

1683 Network Computing Terminal

User's Manual

P/N 707014-004

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Table of Contents

1. About This Manual	1-1
Who should use this Manual	1-2
How to interpret the styles and symbols used in this Manual	1-2
Keyboard input	1-2
Keyboard chord instructions	1-2
Mouse conventions	1-3
Notes, cautions, warnings	1-3
2. About the 1683 NCT	2-1
Overview	2-2
Standard features	2-2
Personal productivity tools	2-3
3. Connecting the 1683 NCT	3-1
Inspecting the package	3-2
Setting up the 1683 NCT	3-2
Connecting the 1683 NCT	3-4
Connecting to the SNA network	3-4
Connecting to an Ethernet LAN	3-4
Connecting a modem to the Serial Port	3-4
Connecting to the 5250 Network	3-5
Powering up	3-5
Powering down	3-6
4. Using Windows	4-1
Using the 1683 NCT	4-2
What should I do first?	4-2
How to start the 1683	4-2
A typical workspace	4-2
Using the mouse	4-3
Pointers	4-3
Anatomy of a window	4-4
Using the Window Menu	4-5
Using the Taskbar	4-5
Keyboard shortcuts	4-6
Workspace operations	4-6
Window operations	4-6
5. Using Print Services	5-1
Printer setup	5-2
Installing a printer	5-3
Changing the default printer	5-3
Printing when a printer has not been set up	5-3

Printer properties	5-4
Paper tab	5-4
Graphics tab	5-5
Margins tab	5-5
Other tab	5-6
Info tab	5-6
Print preview	5-6
LPR/LPD print feature	5-7
Configuring remote printers	5-7
Remote Printer Definition	5-8
Using the 1683 as an LPR server	5-8
6. MTX 1480 CUT Emulator	6-1
Standard features	6-2
Display screen features	6-2
Data entry features	6-2
Printing features	6-3
Other features	6-3
Accessing your application program	6-3
Moving the cursor	6-4
Entering and editing data	6-5
Selecting data fields	6-5
Sending data	6-6
System Request variations	6-6
Program Access (PA) function	6-6
Function (F or PF) keys	6-6
Monitoring response time	6-9
Configuring the 1480 CUT Emulator	6-9
Defining and selecting features	6-9
1480 Miscellaneous	6-11
Restarting the 1480 Emulator	6-11
Keyboard setup	6-12
Color	6-13
Printer setup and printing	6-14
Print type	6-14
Coax printer assignment	6-15
HAP Menu	6-16
LPR Menu	6-18
Dual Screen feature	6-19
Configuration requirements	6-19
Configuring Dual Screen mode	6-19
Starting Dual Screen mode	6-20
Active and Suspended Screens	6-20
Key assignments	6-21
Dual Screen Mode enhancements	6-21
Zoom	6-21
Select left	6-21
Select right	6-21

Step Active session	6-22
Swap session	6-22
Mark	6-23
Paste	6-23
Mark/Paste	6-23
Walk through	6-24
Screen Print mode	6-24
7. MTX 1490 Twinax Emulator	7-1
Standard Features	7-2
Communication Setup	7-3
Terminal Mode	7-3
Display Address	7-3
Printer Address	7-4
Keyboard Setup	7-4
Screen Setup	7-8
Display Emulation	7-8
Cursor	7-9
Full Screen Mode	7-9
Color Setup	7-10
Printer Setup	7-11
Attached Printer Type	7-11
Printer Emulation	7-12
Characters per Inch	7-12
Lines per Inch	7-12
LPR Menu	7-13
1490 Miscellaneous	7-13
Restarting the 1490 Emulator	7-14
8. Using Telnet, TN3270, TN5250 and VT220	8-1
Telnet Terminal	8-2
What is Telnet?	8-2
Logging in to a remote host	8-2
Logging out of a remote host	8-3
Recommended reference guides	8-3
TN3270	8-4
What is TN3270?	8-4
Setting up a remote host as a 3270 terminal	8-5
Connecting to a TN3270 session	8-6
Logging out of a remote host	8-6
Configuring TN3270 for an application	8-9
Print setup	8-12
Print type	8-12
LPR menu	8-13
Copy/Paste Between TN3270 Sessions	8-14
Copy/Paste From Calculator to TN3270 Session	8-15
Recommended reference guide	8-15

TN5250	8-16
What is TN5250?	8-16
Setting up a remote host as a 5250 terminal	8-16
Connecting to a TN5250 session	8-17
Logging out of a remote host	8-20
Configuring TN5250 for an application	8-20
Screen setup	8-20
VT220	8-23
What is VT220?	8-23
Setting up VT220	8-23
Connecting to a VT220 session	8-25
Logging out of a remote host	8-25
Configuring VT220 for an application	8-26
Miscellaneous setup	8-30
Printer setup	8-31
9. TN3270/TN5250 Keyboard Macros	9-1
Keystroke Record/Playback	9-2
Storing Keystroke Sequences	9-2
Playing Keystroke Sequences	9-3
Removing Keystroke Sequences	9-3
Advanced Feature Set: Pauses	9-3
Advanced Feature Set: Delays	9-4
Advanced Feature Set: Playback Speed	9-4
Special Notes	9-4
10. Accessing your intranet and the Internet	10-1
Configuring Voyager Browser	10-2
Cache tab	10-3
User Info tab	10-4
Connection tab	10-5
Appearance tab	10-6
Basic browsing	10-7
Toolbar icons	10-7
Browsing the Internet	10-7
Stopping data transfer	10-7
Refreshing the current page	10-7
Going backward and forward	10-8
Returning to your home page	10-8
Finding text	10-8
Changing the size of the font	10-8
Viewing history	10-8
Using hotlists	10-8
Hotlists	10-8
Adding sites to Hotlist	10-8
Viewing hotlists	10-9
Deleting sites from the hotlist	10-9
Printing	10-9

- 11. Using personal productivity tools 11-1**
 - NCT Mail 11-2
 - Starting NCT Mail 11-2
 - Checking for - and reading - your mail 11-3
 - To read a message 11-3
 - Replying to and forwarding mail 11-3
 - Sending new mail 11-4
 - Message Pad 11-5
 - Posting a note to yourself 11-5
 - DayMinder 11-6
 - What is DayMinder? 11-6
 - Starting DayMinder 11-6
 - DayMinder at a glance 11-6
 - Resizing windows 11-7
 - Customizing application preferences 11-7
 - Types of scheduled activities 11-8
 - Adding appointments 11-8
 - Adding reminders 11-9
 - Adding a task to the ToDo list 11-9
 - Editing and deleting scheduled activities 11-10
 - Address Book 11-10
 - Calculator 11-12
 - Snapshot 11-12
 - Printing a snapshot 11-13
 - Dial-up connection 11-13
 - Starting the Dialer 11-13
 - Setup an ISP 11-14
 - Typical ISP setup 11-14
 - Advanced ISP setup 11-15
 - TCP/IP settings 11-15
 - Modem settings 11-15
 - Login script 11-15
 - Script Editor 11-16
- 12. Safety, Power, and Environmental Requirements 12-1**
 - Space planning: physical statistics 12-2
 - Meeting environmental requirements 12-2
 - Power cable requirements 12-2
 - For units operating at 100-120V 12-2
 - For units operating at 200-240V 12-3
 - For international units 12-3
 - Power outlet requirements 12-3
 - Electrical interference and atmospheric considerations 12-3
- 13. System Administrator's Guide 13-1**
 - Accessing the configuration screens 13-2
 - Administrator Functions 13-3
 - Vital Product Data 13-3

Table of Contents

Configuring Options	13-4
Defining Administrator's Password	13-4
Setting date and time	13-5
Configuring NCT Network	13-5
Connection tab	13-6
Gateway tab	13-6
DNS tab	13-7
Configuring NCT Mail	13-8
Configuring NCT Applications	13-9
Configuring NCT Miscellaneous	13-10
ICA	13-11
Configuring ICA	13-11
Application servers	13-12
Network tab	13-12
Connection Options tab	13-12
Application tab	13-13
Starting the ICA session	13-14
NCT Update configuration	13-15
NCT Update troubleshooting process	13-16
Update list file format	13-16
Language configuration	13-17
Ping	13-17
Index	Index-1

Chapter 1

About This Manual

In this Chapter...

Who should use this Manual

**How to interpret the styles and symbols used
in this Manual**

Who should use this Manual

This manual accompanies the 1683 NCT and is intended to support the end users in the operation of this device. It will also provide assistance to those personnel who are tasked with installing this device.

How to interpret the styles and symbols used in this Manual

Throughout this manual, we use certain typographical conventions to distinguish technical terms:

Keyboard input

The following table summarizes our keyboard conventions:

Reference:	Definition:	Example:
Keyboard chords	A combination of concurrently depressed keys	Ctrl - Alt - Enter
Keyboard input	User input that is typed on the keyboard	Something you type
Keyboard keys	A single key depressed	Enter

Keyboard chord instructions

A keyboard chord is a single-step instruction that is formatted like this:

- ▶ To move the window, press Ctrl - F7.

Mouse conventions


A 2-button mouse accompanies the 1683 NCT. Please review the installation section for proper connections.


The left mouse button is used most of the time. Any procedure that requires using the secondary button will state specifically to “click the right mouse button”.


Reference:	Definition:
Point	Position the mouse pointer so that the tip of the pointer rests on whatever you want to point at on the screen.
Click	Press and immediately release the mouse button without moving the mouse.
Double-Click	Press and immediately release the mouse button twice without moving the mouse.
Drag	Hold down the mouse button while moving the pointer across the screen

Notes, cautions, warnings

Notes, cautions and warnings are used to highlight important messages:

-  **Note:** Notes point out something important or useful.

-  **CAUTION:** Commands or procedures that may have unwanted or undesirable side effects.

-  **WARNING:** Commands or procedures that could be dangerous to your files, hardware, or even yourself.

Chapter 2

About the 1683 NCT

In this Chapter...

Overview

Standard features

Personal productivity tools

Overview

The 1683 NCT is designed to address the requirements of host centric and network centric users. The 1683 platform supports a real time operating system and a graphical user interface (GUI). The presence of a micro-kernel, modularized POSIX compliant operating system allows the 1683 to provide power and flexibility not available in server based network terminals. The 1683 supports connectivity over Type A Coax, Ethernet, Twinax, Token Ring, and Serial Ports to IBM hosts, UNIX hosts and Microsoft hosts in a windowing environment. This connectivity allows a user simultaneous access to SNA, intranet and Internet networks. Designed with no moving parts, the 1683 NCT is a zero maintenance device that allows software installation and updates from a central location.

The 1683 NCT is easy to install, use, manage and support. Maintaining software and data at a central location eliminates the need to store applications and/or data on a conventional desktop workstation. Business applications, corporate intranets and the Internet can all be accessed from one network terminal.

The 1683 NCT is unique among network computers because of its resident operating system and the caching in flash memory of frequently used applications (such as the 1480 Emulator, Telnet, TN3270 and TN5250 host access, the Voyager™ Web browser, Citrix® ICA Client, and personal productivity tools). This flash memory caching effectively eliminates the delay encountered with server-based systems when many users log on simultaneously.

