Field Feature Bill of Material

PN 10K8666
Storage Expansion (FC 5447)
in IBM 3746 Model 9X0 with FC 5424
(Network Node Processor A or B - 6563 Model 65U)

Written by:	R. Taliaferro
Modified by:	K. Kubovcik
Checked by:	C. Franoux
Approved by:	A. Badino
Reviewed by:	J. Wicks

IBM Installation Instructions

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Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Model 9X0 with FC 5424 (Network Node Processor A or B - 6563 Model 65U).

This feature should only be applied on the machine serial number for which it is specified.

2.0 Related BMs and ECs

None.

3.0 BMs to be Installed

10K8666 Network Node Processor Memory Expansion.

4.0 Preparation

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

   Note: Whenever required for a dual NNP configuration, the NNP memory expansion must be installed in both processors.

5.0 Programming

None.

6.0 Purpose and Description

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6.1 Purpose

To support large network configuration on 3746-9x0.

6.2 Description

To install one additional **DIMM** on system board of the Network Node Processor A or B.

7.0 Installation Time

FFBM	Machine Hrs.	System Hrs.	Nbr of CEs
10K8666	See Notes.	0.0	1

Notes:

1. If two Network Node Processors are installed and the backup function is selected, 0.2 hours of machine time are required.

2. If only one Network Node Processor is installed, all the lines depending on it should be deactivated for about 1 hour.

8.0 Tools/Material Required

E.S.D. Kit p/n 6428316

General Layout of Components

Figure 1 shows the Network Node Processor system unit with the covers removed. This figure illustrates the general layout of the system unit. This general layout is the same for all configurations, even though component units (input/output, storage, and so forth) may be changed or added.

Figure 2 on page 7 shows the locations of components and connectors on the current system board. Note that the locations of system board components could change with different system boards.
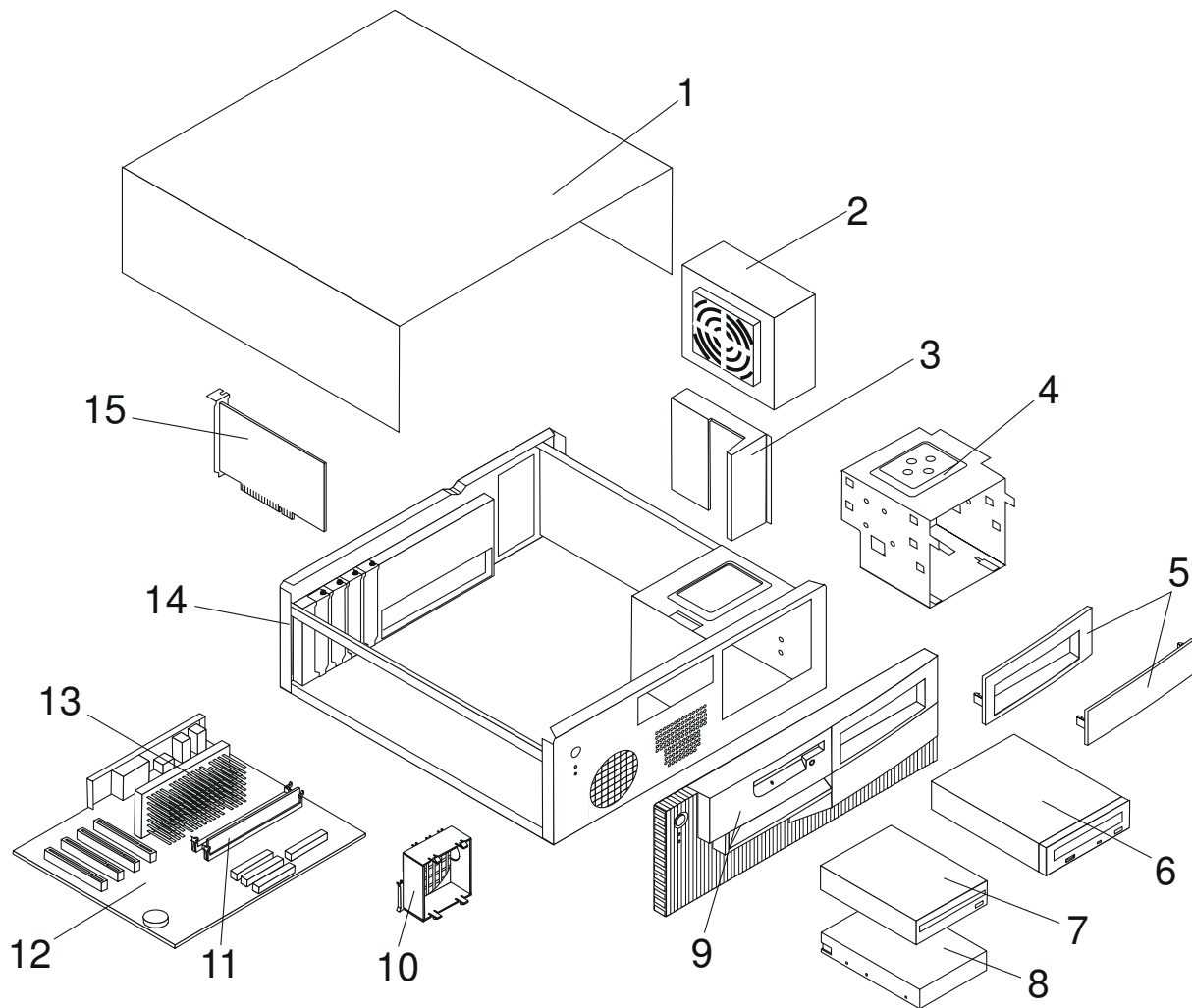
Figure 1. Network Node Processor Exploded View

