Field Feature Bill of Material

Installing RPQ 7L1430 by Upgrading the Multiaccess Enclosure FC 3000 with the MultiAccess Services (MAS) Code

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Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Models 9x0 with a Multiaccess Enclosure (FC 3000) installed.

2.0 Related BMs and ECs

2.1 Prerequisites

(Must be installed prior to this installation)

2.1.1 Software Prerequisite

Checkpoint: Check that the EC Level is lower than F12721.000

Note: Refer to the *Service Processor Installation and Maintenance* or the *Service User's Guide* manual, shipped with the service processor and use the procedure: **Displaying the EC Level of the Code Installed on the Hard Disk**.

2.1.2 Hardware Prerequisite

MAE Feature code 3000 installed

2.2 Concurrent ECs

None

2.3 Companion ECs

(May be installed together)

None

3.0 BMs to be Installed

The following is the list of the FFBMs. You should only install some of them according to the country and customer order.

FFB/M	Title
10K8619	Installing the Multiaccess Service (MAS) code into the Multiaccess Enclosure FC 3000.
10K8594	Provide documentation and labels
10K8596	System card with 64 MB of memory
10K8621	System card with no memory installed

31L3624 Upgrade 128MB DIMM
31L3625 Upgrade 256MB DIMM
10K8597 PCMCIA modem for U.S.A. and Canada
10K8598 PCMCIA modem for Austria
10K8599 PCMCIA modem for Australia
10K8601 PCMCIA modem for Belgium
10K8602 PCMCIA modem for Denmark
10K8603 PCMCIA modem for Finland
10K8604 PCMCIA modem for France
10K8605 PCMCIA modem for Germany
10K8606 PCMCIA modem for HongKong
10K8607 PCMCIA modem for Ireland
10K8608 PCMCIA modem for Italy
10K8609 PCMCIA modem for Japan
10K8610 PCMCIA modem for Korea
10K8611 PCMCIA modem for Luxemburg
10K8612 PCMCIA modem for Netherlands
10K8613 PCMCIA modem for New Zealand
10K8614 PCMCIA modem for Norway
10K8615 PCMCIA modem for Sweden
10K8616 PCMCIA modem for Switzerland
10K8617 PCMCIA modem for U.K.
10K8600 PCMCIA modem for Israel

4.0 Preparation

4.1 Retrieving the MAS Code

You must have previously down-loaded the MAS code Version 3 Release 3 or higher onto your ThinkPad disk.

To retrieve the MAS code latest version:

__ 1. Connect to the following URL:

www.networking.ibm.com/support/products.nsf//custopport

__ 2. Select **2216** from the product list.

__ 3. Follow the instructions to retrieve the MAS code.

Familiarize yourself with the purpose and details of the installation instructions before negotiating machine time with the customer.

4.2 Checking the FFBM List

Familiarize yourself with the purpose and details of the installation instruction before negotiating machine time with the customer.

Check the FFBM that you have received:

- FFBM 10K8594 (mandatory)
- FFBM For PCMCIA modem according to your country
- Use the following table to determine what additional FFBM you should have received according to the MAE configuration and customer order.

Actual System card Installed on MAE	**If No Memory Upgrade Requested** **Received FFBM(s) to Install**	**If 128MB Memory Upgrade Requested** **Received FFBM(s) to Install**	**If 256MB Memory Upgrade Requested** **Received FFBM to Install**
PN 78H6297 11J7464 89H8395	FFBM 10K8596	FFBM 31L3624 (one or two) and FFBM 10K8621	FFBM 31L3625 (one or two) and FFBM 10K8621
FRU PN 85H9682 or PN 85H9744 FRU PN 25L5177 or PN 25L5176		FFBM 31L3624 (one or two)	FFBM 31L3625 (one or two) and FFBM 10K8621
FRU PN 25L4784 or PN 25L4783 FRU PN 31L4338 or PN 31L4336		FFBM 31L3624 (one or two)	FFBM 31L3625 (one or two)

If one FFBM is missing, do not start the installation and call your support.

Check all items listed on the BM(s) to determine that all parts have been received.

Check carefully the tools necessary for this installation instruction see 8.0, “Tools/Material Required” on page 6.

5.0 Programming

None.

6.0 Purpose and Description

6.1 Purpose

To support the Multiaccess Services (MAS) functions.

6.2 Description

1. De-install and install MAE hardware components in order to support the MAS code.
2. Down-load into the MAE the MAS code V3R3 or higher.

7.0 Installation Time

The complete installation procedure is MAE traffic-disruptive.

FFBM	MAE Hrs.	System Hrs.	Nbr of CE
10K8619	2 hours	0	1

8.0 Tools/Material Required

You must have:

- A CE ThinkPad with the FTP server installed and customized (PWS Personnal Web Microsoft™ with standard FTPD).
- A PMCIA token-ring card to connect to the customer token-ring LAN
- An internet connection.

Installation (Steps 9-11)

9.0 Safety

Review the **Safety Notices** and the **Safety Inspection Procedures** located at the beginning of the *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2124.

10.0 Details of Installation

10.1 Recording the IP Addresses

__ 1. Double-click on the Service Processor object icon.

__ 2. Select the **Configuration Management** item, then double click on **SP customization**.

__ 3. Check **Service LAN addresses**, then click on **Next>>**.

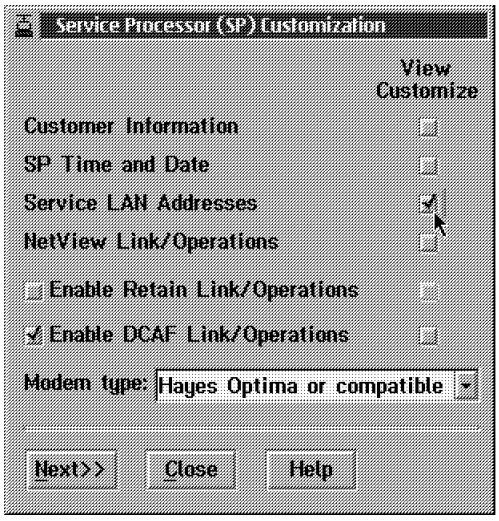


Figure 1. Service Processor Customization

__ 4. Record the IP address of the **Service Processor**, **MAE**, **Router** (if any) and the **Subnet mask**.

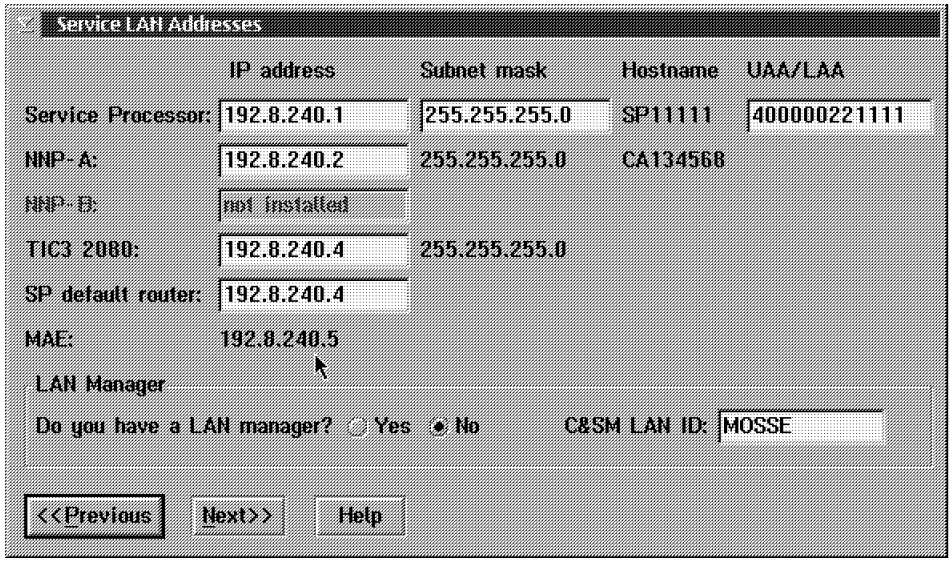


Figure 2. Service LAN addresses

__ 5. Exit from SP customization by successively clicking on **Previous**, **Close**, and **NO**.

10.2 Before You Go Further...

According to the FFBM(s) you have received, do one of the following:

- For FFBMs **10K8596, 10K8621, 31L3624 and 31L3625**, continue with 10.3, “Removing the System Card.”
- Otherwise, go to 10.5, “Down-loading the MAS Code on the MAE Disk” on page 23.

