Installation of Field Bill of Material

PN 10K8546

System Card Replacement

on Multiaccess Enclosure (FC 3001)

of the IBM 3746 Models 9X0

Written by: F. Bartin
Checked by: B. Griffouliere
Approved by: A. Badino
Reviewed by:

Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Model 9X0 with Multiaccess Enclosure (FC 3001) with intermittent power failure due to the multiaccess enclosure system card.

2.0 Related BMs and ECs

2.1 Prerequisites

IMPORTANT

Before changing the system card, verify that your customer has **saved** all his **MAE configuration files** on diskette. If not, do not exchange the card before he has saved his configurations.

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
10K8546	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
10K8546	01.0	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.

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>>.

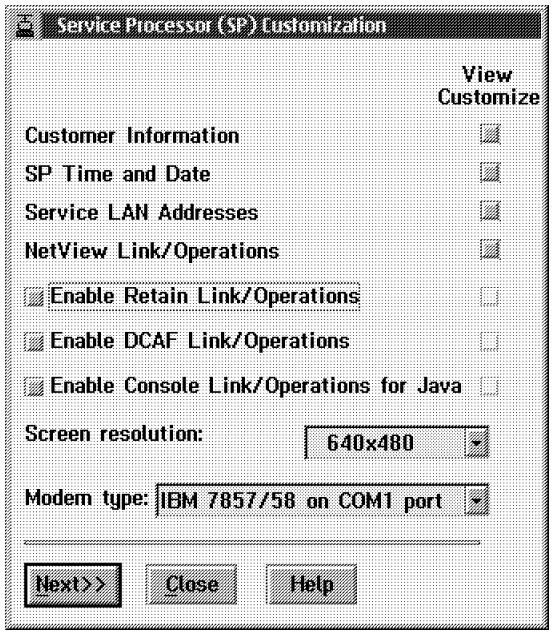


Figure 1. Service Processor Customization

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

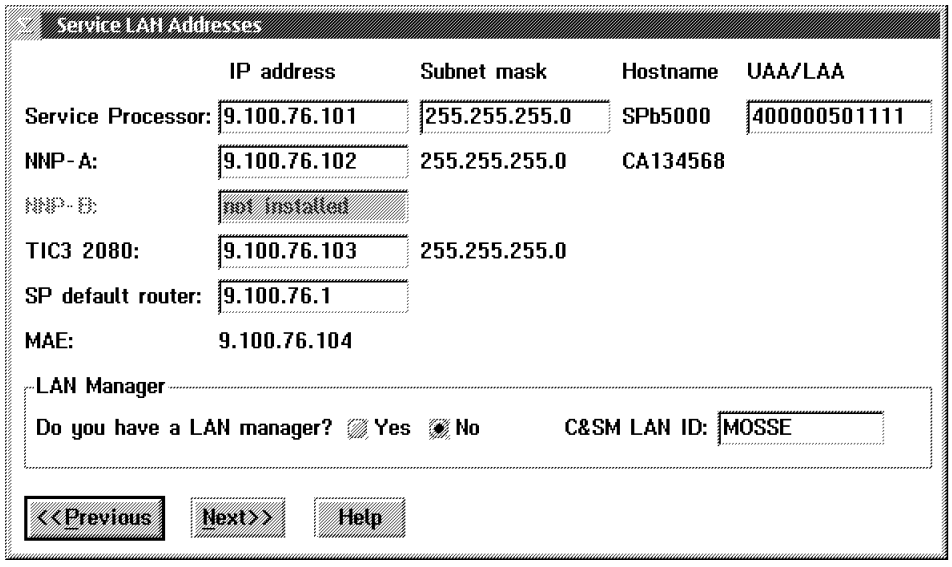


Figure 2. Service LAN addresses

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

10.2 Removing the MAE

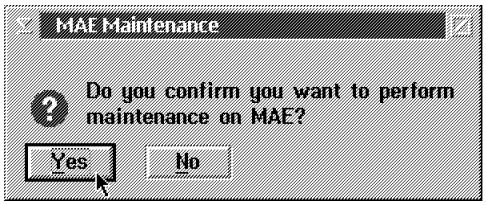
__ 1. Ask the customer to stop the traffic on **all** the Multiaccess Enclosure.

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

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

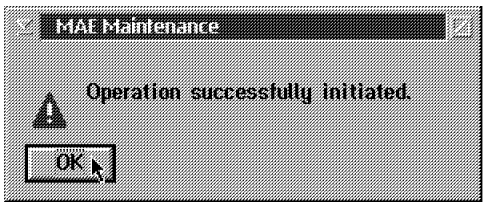
__ 4. Double click on the **Perform Maintenance on MAE**.

__ 5. The following window is displayed:



Click on **Yes**.

__ 6. The following window is displayed:



Click on **OK**.

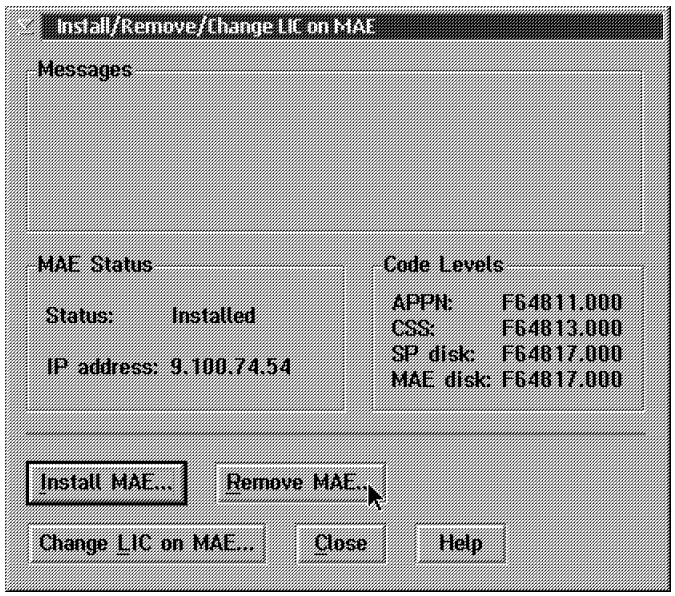
__ 7. You should first received an alarm message saying: "MAE Concurrent Maintenance in Progress".

