

## **NCD ThinSTAR 300 Installation Guide**

Part Number 9300743 Rev. A  
November, 1998

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

---

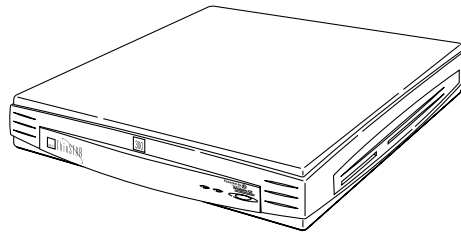
## NCD ThinSTAR 300 Equipment Overview

Your NCD ThinSTAR 300 comes with all you need to access your network. Refer to the *NCD ThinSTAR 300 User's Guide* or the *NCD ThinSTAR 300 System Administrator's Guide* for information on the types of hosts you can access.

You will find the following equipment in your package:

### Windows-based Terminal

The NCD ThinSTAR 300



### Keyboard

Windows 95-compatible keyboard is available for USA, UK, France, Germany, Swedish/Finnish, Italian, Latin Spanish, and Japanese Kana.



### 2- or 3-Button mouse

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



### Line cord

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

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



---

## Basic Considerations



To prevent electric shock or fire hazard, do not expose the NCD ThinSTAR 300 terminal, line cord, or monitor to rain or moisture.

Do not subject the terminal to excessive 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 ambient operating temperature is 40° C (104° F).

## Before you install the terminal

Install the optional memory DIMMs (dual in-line memory modules) before completing the instructions in this brochure. The memory option is discussed on page 7.

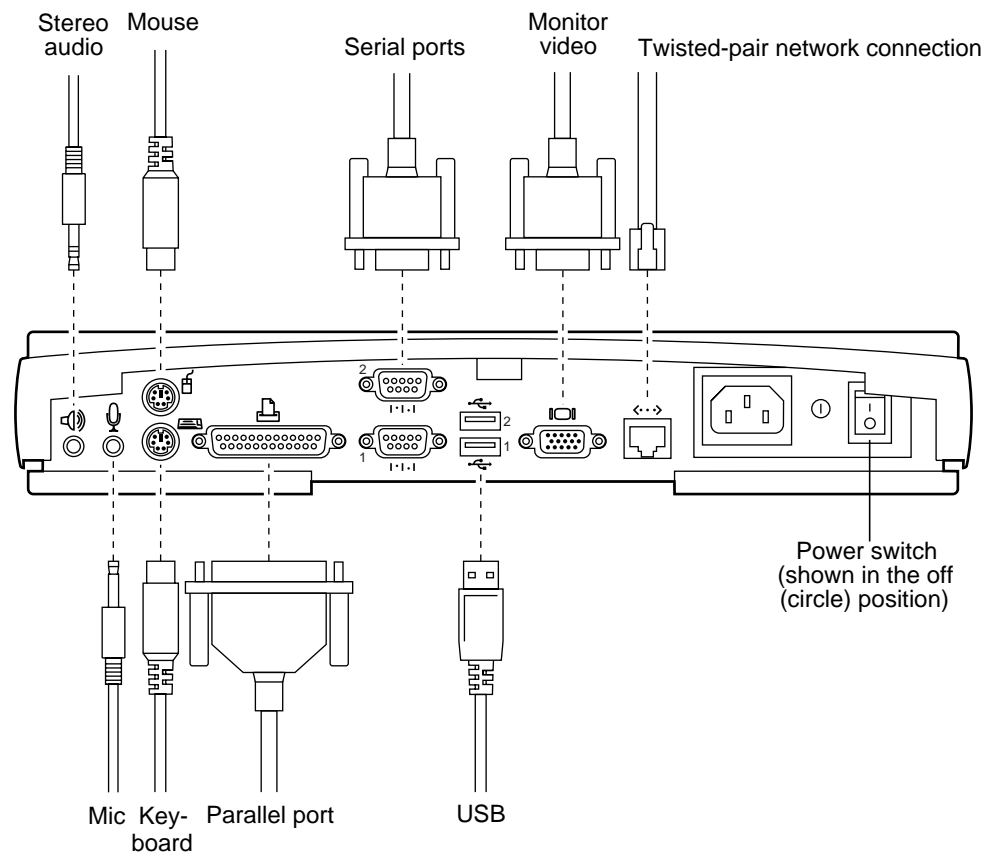
## Connect Monitor, Network, Keyboard, and Mouse



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 300 line cord is disconnected.