10.3 Removing the System Card

Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

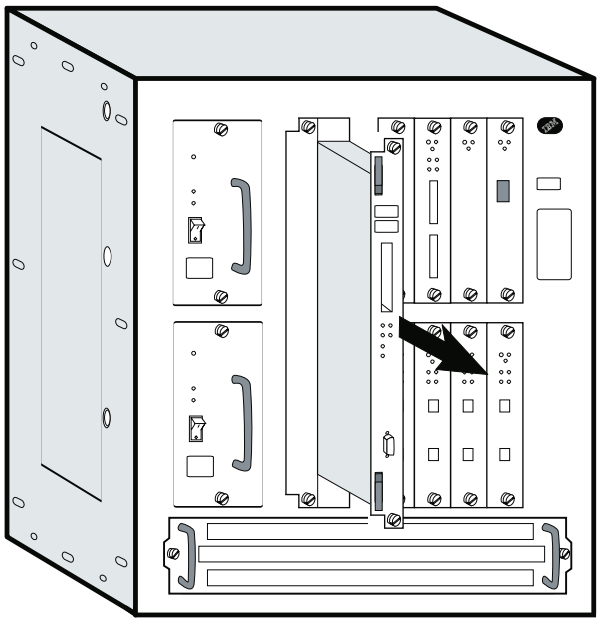
- Do not remove the DIMM until you are ready to insert it into the Multiaccess Enclosure.
- Use correct grounding techniques when inspecting and installing the DIMM. Use a foot strap or grounding mat, or wear a grounded static discharge wrist strap, or touch a grounded rack or other source of ground before you handle the DIMM.

__ 1. Label the cable on the system card. Unplug the cable and the PCMCIA card.

__ 2. Loosen thumbscrews on the system card.

__ 3. Remove the system card and lay it on a soft non-conductive surface.

__ 4. Unpack the new system card and lay it on a soft non-conductive surface.



__ 5. Have you received the FFBM **10K8596**?

- Yes, then go to 10.4, “(Re-)Installing the System Card” on page 12.
- No, then go to 10.3.1, “Installing a DIMM on the System Card.” in order to install one or two DIMM(s) according to the customer requirements.

10.3.1 Installing a DIMM on the System Card

__ 1. Remove the DIMM, in its antistatic bag, from its shipping container.

__ 2. Remove the DIMM from the antistatic bag. Inspect it for damage. Always handle the DIMM by the ends (preferably grasp it between the middle finger and thumb; do not touch the components). If damaged, place back the DIMM into the antistatic bag and contact the supplier.

__ 3. On the **System card**, locate the DIMM sockets (see Figure 3).

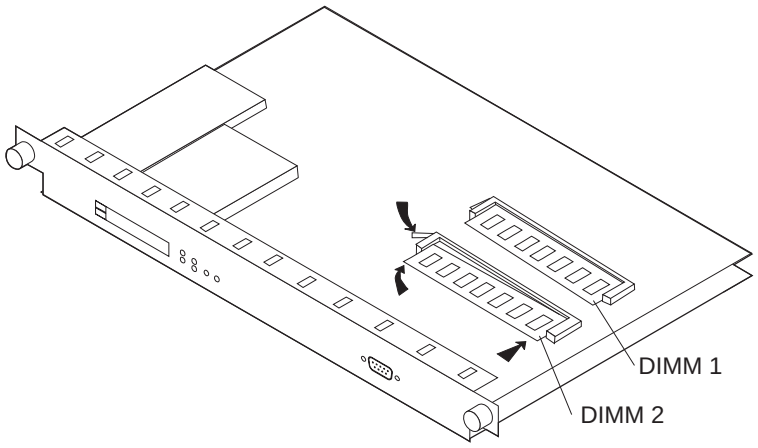


Figure 3. DIMM Slots on System Card

__ 4. Depending on the FFBM(s) you have received, do one of the following:

- If you have received one or two **FFBMs 31L3624** for 128MB memory upgrade, then go to 10.3.1.1, “Installing 128MB DIMM” on page 11.
- If you have received one or two **FFBMs 31L3625** for 256MB memory upgrade, then go to 10.3.1.2, “Installing 256MB DIMM” on page 11.

10.3.1.1 Installing 128MB DIMM

First read...

1. Before inserting the DIMM ensure that the lever on the socket is on the outward position.
2. Insert the DIMM into the slot. Grasping the DIMM between the middle finger and thumb, place it connector edge down into the DIMM slot.
3. Applying slight pressure to the top edge of the DIMM, move it forward until it is correctly aligned and snaps in place. The lever snaps back into place as the DIMM is fully inserted.

__ 1. Have you received a new system card with no DIMM installed (FFBM 10K8621)?

- Yes, then go to next step.
- No, then go to step 3.

__ 2. Install the 128MB DIMM into slot 1. If any, install the second 128MB DIMM into slot 2. Then go to 10.4, “(Re-)Installing the System Card” on page 12.

__ 3. Depending on the DIMM type already installed, do one of the following:

- If there is a 64MB DIMM installed on the system card, remove this DIMM and replace it with the new 128MB DIMM. Then go to 10.4, “(Re-)Installing the System Card” on page 12.
- If there is a 128MB DIMM already installed, install the new 128MB DIMM into the remaining free slot. Then go to 10.4, “(Re-)Installing the System Card” on page 12.

10.3.1.2 Installing 256MB DIMM

First read...

1. Before inserting the DIMM ensure that the lever on the socket is on the outward position.
2. Insert the DIMM into the slot. Grasping the DIMM between the middle finger and thumb, place it connector edge down into the DIMM slot.
3. Applying slight pressure to the top edge of the DIMM, move it forward until it is correctly aligned and snaps in place. The lever snaps back into place as the DIMM is fully inserted.

__ 1. Have you received a new system card with no DIMM installed (FFBM 10K8621)?

- Yes,then go next step.
- No,then go step 3 on page 12.

__ 2. Install the 256MB DIMM into slot 1 of the new system card. If any, install the second 256 MB DIMM into slot 2. Then, go to 10.4, “(Re-)Installing the System Card” on page 12.

__ 3. Depending the DIMM type already installed, do one of the following:

- If there is a 64MB or 128 MB DIMM installed, remove this DIMM and replace it with the new 256MB DIMM. Then go to 10.4, “(Re-)Installing the System Card.”
- If there is a 256MB DIMM already installed, install the new 256MB DIMM into the remaining free slot. Then go to 10.4, “(Re-)Installing the System Card.”

10.4 (Re-)Installing the System Card

Perform the following procedure when installing a new system card or re-installing the current system card after installing the required DIMM(s).

__ 1. Install the (new) system card. Make sure the card is aligned with the plastic grooves and then slide it in until it is flush with the box. Hold the locking latches so that they are perpendicular to the face of the system card. With the card in full contact with the rear of the Multiaccess Enclosure, press the locking latches into the system card.

__ 2. Tighten the thumbscrews on the face of the adapter card clockwise.

__ 3. Plug the PCMCIA token-ring from the removed system card to the new system card.

__ 4. Plug the cables into the system card.

The Multiaccess Enclosure has a number of light-emitting diodes (LEDs) that indicate how the unit is functioning.

