



Installing Your Explora 700 Network Computer

Part Number 9300587 Rev. A
October, 1997

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Revisions

Revision history of this document:

Part Number	Revision Date	Description
9300587	Rev. A October, 1997	First release of this manual for Explora 700

Warnings and Certifications

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Declaration of Conformity

Manufacturer's Name: Network Computing Devices, Inc.

Manufacturer's Address: 350 N. Bernardo Ave., Mountain View, CA 94043

Type of Equipment: X-Terminal

Model No.: Xplora and Xplorapro family of bases

Application of Council Directives: 89/336/EEC, 73/23/EEC

Standards to which Conformity is Declared: EN 55022, EN 50082-1, EN 60950

Importer's Name: Network Computing Devices (France) SARL

Importer's Address: 5, bis rue de Petit-Robinson, 78353 Jouy-en-Josas cedex, France

We hereby declare the equipment specified above conforms to the above Directives and Standards.

Jean-Claude Vau, Director, Strategic Sales Manager, NCD (France) SARL, August, 1997

Guidelines for Productive and Healthy Use of Your Network Computer

You might have read or heard of articles that link prolonged viewing of computer video displays with eye fatigue, and prolonged use of computer keyboards and mouse devices with repetitive stress injuries such as carpal tunnel syndrome. One common example is the syndrome known as "tennis elbow." Although a conclusive direct causal relationship between computer use and these adverse health effects has yet to be scientifically proven, NCD recommends that you read and follow these guidelines in setting up and using your new NCD network computer.

- Set up your network computer in a well lit, glare and shadow-free environment.
- Do not use your network computer in a position you find awkward or unnatural.
- Use a chair that provides good lower back support. Adjust your chair so that your feet rest flat on the floor with your thighs in a horizontal position.
- Place your keyboard on a surface so that your wrists are not tilted, or only slightly tilted, while using the keyboard. Many people find a comfortable keyboard height is at the same level as their elbows.
- If the height of your work surface cannot be adjusted, position the chair at a comfortable height and use a footrest to place your feet on a level surface.
- Place your mouse on a surface that is at the same height as your keyboard. Many people find using the mouse and keyboard within 16 inches (0.4 m) of the body is comfortable.
- Avoid resting your arm on your work surface and merely bending your wrist when using your mouse. Consider using a wrist rest to provide a padded surface for your wrists when working with your mouse.
- Place your display monitor at a comfortable viewing distance. Many people favor a distance of 16 to 28 inches (0.4 to 0.7 m) from their eyes. Position the screen so that you are not looking up or down at it.
- Take breaks to rest your eyes, stretch your muscles, and move around.
- Vary your work patterns so that you alternate working at your computer with other tasks that use different muscle groups and allow you to focus your eyes at different distances.
- See your physician if you experience persistent muscle ache, joint pain, eye fatigue or other discomfort when using your network computer.

These are guidelines. What is comfortable for some might not be comfortable for you. You are the only one who can decide if these guidelines are appropriate for your needs.

What about electromagnetic emissions from your monitor?

Many objects we encounter in our everyday lives produce very low frequency (VLF) and extremely low frequency (ELF) electromagnetic emissions. These objects include such common appliances as portable cellular telephones, televisions, toasters, electric blankets, and video display terminals (VDT) such as the monitor that is part of your network computer. VDTs have been the focus of a growing controversy over the potential health effect of VLF and ELF emissions.

NCD is monitoring this issue and shares the public's concern over the potential health consequences of exposure to VLF and ELF emissions from VDTs. To date, the research and testing on this subject is inconclusive. Moreover, the link, if any, between VDT emissions and adverse health effects is unproven and the subject of much debate. Stress, postural strain, and poor working conditions are frequently cited in addition to, or instead of, VDT emissions as posing potential health hazards to frequent users of VDTs.

The prevailing professional opinion to date is that VDTs are safe. NCD products comply with the applicable regulations and standards for electromagnetic radiation set forth by the U.S. Code of Federal Regulations, Underwriters Laboratories, Inc., the Canadian Standards Association, and the German VDE Standard. When and if new or additional standards are adopted, NCD will take appropriate steps to comply with them.

Even though the preponderance of professional opinion is that VDTs are safe, some of our customers have asked us for information on how to reduce their exposure to VLF and ELF emissions. Although NCD does not endorse the following as having health benefits, the easiest and perhaps most economical and effective measures are to turn off your display when not in use, to position your display at arm's length, and to avoid working in areas where you are positioned close to the rear of a VDT (where the emissions are strongest). Also, shields are available from third party vendors that reduce glare and electric emissions.

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1 About the Explora 700 Network Computer

The Explora 700 network computer (NC) consists of a circuit board in a base, a monitor, a mouse, and a keyboard. You can purchase the NC alone or with a monitor.

The base, shown in Figure 1-1, supports the weight of a color monitor.

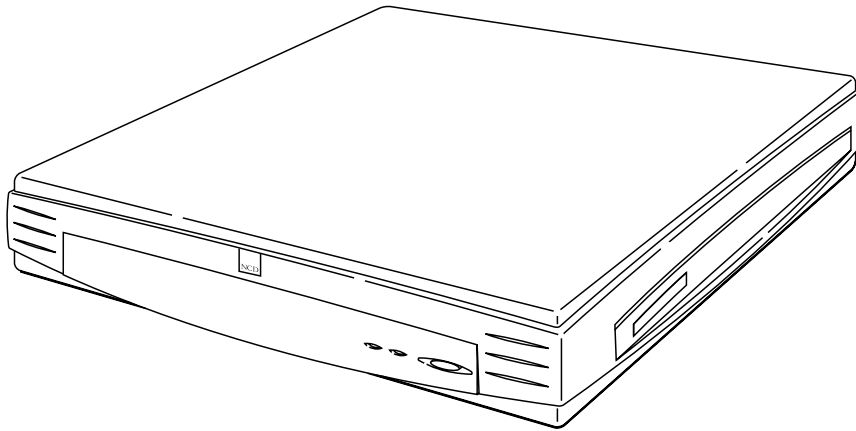


Figure 1-1 Explora 700 Base

The Explora 700 NC is an advanced network computer that includes the following features:

- VGA/SVGA/XGA/SXGA monitor support
- PS/2 mouse support
- Multiple keyboard choices
- Serial (RS-232 C) port
- Parallel port
- Externally accessible PCMCIA card (also called PC card) socket
- Audio output
- ENERGY STAR compliance for energy efficiency

Table 1-1 lists the features of the Explora 700.

