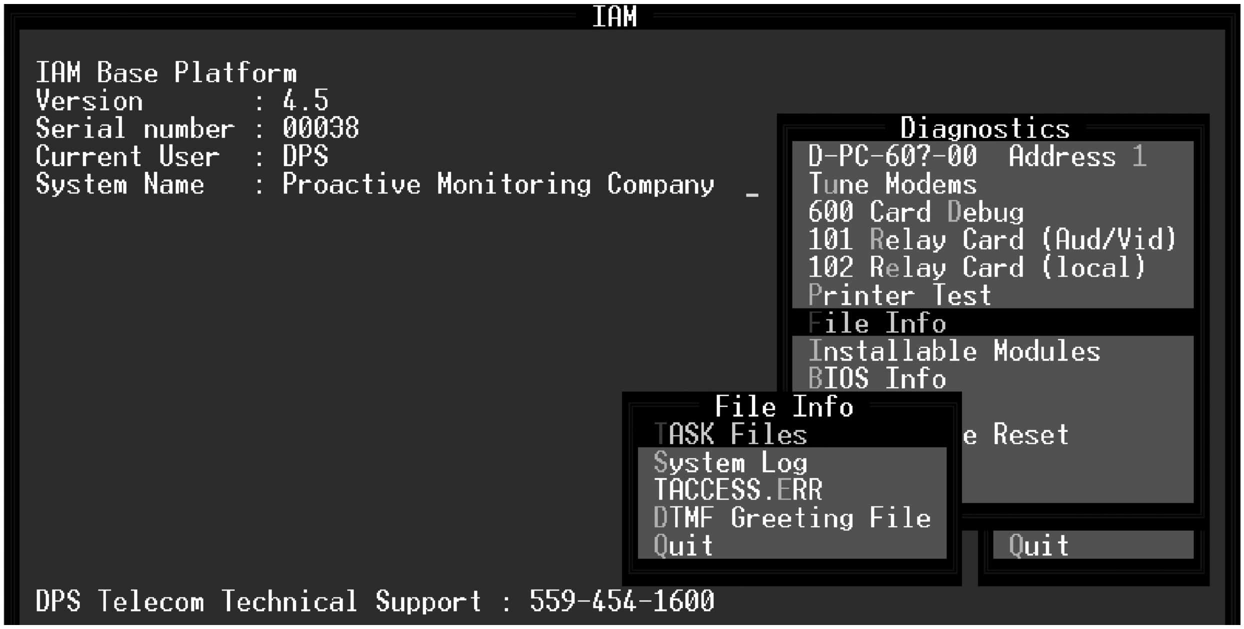


```
This is line  1 of 20 on LPT1     !”#$%&’()*+,-./0123456789:;?@ABCDEFGHIJKLMNO
This is line  2 of 20 on LPT1    PQRSTUVWXYZ[\]^_’abcdefghijklmnopqrstuvwxyz !”#$
This is line  3 of 20 on LPT1    %&’()*+,-./0123456789:;?@ABCDEFGHIJKLMNOPQRST
This is line  4 of 20 on LPT1    UVWXYZ[\]^_’abcdefghijklmnopqrstuvwxyz !”#$%&’()
This is line  5 of 20 on LPT1    *+,/0123456789:;?@ABCDEFGHIJKLMNOPQRSTUVWXY
This is line  6 of 20 on LPT1    Z[\]^_’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,-.
This is line  7 of 20 on LPT1    /0123456789:;?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^
This is line  8 of 20 on LPT1    _’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,/0123
This is line  9 of 20 on LPT1    456789:;?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_’abc
This is line 10 of 20 on LPT1    defghijklmnopqrstuvwxyz !”#$%&’()*+,-./0123456789:;?@ABC
This is line 11 of 20 on LPT1    DEFGHIJKLMNOPQRSTUVWXYZ[\]^_’abcdefghijklmnopqrst
This is line 12 of 20 on LPT1    uvwxyz !”#$%&’()*+,-/0123456789:;?@ABCDEFGHIJKLMN
This is line 13 of 20 on LPT1    OPQRSTUVWXYZ[\]^_’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,-
This is line 14 of 20 on LPT1    ./0123456789:;?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_
This is line 15 of 20 on LPT1    ’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,-./0123456789:;?@AB
This is line 16 of 20 on LPT1    CDEFGHIJKLMNOPQRSTUVWXYZ[\]^_’abcdefghijklmnopqrstu
This is line 17 of 20 on LPT1    vwxyz !”#$%&’()*+,-./0123456789:;?@ABCDEFGHIJKLMNO
This is line 18 of 20 on LPT1    PQRSTUVWXYZ[\]^_’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,-./
                                 123456789:;?@ABCDEFGHIJKLMNO
                                 PQRSTUVWXYZ[\]^_’abcdefghijklmnopqrstuvwxyz !”#$%&’()*+,-
```

Fig. E.17 – Example printer test printout

File Info

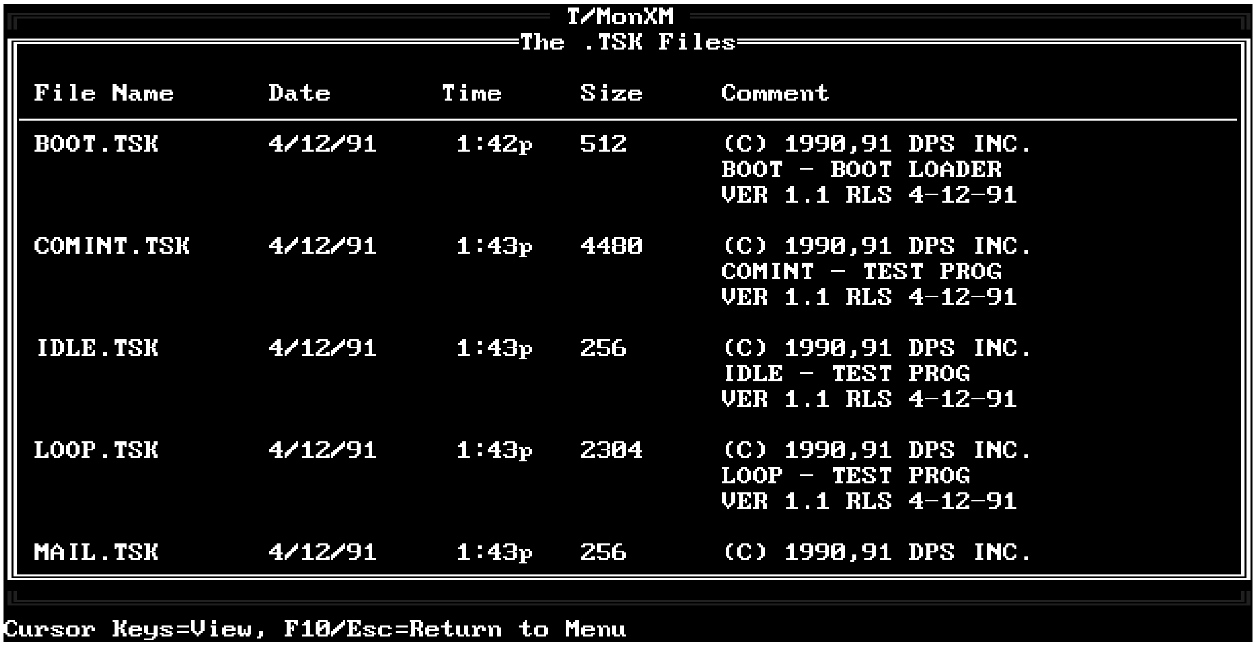
The File Info option in the Diagnostics menu will display the T/MonXM files that are in the current directory being used. This option allows you to read file information to a Technical Support person who is troubleshooting the system.



```
IAM

IAM Base Platform
Version        : 4.5
Serial number  : 00038
Current User   : DPS
System Name    : Proactive Monitoring Company _

DPS Telecom Technical Support : 559-454-1600
```

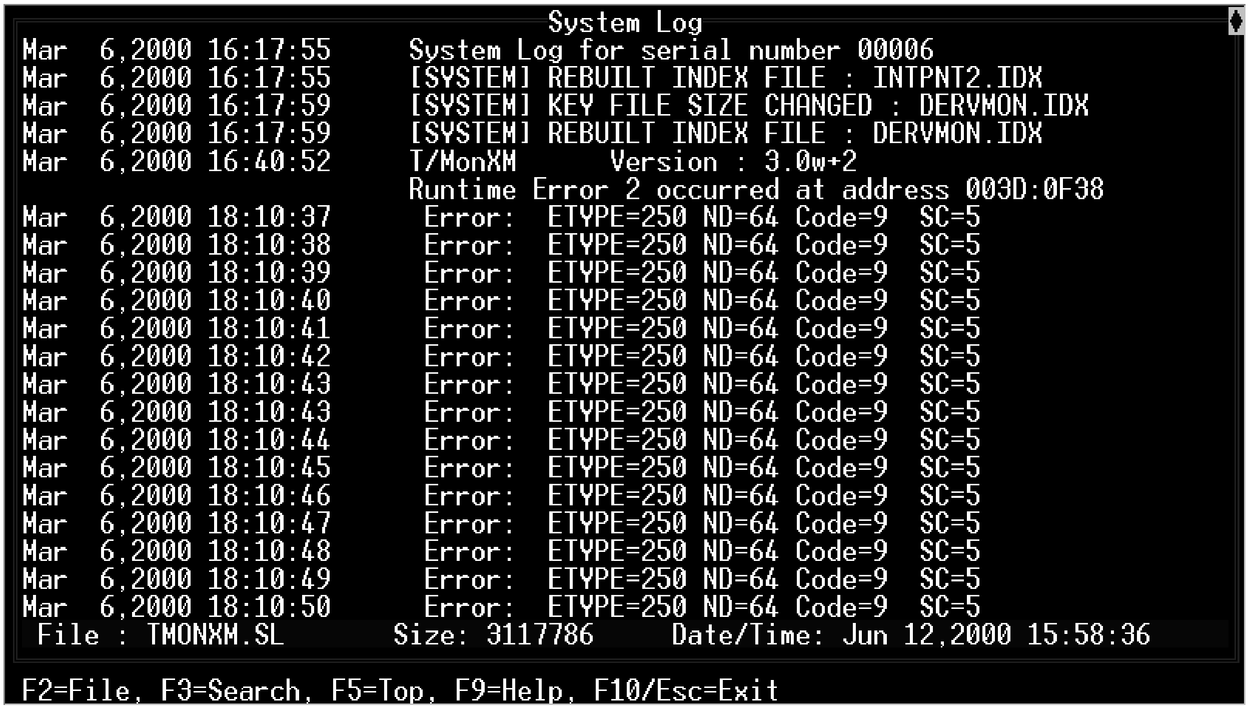
Fig. E.18 – The file info menu

TASK Files
Selecting TASK Files will provide you with a list of files that T/MonXM uses to download the 4-port intelligent controllers. The file name, the date and time the file was created, the size of the file, the version number and the file usage is shown on the screen.



```
                              T/MonXM
                           The .TSK Files

File Name       Date        Time      Size      Comment

BOOT.TSK        4/12/91      1:42p    512       (C) 1990,91 DPS INC.
                                                BOOT - BOOT LOADER
                                                VER 1.1 RLS 4-12-91

COMINT.TSK      4/12/91      1:43p    4480      (C) 1990,91 DPS INC.
                                                COMINT - TEST PROG
                                                VER 1.1 RLS 4-12-91

IDLE.TSK        4/12/91      1:43p    256       (C) 1990,91 DPS INC.
                                                IDLE - TEST PROG
                                                VER 1.1 RLS 4-12-91

LOOP.TSK        4/12/91      1:43p    2304      (C) 1990,91 DPS INC.
                                                LOOP - TEST PROG
                                                VER 1.1 RLS 4-12-91

MAIL.TSK        4/12/91      1:43p    256       (C) 1990,91 DPS INC.

Cursor Keys=View, F10/Esc=Return to Menu
```

Fig. E.19 – Task files window



```
                                    System Log
Mar  6,2000 16:17:55     System Log for serial number 00006
Mar  6,2000 16:17:55     [SYSTEM] REBUILT INDEX FILE : INTPNT2.IDX
Mar  6,2000 16:17:59     [SYSTEM] KEY FILE SIZE CHANGED : DERVMON.IDX
Mar  6,2000 16:17:59     [SYSTEM] REBUILT INDEX FILE : DERVMON.IDX
Mar  6,2000 16:40:52     T/MonXM      Version : 3.0w+2
                         Runtime Error 2 occurred at address 003D:0F38
Mar  6,2000 18:10:37      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:38      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:39      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:40      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:41      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:42      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:43      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:43      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:44      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:45      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:46      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:47      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:48      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:49      Error:  ETYPE=250 ND=64 Code=9  SC=5
Mar  6,2000 18:10:50      Error:  ETYPE=250 ND=64 Code=9  SC=5
 File : TMONXM.SL       Size: 3117786     Date/Time: Jun 12,2000 15:58:36

F2=File, F3=Search, F5=Top, F9=Help, F10/Esc=Exit
```

Fig. E.20 – The system log window

System Log

Selecting the System Log option from the File Info menu will display the System Log screen and allow you to view system activity. Information shown includes the date and time of entry, the version number, and a listing of errors.

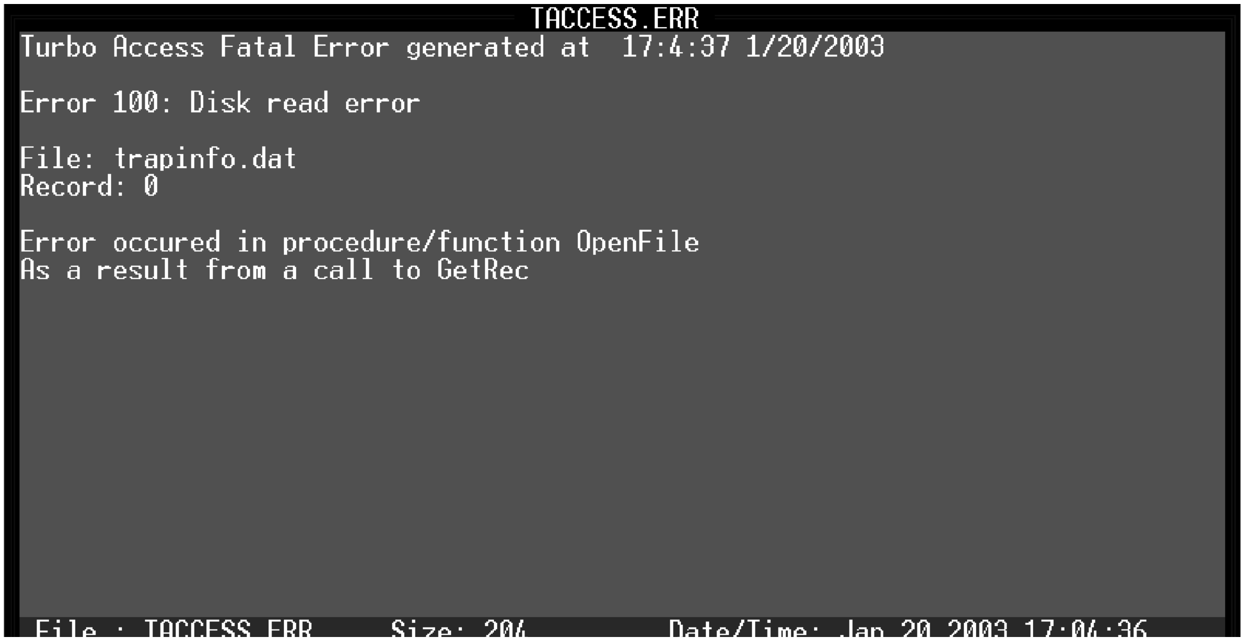
Pressing F9 (help) while at the System Log screen allows you see the function and cursor control keys. To view a file: Press F2 and place the cursor on the file name, then press Enter. The response on the screen will show the file name, file size, and date and time the file was created. The table below shows the function keys and their associated functions.

Table E.H - Key commands available in the Systems Log window

Function Key	Description
F2	Select a file to view.
F5	View the beginning of the file.
F9	Online help screen.
F10/Esc	Exit.
Up/Down Arrows	Move a line at a time.
PgUp/PgDn	Previous Page/Next Page. **Note:** If you page down past the buffer you may not be able to get to the top unless you press Home. T/Mon uses a 10k buffer for the incoming text from the System Log file.
Home (F5)	Move to the top of the file.
End (F6)	Move to the end of the file.
F3	Search for function.

T/ACCESS.ERR

The T/ACCESS.ERR option allows you to view the last disk access error generated by T/MonXM if an error condition should arise. The following information is displayed in the T/ACCESS.ERR file: file name, size of the file, date, time and location of the error(s). An example of the T/ACCESS.ERR screen is shown in Figure E.21.

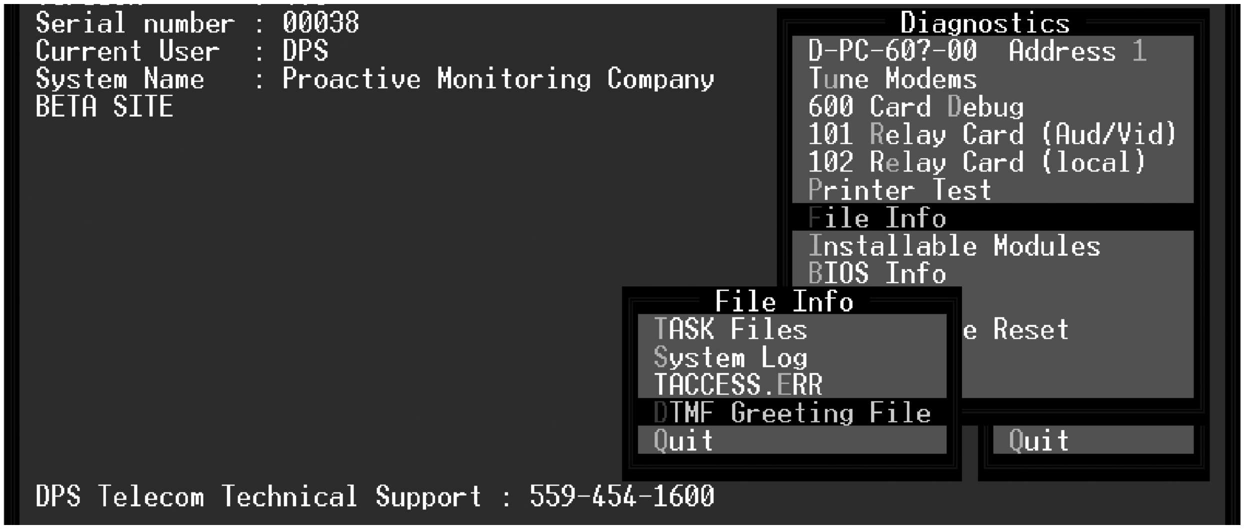


```
                              TACCESS.ERR
Turbo Access Fatal Error generated at  17:4:37 1/20/2003

Error 100: Disk read error

File: trapinfo.dat
Record: 0

Error occured in procedure/function OpenFile
As a result from a call to GetRec

 File : TACCESS.ERR     Size: 204         Date/Time: Jan 20 2003 17:04:36
```

Fig. E.21 – The TACCESS.ERR window

DTMF Greeting File

The DTMF Greeting File is used to answer the phone and send out info from the current greeting file. This file can be viewed on screen. This file is used in connection with building access and special hardware peripherals.



