

L-Series User's Guide



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Refer to the following to prevent any physical injury or loss of assets caused by damage to the product.

A user must read this User's Guide carefully before use and follow the instructions.

- Please make sure that the place of installation is not too hot (above 35 °C), too cold (below 0 °C), or too wet.
- Please keep the case safe from any severe impact.
- Please make sure that the product does not come into direct contact with benzene or thinner.
- Please make sure that the product is not exposed to direct sunlight or any hot machinery.
- Please keep the product away from any items which have strong magnetic properties.
- Please do not disassemble, repair or rebuild the product.
- Please do not leave a LAN (Local Area Network) cable in any passageway. An electric shock, fire, damage to the product or physical injury may occur as a result of tripping over the cable.
- Please disconnect the LAN cable from the product when the cable is not in use for a long period of time.
- Please install the product so it is safe from damage caused by dropping or falling.

FCC Information

This equipment has been tested and found to comply with the limit for a class B digital device, pursuant 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio TV technician for help

Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the 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.

MIC 인증사항



NCC-L230 (B)

- 기기의 명칭(모델명) : Multi-User Computing Access Terminal (L230)
- 인증 번호 : NCC-L230 (B)
- 인증 받은 자의 상호 : 엔컴퓨팅 주식회사
- 제조자/제조국가 : 엔컴퓨팅 주식회사/한국
- 제조년월 : 제품 뒷면 참고



NCC-L130 (B)

- 기기의 명칭(모델명) : Multi-User Computing Access Terminal (L130)
- 인증 번호 : NCC-L130 (B)
- 인증 받은 자의 상호 : 엔컴퓨팅 주식회사
- 제조자/제조국가 : 엔컴퓨팅 주식회사/한국
- 제조년월 : 제품 뒷면 참고



NCC-L200 (B)

- 기기의 명칭(모델명) : Multi-User Network Terminal (L200)
- 인증 번호 : NCC-L200 (B)
- 인증 받은 자의 상호 : 엔컴퓨팅 주식회사
- 제조자/제조국가 : 엔컴퓨팅 주식회사/한국
- 제조년월 : 제품 뒷면 참고



NCC-L120 (B)

- 기기의 명칭(모델명) : Multi-User Network Terminal (L120)
- 인증 번호 : NCC-L120 (B)
- 인증 받은 자의 상호 : 엔컴퓨팅 주식회사
- 제조자/제조국가 : 엔컴퓨팅 주식회사/한국
- 제조년월 : 제품 뒷면 참고

이 기기는 가정용으로 전자파 적합 등록을 한 기기로서 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

Notice

This product has been made by using state of the art technology from NComputing and has undergone thorough testing, An understanding of reliability has been reached for this product due to the extensive testing.

This User's Guide is designed to help the user to achieve easy installation and use of the product. Our company makes every effort to provide our customers with information related to the product, and with answers for any questions that may be asked by our customers. The performance of the product can be continuously enhanced via the software update utility.

(Please refer to the relevant section of the User's Guide for more detailed information).

The customer's registration and the registration of the product serial number, which can be done via the Internet, enables customers to receive the software upgrade service and ongoing technical support via the Internet for their convenience.

Please note that reproduction of the User's Guide in whole or in part, without permission from the manufacturer, is not permitted.

Please read the notes, which are related to safety, before use.

The information in the User's Guide may vary depending on any improvements in the product and the model type of the purchased product.

The manufacturer is not responsible for any damage to the product that is caused by using any products which are not specified as standard products, or by not following instructions and procedures correctly.

This product is compatible with Windows and Linux.

Any other operating systems including new operating systems require special software, which can be purchased separately, or an upgrade of the software is available at extra cost.

This product is an independent terminal device that provides for the emulation of Windows. It is not a computer. Unlike an existing computer there is no need for the addition of auxiliary peripheral devices, or for the connection of a different types of communication devices, or for the modification of hardware. Some of the products may not support images with high color depth or 3D games that are supported by high performance computers.

Please refer to the Windows operating system for more detailed information.

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What is the access terminal?

The L-series access terminals enable you to dramatically cut computing costs by sharing the untapped power of PCs. The access terminals, Ethernet-based extension protocol, and terminal services software work together to efficiently harness excess computing capacity and enable multiple users to share a single PC. Best of all, IT staff and end users do not need special training because this end-to-end solution is easy to manage and is compatible with standard PC applications.

What is the terminal services software?

Note: This document uses the following terms interchangeably: "User software," "host PC software," "terminal services software," and "NCT-2000-XP".

NCT-2000-XP, the terminal services software, divides the host PC's resources into independent sessions that give each user their own robust PC experience. One PC can support up to ten users when running on a desktop operating system, such as Microsoft Windows XP. With a server operating system on the host (Microsoft Windows 2003 Server or Linux), up to 30 users can be supported simultaneously. NComputing terminal service software also works with the optional NControl and NShield software that add more centralized management capabilities such as remote monitoring and host PC data backup.

Features

The L-series access terminals do not have a CPU, hard drive or CD-ROM, yet most users find it indistinguishable from a full PC environment. The L-series exclusive technology allows you to add up to 30 computing terminals to your existing PC. Each access terminal offers a full and independent computing experience.

Simultaneous desktop operation

Each access terminal accesses the host PC OS and can run its applications concurrently and independently through Ethernet.

Minimal Maintenance Required

You only have to maintain and upgrade the host PC since the access terminals have no CPU, hard drive, or CD-ROM.

Small sleek design

Allows more room in your office or on your desk, and can even mount on the back of your LCD with included bracket.

Eco-friendly

Since the access terminals have no moving parts, it makes no noise and saves energy by drawing only 5 watts.

Supports multiple resolutions

640x480, 800x600, 1024x768 and 1280x1024, by 16-bit colors.

Additionally, the L130 supports 1440x900 by 16-bit colors and the L230 supports 1440x900 by 24-bit colors.

New Feature: Microphone

The L230 now includes a microphone port.

Minimum System Requirements

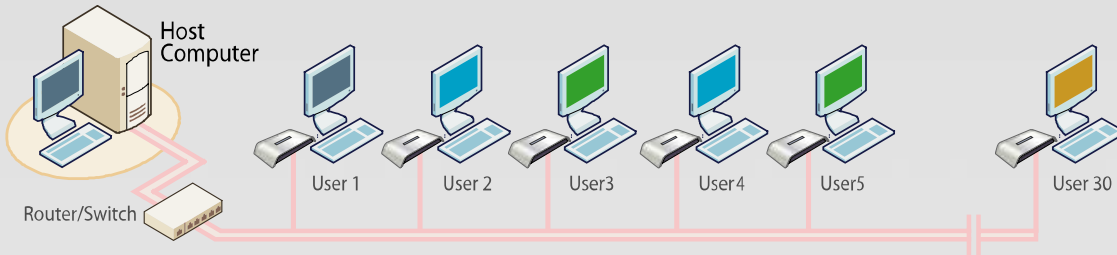
A host PC with at least:

- A 2 GHz processor

- 512 MB RAM
- 60 GB hard disk drive
- Ethernet switch or router

Do not use a notebook PC as the host. Notebooks use power-saving features and different technologies than a typical desktop PC, and this causes power management and memory problems.

Conceptual Diagram



Installation

Install the terminal services software (optional, but must be done once)

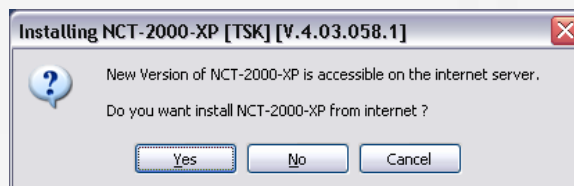
Insert the Software Installation CD into the host PC's CD drive.

In most cases, a window will automatically appear after a few seconds with installation options. If it doesn't appear after 2 minutes, go to "My Computer", open the CD drive's icon, and start the "Setup" application.

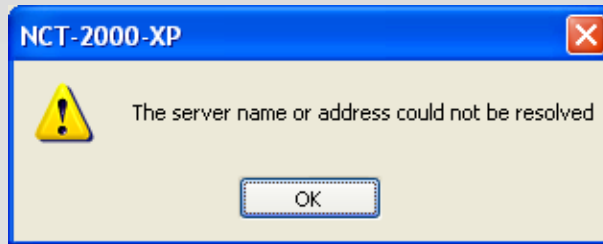
At the installation screen, click on the "Install Program" button.



Before the installation starts, the installation software attempts to connect to the Internet to compare the software version on the CD with the latest software version on the NComputing server. If there is a later version on the NComputing server, a prompt will appear to ask if you want to use the version on the CD or if you want to install the latest version. It is recommended to install the latest version rather than use an older version on the CD.



Note: The following message will appear if any computer on the network is not connected to the Internet or a program such as a firewall blocks the port.

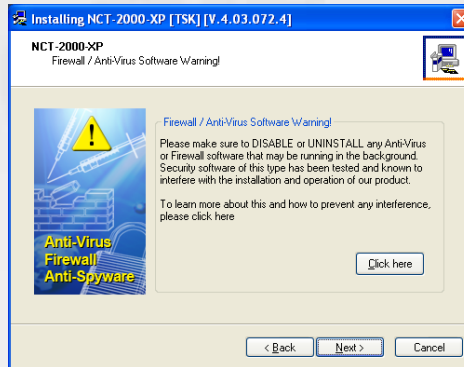


The following ports should be opened on the LAN: TCP Ports 27605, 3581, 3597, 3645, 3646, 3725; UDP Ports 1027, 1283 (these are subject to change).

