# NOKIA

# MF Manager C2.5

**User's Manual** 

C33846.87.A1

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### Summary of changes

Document	Date	Comment
C33846003SE_00	09 Jun 2000	Valid for programs:
		P31757.0106 release A
		P31757.5156 release A
DN00276927 Issue 1 en	10 Apr 2001	New document numbering scheme adopted.

# About this manual

This manual is intended for the users of MF Manager C2.5. It covers all the information you need to start using MF Manager to configure NMS/10 MF or PDH Polling HW and SW to poll the managed PDH/Primary Rate network.

#### Note

In this manual both NMS/10 MF and PDH Polling are sometimes referred to as *NMS/10 MF*. Note, however, that PDH Polling has some limitations compared to NMS/10 MF.

This User's Manual covers the following topics:

- Introduction (Chapter 2)
- Installation instructions (Chapter 3)
- Authorising the licence (Chapter 4)
- Getting started (Chapter 5)
- Reference (Chapter 6)
- Connecting Nokia Managers to NMS/10 MF or PDH Polling workstation (Appendix A)
- Directory hierarchy (Appendix B)
- Configuration report format (Appendix C)
- Network Test Client (Appendix D).

We recommend that you read Chapter 5, 'Getting Started' to get acquainted with the operation of MF Manager.

Please familiarize yourself with Microsoft Windows NT before operating this program.

#### For further information see also:

- NMS/10 MF Agent C2.0 Agent Configuration Tool User Manual
- NMS/10 MF C2.0 Operating Manual
- NMS/10 MF C1.0 Operating Manual
- PDH Polling HW C1.0 & SW C2.0 Installation Instructions
- PDH Polling C1.0 Installation Instructions
- Microsoft Windows NT user documentation.

### 1.1 Typographic conventions

The table below presents the conventions that are used in this *MF Manager User's Manual*:

Italic font	Indicates a word or phrase that is emphasized, or a reference to the title of a manual, example: Refer to the NMS/10 MF Operating Manual.
Bold font	Indicates the title of a window, or an option, command, field or group, or anything that you must type exactly as it appears, examples: Help → Index means: choose Index from the Help menu. A:\install means: type A:\install
ALL CAPITALS	Indicate a directory or file name, example: INSTALL.EXE
SMALL CAPITALS	Indicate the keys of the terminal keyboard, example: CTRL
	Highlights the start of a procedure.

#### Table 1. Typographic conventions

# 2

# Introduction to MF Manager C2.5

This chapter introduces MF Manager C2.5. It covers the following topics:

- System architecture (Section 2.1)
- General features (Section 2.2)
- User interface (Section 2.3)
- System requirements (Section 2.4)
- Compatibility (Section 2.5)
- Product codes (Section 2.6)
- Copyright notice (Section 2.7).

### 2.1 System architecture

MF Manager is a Windows NT based application for configuring NMS/10 MF and PDH Polling.

MF Manager C2.5 runs under Microsoft Windows NT Workstation version 4.0 and is compatible with NMS/10 MF C2.0, NMS/10 MF C1.0, PDH Polling C2.0, and PDH Polling C1.0.

NMS/10 MF and PDH Polling are used for collecting Q1 alarms and other messages from Nokia's PDH/Primary Rate equipment, and mediating between these equipment and a supervising NMS.

NMS/10 MF provides 16 management buses (3000 functional entities), which can be protected, and mediates with NMS/10 and NMS/100(0).

PDH Polling provides 8 management buses (1500 functional entities), which can be protected, and mediates with NMS/10.

NMS/10 System Frame is a platform for products monitoring network alarm information and configuring Nokia's Eksos N20 and PDH/Primary Rate transmission network elements, SDH radios, and Synfonet nodes.



Figure 1. An example of a management network with NMS/10 System Frame as the supervising network management system

### 2.2 General features

MF Manager is an application for configuring NMS/10 MF and PDH Polling, including the Polling card and Q1 Interface cards, and fault monitoring software, which poll the managed network.

The main functions of MF Manager are:

- Creating a new configuration with default values
- Modifying an existing configuration, either on-line or off-line
- Modifying bus, PDH Manager interface, OS interface and printer spooler settings
- Configuring filter and alarm classifications of the SNMP interface
- Configuring network test interface

- Editing address, station and device type values
- Starting a network scan and utilizing its results
- Defining performance monitoring jobs
- Defining auto-discovery and utilizing its results
- Starting a fault status consistency check
- Creating filter and alarm classification definitions
- Printing the current configuration.

### 2.3 User interface

MF Manager consists of an application window inside which is the **Configuration** window (Figure 2). The user interface complies with the standard Windows NT controls.

The **Configuration** window is used for creating a new configuration or changing an existing configuration. It contains a common part and three tabs for viewing and editing configurations. The common part contains information about the current configuration. Below is a brief introduction to the three tabs:

- **Buses** tab contains bus number, polling unit number, primary polling direction port and speed, secondary polling direction port and speed (if the bus is protected) for a bus, and the number of FEs and NEs configured on the bus. Moreover, information about the suspension of the bus is shown.
- **PDH Manager Interfaces** tab contains all the PDH manager interfaces in the current configuration. The list box contains PDH manager interface number, TCP/IP port and filter and alarm classification names.
- **OS Interfaces and Printer Spoolers** tab contains all the OS interfaces and printer spoolers in the current configuration. The **OS Interfaces** list box contains OS interface number, command port, alarm port, filter and alarm classification names. The **Printer Spoolers** list box contains the printer spooler number and printer spooler name defined in Windows NT, and filter and alarm classification names.

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홾	MF	Ma	nager	C2.5 - e	eswd0780	kara (no	t connec	ted)					_ 🗆	×
<u>M</u>	lanag	ge <u>B</u>	<u>E</u> dit <u>D</u> i	onfigure	<u>P</u> erforman	ice <u>V</u> iev	v <u>W</u> indov	, <u>H</u> elp						
	<b>3</b>	<u>7</u> 2	ă: Þ		<b>2 🛯</b> 🛓	<b>1</b>	<b>B</b>	2						
	C	onfig	uratio	n										×
Ш	<u>г</u> С	Config	uration	and user	information						- Address	information (FE/N	IE)	- I
Ш	N	ame:		eswo	10780kara							in configuration	in fault polling	
Ш	T,	уре:		NMS	/10 MF C2.	0					ND	2632 / 2333	2621 / 2331	
Ш	U	serna	ame:	PCC	064-130-187	'\smith					Е	9/ 1	9/ 1	
Ш	S	ecuril	ty level:	NMS	/10 Networ	k Adminis	trator				Total	2641 / 2334	2630 / 2332	
Ш			-1			,								1
Ш	B	uses	PDH	Manager	Interfaces	OS Inte	rfaces and	Printer 9	poolers					.
Ш	LΓ	Bus	Unit	P. port	P. speed	S. port	S. speed	FEs	NEs	S	uspended			
Ш		0	1	1A	600			446	414	_				
Ш		1	1	5A	600	5B	600	430	351					
Ш		2	1	6A 104	600 600			269	269					
Ш		4	1	44	600			314	293					
Ш		5	1	12A	600			472	316					
Ш		7	1	14A	9600			0	0					
Ш		9	1	ЗA	9600			497	497					
Ш														
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Re	ady												2	) //.

Figure 2. The user interface of MF Manager

### 2.4 System requirements

This section describes the hardware and software requirements of the computer for running MF Manager C2.5.

### **MF Manager**

• Microsoft Windows NT Workstation or Server version 4.0 with Service Pack 5 (or later), or

Microsoft Windows NT Server 4.0, Terminal Server Edition with Service Pack 5 (or later).

- Personal computer with Pentium-compatible processor or faster
- Minimum of 32 megabytes (MB) of RAM (64 MB recommended)

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- 5 MB of hard disk space and 1 MB per each saved configuration
- CD-ROM drive for software installation
- SVGA-compatible (800x600) or better graphical colour display. A 17" or larger monitor is recommended.
- Mouse, trackball or equivalent pointing device
  - mouse port and driver software
- Network interface card utilising TCP/IP protocol for communicating with NMS/10 MF.
- NMS/10 MF or PDH Polling to be configured is successfully installed and commissioned.

# 2.5 Compatibility

MF Manager C2.5 is compatible with:

- Windows NT Workstation 4.0 with Service Pack 5 or later
- Windows NT Server 4.0 with Service Pack 5 or later
- Microsoft Windows NT Server 4.0, Terminal Server Edition with Service Pack 5 (or later)
- NMS/10 MF C2.0
- NMS/10 MF C1.0
- PDH Polling HW C1.0
- PDH Polling SW C1.0 and C2.0.

### 2.6 **Product codes**

### **MF Manager**

P31757.01	MF Manager C2.5 (media + licence for 1 system)
P31757.02	MF Manager C2.5 (media + licence for 5 systems)
P31757.03	MF Manager C2.5 (media + licence for 10 systems)
P31757.51	MF Manager C2.5 (software upgrade for 1 system)
P31757.52	MF Manager C2.5 (software upgrade for 5 systems)

P31757.53 MF Manager C2.5 (software upgrade for 10 systems).

Manuals

C33846.22 *MF Manager C2.5 User's Manual.* 

# 2.7 Copyright notice

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# Installation

This chapter describes the hardware and software installation procedures for MF Manager C2.5. It covers the following topics:

- Introduction (Section 3.1)
- Installation (Section 3.2).

This chapter assumes that:

- You have the NMS/10 SR CD-ROM.
- The computer in which you are installing MF Manager fulfils the hardware and software requirements, as detailed in Section 2.4, 'System Requirements'.
- Microsoft Windows NT has been previously installed and it is running properly.
- Any previous version of MF Manager has been uninstalled.
- You know how to use Microsoft Windows NT.

### 3.1 General

The MF Manager software is supplied with a **Setup** program, which creates the necessary directories for MF Manager and then copies the program files to the directories.

When installing MF Manager, a 30-day trial licence is issued for your use. Refer to Chapter 4, 'Authorising the licence' for details on acquiring a permanent licence.

### 3.2 Installing software

### Note

To be able to install MF Manager, you need to log on Windows NT with administrator rights. If you wish to use domain groups, you must log on with adequate privileges for the domain controller.

### 1 <sup>1</sup> 2 3

### To install MF Manager:

- 1. Log on Windows NT as an administrator. Close all other applications before installing MF Manager.
- 2. To run the Setup program (only follow option a or b):
  - a. If you are installing on Windows NT Workstation or Server, insert the NMS/10 SR CD-ROM in the drive (e.g. D:). After a few seconds, autoplay starts the Setup.

If your computer does not support autoplay, follow the bulleted instructions below:

- Select **Run...** from the **Start** menu.
- Enter **D:\autorun.exe** (if D: is the CD-ROM drive letter) in the **Open:** field and click on **OK**.
- b. If you are installing on Windows NT Server 4.0 Terminal Server Edition, start the installation with the **Add/Remove Programs** in the Control Panel, and click **Install...** Follow the instructions given in the dialog box, selecting **D:**\auto run.exe (if D: is the CD-ROM drive letter) as the install file. After installation TSE will be back in the Execute mode.
- 3. You must accept the terms and conditions of the Software Licence to continue. Click **I accept** to display the installation main window.
- 4. The NMS/10 System Release installation main menu is displayed. Click MF Manager C2.5.
- 5. Click **Install Product** to start the installation of MF Manager.
- 6. The **File Download** dialog box is displayed. Select **Run this program from its current location** and click **OK**.
- 7. The **Security Warning** dialog box is displayed. Click **Yes** to continue.

8. After initialization, the **Welcome** dialog box (Figure 3) appears to indicate the start-up of the installation program.

Welcome			х
	₽	Welcome to the MF Manager C2.5 Setup program. This program will install MF Manager C2.5 on your computer.	
	It is stron before ru	gly recommended that you exit all Windows programs nning this Setup program.	
	Click Car have run	ncel to quit Setup and then close any programs you ning. Click Next to continue with the Setup program.	
	WARNIN	IG: This program is protected by copyright law and nal treaties.	
~~~	Unauthor portion of will be pro	ized reproduction or distribution of this program, or any it, may result in severe civil and criminal penalties, and osecuted to the maximum extent possible under law.	ł
			_
		Next > Cancel	

Figure 3. MF Manager installation, Welcome dialog box

There are usually three buttons in the installation dialog boxes:

- Next> continues to the next step of installation procedure
- **Back** returns to the previous step of installation procedure
- **Cancel** aborts the installation.

Click the **Next>** button to proceed with the installation.

9. The **Software License Agreement** dialog box appears. Read the agreement.

Click **Yes** if you accept the agreement and wish to continue with the installation.

If you do not accept the agreement, click **No** to quit the installation.

10. Depending on the following conditions, MF Manager can be installed in different folders:

If NMS/10 MF C2.0 is installed on the same computer, Setup asks if you wish to install MF Manager in the NMS/10 MF directory hierarchy.

If the environment variable NOKIAMGR is already defined on the system, MF Manager will be installed in that folder.

If the environment variable NOKIAMGR is not defined on the system, and there is a MF Manager licence file in the folder C:\NOKIAMGR\MFM, MF Manager will be installed in this folder.

Otherwise, the **Choose Destination Location** dialog box is displayed (Figure 4). Select one of the provided options, or if you want to install the files elsewhere, select **Other folder**.

Click the **Next>** button to proceed with the installation.

If you selected **Other folder**, click the **Browse...** button in the **Choose Destination Location (continued)** dialog box and select another folder, or replace the default folder by typing in a new one.

Choose Destination Loca	ation
	Setup will install MF Manager C2.5 in the following folder. To install to a different folder, choose 'Other folder'. © C:\NokiaMgr © C:\Program Files\Nokia\NMS10 © Other folder
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure 4. Choose Destination Location dialog box

11. The **Select Program Folder** dialog box appears. In this dialog box you can name the program group to which the MF Manager software icons will be located.

Click the **Next>** button to proceed with the installation.

12. The **Start Copying Files** appears and shows you the current settings for the installation.

If you accept the settings, click the **Next>** button to proceed with the installation. Otherwise click **Cancel** to abort the installation or **<Back** to return to change the settings.

In addition to MF Manager, the following programs are installed:

- TMC-MF Converter
- Network Test Client
- NMS/10 Licence Manager.
- After copying the files to hard disk, the licence system is activated, NMS/ 10 security groups are created, and the file and directory permissions are set.
- 14. The **Setup Complete** dialog box appears (Figure 5). If you wish to read the README file, check the corresponding check box.

Click the **Finish** button to complete the installation and setup.



Figure 5. Setup Complete dialog box

### Note

A 30-day trial licence is issued for your use during the installation. Refer to Chapter 4, 'Authorising the licence' for details on the Licence Manager.

Refer to Chapter 5, 'Getting Started' for starting and configuring MF Manager.

For more information about using NMS/10, please refer to the *NMS/10 System Release User Manual.* 

# **4** Authorising the licence

This chapter describes how to authorise the MF Manager licences, and assumes that:

- MF Manager is installed on your computer.
- You are entitled to a licence for this installation. The number of licences available depends upon the product code for the package you have purchased.

) Caution

Moving the PC clock backwards disables any existing licences.

### 4.1 Software licence validation

The licence verification system used by Nokia is a software licence based on a Site Code generated for the computer and a Site Key provided by Nokia Customer Services.

NMS/10-related products are protected by software controlled licensing system. Before you can use NMS/10 System Frame or other licence-protected applications like MF Manager, you must have a licence for your installation.

You are granted an automatic 30-day trial licence when starting up MF Manager for the first time. Note that for each release, this trial licence can be granted only once on a single PC. Thus, if you reinstall the software after the trial licence expires, a new trial licence will not be granted. In order to set the system up for permanent operation you need to purchase a corresponding software licence from Nokia to get a Site Key installed on your system.

The NMS/10 Licence Manager program is a tool to help the customers of Nokia to manage licensing of NMS/10 related applications.

When you run Licence Manager on the computer on which you have installed the software, a Site Code will be generated automatically. Nokia Customer Services will supply you with a Site Key that matches this Site Code.

## () Caution

The software licence is based on the machine and disk configuration and will be lost if a disk is replaced or reformatted. If you have a disk failure, you will need to contact Nokia Customer Services to get a new Site Key for your restored software.



Figure 6. Software licence sequence

# 4.2 Authorising a new licence

# To authorise a new licence follow the steps below:

 Start the Licence Manager from the Windows NT Start menu (Programs → MF Manager → NMS10 Licence Manager). The NMS/10 Licence Manager dialog box is displayed with the current licence status of NMS/ 10 SR products.

🐲 NMS/10 Licence M	anager	
Licence protected N	MS/10 application:	<u>S</u> et Licence
MF Manager		Licence <u>I</u> n
		Licence <u>O</u> ut
Authorization status:	TIME-LIMIT LICENSED	
Authorization date:	5 October, 1999 (18:11:36)	E <u>x</u> it
Valid until:	4 November, 1999 (18:11:36)	Help
Days left:	1	Generate fax

Figure 7. NMS/10 Licence Manager dialog box (time-limit licence)

- 2. Select **MF Manager**.
- 3. Click on **Generate fax**. A dialog box for preparing the fax is displayed. Fill in your contact information, the licenced product serial number and the number of copies you request (1, 5, or 10).
- 4. Click **OK**. This prints the **Authorisation Request** fax sheet, including the newly generated Site Code (a unique number for the PC installation).
- 5. Send the fax and a copy of your original Licence Agreement to Nokia Customer Services.
- 6. Nokia Customer Services supplies a site key code.

7. In the Licence Manager, select **MF Manager** and click **Set Licence...**. The **Set Licence** dialog box is displayed.

Set Licence - MF Manager	×
To get your licence, please contact Nokia Customer Services and quote the following site code:	
Site <u>c</u> ode:	
DF17 A900 5136 08BE 66	
· · · · · · · · · · · · · · · · · · ·	
Nokia Customer Services will supply a site key.	
Site <u>k</u> ey:	

Figure 8. Set Licence dialog box

- 8. Enter the code supplied to you in the **Site key**: edit field.
- 9. Click Set.
- 10. If the validation is successful, the confirmation message shown in Figure 9 is displayed.



Figure 9. Licence confirmation message

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# 4.3 Upgrading a trial licence

# 

If you have a trial licence, you can upgrade it to a permanent software licence by following the steps below:

- 1. The software and trial licence must already be installed in the target machine.
- 2. Order a full software licence from your Nokia Account Manager.
- 3. Follow the same steps as in section 4.2.

## 4.4 Transferring a licence

It is not necessary to contact Nokia Customer Services if you wish to move your licensed software from one PC to another. The Licence Manager software can transfer the software licence between the two PC's.

The sequence below assumes that you will be using a floppy disk to hold the registration and licence information. If both PC's are connected to a LAN and have access to a shared directory, you could also use the path to the directory as the location of the registration and licence imprint files.



Figure 10. Software licence sequence

# **To transfer the licence, follow the steps below:**

- 1. Install the software in the target computer.
- 2. Insert a blank floppy disk in the target computer and run Licence Manager.

Licence protected N	MS/10 application:	<u>S</u> et Licence
MF Manager		Licence <u>I</u> n
		Licence <u>O</u> ut
Authorization status:	NOT LICENSED	
Reason:	AUTHORIZATION TIME	Exit
	RUNOUT	<u>H</u> elp
		Generate fax

Figure 11. NMS/10 Licence Manager dialog box (no licence)

- 3. Select **MF Manager**.
- 4. Select Licence In.... The Licence Transfer dialog box is displayed.



Figure 12. Licence Transfer dialog box (Step 1)

- 5. Enter a path. Usually you will need to enter only A:\ in order to transfer the licence to a floppy disk.
- 6. Click on **OK**.

Unless your copy of NMS/10 was unlicensed, the message shown in Figure 13 is displayed to warn you that the previous trial licence will be cancelled.

LicMan	×
?	This operation will kill the existing trial licence. Do you really want to continue?
	Yes No

Figure 13. Kill licence warning message

7. Select Yes.



Figure 14. Licence transfer succeeded message

8. Move the disk to the source computer which has the existing licence and run Licence Manager. The **NMS/10 Licence Manager** dialog box is redisplayed as shown in Figure 15.

Licence protected N	MS/10 application:	<u>S</u> et Licence
MF Manager	T	Licence <u>I</u> n.
		Licence <u>O</u> ut
Authorization status:	PERMANENTLY LICENSED	
Number of copies:	1	E <u>x</u> it
A 11 1 12 14	(1) 1000	<u>H</u> elp
Authorization date:	4 November, 1333	Generate fa
Licence for version:	C2.5	

Figure 15. NMS/10 Licence Manager dialog box (licenced)

- 9. Select MF Manager.
- 10. Select Licence Out....

Licence Transfer - MF Manager	×
$oldsymbol{C}$ Step 1: Create registration files on the target computer	
Step <u>2</u> : Read in the registration files and write out licence files on the source computer	
old C Step 3: Read in the licence files on the target computer	
Path to read registration files and write licence files:	
AN	
OK Cancel	

Figure 16. Licence Transfer dialog box (Step 2)

11. Enter the correct path if drive A: is not the location of the directory.



12. Select OK.



Figure 17. Transfer Out operation succeeded message

13. Move the disk (which now contains the licence) back to the target computer which was used to create the registration imprint file. (The disk containing the licence will not transfer the licence to any other computer.)

### ) Caution

After you have read the registration file and written the licence imprint file (Step 3 in Figure 10), the source machine no longer has a licence. The only way to continue using the software is to transfer the licence to the target computer. If you decide to keep the licence on the source computer after you have written the licence imprint file, you will have to complete the transfer to the target computer and then repeat the transfer process to return the licence to the original machine. Do not lose or damage the disk containing the licence imprint file before the licence transfer is completed since the original licence now resides on the disk.

14. Run Licence Manager again on the target computer.

Licence protected N	MS/10 application:	<u>S</u> et Licence
MF Manager		Licence In
		Licence <u>O</u> ut
Authorization status:	NOT LICENSED	
Reason: AUTHORIZATION TIME	E <u>x</u> it	
	RUNOUT	<u>H</u> elp
		Generate fax

Figure 18. NMS/10 Licence Manager dialog box (no licence)

- 15. Select MF Manager.
- 16. Select Licence In....
- 17. If drive A: is not the location of the file, enter the path and directory containing the file.
- 18. Click on **OK**.

Licence Transfer - MF Manager	×
$igodoldsymbol{ imes}$ Step 1: Create registration files on the target computer	
C Step 2: Read in the registration files and write out licence files on the source computer	
Step <u>3</u> : Read in the licence files on the target computer	
Path to read licence files:	
OK Cancel	

Figure 19. Licence Transfer dialog box (Step 3)

- 19. The licence is transferred from the disk to the target PC.
- 20. Run the software on the target computer. The source computer will still have the software installed, but its licence is invalid.



Figure 20. Licence Transfer succeeded message

# **Getting started**

This chapter explains the basic principles of operation of MF Manager. It covers the following topics:

- Security (Section 5.1)
- Starting MF Manager (Section 5.2)
- Working with NMS/10 MF configurations (Section 5.3)
- Configuring NMS/10 MF and PDH Polling (Section 5.4)
- Using online help (Section 5.5)
- Printing (Section 5.6)
- Making backups (Section 5.7)
- Restoring backups (Section 5.8)
- Exiting MF Manager (Section 5.9).

This chapter assumes that:

- The MF Manager program has been installed in your computer as described in Chapter 3.
- A licence has been authorised as described in Chapter 4.
- There is a network connection available between the computer with MF Manager and NMS/10 MF.

For information about operating NMS/10, refer to the *NMS/10 System Release User Manual*.

### 5.1 Security

For additional information on user groups and shares created by MF Manager and NMS/10 MF installation programs, refer to Appendix A.2.

The NMS/10 security model defines five user groups that are used as security levels. The user groups, sorted in ascending order by the security level, are:

- NMS/10 Operator
- NMS/10 Basic
- NMS/10 Experienced
- NMS/10 Network Administrator
- NT Administrator.

The *NT Administrator* group is a combination of two predefined Windows NT user groups: *Domain Administrator* and *Local Administrator*.

If you do not belong to any of the user groups, MF Manager displays an error message and does not start. If you belong to multiple user groups, the most powerful user group defines the security level.

#### Note

MF Manager installation program creates the first four user groups. You (or the administrator) must add your username to one of the security groups. You must belong in the security group both on the local computer and on the NMS/10 MF computer.

Initially all restrictions are enforced according to user security level on the local computer. When MF Manager connects to an NMS/10 MF C2.0, it re-checks to which security group you belong on that computer. If it is lower, that will be used. In some cases, e.g. you do not belong in any of these groups on the system, you are not allowed to do anything on that computer.

The section below describes the operations allowed on each security level (the next level always includes all the allowed operations on the previous levels):

#### NMS/10 Operator

Can create a new configuration or open an existing local configuration, but cannot save changes. **Save** or **Save As...** commands only validate the configuration.

#### NMS/10 Basic

Can connect to the NMS/10 MF, but cannot send changes

#### Note

Configuration files are overwritten on the local PC.
Can work with network scan and auto-discovery log files that are on the local PC, but cannot remove the log files or anything from them. Can save the configuration. Can view the date, time, timezone, and daylight saving settings on the NMS/10 MF workstation, but cannot change them. Can view the status of the NMS/10 MF processes and make queries about current users on the selected system.

#### NMS/10 Experienced

Can fully work with network scan and auto-discovery log files, both local and remote. Can send the configuration.

#### NMS/10 Network Administrator

Can fully use MF Manager: define fault status consistency checks and network scans; set the date, time, timezone, and daylight saving settings on the NMS/10 MF workstation; stop, start, and restart NMS/10 MF processes and restart the NMS/10 MF workstation.

#### NT Administrator

Can manage Windows NT access rights, for example, define users' security levels using the NMS/10 user groups. This is done using Windows NT's own security features and tools.

## 5.2 Starting MF Manager

#### 1 2 3

#### To start MF Manager:

- 1. Log on Microsoft Windows NT.
- 2. Select the **MF Manager** item found from the Windows NT 4.0 **Start**  $\rightarrow$  **Programs**  $\rightarrow$  **MF Manager** menu.

An empty main window titled **MF Manager C2.5** is displayed (Figure 21).

🗱 MF Manager C2.5	×
<u>M</u> anage <u>E</u> dit <u>C</u> onfigure <u>P</u> erformance <u>V</u> iew <u>W</u> indow <u>H</u> elp	
Ready	

Figure 21. MF Manager starting window

## 5.3 Working with configurations

MF Manager has two kinds of configurations: an off-line configuration and an online configuration.

An off-line configuration is opened with **Manage**  $\rightarrow$  **Open...**, or created with **Manage**  $\rightarrow$  **New...**. With an off-line configuration, you are working with a configuration on the local PC. A connection to the NMS/10 MF is not needed, and hence off-line configurations can be created in advance to be utilised later. The configuration is not necessarily up-to-date. A new configuration is always off-line at the beginning.

An on-line configuration is opened with **Manage**  $\rightarrow$  **Connect...**. With an on-line configuration, you are working with the configuration on the NMS/10 MF. There is a connection to the NMS/10 MF and the up-to-date configuration is copied from there.

A current configuration is the configuration (off-line or on-line) you are working with.

#### Naming configurations

An off-line configuration can have any name, as long as the name is a valid computer name (existing or non-existing). The length of the name can be 15 characters.

An on-line configuration name is always the same as the computer name of the NMS/10 MF or PDH Polling workstation.

#### Sending configurations

You can send the current configuration to NMS/10 MF or PDH Polling with the command **Manage**  $\rightarrow$  **Send**. If you are working with an on-line configuration, the configuration is activated immediately. If the configuration is off-line, the configuration is activated in the next restart of NMS/10 MF or PDH Polling.

#### Note

The off-line configuration name must be the same as the computer name of NMS/ 10 MF. Use Manage  $\rightarrow$  Save As... if necessary.

#### Note

MF Manager restarts the NMS/10 MF automatically when an off-line configuration is sent.

You cannot use Manage  $\rightarrow$  Send if:

- there is no **Configuration** window or it is iconized
- the user level is lower than NMS/10 Experienced
- configuration is a new configuration, i.e. it has no name
- connection to NMS/10 MF is open, but there are no changes in the configuration.

#### **Connection to NMS/10 MF**

When connecting to NMS/10 MF or PDH Polling with MF Manager, you must have adequate user rights on the target workstation.

For more information, refer to Appendix A, 'Connecting Nokia Managers to NMS/10 MF or PDH Polling workstation'.



#### **Configuration types**

NMS/10 MF C2.0

This configuration contains buses, PDH Manager Interfaces, OS Interfaces, Printer Spoolers, SNMP Interface, and Network Test Interface. You can also define the performance monitoring.

There are one polling unit and two Q1 Interface units installed in an industrial PC. Configuration can contain up to 16 buses.

#### Note

PDH Manager Interface does not contain FM information.

*NMS/10 MF C1.0* 

This configuration contains buses, PDH Manager Interfaces, OS Interfaces, and Printer Spoolers. You can also define the performance monitoring.

There are one polling unit and two Q1 Interface units installed in an industrial PC. Configuration can contain up to 16 buses.

#### Note

This configuration type was PDH Polling and OS Interface in MF Manager C2.0.

#### PDH Polling C2.0

This configuration contains buses and PDH Manager Interfaces. User can also define the performance monitoring.

There are one polling unit and one Q1 Interface unit installed in a desktop PC. Configuration can contain up to 8 buses.

#### Note

This configuration type was PDH Polling and PM Poller in MF Manager C2.0.

PDH Polling C1.0

This configuration contains buses and PDH Manager Interfaces.

There is one polling unit and one Q1 Interface unit installed in a desktop PC. Configuration can contain up to 8 buses.

#### Note

This configuration type was PDH Polling in MF Manager C2.0.

#### Interfaces

PDH Manager interface

These interfaces are used by PDH Alarm Manager and node managers.

OS interface

This interface is used by NMS/100(0).

Printer spooler

This interface is used for printing out alarms.

SNMP interface

This interface is used for sending alarm information via SNMP.

Network Test interface

The Network Test client runs tests through this interface.

#### 5.3.1 Creating a new configuration (off-line)

The following steps are required to enable MF Manager to work properly with NMS/10 MF or PDH Polling. For details on configuration types, refer to section 6.22, 'Configuration window'.

#### Note

You must at least give an equipment ID for a new configuration before you can save or send it. For the configuration type *NMS/10 MF C2.0* also the logon domain of Network Test Interface is required.

## To create a new configuration:

1. Choose the menu command Manage  $\rightarrow$  New. Select the configuration type in the Configuration Type dialog box and click OK.

Select the configuration type according to Table 2, depending on which configuration you wish to start.

Table 2. Configuration types of MF Manager

Configuration type	Equipment
NMS/10 MF C2.0	NMS/10 MF C2.0
NMS/10 MF C1.0	NMS/10 MF C1.0
PDH Polling C2.0	PDH Polling Functionality C2.0
PDH Polling C1.0	PDH Polling Functionality C1.0

- 2. A new configuration with default values will be opened in the **Configuration** window.
- 3. Give an equipment ID for the configuration by choosing Configure  $\rightarrow$  PDH Polling General... and filling in the Equipment ID in the Equipment ID tab of the PDH Polling General dialog box.

If you selected *NMS/10 MF C2.0* as the configuration type, define the logon domain in the **Network Test Interface** dialog box by choosing **Configure**  $\rightarrow$  **Network Test Interface...** 

4. Add a bus to the configuration:

Click on the **Buses** tab to make it active.

Choose **Configure**  $\rightarrow$  **Bus**  $\rightarrow$  **Add...**. The **Add Bus** dialog box is displayed.

Select a bus number (0...240) from the list and click **OK**. The **Bus x** dialog box is displayed.

You can either configure the bus or accept the default values. In either case you must select the port in the **Port** tab. Refer to Section 6.12, 'Bus x dialog box' for details on configuring buses. Click **OK** when you have completed configuring the bus.

5. Define network addresses for the bus:

Click the **Buses** tab to make it active.

Choose Configure  $\rightarrow$  Bus  $\rightarrow$  Addresses... or click Edit... in the Bus x dialog box. The Addresses dialog box is displayed.

See Section 6.8, 'Addresses dialog box' for details on defining addresses for buses. Click **OK** when you have completed defining addresses.

6. Define PDH manager interface:

Click the PDH Manager Interfaces tab to make it active.

Choose Configure **PDH Manager Interface Add....** The **PDH Manager Interface** dialog box is displayed.

Define the logon domain in the **Port** tab.

See Section 6.41, 'PDH Manager Interface x dialog box' for details on changing the configuration of PDH Manager interface. Click **OK** when you have completed the configuration.

7. Define OS interface:

Click the **OS Interfaces and Printer Spoolers** tab to make it active.

Choose the menu command Configure  $\rightarrow$  OS Interface  $\rightarrow$  Add.... The OS Interface dialog box is displayed.

Define the logon domain in the **Ports** tab.

See Section 6.39,'OS Interface x dialog box' for details on changing the configuration of OS interface. Click **OK** when you have completed the configuration.

8. Save the new configuration with the command Manage  $\rightarrow$  Save As... and if you wish to send it to NMS/10 MF or PDH Polling, use the command Manage  $\rightarrow$  Send.

The name must be the same as the MF computer name.

#### 5.3.2 Changing an existing off-line configuration



#### To open an existing off-line configuration:

1. Choose the menu command Manage  $\rightarrow$  Open.... The Open dialog box will be displayed.

2. Select an off-line configuration name in the **Name:** list box and click **OK**. The off-line configuration will be opened in the **Configuration** window.

## To change an opened off-line configuration:

1. Add, modify or delete a bus from the configuration:

```
Choose one of the menu commands Configure \rightarrow Bus \rightarrow Add.../
Modify.../Delete.
```

See Section 6.10.5, 'Configure menu' for modifying buses.

2. Define network addresses for the buses:

Choose the menu command **Configure**  $\rightarrow$  **Bus**  $\rightarrow$  **Addresses...** The **Addresses** dialog box will be displayed.

See Section 6.8, 'Addresses dialog box' for details on defining addresses for buses. Click **OK** after completing defining addresses.

3. Save the modified configuration with the command Manage  $\rightarrow$  Save and if you wish to send it to NMS/10 MF or PDH Polling, use the command Manage  $\rightarrow$  Send.

#### 5.3.3 Changing an on-line configuration

## To select an on-line configuration:

- 1. Give the menu command Manage  $\rightarrow$  Connect.... The Connect dialog box will be displayed.
- 2. Select or type an on-line configuration name in the **Name** list box and click **OK**. The on-line configuration will be opened in the **Configuration** window.

Connection to the NMS/10 MF or PDH Polling remains open until you disconnect it with the **Disconnect** command.

To change an on-line configuration:

• Follow the steps in the previous section that describes how to change an opened off-line configuration.

### 5.4 Configuring NMS/10 MF and PDH Polling

This section describes the work order and main tasks of configuring NMS/10 MF and PDH Polling with MF Manager. It covers the following topics:

- Converting TMC configurations (Section 5.4.1)
- General settings (Section 5.4.2)
- Adding buses (Section 5.4.3)
- Adding network elements (Section 5.4.4)
- Configuring the PDH Manager interface (Section 5.4.5)
- Configuring the OS interface (Section 5.4.6)
- Adding alarm printers (Section 5.4.7).

For details on installation and commissioning NMS/10 MF, refer to the *NMS/10 MF Operating Manual*.

The Readme file of MF Manager contains the latest information on MF Manager.

The README.TXT file of NMS/10 MF contains the latest information on NMS/ 10 MF and things to take into consideration when it is used with other NMS systems.

#### **Configuring PDH Polling**

Configuring PDH Polling is similar to configuring NMS/10 MF with the exception that OS Interfaces, Printer Spoolers, SNMP Interface and Network Test Interface are not available.

For details on installation and commissioning PDH Polling, refer to the *PDH Polling Installation Instructions*.

The README.TXT file of PDH Polling contains the latest information on PDH Polling and things to take into consideration when it is used with other NMS systems.

#### 5.4.1 Converting TMC configurations

If you wish to use existing TMS4 configurations, use **TMC-MF Converter** before making any other configurations with MF Manager.

You can add network elements from TMC (TMS4) configurations with the TMC-MF Converter program which is included in the MF Manager installation disks.

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## **To convert TMC configuration into NMS/10 MF or PDH Polling configuration:**

- 1. In TMS4, write the TMC configuration to a floppy disk. For details, refer to the *TMS4 Operating Manual*.
- 2. Insert the disk in the computer where you have MF Manager and TMC-MF Converter installed.
- 3. TMC-MF Converter will not overwrite an existing NMS/10 MF configuration. If you wish to use an existing name, rename or remove the old configuration. See Appendix B for details on handling configurations.
- 4. Start TMC-MF Converter from the Windows NT Start menu (Programs  $\rightarrow$  MF Manager  $\rightarrow$  TMC—MF Converter).
- 5. Enter the destination configuration name (the target NMS/10 MF computer name), and click **Convert**.
- 6. Start MF Manager and open the created configuration (Manage  $\rightarrow$  **Open...**).

## To modify the configuration:

- 1. Fill in all information marked with question marks (?). You may need to change the configuration type from the default *NMS/10 MF C1.0* (Manage  $\rightarrow$  Special Change  $\rightarrow$  Configuration Type).
- 2. Set the **Q1 Packet time-out** value.

#### Note

Polling parameters are not converted. NMS/10 MF or PDH Polling default values are used instead.

3. Save the configuration (Manage  $\rightarrow$  Save or Manage  $\rightarrow$  Save As...).

If saving fails, there are inconsistencies in the configuration.

# To transfer the configuration to NMS/10 MF or PDH Polling:

- 1. After you have successfully saved the configuration, send it to the target NMS/10 MF or PDH Polling (Manage  $\rightarrow$  Send).
- 2. The target NMS/10 MF or PDH Polling restarts with the new configuration.

#### 5.4.2 General settings

You can change the general settings of NMS/10 MF and PDH Polling with the MF Manager command **Configure**  $\rightarrow$  **PDH Polling General...** Make the following settings:

- set identification number for the system (**Equipment ID**)
- select the FE name format
- define stations
- define equipment types (device types)
- define global filter and alarm classification.

For details, refer to Chapter 6, 'Reference'.

#### 5.4.3 Adding buses

#### 1 2 3

#### To add buses:

- 1. Choose **Configure**  $\rightarrow$  **Bus**  $\rightarrow$  **Add...**.
- 2. Define the bus number and physical port.
- 3. Set the value of **Q1 packet time-out** according to local network environment.

At the beginning, we recommend a longer time-out to find out that the connection to network elements is in order (for example, with bus speed 9600 bit/s, set the **Q1 packet time-out** to 5 [500 ms], and with bus speed 2400 bit/s, set it to 8 [800 ms]). Later you can optimise the system performance by decreasing the time-out value.

4. Send the configuration to NMS/10 MF or PDH Polling (Manage  $\rightarrow$  Send).

#### 5.4.4 Adding network elements

## To do the network scan:

- 1. Choose Manage  $\rightarrow$  Special  $\rightarrow$  Network Scan....
- 2. Define buses for the network scan and address ranges for each bus.
- 3. Click **Start**. If the address range is large, it will take some time to complete the scan. A moving magnifying glass is displayed on the status bar during the scan (if there is a connection).

The network scan is the quickest and most convenient way of creating a network configuration. Before scanning the network, you must add all the necessary buses and send the configuration to the NMS/10 MF or PDH Polling.

To check if the network scan is complete:

- A moving magnifying glass is displayed on the status bar during the scan (if there is a connection).
- Choose View → Network Scan Log....
  - If the network scan is in progress, MF Manager displays a message about it.
  - If the network scan is completed, MF Manager displays the network scan log.

#### ↓ 1 2 3

#### To add network scan results to the configuration:

1. Add the addresses to the configuration.

The FE name may be as is, but you need to define a station and device type.

2. Send the configuration to NMS/10 MF or PDH Polling (Manage  $\rightarrow$  Send).

#### 5.4.5 Configuring the PDH Manager interface

Nokia Node Managers and Alarm Managers use the PDH Manager interface for connecting to NMS/10 MF and PDH Polling. The user information sent to the NMS/10 MF or PDH Polling must be valid within the logon user groups when attempting to log on. On the NMS/10 MF C2.0 you must define the logon group. Others use the fixed *Nokia NMS/10 MF Command Interface* user group.

After the installation of NMS/10 MF or PDH Polling, there is one PDH Manager interface readily configured. Also, the user *PAM* (with an initial password PAM) has been created into the *Nokia NMS/10 MF Command Interface* user group. Nokia Node Managers may use the PAM user account for logging in via this PDH Manager interface. We recommend you to change the password of the user PAM, or add new users to the *Nokia NMS/10 MF Command Interface* user group.

If the configuration type is NMS/10 MF C2.0, you can connect to one PDH Manager Interface from multiple computers. Other configuration types require a separate PDH Manager Interface for each computer.

#### To configure the PDH Manager interface:

- 1. Check the current parameters of the PDH Manager interface and make the necessary changes (Configure  $\rightarrow$  PDH Manager Interface  $\rightarrow$  Modify...).
- 2. The **PDH Manager Interface** dialog box is displayed. Modify the fields in the **General** tab if necessary and then click on the **Port** tab.
- 3. Fill in the fields in the **Port** tab:

Nokia Node Managers and Alarm Managers must use the **TCP/IP port** defined here. Make sure that no other PDH Manager interface uses this TCP/IP port.

4. Save the configuration and activate it (Manage  $\rightarrow$  Send) in the NMS/10 MF or PDH Polling. If you created a new configuration, save it with the name of the NMS/10 MF or PDH Polling you wish to send the configuration to.

#### 5.4.6 Configuring the OS interface

If you are planning to use NMS/100 or NMS/1000, add or modify an OS Interface (Configure  $\rightarrow$  OS Interface...).

After the installation of NMS/10 MF, one OS Interface is readily configured.

Note

PDH Polling C2.0 and C1.0 do not support OS Interfaces.

#### 5.4.7 Adding alarm printers

## To add alarm printers:

- 1. Add printer(s) used for alarm printing (Configure  $\rightarrow$  Printer Spooler  $\rightarrow$  Add...).
- 2. The **Printer Spooler** dialog box is displayed. In the **Printer** tab, define the printer name and print job parameters.

If NMS/10 MF has a local printer (directly connected), named as **MFPrinter**, the configured printer name can be in format:

#### MFPrinter

If the printer is referred to with its share name, the format is:

#### \ComputerName\PrinterShareName.

Note

PDH Polling C2.0 and C1.0 do not support Printer Spoolers.

## 5.5 Using online help

You can request help by using one of the following methods:

Choose the **Help**  $\rightarrow$  **Help Topics** menu command in the MF Manager application window or click the **Help** icon in the toolbar to display the **Help Topics** dialog box.

Then you may choose a topic in the **Index** tab, or search a topic in the **Find** tab.

- Press F1 or choose the menu command **Help** → **Active Window** to get help about the **Configuration** window. Pressing F1 when there is no **Configuration** window opens the **Help Topics** dialog box.
- Click a **Help** button in a dialog box to get help about that particular dialog box.

For further information on how to use online help, refer to Microsoft Windows user documentation.

## 5.6 Printing

You must set the printer up correctly before printing. If you have not set your printer up, follow the instructions given in your printer manual and Microsoft Windows user documentation. Choosing Manage  $\rightarrow$  Print Setup... allows you to change the printer and its settings, and with Manage  $\rightarrow$  Page Setup... you can change page settings such as margins and fonts.

## $\mathbf{J}_{3}^{1}$ To print a configuration report:

- 1. Choose **Manage**  $\rightarrow$  **Print...** to print a configuration report.
- 2. You can select in the **Print Selection** dialog box what information will be included in the configuration report. Click **OK** to print the report.
- 3. The standard **Abort Printing** dialog box appears. You can cancel printing by clicking the **Cancel** button. The dialog box closes automatically when printing is completed.

### 5.7 Making backups

Always back up the configuration files after changing them and keep the files in a safe place. If you have a problem with the system, such as a hard disk crash, you can copy the backup files to their original locations and resume operation.

#### Note

SNMP configuration file, which MF Manager uses does not have all the parameters that the SNMP Interface uses, for example, trap destinations. If you want to make a full backup of the NMS/10 MF C2.0 configuration, you must also backup the SNMPD.CNF file on the NMS/10 MF C2.0 computer. This file is located in the folder C:\PROGRAM FILES\NOKIA\NMS10\COMMON AGENT.

MF Manager stores configurations into folders located under the C:\NOKIAMGR\MFM folder (if C:\NOKIAMGR is the installation folder). The structure of MF Manager folders is explained in Appendix B, 'Directory hierarchy'.

When MF Manager connects to the target system, it reads the whole configuration. For example, if MF Manager connects to a target system named TARGET, the folder C:\NOKIAMGR\MFM\TARGET contains the target system configuration.

We recommend you to back up all folders located under the C:\NOKIAMGR\MFM folder. MF Manager keeps common configuration files in this folder. If those files have been modified or new files have been added, back them up as well.

#### Caution

Licence Manager creates four hidden files (MFM.41S, MFM.ENT, MFM.KEY, MFM.RST) to the MF Manager's root directory (usually C:\NokiaMgr\mfm). Do not remove, rename, or move them.

The software license is based on the computer and disk configuration and will be lost if a disk is replaced or reformatted. If you have a disk failure, you will need to contact Nokia Customer Services to get a new Site Key for your restored software.

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## 5.8 Restoring backups



1. Restore all needed configuration folders from your backup media to the C:\NOKIAMGR\MFM folder.

If you have backed up the SNMPF.CNF file, restore it as well.

- 2. Start MF Manager and open a configuration (**Manage**  $\rightarrow$  **Open**).
- 3. Send the configuration to the target system (Manage  $\rightarrow$  Send).

### 5.9 Exiting MF Manager

#### ↓ 1 2 3

#### To exit MF Manager:

- 1. Choose  $Manage \rightarrow Exit$  or double-click the **Control** menu box in the topleft corner of the MF Manager application window.
- 2. If there is an open connection and/or the current configuration has changed, MF Manager warns you about it and asks if you wish to save, send or cancel the shutting down of the program.
- 3. MF Manager closes down.

# 6

## Reference

This chapter describes in detail the available menu commands. It also explains the functions of various windows and dialog boxes.

#### **Using the Reference**

The windows and dialog boxes are presented in alphabetical order.

#### Note

The windows and dialog boxes shown are examples; the exact contents will depend on the monitored network and its status.

# To find information on a certain window or dialog box:

1. See the name of the window displayed in the title bar:

Filters and Alarm Classifications

Figure 22. The title bar of a window or dialog box

2. See the corresponding section of this chapter.

### 6.1 About MF Manager dialog box

This dialog box shows the release and version information about MF Manager.

### 6.2 Add Alarm Classification dialog box

This dialog box allows you to define alarm severity for the interface. The configuration type *NMS/10 MF C2.0* also allows you to set global alarm classifications.

#### Note

Alarm severity definitions made in MF Manager do not have any effect on PDH Alarm Manager alarm severity, because it defines alarm severities of its own.

This dialog box is used for:

- adding a new alarm classification (Add Alarm Classification)
- modifying a selected alarm classification (Modify Alarm Classification).

There are four or five levels of severity:

- CRITICAL (\*\*\*), sometimes also denoted as FATAL
- MAJOR (\*\*)
- MINOR (\*)
- WARNING (in the configuration type NMS/10 MF C2.0)
- UNCLASSIFIED.

With the PDH Manager Interfaces, OS Interfaces, and Printer Spoolers, the alarm severity is displayed as asterisks (\*). In this case, WARNING is the same as UNCLASSIFIED (no asterisks).

You can define an alarm classification for the following instances:

- Management network (i.e. the global alarm classification)
- PDH Manager interface (excluding *NMS/10 MF C2.0*)
- OS interface
- SNMP interface
- Printer spooler.

The global alarm classification can be used for overriding the default severity assignment of all events (except for internal faults on bus 254). The initial severities of events generated by ND generation fault polling is set based on fault codes according to the *NMS/10 MF Fault Codes* (an appendix to the *NMS/10 MF C2.0 Operating Manual*). E generation fault polling obtains the initial severity from the network element.

Only the configuration type *NMS/10 MF C2.0* can have a global alarm classification.

Bus 254 has its own built-in severities. If you want to override them, do it using the interface-specific alarm classification.

#### Note

One interface can have only one alarm classification. Same alarm classification can be set to multiple interfaces.

Add Alarm (	Classification	×
<u>N</u> ame:	default	OK
E Severity (	definitions	Cancel
<u>C</u> ritical	TYPE=ALARM AND FC=0-12,16-19,21-22,24,32-39,42-56,58-63,80- 89,96-99,109-111,125,139,141-144,148,150-16 1,163-165,167,176,195,202-203,241	
<u>M</u> ajor	TYPE=ALARM AND FC=13-15,20,23,25-31,40-41,57,64-79,90-95,10 0-102,114-124,126-138,140,145-146,162,166,1 68-172,175,177-184,186-189,193-194,196-201,	
Mino <u>r</u>	TYPE=DISTURBANCE OR ( TYPE=ALARM AND FC=103-108,112-113,147,149,173-174,185,190 -192,242,254 )	
<u>W</u> arning		
C <u>o</u> mment:	Default alarm classification	

Figure 23. Add Alarm Classification dialog box

#### Name

Name of the alarm classification. There is no default value.

The normal Windows NT file name limitations apply. MF Manager adds the extension. CLF to the name, so it must not appear in the name in advance.

#### Severity definitions

This group box contains a list of definitions of the alarm classification.

The general format of an alarm classification is the same as the filter definition. For details refer to Section 6.5, 'Add Filter dialog box'.

In the global alarm classification, the SEVERITY cannot be used.

When an alarm fulfils the logical statement, its severity is defined. Mapping of the alarm goes from 'CRITICAL' to 'MINOR', or from 'CRITICAL' to 'WARNING', depending on the configuration type, and stops as a match is found. If the alarm does not match with any of the classifications, its severity is tagged as 'UNCLASSIFIED'.

#### Note

If any of the alarm classification types is missing, severities of that type are not created. However, at least one severity definition must be present.

An example:

CRITICALBUS=1,3,5-7ANDFC=200MAJORBUS=1,3,5-7ANDFC=201MINORBUS=1,3,5-7ANDADDRESS=100ANDFC=20FC=200FC=200FC=200

Alarm severity is *critical* if bus number is 1, 3, 5, 6 or 7 and fault code is 200.

Alarm severity is *major* if bus number is 1, 3, 5, 6 or 7 and fault code is 201.

Alarm severity is *minor* if bus number is 1, 3, 5, 6 or 7 and physical address is 100 and fault code is 20.

Otherwise alarm severity is unclassified.

#### **Definitions / Critical**

A definition of the *critical* alarm classification. This severity is sometimes also denoted as *fatal*.

#### **Definitions / Major**

A definition of the *major* alarm classification.

#### **Definitions / Minor**

A definition of the *minor* alarm classification.

#### **Definitions / Warning**

A definition of the *warning* alarm classification. Only the configuration type *NMS/10 MF C2.0* supports warnings.

#### Comment

A free format text comment about the alarm classification. Quotation marks are not allowed in the comment field.

#### OK

Closes the Add / Modify Alarm Classification dialog box.

The syntax of the definition is checked. If there are errors, MF Manager informs you about them and cancels the operation.

MF manager also checks if the alarm classification definition is too deep. If the depth is over 200 levels (see section 6.5, 'Add Filter dialog box'), MF Manager informs you about it and cancels the operation.

If you add a new alarm classification or change its name and the name is the same as an existing name, an error message is displayed and the operation is cancelled.

#### Note

The alarm classification is saved into the file when the configuration is saved.

This button is disabled if the **Name** field or all the **Definitions** group box fields are empty.

#### Cancel

Closes the Add / Modify Alarm Classification dialog box and discards changes.

#### Help

Displays help about the Add / Modify Alarm Classification dialog box.

## 6.3 Add Bus dialog box

This dialog box allows you to select the bus number.

Add Bus 🔀					
<u>B</u> us:	10 💌	OK DK			
		Cancel			
		Help			

Figure 24. Add Bus dialog box

#### Bus

The bus number can be 0...240. The default is the first free bus number.

Only available bus numbers are displayed.

#### OK

Closes the **Add Bus** dialog box and continues the operation that called this dialog box.

This button is disabled if no bus is selected.

#### Cancel

Closes the Add Bus dialog box and discards the selection. No new bus is added.

#### Help

Displays help about the Add Bus dialog box.

## 6.4 Add Device Type dialog box

This dialog box allows you to define a product family for a supervising management system (for example, NMS/10 and NMS/100).

This dialog box is used for:

- adding a new device type (Add Device Type)
- modifying a selected device type (Modify Device Type).

Add Device 1	Гуре	X
<u>D</u> evice type:	3 💌	(OK)
<u>N</u> ame:	ACM2	Cancel
		<u>H</u> elp

Figure 25. Add Device Type dialog box

#### **Device type**

The device type number can be 0...254. The box contains only available device type numbers.

This field is disabled in the **Modify Device Type** dialog box.

#### Name

The length of the device type name can be 1...16 characters. There is no default value.

#### OK

Closes the Add / Modify Device Type dialog box.

This button is disabled if the **Device type** or **Name** field is empty.

#### Cancel

Closes the Add / Modify Device Type dialog box and discards changes.

#### Help

Displays help about the Add / Modify Device Type dialog box.

### 6.5 Add Filter dialog box

This dialog box allows you to add filters and change the filter information.

This dialog box is used for:

- adding a new filter (Add Filter)
- modifying a selected filter (Modify Filter).

You can define a filter for the following interfaces:

- Management network (i.e. the global filter)
- PDH Manager interface (excluding *NMS/10 MF C2.0*)
- OS interface
- SNMP interface
- Printer spooler.

The global filter comes before all other filters. The global filter cannot filter bus 254 alarms. That must be done using the interface-specific filter.

#### Note

One interface can only have one filter. Same filter can be set for multiple interfaces. If there is no filter for an interface, all alarms go through that interface.

Add Filter		×
<u>N</u> ame:	default       Filter type       Inclusive       Exclusive	Cancel <u>H</u> elp
<u>D</u> efinition:	TYPE=ALARM OR TYPE=CANCEL OR TYPE=DISTURBANCE	
C <u>o</u> mment:	Default filter	



Name

The name of the filter. There is no default value.

The normal Windows NT file name limitations apply. MF Manager adds the extension. FLT to the name, so it must not appear in the name in advance.

#### **Filter type**

You can select the type of filter in this group box.

#### Filter type / Inclusive

The type of the filter defined in the **Definition** edit box is inclusive, that is, alarms matching to the definition are passed through.

This is the default selection.

#### Filter type / Exclusive

The type of the filter defined in the **Definition** edit box is exclusive, that is, alarms matching to the definition are not passed through.

#### Definition

The filter definition. There is no default value.

With all configuration types, you can use the following parameters in the definition:

Parameter	Range of values	Кеу
Bus number	0240, 254	BUS
Address	04093, 65535	ADDRESS
FE number	0254	FE
SB number	0254	SB
Fault code	0254	FC
Alarm type	ALARM, CANCEL, DISTURBANCE	ТҮРЕ
FE status	A, B, D, S, E	FE_STATUS

With the configuration type *NMS/10 MF C2.0*, you can also use the following parameters in the definition:

Parameter	Range of values	Кеу	
Fault code	25665535	FC	
Alarm type	NOTIFICATION, WARNING	TYPE	
NE generation	ND, E, NONE	GENERATION	
Fault severity	CRITICAL, MAJOR, MINOR, WARNING, UNCLASSIFIED	SEVERITY	
Severity status	ACTIVE, CRITICAL, MAJOR, MINOR, WARNING, DISTURBANCE	S_STATUS	

You can use the following logical operators in the definition:

Operator	Description		
NOT	Logical statement after 'NOT' must be false		
AND	Logical statements on both sides of 'AND' must be true		
OR Logical statement on either side of 'OR' must be true			
The precedence is (from highest to lowest): NOT, AND, OR			

The general format of a filter is as follows:

logical\_statement(s)

where *logical\_statement* = key=value

- key = BUS, ADDRESS, FE, SB, FC, TYPE, FE\_STATUS, FC, TYPE, GENERATION, SEVERITY, or S\_STATUS;
- *value* = a value that must be fulfilled; multiple numerical FE\_STATUS and S\_STATUS values can be entered by separating them with a comma, and a range of numeric values can be given with a hyphen as a separator.

You can combine multiple logical statements with the logical operators NOT, AND and OR, and use parentheses for grouping the statements, as illustrated in the example below.

FE\_STATUSes are by default matched exactly. If a filter has the entry:

FE\_STATUS=A

then the status of the FE must be exactly A.

## NOKIA

However, you can use keywords *ANY* and *ALL* in the FE\_STATUS list to make it match in case any of the status bits are set respectively. For example:

FE\_STATUS=A,B

matches to a status byte that has exactly the status bits A and B on.

FE STATUS=ANY A, B

matches to any status byte that has a status bit A or B on.

FE\_STATUS=ALL A, B

matches to a status byte that has both the status bits A and B on.

Severity statuses are handled in the same way as FE statuses.

An example of a filter of the type *INCLUDE*:

(BUS=1,3,5-7 AND ADDRESS=100 OR BUS=4) AND FC=200

An alarm passes the filter if bus number is 1, 3, 5, 6 or 7, physical address 100 and fault code 200, or bus number is 4 and fault code 200.

The filter definition cannot be arbitrarily complex. There is a limit of 200 levels of nesting for the definition. The depth of a filter is the maximum nesting level of the match expressions used in the definition. For example, the depth of the following definition is two:

TYPE=ALARM OR FC=15

whereas the following definition has a depth of 5:

```
NOT (TYPE=ALARM OR (TYPE=CANCEL AND FC=5-6 AND BUS=5 ) )
```

The depth can also be defined as the longest path from the root to the leaf in the syntax tree. The syntax tree for the above definition is visualized in the example below:



#### Comment

A free format text comment about the filter. Quotation marks are not allowed in the comment. There is no default value.

#### OK

Closes the Add / Modify Filter dialog box.

Syntax of the definition is checked. If there are errors, MF Manager informs you about them and cancels the operation.

MF manager also checks if the filter definition is too deep. If the depth is over 200 levels, MF Manager informs you about it and cancels the operation.

If you add a new filter or change the name of an existing filter and its name is same as an existing filter, an error message is displayed and the operation is cancelled.

#### Note

The filter is saved into the file when the configuration is saved.

This button is disabled if the Name or Definition field is empty.

#### Cancel

Closes the Add / Modify Filter dialog box and discards changes.

#### Help

Displays help about the Add / Modify Filter dialog box.

## 6.6 Add PM Jobs dialog box

Add PM Jobs		×
Available PM jobs ACL2_line_g821 ACL2_port_g821 ACM2_g821 ACM2_reset BU_a_uart BU_a1_v11 BU_a3_v28 BU_b_uart BU_b1_uart ▲dd → <- Remove	Period	Cancel
Name         P           ACM2_reset         1!	Period Start time Stop time 5 min Mon 00:00:00 Tue 00:00:00	
PM job definition         Commands:       m:8,3,1\r\/m:8,3,2\r         Parse:       %T1:resets:Cpu%\/         Comment:       ACM2 read counters and reset them		<u>×</u>

This dialog box is described in Section 6.14, 'Bus x — Add PM Jobs dialog box'.

Figure 27. Add PM Jobs dialog box

## 6.7 Add Station dialog box

This dialog box allows you to add stations and change station information.

This dialog box is used for:

- adding a new station (title bar Add Station)
- modifying a selected one (title bar **Modify Station**).

## NOKIA

Add Stat	ion	X
<u>S</u> tation:	215 💌	OK ]
Name: Bronx		Cancel
		<u>H</u> elp

Figure 28. Add Station dialog box

#### Station

The station number can be 1...254. The box contains only available station numbers.

This field is disabled in the Modify Station dialog box.

#### Name

The length of the station name can be 1...12 characters. There is no default value.

#### OK

Closes the Add / Modify Station dialog box.

This button is disabled if the **Station** or **Name** field is empty.

#### Cancel

Closes the Add / Modify Station dialog box and discards changes.

#### Help

Displays help about the Add / Modify Station dialog box.

## 6.8 Addresses dialog box

This dialog box allows you to change addresses of the selected bus.

This dialog box is used for:

- showing all FEs from the selected bus or all the buses (title bar Addresses)
- showing a subset of FEs from the selected bus or all the buses (title bar Addresses (SUBSET)).

A	Addresses X									
								OK.		
[	Bus	Addr.	FE	FE name	Gen.	Station	# De	vice type #	Status 🔺	Cancel
	0	32	2	DL2/TR3 P523202 JP[ 00.0032.02	ND	JVP/HJO	182 DL	.2 113	F	
	0	32	3	DL2/TR4 00.0032.03	ND	JVP/HJO	182 DL	.2 113	F	<u>A</u> dd
	0	32	4	DL2/TR5 00.0032.04	ND	JVP/HJO	182 DL	.2 113	F 📕	
	0	32	5	DL2/TR6 00.0032.05	ND	JVP/HJO	182 DL	.2 113	F —	Modify
	0	32	6	DL2/TR7 00.0032.06	ND	JVP/HJO	182 DL	.2 113	F	
	0	32	7	DL2/TR8 00.0032.07	ND	JVP/HJ0	182 DL	.2 113	F	<u>D</u> elete
	0	32	8	DL2/PW 00.0032.08	ND	JVP/HJO	182 DL	.2 113	F	
	0	33	0	DL2/TR1 00.0033.00	ND	JVP/KOT	180 DL	.2 113	F	To EM
	0	33	1	DL2/TR2 00.0033.01	ND	JVP/KOT	180 DL	.2 113	F	78114
	0	33	2	DL2/TR3 00.0033.02	ND	JVP/KOT	180 DL	.2 113	E	Erom EM
	0	33	3	DL2/TR4 00.0033.03	ND	JVP/KOT	180 DL	.2 113	E	<u>_</u>
	0	33	4	DL2/TR5 00.0033.04	ND	JVP/KOT	180 DL	.2 113	F	т. пч.
	U	33	5	DL2/TH6 00.0033.05	ND	JVP/KUT	180 DL	.2 113	<u>F</u>	То <u>Р</u> М
	U	33	5	DL2/TR7 P546300 JP[ 00.0033.06	ND	JVP/KUT	180 DL	.2 113		E 54
	U	33		DL2/TR8 P 00.0033.07	ND	JVP/KUT	180 DL	.2 113		Fr <u>o</u> m PM
	U	33	8	DE2/PW 00.0033.08	ND	JVP/KUT	180 DL	.2 113		E 12 EU
	U	34	U	DC30 K425712 MAN 00.0034.00	ND	HEL/KE9	4 UL 12 DC	.30 101		Edit PM
	0	30	U	DC30 K420713 KE9 00.0035.00	ND	ESP/MAN	12 DC	.30 101	-	
		35	U	DC30 K430330 H[M 00.0035.00	ND	HEL/NES	4 DU 10 DC	.30 101	F I	Define <u>S</u> ubset
	U U	37	Ű	DC30 K430391 NE9 00.0037.00	ND		13 DC	.30 101		
	0	30	0	DC30 K430410 H[M 00.0038.00	ND	VANJUM	12 DC	20 101	r c	Reset Subset
	0	33	0	DC30 K430411 KE3 00.0033.00	ND		13 00	.30 101	r F	
	0	40	0	DC30 K430420 H[M 00.0040.00	ND	VANJUM	13 DC	20 101		Help
1	0	41	U	DC30 K430421 KE3 00.0041.00	ND	VAD/ E[M	13 DC	.30 101	r <u> </u>	Tob

Figure 29. Addresses dialog box

#### Bus

A list of buses defined to NMS/10 MF. Addresses on the selected bus are displayed in the list box below this combo box. If you open this dialog box from the **Bus** dialog box, the selection is fixed to that bus. The default is empty selection.

The selection All is present only if more than one bus is present.

The bus 254 is reserved for the system. It is reserved for reporting about internal faults of NMS/10 MF.

When the you select another bus and there are changes, MF Manager asks if you wish to save the changes and informs that the changes are saved permanently (although not yet to the configuration files); they cannot be cancelled later with the **Cancel** button. MF Manager validates the FE names, NE generations, stations, device types, and the existence of FE0 on each address. MF Manager displays a warning message if the configuration type is *NMS/10 MF C2.0* and an ND generation element has PM jobs that are not in the FE 0. In case of invalid values, MF Manager displays an error message and the bus is not changed.

#### Note

The user-definable limits for the number of addresses per bus and number of FEs in the polling unit, i.e. system, are not enforced here (see 'Limits tab' in section 6.42, 'PDH Polling General dialog box'). They are checked when you save the configuration.

#### "note field"

Next to the **Bus** combo box is a (usually empty) note field that is used to display additional information about the selected bus(es).

Possible notes are:

- the selected bus is not a real bus but the system-defined bus 254
- all activity is suspended on the bus
- all fault polling and auto-discovery is suspended on the bus
- all activity is suspended on at least one bus
- all fault polling and auto-discovery is suspended on at least one bus
- all activity is suspended on at least one bus and all fault polling and autodiscovery is suspended on at least one bus.

The last three cases are possible if All is selected in the Bus combo box.

#### "address list"

A list of addresses and FEs on the selected bus or all the buses. By default, the rows are sorted in ascending order by the bus/address/FE combination. You can use the header to sort the lines in different ways. For example, clicking **Station** in the header sorts the rows in ascending order by the station name. The secondary sorting rule is always the bus/address/FE combination.

If a subset is defined, only those FEs are shown. Addresses (SUBSET) is displayed on the title bar. A subset can be defined in the Subset Definition dialog box that opens with the Define Subset... button.

#### Note

Different FEs on one address can have different station and device type settings. Fault polling is per address, not per FE. PM is per FE if the configuration type is *NMS/10 MF C2.0.* Otherwise, PM is per address.

The Gen. field can be ND, E, or empty. It is empty if:

- the configuration type is *NMS/10 MF C1.0*, *PDH Polling C2.0*, or *PDH Polling C1.0*
- the NE generation is unknown
- the address is the system-defined address 65535
- the bus is the system-defined bus 254.

The status at the end of the row can be one of the following:

- *empty*: the address is not in fault polling. The address or FE has no PM jobs
- *F*: the address is in fault polling
- *F S*: the address is in fault polling, but suspended
- *F S P*: the address or FE is in fault polling, but suspended. The address or FE has PM jobs
- *F P*: the address is in fault polling. The address or FE has PM jobs
- *P*: the address or FE has PM jobs.

The **Status** field is empty if the selected bus is the system-defined bus.

#### Note

If all activity is suspended on the bus, it is not indicated with *S* in the addresses. If the configuration type is *NMS/10 MF C2.0*, only those FEs that have PM jobs has the 'P' in the **Status** field. Otherwise, all FEs of an address that has PM jobs have the 'P' in the **Status** field.

The address 65535 is reserved for the system for reporting bus-related faults and it is always present (except for bus 254).

The "address list" is empty if:

- no buses are selected
- no FEs fulfil the active subset definition.

#### OK

Closes the Addresses dialog box.

If there are changes, MF Manager validates FE names, NE generations, stations, and device types. If they are invalid, MF Manager displays an error message. The dialog box is not closed.

MF Manager displays a warning message if the configuration type is *NMS/10 MF C2.0* and an ND generation element has PM jobs that are not in the FE 0.

#### Note

The user-definable limits for the number of addresses per bus and number of FEs in the polling unit, i.e. system, are not enforced here (see 'Limits tab' in section 6.42, 'PDH Polling General dialog box'). They are checked when you save the configuration.

#### Cancel

Closes the Addresses dialog box and discards changes.

#### Add...

Opens the Bus x - Add Address(es)/FE(s) dialog box.

If the selected bus is the system-defined bus 254, **NE generation**, **Station**, **Device type**, and **In fault polling** have fixed values.

If you changed the name of some station or device type, it is updated to the address list.

This button is disabled if you have not selected a bus or you have selected **All** in the **Bus** combo box.

#### Modify...

If the FEs are from one bus, opens the **Bus x - Modify Address(es)/FE(s)** dialog box. Otherwise, opens the **Modify Address(es)/FE(s)** dialog box.

If multiple FEs are selected, only the **NE generation**, **Station**, **Device type** and **In fault polling** can be changed. Otherwise, also **FE name** can be changed.

If the selected FE is address 65535 or on the system-defined bus 254, only **FE name** can be changed. Other information has fixed values.
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If you changed the name of some station or device type, it is updated to the list view.

This button is disabled if you have not selected an FE or you have selected multiple FEs and all of them are system-defined address(es) 65535 and/or from the system-defined bus 254.

#### Delete

Deletes the selected FEs. You are asked for confirmation before the selected FEs are deleted.

You cannot delete the system-defined address 65535.

This button is disabled if you have not selected an FE or you have only selected the system-defined address 65535.

## To FM

Adds the selected address(es) to fault polling. If the address has multiple FEs, all of them are added. The status information is updated accordingly.

You cannot set the system-defined address 65535 or any address from the systemdefined bus 254 to be fault polled.

This button is disabled if you have not selected an address, or the selected address(es) are already in fault polling, or you have selected only the system-defined address(es) 65535 and/or FEs from the system-defined bus 254.

## From FM

Removes the selected address(es) from fault polling. If the address has multiple FEs, all of them are removed. The status information is updated accordingly.

This button is disabled if you have not selected an address, or the selected address(es) are not in fault polling, or you have selected only the system-defined address(es) 65535 and/or FEs from the system-defined bus 254.

## **To PM...**

If the configuration type is *NMS/10 MF C2.0*, only the selected FEs are included, because PM is per FE. Otherwise, if an address has multiple FEs, they are all included, because PM is per address. The status information is updated accordingly.

If the configuration type is *NMS/10 MF C2.0* and multiple FEs are selected from only one address, MF Manager opens the **Bus x Address y - Add PM Jobs** dialog box. Any existing PM jobs on the addresses are not displayed. Same PM jobs are added to all the FEs.

If multiple addresses are selected from only one bus, MF Manager opens the **Bus x** - **Add PM Jobs** dialog box. Any existing PM jobs on the addresses or FEs are not displayed. Same PM jobs are added to all the addresses or FEs.

If the addresses are from multiple buses, MF Manager opens the **Add PM Jobs** dialog box. Any existing PM jobs on the addresses or FEs are not displayed. Same PM jobs are added to all the addresses or FEs.

If the configuration type is *NMS/10 MF C2.0* and only one FE is selected, MF Manager opens the **Bus x Address y FE z - Edit PM Jobs** dialog box. Any existing PM jobs on the FE are displayed.

If the configuration type is not *NMS/10 MF C2.0* and only one address is selected, MF Manager opens the **Bus x Address y - Edit PM Jobs** dialog box. Any existing PM jobs on the address are displayed.

Addresses on the system-defined bus 254 cannot have PM jobs. However, the system-defined address 65 535 can have PM jobs.

This button is disabled if the configuration type is *PDH Polling C1.0*, or you have not selected an address or FE, or all selected address(es) or FE(s) are on the system-defined bus 254.

#### From PM

If the configuration type is *NMS/10 MF C2.0*, only the selected FEs are included, because PM is per FE. Otherwise, if an address has multiple FEs, they are all included, because PM is per address. The status information is updated accordingly.

This button is disabled if the configuration type is *PDH Polling C1.0*, or you have not selected an address or FE, or the selected address(es) or FE(s) do not have PM jobs, or all selected address(es) or FE(s) are on the system-defined bus 254.

#### Edit PM...

If the configuration type is *NMS/10 MF C2.0*, only the selected FEs are included, because PM is per FE. Otherwise, if an address has multiple FEs, they are all included, because PM is per address. The status information is updated accordingly.

If the configuration type is *NMS/10 MF C2.0*, MF Manager opens the **Bus x** Address y FE z - Edit PM Jobs dialog box. Existing PM jobs on the FE are displayed.

Otherwise, MF Manager opens the **Bus x Address y - Edit PM Jobs** dialog box. Existing PM jobs on the address are displayed.

This button is disabled if the configuration type is *PDH Polling C1.0*, or you have not selected an address or FE, or you have selected multiple addresses or FEs (depending on the configuration type), or the selected address or FE has no PM jobs, or the FE is on the system-defined bus 254.

## Define Subset...

Opens the **Subset Definition** dialog box where you can define a subset of the FEs that are displayed in the address list. The subset definition remains effective until you remove all restrictions in the **Subset Definition** dialog box or by clicking **Reset Subset**.

When there is a subset definition in effect, the title bar of the Addresses dialog box is Addresses (SUBSET).

## **Reset Subset**

Resets the subset definition and displays all the FEs in the list view. The title bar of this dialog box is changed back to **Addresses**.

This button is disabled if no subset is defined.

## Help

Displays help about the Addresses dialog box.

## 6.9 Addresses (SUBSET) dialog box

This dialog box is described in Section 6.8, 'Addresses dialog box'.

A	Addresses (SUBSET)									
Ē	<u>B</u> us:	) 🔻	]							ОК
	Bus	Addr.	FE	FE name	Gen.	Station	#	Device type	# Status 🔺	Cancel
	0	32	2	DL2/TR3 P523202 JP[ 00.0032.02	ND	JVP/HJO	182	DL2	113 F	
	0	32	3	DL2/TR4 00.0032.03	ND	JVP/HJ0	182	DL2	113 F	<u>A</u> dd
	0	32	4	DL2/TR5 00.0032.04	ND	JVP/HJO	182	DL2	113 F	
	0	32	5	DL2/TR6 00.0032.05	ND	JVP/HJO	182	DL2	113 F	Modify
	0	32	6	DL2/TR7 00.0032.06	ND	JVP/HJO	182	DL2	113 F	
	0	32	7	DL2/TR8 00.0032.07	ND	JVP/HJO	182	DL2	113 F	Delete
	0	32	8	DL2/PW 00.0032.08	ND	JVP/HJO	182	DL2	113 F	
	U	33	U	DL2/TR1 00.0033.00	ND	JVP/KUT	180	DL2	113 F	To EM
	U	33	1	DL2/TR2 00.0033.01	ND	JVP/KUT	180	DL2	113 F	<u></u>
	U	33	2	DL2/TR3 00.0033.02	ND	JVP/KUT	180	DL2	113 F	From FM
	U	33	3	DL2/TR4 00.0033.03	ND	JVP/KUT	180	DL2	113 F	Tisuutu
	0	33	4	DL2/TR5 00.0033.04	ND	JVP/KUT	180	DL2	113 F	To PM
	0	33	5	DL2/TH6 00.0033.05	ND	JVP/KUT	180	DL2	113 F	10 <u>F</u> M
	0	22	7	DL2/TR7 F346300 JF[ 00.0033.06	ND	JVF/KUT	100	DL2	113 F	From Dbf
	0	33	6	DL2/THOP 00.0033.07	ND	IVP/KOT	100	DL2	113 F	El <u>o</u> ni EM
	0	34	ñ	DC30K425712 MAN 00.0034.00	ND	HEL/KE9	100	DC30	101 F	Event Divi
	ň	35	ň	DC30 K425713 KE9 00.0035 00	ND	ESP/MAN	12	DC30	101 F	Ear Fix
	ň	36	ň	DC30 K430390 HIM 00 0036 00	ND	HEL/KE9	4	DC30	101 F	
	ŏ	37	ŏ	DC30 K430391 KE9 00.0037.00	ND	VAN/HIM	13	DC30	101 F	Define Subset
	ō	38	õ	DC30 K430410 HIM 00.0038.00	ND	HEL/KE9	4	DC30	101 F	
	Ō	39	Ō	DC30 K430411 KE9 00.0039.00	ND	VAN/H[M	13	DC30	101 F	Reset Subset
	0	40	0	DC30 K430420 H[M 00.0040.00	ND	HEL/KÈ9	4	DC30	101 F	
	0	41	0	DC30 K430421 KE9 00.0041.00	ND	VAN/H[M	13	DC30	101 F 💌	<u>H</u> elp

Figure 30. Addresses (SUBSET) dialog box

## 6.10 Application window

The MF Manager application window layout is shown in Figure 31.

	MF Ma	inager	C2.5 - 6	eswd0780	kara (no	t connect	ed)						×
	mage al sal.	<u>e</u> on <u>i</u> 201-2	_oniguie I ⊡la	enonnar جا <b>ت</b> ا ج	ice <u>v</u> iev ⊒al loo	v <u>w</u> indow	<u>n</u> ep କା						
<u>*</u>	2  				2		R						J
	Lonn	guracio	on										-
11	– Confi	guratior	n and user	r information					E Ado	dress information	n (FE/I	NE)	1
	Name	:	eswo	10780kara						in configu	ration	in fault polling	
	Туре:		NMS	/10 MF C2.	0				ND	2632 / 2	2333	2621 / 2331	
	Usern	ame:	PCC	064-130-187	7∖smith				E	97	1	9/ 1	
	Secu	ity level	I: NMS	/10 Networ	k Adminis	trator			Tot	al 2641/2	2334	2630 / 2332	
1	,	)											
	Buses	J PDH	Manager	Interfaces	OS Inte	rfaces and f	Printer 9	poolers	\$				.
	Bus	Unit	P. port	P. speed	S. port	S. speed	FEs	NEs	Susper	nded			
	0	1	1A	600			446	414					
	1	1	5A	600	5B	600	430	351					
	2	1	6A	600			269	269					
	3	1	104	600 600			213	194					
	5	1	124	600			472	316					
	7	i	14A	9600			0	Ŭ					
	9	1	3A	9600			497	497					
II -													1
Rea	ady												) //

Figure 31. MF Manager application window

## 6.10.1 Title bar

Title bar at the top of the application window shows the name of the application, **MF Manager C2.5**. If a configuration is currently managed, there is also the name of the configuration on the title bar. If the configuration is on-line, title bar has the text (**connected**), otherwise there is the text (**not connected**). If the configuration is new, its name is **<Untitled>**.

#### Example:

If a node named as *eswd0780kara* is currently managed and it is an on-line configuration, the title bar has the text **MF Manager C2.5 - eswd0780kara** (connected).

## 6.10.2 Menu bar

Below the title bar is the menu bar, which contains the menu items for MF Manager. The menus are described in sections 6.10.3...6.10.9.

The mnemonic letter for each menu choice is underlined and shortcut keys are displayed after the menu items.

## 6.10.3 Manage menu

<u>M</u> anage <u>E</u> di	t <u>C</u> onfigure					
<u>C</u> onnect Refresh Sen <u>d</u> Disconnec <u>t</u>						
<u>N</u> ew Open Save Save <u>A</u> s	Ctrl+N Ctrl+O Ctrl+S					
Special	•	<u>N</u> etwork Scan				
Page Setup <u>P</u> rint P <u>r</u> int Setup.	 Ctrl+P	<u>F</u> ault Status Consistency Check Net <u>w</u> ork Test <u>S</u> ystem Command Set NT Time				
E <u>x</u> it	Alt+F4	<u>Change Configuration Type</u>				

Figure 32. Manage menu

#### Connect...

Connects to a NMS/10 MF, reads the configuration and opens it in the **Configuration** window. If the current configuration has unsaved changes, MF Manager asks you if they should be saved.

MF Manager opens the **Connect** dialog box where you can select an NMS/10 MF. If another MF Manager is connected to the selected NMS/10 MF, MF Manager displays its information (if the configuration type is *NMS/10 MF C2.0*) or a warning message, but the connection is allowed.

Connection to the NMS/10 MF remains open until you disconnect it with the **Disconnect** command.

MF Manager checks from the local PC and the connected MF if there are any unhandled network scan and auto-discovery log files.

This menu choice is disabled if a connection to NMS/10 MF is open or the user is lower than *NMS/10 Operator*.

#### Refresh

Refreshes the current configuration.

If the current configuration has no changes, MF Manager informs about it. If the current configuration has unsaved changes, MF Manager shows a warning that they will be lost.

If there is a connection open to NMS/10 MF, configuration is retrieved from there (if the configuration type is *NMS/10 MF C2.0*, information about other connected users is shown). Otherwise it is read from the local files.

If the current configuration is a new one, MF Manager just creates a new off-line configuration into the memory using the default values.

This menu choice is disabled if there is no **Configuration** window or it is iconised.

#### Send

Sends the current configuration to NMS/10 MF and activates it.

If the current configuration has unsaved changes, MF Manager saves the changes after asking confirmation to continue the operation.

If the configuration type is *NMS/10 MF C2.0* and there are connected users, their information is shown. However, you can continue if you wish to do so.

If there is a connection open to an NMS/10 MF, i.e. this is an on-line configuration, changes are sent and the NMS/10 MF is informed about the changes. Connection to the system remains open until you disconnect it with Manage  $\rightarrow$  Disconnect.

If there is no open connection to an NMS/10 MF (off-line configuration), MF Manager warns you about a possibly dangerous operation and that the NMS/10 MF (not computer) is restarted. MF Manager checks that the current configuration is compatible with the NMS/10 MF. If it is incompatible, MF Manager displays an error message and the operation is cancelled. In this case, change the type of the current configuration with Manage  $\rightarrow$  Special  $\rightarrow$  Change Configuration Type.

#### Note

If you send an off-line configuration, its name must be the same as the target NMS/10 MF computer name. Change the configuration name with the **Manage**  $\rightarrow$  **Save As...** command when necessary.



This menu choice is disabled if:

- there is no **Configuration** window or it is iconised
- configuration is a new configuration, i.e. it has no name
- connection to MF is open with no changes in configuration
- the user security level is lower than *NMS/10 Experienced*.

#### Note

If you have made a major change to the configuration, it may take a long time (several minutes) before control is returned to MF Manager after the **Send** command.

#### Disconnect

Disconnects from NMS/10 MF and continues editing locally.

If there are unsent changes in the current configuration, MF Manager asks if they should be sent.

If the current configuration has no changes, you are asked to confirm that you really want to disconnect. Hence, the current configuration becomes an off-line configuration.

This menu choice is disabled if there is no connection to NMS/10 MF.

#### New

Creates a new off-line configuration using the default values and opens it in the **Configuration** window.

If the current configuration has unsaved changes, MF Manager asks you if they should be saved.

MF Manager opens first the **Configuration Type** dialog box where you can select the type of the new configuration.

This menu choice is disabled if a connection to NMS/10 MF is open.

#### Open...

Opens an existing off-line configuration in the Configuration window.

If the current configuration has unsaved changes, MF Manager asks you if they should be saved.

MF Manager displays the **Open** dialog box where you can select any existing configuration.

MF Manager checks from the local PC if there are any unhandled network scan or autodiscovery files.

This menu choice is disabled if a connection to NMS/10 MF is open.

#### Save

Saves the current configuration into local files.

#### Note

The configuration changes are not sent to the NMS/10 MF automatically.

If the current configuration is a new one, MF Manager opens the **Save As** dialog box where you can give a name to the configuration.

This menu choice is disabled if:

- there is no **Configuration** window
- there are no unsaved changes in the configuration.

#### Save As...

Saves the current configuration with a new name.

#### Note

The configuration changes are not sent to the NMS/10 MF automatically.

MF Manager opens the **Save As** dialog box where you can give a name to the configuration. You are asked for confirmation in case saving would overwrite existing files.

This menu choice is disabled if:

- there is no **Configuration** window
- connection to NMS/10 MF is open.

#### $\textbf{Special} \rightarrow \textbf{Network Scan...}$

Starts a network scan on an NMS/10 MF. If all activity is suspended on all the buses, network scan is not allowed.

If the **Configuration** window is not open, MF Manager opens the **Connect** dialog box where you can select a configuration name. Otherwise the currently selected configuration name is used (unless it is a new configuration).

If the configuration type is *NMS/10 MF C2.0* and there are connected users, their information is shown. However, you can continue if you wish to do so.

MF Manager checks from the NMS/10 MF that there is not a network scan in process and that there is not an unhandled network scan log file. If a network scan log file is found, MF Manager displays a warning message that its results will be lost if you continue the operation. If everything is in order, MF Manager opens the **Network Scan** dialog box where you can select the bus(es) and define the address(es) to scan. If all activity is suspended on a bus, MF Manager informs you about it and excludes that bus from the scan. MF Manager informs the NMS/ 10 MF about the bus(es) and address(es) to scan.

There is an indicator (magnifying glass) in the status bar during the network scan (if there is a connection).

This menu choice is disabled if the user security level is lower than *NMS/10 Network Administrator*.

#### $\textbf{Special} \rightarrow \textbf{Fault Status Consistency Check...}$

Starts a fault status consistency check on an NMS/10 MF. If all activity is suspended on all the buses, the fault status consistency check is not allowed.

If the **Configuration** window is not open, MF Manager opens the **Connect** dialog box where you can select a configuration name. Otherwise the currently selected configuration name is used (unless it is a new configuration).

If the configuration type is *NMS/10 MF C2.0* and there are connected users, their information is shown. However, you can continue if you wish to do so.

MF Manager opens the **Fault Status Consistency Check** dialog box where you can select the bus(es) to check. MF Manager informs the NMS/10 MF about the bus(es) to check. If all activity is suspended on a bus, MF Manager informs you about it and excludes that bus from the consistency check.

This menu choice is disabled if the user security level is lower than *NMS/10 Network Administrator*.

#### $\textbf{Special} \rightarrow \textbf{Network Test...}$

Starts the Network Test application.

The Network Test application is a separate application for testing the Q1 network. It is installed at the same time as MF Manager.

#### Note

The Network Test application works only with NMS/10 MF C2.0. It does not work with the older releases, e.g. NMS/10 MF C1.0.

For instructions in using the Network Test application, see Appendix D, 'Network Test Client'.

#### $\textbf{Special} \rightarrow \textbf{System Command...}$

Sends a command to NMS/10 MF.

If the **Configuration** window is not open, MF Manager opens the **Connect** dialog box where you can select a configuration name. Otherwise the currently selected configuration name is used (unless it is a new configuration).

MF Manager opens the **System Command** dialog box where you can select the command to send to NMS/10 MF.

If your security level is lower than NMS/10 Network Administrator, you can only check the NMS/10 MF's status and the current users on the NMS/10 MF.

This menu choice is disabled if the user security level is lower than *NMS/10 Operator*.

#### $\textbf{Special} \rightarrow \textbf{Set NT Time...}$

Sets the time of an NMS/10 MF NT.

If the **Configuration** window is not open, MF Manager opens the **Connect** dialog box where you can select an NMS/10 MF. Otherwise the currently selected MF is used (unless it is a new configuration).

If the configuration type is *NMS/10 MF C2.0* and there are connected users, their information is shown. However, you can continue if you wish to do so.

MF Manager opens the **Set NT Time** dialog box where you can check the current times (local and remote), change them and send the correct time to the remote NMS/10 MF NT.

If your security level is lower than NMS/10 Network Administrator, you can only check the current settings.

This menu choice is disabled if the user security level is lower than *NMS/10 Operator*.

#### $\textbf{Special} \rightarrow \textbf{Change Configuration Type...}$

Lets you change the current configuration type in the **Change Configuration Type** dialog box. There are four types of configuration: *NMS/10 MF C2.0, NMS/ 10 MF C1.0, PDH Polling C2.0* and *PDH Polling C1.0*.

If the target configuration type is *NMS/10 MF C2.0*, MF Manager checks if all necessary addresses on bus 254 are present. If an address is missing, corresponding faults cannot be reported.

MF Manager compares device types to the DEVTYPES.TXT file (found in the MF Manager root directory) and checks if there are new device types that could be added. MF Manager asks you if a new device type should be added.

MF Manager displays you the changes that are to be made and asks you a confirmation before the changes are applied.

This menu choice is disabled if:

- there is no **Configuration** window
- connection to NMS/10 MF is open.

#### Page Setup...

Changes the configuration report page settings: margins, printer font, and paper orientation.

MF Manager opens the **Page Setup** dialog box. Page setup settings can be used with all configuration types, but the settings are saved to configuration only when the configuration type is *NMS/10 MF C2.0*.

This menu choice is disabled if there is no Configuration window.

#### Print...

Prints a configuration report to a printer.

MF Manager opens the **Print Selection** dialog box where you can select what is included into the configuration report. Configuration report format is described in Appendix C, 'Configuration report format'.

When configuration report is printed, MF Manager shows the standard **Abort printing** message box and you can abort the printing.

This menu choice is disabled if there is no **Configuration** window.

#### Print Setup...

Changes the printer and its settings in the **Print Setup** dialog box.

MF Manager supports only the basic options: printer selection, paper selection and paper orientation.

#### Exit

Closes the MF Manager application. The following confirmations are made:

- If there is a connection to NMS/10 MF open and current configuration has unsent changes, MF Manager asks if they should be sent.
- If there is no connection to NMS/10 MF, but current configuration has unsaved changes, MF Manager asks if they should be saved.

## 6.10.4 Edit menu

<u>E</u> dit	<u>C</u> 0	P	
<u>U</u> n	do	Ctrl+Z	
<u>C</u> oj <u>P</u> a:	py ste	Ctrl+C Ctrl+V	

Figure 33. Edit menu

#### Undo

Undoes the last *paste* operation.

This menu choice is disabled if:

- there is no **Configuration** window or it is iconized
- the undo operation is not possible, i.e. you have not made any paste operation or have made changes to the configuration since the last paste operation.

#### Сору

Copies the selected bus, PDH Manager interface, OS interface, or printer spooler into the Clipboard.

This menu choice is disabled if:

- there is no **Configuration** window or it is iconized
- nothing or multiple items is selected in the **Configuration** window.



#### Paste

Pastes the configuration data from the Clipboard to the selected bus, PDH Manager interface, OS interface, or printer spooler.

This menu choice is disabled if:

- there is no **Configuration** window or it is iconized
- multiple items or nothing is selected in the **Configuration** window
- information in the Clipboard does not match with the target, e.g. you try to paste bus information to a PDH Manager interface.

See Section 6.10.14 for more information about the Clipboard.

#### 6.10.5 Configure menu



Figure 34. Configure menu

The submenus under **PDH Manager Interface**, **OS Interface** and **Printer Spooler** are the same as in the **Bus** submenu except that they do not have the **Addresses...** menu choice.

These menu choices are disabled if there is no Configuration window.

 $\textbf{Bus} \rightarrow$ 

This menu is disabled if the **Configuration** window is iconized or either the **PDH Manager Interfaces** or **OS Interfaces and Printer Spoolers** tab is selected.

 $\textbf{Bus} \rightarrow \textbf{Add...}$ 

Adds a new bus.

MF Manager opens the **Add Bus** dialog box where you can select the new bus number. Only the available bus numbers are displayed.

After selection of the bus number, MF Manager opens the **Bus** dialog box where you can configure the new bus. If the maximum number of buses already exist, MF Manager informs you about it. New buses cannot be added.

#### $\textbf{Bus} \rightarrow \textbf{Modify...}$

Opens the **Bus** dialog box where you can configure the selected bus.

This menu choice is disabled if:

- bus is not selected in the **Configuration** window
- multiple buses are selected in the **Configuration** window.

#### $\textbf{Bus} \rightarrow \textbf{Delete}$

Deletes the selected bus(es).

Confirmation is asked before the selected bus(es) are deleted.

This menu choice is disabled if no bus(es) are selected in the **Configuration** window.

#### $\textbf{Bus} \rightarrow \textbf{Addresses...}$

Shows the bus address information.

MF Manager opens the **Addresses** dialog box where you can configure its values. If one bus is selected in the **Configuration** window, its addresses are displayed by default. Otherwise no address information is displayed until you select a bus.

#### PDH Manager Interface $\rightarrow$

This menu is disabled if the **Configuration** window is iconized or either the **Buses** or **OS Interfaces and Printer Spoolers** tab is selected.

#### PDH Manager Interface $\rightarrow$ Add...

Adds a new PDH Manager interface.

MF Manager opens the **PDH Manager Interface** dialog box and you can configure the new PDH Manager interface.

With the configuration type *NMS/10 MF C2.0*, only the **Port** tab of the **PDH Manager Interface** dialog box is available.



If the maximum number of interfaces already exist, MF Manager informs you about it. New interfaces cannot be added. You can define the maximum number of PDH Manager Interfaces in the **Limits** tab in the **PDH Polling General** dialog box.

#### PDH Manager Interface $\rightarrow$ Modify...

Modifies the selected PDH Manager interface.

MF Manager opens the **PDH Manager Interface** dialog box where you can configure the selected PDH Manager interface.

With the configuration type *NMS/10 MF C2.0*, only the **Port** tab of the **PDH Manager Interface** dialog box is available.

This menu choice is disabled if:

- a PDH Manager interface is not selected in the **Configuration** window
- multiple PDH Manager interfaces are selected in the **Configuration** window.

#### PDH Manager Interface $\rightarrow$ Delete

Deletes the selected PDH Manager interface(s).

Confirmation is asked before the selected PDH Manager interface(s) are deleted.

This menu choice is disabled if no PDH Manager interface(s) are selected in the **Configuration** window.

#### OS Interface $\rightarrow$

This menu is disabled if the **Configuration** window is iconized, or either the **Buses** or **PDH Manager Interfaces** tab is selected, or the configuration type is *PDH Polling C2.0* or *PDH Polling C1.0*.

#### $\textbf{OS Interface} \rightarrow \textbf{Add...}$

Adds a new OS interface.

MF Manager opens the **OS Interface** dialog box and you can configure the new OS interface.

If the maximum number of interfaces already exist, MF Manager informs you about it. New interfaces cannot be added.

#### $\textbf{OS Interface} \rightarrow \textbf{Modify...}$

Modifies the selected OS interface.

MF Manager opens the **OS Interface** dialog box where you can configure the selected OS interface.

This menu choice is disabled if:

- an OS interface is not selected in the **Configuration** window
- multiple OS interfaces are selected in the **Configuration** window.

#### OS Interface $\rightarrow$ Delete

Deletes the selected OS interface(s).

Confirmation is asked before the selected OS interface(s) are deleted.

This menu choice is disabled if no OS interface(s) are selected in the **Configuration** window.

#### Printer Spooler $\rightarrow$

This menu is disabled if the **Configuration** window is iconised or either the **Buses** or **PDH Manager Interfaces** tab is selected, or the configuration type is *PDH Polling C2.0* or *PDH Polling C1.0*.

#### $\textbf{Printer Spooler} \rightarrow \textbf{Add...}$

Adds a new printer spooler.

MF Manager opens the **Printer Spooler** dialog box and you can configure the new printer spooler. If the maximum number of printer spoolers already exist, MF Manager informs you about it. New printer spoolers cannot be added.

#### $\textbf{Printer Spooler} \rightarrow \textbf{Modify...}$

Modifies the selected printer spooler.

MF Manager opens the **Printer Spooler** dialog box where you can configure the selected printer spooler.

This menu choice is disabled if:

- no printer spooler is selected in the **Configuration** window
- multiple printer spoolers are selected in the **Configuration** window.

#### $\textbf{Printer Spooler} \rightarrow \textbf{Delete}$

Deletes the selected printer spooler(s).

MF Manager asks for confirmation before the selected printer spooler(s) are deleted.



This menu choice is disabled if no printer spooler(s) are selected in the **Configuration** window.

#### SNMP Interface...

Opens the **SNMP Interface** dialog box for configuring filters and alarm classifications. The agent configuration tool is to be used for configuring SNMP settings.

This menu choice is disabled if the configuration type is *PDH Polling C1.0, PDH Polling C2.0*, or *NMS/10 MF C1.0*.

#### Network Test Interface...

Opens the Network Test Interface dialog box.

This menu choice is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

#### PDH Polling General...

Configures PDH Polling general settings: FE name format, station, device type, equipment ID, global filter, global alarm classification, limits and comment. Opens the **PDH Polling General** dialog box.

#### Hardware ...

Shows PDH Polling hardware settings: number of polling units, I/O addresses, interrupts and type of interface units. Opens the **Hardware** dialog box which is read-only.

#### Filter and Alarm Classification...

Configures filters and alarm classifications. Opens the **Filters and Alarm Classifications** dialog box.

## 6.10.6 Performance menu



Figure 35. Performance menu

These menu choices are disabled if there is no **Configuration** window or the configuration type is *PDH Polling*.

## Performance Settings...

Configures performance monitoring data storage settings: PM data storage limits and full action.

Opens the **Performance Settings** dialog box.

#### Addresses...

Shows the bus address information.

MF Manager opens the **Addresses** dialog box where you can configure its values. If one bus is selected in the **Configuration** window, its addresses are displayed by default. Otherwise no address information is displayed until you select a bus.

## 6.10.7 View menu

⊻iew	$\underline{W}\text{indow}$	<u>H</u> elp								
✓ <u>I</u> oo	✓ <u>T</u> oolbar									
✓ <u>S</u> tatus Bar										
<u>N</u> eto <u>A</u> uto	<u>N</u> etwork Scan Log <u>A</u> uto-discovery Log									
<u>E</u> vent Log										

Figure 36. View menu

## Toolbar

Toggles the toolbar. If the toolbar is visible, there is a check mark next to this menu item.

#### Status Bar

Toggles the status bar. If the status bar is visible, there is a check mark next to this menu item.

#### Network Scan Log...

If the **Configuration** window is open, i.e. there is a current configuration, MF Manager checks from the local PC if there is a network scan log file that could be used. If there is one, MF Manager asks if you want to process it. MF Manager informs that if the local log file is not processed now, it will be overwritten with the log file retrieved from the system. If the local log file is not processed or there is not one, MF Manager checks from the NMS/10 MF (using the name of the

current configuration) if there is a log file. If there is one, MF Manager retrieves it (it is written over the log file in the local computer). The log file is opened in the **Network Scan Log** dialog box where you can compare its content and the current configuration. If there was not a log file to use, MF Manager informs about it.

If the **Configuration** window is not open, i.e. there is no current configuration, MF Manager first asks if you want to compare the possible log file with an offline or with an on-line configuration. MF Manager opens the **Open** or **Connect** dialog box (depending on the previous selection) where you can select the name of the configuration. From there on the operation is as if the **Configuration** window were already open. It is opened only if a network scan log file was found and it is processed.

This menu choice is disabled if the current configuration is a new one, i.e. it has no name, or the user security level is lower than *NMS/10 Operator*.

#### Note

As MF Manager checks the network scan log file, it is possible that the network scan is not yet finished. MF Manager informs you about this. There is also an indicator (magnifying glass) in the status bar during the network scan if there is a connection.

If you retrieve a network scan log from a remote computer, it replaces the local log file. All unhandled information will be lost from the local log file.

If the user security level is lower than *NMS/10 Experienced*, only the local log file can be viewed.

#### Auto-discovery Log...

If the **Configuration** window is open, i.e. there is a current configuration, MF Manager first checks from the local PC if there is an auto-discovery log file that could be used. If there is one, MF Manager asks if you want to process it. MF Manager informs that if the local log file is not processed now, it will be overwritten with the log file retrieved from the system. If the local log file is not processed or there is not one, MF Manager checks from the NMS/10 MF (using the name of the current configuration) if there is a log file. If there is one, MF Manager retrieves it (it is written over the log file in the local computer). Log file is opened into the **Auto-discovery Log** dialog box where you can compare its content and the current configuration. If there was not a log file to use, MF Manager informs about it. If the **Configuration** window is not open, i.e. there is no current configuration, MF Manager first asks if you want to compare the possible log file with an offline or with an on-line configuration. MF Manager opens the **Open** or **Connect** dialog box (depending on the previous selection) where you can select the name of the configuration. From there on the operation is as if the **Configuration** window were already open. It is opened only if an auto-discovery log file was found and it is processed.

This menu choice is disabled if the current configuration is a new one, i.e. it has no name, or the user security level is lower than *NMS/10 Operator*.

#### Note

If you retrieve an auto-discovery log from a remote computer, it replaces the local log file. All unhandled information will be lost from the local log file.

You can retrieve a remote auto-discovery log file at any time. The remote computer starts a new log when necessary. However, NEs reported to the retrieved log are not included in the new log until the next NMS/10 MF restart.

If the user security level is lower than *NMS/10 Experienced*, only the local log file can be viewed.

#### Event Log...

Executes the *Event Viewer* application. This application is a standard part of the Windows NT operating system.

MF Manager opens the **Connect** dialog box where you can select the system whose event log will be displayed. The selection "-- **local** --" is the local Windows NT.

If the **Configuration** window is open, the name of the active configuration is displayed as a default selection.

#### 6.10.8 Window menu

<u>W</u> indow	<u>H</u> elp					
<u>C</u> ascade						
<u>T</u> ile	<u>T</u> ile					
<u>Arrange Icons</u>						
✓ 1 Configuration						

Figure 37. Window menu



These menu choices are disabled if there is no **Configuration** window.

#### Cascade

Cascades all windows that are not minimized.

The **Configuration** window is located to the upper left corner.

#### Tile

Tiles all windows that are not minimized.

The **Configuration** window is located to the upper left corner.

#### Arrange Icons

Arranges all minimized windows at the bottom of the MF Manager window.

Minimized Configuration window is located to the lower left corner.

#### <list of open and minimized windows>

Windows NT keeps a list of currently open windows on the bottom of **Window** menu. Currently active window has a tick mark before its menu choice.

MF Manager has only one such window and the text of the menu choice is **1 Configuration** regardless of the configuration type.

## 6.10.9 Help menu



Figure 38. Help menu

#### **Help Topics**

Opens the help file with **Windows Help** application and displays the **Help Topics** dialog box.

#### Overview

Opens the help file with **Windows Help** application and shows the **MF Manager C2.5 Overview** help page.

#### Active Window

Opens the help file with **Windows Help** application and shows the page that contains information about the **Configuration** window.

This menu choice is disabled if there is no **Configuration** window.

## **About MF Manager**

Displays the **About MF Manager** dialog box that shows version, product code, release, build, and copyright information about MF Manager.

## 6.10.10 Toolbar

The toolbar contains shortcut buttons for the most frequently needed commands. It provides you a quicker way to operate with the mouse.

Ż	Ā	<u></u>	:FI	Ľ	Ê		9	K)	8	8	2
1	2	3	4	5	6	7	8	9	10	11	12

Figure 39. The toolbar

The functions of the toolbar buttons refer to the following menu items:

- 1. Manage  $\rightarrow$  Connect...
- 2. Manage  $\rightarrow$  Refresh
- 3. Manage  $\rightarrow$  Send
- 4. Manage  $\rightarrow$  Disconnect
- 5. Manage  $\rightarrow$  New
- 6. Manage  $\rightarrow$  Open...
- 7. Manage  $\rightarrow$  Save
- 8. Manage  $\rightarrow$  Print...
- 9. Edit  $\rightarrow$  Undo

- 10. Edit  $\rightarrow$  Copy
- 11. Edit  $\rightarrow$  Paste
- 12. Help  $\rightarrow$  Help Topics

#### 6.10.11 Status bar

The status bar on the bottom of the application window displays information about the functions of MF Manager:

- A short description about the chosen menu command or toolbar icon.
- An icon showing that the network scan operation is still going on (if there is a connection). There are 5 icons that change periodically:



• An icon showing if the current configuration is an off-line or an on-line configuration.

## 6.10.12 User input

All MF Manager functions can be activated with a mouse or keyboard.

Menu choices and dialog box fields all have a mnemonic letter that is underlined. A mnemonic is used by pressing at the same time the *ALT* key and the mnemonic letter. For example, you can open the **Manage** menu by pressing the key combination ALT + M.

Some menu choices have also a shortcut key. For example, the **Copy** menu choice in the **Edit** menu has a short cut key CTRL + C.

In a list box or list view (a list box with a sorting header) you can use the following keyboard selections and mouse actions as a replacement for a menu choice or command button:

- A double-click of the mouse can be used to activate an item in the list view. This is a general 'modify' action.
- The INSERT key can be used to add a new item into the list view. This is a general 'add' action.
- The DELETE key can be used to delete the selected items from the list view. This is a general 'delete' action.

## 6.10.13 Data validation

When the configuration is read in, its data is validated. If invalid data is found, MF Manager displays an error message explaining which part of the data was invalid, which are the valid values and what is the default value. You are given two choices: use the default value or cancel the reading.

## Note

Most of the parameters have a default value. If the parameter does not have a default value, like a port of a bus, it is set as 'undefined'. A configuration cannot be saved before the 'undefined' values are defined.

When you close a dialog box with the **OK** button, and there are changes, all the data is validated. If there is invalid data, MF Manager displays an error message explaining which part of the data was invalid and which are the valid values. When you close the error message box, the input focus is moved onto the invalid data if possible.