__ 8. Click on **OK**.

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

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

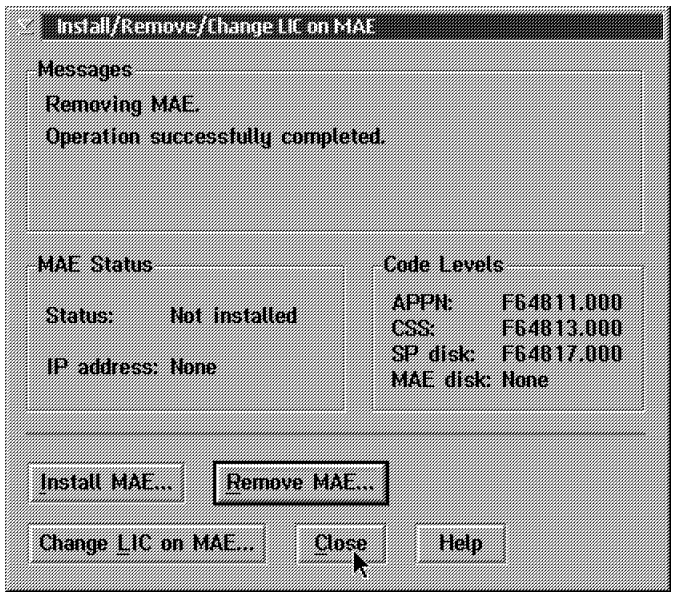
__ 11. Wait until the following window is displayed:



__ 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.

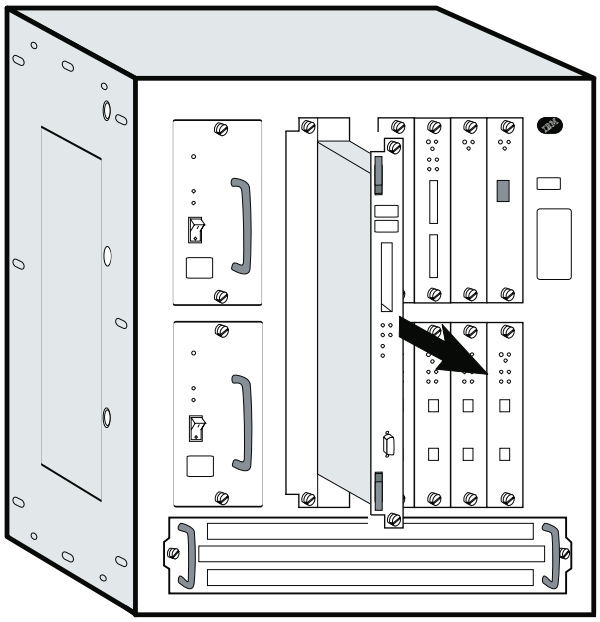
__ 1. Switch OFF each power supply.

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

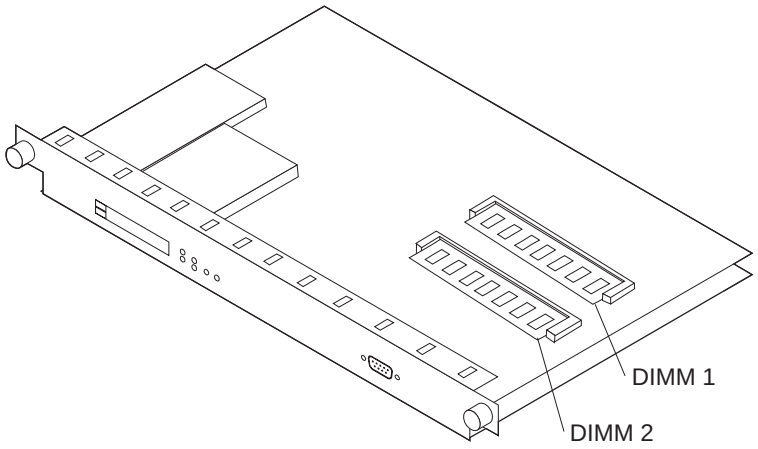
__ 3. Loosen thumbscrews on the system card.

__ 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.

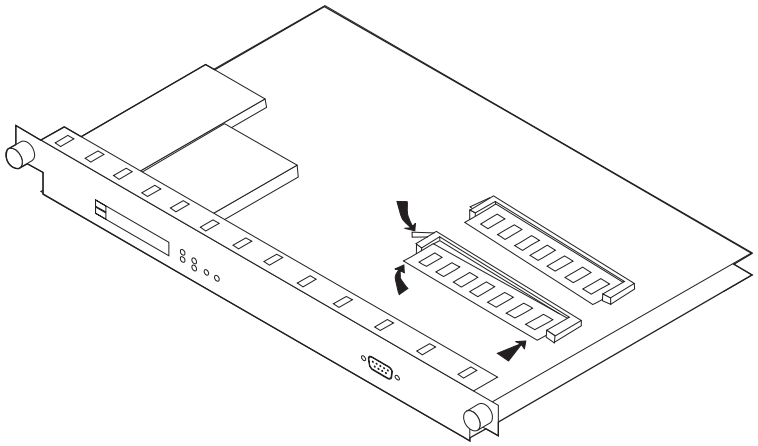


__ 6. Remove the DIMMs by pulling down the lever at the edge of the DIMM socket. (Use your thumbnail or a small non-metallic device to gently move the spring latch away from the end of the DIMM.) The DIMM will automatically be pushed partially out of the slot.



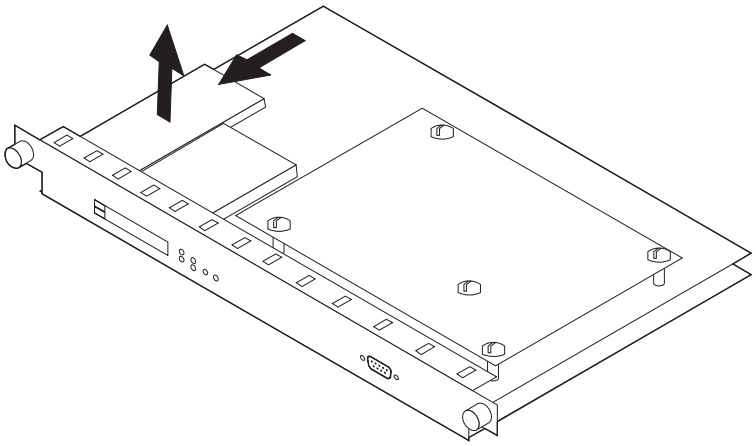
__ 7. Install the removed DIMMs on the new system card.