Do not connect the line cord to the NCD ThinSTAR 300 unless the keyboard, mouse, monitor video, and network cables are properly connected.



Your NCD ThinSTAR 300 queries the monitor about its capabilities. If the monitor is DDC 2.0-compliant (Display Data Channel 2.0), the terminal sets the monitor to the largest desktop area and the fastest refresh rate that the monitor supports, up to a maximum of 1600x1200 pixels at 85 Hz.

If your monitor is not DDC 2.0-compliant, your monitor must be able to support two desktop areas: 640x480 pixels at 60 Hz refresh rate and 800x600 pixels at 75 Hz.

If the terminal sets the desktop to 800x600 pixels at 75 Hz, 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 300 System Administrator's Guide* or *NCD ThinSTAR 300 User's Guide* for setting the terminal to the desired resolution and refresh rate.

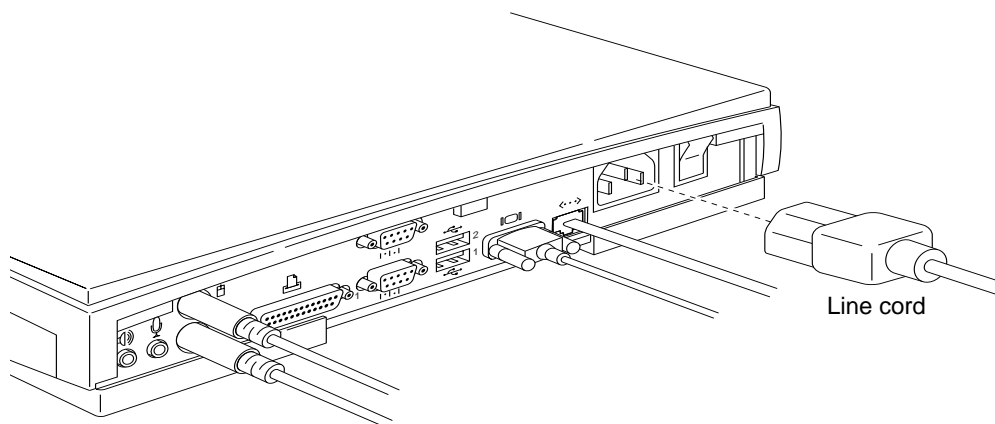
---

## Connect Monitor and Terminal to AC Outlets



Do not connect the line 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 to your monitor.

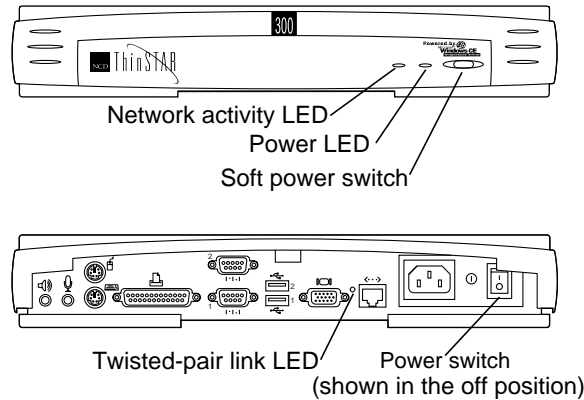


### Note: Line Cord for the UK

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.

---

## Controls and Indicators



The NCD ThinSTAR 300 has the following power states:

- **Power off state**—There is no power applied to the terminal. This is the condition when the power switch is in the O (circle) position.
- **Working state**—The power switch is in the | (vertical line) position. There is power applied to the entire terminal and user applications (including screen saver) are running.
- **Soft off state**—The power switch is in the | position. Only the “Wake on LAN” circuit has power. The “Wake on LAN” circuit can be used to remotely turn the terminal to the working state.

**Power switch**—A toggle switch mounted on the rear chassis. To remove all power, place the switch in the O (circle) position. Placing the switch in the | (vertical line) position puts the terminal in the working state.

**Soft power switch**—A push-button switch. When the terminal is in the working state, pushing this switch places the terminal in the soft off state, which terminates all connections to the servers. Pressing the soft power switch again returns the terminal to the working state, which establishes new connections to the servers.

**Power indicator**—A constantly illuminated green LED indicates that the terminal is in the working state. A blinking indicator indicates a failure in the terminal. The indicator extinguishes when the terminal is in either the soft off state or power off state.