## Note

The error checking scope is one dialog box. It means that when you open a dialog box from another dialog box, make changes there, return by clicking **OK**, and leave the first dialog box by clicking **Cancel**, changes made in the second dialog box remain effective and cannot be restored.

When the configuration is saved, MF Manager:

- checks that all parameter have valid values. In a new configuration (depending on the configuration type) at least the equipment ID value is undefined
- checks that all addresses contain FE0
- checks that all the port values and printer names are consistent:
  - buses have unique port values
  - PDH Manager Interfaces, OS Interfaces, and the Network Test Interface have unique TCP/IP port values
  - Printer Spoolers have unique printer names
  - number of PDH Manager Interfaces does not exceed the allowed number.

- checks that PM is defined in FE0 if the configuration type is *NMS/10 MF C2.0* and the NE generation is ND
- validates the maximum number of addresses in one bus and FEs in the polling unit.

In the first three cases, if there is invalid data, MF Manager displays an error message explaining which part of the data was invalid. Saving is cancelled.

In the fourth case MF Manager displays a warning message. You can select if you want to continue anyway.

In the last case, if any of the limits is exceeded, MF Manager displays a warning message explaining which limits were exceeded and what are the valid values. You have two choices: either use invalid values or cancel saving.

## 6.10.14 Clipboard

MF Manager supports data exchange via the Clipboard:

- between edit boxes (standard Windows NT support)
- copy and paste configuration data of one bus to another bus; all bus information, except primary and secondary port and any address information, is transferred
- copy and paste configuration data of one PDH Manager interface to another PDH Manager interface; all PDH Manager interface information, except TCP/IP port, is transferred
- copy and paste configuration data of one OS interface to another OS interface; all OS interface information, except TCP/IP ports, is transferred
- copy and paste configuration data of one printer spooler to another printer spooler; all printer spooler information, except printer name, is transferred
- copy and paste configuration data of an SNMP interface to another.

Moreover, copy and paste operations are possible between two instances of MF Manager.

When you paste PDH Manager Interface, OS Interface, SNMP Interface or Printer Spooler to another configuration, filter and alarm classification names are pasted, but the actual files are not moved. If you wish to use same filters and alarm classifications in the target configuration, we recommend you to make a copy of the original configuration with the command **Manage**  $\rightarrow$  **Save As...** 

## Note

Format of the clipboard data is not compatible with the previous versions of MF Manager.

## 6.10.15 Printing

You can print a report of the current configuration. The format of configuration reports is described in Appendix C, 'Configuration report format'.

You can change the printer, paper selection and paper orientation in the **Print Setup** dialog box, and fonts and margins in the **Page Setup** dialog box.

## 6.10.16 Online help

You can request help by using one of the following methods:

• Choose the Help  $\rightarrow$  Help Topics menu command in the MF Manager application window or click the Help icon in the toolbar to display the Help Topics dialog box.

Then you may choose a topic in the **Index** tab, or search a topic in the **Find** tab.

- Press F1 or choose the menu command **Help** → **Active Window** to get help about the **Configuration** window. Pressing F1 when there is no **Configuration** window opens the **Help Topics** dialog box.
- Click a **Help** button in a dialog box to get help about that particular dialog box. The F1 key has no effect in dialog boxes.

For further information on how to use online help, refer to *Microsoft Windows NT* User's Guide.

#### 6.10.17 Command line arguments

MF Manager supports the following command line format:

MFM.EXE - NAME name

This command starts MF Manager and connects to a NMS/10 MF by the name of *name*. The *name* is the computer name for the computer in which NMS/10 MF is installed.

## 6.11 Auto-discovery Log dialog box

This dialog box allows you to view auto-discovery and network scan logs and include found NEs in the current configuration.

This dialog box is used for:

- viewing an auto-discovery log (Auto-discovery Log)
- viewing a network scan log (Network Scan Log).

A	uto-dis	cov	ery Log									ļ	×
Į	<u>B</u> us: 0 <b>•</b>											OK	]
1	Address	es o	n jog									Cancel	П
	Addr.	FE	Equipment ID	Software ID		Gen. ID	FE na	ame		-	•		i
	11	0	ACM2	ACM2			ACM:	28		-	-	Help	
	20	0	ACM2	ACM2			ACM	2					
	21	0	SUBSTATION	TC21705			SUB	STATION					
	21	1	SUBSTATION	TC21705			EXI	1st Dig In 2. J Dia la					
	21	2	SUBSTATION	TC21705			EXI	2nd Dig In 2nd Dig In					
	21	3	SUBSTATION	TC21705			EAT	Ath Dig In					
	21	5	SUBSTATION	TC21705			FXT	5th Dia In			-1		
		_								-			
	Ad	d ->	Add All ->	I <u>U</u> se FE na	me from log	when adding FE	to currer	nt configuration		<- <u>R</u> emove			
				🔲 U <u>s</u> e device	e type from l	og when adding	FE to cur	rent configuration	-				
4	Address	es o	n <u>c</u> urrent configuration										
	Addr.	FE	FE name		Gen. S	itation	#	Device type	#	Status 🖌	•		
	16	0	DC30 K428530 LAS 00.001	6.00	H	IEL/KE9	5	DC30	101	F 🗖			
	17	0	DC30 K428531 KE9 00.001	7.00	H	IEL/LAS	8	DC30	101	F			
	18	0	DC30 K431530 UUS 00.001	8.00	H	IEL/KE9	4	DC30	101	F			
	19	0	DC30 K431531 KE9 00.001	9.00	E	SP/UUS	9	DC30	101	F			
	20	0	DC30 K431540 UUS 00.002	20.00	H	IEL/KE9	4	DC30	101	F			
	21	10	DC30 K431541 KE9 00.002	1.00	E	SP/UUS	9	DC30	101	F			
	22	13	EXT 13th Dig In 00.0021.13	22.00	l I		3	DC20	J 101		-1		
1	22	0	DC30 NYYYYYY LYA UU.UU	22.UU		ILL/NEJ	4	0000	101	г <u>г</u>	-		

Figure 40. Auto-discovery Log / Network Scan Log dialog box

A remote log file is retrieved to the local computer. However, a network scan log cannot be transferred until the defined network scan is complete. The system does not control who retrieves the log, so it is possible for someone who has not started the scan to retrieve the log.

An auto-discovery log can be transferred at any time. After the transfer, NMS/10 MF starts a new log which does not include the previously found and retrieved network elements. In such case, you need to restart the NMS/10 MF in order to find these NEs again.

## Note

When a remote log is retrieved, it replaces an existing local log file causing any unhandled data to be lost.

#### Bus

A list of buses defined in the log file. Addresses and FEs on the selected bus are displayed in the **Addresses on log** and **Addresses on current configuration** list boxes.

When you select another bus and there are changes, MF Manager asks if you wish to save the changes and informs that the changes are saved permanently (although not yet to the configuration files); they cannot be cancelled later with the **Cancel** button.

The default is an empty selection.

#### Note

Only buses that are in both the current configuration and the log are displayed.

#### Addresses on log

A list of addresses found in the log on the selected bus. Addresses are sorted in ascending order. The columns are sortable, and the default sort order is address/ FE. If there are multiple FEs on one NE, the FEs are displayed on their own lines sorted in ascending order by FE number.

This list view is empty if no buses are selected or all FEs are moved to the current configuration.

The Gen. ID field is empty if:

- the configuration type is *NMS/10 MF C1.0*, *PDH Polling C2.0*, or *PDH Polling C1.0*
- the NE does not have a generation ID, i.e. it is a ND generation equipment; for E generation equipment the ID is 'Q1E'.

#### Note

If there are N/A entries in the Equipment ID, Software ID or FE name columns, you may need to increase the Q1 Packet timeout and Command retries values in the Bus dialog box. See Section 6.12, 'Bus dialog box'.

#### Note

ACM2 nodes do not respond correctly to the software identification command. The answer is always ACM2.

#### Addresses on current configuration

A list of addresses in the current configuration on the selected bus. The columns are sortable, and the default sort order is address/FE. Addresses are sorted in ascending order. If there are multiple FEs on one NE, each of the FEs are displayed on its own line sorted in ascending order by FE number.

#### Note

Different FEs on one address can have different station and device type settings. Fault polling is per address, not per FE. PM is per FE if the configuration type is *NMS/10 MF C2.0*. Otherwise, PM is per address.

The Gen. field can be ND, E or empty. It is empty if:

- the configuration type is *NMS/10 MF C1.0*, *PDH Polling C2.0*, or *PDH Polling C1.0*
- the NE generation is unknown.

The status at the end of the row can be one of the following:

- *empty*: the address is not in fault polling. The address or FE has no PM jobs
- *F*: the address is in fault polling
- *F S*: the address is in fault polling, but suspended

- F S P: the address or FE is in fault polling, but suspended. The address or FE has PM jobs
- *F P*: the address is in fault polling. The address or FE has PM jobs
- *P*: the address or FE has PM jobs.

The letter L in front of the status shows the added addresses and FEs.

The system-defined address 65535 is not displayed.

This list view is empty if there are no addresses in the current configuration on the selected bus, or no buses are selected.

## Note

If all activity is suspended on the bus, it is not indicated with *S* in the addresses. If the configuration type is *NMS/10 MF C2.0*, only those FEs that have PM jobs has the 'P' in the **Status** field. Otherwise, all FEs of an address that has PM jobs have the 'P' in the **Status** field.

## $\mathbf{Add} \rightarrow$

Moves selected address(es) and FE(s) from the log to the current configuration. If an address contains multiple FEs, only the selected FEs are moved.

If an address or FE is already in the current configuration, you are asked for confirmation on adding the address/FE. If **Use device type from log when adding FE to current configuration** is selected, an equipment ID (device type) that is unknown to the current configuration is added automatically to its device type list. Otherwise, if an FE has an unknown equipment ID, MF Manager asks you if you wish to add it to the device type list.

MF Manager opens the **Bus x** - **Move Address(es)/FE(s)** dialog box in which you can define NE generation information, and station, device type and fault polling values. The same value is given to each selected address/FE. See section 6.17, 'Bus x - Move Address(es)/FE(s) dialog box' for details on how the default values are found.

#### Note

If you have selected one address/FE, its FE name is displayed and you can change it. If multiple address(es)/FE(s) are selected, their FE name cannot be changed. Existing FE(s) get their FE name as defined by the **Use FE name from log when adding FE to current configuration** check box. Either the FE name from log or the existing FE name is retained. New FEs get the FE name displayed in the **Addresses on log** list box. New FE names are formatted according to the FE Name Format (see **FE Name Format** tab in section 6.42, 'PDH Polling General dialog box').

#### Note

New address(es)/FE(s) are set to fault polling by default (if not otherwise defined in the **Bus x - Move Address(es)/FE(s)** dialog box). Fault polling and NE generation are set per address, not per FE.

If you changed the name of some station or device type, it is updated to all corresponding FEs in the **Addresses on current configuration** list view.

This button is disabled if no address/FE is selected in the **Addresses on log** list box.

#### $\mathrm{Add}\ \mathrm{All} \rightarrow$

Moves all addresses and FEs from log to the current configuration. The action is the same as in  $Add \rightarrow$ .

# Use the FE name from log option when adding an FE to the current configuration

FE name to use when adding an FE from the log to the current configuration.

If this check box is cleared, the existing FE retains its current FE name. Otherwise it gets the FE name from the log. The default state is cleared.

This check box has no effect if the added FE is a new one. It always gets its FE name from the log.

#### Use device type from log when adding FE to current configuration

Device type to use when adding an FE (new or existing) from the log to the current configuration.

If this check box is selected, device type from the log is used (you can also select a specific device type in the **Bus x** - **Move Address(es)/FE(s)** dialog box). Otherwise, you must select the device type in the **Bus x** - **Move Address(es)/ FE(s)** dialog box.

The default selection is cleared.

#### ← Remove

Moves selected addresses and FEs from the current configuration back to log. Only address(es)/FE(s) that were originally in the log can be removed (they have the letter *L* in front of the status field).

The original settings are restored to the addresses/FEs in the current configuration. If the fault polling setting of an address has changed, it is restored when all added FEs are removed back to the log when all added FEs on that address are removed back to the log.

If you changed a name of a station or device type with  $Add \rightarrow$  or  $Add All \rightarrow$ , it is not restored. If the moved FE had an unknown equipment ID, i.e. device type, and it was added to the device type list, it is not removed from the list.

This button is disabled if no address/FE is selected in the **Addresses on current configuration** list box or the selected FEs were not previously moved from the log to the current configuration.

#### OK

Closes the **Auto-discovery / Network Scan Log** dialog box. If the user security level is at least *NMS/10 Experienced*, MF Manager asks you what you wish to do with the log. If you decide to remove the log, all unhandled information will be lost.

#### Cancel

Closes the **Auto-discovery / Network Scan Log** dialog box and discards all changes. If the user security level is at least *NMS/10 Experienced*, MF Manager asks you what you wish to do with the log. If you decide to remove the log, all unhandled information will be lost.

## Help

Displays help on the Auto-discovery / Network Scan Log dialog box.

## 6.12 Bus x dialog box

This dialog box allows you to change the configuration of the selected bus. The bus number (in place of 'x') is displayed on the title bar of the dialog box.

This dialog box contains the following tabs:

- Fault Polling and Auto-discovery
- Port
- Cycle
- Time-out and Delay
- Connection Monitoring
- PM

The **PM** tab is disabled if the configuration type is *PDH Polling C1.0*.

When you change from one tab to another, all values in the previous tab are validated. If there are errors, MF Manager displays an error message. The tab is not changed.

#### Buttons common to all tabs

#### OK

Closes the **Bus x** dialog box.

All values are validated and if there are errors, an error message is displayed and the operation is cancelled.

#### Cancel

Closes the **Bus x** dialog box and discards all changes.

#### Help

Displays help about the **Bus x** dialog box.

#### Fault Polling and Auto-discovery tab

You can define the fault polling and auto-discovery addresses of the selected bus in this tab. Some or all addresses can be suspended.

There may be addresses on several lines and they are separated with commas. An address range is given by separating two addresses with a hyphen. Addresses are sorted in ascending order. Each address is displayed only once even if there are multiple FEs on the same NE address.

Bus O	×
Fault Polling and Auto-discovery  Port  Cycle  Time-out a    Fault polling addresses  ND generation equipment	Address information (FE/NE) ND 437 / 413 428 / 412 E 9 / 1 9 / 1 Total 446 / 414 437 / 413
Suspension Fault polling and auto-discovery suspended as <u>d</u> efined All fault <u>polling</u> and auto-discovery suspended All a <u>c</u> tivity suspended	

Figure 41. Fault Polling and Auto-discovery tab

#### Fault polling addresses

Addresses defined for the fault polling grouped by the NE generation.

#### Note

A higher-level NMS does not know, which NEs are in fault polling, or about any changes in them (for example, if an NE is removed from fault polling); it is not reported in any way.

## Fault polling addresses / ND generation equipment

These addresses are defined for fault polling from ND generation equipment. The addresses can be between 0 and 4093. The default is *empty*.

The **Fault polling addresses / ND generation equipment** edit box is read-only. If you want to modify its contents, open the **Addresses** dialog box by clicking **Edit...** If the configuration type is *NMS/10 MF C1.0*, *PDH Polling C2.0*, or *PDH Polling C1.0*, all addresses regardless of the NE generation are shown in this edit box.

#### Fault polling addresses / E generation equipment

These addresses are defined for fault polling from E generation equipment. The addresses can be between 0 and 4093, but addresses above 3999 is not recommended. The default is *empty*.

The **Fault polling addresses / E generation equipment** edit box is read-only. If you want to modify its contents, open the **Addresses** dialog box by clicking **Edit...**.

The Fault polling addresses / E generation equipment edit box is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

#### Edit...

Opens the **Addresses** dialog box where you can edit the addresses of the selected bus. The **Bus** combo box on the **Addresses** dialog box is fixed to the current bus.

#### Auto-discovery addresses

These addresses are defined to be checked for new NEs. The addresses can be between 0 and 4094. The default is *empty*.

#### Note

Address 4094 is a possible address for an NE. However, the address 4094 is reserved for other use, so it is not an acceptable address for an NE. By adding the address 4094 to the auto-discovery address list you may check that no NE uses this address.

#### Address information (FE/NE)

Displays the number of FEs and NEs currently defined on the bus and in the fault polling per NE generation and totally.

The E generation information is disabled if:
- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

# Suspension

This group box contains different options for suspending fault polling and autodiscovery.

# Note

All suspension settings are temporary and they are lost in a system restart. A higher-level NMS does not know if something is suspended; it is not reported in any way.

## Fault polling and auto-discovery suspended as defined

Some of the addresses defined for fault polling or for auto-discovery are suspended. The suspended addresses are defined in the edit box when this option is selected. The addresses can be between 0 and 4093.

This is default selection and the edit box is empty by default.

## All fault polling and auto-discovery suspended

All of the addresses defined for fault polling or auto-discovery are suspended. Other activities, for example PM, are allowed.

If this option is selected, the edit box is disabled.

### All activity suspended

All activity on the selected bus is suspended.

If this option is selected, the edit box is disabled.

### Port tab

You can define the primary and secondary polling direction port parameters in this tab.

# NOKIA

Bus O
Fault Polling and Auto-discovery Port Cycle Time-out and Delay Connection Monitoring PM
✓ Protected <u>b</u> us
Polling <u>u</u> nit: 1
Primary direction  Secondary direction    Port:  4A    Line speed (bit/s):  19200    Line speed (bit/s):  9600
OK Cancel Help

Figure 42. Port tab

# **Protected bus**

If the **Protected bus** check box is not checked, the **Secondary direction** group box and all its controls are disabled. The default is not selected.

# **Polling unit**

The polling unit value is 1.

### **Primary direction / Port**

The port value can be 1A...16B. The port value format is defined in Section 6.22.2, 'Buses tab'. The default is an empty selection.

# Note

Each bus must have a unique primary polling direction port value.

# Primary direction / Line speed (bit/s)

The line speed can be 300, 600, 1200, 2400, 4800, 9600 or 19200 bit/s. The default is 9600 bit/s.

# Note

When using configuration types *PDH Polling C1.0*, *PDH Polling C2.0* and *NMS/ 10 MF C1.0*, the line speed for primary direction must be the same as the line speed of secondary direction.

# Secondary direction / Port

The port value can be 1A...16B. The port value format is defined in Section 6.22.2, 'Buses tab'. The default is an empty selection.

# Note

Each bus must have a unique secondary polling direction port value.

This item is disabled if the Protected bus check box is not checked.

## Secondary direction / Line speed (bit/s)

The line speed can be 300, 600, 1200, 2400, 4800, 9600 or 19200 bit/s. The default is 9600 bit/s.

# Note

When using configuration types *PDH Polling C1.0*, *PDH Polling C2.0* and *NMS/ 10 MF C1.0*, the line speed for secondary direction must be the same as the line speed of primary direction.

This item is disabled if the **Protected bus** check box is not checked.

# Cycle tab

You can define the cycle parameters for primary and secondary polling directions in this tab.

# NOKIA



Figure 43. Cycle tab

# Cycle target time

The time that must pass between starting one fault polling cycle and starting the next fault polling cycle. If there is time left after the compulsory actions (fault polling cycle, consistency check, and finding lost and new network elements), it is used as defined in the **Perform on every cycle (if time left)** group box.

The minimum time between two fault polling cycles can be 0...86400 seconds (0 s...24 h). The default value is 0.

The value 0 is a so called 'do not care' value, i.e. only compulsory actions are carried out. If the cycle target time is 0, the **Perform on every cycle (if time left)** group box, all the controls inside it, and the static text above it are disabled.

# Perform on every cycle (compulsory)

The compulsory actions that are carried out in every cycle.

# Perform on every cycle (compulsory) / Consistency check

The full poll consistency check can be *none*, x NE or x FE, where x = 1...100. The default is 1 NE per cycle.

If the selected value is *none*, the edit box next to this box is disabled.

# Perform on every cycle (compulsory) / Check lost network elements

The number of NEs (previously reported as disconnected) that are polled for existence after every fault polling cycle. The number can be 0...10 and the default is 1.

# Perform on every cycle (compulsory) / Find new network elements

The number of new (auto-discovery) addresses that are polled for existence after each fault polling cycle. The number can be 0...10 and the default is 1.

# Perform on every cycle (if time left)

You can choose the actions that are carried out if there is time left after the compulsory actions. The sum of percentages in this group box must always be 100%.

This group box is disabled if:

- the cycle target time is 0
- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

# Perform on every cycle (if time left) / Consistency check

The proportion of the time left used for consistency check can be 0...100 in percents. The default value is 50 (%).

### Perform on every cycle (if time left) / Check lost network elements

The proportion of the time left used for polling addresses (previously reported as disconnected) for existence can be 0...100 in percent. The default value is 30 (%).

# Perform on every cycle (if time left) / Find new network elements

The proportion of the time left used for polling addresses (auto-discovery) for network element can be 0...100 in percent. The default value is 20 (%).

# Perform on every cycle (if time left) / Do nothing

The proportion of the time left used for doing nothing can be 0...100 in percent. The default value is 0 (%).

## Time-out and Delay tab

You can define the time-out and delay parameters for primary and secondary polling directions in this tab. The purpose of timeout and delay parameters is to give you the opportunity to ensure smooth communication between network elements and the Polling card.

Bus O				×
Fault Polling and Auto-disco	overy Port Cycle	Time-out and Delay	Connection Monitoring	PM
Q1 <u>P</u> acket time-out:	2 x 100 ms			
Q1 Application delay:	2 x 100 ms			
Q1 <u>E</u> mpty packet delay:	0 x 100 ms			
Q1 <u>I</u> nter packet delay:	0 x 100 ms			
Q1 <u>C</u> ommand time-out:	0 x 100 ms			
<u>S</u> witch delay:	0 x 100 ms			
Max. empty packets:	1000 packets			
Pac <u>k</u> et limit:	1000 packets			
Clock <u>r</u> efresh rate (E gen.	elements) (d hh:mm):		0 芸	
		OK	] Cancel	Help

Figure 44. Time-out and Delay tab

# Q1 Packet time-out

The time-out applied to waiting for any Q1 packet level response. It is the maximum amount of time that is allowed to elapse between transmitting a Q1 protocol packet to a network element and receiving the first character of the response packet. The same time-out is also applied when waiting between characters of the response packet. If the bus speed is slow, the time-out should reflect this, but the time can also be increased if the bus contains elements that are slow in responding.

If there are TMS Adaptors or Branching Units (TU 21743.00/.01) on the bus, they cause a delay to the node response and therefore the packet time-out should be increased. Increasing the time-out slows down detection of disconnected network elements in the same way as increasing retry counts.

The packet time-out can be 2...600 in 100 ms units (200 ms ... 1 min). The default is 2 (200 ms).

# Q1 Application delay

The minimum delay between two data transfer commands to the same network element. It is the time that must pass between ending/starting a Q1 protocol data transfer command and starting the next data transfer command. In the configuration type *NMS/10 MF C2.0* this delay is counted from the end of one command to the start of the next command. In the other configuration types it is counted from start to start.

The purpose of this delay is to give the network element time to recover from processing the previous command.

It can be 0...600, or 2...600 in 100 ms units (0 ms ... 1 min, or 200 ms ... 1 min). If the configuration type is *NMS/10 MF C2.0*, the minimum and default value is 0 (ms). Otherwise, the minimum and default value is 2 (200 ms).

# Q1 Empty packet delay

The delay after receiving an empty packet during data transfer when communicating with the same element. It is the time that must pass between receiving a Q1 Data Transfer Command reply packet without payload data and transmitting the next query packet to the element.

The purpose of this delay is to prevent the Polling card from overloading the network element by repeatedly asking for the reply data.

The empty packet delay can be 0...600 in 100 ms units (0 ms ... 1 min). If the configuration type is *NMS/10 MF C2.0*, the default value is 1 (100 ms). Otherwise the default value is 0.

# Q1 Inter packet delay

The minimum delay between two packets sent in any/same direction. It is the time that must pass between ending/starting the transmission of one command packet and starting the transmission of the next command packet. This delay may be needed in some bus configurations where there are some elements more or less directly connected to the polling unit, and some elements are behind a delaying structure. In such a situation, the directly connected elements can answer to the polling unit before the command transmission has reached the entire bus. In the configuration type *NMS/10 MF C2.0* this delay is counted from the end of one packet to the start of the next packet and it is obeyed in any direction. In other configuration types it is counted from start to start and it is obeyed in any direction.

The purpose of this delay is to ensure that the transmission has time to travel to the whole bus before the next protocol packet is transmitted. Using a non-zero inter packet delay slows down the polling and causes delay to the detection and reporting of fault state changes in network elements. The polling cycle time (the average delay of reporting a fault state change in NE) of a bus increases roughly with *number\_of\_elements\*delay*.

The inter packet delay can be 0...1000 in 100 ms units (0 ms ... 1 min 40 s). The default is 0.

# **Q1** Command time-out

The maximum time allowed for executing one complete Q1 command transaction in one direction. The time-out is measured from the start of the transmission of the the first command packet and the command iteration is aborted if command is not complete when the timeout occurs.

Q1 command time-out can be 0...36 000 in 100 ms units (0 ms ... 1 h). The default value is 0 (ms).

The value 0 is a so called 'do not care' value, i.e. there is no time-out.

This item is disabled if the configuration type is PDH Polling C1.0, PDH Polling C2.0, or NMS/10 MF C1.0.

## Note

**Q1 Command time-out**, **Packet limit** and **Max. empty packets** can be used as mutually complementary criteria for limiting the maximum duration for a Q1 command iteration.

# Switch delay

The minimum delay after switching direction. It is the time that must pass between ending/starting the transmission of last command packet to one direction and starting the transmission of the first command packet into the other direction. In the configuration type *NMS/10 MF C2.0* this delay is counted from the end of one packet to the start of the next packet. In the other configuration types it is counted from start to start.

The purpose of this delay is to ensure that the transmitted packet has travelled through the whole bus before transmitting in other direction and thus prevent simultaneous data transmission from two directions. Fault polling alternates polling through primary and secondary directions and the direction is switched between cycles so using a non-zero switch delay has negligible effect in normal situation. However, it causes a delay to the detection of a disconnected element as both directions are always checked if an element fails to answer.

The switch delay can be 0...600 in 100 ms units (0 ms ... 1 min). The default is 0.

This item is disabled if the bus is not a protected bus.

# Max. empty packets

The maximum number of empty packets received from the network element during one command iteration in one direction. Empty packets need not to be consecutive and the packet counting is reset if the direction changes.

The purpose of this parameter is to prevent an infinite iteration of a command in case of a network element is unable to send replies.

The maximum number of consecutive empty packets can be 0...65535. If the configuration type is *NMS/10 MF C2.0*, the default value is 200. Otherwise the default value is 1000.

The value 0 is a so called 'do not care' value, i.e. an infinite number of empty packets is allowed.

# Note

**Q1 Command time-out**, **Packet limit** and **Max. empty packets** can be used as mutually complementary criteria for limiting the maximum duration for a Q1 command iteration.

# Packet limit

The maximum number of transmitted and received command packets during one command iteration in one direction. Packet counting is reset if the direction changes.

The maximum number of transmitted command packets can be 0...65535. The default value is 1000.

The value 0 is a so called 'do not care' value, i.e. an infinite number of packets is allowed.

### Note

**Q1 Command time-out**, **Packet limit** and **Max. empty packets** can be used as mutually complementary criteria for limiting the maximum duration for a Q1 command iteration.

This item is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

Clock refresh rate (E gen. elements) (d hh:mm)

The refresh rate for clocks of E generation NEs.

E generation elements maintain a real-time clock and the time-stamping of the events is carried out in the elements (for ND generation elements, events are time-stamped at the NMS/10 MF system). To keep the E generation element clocks synchronized with the NMS/10 MF system clock, it periodically refreshes the real time clock of the E generation elements.

# Note

To ensure the system to work properly, appropriate node managers must be used to set the nodes to follow the UTC time.

The refresh rate can be from 0 minute to 7 days. The default is 1 hour. The edit boxes (and spin buttons) from left to right are: days (0...7), hours (0...23), and minutes (0...59).

The content of the edit box is set to empty if an illegal value is selected.

The value 0 is a 'do not care' value, i.e. clock of the E generation elements is not refreshed.

# Note

If there are E generation equipment connected to the TMS Adaptor (HW TC21710.01 version 01A and SW TS21709.03 version 02A), the clock refresh rate must be set to **0d0h0m**.

This item is disabled if the configuration type is PDH Polling C1.0, PDH Polling C2.0, or NMS/10 MF C1.0.

### **Connection Monitoring tab**

You can define connection monitoring parameters for primary and secondary polling directions in this tab.

Bus O		×
Fault Polling and Auto-discovery Port	Cycle Time-out and Delay	Connection Monitoring PM
Poll retries on one cycle:		
Connection loss threshold: 4		
Command retries:		
	ОК	Cancel Help

Figure 45. Connection Monitoring tab

# Poll retries on one cycle

The number of immediate fault polling retry attempts after an NE does not respond.

The connection poll retry count can be 0...10. The default is 1.

# **Connection loss threshold**

The number of allowed command failures before the connection to a network element is considered to be lost. When the connection is considered lost, the NE is removed from fault polling. Connections to lost elements are checked according to the configured lost checking settings. Increasing connection loss threshold prevents loss of connection alarms from occasionally failing commands. However, detecting a genuine loss of connection is slower by nature. This parameter used to be called "Cycle retries" in MF Manager C2.0. When only fault polling commands are sent to the bus, this parameter can be treated as the number of fault polling cycles to wait before a failing element is considered as lost.



The connection loss threshold can be 0...10. The default is 4.

# **Command retries**

The maximum retry count for all commands except for fault polling. This parameter can be increased for better tolerance of failures while, for example, passing through node manager traffic (the fault polling retry count should typically be kept quite low to enable a rapid recovery from communication failures).

In NMS/10 MF C2.0, the retry counter is not reset upon reception of a valid answer packet from the element. Hence, this parameter specifies the total maximum number of packet level failures for a command iteration in one direction.

In other systems, the counter is reset to zero each time a valid answer is received. Hence, this parameter specifies the maximum number of consecutive failures.

The command retry count can be 0...10. The default is 1.

#### PM tab

You can define performance monitoring addresses of the selected bus in this tab. This tab is disabled if the configuration type is *PDH Polling*.

There may be addresses on several rows, separated with commas. An address range is given by separating two addresses with a hyphen. Addresses are sorted in ascending order. Each address is displayed only once even if there are multiple FEs on the same NE address even if there are multiple FEs in PM on the same NE address.

On NMS/10 MF C1.0 and PDH Polling C2.0, the PM files are saved to the folder: C:\NOKIAMGR\NMS10MF\PMP\LOGS\yymmdd.txt

On NMS/10 MF C2.0, the PM files are saved to the FTP folder:

\MF\PMDATA\yyyymmdd.txt

# Note

Fault polling is per address, not per FE. PM is per FE if the configuration type is *NMS/10 MF C2.0*. Otherwise, the PM is per address.

Bus O		×
Fault Polling and Auto-discovery Port Cycle Time-out a	and Delay Connection Monitoring PM	۱Ì.
Berformance monitoring addresses    65535    Edit	Address information (FE/NE) in bus in PM ND 437 / 413 0 / 0 E 9 / 1 0 / 0 65 535 1 / 1 1 / 1 Total 447 / 415 1 / 1	
	OK Cancel He	lp

Figure 46. PM tab (for NMS/10 MF C2.0)

# Performance monitoring addresses

These addresses are defined for performance monitoring. The addresses can be between 0 and 4093. The default is *empty*.

The **Performance monitoring addresses** edit box is read-only. If you want to modify its contents, open the **Addresses** dialog box by clicking the **Edit...** button.

# Edit...

Opens the **Addresses** dialog box where you can edit the addresses of the selected bus. The **Bus** combo box on the **Addresses** dialog box is fixed to the current bus.

# Address information (NE) or Address information (FE/NE)

Displays the number of (FEs and) NEs in the bus by the NE generation, totally and how many of them is in PM.

If the configuration type is *NMS/10 MF C2.0*, the group box title is **Address information** (**FE/NE**) and the number of both FEs and NEs is displayed.

Otherwise, the group box title is **Address information** (**NE**) and only the number of NEs is displayed (number of FEs and the dividers between the number of FEs and NEs are missing).

# Note

Address 65535 is always included here as it can have PM jobs. Because of this, the total NE count on a bus on this page is one higher than the same count on the **Fault Polling and Auto-discovery** page.

The E generation information is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

# 6.13 Bus x - Add Address(es)/FE(s) dialog box

This dialog box allows you to add address(es) and FE(s). The title bar shows the bus to which you are adding the address/FE.

Bus 0 - Add Address(es)/FE(s)		×
Add type		OK
© 1 Address and range of EEs		Cancel
O <u>R</u> ange of addresses and 1 FE		Help
Range of addresses and range of FEs		
<u>A</u> ddresses: 25 × ▼ 27 ▼ <u>E</u> Es: 1 ▼ 1 ▼ FE na <u>m</u> e: DM 140 east		
N <u>E</u> generation: ND		
Station: 11 - ESP/VLA	-	<u>B</u> rowse
De <u>v</u> ice type: 101 - DC30	-	Bro <u>w</u> se
In fault golling		



# Add type

Option buttons in this group box are for selecting the type of address/FE information added to the configuration.

# Add type / 1 Address and 1 FE

Adds exactly one FE to one address. This is the default selection.

# Add type / 1 Address and range of FEs

Adds a range of FEs to one address.

# Add type / Range of addresses and 1 FE

Adds exactly one FE to a range of addresses.

# Add type / Range of addresses and range of FEs

Adds a range of FEs to a range of addresses.

# Address or Addresses

The address of an NE can be 0...4093. All addresses are displayed and the address(es) in use have an asterisk (\*) after the address value. The default is the first unused address.

The start address must be smaller than or equal to the end address.

# Note

Do not use addresses higher than 3999 with E generation NEs.

### FE or FEs

The FE on an address can be 0...254. FEs that are available for all addresses defined in **Address** or **Addresses** combo box, are displayed. The default value is the first common and available FE.

The start FE must be smaller than or equal to the end FE.

The common and available FEs are updated once the address(es) are changed.

If the range of FEs is not continuous, there is a note about this after the last **FE** combo box.

The combo box(es) are empty if:

- there is no common unused FE
- the start address of an address range is higher than the end address.

# FE name

The name of a functional entity can be 1...32 characters long. The default value is empty.

# Note

When PAM reads a configuration and creates network maps, it uses the first 11 characters of the FE name of FE 0 for naming the node symbol.

If necessary, change the FE 0 name with the **Bus x - Modify Address(es)/FE(s)** dialog box.

This note does not apply to the configuration type NMS/10 MF C2.0.

## **NE** generation

The equipment generation for the added addresses. The default selection is updated every time the **Add type** or **Address** (**Addresses**) selection changes.

MF Manager checks from the selected (and existing) addresses what is their current generation (the default for a new address is ND). The following cases are possible:

- All existing addresses are ND generation; a ND selection is displayed.
- All existing addresses are E generation and there are no new addresses; an E selection is displayed.
- All existing addresses are E generation and there are new addresses; a multiple selection is displayed.
- Existing addresses have different generations, a 'multiple' selection is displayed.
- All addresses are new; a ND selection is displayed.
- All existing addresses are of unknown generation; an empty selection is displayed.
  - If there are new addresses; a multiple selection is displayed.
  - If only part of the existing addresses are of unknown generation, a multiple selection is displayed (a'#' mark next to the box and information text at the bottom of the dialog box).

### Note

A multiple selection is available only when such a selection is needed.

If it is multiple, generation settings of all the existing addresses are retained and the generation for the new addresses is set to ND.

The system-defined bus 254 has a fixed value, an empty selection.

If you change the value, all addresses (old and new) will get the same generation setting.

# Note

NE generation is per address, not per FE.

This item is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

#### Station

The station these address(es)/FE(s) are set to. The default selection is updated every time the **Add type**, **Address** (**Addresses**), or **FE** (**FEs**) selection changes.

MF Manager checks if all existing FEs on the selected addresses have the same station. The following cases are possible:

- All existing FEs have same station; that station is displayed. This selection is displayed also when there are new FEs.
- Existing FEs have multiple stations; a 'multiple stations' selection is displayed. This selection is displayed also when there are new FEs.
- All FEs are new; an empty selection is displayed.
- All existing FEs have unknown station; an empty selection is displayed. This selection is displayed also when there are new FEs. If only part of the existing FEs have unknown station, the selection is defined using previous cases (unknown stations are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

#### Note

The 'multiple stations' selection is available only when that selection is needed, but you must select some station.

The system-defined bus 254 has a fixed value *1* - *PDHplat* (the station name is PDHplat if you have not changed its default value).

Same station is set for all new FEs.

#### Station / Browse...

Opens the **PDH Polling General** dialog box (only the **Stations** tab is active) where you can modify the stations. The **Station** combo box is updated.

This button is disabled if the selected bus is 254.

## **Device type**

The device type set to the address(es)/FE(s). The default selection is updated every time the **Add type**, **Address** (**Addresses**), or **FE** (**FEs**) selection changes.

MF Manager checks if all existing FEs on the selected addresses have the same device type. The following cases are possible:

- All existing FEs have same device type; that device type is displayed. This selection is displayed also when there are new FEs.
- Existing FEs have multiple device types; a 'multiple device types' selection is displayed. This selection is displayed also when there are new FEs.
- All FEs are new; an empty selection is displayed.
- All existing FEs have unknown device types; an empty selection is displayed. This selection is displayed also when there are new FEs. If only a part of the existing FEs have unknown device type, selection is defined using previous cases (unknown device types are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

# Note

A 'multiple device types' selection is available only when that selection is needed, but you must select some device type.

The system-defined bus 254 has a fixed value 0 - SYSTEM (the station name is SYSTEM if you have not changed its default value).

Same device type is set for all the new FEs.

# **Device Type / Browse...**

Opens the **PDH Polling General** dialog box (only the **Device types** tab is active) where you can modify the device types. The **Device type** combo box is updated.

This button is disabled if the selected bus is 254.

# In fault polling

If the **In fault polling** is selected, address(es) are set to fault polling. The default selection is updated every time the **Add type**, **Address** (**Addresses**), or **FE** (**FEs**) selection changes.

MF Manager checks from the selected (and existing) addresses what is their current fault polling setting (the default for a new address is 'in fault polling'). The following cases are possible:

- All existing addresses are in fault polling; the check box is selected.
- All existing addresses are not in fault polling and there are no new addresses; the check box is cleared.

- All existing addresses are not in fault polling and there are new addresses; the check box is undefined.
- Existing addresses have different fault polling settings; the check box is undefined.
- All addresses are new; the check box is selected.

## Note

The **In fault polling** check box is a tri-state control only when the 'undefined' selection is needed. Otherwise, it has only two states: selected or cleared.

If the selection is undefined, all the existing fault polling settings are retained and the new addresses are set in fault polling.

The system-defined bus 254 has a fixed value *cleared*.

If you change the state of the check box, all addresses (old and new) will get the same fault polling setting.

### Note

Fault polling is set per address, not per FE.

# OK

Closes the Add Address(es)/FE(s) dialog box. FE names are formatted according to FE name format (see Section 6.42, 'PDH Polling General dialog box / FE Name Format tab').

If the **NE generation** is E generation and the address is higher than 3999, MF Manager displays a warning. However, you can accept the operation.

This button is disabled if:

- **FE name** or **NE generation** is empty
- Station or Device type has an empty or multiple selection
- start address is greater than end address
- start FE is greater than end FE
- there is a discontinuous FE range.

## Cancel

Closes the Add Address(es)/FE(s) dialog box and discards changes.

Help

Displays help about the Add Address(es)/FE(s) dialog box.

# 6.14 Bus x - Add PM Jobs dialog box

This dialog box allows you to define performance monitoring jobs on bus(es), address(es), and FE(s). The title bar shows the bus number if all addresses belong on it.

With all configuration types, this dialog box is used for:

- adding PM jobs on multiple addresses on one bus (**Bus x Add PM Jobs**)
- adding PM jobs on multiple buses (Add PM Jobs).

When the configuration type is not *NMS/10 MF C2.0*, this dialog box can be used for modifying PM jobs on one selected address (**Bus x Address y - Edit PM Jobs**).

With the configuration type NMS/10 MF C2.0, this dialog box is used for:

- adding PM jobs on multiple FEs on one address (**Bus x Address y Add PM Jobs**)
- modifying PM jobs on one selected FE (**Bus x Address y FE z Edit PM Jobs**).

# Note

Fault polling is per address, not per FE. PM is per FE if the configuration type is *NMS/10 MF C2.0*. Otherwise, the PM is per address.

You can set a predefined PM job on an address (or on an FE in *NMS/10 MF C2.0*). There is a period telling how often the PM job is performed (e.g. every 15 minutes). There is also an interval telling the time when it is allowed to perform the PM job (e.g. only on Sundays). There can be multiple PM jobs on one address or FE. PM jobs with the same period must not have overlapping intervals.

If PM jobs are added to multiple addresses (or to FEs in *NMS/10 MF C2.0*), previously added PM jobs are not shown, even though they are retained. If the PM jobs are added to one address (or to one FE in *NMS/10 MF C2.0*), all previously added PM jobs on that address or FE are shown.

Bus 0 - Add PM Jobs	×
Ayailable PM jobs    ACL2_line_g821    ACL2_port_g821    ACM2_g821    ACM2_reset    BU_a1_v11    BU_b1_uart    Add →    Current PM jobs    Name    ACM2_reset    Add →	Period 24 Hours   15 Minutes 24 Hours   0ther (d hh:mm:ss)
PM job definition    Commands:  m:8,3,1\r\/m:8,3,2\r    Parse:  %T1:resets:Cpu%\/    Comment:  ACM2 read counters and reset them	

Figure 48. Bus x - Add PM Jobs dialog box

# Available PM jobs

A list of available PM jobs that are sorted in ascending order by name.

The definition of the selected PM job is displayed in the **PM job definition** group box.

# **Current PM jobs**

A list of current PM jobs on the selected bus(es), address(es), or FE(s) with sortable columns. By default, current PM jobs are sorted in ascending order by their name. If the same job has multiple periods, they are sorted in ascending order by period. If there are multiple start/stop times for one period, the start/stop time is used as the third sorting rule.

# Note

PM jobs with the same *bus*, *address*, *FE*, *period*, and *PM job name* settings must not overlap. This includes also combinations of continuous, delayed continuous, and scheduled PM data collection.

If you add PM jobs to several addresses (or FEs in *NMS/10 MF C2.0*) at the same time, you cannot see previously added PM jobs, even though they are retained. However, when you modify one address (or one FE in *NMS/10 MF C2.0*) at a time, you see all currently defined PM jobs on that address or FE.

