



## **NCD ThinSTAR 200 Installation Guide**

December, 1998

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

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# NCD ThinSTAR 200 Equipment Overview

Your NCD ThinSTAR 200 comes with all you need to access your network and Microsoft Windows NT Server 4.0, Terminal Server Edition.

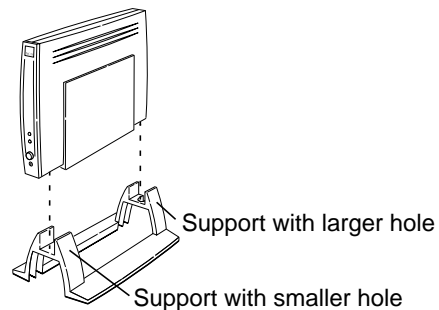
You will need the following equipment. Depending on how you ordered your terminal, it might come as a complete system or as separate components.

## NCD ThinSTAR 200

### Windows-based Terminal

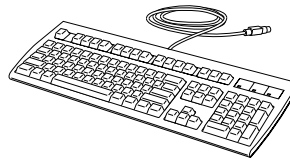
#### Stand

See page 3 for installation instructions.



#### Keyboard

Windows 95-compatible for available USA, UK, France, and Germany.



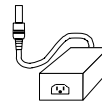
#### Mouse

The two-button mouse is standard. A three-button mouse can be used.



#### Inline power supply

USA, Europe, and Universal inline power supplies are available.



#### Line cords

For USA, Japan, and Australia, one line cord supplied.



For Europe, one line cord is for the UK, the other is for the Continent.

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## Basic Considerations



To prevent electric shock or fire hazard, do not expose the power supply, NCD ThinSTAR 200 terminal, line cord, or monitor to rain or moisture.

Do not set the monitor on the terminal. The terminal is not designed to support the weight of a monitor.

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

Keep the terminal in a well-ventilated area. Do not cover the terminal 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 terminal away from heat sources, including direct sunshine or heating appliances. The maximum operating temperature is 40 C (104 F).

If you are using items in the following list, install them in the order listed before completing the instructions in this brochure.

### 1 Install optional memory SIMMs.

The NCD ThinSTAR 200 terminal has a SIMM slot for an optional 8 MB, 16 MB, or 32 MB EDO (extended data out) SIMM. If you bought your SIMM from NCD, refer to the installation sheet included with the SIMM. Otherwise, refer to the *NCD ThinSTAR 200 System Administrator's Guide* for the SIMM specifications and installation procedure.

### 2 Attach the stand.

If you are using the stand that comes with NCD ThinSTAR 200, place the base in the one-piece stand now. Observe the orientation of the stand's two supports, as shown on page 2, for the placement of the holes.

### 3 Attach the optional mounting bracket and security device.

If you are using the optional mounting bracket and/or security device, refer to the installation instructions that are included with the option.

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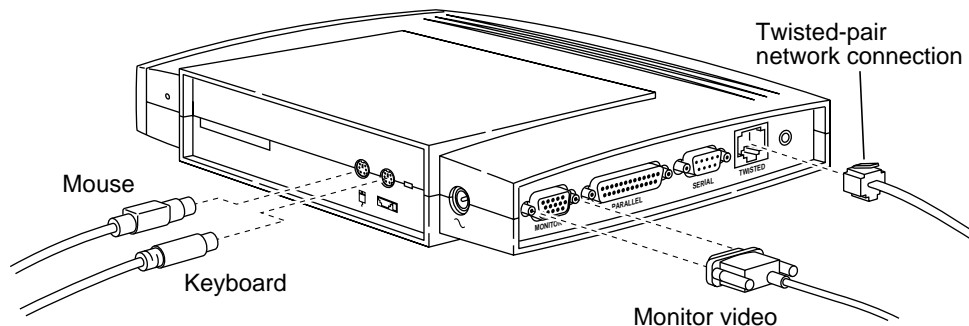
## Connect Monitor, Network, Keyboard, and Mouse



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

Before connecting any cables, make sure the NCD ThinSTAR 200 power cord is disconnected.

Do not connect the power cord to the NCD ThinSTAR 200 unless the keyboard, mouse, monitor video, and network cords are properly connected.