Table 1-1 Features

Feature	Explora 700
CPU	MIPS R4700, 150 MHz
Memory	8 MB standard, 256MB maximum, fast-page mode only
Graphics	S3 TRIO64V2/DX, 2 MB EDO DRAM used as a frame buffer, 1600x1200 maximum
Networking	Twisted pair 10/100BaseTX Ethernet and thin coax Ethernet

As an ENERGY STAR Partner, Network Computing Devices, Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Table 1-2 on page 1-2 lists the physical dimensions of the base.

Table 1-2 Explora 700 Dimensions

Dimension	Explora 700
Height	2.1 inches (5.3 cm)
Width	12.8 inches (32.5 cm)
Depth	13.2 inches (33.5 cm)
Weight	6.25 pounds (2.8 kg)

2 Explora 700 Product Line

Figure 2-1 shows the Explora 700 base and all its components, including options.

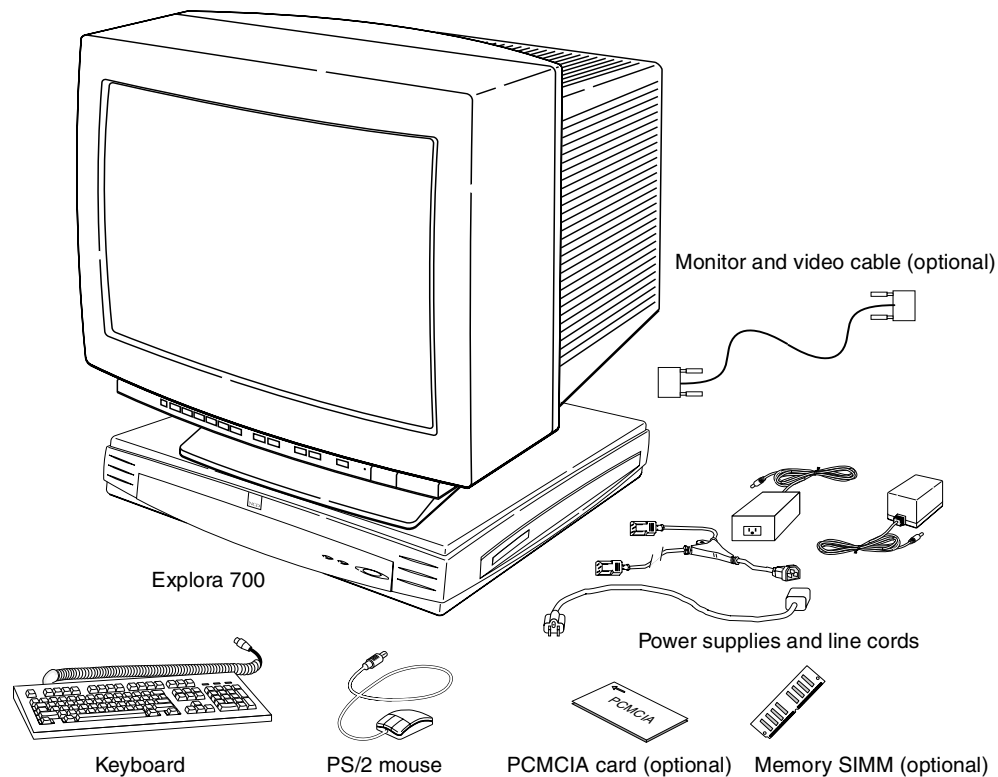


Figure 2-1 Explora 700 Components

Unpack the shipping cartons and make sure you have all of the standard components and any optional components that you ordered. If any components are missing or appear damaged, contact NCD at (650) 691-7445 or your representative immediately.

2-2 Explora 700 Product Line

3 Basic Installation

This section describes the location of Explora 700 connectors, controls, and indicators, and illustrates the installation of the NC.



To prevent electric shock or fire hazard, do not expose the power supply, NC, monitor line cord, or monitor to rain or moisture.



Use the NC only in an office or business environment. Do not subject the NC to vibration, dust, or corrosive gases because the NC is not designed to be used in such environments.

Keep the NC in a well-ventilated area. Do not cover the NC or place anything against the ventilation holes. Ventilation holes are on the cover to prevent the internal temperature from rising. Do not allow anything to fall in the ventilation holes.

Keep the NC away from heat sources, including direct sunshine or heating appliances. The maximum operating temperature is 40°C (104°F).

Connectors

This section describes and illustrates the installation of the Explora 700 NC.



Before connecting any cables, make sure the power is off.

Do not connect any power cords to the Explora 700 unless the monitor, keyboard, and mouse are properly connected.

If you are installing additional memory in your NC, do not complete the basic installation until you have installed the memory. Go to “Installing Additional Memory” on page 5-1.

Figure 3-1 on page 3-3 shows how to connect other components to the base connectors.

Connect the following to the NC:

- Keyboard
- Mouse
- Monitor
- Network
- Audio, if used
- Serial and/or parallel devices, if used

To connect the power supply, follow the instructions in “Power Connections” on page 3-3.