Standard features

Access to your applications is through a 'windowing' environment called a graphical user interface (GUI). This GUI, Photon micro-GUI, makes it easy to interact with the terminal and enhances flexibility to a variety of tasks.

The following are standard features of the 1683 NCT:

- An Internet browser, called Voyager™, that supports HTML 3.2, frames, tables, graphics and JAVA scripts.
- Telnet Terminal client capability that enables log-in to host systems that are connected to the Internet.
- A TN3270E client capability that enables accessing 3270 applications on host systems that are connected to a LAN/WAN using terminal model type IBM 3279 mod 2, mod 3, mod 4, and mod 5.
- A TN5250 client that enables accessing AS/400 applications.
- Print capability that directs printed material either to a local printer or to a network printer.

The following are options of the 1683 NCT:

- A 1480 CUT Emulator (mods 2 - 5) that works with any 1174 compatible control unit.
- A 1490 native Twinax (mods 2 - 5) that work with AS400 systems.
- Token Ring

Personal productivity tools

- **NCT Mail** – A mail handler to use for reading, replying to, forwarding and creating e-mail (electronic mail).
- **Message Pad** – A handy way to post a note to yourself.
- **Day Minder** – An online appointment book.
- **Calculator** – A convenient on-screen calculator.
- **Dialer** – A utility that allows the 1683 to be connected to other environments via an external modem.
- **SnapShot** – A resident software utility that allows a displayed image to be printed on your locally attached printer.

Chapter 3

Connecting the 1683 NCT

In this Chapter...

Inspecting the package

Setting up the 1683 NCT

Connecting the 1683 NCT

Powering up

Powering down

Inspecting the package

Before unpacking the 1683 NCT, inspect the carton for physical damage. If the exterior package is damaged, contact your local sales office or distributor. Also contact the carrier to request examination of the damage. The carrier is required to complete and sign a damage report form. If the package is not damaged, remove the package contents which includes a logic unit, a mouse, an AC power cable, and this user's guide.

Setting up the 1683 NCT

To set up the 1683 NCT, refer to the diagram on the back of the logic unit and follow the steps below:



CAUTION: The 1683 NCT has been designed to support the weight of 17-inch or smaller display units. Display units larger than 17 inches **MUST** be placed beside the logic unit, rather than on top.

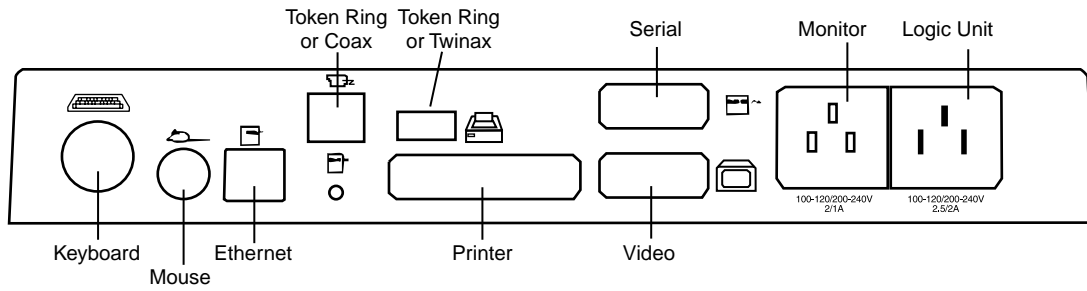
1. Place the display unit on top (or beside) of the logic unit and position both within connecting distance of an appropriate AC power outlet.
2. Make sure that the Power-On/Off switch is set to **○** (Off) on both the logic unit and the display unit.
3. Place the keyboard in front of the logic unit. Pull out the feet underneath the keyboard to adjust it to a higher setting, if desired. Insert the keyboard plug into the keyboard connector on the back of the logic unit. If your keyboard has a PS/2 connector, use the adapter supplied with the keyboard.
4. Refer to the owner's manual that comes with your display unit for instructions on how to attach the display unit's data cable to the logic unit.
5. To take full advantage of the 1683 NCT's power conservation feature, plug the display unit into the power receptacle on the logic unit.
6. Attach the display unit's AC power cable to the AC power cable connector on the back of the logic unit, using the supplied power cord.



WARNING: If the power rating of the display is greater than 2.0 amps at 115 volts, do not plug the monitor's power cable into the logic unit. Plug it directly into a wall receptacle.

7. For the local screen print function, a printer connector is located on the back of the logic unit. Attach the printer cable (provided with the printer) to the printer connector on the back of the logic unit.

1683 NCT - back of logic unit



8. Insert the mouse's cable connector into the mouse receptacle on the rear of the logic unit. Check to ensure that the connector is firmly seated.
9. Plug one end of the power cable into the AC connector on the back of the logic unit. Plug the other end of the AC power cable into the wall receptacle.

Connecting the 1683 NCT

Connecting to the SNA network

To connect the 1683 NCT to a coax wiring system, prepare either coax cables or twisted-pair cables according to the following table:

	Coax	Twisted Pair
Maximum length	1500 meters (4920 feet)	277 meters (900 feet)

Coax cable and twisted-pair cables can be combined. The following formula shows lengths:

$$(\text{coax length}) + (5 \times \text{twisted-pair length}) < 1370 \text{ meters (4500 feet)}$$

1. Locate the coax or twisted-pair SNA network cable.
2. Align the end of the SNA network cable with the Coax connector on the back of the logic unit.
3. Connect the cable and secure it in place by turning the retaining ring clockwise until it is tight.

Connecting to an Ethernet LAN

To connect the 1683 NCT to an Ethernet LAN, prepare the Category 5 or unshielded twisted-pair cables according to the following table:

1. Locate the Category 5 UTP Local Area Network (LAN) cable.

	Category 3, 4, or 5	ANSI / IEEE Standard
Maximum Length	100 meters (328.084 feet)	802.3I - 1990 Section 14 or greater
Minimum Length	1.0 meter (3.281 feet)	

2. Plug the LAN cable into the RJ45 connector on the back of the logic unit.

Connecting a modem to the Serial Port

1. Connect the external modem's 9-pin connector into the serial port located on the rear panel of the logic unit.
2. Secure the cable's fastening screws to ensure proper connection.

Connecting to the 5250 Network

Connect the display station to the host system or to a controller by following these steps with cable lengths as indicated:

Cable Type	Alpha 9818, Beldon 9207, or equivalent
Maximum Length	1500 meters

1. Locate the twinax cable extending from the host system or from the closest device on the host system side of the line. Attach the connector at the end of this cable to either socket on the two-socket end of the T-connector cable.
2. Push the connector into the socket and turn the retaining ring clockwise until tight.
3. Align the 9-pin Sub-D connector end of the T-connector cable with the twinax connector on the back of the logic element. Connect the cable to the logic element and secure it in place by turning the retaining screws until tight.
4. If there are other terminals in the daisy chain, connect the second cable from the next terminal to the unused socket of the two-socket end of the T-connector cable before attaching the T-connector cable to the back of the logic element.
5. Make sure the twinax line is terminated properly. The last T-connector should have one input open. If the last device is an MTX device, it must have a T-connector. If the last device is not an MTX device, ensure that it is terminated correctly according to the manufacturer's instructions.



Note: When one connector of the two-socket end of twinax cable is unattached, the cable is self-terminating. When the single end of the connector cable is unattached, the cable is in Pass Through mode, and signals continue on to the next connected device. Never attach the twinax cable directly to the logic element.

Powering up

After the 1683 NCT has been properly installed and connected, it is ready to operate online. To ensure that the 1683 NCT is prepared for operating, perform the following procedure. If you encounter operational difficulty or if the unit malfunctions, contact your system administrator.

1. Set the Power-On/Off switch to On (|) to turn on power.
2. If the Power-On indicator does not light, check the power and make sure the unit is completely plugged in. If the mouse pointer does not appear, or the Taskbar does not appear, check to see if connecting cables are securely connected to the back of the logic unit.
3. A beep indicates that the terminal is connected properly. If you hear more than one beep, check the table on the following page for actions to take.

Number of beeps	Duration	Description	Recovery Action
2	1 long 1 short	Keyboard error	Check keyboard connection. If problem persists, contact your system administrator.
2	2 short	Recoverable POST error	Check keyboard connection. If problem persists, contact your system administrator.
3	3 short	Non-recoverable POST error	Contact your system administrator.
3	1 long 2 short	If display is active, ROM scan error in upper memory	Contact your system administrator.
3	1 long 2 short	If display is not active, display error	Check display unit and power cord connection. If problem persists, contact your system administrator.
3	2 long 1 short	Coax initialization error	Check coax connection. If problem persists, contact your system administrator.
4	2 long 2 short	IP/Coax initialization error	Check coax connection. If problem persists, contact your system administrator.
4	3 long 1 short	Coax memory overlay error	Power the unit off and back on. If problem persists, contact your system administrator.
5	2 long 3 short	IP/Coax-driver initialization error	Check coax connection. If problem persists, contact your system administrator.
5	3 long 2 short	Error obtaining the 1683 network configuration	Power the unit off and back on. If problem persists, have the system administrator reconfigure the 1683.
6	2 long 4 short	Ethernet initialization error	Check the Ethernet connection and then power the unit off and back on. If problem persists, contact your system administrator.
6	3 long 3 short	Error obtaining an IP address using the bootP protocol	Check the bootP server. If problem persists, contact your system administrator.
7	2 long 5 short	Error loading DHCP drivers	Power the unit off and back on.
7	3 long 4 short	Error obtaining host configuration information connect	Power the unit off and back on. If problem persists, have the system administrator reconfigure the 1683.

- Adjust the brightness control, the contrast control, vertical centering, and the horizontal centering control, if necessary.

Powering down

- Save all work in process and close any open applications.
- Move the Power On/Off switch to Off (O).

The next chapter describes how to define characteristics and preferences for the display unit and printer so that you may begin to use the Network Computing Terminal.

Chapter 4

Using Windows

In this Chapter...

Using the 1683 NCT

What should I do first?

How to start the 1683

Using the mouse

Pointers

Anatomy of a window

Using the Window Menu

Using the Taskbar

Keyboard shortcuts

Using the 1683 NCT

This section introduces the new operating environment of the 1683 Network Computing Terminal (NCT). It explains how to do most tasks and provides tips for getting the most out of the NCT.

If you have used windowing systems before, the “look and feel” will seem quite natural. If not, the intuitive interface is easy to learn and use.

What should I do first?

First, read through the next section - all the basics about using the mouse and working with windows are explained, and some handy keyboard shortcuts are included. After reading this section, familiarize yourself with the display’s workspace. Try starting an application from the start menu - the Day Minder is a good place to start.