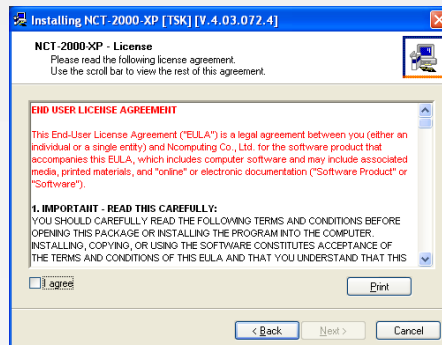
At the "Welcome" screen, click on the "Next" button.



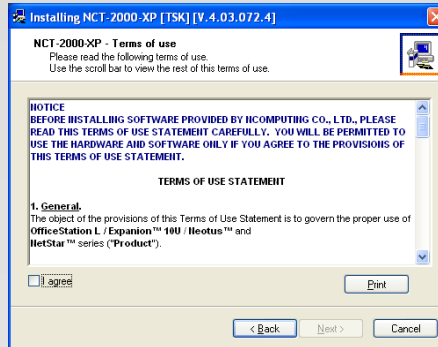
At the antivirus and firewall warning screen, click on the "Next" button.



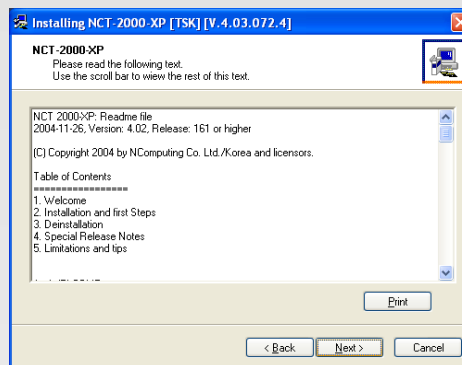
At the software license screen, you may view the software license and print it out. When you are finished, click on the "I agree" checkbox, then click on the "Next" button.



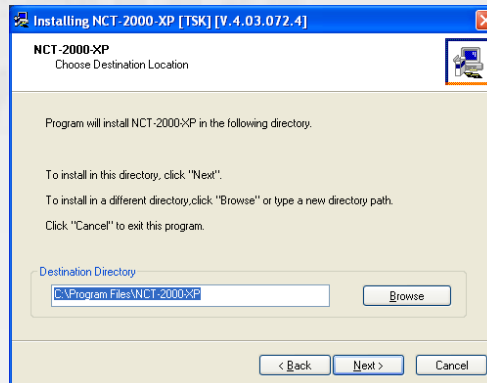
At the software terms of use screen, you may view the software terms of use document and print it out. When you are finished, click on the "I agree" checkbox, then click on the "Next" button.



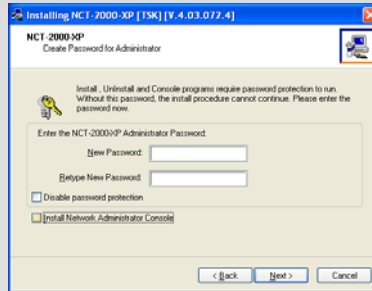
At the readme file screen, you may view the readme file and print it out. When you are finished, click on the "Next" button.



At the "Choose destination location" screen, you can install to the default location, or you can choose a different location. When you are finished, click on the "Next" button.

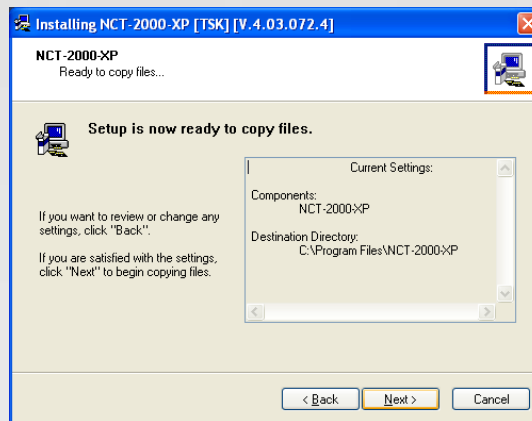


At the "Choose Password for Administrator" screen, select whether or not to use an administrator password and whether or not to install the Network Administration Console. If you choose to use an administrator password, enter it and retype it. Click on the "Next" button.

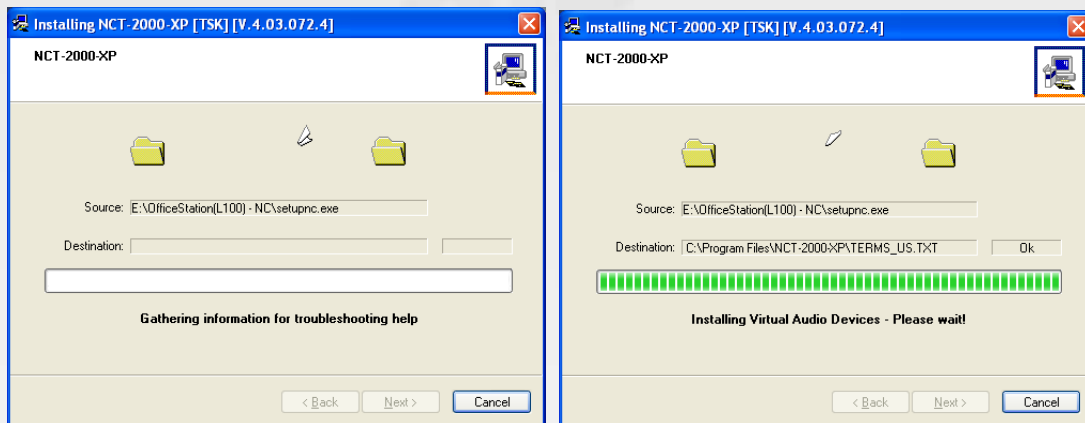


Note: The Network Administration Console allows you to administer the terminal service software and the access terminals in your network. It is recommended to be installed at least once on each network to enable administration tasks. It may be installed on every terminal service software installation.

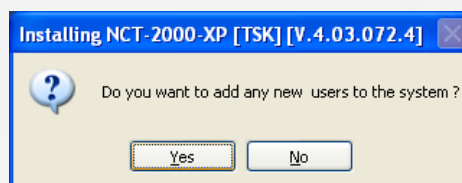
At the installation confirmation screen, review the selections and click on the "Next" button.



The software is installed.

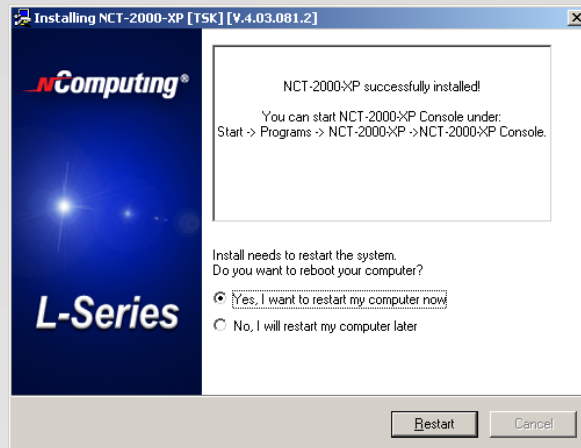


At the "Add new users" screen, select whether or not you would like to add new users to the system. If you click on the "Yes" button, the installation program will launch a screen to administer user accounts on the host PC. If you click the "No" button, the installation process will continue without bringing up the user administration screen.



Note: It is recommended that all users have their own user accounts to enable control of their own settings.

At the "NCT-2000-XP successfully installed" screen, select whether or not to restart the computer.



Note: It is required to reboot the computer before using the terminal service software or the access terminals connected to the host PC

Connect the Access Terminal



Before



After

The access terminal must be connected via Ethernet to the host PC. This can be done using an Ethernet switch, a router, or some other network connection method.

When registering the software, all the access terminals must be connected to the host PC using Ethernet

Network connection

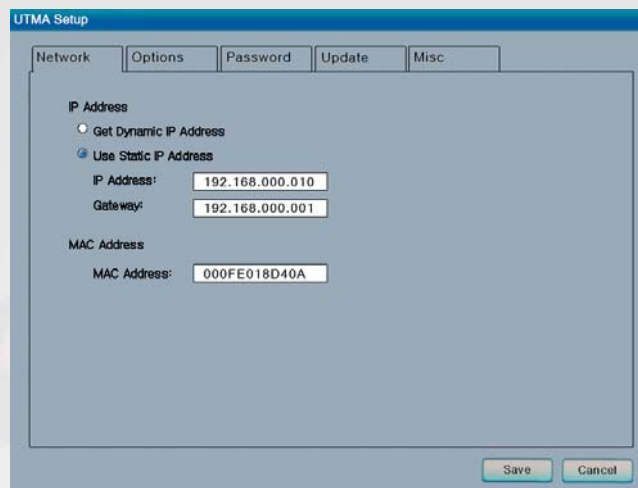
Note: If the network is configured to use DHCP to get dynamic IP addresses, you can setup the access terminal to use it.

Go to the access terminal and select the "Options" button, then select the "Setup" button.

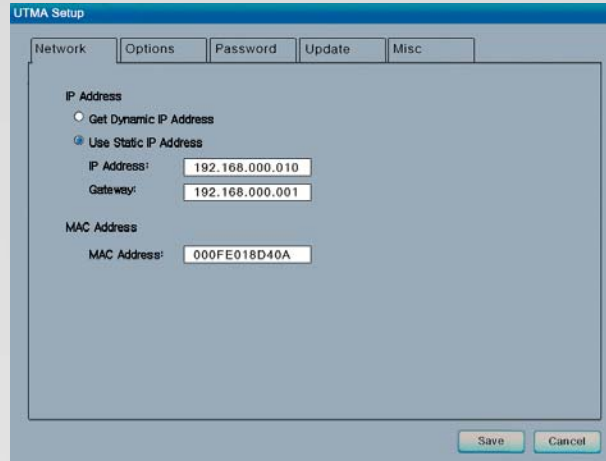


In the "Network" tab, select whether to use a dynamic IP address or a static IP address.

If you setup the access terminal to use a dynamic IP address, you don't need to enter anything as the IP address. Click on the "Save" button.