- Insert the DIMM into the appropriate slot.(Grasping the DIMM between the middle finger and thumb, place it connector edge down into the DIMM socket. Applying slight pressure to the top edge of the DIMM, move it forward until it is correctly aligned and snaps in place.) The lever will snap back into place as the DIMM is fully inserted.



__ 8. Remove the hard disk drive:

a. On the bottom of the system card, remove the four screws (with a screw starter) while holding the hard drive in place.



b. On the reverse side of the system card, disconnect the drive from the connector and lift it off the system card.
c. Center the new hard drive inside the lines on the system card.

Note: If you do not center the hard disk drive, the electrical pins on the hard drive will be visible next to the hard drive connector on the system card. Install the new hard drive by reversing Steps 8a and 8b above. Be sure to support the hard drive while installing the screws.

__ 9. Reinstall the hard drive removed from the new card on the defective 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 defective 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 on the system card: 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.

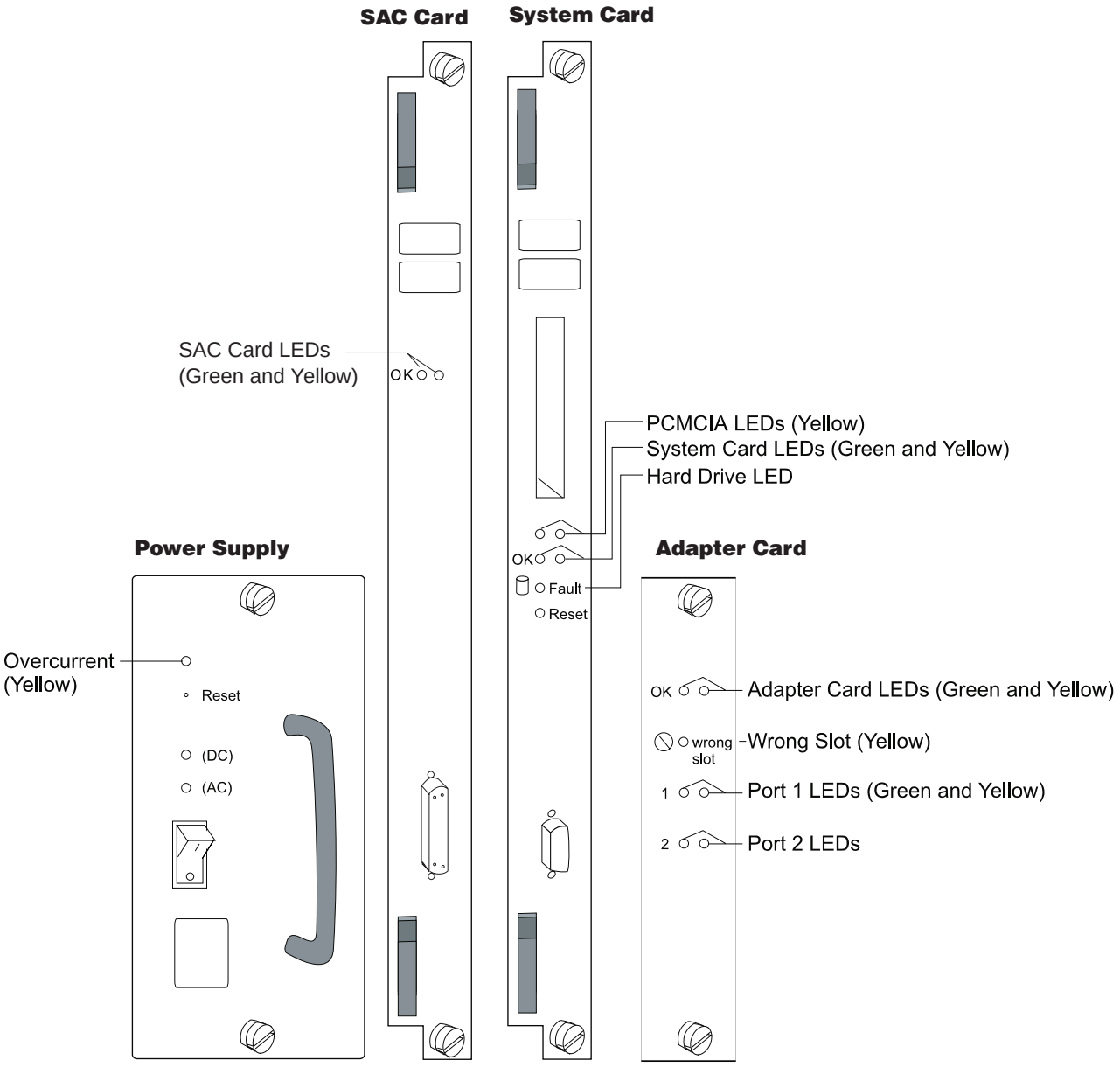


Figure 3. Power Supply, System Card, SAC card (if present), and Adapter Card LEDs

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.

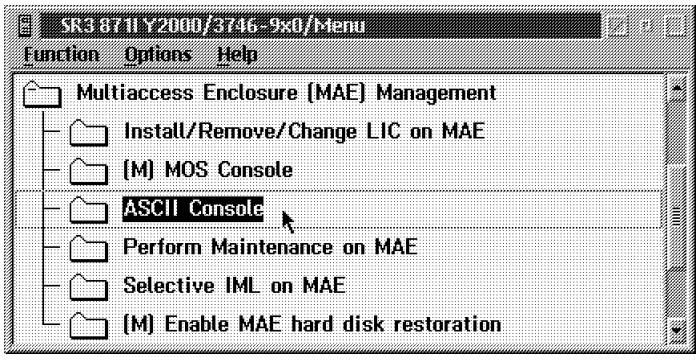
Note: The port LEDs of the multiport WAN adapters (FC 3282, FC 3291, and FC 3292) reflect the status of one or more of the ports.