One address or FE can have the maximum of 128 PM jobs.

The definition of the selected PM job is displayed in the **PM job definition** group box.

### Period

You can define multiple periods for the selected PM job(s).

The check boxes have no default values. At the beginning, they are all cleared. However, they are not reset after each PM job adding.

# Note

For most PM jobs it does not make sense to define multiple periods, because the reading of counters may reset them, or there can be reset commands in the PM job.

## Period / 15 minutes

Runs the selected PM job(s) every 15 minutes.

## Period / 24 hours

Runs the selected PM job(s) every 24 hours.

## Period / Other (d hh:mm:ss)

Runs the selected PM job(s) on user-defined intervals. The user-defined interval can vary from 3 seconds to 7 days.



If this option is not selected, the time controls below the check box are disabled.

## PM data collection times

Defines PM data collection to be continuous or done at defined times.

## Note

The start/stop time is the NMS/10 MF local time.

This group box and all the controls inside it are disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

### PM data collection times / Continuous

Defines PM data collection to be continuous and starting as soon as possible. This is the default selection.

If this option button is selected, the Times... components are disabled.

### PM data collection times / Scheduled

Defines PM data collection to be continuous, but the start is delayed or PM data is collected only at defined times.

## PM data collection times / Times...

Defines the PM data collection interval.

The schedule is modified in the **PM Data Collection Times** dialog box, which is opened by clicking **Times...**. The static text below the button describes the currently selected scheduling.

### Add $\rightarrow$

Adds the selected PM job(s) to the list of current PM jobs. The selected period(s) and PM data collection times are used.

If the **Scheduled** option is selected, but the PM data collection times are not defined, MF Manager asks if the continuous PM data collection should be selected instead.

# Note

On NMS/10 MF C1.0, PM data is always collected from FE0, and on NMS/10 MF C2.0, PM data is collected from the defined FE. If the configuration type is *NMS/10 MF C2.0* and the NE generation is 'ND', all PM jobs should be on FE0.

# Note

For most PM jobs, it does not make sense to define multiple periods, because reading of the counters may reset them, or there can be reset commands in the PM job.

This button is disabled if no PM jobs are selected in the **Available PM jobs** list box or no period is selected in the **Period** group box.

## ← Remove

Removes the selected PM job(s) from the list of current PM jobs.

This button is disabled if no PM jobs are selected in the **Current PM jobs** list box.

## PM job definition

The fields in this group box are updated when you select one line in the **Available PM jobs** or **Current PM jobs** list box.

# PM job definition / Commands

Performance monitoring commands for the selected PM job. These commands are sent to the selected addressed or FEs. This field is read-only.

This field is empty if either no or multiple PM jobs are selected.

# PM job definition / Parse

Parse commands for the selected PM job. The answers to the PM commands are parsed by using these commands. This field is read-only.

This field is empty if either no or multiple PM jobs are selected. It is also empty if there is nothing to parse in the selected PM job.

# PM job definition / Comment

A comment about the selected PM job. This field is read-only.

This field is empty if either no or multiple PM jobs are selected. It is also empty if the selected PM job contains no comments.

## Import...

Enables you to import PM jobs.

Opens a common dialog box by the title of **Import PM Job Definitions**. In this dialog box you can select a file containing PM job definitions. MF Manager reads the file and adds the found PM jobs to the **Available PM jobs** list box. If an already reserved name is found, both definitions are displayed and you have to select the one to use.

# Note

We recommend that only experienced users carry out the import operation, because it is a potentially dangerous operation.

## OK

Closes the Add/Edit PM Jobs dialog box.

### Cancel

Closes the Add/Edit PM Jobs dialog box and discards changes.

## Help

Displays help about the Add/Edit PM Jobs dialog box.

# 6.15 Bus x - Addresses to Scan dialog box

This dialog box allows you to define addresses for a network scan on the selected bus. The title bar displays the bus number.

There may be addresses on several lines and they are separated with commas. An address range is given by separating two addresses with a hyphen. Addresses are sorted in ascending order.

Bus 0 - Addresses to Scan	>
<u>A</u> ddresses:	
0-100	
	Cancel

Figure 49. Bus x - Addresses to Scan dialog box

### Addresses

The addresses can be 0...4094. These addresses are defined for the network scan on the selected bus. The default is empty.

# Note

Address 4094 is a possible address for an NE. However, the address 4094 is reserved for other use, so it is not an acceptable address for an NE. By adding the address 4094 to the network scan address list you may check that no NE uses this address.

# OK

Closes the Bus x - Addresses to Scan dialog box.

This button is disabled if no addresses have been defined.

# Cancel

Closes the Bus x - Addresses to Scan dialog box and discards changes.

# Help

Displays help about the Bus x - Addresses to Scan dialog box.

# 6.16 Bus x - Modify Address(es)/FE(s) dialog box

This dialog box allows you to change address and FE information. The title bar shows the bus number if all addresses belong on it.



This dialog box is used for:

- modifying selected addresses and FEs on one bus (Bus x Modify Address(es)/FE(s))
- modifying selected addresses and FEs on multiple buses (Modify Address(es)/FE(s)).

Bus 0 - Modify	Address(es)/FE(s)		×
<u>A</u> ddress:	0		(OK)
<u>F</u> E:	2		Cancel
FE <u>n</u> ame:	DL2/TR3 P		Help
N <u>E</u> generation:	ND		
<u>S</u> tation:	182 - JVP/HJO	Browse	
De <u>v</u> ice type:	113-DL2	Bro <u>w</u> se	
🔽 In fault gollin	g		

Figure 50. Bus x - Modify Address(es)/FE(s) dialog box

# Address

If you have selected FEs from a single address, the address is displayed but you cannot change it.

This field is always disabled. It is also empty if multiple addresses have been selected.

# FE

If you have selected a single address and FE, the FE is displayed but you cannot change it.

This field is always disabled. It is also empty if multiple FEs have been selected.

### FE name

The functional entity name can be 1...32 characters long.

If you have selected one address and FE, the name of the FE name is displayed. If you change the FE name, it is formatted as described in Section 6.13, 'Bus x - Add Address(es)/FE(s) dialog box'.

This field is disabled if multiple FEs have been selected.

# Note

When PAM reads a configuration and creates network maps, it uses the first 11 characters of the FE name of FE 0 for naming the node symbol.

This note does not apply to the configuration type NMS/10 MF C2.0.

## **NE** generation

The equipment generation for the selected addresses.

The default selection can be one of the following:

- All selected addresses have the same generation setting; that setting is displayed.
- Selected addresses have different generation settings; a 'multiple' selection is displayed.
- All selected addresses are of unknown generation; an empty selection is show. If only a part of the existing addresses are of unknown generation, a 'multiple' selection is shown (there is a '#' mark next to the box and information text at the bottom of the dialog box).

## Note

A multiple selection is available only when that selection is needed.

If the selection is multiple, generation settings of all the existing addresses are retained.

The system-defined bus 254, and the system-defined address 65535 have both a fixed value, an empty selection.

If you change the value, all addresses get the same generation setting.

# Note

NE generation is per address, not per FE.

This item is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Station

The station for the selected FEs.

The default selection can be one of the following:

- All the selected FEs have same station; that station is displayed.
- The selected FEs have multiple stations; a 'multiple stations' selection is displayed.
- All the selected FEs have an unknown station; an empty selection is displayed. If only part of the existing FEs have unknown station, the selection is defined using previous cases (unknown stations are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

# Note

The 'multiple stations' selection is available only when that selection is needed.

If the selection is 'multiple stations', station settings of all the existing FEs are retained.

If you change the station, all selected addresses and FEs are set to that station.

The system-defined bus 254 has a fixed value 1 - PDHplat (the station name is PDHplat if you have not changed its default value).

The system-defined address 65535 has a fixed value 2 - TMN (the station name is TMN if you have not changed its default value).

# Station / Browse...

Opens the **PDH Polling General** dialog box (only the **Stations** tab is active) where you can modify the stations. The **Station** box is updated.

This button is disabled if the selected bus is 254, or the selected address is 65535.

## **Device type**

The device type for the selected FEs.

The default selection can be one of the following:

- All the selected FEs have same device type, which is displayed.
- The selected FEs have multiple device types; a 'multiple device types' selection is displayed.
- All the selected FEs have unknown device types; an empty selection is displayed. If only a part of the existing FEs have unknown device type, selection is defined using previous cases (unknown device types are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

# Note

A 'multiple device types' selection is available only when that selection is needed.

If the selection is 'multiple device types', device type settings of all the existing FEs are retained.

The system-defined bus 254 has a fixed value *0* - *SYSTEM* (the station name is SYSTEM if you have not changed its default value).

The system-defined address 65535 has a fixed value 0 - *SYSTEM* (the station name is SYSTEM if you have not changed its default value).

If you change the device type, all selected addresses and FEs are set to that device type.

# **Device Type / Browse...**

Opens the **PDH Polling General** dialog box (only the **Device types** tab is active) where you can modify the device types. The **Device type** combo box is updated.

This button is disabled if the selected bus is 254, or the selected address is 65535.

# In fault polling

The fault polling setting for the selected addresses.

The default selection can be one of the following:

- All the selected addresses have same fault polling setting; that setting is displayed.
- The selected addresses have different fault polling settings; the check box is undefined.

## Note

This check box is a tri-state control only when the undefined selection is needed. Otherwise, it has only two selections: selected or cleared.

If the selection is undefined, all the existing fault polling settings are retained.

## Note

Fault polling is set per address, not per FE.

If you change the state, all addresses get the same fault polling setting.

This check box is disabled if the selected bus is 254, or the address is 65535.

# OK

Closes the **Bus x** - Modify Address(es)/FE(s) dialog box.

This button is disabled if at least one of the fields is empty.

### Cancel

Closes the Bus x - Modify Address(es)/FE(s) dialog box and discards changes.

# Help

Displays help about the Bus x - Modify Address(es)/FE(s) dialog box.

# 6.17 Bus x - Move Address(es)/FE(s) dialog box

This dialog box allows you to modify the selected addresses and FEs. The title bar displays the bus on which the addresses belong to.

The **Bus x** - **Move Address(es)/FE(s)** dialog box is used to define the FE name, NE generation, station, device type, and fault polling when FEs are moved from the auto-discovery or network scan log to the current configuration.

Bus 0 - Move #	\ddress(es)/FE(s)		×
<u>A</u> ddress:	303		OK
<u>F</u> E:	0		Cancel
FE <u>n</u> ame:	DM2 K429592 TLI		Help
NE generation:	7		
<u>S</u> tation:	3-HEL/KE9	<u>B</u> rowse	
De <u>v</u> ice type:	25 · DM2	Bro <u>w</u> se	
🔽 In fault gollin	ng		

Figure 51. Bus x - Move Address(es)/FE(s) dialog box

# Address

If FEs on the same address are moved, the address is displayed. Otherwise it is empty and disabled.

The **Address** box is read-only.

FE

If one FE is moved, that FE is shown. Otherwise, it is empty and disabled.

The **FE** box is read-only.

# FE name

The functional entity name can be 1...32 characters. The default selection can be one of the following:

- One FE is moved:
  - It is a new one; the FE name from the **Addresses on log** list view is displayed
  - It is an existing one; the FE name from the **Addresses on log** or **Addresses on current configuration** list view is shown depending on the **Use FE name from log when adding FE to current configuration** selection.
- Multiple FEs are moved; edit box is empty and disabled.

If multiple FEs are moved, the new FEs will get their FE name from the **Addresses on log** list view and existing FEs their names from the **Addresses on log** or **Addresses on current configuration** list view depending on the **Use FE name from log when adding FE to current configuration** selection.

If you changed the FE name, or the FE is a new one, it is formatted according to the FE Name Format when the dialog box is closed with the **OK** button (see Section 6.42, 'PDH Polling General dialog box').

### Note

When PAM reads a configuration and creates network maps, it uses the first 11 characters from the FEO's FE name for naming the node symbol.

This note does not apply to the configuration type NMS/10 MF C2.0.

## **NE** generation

The equipment generation for the moved addresses. The default selection can be one of the following:

- All addresses (new and/or existing) have the same generation setting; that setting is displayed.
- New and/or existing addresses have different generations; a 'multiple' selection is displayed.
- All existing addresses (no new addresses) are of unknown generation; an empty selection is displayed. If there are new addresses, a multiple selection is displayed. If only a part of the existing addresses are of unknown generation, a 'multiple' selection is displayed (there is a '#' mark next to the box and information text at the bottom of the dialog box).

## Note

A multiple selection is available only when that selection is needed.

If the selection is 'multiple', the generation settings of all the existing addresses are retained and the generation for the new addresses is set according the **Gen. ID** field in the **Addresses on log** list view.

If you change the value, all addresses get the same generation setting.

# Note

The NE generation is per address, not per FE.

This item is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

# Station

The station for the moved FEs. The default selection can be one of the following:

- All existing FEs have the same station; that station is displayed. This selection is displayed also when there are new FEs.
- Existing FEs have multiple stations; a 'multiple stations' selection is displayed. This selection is displayed also when there are new FEs.
- All FEs are new; an empty selection is displayed.
- All existing FEs have an unknown station; an empty selection is displayed. This selection is displayed also when there are new FEs. If only a part of the existing FEs have an unknown station, the selection is defined using previous cases (unknown stations are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

# Note

A 'multiple stations' selection is available only when that selection is needed, but you must select some station.

If you changed the station, all the FEs are set to that station.

# Station / Browse...

Opens the **PDH Polling General** dialog box (only the **Stations** tab is active) where you can select or create the station.

# **Device type**

The device type for the moved FEs. The default selection can be one of the following:

- If the Use device type from log when adding FE to current configuration check box is selected in the Auto-discovery Log dialog box or in the Network Scan Log dialog box, the 'use device types from the log file' selection is displayed
- All existing FEs have the same device type; that device type is displayed. This selection is displayed also when there are new FEs.

- Existing FEs have multiple device types; a 'multiple device types' selection is displayed. This selection is displayed also when there are new FEs.
- All FEs are new; an empty selection is displayed.
- All existing FEs have unknown device types; an empty selection is displayed. This selection is displayed also when there are new FEs. If only a part of the existing FEs have an unknown device type, the selection is defined using previous cases (unknown device types are omitted; there is a '#' mark next to the box and information text at the bottom of the dialog box).

# Note

A 'multiple device types' selection is available only when that selection is needed, but you must select some device type.

If the selection is 'use device types from the log file', device types from the log file are used for the FEs (even if they exist). If the device type in the log is N/A and the FE is an existing one, its device type is retained. If the FE is a new one, its device type is set as unknown. You must define it later separately.

If you changed the device type, all the FEs get the same device type.

#### **Device type / Browse...**

Opens the **PDH Polling General** dialog box (only the **Device Types** tab is active) where you can select or create the device type.

## In fault polling

The fault polling setting for the moved addresses. The default selection can be one of the following:

- All existing addresses are in fault polling; the check box is selected.
- All existing addresses are not in fault polling and there are no new addresses; the check box is cleared.
- All existing addresses are not in fault polling and there are new addresses; the check box is undefined.
- Existing addresses have different fault polling settings; the check box is undefined.
- All addresses are new; the check box is selected.

### Note

This check box is a tri-state control only when the undefined selection is needed. Otherwise, it has only two selections: selected or cleared.

If the selection is undefined, all the existing fault polling settings are retained and the new addresses are set in fault polling.

If you change the value, all addresses get the same fault polling setting.

### Note

Fault polling is per address, not per FE.

### OK

Closes the dialog box. The FE name value is validated and if there is an error, MF Manager displays a message. The dialog box is not closed.

If you changed the FE name, it is formatted according to the FE Name Format (see Section 6.42, 'PDH Polling General dialog box').

This button is disabled if:

- The **FE name** box is empty (one FE is selected)
- The **NE generation** box has an empty selection (the configuration type is NMS/10 MF C2.0)
- The **Station** box has 'multiple stations' or empty selection
- The **Device type** combo box has 'multiple device types' or empty selection.

### Cancel

Closes the dialog box and discards changes.

### Help

Displays help for the dialog box.

# 6.18 Bus x Address y - Add PM Jobs

Bus 0 Address 0 - Add PM Jobs		×
Available PM jobs ACL2_line_g821 ACL2_port_g821 ACM2_g821 ACM2_reset BU_a_uart BU_a1_v11 BU_b1_uart Add → <- Remove Current PM jobs	Period            15 Minutes             ①ther (d hh:mm:ss)             PM data collection time             Contingous             Scheduled             Iimes             Mon 00:00:00 => Tue 00:00:00	Cancel
Name P ACM2_reset 1	'eriod Start time Stop time 5 min Mon 00:00:00 Tue 00:00:00	
PM job definition         Commands:       m:8,3,1\r\/m:8,3,2\r         Parse:       %T1:resets:Cpu%\/         Comment:       ACM2 read counters and reset them		

This dialog box is described in Section 6.14, 'Bus x - Add PM Jobs dialog box'.

Figure 52. Bus x Address y - Add PM Jobs dialog box

# 6.19 Bus x Address y - Edit PM Jobs dialog box

This dialog box is described in Section 6.14, 'Bus x - Add PM Jobs dialog box'.

Bus 0 Address 0 - Edit PM Jobs	×
Available PM jobs ACL2_line_g821 ACL2_port_g821 ACM2_g821 ACM2_reset BU_a1_v11 BU_a3_v28 BU_b_uart BU_b1_uart Add → <- Remu Current PM jobs	Period       ☑ 15 Minutes       ☑ 24 Hours       ☑K         ☑ 15 Minutes       ☑ 24 Hours       ☑ancel         ☑ 10 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
Name	Period Start time Stop time
ACM2_reset PM job definition Commands: m:8,3,1\r\/m:8,3,2\r Parse: %T1:resets:Cpu%\/ Comment: ACM2 read counters and reset the	15 min

Figure 53. Bus x Address y - Edit PM Jobs dialog box

# 6.20 Bus x Address y FE z - Edit PM Jobs dialog box

This dialog box is described in Section 6.14, 'Bus x - Add PM Jobs dialog box'.

Bus 0 Address 0 FE 0 - Edit PM Job	8	X
Available PM jobs ACL2_line_g821 ACL2_port_g821 ACM2_g821 ACM2_reset BU_a_uart BU_a1_v11 BU_a3_v28 BU_b1_uart BU_b1_uart Add → <-E Current PM jobs	Period ↓ 15 Minutes 24 Hours ↓ 0 ± 0 ± 0 ± PM data collection time PM data collection time Continuous emove Mon 00:00:00 => Tue 00:00:00	OK Cancel Import Help
Name	Period Start time Stop time	
PM job definition Commands: m:8,3,1\r\/m:8,3,2\r Parse: %TI:resets:Cpu%\/ Comment: ACM2 read counters and reset	them	

Figure 54. Bus x Address y FE z - Edit PM Jobs dialog box

# 6.21 Change Configuration Type dialog box

This dialog box allows you to change the current configuration type.



Figure 55. Change Configuration Type dialog box

### **Old configuration type**

Displays the type of the current configuration.

The static text displays information about the current configuration type.

### New configuration type

Selects a new configuration type. The current configuration type is excluded from the box. The default value is an empty selection.

The static text below the combo box changes when you change the selection. It displays information about the selected configuration type.

### OK

Closes the dialog box.

This button is disabled if no new configuration type is selected.

### Cancel

Closes the dialog box and discards the selection.

## Help

Displays help for this dialog box.

# 6.22 Configuration window

The **Configuration** window allows you to manage the configuration of buses, PDH Manager interfaces, OS interfaces and printer spoolers.

This window contains the following tabs:

- Buses
- PDH Manager Interfaces
- OS Interfaces and Printer Spoolers.

The **OS Interfaces and Printer Spoolers** tab is disabled if the configuration type is *PDH Polling C1.0* or *PDH Polling C2.0*.

# 6.22.1 Common information

Group boxes in the top of the **Configuration** window contain information about the current configuration, the current user, and the number of FEs/NEs (ND generation, E generation, and total).

Common information is always visible regardless which tab you have selected. The name of configuration is <Untitled> if the current configuration is a new one and it has not been saved.

The Address information (FE/NE) group box displays the number of FEs and NEs in the current configuration by NE generation, total number, and how many of them are set to fault polling.

E generation information is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

The format of username is: domain/username. For details on security levels and their effect, refer to Section 5.1, 'Security'.

### **Configuration types**

NMS/10 MF C2.0

This configuration contains buses, PDH Manager Interfaces, OS Interfaces, Printer Spoolers, SNMP Interface, and Network Test Interface. You can also define the performance monitoring.

There are one polling unit and two Q1 Interface units installed in an industrial PC. Configuration can contain up to 16 buses.

### Note

PDH Manager Interface does not contain FM information.

*NMS/10 MF C1.0* 

This configuration contains buses, PDH Manager Interfaces, OS Interfaces, and Printer Spoolers. You can also define the performance monitoring.

There are one polling unit and two Q1 Interface units installed in an industrial PC. Configuration can contain up to 16 buses.

### Note

This configuration type was PDH Polling and OS Interface in MF Manager C2.0.

PDH Polling C2.0

This configuration contains buses and PDH Manager Interfaces. User can also define the performance monitoring.

There are one polling unit and one Q1 Interface unit installed in a desktop PC. Configuration can contain up to 8 buses.

#### Note

This configuration type was PDH Polling and PM Poller in MF Manager C2.0.

PDH Polling C1.0

This configuration contains buses and PDH Manager Interfaces.

There is one polling unit and one Q1 Interface unit installed in a desktop PC. Configuration can contain up to 8 buses.

### Note

This configuration type was PDH Polling in MF Manager C2.0.

# 6.22.2 Buses tab

All buses in the current configuration are listed in this tab. The system-defined bus 254, which is used to report about NMS/10 MF internal faults, is not displayed.

<mark>क्षा</mark> (	Config	uratio	n									
Г	Config	uration	and user i	information						- Address	information (FE/N	IE)
	Name:		eswd0	)780kara							in configuration	in fault polling
	Туре:		NMS/	'10 MF C2.	0					ND	2632 / 2333	2621 / 2331
	Userna	ime:	PCCO	64-130-187	7\smith					Е	9/ 1	9/ 1
	Securit	y level:	NMS/	10 Networ	k Adminis	trator				Total	2641 / 2334	2630 / 2332
<u> </u>	Buses	PDH	Manager I	Interfaces	OS Inte	rfaces and	Printer S	noolers	1			
· · · ·	;	1.5.	managori		00 11.00		r mikor o	pooloid	<u> </u>			
	Bus	Unit	P. port	P. speed	S. port	S. speed	FEs	NEs	S	uspended	Í .	
	0	1	1A	600			446	414				
	1	1	5A	600	5B	600	430	351				
	2	1	6A	600			269	269				
	3	1	10A	600			213	194				
	4	1	4A	600			314	293				
	5	1	12A	600			472	316				
	7	1	14A	9600			0	0				
	9	1	ЗA	9600			497	497				
	·											

Figure 56. Buses tab

Each list box line contains the following information about one bus:

- Bus number (0...240)
- Polling unit number (always 1)
- Primary polling direction port (1A...16B or 1A...8B)
- Primary polling direction line speed (300...19200)
- Secondary polling direction port (1A...16B or 1A...8B); displayed only if the bus is protected
- Secondary polling direction line speed (300...19200); displayed only if the bus is protected
- Number of FEs defined on the bus

- Number of NEs defined on the bus
- Information about the bus being partly or totally suspended.

The port value format is *Serial\_channelPort*, where: Serial\_channel = 1...16 or 1...8 (depending on the configuration type), Port = A or B.

By default, buses are sorted in ascending order by bus number. Click the header to sort the lines in different ways. For example, clicking **FEs** in the header sorts the lines in ascending order by the number of FEs in the bus. Secondary sorting rule is always the bus number.

# Note

It is possible that several buses have the same port on the display, although different bus directions cannot have the same port. When saving the configuration, MF Manager checks this.

# 6.22.3 PDH Manager Interfaces tab

All PDH Manager interfaces in the current configuration are listed in this tab. These interfaces are used by PDH Alarm Manager and node managers.

Configuration				
- Configuration a	nd user information	- Addres	s information (FE/N	E) ———
Name:	eswd0780kara		in configuration	in fault polling
Туре:	NMS/10 MF C2.0	ND	2632 / 2333	2621 / 2331
Username:	PCC064-130-187\smith	Е	9/ 1	9/ 1
Security level:	NMS/10 Network Administrator	Total	2641 / 2334	2630 / 2332
10 07500				
19 27500				
19 27500				
19 27500				
19 2/500				
19 2/500				
19 27500				

Figure 57. PDH Manager Interfaces tab

Each line contains the following information about one TCP/IP PDH Manager interface:

- PDH Manager interface number (19...99)
- TCP/IP port (0...65535).

The following information is only available with the configuration types *PDH Polling C1.0*, *PDH Polling C2.0*, and *NMS/10 MF C1.0*:

- Filter name; followed by (A) if the filter is active
- Alarm classification name.

By default, interfaces are sorted in ascending order by interface number. Click the header to sort the lines in different ways. E.g., clicking **Port** sorts the lines in ascending order by TCP/IP port number. The secondary sorting rule is always the PDH Manager interface number.

### Note

It is possible that several PDH Manager interfaces have the same port on the display, although different interfaces cannot have the same port. When saving the configuration, MF Manager checks this.

# 6.22.4 OS Interfaces and Printer Spoolers tab

All OS interfaces and printer spoolers in the current configuration are listed in this tab. They are displayed in separate list boxes. OS Interfaces are used by NMS/ 100(0).

The **OS Interfaces and Printer Spoolers** is disabled if the configuration type is *PDH Polling C1.0* or *PDH Polling C2.0*.

Each **OS interfaces** list box line contains the following information about one OS interface:

- OS interface number (1...99)
- Command interface TCP/IP port (0...65535)
- Alarm interface TCP/IP port (0...65535)
- Filter name; followed by (A) if the filter is active
- Alarm classification name.

By default, OS interfaces are sorted in ascending order by OS interface number. Click the header to sort the lines in different ways. E.g., clicking **Alarm port** sorts the lines in ascending order by alarm interface TCP/IP port number. The secondary sorting rule is always the OS interface number.

### Note

It is possible that several OS interfaces have the same port on display. When saving the configuration, MF Manager cancels the operation if the same port is used in multiple OS interfaces.

🗱 Configuration						_ 🗆 ×
🖵 Configuration ar	nd user information			- Addre	ess information (FE/N	E)
Name:	eswd0780kara				in configuration	in fault polling
Type:	NMS/10 MF C2.0			ND	2632 / 2333	2621 / 2331
Username:	PCC064-130-187\smith			Е	9/ 1	9/ 1
Security level:	NMS/10 Network Admin	iistrator		Total	2641 / 2334	2630 / 2332
OS Interfaces # Cmd. port	Alarm port Filter			Alarm	classification	
US Interfaces # Cmd. port	Alarm port Filter			Alarm	classification	
	501 disturbanc	e (A)		derau	It	
Printer <u>S</u> poolers	Printer <u>S</u> poolers					
# Printer na	me	Filter			Alarm classification	
1 \\NASKF	D20ES\XQ14	disturbance (A)			default	

Figure 58. OS Interfaces and Printer Spoolers tab

Each **Printer spoolers** list box line contains the following information about one printer spooler:

- Printer spooler number (1...99)
- Printer name defined in Windows NT
- Filter name; followed by (A) if the filter is active
- Alarm classification name.

By default, printer spoolers are sorted in ascending order by printer spooler number. You can click the header to sort the lines in different ways. E.g., clicking **Printer name** sorts the lines in ascending order by printer name. The secondary sorting rule is always the printer spooler number.

## Note

It is possible that several printer spoolers have the same printer name on display. When saving the configuration, MF Manager cancels the operation if the same printer name is used in multiple printer spoolers.

# 6.23 Configuration Type dialog box

This dialog box allows you to select the type of a new configuration.

Configuration Type	×
New configuration type	OK
Configuration contains buses, PDH Manager	Cancel
Interfaces, PM Poller, OS Interfaces, Printer Spoolers, SNMP Interface, and Network Test Interface.	<u>H</u> elp

Figure 59. Configuration Type dialog box

## New configuration type

Selects the configuration type for the new configuration. The default is *NMS/10 MF C*2.0.

The static text changes when you change the selection. It displays information about the selected configuration type.

# OK

Closes the **Configuration Type** dialog box. Continues the operation that called this dialog box and uses the selection.

# Cancel

Closes the Configuration Type dialog box and discards the selection.

### Help

Displays help about the Configuration Type dialog box.

# 6.24 Connect dialog box

This dialog box allows you to select an on-line or off-line configuration name.

This dialog box is used for:

- selecting an on-line configuration (**Connect**)
- opening an off-line configuration (**Open**)
- saving the current configuration with a new name (Save As).

Connect	×
Name:	OK
pcc064-130-173	Cancel
Type: NMS/10 MF C1.0	<u>H</u> elp
Configuration contains buses, PDH Manager Interfaces, PM Poller, OS Interfaces, and Printer Spoolers (aka PDH Polling and OS Interface).	

Figure 60. Connect dialog box



Figure 61. Open dialog box

Save As	×
Name:	OK
	Cancel
Type: NMS/10 MF C1.0	<u>H</u> elp
Configuration contains buses, PDH Manager Interfaces, PM Poller, OS Interfaces, and Printer Spoolers (aka PDH Polling and OS Interface).	

Figure 62. Save As dialog box

### Name

You can select a name in the list box or type a new name. In the **Connect** or **Open** dialog boxes the default value is the last successfully used configuration name. Otherwise, the default is an empty selection.

In the **Open** dialog box it is not possible to edit the name of the configuration.

The name is the NMS/10 MF computer name. The maximum length of the name is 15 characters, and it must not be terminated with a period (.). The allowable characters are:

- letters
- numbers
- the following symbols: ! @ # \$ % ^ & ' ) ( . \_ { } ~

The static text displays information about the selected configuration type if it is a known one, i.e. can be found on the local computer.

### OK

Closes the **Connect / Open / Save As** dialog box. Continues the operation that called this dialog box using the selection.

This button is disabled if:

- in the **Open** dialog box, **Name** has an empty selection
- in the **Connect** or **Save As** dialog box, **Name** is empty.

### Cancel

Closes the **Connect / Open / Save As** dialog box and discards the selection. Cancels the operation that called this dialog box.

### Help

Displays help about the Connect / Open / Save As dialog box.

# 6.25 Fault Status Consistency Check dialog box

This dialog bus allows you to select buses for the fault status consistency check.

### Note

If all activity on all the buses is suspended, the fault status consistency check cannot be done.

Fault status consistency check obtains the full fault status from the monitored network elements and compares it with the locally stored fault data. If differences are discovered, alarms and cancels are generated as appropriate and the local data is updated. During normal operation, manual fault status consistency checks are not needed, but in some situations (hardware replaced, local management operations at NE site, etc.) it can be used for synchronising MF fault status with network elements more rapidly than with periodic fault status consistency checks.

### Note

This operation only updates the fault statuses stored in the MF and generates notifications of the changes. It does not necessarily bring the management system up to date with the fault status of the network elements if the management system is not synchronised with the MF.



# Figure 63. Fault Status Consistency Check dialog box

## **Check buses**

A list of buses defined to NMS/10 MF. If all activity is suspended on a bus, it is excluded from the list. Also, the system-defined bus 254 is excluded.

You can select multiple buses in this list.

## Note

List of buses is always checked from the NMS/10 MF, not from the current configuration (even if it is an on-line configuration; you may have made changes to the current configuration, but they are not sent to the system).

### Start

Closes the **Fault Status Consistency Check** dialog box and informs the NMS/10 MF about the buses on which the fault status consistency check is carried out.

This button is disabled if no bus is selected.

### Cancel

Closes the **Fault Status Consistency Check** dialog box and discards the selection. Cancels the operation that called this dialog box.

### Help

Displays help about the Fault Status Consistency Check dialog box.

# 6.26 Filters and Alarm Classifications dialog box

This dialog box allows you to change filters and alarm classifications.

You can set a filter to the PDH Manager interface, OS interface, SNMP interface and printer spooler. A global filter that has the highest priority over other filters can also exist. The same filter can be used in multiple places.

Alarm classification can be set to the same place as a filter. The global alarm classification is available only with the *NMS/10 MF C2.0* configuration type.

This dialog box contains two tabs:

- Filters
- Alarm Classifications.

For details on adding filters and alarm classifications, refer to section 6.2, 'Add Alarm Classification dialog box', and section 6.5, 'Add Filter dialog box'.

### Buttons common to all tabs

OK

Closes the Filters and Alarm Classifications dialog box.

### Note

Filters and alarm classifications are not yet written to files. They are saved when the configuration is saved.

### Cancel

Closes the **Filters and Alarm Classifications** dialog box and discards all changes.

### Help

Displays help about the Filters and Alarm Classifications dialog box.

### **Filters tab**

You can define filters to the system in this tab.

Filters and Al	larm Classifications				X
Filters Alar	m Classifications				
	Name	Туре	Sys 🔺	<u>A</u> dd	
	acm2 ais-fea	exclude exclude		Modify	
	ais-fea default	exclude include	S	Delete	
	default	include	S 💌	Com	
D <u>e</u> finition:	TYPE=ALARM OR TYPE=C4	NCEL OR	<u> </u>	Cobh	
	TTTE-DISTONDANCE				
Commont					
C <u>o</u> mment.			-		
<u>U</u> sed in:	PDH Manager Interface 19	A			
	US Intellace 2				
		OK )	Cancel	Help	

Figure 64. Filters tab

# filter list

A list of filters that are sorted in ascending order by filter name with sortable columns. After the filter name there is text *include* or *exclude*, depending on the filter type. *S* is a read-only system-defined filter.

Only the user-defined filters can be used in the interfaces. System-defined filters can be used as a base when creating user-defined filters.

*Include* means that alarms that match to the definition pass through. *Exclude* means that alarms that match to the definition do not pass through.

### Note

A system-defined filter and user-defined filter can have a same name. However, there cannot be an *'include'* and *'exclude'* type system-defined or user-defined filter with a same name.

### Definition

A definition of the selected filter. This is a read-only field.

This field is empty if no filter or multiple filters are selected in the Name list box.

### Comment

A comment for the selected filter. This is a read-only field.

It is empty if no filter or multiple filters are selected in the **Name** list box. It is also empty if the selected filter contains no comment.

#### Used in

A list of PDH Manager Interfaces, OS Interfaces, Printer Spoolers and SNMP Interface that use the selected filter. If the selected filter is also the global filter, it is displayed first in the list. There is a letter *A* at the end of line if the filter is active.

Interfaces and printer spoolers are sorted in ascending order by their number.

This list box is empty if no filter or multiple filters are selected in the **Name** list box.

If the selected filter is not used in any interface or printer spooler, only the text *"filter not used"* is displayed.

### Add...

Opens the Add Filter dialog box where you can add a new filter.

### Modify...

You can modify the selected filter in the **Modify Filter** dialog box. You cannot modify the system-defined filters.

If you change the name of a filter already in use (items in **Used in** list box) and exit by clicking **OK**, the changed name is chosen for those interfaces and printer spoolers.

This button is disabled if no filter or multiple filters are selected, or the systemdefined filter is selected in the **Name** list box.

### Delete

Deletes the selected filter(s). You are asked for confirmation before the selected filter(s) are deleted. You cannot delete system-defined filters.

This button is disabled if no filters, or only system-defined filters are selected in the **Name** list box.

### Сору

Makes a copy of the selected filter.

A new filter is added to the **Name** list box. A unique number is added to the end of the filter name. The **Definition** is the same as in the original filter. The **Comment** is set empty and the new filter is set to unused.

This button is disabled if no filter or multiple filters are selected in the **Name** list box.

### **Alarm Classifications tab**

You can define alarm classifications to the system in this tab.

### Note

Alarm severity definitions made in the MF Manager do not have any effect on the PDH Alarm Manager alarm severity. It defines its own alarm severities.

Filters and A	larm Classifications			×
Filters Alar	m Classifications			1
	Name		Sys	<u>A</u> dd
	default		-	
	default		S	<u>M</u> odify
	J			Delete
	C Collect			
	O Ungidai			<u>С</u> ору
	O Majo <u>r</u>			
	Minor			
	© <u>W</u> arning			
D <u>e</u> finition:	TYPE=DISTURBANCE TYPE=ALARM AND FC=103-108,112-113,14 -192,242,254 )	OR ( .7,149,173-174,1	 85,190 	
C <u>o</u> mment:			 ✓	
<u>U</u> sed in:	PDH Manager Interface OS Interface 1 Printer Spooler 1 SNMP Interface	19		
		OK	Cancel	Help

Figure 65. Alarm Classifications tab

### alarm classification list

A list of alarm classifications with sortable columns. By default the list is sorted in ascending order by alarm classification name. *S* denotes a read-only systemdefined alarm classification.

Only user-defined alarm classifications can be used with the interfaces. Systemdefined alarm classifications can be used as a base when creating user-defined alarm classifications.

### Note

A system-defined alarm classification and user-defined alarm classification can have a same name.

# Severity definition type / Critical

Selects the *critical* definitions to be displayed in the **Definition** edit box. This severity definition type is sometimes named *fatal*.

This is the default selection.

## Severity definition type / Major

Selects the *major* definitions to be displayed in the **Definition** box.

## Severity definition type / Minor

Selects the *minor* definitions to be displayed in the **Definition** box.

## Severity definition type / Warning

Selects the *warning* definitions to be displayed in the **Definition** box.

This item is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

### Definition

A definition of the selected alarm classification and definition type.

This is a read-only field. It is empty if no alarm classification or multiple alarm classifications are selected in the **Name** list box, or there is no definition for the selected definition type.

### Comment

A comment for the selected alarm classification.

This is a read-only field. It is empty if no alarm classification or multiple alarm classifications are selected in the **Name** list box. It is also empty if the selected alarm classification contains no comment.

# Used in

A list of PDH Manager Interfaces, OS interfaces, Printer Spoolers and SNMP Interface that use the selected alarm classification. There is no default value.

Interfaces and printer spoolers are sorted in ascending order by their number. If there is a global alarm classification, it is shown first.



The list box is empty if no alarm classification or multiple alarm classifications are selected in the **Name** list box.

If the selected alarm classification is not used in any interface or printer spooler, only text "*alarm classification not used*" is displayed.

Add...

Opens the **Add Alarm Classification** dialog box where you can add a new alarm classification.

### Modify...

Opens the **Modify Alarm Classification** dialog box where you can modify the selected alarm classification. You cannot modify the system-defined alarm classifications.

If you change the name of the alarm classification and the alarm classification is already in use (items in **Used in** list box) and exit by clicking **OK**, the changed name is brought into use in those interfaces and printer spoolers.

This button is disabled if no alarm classification or multiple alarm classifications are selected in the **Name** list box, or you have selected a system-defined alarm classification.

### Delete

Deletes selected alarm classification(s). You are asked for confirmation before the selected alarm classification(s) are deleted.

You cannot delete system-defined alarm classifications.

This button is disabled if no alarm classifications are selected, or only systemdefined alarm classifications are selected in the **Name** list box.

### Сору

Makes a copy of the selected alarm classification including all the definition types (*critical, major, minor, warning*).

A new alarm classification is added to the **Name** list box. A unique number is added after the alarm classification name. The **Definition** is the same as in the original alarm classification. **Comment** is set empty and the new alarm classification is set to unused.

This button is disabled if no alarm classification or multiple alarm classifications are selected in the **Name** list box.

# 6.27 Font dialog box

This is a Windows NT system dialog box. For details, refer to the Windows NT user documentation.

Font			? ×
Eont: Courier New Courier New Courier New Courier New Courier New	Font style: Regular Italic Bold Bold Italic	Size: 8 9 10 11 12 14 16 ▼	OK Cancel
	Sample AaBbYyZ:	z	
	So <u>r</u> ipt:	7	
This is a TrueType font. This sa your printer and your screen.	me font will be used o	on both	

Figure 66. Font dialog box

# 6.28 Hardware dialog box

The **Hardware** dialog box allows you to view the current hardware settings of the polling unit. This dialog box contains a tab named **Polling Unit 1**.

The Hardware dialog box is read-only.

Buses are connected to Q1 Interface units. One Q1 Interface unit can have up to 8 protected buses. One polling unit can have one or two Q1 Interface units, i.e. 8 or 16 protected buses.

You can change the values in this dialog box, but the changes are ignored. MF Manager reads the real values from the NMS/10 MF or PDH Polling every time it sends the configuration. I/O base address and interrupt level are fixed when the NMS/10 MF or PDH Polling is installed.



### Polling Unit 1 tab

You can view the current settings of the polling unit in this tab.

Hardware	×
Polling Unit 1	
IO <u>A</u> ddress (hex):	300
Interrupt:	11 💌
Interface unit <u>1</u> :	internal 💌
Interface unit <u>2</u> :	internal 💌
	OK Peruuta Ohje

Figure 67. Polling Unit 1 tab

## IO Address (hex)

The I/O address of this unit can be 200, 220, 240, 260, 300, 320, 340 or 360. The default is an empty selection.

### Interrupt

The interrupt level of this unit can be 10, 11, 12 or 15. The default is an empty selection.

### Interface unit 1

The Interface Unit 1 can be *none* or *internal*. The default is *internal*.

### Interface unit 2

The Interface Unit 2 can be *none* or *internal*. If the configuration type is NMS/10 MF C2.0 or NMS/10 MF C1.0, the default is *internal*. Otherwise the default is *none*.

### OK

Closes the Hardware dialog box.

### Cancel

Closes the **Hardware** dialog box.

# Help

Displays help about the **Hardware** dialog box.

# 6.29 MF Manager Window

This window is described in Section 6.10, 'Application window'.

# 6.30 Modify Address(es)/FE(s) dialog box

This dialog box is described in Section 6.16, 'Bus x - Modify Address(es)/FE(s) dialog box'.

# 6.31 Modify Alarm Classification dialog box

This dialog box is described in Section 6.2, 'Add Alarm Classification dialog box'.

# 6.32 Modify Device Type dialog box

This dialog box is described in Section 6.4, 'Add Device Type dialog box'.

# 6.33 Modify Filter dialog box

This dialog box is described in Section 6.5, 'Add Filter dialog box'.

# 6.34 Modify Station dialog box

This dialog box is described in Section 6.7, 'Add Station dialog box'.

# 6.35 Network Scan dialog box

This dialog box allows you to select buses and addresses for the network scan. Network Scan is the easiest way to find out which NEs are on the management network. You can define the buses and addresses where to query for the NE and the NMS/10 MF creates a log file about the found NEs. You can select the FEs you want include in the current configuration in the **Network Scan Log** dialog box.

### Note

If all activity on all buses is suspended, the Network Scan cannot be done.

Netw	ork	Scan			×
Bu	IS 0	Addresses	 		<u>Start</u>
E	0	0-100			Cancel
					<u>A</u> dd
					<u>M</u> odify
					<u>D</u> elete
					<u>H</u> elp
1					

Figure 68. Network Scan dialog box

### "bus list box"

A list of buses defined for the network scan with sortable columns. By default, buses are sorted in ascending order by bus number.

### Add...

Opens the **Add Bus** dialog box where you can select a bus. Only the free buses and those defined to the system are displayed. If all activity is suspended on a bus, it is excluded from the list. Also, the system defined bus 254 is excluded.

### Note

List of buses is always checked from the NMS/10 MF, not from the current configuration (even if it is an on-line configuration; you may have made changes to the current configuration, but they are not sent to the system).