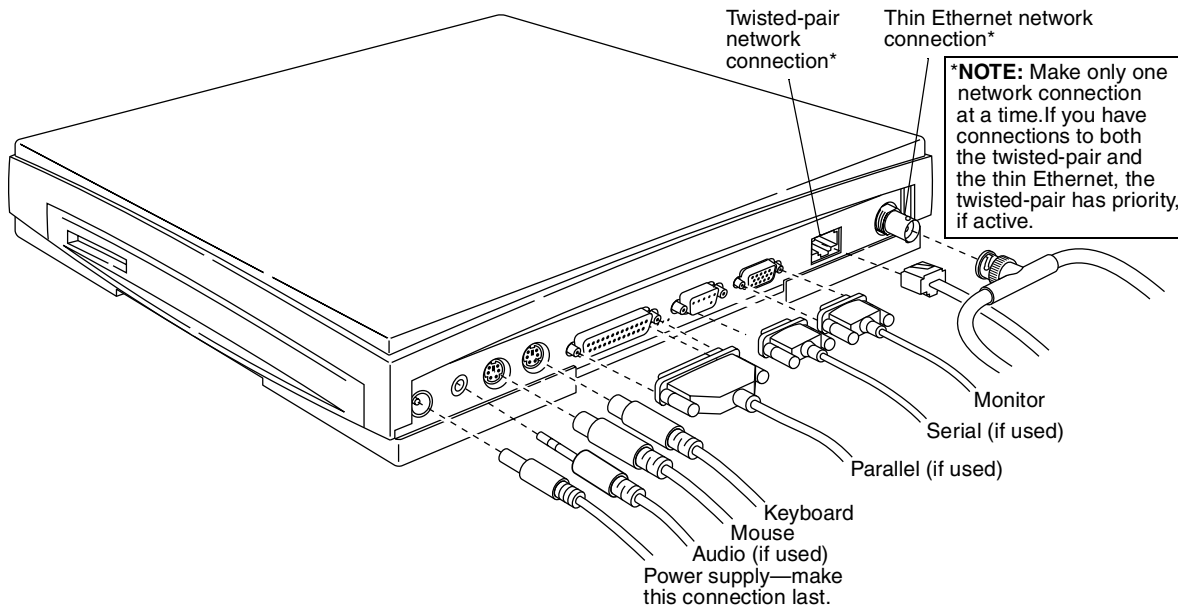


Figure 3-1 Explora 700 Connectors

Power Connections

This section describes and illustrates the power connection to the Explora 700 NC.



Carefully observe these power connection instructions. Failure to follow these instructions can cause fire or electric shock hazard.

Make sure that all other connectors are in place before making the power connection.

Power Connections for Inside the USA

There are three different sets of power components available if you ordered your NC for use inside the USA:

1. A 115-volt power transformer for the NC that plugs directly into the wall outlet and a 115-volt line cord for the monitor. See Figure 3-2.

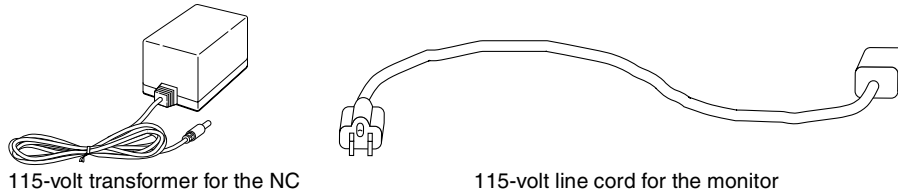
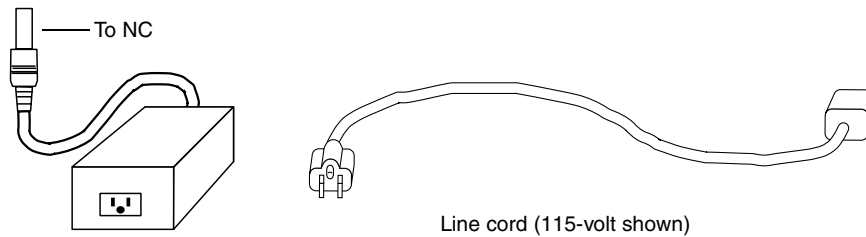


Figure 3-2 Wall-Plug Transformer and Line Cord

2. A 115-volt power transformer that requires a line cord and two 115-volt line cords, one line cord for the power transformer and one for the monitor. See Figure 3-2.



Power transformer (varies with voltage)

Figure 3-3 Transformer and Line Cord

The line cords are UL Listed and CSA Certified cord sets rated minimum 7 amps, 125 volts, which consists of minimum 18 AWG, type SVT or SJT, three conductor cordage maximum 15 feet in length, terminating in a NEMA 5-15P plug.

3. An optional power combo cable. If you have this option, see “Installing the Power Combo Cable” on page 5-13.

Power Connections for Outside the USA

If you ordered your NC for use outside the USA, you received either the optional power combo cable with a power transformer and one line cord or the following items: power transformer that requires a line cord for your voltage and two line cords. See Figure 3-2.

The line cords are rated minimum 10 amps, 250 volts, with the appropriate safety approvals for the country in which the equipment will be installed. The cordage should be marked <HAR> and terminate in a grounding type attachment plug. If you are in the UK, see “Power Cord for the UK.”

If you have the optional power combo cable, see “Installing the Power Combo Cable” on page 5-13.

Power Cord for the UK

The detachable mains lead on this equipment is supplied with a moulded plug incorporating a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an ASTA or BSI approved BS 1362 fuse must be used of the same rating. The fuse cover is detachable. Never use the plug with the cover omitted.

Controls and Indicators

The controls and indicators for the Explora 700 are shown in Figure 3-4.

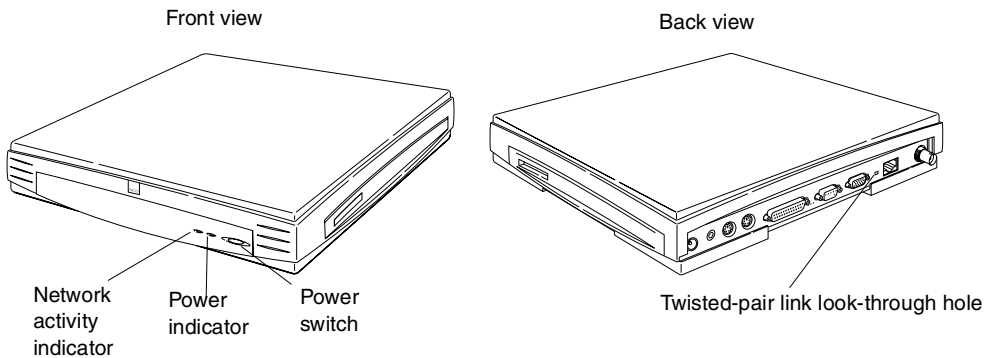


Figure 3-4 Explora 700 Controls and Indicators

4 Selecting Screen Resolution

Refer to your monitor documentation for its supported resolutions. If your monitor complies with automatic detection (DDC or display data channel), your monitor automatically uses the highest resolution and refresh rate that fits in the available frame buffer. If you want to select another resolution or refresh rate, use these instructions.

If your monitor does not comply with automatic detection, when you first turn the NC on, the display uses a default resolution that depends on the installed video cable and monitor capabilities. Your monitor might not support this setting or this setting might not provide the highest resolution and refresh rate that your monitor supports.

The Boot Monitor provides a menu that selects the correct resolution and changes the dpi (dots per inch) setting for the monitor.



If you are using third-party monitors, you might damage your monitor by selecting the wrong screen resolution. Make sure your monitor supports your selection.

If you are using NCD monitors, you will get a blank screen if you select a screen resolution that is outside the range of your monitor.

