

Installation



NC200 and NC400 Network Computer

Expansion Memory

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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Only qualified personnel should perform service procedures.

Injury Precautions

Use Proper Power Cord

To avoid fire hazard, use only the power cord specified for this product.

Ground the Product

This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground.

Do Not operate in Wet/Damp Conditions

To avoid electric shock, do not operate this product in wet or damp conditions.

Do Not Operate in an Explosive Atmosphere

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

Avoid Exposed Circuitry

To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present.

Product Damage Precautions

Use Proper Power Source

Do not operate this product from a power source that applies more than the voltage specified.

Provide Proper Ventilation

To prevent product overheating, provide proper ventilation.

Do Not Operate With Suspected Failures

If you suspect there is damage to this product, have it inspected by qualified service personnel.



General Safety Summary

Safety Terms and Symbols

Terms in This Manual

These terms may appear in this manual:



WARNING: Warning statements identify conditions or practices that can result in personal injury or loss of life.



CAUTION: Caution statements identify conditions or practices that can result in damage to the equipment or other property.

Terms on the Product

These terms may appear on the product:

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product

The following symbols may appear on the product:



DANGER high voltage



Protective ground (earth) terminal



ATTENTION – refer to manual

Expansion Memory Installation

Introduction

Use these instructions to install Expansion Memory in your NC200 or NC400 Business Network Computer. Where a procedure differs for a particular model, the difference is clearly pointed out.

After you check the contents of your kit and read the Electrostatic Precautions, begin the installation procedure on the next page.

Kit Contents

This field installation kit includes the following:

- One Expansion Memory board (4, 8, 16, or 32 MB)
- One anti-static wrist strap
- One anti-static conductive pad
- These installation instructions

Tools Required

Installation of the Expansion Memory kit in the NC200 requires no tools; installation in the NC400 requires a Phillips screwdriver, #2 tip.

Electrostatic Precautions

This product contains components that are highly sensitive to electrostatic discharge. To protect these components from damage and to maintain product reliability, take the following precautions when handling the circuit boards:

- Leave the board in its static-shielded bag until you are ready to install the board.
- Handle all circuit boards in a static-protected area capable of controlling static charge on conductive materials, people, and non-conductive materials. Static-protected areas include non-static table tops and non-static floor mats.
- Use the anti-static wrist strap and conductive pad provided in the kit when working with any circuit board.
- Handle the circuit boards only by the edges. Avoid touching the printed wires on the back of the circuit board as much as possible.

NCF32 Installation Note

The NC200 network computer cover has a clearance problem with some 32MB DIMM cards. Some 32MB DIMMs are taller than other DIMMs and therefore they may run into a metal flange that hangs down from the top of the cover. There are four flanges connected to each of the four plastic posts that drop down from the inside of the plastic cover.

To alleviate this interference described above, execute the following procedure before installing the 32MB DIMM into a NC200.

1. Lay the top plastic cover upside down on a flat surface as shown in Figure 1.
2. Using a flat head screwdriver or nutdriver, perform the following procedure on only the front-most post that is nearest to the power switch.
3. Press down each of the four flanges such that the flanges are pressed up against the top of the cover. This will prevent the DIMM from touching any one of the flanges around this post.