Your NCD ThinSTAR 200 queries the monitor about its capabilities. If the monitor is DDC 2.0 (display data channel 2.0)-compliant, the terminal sets the monitor to the largest desktop area and the fastest refresh rate that the monitor supports, up to a maximum of 1024x768 pixels at 85 Hz.

If the monitor is not DDC 2.0-compliant, your terminal sets the monitor to a 800x600 pixels desktop area with a 75 Hz refresh rate.

If you get the default 800x600 pixels at 75 Hz desktop, the monitor might support a larger desktop and faster refresh rate. Refer to the monitor's documentation for the resolutions and refresh rates that the monitor supports and then use instructions in the *NCD ThinSTAR 200 System Administrator's Guide* for setting the terminal to the desired resolution and refresh rate.

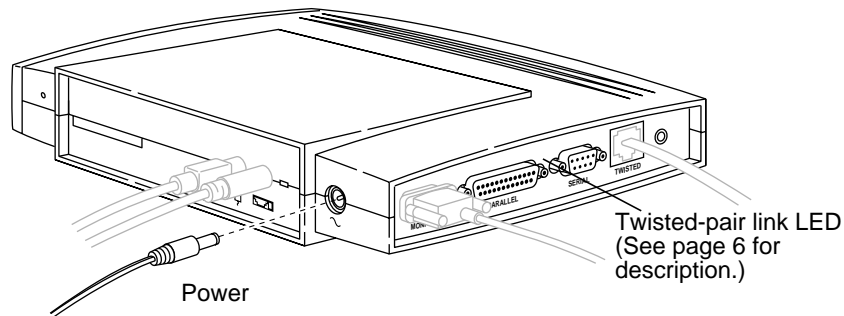
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## Connect Monitor and Terminal to AC Outlets



Do not connect the power cord to the terminal unless the monitor video, keyboard, mouse, and network cables are properly connected.

Refer to your monitor documentation for directions on how to connect the power cord and monitor video cables at the monitor.

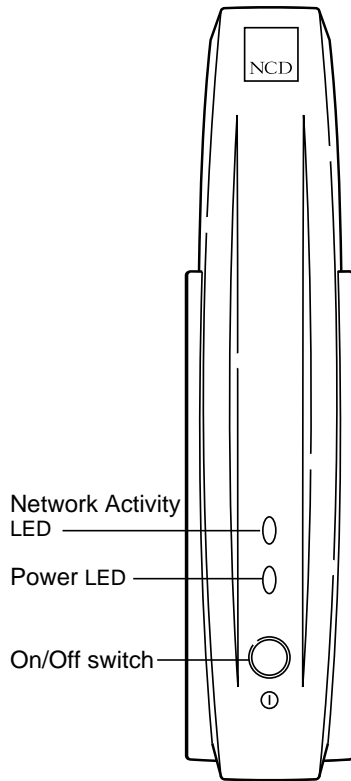


### Note: Power Cord for the UK

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, you must use an ASTA or BSI approved BS 1362 fuse of the same rating. The fuse cover is detachable. Never use the plug with the cover omitted.

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## Controls and Indicators



**On/Off switch**—Pressing the switch turns power on and latches the switch in the down position. The next time you press the switch turns power off and latches the switch in the up position.

**Power indicator**—A green LED that is constantly illuminated indicates that power is on. A blinking indicator indicates a failure in the terminal.

**Network activity indicator**—A blinking green LED indicates network activity.

**Twisted-pair link**—A constantly illuminated green LED, shown on page 5, indicates that the terminal is connected to an active network.

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## Options

The following options are available for the NCD ThinSTAR 200:

**Video monitor**      If your monitor is DDC 2.0 compliant, you get the largest desktop area supported by the monitor at a refresh rate of at least 85 Hz, up to a maximum of 1024x768 pixels. If your monitor is not DDC 2.0 compliant, you get the NCD ThinSTAR 200's default desktop area of 800x600 pixels at 75 Hz.

**Memory**              The NCD ThinSTAR 200 has a SIMM slot for an optional EDO SIMM. 8 MB, 16 MB, and 32 MB EDO SIMMs are the only SIMMs that will work in the slot. You can order your NCD ThinSTAR 200 either with no SIMM or with an 8 MB SIMM in the slot.