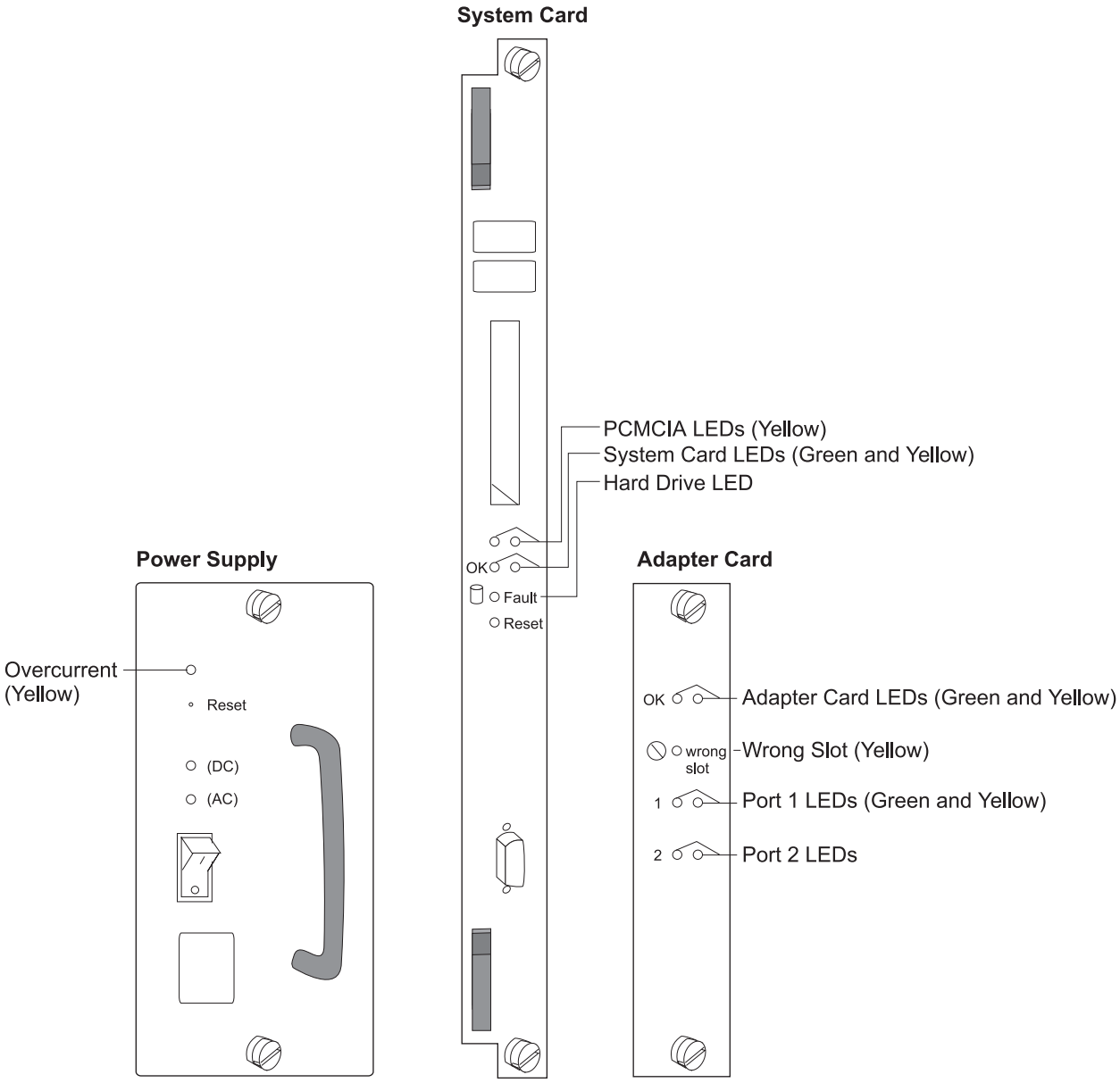


Figure 4. Power Supply, System Card, and Adapter Card LEDs

Power Supply Status

LEDs	Meaning
Yellow (Overcurrent)	On - There is an overcurrent condition with the –48 V to one or more of the adapters (slots 1–8) or the +12 V to the fan tray.
Green DC	On - +5 V, +12 V, and –48 V are OK.
Green AC	On - AC source voltage is present and within tolerance.

System Card Status

LEDs	Meaning
PCMCIA 1 or PCMCIA 2 (Yellow)	On - PCMCIA device has a fault, is not installed, or is not seated correctly. Off - Device passed self-tests
OK (Green)	On - Card hardware is operating normally. Blinking - Loading from hard file
OK (Yellow)	On - Card hardware has a fault.
Fault Hard Drive (Yellow)	On - Hard drive has failed.

Adapter Card Status

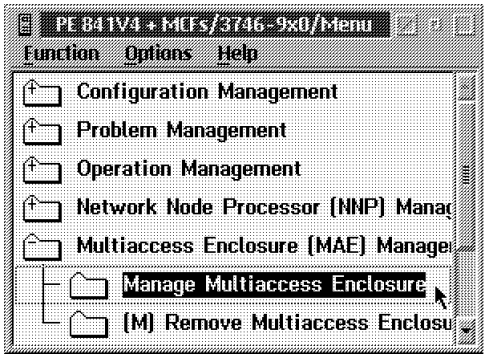
LEDs	Meaning
OK (Green)	On - Adapter is operating normally.
OK (Yellow)	On - Adapter has a fault.
Wrong slot (Yellow)	On - Adapter is in the wrong slot. The wrong slot LED is ON only when an adapter that is plugged into the multiaccess enclosure violates the plugging rules.
Green port (See note).	On - Port is operating normally (enabled and configured). Off - Port is not configured or is disabled. For the ESCON adapter: Blinking - The optical power measurement test is running.
Yellow port (See note).	On - One or more ports has a hardware fault. Blinking - One or more ports has a port I/O or network failure. Use the Maintenance Analysis Procedures (MAPs) to isolate. Off - No problem detected.

Note: The port LEDs of the multiport WAN adapters (FC 3282, FC 3291, and FC 3292) reflect the status of one or more of the ports.

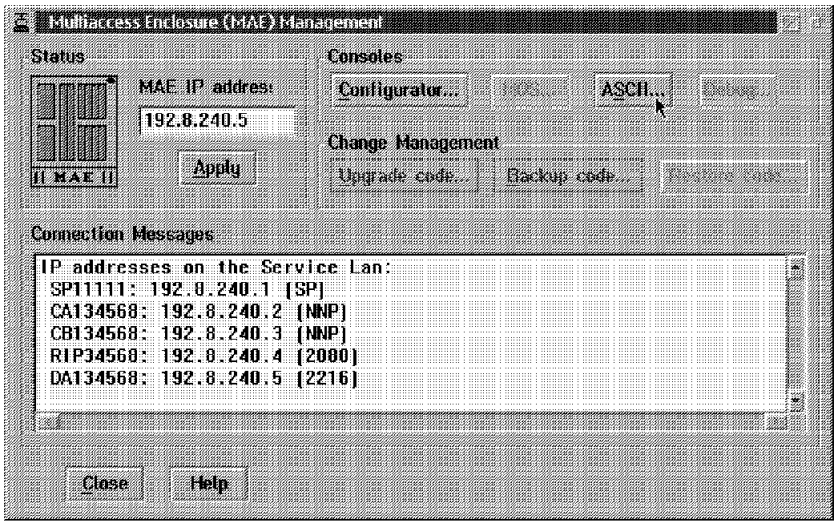
10.4.1 Updating the Vital Product Data

__ 1. Power On the MAE

__ 2. From the '3746-9x0 Menu', in **Multiaccess Enclosure (MAE) Management**, select **Manage Multiaccess Enclosure**.



__ 3. Click on **ASCII console**.



Note: If you have a problem to obtain the ASCII console, press **Ctrl+Esc**, then on the **Window List** select **MAE**.

__ 4. If prompted press **F1** (to prematurely terminate boot), enter the password, then go to Step 5. Otherwise change to manufacturing mode:

__ a. when **V:** prompt appears type **mfgmode 0**, then press **Enter**.

__ b. Enter **diags**, then press **Enter**.Continue with Step 5.

__ 5. On the **System Management Services** window, select **4 - Utilities**, then press **Enter**.

__ 6. On the **System Management Utilities** window, select **9 - View or Set Vital Product Data**, then press **Enter**.