To change the resolution:

1. Turn on the system or reboot (if the system is already on).
2. After the Boot Monitor title and version number, messages similar to the following appear. Press the Escape key to interrupt the booting process and access the Boot Monitor prompt (>).

```
Searching for IP address...
Using IP address IP address of terminal
Searching for subnet mask
Using subnet mask subnet mask
..... (Press Escape to interrupt booting.)
>
```

-
3. When you are in the Boot Monitor (> prompt), press the Setup key or type **se <CR>**. The Main menu appears. (See Figure 4-1.)

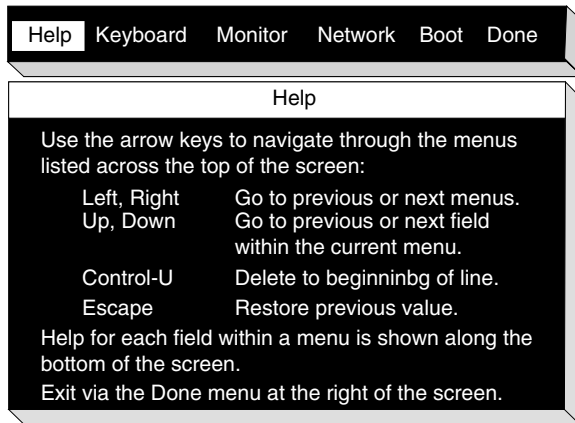


Figure 4-1 Boot Monitor Main Menu

4-2 Selecting Screen Resolution

4. Use the right arrow key to select `Monitor`. The screen now displays the available monitor resolution settings. (See Figure 4-2.)

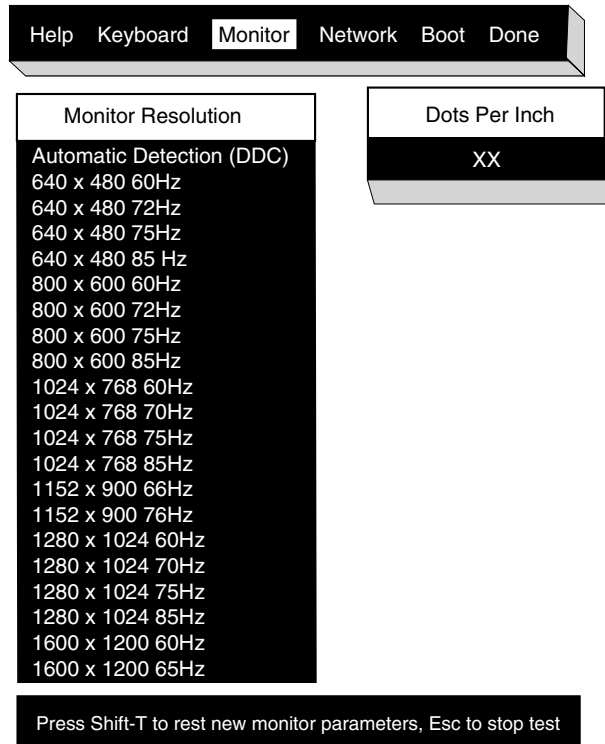


Figure 4-2 Supported Resolutions for Explora 700

5. Press the up or down arrow keys to select the correct setting for your monitor.
6. Press the right arrow key to select `Dots Per Inch`.
7. Enter the numerical value that matches the resolution you have selected or leave the default value.
8. To test the selected refresh rate, press Shift-T. Running this test generates a cross-hatch test pattern. If the refresh rate you select is not supported by the monitor, the test pattern will either not appear or not be stable.
9. Press any key to return to the Monitor menu.

-
10. Press the right arrow key to select `Done`. The menu shown in Figure 4-3 appears.

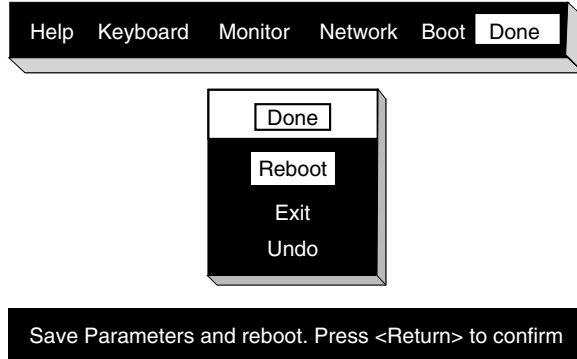


Figure 4-3 Boot Monitor Done Menu

11. Use the up or down arrow keys to select one of the options from the `Done` menu.
 - `Reboot` — saves the settings you changed and reboots the system.
 - `Exit` — saves the settings and returns you to the Boot Monitor.
 - `Undo` — reloads the parameters that were in effect when you entered the menus. The system continues to display the menus.
 12. Press the Return key.
- If you save your selection, you do not need to repeat this procedure unless you change to a different type or size of monitor.

4-4 Selecting Screen Resolution

5 Installing Optional Equipment

This section describes the installation of the Explora 700 optional equipment. The optional equipment is shown in Figure 5-1.

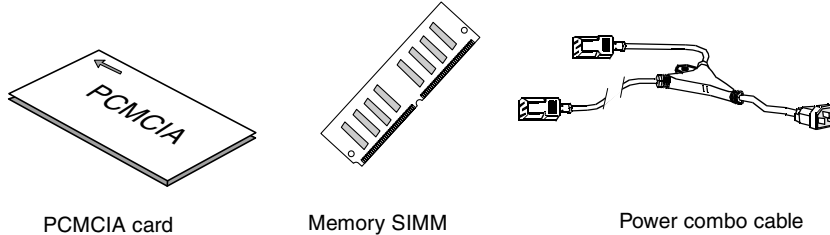


Figure 5-1 Optional Equipment

If you are adding additional memory, do so before doing Section 3, “Basic Installation,” on page 3-1.

Installing Additional Memory

You can add memory to your unit at any time. You may purchase it from NCD or other vendors. Only SIMMs supplied by NCD are covered under NCD’s warranty. Contact NCD Technical Support for information about approved vendors.

In the standard configuration, Explora 700 has 8 MB of fast-page mode memory. Adding more memory does not improve NC speed.

Each application running on your NC and each open window requires memory. If the sum of all memory needed exceeds the installed memory, you get a message to close windows. To avoid this message, add memory to your NC.

The Explora 700 has four SIMM slots, organized as two pairs of two slots. One pair of slots is SIMM1 and SIMM2. The other pair of slots is SIMM3 and SIMM4. See Table 5-1 on page 5-2 for the allowable configuration of the four slots and Table 5-2 on page 5-3 for a list of SIMM specifications.

