Installation of Field Bill of Material

PN 10K8537

System Card Replacement

on Multiaccess Enclosure (FC 3001) for Memory Upgrade

of the IBM 3746 Models 9X0

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Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Model 9X0 with Multiaccess Enclosure (FC 3001)

2.0 Related BMs and ECs

2.1 Prerequisites

2.2 Concurrent ECs

(Must be installed together)

None.

2.3 Companion ECs

(May be installed together)

None.

3.0 BMs to be Installed

FB/M	Title
10K8537	System Card replacement.

4.0 Preparation

- Familiarize yourself with the purpose and details of the installation instruction before negotiating machine time with the customer.
- Check all items listed on the BM(s) to determine that all parts have been received.

5.0 Programming

None.

6.0 Purpose and Description

6.1 Purpose

To improve the performances of the Multiaccess Enclosure.

6.2 Description

To replace the system card on the Multiaccess Enclosure.

7.0 Installation Time

FBM	Machine Hrs.	System Hrs.	CE Hour	Nbr of CE
10K8537	02.0	00.0	1	1

8.0 Tools/Material Required

None.

Installation (Steps 9-12)

9.0 Safety

Review the **Safety Notices** and the **Safety Inspection Procedures** located at the beginning of the *IBM 3745 Communication Controller All Models*, *IBM 3746 Expansion Unit Model 900*, *IBM 3746 Nways Multiprotocol Controller Model 950 Safety Information*, GA33-0400.

10.0 Details of Installation

This installation instructions gives the procedures to replace the MAE system card.

- This one step for some system card memory upgrade.

Attention

1. The System Card is **not** hot pluggable.
2. Verify that the **MAE configuration**s have been **saved** before going thru.

Then go to 10.1, “Recording the IP Addresses” on page 6 to start the installation.

10.1 Recording the IP Addresses

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

__ 2. Click on **Configuration Management**, then double click on **SP customization**.

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

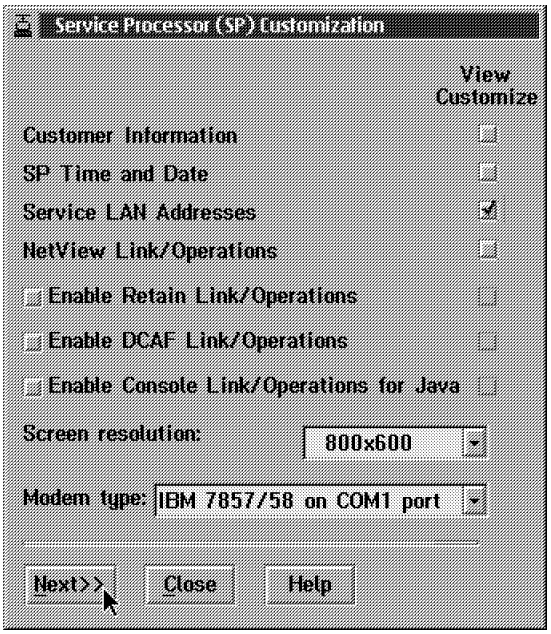


Figure 1. Service Processor Customization

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

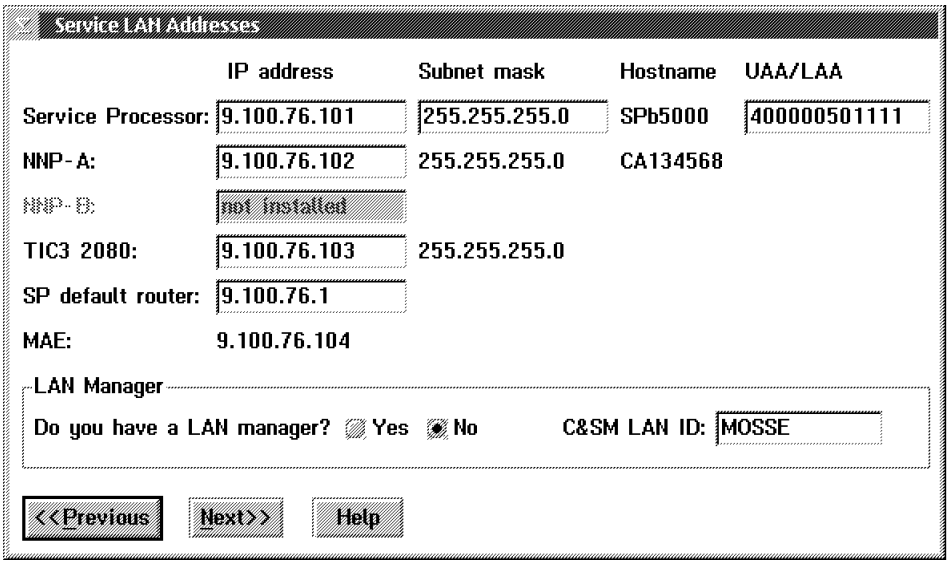


Figure 2. Service LAN addresses

__ 5. Then to exit from SP customization, click on **Previous**, **Close**, and **NO**.

10.2 Removing the MAE

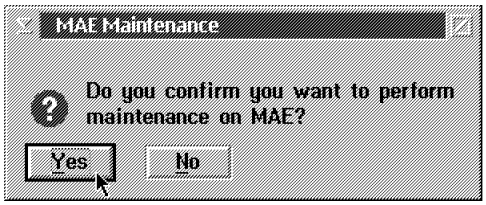
__ 1. Ask the customer to stop the traffic on **all** the Multiaccess Enclosure.

__ 2. On the Service Processor select the **3746/9x0 Menu**.

__ 3. Click on the **Multiaccess Enclosure (MAE) Management**.

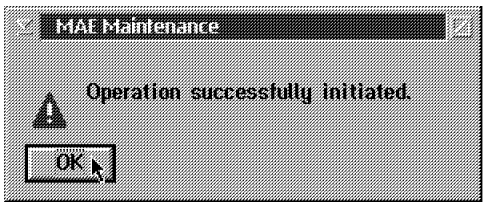
__ 4. Double click on the **Perform Maintenance on MAE**.

__ 5. The following window is displayed:



Click on **Yes**.

__ 6. The following window is displayed:



Click on **OK**.

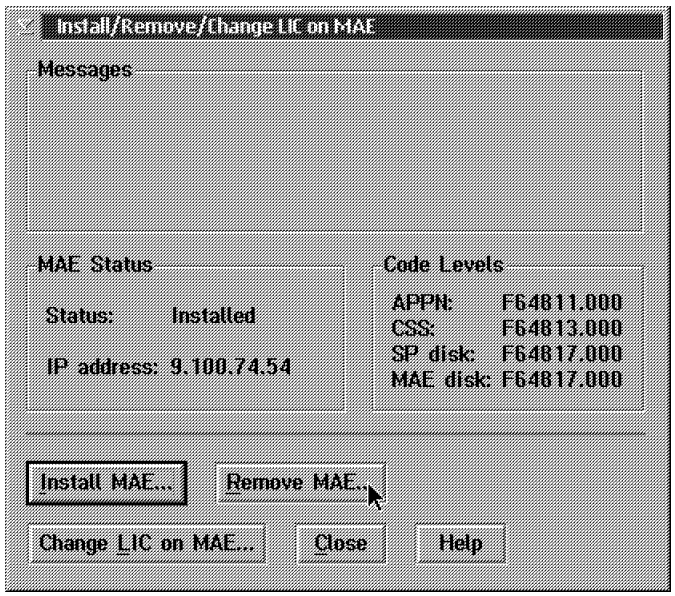
__ 7. You should first receive an alarm message saying: "MAE Concurrent Maintenance in Progress".