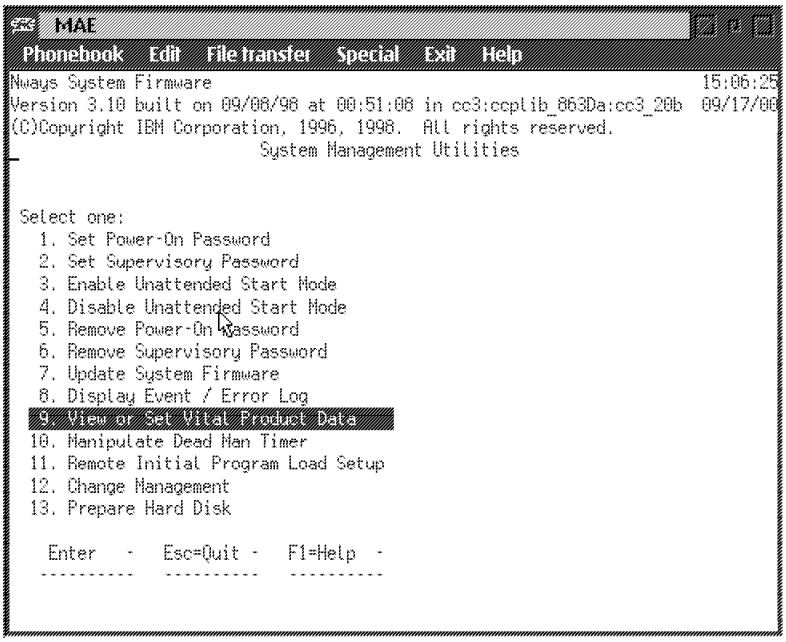


Figure 5. MAE

__ 7. From 'View or Set Vital Product Data', select **Hardware Vital Product Data**, then press **Enter**.

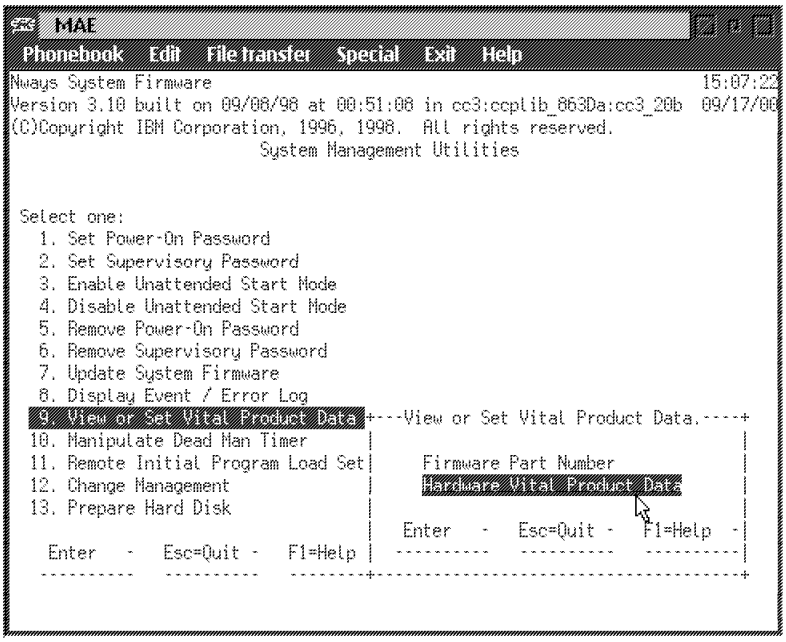


Figure 6. MAE

__ 8. Select **slot B**, then press **Enter**

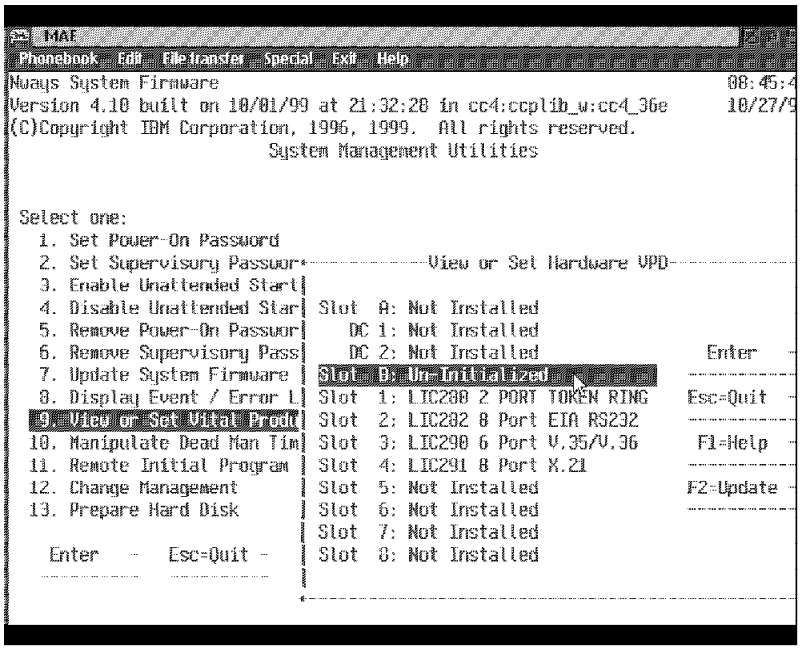


Figure 7. MAE

__ 9. In the BS entry field, type in the **MAE** serial number, then press **Enter**

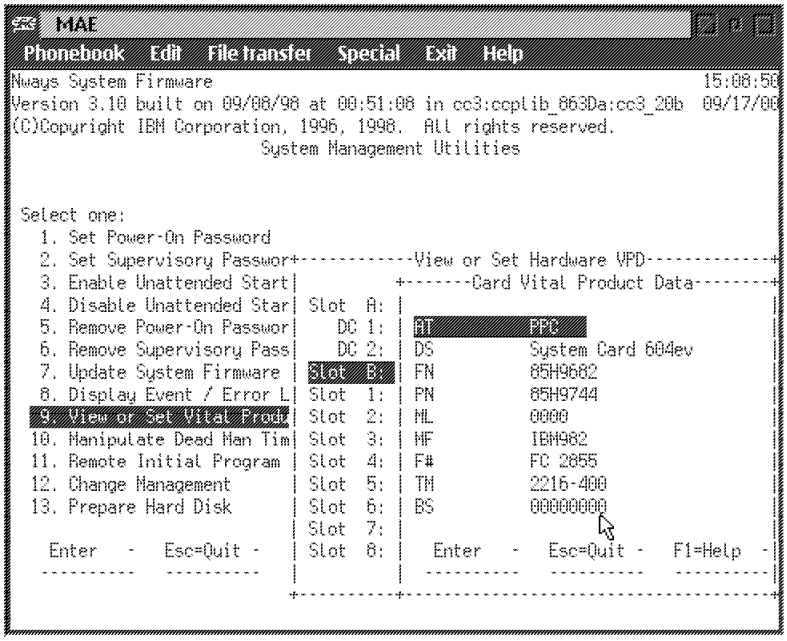


Figure 8. MAE

__ 10. Press ESC twice, then go to chapter 10.4.2, “Setting the IP Addresses” on page 18

10.4.2 Setting the IP Addresses

__ 1. Using the arrow keys, select **(11) Remote Initial Program Load Setup** and press **Enter**, **(1) IP Parameters** is selected, press **Enter** again.

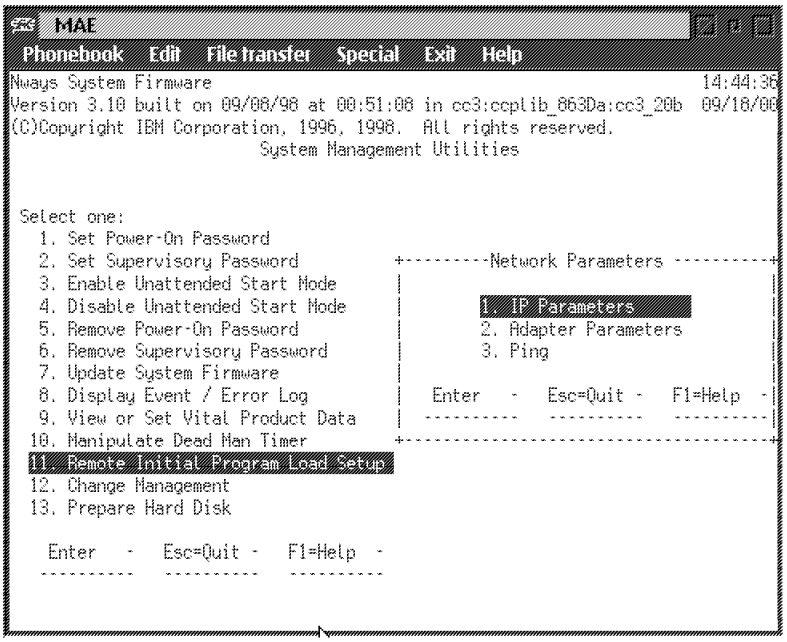


Figure 9. MAE

__ 2. Refer to Figure 10 on page 19, and according to what you recorded in Step **4 on page 7** , enter the:

- **Client IP address** (MAE address of the PCMCIA card),
- **Server IP address** (service processor address),
- **Gateway IP address** (if no router on the ring, enter the service processor IP address),
- **subnet mask**,

then press **Enter**.

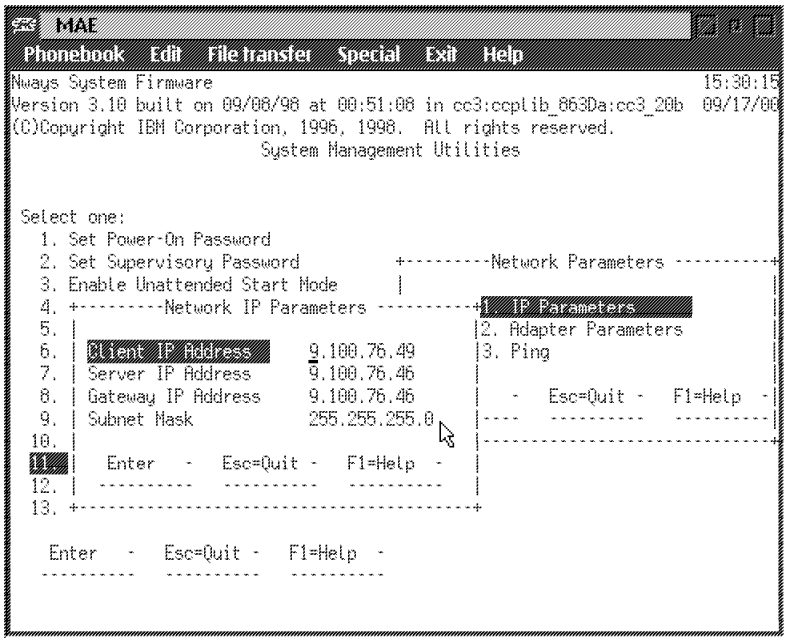
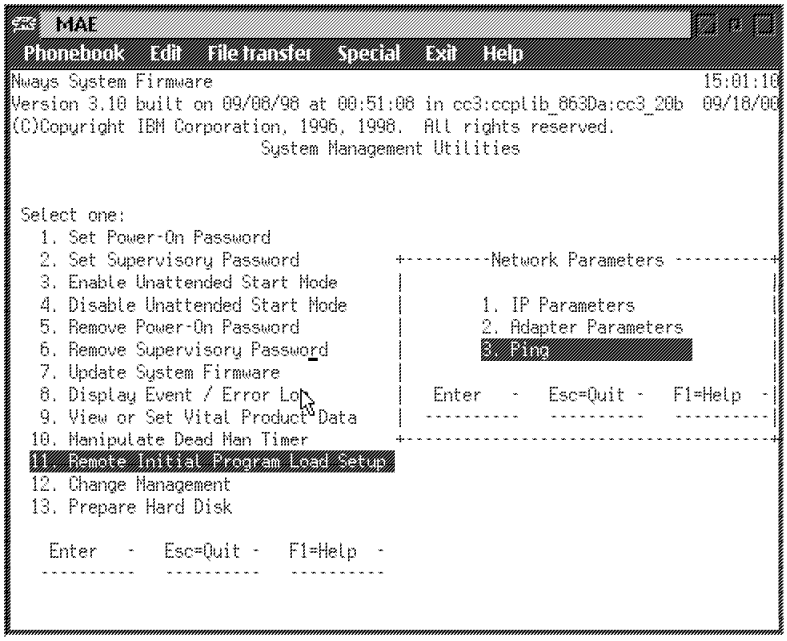
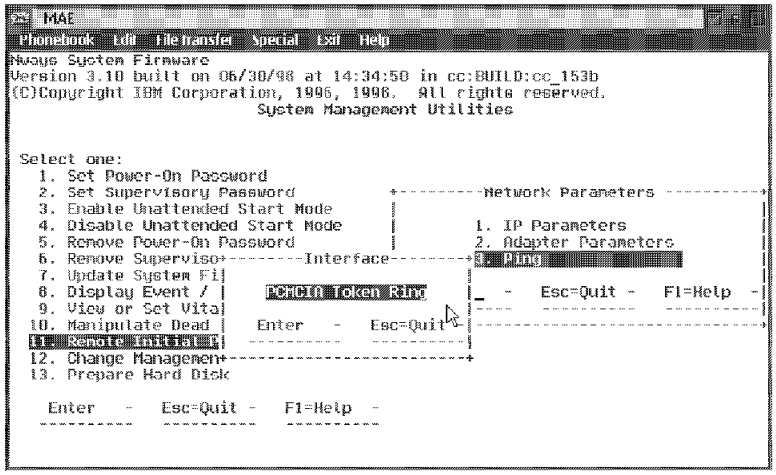


