Installation

NCD

NC200 and NC400 Network Computer

Flash Memory

June 1999

ii

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.

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

Flash Memory Installation

Introduction

Use these instructions to install the Flash Memory board 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 the kit and read the Electrostatic Precautions, begin the installation procedure on the next page.

NOTE: The 8MB and 16 MB flash memory card, NCF1D and NCF1E respectively, requires NCBridge version 3.2.1 or higher software with bootmonitor code version 8.1 or higher. If your NC does not have version 8 boot code, download it from the NCD ftp site using the following example:

```
prompt> ftp ftp.ncd.com
name: anonymous
password: <your_email_address>
ftp> cd /pub/new/NCBridge/BootMonitors
```

NOTE: To re-flash the M-system flash memory card supplied with the N200XPC, N200XPC2, and in field kits NCF1D or NCF1E, download a patch for NCBridge 3.2. The patch can be found at the NCD ftp site. The following is an example of how to download the patch (enter the values shown in bold type:

```
prompt> ftp ftp.ncd.com
name: anonymous
password: <your_email_address>
ftp> cd /pub/nwd/NCBridge/Patches/V3.2
```

Kit Contents

This field installation kit includes the following:

- One Flash Memory board (2, 4, 8, 12 , or 16 MB depending on the kit ordered)
- One anti-static wrist strap
- One anti-static conductive pad
- These installation instructions

Tools Required

Installation of the Flash Memory board 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.

Installing the Flash Memory Board

1. Set the Standby/On or Power switch to Standby or 0.

2. **NC200:** Remove the cable cover from the rear of the logic module as shown in Figure 1.

⚠ *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.
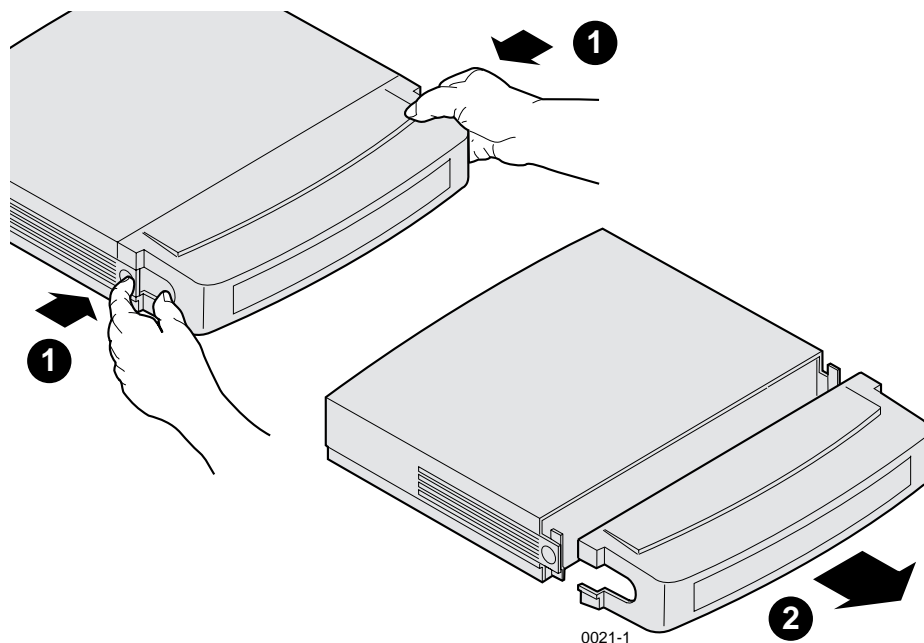
0021-1