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8.1.1 Parts Listing

1	Top Cover Assembly
2	Power Supply-145W
2	Power Supply-145W (China)
2	Power Supply-145W (Japan)
3	Fan Duck Kit
4	Hard File/Floppy Bracket
5	Bezel Kit
6	CD-ROM (40X Max)
6	CD-ROM (48X Max)
6	CD-ROM Read/Write
7	1.44 MB, 3.5-Inch Diskette Drive
7	1.44 MB, 3.5-Inch Diskette Drive (Japan)
8	10.1 GB EIDE Hard Disk Drive
8	13.5 GB EIDE Hard Disk Drive
8	20.4 GB EIDE Hard Disk Drive
9	Front Bezel Assembly
10	Fan/Card Guide Assembly
11	Memory - 64 MB SDRAM, Non-Parity
11	Memory - 128 MB SDRAM, Non-Parity
11	Memory - 64 MB SDRAM, ECC
12	System Board (no processor, no memory)
13	Pentium III 533/133 MHz.
14	Chassis Assembly
15	IBM Token-Ring 16/4 PCI Adapter 2

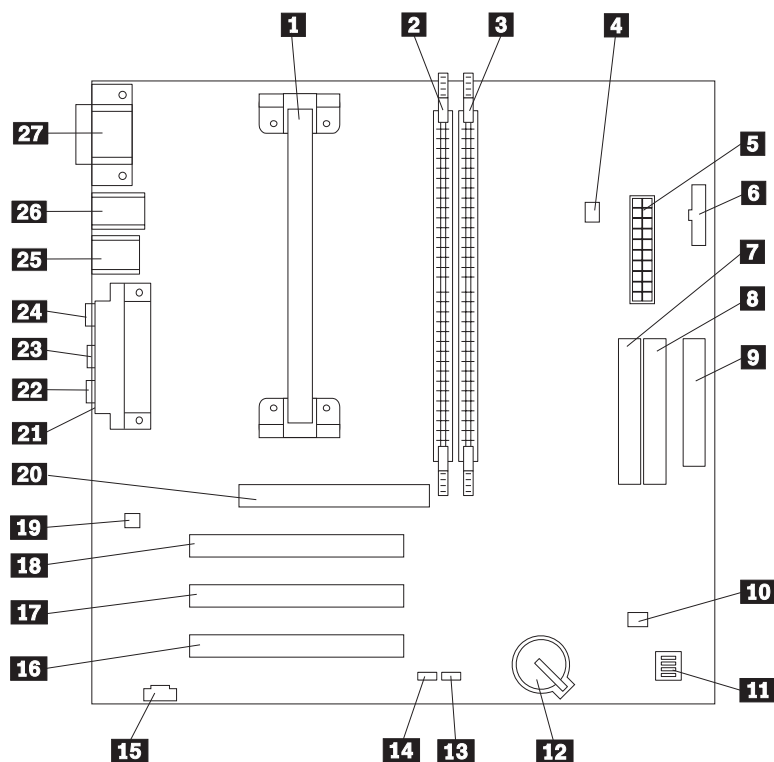## 8.1.2 Service Processor (6563 Model 65U) Pentium II, Pentium III System Board