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. When **V:** prompt appears type **mfgmode 0**, then press **Enter**.

__ 4. Enter **diags**, then press **Enter**.

__ 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**.

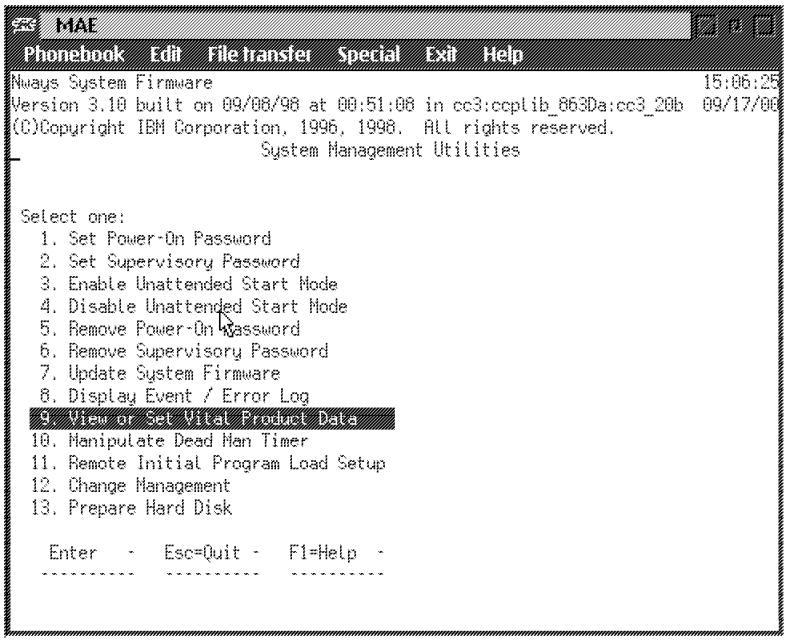


Figure 4. MAE

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

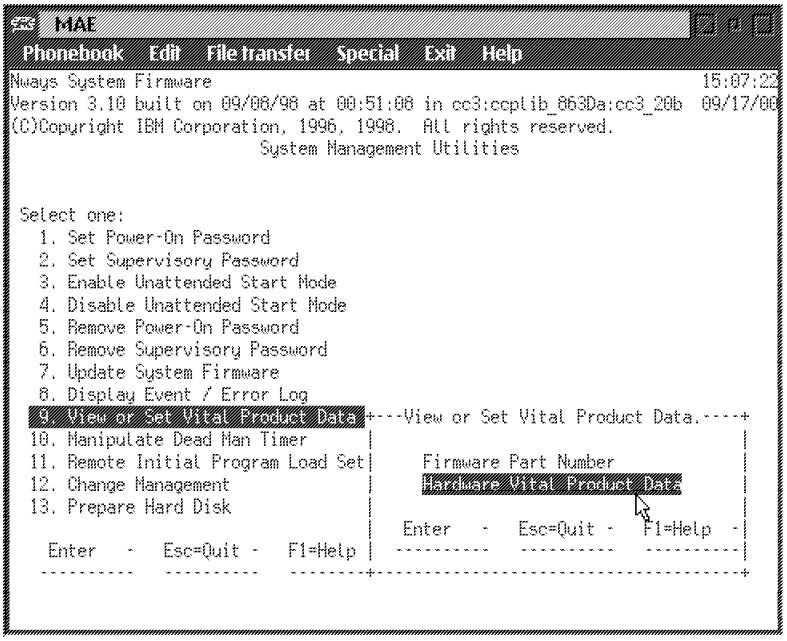


Figure 5. MAE

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

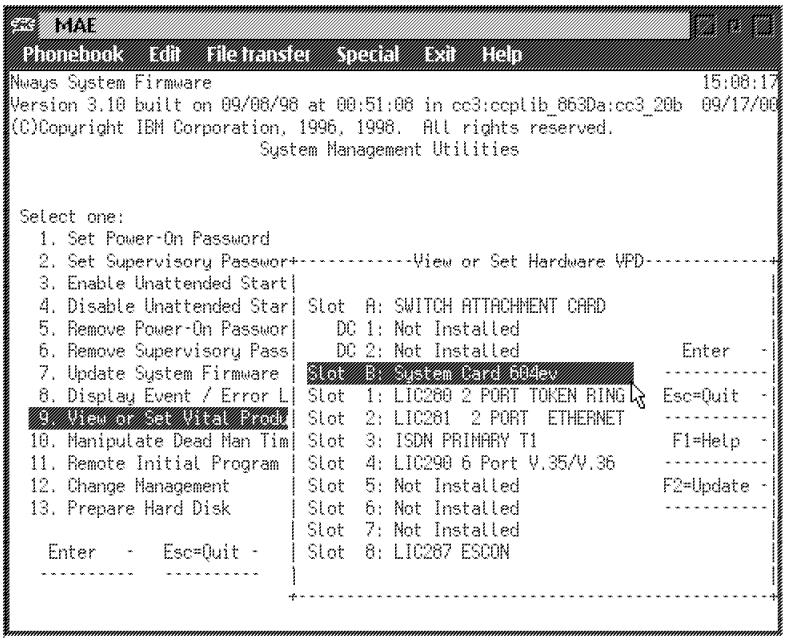