You can remove an existing 8MB SIMM and replace it with a 16 MB or a 32 MB SIMM or insert either an 8 MB, a 16 MB, or a 32 MB SIMM in the empty slot at any time. The maximum memory that the NCD ThinSTAR 200 can map is 32 MB. If you use a 32 MB EDO SIMM in the slot, the terminal does not use the built-in 8 MB EDO memory.

If you buy your SIMM from NCD, refer to the installation sheet that is included with the SIMM. Otherwise refer to the *NCD ThinSTAR 200 System Administrator's Guide* for the SIMM specifications and installation procedure

**Mounting bracket and security device**      This option allows you to mount the terminal to a wall or the side/underside of a desk. You can secure the terminal to either the stand or the mounting bracket.

If you are using the optional mounting bracket and/or security device, refer to the installation instructions that are included with the option.

## Specifications

Category	Topic	Specification
Hardware Architecture	Microprocessor	NEC VR4300 MIPS processor, 100 MHz
	Video coprocessor	S3 TRIO64V2/DX
	DRAM	8 MB EDO standard, 16 MB, 24 MB, or 32 MB optional
	Nonvolatile memory	8 MB flash (EEPROM)
	Display memory	1 MB EDO RAM
Power supply, actual specification varies with the specific power supply.	AC voltage	85-270 VAC
	AC frequency	50/60 Hz 3 Hz
	Power consumption	19 Watts (maximum)
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	NCD ThinSTAR 200	Power switch and three LEDs (Power, Network Activity, and Twisted-Pair Link)
	Keyboard	Three LEDs (Num Lock, Caps Lock, and Scroll Lock)
Input Devices	Keyboards	Windows 95-compatible
	Mouse	Three- or two-button PS/2
Communications	Ethernet	Built-in 10BaseT twisted-pair Ethernet transceiver
	Serial port	RS-232 C up to 115.2 K baud
Physical dimensions	Base only	
	Height	1.9 inches (4.8 cm)
	Width	7.6 inches (19.3 cm)
	Depth	11.3 inches (28.7 cm)
	Weight	2.6 pounds (1.2 kg)
	Base in stand	
	Height	9.6 inches (24.4 cm)
	Width	5.5 inches (13.9 cm)
Depth	11.3 inches (28.7 cm)	
Weight	2.8 pounds (1.3 kg)	



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## Guidelines For Productive and Healthy Use of Your Terminal

You might have read or heard of articles that linked 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 terminal.

- Set up your terminal in a well lit, glare and shadow-free environment.
- Do not use your terminal 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 inches to 28 inches (0.4 m 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 terminal.

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 terminal. 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, third party vendors offer shields that reduce glare and electric emissions.

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## In Case of Trouble

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

- Phone NCD Technical Support at (800) 800-9599 (US and Canada)
- Phone NCD Technical Support at (503) 641-2200 (any location)
- Send a FAX to NCD Technical Support at (503) 641-2959
- Send e-mail to NCD Technical Support at [support@ncd.com](mailto: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
- 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" 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

Each base has its own unique Ethernet address. If you configured your DHCP server to reserve an IP address for your previous base's Ethernet address, change the reservation in the DHCP server to refer to the Ethernet address of the replacement base.

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Part Number	Revision Date	Description
9300656 Rev. A	May, 1998	QuickStart Release for the NCD ThinSTAR 200 terminal
9300715 Rev. A	September, 1998	Final Release for the NCD ThinSTAR 200 terminal
	December, 1998	Revised product list for the NCD ThinSTAR 200 terminal

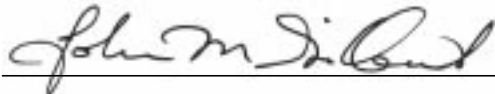
## Warnings and Certifications

This equipment has been tested and found to comply with the limits for a Class B 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.

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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



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John Gilbert, Vice President, Engineering, NCD (Mountain View, CA) September, 1998

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n' émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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

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## Declaration of Conformity

**Manufacturer's Name:** Network Computing Devices, Inc.

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

**Type of Equipment:** Network Terminal

**Model No.:** NCD ThinSTAR 200


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

**Standards to which Conformity is Declared:** EN 55022B, EN 50082-1, EN 60950, ACA, FCCB, VCC1B

**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.



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Jean-Claude Vau, Director, Strategic Sales Manager, NCD (France) SARL, December, 1998

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