Figure 2. 6563 Model 65U System Board

8.1.3 System Board Locations

1	Processor socket
2	DIMM socket 1
3	DIMM socket 2
4	Processor fan connector
5	Power connector
6	Power Switch/LED connector
7	Primary IDE connector
8	Secondary IDE connector
9	Diskette drive connector
10	Front fan connector
11	Switch assembly
12	Battery
13	Wake on LAN connector
14	Alert on LAN connector
15	CD Audio Connector
16	PCI 1 slot
17	PCI 2 slot

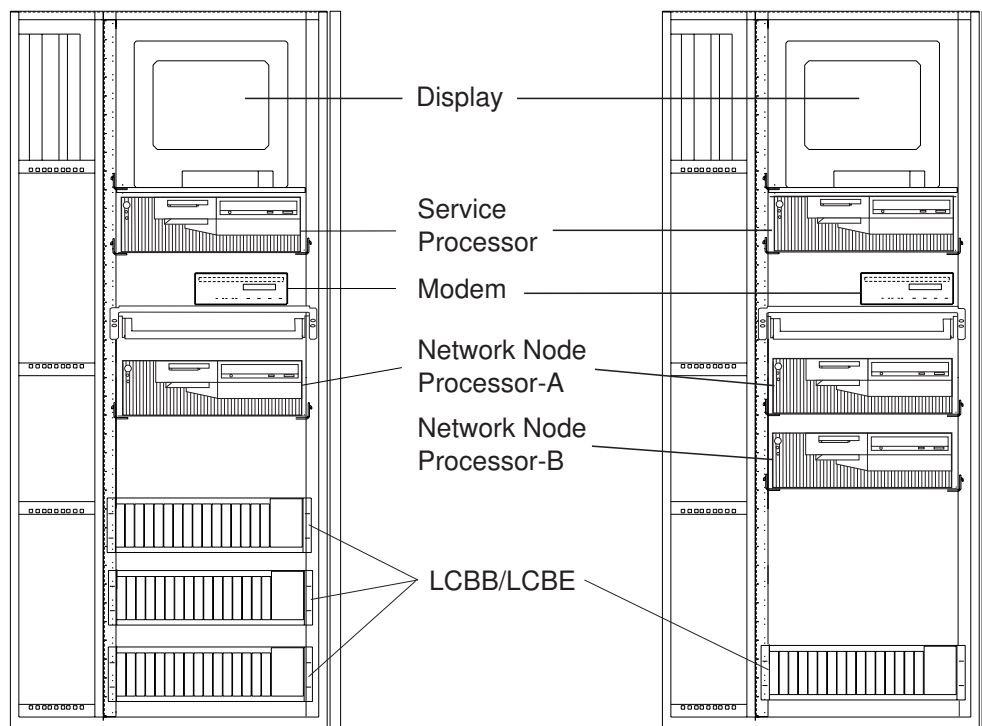| 18 | PCI 3 slot |
19	Internal speaker connector
20	AGP connector
21	Parallel connector
22	Microphone connector
23	Line Out Connector
24	Line In connector
25	USB connectors
26	Mouse/Keyboard connectors
27	Serial connectors (COM 1, COM 2)