__ 8. Click on **OK**.

__ 9. Return to the **3746/9x0 Menu**.

__ 10. Double click on **Install/Remove/Change LIC on MAE**

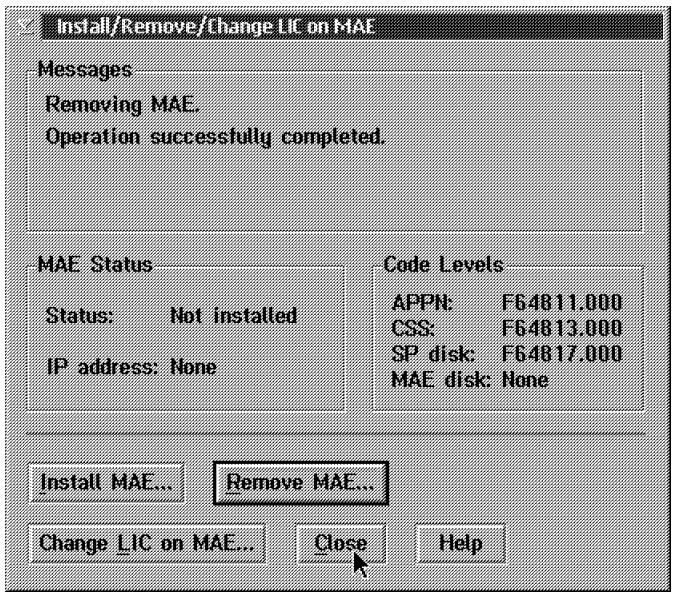
__ 11. Wait until the following window is displayed:



__ 12. Click on **Remove MAE**

__ 13. On the following window click on **Yes** to confirm.

__ 14. Wait until the message "Operation successfully completed" is displayed on the window.



__ 15. Click on **Close**.

10.3 Removing the Old System Card

Attention

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.

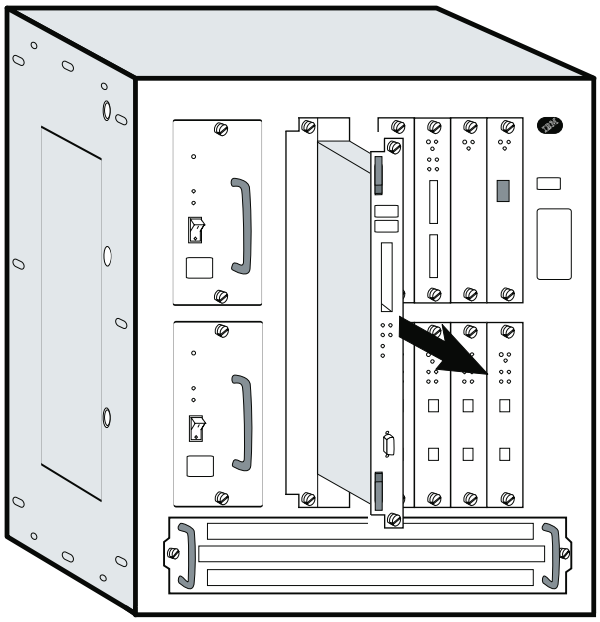
__ 1. Switch OFF each power supply.

__ 2. Label the cable on the system card. Unplug the cable and the PCMCIA card.

__ 3. Loosen thumbscrews on the system card.

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

__ 5. Unpack the new system card and lay it on a soft non-conductive surface.



__ 6. Install the DIMM on the system card using the appropriate installation instruction:

.

- FFBM PN 25L9934 for 64 MB DIMM

- FFBM PN 10K8535 for 128 MB DIMM
- FFBM PN 10K8536 for 256 MB DIMM

then return here and continue the procedure with 10.4, “Installing the New System Card.”

10.4 Installing the New System Card

__ 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.

__ 5. Loosen thumbscrews on the SAC card.

__ 6. Unplug the SAC card from the board but keep it in its slot into the MAE.

__ 7. Power ON and verify the LEDs (The yellow LED of the system card and the hard drive must be OFF).

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

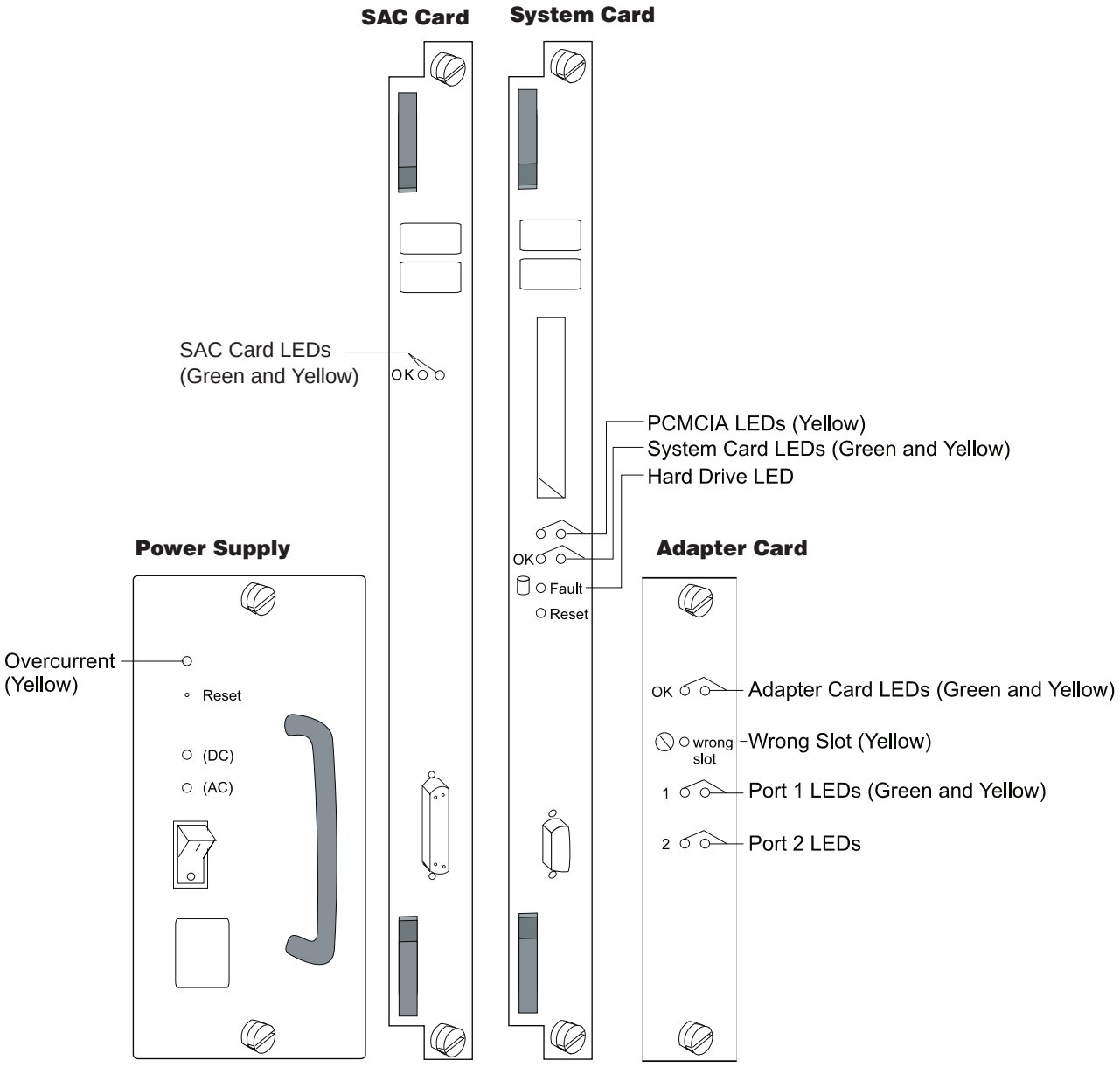


Figure 3. Power Supply, System Card, SAC card (if present), and Adapter Card LEDs

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.

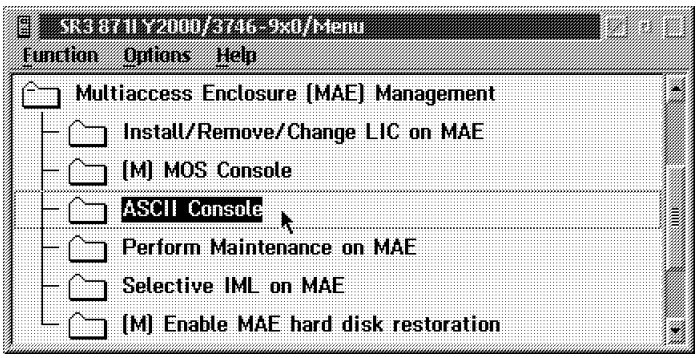
Note: The port LEDs of the multiport WAN adapters (FC 3282, FC 3291, and FC 3292) reflect the status of one or more of the ports.

SAC Card Status (If present)

LEDs	Meaning
OK (Green)	On - Card hardware is operating normally Blinking - Loading from hard file
OK (Yellow)	• MAE is not configured • Quick config is running on MAE • Card hardware has a fault

10.5 Updating the Vital Product Data

__ 1. From the '3746-9x0 Menu', in **Multiaccess Enclosure (MAE) Management**, double click on **ASCII console**.



__ 2. Press **Enter**.

__ 3. If prompted press **F1** (to prematurely terminate boot), enter the password, then go to Step 4. 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 4.