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

**Twisted-pair link**—A constantly illuminated green LED, visible through the back of the chassis, that varies in intensity (blinks) to indicate that the terminal is connected to an active network.

---

## Options

The following options are available for the NCD ThinSTAR 300:

**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 70 Hz, up to a maximum of 1600x1200 pixels at 85 Hz refresh rate. If your monitor is not DDC 2.0-compliant, your monitor must be able to support two desktop areas: 640x480 pixels at 60 Hz refresh rate and 800x600 pixels at 75 Hz.

**Memory**              The NCD ThinSTAR 300 has two 168-pin DIMM slots for optional SDRAM DIMMs. Your NCD ThinSTAR 300 comes with 16 MB. Your terminal will work with a total of 16 MB or 32 MB.

You can remove the existing DIMM and replace it with a 32 MB DIMM or insert a 16 MB DIMM in the empty slot at any time.

If you buy your DIMMs from NCD, refer to the installation sheet that is included with the DIMM. Otherwise refer to the *NCD ThinSTAR 300 System Administrator's Guide* for the DIMM specifications and installation procedure

## Specifications

Category	Topic	Specification
Hardware Architecture	Microprocessor	Intel Pentium processor, 133 MHz minimum
	Video coprocessor	S3 Trio 3D
	DRAM	16 MB SDRAM standard, 32 MB maximum
	Nonvolatile memory	8 MB flash
	Display memory	2 MB Synchronous Graphic RAM
Power input	AC voltage	100-240 VAC
	AC frequency	50/60 Hz $\pm$ 3 Hz
	Power consumption	65 Watts (maximum)
	Current draw	0.25 Amp @ 50 Hz 0.13 Amp @ 60 Hz
Environmental operating range	Temperature	0° C (32° F) to 40° C (104° F)
	Humidity	10% to 90% non-condensing
	Vibration	0.5 G's (3 - 300 Hz)
	Altitude	Up to 3,658 meters (12,000 feet)
Controls and indicators	NCD ThinSTAR 300	Power switch, soft 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	Two- or three-button PS/2
Communications	Ethernet	Built-in 10/100 BaseT twisted-pair Ethernet transceiver
	Serial ports	2 DB9 connectors RS-232 C up to 115.2 K baud
	Universal serial bus	2 USB connectors
	Parallel port	25-pin connector Bidirectional 8-bit parallel data TTL logic level
	Audio	Standard 1/8-inch monaural mini-jack input Standard 1/8-inch stereo mini-jack output
Physical dimensions	Base only	
	Height	2.1 inches (5.3 cm)
	Width	12.8 inches (32.5 cm)
	Depth	13.2 inches (33.4 cm)
	Weight	6.75 pounds (3.1 kg)



---

## 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.

---

## 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.

---

Copyright © 1998 by Network Computing Devices, Inc. The information contained in this document is subject to change without notice. Network Computing Devices, Inc. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material. This document contains information which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Network Computing Devices, Inc.

Network Computing Devices, PC-Xware, and XRemote are registered trademarks of Network Computing Devices, Inc. Explora, HMX, Marathon, NCDware, ThinSTAR, and WinCenter are trademarks of Network Computing Devices, Inc.

Other product and company names mentioned herein are the trademarks of their respective owners. Windows 95, Windows NT, and Windows Terminal Server are trademarks of Microsoft Corporation. Windows and Microsoft are registered trademarks of Microsoft Corporation. All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. NCD cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark.

Part Number	Revision Date	Description
9300743 Rev. A	November, 1998	First Release for the NCD ThinSTAR 300 terminal

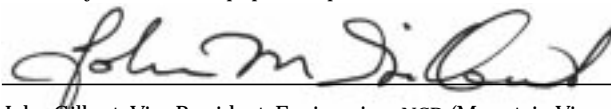
## Warnings and Certifications

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 Standards.



---

John Gilbert, Vice President, Engineering, NCD (Mountain View, CA) November, 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.

---

## 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 300

**Application of Council Directives:** 89/336/EEC of 3 May 1989 as amended by 92/31/EEC of 28 April 1992 and 93/68/ECC Article 5 of 22 July 1993, 73/23/EEC of 19 February 1973 as amended by 93/68/ECC Article 13 of 22 July 1993

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

**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, November, 1998

この装置は、第一種情報装置（商工業地域において使用されるべき情報装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

従って、住宅地域またはその隣接した地域で使用すると、ラジオ、テレビジョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。