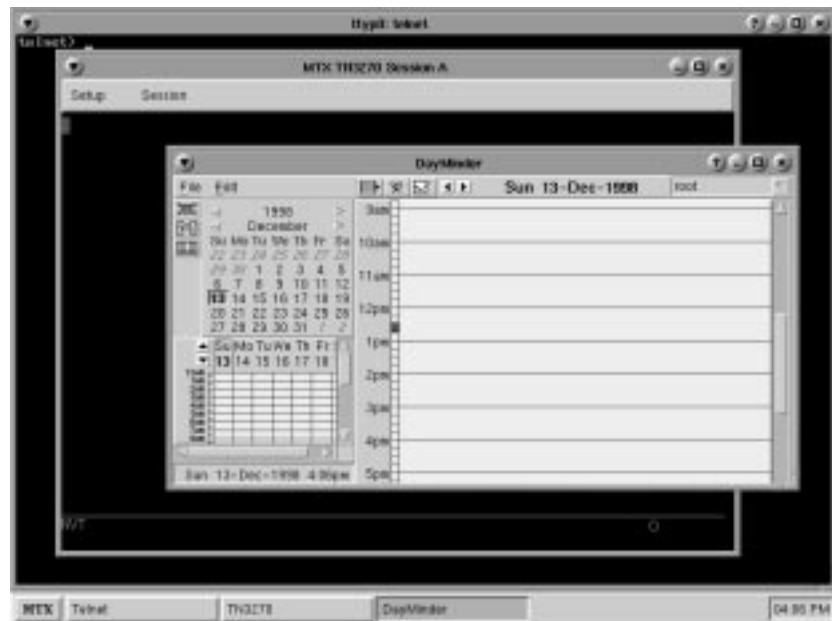
How to start the 1683

The system has been set up to start automatically at power-up. Your user ID and/or password may be required in the 1683 NCT login dialog box.

A typical workspace

After the 1683 has started, it will display a workspace, an area in which you can run applications and display windows. Here is a typical workspace, with some sample applications:

At the very bottom of the screen, the *Taskbar* shows at a glance all the applications available on your desktop. The taskbar allows quick switching from one application to another. To learn how to use the Taskbar, see *Using the Taskbar* in this section.



Using the mouse

Two common mouse operations are:

- **Clicking** – Pressing and releasing a mouse button.
- **Dragging** – Holding down a mouse button, moving the mouse, and then releasing the button.



Note: When the word “click” or “drag” is used in this documentation, and no mouse button is specified, use the LEFT mouse button. When the right button should be used you will be explicitly instructed to do so.

Use the *right* mouse button to bring up a context-sensitive menu in most applications.

Pointers

As the mouse is moved, the pointer sometimes changes to provide feedback. Here are the pointers most often seen:



Basic pointer - point to objects to be selected or to indicate where the cursor should be positioned.



Busy pointer - Indicates that an operation is in process and must finish before data entry can be resumed.



Resize pointer - appears when the pointer passes over a window frame; the two arrows indicate the direction the window can be resized.



Move pointer - appears when the pointer passes over a window title bar; simply hold down the mouse button and drag the window to a new location.



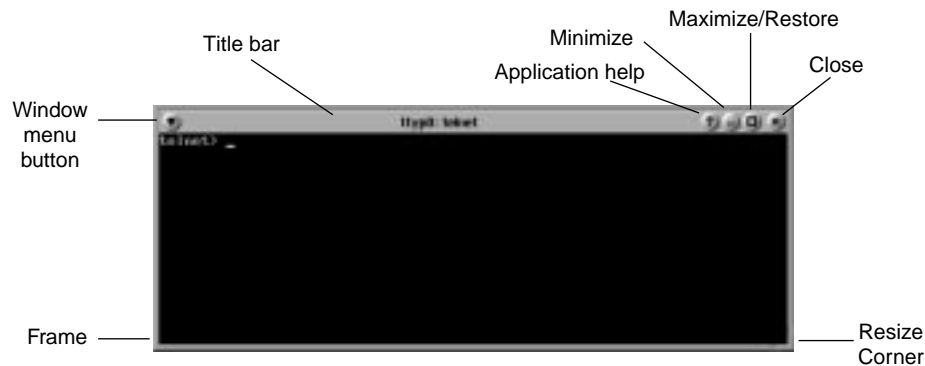
I-beam pointer - appears in text-entry fields to indicate that the application is ready to accept keyboard input.



No-input pointer - Indicates the window is not accepting input.

Anatomy of a window

Here is a typical 1683 NCT application window:



Most windows include these elements:

- **Window menu button** – Provides modification tools for the window (Restore, Move, Size, Minimize, Maximize, To Back and Close).
- **Minimize button** – Reduce the window to an application button in the Taskbar. To bring the window back up, click the application button on the Taskbar.
- **Maximize/Restore button** – Expand the window to fill the current workspace, or restore it to its previous size after maximizing.
- **Title bar** – Displays the name of the application. The title bar is also where the mouse pointer should be positioned in order to move the window.
- **Frame** – Changes color to indicate the focus window (that is, the one that's ready for input) on the workspace. The frame is also the area to grab to resize the window.
- **Resize corner** – Allows shrinking or stretching of the window.
- **Close button** – Some applications may use this convenient method of closing the window.

Using the Window Menu

To open an application's Window menu, click on the Window menu button in the window's upper left corner.

The Window menu allows you to:

- **Restore** the window's size (after maximizing or minimizing it).
- **Move** the window – the window will track the mouse pointer until the mouse button is clicked.
- **Size** the window – as the pointer is moved outside the frame, an outline will track it until the mouse button is clicked.
- **Minimize** the window – reduces the window to an application button in the Taskbar. To bring the window back up, just click on the button in the Taskbar.
- **Maximize** the window – expands the window to fill the current workspace.
- **To Back** – pushes the window behind any other windows that are open on the workspace.
- **Close** – closes the application. An application can also be closed by *double-clicking* on the menu button.



CAUTION: Selecting the Close item may immediately terminate the application running in that window *without* prompting you to confirm. Always remember to save your work before you click on Close!



Note: Some tabs or tool bar icons may be subdued or “grayed out”; these tasks are not accessible at this time.

Using the Taskbar

The Taskbar provides a quick and easy way to switch from one application to another and to restore applications to their normal size on the workspace.



The Taskbar includes the following:

- Application list button - **MTX** displays a menu of applications made available for your use by your system administrator.
- A label button for each application that is running. The label will appear whether the application is visible on the screen or in the minimized mode.

To start-up an available application:

1. Click the **MTX** button. The menu of applications will appear.
2. Select the application you wish to work with.

To switch to any running application, click on the application's button on the Taskbar. The application's window will be restored if minimized, brought to the front, and will become the focus window.



Note: The system administrator may have configured your 1683 NCT to automatically start an application in full screen mode when the 1683 NCT is powered on. The application's section in this document will describe how to access the taskbar from a full screen.

Keyboard shortcuts

The following tables summarize the keyboard shortcuts that may be used.

Workspace operations

If you want to:	Press:
Move the back window to the front of the window stack	Ctrl - Alt - Esc
Move the front window to the back of the window stack	Ctrl - Alt - Shift - Esc
Cycle through open applications, showing the name first; to bring a displayed application to the front, release Alt	Ctrl - Alt - Tab
Cycle through open applications, but moving front to back	Ctrl - Alt - Shift - Tab

Window operations

All of these commands affect the focus window:

If you want to:	Press:
Move the window to the front	Ctrl - Alt - F2
Move the window to the back	Ctrl - Alt - F3
Close the window	Ctrl - Alt - F4
Restore the window to its previous size if it has been maximized	Ctrl - Alt - F5
Move the window	Ctrl - Alt - F7
Maximize the window	Ctrl - Alt - F10
Display the window menu	Ctrl - Alt - Space
Close the window menu	Esc

Chapter 5

Using Print Services

In this Chapter...

Printer setup

Installing a printer

Changing the default printer

Printing when a printer has not been set up

Printer properties

Print preview

LPR/LPD print feature

Configuring remote printers

Using the 1683 as an LPR server


This chapter shows you how to install and select printers, and how to preview documents before printing.

Printer setup

The first step in being able to print files is to select a printer from the Printer Setup dialog.


1. Click the **MTX** button (located at the lower left-hand corner of the screen).
2. Click **Printers**. The Photon Printer Setup panel will appear:



 **Note:** Contact your system administrator if there are no printers listed in the Available Printers panel.

The options of the printer setup dialog are:

- **Installed Printers** – Displays the list and location of printers that are installed.

 **Note:** *Local* means there is a parallel printer attached to this unit. For remote location printers to print, they must be configured using the Remote Printers application. (See *Configuring Remote Printers*, page 5-7.)

- **Available Printers** – Displays the lists and location of printers that may be installed. Output that goes to spool devices is indicated with a printer icon.
- **Install** – Installs the printer that is selected in the list of Available Printers.
- **Uninstall** – Uninstalls the printer that is selected in the list of Installed Printers.
- **Set Default Printer** – Sets the default printer to the one selected in the Installed Printers panel.
- **Properties** – Specify printer options such as paper size, margins, and print quality for the printer selected in the Installed Printers panel.
- **Save** – Saves the current configuration.
- **Exit** – Closes the printer setup window.

Installing a printer

As many printers as necessary may be installed using the following steps:

1. Click on a printer name from the list of Available Printers in the right panel. The printer name and location will become highlighted, and the **Install** button will be made available for use.
2. Click **Install**. The selected printer moves to the Installed Printers panel on the left.

Changing the default printer

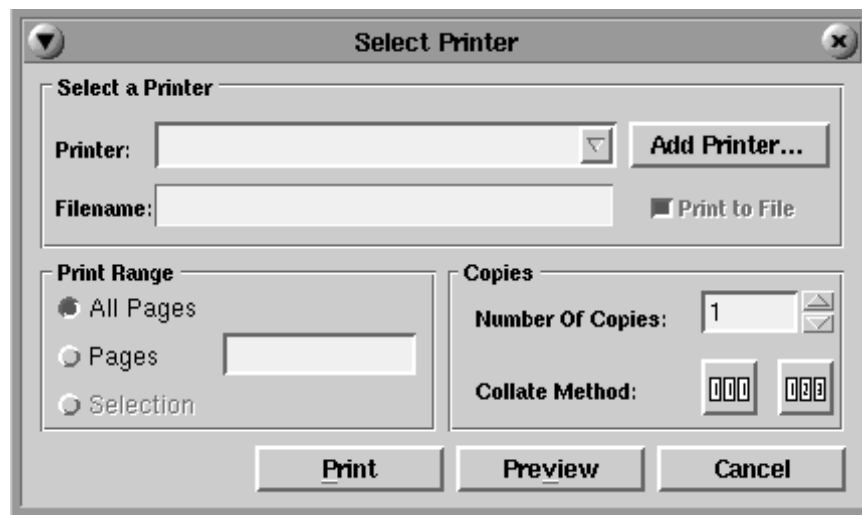
To change the default printer:

1. Click the printer name that should be selected as the default from the list of Installed Printers. If it is the only printer selected, the **Set Default Printer** button will be made available for use.
2. Click **Set Default Printer**. The printer which was selected will move to the top of the list. The Set Default Printer Button changes to **Is Default Printer**.

When printing from an application, the printer chosen as default is displayed in the Printer field. Before printing, you can accept the default printer, or choose from any of the printers in the dropdown printer list.

Printing when a printer has not been set up

If a printer was not installed prior to selecting the **Print** command from an application's menu, you will be prompted to install a printer. The Select Printer panel will appear:



Click the **Add Printer...** button – the Photon Printer Setup panel will open. Install the printer(s) by following the steps outlined in *Installing a Printer*.

Printer properties

Printer properties can be assigned for either text printing or graphical images. The properties for the selected printer may be viewed by clicking the **Properties** button in the Printer Setup panel (shown on page 5-2).