Figure 10. MAE

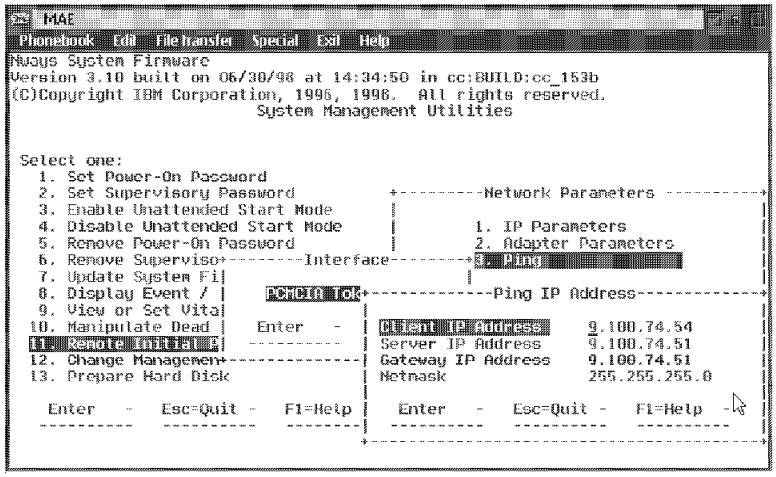
__ 3. Select **Ping**, then press **Enter**.



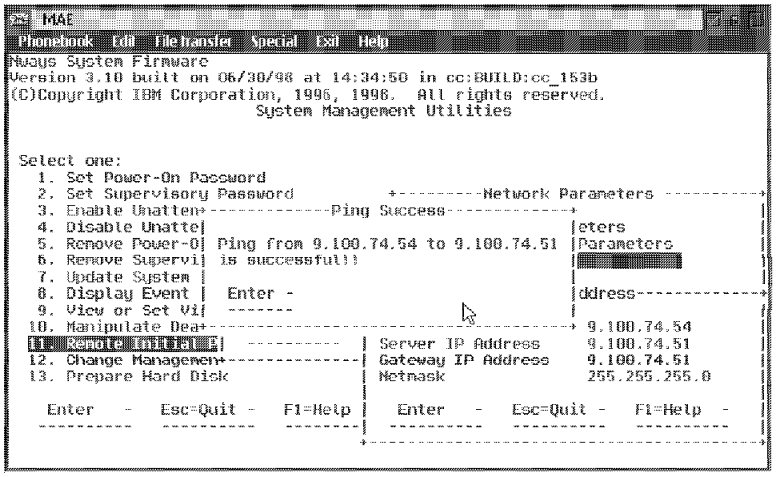
__ 4. When **PCMCIA Token Ring** is prompted, press **Enter**.



__ 5. On the **Client IP Address** press **Enter**



__ 6. Wait for the test result. Verify that the ping is successful.



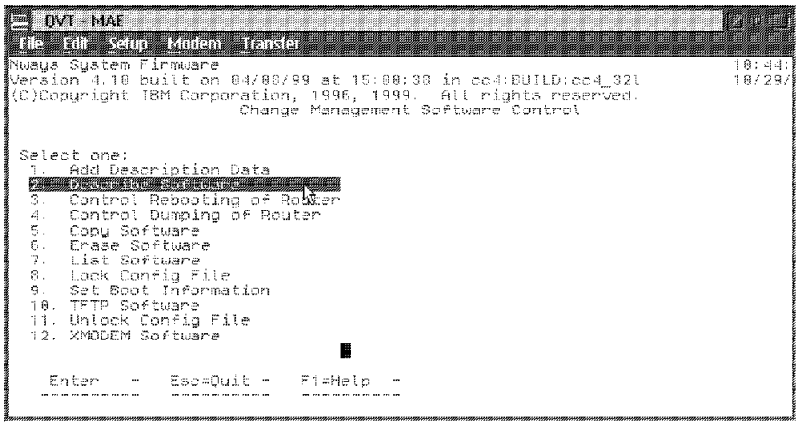
If successful, continue with next step. Otherwise:

a. Go to Step 2 on page 18 and check or modify the addresses.
b. Check the speed (16 Mbps) using the **Adapter Parameters** option in the **Network Parameters** window.
c. Check the cables.

__ 7. Press **Enter**.

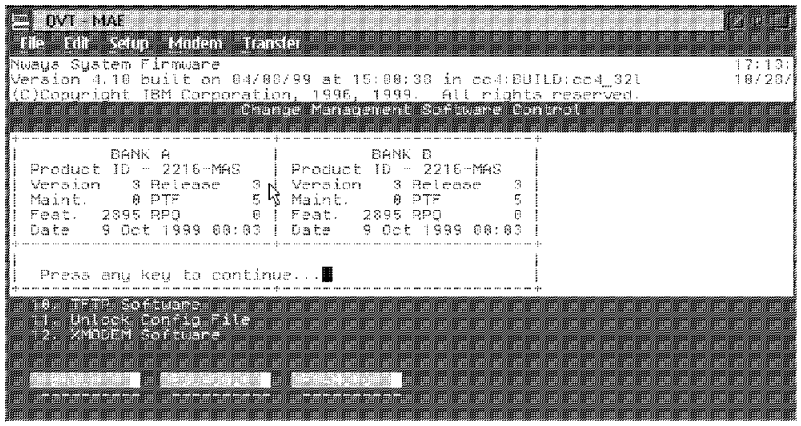
__ 8. Press the **Esc** three times to obtain the following window.

__ 9. Select the **12. Change Management** option, press **Enter**.



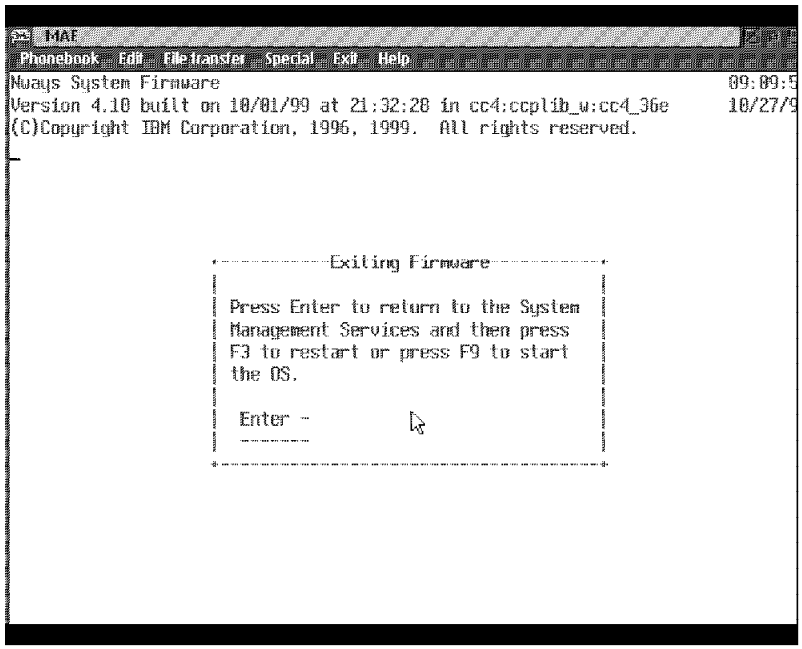
__ 10. Select the **2. Describe Software** option, press **Enter**.