If you setup the access terminal to use a static IP address, you must enter the IP address and the default gateway. Click on the "Save" button.



Installation with monitor mount (L130 and L230 only)

The L130 and L230 products include a monitor mount, mounting collar, monitor mount screws (silver color) and mounting collar screws (black color) for mounting it to the back of a monitor. To mount the terminal, first secure the monitor mount to the back of the monitor, as in the following pictures.



The above picture shows the monitor mount attached to the back of the monitor with the four silver screws. Note that the black attachment clips are oriented vertically. Also, note there are holes in the monitor mount that support a 100 mm mount and a 75 mm mount.



The above picture shows the terminal attached to the monitor mount. This is done by sliding the terminal on the attachment clips and pushing it down to secure it.



The above picture shows the mounting collar holding the terminal in place with the four black screws.



The above picture shows the L130 on the mounting bracket, secured with the mounting collar, and all cables connected.

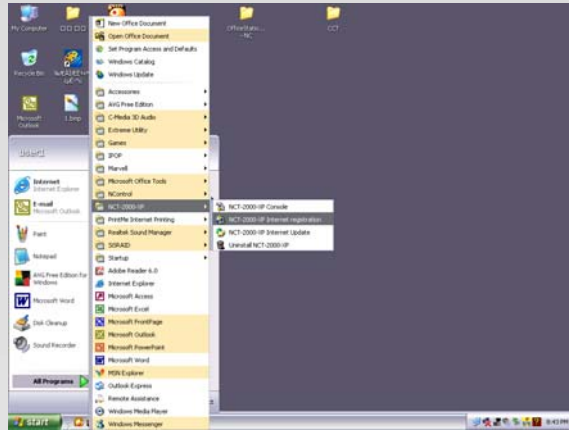


The above picture shows the L230.

Product Registration

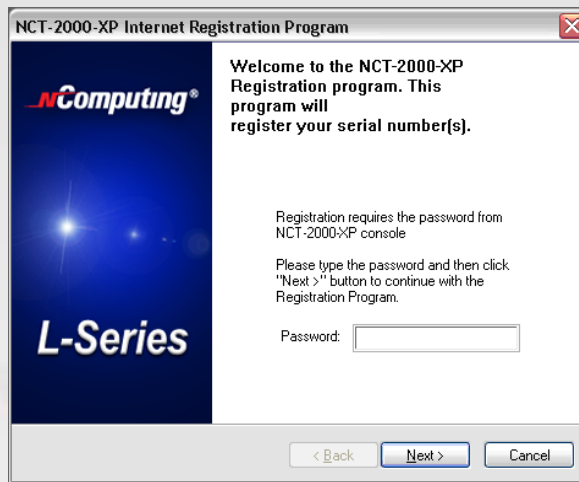
Product registration uses the Internet and enables downloading updates and technical support.

Select "Product Registration" in the Windows Start menu.



At any time during the registration process, you can click on the "Cancel" button and the process will be cancelled, or you can use the "Back" button to return to previous screens in the registration process to change your entries.

At the welcome screen, if you have password protection turned on, enter your password. Click the "Next" button.

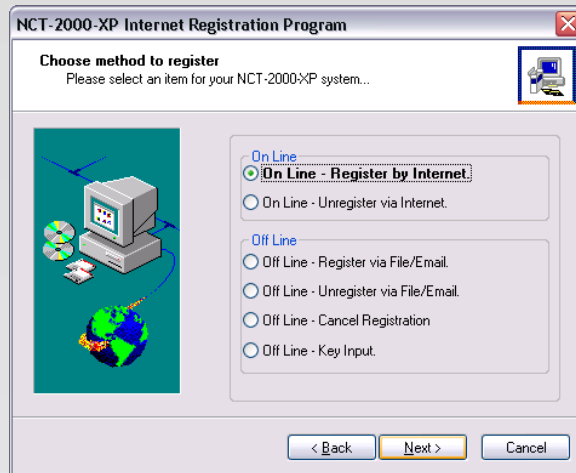


At the "Collecting information" screen, if the data fields are not already populated, enter the registered user's relevant information. Each field must be entered in this window. When you are finished, click on the "Next" button.



At the "Choose method" window, you can select what registration function to invoke. For online registration functions, you can select whether to register or unregister the software and associated access terminals. In the offline functions, you can select whether to register or unregister the software and associated access terminals

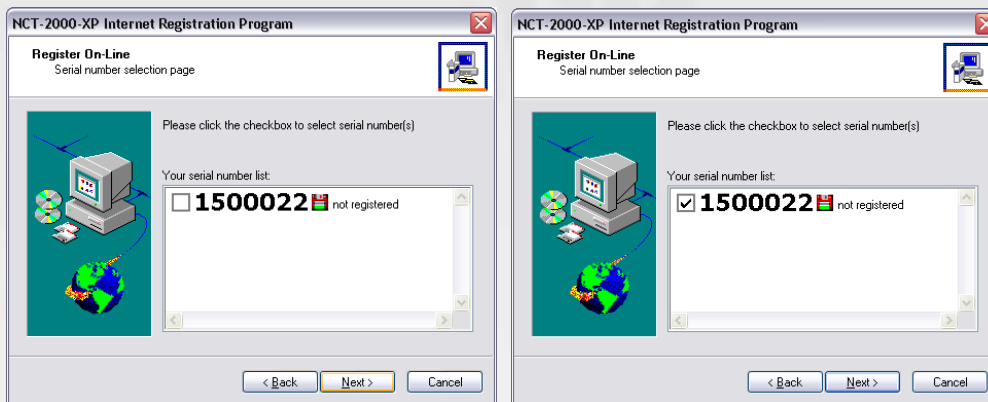
via a file that can be emailed, cancel a pending registration, or manually input keys from the offline registration process. Select the registration function you want to invoke and click on the "Next" button.



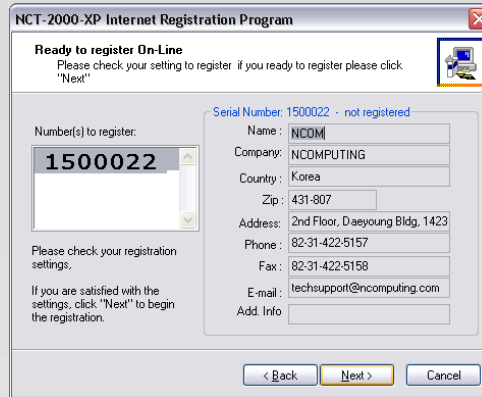
Online Registration

In the case of Online Registration, follow the instructions below. Otherwise skip to the section titled "Offline Registration".

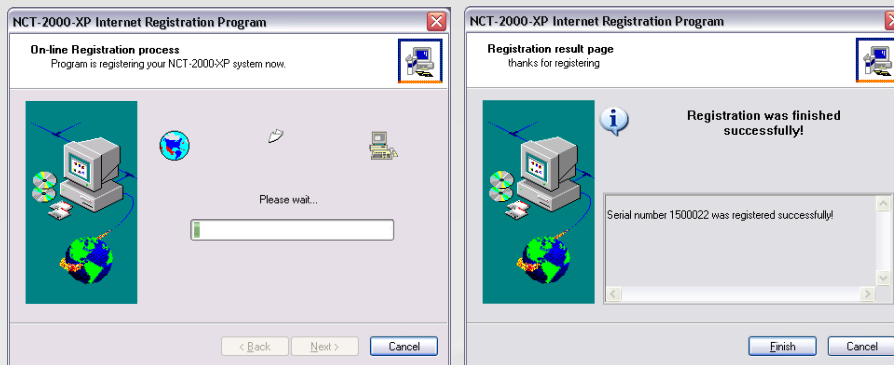
When you select to register or unregister online, the next screen allows you to select what serial numbers to register or unregister. The window shows you a list of all access terminal serial numbers that are accessible via Ethernet by the host PC. For each serial number, the window shows if it is registered or not registered. Select which access terminals to register or unregister by clicking the appropriate check boxes, and click on the "Next" button.



In the "Ready to register" screen, you see the user information you entered and the serial numbers you chose to register or unregister. Confirm the information is correct and click on the "Next" button to complete the process.



In the "On-line Registration process" screen, you see the registration progress. Once the online registration process is complete, the window shows the results of the process, including which serial numbers were successfully registered. Click on the "Finish" button.

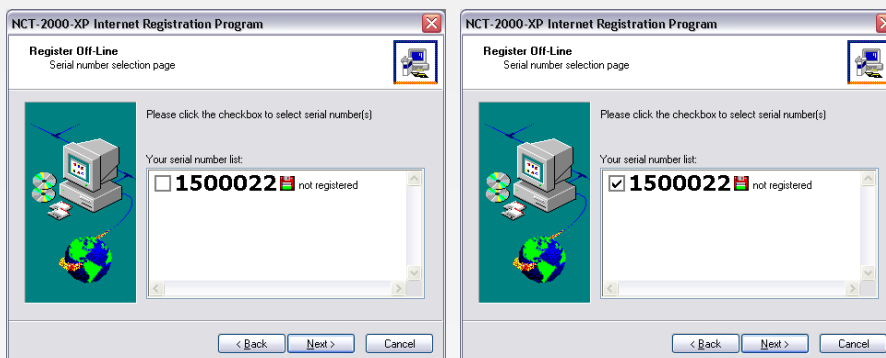


Offline Registration

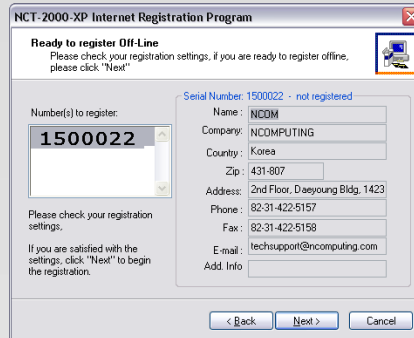
In the case of Offline Registration, follow the instructions below. If you have completed the online registration section, skip to "Using the access terminal".