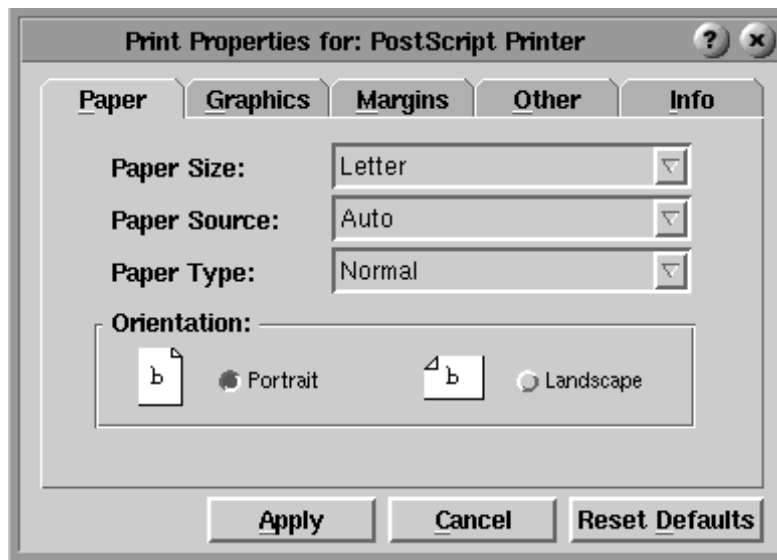
There are five tabs that display property information:

- Paper tab
- Graphics tab
- Margins tab
- Other tab
- Info tab



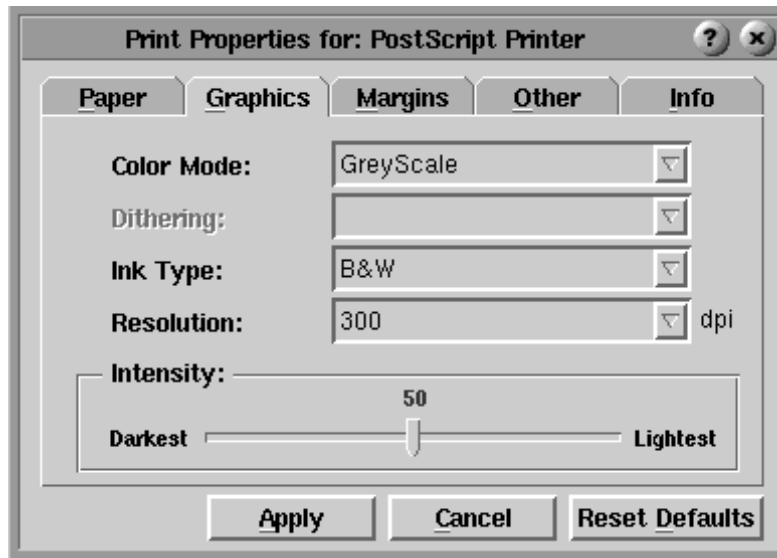
Note: The values displayed on your screen for the tab options may differ from the illustrations in this guide. Refer to your printer's documentation for the values that define your printer's capabilities, or contact your system administrator.

Paper tab



- **Paper Size** – Select the paper size from the dropdown box, for example, Letter or Legal.
- **Paper Source** – Select the paper source from the dropdown box, for example, Auto, Upper, Lower, Manual or Envelope.
- **Paper Type** – Select the paper type from the dropdown box, for example, Normal, High Quality, Draft, Transparency or Envelope.
- **Orientation** – Select either Portrait or Landscape. The “lit” toggle indicates the chosen setting.

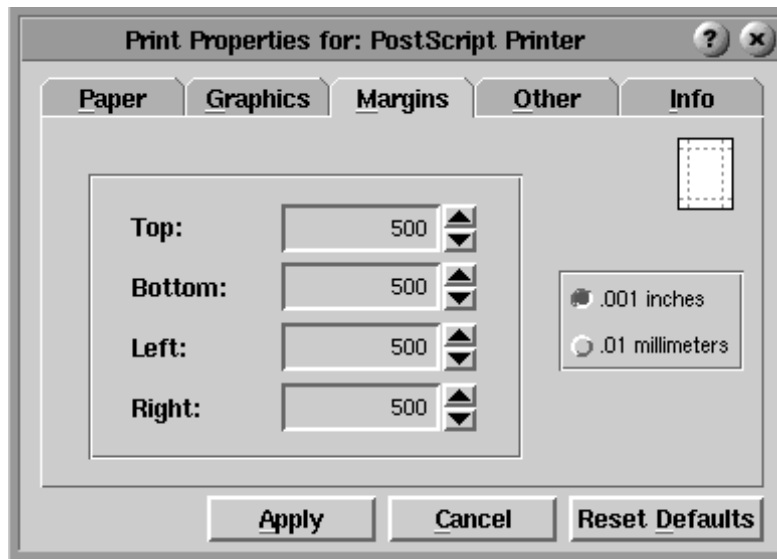
Graphics tab



- **Color Mode** – Specify the color mode to use, for example, B & W, Greyscale or Color.
- **Dithering** – Specify the type of dithering to use, for example, None, Coarse, Fine, Line Art, Error Diffusion or Half Tone.
- **Ink Type** – Specify the ink type for the print, for example, Normal, B & W or Color.
- **Resolution** – Specify the dpi (dots per inch), for example, 75, 150, 300 or 600.
- **Intensity** – Select the color intensity, ranging from Darkest to Lightest.

Margins tab

Use the Margins tab to change the printer margins:



Margin settings may be set in inches or millimeters. Use the up and down scroll arrows to increase or decrease the setting. The default is .001 inches.

Other tab

Use this tab dialog to specify single or double-sided printing and the collating mode.

- **Duplex** – Specifies 1- or 2-sided printing.
- **Collating Mode** – Select [1,1,1] or [1,2,3] or neither.

Info tab

The Info tab shows the selected printer's name, location, spool device, and spool filter information.

When the printer properties configuration is complete, click **Apply** to save the new settings, or click **Reset Defaults** to return to the defaults set by the manufacturer.

Print preview

Click **Preview** from the Select Printer panel to preview on-screen how a document will look when printed.



In print preview you can:

- Scroll forwards and backwards through your document, if it is larger than one page, by using the **Next Page** and **Previous Page** arrows.
- Zoom closer into or further away from the image by selecting a percentage from the **Magnification** dropdown box.
- Print the document by opening the File menu (in the upper left-hand corner of the screen) and clicking **Print**.

LPR/LPD print feature

LPR (Line Print Remote)/**LPD** (Line Print Daemon) is a print server protocol widely used on the internet for communicating between clients and servers. An LPR-enabled device (the 1683, for instance) requests a LPD-enabled device (usually a printer or print server) to print a specific print job. The 1683 can act as an LPR-enabled device and/or an LPD-enabled device. Following are descriptions of how to configure the 1683 for LPR/LPD.

Remote Printing must be configured to enable LPR printing for the following 1683 applications:

- VT220
- TN3270E
- TN5250
- 1480 Emulation
- 1490 Emulation
- Voyager Web Browser

The 1683 supports a total of nine remote printers. Three of these printers are static-defined and cannot be deleted. The remaining six are user-defined. The three static-defined printers are:

- lan_hp
- lan_ps
- lan_epson

Configuring remote printers

From the MTX application menu, select **Remote Printers**. The Remote Printer configuration panel is shown below:

The screenshot shows a dialog box titled "1683 LPR/LPD Definition". At the top left, there is a list box containing the number "1". Below this, the dialog is divided into two main sections: "Local Definition" and "Printer Definition".

In the "Local Definition" section, there is a "Printer Name" text box containing the text "Remote_HP_LaserJet".

In the "Printer Definition" section, there are two radio buttons: "Attached" (which is unchecked) and "Remote" (which is checked). Below these are two text boxes: "Printer Name" and "Printer Address", both of which are currently empty. There is also a "Suppress Form Feed" checkbox, which is unchecked.

At the bottom of the dialog, there are three buttons: "Add", "Delete", and "Change". At the very bottom, there are two more buttons: "Done" and "Cancel".

- **Remote Printer Selection** – Use the up or down arrows to select a printer (1-9)
- **Local Definition Printer Name** – User-defined field. This name should be a descriptive name for the remote printer. Note that the first three printers are static-defined and the Local Definition printer name may not be changed. The remaining six are user-defined.

Remote Printer Definition

- **Attached** – the printer is attached to the parallel port on the 1683.
- **Remote** – the printer is remotely attached on the LAN.
- **Printer Name** – Queue name that print jobs are sent to from an LPR-enabled device (if required).
- **IP Address** – The IP address of the remote printer. If the printer is locally attached, /dev/par1 is displayed in this field indicating that the printer is attached to the parallel port. Do not change this entry if the printer is locally defined. Otherwise, enter the unique IP address of the remote printer.
- **Add** – Add a new remote printer definition. To add a new remote printer, simply select an existing printer, make the desired changes, and click **Add**.
- **Delete** – Delete an existing remote printer definition.
- **Change** – Change an existing remote printer definition.
- **Done** – Save changes and exit.
- **Cancel** – Discard changes and exit.

Using the 1683 as an LPR server

The 1683 can be configured to act as an LPR server for other 1683's on the network. To configure the 1683 as an LPR server:

From the 1683 with the printer attached locally:

Add a new printer definition to Remote Printers. Do this by selecting an existing definition and making the following changes:

1. Select a Local Definition name, such as lpr_server.
2. Select the **Attached** button.
3. Select **Add**. A new printer definition will be created.

From other 1683's on the network:

Add a new printer definition to Remote Printers. Do this by selecting an existing definition and making the following changes:

1. Select a Local Definition Printer Name, such as 1683_rem_prtr.
2. In the Printer Definition Printer Name field, enter the local definition name that was defined above, such as lpr_server.
3. In the Printer Definition IP Address field, enter the IP address of the 1683 with the locally attached printer.



Note: The 1683 must be restarted when changes are made to Remote Printer configuration for the changes to become effective.

Chapter 6

MTX 1480 CUT Emulator

In this Chapter...

Standard features

Accessing your application program

Moving the cursor

Entering and editing data

Selecting data fields

Sending data

Monitoring response time

Configuring the 1480 CUT Emulator

1480 miscellaneous

Printer setup and printing

Dual Screen feature

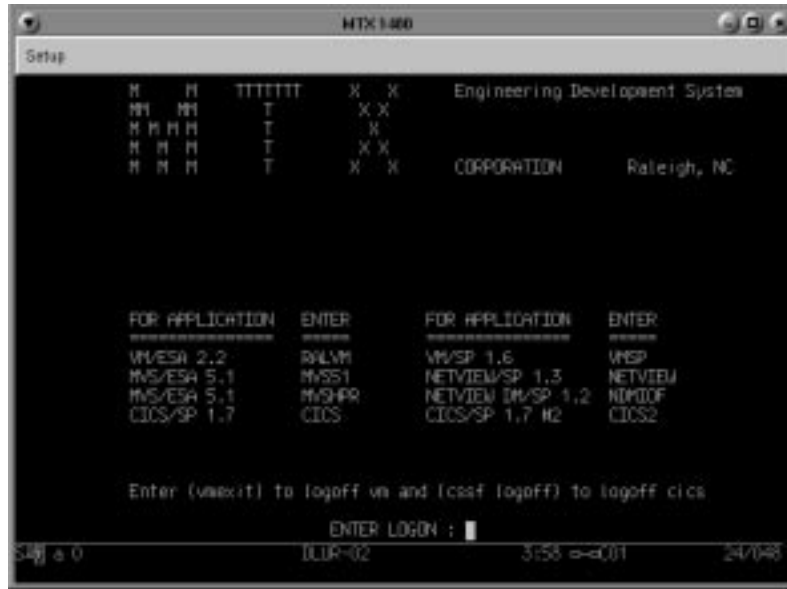
Configuring Dual Screen mode

Starting Dual Screen mode

Dual Screen mode enhancements

The 1480 CUT Emulator is a 1480 Enhanced Function Display Emulator that offers a wide range of functions and applications for the traditional IBM 3270 terminal user.