__ 11. On the following window, check that MAS code level is version 3 release 3 or higher.



__ 12. If the correct code is displayed. Go to 10.10, “Install the PCMCIA Modem” on page 30 Otherwise, continue with next step.

__ 13. Press **Esc** until you get the **Exiting Firmware** window.



__ 14. Press **Enter**.

__ 15. Do not hit **F1** while the MAE reboots.

10.5 Down-loading the MAS Code on the MAE Disk

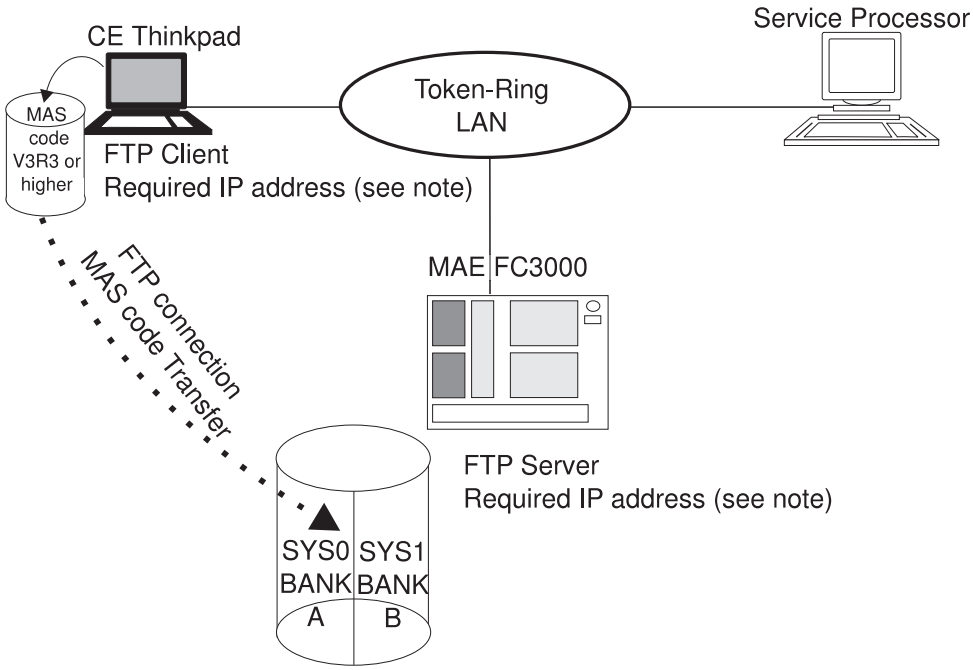


Figure 11. Down-loading the MAS Code on the MAE Disk

Note about IP addressing: IP addresses for the Thinkpad, service processor and the MAE are the ones defined when recording the IP addresses. See 10.1, “Recording the IP Addresses” on page 7.

Configuring your ThinkPad

__ 1. Connect your ThinkPad to the service ring by using a free connector of the service processor access unit (8228 type).

__ 2. Power ON the ThinkPad.

__ 3. Click on **Network Neighborhood** with the right button of the mouse.

__ 4. Click on **Properties**.

__ 5. From the next window, find and select either the **TCP→IBM auto 16/4 Credit Card Adapter**, or the **TCP/IP→IBM Turbo 16/4 Token Ring Card PC**. Then click on **Properties**.

__ 6. From the **TCP/IP Properties** window, select the **IP address** folder.

__ 7. Enter an **subnetmask address** and an **IP address**, that belongs to the service LAN IP network and is not yet used by another device.

__ 8. Click on **OK**

__ 9. Follow the successive prompts to restart your ThinkPad.

Establishing a FTP Connection from ThinkPad to MAE

__ 10. On the ThinkPad open a DOS window.

__ 11. Set the right directory on ThinkPad where the MAE code is stored.

__ 12. Then connect the ThinkPad to the MAE using FTP:

```
FTP <target MAE IP address>
```

__ 13. When the answer is displayed:

```
Connected to xyz.rst.uvw.zzz......
```

__ 14. When "user" prompt is displayed, press **Enter** (NO USER).

__ 15. Transfer in binary mode the MAS code files stored on the ThinkPad hard disk to the MAE hard disk by entering:

```
bin
cd h0
cd sys0
mput *.ld
```

__ 16. When all the files have been transferred, stop the FTP connection:

```
quit
```

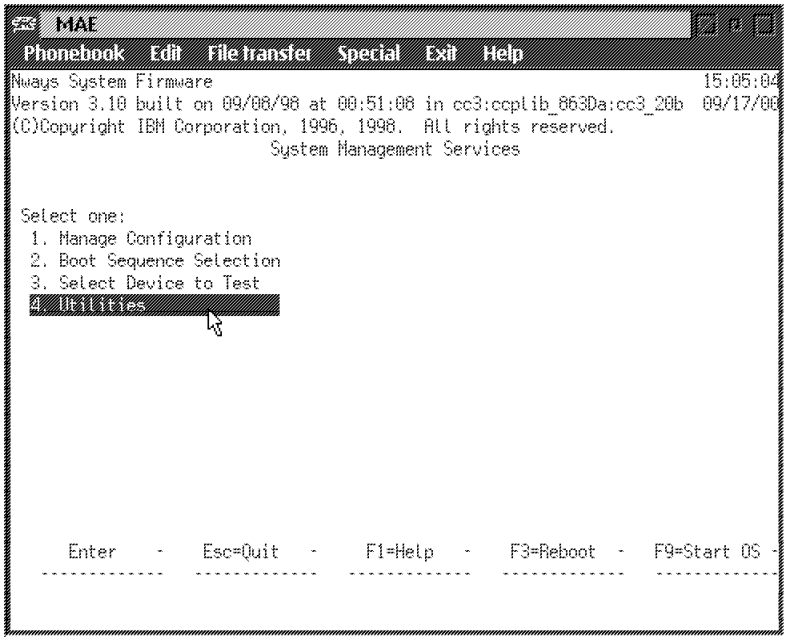
10.6 Restoring the Image Code on the MAE Hard Disk

__ 1. Open Qvt Console ASCII

__ 2. Reset the MAE.

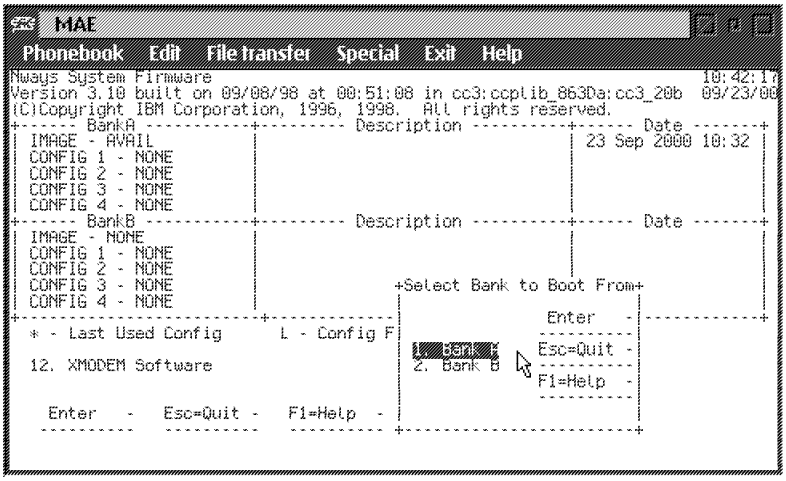
__ 3. Stop the boot sequence by hitting **F1** (when prompted).

__ 4. From the **System Management Services** window, select **4. Utilities** and press **Enter**.

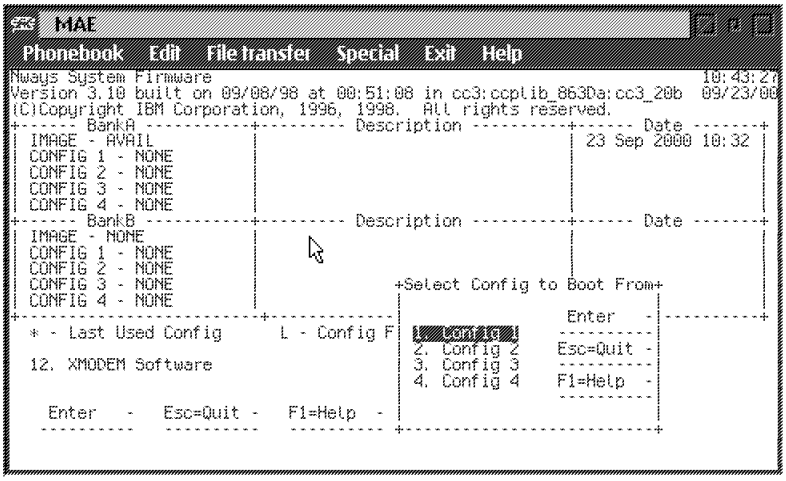


__ 5. From the **System Management Utilities** window, select **12. Change Management** and press **Enter**.

__ 6. From the **Change Management Software Control** window, select **9. Set Boot Information** and press **Enter**.



__ 7. Select **Bank A** and press **Enter**.



__ 8. From the **Select Config to boot from** window, select **Config 1** and press **Enter**.

__ 9. From the **Select Duration** window, select **Permanent** and press **Enter**.

__ 10. From the **Change Management Software Control** window, select **3. Control Rebooting of Router** and press **Enter**.