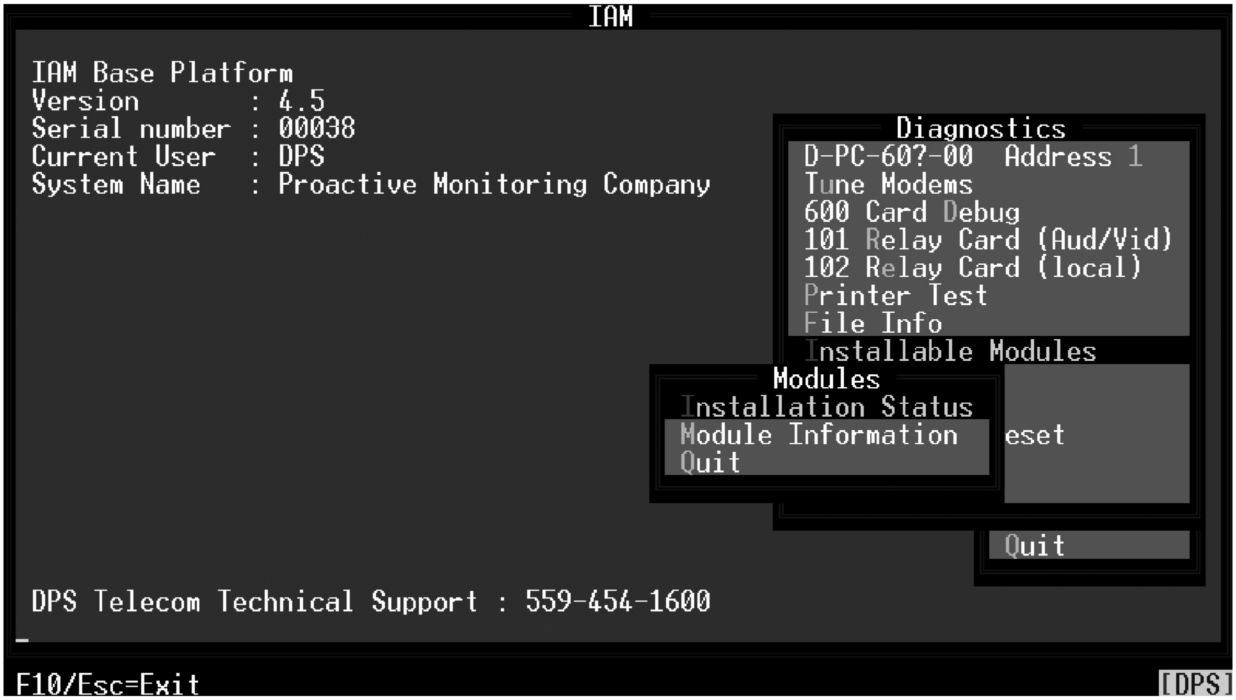
```
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.22 – The DTMF greeting file window

Installable Modules

Selecting the Installable Modules option from the Diagnostics menu will display the Modules menu. The Modules menu allows you to view software module installation status and provides module information.

Installation Status
Selecting the Installation Status option from the Modules menu will display a list of the modules this version of T/MonXM can support. It also indicates which modules are installed and their capability or capacity. See illustration of window in Figure E.24 and table of fields on the next page. Refer to the Software Module sections of this manual for more information on individual software modules.

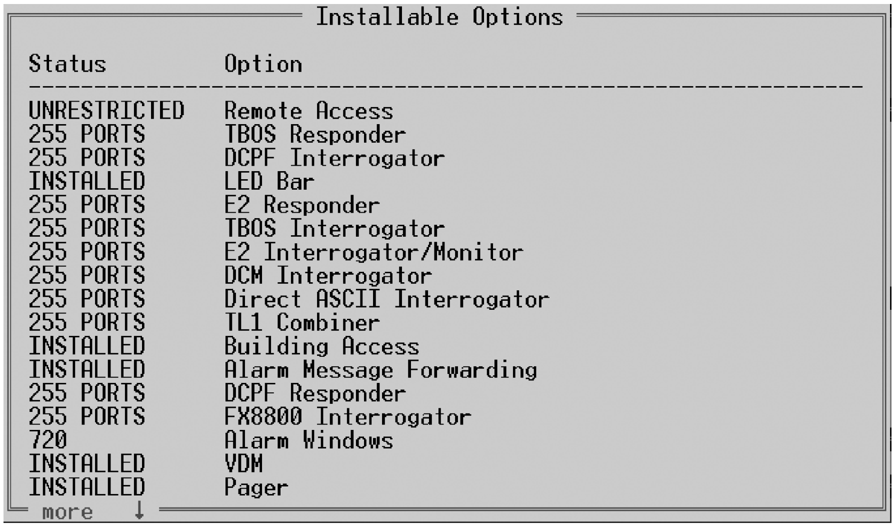


```
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.23 – The installable modules menu

Table E.I - Key commands available in the Installable Options window

Function Key	Description
PgUp	Move up one page.
PgDn	Move down one page.
Home	Go to beginning of Installable Options screen.
End	Go to end of Installable Options screen.
Up Arrow	Move up one line.
Down Arrow	Move down one line.



```
═══════════════════ Installable Options ══════════════════

Status          Option
------------------------------------------------------------------
UNRESTRICTED    Remote Access
255 PORTS       TBOS Responder
255 PORTS       DCPF Interrogator
INSTALLED       LED Bar
255 PORTS       E2 Responder
255 PORTS       TBOS Interrogator
255 PORTS       E2 Interrogator/Monitor
255 PORTS       DCM Interrogator
255 PORTS       Direct ASCII Interrogator
255 PORTS       TL1 Combiner
INSTALLED       Building Access
INSTALLED       Alarm Message Forwarding
255 PORTS       DCPF Responder
255 PORTS       FX8800 Interrogator
720             Alarm Windows
INSTALLED       VDM
INSTALLED       Pager
 more   ↓
```

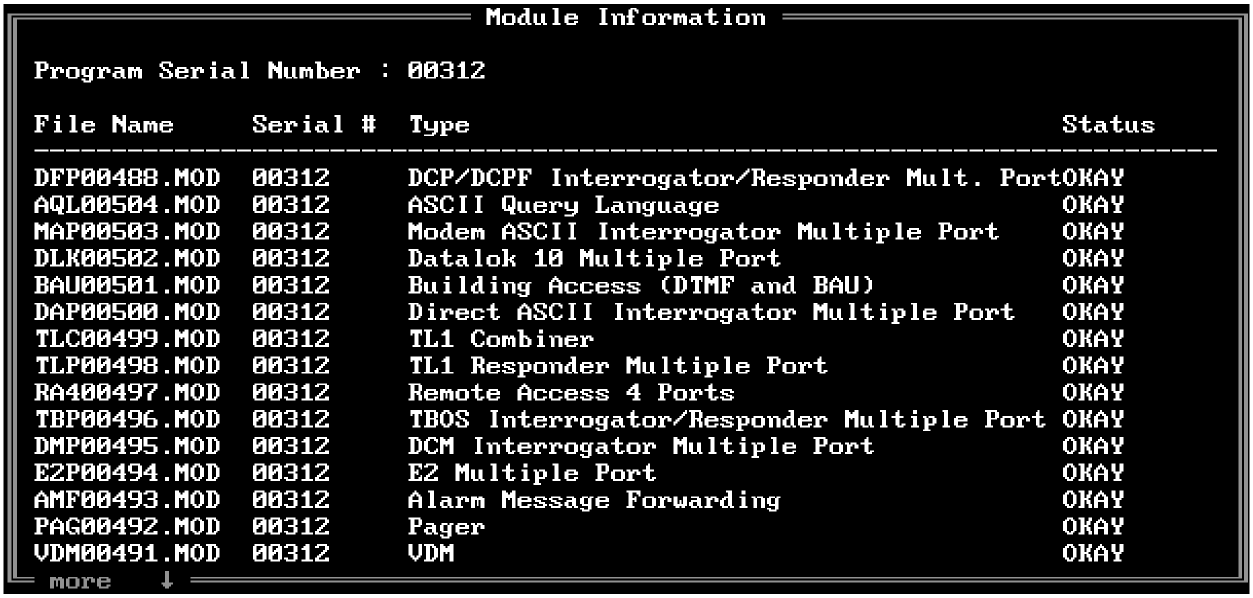
Fig. E.24 – Installation status window

Table E.J - Fields in the Installation Status window

Field	Description
Status	Indicates if option is installed and capacity: •Not Installed = Option not available, module not installed •Installed = Option is available •Unrestricted = Option available with no capacity restrictions •### = Option is available the number of times stated •# Ports = Number of ports the option covers (capacity).
Option	Description of the option.

Module Information

Selecting the Module Information option from the Modules menu displays information about optional software modules that have been installed. This list includes only the modules present on the system. Refer to the Software Module sections of this manual for more information.



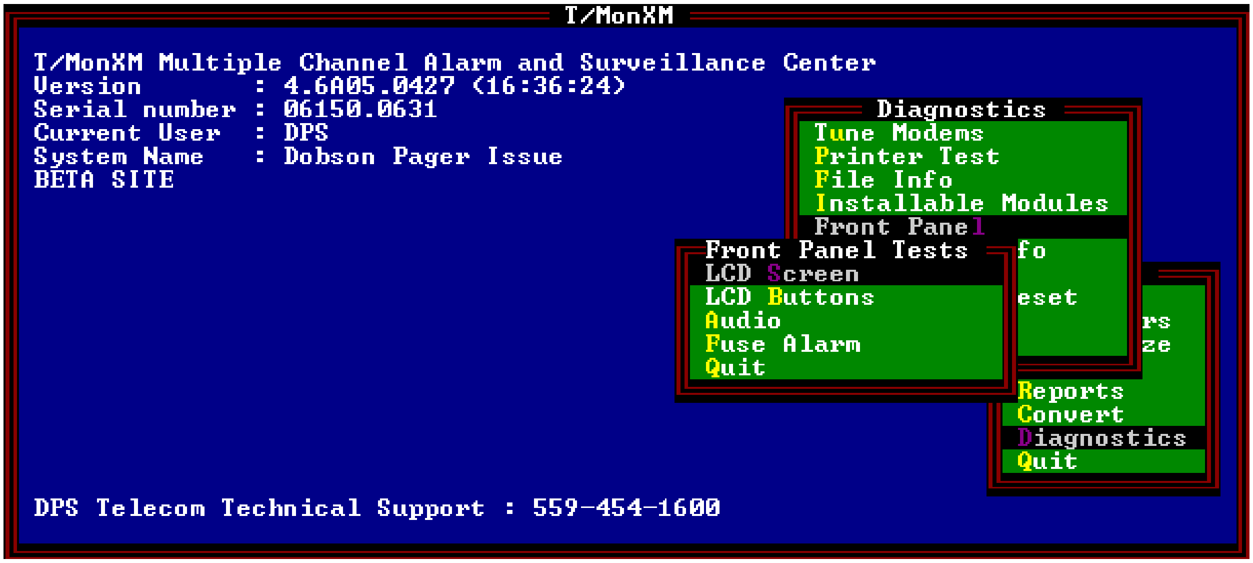
```
                              Module Information

 Program Serial Number : 00312

 File Name     Serial #  Type                                    Status
 ----------------------------------------------------------------------------
 DFP00488.MOD  00312     DCP/DCPF Interrogator/Responder Mult. PortOKAY
 AQL00504.MOD  00312     ASCII Query Language                    OKAY
 MAP00503.MOD  00312     Modem ASCII Interrogator Multiple Port  OKAY
 DLK00502.MOD  00312     Datalok 10 Multiple Port                OKAY
 BAU00501.MOD  00312     Building Access (DTMF and BAU)          OKAY
 DAP00500.MOD  00312     Direct ASCII Interrogator Multiple Port OKAY
 TLC00499.MOD  00312     TL1 Combiner                            OKAY
 TLP00498.MOD  00312     TL1 Responder Multiple Port             OKAY
 RA400497.MOD  00312     Remote Access 4 Ports                   OKAY
 TBP00496.MOD  00312     TBOS Interrogator/Responder Multiple Port OKAY
 DMP00495.MOD  00312     DCM Interrogator Multiple Port          OKAY
 E2P00494.MOD  00312     E2 Multiple Port                        OKAY
 AMF00493.MOD  00312     Alarm Message Forwarding                OKAY
 PAG00492.MOD  00312     Pager                                   OKAY
 VDM00491.MOD  00312     VDM                                     OKAY
 more  ↓
```

Fig. E.25 – Module information window

Front Panel Test

Note: The following section appears only on T/MonXM.

Selecting the Front Panel option from the Diagnostics menu will display the Front Panel Tests menu. This menu will allow you to run diagnostic tests on the front panel of the T/Mon NOC. The Front Panel menu option is only accessible on T/Mon NOC systems. It is necessary to be located in front of the T/Mon NOC when performing these tests in order to determine the results of the test (i.e. audio, screen drawing etc…).

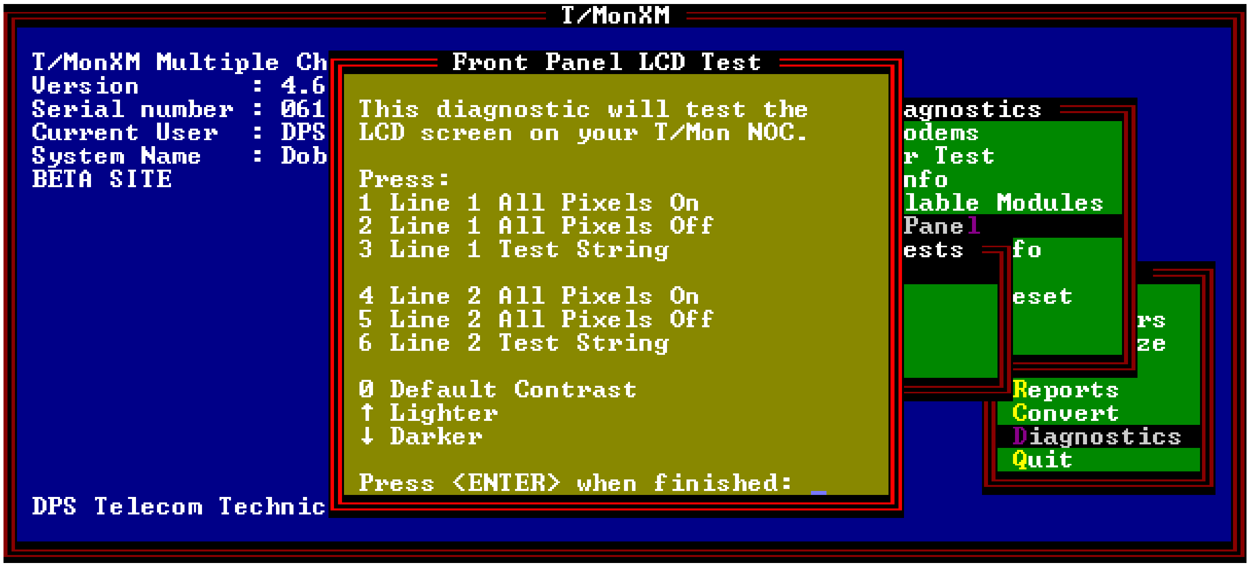


```
                                   T/MonXM
 T/MonXM Multiple Channel Alarm and Surveillance Center
 Version        : 4.6A05.0427 (16:36:24)
 Serial number  : 06150.0631
 Current User   : DPS
 System Name    : Dobson Pager Issue
 BETA SITE

 DPS Telecom Technical Support : 559-454-1600
```

Fig. E.26 – The Front Panel Test menu

LCD Screen

Selecting the LCD Screen option from the Front Panel Tests menu will display a list of diagnostic tests to perform on the front panel LCD. These tests include screen drawing and contrast changes.



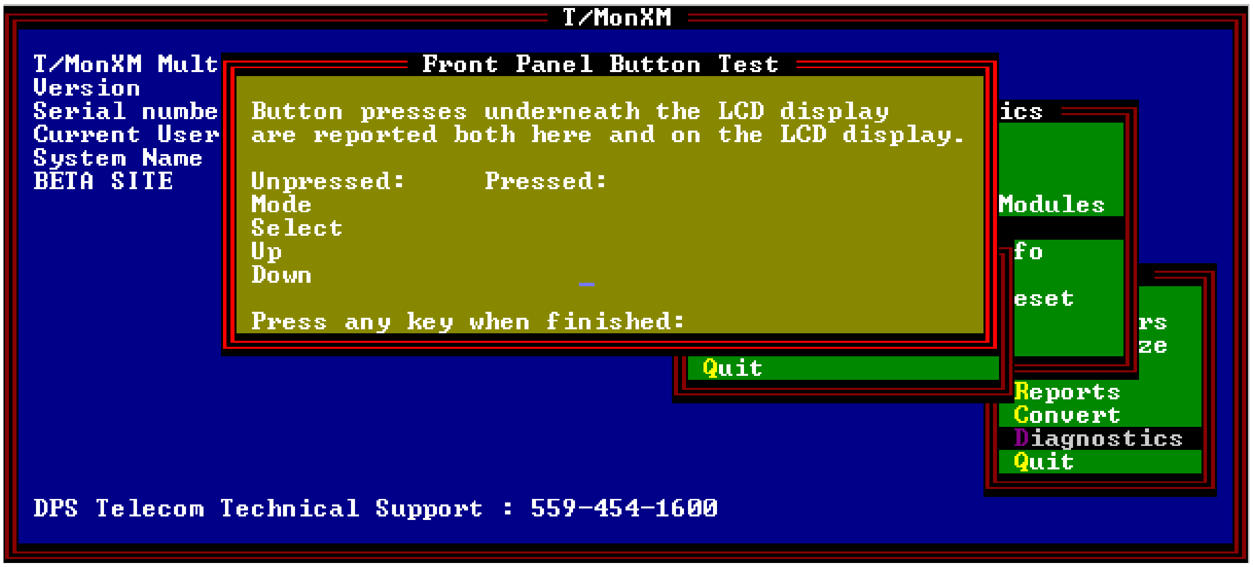
```
T/MonXM Multiple Ch
Version          : 4.6
Serial number    : 061
Current User     : DPS
System Name      : Dob
BETA SITE

DPS Telecom Technic
```

```
Front Panel LCD Test

This diagnostic will test the
LCD screen on your T/Mon NOC.

Press:
1 Line 1 All Pixels On
2 Line 1 All Pixels Off
3 Line 1 Test String

4 Line 2 All Pixels On
5 Line 2 All Pixels Off
6 Line 2 Test String

0 Default Contrast
↑ Lighter
↓ Darker

Press <ENTER> when finished: _
```

Fig. E.27 – The Front Panel LCD Test screen

LCD Buttons

Selecting the LCD Buttons option from the Front Panel Tests menu will display the status of each LCD button. Pressing the buttons should alter their status.



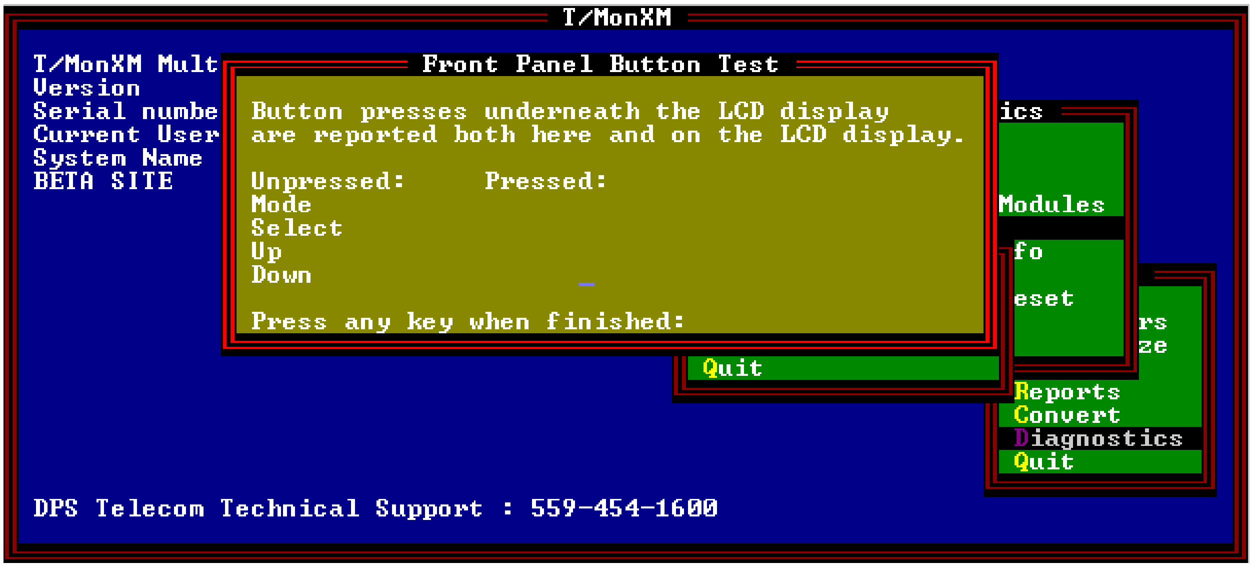
```
T/MonXM Mult
Version
Serial numbe
Current User
System Name
BETA SITE

DPS Telecom Technical Support : 559-454-1600
```

```
Front Panel Button Test

Button presses underneath the LCD display
are reported both here and on the LCD display.

Unpressed:     Pressed:
Mode
Select
Up
Down                 _

Press any key when finished:
```

Fig. E.28 – The Front Panel Button Test screen

Audio

Selecting the Audio option from the Front Panel Tests menu will display a list of diagnostic tests to perform on the front panel sound system. These tests include tone changes.