The 1480 CUT Emulator can be used with a color monitor or a VGA monochrome monitor. For remote printing, a coax printer can be attached via the MTX controller, or hard copy of all data on the screen can be printed on an optional local screen printer or on a remote LAN printer.



Standard features

The 1480 CUT Emulator provides the following standard features:

Display screen features

- **Window Menus** – The window menus offer simplicity and ease of use for all setup functions.
- **Switchable Screen Formats** – The 1480 CUT Emulator supports four (4) screen sizes that can be selected from setup menus. The controller to which the 1480 CUT Emulator attaches must support the screen size used. Check with your system administrator.

Data entry features

- **Mono/DualCase Mode** – Allows characters to be displayed as all uppercase characters or as upper- and lowercase characters.
- **Mark Unprotected Field Indicator** – The 1480 CUT Emulator can be requested to mark unprotected fields with a special character.
- **Row/Column** – Displays the current cursor location on the operator status row.
- **Numeric Lock** – Allows a field to be defined to accept only numeric characters, plus the Period, Minus, and Dup keys. The comma may be substituted for the period on some international keyboard - controller functions.

- **Audible Alarm** – Sounds when a character is entered in the next-to-last character position of the screen (if the last character position is unprotected) or when the host system signals the terminal.
- **Entry Assist Function** – Facilitates the creation and editing of text such as memos, letters, and documents. The attached controller must support this function.

Printing features

- **Local Screen Print** – Allows a hard copy of displayed text to be made using the screen print function. Print quality, line density, and print pitch can be specified.
- **Coax Printing** – Allows printing to be directed to various printers on your network or controller.

Other features

- **Response Time Monitor** – Supports host-controlled transaction response time monitoring. This feature helps your organization's systems staff to analyze and improve the rate at which your terminal responds to your actions. The controller must be properly configured to support this feature.
- **Modifiable Keyboard** – Using the Keyboard Definition mode, the keyboard layout can be modified by interchanging and adding keycaps. The controller must be properly configured to support this feature.
- **Mouse-Pen** – Using the right mouse button, light-pen detectable fields can be activated in the 1480 emulation applications.
- **Light-Pen** – Light-pen detectable fields can be activated in the 1480 emulation applications.

Accessing your application program

To start the 1480 CUT Emulator:

1. Click the **MTX** button in the lower left-hand corner of the screen. The application menu will appear.
2. Click **1480 Emulation** from the application menu.
3. Call up an application by one of the following methods:
 - Using the Attention, PA, F or PF, Clear, or Enter key,
 - Select from your system's menu of applications.

Contact your supervisor or system administrator for specific information on how to access your application(s).

The application program can guide your data entry process by:

- limiting numeric fields to digits, period, DUP and minus
- intensifying fields where you can enter data
- covering confidential information so it does not appear on your screen.



Note: To enter nonnumeric, uppercase characters in numeric fields, press Shift.

Moving the cursor

Position and move the cursor on the screen by using the keyboard. Efficiency on data entry tasks can be significantly increased by using the following keys for positioning the cursor:

To move the cursor:	Press key(s):
Up on the screen	↑
Down on the screen	↓
Horizontally left	←
Left two positions at a time (Note: When the cursor moves beyond the edge of the screen, it "wraps" or reappears at the last character position of the previous line.)	Alt - ←
Horizontally right one position	→
Right two positions at at time (Note: When the cursor moves beyond the edge of the screen, it "wraps" or reappears at the first character position of the next line.)	Alt - →
To the first entry position on the next line (Note: When the cursor is at the last entry position on the bottom line of the screen, pressing the New Line key moves the cursor to the first entry position at the top of the screen.)	New Line
Backward	Backspace
To the first available character position on the screen	Home

If the application uses a formatted display screen, the following three additional keys can be used to position the cursor:

To move the cursor:	Press key(s):
Forward to the first entry position of the next entry field	Tab
Back to the first entry position in the current or preceding entry field	Back-tab
To the first entry position in a subsequent entry field	Skip

For applications using unformatted display screens, pressing the Tab, Back-tab, or Skip key returns the cursor to the first available character position on the screen.

Entering and editing data

All the keys described in *Moving the Cursor* can be used to enter and edit data input. In addition, the following keys can be used to add or delete information:

To perform this function:	Press key(s):
Enter Insert mode for adding characters at the cursor's current position	Insert
Exit Insert mode	Reset
Remove a character at the cursor's current position	Delete
Delete a word beginning at the current cursor position (Note: Delete Word is functional only if the control unit to which the display station is attached supports the Entry Assist feature.)	Delete Word
Erase all entry field positions from the cursor's current position to the end of field	ErEOF
Erase all entry field positions and move the cursor to the first available character position	ErInp
Repeat entered data and move the cursor to the first entry position of the subsequent entry field	Shift - Dup
Enter a character that marks the end of an input field	Shift - Field Mark



Note: Shift to uppercase characters by using Numeric mode, as well as pressing Shift.

Press *either* Shift *or* Shift Lock to reverse Shift Lock.

Selecting data fields

The application program may be designed to present to you certain fields that can be selected for further processing by the application program. These fields are marked with a “?”.

To select a field, perform one of the following actions:

- Press the CrSel key
- Move the cursor to cover any character in the field or to cover the “?” and click the right mouse button.

“>” replaces the “?” associated with the field you select. If you accidentally select the wrong field, press the CrSel key or right mouse button to deselect it.

To send the field(s) to the application program for processing, do one of the following, depending on how the application program was designed:

- Press the Enter key.
- Press the CrSel key after positioning the cursor on an attention field. (Attention fields are marked with &'s and spaces.)
- Position the mouse cursor to point to the desired attention field and click the right mouse button.

Sending data

To send the displayed data to the host application before continuing to enter data:

1. Check to be sure that all fields required by the application have been filled.



Note: When a data character is entered in the next-to-last character position on the screen, the audible alarm sounds to remind you that the cursor is near the end of the screen. If data entry continues, the cursor “wraps” and reappears in the first available character position of the screen. Subsequently entered characters replace displayed characters, resulting in loss of previous entries.

2. Press the Enter key to send the displayed data to the host application.
3. Press the Clear key. This has the following effect:
 - Erases all displayed data on the screen
 - Returns the cursor to the first available character position
 - Signals the host application that a “clear” operation has occurred.

System Request variations

Depending on the online rules condition symbol that is displayed on the operator status row, you will be able to send system request messages. Press Alt - Sys Rq, for these results:

Operator Status Row Display:	Result:
A	Sends a message that your unit may be malfunctioning or that a test request message is on the screen.
B	Clears the display and switches the display station between the control (or master) program and application programs.

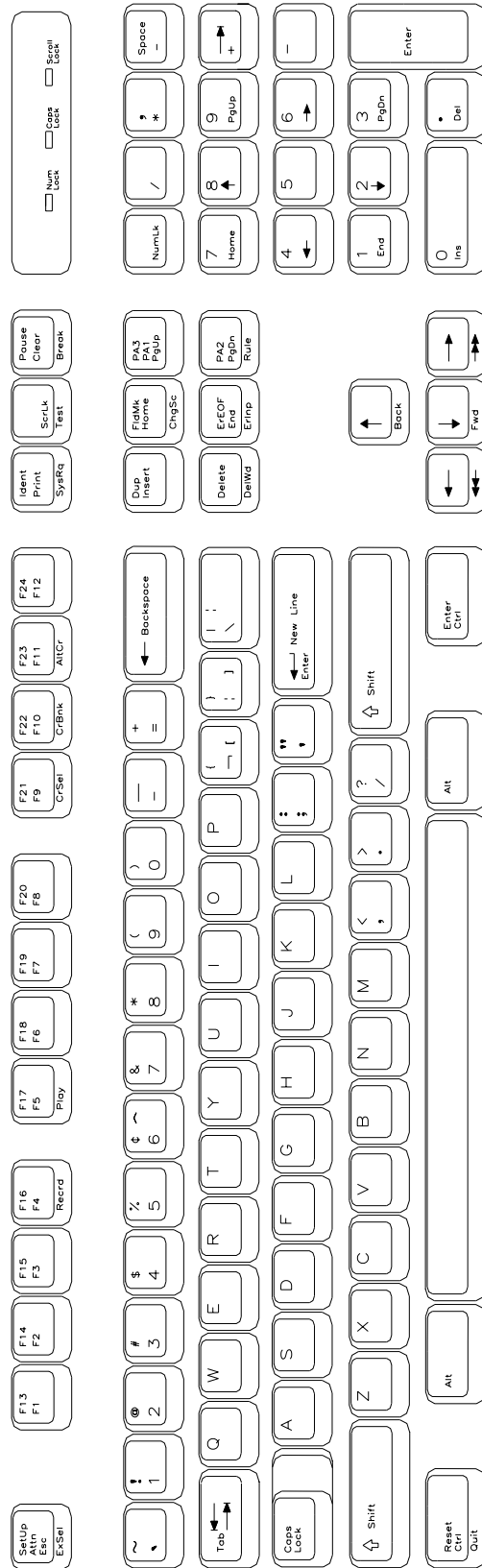
Contact your supervisor for additional information about this key combination.