__ 11. Select **Enable** and press **Enter**.

__ 12. From the **Change Management Software Control** window, select **4. Control Dumping of Router** and press **Enter**.

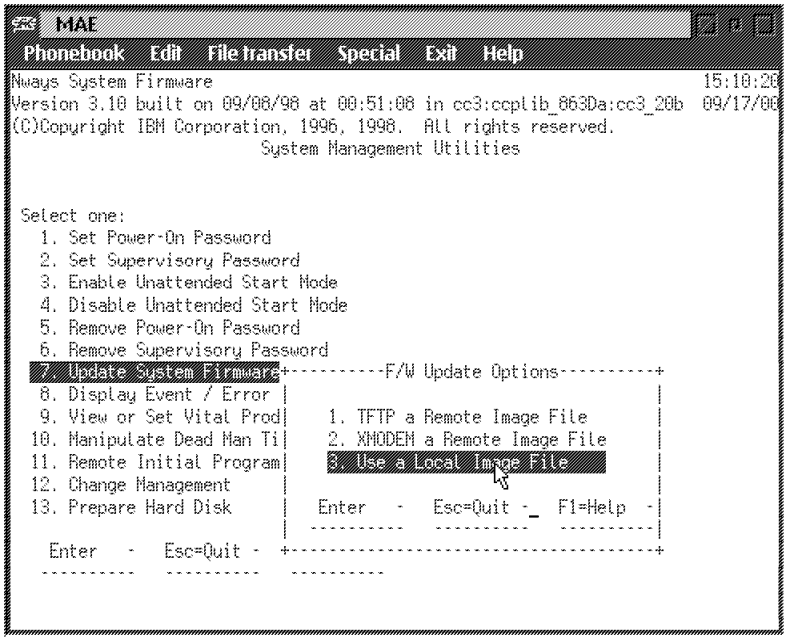
__ 13. Select **Enable** and press **Enter**.

__ 14. From the **Change Management Software Control** window, press **Esc** to return to **System Management Utilities** menu.

10.7 Updating the System Firmware

__ 1. Select **7. Update System Firmware** and press **Enter**.

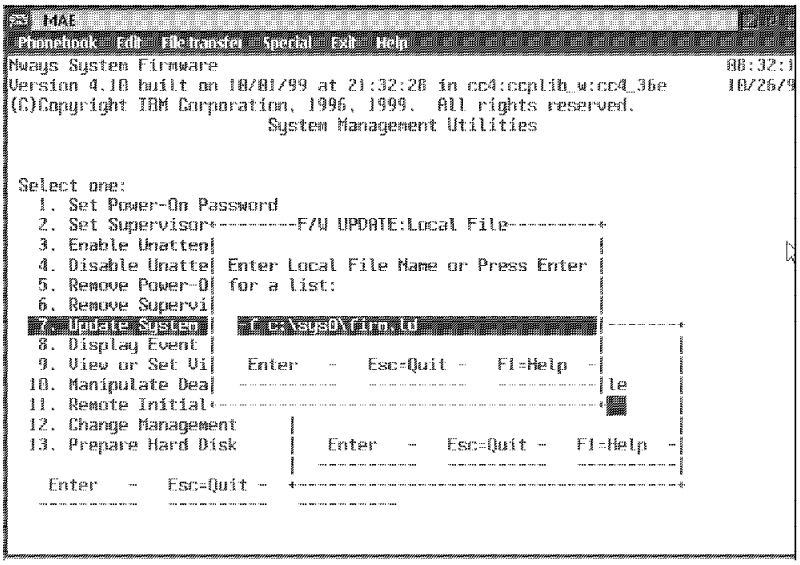
__ 2. From the **F/W Update Options** menu, select **3. Use a Local Image File** then press **Enter**.



__ 3. Follow the prompts and enter the **Local File Name**

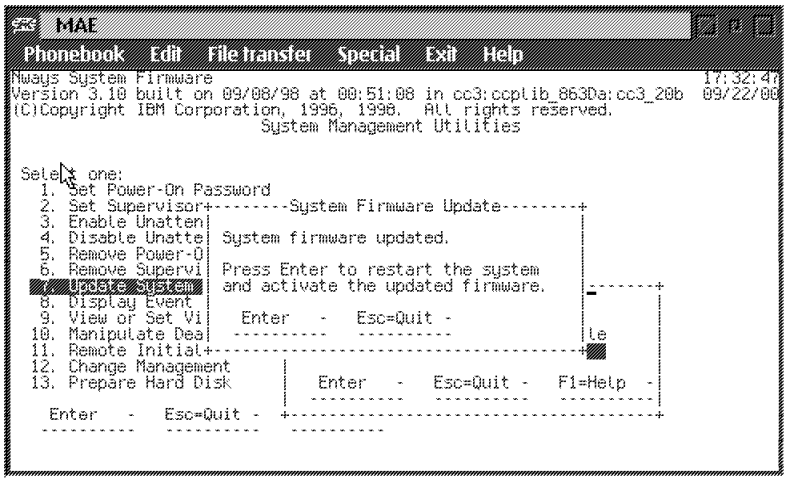
`-f c:\sys0\firm.ld`

then press **Enter**.


MAE
Phonebook Edit File transfer Special Exit Help
Nways System Firmware
Version 4.10 built on 10/01/99 at 21:32:28 in cc4:ccplib_w:cc4_36e
(C)Copyright IBM Corporation, 1996, 1999. All rights reserved.
System Management Utilities
Select one:
1. Set Power-On Password
2. Set Supervisor
3. Enable Unatten
4. Disable Unatte
5. Remove Power-O
6. Remove Supervi
7. Update System
8. Display Event
9. View or Set Vi
10. Manipulate Dea
11. Remote Initial
12. Change Management
13. Prepare Hard Disk
F/W UPDATE:Local File
Enter Local File Name or Press Enter for a list:
f:\sys0\firm.ld
Enter - Esc=Quit - F1=Help
Enter - Esc=Quit -

Do not switch the system OFF. The process erases the old firmware and copies the new firmware into flash memory. If the machine is powered off before the process is complete, you will have to reload the firmware from the recovery image.

__ 4. Wait until you are told that the firmware updating is successful.



__ 5. Press **Enter**.

__ 6. Follow the prompts (do not press **F1**).

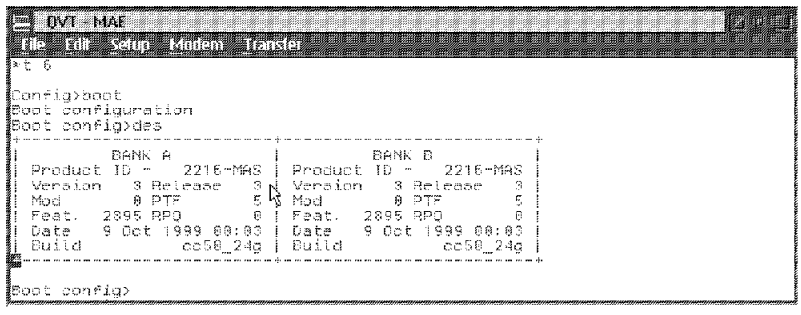
__ 7. MAE is now operating with the MAS code V3R3 or higher.

10.8 Checking Installation of Code on Bank A

__ 1. On the ASCII console, press **Ctrl+P** to get the ***** prompt.

__ 2. Then successively enter:

```
*>T 6
config>boot
boot config>des
```



10.9 Updating Bank B (Optional But Recommended)

You now must update Bank B with the same level of MAS code as the one stored on Bank A.