When you use offline Registration, you can email a data file that includes the serial numbers you want to register or unregister. When the registration or unregistration is processed, you receive a key that must be input manually into the registration screens. To start the process, select whether to register or unregister offline.

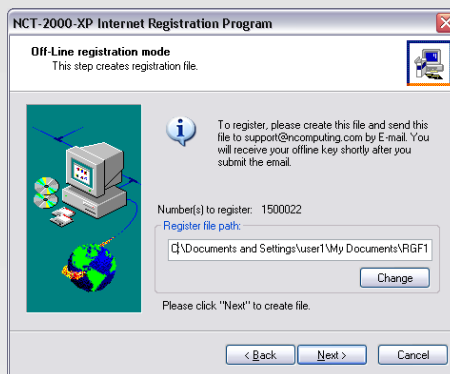
When you select to register or unregister offline, the next screen allows you to select what serial numbers to register or unregister. The window shows you a list of all access terminal serial numbers that are accessible via Ethernet by the host PC. For each serial number, the window shows if it is registered or not registered. Select which access terminals to register or unregister by clicking the appropriate check boxes and click on the "Next" button.



In the next window, you see the user information you entered and the serial numbers you chose to register or unregister. Confirm the information is correct and click on the "Next" button.



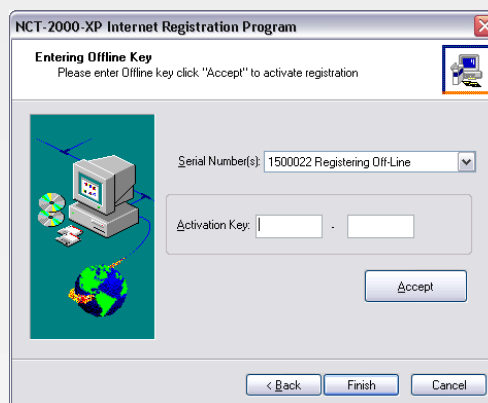
In the next screen, you select where to place the file that must be emailed.



Once you create the file, you can copy it to another PC, if necessary. Email the file to support@ncomputing.com. You will receive an email reply that includes an activation key for each serial number that you selected to register or unregister.

When you receive the activation keys, start the registration program again and select "Key Input".

In the next window, you are given the ability to select a serial number that is pending offline registration or unregistration and enter the corresponding activation key. When you have entered the key and selected the correct serial number, click on the "Accept" button. Do this for each serial number. When you are finished, click on the "Finish" button to complete the process.



To cancel an offline registration or unregistration that is already in progress, select the "Off line - Cancel registration" radio button and click on the "Next" button.

The next window shows the serial numbers that are known by the host PC. Select the serial numbers for which to cancel the registration or unregistration process and click on the "Next" button.

Uninstallation

To uninstall the NCT-2000-XP program, select “Uninstall NCT-2000-XP” in the “Start” menu. Follow the prompts and the programs are removed from the host PC. After the program is uninstalled, you must restart the host PC to complete the process.

Updating the Terminal Services Software

Once you have successfully completed the registration process, you can update the terminal services program directly over the Internet by selecting “NCT-2000-XP Internet Update” from the “Start” menu.

Note: If the “Enter Password” window appears, enter the administrator password.

Click the “Connect” button to check for a software update. If there is a new version available, click on the “Download” button to start the update process. If there is no new version available, click on the “Exit” button. When the download is complete, the installation of the new version will begin.

Using the access terminal

Configure the Access Terminal

The access terminal screen

The host PC list shows host PCs to connect to. Select a host PC from the list and click on the "Connect" button to start.

The "Refresh" button refreshes the host PC list.



The Options Menu

The "Options" button brings up a menu where you can view and change the access terminal's settings.



Within the “Options” screen, the "Reset" button resets the access terminal

The "Info" button brings up a window to view the following information about the access terminal:

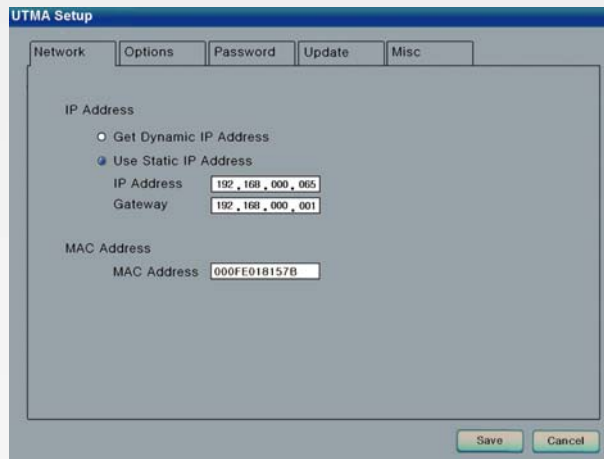
- Version: the version of firmware running on the access terminal
- Build: The build number of the firmware running on the access terminal
- Date: The date of the firmware running on the access terminal
- Device Model: The model number of the access terminal
- Loaded Schema Version: The schema version running on the access terminal
- IP Address: The IP address the access terminal is configured to use
- Gateway: The IP gateway the access terminal is configured to use
- MAC Address: The MAC address of the access terminal
- Serial Number: The serial number of the access terminal
- Alias: The alias of the access terminal, configured in the host PC management console
- "Loaded from . . .": How the access terminal loaded its latest firmware update.



The "Close" button closes the options menu.

The “Setup” Menu

Within the “Options” screen, the "Setup" button brings up a set of tabs for viewing and changing the access terminal settings. *Note that this is an optional step to be used for more control of the terminal.*



The "Save" button saves all the changes made in the tabs and closes the window. This brings the user back to the host PC list.

The "Cancel" button discards all the changes made in the tabs and closes the window. This brings the user back to the host PC list.

The "Network" Tab

The "Network" tab contains settings for network connectivity.

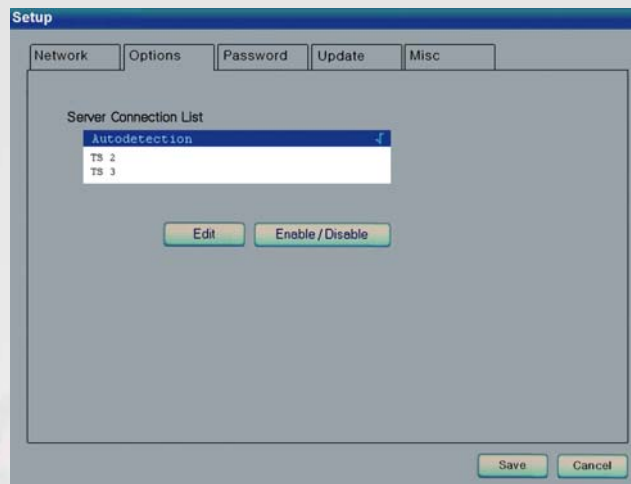
If you have an IP Address, click on the "Use Static IP Address" radio button to set an IP address and gateway address for the access terminal to use.

Otherwise, click on the "Get Dynamic IP Address" radio button to configure the access terminal to use DHCP to get its IP address.

The MAC address is shown here for reference.

The "Options" Tab

The "Options" tab contains settings for host PC connections.



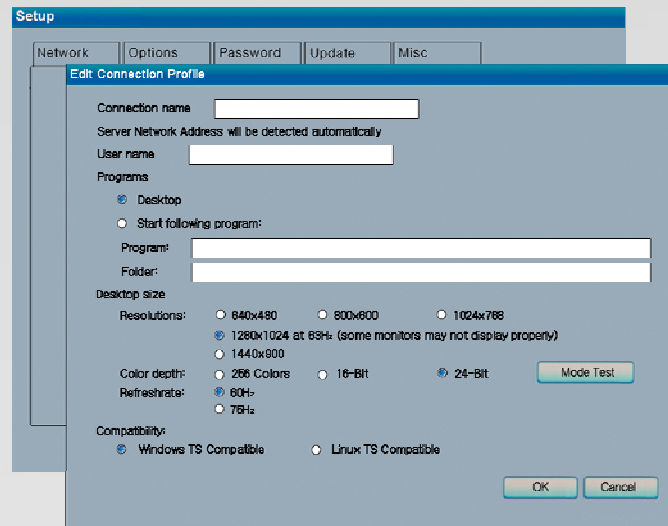
The "Server Connection List" is a list of three connection profiles. There is a check mark to the right of each profile that is enabled.

Select a profile and click on the "Edit" button to view and change its settings.

Select a profile and click on the "Enable/Disable" button to enable or disable the profile.

The first profile is called "Autodetection." Unlike the other profiles, its name can never be changed and it has no specified server network address.

The second and third profiles' default names are "TS 2" and "TS 3," respectively. You can change these profile's names and they have a "Server Network Address" field where you set a host PC IP address.



In each profile, there are the following settings:

- The “Autoconnect Enabled” radio button, when activated, sets the terminal to automatically connect to the selected server when the terminal is turned on.
- In the “User name” field, you can enter the user name that you want input to the Windows login dialog box upon connection.
- In the “Domain” field, you can enter the domain that you want input to the Windows login dialog box upon connection.
- In the "Programs" section, you can set what application launches when the access terminal connects to a host PC using that profile. You can make the desktop come up, or a program that is specified by program name and the folder where it exists on the host PC.
- In the "Desktop Size" section, you can set the video behavior when the access terminal connects to a host PC using that profile. You can set the resolution, color depth, and frequency. For example, you can choose a resolution of 1024x768, a color depth of 16 bit, and a frequency of 60 Hz.
- The "Mode Test" button allows you to choose a desktop setting and do a basic test to see if it works with your monitor. Click on the button and the video output will change to the specified resolution, color depth and frequency. To exit the video mode test, press the "Esc" key on the keyboard.
- The “Compatibility” section allows you to choose whether the profile is used to connect to the terminal services software installed on Windows or Linux.
- Click on the "OK" button to save the changes and close the window.
- Click on the "Cancel" button to discard the changes and close the window.