Opens the **Bus x** - Addresses to Scan dialog box where you can define the addresses.

### Modify...

Opens the **Bus x** - Addresses to Scan dialog box where you can modify the addresses.

This button is disabled if no bus or multiple buses are selected.

### Delete

Deletes selected bus(es) from the network scan. You are asked for confirmation before the selected bus(es) are deleted.

This button is disabled if no bus is selected.

### Start

Closes the **Network Scan** dialog box and informs NMS/10 MF about the buses and addresses on which the network scan is carried out.

As long as the network scan is going on and there is a connection to NMS/10 MF, a moving magnifying glass is displayed in the status bar.

This button is disabled if no bus is defined.

### Cancel

Closes the **Network Scan** dialog box and discards the selection. Cancels the operation that called this dialog box.

### Help

Displays help about the Network Scan dialog box.

# 6.36 Network Scan Log dialog box

This dialog box is described in Section 6.11, 'Auto-discovery dialog box'.

# 6.37 Network Test Interface dialog box

This dialog box allows you to manage the configuration of the Network Test Interface.

Network Test Interface	×
TCP/IP port:     49900       Max. number of connections:     1	OK Cancel
	<u>H</u> elp
Logon ☑ ∐se local computer	
Logon domain:	
User group: Nokia NMS/10 MF Command Interface	
Logon time-out: 60 secs.	

Figure 69. Network Test Interface dialog box

# **TCP/IP** port

The TCP/IP port can be 0...65535. The default port number is 49900.

### Note

The Network Test Interface must have a unique TCP/IP port.

### Max. number of connections

The maximum number of connections allowed through the TCP/IP port can be 1...99. The default number is 1.

### Logon

The logon parameters for the Network Test Interface.

## Logon / Use local computer

If selected, the computer on which the NMS/10 MF is running is used to validate the logon. The default value is cleared.

If this check box is selected, Logon domain is disabled.

## Logon / Logon domain

The Windows NT network domain or computer name that is used for validating the logon. The length can be 1...15 characters. The default value is empty.

Allowed characters are letters, numbers and the following symbols:

! @ # \$ % ^ & ' ) ( . - \_ { } ~

This field is disabled if Use local computer is selected.

## Logon / User group

The Windows NT user group to which the Network Test Interface user must belong in the NMS/10 MF computer. The user group must be local and not any of the standard Windows NT user groups.

The name of user group can be 1...256 characters. The backslash ( $\setminus$ ) is not an allowed character.

The default user group is Nokia NMS/10 MF Command Interface.

This field is disabled if the configuration type is PDH Polling C1.0, PDH Polling C2.0, or NMS/10 MF C1.0.

### Logon / Logon time-out

The time-out to use in the logon. The time-out can be 0...86 400 in seconds (0...24 h). The value 0 is a so-called 'do not care' value, i.e. there is no time-out. The default value is 60 seconds.

# OK

Closes the dialog box. All values are validated and if there are errors, MF Manager displays an error message. The dialog box is not closed.

This button is disabled if any of **TCP/IP port**, **Max. number of connections**, **User group**, or **Logon time-out** is empty, or **Use local computer** is cleared and **Logon domain** is empty.

### Cancel

Closes the dialog box and discards changes.

Help

Displays help about the dialog box.

# 6.38 Open dialog box

This dialog box is described in Section 6.24, 'Connect dialog box'.

# 6.39 OS Interface x dialog box

This dialog box allows you to change the configuration of the selected OS interface.

The OS Interface is a combination of two types of NMS/100 interfaces: the command interface and the alarm interface. Both interfaces use their own TCP/IP port. The OS Interface is for emulating the NMS/100 interface of TMS4.

This dialog box contains the following tabs:

- General
- Ports
- Heartbeat and Equipment Type Text

The Heartbeat and Equipment Type Text tab is disabled if:

- configuration type is NMS/10 MF C1.0 and it is not version C
- configuration type is PDH Polling C2.0
- configuration type is PDH Polling C1.0.

## Note

MF Manager C2.0 had a **FE Name** tab. It is not used any more. Creation of unique FE names is deselected by default.

When changing from one tab to another, all values are validated. If there are errors, an error message is displayed. The tab is not changed.

### Buttons common to all tabs

## OK

Closes the **OS Interface x** dialog box.

All values are validated and if there are errors, an error message is displayed and operation is cancelled.

## Cancel

Closes the **OS Interface x** dialog box and discards all changes.

## Help

Displays help about the **OS Interface x** dialog box.

### General tab

You can modify general parameters of the selected OS interface in this tab.

OS Interface 1	E	×
General Ports Heartbea	at and Equipment Type Text	
Filter	Browse	
✓ Active		
Alarm classification		
Na <u>m</u> e: default	▼ Bro <u>w</u> se	
Alarm buffer		
<u>S</u> ize:	1000	
Free space alarm limit:	30	
Free space <u>c</u> ancel limit:	60	L
Eull action:		
	OK Peruuta Ohje	

Figure 70. General tab

### Filter / Name



The name of the filter. All filters found in the current configuration are in the list. There is no default selection. System-defined filters are not displayed in the list.

The same filter is used for all connections to the command interface and alarm interface TCP/IP ports.

If the filter name is not defined, no filter is used in the OS interface.

### Note

If the interface has no filter and there is an active global filter, it defines which alarms are reported through the OS Interface. However, the global filter is not effective with the system-defined bus 254 alarms; thus they all are reported.

### Filter / Active

If the **Active** check box is checked, the filter is also taken into use. The default is not checked.

This check box has no effect if the filter name is not defined.

#### Filter / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the filter. Only the **Filters** tab is active.

### Alarm classification / Name

The name of the alarm classification. All alarm classifications found in the current configuration are in the list. There is no default selection. System-defined alarm classifications are not displayed in the list.

The same alarm classification is used for all connections to the command interface and alarm interface TCP/IP ports.

If the alarm classification name is not defined, no alarm classification is used in the OS interface.

### Note

If the interface has no alarm classification, there can be a global alarm classification, which defines the alarm severities used in the OS Interface. However, the global alarm classification is not effective with the system-defined bus 254 alarms; thus they all have their default values.

### Alarm classification / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the alarm classification. Only the **Alarm Classifications** tab is active.

### Alarm buffer / Size

The alarm buffer size can be 100...10 000 events. The default is 1000 events.

### Note

This value is only valid for the alarm interface.

### Alarm buffer / Free space alarm limit

When the free space in alarms in the alarm buffer decreases under this limit, an alarm is sent. The default is 30.

### Note

This value is only valid for the alarm interface.

The alarm limit must be smaller that the alarm buffer size.

### Alarm buffer / Free space cancel limit

When the free space in alarms in the alarm buffer increases over this limit (after an alarm is sent), a cancellation is sent. The default is 60.

### Note

This value is only valid for the alarm interface.

The cancel limit must be smaller than the alarm buffer size and greater than the alarm limit.

### Note

Alarm and alarm cancellation are sent to every interface (PDH Manager Interface, OS Interface, Printer Spooler and SNMP Interface).

### Alarm buffer / Full action

The action to be carried out when the alarm buffer is full can be *discard old* or *discard new*. The default is *discard old*.

# Note

This value is only valid for the alarm interface.

*Discard old* means that the new alarm is added to the alarm buffer and the oldest alarm is removed from there.

### Note

Before the alarm buffer is full, an "Alarm limit exceeded" alarm is added to the alarm buffer. As the alarm buffer eventually becomes full, a "Buffer overflow" alarm is added to the alarm buffer. However, if the alarm buffer remains full (alarms are not read), these alarms are overwritten and thus lost.

Discard new means that the new alarm is not added to the alarm buffer.

### Ports tab

You can modify command and alarm interface parameters in this tab.
OS Interface 1
General Ports Heartbeat and Equipment Type Text
Command port: 500 Max. number of connections: 10
Alarm port: 501 Max. number of connections: 1
Logon ✓ Use local computer
Logon domain:
User group: Nokia NMS/10 MF Command Interface
Logon time-out: 60 secs.
(OK) Cancel Help

Figure 71. Ports tab

## **Command port**

The TCP/IP port value can be 0...65535. The default value is 500.

Connection is closed by NMS/10 MF if there is no activity within 12 hours.

## Note

Each command interface must have a unique TCP/IP port.

#### Max. number of connections (Command port)

The maximum number of connections allowed through this command interface TCP/IP port can be 1...99 The default value is 10.

## Alarm port

The TCP/IP port value can be 0...65535. The default value is 501.

#### Note

Each alarm interface must have a unique TCP/IP port.

#### Max. number of connections (Alarm port)

The maximum number of connections allowed through this alarm interface TCP/ IP port can be 1...99. The default value is 1.

#### Logon / Use local computer

If **Use local computer** is checked, the computer on which the NMS/10 MF is running is used to validate the logon. The default is not selected.

#### Note

This value is only valid for the command interface.

If the Use local computer check box is selected, Logon domain is disabled.

#### Logon / Logon domain

The Windows NT network domain or computer name to use when validating logon. The length can be 1...15 characters. The default value is empty.

Allowed characters are letters, numbers and the following symbols:

! @ # \$ % ^ & ' ) ( . - \_ { } ~

If the configuration type is not *NMS/10 MF C2.0*, the OS Interface user must belong to the local user group *Nokia NMS/10 MF Command Interface* in the NMS/10 MF computer. Otherwise, the user must belong to the user group displayed in the **User group** edit box.

#### Note

This value is only valid for the command interface.

This box is disabled if the Use local computer check box is selected.

## Logon / User group

The Windows NT user group to which the OS Interface user must belong in the NMS/10 MF computer. The user group must be local and not any of the standard Windows NT user groups.

The user group name can be 1...256 characters. The backslash ( $\backslash$ ) is not an allowed character.

The default user group is Nokia NMS/10 MF Command Interface.

## Note

This value is valid only for the command interface.

This field is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Logon / Logon time-out

The time-out to use in logon can be 0...86400 seconds. There is no time-out if the value is 0. The default is 600 seconds.

## Note

This value is only valid for the command interface.

## Heartbeat and Equipment Type Text tab

You can modify parameters for the heartbeat and equipment type text on the selected OS Interface.

This tab is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0 and its version is not C.

NMS/10 MF C1.0 version C supports heartbeat and equipment type text functionality. However, MF Manager C2.0 did not support them. MF Manager C2.5 notices if NMS/10 MF C1.0 is version C and supports changing these parameters.

OS Interface 1	X
General Ports Heartbeat and Equipment Type Text	
Heartbeat ✓ <u>S</u> end heartbeat Interval (d hh:mm): 0 ↔ 1 ↔ : 0 ↔ Text: ME /g/ alive /x///	
Length:       Heartbeat text expanded:       1: MF 06 alive 99-07-22 14:03:44	31
Equipment type text:	
OK Cancel	Help

Figure 72. Heartbeat and Equipment Type Text tab

## Heartbeat

The heartbeat configuration for the selected OS Interface.

## Note

Heartbeat is valid only for the alarm interfaces.

## Heartbeat / Send heartbeat

Select if the selected OS Interface sends a heartbeat text. The default is cleared.

If this check box is cleared, all the rest of the controls in the **Heartbeat** group box are disabled.

## Heartbeat / Interval (d hh:mm)

The interval of sending the heartbeat text. The heartbeat interval can be from 1 minute to 7 days. The default interval is 1 minute.

When the alarm interface is created, OS Interface immediately sends the first heartbeat.

The new interval is activated and the heartbeat is sent immediately after the interval is changed.

## Note

This is the interval of sending the heartbeat text, not the time of silence. Sending may be delayed in case of network trouble or excessive alarms.

The meaning of the Interval (d hh:mm) boxes from left to right:

- days (0...7)
- hours (0...23)
- minutes (0...59).

The content of the box is set empty if there is an illegal value.

These boxes are disabled if **Send heartbeat** is cleared.

## Heartbeat / Text

The heartbeat text can be 1...64 characters long. Text can contain placeholders that are expanded in printing. The expanded heartbeat text must not exceed 2048 characters.

If you change the heartbeat text but not the interval, the new text is sent only when the heartbeat is sent for the next time.

The default text is: MF /q/alive /x//l/.

The following placeholders can be used in the text:

- /1/ is carriage return (CR) followed by line feed (LF)
- /q/ is the two-digit decimal unit (equipment ID) number (right adjusted in the expanded text)
- /s/ is the space character
- /t/ is the tabulator character
- /x/ is the current date and time in format yy-mm-dd hh:mm:ss
- // is a single slash (/).

/1/, /s/, and /t/ can be preceded with a repeat count (max. 255). For example, /20s/ is expanded into 20 spaces. Spaces preceding /1/ are omitted in printing. Each line must end with the /1/ operator.

This box is disabled if **Send heartbeat** is cleared.

## Heartbeat / Heartbeat text expanded

Displays the heartbeat text in expanded form.

At the beginning of each line there is the line number, colon, and one space. They are not part of the expanded heartbeat text and will not be printed. They show the number of lines there will be.

The **Heartbeat text expanded** box is read-only, and it is disabled if **Send** heartbeat is deselected.

## Heartbeat / Length

Displays the length of the heartbeat text in expanded form. If the length exceeds the maximum value (2048 characters), an overflow is notified.

This box is disabled if Send heartbeat is cleared.

#### Equipment type text

The equipment type text can be 0... 3 characters long. The equipment type text is sent in the columns 30...32 in the first line of the alarm text. The text is right-justified and padded with spaces in front of it (if necessary).

The default value is 'MF'.

## 6.40 Page Setup dialog box

This dialog box allows you to manage the page setup parameters for a printed configuration report.

Page setup settings can be used with all configuration types, but the settings are saved to configuration only if the configuration type is *NMS/10 MF C2.0*.

Page Setup	×			
Margins	Orientation OK			
Left: 15 mm <u>R</u> ight: 10 mm	O Lan <u>d</u> scape Cancel			
Bottom: 10 mm	<u>H</u> elp			
Printer reported minimum margins: Top/Bottom 4.	28 (mm) Left/Right 5.08 (mm)			
Courier New, 9 pt, Regular	Select <u>F</u> ont			
Configuration report can have 81 lines of 96 characters				

Figure 73. Page Setup dialog box

#### Margins

The margins for printing the configuration report. The usable margins depend on the selected printer driver. Below this group box is a static text that displays the minimum margins reported by the printer.

#### Margins / Top

The top margin for printing the configuration report can be 5...50 mm. The default value is 10 (mm).

#### Note

MF Manager C2.0 used a top margin of 2 lines.

#### Margins / Left

The left margin for printing the configuration report can be 5...50 mm. The default value is 15 (mm).

## Note

MF Manager C2.0 used a left margin of 4 characters.

#### Margins / Right



The right margin for printing the configuration report can be 5...50 mm. The default value is 10 (mm).

## Note

MF Manager C2.0 used a right margin of 4 characters.

## Margins / Bottom

The bottom margin to use in printing the configuration report can be 5...50 mm. The default value is 10 (mm).

#### Note

MF Manager C2.0 used a bottom margin of 3 lines.

#### Orientation

The orientation of the paper for printing the configuration report.

#### **Orientation / Portrait**

The orientation of the paper is portrait.

This is the default selection.

#### **Orientation / Landscape**

The orientation of the paper is landscape.

## Font

The currently selected font for printing the configuration report.

There are two lines of static text:

- The first line displays the currently selected font name, size, and style. You can change the selection in the **Font** dialog box, opened by clicking **Select Font...**.
- The second line displays the number of lines and characters per line fits on the paper using the current margin and font settings. Values are updated every time there is a change in the margin, orientation, or font setting.

#### Font / Select Font...

Selects the font, font style, and size for printing the configuration report. The default setting is: Courier New, Regular, and 9. (This setting was used in MF Manager C2.0.)

Opens the **Font** dialog box where you can select the font, font style, and font size. Fonts are restricted to fixed pitch and scalable fonts. Both screen fonts and printer fonts can be used.

## OK

Closes the dialog box. All values are validated and if there are errors, MF Manager displays an error message. The dialog box is not closed.

This button is disabled if any of the boxes in **Margins** is empty, or a font is not selected.

## Cancel

Closes the dialog box and discards changes.

## Help

Displays help for the dialog box.

## 6.41 PDH Manager Interface x dialog box

The **PDH Manager Interface** dialog box allows you to change the configuration of the selected PDH Manager interface.

This interface is used by PDH Alarm Manager (used with the NMS/10 System Releases C4.0 and C4.1) and node managers.

If the configuration type is NMS/10 MF C2.0, you can connect to one PDH Manager Interface from multiple computers. Other configuration types require a separate PDH Manager Interface for each computer.

This dialog box contains the following tabs:

- General
- Port.

The General tab is disabled if the configuration type is NMS/10 MF C2.0.

When changing from one tab to another, all values are validated. If there are errors, an error message is displayed. The tab is not changed.



#### Buttons common to all tabs

#### OK

Closes the **PDH Manager Interface** dialog box. All values are validated and if there are errors, an error message is displayed and the operation is cancelled.

#### Cancel

Closes the PDH Manager Interface dialog box and discards all changes.

#### Help

Displays help about the PDH Manager Interface dialog box.

#### General tab

You can modify general parameters for the selected PDH Manager interface in this tab. This tab is disabled if the configuration type is NMS/10 MF C2.0.

PDH Manager Interface 19	X
General Port	
Filter <u>N</u> ame: default <u>▼</u> <u>B</u> rowse I✓ <u>A</u> ctive	
Alarm classification Na <u>m</u> e: default <b>B</b> ro <u>w</u> se	
Alarm buffer         Size:       1000         Free space alarm limit:       30         Free space cancel limit:       60         Eull action:       discard old	
OK Cancel Help	



Filter / Name

The name of the filter. All filters found in the current configuration are in the list. There is no default selection. System-defined filters are not displayed in the list.

## Note

If the interface has no filter and there is an active global filter, it defines which alarms are reported through the OS Interface. However, the global filter is not effective with the system-defined bus 254 alarms; thus they all are reported.

If the filter name is not defined, no filter is used in this PDH Manager interface.

#### Note

The same filter is used for all connections to the TCP/IP port.

## Filter / Active

If you check the **Active** check box, the filter is also brought into use. The default value is not checked.

This check box has no effect if the filter name is not defined.

#### Filter / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the filter. Only the **Filters** tab is active.

## Alarm classification / Name

The name of the alarm classification. All alarm classifications found in the current configuration are in the list. There is no default selection. System-defined alarm classifications are not displayed in the list.

If the alarm classification name is not defined, no alarm classification is used in this PDH Manager interface.

#### Note

If the interface has no alarm classification, there can be a global alarm classification, which defines the alarm severities used in the OS Interface. However, the global alarm classification is not effective with the system-defined bus 254 alarms; thus they all have their default values.

#### Note

The same alarm classification is used for all connections to the TCP/IP port.

#### Alarm classification / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the alarm classification. Only the **Alarm Classifications** tab is active.

#### Alarm buffer / Size

The size of alarm buffer in alarms can be 100...10 000 events. The default is 1000 events.

## Alarm buffer / Free space alarm limit

When the free space in alarms in the alarm buffer decreases below this limit, an internal fault is set onto bus 254. The default is 30.

The alarm limit must be smaller than the alarm buffer size.

#### Alarm buffer / Free space cancel limit

When the free space in alarms in the alarm buffer increases over this limit (after an alarm is sent), an alarm cancellation is sent. The default is 60.

The cancel limit must be smaller than the alarm buffer size and greater than the alarm limit + 30.

#### Note

Alarm and alarm cancellation are sent to every interface (PDH Manager interface, OS interface, SNMP interface and printer spooler).

## Alarm buffer / Full action

The action to be carried out when the alarm buffer is full can be *discard old* or *discard new*. The default is *discard old*.

*Discard old* means that the new alarm is added to the alarm buffer and the oldest alarm is removed from there.

## Note

Before the alarm buffer is full, an "Alarm limit exceeded" alarm is added to the alarm buffer. As the alarm buffer eventually becomes full, a "Buffer overflow" alarm is added to the alarm buffer. However, if the alarm buffer remains full (alarms are not read), these alarms are overwritten and thus lost.

Discard new means that the new alarm is not added to the alarm buffer.

## Port tab

You can define parameters for TCP/IP port in this tab.

If the configuration type is NMS/10 MF C2.0, you can connect to one PDH Manager Interface from multiple computers. Other configuration types need a separate PDH Manager Interface for each computer.

PDH Manager Interface 19
General Port
TCP/IP port: 27500
Logon
✓ Use local computer
Logon domain:
User group: Nokia NMS/10 MF Command Interface
Logon time-out: 60 secs.

Figure 75. Port tab

## **TCP/IP** port

The TCP/IP port value can be 0...65535. The default value is 27500.

## Note

Each PDH Manager Interface must have a unique TCP/IP port.

#### Logon / Use local computer

If **Use local computer** is checked, the computer on which the NMS/10 MF is running is used to validate the logon. The default is not selected.

If the Use local computer check box is selected, Logon domain is disabled.

## Logon / Logon domain

The Windows NT network domain or computer name to use when validating logon. The length can be 1...15 characters. The default value is empty.

Allowed characters are letters, numbers and the following symbols:

! @ # \$ % ^ & ' ) ( . - \_ { } ~

If the configuration type is not *NMS/10 MF C2.0*, the PDH Manager Interface user must belong to the local user group *Nokia NMS/10 MF Command Interface* on the NMS/10 MF computer. Otherwise, the user must belong to the user group displayed in the **User group** edit box.

## Logon / User group

The Windows NT user group to which the PDH Manager Interface user must belong in the NMS/10 MF computer. The user group must be local and not any of the standard Windows NT user groups.

The user group name can be 1...256 characters. The backslash ( ) is not an allowed character.

The default user group is Nokia NMS/10 MF Command Interface.

This field is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Logon / Logon time-out

The time-out to use in logon can be 0...86 400 seconds (24 hours). There is no time-out if the value is 0.

For the configuration type NMS/10 MF C2.0 the default is 86 400 seconds and it is also used as an 'inactivity time-out', which breaks the connection if nothing happens during the time-out.

Otherwise the default is 60 seconds.

## 6.42 PDH Polling General dialog box

This dialog box allows you to change the general values of NMS/10 MF.

This dialog box contains the following tabs:

- FE Name Format
- Global Filter and Alarm Classification



- Limits
- Hard Disk
- Stations
- Device Types
- Equipment ID
- Comment.

When changing from one tab to another, all values are validated. If there are errors, an error message is displayed. The tab is not changed.

#### Buttons common to all tabs

#### OK

Closes the **PDH Polling General** dialog box. All values are validated and if there are errors, an error message is displayed and the operation is cancelled.

#### Cancel

Closes the PDH Polling General dialog box and discards all changes.

#### Help

Displays help about the PDH Polling General dialog box.

#### **FE Name Format tab**

This is the FE name format that is used when MF Manager adds a new network element to the configuration, or when you change the FE name of an existing FE. This format is not used with the system-defined bus 254.

## Note

Old FE names are not changed if you change the format in an existing configuration. You can use the **Change All Now** button to change all FE names at once.

PDH Polling General	×		
Hard Disk Stations Device Types Equipment ID FE Name Format Global Filter and Alarm Classification	Comment Limits		
$\bigcirc \ "\underline{b}$ b.aaaa.ff device name" ( b, a and f in hexadecimal )			
○ "device name (BUxx ADxxxx FExx)" ( x in hexadecimal )			
○ "de <u>v</u> ice name bb.aaaa.ff" (b, a and f in decimal)			
"device name"			
Char	nge All <u>N</u> ow		
OK Peruuta	Ohje		

Figure 76. FE Name Format tab

## "bb.aaaa.ff device name" [b, a and f in hexadecimal]

The FE name format is "*bb.aaaa.ff device name*", where **bb** is the bus number in hexadecimal (00...F0), **aaaa** is the NE address in hexadecimal (0000...0FFD) and **ff** is the functional entity number in hexadecimal (00...FE). The **device name** is a name supplied by user (the maximum length is 21 characters).

When the configuration is *PDH Polling C1.0* or *PDH Polling C2.0*, this option is disabled.

An example:

3F.0093.00 DM 2 AD1

The format of the address 65535 (FFFF) is "*BUxx device name*", where **BUxx** is the bus number in hexadecimal (BU00...BUF0) and **device name** is the name supplied by user (the maximum length is 27 characters). The default device name is 'SUPERVISION BUS'.

An example:

BU3F SUPERVISION BUS

## "device name (BUxx ADxxxx FExx)" [x in hexadecimal]

The FE name format is "*device name (BUxx ADxxxx FExx)*", where **device name** is the name supplied by user (the maximum length is 13 characters), **BUxx** is the bus number in hexadecimal (BU00...BUF0), **ADxxxx** is the NE address in hexadecimal (AD0000...AD0FFD), and **FExx** is the functional entity number in hexadecimal (FE00...FEFE).

An example:

DM 2 AD1 (BU3F AD0093 FE00)

The format of the address 65535 (FFFF) is "*device name BUxx*", where **BUxx** is the bus number in hexadecimal (BU00...BUF0) and **device name** is the name supplied by user (the maximum length is 27 characters). The default device name is 'SUPERVISION BUS'.

An example:

SUPERVISION BUS BU3F

#### "device name bb.aaaa.ff" [b, a and f in decimal]

The FE name format is "*device name bb.aaaa.ff*", where **device name** is the name supplied by user (the maximum length is 19...21 characters depending on bus and FE numbers; see note below), **bb** is the bus number in decimal (00...240), **aaaa** is the NE address in decimal (0000...4093), and **ff** is the FE number in decimal (00...254).

#### Note

The default width for the bus number and functional entity fields is 2. If the bus or FE number is greater than 99, the width is set to 3. Use this style with NMS/ 100(0).

An example:

DM 2 AD1 63.0147.00

The format of the address 65535 (FFFF) is "*device name BUxx*", where **BUxx** is the bus number in decimal (BU00...BU240), and **device name** is the name supplied by user (the maximum length is 26 or 27 characters depending on the length of the bus number). The default device name is 'SUPERVISION BUS'.

#### Note

The default width for the bus number field is 2. If the bus number is greater than 99, the width is set to 3. Use this style with NMS/100(0).

An example:

SUPERVISION BUS BU63

#### "device name"

The FE name format is "*device name*", where **device name** is the name supplied by user (the maximum length is 32 characters). The bus number, NE address and functional entity number are not included.

An example:

DM 2 AD1

The format of the address 65535 (FFFF) is "*device name*", where **device name** is the name supplied by user (the maximum length is 32 characters). The bus number is not included. The default device name is 'SUPERVISION BUS'.

An example:

SUPERVISION BUS

This is the recommended option and it is selected by default.

#### **Change All Now**

Changes all existing FE names using the selected style. The changes are permanent and they cannot be cancelled with the **Cancel** button.

## **Global Filter and Alarm Classification tab**

This tab defines the global filter and alarm classification to use with NMS/10 MF before any other filter or alarm classification.

Global alarm classification can be used for overriding the default severity assignment of all events (except for internal faults on bus 254). The initial severities of events generated by ND generation fault polling is set based on fault codes according to the *NMS/10 MF Fault Codes* (an appendix to the *NMS/10 MF C2.0 Operating Manual*). E generation fault polling obtains the initial severity from the network element.

PDH Polling G	eneral			×
Hard Disk FE Name F	Stations ormat	Device Types Global Filter and Alarr	Equipment ID	Comment Limits
Filter <u>N</u> ame: ☑ <u>A</u> ctive	disturbance		<u>•</u> <u>B</u>	rowse
– Alarm clas Na <u>m</u> e:	sification default		<b>–</b> B	ro <u>w</u> se
		OK	Cancel	Help

Figure 77. Global Filter and Alarm Classification tab

## Filter

The parameters for the global filter to use in the NMS/10 MF before all other filters.

## Filter / Name

The name of the global filter to use in the NMS/10 MF. The list contains filter names found in the current configuration. The system-defined filters are not in the list. The default selection is empty.

If the global filter name is not defined, no global filter is used in the NMS/10 MF.

#### Filter / Active

If this is selected, the global filter is also in use. The default is cleared.

This check box has no effect if the global filter name is not defined.

#### Filter / Browse...

Opens the **Filters and Alarm Classifications** dialog box (only the **Filters** tab is active) where you can select or create the global filter. The **Filter** box is updated.

#### Alarm classification

The parameters for the global alarm classification to use in the NMS/10 MF before all other alarm classifications.

This group box and all the controls inside it are disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Alarm classification / Name

The name of the global alarm classification to use in the NMS/10 MF. The list contains alarm classification names found in the current configuration. The system-defined alarm classification are not in the list. The default selection is empty.

If the global alarm classification name is not defined, no global alarm classification is used in the NMS/10 MF.

This list is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Alarm classification / Browse...

Opens the **Filters and Alarm Classifications** dialog box (only the **Alarm Classifications** tab is active) where you can select or create the global alarm classification. The **Alarm classification** box is updated.

This button is disabled if:

- the configuration type is PDH Polling C1.0
- the configuration type is PDH Polling C2.0
- the configuration type is NMS/10 MF C1.0.

## Limits tab

You can set limits to the number of addresses on one bus, the number of FEs in the polling unit, and the number of PDH Manager Interfaces that can be created.

The PDH Manager Interface limit is absolute. Other limits are not absolute, but they are used as warning levels for you informing that exceeding these limits may cause problems.

PDH Polling General	×
Hard Disk Stations Device Types Equipment ID	Comment
FE Name Format Global Filter and Alarm Classification	Limits
Max. number of addresses / bus:       200         Max. number of FEs / polling unit:       3000         Max. number of PDH Manager Interfaces:       5	
OK Cancel	Help

Figure 78. Limits tab

#### Max. number of addresses / bus

The maximum number of addresses in one bus can be 1...4094. The default is 200.

#### Max. number of FEs / polling unit

The maximum number of FEs in one polling unit. The default values are:

- PDH Polling C1.0 and C2.0 (8 buses), the default value is 1500
- NMS/10 MF C1.0 and C2.0 (16 buses), the default value is 3000.

#### Max. number of PDH manager interface

The maximum number of PDH Manager interfaces allowed for the *NMS/10 MF* C2.0 configuration type is 60 and the default is 8. For other configuration types, both the maximum and default values are 8.

If the configuration type is NMS/10 MF C2.0, you can connect to one PDH Manager Interface from multiple computers. Other configuration types need a separate PDH Manager Interface for each computer.

## Hard Disk tab

Determines the alarm and cancel limits for the free disk space. When the free disk space on the hard disk decreases under the alarm limit, an alarm is sent. When the free disk space on the hard disk increases over the cancel limit (after an alarm is sent), a cancel for the alarm is sent.

## Note

Alarms and alarm cancellations are sent to every interface (PDH Manager interface, OS interface, SNMP interface and printer spooler).

PDH Polling Ge	eneral			×
FE Name Fo	rmat G	ilobal Filter and Alar	rm Classification	Limits
Hard Disk	Stations	Device Types	Equipment ID	Comment
Free space <u>a</u> k Free space <u>c</u> a	arm limit (MB): ancel limit (MB):	55		
		OK	Peruuta	Ohje

Figure 79. Hard Disk tab

## Free space alarm limit (MB)

The alarm limit in megabytes. The alarm limit can be 1...2048 MB. The default is 50 MB.

## Free space cancel limit (MB)

The cancel limit in megabytes. The cancel limit can be 1...2048 MB. The default is 55 MB.

The cancel limit must be higher that the alarm limit.

#### Note

In NMS/10 MF and PDH Polling 1 MB is 1 million bytes.

#### Stations tab

You can change station information in this tab. Station can be considered as an entity, e.g. a location, which multiple NEs belong to.

DH Polling	General			×
FE Name	Format	Global Filter and Alar	m Classification	Limits
Hard Disk	Stations	Device Types	Equipment ID	Comment
Number	Name		Add	
1	HEL/TMC06			
2	TMN		<u>M</u> odif	ý
3	HEL/KE9			
4	HEL/KE9		<u>D</u> ela	ste
5	HEL/KE9			
6	HEL/S\			
6	HEL/KAA			
18	HEL/LAS			
		ОК	Peruuta	Ohje

Figure 80. Stations tab

## "station list box"

A sortable list of stations. By default, it is sorted in ascending order by station number. **1 PDHplat** and **2 TMN** are system-defined stations.

## Note

These stations are reserved and cannot be used for naming equipment. However, you can modify the names.

## Add...

Opens the Add Station dialog box where you can add a new station.

## Modify...

Opens the Modify Station dialog box where you can modify the selected station.

This button is disabled if no station or multiple stations are selected.

## Delete

Deletes selected station(s). A confirmation is asked before the deletion. Systemdefined stations and stations in use cannot be deleted.

This button is disabled if no station is selected, or only system-defined stations are selected.

## **Device Types tab**

You can change device type information common with NMS/10 MF in this tab. Device type can be considered as a product family, e.g. ACM2.

PDH Polling	General			×
FE Name Hard Disk	e Format   Stations	Global Filter and Alar Device Types	m Classification Equipment ID	Limits Comment
Number 50 51 53 55 57 59 61 63	Name DB2 DN2 DB2B DNT2M ACL2 DNT1M ILT1M ACM2		▲ Add Modif	 y ite
		OK.	Cancel	Help

Figure 81. Device Types tab

## "device type list view"

A sortable list of device types. By default, it is sorted in ascending order by device type number.

There are three system-defined device types: **0 SYSTEM** (reserved, you cannot take it into use), **1 TRANSM** and **2 EXTERN**. You can change the names of the system-defined device types.

TRANSM is for transmission equipment in general and EXTERN for other equipment used in management network, for example, Branching Unit, TMS Adaptor and Supervisory Substation.

#### Add...

You can add a new device type in the Add Device Type dialog box.

#### Modify...

You can modify device types in the Modify Device Type dialog box.

This button is disabled if no device type or multiple device types are selected.

#### Delete

Deletes selected device type(s). You are asked for confirmation before the selected device type(s) are deleted. The system-defined device types and device types that are in use cannot be deleted.

This button is disabled if no device types are selected or only system-defined device types are selected.

#### Equipment ID tab

You can change the equipment ID of NMS/10 MF in this tab.

PDH Polling General	×
FE Name Format       Global Filter and Alarm Classification         Hard Disk       Stations       Device Types       Equipment ID         Equipment ID:       6         N.B. If the configuration has OS Interfaces or Printer Spoolers, the Equipment ID value should not be greater than 99.         OS Interface and Printer Spooler alarm format assumes that the equipment ID number has maximum two digits.	Limits Comment
OK Cancel	Help



## **Equipment ID**

The equipment identification number of NMS/10 MF can be 0...255. There is no default value.

## Note

If there are OS interfaces or printer spoolers in a configuration, recommended values are 0...99. Larger values may cause problems as OS interface and printer spooler alarm format assume that the equipment ID contains a maximum of 2 digits.

The equipment ID provides a means for a supervising network management system (for example NMS/100) to identify and distinguish between different NMS/10 MF subsystems.

#### **Comment tab**

This tab contains a comment about configuration. You can see the comment in a print-out in addition to this dialog box.

PDH Polling General	×
FE Name Format Global Filter and Alarm Classification Hard Disk Stations Device Types Equipment ID	Limits Comment
Configuration created by TMC-MF Converter at 1.12.1997 17:57:16	×
OK Peruuta	Ohje

Figure 83. Comment tab

## "comment edit box"

A free format comment about the configuration. The maximum length of the comment is 500 characters. There is no default value.

## 6.43 **Performance Settings dialog box**

This dialog box allows you to define PM data size limits and the action to be taken when the maximum data size is reached.

## Note

Alarms and alarm cancellations are sent to every interface (PDH Manager interface, OS interface, SNMP interface and printer spooler).

Performance Settings		×
Performance Monitoring data <u>M</u> ax. size (MB):	500	OK
Free space <u>a</u> larm limit (MB):	50	Cancel
Free space <u>c</u> ancel limit (MB):	200	<u>H</u> elp
<u>F</u> ull action:	discard old 💌	

Figure 84. Performance Settings dialog box

## Performance Monitoring data / Max. size (MB)

The maximum space reserved for performance monitoring data can be 1...1 000 000 MB. The default is 500 MB.

#### Performance Monitoring data / Free space alarm limit (MB)

When the free space falls below this limit, an alarm is sent. The default is 50 MB.

The alarm limit must be below the maximum size.

#### Performance Monitoring data / Free space cancel limit (MB)

When the free space exceeds this limit (after an alarm has been sent), an alarm cancellation is sent. The default is 200 MB.

The cancel limit must be between the max. size and the alarm limit.

## Note

In NMS/10 MF and PDH Polling 1 MB is 1 million bytes.

## Performance Monitoring data / Full action

The action to take when the maximum size is reached can be *discard old*, *discard new* or *halt*. The default is discard old.

*Discard old* means that new PM data is added to and the oldest PM data is removed from the storage.

Discard new means that new PM data is not added to the storage.

*Halt* means that collection of PM data is halted until there is more space in the storage.

## OK

Closes the **Performance Settings** dialog box.

This button is disabled if any of the fields is empty.

Cancel

Closes the Performance Settings dialog box and discards changes.

## Help

Displays help about the **Performance Settings** dialog box.

## 6.44 PM Data Collection Times dialog box

This dialog box allows you to manage PM data collection scheduling. Usually, PM data is collected continuously and the collection is started as soon as possible. However, the PM data collection uses the same resources on the management network as e.g. FM, and it would be sensible to be able collect the PM data only at certain times. The scheduled PM data collection enables this.

PM Data Collection Times	X
Scheduling type © <u>D</u> elay start of the first PM data collection; then collect continuously © <u>P</u> M data collection only on defined times	OK Cancel
Start       Stop         Start when day is       Stop when day is         Monday       Image: Stop when day is         and time is (hh:mm:ss)       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image: Stop when day is         Image: Stop when day is       Image:	<u>H</u> elp

Figure 85. PM Data Collection Times dialog box

## Scheduling type

Selects the type of PM data collection scheduling.

# Scheduling type / Delay start of the first PM data collection; then collect continuously

The start of the first PM data collection is delayed. After that, PM data is collected continuously as defined by the period. Start time is defined in the **Start** group box.

If this option is selected, the **Stop** group box and all the controls inside it are disabled.

## Scheduling type / PM data collection only on defined times

PM data is collected only at defined times. Start and stop times are defined in the **Start** and **Stop** group boxes.

This is the default selection.

#### Start

The starting day and time for the scheduling.

If the start day/time and stop day/time are on the same day, the start day/time must occur before the the stop day/time.

The PM data collection time 'start day/time - stop day/time' (calculation takes care the transition from Sunday to Monday, if necessary) must be higher than the period.

## Start / "day"

The starting day for the scheduling can be Any Day, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, or Sunday.

If the **Delay start of the first PM data collection; then collect continuously** is selected, 'Any day' means that the continuous PM data collection is started when the start time next time occurres. Otherwise, it means that the PM collection is started every day at the defined time. If the start day is 'Any day', also the stop day must be 'Any day'.

The default is Any Day.

## Start / "time"

Start time for the scheduling can be 00:00:00...23:59:59.

The default value is 00:00:00.

The meaning of the **and time is** boxes from left to right: hours (0...23), minutes (0...59), seconds (0...59).

The content of the box is set to empty if there is an illegal value.

#### Note

Start time is in the NMS/10 MF computer's local time.

## Stop

The stopping day and time for the scheduling.

If the stop day/time and start day/time are in the same day, the stop day/time must be higher than the start day/time.

The PM data collection time 'start day/time - stop day/time' (calculation takes care the transition from Sunday to Monday, if necessary) must be higher than the period.

This group box and all the controls inside it are disabled if **Delay start of the first PM data collection; then collect continuously** is selected.

Stop / "day"

## NOKIA

The stopping day for the scheduling can be Any Day, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday.

'Any Day' means that the PM data collection is stopped every day at a defined time. If the stopping day is 'Any Day', also the starting day must be 'Any Day'.

The default is Any Day.

#### Stop / "time"

Stop time for the scheduling can be 00:00:00...23:59:59.

The default value is 00:00:00.

The meaning of the **and time is** boxes from left to right: hours (0...23), minutes (0...59), seconds (0...59).

The content of the box is set to empty if there is an illegal value.

#### Note

Stop time is in the NMS/10 MF computer's local time.

#### OK

Closes the dialog box.

All values are validated and if there are errors, MF Manager displays an error message. The dialog box is not closed.

## Cancel

Closes the dialog box and discards changes.

#### Help

Displays help for the dialog box.

## 6.45 Print Selection dialog box

This dialog box allows you to select what information is included in the configuration report. The configuration report format is described in Appendix C, 'Configuration report format'.

By default, all check boxes in this dialog box are cleared.

Print Selection	×	
PDH Polling general	<u>E</u> rint	
PM data <u>s</u> ettings	Cancel	
Hard <u>w</u> are information		
PDH <u>M</u> anager Interfaces	<u>H</u> elp	
□ <u>O</u> S Interfaces		
Printer Spoolers		
SNMP Interface		
Network <u>T</u> est Interface		
Euses		
General information		
🔲 Addresses not in fault polling	3	
Eree addresses	4	
Detailed address information	6	
Detailed PM address information	n 8 🔽	
<ul> <li>Filter and alarm classification definitions</li> <li>Do you want to print filter and alarm classification definitions on selected interfaces ?</li> <li>Yes</li> </ul>		



## **PDH Polling general**

PDH Polling general information is to be printed: FE name format, global filter and alarm classification, limits, stations, device types, equipment ID and a comment about the PDH Polling.

#### PM data storage settings

Performance monitoring data settings are to be printed: limits and full action.

This check box is disabled if the configuration type is *PDH Polling C1.0*.

#### Hardware information

PDH Polling hardware information is to be printed: number of Polling Units, I/O addresses, interrupts and type of Q1 Interface units.

## **PDH Manager Interfaces**



Information about all PDH Manager interfaces is to be printed.

#### **OS Interfaces**

Information about all OS interfaces is to be printed.

This check box is disabled if the configuration type is *PDH Polling C1.0* or *PDH Polling C2.0*.

#### **Printer Spoolers**

Information about all printer spoolers is to be printed.

This check box is disabled if the configuration type is *PDH Polling C1.0* or *PDH Polling C2.0*.

#### **SNMP Interface**

Information about the SNMP Interface is to be printed.

This check box is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

#### **Network Test Interface**

Information about the Network Test Interface is to be printed.

This check box is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

#### Buses

Information about selected buses is to be printed. You can select the buses in the list box beside this check box.

If **Buses** is not checked, all the check boxes under it are disabled.

#### **General information**

General information about selected buses is to be printed: port parameters, polling parameters, list of fault polling (ND and E generation), auto-discovery, PM, suspended addresses, and suspension information.

This check box is disabled if the **Buses** check box is not selected or only bus 254 is selected.

#### Addresses not in fault polling

Addresses that are in the configuration but not in fault polling on the selected buses are to be printed.

## NOKIA

This check box is disabled if the **Buses** check box is not selected or only bus 254 is selected.

## Free addresses

Free addresses on the selected buses are to be printed.

This check box is disabled if the **Buses** check box is not selected.

## **Detailed address information**

Also detailed address information about selected buses is to be printed.

This check box is disabled if the **Buses** check box is not selected.

## **Detailed PM address information**

Detailed performance monitoring address information is to be printed.