Figure 1. Removing the NC200 Cable Cover

5. Remove the logic module cover. **NC200:** As shown in Figure 2. **NC400:** As shown in Figure 3.

Figure 2. Removing the NC200 Logic Module Cover
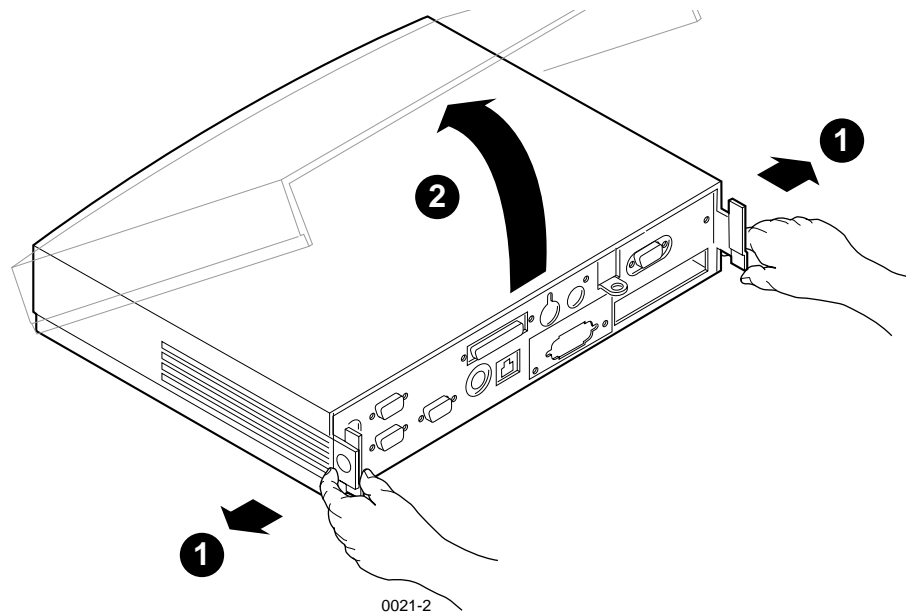
0022-2
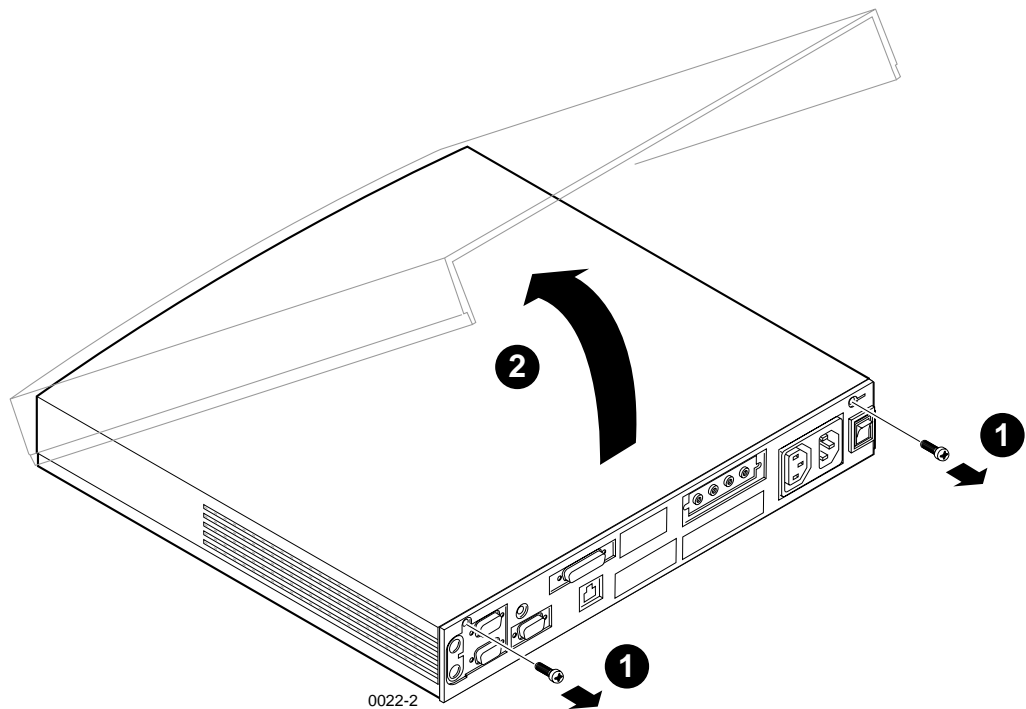
Figure 3. Removing the NC400 Logic Module Cover

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.

⚠ *CAUTION: When ejecting the Flash Memory board from the socket, press only straight down on the ejector tab. Attempting to pull the tab to the side can break the tab, making board removal more difficult.*

8. Locate the flash memory socket and plug the board into the socket as shown in Figure 4. Be sure that the board seats properly — the ejector tab pops up when the board is properly seated.