8.2 The Network Node Processor Location

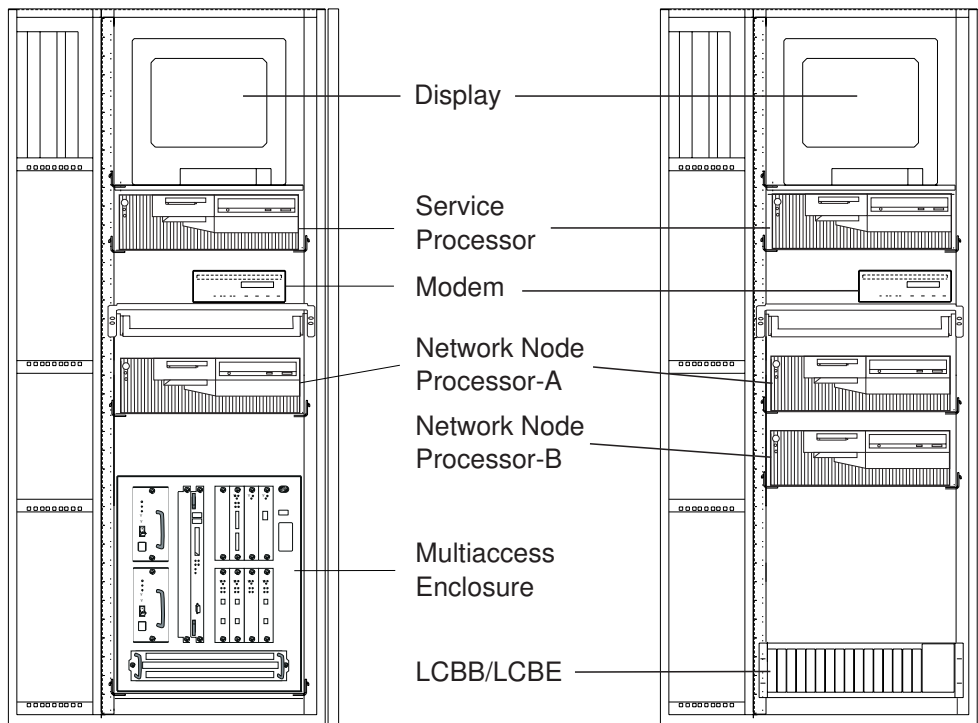Figure 3. Units Installation in the Controller Expansion (SP and NNP Type 6563 Model 65U)

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Display

Service
Processor

Modem

Network Node
Processor-A

Network Node
Processor-B

Multiaccess
Enclosure

LCBB/LCBE

Figure 4. Units Installation in the Controller Expansion (SP, NNP Type 6563 Model 65U + MAE)

J8

J7   Other Options
            (for example Ethernet Bridge/
J6   or Multiaccess Enclosure 1st Power Supply)

J5   Network Node Processor B
            or Multiaccess Enclosure 2nd Power Supply

F2

F1

J4   Optical Disk Drive, CD-ROM Drive or RSF Modem (7858)

J3   Display

J2   Network Node Processor A

J1   Service Processor

            AC Input
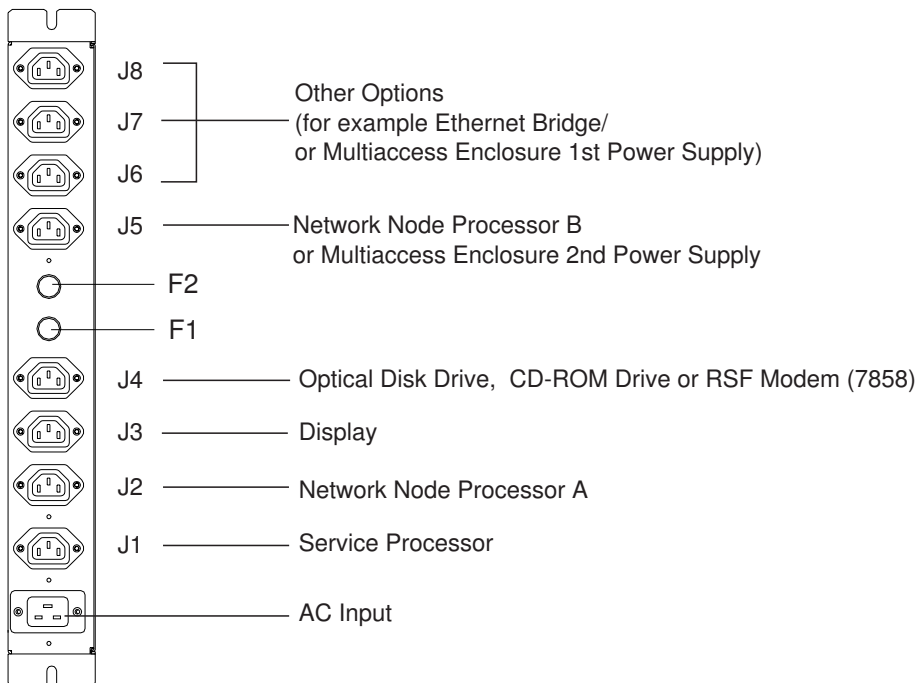
Figure 5. Connecting the Units to the ac Outlet Distribution Box.