Installing Additional Memory

The following rules apply to installing SIMMs:

- ❑ Install matching SIMMs in a pair of slots.
- ❑ It makes no difference which pair of slots is used as the first pair of slots and which is used as the second.
- ❑ You can intermix fast-page mode and EDO SIMMs. You will always get fast-page mode performance.

See Table 5-1 for the allowable configuration of the two pair of slots.

Table 5-1 Explora 700 Memory Configurations

Total Memory (MB)	First Pair of Slots (MB)	Second Pair of Slots (MB)	Total Memory (MB)	First Pair of Slots (MB)	Second Pair of Slots (MB)
4	2	0	32	8	8
8	2	2	48	8	16
8	4	0	48	16	8
16	8	0	64	32	0
16	4	4	64	16	16
32	16	0	128	32	32

5-2 Installing Optional Equipment

Table 5-2 SIMM Specifications

Speed	Fast-page mode or EDO, 60 nanoseconds (ns) or faster (lower ns ratings are faster). 72 pins.
Profile	Low profile (maximum 1.1 inches (28 mm) tall). Use tin-plated SIMM contacts.
Thickness	Board thickness of 0.047 inches to 0.054 inches (0.050 inches (1.27 mm) nominal). Installing SIMMs that are out of specifications might damage the SIMM slot or cause the NC to behave erratically.
Size	32-bits wide. 1MB (256Kx32 SIMM) 2MB (512Kx32 SIMM) 4 MB (1Mx32 SIMM) 8 MB (2Mx32 SIMM) 16 MB (4Mx32 SIMM) 32 MB (8Mx32 SIMM)



If you do not feel confident performing the following procedure on your NC, send the NC to a qualified service center.

Installing additional memory is a four-section procedure described in detail on the following pages:

1. Disassemble the NC. See “Disassembling the Base” on page 5-4.
2. Install the SIMM(s). See “Installing SIMMs” on page 5-6.
3. Reassemble the NC. See “Reassembling the Base” on page 5-8.
4. Test the memory after your NC is up and running. See “Testing Memory” on page 5-9.

The only tool you need is a small flat-blade screwdriver.

Disassembling the Base

1. Remove all cables connected to the NC. If a PCMCIA card is installed, remove it.
2. Place the NC with the top up and the front facing you (preferably, on an anti-static mat).
3. Use your finger to release the clip on the front control panel and remove the panel. See Figure 5-2.

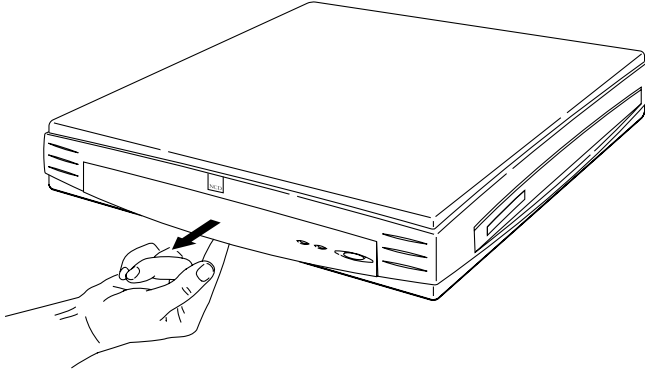


Figure 5-2 Removing the Front Control Panel

4. Use a small flat-blade screwdriver to release the two tabs located on the front of the NC, as shown in Figure 5-3.

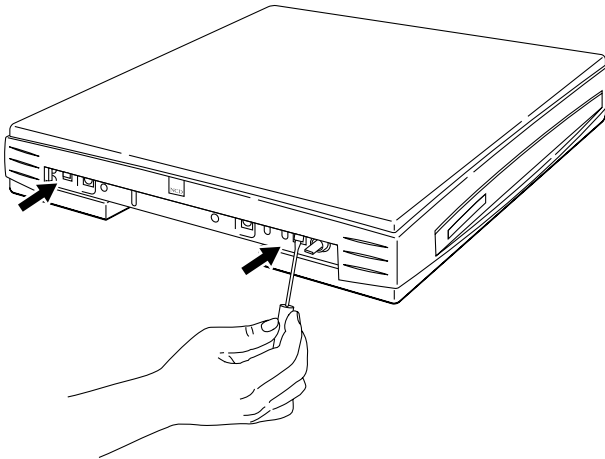


Figure 5-3 Releasing the Tabs

5-4 Installing Optional Equipment

5. Lift the top section up at the front so you can slide the top's tabs from the bottom section's slots to separate the cover from the bottom. See Figure 5-2.



Lift the top section up at the front *only until* you can slide the top's tabs from the bottom section's slots. If you lift the top section too high, the tabs can break.

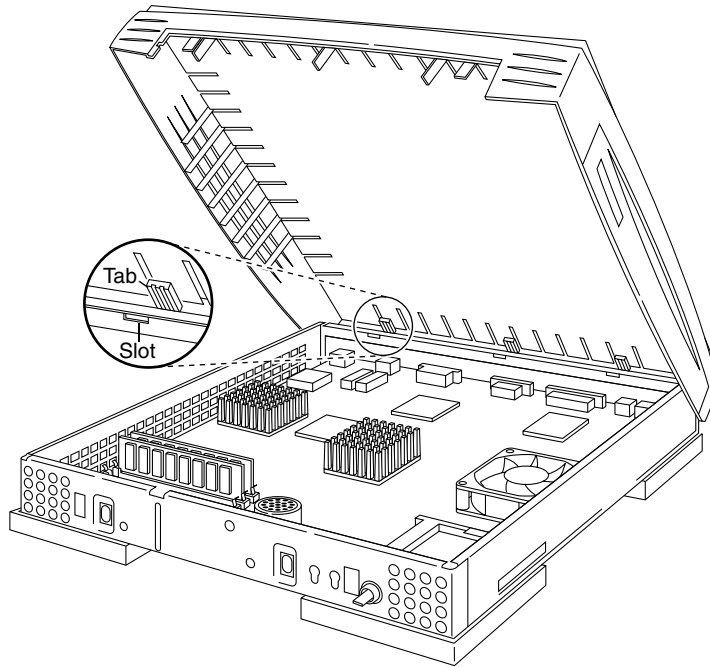


Figure 5-4 Removing the Top Cover

Installing SIMMs

This section describes the installation of the SIMMs.