Figure 6. MAE

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

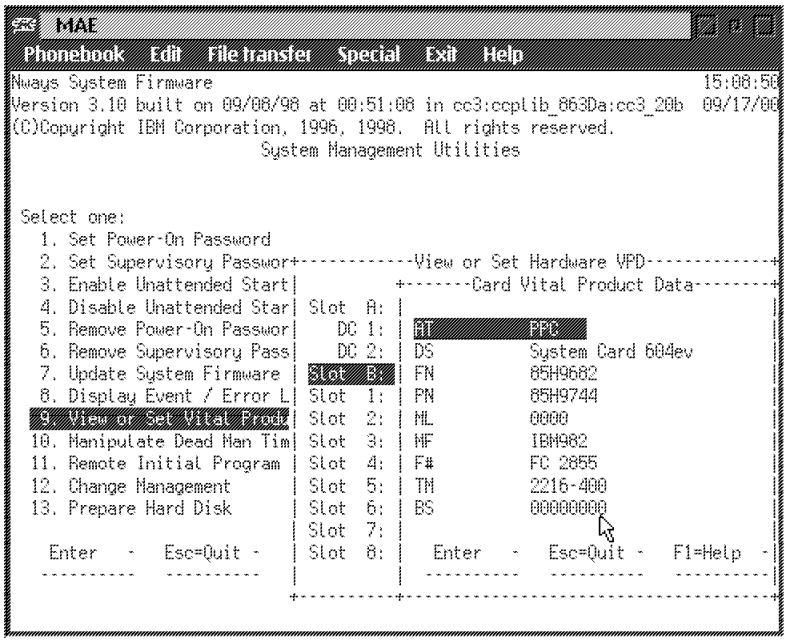


Figure 7. MAE

__ 10. 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.

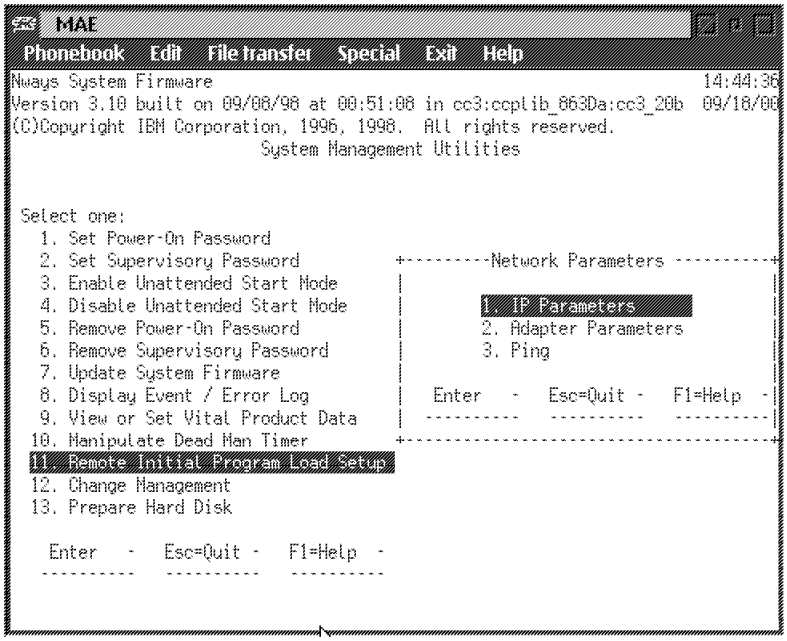


Figure 8. MAE

__ 2. Refer to Figure 9 on page 18, 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**.

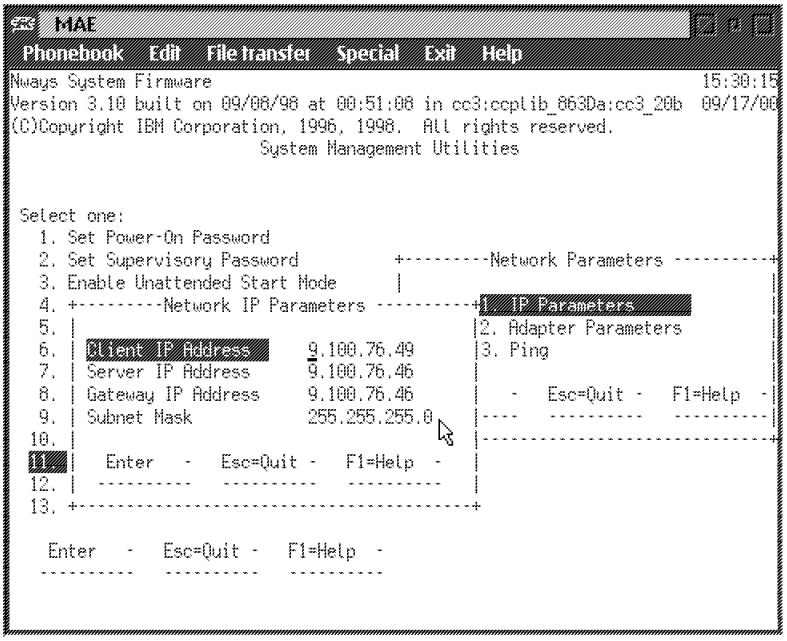
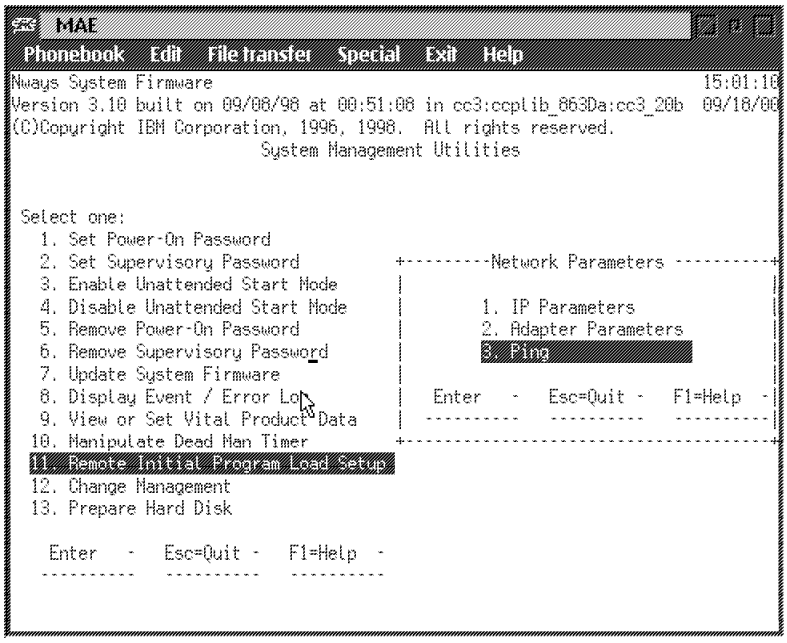
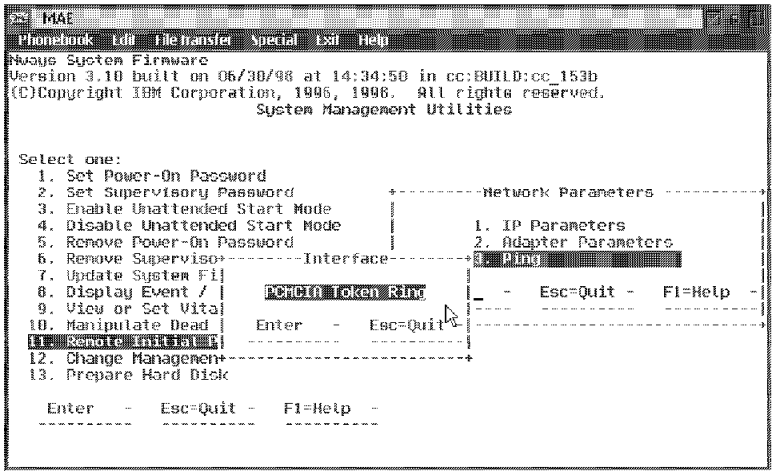


