

Installation



NC200 and NC400 Network Computer

Frame Buffer Memory

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Network Computing Devices, Inc.
350 North Bernardo Avenue
Mountain View, CA 94043 USA

1-800-800-9599 (USA and Canada)
1-503-641-2200

<http://www.ncd.com>

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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

Frame Buffer Memory Installation

Introduction

Use these instructions to install the Frame Buffer Memory in an NC200 or an NC400 Business Network Computer (NC). 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 Frame Buffer Memory board
- One heatsink
- One anti-static wrist strap
- One anti-static conductive pad
- These installation instructions

Tools Required

Installation of the Frame Buffer Memory kit requires a Phillips screwdriver, #2 tip; installation in the later NC200 and NC400 also requires a 3/8" wrench or nutdriver.

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 Frame Buffer Memory

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.

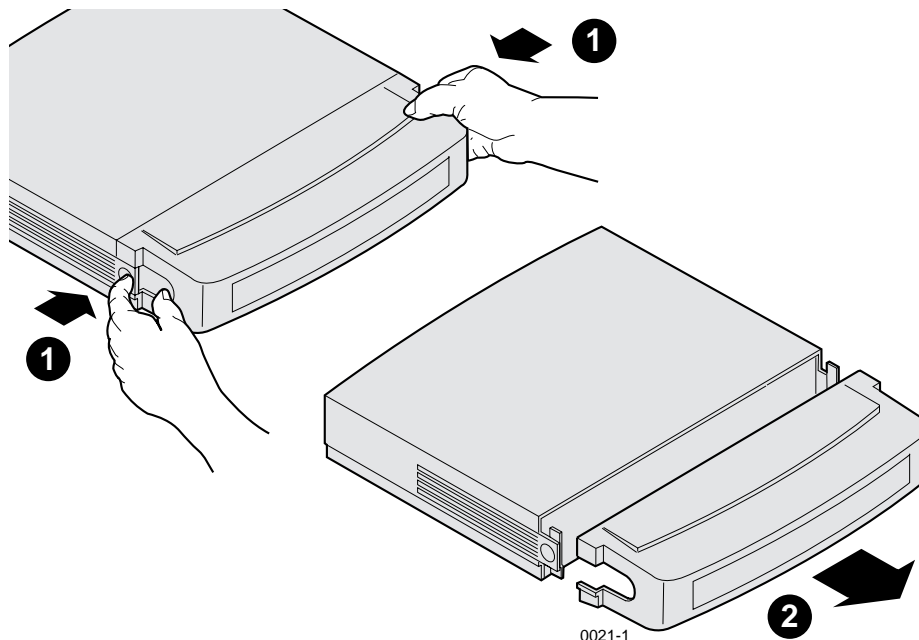


Figure 1. Removing the NC200 Cable Cover

Installing the Frame Buffer Memory

5. Remove the logic module cover. **NC200:** As shown in Figure 2. **NC400:** As shown in Figure 3.
6. Put on the anti-static wrist strap (follow the instructions on the wrist strap package).