* **Note:** Some monitors may not display certain video mode properly.

The “Password” Tab

The "Password" tab contains settings for protecting the access terminal options with a password.



If you select "Do not use Password", there will be no password required to view or change the access terminal's settings.

If you select "Protect device Setup Options with Password, a dialog box will pop up where you will be required to enter a password twice. Then, when users click on the "Setup" button in the "Options" sub-menu, they will be asked to enter the password. No other menus are affected by this password.

NComputing recommends setting the password to improve security.

The "Update" Tab

Your NComputing L-Series access terminal may at times require a firmware update. To do this, select the "Update" tab and click on the "Update" button. When the access terminal asks you for a password, enter "updateme" (without the quotes). Your access terminal will walk you through the process of updating the firmware.

It is crucially important that you follow the instructions. If you turn off the access terminal during the firmware update process, it may become non-functional.

After the firmware update process is complete, reset the access terminal by turning it off and on.

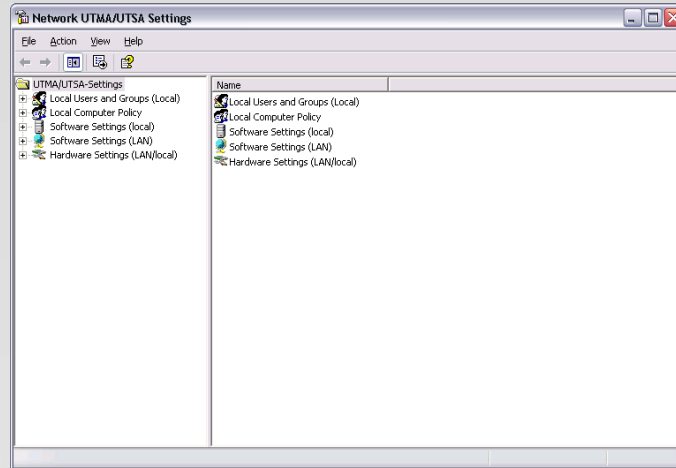
Certain changes in the terminal services software require a firmware update in each access terminal connected to it. NComputing notifies customers when a firmware update is required by a given terminal services software update.

The "Misc" Tab (L200 only)

The "Misc" tab contains settings that are no longer supported.

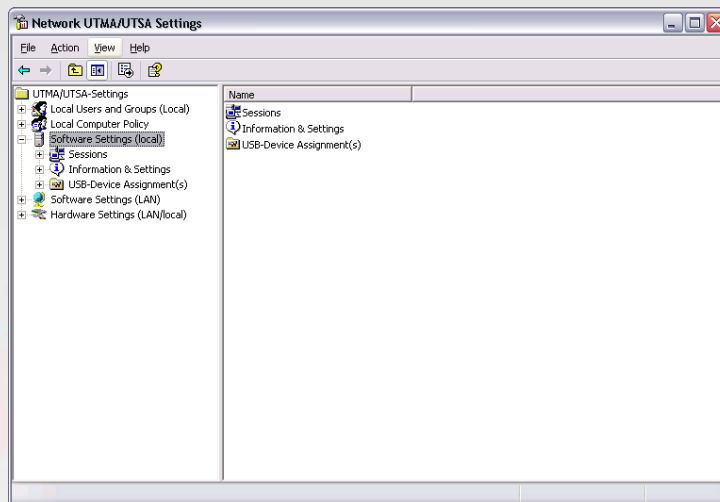
Using the management console

Start the management console from the Windows Start menu. The application is called, "NCT-2000-XP Console". You can also start the management console by right-clicking on the NComputing icon in the system tray and selecting "NCT-2000-XP Management Console".



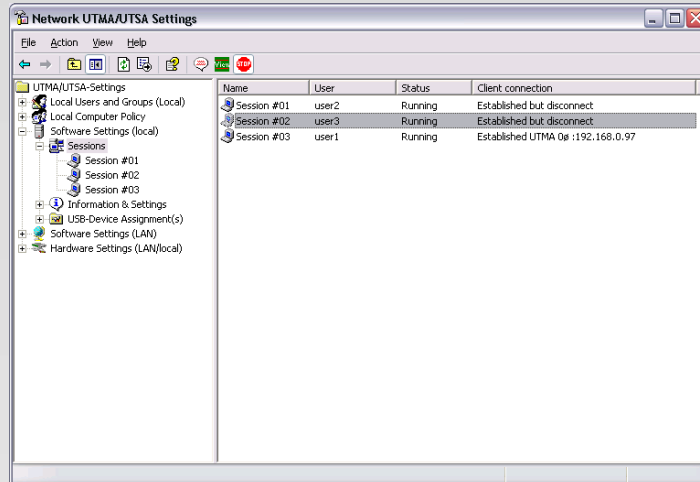
Software Settings (local)

The "Software Settings (local)" tree allows you to see and change settings for the host PC.

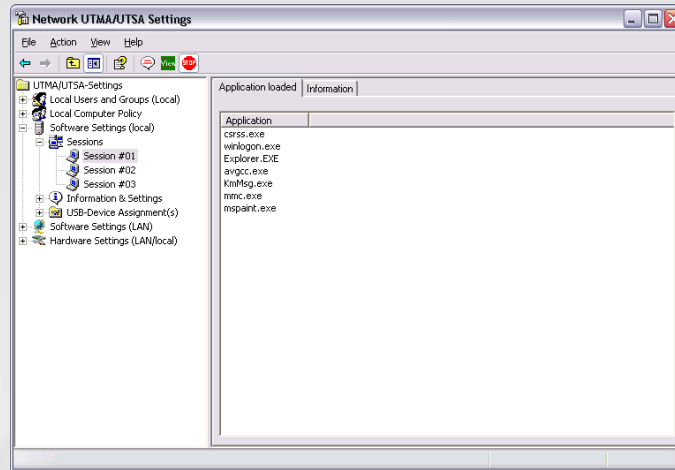


Sessions

The "Sessions" item shows information about all the sessions currently active on the terminal services software. By clicking on a session in the left window pane, you will see two tabs of available information.

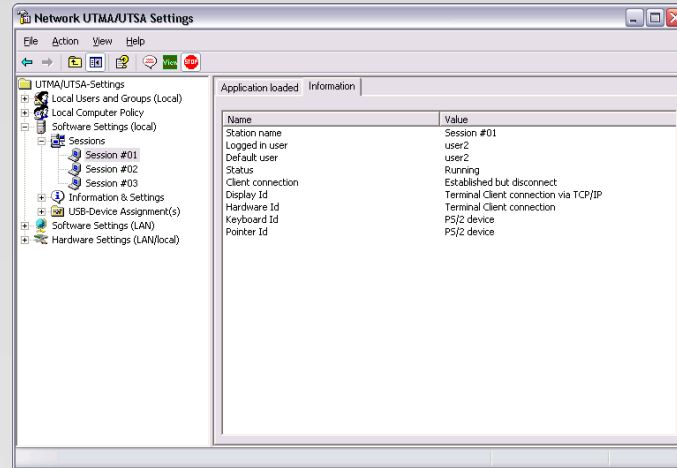


The "Application loaded" tab shows all the applications running on the selected session.



The "Information" tab shows the following information about the selected session:

- The "Station name" field shows the access terminal's provisioned name.
- The "Logged in user" field shows the username that is currently logged in.
- The "Default user" field shows the default username for the terminal session. If one is not configured, it shows the last user that logged in.
- The "Status" field shows the session connection status.
- The "Client connection" field shows the UTMA session and the IP address of the terminal used.
- The "Display Id" field shows the terminal's display ID.
- The "Hardware Id" field shows the terminal's virtual hardware ID.
- The "Keyboard Id" field shows what type of keyboard interface is used.
- The "Pointer Id" field shows what type of pointer interface is used.



In the toolbar, there are three buttons: “Send Message,” “View Station” and “Stop Station.

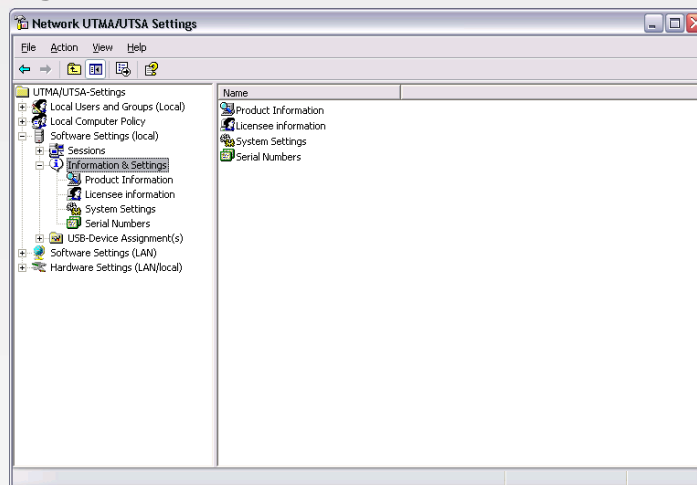
Note: The “View Station” button may not be present if this function is disabled. The “View Station” button is not present when you select the session that you are currently using.

To send a message to a session, select the session and click on the “Send Message” button in the toolbar. The “Broadcast” tab allows you to select a terminal to send the message to, a “From” entry, and a message. The terminal must be connected to the same host PC. The “Network Broadcast” tab allows you to send a message to a terminal that is connected to the same host PC or a different host PC on the same network.