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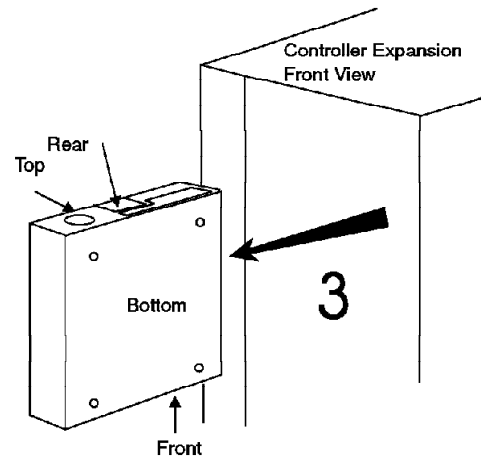## 8.3 Removing the 6563 From the Controller Expansion

- You need about 50 centimeters (21 inches) free above the brackets where the 6563 is installed. Remove any material necessary to satisfy this requirement.

- Inside the controller expansion, rotate the 6563 to have the rear of the 6563 on the top (see reference **1**).

- Once the 6563 is vertical, place it in the middle of the controller expansion.
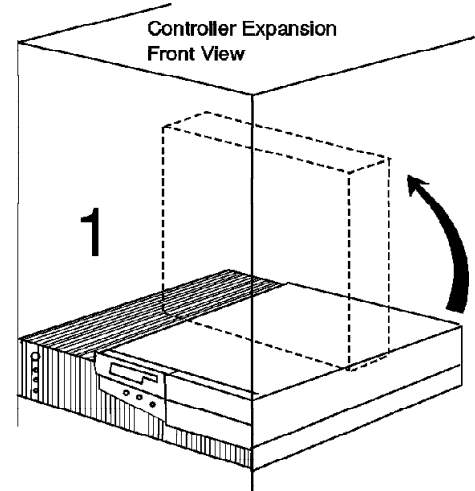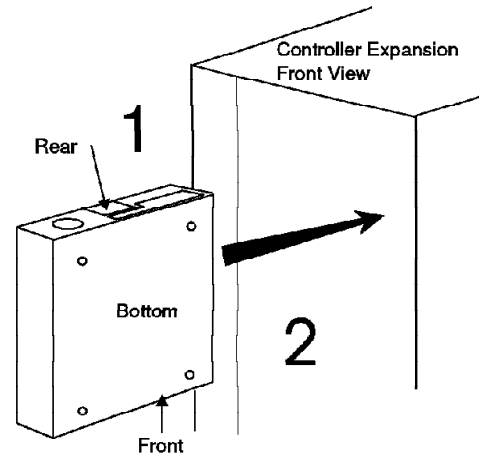
- Rotate the 6563 90 degrees clockwise (see reference **2**).
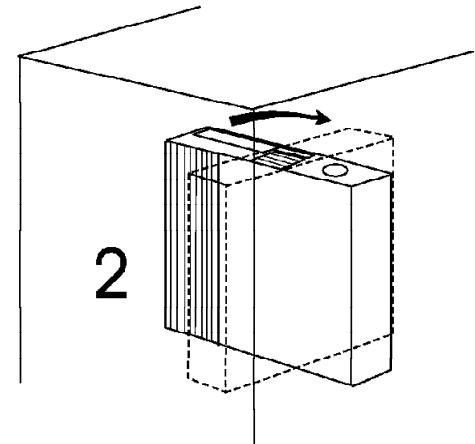
- Extract the 6563 from the controller expansion (see reference **3**).