Electrostatic Discharge (ESD) can damage SIMMs and other components located on the logic board. Make sure you touch a suitable ground before handling any SIMM. If possible, set the NC on an anti-static mat and wear a grounding strap.

Always handle SIMMs *only* by the edges.

Your NC already has SIMMs installed. The SIMM slots, located on the front left side of the logic board, are labeled SIMM1, SIMM2, SIMM3 and SIMM4. (See Figure 5-5.) Observe the SIMMs currently in the slots and refer to Table 5-1, “Explora 700 Memory Configurations,” on page 5-2 to determine your configuration. Decide what you want your new configuration to be. If you need to remove existing SIMMs, go to “Removing SIMMs” on page 5-8 and then return to this section for installation instructions.

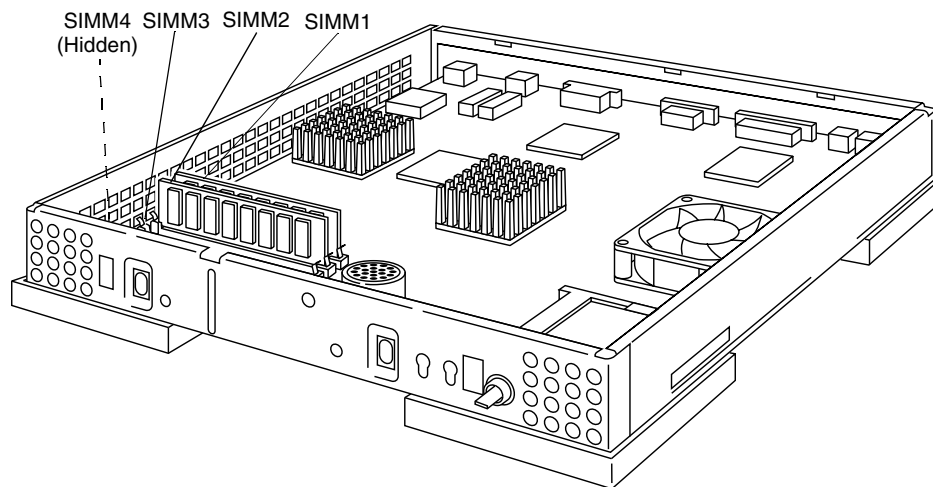


Figure 5-5 Location of the SIMM's Slots

Note SIMMs should be installed in matched pairs in slots SIMM1 and SIMM2 or SIMM3 and SIMM4.

To install the SIMMs:

1. Hold the SIMM by its edges. Orient the SIMM so that the notch is facing the front left of the unit. See Figure 5-6.

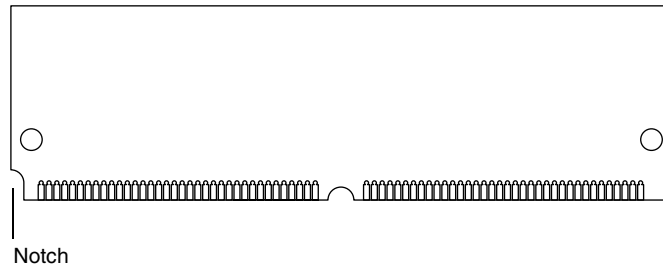


Figure 5-6 Notch in SIMM

2. Tilt the SIMM at a 45-degree angle.
3. Hold the SIMM by the edges and insert it into the slot with the notch in the SIMM facing toward the left side of the case. See Figure 5-7.

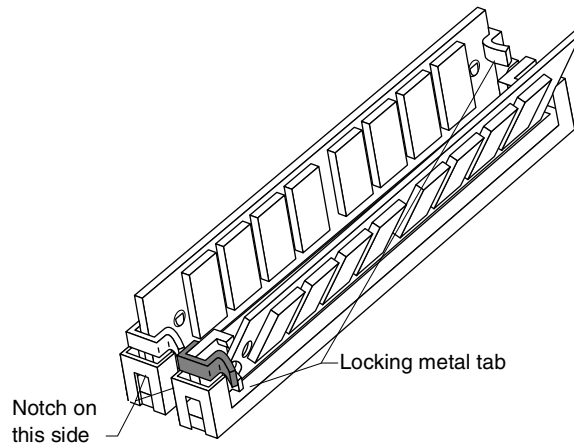


Figure 5-7 Details of a Pair of SIMM Slots

4. Push the SIMM down to seat it.
5. Tilt the SIMM toward the left to a vertical position until you hear or see the metal locking tabs on the slot click into place.
6. Install the next SIMM the same way.

Removing SIMMs

To remove a SIMM:

1. Use either your two forefingers or your thumbs or use a small flat-blade screwdriver to push back the two metal tabs located on each end of the SIMM slot. (See Figure 5-7.)
2. As you push back on the tabs, the SIMM pops up past the metal tabs.
3. Hold the SIMM on both ends and remove it from the slot.

Reassembling the Base

To reassemble the NC, follow these steps:

1. Swing the back of the top section over the back edge of the bottom section and align the tabs on the top section with the slots on the bottom section, as shown in Figure 5-8.

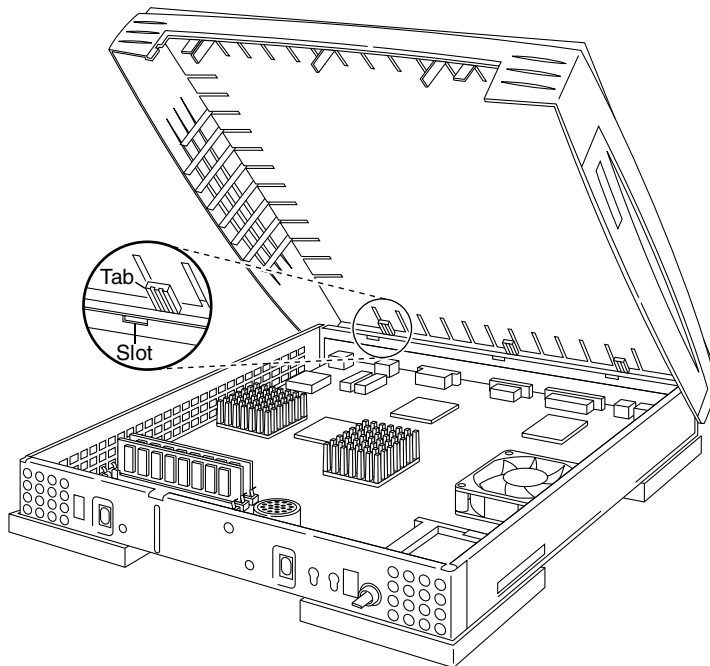


Figure 5-8 Placing the Top Cover on the Bottom Section

2. Lower the front of the top section until the three tabs slide through the three slots on the bottom section.
3. Replace the front control panel.
4. Replace the PCMCIA card if appropriate. See "Installing PCMCIA Cards" on page 5-11.
5. Install the cabling. See Section 3, "Basic Installation," on page 3-1.
6. After the system is installed, perform the memory test. See "Testing Memory."