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

__ 5. On the **System Management Utilities** window, select **9 - View or Set Vital Product Data**, then press **Enter**.

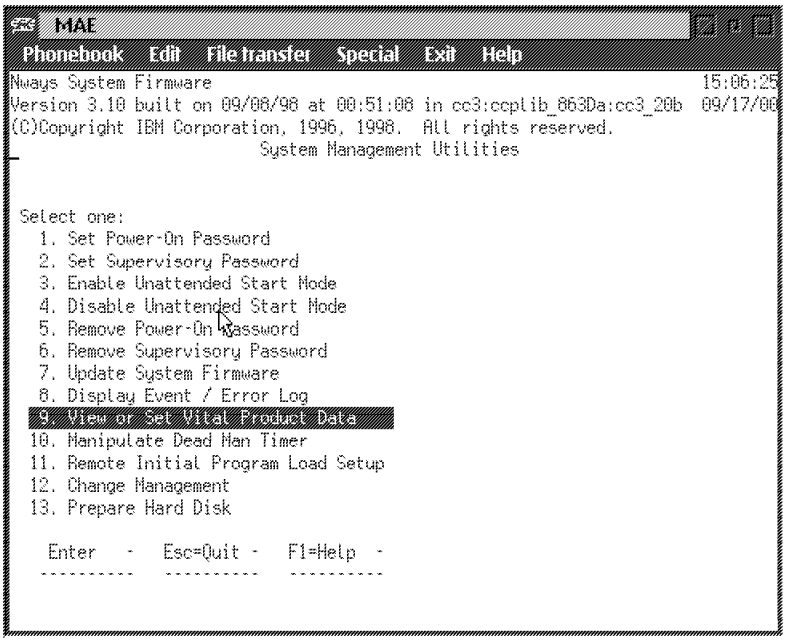


Figure 4. MAE

__ 6. From 'View or Set Vital Product Data', select **Hardware Vital Product Data**, then press **Enter**.

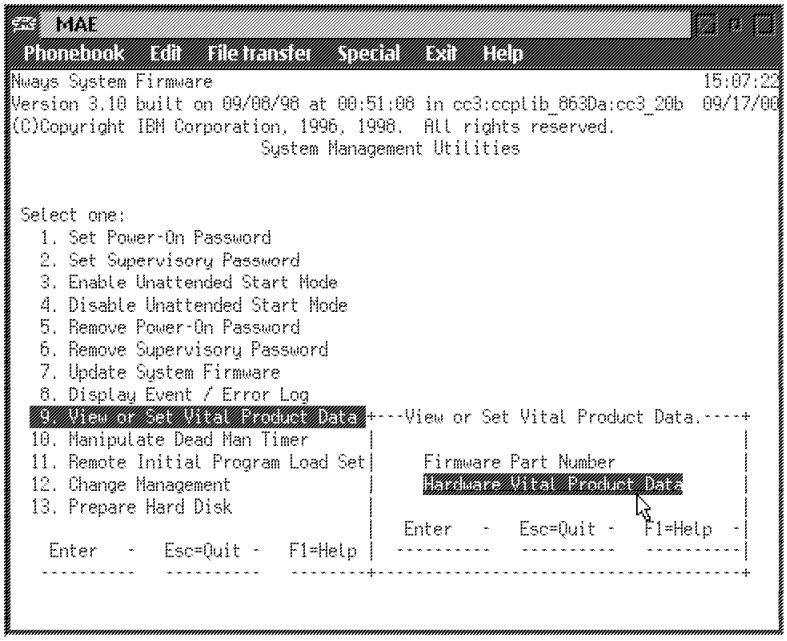


Figure 5. MAE

__ 7. Select **slot B**, then press **Enter**

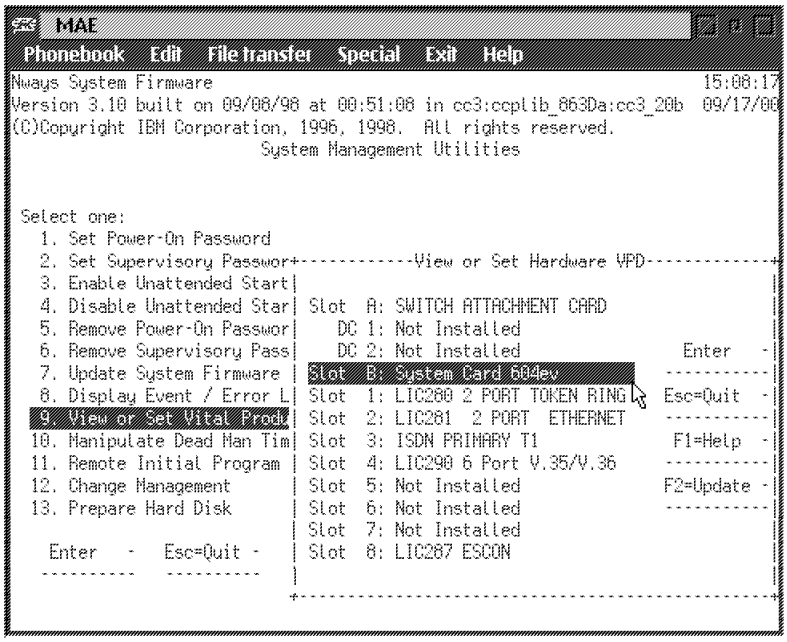


Figure 6. MAE

__ 8. In the BS entry field, type in the **MAE** serial number, then press **Enter**

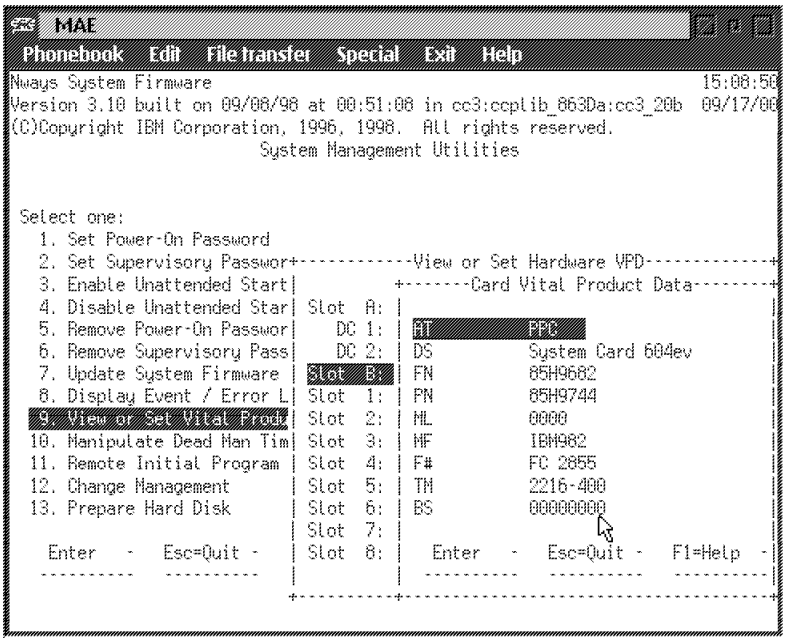


Figure 7. MAE

__ 9. Press ESC twice, then go to chapter 10.6, “Setting the IP Addresses”

10.6 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.

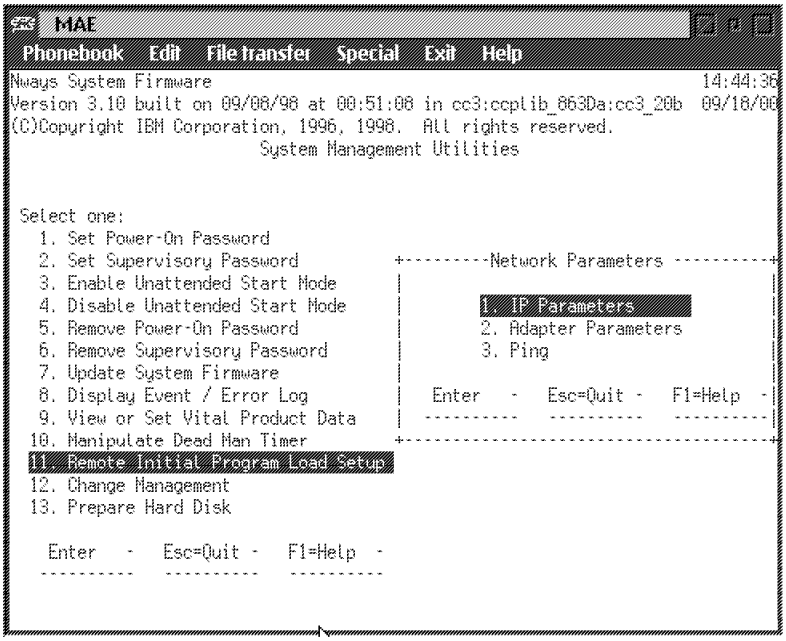


Figure 8. MAE

__ 2. Refer to Figure 9 on page 17, and according to what you recorded in step **4 on page 6** , 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**.