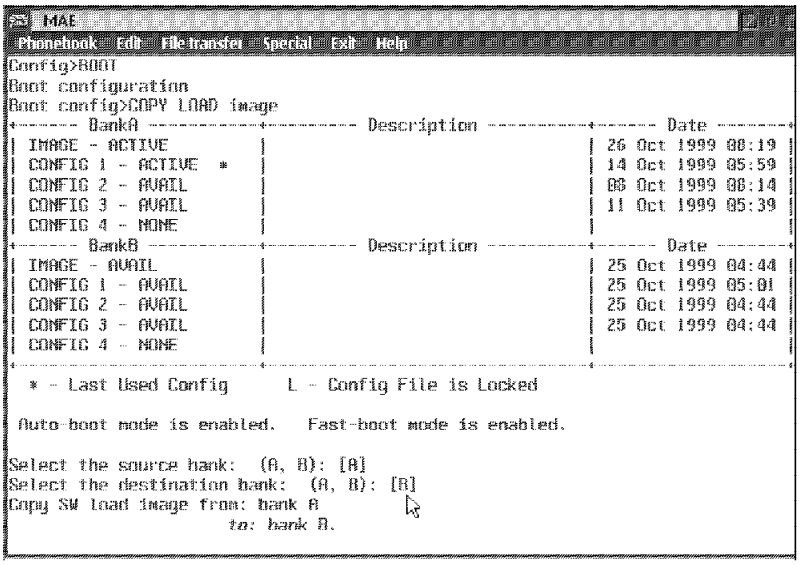
__ 1. On the ASCII console, press **Ctrl+P** to get the ***** prompt.

__ 2. Then successively enter:

```
*>T 6
config>boot
boot config>copy load image
```

__ 3. Then follow the prompts to

- Select the source bank: **[A]**
- Select the Destination bank: **[B]**



__ 4. Wait until a message informs you that the copy has been successfully completed.

__ 5. Press **Ctrl+P**

__ 6. Click on **Close** and on **Exit**.

10.10 Install the PCMCIA Modem

__ 1. Remove the PCMCIA Token-ring card from the System card.

__ 2. Install the PCMCIA modem card on the system card.

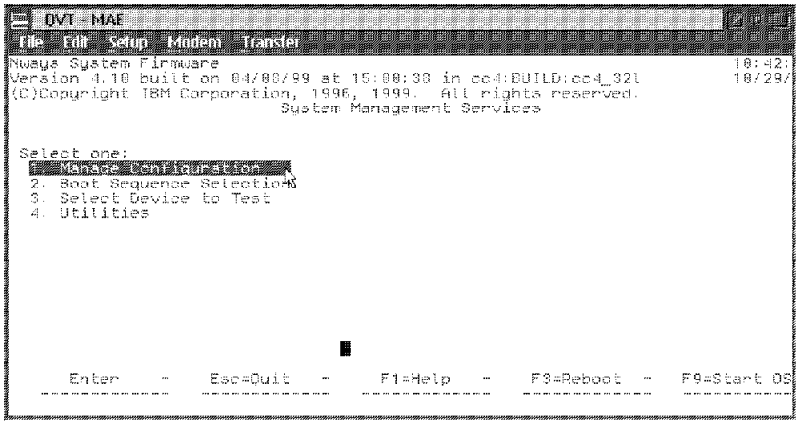
__ 3. Return to the **3747-9x0** Menu.

__ 4. Click on **Multiaccess Enclosure Management**.

__ 5. Double Click on ASCII Console.

__ 6. Press the **Reset** button on the MAE.

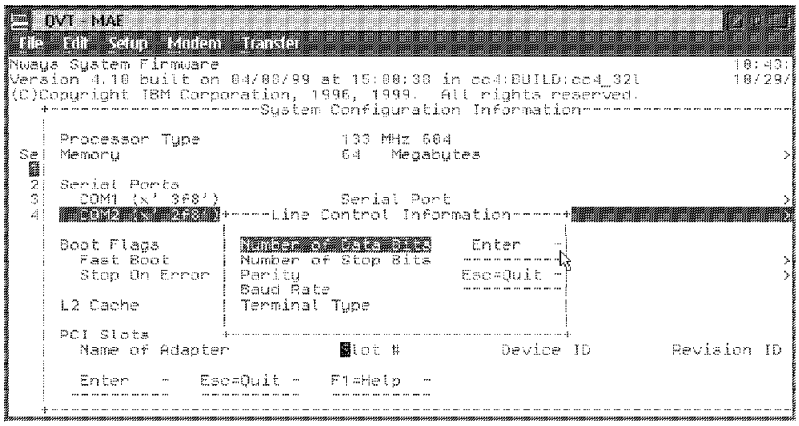
__ 7. When prompted press **F1**.



__ 8. On **System Management Service** window, select **Manage Configuration**.

__ 9. Select the PCMCIA modem.

__ 10. The Line Control Information is displayed:



__ 11. Using this display and the prompt modify the following parameters according to the customer environment.

- Number of Data Bits
- Number of Stop Bits
- Baud Rate
- Terminal Type

For detail, refer to the *2216 Nways Multiaccess Connector Model 400 Installation and Initial Configuration*, GA27-4106.

__ 12. When it is done, close the MAE window.

__ 13. Press the **Reset** button on the MAE.

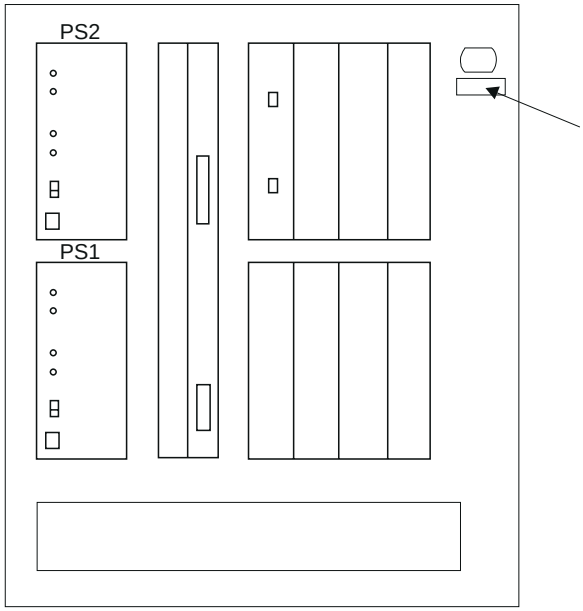
__ 14. Ask the customer to provide you with an external telephone line. Connect the cable coming from the PCMCIA modem to the telephone line.

__ 15. Ask you support center to establish a link with the MAE in order to check the connection.

10.11 Sticking the Label PN10K8595

__ 1. Unpeel the part of the sticky label marked **MAE with MAS code** and stick it on the MAE under the IBM logo as shown below.

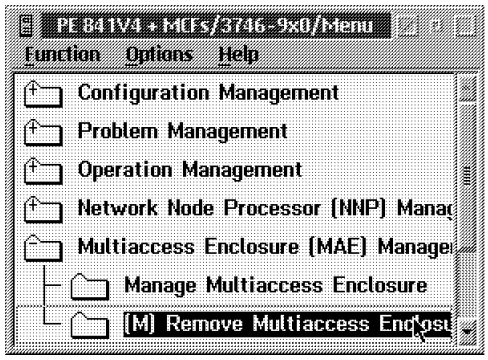
Multiaccess Enclosure



10.12 Remove the MAE from the 3746-9x0 Configuration

__ 1. Using the Service Processor, select from the MOSS-E the **3746/9x0 Menu**.

__ 2. Select the **Multiaccess Enclosure (MAE) Management** item.



__ 3. Double-click on the **Remove Multiaccess Enclosure**.

__ 4. Press **Yes** on the confirmation window.

__ 5. Wait until a message saying that the MAE has been removed.

10.13 Updating the MAE Configuration (Customer Task)

If the system card has not been replaced with a new one, the MAE operates with a configuration created before the MAS code V3R3 has been down-loaded.

The customer is responsible for updating the configuration using the T6 menus or the configuration tool available from the following URL:

www.networking.ibm.com/support/2216

Tell the customer to proceed as follows to convert a .csf file:

__ 1. Start the latest code level of the configuration program.

__ 2. Select **Configure→Open configuration**. Select the desired configuration from the Available Configurations list.

__ 3. Select **Open**. You are then asked whether you want to upgrade the configuration to the current code level.

__ 4. Select **Configure→Save configuration as** to save the configuration into a new file with a new file name. This backup configuration file can be later used.

11.0 Test Procedures

No test required.

12.0 Field Updating

None.

After Installation (steps 13-15)

13.0 Publication Distribution

- Scrap the *Multiaccess Enclosure Installation and Maintenance* manual SY33-2124.
- Provide the customer with the documentation shipped with the current RPQ:
  - *2216 Nways Multiaccess Connector and Network Utility Introduction and Planning Guide* GA27-4105
  - *2216 Nways Multiaccess Connector Model 400 Installation and Initial Configuration* GA27-4106
  - *2216 Nways Multiaccess Connector Hardware Configuration Quick Reference* GA27-3988
  - *2216 Nways Multiaccess Connector and Network Utility Service and Maintenance Manual* SY27-0350
  - *Caution: Safety Information - Read This First* SD21-0030
  - *Configuration Program User's Guide* GC30-3830

14.0 Parts Disposition

14.1 Purchased Machines

Refer to the parts ownership matrix to determine the correct owner of removed/unused parts.

- For EMEA/APG/AG Areas, refer to *Hardware and General Service Code Description*.
- For Domestic Areas, return parts to the customer.

15.0 Machine Records

- Install the new **MACHINE HISTORY** supplied.
- Report installation and quality according to existing procedures.

End of instructions.