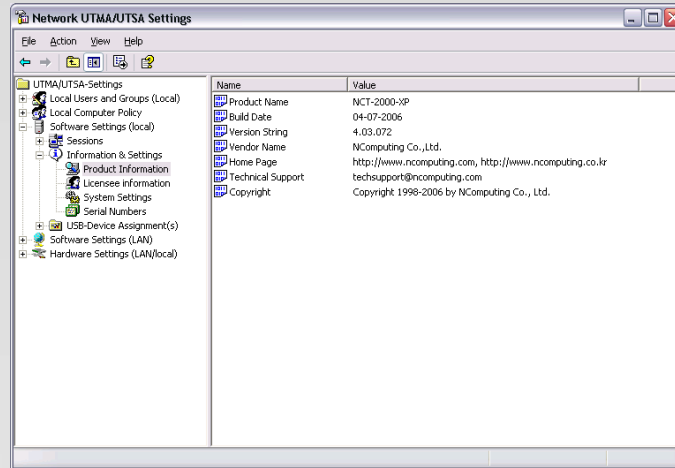
To view a session’s screen, select the session and click on the “View Station” button. When viewing a session’s screen, you may select whether or not to control the mouse and keyboard remotely and whether or not to allow the user to control the mouse and keyboard. To see and change these settings, right-click on the title bar of the session view to bring up a menu. There are two settings, “Controlled by TS Admin” and “User Input Allowed.”

To stop a session, select the session and click on the “Stop Station” button

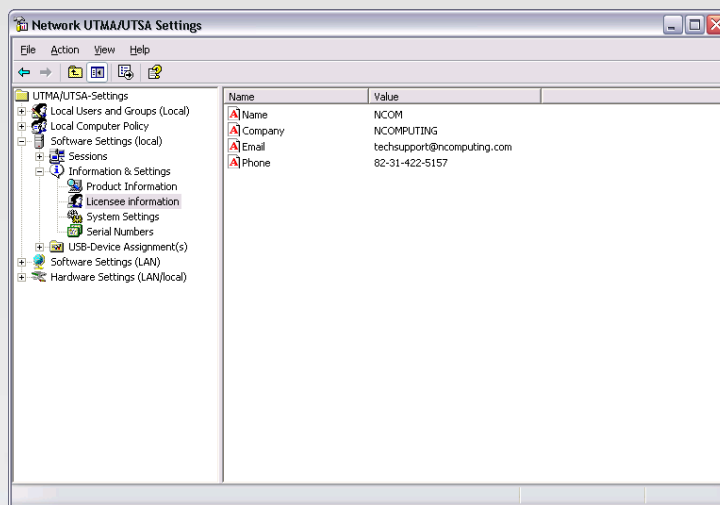
Information & Settings



The "Product Information" tree item shows information about the installed terminal services software.



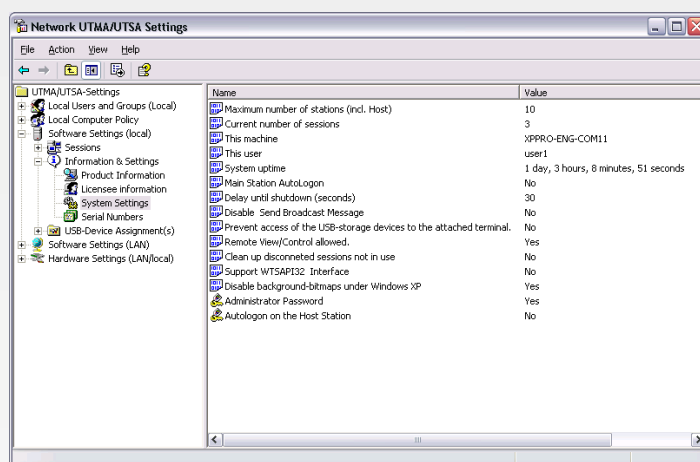
The "Licensee information" tree item shows the information entered during the registration process.



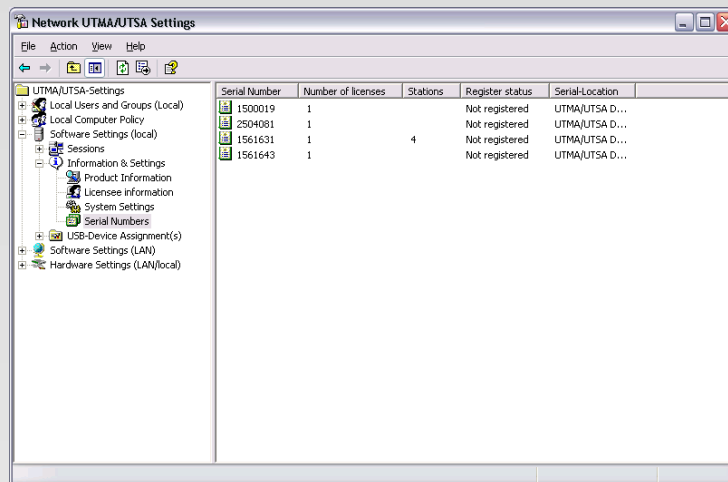
The "System Settings" tree item shows the following settings for the terminal services software. Double-clicking on the name of the setting allows you to adjust it (unless it is read-only, which is specified below).

- **Maximum number of stations (incl. Host):** Displays the maximum number of sessions the terminal services software is configured to support. This number includes the host PC. This setting is read-only.
- **Current number of sessions:** Displays the number of active sessions. This setting is read-only.
- **This machine:** Displays the name of the host PC. This setting is read-only.
- **This user:** Displays the currently logged-in user's username. This setting is read-only.
- **System uptime:** Displays how long the host computer has been logged on. This setting is read-only.
- **Main Station AutoLogon:** Displays whether or not the host PC is set to automatically logon at boot-up.
- **Delay until shutdown (seconds):** Displays the default amount of time after a shutdown command is issued on the host until the shutdown occurs. After the shutdown command is issued on the host, the shutdown timer starts. Then, a window pops up on each terminal session that tells the users they must logoff since the host is shutting down. Each user must save their work. Also, a window pops up on the host that enables the administrator to abort the shutdown timer and start the shutdown immediately, or cancel the shutdown. When the shutdown timer expires, the shutdown occurs.

- **Disable Send Broadcast Message:** Displays whether or not the administrator has disabled broadcast messages. See the description of the “Sessions” tree item for more information about how broadcast messages work.
- **Prevent access of the USB-storage devices to the attached terminal field:** Displays whether or not the administrator has globally prevented access to USB devices on access terminals.
- **Remote View/Control allowed:** Displays whether or not the administrator has configured the terminal services software to allow administrators to remotely view user and control user sessions.
- **Clean up disconnected sessions not in use:** Displays whether the terminal services software automatically looks for disconnected sessions that are not in use and logs them out after a defined period of time. If this feature is turned off (set to “No” or “0”), when any terminal drops its connection, the connection remains active on the host. When the user reconnects, their disconnected session is reconnected to their new session and all their open files and applications are available again. Also, in this case, the only way to end a disconnected session is for an administrator to stop the session from the console software. If this feature is turned on (set to any whole number up to 999), the same behavior applies, but when a session is disconnected, a timer starts. If the user reconnects before the timer is up, their disconnected session is reconnected to their new session and all their open files and applications are available again. If the timer runs out and the session is still disconnected, the terminal services software will end the session by itself. This makes sure that disconnected sessions do not reserve resources for an indefinite period. By default, this is set to “No.”
- **Support WTSAPI32 Interface:** Displays whether or not the terminal services software has turned on support for the Windows Terminal Services Application Programming Interface, or WTSAPI32. At times, this setting is required for certain applications to behave properly.
- **Disable background-bitmaps under Windows XP:** Displays whether or not the user is able to set their own background bitmap for their Windows XP desktop.
- **Do not display last user name:** Displays whether or not the terminal services software displays the last user name that logged on using a particular terminal. This is sometimes enabled as a security measure.
- **UTMA/UTSA USB port support:** Displays whether the administrator has set the terminal services software to allow using the USB port on L200 and L230 access terminals.
- **Administrator Password:** Displays whether an administrator password is set.
- **Autologon on the Host Station:** Displays whether the host PC is set to boot up without the Windows logon screen of the host PC.

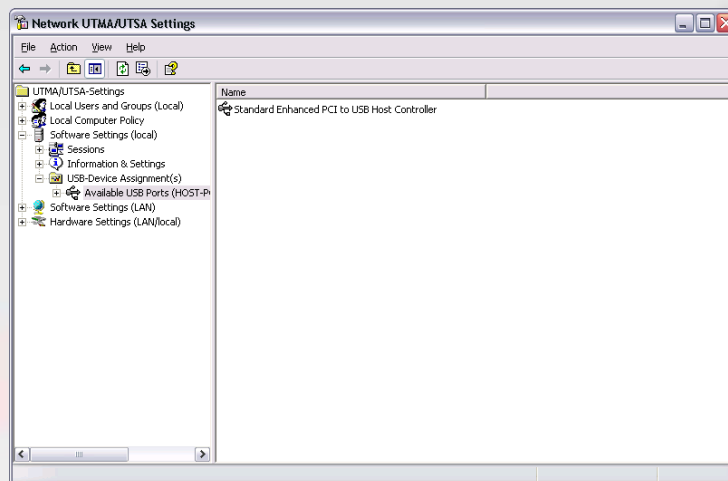


The "Serial Numbers" item shows a list of serial numbers of terminals that have connected to the terminal services software. For each serial number, it shows the number of licenses required for that terminal, the station number (if available), whether or not it is registered, and a description of the device.