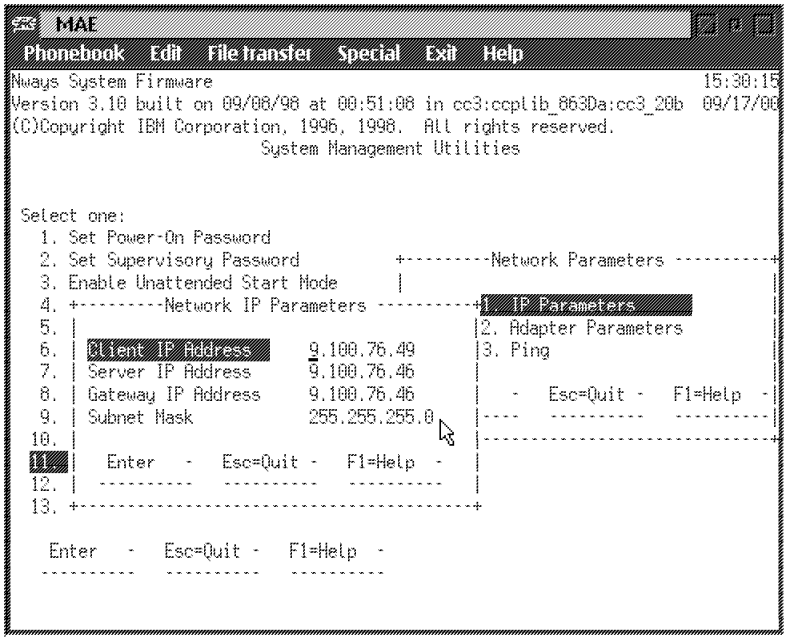
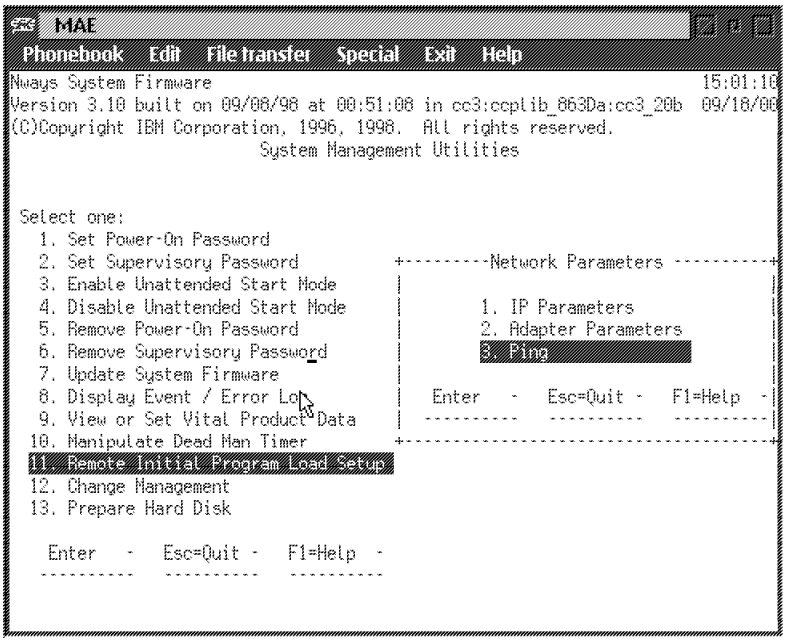
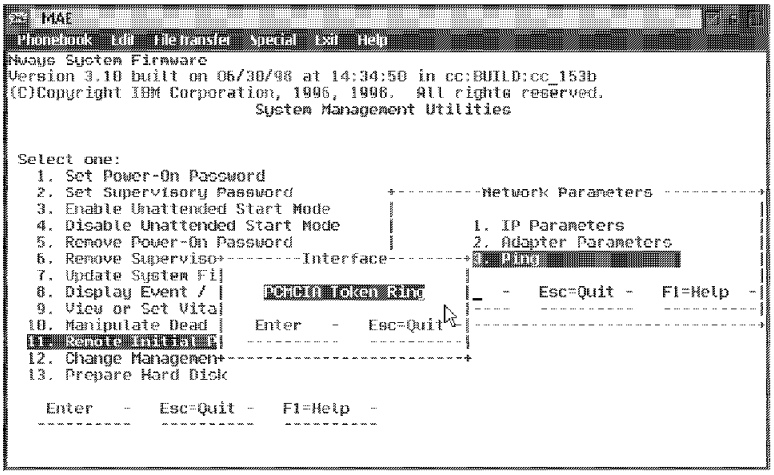


Figure 9. MAE

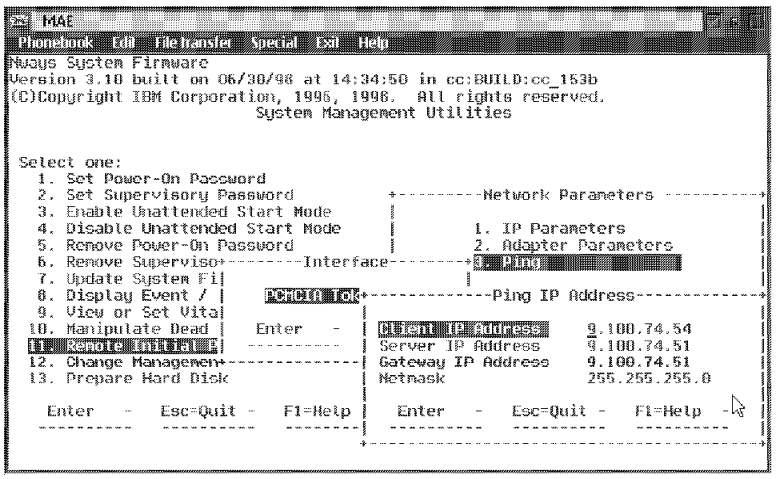
__ 3. Select **Ping**, then press **Enter**.



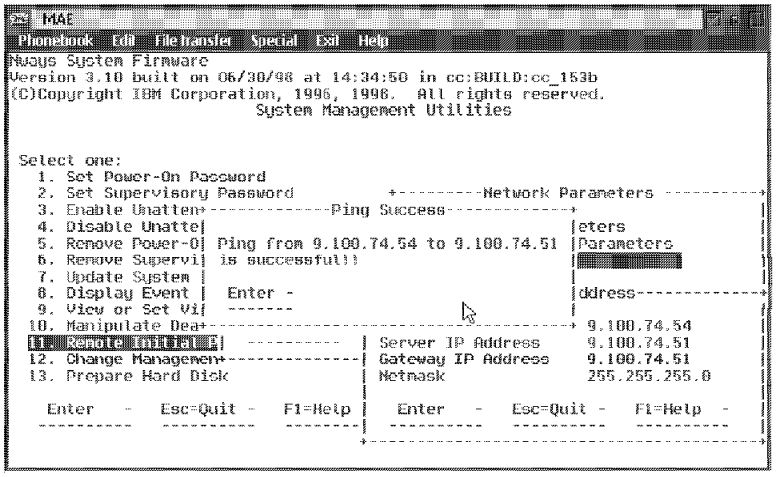
__ 4. When **PCMCIA Token Ring** is prompted, press **Enter**.



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



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



If not:

- Go to Step 2 on page 17 and check or modify the addresses.
- Check the speed (16 Mbps) using the **Adapter Parameters** option in the **Network Parameters** window.
- Check the cables

Otherwise continue with the next Step.