Program Access (PA) function

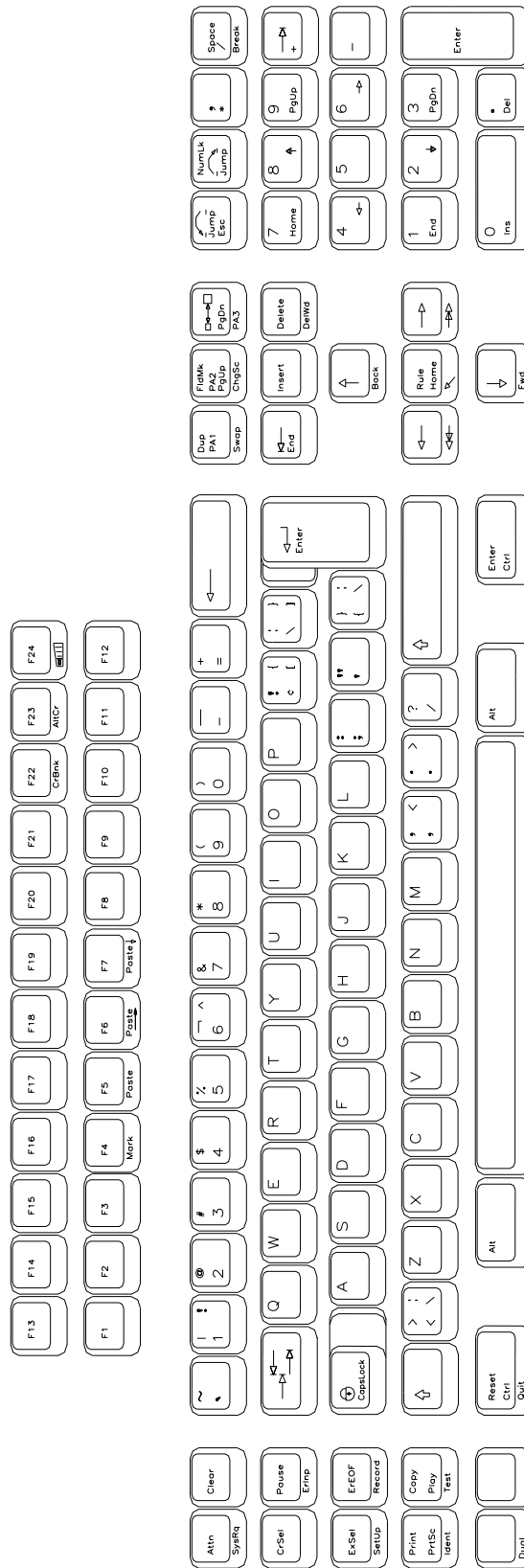
The application program in use determines specific functions of the Program Access (PA) key. Contact your supervisor for further information.

Function (F or PF) keys

The application program in use determines specific functions of the Function (F or PF) keys. Contact your supervisor for further information.



1480 CUT Emulator
104-key Keyboard Layout



1480 CUT Emulator
122-key Keyboard Layout

Monitoring response time

At times you may be requested to assist in monitoring and analyzing the speed of system response at your terminal, or you may wish to collect this data on your own.



Note: The attached controller must support this function.

To start the Response Time Monitor:

1. Press the ExSel key
2. Press the F19 key.

To stop the Response Time Monitor, repeat the sequence above.

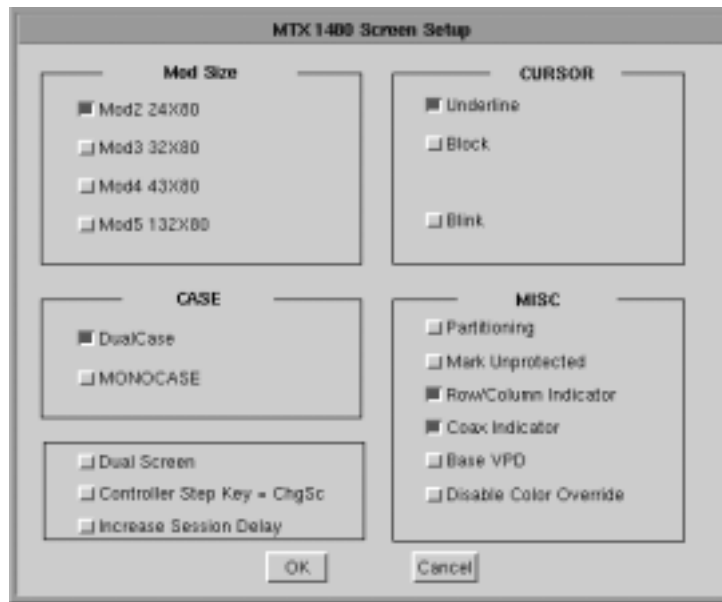
Configuring the 1480 CUT Emulator

The configuration function enables the environment to be set up to suit your needs and work habits while working in CUT emulation mode.

Defining and selecting features

To bring up the 1480 CUT Emulator configuration screen:

1. Click **Setup** to open the 1480 Setup menu.
2. Click **Screen**. The 1480 Screen Setup screen is shown below:



- **Mod Size** – Select the mod required by the design of the application program. Applications are designed to use one of the above mods, based on the number of rows per screen and characters per row, respectively. The default is Mod 2.
- **Case** – Select **DualCase** for upper and lower case characters. Select **MONOCASE** for all characters displayed as upper case letters.
- **Cursor** – Choose either an underline cursor or a block cursor. Select **Blink** for a blinking cursor.

- **Partitioning** – This feature is not currently implemented.
- **Mark Unprotected** – Select to display a special symbol in each unprotected field on the screen. This enables you to recognize locations where keystrokes can be entered.
- **Row/Column Indicator** – Select to display the current cursor location on the operator status row. Note that the location is determined by the application program on the host system.
- **Coax Indicator** – Select to turn the coax indicator on. When this feature is on:
 - A filled circle is displayed in position 71 of the status row to indicate an active coax line.
 - An open circle indicates no coax activity.
 - A blinking circle indicates the very slow poll cycle of a coax line being disconnected then reconnected. In that case, power down the 1683 NCT unit for at least 10 seconds before turning the power on to reestablish communications, or use the 1480 Miscellaneous Menu described later in this chapter.

The coax indicator overrides other status line information in position 71 because it is normally used as a diagnostic feature.

- **Base VPD** – Select to enable the basic Vital Product Data functionality.
- **Disable Color Override** – Normal base color supports four colors - blue, green, red and white. A command from the controller can force the display to two base colors, green and white. Enabling this button causes the 1480 emulator to ignore the controller command and to display all four base colors.
- **DualScreen** – Enables the 1480 DualScreen feature. (See *Configuring Dual Screen Mode* later in this chapter for details on this and the following two options.)
- **Controller Step Key = ChgSc** – Enables Alt - ChgSc as the controller session step key.
- **Increase Session Delay** – Increases the delay between changing sessions.

1480 Miscellaneous

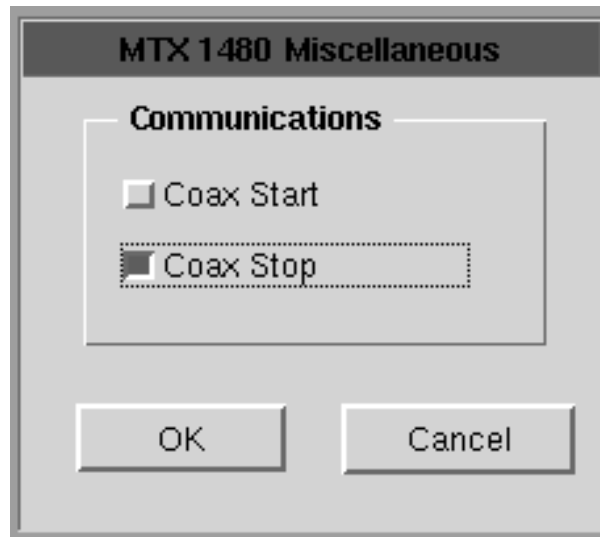
Normally the 1480 emulator is running with the coax communications active over the coaxial cable to the mainframe host controller. For instances where the user may want to change a configuration item such as keyboard type (104 to 122) or mod size (Mod 2 to Mod 4), this screen provides the ability to make modifications to the emulator without powering off the 1683 NCT and then powering it back on.

The user may make all the desired menu changes first. Some of the menu items such as the two mentioned previously only take effect during the initial exchange of data with the controller.

Restarting the 1480 Emulator

To setup a remote host:

1. Click **Setup** in the upper left-hand corner of the screen to open the 1480 Setup menu.
2. Click **Miscellaneous**. The 1480 Miscellaneous screen is shown below.



3. Click **Coax Stop**.
4. Click the **OK** button. This stops the 1480 from responding to the controller.



CAUTION: All data on the 1480 screen will be lost, along with the bridge data transfers being stopped!

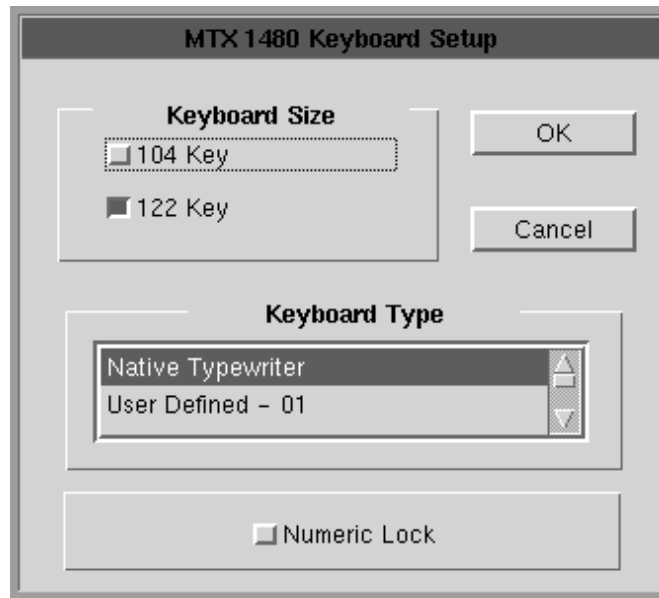
The 1480 screen data is erased and replaced by a large **X**. The operator symbol is placed in the status row along with another **X**. This shows that the communications have been halted.

5. Click **Coax Start**.
6. Click the **OK** button to restart the coax communications and initiate the exchange of configuration items with the controller.
7. Click the **Cancel** button to exit this panel.

Keyboard setup

To open the Keyboard Setup panel:

1. Click **Setup** to open the 1480 Setup menu.
2. Click **Keyboard**. The Keyboard Setup screen appears:



- **Keyboard Size** – Select either 104 or 122-key keyboard.
- **Keyboard Type** – Select type of keyboard.
- **Numeric Lock** – If supported by the server, will allow numeric keys only for numeric fields.

Click **OK** to save the changes and exit the screen, or **Cancel** to discard the changes and exit.



Note: If the keyboard size or type is changed, the coax must be stopped and restarted for the changes to become effective.

Color

To open the Color Setup Panel:

1. Click **Setup** to open the 1480 Setup menu.
2. Click **Color**. The Color Setup screen appears:

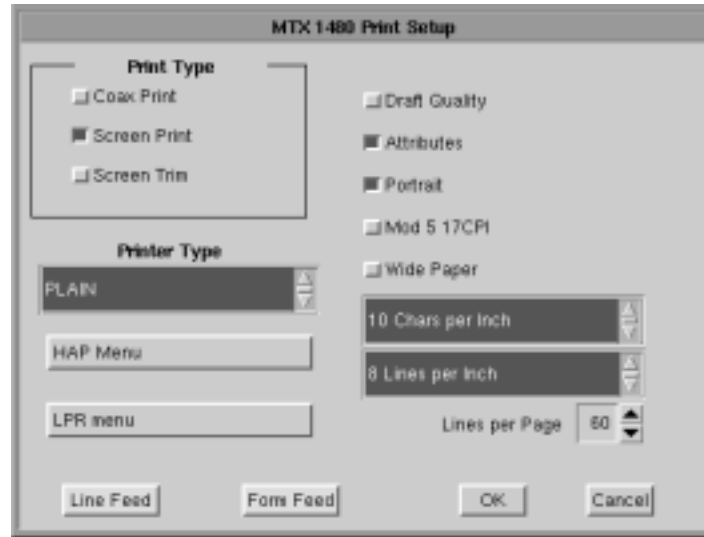


- **Attributes** – Use the arrows to select colors from the Colors list on the right. Select for protected, unprotected, normal and highlighted fields.
- **Background Color** – Use any or all of the three slider bars until the desired color shows in the Background Color box and as the background of the Color Setup screen.
- **Customize Colors** – Use any or all of the three slider bars to adjust the colors showing on the Colors list.