This check box is disabled if the **Buses** check box is not selected or only bus 254 is selected.

## "bus list box"

A list of available bus numbers (0...240 and 254) that are sorted in ascending order by the bus number. You can select multiple buses.

This list box is disabled if the **Buses** check box is not checked.

## Filter and alarm classification definitions

Select if the filter and alarm classification definitions are printed.

This group box and all the controls inside it are disabled if **PDH Polling general**, **PDH Manager Interfaces**, **OS Interfaces**, **Printer Spoolers**, and **SNMP Interface** check boxes are all cleared.

## Filter and alarm classification definitions / Yes

Print filter and alarm classification definitions. The default value is cleared.

If **PDH Polling general** is selected, prints the global filter and alarm classification definitions. The filter definition is printed even if it is not active.

If **PDH Manager Interfaces**, **OS Interfaces**, **Printer Spoolers**, or **SNMP Interface** is selected, prints the corresponding filter and alarm classification definitions. The filter definition is printed even if it is not active.

## Print

Closes the Print Selection dialog box and starts printing.



This button is disabled if nothing is checked.

#### Cancel

Closes the **Print Selection** dialog box and discards all selections. Cancels the operation that called this dialog box.

Help

Displays help about the **Print Selection** dialog box.

## 6.46 Printer Spooler x dialog box

This dialog box allows you to change the configuration of the selected printer spooler.

This dialog box contains the following tabs:

- General
- Printer

#### Note

MF Manager C2.0 had a **FE Name** tab. It is not used any more. Creation of unique FE names is deselected by default.

When changing from one tab to another, all values are validated. If there are errors, an error message is displayed. The tab is not changed.

#### Buttons common to all tabs

#### OK

Closes the **Printer Spooler x** dialog box. All values are validated and if there are errors, an error message is displayed and the operation is cancelled.

#### Cancel

Closes the **Printer Spooler x** dialog box and discards all changes.

#### Help

Displays help about the **Printer Spooler x** dialog box.
# General tab

You can modify general parameters for the selected printer spooler.

Printer Spooler 2		×
General Printer		
Filter <u>N</u> ame: disturbance <u>A</u> ctive		Browse
Alarm classification Na <u>m</u> e: default	<b>_</b>	Bro <u>w</u> se
Alarm buffer         Size:       1000         Free space alarm limit:       30         Free space gancel limit:       60         Full action:       discard old		
OK	Peruuta	Ohje

Figure 87. General tab

# Filter / Name

Name of the filter. All filters in the current configuration are in the list. There is no default selection. System-defined filters are not displayed.

If the filter name is not defined, no filter is used in this printer spooler.

# Note

If the interface has no filter and there is an active global filter, it defines which alarms are reported through the OS Interface. However, the global filter is not effective with the system-defined bus 254 alarms; thus they all are reported.

# Filter / Active



If the **Active** check box is selected, the filter will also be in use. The default is selected.

This check box has no effect if the filter name is not defined.

### Filter / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the filter. Only the **Filters** tab is active.

#### Alarm classification / Name

The name of the alarm classification. All alarm classifications found in the current configuration are in the list. There is no default selection. System-defined alarm classifications are not displayed in the list.

If the alarm classification name is not defined, no alarm classification is used in this printer spooler.

#### Note

If the interface has no alarm classification, there can be a global alarm classification, which defines the alarm severities used in the OS Interface. However, the global alarm classification is not effective with the system-defined bus 254 alarms; thus they all have their default values.

#### Alarm classification / Browse

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the alarm classification. Only the **Alarm Classifications** tab is active.

#### Alarm buffer / Size

The alarm buffer size can be 100...10 000. The default is 1000.

#### Alarm buffer / Free space alarm limit

When the free space in alarms on the alarm buffer decreases under this limit, an alarm is sent. The default is 30.

The alarm limit must be smaller than the alarm buffer size.

#### Alarm buffer / Free space cancel limit

When the free space in alarms on the alarm buffer increases over this limit (after an alarm is sent), a cancellation is sent. The default is 60.

The cancel limit must be smaller than the alarm buffer size and greater than the alarm limit.

# Alarm buffer / Full action

The action to be carried out when the alarm buffer is full can be *discard old* or *discard new*. The default is *discard old*.

*Discard old* means that the new alarm is added to the alarm buffer and the oldest alarm is removed from there.

# Note

Before the alarm buffer is full, an "Alarm limit exceeded" alarm is added to it. As the alarm buffer eventually becomes full, a "Buffer overflow" alarm is added to it. However, if the alarm buffer remains full (alarms are not read), these alarms are overwritten and thus lost.

Discard new means that the new alarm is not added to the alarm buffer.

# Note

Alarms and alarm cancellations are sent to every interface (PDH Manager Interface, OS Interface, Printer Spooler and SNMP Interface).

#### Printer tab

You can modify printing parameters in this tab.

Printer Spooler 2	×
General Printer	1
<u>N</u> ame:	WNASKPD20ESWQ14
Job max. <u>s</u> ize:	100
Job time-out:	600 secs.
	OK Peruuta Ohje

Figure 88. Printer tab

### Name

The name of the printer in the Windows NT network (the length can be 1...128 characters). The default is an empty selection.

The format of the printer name is 'name' or '\\computer\name',

where 'computer' is the name of the computer or the printer server where the printer is connected and can be missing if the printer is connected locally; 'name' is the name the printer has in the computer or printer server.

#### Note

Every Printer Spooler must have a unique name.

#### Browse...

Selects the printer from shared printers found on the Windows NT network. Opens the **Select Printer** dialog box. When you select a printer, its name is updated to the Name edit box.

# Note

A printer that is connected directly to the computer where the NMS/10 MF is running and that is not shared to the network does not appear in the **Select Printer** dialog box.

# Job max. size

The maximum alarm count for one print job can be 1...10 000. A sensible value depends on the printer and the value should be the same as the number of alarms that fit on one page (e.g. for A4 paper 12...13).

The print job is executed when the alarm count reaches the maximum size. The default is 100.

# Job time-out

The maximum time elapsed since the first alarm was received for printing can be 0...86400 seconds. After time-out, alarm(s) are printed (even if there is only one alarm). The default is 600 seconds.

# 6.47 Save As dialog box

This dialog box is described in Section 6.24, 'Connect dialog box'.

# 6.48 Select Printer dialog box

This dialog box allows you to select a printer for the printer spooler.



Figure 89. Select Printer dialog box

# Printer

The selected printer from the printers found in the network. You can also type the printer name in this edit box.

The default is an empty selection if there was not already a printer selected before opening this dialog box.

# Comment

If there is a comment for the selected printer, you can see it here. The **Comment** edit box is read-only.

# **Printers in network**

Displays all the printers found in the network in tree format. When you select a printer, it's name and comment are displayed in the **Printer** and **Comment** fields.

Printers connected directly to a workstation and not shared to the network, are not shown in this list.

# OK

Closes the **Select Printer** dialog box.

This button is disabled if the **Printer** edit box is empty.

Cancel

Closes the Select Printer dialog box and discards the selection.

# Help

Displays help about the Select Printer dialog box.

# 6.49 Set NT Time dialog box

This dialog box allows you to set the Windows NT time of NMS/10 MF.

# Note

If you still have the 30-day trial licence and change the time, the trial licence may be lost.

# NOKIA

Figure 90. Set NT Time dialog box

# **Current local time**

The local Windows NT date, time and time zone are displayed continuously in this group box. Also, use of daylight saving time is displayed.

# Note

Local time is the time of the computer on which MF Manager is running. That computer can be the same on which NMS/10 MF or PDH Polling is running; in this case **Current local time** and **Current target time** are identical.

Current local time / Set Local Time...

Opens the Windows NT system **Date/Time** dialog box where you can set the local Windows NT time.

The Date/Time dialog box is displayed in Figure 91.

Dat	e/Tir	ne P	rope	ertie	s					? ×
D	ate &	Time	Tir	ne Z	one					
П	<u>D</u> ate								- <u>T</u> ime-	
	Feb	ruary	<b>.</b>	] [	2000		•	ł		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
	S	М	T	W	T	F	S	1	•	× 🦯 🗌
			1	2	3	4	5			
	6	7	8	9	10	11	12			
	13	14	15	16	17	18	19			· · ·
	20	21	22	23	24	25	26			and the second
	27	28	29							·
										18:09:52 🗧
C	Current time zone: FLE Standard Time									
								οк		Cancel Apply



# **Current target time**

The target NMS/10 MF date, time and time zone are displayed continuously in this group box. Also, use of daylight saving time is displayed.

# Note

Target time is the time of the computer on which NMS/10 MF or PDH Polling is running. That computer can be the same on which MF Manager is running; in this case **Current target time** and **Current local time** are identical.

# **Current target time / Get Target Time**

Gets the current date, time and time zone from the target NMS/10 MF and shows it continuously.

# New target time

You can select a time zone for the NMS/10 MF. The default is the same as in the **Current target time** group box.



You can select a new time zone from the drop-down list box and daylight saving time by checking the check box.

You can use the **Adjust time in send by (hh:mm)** check box and the time controls beside it to adjust the time to be sent to the remote NMS/10 MF. This is only necessary when you wish to set a time that is not correct in the selected time zone. When you change the time by using these time controls, the time to be sent is displayed below **New target time**.

#### Note

After changing the time zone, restart the NMS/10 MF by **System command**  $\rightarrow$  **Reboot NT**.

#### Send

Sends the date, time and time zone in the **New target time** group box to the remote NMS/10 MF and closes the **Set NT Time** dialog box.

This button is disabled if the user security level is lower than *NMS/10 Network Administrator*.

#### Cancel

Closes the Set NT Time dialog box and discards changes.

#### Help

Displays help about the Set NT Time dialog box.

# 6.50 SNMP Interface dialog box

This dialog box allows you to manage the common settings of the SNMP Interface.

# Note

The **SNMP Interface** dialog box is used for configuring filters and alarm classifications. The agent configuration tool is to be used for configuring SNMP settings.

SNMP Interf	ace			×
Filter <u>N</u> ame:	dusturbance	<u> </u>	Browse	OK Cancel
– Alarm clas Na <u>m</u> e:	sification default	•	Bro <u>w</u> se	<u>H</u> elp

Figure 92. SNMP Interface dialog box

#### Filter

Filter parameters for the SNMP interface.

# Filter / Name

The name of the filter. All filters found in the current configuration are in the list. There is no default selection. System-defined filters are not displayed in the list.

If the filter name is not defined, no filter is used in the SNMP interface.

# Note

If the interface has no filter and there is an active global filter, it defines which alarms are reported through the OS Interface. However, the global filter is not effective with the system-defined bus 254 alarms; thus they all are reported.

# Note

This filter is used in all trap destinations.

#### Filter / Active

If this option is selected, the filter will also be in use. The default is cleared. This check box has no effect if the filter name is not defined.

#### Filter / Browse...

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the filter. Only the **Filters** tab is active. The **Filter** box is updated.



# Alarm classification

Alarm classification parameters for the SNMP Interface.

#### Alarm classification / Name

The name of the alarm classification. All alarm classifications found in the current configuration are in the list. There is no default selection. System-defined alarm classifications are not displayed in the list.

If the alarm classification name is not defined, no alarm classification is used in the SNMP interface.

## Note

If the interface has no alarm classification, there can be a global alarm classification, which defines the alarm severities used in the OS Interface. However, the global alarm classification is not effective with the system-defined bus 254 alarms; thus they all have their default values.

#### Note

This alarm classification is used in all trap destinations.

# Alarm classification / Browse...

Opens the **Filters and Alarm Classifications** dialog box where you can select or create the alarm classification. Only the **Alarm Classifications** tab is active. The **Alarm classification** box is updated.

#### OK

Closes the dialog box. All values are validated and if there are errors, MF Manager displays an error message. The dialog box is not closed.

#### Cancel

Closes the dialog box and discards changes.

#### Help

Displays help for the dialog box.

# 6.51 Subset Definition dialog box

This dialog box allows you to define a subset of the FEs that are shown in the **Addresses (SUBSET)** dialog box.

If the FE fulfils any of the selections, it is shown.

Subset Definition						
Subset Definition						
Display only FEs that	at contains (	any of the following		OK		
✓ Station(s)	Number	Name	<b></b>	Cancel		
	-1	< unknown >				
	1	HEL/TMC06		Reset		
	2	TMN				
	3	HEL/KE9		Help		
		HEL/KE9				
	0	HEL/NE3				
Device type(s)	Number	Name	<b></b>			
	51	DN2				
	52	DNT128				
	53	DB2B				
	54	ILT128				
	50					
	00	ACM4				
🔽 Su <u>b</u> string	HEL					
	✓ in <u>F</u> E name					
	🔲 in statio	n <u>n</u> ame				
	🔲 in de <u>v</u> io	e type name				
☑ <u>G</u> eneration(s)	ND	•				
✓ Status	in FM, in F	M				

Figure 93. Subset Definition dialog box

# Station(s)

Show FEs that are in the selected station(s). The default is cleared.

If this option is cleared, the list beside it is disabled.

# "station list view"

A list of stations defined to the current configuration.

By default, the lines are sorted in ascending order by station number. You can use the header to sort the lines in different ways. Clicking **Name** in the header sorts the lines in ascending order by station name. Secondary sorting rule is always station number.

This list is disabled if **Station**(s) is cleared.

#### **Device type(s)**

Shows FEs that are of the selected device type. The default is cleared.

If this option is cleared, the list beside it is disabled.

#### "device type list view"

A list of device types defined to the current configuration.

By default, the lines are sorted in ascending order by device type number. You can use the header to sort the lines in different ways. Clicking **Name** in the header sorts the lines in ascending order by device type name. Secondary sorting rule is always device type number.

This list is disabled if **Device type(s)** is cleared.

#### Substring

Shows FEs that have the defined substring in the FE name, station name, or device type name.

If this option is cleared, the edit box beside it as well as the **in FE name**, **in station name**, and **in device type name** check boxes are disabled.

#### "substring edit box"

A substring can be 1...32 characters long. It is interpreted as is; there are no wildcard characters. The default is empty.

A useful length for the substring depends on where it is searched. The maximum length for FE name is 32 characters, for station name 12 characters, and for device type name 16 characters.

#### Substring / in FE name

Shows FEs that have the substring in the FE name. The default is cleared.

# Substring / in station name

Shows FEs that have the substring in the station name. The default is cleared.

#### Substring / in device type name

Shows FEs that have the substring in the device type name. The default value is cleared.

# Generation(s)

Shows FEs (addresses) that are of the selected generation. The default is cleared. If this option is cleared, the box beside it is disabled.

This option is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

# "generation combo box"

Any combination can be selected. However, the selections that do nothing are omitted. The default is an empty selection.

This box is disabled if:

- the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/ 10 MF C1.0*
- The **Generation**(s) check box is cleared.

#### Status

Shows FEs (addresses) that have the selected status(es). Status is the same that you see in the **Status** column in the **Addresses** and **Addresses** (**SUBSET**) dialog boxes. The default is cleared.

If this option is deselected, the box beside it is disabled.

# "status combo box"

Any combination can be selected. However, selections that do nothing are omitted. The default is an empty selection.

This box is disabled if Status is cleared.

# OK

Closes the dialog box. The content of the list in the **Addresses (SUBSET)** dialog box is updated according to the definition. If all check boxes are cleared, all FEs are shown in the **Addresses** dialog box. All values are validated and if there are errors, MF Manager displays an error message. The dialog box is not closed.

This button is disabled if:

- Stations(s) check box is selected, but no stations are selected
- **Device type(s)** check box is selected, but none of the device types in the list is selected

- Substring check box is selected, but the edit box is empty, or none of the check boxes in FE name, in station name, and in device type name is selected
- Generation(s) check box is selected, but the selection is empty
- **Status** check box is selected, but the selection is empty.

#### Cancel

Closes the dialog box and discards changes.

Reset

Resets all selections.

#### Help

Displays help for the dialog box.

# 6.52 System Command dialog box

This dialog box allows you to send a command to NMS/10 MF. The system command is a command sent to service process(es) running on NMS/10 MF or PDH Polling, e.g. to stop a service process or restart Windows NT.

System Comm	and	×
<ul> <li>Stat<u>u</u>s</li> <li>Start</li> <li>Stop</li> <li><u>R</u>estart</li> </ul>	Target         ✓       PDH Polling         □       OS Interface         □       PM Poller         □       SNMP Interface         □       Network Test Server	<u>S</u> end Cancel <u>H</u> elp
C Restart ren C <u>C</u> urrent use	note <u>N</u> T ers at the selected system	

Figure 94. System Command dialog box

Status

Sends a command to get the status of *PDH Polling*, *OS Interface*, *PM Poller*, *SNMP Interface*, or *Network Test Server* depending on the selection(s) in the *Target* group box.

#### Start

Sends a command to start *PDH Polling*, *OS Interface*, *PM Poller*, *SNMP Interface*, or *Network Test Server* depending on the selection(s) in the **Target** group box.

This option is disabled if the user security level is lower than *NMS/10 Network Administrator*, or there already is a connection.

#### Stop

Sends a command to stop *PDH Polling*, *OS Interface*, *PM Poller*, *SNMP Interface*, or *Network Test Server* depending on the selection(s) in the **Target** group box.

This option is disabled if the user security level is lower than *NMS/10 Network Administrator*, or there already is a connection.

#### Restart

Sends a command to restart *PDH Polling*, *OS Interface*, *PM Poller*, *SNMP Interface*, or *Network Test Server* depending on the selection(s) in the **Target** group box.

This option is disabled if the user security level is lower than *NMS/10 Network Administrator*, or there already is a connection.

# Target

This group box and all controls inside it are disabled if the **Restart remote NT** option is selected, or the **Current users at selected system** option is selected.

#### **Target / PDH Polling**

Sends **Status**, **Start**, **Stop** and **Restart** commands to PDH Polling. If selected with **Stop** or **Restart**, all other targets are also selected. If selected with **Status**, the statuses of the *Watchdog update* service, *Nokia Polling Card Device Driver* and *Watchdog* devices are also displayed.

This option covers all the necessary processes that handle the buses and PDH Manager interfaces.

This option is disabled if:

- the **Restart remote NT** option button is selected
- the **Current users at selected system** option is selected.

# **Target / OS Interface**

Sends **Status**, **Start**, **Stop** and **Restart** commands to OS Interface. If selected with **Start**, also **Target / PDH Polling** is selected.

This option covers the process that handles the OS Interfaces and Printer Spoolers.

This option is disabled if:

- the configuration type is *PDH Polling C1.0* or *PDH Polling C2.0*
- the **Restart remote NT** option button is selected
- the **Current users at selected system** option is selected.

#### Target / PM Poller

Sends **Status**, **Start**, **Stop** and **Restart** commands to PM Poller. If selected with **Start**, also **Target / PDH Polling** is selected.

This option covers the process that handles the PM data collection.

This option is disabled if:

- the configuration type is *PDH Polling C1.0*
- the **Restart remote NT** option button is selected
- the **Current users at selected system** option is selected.

#### Target / SNMP Interface

Sends **Status**, **Start**, **Stop** and **Restart** commands to SNMP Interface. If selected with **Start**, also **Target / PDH Polling** is selected.

This option covers the process that handles the SNMP.

This option is disabled if:

- the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/ 10 MF C1.0*
- the **Restart remote NT** option button is selected
- the **Current users at selected system** option is selected.

#### Target / Network Test Server

Sends **Status**, **Start**, **Stop** and **Restart** commands to Network Test server. If selected with **Start**, also **Target / PDH Polling** is selected.

This option covers the process that handles the network tests.

This option is disabled if:

- the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/ 10 MF C1.0*
- the **Restart remote NT** option button is selected
- the Current users at selected system option is selected.

# **Restart remote NT**

Sends a command to restart the remote Windows NT. A message "System is going down in 30 seconds" is displayed on the remote NT. NMS/10 MF is stopped on the remote computer before the NT will be restarted.

This option is disabled if the user security level is lower than *NMS/10 Network Administrator*, or the remote NT is the same NT where MF Manager runs, or connection to the NMS/10 MF is open.

# Current users at selected system

Displays users who are connected to the target system. Your own connection information is displayed when the current configuration is an on-line configuration.

This option is disabled if the configuration type is *PDH Polling C1.0*, *PDH Polling C2.0*, or *NMS/10 MF C1.0*.

# Send

Sends the selected command to the selected target(s) and closes the **System Command** dialog box.

This button is disabled if the **Restart remote NT** and **Current users at selected system** options are not selected, and nothing is selected in the **Target** group box.

# Cancel

Closes the **System Command** dialog box and discards the selections. Cancels the operation that called this dialog box.

# Help

Displays help about the System Command dialog box.



# Appendix A. Connecting Nokia Managers to NMS/10 MF or PDH Polling workstation

This appendix gives you some important guidelines for setting up the system and your Windows NT network and its user databases. Also, connections with Nokia Managers from outside the workstation or domain are discussed.

For more information about Windows NT and NMS/10 security, refer to *NMS/10 System Release User Manual*.

# A.1 General

Before starting to install the network management system with Windows NT Workstations, NMS/10, NMS/10 MF and separate node managers, alarm managers or agents, we recommend you to prepare a detailed installation plan considering also network security.

# A.2 MF Manager and NMS/10 MF installation

MF Manager installation program creates the NMS/10 security groups (see section 5.1, 'Security' and the *NMS/10 System Release User Manual*). They are created onto the local computer. The NMS/10 MF C2.0 installation program also creates the NMS/10 security groups onto the computer it is installed in. Other configuration types (*NMS/10 MF C1.0, PDH Polling C2.0*, and *PDH Polling C1.0*) do not use the NMS/10 security groups.

NMS/10 MF and PDH Polling system installation programs create a NOKIAMGR share. It points to the root directory under which the NMS/10 MF or PDH Polling system is installed. MF Manager needs adequate rights to access the NOKIAMGR share (see sectionA.3, 'MF Manager connections').

The number of concurrent users in the NOKIAMGR share can be limited and by default it is limited to two users. The share interprets one computer as one user, i.e. there can be multiple connections from one computer (although this is highly discouraged).

NMS/10 MF and PDH Polling system installation programs also create a Windows NT user group called *Nokia NMS/10 MF Command Interface* onto the computer where it is installed. If the configuration type is not *NMS/10 MF C2.0*, the user of an interface (PDH Manager Interface, etc.) must belong to that user group. Otherwise, the user of an interface must belong to the user group that is defined in the configuration for that interface. In any case, the user group must be a local one and it cannot be any of the Windows NT's standard user groups.

# A.3 MF Manager connections

When connecting to an NMS/10 MF workstation with the MF Manager, you must have adequate user rights on that workstation.

MF Manager uses the computer name of the system when it connects to it. It mounts a share called NOKIAMGR (created by the NMS/10 MF and PDH Polling system installation programs). The username and password for the MF Manager user must be the same both on the MF Manager computer and on the computer which the system is running. The MF Manager user must be one of the allowed users of the NOKIAMGR share, or belong to a user group that is allowed to access the share. The type of access in the share permissions for the user or user group must be at least 'Change'. The number of computers that can be simultaneously connected to the share is two by default. That can be changed if more connections are required.

MF Manager uses the NMS/10 security groups to limit the functionality. They define your security level (see section 5.1, 'Security'). When MF Manager interacts with an NMS/10 MF C2.0 system, it checks your security level on that computer. If it is lower than on the local computer, it is effective as long as there is a connection. It is possible that you are not allowed to work with the NMS/10 MF C2.0 system, e.g. because of too low a security level, or because you do not belong to any of the (security) user groups.

#### Note

When working on other systems (NMS/10 MF C1.0, PDH Polling C2.0, or PDH Polling C1.0), the *remote security level* is not checked, because these systems do not use the (security) user groups.

If you want to start, stop or restart the NMS/10 MF or part of it or restart the computer where the system is running through MF Manager's **System Command** dialog box, you must have the security level *NMS/10 Network Admin* on that computer.

Multiple MF Managers can be connected to one system (although it is not recommended), but they do not know about each other's actions. If the system is NMS/10 MF C2.0, you are displayed information about the other connected users and you can at any time ask who are currently connected. Otherwise, the MF Managers after the first connected one are informed that there is already someone connected (first one will never know that there is also others). If multiple MF Managers send configuration changes, the end result might be unpredictable. Usually, the latest changes are simply brought into use, but sometimes it might lead to data corruption.

# A.4 NMS/10 MF and PDH Polling system connections

PDH Alarm Manager and node manager users use the PDH Manager Interface for communication with the NMS/10 MF or PDH Polling system. If the configuration type is 'NMS/10 MF C2.0', multiple computers (users) can connect to one PDH Manager Interface. Otherwise, each computer (user) needs a separate PDH Manager Interface.

NMS/100, NMS/1000, etc. use the OS Interface for communication with the NMS/10 MF. OS Interface has limits for how many concurrent users are allowed per OS Interface, see Ports tab in the OS Interface x dialog box.

Network Test application's users use the Network Test Interface for communication with the 'NMS/10 MF C2.0' system. Network Test Interface has a limit for how many concurrent users is allowed, see Network Test Interface dialog box.

# Note

The Network Test application is a separate application used to test the Q1 network. It is installed at the same time as the MF Manager.

All connections are authenticated. Before a connection can be established, a valid Windows NT username and password must be provided. The user is validated from the domain that is defined in the interface's settings (that domain can be the computer where the system is running). If the configuration type is NMS/10 MF C2.0, the user must belong to the user group defined in the interface's settings. In other configuration types, the user must belong to the *Nokia NMS/10 MF Command Interface* user group. In any case the user group must be a local one on the computer where the NMS/10 MF or PDH Polling system is running and it cannot be any of the Windows NT's standard user groups.

# A.5 PM data collection result files

The NMS/10 MF C2.0 installation program creates a virtual FTP directory MF\PMDATA that points to the place where the PM data collection result files are. You should connect to the NMS/10 MF C2.0 computer using an FTP program and change to the directory MF\PMDATA. All the PM data collection result files are there and it depends on your NMS/10 security group if you can only read the files or also remove them. If the configuration type is not NMS/10 MF C2.0, the PM data collection result files can be read from the directory C:\NOKIAMGR\NMS10MF\PMP\LOGS. Current day's PM data collection result file is always locked and it cannot be removed (however, it can be read).

# Appendix B. Directory hierarchy

# B.1 MF Manager directory hierarchy

MF Manager uses its own directory hierarchy when it handles configurations. It copies all relevant files to a directory named using the system's computer name. Files are copied even when the system and MF Manager are running on a same computer.

## Note

Licencing system uses one visible file MFM.LIC and creates four hidden files (MFM.41S, MFM.ENT, MFM.KEY, and MFM.RST). They are in the MF Manager root directory MFM. Do not remove, rename, or move them.

#### Note

The software licence is based on the machine and disk configuration and will be lost if a disk is replaced or reformatted. If you have a disk failure, you will need to contact Nokia Customer Services to get a new Site Key for your restored software.

#### Note

Depending on the configuration type, not all files are present. All files are not described here.

The directory hierarchy used by MF Manager is the following:

The NOKIAMGR environment variable indicates the location of the root directory for all Nokia managers. Usually it is C:\NOKIAMGR. All MF Manager related directories are located under this directory.

MFM	the root directory for MF Manager files.
MFM\NDT254.INI	'internal network elements' on bus 254 for a new configuration
MFM\POLLCMD.TXT	definitions of available PM jobs for a new configuration
MFM\DEVTYPES.TXT	default device types for a new configuration
MFM\*.FLT	system-defined filter files

MFM\*.CLF	system-defined alarm classification files.
LONDON	directory for a configuration named LONDON
LONDON\*.INI	configuration files
LONDON\*.OUT	bus suspension parameters; present if defined but not yet sent
LONDON\*.FLT	filter files
LONDON\*.CLF	alarm classification files
LONDON\AUTO.LOG	auto-discovery result log file; present if new network elements found
LONDON\SCAN.LOG	network scan result log file; present ifnetwork elements found
LONDON\POLLCMD.TXT	definitions for the available PM jobs
LONDON\POLLSCR.TXT	schedule for running the selected PM jobs
PARIS	directory for a configuration named PARIS
PARIS\*.INI	configuration files
PARIS\*.OUT	bus suspension parameters; present if defined but not yet sent
PARIS\*.FLT	filter files
PARIS\*.CLF	alarm classification files
PARIS\AUTO.LOG	auto-discovery result log file; present if new network elements found
PARIS\SCAN.LOG	network scan result log file; present if network elements found
PARIS\POLLCMD.TXT	definitions for the available PM jobs
PARIS\POLLSCR.TXT	schedule for running the selected PM jobs

The NMS/10 MF name used in the hierarchy above is the NMS/10 MF computer name. The length of the name can be 15 characters.

An off-line configuration can have any name as long as the name is a valid computer name (existing or non-existing). However, an on-line configuration name is always the same as the computer name of NMS/10 MF.

Filter and alarm classification files in the MF Manager root directory (MFM) are shown in **Filters and Alarm Classifications** dialog box as system-defined filters and alarm classifications; they have an *S* in the **Sys** column in the list view. Other filters and alarm classifications shown in the list view are from the corresponding configuration (they are located in the directory that has the same name as the configuration under MF Manager root directory). There can be a user-defined and system-defined filter or alarm classification with a same name (as they are located in different directories). The user-defined filter or alarm classification is the one that is used in the configuration.

The file NDT254.INI in the MF Manager root directory is copied into the new configuration. It contains information needed when reporting about internal faults. This file is directly suitable only for the NMS/10 MF C2.0 configuration as it contains the NE generation info and an unique ID for the SNMP. MF Manager takes care of removing the extra information when it is not needed.

The file DEVTYPES.TXT in the MF Manager root directory contains the default device types added to a new configuration. Each line contains one device type name. The numbering starts from 3. Empty lines and comment lines starting with a semicolon (;) are ignored. If this file is missing, MF Manager uses its own set of default device types.

The file POLLCMD.TXT in the MF Manager root directory is copied into the new configuration (except if the configuration type is *PDH Polling C1.0*). It contains definitions for PM jobs that can be performed on network elements periodically.

The file POLLSCR.TXT contains information about the network elements and periods. It is located in tha directory that has the same name as the configuration under the MF Manager root directory.

The file AUTO.LOG contains the results of auto-discovery and the file SCAN.LOG contains the results of network scan.

Files \*.OUT are located in the MF Manager directory hierarchy only temporarily. They are only created if there is something suspended on a bus. After the file has been copied to the target system, it is removed from this directory hierarchy.

Files \*.INI are the actual configuration files. When MF Manager saves the configuration, it first renames all files with extension .BAK.

The file NMS100.CFG contains the configuration for the NMS/100 heartbeat and equipment type text. If the configuration type is NMS/10 MF C1.0 and this file exists, MF Manager handles it. This file has an effect only with the NMS/10 MF C1.0 version C. Older versions of NMS/10 MF C1.0 do not have this file. If you change the configuration type from NMS/10 MF C1.0 to NMS/10 MF C2.0 and this file exists, MF Manager merges its contents to the NMS10MF.INI file and removes NMS100.CFG. MF Manager never creates this file if it does not already exist. See the NMS/10 MF C1.0 version C README.TXT file for more information on this file.

# B.2 NMS/10 MF and PDH Polling directory hierarchy

Files are the same as in the MF Manager directory hierarchy, but they are scattered in multiple directories.

# Note

Licencing system uses one visible file NMS10MF.LIC and creates four hidden files (NMS10.41S, NMS10.ENT, NMS10.KEY, and NMS10.RST). They are located in the NMS/10 MF root directory C:\NOKIAMGR\NMS10MF. Do not remove, rename, or move them.

# Note

The software licence is based on the machine and disk configuration and will be lost if a disk is replaced or reformatted. If you have a disk failure, you will need to contact Nokia Customer Services to get a new Site Key for your restored software.

# Note

Depending on the configuration type, not all files are present.

The directory hierarchy used by the NMS/10 MF and PDH Polling is the following (only the directories that the MF Manager uses are listed):

The NOKIAMGR environment variable indicates the location of the root directory for all Nokia managers. Usually it is C:\NOKIAMGR. All NMS/10 MF and PDH Polling related directories are located under this directory.

NMS10MF	the root directory for NMS/10 MF and PDH Polling files.
CLASSIFY\*.CLF	alarm classification files.
FILTER\*.FLT	filter files.
NODECONF\NDTX.INI	network elements on bus X
NODECONF\NDT254.INI	'internal network element' on bus 254
NODECONF\TMC.INI	TMC type information, e.g. stations
NWTEST\CONFIG\NWTEST.INI	Network Test Interface configuration.
OSIF\CONFIG\NMS10MF.INI	OS Interface and Printer Spooler configuration

OSIF\CONFIG\NMS100.CFG	Heartbeat configuration for NMS/10 MF C1.0 version C.
PDHP\CONFIG\BUSX.INI	protection, polling, and port parameters for bus X
PDHP\CONFIG\BUSX.OUT	suspension parameters for bus X
PDHP\CONFIG\GENERAL.INI	general information about system, e.g. global filter
PDHP\CONFIG\HARDWARE.INI	hardware configuration
PDHP\CONFIG\NMSE.INI	PDH Manager Interface configuration.
PDHP\LOGS\AUTO.LOG	auto-discovery result log file; present if new network elements found
PDHP\LOGS\SCAN.LOG	network scan result log file; present if network elements found
PDHP\LOGS\SCAN.NET	network scan definition file; present if network scan going on.
PMP\CONFIG\PM.INI	PM data storage settings
PMP\CONFIG\POLLCMD.TXT	definitions for the PM jobs
PMP\CONFIG\POLLSCR.TXT	schedule for running the selected PM jobs.
PMP\LOGS\YYYYMMDD.TXT	PM results (NMS/10 MF C2.0)
PMP\LOGS\YYMMDD.TXT	PM results (other configuration types)
SNMPIF\CONFIG\SNMPIF.INI	SNMP Interface configuration.

The file SCAN.NET is located in the NMS/10 MF directory only temporarily. It contains information on the buses and addresses to scan. After the Network Scan is done, it is removed from this directory.

Files YYYYMMDD.TXT and YYMMDD.TXT are the PM result files created one per day (YYYY or YY is the year in decimal, MM is the month in decimal, and DD is the day in decimal; leading zeros are added if necessary.). The configuration type *NMS/10 MF C2.0* uses 4 digits for a year, other configuration types use 2 digits.

If the configuration type is *NMS/10 MF C2.0*, these files can be retrieved by FTP from a virtual directory called \MF\PMDATA. Otherwise they are located in the C:\NOKIAMGR\NMS10MF\PMP\LOGS directory.

The current day's PM result file is always locked and it cannot be removed (however, it can be read).

# Appendix C. Configuration report format

# C.1 General

On the top of every page is text MF Manager C2.5, configuration name, date, time and a continuous page number. The date format is the current Windows NT time and long date format.

An example:

MF Manager C2.5 - pc123 28 June, 2000 13:30:25 Page 1

You can select in the **Print Selection** dialog box what information will be included in the configuration report. The following sections describe what each selection of the **Print Selection** dialog box contains. The sections are listed in the same order as they are printed.

The type of the configuration is printed on top of the selected information.

An example:

Configuration type NMS/10 MF C2.0

# C.2 PDH Polling general information

General information about NMS/10 MF is shown in this section. Global alarm classification and its definition are only printed if the configuration type is *NMS/* 10 MF C2.0.

PDH Polling Information

\_\_\_\_\_

FE name format	"bb.aaaa.ff dev:	ice name"
Global filter name Global filter active Global alarm classification r	name	disturbance yes default
Max. number of addresses/bus Max. number of FEs/polling un Max. number of PDH Manager In	nit nterfaces	200 3000 5
Hard disk free space alarm 1 Hard disk free space cancel 1	imit limit	50 [ MB ] 55 [ MB ]
Equipment ID	1	

If **Yes** is selected, global filter and alarm classification definitions are printed. The global filter definition is printed even if it is not active.



Comment of the filter Do not show disturbance Definition of the filter Filter type is EXCLUDE TYPE=DISTURBANCE Comment of the alarm classification Default alarm classification Definition of the alarm classification Definition of CRITICAL severity TYPE=ALARM Definition of MAJOR severity <not defined> Definition of MINOR severity TYPE=DISTURBANCE Definition of WARNING severity TYPE=DISTURBANCE

Stations are printed in ascending order by station number and device types are printed in ascending order by device type number. If station or device type information is spread onto multiple pages, the station or device type header is printed at the beginning of all those pages.

Station Number	Station Name			
1 2 3 4	PDHplat TMN London Manchester			
Device Type Number	Device Type Name			
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	SYSTEM TRANSM EXTERN DN2 DB2 DM2 DM3 ACM2 ACL2 DF2-8 DMR DMF DNT128 DNT1M DNT2M			

The comment can be on multiple lines.

Comment -----Power line between London and Manchester

# C.3 PM data settings

Pei	forma	ance Monitoring	Data	Setting	S
===					=
ΡМ	data	max size			1000 [ MB ]
ΡM	data	alarm limit			100 [ MB ]
ΡM	data	cancel limit			200 [ MB ]
ΡM	data	full action			discard old

# C.4 Hardware information

Hardware information is printed in ascending order by polling unit number.

The following example shows the configuration of one polling unit.

Polling Unit 1 ConfigurationIO Address220 HInterrupt11Interface unit 1 typeinternalInterface unit 2 typeinternal

# C.5 PDH manager interfaces

PDH manager interfaces are printed in ascending order by PDH Manager interface number. Only the port parameters are printed if the configuration type is *NMS/10 MF C2.0*. User group is only printed when the configuration type is *NMS/10 MF C2.0*.

The following example shows one PDH Manager interface.

PDH Manager Interface 19 =======			
Filter name	manager2		
Filter active	yes		
Alarm classification name	classify		
Alarm buffer size	1000		
Alarm buffer alarm limit	30		
Alarm buffer cancel limit	60		
Alarm buffer full action	discard old		
TCP/IP port	27500		
Logon domain	ntc		
User group Nokia NMS/10 M	F Command Interface		
Logon time-out	60 [ s ]		

If **Yes** is selected, filter and alarm classification definitions are printed. The filter definition is printed even if it is not active. The *warning* severity is only printed if the configuration type is *NMS/10 MF C2.0*.

Comment of the filter



Do not show disturbance

Definition of the filter Filter type is EXCLUDE TYPE=DISTURBANCE Comment of the alarm classification Default alarm classification Definition of the alarm classification Definition of CRITICAL severity TYPE=ALARM Definition of MAJOR severity <not defined> Definition of MINOR severity TYPE=DISTURBANCE Definition of WARNING severity TYPE=DISTURBANCE

# C.6 OS interfaces

OS interfaces are printed in ascending order by OS interface number. The user group is only printed if the configuration type is *NMS/10 MF C2.0*. Heartbeat information and equipment type text are only printed if the configuration type is *NMS/10 MF C2.0* or *NMS/10 MF C1.0 version C*.

The following example shows one OS interface.

OS Interface 1	
Filter name	manager2
Filter active	no
Alarm classification name	classify3
Alarm buffer size	1000
Alarm buffer alarm limit	30
Alarm buffer cancel limit	60
Alarm buffer full action	discard old
Command interface TCP/IP port	55500
Max. connections on command i	interface 10
Alarm interface TCP/IP port	501
Max. connections on alarm int	cerface 1
Logon domain	ntc
User group Nokia NMS/1	10 MF Command Interface
Logon time-out	600 [s]
Heartbeat active	yes
Heartbeat interval	0 00:11 [ d hh:mm ]
Heartbeat text	MF /q/ alive /x//l/
Equipment type text	discard old

If **Yes** is selected, filter and alarm classification definitions are printed. The filter definition is printed even if it is not active. The *warning* severity is only printed if the configuration type is *NMS/10 MF C2.0*.

Comment of the filter Do not show disturbance Definition of the filter Filter type is EXCLUDE TYPE=DISTURBANCE Comment of the alarm classification Default alarm classification Definition of the alarm classification Definition of CRITICAL severity TYPE=ALARM Definition of MAJOR severity <not defined> Definition of MINOR severity TYPE=DISTURBANCE Definition of WARNING severity TYPE=DISTURBANCE

# C.7 Printer spoolers

Printer spoolers are printed in ascending order by printer spooler number. The following example shows one printer spooler.

Printer Spooler 1 ======	
Filter name	manager2
Filter active	no
Alarm classification name	classify3
Alarm buffer size	1000
Alarm buffer alarm limit	30
Alarm buffer cancel limit	60
Alarm buffer full action	discard old
Printer name	\\pc123\PRINTER1
Printer job max. size	100
Printer job time-out	600 [ s ]

If **Yes** is selected, filter and alarm classification definitions are printed. The filter definition is printed even if it is not active. The *warning* severity is only printed if the configuration type is *NMS/10 MF C2.0*.

Comment of the filter Do not show disturbance Definition of the filter



Filter type is EXCLUDE TYPE=DISTURBANCE Comment of the alarm classification Default alarm classification Definition of the alarm classification Definition of CRITICAL severity TYPE=ALARM Definition of MAJOR severity <not defined> Definition of MINOR severity TYPE=DISTURBANCE Definition of WARNING severity

TYPE=DISTURBANCE

# C.8 SNMP interface

The following example shows the common parameters for the SNMP interface.

If **Yes** is selected, filter and alarm classification definitions are printed. The filter definition is printed even if it is not active.

Comment of the filter - - -Do not show disturbance Definition of the filter \_ \_ \_ \_ \_ \_ \_ \_ \_ Filter type is EXCLUDE TYPE=DISTURBANCE Comment of the alarm classification - -- - -\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ Default alarm classification Definition of the alarm classification Definition of CRITICAL severity TYPE=ALARM Definition of MAJOR severity <not defined>

Definition of MINOR severity TYPE=DISTURBANCE

Definition of WARNING severity TYPE=DISTURBANCE

# C.9 Network Test interface

The following example shows the parameters for Network Test interface.

Network Test Interface TCP/IP port 49900 Max. connections on TCP/IP port 1 Logon domain ntc User group Nokia NMS/10 MF Command Interface Logon time-out 600 [ s ]

# C.10 Buses

#### **Common information**

If the bus is the system-defined bus 254, only the detailed address information and free addresses can be printed.

Each bus starts a new page. Buses are printed in ascending order by bus number and information can spread into multiple pages.

Bus 1

#### **General information**

General information contains bus, physical port and polling parameters. Address lists are included, but they are not detailed.

Addresses in fault polling (ND) is Addresses in fault polling if the configuration type is NMS/10 MF C1.0, PDH Polling C2.0, or PDH Polling C1.0.

Addresses in fault polling (E), Q1 Command time-out, Packet limit, Cycle target time, Consistency check (if time left), Lost NEs per cycle (if time left), New NEs per cycle (if time left), and Do nothing (if time left) are printed only if the configuration type is NMS/10 MF C2.0.

Consistency check (if time left), Lost NEs per cycle (if time left), New NEs per cycle (if time left), and Do nothing (if time left) are printed only if Cycle target time is greater than 0 seconds.

The following example shows one bus that is protected:

Addresses Addresses Addresses Addresses Addresses	<pre>in fault polling (ND) in fault polling (E) in auto-discovery in performance monitoring suspended</pre>	9, 11, 13-15 19-25 1-200 9, 19-25 4-5
All fault	polling and auto-discovery	suspended no