__ 7. Press **Enter**.

__ 8. Press the **Esc** key 3 times to exit.

__ 9. Go to 10.7, “Restore the Image Code on the MAE Hard Disk.”

10.7 Restore the Image Code on the MAE Hard Disk

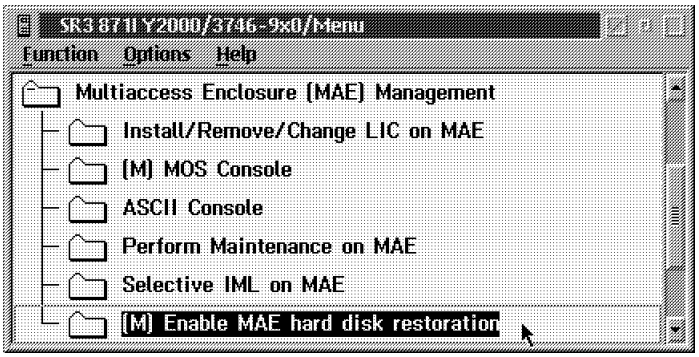
Note

You may have a problem if any external devices are connected to the service LAN.

__ 1. Press **Ctrl/Esc**, then select **3746-9x0** menu.

__ 2. In the **Multiaccess Enclosure (MAE) Management** window, double click on the **Enable MAE hard disk restoration** option.

.



__ 3. The following window is displayed:

.

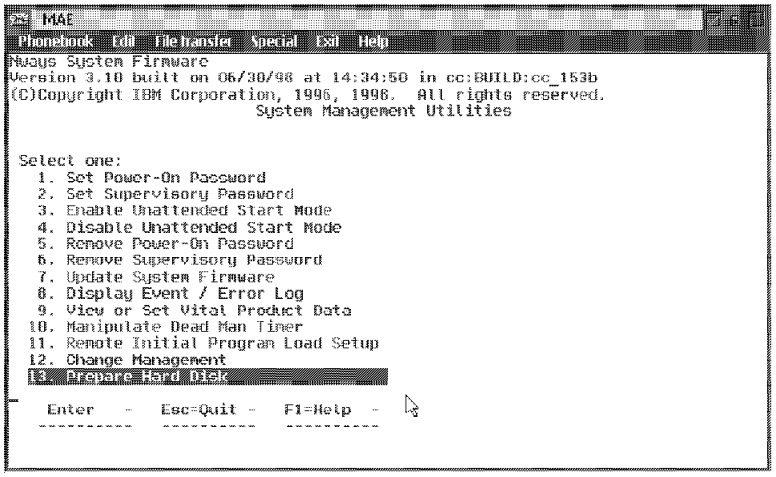
Press **Start**.

__ 4. The following window appears:

.

Do not Click on Exit key

__ 5. Return to the **System Management Utilities**, select **13. Prepare hard Disk**, and press **Enter**.



__ 6. On the two **Attention** windows, press **Y**. The MAE will reboot and prepare the hard disk.

- If no errors occur, press **F1** when prompted, then continue with Step 7 on page 22.
- If error code 30002000 occurs during format, do the following:
  a. In the **System Management Services** window, select **Select Devices to Test**, then press the space bar to obtain a **>** in front of your selection, and press **Enter**.
  b. Select **Test IDE devices**.
  c. Press the **F4**

     for Parm Setup

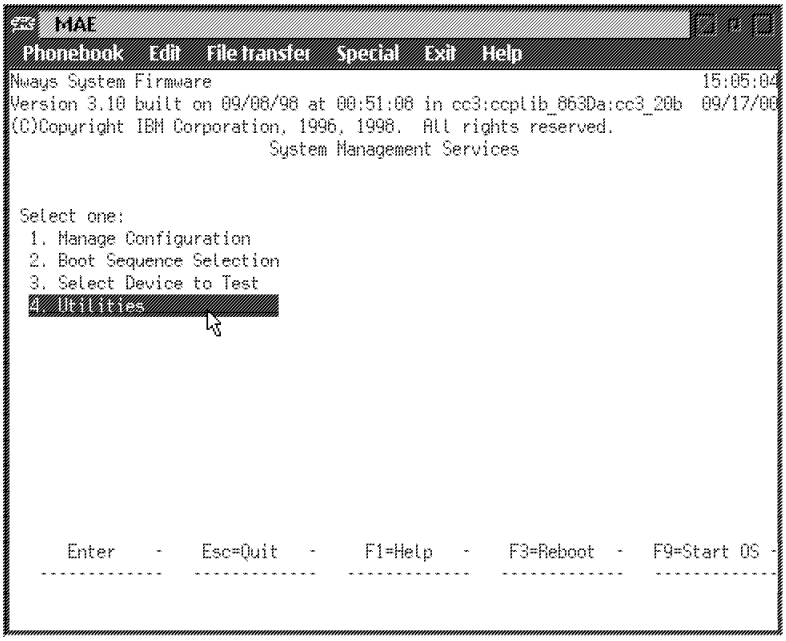
  d. Select **Run Interactive Test** and **Stop on Error**.
  e. Press **Enter** and **F6** to begin the tests.

f. in **IDE Subsystem** window, select **Format IDE device**, and press **Enter**.

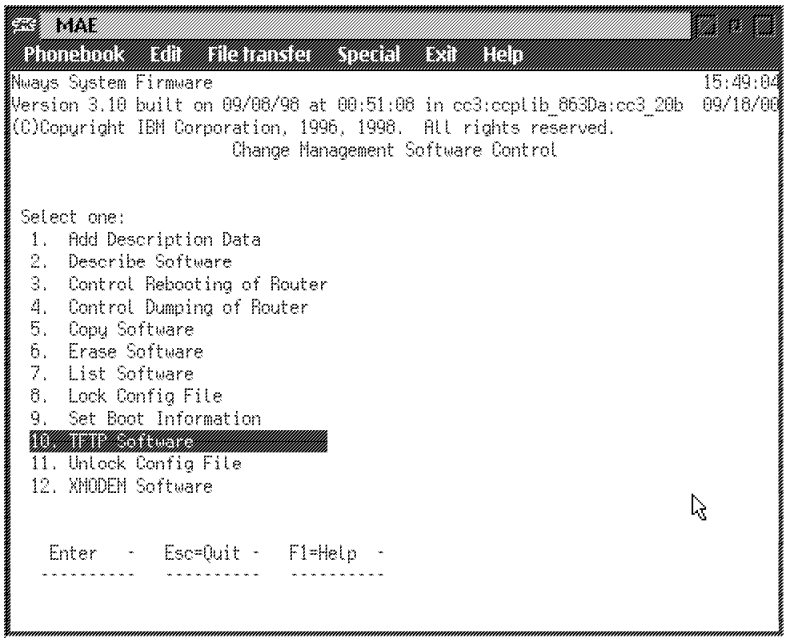
   Attention- This formats the hard disk and destroys all data on the hard disk (this operation may take up to 30 minutes depending on the disk size).

g. Follow the prompts to start HDD formatting.
h. At the end of formatting the message **Format Complete Successfull** is briefly displayed. Follow the prompts to return to the **System Management Services** menu.
i. When it is done return to Step 5 on page 21.

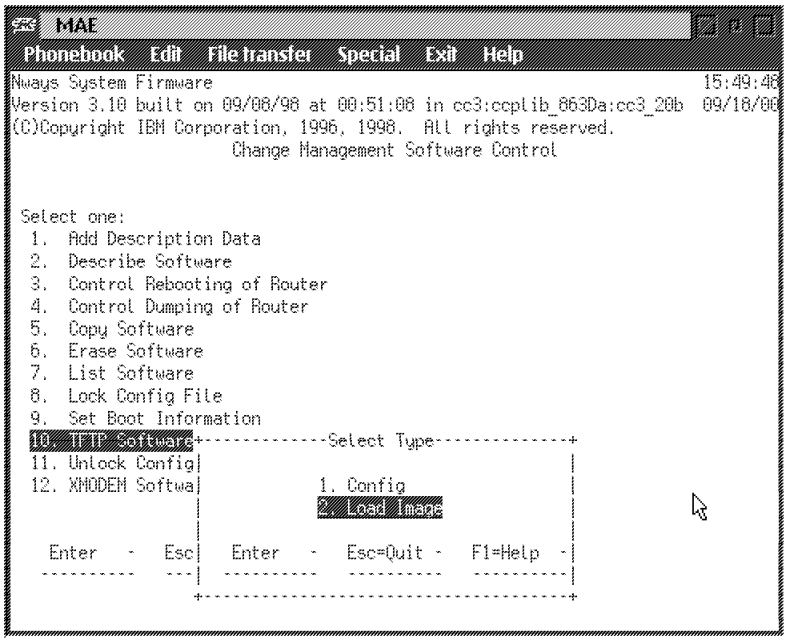
__ 7. On **System Management Services** window, select **4. Utilities**, then press **Enter**.