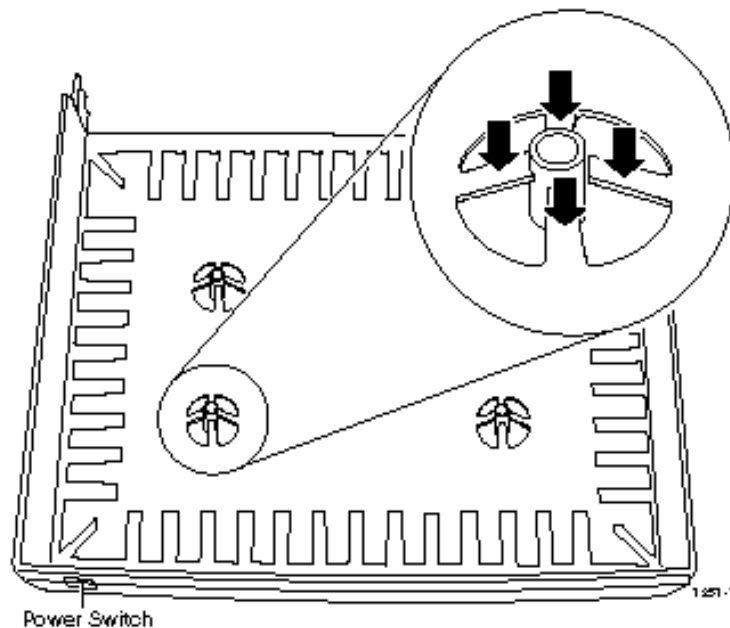


Figure 1. Network Computer Flanges

NCF32 Installation Note

For the 32MB DIMM to work correctly in your NC, Bootmonitor code version 7.10 or higher is required. If you have a version of Bootmonitor code less than 7.10, download the newer version from the following ftp site: ftp.ncd.com. Use the following example (enter items shown in bold type):

```
Prompt> ftp ftp.ncd.com  
Name (ftp.ncd.com:username): anonymous  
Password: <your_email_address>  
ftp> cd /pub/nwd/NCBridge/BootMonitors
```

Use "dir" and "mget" commands to list and obtain the README.INSTALL file, which includes information on how to download and install the new bootmonitor code.

Installing the Expansion Memory

1. Set the Standby/On switch to Standby.
2. **NC200:** Remove the cable cover from the rear of the Logic Module as shown in Figure 2.



CAUTION: The Standby/On switch on the NC200, when set to Standby, does not turn off the power to the circuitry inside. To avoid the possibility of damage to the circuitry, be sure to disconnect the ac line cord to the power supply before doing any work inside the logic module.

3. Disconnect the ac power. **NC200:** unplug the power supply from the ac power outlet, then disconnect the power supply connector from the rear panel. **NC400:** unplug the ac line cord from the rear panel.
4. Disconnect as many other cables as necessary to easily reach the rear of the logic module.