Click **OK** to save the changes and exit the screen, **Default** to return to the system's default settings, or **Cancel** to discard changes and exit.

Printer setup and printing

The 1480's screen-print may be directed to either a local printer, a remote LAN printer, or a coax printer. To initiate printing once printer setup is complete, press the Print key. To access the Printer Setup screen (shown below) select **Printer** from the 1480 Setup menu.



Print type

- **Coax Print** – Sends the print request to the controller.
- **Screen Print** – Prints the entire contents of the application window.
- **Screen Trim** – Prints the user-selectable area within the application window. (This feature is not currently implemented)
- **Printer Type** – Specifies the printer driver to use when printing. Options are:
 - Plain
 - HP Laserjet
 - Epson Inkjet
 - Proprinter
 - Postscript



Note: Printing options found on this configuration panel may vary depending on the printer type selected.

- **Draft** – Prints draft quality when selected. Otherwise printing is letter quality.
- **Attributes** – If selected, prints intensified characters as bold and underlined when required.
- **Portrait** – If enabled, prints in Portrait mode. If disabled, prints in Landscape mode.
- **Wide Paper** – If enabled, allows printing of more than 80 characters per line. This setting is generally used when Proprinter is selected as the Printer Type.
- **CPI Selection** – Specifies the number of Characters Per Inch to print. Options are 10, 10.5, 12, and 17 CPI.

- **LPI Selection** – Specifies the number of Lines Per Inch to print. Options are 3, 4, 6, 8, and 8.4 LPI.
- **Lines per page** – Specifies the number of Lines per Page to print. Selectable range is 0-255.
- **Line Feed** – Sends an immediate Line Feed to the selected printer.
- **Form Feed** – Sends an immediate Form Feed to the selected printer
- **HAP Menu** – Displays the HAP configuration menu. The HAP menu button is gray when HAP is disabled and green when enabled.
- **LPR Menu** – Displays the LPR configuration menu. The LPR menu button is gray when LPR is disabled and green when enabled.

Coax printer assignment

To see how the 1480 printer is currently assigned, press Alt - Ident. The Assign Printer condition symbol (-) will display on the operator status row.

Assign Printer condition symbol:	Indicates this type printer:
XX	Coax, where xx is the printer's ID number (i.e. >>> <u>M</u> <u>C</u> <u>C</u> <u>1</u> _ <u>0</u> <u>0</u> <u>8</u>)
--	Coax, unassigned

To assign or change a Coax printer:

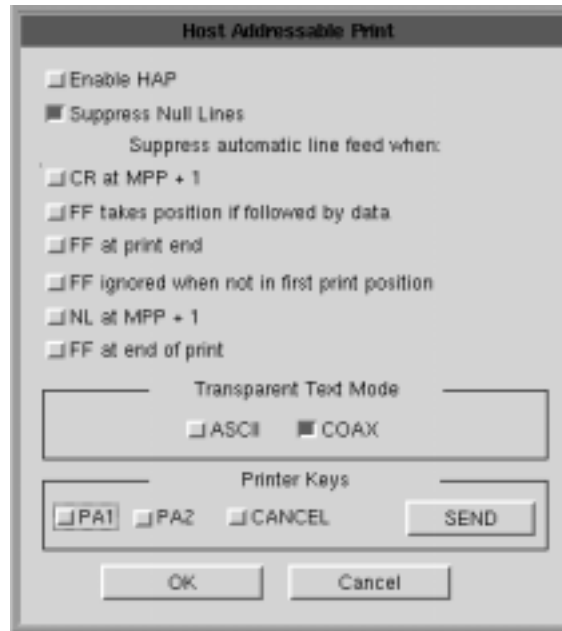
1. Consult your supervisor for an available coax printer's ID number.
2. Enter the two-digit number. The two-digit number replaces the underscore positions, or the assigned coax printer's ID number, on the operator status row.

Once the printer's ID number is entered, the sequence ends automatically.

If an invalid ID number is entered for a coax printer, the "What?" symbol (X ?+) appears on the operator status row. If this occurs, press Reset and try another number.

HAP Menu

The Host Addressable Print feature enables the host to send print requests to the 1683's attached printer. LU2 (screen) prints are always formatted by the display according to the printer menu selections. To enable or disable HAP, click the **HAP Menu** button from within the 1480 Print Setup Screen. The Host Addressable Print configuration screen will appear:



- **Enable HAP** – Select to enable the HAP feature.
- **Suppress Null Lines** – Selection of this item will cause null lines to be removed from formatted (40/64/80 CPI) HAP LU3 prints. Null lines are lines that contain only non-printable characters (such as nulls, attributes or alphanumeric characters in a non-print field).
- **Suppress automatic line feed when:**
 - **CR at MPP + 1** – If this option is selected, when the printer reaches the Maximum Print Position + 1 (the end of the print line), the carriage returns to the beginning of the line without a line feed. The next printed characters will overwrite the current line of printed characters. If this option is not selected, (the default), when the printer reaches the end of the line, the carriage returns to the beginning of the line and drops down one line.
 - **NL at MPP + 1** – If this option is selected, the printer does not execute a line feed if there is a new line command at the Maximum Print Position + 1 (the end of the print line). The printer begins printing on the next line. If this option is not selected (the default), when the printer reaches the end of the line, it executes two line feeds.
 - **FF at print end** – If this option is selected, the printer does not execute a line feed after a form feed. If this option is not selected (the default), the printer executes a line feed after a form feed. Characters printed on the new page begin on the second line.

- **FF ignored when not in first print position** – If this option is selected, a form feed character in the first position or next to the maximum print position is executed while form feed commands in any other positions are printed as blank characters and are otherwise ignored. If this option is not selected, all form feed commands are executed.
- **FF takes position if followed by data** – If this option is selected, and if the form feed character is not at the end of the print data, a form feed is executed and a blank character is printed in the first position on the next page. Subsequent printing starts in the second position on the new page. If this option is not selected, the form feed character is not printed as a blank character and subsequent printing starts in the first position on the new page.
- **FF at end of print** – If this option is selected, the printer ejects the last printed page and subsequent printing begins on the new page. If this option is not selected, the last page is not ejected and a line feed is executed. Subsequent printing begins on the new line of the current page.
- **Transparent Text Mode**
 - **Coax** – data included in an SCS Transparent Mode command (35H) is printed in the LU1 environment as follows:
 - Valid EBCDIC characters are translated and printed normally.
 - Invalid EBCDIC characters (SNA character string [SCS] commands) are printed as hyphens.
 - **ASCII** – all data included in the command is sent through to the printer untranslated. The following setup values are not sent to the printer during initialization:
 - Chars/Inch
 - Lines/Inch
 - Quality
- **Printer Keys** – Allow the operator to send either a PA1, PA2, or Cancel to the application. The operator selects one of the functions (**PA1**, **PA2**, or **Cancel**) and then clicks the **SEND** button. (**Cancel** is effective only in LU1 type print sessions.)

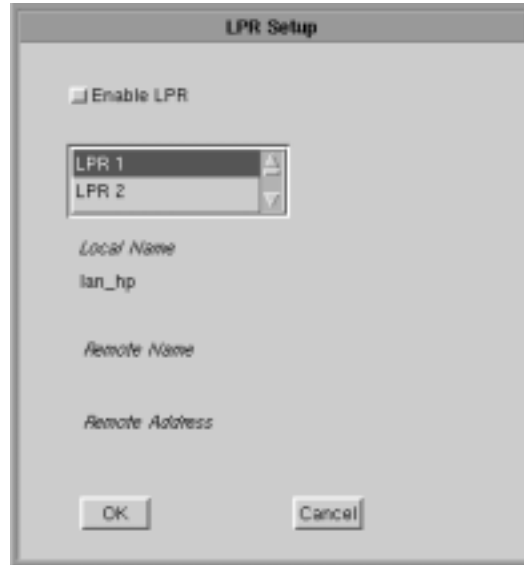
Click **OK** to save the changes and exit the screen, or **Cancel** to discard the changes and exit.



Note: For changes to the HAP Menu to become effective, the 1480 must be restarted via the Miscellaneous Menu, or by turning the unit off and back on again.

LPR Menu

To configure LPR, select the **LPR Menu** button from within the 1480 Print Setup Screen. The LPR Setup panel is shown below:



- **Enable LPR** – Select to enable LPR printing.
- **LPR scroll window** – used to select an LPR printer. A blue background indicates the printer is selected.
- **Local Name** – User-defined name of the printer.
- **Remote Name** – Queue name that print jobs are sent to from an LPR-enabled device.
- **Remote Address** – IP address of the selected printer.

Click **OK** to save the changes and exit the screen, or **Cancel** to discard the changes and exit.



Note: For changes to the LPR Menu to become effective, the 1480 must be restarted via the Miscellaneous Menu, or by turning the unit off and back on again.

Dual Screen feature

The 1683 dual screen feature is provided by a special software program on the main logic board. With the 1683 NCT Display Station in 1480 Emulation mode, you can display and operate two sessions on one monitor in either a side-by-side format or a zoomed session (that is, one of the two sessions occupies the entire display surface and you toggle between the two sessions). Fields can also be copied from one session to the other. Dual screen sessions are supported on a display configured as a Mod 2, 3, or 4.

Configuration requirements

To support Dual Screen mode, the controller must be configured for two or more logical sessions on the display terminal's port. In addition, PC File Transfer mode must be set for those ports that use the Mark/Paste function of the 1683.

The 1683 must be configured as follows to be able to exercise the enhanced dual screen features:

- The NCT 1480 Emulator must be in either Mod 2, 3, or 4 mode with Partitioning deselected. (See Chapter 6: *Defining and Selecting Features*.)
- Host Addressable Printing must be disabled.
- The 1683 must be configured for video mode of 1024 x 768. (See Chapter 11: *Configuring NCT Miscellaneous*.)



Note: Only 122-key keyboards are supported.
The light pen is NOT supported in Dual Screen mode.

Configuring Dual Screen mode

From the 1480 CUT Emulator application:

1. Click **Setup** to open the 1480 Setup menu.
2. Click **Screen**.
3. Click the **Dual Screen** button (a green button indicates that Dual Screen mode is enabled).
4. If the Controller Session Step Key is Alt - ChgSc (most 3174's), click the **Controller Step Key** button to enable it. If the controller is configured for the Session Step Key to be Alt - Insert (most 1174's will be configured this way) DO NOT click on the Controller Step Key button.
5. Click **OK** to save changes.



Note: If later operation of Jump and Swap keys seem to not work correctly every time, there may be a need to increase the delay between changing sessions. Click the **Increase Session Delay** button to enable it.