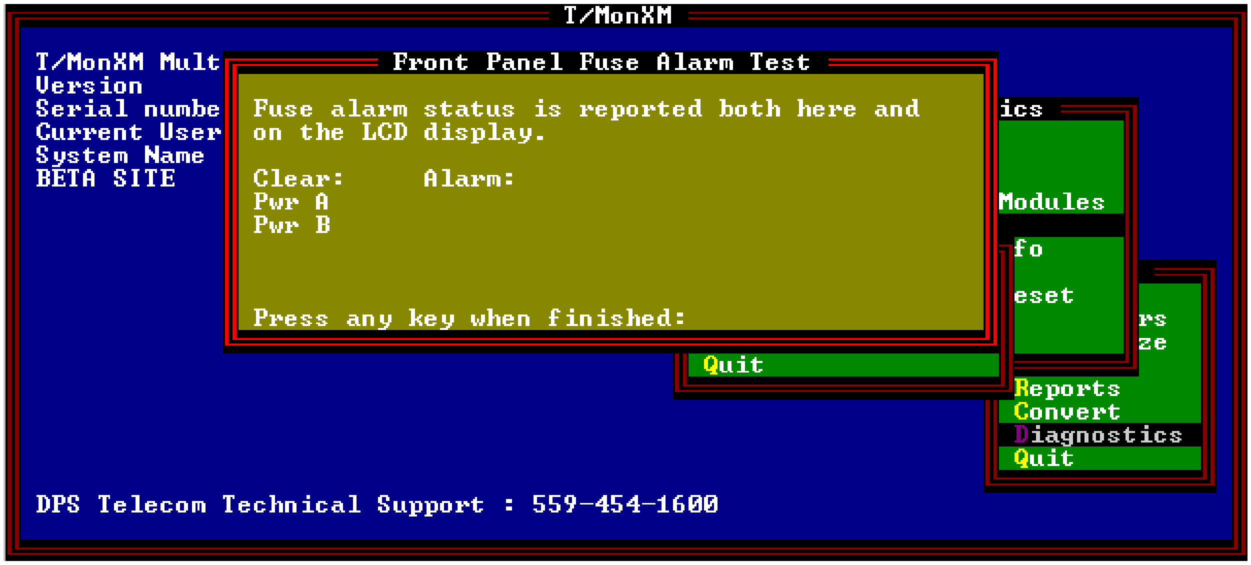


```
T/MonXM
T/MonXM Mult    Front Panel Button Test
Version
Serial numbe    Button presses underneath the LCD display
Current User    are reported both here and on the LCD display.
System Name
BETA SITE       Unpressed:     Pressed:
                Mode
                Select
                Up
                Down

                Press any key when finished:

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.29 – The Front Panel Audio Test screen

Fuse Alarm

Selecting the Fuse Alarm option from the Front Panel Tests menu will display the status of each fuse. Removing a fuse or inserting a blown fuse should alter their status.

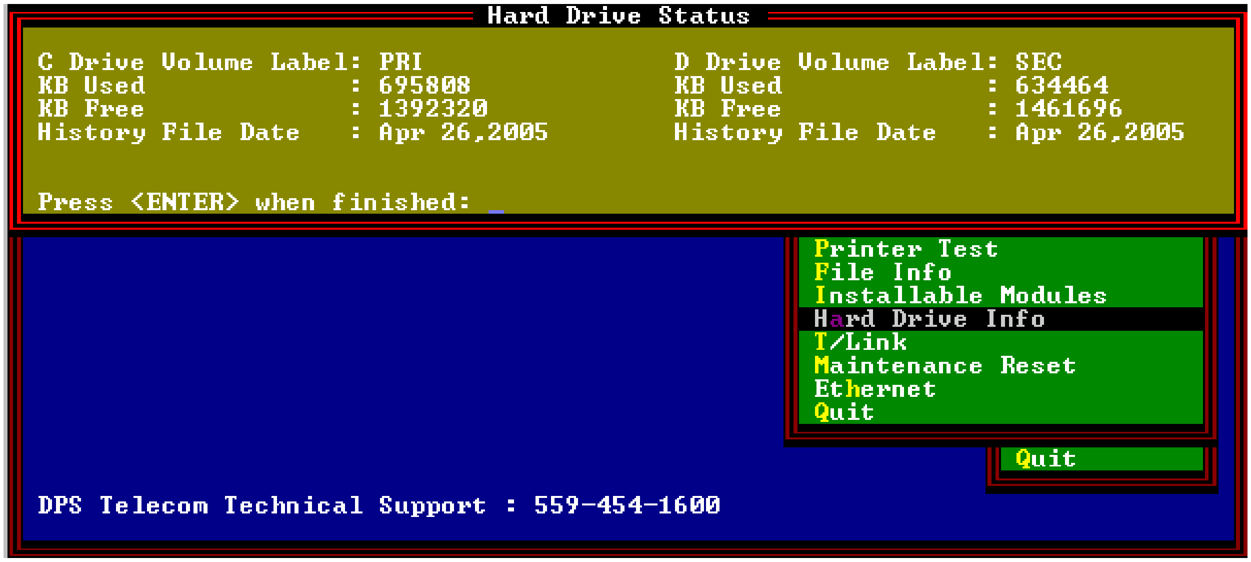


```
T/MonXM
T/MonXM Mult    Front Panel Fuse Alarm Test
Version
Serial numbe    Fuse alarm status is reported both here and
Current User    on the LCD display.
System Name
BETA SITE       Clear:     Alarm:
                Pwr A
                Pwr B

                Press any key when finished:

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.30 – The Front Panel Fuse Alarm Test screen

Hard Drive Info

Selecting Hard Drive Info from the Diagnostics Menu will allow you to view the status of about the disk drives of your T/Mon. The volume label, disk usage, and the last time the history file was updated are all included.

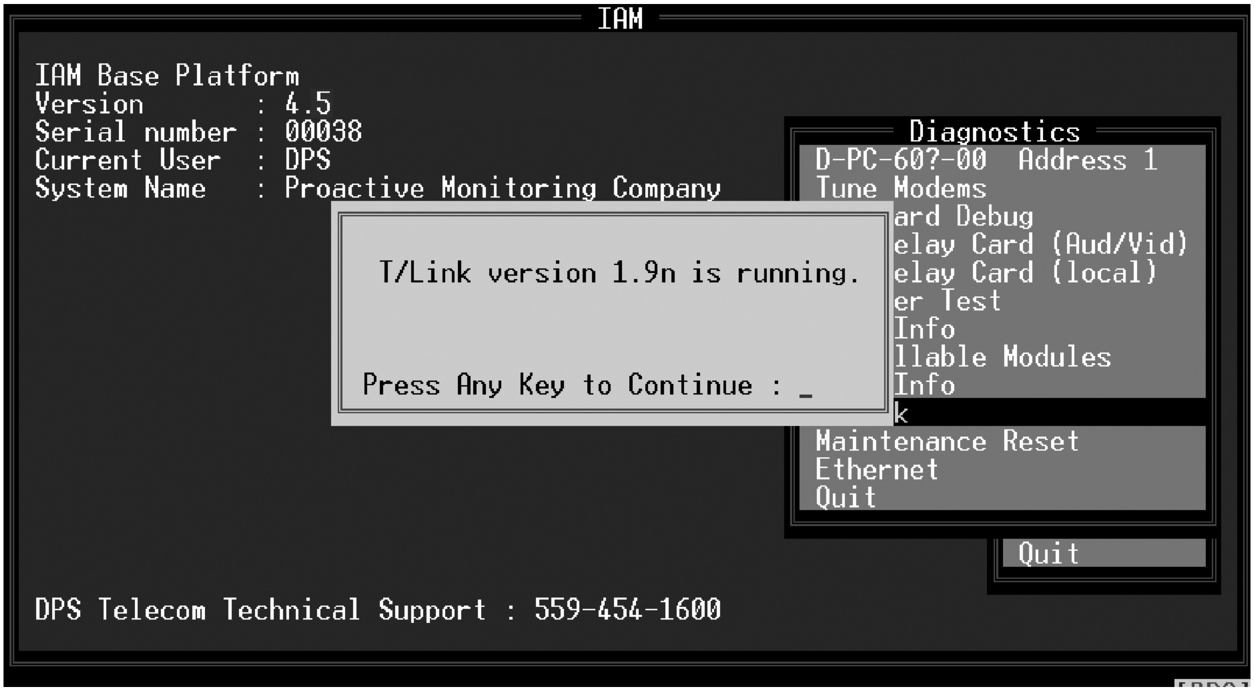


```
                              Hard Drive Status
C Drive Volume Label: PRI                D Drive Volume Label: SEC
KB Used             : 695808             KB Used             : 634464
KB Free             : 1392320            KB Free             : 1461696
History File Date   : Apr 26,2005        History File Date   : Apr 26,2005

Press <ENTER> when finished: _

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.31 – The Front Panel Fuse Alarm Test screen

T/Link

This T/Link screen is used only to verify the version of T/Link you are running in the case DPS Technical Support needs it. T/Link is used to remotely connect and control a T/MonXM master. See W/ Shell documents for additional information.

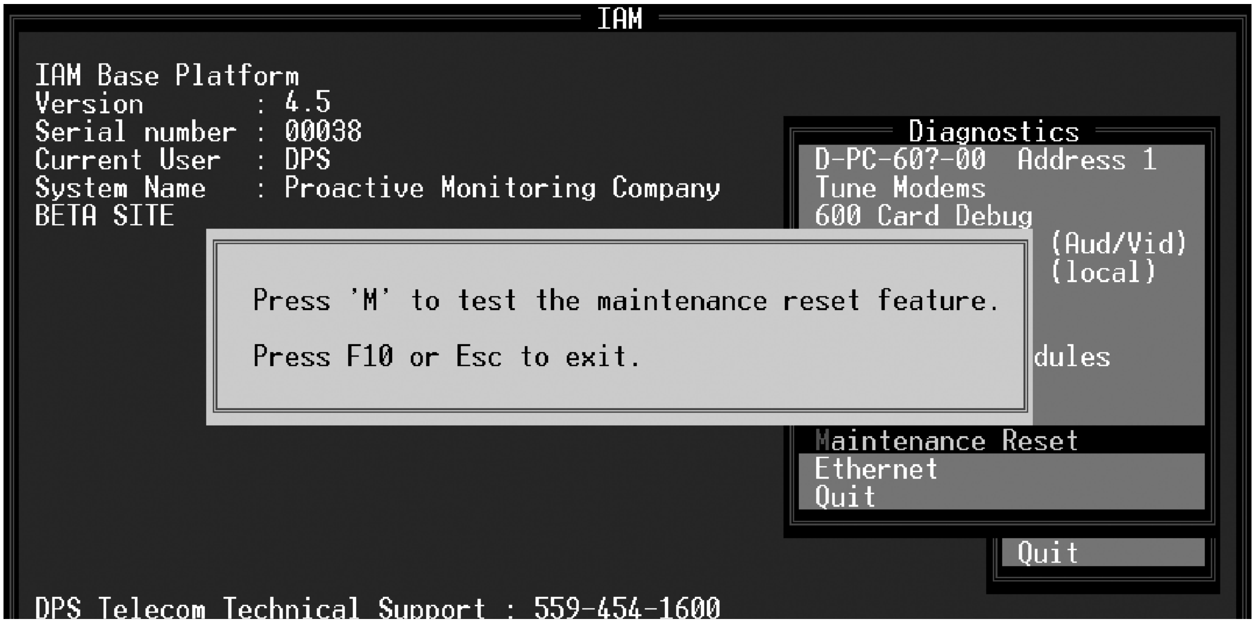


```
                              IAM
IAM Base Platform
Version       : 4.5
Serial number : 00038
Current User  : DPS
System Name   : Proactive Monitoring Company

  T/Link version 1.9n is running.

 Press Any Key to Continue : _

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.32 – The T/Link screen

Maintenance Reset

This function tests the watchdog reset function of the 108 Card. It causes the system to reset (cold boot). To run this test highlight Maintenance Reset in the Diagnostics menu and press Enter. Press M to test. Press F10/Esc to abort.

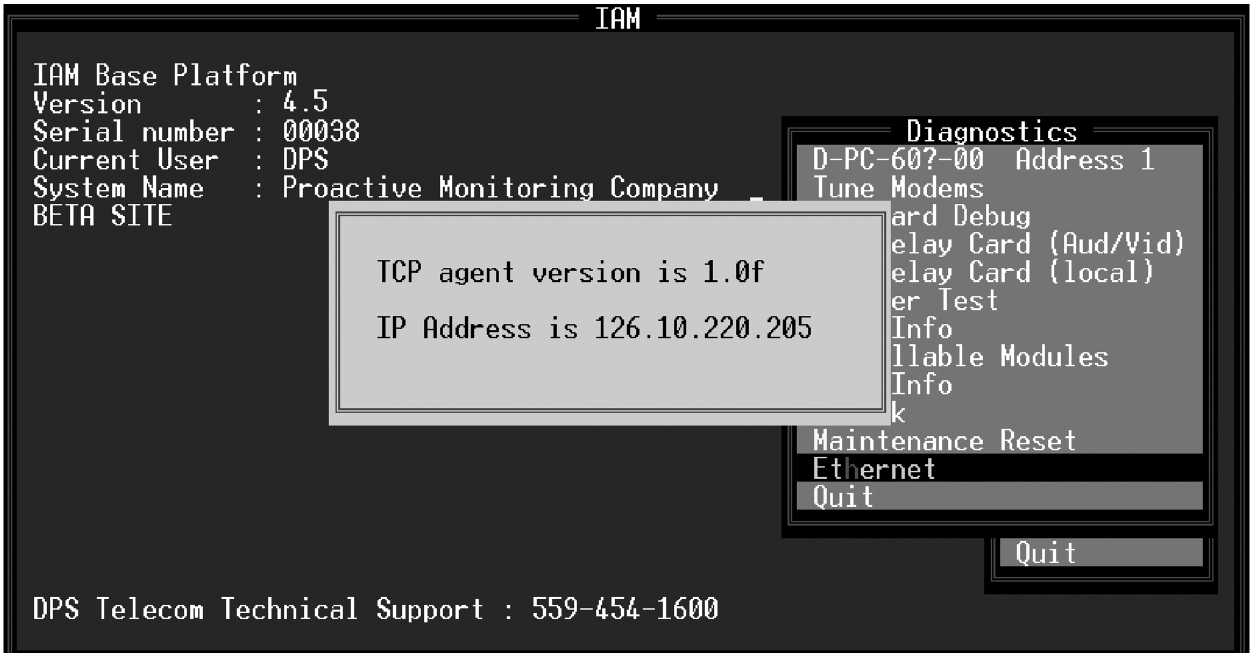


```
IAM Base Platform
Version        : 4.5
Serial number  : 00038
Current User   : DPS
System Name    : Proactive Monitoring Company
BETA SITE

   Press 'M' to test the maintenance reset feature.

   Press F10 or Esc to exit.

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.33 – Select maintenance reset from the diagnostics menu

Ethernet

The ethernet screen is used to verify the version of the installed TCP agent and IP address of T/Mon.



```
IAM Base Platform
Version        : 4.5
Serial number  : 00038
Current User   : DPS
System Name    : Proactive Monitoring Company
BETA SITE

   TCP agent version is 1.0f

   IP Address is 126.10.220.205

DPS Telecom Technical Support : 559-454-1600
```

Fig. E.28 – Ethernet menu item shows TCP agent version

Appendix F
Disk Files

Program Files

The release disk contains the following files:

IAM.EXE	IAM executable files.
TMONXM.EXE	T/MonXM executable files.
TMONXM2.EXE	
TASK.TSK	
BOOT.TSK	4 Channel Communication controller file.
REMOTE.TSK	4 Terminal Controller file.
TEST.TSK	4 Channel and 4 Terminal Controller diagnostic files.
COMINT.TSK	
MLECHO.TSK	
LOOP.TSK	
IDLE.TSK	
MAIL.TSK	

Database Files

As the system is used, the following files will be created in the T/MonXM account:

CTLCAT.DAT	Labeled Controls Files
CTLCAT.IDX	
CTLPNT.IDX	
CTLPNT.DAT	
DCTL2.DAT	Miscellaneous Files
DCTL2.IDX	

XMPNT.DAT	Point Files
XMPNT.IDX	
DEVADD.IDX	Address Files
DEVADD2.DAT	
DEVADD3.IDX	
EMHIST2.IDX	History Files
EMHIST2.DAT	
XMLIVE.DAT	Live Files
XMLVDAT.IDX	
XMLVDITEM.IDX	
EMMSG.DAT	Text Messages File
EMWIN.DAT	Window Files
EMWIN.IDX	
TMONEM.DAT	Program Data File
TRB.DAT	Trouble Log Files
TRBDATE.IDX	
TRBPNT.IDX	

Note: As the system is used, the names of the configuration files in the T/MonXM account follow the standard rule “SYSTEMNAME. EXT”.

Appendix H Troubleshooting

This section is an overview of the most common software problems that may arise when installing and running T/MonXM. The error codes listed below are broken into two sections, Run-Time Errors and Security Errors. Each will give a description of what the error code means and the course of action that needs to be taken to alleviate the problem.

Run-Time Errors

Run-time errors cause the program to display an error message and terminate. A run-time error will be displayed in the following format:

Run-time error nnn at xxxx:yyyy

The nnn is the run-time error number, and xxxx:yyyy is the run-time error address (segment and offset).

Table H.A - Common software error codes, descriptions and actions

Error Code	Description	Action
1	Invalid file handle.	Contact DPS.
2	File not found.	Contact DPS.
3	Path not found.	Contact DPS.
4	Too many open files.	Check CONFIG.SYS for the entry "FILES=200." Files should be 200.
5	File access error.	Error reading file. Corrupt file or bad media.
6	Invalid file handle.	Contact DPS.
12	Invalid file access.	Contact DPS.
15	Invalid drive number.	Contact DPS.
16	Cannot remove current directory.	Contact DPS.
17	Cannot rename across drives.	Contact DPS.
18	No more files.	Contact DPS.
100	Disk read error.	Contact DPS.
101	Disk write error.	Contact DPS.
102	File not assigned.	Contact DPS.
103	File not open.	Contact DPS.
104	File not open for input.	Contact DPS.
105	File not open for output.	Contact DPS.
106	Invalid numeric format.	Contact DPS.
150	Disk is write-protected.	Remove write protect tab.
152	Drive not ready.	Check drive. Make sure that the door on drive is closed.

Note: Table H.A continues on following page.

Table H.A - Common software error codes, descriptions and actions continued

Error Code	Description	Action
154	CRC error in data.	Media problem.
158	Sector not found.	Media problem.
159	Printer out of paper.	Check the printer and its cables.
160	Device write fault.	Check the drive and its cables.
161	Device read fault.	Check the drive and its cables.
162	Hardware failure.	Media problem.
198	Hardware failure.	Problem communicating with all remote cards
201	Out of range variable.	Contact DPS.
202	Stack overflow error.	Contact DPS.
203	Heap overflow error. Not enough memory.	Contact DPS.
216	General protection fault	Contact DPS.

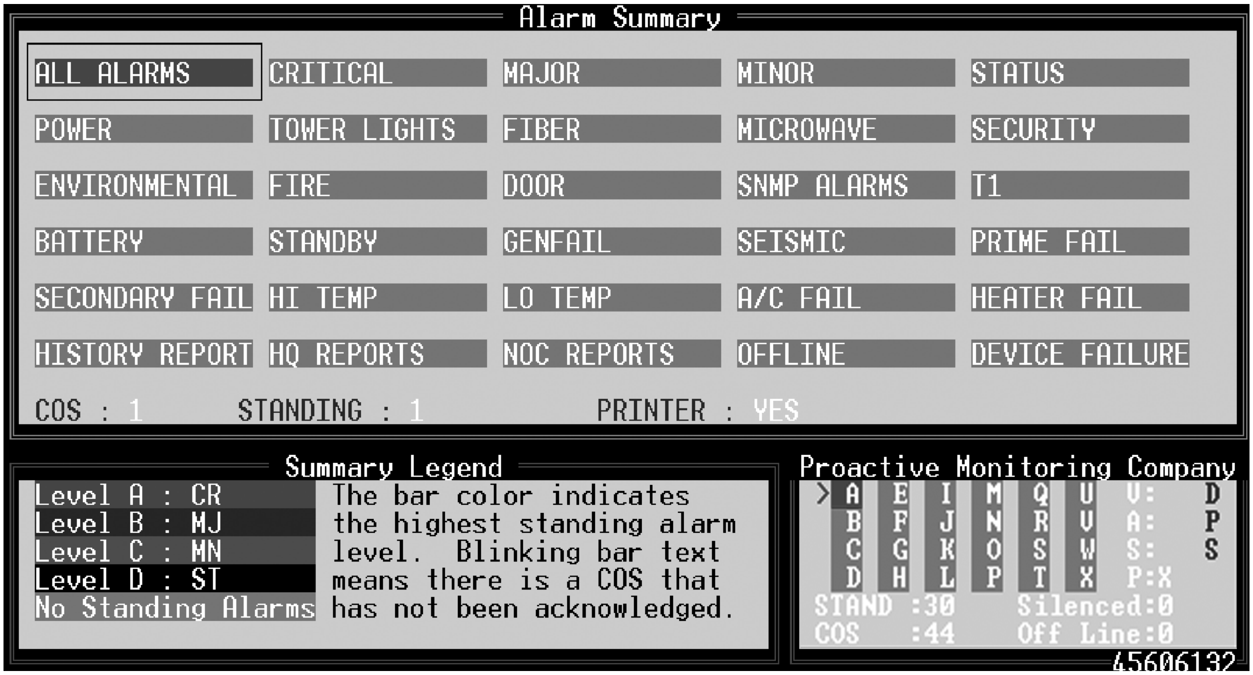
Security Errors

Table H.B - Common security error codes, descriptions and actions

Error Code	Description	Action
7010	Running under pre-DOS 2.0 operating system.	Reboot system with DOS 5.0 or later and rerun.
7024	Same program, different serial number with protection already on disk.	Contact distributor.
7034	Media contains no protection. Hardware may not be compatible with software.	Contact distributor.

Note: If any of these problems continue to exist after attempts to correct them, be sure to write down the “complete” error message. Please note what you were doing just prior to when the error occurred before contacting the distributor.

Appendix I
Quick Reference Tables