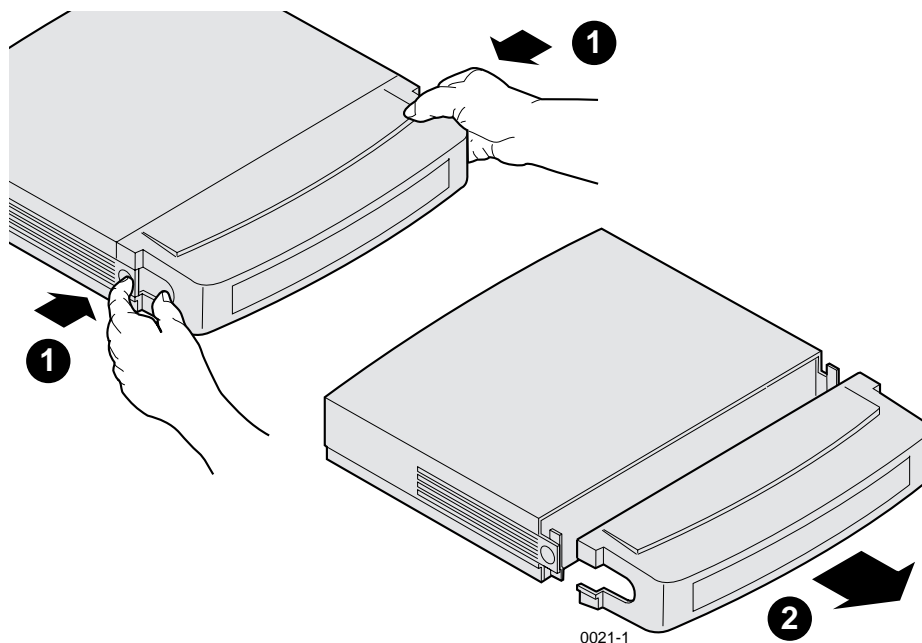


Figure 2. Removing the NC200 Cable Cover

Installing the Expansion Memory

5. Remove the logic module cover. **NC200:** As shown in Figure 3. **NC400:** As shown in Figure 4.

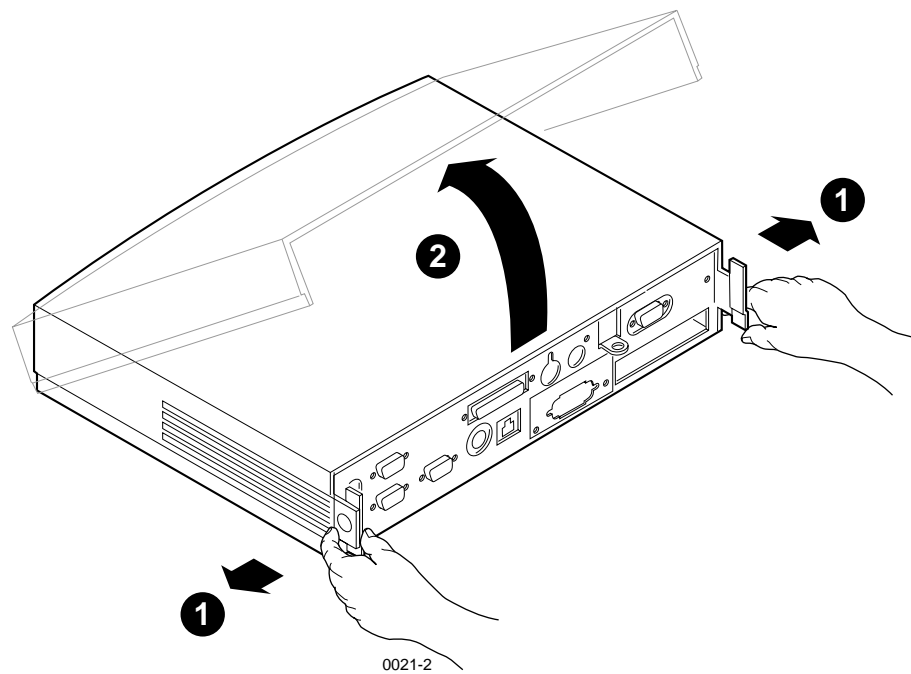


Figure 3. Removing the NC200 Logic Module Cover

Expansion Memory Installation

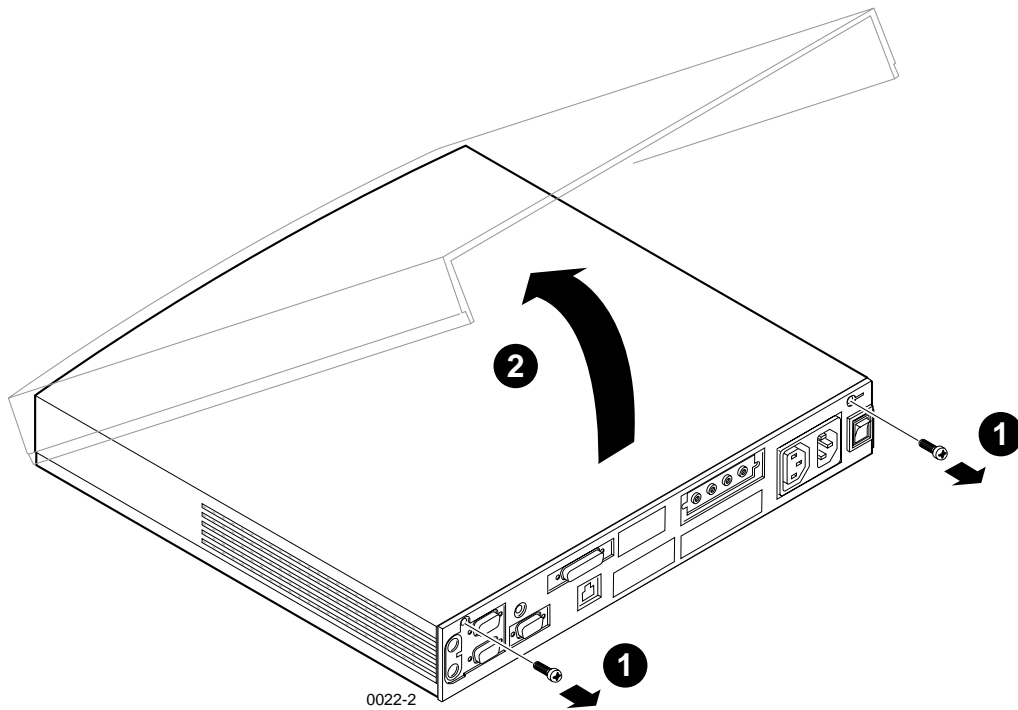


Figure 4. Removing the NC400 Logic Module Cover

6. Put on the anti-static wrist strap (follow the instructions on the wrist strap package).
7. Remove the circuit board from the protective package.
8. Plug the new memory board into one of the two (NC200) or four (NC400) DIMM sockets as shown in Figure 5. When the board is pressed into the socket, the latches will automatically close.

Installing the Expansion Memory

IMPORTANT: *In the NC400, DIMM pairs must be installed in alternate sockets, not adjacent sockets. This means you can install a pair of the same size DIMMs in sockets 1 and 3 or sockets 2 and 4, but not in sockets 1 and 2 or 3 and 4. The DIMM pairs can be different sizes, but the individual DIMMs in a pair must be the same size. For example, you can install a pair of 8MB DIMMs in sockets 1 and 3, and a pair of 4MB DIMMs in sockets 2 and 4.*