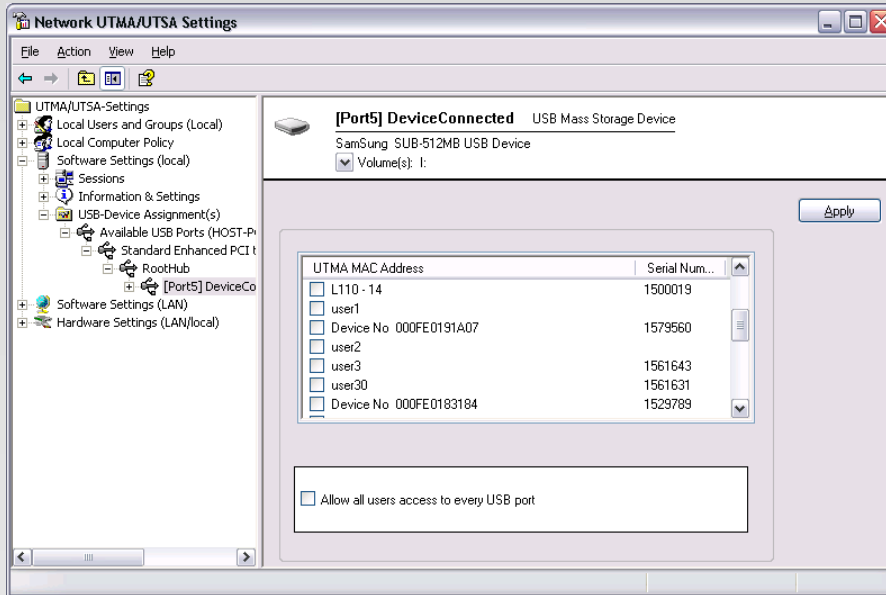
USB-Device Assignment(s)

Note: This feature is only available on the L200 and L230.



In the "USB-Device Assignment(s)" tree item, you can control connections between USB ports on the host and terminal sessions. To use this function, navigate the tree to select a USB port. When you right-click on an entry under "USB-Device Assignment(s)", you can de-select the "Hide the ports that are not connected" item to see all ports. After selecting a port, the following information is displayed:

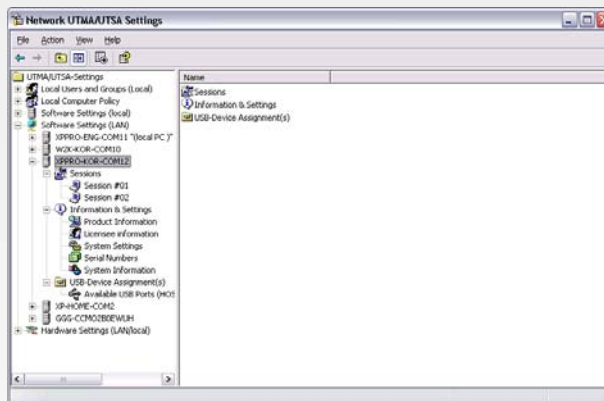
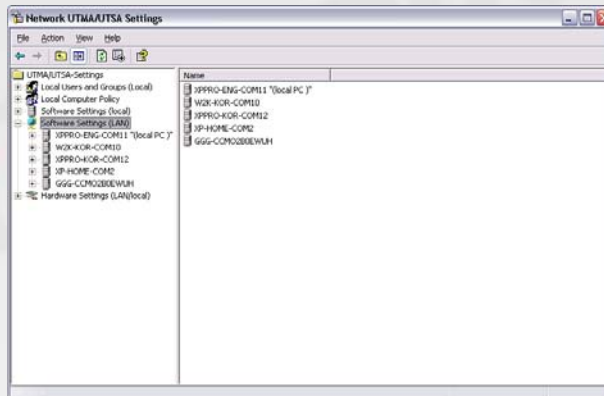
- The port number.
- If a device is connected, the device's simple name.
- The device's longer name, usually including the manufacturer and model.
- A check box for "Allow all users access to every USB port". When this is selected, all USB ports are connected, as if in one hub. When it is not checked, there is a list of USB ports where you select which ones to be connected to the selected device. In the list, there is each terminal's MAC address and serial number along with a checkbox.



When you click on the "Apply" button, changes to the USB-Device assignments are saved. To discard changes, simply navigate to another tree item or close the console without clicking on the "Apply" button.

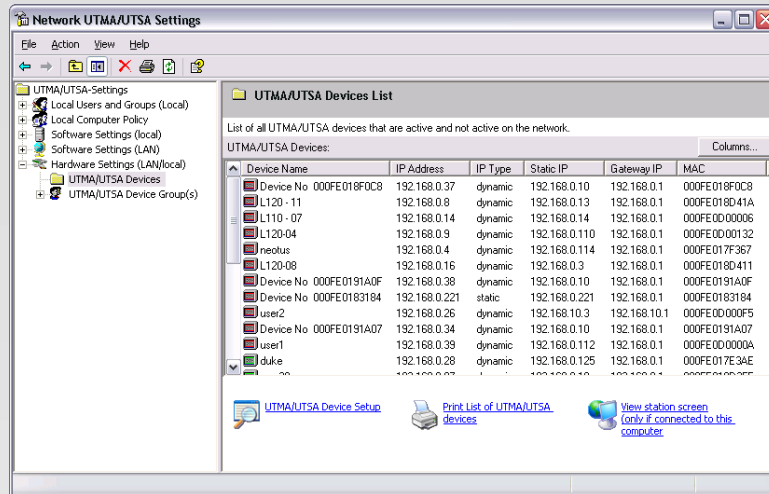
Software Settings (LAN)

The "Software Settings (LAN)" tree allows you to see and change settings for the host PC and all other PCs on the network that are running the terminal services software. Once you select a server in the tree, the same settings are present as are in the "Software Settings (local)" tree item.

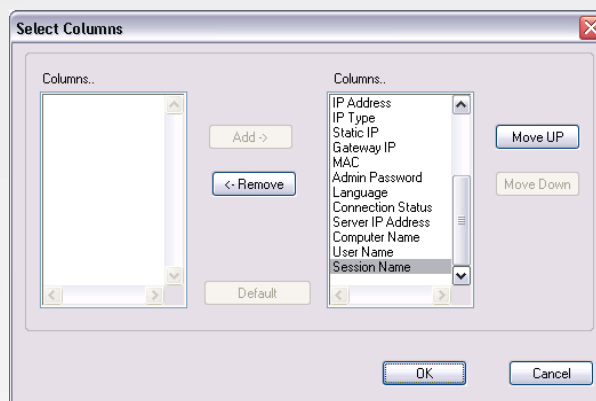
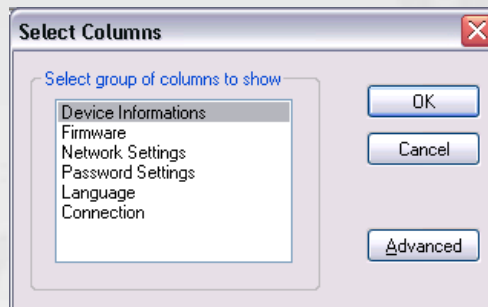


Hardware Settings (LAN/local)

The "Hardware Settings (LAN/local)" tree allows you to see and change settings for all access terminals on the network.



When you select the "UTMA/UTSA Devices" tree item, there is a table in the right side of the window that contains information about each access terminal. There is a very wide variety of information available for each terminal. Clicking on the "Columns" button enables you to select what columns are displayed. You can select a preconfigured group of columns or you can click on the "Advanced" button to select individual columns to display.



Double-clicking on an entry in the table brings up the "Device Properties" window that shows a list of properties and buttons for changing the device's settings.



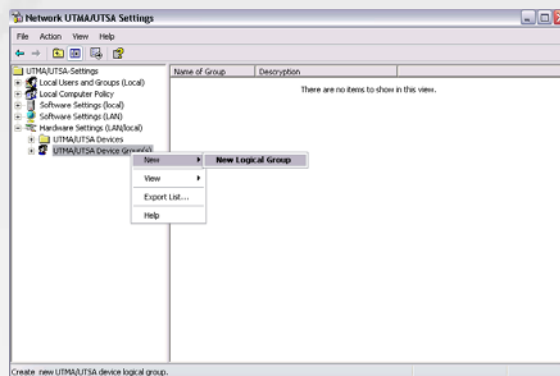
The settings you can change are all the same settings you can change when you use the "Options" window on the access terminal itself. See the access terminal setup section for details on these settings.

Note: There are four settings you can change in the "Device Properties" window that you can't change in the access terminal's "Options" window. One is the device's name. You can configure it on the management console by clicking on the "Connection Settings" button. The second is the access terminal's group membership. You can add the access terminal to a group or multiple groups by clicking the "Member of Groups" button and adding the groups to the list. The third is enabling and disabling USB on the selected device. In the "Device Properties" window, there is a checkbox labeled, "Enable USB on this device". The fourth is the "Auto-Connect" feature. It is available under the "Connection Settings" button in device configuration. This feature enables configuring the access terminal to automatically connect using a specific profile when it is restarted or logged off.

You can print the access terminal's information by clicking on the "Print" button.

In the "UTMA/UTSA Device Group(s)" tree item, you can create groups of access terminals for administrative purposes. You can use groups to organize your access terminal records by any criteria. Access terminals can belong to as many groups as necessary.

Right-clicking on the "UTMA/UTSA Device Group(s)" tree item will bring up a context menu where you can create a group.



In the "Enter UTMA Device group name" window, enter the group name and description.



Troubleshooting error messages

Error messages on the access terminal

DHCP server was not found



If the access terminal cannot find a DHCP server, this error message appears.

Make sure there is a DHCP server on the current network.

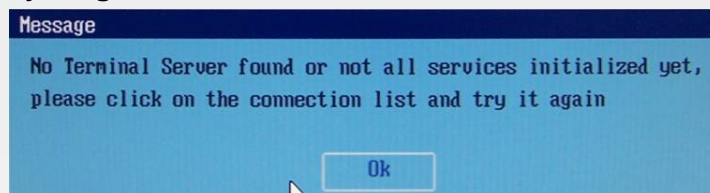
Make sure a LAN cable is connected to the access terminal.