Figure 9. MAE

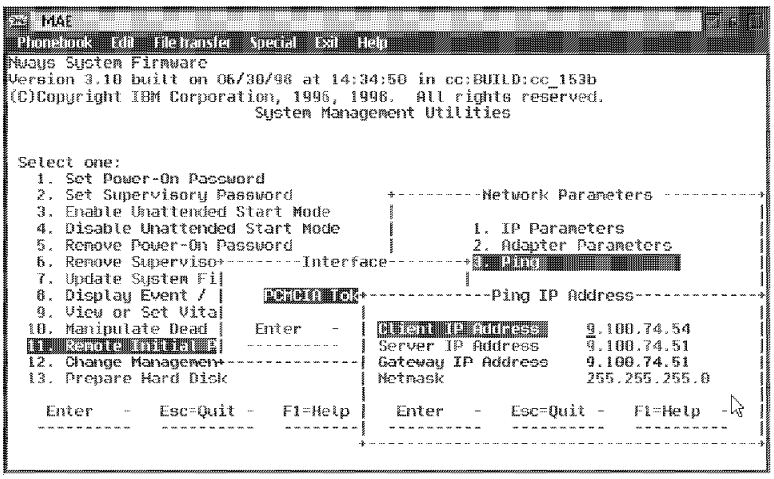
__ 3. Select **Ping**, then press **Enter**.



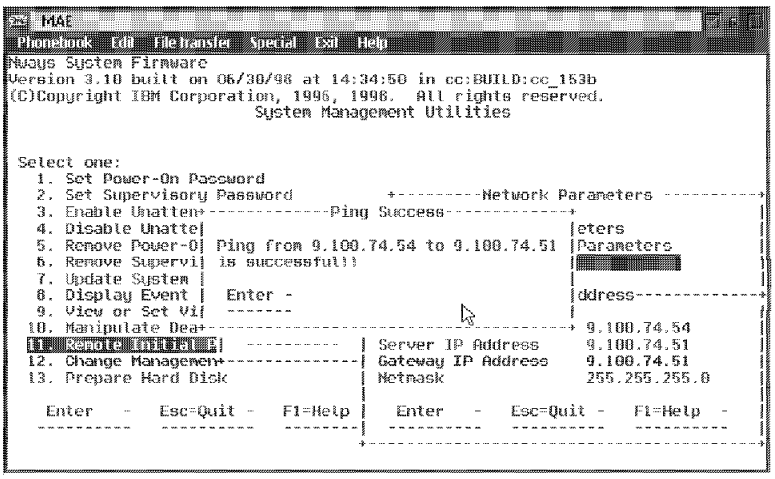
__ 4. When **PCMCIA Token Ring** is prompted, press **Enter**.



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



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



If not:

- Go to Step 2 on page 18 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**.

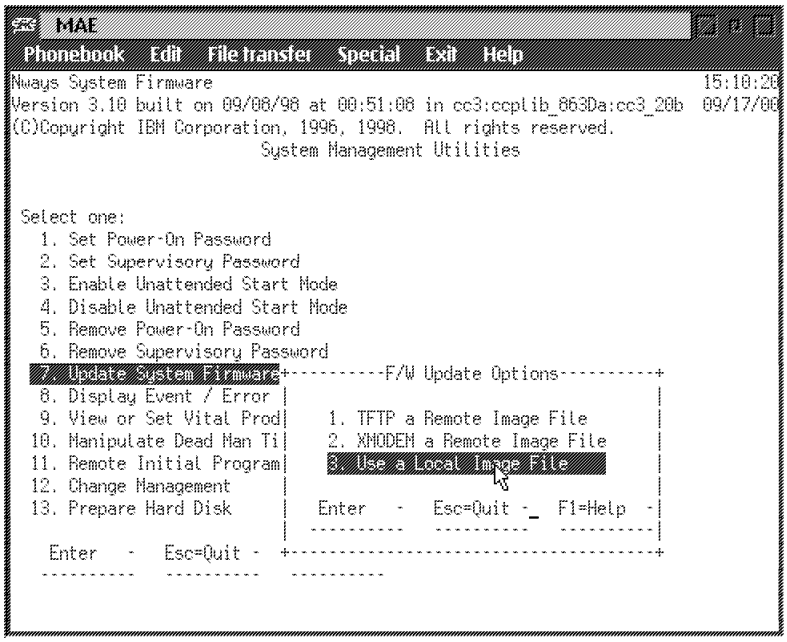
__ 8. Press the **Esc** key 3 times to exit.

__ 9. Go to 10.7, “Update the System Firmware.”

10.7 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:\sys0\firm.ld`

then press **Enter**.