Flash Memory Installation

Press down to remove board

0026-1

Early NC200

Later NC200 and NC400
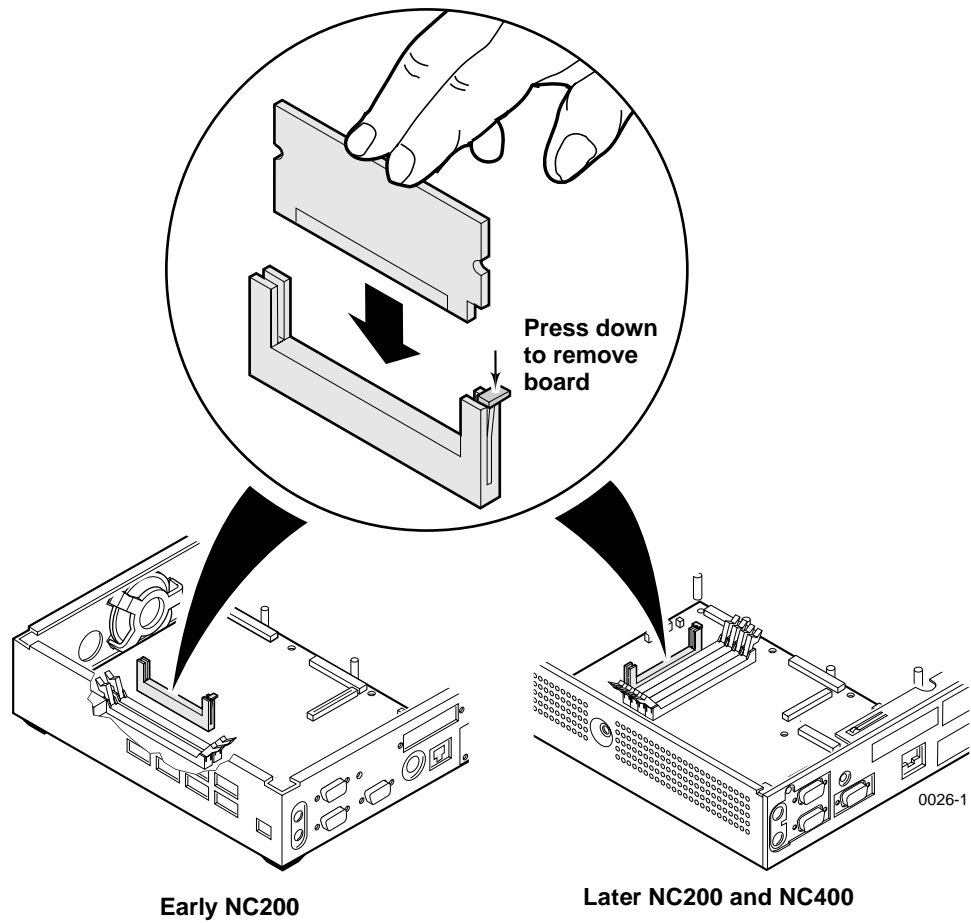
Figure 4. Installing the Flash Memory

9. Replace the logic module cover on the chassis.

10. Reconnect all cables removed earlier. Connect the power supply to the NC200 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 5.
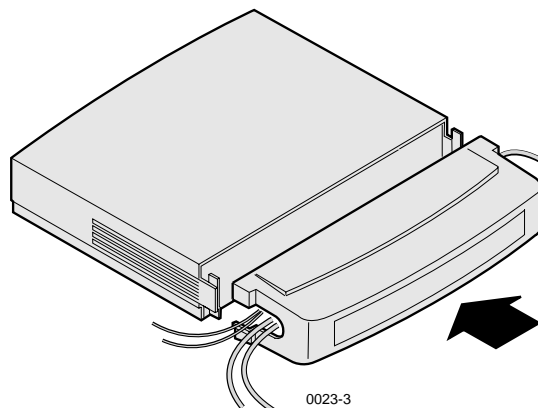
12. Verify the installation using the procedure that follows.

0023-3

Figure 5. Installing the NC200 Cable Cover

Verification

To verify that your network computer is operating correctly after installing the Flash 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 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. Type **report** at the `BOOT>` prompt and verify that the amount of Flash Memory reported is the amount you installed. The **report** command does not require that the Flash Memory be programmed to determine the amount of Flash Memory installed.

   If the amount of Flash Memory reported is different from the amount you installed, check your installation to be sure the board is properly seated in the socket. If the problem remains, contact your NCD representative.

4. Have your system administrator program the Flash Memory if it is not yet programmed, because the Flash Option test fails when applied to an unprogrammed board. For information on programming Flash Memory for the NC200 or NC400, refer to Chapter 2, *Remote Configuration*, in the *Network Computer Reference* manual, and to Chapter 3, *Making Choices*, in the *Network Computer Installation* manual.

5. Type **self-test** at the `BOOT>` prompt. The Self Test Menu, shown in Figure 6, 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 " ◄⏎ " to make a selection.
 Press "ESC" to exit.
```

Figure 6. Self Test Menu

6. Following the instructions below the menu, select "Flash Option Tests" and start the test by pressing " ◄⏌ " (Enter or Return). When the test successfully completes, the messages on the screen appear as shown in Figure 7. If the test does not complete successfully, contact your NCD representative.

```
 Flash Option Tests Complete. Press any key to continue.

 Flash Option Checksum     Passed
```

Figure 7. Display Messages After Successful Flash Option Tests

7. Follow the prompts to return to the boot monitor display.

8. At the BOOT> prompt, type **b r** to boot the thin client from the newly installed Flash Memory. If you want a different set of features than the ones currently in the memory, refer to the *Installation Manual* that came with your thin client software. There you will find information about editing the remote configuration file, a task that must be performed by your system administrator.

This completes the Flash Memory verification tests.

Flash Memory Installation