- Continue the procedure from where you came.

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## 8.4 Installing the 6563 into the Controller Expansion

- You need about 50 centimeters (21 inches) free above the brackets where you want to install the 6563. Remove any material necessary to satisfy this requirement.

- Turn the 6563 vertically to have the rear panel on the top (see drawing **1**).

- Insert vertically the 6563 into the controller expansion (**2**).

- When the 6563 is in the middle of the controller expansion, rotate the 6563 90 degrees counterclockwise (see reference **3**).
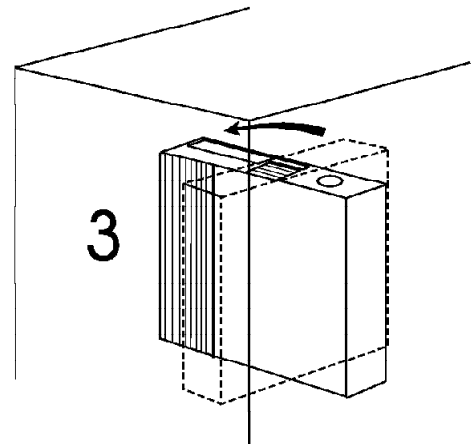
- Rotate the 6563 to have its rear panel near the rear of the controller expansion (**4**).

- Once the 6563 is horizontal in the controller expansion, install it on the brackets.

- Continue the procedure from where you came.

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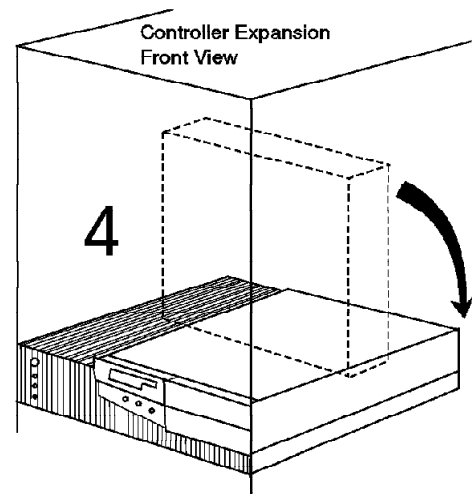
Installation (Steps 9-12)

9.0 Safety

See *Safety Notices* located in the:

- *Network Node Processor Installation and Maintenance (Based on 6563 Model 65U)* manual SY27-0394, and
- *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054, or
- *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070

10.0 Details of Installation

10.1 Preparing for the Installation

__ 1. Open the front and rear doors of the Controller Expansion.

__ 2. Locate the Network Node Processor. (Refer to Figure 3 on page 9 and Figure 4 on page 10).

__ 3. If a diskette is installed in the diskette drive, remove it and store safety until installation is completed.

__ 4. Switch the power **OFF (O)**.

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__ 5. From the rear side of the Network Node Processor, disconnect the Power cord and the LAN cable (refer to Figure 6).
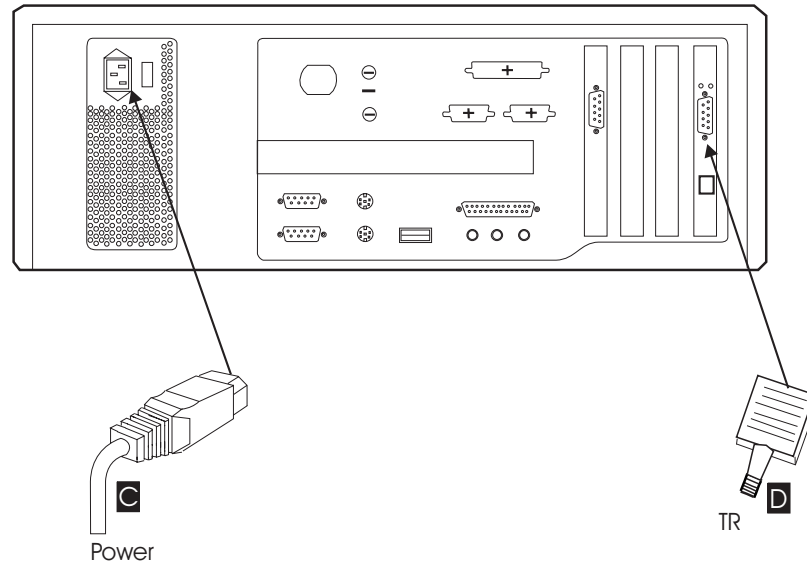