Testing Memory

The NC must be installed before you can run the memory test. After installation, you can access the Boot Monitor to run the memory test.

Accessing the Boot Monitor

1. Turn on the system or reboot (if the system is already on).
2. After the Boot Monitor title and version number, messages similar to the following appear. Press the Escape key to interrupt the booting process.


```
Searching for IP address...
Using IP address IP address of terminal
Searching for subnet mask
Using subnet mask subnet mask
.....(Press Escape to interrupt booting.)
>
```

Memory Test

Run the memory test as follows:

1. Type a question mark and press the Return key to find the command for Extended Tests.


```
> ? <CR>
```
2. Type the Extended Tests command and press the Return key.


```
> EX <CR>
```
3. Type the number associated with the Test Available Memory test and press the Return key.


```
Enter test number ? Test-number <CR>
```

4. Press the Return key to run the test once.

```
F Loop forever
E Loop until error
Q Main menu
<cr> Test once
Esc Abort testing
Enter choice? <CR>
```

If memory is good, a diagnostic code such as the following displays:

```
Pass -00000001
```

If an error is detected, a message such as the following displays:

```
Error: found 0000DEAD expected A5A5A5A5 at 2003FFFC RAM
March Test
```

```
Suspected bad component is SIMM 1 - SIDE 0
```

SIMM 1 indicates the slot number of a bad SIMM. If there are no errors, go to Step 7. If errors are reported, continue with Step 5.

5. Remove the bad SIMM from the slot indicated and rerun the memory test to confirm that the remaining memory is good.
6. Add a new SIMM and rerun the memory test to confirm that the newly installed SIMM is good.
7. Exit from the test and return to the Boot Monitor by typing:
Enter test type? **Q** <CR>
8. Reset the computer by typing:
rs <CR>

For information about the Boot Monitor commands, refer to NCDware software documentation.

Installing PCMCIA Cards

PCMCIA cards are 68-pin credit card-size devices that fit into the base PCMCIA slot. You can order these cards directly from NCD or from other vendors.



Do not insert or remove the PCMCIA card while the unit is running. Always turn NC power off first.

Do not use a 12-volt PCMCIA card on Explora 700 NCs. Only 5-volt PCMCIA cards are supported.

Most PCMCIA cards have an arrow on the top face side showing which direction you should insert them into the PCMCIA slot. The cards are keyed, so you cannot install them upside down.

The rear edge of the PCMCIA card might have a write protect/enable switch. If your card has this switch, it should be in the off position. If write protect is enabled, data cannot be written to the card. If you try to do so, an error message appears.



Always turn off the NC power before you change the write protection.

Figure 5-9 shows the directional arrow and write protect/enable switch.

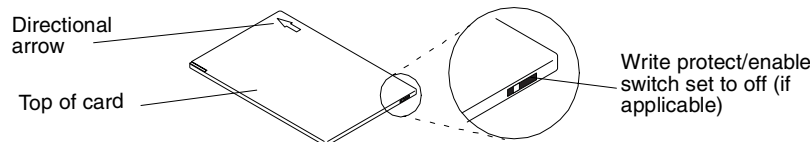


Figure 5-9 PCMCIA Card Features

To install a PCMCIA card:

1. Shut off the NC.
2. If your PCMCIA card has a write protect switch, set it to OFF.

Installing PCMCIA Cards

3. With the arrow side facing up, slide the card into the PCMCIA slot until you feel the card make contact with the pins in the socket.



Do not force the card into the socket. The card should go straight in.

4. Firmly push the card into the socket to seat it. (See Figure 5-10.)

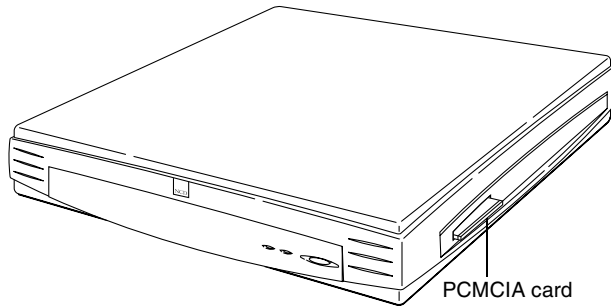


Figure 5-10 Inserting the PCMCIA Card

Installing the Power Combo Cable

Use the optional power combo cable in place of the monitor's line cord when you have a power transformer that requires its own line cord. Install the combo cable, power transformer, and line cord as shown in Figure 5-11.

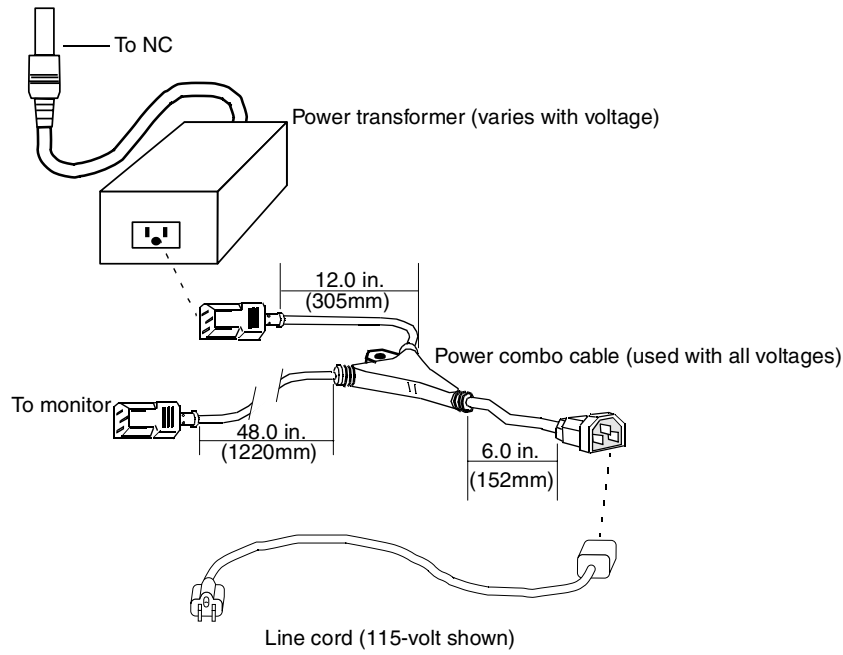


Figure 5-11 Transformer, Power Combo Cable and Line Cord

6 Specifications

Table 6-1 list the Explora 700 specifications.