```
                         Alarm Summary
ALL ALARMS      CRITICAL      MAJOR        MINOR         STATUS
POWER           TOWER LIGHTS  FIBER        MICROWAVE     SECURITY
ENVIRONMENTAL   FIRE          DOOR         SNMP ALARMS   T1
BATTERY         STANDBY       GENFAIL      SEISMIC       PRIME FAIL
SECONDARY FAIL  HI TEMP       LO TEMP      A/C FAIL      HEATER FAIL
HISTORY REPORT  HQ REPORTS    NOC REPORTS  OFFLINE       DEVICE FAILURE
COS : 1      STANDING : 1            PRINTER : YES

           Summary Legend                      Proactive Monitoring Company
Level A : CR        The bar color indicates     > A  E  I  M  Q  U  V:    D
Level B : MJ        the highest standing alarm    B  F  J  N  R  V  A:    P
Level C : MN        level.  Blinking bar text     C  G  K  O  S  W  S:    S
Level D : ST        means there is a COS that     D  H  L  P  T  X  P:X
No Standing Alarms  has not been acknowledged.  STAND :30    Silenced:0
                                                COS   :44    Off Line:0
                                                                 45606132
```

Fig. I.1 - Alarm Summary Mode screen

Alarm Summary Mode Quick Reference

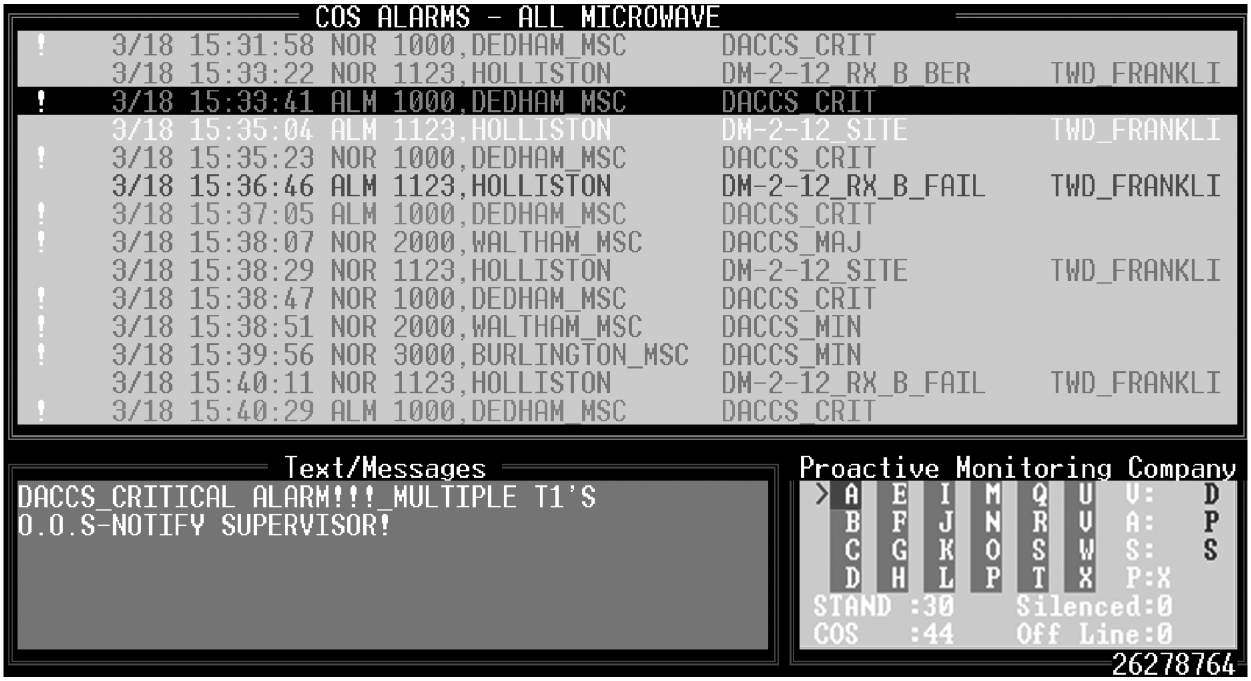
Alphabetic Listing of Key Commands

Alarm Indicator Control	Alt-F1
ASCII Analyzer	Shift-F7
Building Access Statistics	Ctrl-F3
Channel Summary	Alt-F9
Chat Mode	Ctrl-F9
Site Controls Screen (based on selected window)	F8
COS Alarms Mode	F3
Craft Mode	Ctrl-F7
Datalok Analogs	Shift-F8
DCPF Network	Shift-F10
Dialup Control	Shift-F4
English Analyzer Mode	Alt-F5
Log Off/Return to Master Menu	Esc/F10
Help Screen	F9
Labeled Controls	Ctrl-F8
Legend Window	F5
Pager Control/Status	Shift- F3
Performance/Statistics Window	F6
Protocol Analyzer Mode	Alt-F8
Report Menu Mode	Alt-F7

Reset Performance Statistics	Alt-F2
Set English Filter Window	Ctrl-F5
Silence Window Status	Alt-F3
Site Statistics	Shift-F6
Standing/Live Alarms Mode	F4
System Information Window	Ctrl-F6
TL1 Observation Mode	Ctrl-F2
Toggle Local Sound	Ctrl-F4
Toggle Printer Logging	Ctrl-F1
VDM Control	Shift-F5
X.25 Stats	Shift-F2
View the list of silenced items	Alt-F4

Table I.A - Key commands available in the Alarm Summary Mode screen

Key		Ctrl-	Alt-	Shift-
F1		Toggle Printer Logging	Alarm Indicator Control	
F2		TL1 Observation Mode	Reset Performance Statistics	X.25 Stats
F3	COS Alarms Mode	Building Access Status	Silence Window	Pager Status Control
F4	Standing Alarms Mode	Toggle Local Sound	Silenced Status	Dialup Control
F5	Summary Legend Window	Set English Filter	English Analyzer Mode	VDM Control
F6	Performance/ Statistics	System Information		Site Statistics
F7		Craft Mode	Report Menu Mode	ASCII Analyzer
F8	Site Controls	Labeled Controls	Protocol Analyzer Mode	Datalok Analogs
F9	Help Screen	Chat Mode	Channel Summary	
F10				DCP(F) Network



```
                    COS ALARMS - ALL MICROWAVE
 !    3/18 15:31:58 NOR 1000,DEDHAM_MSC      DACCS_CRIT
      3/18 15:33:22 NOR 1123,HOLLISTON       DM-2-12_RX_B_BER     TWD_FRANKLI
 !    3/18 15:33:41 ALM 1000,DEDHAM_MSC      DACCS_CRIT
      3/18 15:35:04 ALM 1123,HOLLISTON       DM-2-12_SITE         TWD_FRANKLI
 !    3/18 15:35:23 NOR 1000,DEDHAM_MSC      DACCS_CRIT
      3/18 15:36:46 ALM 1123,HOLLISTON       DM-2-12_RX_B_FAIL    TWD_FRANKLI
 !    3/18 15:37:05 ALM 1000,DEDHAM_MSC      DACCS_CRIT
 !    3/18 15:38:07 NOR 2000,WALTHAM_MSC     DACCS_MAJ
      3/18 15:38:29 NOR 1123,HOLLISTON       DM-2-12_SITE         TWD_FRANKLI
 !    3/18 15:38:47 NOR 1000,DEDHAM_MSC      DACCS_CRIT
 !    3/18 15:38:51 NOR 2000,WALTHAM_MSC     DACCS_MIN
 !    3/18 15:39:56 NOR 3000,BURLINGTON_MSC  DACCS_MIN
      3/18 15:40:11 NOR 1123,HOLLISTON       DM-2-12_RX_B_FAIL    TWD_FRANKLI
 !    3/18 15:40:29 ALM 1000,DEDHAM_MSC      DACCS_CRIT

              Text/Messages                    Proactive Monitoring Company
DACCS_CRITICAL ALARM!!!_MULTIPLE T1'S           > A  E  I  M  Q  U  V:   D
O.O.S-NOTIFY SUPERVISOR!                          B  F  J  N  R  V  A:   P
                                                  C  G  K  O  S  W  S:   S
                                                  D  H  L  P  T  X  P:X
                                                 STAND :30    Silenced:0
                                                 COS   :44    Off Line:0
                                                                  26278764
```

Fig. I.2 - COS Mode screen

COS Mode Quick Reference

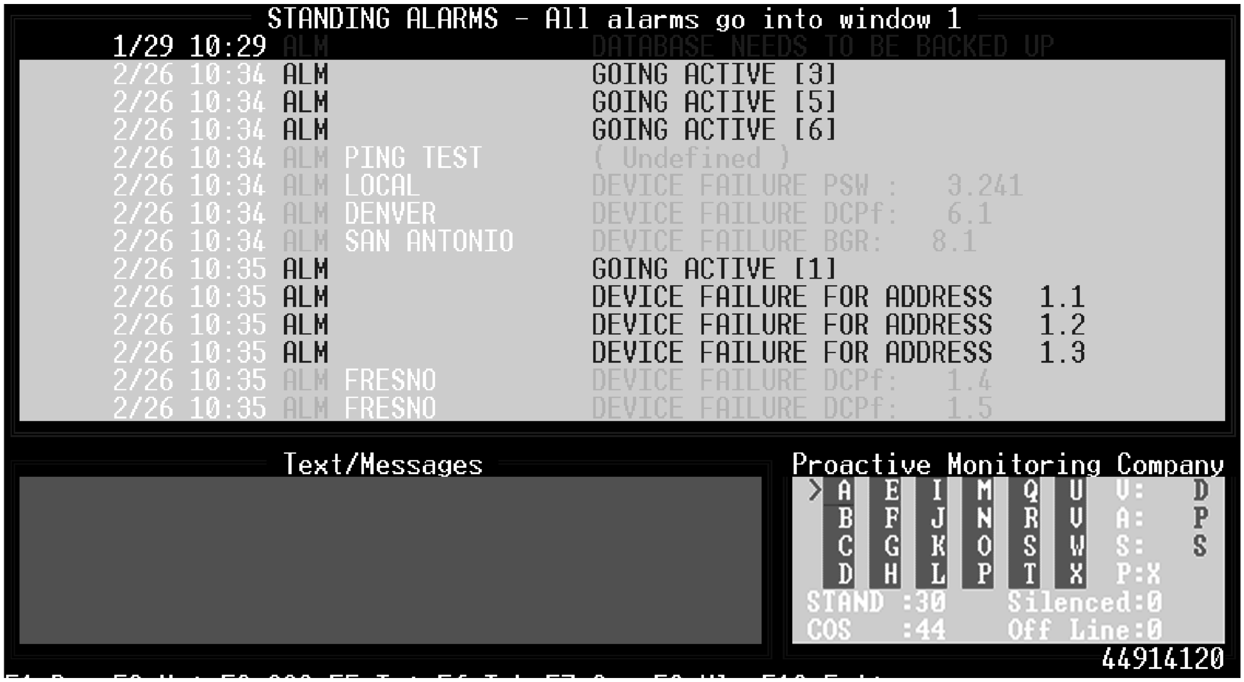
Alphabetic Listing of Key Commands

Acknowledge Alarm	Enter
Acknowledge All Alarms (Current Wind)	Alt-F4
COS Window Report	Alt-F7
English Analyzer	Alt-F5
Exit COS screen	Esc/F10
First Alarm Window	Alt-F1
Go To First Alarm Page	Home
Go To Last Alarm Page	End
Go To Next Alarm Page	PgDn
Go To Previous Alarm Page	PgUp
Help Screen	F9
Last Alarm Window	Alt-F2
Next Window With Alarms	Ctrl-F2
Pan Alarm Screen	Tab
Performance/Statistics	Alt-F6
Previous Window With Alarms	Ctrl-F1
Protocol Analyzer	Alt-F8
Select Next Window	F2
Select Previous Window	F1
Silence Alarm	Alt F3
Site Controls (For current window)	F8
Standing/Live Alarms Mode	F4
Tag Alarm	Shift-F10
Text/Messages Window	F5
Toggle Sound On/Off	Ctrl-F4

Trouble Log	F6
View Analog	Ctrl-F6

Tbl. I.B - Key commands available in the COS Mode screen

Key		Ctrl-	Alt-	Shift-
F1	Select Previous Window	Previous Window with Alarms	First Alarm Window	
F2	Select Next Window	Next Window with Alarms	Last Alarm Window	
F3			Silence Alarm	
F4	Standing Alarms Mode	Toggle Sound On/Off	Acknowledge All Alarms in Current Window	
F5	Text/Message Window		English Analyzer on Selected Window	
F6	Trouble Log	View Analogs	Performance/Statistics	
F7			COS Window Report	
F8	Site Controls		Protocol Analyzer	
F9	Help online.			
F10	Exit			Tag Alarm
Tab	Pan Alarm Screen Over			
Home	Go to First Alarm Page			
End	Go to Last Alarm Page			
PgUp	Go to Previous Alarm Page			
PgDn	Go to Next Alarm Page			
Enter	Acknowledge Alarm			



```
STANDING ALARMS - All alarms go into window 1
1/29 10:29 ALM                       DATABASE NEEDS TO BE BACKED UP
2/26 10:34 ALM                       GOING ACTIVE [3]
2/26 10:34 ALM                       GOING ACTIVE [5]
2/26 10:34 ALM                       GOING ACTIVE [6]
2/26 10:34 ALM PING TEST             ( Undefined )
2/26 10:34 ALM LOCAL                 DEVICE FAILURE PSW :   3.241
2/26 10:34 ALM DENVER                DEVICE FAILURE DCPf:   6.1
2/26 10:34 ALM SAN ANTONIO           DEVICE FAILURE BGR:   8.1
2/26 10:35 ALM                       GOING ACTIVE [1]
2/26 10:35 ALM                       DEVICE FAILURE FOR ADDRESS   1.1
2/26 10:35 ALM                       DEVICE FAILURE FOR ADDRESS   1.2
2/26 10:35 ALM                       DEVICE FAILURE FOR ADDRESS   1.3
2/26 10:35 ALM FRESNO                DEVICE FAILURE DCPf:   1.4
2/26 10:35 ALM FRESNO                DEVICE FAILURE DCPf:   1.5
```

Fig. I.3 - Standing Alarms screen

Standing Alarms Quick Reference

Note: See Table I.B for key commands available in Standing Alarms screen.

Alphabetic Listing of Key Commands

COS Alarms Mode	F3
English Analyzer (On Current Window)	Alt F5
Exit	Esc/F10
First Alarm Window	Alt F1
Go To First Alarm Page	Home
Go To Last Alarm Page	End
Go To Next Alarm Page	PgDn
Go To Previous Alarm Page	PgUp
Help Screen	F9
Last Alarm Window	F2
Live Window Report	Alt F7
Next Window With Alarms	Ctrl F2
Pan Alarm Screen Over	Tab
Performance/Statistics	Alt F6
Previous Window With Alarms	Ctrl F1
Protocol Analyzer	Alt F8
Select Next Window	F2
Select Previous Window	F1
Site Controls	F8
Tag Alarm	Shift F10
Text/Messages Window	F5
Toggle Sound On/Off	Ctrl F4
Trouble Log	F6
View Analogs	Ctrl F6

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Appendix L
Frequently Asked Questions

The following questions were sent to DPS Telecom by T/MonXM users, and the answers were written by the DPS Telecom Technical Support staff.

The latest FAQs can be seen on the T/MonXM support page:

www.dpstele.com/support/techfaqs/tmoniam.html

If you have a question about T/MonXM, please call us at:

1-800-622-3314

or e-mail us at

support@dpstele.com.

Q. I'm not receiving pages from my T/MonXM. What's the problem?

A. Possible Causes: the following sequence must be completed before a page will be delivered:

- The alarm must occur, and it must pass any qualification tests that have been programmed for it
- The alarm must generate a call to the pager in question
- The call must reach a paging facility
- The paging facility must be able to interpret the call and send the page
- The pager must be able to receive the page

Most paging problems are caused by relatively simple factors that interrupt this sequence.

Diagnosing T/MonXM Paging Problems:

A. Verify that T/MonXM can successfully deliver a page to the pager in question:

1. From the Alarm Summary screen, use Shift-F3 to access the Pager Status screen.
2. Select F4=Send
3. Select the appropriate pager
4. Enter a test message and hit through remaining entries
5. Observe results, including reception of an actual page
6. If a page is not received, try the following:
   Call the paging facility yourself, from any convenient phone, using the phone number programmed into the device. A paging system should answer.

- If you still have problems, unplug the phone line from your T/MonXM system, plug in an ordinary analog phone, and call the paging facility using **exactly** the same number T/MonXM is set up to call. A paging system should answer. There is often a problem with forgotten factors such as having to dial 1 first to get an outside line being in a different area code than originally thought, or having a long-distance call-blocker on the line. Also verify that the line sounds clean, with no static, hum, or other noise.
- If you still have problems, note exactly how the paging facility responds to calls:
  If delivering a numeric page, there is generally a brief voice message after which the numeric message is entered. To step over this voice message, a delay before the

actual message is sent is specified under Files-Pager-Pager Carriers. Verify that the delay is appropriate for your system.

- If delivering an alpha page, the device expects to make an immediate modem connection when the facility answers - this comes across as a hissing sound.
- Many paging facilities are enhancing their service by adding voice messaging capabilities and other features that deviate from these standard dialup sequences. In some cases, your device can be programmed to work around these exceptions; in other cases the paging facility may have a simplified dialup sequence available if you ask for it.
- If you still have problems you may observe activity on the pager port itself by selecting the English Analyzer (Alt-F5) or the Protocol Analyzer (Alt-F8) from monitor mode, and use plus/minus to get to the pager port. You may use T/Remote to send a manual page as above, or trigger an alarm to generate a page. This may give you a hint as to what the problem may be.

B. If T/MonXM can page, but a particular alarm is not being received, you should check the chain of events that occurs when an alarm is triggered. Basically, the alarm calls a Pager Profile, the Profile calls one or more Operators, and the Operator pages the Carrier who is currently on call according to the weekly schedule.

1. Verify that the alarm is set up to be paged. Locate the alarm under Parameters > Remote Ports > Devices (F1) > Points (F1) > Edit, and scroll to the appropriate point. Press F4 to scroll right—the Pager Profile is set up in the far right column and is not ordinarily visible. A pager profile number should be entered there.
2. Verify what the pager profile configuration. Exit to the Master menu, select Files > Pager > Profiles and scroll to the appropriate profile number. Press F2 to view Pager Entries—these list Pager Operators, the types of notifications they are to receive, and any delays that may be involved. It is possible that your operator is not set up to receive the type of page you are expecting, or alarms are being acknowledged before delays expire.
3. Verify your pager information. Exit to the Pager Carrier item on the Pager menu and confirm the pager number, carrier's initials, phone, etc.
4. Verify that this carrier is assigned to one of the operators identified in step 2.2. Go to the Pager-Weekly Schedules menu item, enter the appropriate operator number, and confirm that this carrier is scheduled at the time you expected to receive a page. Also confirm that the normal schedule was not overridden by a Schedule Exception.

Q. Why can't I see all my windows? Activate controls? Acknowledge alarms? Etc.

A. Privileges for all of these items, and many more, are controlled from the System Users item on the File Maintenance menu. The system identifies you through your logon initials and only allows activity specified on the System Users screen. The ability to change these privileges is itself a controllable privilege.

Q. XMEdit is missing screens/menu items/options.

A. If your XMEdit seems to be missing features that are available in your T/MonXM system, there are probably optional software modules that have been installed in one but not the other. You can determine what has been installed by selecting Diagnostics > Installable Modules > Installation Status on the master menu. If XM/Edit is missing anything, run T/Install from the original installation floppy for each missing module. Only install the single disks sets that begin with XM (i.e. XMASC, XMPAG, XMRMT1). **Make sure it gets installed into the XM/Edit directory**, not the default T/MonXM directory.

Note: XMEdit can use the same modules as the original T/Mon or IAM system and does not necessarily need an additional module set for the XMEdit Software.

Q. I want to upgrade my T/MonXM system from Version 2.4 to the most current 4.5. Are there any special hardware changes I must have before I can proceed with my upgrade?

A. Generally not. The only primary option is to have a minimum of 64MB of memory installed on your system. Version 2.4 only requires 4MB maximum to run. Contact DPS Telecom for pricing on available upgrade features.

Q. Why should I do a backup of my current database before I upgrade or change my T/MonXM system?

A. We encourage all users to back up their current database before any modification takes place. This will eliminate the possibility of losing your data files, in case of any difficulty during the upgrade or modification.

Q. I get a Runtime Error 5 @ address 0065:0099 every time I try to restore a backup of my database to my T/MonXM system. What's the problem?

A. This runtime error is usually caused by the two files from your backup disk, (ARCHIVE.DPS & CTRL.DPS) having read-only file attributes assigned to them. You can remove the read-only option by inserting the disk in a Windows-based computer. Open the (A) drive, right-click on the file, choose Properties, and uncheck the Read-only check box. You can also do this from a DOS-based computer by using the attribute and -r command. (A:\attrib -r archive.dps and A:\attrib -r ctrl.dps)

Q. How do I delete reports from my T/MonXM system?

A. From the Master menu choose Files > Utilities > Report Maintenance > Delete Report File. You will be prompted to choose which file to delete. Use caution upon deleting files. There is no Undo command to bring these files back.

Q. How can you temporarily suspend the automatic restart of a T/MonXM system?

A. You can edit the autoexec.bat file as follows:

```
if not exist c:\resume.dat goto shell
copy c:\resume.dat c:\resume.off
del c:\resume.dat
:shell << existing line for reference only
```

With the file edited to include these lines, the T/MonXM system will not automatically restart after interrupted operation. This mode is helpful during diagnostic or maintenance type functions but the lines should be removed (or at least REMed out) before returning the system to normal operation.

Q. Why can users Ack alarms from T/Remote for Windows, but not the Web Browser?

A. Alarms can only be acknowledged from the Web Browser if the "ACK INITIALS" have been included in the standard alarm formatting—this option can be selected from the Parameters > Alarm Format menu in T/MonXM.

Q. How do I transfer a database from an older T/MonXM system to a newer system running a newer version of the software?

A. Follow these steps:

1. Exit W/Shell on the older system.
2. Change the directory to C:\TMONXM.
3. Copy all the *.DAT & *.IDX files to a floppy disk.
4. Restart W/Shell on the older system.
5. Insert the floppy disk in the new system.
6. Exit W/Shell on the new system.
7. Change the directory to C:\TMONXM
8. Delete all *.DAT & *.IDX files.
9. Copy all the files on the floppy disk to the hard drive.
10. Restart W/Shell on the newer system.
11. Launch T/MonXM.
12. T/MonXM will automatically update the database.

Note: The T/Mon FTP Server can be used rather than the floppy disk, if the files are too large.

Q. Where does T/MonXM derive the tmonADispDesc that is sent in a SNMP Trap?

A. The tmonADispDesc is filled with the contents of the “Display Desc” field on the Point Definition form (Parameters > Remote Ports > Devices > Points or the equivalent from one of the Files menu options).

Q. Where does T/MonXM derive the tmonAAuxDesc that is sent in a SNMP Trap?

A. The tmonAAuxDesc is filled with the contents of the ‘AUX Description’ field for each point on the Point Definition form (Parameters > Remote Ports > Devices > Points or the equivalent from one of the Files menu options).

Q. How do I get AUX Descriptions to appear for each point on my Point Definition form?

A. Change Parameters > Miscellaneous > Edit AUX Desc to “Y.”

Q. How can a device be halted so it is not polled on a specified port for the duration of that T/MonXM session?

A. From the Alarm Summary window press Shift F6. Using the + and - keys, find the port with the devices you want to halt. Using the arrow keys, select the device and press F5 to halt it or F4 to put a halted device back online.

Q. Why is my T/MonXM not reading correctly from the NetGuardian internal temperature sensor?

A. To scale the reading of the NetGuardian internal temperature sensor on the T/MonXM system you need to enter the following scaling factors; Voltage Value 1: 1.0 Unit Value 1: 4.217 Voltage Value 2: 10.0 Unit value 1: 42.170.

Q. XM Edit - How come I don’t have access to some of the configuration screens that I have on my full master? (IE: ASCII, missing alarm windows, remote access use exceeded ...)

A. You need to install those various software modules on your XM edit machine. Be sure to set the installation path to the location where XM Edit has been installed. Only install the single disks sets that begin with XM (i.e. XMASC, XMPAG, XMRMT1).

Q. Why does my XMEdit not show all the database from T/MonXM?

A. Make sure that all of your software modules are loaded into your XMEdit directory.

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Appendix M
IAM-5 and T/MonXM Work Station Hardware Installation Reference

T/MonXM Software Specifications
(As of Version 4.2)

Alarm Point Capacity: 1,000,000 points
Alarm Windows: 90 standard (Up to 720 optional)
Max. LAN/Web T/Remote capacity: 18 users
Max T/Grafx capacity: 60 users (optional software module required)

IAM-5 Specifications
(For units purchased as of April 2003)

Dimensions:	17” X 8 1/8” X 14”
Dimensions with Slide Rack:	17” X 10” X 14”
Mounting:	19” or 23” rack
Power input:	-48VDC or 120VAC (available with A/B dual power feed)
Fuse:	Two 2 Amp GMT fuses (-48V unit only)
Operating Temperature Range:	32 to 95 degrees Fahrenheit (0 to 36 degrees Celsius)
Operating Humidity Range:	80% to 82% (non-condensing)
Interface Modules:	RS232, RS422/485, T212 (dial-up), T202, 33.6 modems - DB9
Modem:	33.6K Baud Internal ISA - RJ11
LAN Interface:	10/100 BaseT
Com Ports:	Up to 24 ports (six 4 port controllers)
Processor:	AMD 550 MHZ
Hard Drive:	Quantum 20GB (5400 RPM)
Memory:	64MB (2 slots, both occupied)
Slots:	5 ISA 2 PCI 1 Shared PCI/ISA
Relays:	4 visual, 4 audible, watch dog
Fans:	3 external, 2 internal
Removable Storage:	1.44 FD Standard
Optional Storage:	Zip drive, CD-ROM

CE Certified Specifications:

Hard Drive:	Quantum 4.3GB (5400 RPM)
Fans:	3 external, 2 internal (with filters)
Processor:	AMD 450 MHZ

IAM 5 Installation

Note: The IAM 5 comes from the factory with all ordered hardware options installed. Use these instructions to aid in initial installation or when expanding the system by adding additional ports.

This section contains instructions for the physical installation of the IAM 5. After installing the IAM 5, go to Section 2 - Software Installation to begin the software setup.

Note: DPS recommends that you construct a log or table of port configurations and assignments as the hardware connections are made. This log will be very useful when the alarm database is prepared.

The standard IAM 5 consists of the IAM 5 itself, a cable kit, manuals and software. Carefully unpack these units and assemble as follows:

Mount IAM-5

The IAM-5 fits in either a 19” or 23” rack. The mounting brackets on the side of the unit can be positioned for either 5” projection or flush mounting in either size rack — see Figure M.8)

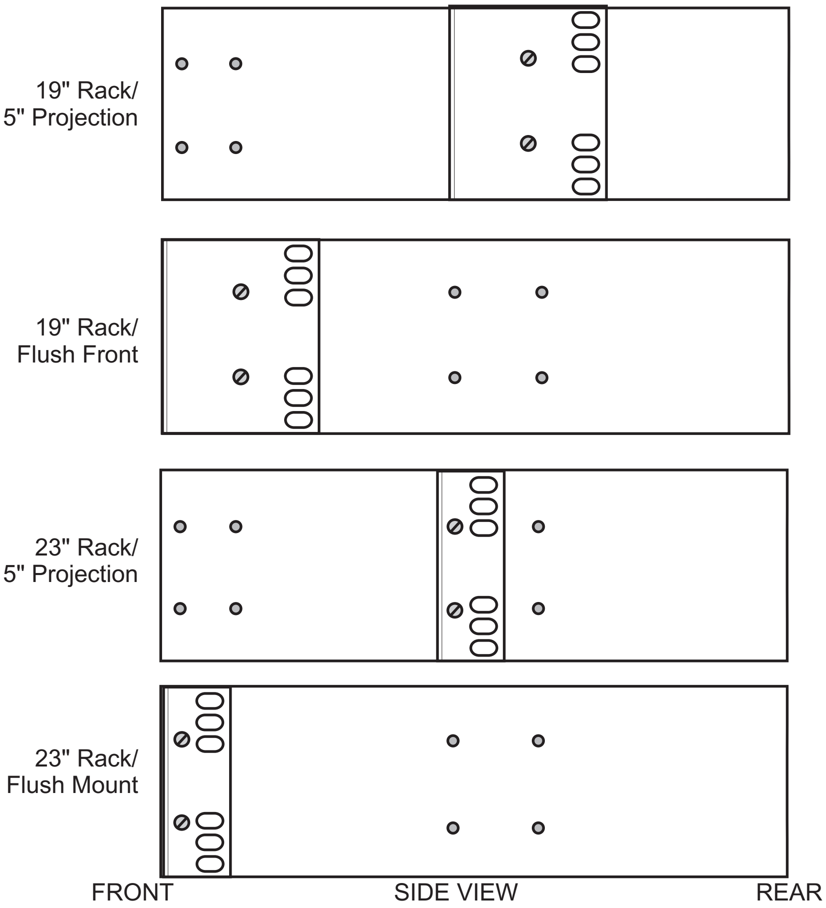


Fig. M.8 - Mounting brackets position for 19” and 23” racks, flush or projecting

1. Determine which mounting configuration is required. The IAM 5 is supplied with the brackets in the 19”/5” projections position.
2. If a different configuration is required, remove the 8-32 screws, reorient the brackets and re-install the screws.
3. Place the IAM 5 in the rack and align the mounting holes in the brackets with the holes in the rack rails. Secure each bracket with two 12-24 screws (provided in hardware bag).
4. Connect interfacing communications lines to the back of the IAM 5 as follows (refer to Figure M.9):

   a) Connect all Alarm ports per the Intelligent Controller Card instructions. Alarm ports include the Pager line as well as those lines that go to alarm remotes and remote terminals (T/Remote) — see step 6. Connector pin-outs are illustrated in Figure M.18.

   b) Connect external audible and/or visual alarm devices. Audible and Visual Alarm Relays instructions follow. Connect the 102 Relay Card per the instructions in the following pages. (The 102 card is optional.)

   c) Connect any X.25 line per the X.25 Card instructions in Appendix C. (The X.25 card is optional.)

   d) Connect a dial phone line to the 33.6 Baud modem connector per the instructions. This line must be provided to obtain on-line support from DPS.
5. If an external modem is to be connected to any of the alarm ports refer to Figure M.29 on section M-20.
   Note: The alarm port must be configured for RS232.
6. If a remote terminal or other RS232 remote device that provides a DB25 connector is used on an Intelligent Controller Card port, connect it per the instructions.

Note: The port must be configured for RS232.

The following steps apply only to 117 VAC models (option -03).

7. If an Uninterruptible Power Source is used, connect it per the instructions that follow.
8. Insert the power cord into the power inlet on the back of the IAM 5. Connect the plug end to a 117 VAC outlet or to the UPS outlet, if used.
9. Turn on the power switch on the back panel to start the system.

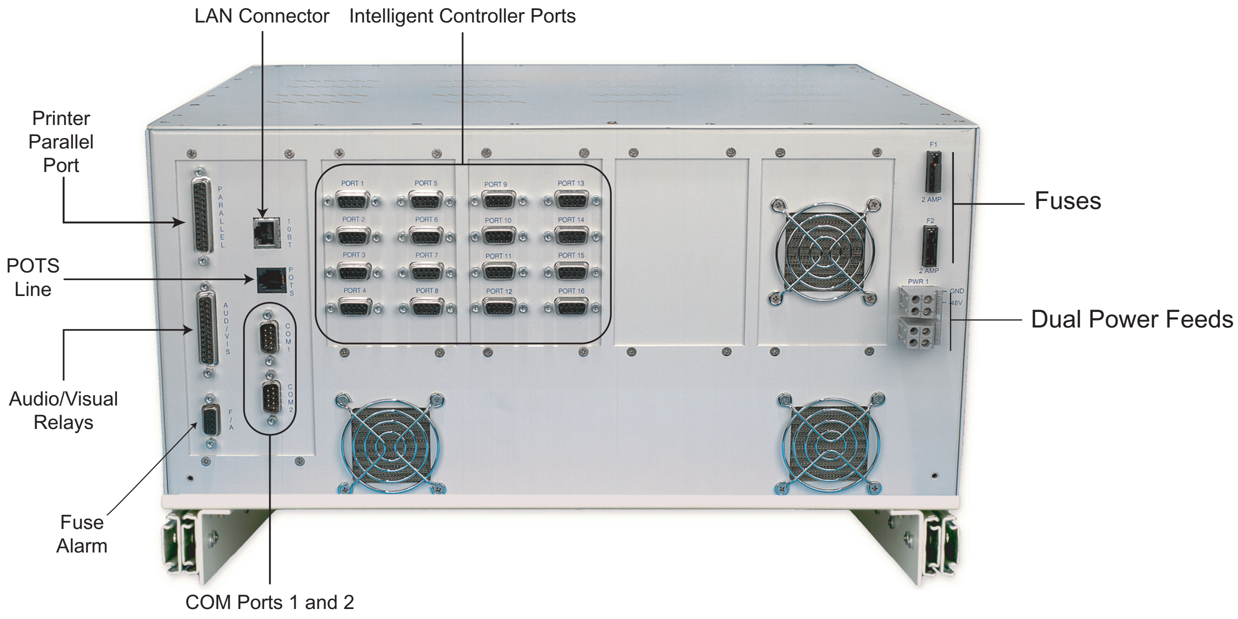


Fig. M.9 - Power and connector locations on the back of the IAM 5

Note: Observe polarity of power connections. Battery terminal is negative, ground terminal is positive.

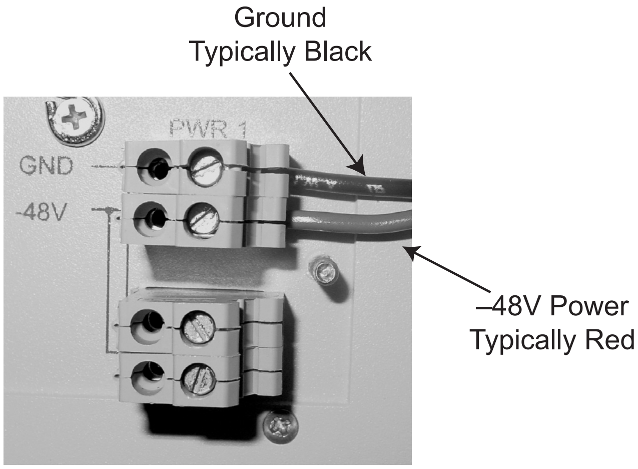


Fig. M.10
IAM 5 Power connectors

The following steps apply only to battery powered (-48 VDC) models (options -01, -02).

10. Connect fuse alarm relay outputs per instructions.

11. Remove IAM 5 fuses (see Figure M.9 for location of fuses on back of the IAM 5).and appropriate fuses from power source.

    Note: Single supply models use only F1.

12. Connect power input leads to the power terminal blocks, taking care that polarity is properly oriented.

13. Reinstall power source fuses.

14. (Optional). Use voltmeter to check polarity Connect common lead to ground and V lead to -48V power. Meter should read from -48 to -56 volts..

15. Reinstall IAM 5 fuses.

16. Go to the Starting the Software sub-section in Section 4 - Software to start the T/MonXM software.

Note: A personal computer running DOS version 3.3 or later is required to run the T/Access software.

Slide Rack for the IAM 5

The Slide Rack for the IAM 5 allows an IAM 5 case to be easily slid out of its rack position for access to the top of the unit for service and installation. Once installed, the Slide Rack can be secured to the rack so that it will not accidentally slide out into the aisle area.

The Slide Rack includes mounting ears for both 19” and 23” racks. the mounting ears can be adjusted for flush of 5” projection mounting.

Installation

The IAM 5 with Slide Rack occupies 10” (4 rack units) of rack space. At least 1 rack unit (1 3/4”) should be allowed above the IAM 5 for ventilation. The Slide Rack extends nearly 13”. be sure to provide adequate service loop in the connecting cables to allow the IAM 5 to extend this distance.

After installation and testing of the IAM 5 is completed, the slide lock screws should be installed in the Slide Rack to prevent accidental migration of the unit onto the aisle space. The slide lock screws go into the equipment rack when flush mounted.