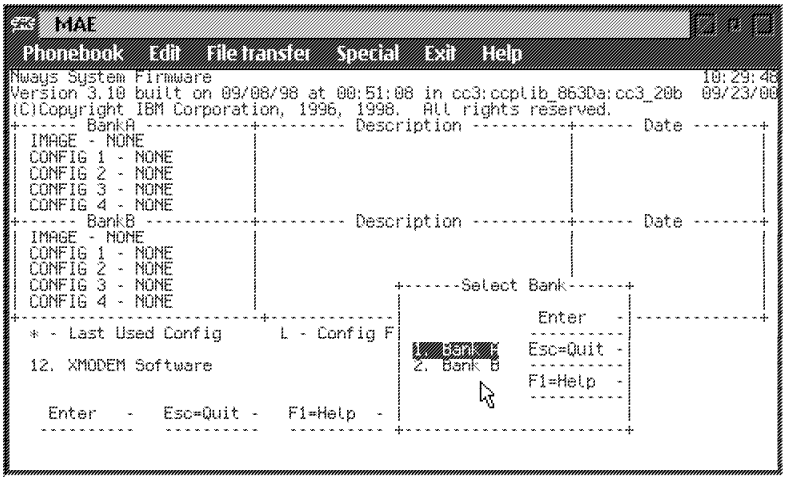
__ 8. On **System Management Utilities** window, select **12. Change Management**.



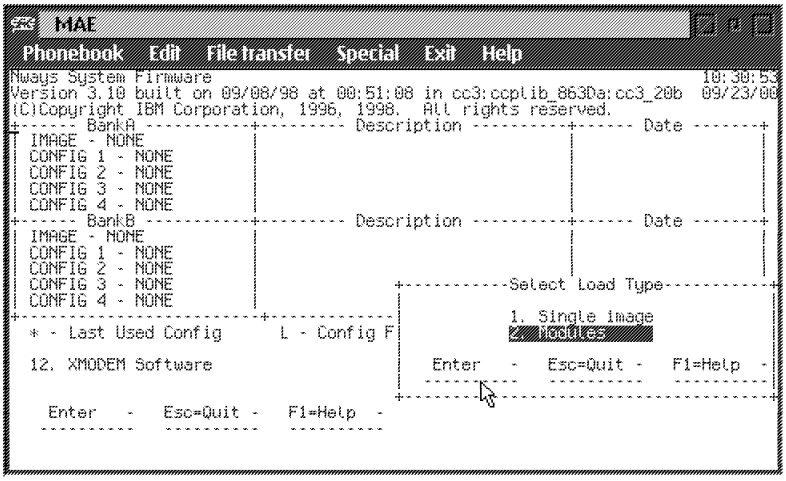
__ 9. On **Change Management Software Control** window, select **10. TFTP Software**, then press **Enter**.



__ 10. Select **Load Image**, then press **Enter**.



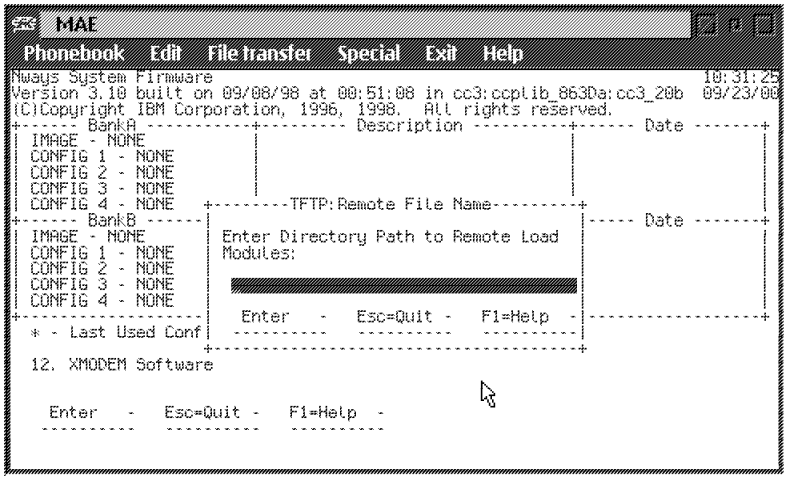
__ 11. Select **1. Bank A**, then press **Enter**.



__ 12. Select **2. Modules**, then press **Enter**.

__ 13. The following window is displayed:

.

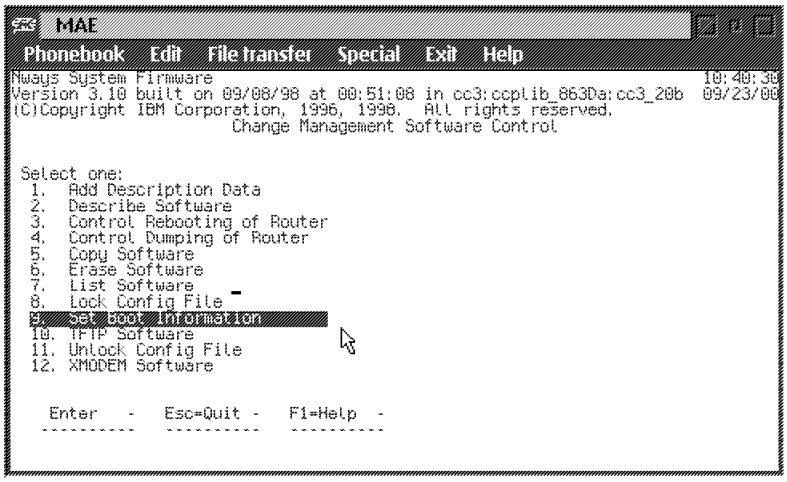


__ 14. Press **Enter**.

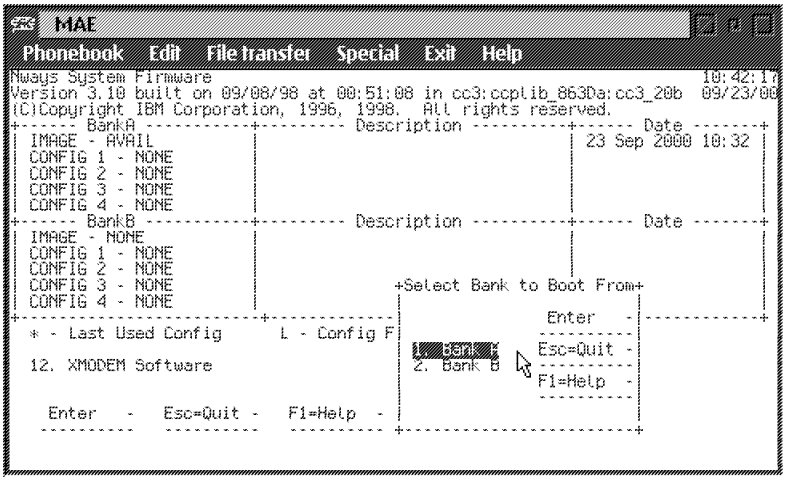
__ 15. The **interface** is displayed with **PCMCIA Token Ring** selected. Press **Enter**.

__ 16. Put the current window in background by clicking on the **Service Processor Menu** window, by example (in order to improve performance transfer).

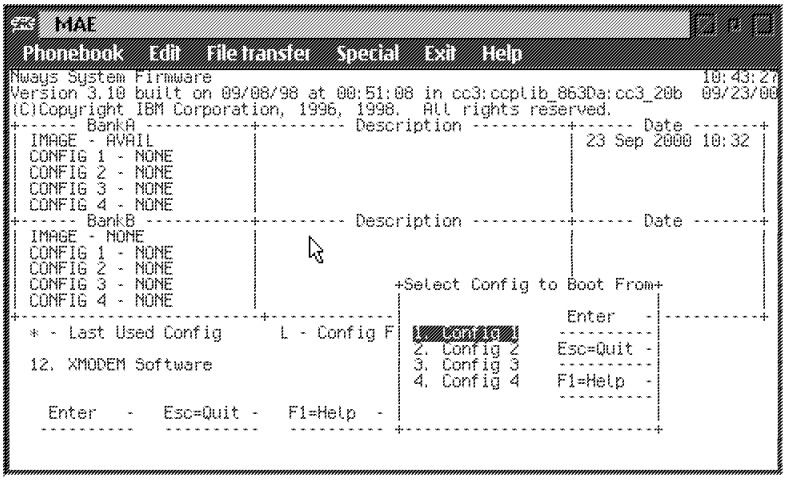
__ 17. Wait until the following window is displayed (about 10 minutes):



__ 18. On **Change Management Software Control** window, select **9- Set Boot Information**, then press **Enter**.



__ 19. Select **Bank A**, then press **Enter**.



__ 20. In **Select Config to Boot from** window, select **Config 1**, then press **Enter**.

__ 21. In **Select Duration** window select **Permanent**, then press **Enter**.

__ 22. The **Change Management Software Control** window is displayed select **3. Control Rebooting of Router** then press **Enter**.