Table 6-1 Explora 700 Specifications

Category	Topic	Specification
Hardware architecture	Microprocessor	MIPS R4700, 150 MHz
	Video Coprocessor	S3 TRIO64V2/DX
	DRAM	8MB fast-page mode
	PROM	512KB flash
	Memory upgrades	4 SIMM slots 32-bit, 60ns, fast-page mode SIMMs
	NVRAM	512 Bytes
	Display memory	2 MB EDO DRAM used as a frame buffer
Display monitor	Resolution	640x480, 800x600, 1024x768, 1152x900, 1280x1024, 1600x1200
	Refresh rate	Up to 85 Hz
Power Transformer	AC voltage and AC frequency North America	90-132 VAC, 60 Hz (± 3 Hz)
	European/ Australian	180-265 VAC, 50 Hz (± 3 Hz)
	Japanese	85-110 VAC, 47-63 Hz
Power Consumption		21.1 Watts (typical)

Table 6-1 Explora 700 Specifications (Continued)

Category	Topic	Specification
Environmental operating range	Temperature	10°× C (50°× F) to 40×° C (104°× F)
	Humidity	10% to 90% non-condensing
	Altitude	Up to 3,050 meters (10,000 feet)
Controls and indicators	NC	Power switch, Power LED, Network Activity, and Twisted-Pair Link Indicator.
	Keyboard	N-97K: Three configurable LEDs (Unlabeled, Caps Lock, and Network Activity)
		N-101M/N-101MPS/N-102/Windows 95-compatible keyboards: Three configurable LEDs (Num Lock, Caps Lock and Scroll Lock)
		N-108LK: Four configurable LEDs (Hold Screen, Lock, Compose, and Network Activity)
N-123 Sun Type 5-compatible: Four configurable LEDs (Caps Lock, Compose, Scroll Lock, and Number Lock)		

Table 6-1 Explora 700 Specifications (Continued)

Category	Topic	Specification
Input Devices	Keyboards	97-key UNIX style keyboard (N-97) 97-key Kana keyboard (Japanese characters) (N-97K) 101-key PS/2 style keyboards (N-101M, N-101MPS) Windows 95-compatible keyboards 102-key international version (N-102) 108-key LK401-compatible keyboard (N-108LK) N123 Sun Type 5-compatible keyboard (N-123)
	Mouse	Three-button, PS/2
Communications	Ethernet	Built-in 10/100BaseTX twisted-pair transceiver and Thinnet coax
	Serial port	RS-232 C up to 115.2 K baud
	Parallel port	Connector: 25-pin Data: bidirectional 8-bit parallel Logic level: TTL level
	PCMCIA	Standard PCMCIA PC card Standard Release 2.01, 68-pin connector
	Audio	Standard 1/8-inch stereo mini-jack
Physical Dimensions	Height	2.1 inches (5.3 cm)
	Width	12.8 inches (32.5 cm)
	Depth	13.2 inches (33.4 cm)
	Weight	6.25 pounds (2.8 kg)

6-4 Specifications

7 Troubleshooting

NCD network computers have four major components:

- Base
- Monitor
- Keyboard
- Mouse

If found to be faulty, the base or monitor must be returned for repair. The mouse, or keyboard are replaceable.

Isolating Faulty Components

One of the best ways of tracking down hardware problems is to swap components among compatible NCs. Swapping components lets you determine which component is faulty.

For example, if a keyboard appears to be faulty, turn off the NC, disconnect the keyboard, and connect a keyboard from another NCD NC. If the second keyboard works, you know that the problem is with the first keyboard and not with another component, such as the base.

Mouse Troubleshooting

Most mouse problems are caused by a dirty ball or a loose connection between the mouse cable and the base. If you have problems using your mouse:

1. Check the mouse cable connector. Make sure it is firmly connected to the base's mouse connector.
2. Remove the ball from the mouse. Clean the ball and its socket, and reassemble the mouse.
3. Clean your mouse pad or the area of the desk where your mouse sits.

Monitor Troubleshooting

Generally, if the monitor is out of focus, too bright, or too dark, adjust the monitor's brightness and contrast knobs. Each monitor model has its own set of controls. Check the monitor operating booklet for more information about your monitor.

Base Troubleshooting

A flashing power indicator indicates there is a hardware problem in the base.

If you find you must return a base for repair, send it in the same configuration as when it failed.

In Case of Trouble

If you encounter difficulties, either contact your local NCD representative or:

- Phone NCD Technical Support at (650) 691-7445
- Send a FAX to NCD Technical Support at (650) 903-7426
- Send e-mail to NCD Technical Support at support@ncd.com
- See NCD's home page at <http://www.ncd.com>

Regardless of the method you use to report the problem to NCD, you must have the following information ready:

- Your name and title
- Company or organization
- Phone number
- E-mail address
- Billing address
- Shipping address

- ❑ For each hardware item:
 - Serial number
 - Description of the problem
 - Type of warranty (Standard, Express, Extended, Express Exchange, Out-of-Warranty)

Returning Components

If you have to return a component, follow these steps.

1. Gather the information listed in “In Case of Trouble” on page 7-2 and contact NCD Technical Support to obtain a Return Material Authorization (RMA) number.
2. Once you have obtained an RMA number, package the component for return.

If you would rather not pack the component yourself, NCD recommends that you take it to a commercial packing and shipping company.

3. Mark each return package with the assigned RMA number and address each package as shown below to avoid problems or delays:

Customer Service
Network Computing Devices
350 North Bernardo Avenue
Mountain View, CA 94043
RMA number

Note Equipment returned without an RMA number is subject to delays or might be returned to the sender.

Ethernet Address of Replacement Bases

If a base is replaced, its Ethernet address is different on the replacement base. You must change system files that contain Ethernet addresses.

Comments on the Booklet

You can send comments, suggestions, or questions about this booklet to the NCD Technical Publications Department by Internet e-mail. Write to **techpubs@ncd.com**.