When ordered at the same time as the IAM 5, the Slide Rack is shipped mounted to the IAM 5 with the mounting ears in the proper position for the customer’s installation.

Pre-Mounted IAM-5

Installation

1. Place the assembly in the rack and secure with the rack screws supplied in the hardware pouch.
2. Remove slide screws from the front of the Slide Rack (if preinstalled at the factory).
3. Complete all IAM 5 hardware installation and wiring.
4. Upon completion of the installation, install slide lock screws.

Routine Service

1. Shut down the IAM 5 — Refer to Section 16. **DO NOT** shut the IAM 5 off until monitor mode is properly exited. Then exit the program fully by using F10 and following the instructions on the screen.
2. Remove the slide lock screws.
3. Slide unit out and perform service.
4. Slide unit in and replace slide lock screws.
5. Restart the IAM 5 per the instructions in Section 2.

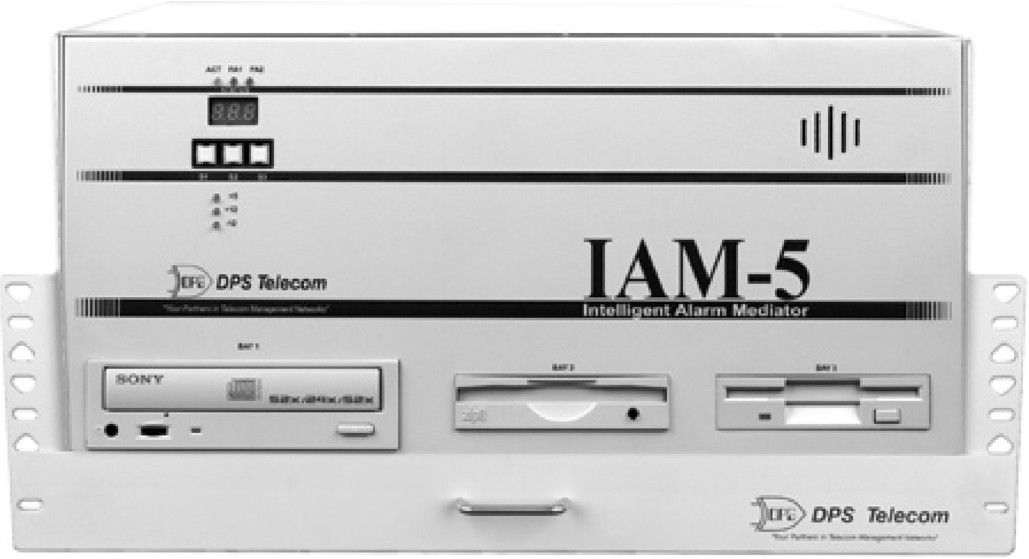


Fig. M.11 - IAM 5 mounts on top of the Slide Rack

Front Panel Operation

The IAM 5 front panel has three function buttons, a 3-digit LED display 6 LEDs and up to three removable storage drives.

The function buttons operate in Monitor Mode only to select the type of alarm count shown on the LED display. Press and hold S1 to select standing alarms, S2 selects change-of-state (COS) alarms and S3 is reserved for future use (shows dPS when pressed). Holding in all three buttons at once tests the LED display (shows 888).

The LED display shows the alarm count, up to 999, as explained above, as well as other functions. The table on the next page lists the functions displayed when alarm count is not being shown. Functions can be selected or changed only from an external P.C. running T/Access software or via modem using T/AccessM software.

The 6 LEDs indicate processor and power status.

The ACT LED flashes to show processor activity.

FA1 and FA2 show blown fuses when illuminated (functional only on DC powered models. FA2 functions only on dual DC supply models.).

The 3 green LEDs below the blue band show status of the internal power regulators for +5, +12 and -12 VDC. One LED is used for each voltage. These operate on single and dual supply models. LEDs are on when supplies are normal, off when failed.

The removable storage drives are used for archiving and loading software.

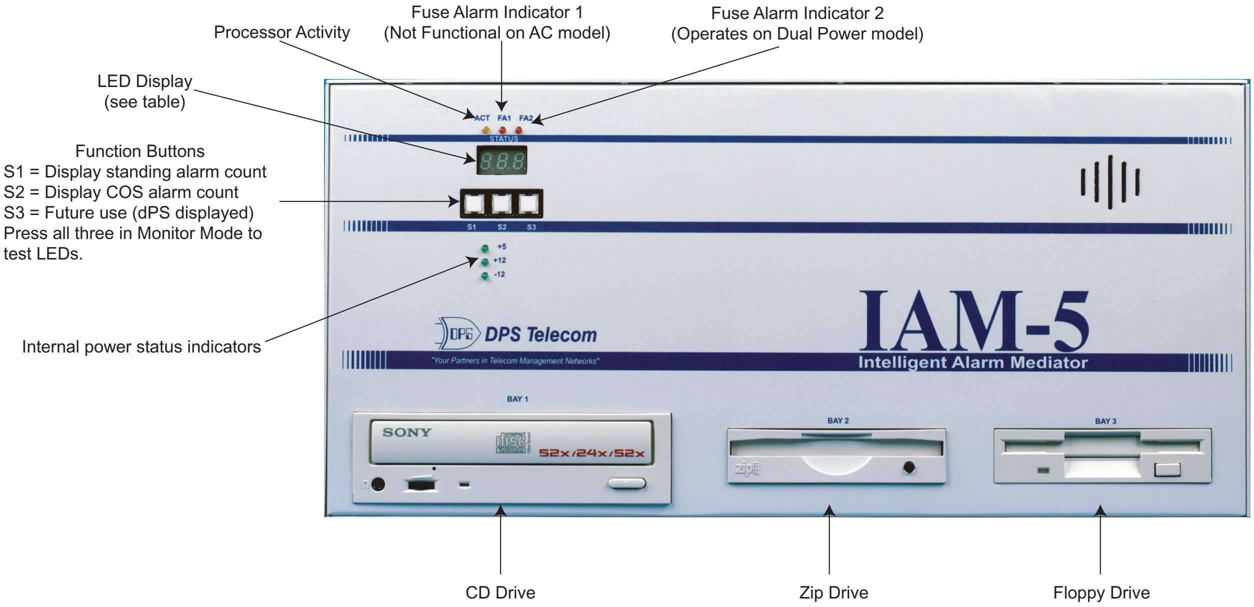

Processor Activity
Fuse Alarm Indicator 1
(Not Functional on AC model)
Fuse Alarm Indicator 2
(Operates on Dual Power model)
LED Display
(see table)
Function Buttons
S1 = Display standing alarm count
S2 = Display COS alarm count
S3 = Future use (dPS displayed)
Press all three in Monitor Mode to
test LEDs.
Internal power status indicators
ACT
FA1
FA2
STATUS
8.8.8
S1
S2
S3
+5
+12
-12
DPS Telecom
"Your Partners in Telecom Management Networks"
IAM-5
Intelligent Alarm Mediator
BAY 1
BAY 2
BAY 3
SONY
52x/24x/52x
zip
CD Drive
Zip Drive
Floppy Drive

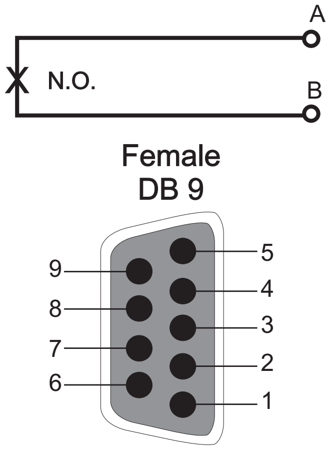
Fig. M.12 - IAM 5 front panel controls and display

Table. M.A - LED Display functions

Display	Function Description
Chn	Chaining mode (running new program)
CLS	Closing files
dOS	Currently in DOS
dPS	Shows when S3 is preset in Monitor Mode. (S3 is reserved for future use)
Edt	File maintenance edit
FFd	Format floppy disk
InS	T/Install software active
Int	Initializing mode
Lod	Loading IAM software
OFL	Offline (out of Monitor Mode)
P1-P##	Phase during initialization
rEP	Report mode (from Master menu)
Run	Denotes Monitor Mode. Activity is indicated by the decimal point rotating from left to right
SHL	W/Shell software active
tLC	T/Link Config software active
TSt	Diagnostic testing mode
888	LED display test. Press all three function buttons simultaneously in Monitor Mode

Fuse Alarm

Fuse alarm relay outputs a provided at the DB9 connector labeled F/A. The pinouts are illustrated in Figure M.13.



Typical Relay Schematic
(Both sides of contact
brought to connector)

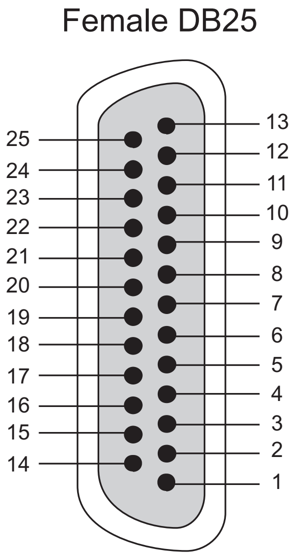
DB 9 Connector

Pin #	Fuse Alarm Relay
1	Fuse Alarm #1 (A)
2	Fuse Alarm #2 (A)
3	Ground
4	No Connection
5	Future use
6	Fuse Alarm #1 (B)
7	Fuse Alarm #2 (B)
8	Ground
9	Future use

Fig. M.13 - Fuse alarm connector pinouts

Printer Port

The printer parallel port is on the top left-hand side of the rear panel of the IAM 5. Pinouts for the printer port female DB25 connector are given in Figure M.14.



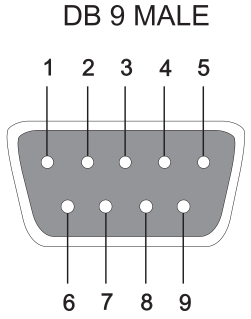
DB25 connector

Pin #	LPT1 Function
1	Strobe
2	D0
3	D1
4	D2
5	D3
6	D4
7	D5
8	D6
9	D7
10	ACK
11	BUSY
12	Out of Paper
13	SELECT
14	Auto Feed
15	Error
16	Initialize Printer
17	Select Input
18	GND
19	GND
20	GND
21	GND
22	GND
23	GND
24	GND
25	GND

Fig. M.14 - Printer Port connector details

Serial Ports

Two DB9 connectors are provided on the back of the IAM 5 for serial ports Com 1 (C1) and Com 2 (C2). Com 1 is used to connect a terminal or P.C. with T/Access software for observing alarms and databasing activities. Com 2 may be used for UPS support or external modem. Figure M.15 provides the connection diagram for these connectors.



NOTE: Viewed From Pin Side (outside of IAM case).

PIN #	SIGNAL	DESCRIPTION	
1	DCD	Received Line Detecter	←
2	RXD	Received Data	←
3	TXD	Transmit Data	→
4	DTR	Data Terminal Ready	→
5	GND	Ground	
6	DSR	Data Station Ready	←
7	RTS	Request to Send	→
8	CTS	Clear to Send	←
9	RING	Ring Indicator	←

Fig. M.15 - DB9 Connector pinouts for Com1 and Com2

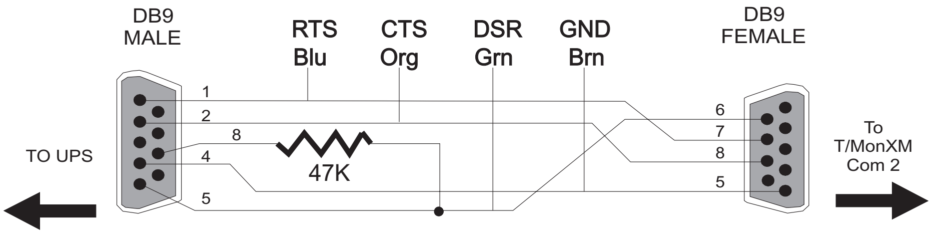
UPS Cable Connections

The following diagram shows the connections to build a cable for interfacing from a com port on a IAM 5 to a UPS (Best or equivalent). The UPS is used only on AC powered T/Mons.

Note: The UPS uses Com 2. See additional set up instructions in Appendix G. (This diagram is repeated in Appendix G.)

This cable is supplied ready-made with UPS units purchased from DPS.

UPS Connector to Com 2



NOTE: Connectors viewed from back side (Solder side).

Cable Part Number D-PR-061-10A-00

Fig. M.16 - UPS Interface cable wiring

33.6K Baud Dial Modem (T/Link)

The IAM 5 includes an internal 33.6K Baud Modem for operation with the built-in T/Link software. The modem is compatible with the full Hayes (tm) Command set. This software and modem are used for on-line support from DPS via telephone line. This modem must be connected to a phone line to obtain this support.

The modem supports either pulse or tone dialing. It features automatic dial and redial.

The modem uses communication port COM 4 (POTS). Connect the dial line to POTS using a standard modular telephone connector.

For more information refer to the T/Link Config sub-section in Section 2 (Starting T/MonXM Software).

Internal modem connects at rear-panel POTS jack

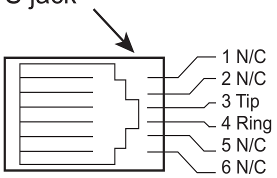


Fig. M.17 - Internal modem is accessed from the back of the IAM 5

Intelligent Controller Card Pinouts

The diagrams below illustrate the pinouts for the DB9 connectors used on the Intelligent Controller Card. Refer to these diagrams when making connections to the Intelligent Controller Card. For more information about the Intelligent Controller Card — see section M-13.

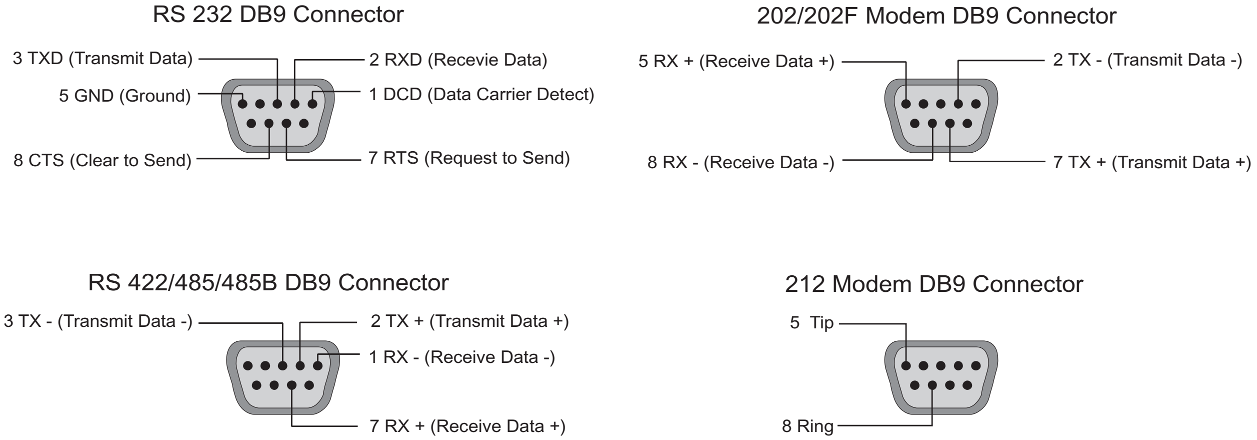


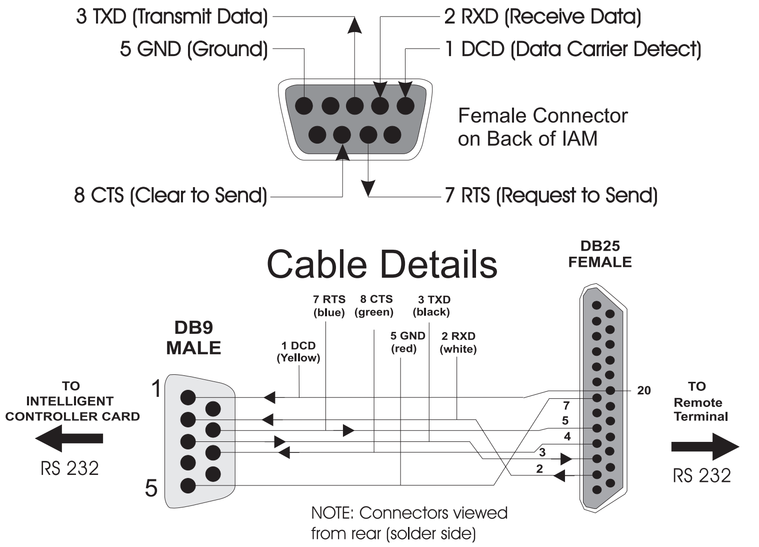
Fig. M.18 - Intelligent Controller Card pin-outs for DB9 Connectors on the back of IAM 5

Remote Terminal Cable Connections

The following diagram shows the connections to build a cable for interfacing from a port on an Intelligent Controller Card to a remote terminal (T/Remote or a P.C. running terminal emulation software). It can also be used to interface other RS232 device to a port.

Note: The remote port must be configured for RS232. Maximum cable length is 50 feet.

DB9 Connector to Remote Terminal



Cable Part Number D-PR-910-10A-00 (6ft.)

Fig. M.19 - Cable to Interconnect Intelligent Controller Card to a remote terminal

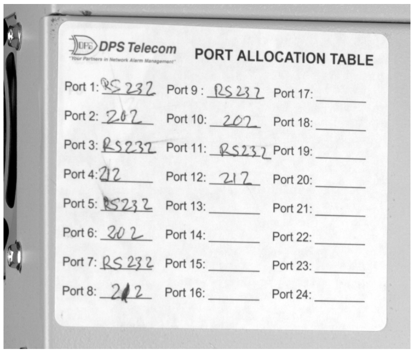
Option Cards

A variety of option cards are available for both the T/MonXM WorkStation and the IAM 5. Option card descriptions begin on page 3-20.

Use the following procedure when installing option cards:

1. If system is running, exit to W/Shell menu.
2. Turn system off and disconnect power source.
3. Remove the cover from the case and find an open 8-bit expansion slot to accept the new card.
4. Set DIP switches for address and interrupts according to instructions on section M-21.
5. If the card includes RS422/484 or 202 modem docking modules, set jumpers according to instructions on section M-22.
6. Place the card firmly in the slot.
7. If more than one Intelligent Controller card is being installed, place overhead jumpers according to instructions on section M-23.
8. **IAM 5 only:** If an unused set of port connectors is available on the back of the IAM 5 case, connect the cables from the inside of the connectors to the RJ12 jacks on the intelligent controller card, top connector to top jack, and so on. If there isn't a set of unused port connectors, install a new 8-connector panel in place of the next blank panel.
9. **T/MonXM WorkStation only:** Label the port numbers on the back of the computer. Add the port interface descriptions for new card to the Port/Interface label on the side of the case.

Intelligent Controller Card



DPS Telecom
"Your Partners in Network Alarm Management"

PORT ALLOCATION TABLE

Port 1: RS232	Port 9 : RS232	Port 17:
Port 2: 202	Port 10: 202	Port 18:
Port 3: RS232	Port 11: RS232	Port 19:
Port 4: 212	Port 12: 212	Port 20:
Port 5: RS232	Port 13:	Port 21:
Port 6: 202	Port 14:	Port 22:
Port 7: RS232	Port 15:	Port 23:
Port 8: 212	Port 16:	Port 24:

Fig. M.20 - Port Allocation sticker on unit case shows Intelligent Controller Card port usages.

The T/MonXM WorkStation and IAM 5 ship with one 602 card factory installed. This section is included for users who want to install additional cards.

The Intelligent Controller Cards work with T/MonXM software from DPS Inc. The Intelligent Controller Card comes in four versions:

D-PC-600-10A-00 with RS 232 Interface
D-PC-602-10A-00 with open docking pads for each port
D-PC-603-10A-00 for Pentium-equipped masters
D-PC-625-10A-00 with 33.6 modem.