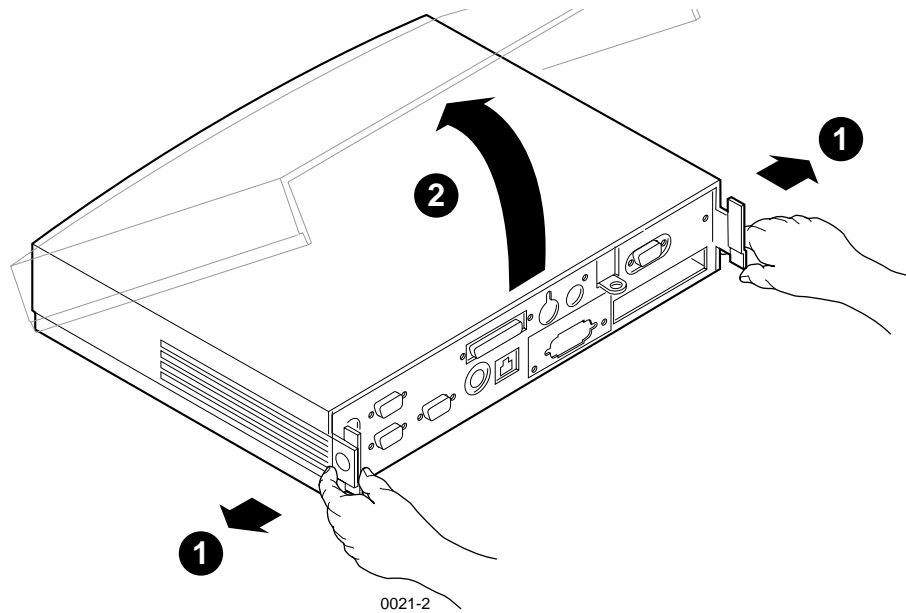


Figure 2. Removing the NC200 Logic Module Cover



Frame Buffer Memory Installation

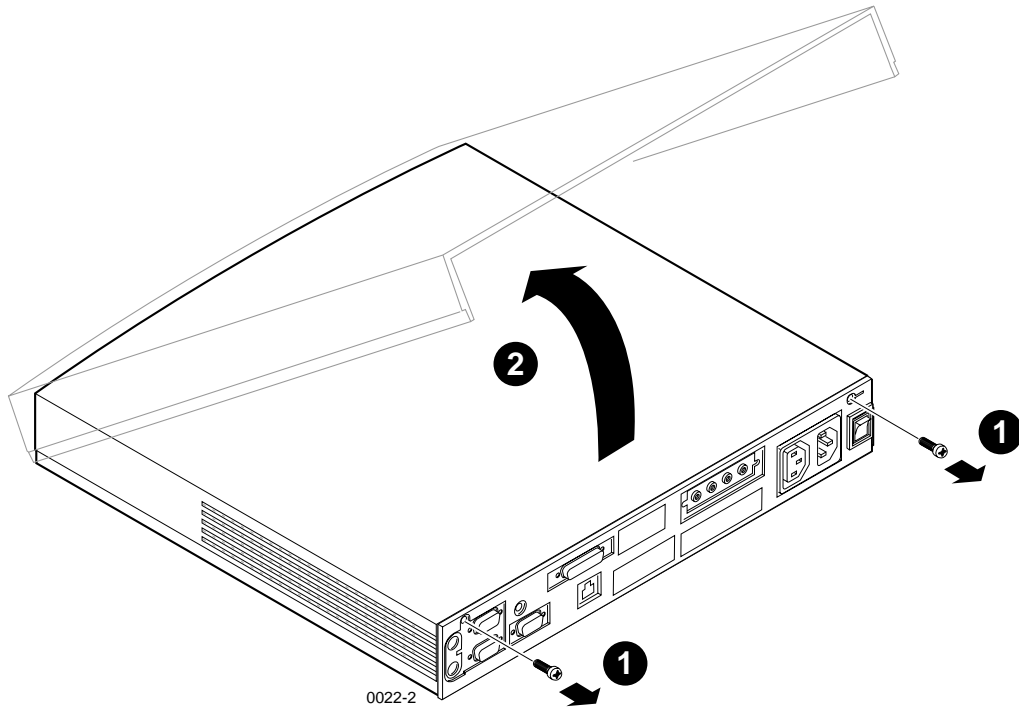


Figure 3. Removing the NC400 Logic Module Cover

7. Remove the fasteners (screws in the early NC200, screws and nuts in the later NC200 and the NC400) and unplug the Terminator board as shown in Figure 4. The figure shows removal from the NC200; removal from the NC400 is essentially the same. Save the fasteners for reuse when installing the Frame Buffer Memory board.