__ 23. Select **Enable**, then press **Enter**.

__ 24. On the **Change Management Software Control** window, select **4. Control Dumping of Router** then press **Enter**.

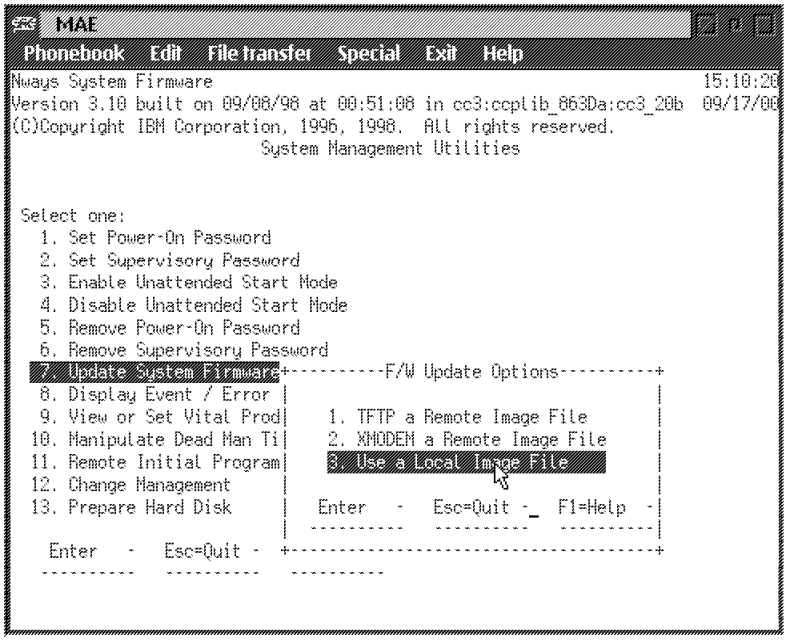
__ 25. Select **Enable**, then press **Enter**.

__ 26. On the **Change Management Software Control** window, press **Esc**, to return to **System Management Utilities**.

10.8 Update 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, enter the **Local File Name**

`c:\firm.ld`

then press **Enter**.

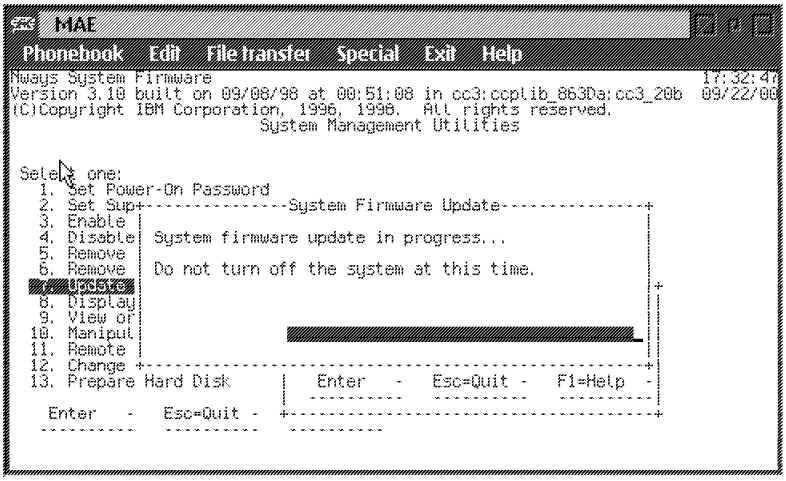
__ 4. When the **System Firmware Update** window is displayed, press **Y**.

__ 5. In the **System Firmware Update** firmware recovery image window, press **Enter**.

__ 6. When the firmware recovery image has been created press **Enter**.

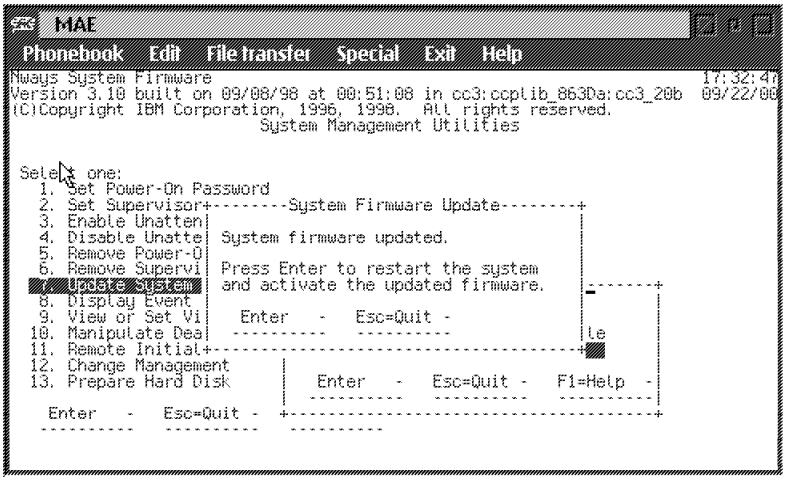
__ 7. If a **System Firmware Update** confirmation window is displayed, type **Y**.

__ 8. The following window is displayed:



Note: 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 need to reload the firmware from the recovery image.

__ 9. A completed message appears when the firmware is updated.



__ 10. Press **Enter**.

__ 11. Follow the prompts (do not press F1 key) and press the space bar to obtain the prompt:

```
Config (only)>
```

The message:

```
SAC mgr init failure
```

is displayed. This is a normal message because the SAC card is unplugged.

__ 12. Return to the **Enable MAE hard disk restoration** window, then press **Exit**.

.

10.9 Reinstall the SAC Card

__ 1. Power OFF the MAE.

__ 2. Replug the SAC card previously unplugged.

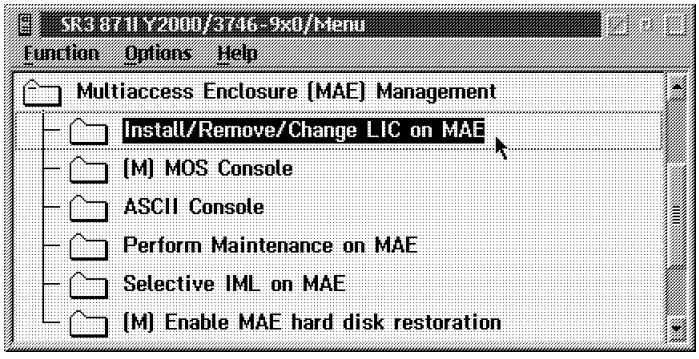
__ 3. Tighten the thumbscrews on the face of the adapter card clockwise.