Figure 6. Network Node Processor Cables Connection

__ 6. Remove the Network Node Processor unit from the Controller Expansion. If you have any difficulty to remove the unit, refer to 8.3, "Removing the 6563 From the Controller Expansion" on page 11, then go to next step.

__ 7. Take the unit and put it down on a table.

10.2 Removing the NNP Cover.

__ 1. Refer to Figure 7

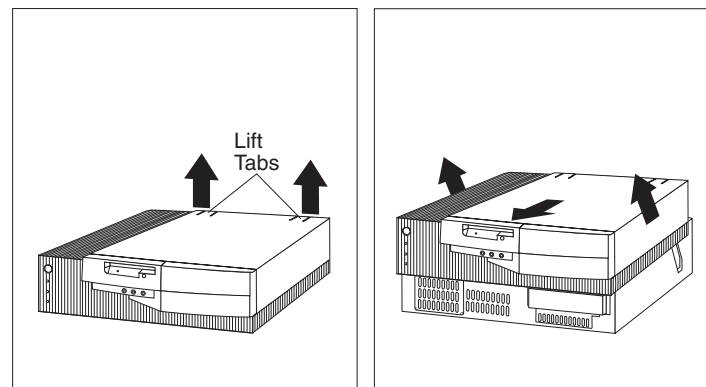__ 2. Unlock cover from back of the system unit

__ 3. Then, remove the cover.

Figure 7. Remove the 6563 Model 65U Covers

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10.3 DIMM Installation

> **Caution**
>
> You should use the field electrostatic discharge (ESD) kit when you are han-
> dling a DIMM. Guidelines for using the ESD tools are printed inside the kit lid.

__ 1. Refer to Figure 1 on page 5 and locate the system board **12** .

__ 2. Refer to Figure 2 on page 7 and locate the DIMM sockets **2** and **3** of
Network Node Processor system board.

__ 3. Plug the DIMM into socket 2 **3** .

__ 4. Reinstall the cover on the network node processor frame.

10.4 Reinstalling the Network Node Processor.

Reinstall the Network Node Processor in its original location:

__ 1. Slide the network node processor unit in the controller expansion from the
front side If you have any difficulty to reinstall the unit, refer to 8.4,
"Installing the 6563 into the Controller Expansion" on page 12, then go to
next step.

__ 2. From the rear panel of the Network Node Processor, reconnect the Power
cord and the LAN cable refer to Figure 6 on page 14 and Figure 5 on
page 10 to connect the NNP to the ac outlet distribution box.

11.0 Test Procedures

    __ 1. Shutdown and power **OFF** the service processor.

    __ 2. Disconnect the display and keyboard from the rear side of the Service Processor.

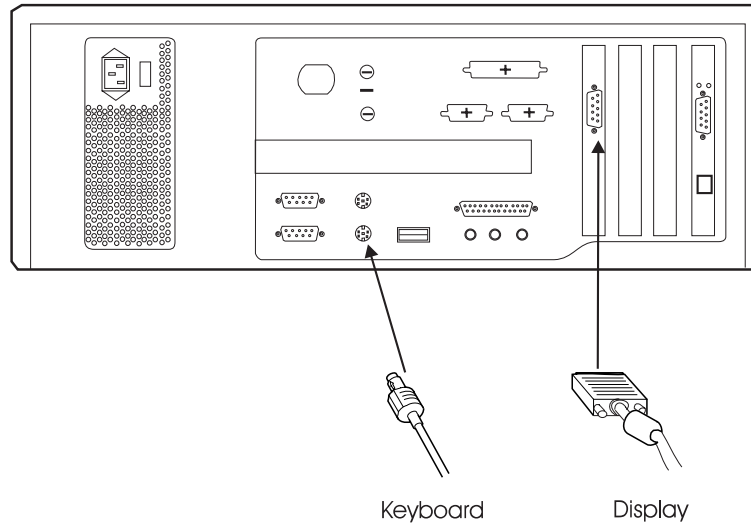   __ 3. Connect the display and keyboard at the rear of the network node processor.