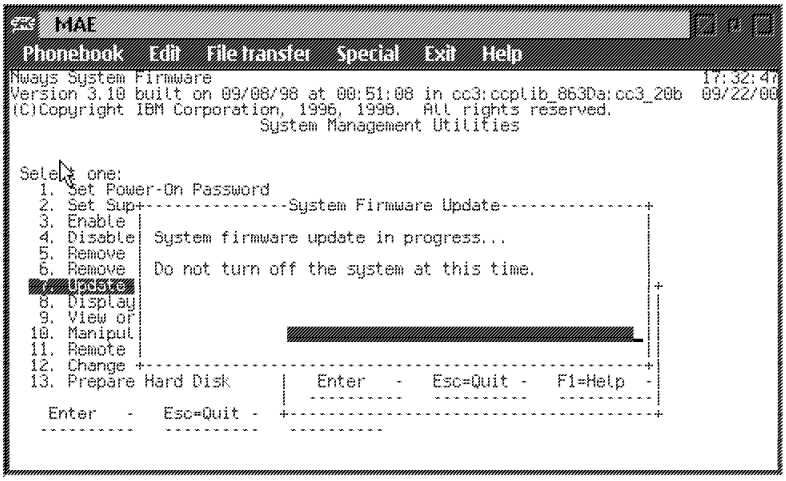
__ 4. When the **System Firmware Update** window is displayed, press **Y**.

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

__ 6. When the message "Firmware recovery image has been created successfully" is displayed press **Enter**.

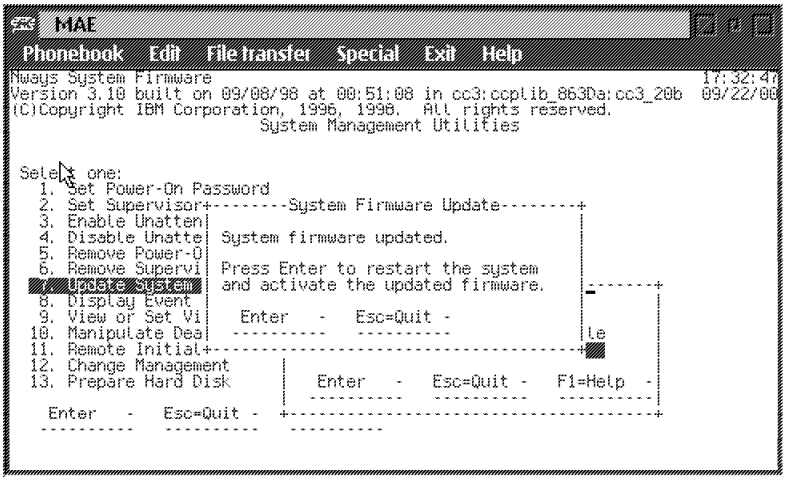
__ 7. If a **System Firmware Update** confirmation window is displayed, type **Y**.

__ 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 (when required) 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.

10.8 Reinstall the SAC Card

__ 1. Power OFF the MAE.

__ 2. Replug the SAC card previously unplugged.

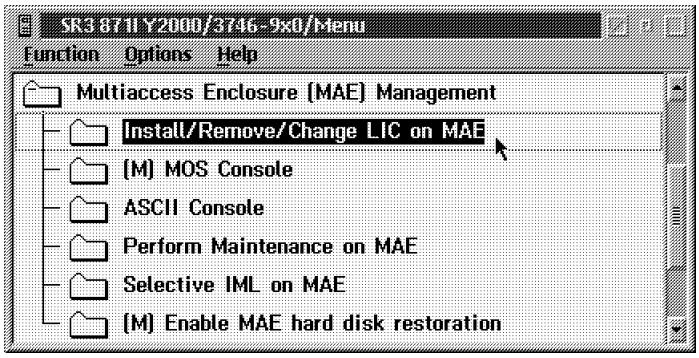
__ 3. Tighten the thumbscrews on the face of the adapter card clockwise.

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

10.9 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...**.