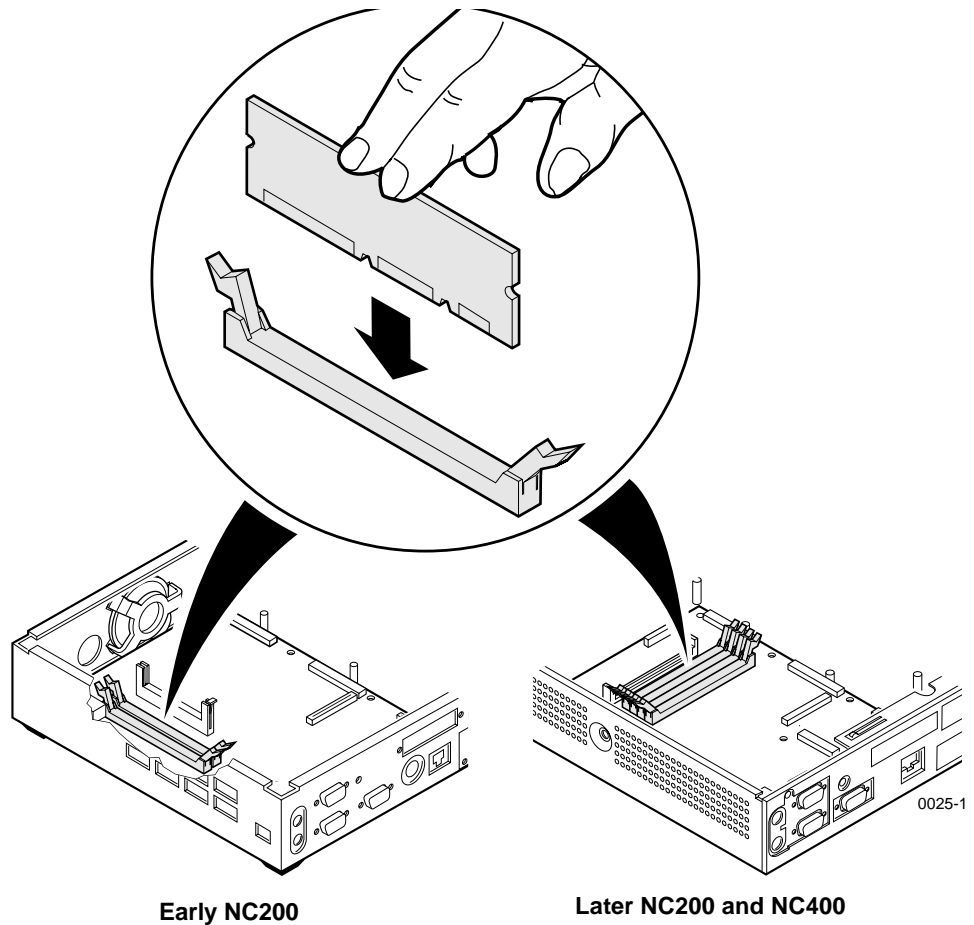


Figure 5. Expansion Memory Sockets

Expansion Memory Installation

9. Replace the logic module cover on the chassis.
10. Reconnect all cables removed earlier. Connect the power supply to the network computer before plugging it into the AC power outlet.
11. **NC200:** Replace the cable cover, routing the cables out the slots in the cover sides as shown in Figure 6.
12. Verify the installation using the procedure that follows.

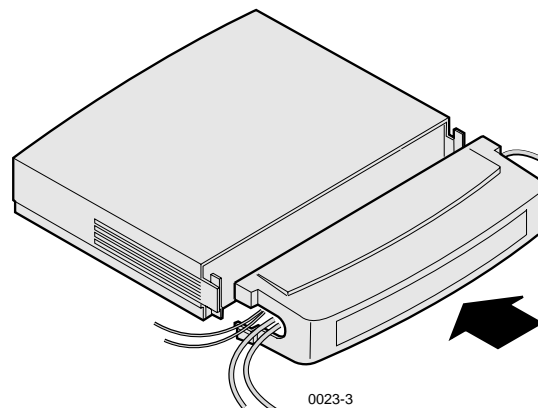


Figure 6. Installing the NC200 Cable Cover

Verification

To verify that your network computer is operating correctly after installing the Expansion Memory:

1. Set the Standby/On or On/Off switch to on (1) and watch for the Boot Monitor screen to appear.
2. Press any keyboard key before the boot process is complete.

Pressing any key before the boot process is complete stops the process and transfers control to the boot monitor. The following message appears on the display:

```
Type HELP for a list of commands
```

```
BOOT> _
```

3. Check the amount of total memory displayed in the upper left-hand panel of the Boot Monitor screen. The total should reflect the newly added memory.
4. At the BOOT> prompt type **report** and verify that the total “opt mem:” is correct. The total should be the sum of the newly added memory and any previously installed option memory.

If the total does not include the newly added memory, check the DIMMs to be sure they are properly seated in the sockets, then repeat the verification procedure. If the memory total is still incorrect, contact your NCD representative.

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5. Type **self-test** at the **BOOT>** prompt. The Self Test Menu, shown in Figure 7, will appear.

```
Self Test Menu

System Memory Tests
LAN Interface Tests
Flash Option Tests
NVRAM Tests

Press the "SPACE" bar to step through the selections.
Press the "↵" to make a selection.
Press "ESC" to exit?
```

Figure 7. Self Test Menu

Following the instructions below the menu, select the System Memory Test and start the test by pressing "↵" (Enter or Return). When the test successfully completes, the messages on the screen appear as shown in Figure 8. If the test does not complete successfully, contact your NCD representative.

```
System Memory Tests Complete. Press any key to continue.

Data Walk                Passed
Byte Steering            Passed
Address Walk             Passed
RAM Bank Address         Passed
Mod255                  Passed
March16                 Passed
March32                 Passed
```

Figure 8. Display Messages After Successful System Memory Verification Test