Note: See Section 1 (Introduction) for a list of the available docking modules.

The 603 card is designed to fit in the short slots next to the Pentium processor fan in an IAM 5. It comes with ports 2-4 hard-wired for RS232 or RS422/485. Port 1 accepts a docking module.

The Intelligent Controller Cards have 4 Ports on each card and are switch addressable via dip switch settings. This arrangement allows a maximum installation of 4 cards in the T/MonXM chassis, with a total of 16 ports accessed. (The IAM 5 chassis accepts 5 cards for a total of 20 ports accessed.)

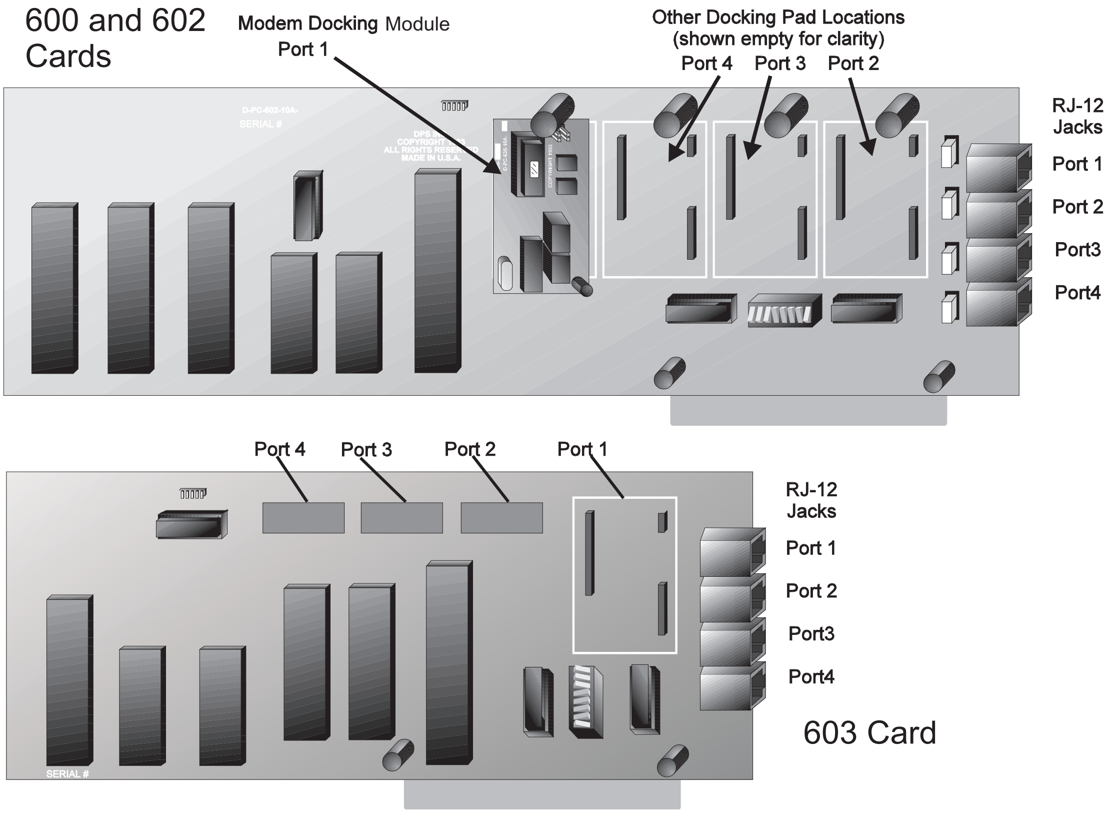


Fig. M.21 - 600,602 and 603 Intelligent Controller Cards

Address and Interrupt Settings

The Intelligent Controller Cards have 4 Ports on each card. The cards are switch addressable via DIP switch settings.

Figure M.22 shows the S1 DIP switch used to set the addresses and interrupts on the Intelligent Controller Cards. To set the DIP switch use a ballpoint pen or pencil.

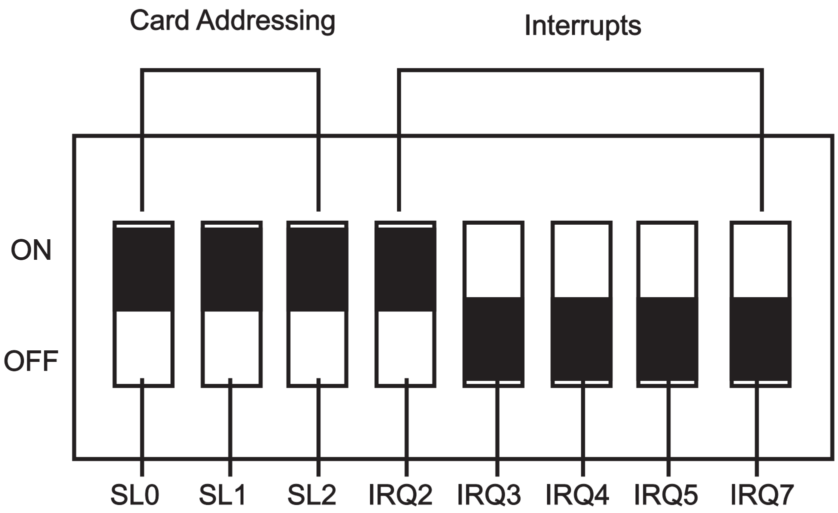


Fig. M.22 - DIP switch S1 sets address and interrupts

The following tables show the DIP switch settings on the D-PC-600-10A-00, D-PC-602-10A-00, D-PC-603-10A-00, D-PC-625-10A-00 Intelligent Controller Cards.
Note: Silk screen also conveys this information.

Table. M.B - Address settings

Card Address	S1-1 (SL0)	S1-1 (SL1)	S1-3 (SL2)
1 (Ports 1-4)	ON	ON	ON
2 (Ports 5-8)	OFF	ON	ON
3 (Ports 9-12)	ON	OFF	ON
4 (Ports 13-16)	OFF	OFF	ON
5 (Ports 17-20)*	ON	ON	OFF
6 (Ports 21-24)*	OFF	ON	OFF

***Note:** IAM 5 only

Interrupt Settings
The DIP switch settings for the First card in the series of Intelligent Controller Cards must have Interrupt IRQ 7 ON. The IRQ 7 dip switch S1-8 should be set to ON and Interrupts IRQ 2, 3, 4, and 5 should be set to OFF.

The DIP switch settings for the Interrupts are set to OFF on the slave cards that follow. That is, Intelligent Controller Cards 2 through 4 or 6 have switches S1-4 through S1-8 set to OFF. Interrupt settings for these cards come from the first card through the overhead jumpers.

Table. M.C - Interrupt settings

Interrupts	S1-4/IRQ2	S1-5/IRQ3	S1-6/IRQ4	S1-7/IRQ5	S1-8/IRQ7
IRQ 2*	ON	OFF	OFF	OFF	OFF
IRQ 3*	OFF	ON	OFF	OFF	OFF
IRQ 4*	OFF	OFF	ON	OFF	OFF
IRQ 5*	OFF	OFF	OFF	ON	OFF
IRQ 7**	OFF	OFF	OFF	OFF	ON
No Interrupts***	OFF	OFF	OFF	OFF	OFF

*Other IRQ settings are used for special applications only.

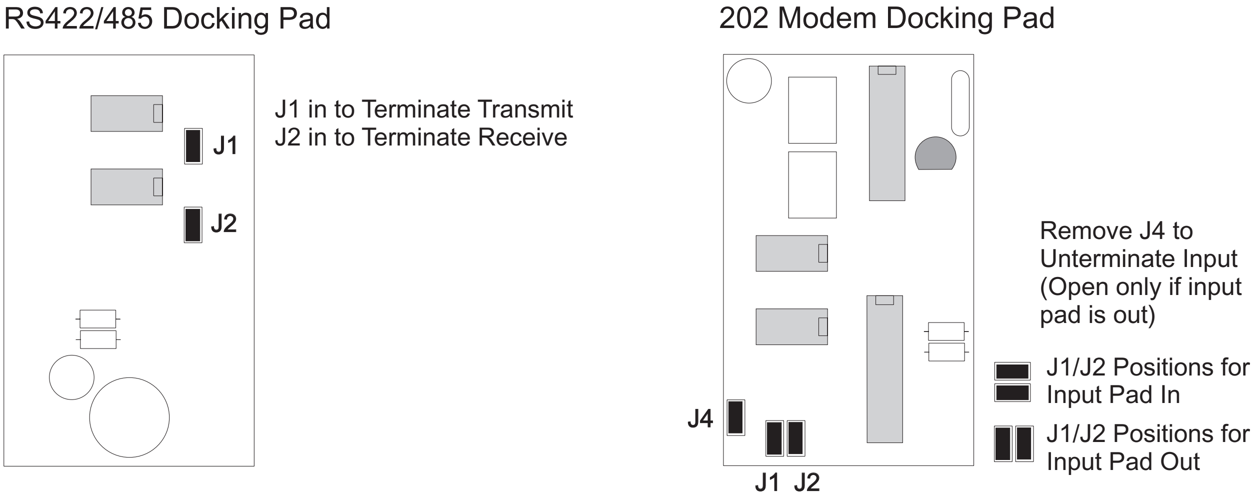
**The IRQ 7 Interrupt setting is used for the first card only.

***The slave cards that follow the first card use the No Interrupts settings (all switched off)

Docking Module Jumpers

The docking modules for RS422/485 and the 202 modem have option jumpers as illustrated in Figure M.23.

Docking modules for RS232 and the 212 modem have no jumpers.


RS422/485 Docking Pad

202 Modem Docking Pad

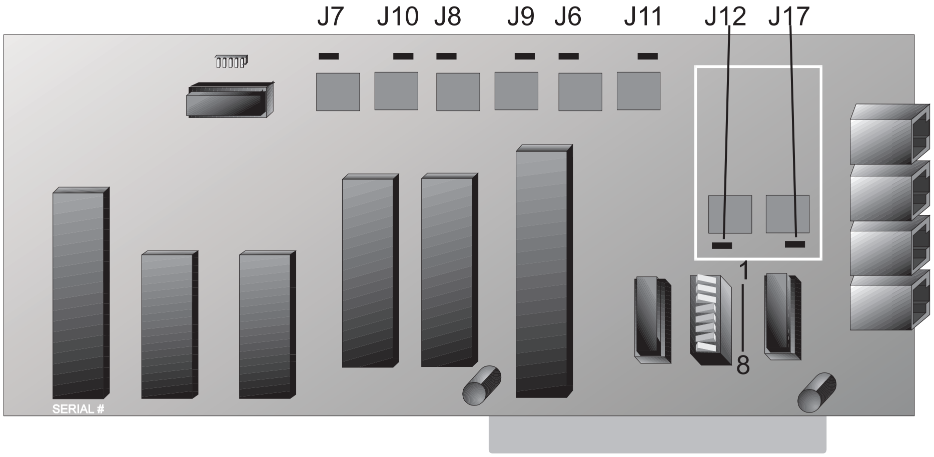
J1
J2
J1 in to Terminate Transmit
J2 in to Terminate Receive
Remove J4 to Unterminate Input (Open only if input pad is out)
J1/J2 Positions for Input Pad In
J1/J2 Positions for Input Pad Out
J4
J1 J2

Fig. M.23 - Docking module jumper settings

603 Card Jumpers

The docking modules for RS422/485 have option jumpers as illustrated in Figure M.24. For option jumpers for the 202 modem — see Figure M.23.

Docking modules for RS232 and the 212 modem have no jumpers.



RS485 Terminations

Port	RX	TX
1	J12	J17
2	J6	J11
3	J8	J9
4	J7	J10

Fig. M.24 - 603 card jumper settings

Overhead Jumper

The Overhead Jumper must connect all Intelligent Controller Cards together.

Technical Note: All 5 pins on each header are electrically connected, so the exact positions are not relevant. The extra pin is included for spacing. The jumper uses two wires for a more secure connection.

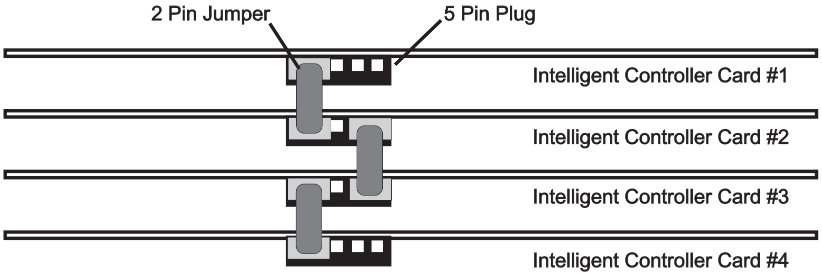

2 Pin Jumper
5 Pin Plug
Intelligent Controller Card #1
Intelligent Controller Card #2
Intelligent Controller Card #3
Intelligent Controller Card #4

Fig. M.25 - Overhead jumpers interconnect intelligent controllers

108 Audible Alarm Card

The DPS Audible Alarm Card (D-PC-108-10A-00) supports alarm workstations by providing an internal audible sounding device, thirteen relays, two ACO inputs and a watchdog timer circuit.

The audible sounding device provides three prioritized audible alarm tones for use with T/MonXM software. These tones can be programmed to correspond to three alarm levels, such as critical, major and minor. The device provides the following tones:

TONE, SIREN, BEEP

Eight of the relays are accessed via a 25-pin (DB-25) connector on the end of the card. The relays provide normally open (N/O) contacts that can be used to drive external audible and visual alarm devices, corresponding to four alarm levels (critical, major, minor and status).

Two remote alarm cutoff switches may be wired to the DB-25 connector to defeat the audible relay for levels A and B alarms. This allows ACO switches to be located near the external audible alarm devices.

The DB-9 connector provides access to 4 general purpose relays. These relays may be used for labeled controls, site controls or derived controls or as E2A cutoff switches.

The card also contains a watch dog relay which will reset the system to recover from abnormal conditions. A cable runs from the watchdog timer reset pins to the mother board.

To set or edit tones for the alarm levels press Alt-F1 in Monitor Mode. This will bring up the Alarm Indicator Control window. For more information, refer to the Alarm Indicator Control sub-section in Section 16 (Monitor Mode).

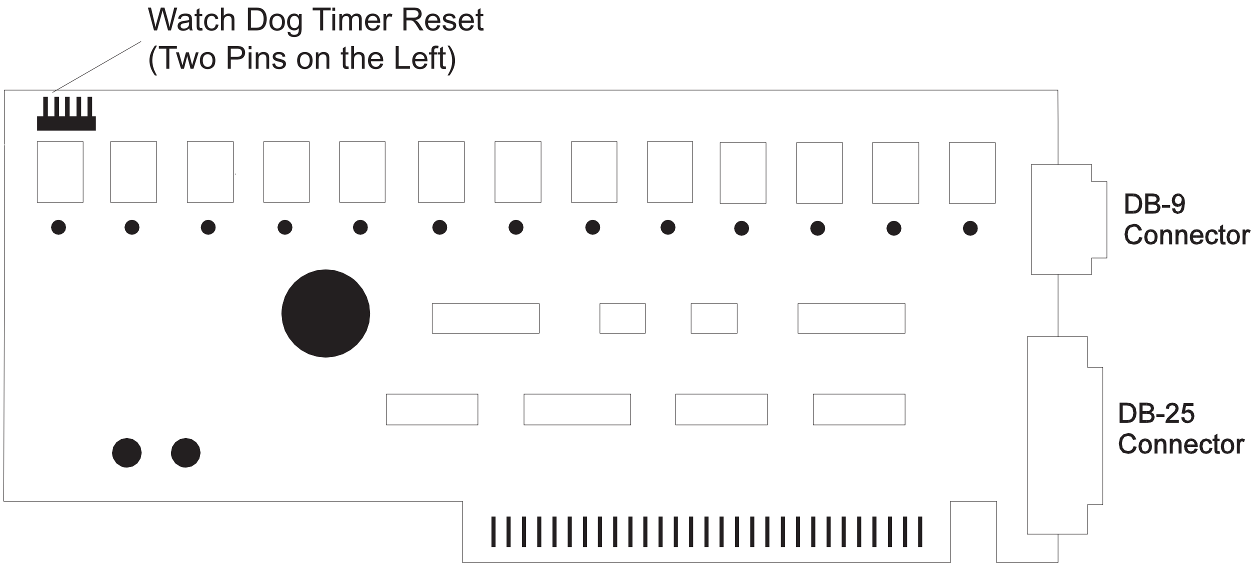


Fig. M.26 - 108 Audible Alarm Card

Contact Specifications

Mechanical Life	10,000,000 Operations
Electrical Life	5,000,000 Operations @ 24 VDC
Insulation Resistance	100 megaohms
Operating Temperature	-25 to +55 degrees C.
Contact Resistance	Less than 50 milliohms
Dielectric Strength	500 VAC, 50/60Hz 4000 VAC, 50/60 Hz
Switching Capacity	1 A @ 24 VDC/ .5 A @ 120 VAC

UL Listed

The pin-outs for the 108 Card connectors are listed in Figure M.27.

102 Local Relay Card

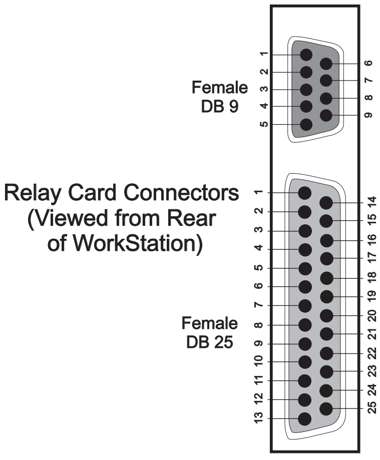
The DPS Local Relay Card (D-PC-102-10A-00) supports alarm workstations or the IAM 5 by providing twelve general purpose relays that can be controlled by derived controls, labeled controls, site controls and alarm forwarding. It is similar to the 108 card, without the audible sounding device, ACO inputs and watchdog timer.

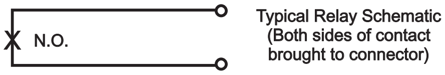
Eight of the relays are accessed via a 25-pin (DB-25) connector on the end of the card. The relays provide normally open (N/O) contacts.

A DB-9 connector provides access to 4 additional relays.

All relay specifications are the same as those for the 108 Card.

The pin-outs for the 102 Card connectors are listed in Figure M.27.





DB 9 Connector

PIN #	102 Card	108 Card
1	NC	Not Connected
2	Rly 9	Ch Cutoff 1
3	Rly 10	Ch Cutoff 2
4	Rly 11	Ch Cutoff 3
5	Rly 12	Ch Cutoff 4
6	Rly 9	Ch Cutoff 1
7	Rly 10	Ch Cutoff 2
8	Rly 11	Ch Cutoff 3
9	Rly 12	Ch Cutoff 4

DB 25 Connector

PIN #	102 Card	108 Card	PIN #	102 Card	108 Card
1	Rly 8	Vis Alm D	14	Rly 8	Vis Alm D
2	Rly 7	Vis Alm C	15	Rly 7	Vis Alm C
3	Rly 6	Vis Alm B	16	Rly 6	Vis Alm B
4	Rly 5	VisAlm A	17	Rly 5	VisAlm A
5	Rly 4	Aud Alm D	18	Rly 4	Aud Alm D
6	Rly 3	AudAlm C	19	Rly 3	AudAlm C
7	Rly 2	AudAlm B	20	Rly 2	AudAlm B
8	N/C	Not Used	21		
9	Rly 1	Aud Alm A	22	Rly 1	Aud Alm A
10	N/C	Level B Cutoff	23	N/C	Not Used
11	N/C	Level A Cutoff	24	N/C	Cutoff Groun
12	N/C	Not Used	25	N/C	Cutoff Groun
13	N/C	Not Used		N/C	Not Used

Fig. M.27 - Connector pin-outs for the 102 and 108 relay cards

Audible and Visual Alarm Card

The IAM 5's Audible and Visual Alarm Card provides ten relays, two ACO inputs and a watchdog timer circuit.

This card is similar in function to the 108 card in a T/MonXM WorkStation, except for the audible sounding device, and it does not have the 4 general purpose relays. The IAM 5 uses the speaker on the mother board as an audible alarm device, providing three prioritized audible alarm tones for use with T/MonXM software. These tones can be programmed to correspond to three alarm levels, such as critical, major and minor. The following tones are used:

TONE, SIREN, BEEP

The relay card is mounted behind the IAM 5 front panel. It is not intended to be replaced or serviced by the user.

The eight relays are access via a DB-25 female connector on the back of the IAM 5. The relays provide normally open (N/O) contacts that can be used to drive external audible and visual alarm devices, corresponding to four alarm levels (critical, major, minor and status).

Two remote alarm cutoff switches may be wired to the DB-25 connector to defeat the audible relay for levels A and B alarms. This allows ACO switches to be located near the external audible alarm devices.

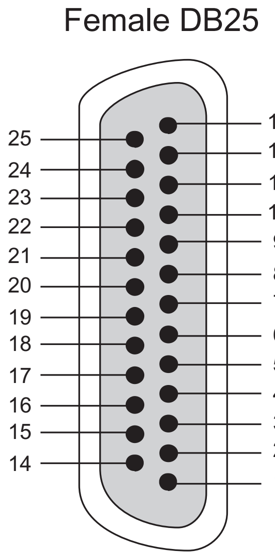
The card also contains a watch dog relay which will reset the system to recover from abnormal conditions. A cable runs from the watchdog timer reset pins to the mother board.

To set or edit tones for the alarm levels, go to Monitor Mode, Alarm Summary screen and press Alt F1. This will ring up the Alarm Indicator Control window. For more information, refer to the Alarm Indicator Control sub-section in Section 16 (Monitor Mode).

Contact Specifications

Mechanical Life	10,000,000 Operations
Electrical Life	5,000,000 Operations @ 24 VDC
Insulation Resistance	100 Megaohms
Operating Temperature	-25 to +55 degrees C.
Contact Resistance	Less than 50 Milliohms
Dielectric Strength	500 VAC, 50/60Hz 4000 VAC, 50/60Hz
Switching Capacity	1 A @ 24 VDC/.5A @ 120 VAC
UL Listed	

The pinouts for the Audible and Visual Alarm Relay connector is listed in Figure M.28.



DB25 connector

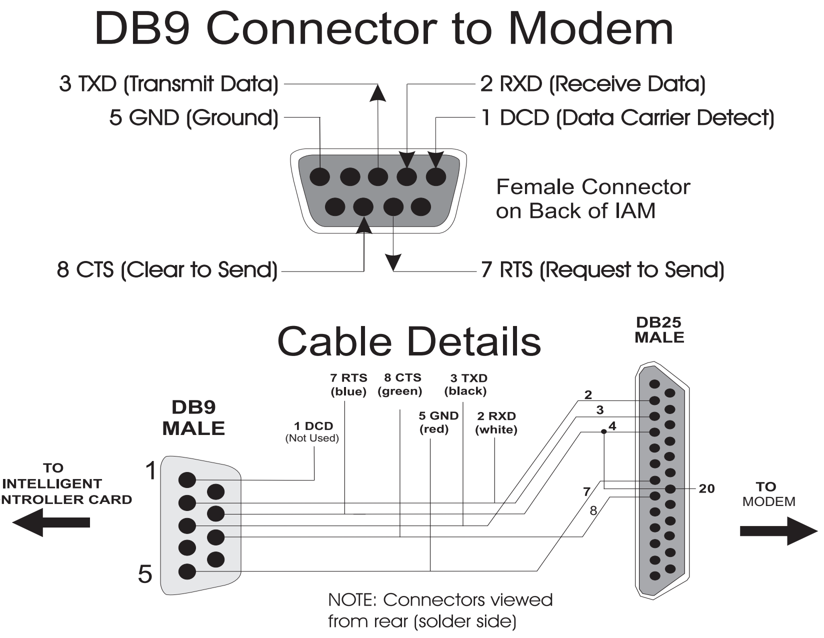
Pin #	Relay Card
1	Vis Alm D
2	Vis Alm C
3	Vis Alm B
4	Vis Alm A
5	Aud Alm D
6	Aud Alm C
7	Aud Alm B
8	N/C
9	Aud Alm A
10	Level B Cutoff
11	Level A Cutoff
12	N/C
13	N/C
14	Vis Alm D
15	Vis Alm D
16	Vis Alm D
17	Vis Alm D
18	Aud Alm D
19	Aud Alm D
20	Aud Alm D
21	Aud Alm D
22	N/C
23	Cutoff Ground