Keyboard   Display

Figure 8. How to Connect the Display and the Keyboard on the Network Node Processor.

    __ 4. Power **ON** the network node processor

    __ 5. You get the following error messages:

        a. *164 Memory Size Error*

        b. *POST Startup Error* screen, press **Enter** to continue

        c. *Configurator Error* screen, press **Enter** to continue

    From the following window select **System Summary** **1**

```
Configuration/Setup Utility

Select Option:

- System Summary              1
- Product Data
- Device and I/O Ports
- Start Options
- Date and Time
- System Security
- Advanced Setup
- ISA Legacy Resources
- Power Management

Save Settings
Restore Settings
Load Default Settings

Exit Setup
```

___ 6. The following window is displayed, check that the value of the System Memory is 256 MB.

```
        System Summary

Processor         Pentium III
Processor Speed   533/133 MHz
L2 Cache Size     512 KB
Cache State       Enabled with NO ECC
System Memory     256 MB
Memory Type       Non-ECC
Memory Bus Speed  133 MHz
Video Controller  S3 Incorporated. Savage4
Audio Support     Enabled
Diskette Drive A  1.44 MB 3.5"
IDE Hard Disk Drive 0 13579 MB
IDE Hard Disk Drive 1 Not Installed
IDE CD-ROM Drive 2  Installed
IDE Hard Disk Drive 3 Not Installed
IDE Hard Disk Drive 1 Not Installed
IDE CD-ROM Drive 2 Installed
IDE Hard Disk Drive 3 Not Installed
```

Go to Step 7.

___ 7. **Is the System Memory = 256 MB ?**

   • **YES**, go to Step 8.

   • **No**, Refer to **Chapter 3 . Network Node Processor Problem Determination** in *Network Node Processor Installation and Maintenance (Based on 6563)*, SY27-0394 to solve the problem.

___ 8. Press **Escape** to return to the **Configuration/Setup Utility** screen.

___ 9. On the **Configuration/Setup Utility** screen, select **Start Options**.

___ 10. Verify or set the keyboardless Operation Mode to **Enabled**.

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```
            Start Options

   Startup Sequence

   Keyboard Numlock State     (ON)
   Keyboard Speed             (Fast)
   Keyboard Reset Delay       (Disabled) (Note)
   Disketteless Operation     (Disabled)
   Keyboardless Operation Mode(Enabled)
   Power On Self-Test         (Quick)
   Power On Logos             (Enabled )
   Power On F1/Esc Options    (Enabled )
   Power On Status            (Disabled)
   Virus detection            (Disabled)
```

Note: This option appears only on 6275 Model 83U.

__ 11. Press **Escape** to return to the **Configuration/Setup Utility** screen.

__ 12. On the **Configuration/Setup Utility** screen, select **Save settings** press **Enter** twice to save the parameters.

__ 13. On the **Exit Configuration/Setup Utility** screen, select **Exit Setup** and press **Enter** to leave the configuration setup utility and reboot the NNP.

__ 14. Power **OFF** the NNP.

__ 15. Disconnect the Display and keyboard from the NNP, then reconnect them to the Service Processor.

__ 16. Power **ON** the service processor and the NNP.

__ 17. On the **Service Processor** (**MOSS-E View** screen), the NNP icon should be **green** when the NNP has been successfully re-started and the configuration has been activated.

12.0 Field Updating

None.

After Installation (steps 13-15)

13.0 Publications Update

None.

14.0 Parts Disposition

14.1 Purchased Machines

- 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 problems using existing procedures

End of instructions.

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