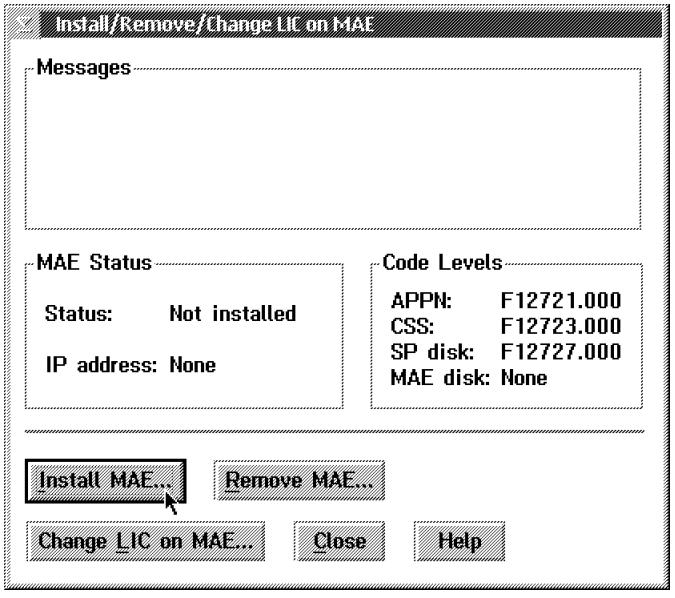


Figure 10. Install Multiaccess Enclosure

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

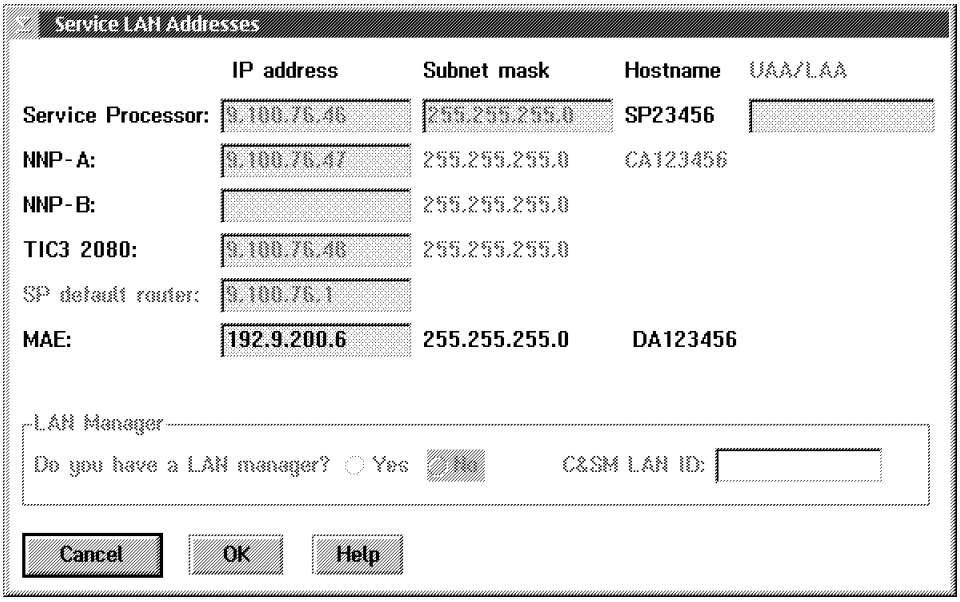


Figure 11. Service LAN Addresses

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

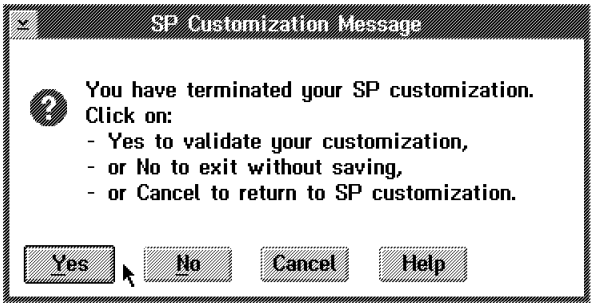


Figure 12. SP Customization Message

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

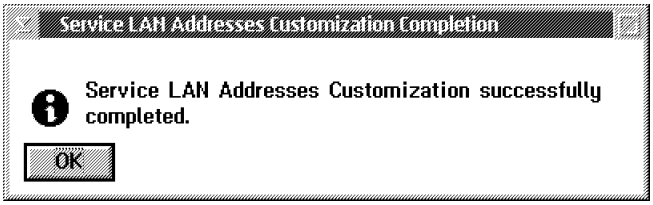


Figure 13. SP Customization Completed

__ 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**.

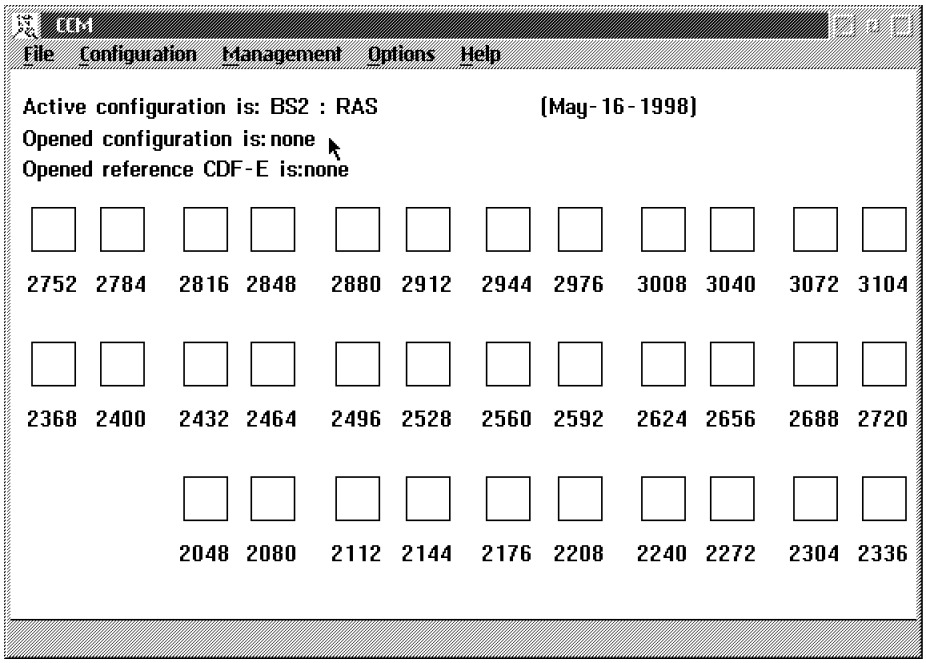
10.10 Activate CCM Configuration

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

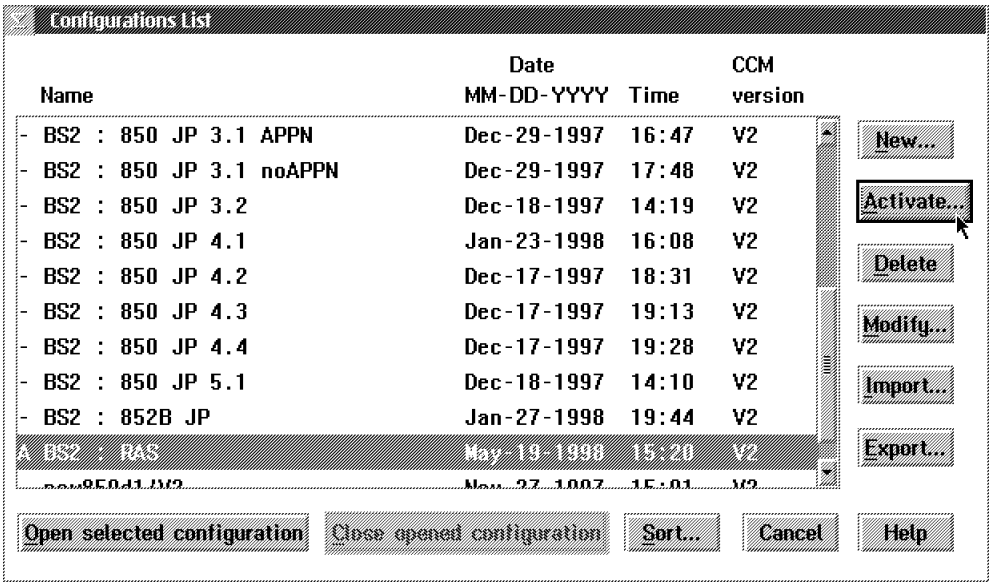
__ 2. Click on the **Network Node Processor (NNP) Management** option.

__ 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 defective part according to your normal return part process.

15.0 Machine Records

Report the installation and quality according to the exiosting procedure.

16.0 Activity Reporting

Report the EC installation activity in normal QSAR.

End of instructions.