24	Cutoff Ground
25	N/C

Fig. M.28 - Audible and visual Alarm Relay Connector in the back of the IAM 5

External Modem Cable Connections

The following diagram shows the connections to build a cable for interfacing from a remote port on an Intelligent Controller Card to an external modem.

Note: The remote port must be configured for RS232. Maximum cable length is 50 feet



NOTE: Connectors viewed from rear (solder side)

Cable Part Number D-PR-720-10A-00 (6 ft.)

Fig. M.29 - Cable to connect Intelligent Controller Card port to an external modem

X.25 Card Connections

Refer to Appendix C (X.25 Card).

T/MonXM WorkStation Specifications

(For units purchased as of April 4, 2003)

Dimensions:	Full Tower Case (W) 8 3/" x (H) 23 1/4" x (D) 17"
Power Input:	120VAC; 13 AMPS; 60HZ
Humidity:	0% to 95% (non-condensing)
Back Panel Connectors:	RJ-12 (4 per 600 series card) DB15 (VGA) RJ-11 (T/Link Modem) RJ-45 (Ethernet Connectivity) DB9 (Com1 and Com2) DB25 (LPT Printer Port) DIN 5 (AT-Type Keyboard Port)
Modem:	33.6K Baud Internal ISA
Relay Contacts:	108 Card ISA-type Relay Card (12 Output Relays + Watchdog Relay) 8 Audio/Visual 4 General Purpose 1 Watchdog Relay
PCI Video Card:	16 MB, Resolution 1024 X 768
Parallel Port:	LPT1
COM Ports:	COM 1 and COM 2
LAN Interface:	10/100 BaseT
Processor:	AMD 550 MHZ
Hard Disk:	Quantum 20 GB (5400RPM)
Removable Storage:	1.44 FD Standard
Optional Storage:	Zip drive, CD-ROM
Memory:	64MB (2 Slots, All Occupied)
Slots:	5 ISA 2 PCI 1 Shared PCI/ISA
Max Port Capacity:	12 (With Internal Modem Option) (Standard)
Max Port Capacity:	16 (With External Modem Option) (Optional)
Monitor:	18.1" LCD flat panel

T/MonXM WorkStation Installation

Note: The T/MonXM WorkStation comes from the factory with all ordered hardware options installed. Use these instructions to aid in initial installation or when expanding the system by adding additional ports.

Getting Started
This section contains instructions for the physical installation of the T/MonXM WorkStation. After installing the WorkStation, go to Section 2 - Software Installation to begin the software setup

Software setup consists of the following steps:

1. Start up — see Section 2 (Starting T/MonXM Software).
2. Log on.
3. Define remote ports — see Section 9 (Define Remote Ports and Virtual/LAN Jobs).
4. Define devices — refer to the appropriate Software Module Section.
5. Define points — see Section 10 (Point Definition Tutorial).
6. Initialize the system database.
7. Monitor the system — see Section 16 (Monitor Mode).

Note: DPS Telecom recommends that you construct a log or table of port configurations and assignments as the hardware connections are made. This log will be very useful when the alarm database is prepared.

WorkStation Setup

The T/MonXM WorkStation consists of a monitor, keyboard and processor tower. Unpack these units and assemble as follows (refer to Figure M.30):

1. Connect the monitor cable to the video connector on the tower back.
2. Insert the monitor power cord into the power receptacle on the back of the monitor. The plug end of the power cord may be connected directly to an AC outlet (requires monitor power to be independently controlled) or to the auxiliary power outlet on the back of the tower with the 6” adapter cord (allows monitor power to be controlled from the tower).
3. Connect the keyboard cable to the keyboard jack on the tower back.
4. Insert the hardware key into the printer port. If a printer will be used, plug the printer cable into the back of the hardware key.
5. Connect communications lines to the tower back as follows:

   a) Connect all Alarm ports per the Intelligent Controller Card instructions. Alarm ports include the Pager line as well as those lines that go to alarm remotes and remote terminals (T/Remote) — see step 7.

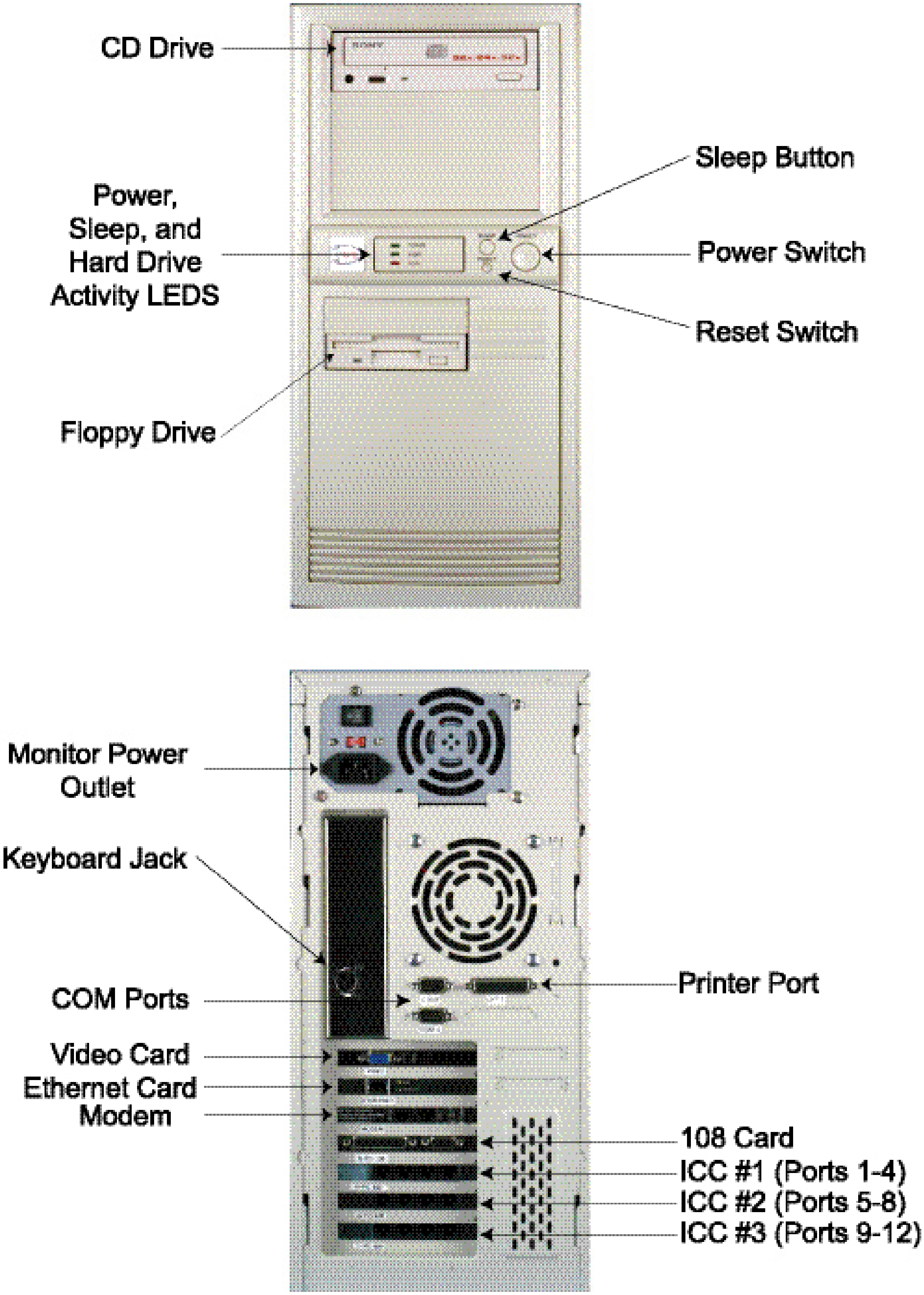


Fig. M.30 - Control and connector locations on T/MonXM WorkStation

b) Connect external audible and/or visual alarm devices and other local relay controlled devices per the 108 Audible Alarm Card instructions. Connect the 102 Relay Card per the instructions on section M-18. (The 102 card is optional.)

c) Connect any X.25 lines per the X.25 Card instructions in Appendix C. (The X.25 card is optional)

d) Connect a dial phone line to the 9600 Baud modem connector per the instructions. This line must be provided to obtain on-line support from DPS.

6. If an external modem is to be connected to any of the alarm ports refer to Figure M.37 on section M-28.
   Note: The alarm port must be configured for RS 232.
7. If a remote terminal or other RS 232 remote device that provides a DB 25 connector is used on an Intelligent Controller Card port, connect it per the instructions.
   Note: The port must be configured for RS 232.
8. If an Uninterruptible Power Source is used connect it per the instructions.
9. Insert power cord into the power inlet on the tower back. Connect the plug end to a 115 VAC outlet or to the UPS outlet, if used.
10. Press and release the tower control cover latch to open it. Turn on the tower power switch to start the system.
11. Turn on the Monitor power switch. Refer to Video Monitor subsection if the monitor requires any adjustments — see following page.
12. Go to the Starting the Software sub-section in Section 2 (Starting T/MonXM Software).

Video Monitor

The T/MonXM WorkStation ships with an 18.1” LCD flat panel color monitor. All monitor adjustments can be made from the front of the unit.

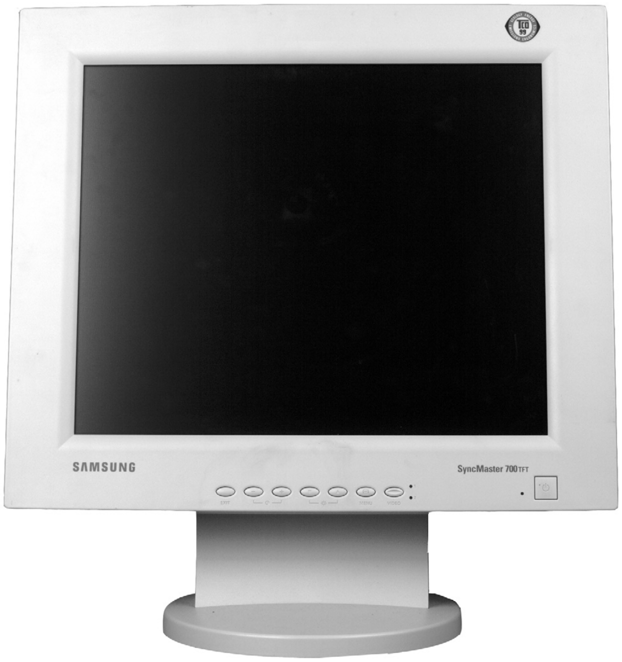
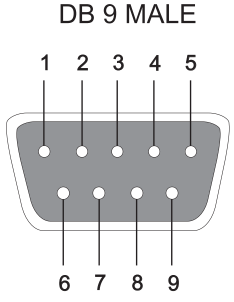


Fig. M.31 - Monitor controls are located on the front of the unit

Serial Ports

Two DB9 connectors are provided on the back of the tower for serial ports Com 1 and Com 2. One of these ports may be used for UPS support. The other should be used only at the direction of DPS Technical Support. (Alarms do not ordinarily interface at these ports.) Figure M.32 provides the connection diagram for these connectors.



NOTE: Viewed From Pin Side (outside of tower case).

PIN #	SIGNAL	DESCRIPTION	
1	DCD	Received Line Detecter	←
2	RXD	Received Data	←
3	TXD	Transmit Data	→
4	DTR	Data Terminal Ready	→
5	GND	Ground	
6	DSR	Data Station Ready	←
7	RTS	Request to Send	→
8	CTS	Clear to Send	←
9	RING	Ring Indicator	←

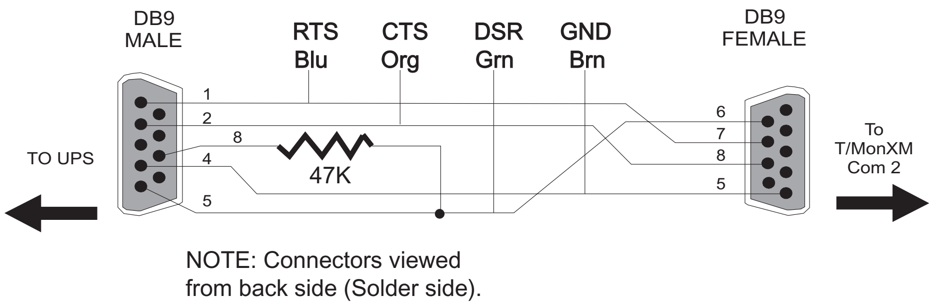
Fig. M.32 - DB9 connector pin-outs for Com 1 and Com 2.

UPS Cable Connections

The following diagram shows the connections to build a cable for interfacing from a com port on a T/MonXM WorkStation to a UPS (Best or equivalent).
Note: The UPS uses Com 2. See additional set up instructions in Appendix G.

This cable is supplied ready-made with UPS units purchased from DPS.

UPS Connector to Com 2



Cable Part Number D-PR-061-10A-00

Fig. M.33 - UPS Interface cable wiring

33.K Baud Dial Modem (T/Link)

The T/MonXM WorkStation includes an internal 33.6K Baud Modem for operation with the built-in T/Link software. The modem is compatible with the full Hayes(TM) Command set. This software and modem are used for on-line support from DPS via telephone line. This modem must be connected to a phone line to obtain this support.

The modem supports either pulse or tone dialing. It features automatic dial and redial.

The modem uses communication port COM 4.

Figure M.34 shows the locations of the line connectors. Connect the dial line to the Line Connector (upper or right hand connector) using a standard modular telephone connector.

Note: If the line is also used for normal speech connect the telephone instrument to the Phone Connector.

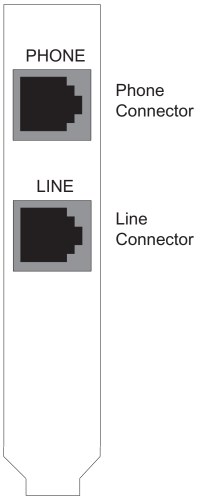


Fig. M.34 - Internal Modem is accessed from the back of the Tower

Intelligent Controller Card Pinouts

The diagrams below illustrate the pinouts for the RJ12 connectors used on the Intelligent Controller Card. Refer to these diagrams when making connections to the Intelligent Controller Card. For more information about the Intelligent Controller Card — see section M-13.

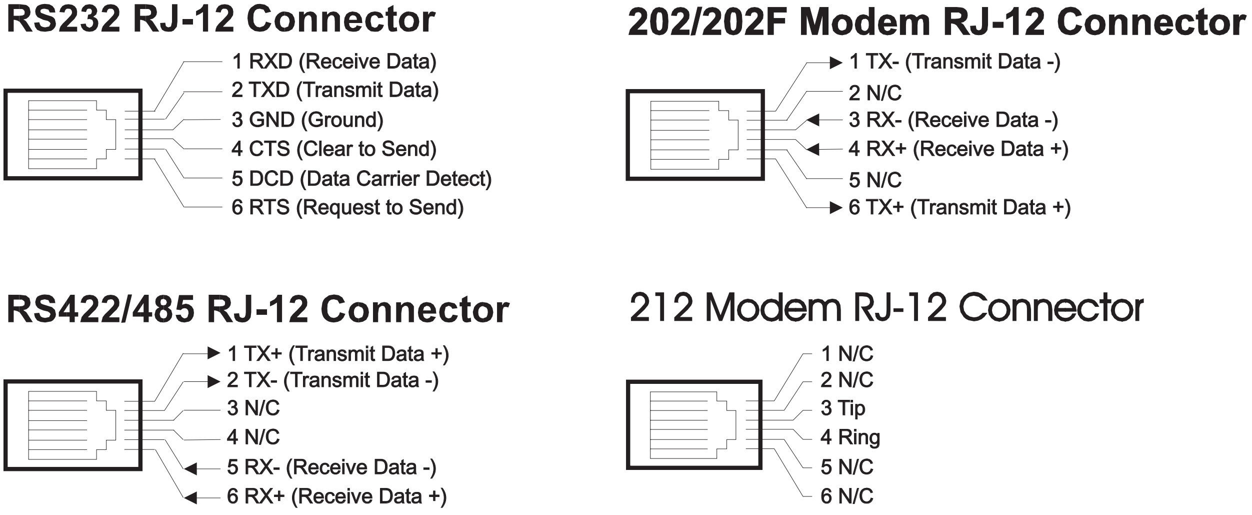


Fig. M.35 - Intelligent Controller Card pin-outs for RJ-12 connectors

Remote Terminal Cable Connections

Figure M.35 shows the connections to build a cable for interfacing from a port on an Intelligent Controller Card to a remote terminal (T/Remote or a PC running terminal emulation software). It can also be used to interface any other RS 232 device to a port.

Note: The remote port must be configured for RS 232. Maximum cable length is 50 feet.

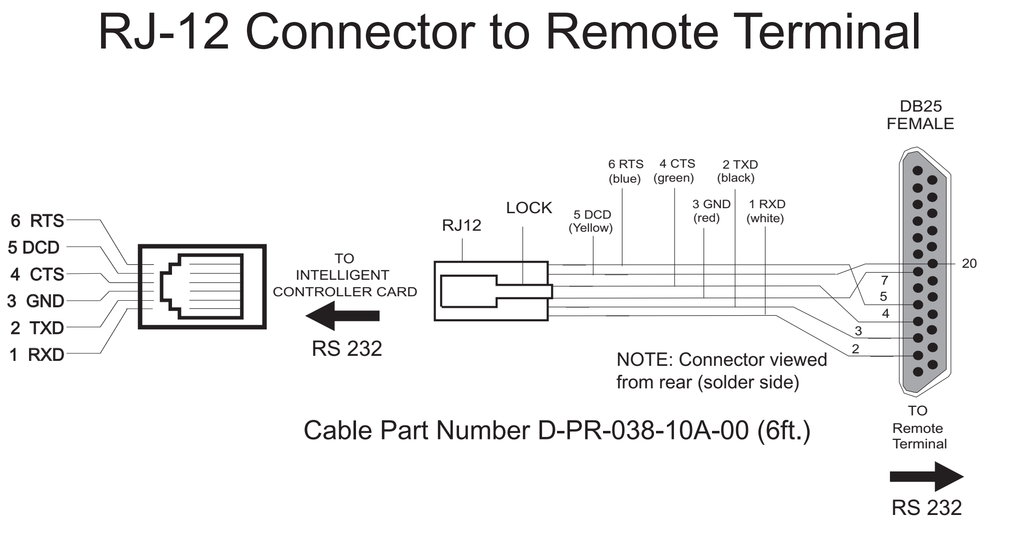


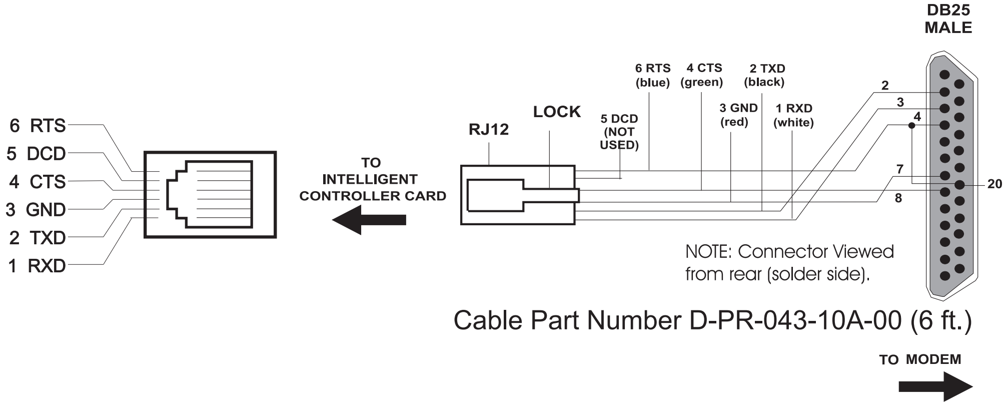
Fig. M.36 - Cable to interconnect Intelligent Controller Card to a remote terminal

External Modem Cable Connections

Figure M.37 shows the connections to build a cable for interfacing from a remote port on an Intelligent Controller Card to an external modem.

Note: The remote port must be configured for RS 232. Maximum cable length is 50 feet.

RJ-12 Connector to Modem



Cable Part Number D-PR-043-10A-00 (6 ft.)

Fig. M.37 - Cable to connect Intelligent Controller Card port to an external modem

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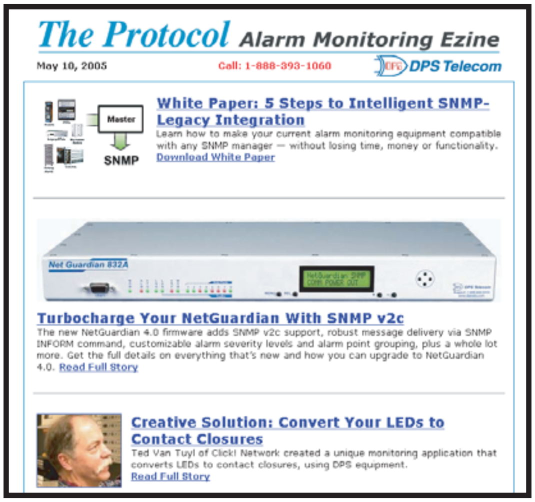

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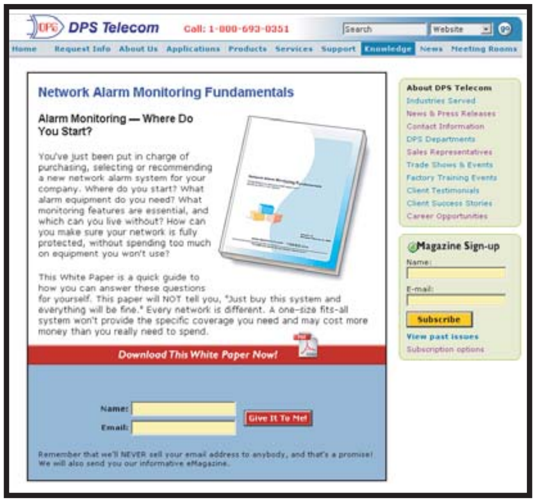

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Alarm Monitoring — Where Do You Start?

You've just been put in charge of purchasing, selecting or recommending a new network alarm system for your company. Where do you start? What alarm equipment do you need? What monitoring features are essential, and which can you live without? How can you make sure your network is fully protected, without spending too much on equipment you won't use?

This White Paper is a quick guide to how you can answer these questions for yourself. This paper will NOT tell you, "Just buy this system and everything will be fine." Every network is different. A one-size fits-all system won't provide the specific coverage you need and may cost more money than you really need to spend.

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