```
All activity suspended
                                         no
Protected bus
                                         yes
Polling Parameters
Connection poll retries
Connection loss threshold
                                         1
                                          4
Connection command retries
                                         1
Q1 Packet time-out
                                         2 [ 100 ms ]
Q1 Application delay
                                         2 [ 100 ms ]
                                         2 [ 100 ms ]
0 [ 100 ms ]
Q1 Empty packet delay
Q1 Inter-packet delay
Q1 Command time-out
                                         0 [ 100 ms ]
Switch bus delay
                                         0 [ 100 ms ]
                                         500
Max. empty packets
Packet limit
                                         1000
Clock refresh rate (E gen. elements) 60 [minutes]
                                         60 [s]
Cycle target time
Consistency check (compulsory)
                                         1 NE
Lost NEs per cycle (compulsory)
                                         1
New NEs per cycle (compulsory)
                                         1
Consistency check (if time left)
Lost NEs per cycle (if time left)
                                         50 [ % ]
                                         30 [ % ]
New NEs per cycle (if time left)
Do nothing (if time left)
                                          20 [ % ]
                                          0 [ % ]
Primary Direction Port Parameters
             ------
Polling unit
                                          1
Port
                                          1 Z
Line speed
                                         9600 [ bits/s ]
Secondary Direction Port Parameters
                  Polling unit
                                          1
Port
                                         3B
Line speed
                                         9600 [ bits/s ]
```

#### Addresses not in fault polling

Addresses that are in the current configuration on the bus, but are not in the fault polling.

If general information is printed, the addresses that are not in fault polling will be printed after the *Addresses in fault polling* (E). Otherwise they will be printed after the common information.

Addresses not in fault polling (ND) is Addresses not in fault polling if the configuration type is NMS/10 MF C1.0, PDH Polling C2.0, or PDH Polling C1.0. Addresses not in fault polling (E) is printed only if the configuration type is NMS/ 10 MF C2.0.

Addresses	not	in	fault	polling	(ND)	1-8,	10,	12
Addresses	not	in	fault	polling	(E)	35-40	C	

### Free addresses

Addresses that are not in the current configuration on the bus.
If general information is printed, free addresses will be printed before *Addresses in auto-discovery*. Otherwise they will be printed after the common information and *Addresses not in fault polling* (E) (if printed).

Addresses not used 16-4093

#### **Detailed address information**

Detailed address information is printed immediately after previously printed bus information.

Detailed address information is printed in ascending order by address and FE number. If the bus is the system-defined bus 254, the *Gen.* and *Status* fields are not printed. If the bus is the system-defined bus 65535, the *Status* field is left empty.

If detailed address information is spread onto multiple pages, the header is printed at the beginning of all those pages.

Addr.	FE 	FE Name	Station	Device Type	Gen.	St 	atu	s -
1	0	01.0001.00 DM 2 AD1	3-LONDON	1-TRANSM	ND	F		
2	0	01.0000.01 DMF16x2	3-LONDON	1-TRANSM	ND	F	S	
4	0	01.0004.00 ACM2	4-CROYDON	1-TRANSM	Е	F	S	Ρ
4	1	01.0004.01 ACM2	4-CROYDON	1-TRANSM	Е	F	s	Ρ
65535	0	BU01 SUPERVISION BUS	2 - TMN	0-SYSTEM				Ρ

#### **Detailed PM address information**

#### NMS/10 MF C2.0

Printed immediately after previously printed bus information in ascending order by the address/FE combination. If there are multiple jobs on one FE, the period is used as a secondary sorting rule (ascending order by the period). If there are multiple start/stop times on one period, the start/stop time is used as a tertiary sorting rule (ascending order by the start/stop time).

If the detailed PM address information is spread onto multiple pages, the PM address header is printed at the beginning of the page.

Addr.	FE	Period	Start time	Stop time	PM Command Name
4	0	15 min	Mon 00:00:00	Tue 00:00:00	ACM2_g821
4	1	24 h	03:00:00		ACM2_reset
65535	0	2 d 01:00:00		Q1_protocol_pri	

**Other configuration types** 

Printed immediately after previously printed bus information in ascending order by the address. If there are multiple jobs on one address, the period is used as a secondary sorting rule (ascending order by the period).

If the detailed PM address information is spread onto multiple pages, the PM address header is printed at the beginning of the page.

Addr.	Period	PM Command Name
4	15 min	ACM2 g821
4	24 h	ACM2 reset
65535	2 d 01:00:00	Q1 protocol pri

# Appendix D. Network Test Client

This appendix gives instructions to using the Network Test Client (NWT) which is a remote user interface to the Network Test Server used with NMS/10 MF C2.0.

This appendix covers the following topics:

- Features (section D.1)
- Getting started (section D.2)
- User interface (section D.3)

# D.1 Features

NWT is used for testing a Q1 network that is connected to NMS/10 MF C2.0. It provides a quick testing tool when commissioning the system. It is also useful in pin-pointing connection problems and in a quick testing of troublesome network elements (NEs).

The main functions of NWT are:

- Connect to a Network Test Server and retrieve configured buses
- Add addresses to the test
- Remove addresses from the test
- Modify test parameters
- Start test and view results
- Save test results.

# D.2 Getting started

This section describes how to get started with NWT. It covers the following topics:

- Starting the Network Test Client
- Connecting to a server
- Creating a configuration for testing

- Tuning test parameters
- Viewing test results.

## Note

To achieve most accurate results, turn off fault polling, auto discovery, and PM polling in MF Manager before starting the Network Test Client.

# D.2.1 Starting the Network Test Client

## **↓**<sup>1</sup><sub>2</sub> 3 To start NWT:

- 1. You can start the Network Test Client from MF Manager or from Windows NT:
  - MF Manager: Manage → Special → Network Test...
  - Windows NT:Start → Programs→ MF Manager→ Network Test...
- 2. Network Test starts and the empty **Configuration** window is displayed. It consists of a tree view and a list view. The tree view is on the left and the list view on the right side of the window.

# D.2.2 Connecting to a server

NWT tests NEs connected to a NMS/10 MF C2.0. Before a connection can be established, the Network Test Interface in the NMS/10 MF must be configured using MF Manager. Before testing or creating a testing configuration can be started, a connection must be established between NWT and the Server. Configured buses are retrieved when the connection has been opened.

## To connect to a server:

- 1. Choose Manage  $\rightarrow$  Connect... in the Configuration window, or click the corresponding button in the toolbar. The NWT Connect dialog box is displayed (Figure 95).
- 2. Fill in the fields:

# **MF Address**

An internet address for the desired connection. The address can be given as text or numbers.

#### MF user name

A valid Windows NT user name on the target computer. It must belong to a user group specified on the NMS/10 MF you are about to connect.

## MF password

A valid password for the user name. Asterisks (\*) are displayed instead of the actual characters while you type in your password.

## **Command Port**

The TCP/IP port of the Network Test Server. The command port number must be the same as on the connected NMS/10 MF (configured with MF Manager). The default port number is 49900.

NWT Connect		
MF Address		
MF user name		
MF password		
Command Port 49900	)	
Connect	Cancel	Help

Figure 95. NWT Connect dialog box

3. Click one of the command buttons:

## Connect

Closes the dialog box and connects to the specified MF.

After establishing the connection, the buses configured on the MF are added to the NWT Client. Suspended buses are not added, because MF does not send anything to them.

The configuration information of the connected NMS/10 MF is displayed in the NWT window (Figure 96).

# Cancel

Closes the dialog box.

## Help

Displays the help for this dialog box.



Figure 96. NWT Client window after connecting to NMS/10 MF

# D.2.3 Uploading addresses for testing

You can upload all addresses configured on NMS/10 MF for testing and select the addresses you wish to test.

To upload MF addresses:

1. Choose Configure  $\rightarrow$  Upload MF Addresses... in the Configuration window. The NWT Uploaded MF Addresses dialog box is displayed (Figure 97).

/T Uploaded Addre	sses from MF		
Do what			
Add to the current	configuration		UK
C <u>C</u> reate new configu	Iration		Cancel
Add addresses			
C Add all			
Add selected			нер
<u>B</u> us: 1 ▼	Direction: Primary		
Address Gen.	Device type	Select all	
0 TMS4	DM2		
🛛 🗹 1 TMS4	DM2	<u>U</u> nselect all	
2 TMS4	DM2		
🔲 🛛 3 TMS4	DM2		
🔲 4 TMS4	DM2		
🔲 🗖 5 TMS4	DM2		
	DM2		
<b>Ц</b> 6 ГМ54			
7 TMS4	DM2		
	DM2 DM2		

Figure 97. NWT Uploaded MF Addresses dialog box

2. Fill in the fields:

# Do what / Add to the current configuration

New MF addresses are added to the old configuration.

## Do what / Create a new configuration

New MF addresses replace the old configuration.

## Add Addresses / Add all

All MF addresses are added to the configuration.

#### Add Addresses / Add selected

Only the MF addresses selected in the list view are added to the configuration.

#### Add Addresses / Bus

Selects a bus from which the addresses are added. If the whole MF configuration is not added (and therefore bus selection is not disabled), addresses are added only from this bus.

#### **Add Addresses / Direction**

Selects the direction to which the addresses are added. If an address already exists, it will be tested in its old direction and the new one selected here.

This box is disabled if the current bus has only the primary direction available (the selected direction is Primary).

#### Add Addresses /" list view"

Displays MF addresses of the selected bus. You can select the addresses to include them in the test configuration.

The list is sortable. You can sort it by clicking any of the column headers.

#### Add Addresses / Select all

Selects all addresses of the selected bus.

#### Add Addresses / Unselect all

Clears all addresses of the selected bus.

3. Click one of the command buttons:

#### OK

Adds MF addresses to test configuration and closes the dialog box. If an address already exists, a new direction is added and the element type updated.

#### Cancel

Closes the dialog box.

#### Apply

Adds the MF addresses to the test configuration. If an address already exists, a new direction is added and the element type updated. The check marks are not cleared.

Help

Displays the help for this dialog box.

# D.2.4 Selecting arbitrary addresses for testing

You can select arbitrary addresses for testing even though they are not configured on the NMS/10 MF.

#### 1 2 3

To select addresses for testing:

1. Choose Configure  $\rightarrow$  Add Addresses... in the Configuration window. The NWT Add Addresses dialog box is displayed (Figure 98).

Bus 🚺		Direction	Primary	
Addresses to	badd			

Figure 98. NWT Add Addresses dialog box

- 2. Select a **Bus** and a **Direction**.
- 3. Enter the addresses or address ranges (e.g. 5–100) in the Addresses to add field. You can use commas if you wish to enter more items in the field.
- 4. Click one of the command buttons:

# OK

Adds selected addresses to test configuration and closes the dialog box. If an address already exists, a new direction is added. If the type of the network element is not known, it is named 'Unknown'.

## Cancel

Closes the dialog box.

#### Apply

Adds the selected addresses to the test configuration. If an address already exists, a new direction is added. If the type of the network element is not known, it is named 'Unknown'.

#### Help

Displays the help for this dialog box.

# D.2.5 Tuning test parameters

Before a test is started, some testing parameters can be specified if needed (if they differ from the default values).

The parameters apply only to the current NWT Client. If you wish to use some parameter in polling, use MF Manager. Also, if any other bus parameters should be changed, use MF Manager.

#### ↓ 1 2 3

# To set testing parameters:

1. Choose Configure  $\rightarrow$  Parameters... in the Configuration window. The NWT Parameters dialog box is displayed (Figure 99).

Number of retries	1	OK
1 Packet Timeout in 100 ms units	2	Cancel
Command to send		Default
FE Number Menu command		Help
Testing		

## Figure 99. NWT Parameters dialog box

2. Fill in the fields:

#### Number of retries

The number of times the command will be tried after the first try and failure before it is considered failed.

#### Q1 Packet Timeout in 100 ms units

The time to let MF wait for an answer packet after sending a command packet. This time-out is used as both first character time-out and inter character time-out while waiting for an answer packet. The first character time-out is measured from the end of transmission of a command packet to the reception of the first character of the slave answer packet, which must occur before the time-out expires. Inter character time-out is measured from the reception of a character and the reception of the next character and must occur before the time-out expires.

Slow bus speeds require larger values for this time-out. The 'First char timeouts' and 'Inter char timeouts' counters tell when this time-out has expired. A too small value results in lots of expired time-outs, while an excessive value may result in slower overall performance, when a NE is not answering. You should consider modifying this time-out on the MF according to your findings.

## Command to send / Quick Poll

The test is carried out by sending a Quick Poll command.

## Command to send / Equipment ID

The test is carried out by sending an Equipment ID command.

# Command to send / Program ID

The test is carried out by sending a Program ID command.

#### Command to send / Data transfer

The test is carried out by sending a user-defined Q1 command (e.g. **m:4,1**) to a selected FE.

The **FE Number** and **Menu command** fields are enabled if the **Data transfer** option is selected.

#### Command to send / FE ID

The test is carried out by sending an 'FE ID' packet command. The **FE Number** field is enabled is the **FE ID** option is selected.

#### **Testing / Continuous**

Testing is continuous until it is stopped.

#### **Testing / Number of test rounds**

The number of test rounds can be from 1 to 10000.

The **Number of test rounds** field is disabled if the **Continuous** check box is selected.

3. Click one of the command buttons:

## OK

Closes the dialog box and sets parameters.

#### Cancel

Closes the dialog box.

## Default

Changes the dialog entries to the default: a continuous Quick Poll with 1 retry and 200 ms command time-out.

## Help

Displays the help for this dialog box.

# D.2.6 Viewing test results

You can view and save the results of a test both during the testing and after the test. The counters are reset when you choose **Tests**  $\rightarrow$  **Start**. While viewing, note that the colour coding in the **NWT** window (Figure 100) changes when a test ends.

You can save the test report as ASCII text by choosing **Tests**  $\rightarrow$  **Report...**. The reports are best viewed using a fixed-width font, such as Courier.

See below for the explanations of the views, colour coding, and test parameters.

器 NWT - Untitled - 192	2.100.130.120		_ 🗆 ×
<u>Manage</u> <u>Configure</u> <u>T</u> est	s <u>⊻</u> iew <u>H</u> elp		
₹#D <b>ĕ</b> ₽		2	
□ 192.100.130.120 □ 0001 □ 0000 □ 0001 □ 0000 □	Counter Test/Tests OK OK OK with errors Failed Too many empty answer packets Too many packet transactions First char timeouts First char time in milliseconds mi Inter char timeouts Command timeouts Command time in milliseconds m Serial channel errors Char parity errors Packet parity errors Datalink errors Retry min/max	Pri 16 / C 16 0 0 0 0 0 23 / 38 0 0 23 / 38 0 0 0 0 0 0 0 0 0 0 0 0 0	Sec
Ready			

Figure 100. Viewing test results in the NWT window

#### The views

The tree view displays a three-level tree. The name of the server you are connected to is the root of the tree. Buses configured to the MF are the intermediate nodes. Addresses configured to the test are the leafs. The view is grey when there is no configuration.

The list view can be displayed as icons or as details. It shows information relevant to the selection in the tree view.

#### **Colour coding**

During testing, the following colours are used on the tree view and the list view items:

Grey:	Bus or address has received no answers from the server
Green:	Last test ok at the first try
Yellow:	Last test ok but not at the first try
Red:	Last test failed.

After testing is stopped, the meaning of the colours are:

Grey:	No tests made on bus or address
Green:	All tests were ok at the first try
Yellow:	All tests were ok, but one or more not at the first try
Red:	At least one test failed.

#### Address details

When an address is selected in the tree view, the details in the list view display columns:

#### Pri

Value of the counter. If the **Pri** column is empty, the address is not in testing in primary direction.

#### Sec

Value of the counter. If the **Sec** column is empty, the address is not in testing in secondary direction.

When an address is selected in the tree view, the details in the list view display counters:

#### **Test/Tests**

How many tests have been made out of total. C denotes a continuous test.

## OK

How many tests on this address were free of errors.

## **OK** with errors

How many tests on this address passed with an error. This can happen when retries has been configured to be non-zero (see sectionD.2.5, 'Tuning test parameters') and the test fails on the first try but succeeds on a retry.

# Failed

How many tests on this address failed.

# Invalid answer data from slave

The number of commands whose answer data was invalid. These errors should be relatively rare as corrupted data should usually be detected as either character level errors or packet level parity errors. However, it is possible that in some bus configurations answer delays are so long that a wrong answer packet is matched with a command packet which can lead to this kind of error.

## Too many empty answer packets

The number of command iterations in which the empty packet limit was hit. Empty answer packets are common when TMS Adaptors are used. TMS Adaptor keeps answering with empty answer packets while it is querying the actual NE for the answer. Also, when a command requires some processing in a network element, the network element keeps answering with empty packets while forming the answer. The number of empty packets in this kind of situation can be decreased by increasing the empty packet delay parameter in MF configuration with MF Manager.

# Too many packet transactions

The number of command iterations which the packet limit was hit. The packet limit can be used as an alternative or complementary criteria for aborting a command whose iteration is taking too long. The empty packet limit aborts a command when the specified number of empty answer packets is detected, whereas for the packet limit the number of transmit/receive transactions is simply counted.

## First char timeouts

The number of first character time-outs detected. See Appendix D.2.5, 'Tuning test parameters' for the definitions of time-outs.

# First char time in milliseconds min / max

The values show the minimum and maximum of the maximum values for the time measured from the end of transmission of command packet to the reception of the first character of the slave answer packet. Note that when a packet times out, these values are not affected, i.e. the maximum time is not necessarily even near to the packet time-out when time-outs occur.

#### Inter char timeouts

The number of inter character time-outs detected. See section D.2.5, 'Tuning test parameters' for the definitions of time-outs. These errors should be relatively rare as they indicate that for some reason only part of slave answer packet was correctly received.

#### **Command timeouts**

The number of command iterations where the Q1 command time-out expired.

Command timeout is the time allowed for the complete Q1 command transaction. The time is measured from the start of transmission of the first command packet and the iteration must be compelete (i.e. the last answer packet must be succesfully received) before the time-out expires. This time-out can be set with MF Manager.

#### Command time in milliseconds min / max

The values show the minimum and maximum for the time measured from start of command iteration to the end of command iteration. Note that for the values both succesful and failed commands are observed, i.e. if command time-out is enabled in the MF configuration and command time-outs occur, the maximum time is bound to be at least as large as the command time-out.

#### Serial channel errors

How many tests on this address had either a character framing error, serial overrun error, serial transmit error or serial receive error.

These errors indicate that there are serious problems with the Q1 bus. For example, serial channel overrun errors should not normally occur as they indicate that the bus is generating more data than can be received by the MF. These errors could be caused by noise/interference generating a constant stream of start/stop bits and/or break conditions.

#### Char parity errors

How many tests on this address had character parity errors. These errors indicate that the quality of the asynchronous serial signal is bad (for example, too low a sampling rate in EOC). Parity errors can also be caused by master command and slave answer collision, which is possible if packet time-out is too short.

#### **Packet parity errors**

How many tests on this address had packet parity errors. These errors can be seen in same kind of conditions as character parity errors but they should occur less frequently as the character level parity already detects one bit erros.

## **Datalink errors**

How many tests on this address had either a packet format error, packet size overflow error or wrong address in answer packet. These errors can occur at least with quick poll command when time-out is too tight (master command and slave answer collision).

#### **Retry min / max**

What were the minimum (non-zero) and maximum numbers of retries on this address. See sectionD.2.5, 'Tuning test parameters' for details on setting the value.

#### Server details

When a server is selected in the tree view, the details in the list view display columns:

#### Bus

The first element in the bus column is a bus icon showing a status colour. See section D.2.1, 'Starting Network Test Client' for the meaning of the colours. Beside is the text "Bus" and after that the number of the bus.

## **OK Count**

The number of tests made on this bus that were either 'Ok' or 'Ok with errors'.

## **Error Count**

The number of tests made on this bus that were 'Failed'.

## **Address Count**

The number of addresses on this bus.

#### **Bus details**

When a bus is selected in the tree view, the details in the list view display columns:

## Address

The address of the NE and a generic NE icon showing a status colour. See sectionD.2.1, 'Starting Network Test Client' for the meaning of the colours.

## Туре

The type of the NE at this address. It is 'unknown' unless the NE is added with the **Refresh** dialog box.

#### Pri OK

The number of tests made on this address in primary direction that were either 'Ok' or 'Ok with errors'.

## Pri Fail

The number of tests made on this address in primary direction that were 'Failed'.

If both **Pri** column entries are empty, that address is not in testing in primary direction.

#### Sec OK

The number of tests made on this address in secondary direction that were either 'Ok' or 'Ok with errors'. Possible only on protected buses.

#### Sec Fail

The number of tests made on this address in secondary direction that were 'Failed'. Possible only on protected buses.

If both **Sec** column entries are empty, that address is not in testing in secondary direction.

# D.3 User interface

# D.3.1 Title bar

Title bar at the top of the application window shows the name of the application, *NWT*, the name of the configuration, the status, and the name of the server. If the configuration is not named, its name is **Untitled**. The name of the server is the internet address given in the **Connect** dialog box. Before connection, only **NWT** is displayed.

## D.3.2 Menu bar

Below the title bar is the menu bar, which contains the menu items for NWT. The mnemonic letter for each menu choice is underlined and shortcut keys are displayed after the menu items.

# D.3.3 Toolbar

The toolbar contains shortcut buttons for the most frequently needed commands. It provides you a quicker way to operate with the mouse.



Figure 101. The toolbar

The functions of the toolbar buttons refer to the following menu items:

- 1. Manage  $\rightarrow$  Connect...
- 2. Manage  $\rightarrow$  Disconnect
- 3. Manage  $\rightarrow$  New
- 4. Manage  $\rightarrow$  Open...
- 5. Manage  $\rightarrow$  Save
- 6. Configure  $\rightarrow$  Upload MF Addresses...
- 7. Configure  $\rightarrow$  Add Addresses...
- 8. Configure  $\rightarrow$  Delete
- 9. Tests  $\rightarrow$  Start
- 10. Tests  $\rightarrow$  Stop
- 11. View  $\rightarrow$  Icons
- 12. View  $\rightarrow$  Details
- 13. Help  $\rightarrow$  Contents

# D.3.4 Status bar

The status bar at the bottom of the application window displays a short description about the chosen menu command or toolbar icon.

# D.3.5 User input

All NWT functions can be activated with a mouse or keyboard.

Menu choices and dialog box fields all have a mnemonic letter that is underlined. A mnemonic is used by pressing at the same time the ALT key and the mnemonic letter. For example, you can open the **Manage** menu by pressing the key combination ALT + M.

Some menu choices have also a shortcut key. Shortcut keys are in line with the standard Windows shortcut keys.

In the tree and list views you can use the following shortcut keys:

- INSERT opens the **Add Addresses** dialog box.
- DELETE deletes all addresses on selected items.

You can select items with either mouse or keyboard following the standard windows conventions on the TAB, CTRL, SHIFT, SPACE and arrow keys.

You can select a bus or an address by a double-click or pressing ENTER in the list view. The list view then shows either addresses or counters.

# D.3.6 Data validation

When you connect to a test server, the configured non-suspended buses are added to the test configuration without addresses. When a test configuration is read from a file, it is compared with buses that are already in the configuration. No new buses are accepted from the file, and the bus protection is not changed. When an **Upload MF Addresses** is performed, buses that are missing from the server, or have been suspended, are removed and possible new buses are added to the test configuration. The bus protection is also updated. You are always notified with a message box.

# D.3.7 Clipboard

NWT supports data exchange via the Clipboard between edit boxes (the standard Windows NT support).

# D.3.8 Test reports

Test reports can be saved as ASCII text. You can print the report as a text file from Windows NT. The counters used in test reports are described in section D.2.6.

# D.3.9 Online help

You can request help by clicking a **Help** button in a dialog box to get help about that particular dialog box. The **Help** button in the main window opens the Help contents page.