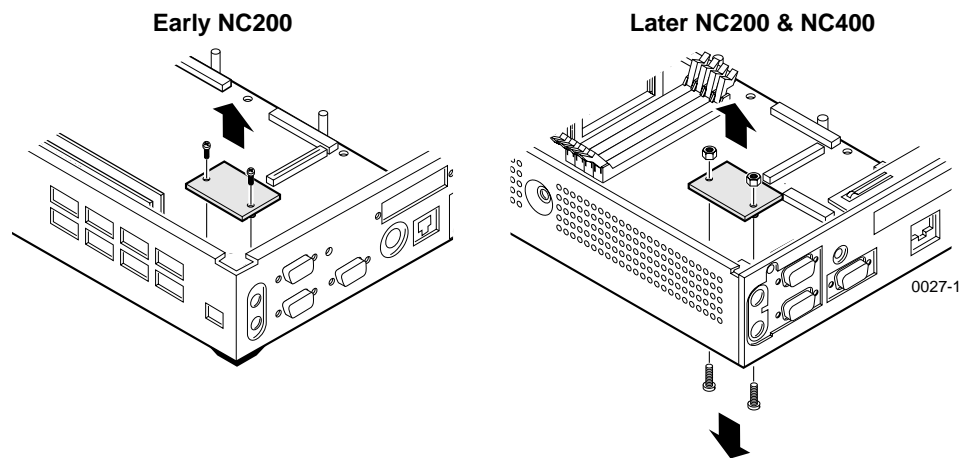


Figure 4. Removing the Terminator Board



Frame Buffer Memory Installation

8. Remove the Frame Buffer Memory board from the protective package.
9. Install the Frame Buffer Memory board in place of the Terminator board as shown in Figure 5. The figure shows installation in the NC200; installation in the NC400 is essentially the same.
 - a. Carefully align the connectors and press down until the board positively snaps into place.
 - b. **Early NC200 Models:** Place the heatsink on top of the board with the short side nearest the cabinet wall. Align the holes in the heatsink with the screw holes in the Frame Buffer Memory board and secure with the two screws removed with the Terminator board.
NC400: Tilt the cabinet on edge and insert one of the screws through the bottom of the cabinet so the end of the screw is protruding through the memory board. Place the heatsink on the screw and thread a nut on the screw but do not tighten. Insert the other screw through the cabinet bottom, board, and heat sink and install the nut. Tighten both nuts. Take care to tighten both equally to avoid uneven stress on the board connector.

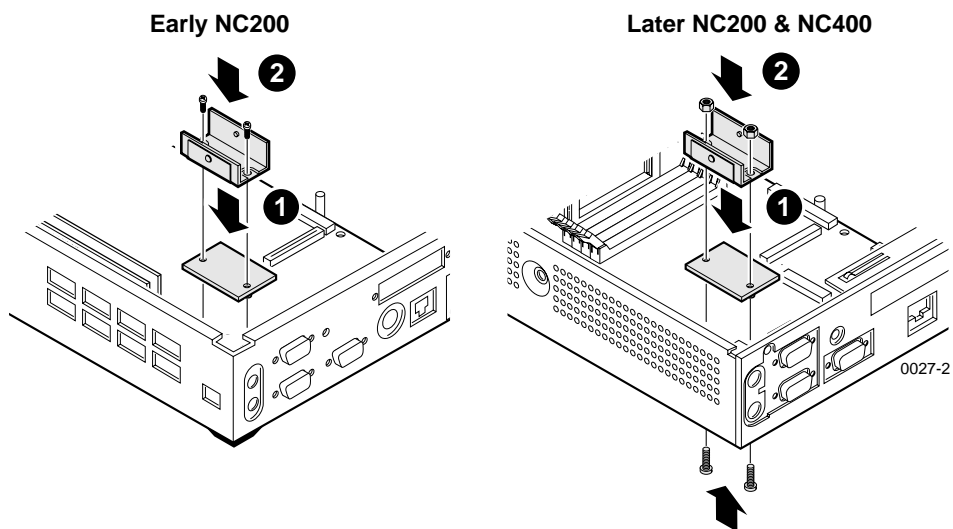


Figure 5. Installing the Frame Buffer Board and Heatsink

10. Replace the logic module cover on the chassis.
11. Reconnect all cables removed earlier. Connect the power supply to the logic module before plugging it into the AC power outlet.
12. **NC200:** Replace the cable cover, routing the cables out the slots in the cover sides.
13. Verify the installation using the procedures that follow.

Verification

After installing the Frame Buffer Memory, perform the following procedure to verify that the network computer is operating correctly.

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 network computer completes the boot process.

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 “V2” is listed in the options, and that the “vidmem” (video memory) amount is 4096K.

If “V2” is not listed, repeat the installation making sure that the Frame Buffer Memory board is correctly seated. If “V2” still fails to appear in the list of options or if the amount of video memory is incorrect, contact your NCD representative.
4. Type **b** at the `BOOT>` prompt and allow the network computer to boot normally. If you encounter difficulties, contact your system administrator.