Make sure the LAN cable connected to the access terminal is not a cross-over cable.

Make sure the LAN cable is properly connected to the networking equipment.

If there is no DHCP server on the current network, change to using a static IP address. See the section on installing the access terminal for instructions.

No Terminal Server found or not all services initialized yet, please click on the connection list and try it again



This occurs when the access terminal is set to find the host PC and it does not find the host PC where the terminal services software is installed.

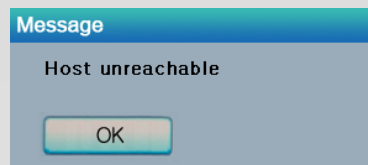
Make sure the NCT-2000-XP program is installed on the host computer.

Make sure the LAN cable is properly connected to the host computer.

Make sure the host computer and access terminal are in the same local area network.

Make sure any firewall or anti-virus programs installed in the host computer or network equipment are compatible with the terminal services software.

Host unreachable...



When the access terminal cannot connect to the host PC, this message appears.

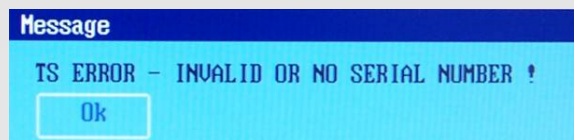
Make sure the server connection list is configured correctly. See the section about configuring the access terminal.

Make sure the terminal services software is installed on the host PC.

Make sure the host computer and access terminal are in the same network.

Make sure any firewall or anti-virus programs installed in the host computer or network equipment are compatible with the terminal services software.

TS ERROR – INVALID OR NO SERIAL NUMBER!



This message appears when no serial number exists in the host computer. This message does not indicate an error regarding the serial number of the access terminal.

Please see the section about product registration to register the terminal services software and the access terminals.

Connection was closed but your data is not lost and application is still running on the server. Please connect to the terminal server later.

This message appears when the connection stops due to abnormalities occurring on the host PC or network equipment.

Check the Host PC or the network equipment when this message appears and restart the Host PC and access terminal. Unless the Host PC is rebooted, existing data in the Host PC may be used as is.

Check to see if the host PC is overloaded.

Check to see if the network traffic is overloaded.

Check to see if the host PC is unstable.

There is a feature in the terminal services software that keeps disconnected sessions running and available. If the user reconnects while a disconnected session for that username is present, the software will connect the disconnected session to the new session. The user will see the desktop as it was when the disconnection occurred.

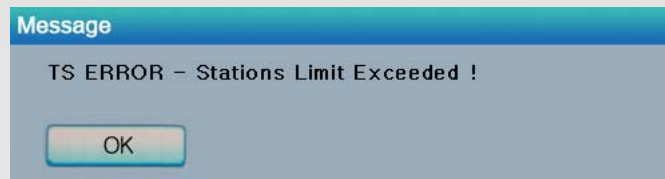
The administrator can configure the software to keep disconnected sessions running and available indefinitely or to close them automatically after being disconnected for a specified period of time. The setting is in the administrative console's system settings and is called, "Clean up disconnected sessions not in use."

Authorization error



When two access terminals use the same serial number simultaneously, the error message appears. Check all serial numbers in the terminal services software console.

TS ERROR – Stations Limit Exceeded !



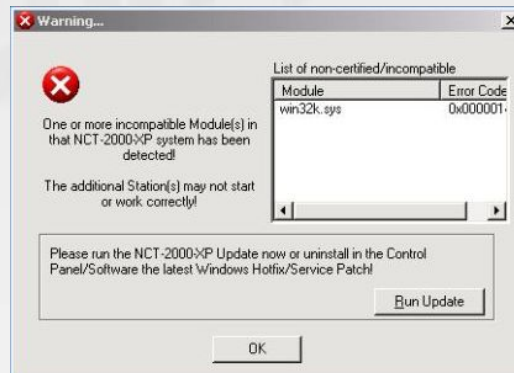
When an access terminal attempts to connect to the host PC and the number of allowed connections is exceeded, this message appears.

Check how many access terminals are connected to the host PC.

Check what operating system is installed on the host PC.

Troubleshooting error messages on the Host PC

Multi user Error



Microsoft distributes Windows updates, and some security updates may conflict with the terminal services software. A conflict may display an error message or disable the access terminal. If this happens, a new version will be distributed very quickly through the automatic software update feature.

Glossary

- Access terminal: a network computing terminal using NComputing patent technology. It doesn't use CPU, VGA, and main chipsets, only use a programmable SoC to connect to Host PC. A terminal using UTMA technology can be connected to Host PC by using the LAN cable. Also, it can be connected to remote PC through Internet using TCP/IP.

- Administrator: a person who is responsible for managing a multi-user computing environment, such as a local area network (LAN). The responsibilities of the system administrator typically include: installing and configuring system hardware and software; establishing and managing user accounts; upgrading software; and backup and recovery tasks.
- Alias: a fictitious [name](#) used by an individual as an alternative to her or his true name.
- Client/Server: describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request.
- Console: the text entry and display device for system administration messages, particularly those from the [BIOS](#) or [boot loader](#), the [kernel](#), the [init](#) system and the [system logger](#).
- DHCP: (Dynamic Host Configuration Protocol) is a communications protocol that lets network administrators centrally manage and automate the assignment of Internet Protocol (IP) addresses in an organization's network. Without DHCP, the IP address must be entered manually at each computer in an organization and a new IP address must be entered each time a computer moves to a new location on the network.
- Download: the transmission of a file from one computer system to another.
- Ethernet: the most widely-installed local area network (LAN) technology - specified in a standard, IEEE 802.3.
- Firewall: a set of related programs (located at a network gateway server) that protect the resources of a private network from users on other networks and control what outside resources its own users have access to. (The term also implies the security policy that is used with the programs.)
- Gateway: a network point that acts as an entrance to another network. On the Internet, a node or stopping point can be either a gateway node or a host (end-point) node.
- Host Computer: a computer in which the NCT-2000-XP program has been installed
- Internet: a worldwide system of computer networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).
- IP Address: the Internet Protocol ([IP](#)) is basically the set of rules for one network communicating with any other (or occasionally, for broadcast messages, all other networks). Each network must know its own address on the Internet and that of any other networks with which it communicates. To be part of the Internet, an organization needs an Internet network number, which it can request from the Network Information Center (NIC). This unique network number is included in any packet sent out of the network onto the Internet.
- LAN: local area network (LAN) is a group of computers and associated devices that share a common communications line or wireless link and typically share the resources of a single processor or server within a small geographic area (for example, within an office building). Usually, the server has applications and data storage that are shared in common by multiple computer users. A local area network may serve as few as two or three users (for example, in a home network) or as many as thousands of users (for example, in an FDDI network).
- Log on: in general computer usage, logon is the procedure used to get access to an operating system or application. Almost always, a logon requires that the user have (1) a user ID and (2) a password. Often, the user ID must conform to a limited length such as eight characters and the password must contain at least one digit and not match a natural language word
- MAC Address: in a LAN or other network, the MAC (Media Access Control) address is your computer's unique hardware number. (On an Ethernet LAN, it's the same as your Ethernet address.) When you're connected to the Internet from your computer, a correspondence table relates your IP address to your computer's physical (MAC) address on the LAN.

- NCT-2000-XP: NComputing terminal services software for Windows 2000 and XP
- PC: Personal Computer
- Router: in packet-switched networks such as the Internet, a router is a device or, in some cases, software in a computer, that determines the next network point to which a packet should be forwarded toward its destination. The router is connected to at least two networks and decides which way to send each information packet based on its current understanding of the state of the networks it is connected to.
- User: one who uses a computer system. Users may need to identify themselves for the purposes of accounting, security, logging and resource management. In order to identify oneself, a user has an account and a username.
- USB: (Universal Serial Bus) is a standard designed to allow peripherals to be connected to a computer using a standardized interface socket and to improve [plug-and-play](#) capabilities by allowing devices to be connected and disconnected without [rebooting](#) the computer.
- UTMA: Ultra Thin Multi Access

FAQ

Q: Must the versions of the terminal services software in a network be the same?

A: Yes, since different versions might cause data communication problems. Please keep all terminal services software updated with the latest version.

Q: When I start my access terminal, why is the server connection list blank? I have the NCT-2000-XP software on a host PC in my network. I can connect to the host PC if I provision its IP address in the access terminal.

A: This condition occurs when the host and access terminals are on independent subnets. The access terminal can run in this mode, but will never see the host PC in its server connection list.

Q: When I go to the device list in the administration console, why do some of my access terminals never show up in the list?

A: This condition occurs when the host and access terminals are on independent subnets. The access terminal can run in this mode, but its record will never appear in the administration console's device list.

Q: When I try to do a manual firmware update on the access terminal, why does it not connect to the host PC and download the firmware?

A: This condition occurs when the host and access terminals are on independent subnets. The access terminal can run in this mode, but it can only download firmware updates when it is on the same subnet as the host PC.

Q: When I start my access terminal, why does it not automatically update its firmware from the host PC like my other access terminals do?

A: This condition occurs when the host and access terminals are on independent subnets. The access terminal can run in this mode, but it can only download firmware updates when it is on the same subnet as the host PC.

Q: I can't download any terminal services software updates.

A: Make sure that the product is registered (see "Product Registration" section).

Q: Why does a warning message appear when I install the terminal services software?

A: Windows XP SP2 provides a firewall that displays a security warning message when a new port is used (see below). If you click the “Keep Blocking” button, you will not be able to find NComputing servers. If you select the “Unlock” button, the port will open unless you block it manually. If you select the “Ask Me Later” button, the port will open temporarily and the security message will continue to appear when the port is accessed.

Q: Can the product support 10Mbps or 1Gbps?

A: No, only 100Mbps is supported.

Note: Go to www.ncomputing.com to see the latest FAQs.

163-0045 Rev.C