__ 4. Power ON the MAE and wait the end of the reboot.

10.10 Install MAE

__ 1. Return to the **3746/9x0 Menu**, select **Multiaccess Enclosure (MAE) Management**.

__ 2. Double click on **Install/Remove/Change LIC on MAE**.



__ 3. Wait until the following window is displayed, then click on **Install MAE...**.

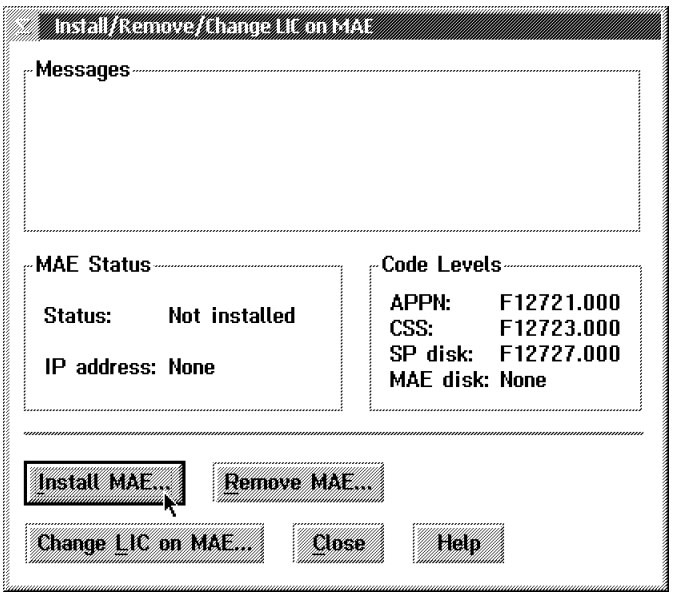


Figure 10. Install Multiaccess Enclosure

__ 4. Enter the **MAE IP address** (value recorded at the beginning of the procedure), then click on **OK**.

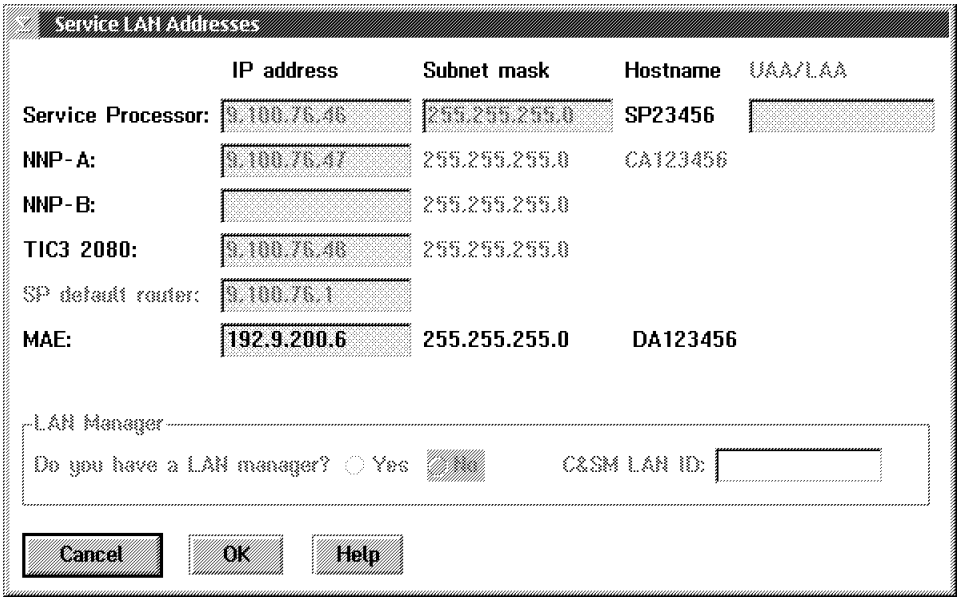


Figure 11. Service LAN Addresses

__ 5. Click on **Yes** to record your parameters.

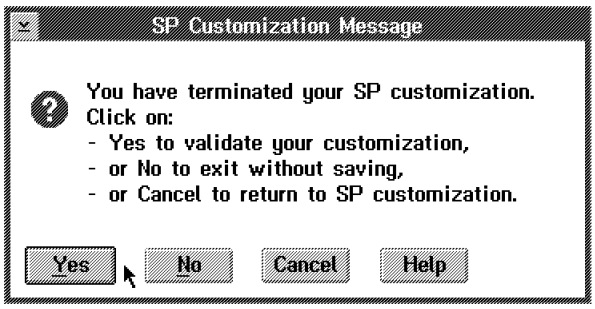


Figure 12. SP Customization Message

__ 6. When completed, click on **OK**.

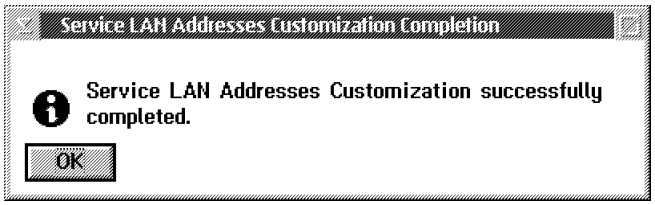


Figure 13. SP Customization Completed

__ 7. The MAE code is now being installed (it takes about 10 mn), when completed click on **Close**.

Note: Verify that the MAE link icon is **green**.

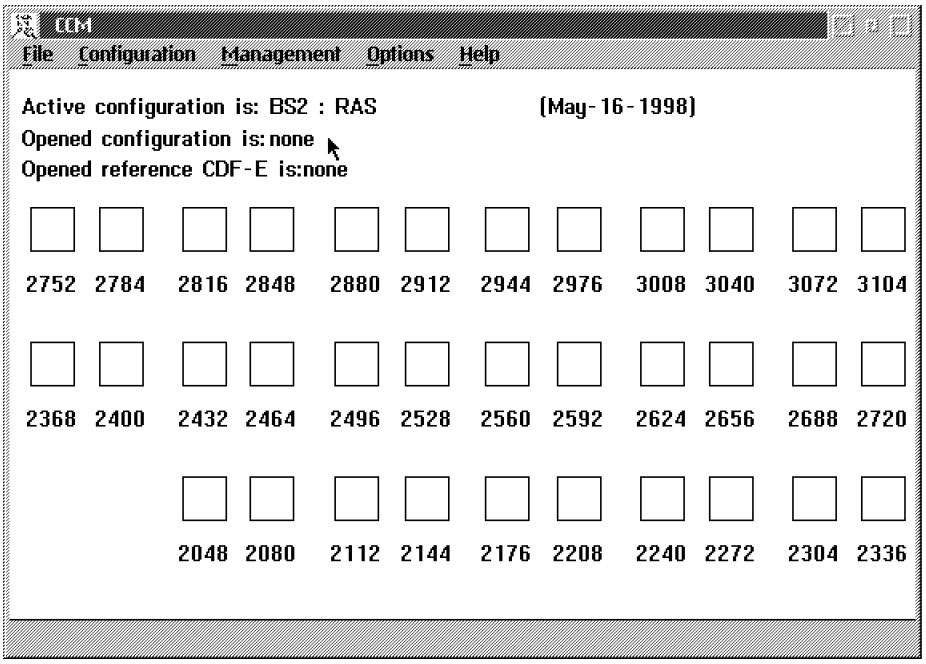
10.11 Activate CCM Configuration

__ 1. Return to the **3746-9x0 menu**,

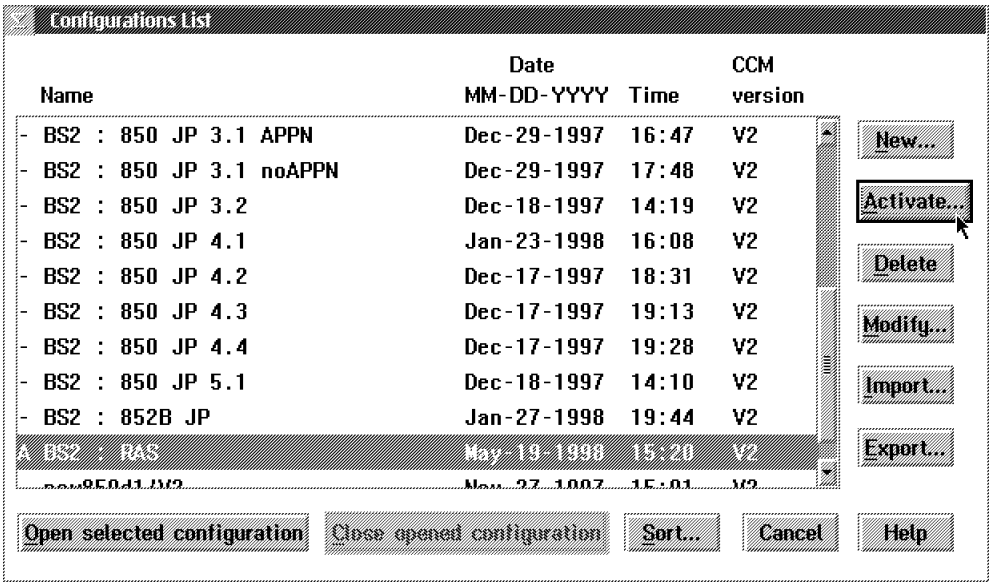
__ 2. Click on the **Network Node Processor (NNP) Management** option.

__ 3. Double click on the **CCM Controller Configuration and Management** option.

__ 4. The **CCM** window is displayed:



__ 5. Click on **File** in the title bar, then select **Open**. The **Configuration List** window is displayed:



__ 6. Select the name of the configuration that you want activate, then click on **Activate**.

__ 7. Follow the prompts and wait until the following window is displayed.

Click on **OK**.

__ 8. The MAE is rebooting.

__ 9. Wait for the MAE IML complete. Be sure that the 3746 icon comes green.

11.0 Test Procedures

No test required.

12.0 Field Updating

None.

After Installation (steps 13-15)

13.0 Publications Update

None.

14.0 Parts Disposition

Return the removed DIMM to the customer, and return the system card to local branch office for scrapping.

15.0 Machine Records

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

End of instructions.