Starting Dual Screen mode

After enabling Dual Screen mode the first time, the 1480 emulator will need to be restarted. From the 1480 CUT Emulator application:

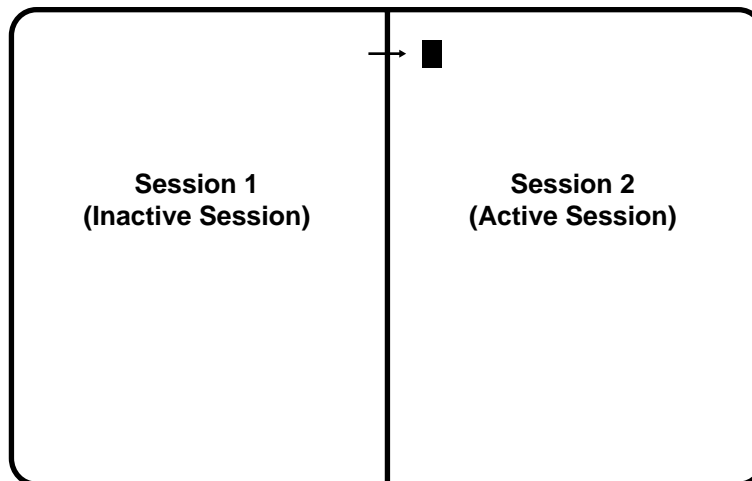
1. Click **Setup**.
2. Click **Miscellaneous** to open the 1480 Miscellaneous screen.
3. Click **Coax Stop**.
4. Click **OK**.
5. Click **Start**.
6. Click **OK**. The coax data should appear in approximately 3 seconds (13 seconds if Increase Session Delay is enabled).
7. Click **Cancel** to close the MTX 1480 Miscellaneous panel.
8. Close the 1480 CUT Emulator application. When it is reopened, there should be a display with two sessions of data side by side.

Active and Suspended Screens

Dual Screen mode can be used to simultaneously display two host sessions. Because two or more sessions must be managed, one session is selected as the active session and the other as the inactive or suspended session.

A highlighted arrow (← or →) is displayed on the separator line at the cursor row to help find the cursor and point to the active session.

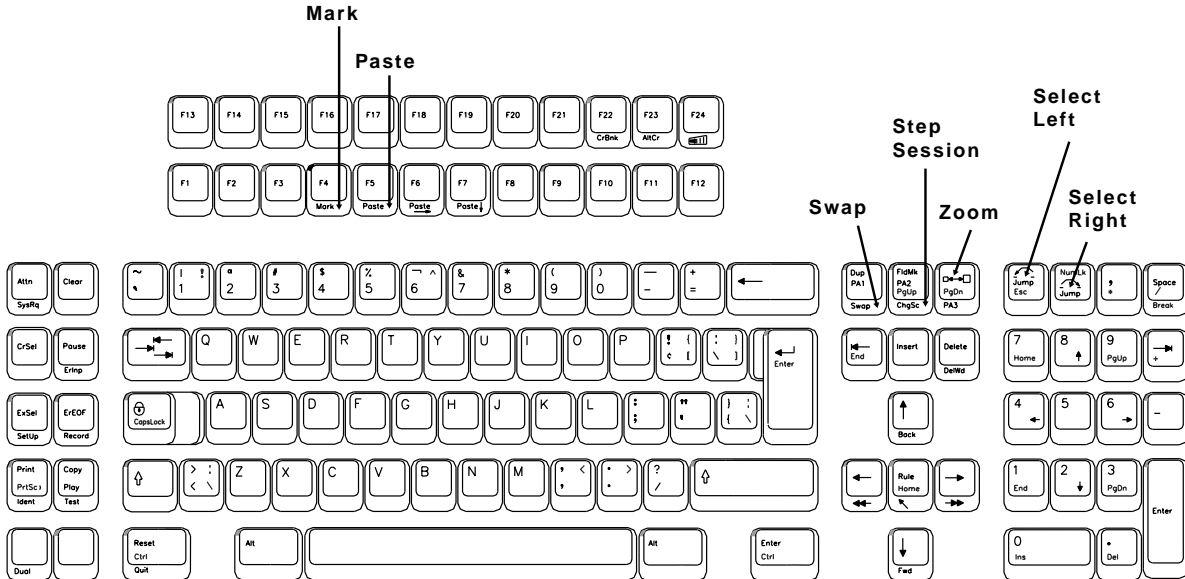
Two Sessions in Side-by-Side Format



Key assignments

Only the 122-key keyboard is supported for Dual Screen mode.


122-Key Dual Screen Keyboard Keys



Dual Screen Mode enhancements


The following commands and features are available in Dual Screen mode.

Zoom


Press the Zoom key () to alternate the display between unzoomed (side-by-side) format and zoomed (normal) format. The zoomed format is identical to the standard Mod 2, 3, or 4 format. There is only one unzoomed format for all three model types.

The zoomed session is always the currently active session. When the terminal is unzoomed, both sessions are displayed.

Select left

Press the Select Left key () to position the cursor in the session on the left side of the display when the display is in side-by-side format. The Select Left key operates in zoom and side-by-side modes. The session on the left side is now the active session and receives immediate screen updates. The session on the right side is “frozen,” which means it does not display new screen updates until it becomes the active session. The Select Left key has no effect if the left side session is already active.

Select right

Press the Select Right key () to position the cursor in the session on the right side of the display when the display is in side-by-side format. The Select Right key operates in zoom and side-by-side modes. The session on the right side is now the active session and receives immediate screen updates. The session on the left side is “frozen,” which means

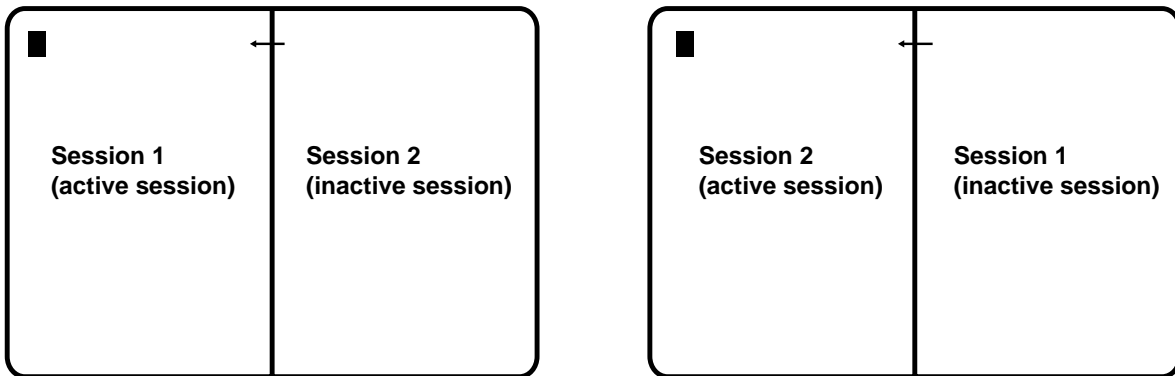
it does not display new screen updates until it becomes the active session. The Select Right key has no effect if the right side session is already active.

Step Active session

Press and hold the Alt key while pressing the ChgSc key to change the active session to make the next highest session the active session. The cursor does not change sides and the session that is not selected is not affected.

For example, suppose three sessions are available. If Session 2 is the active session (the cursor is in Session 2) and is on the left and Session 1 is on the right, press the Alt - ChgSc key combination to increment the left side to Session 3. Session 3 displays on the left side and has the cursor. Session 1 is still on the right side. If the Select Right key is pressed, Session 3 is still displayed on the left and Session 1 is still displayed on the right, but now Session 1 has the cursor.

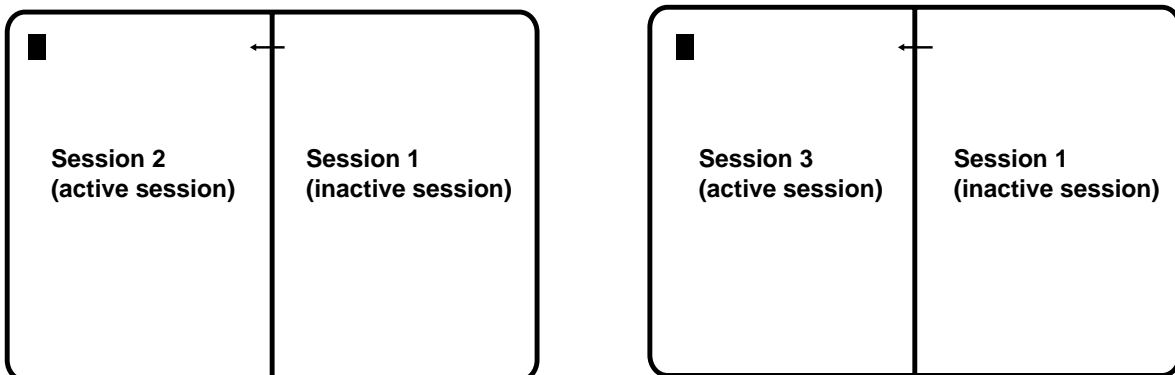
Example of Step Active Session



Swap session

Press and hold the Alt key while pressing the Swap key to switch sessions without moving the cursor. For example, in side-by-side mode, if the left session is the active session (and has the cursor), press the Alt - Swap key combination to move the left session to the right and the right session to the left. The session on the left is still the active session and has the cursor.

Example of Swap Session



Mark

To select a field as the source field for a subsequent paste operation, position the cursor anywhere within the field and hold down the Alt key while pressing the F4 key (Mark). See *Mark/Paste* below for a complete description.

Paste

To select a field as the target field and paste source data into that field, move the cursor to the target field and hold the Alt key while pressing the F5 key (Paste). The data in the source field is pasted into the target field. If there is already data in the target field, that data is overwritten with the data from the source field. See *Mark*, above, for instructions on how to select a source field. The target field cannot be in the same session as the source field. See *Mark/Paste* below for additional information about mark and paste.

Mark/Paste

Use the Mark/Paste feature to copy data between sessions. With this feature, data can quickly be marked and pasted between fields in different sessions.

Mark field

The mark field is the field highlighted as the source data field. The data to be pasted must be within a displayed field. Data cannot be marked for pasting if it is in a nondisplayable field. Data can be pasted from protected as well as unprotected fields. The mark field must be selected before selecting the paste field.

To select the source or mark field, position the cursor anywhere within the field, then press and hold down the Alt key while pressing the F4 key (Mark). The field is displayed in reverse video to indicate it is selected. If the Mark key is pressed while a field is already selected, the selected field is deselected. The field is also deselected after one of the Paste keys is pressed or if the session with the selected field is reselected with the Select Right or Select Left key. A session with a selected field is frozen and does not receive coax updates.






After selecting a field as the source or mark field, use the Select Left or Select Right key to make the opposite session the active session, then move the cursor to the target field.

Paste field

The paste field is the field that receives the data from the mark field and it cannot be in the same session as the mark field. The field that receives the pasted data must be an unprotected field. Standard data truncation rules apply when the paste and mark fields are of different lengths. If the paste field is longer than the mark field, data is replaced in the paste field only up to the length of the mark field. If the paste field is shorter than the mark field, data is truncated up to the length of the paste field. The data that has been pasted is temporary until an Aid key (Enter or F key) is pressed; if a Select Right or Select Left key is pressed before an Aid key, the pasted data is lost.

Walk through

The following is an example of how to start a dual screen after configuring the 1683 NCT as described on page 6-19, *Configuring Dual Screen Mode*, and after following the instructions for *Starting Dual Screen Mode* on page 6-20.

1. Press the Zoom () key to display two side-by-side sessions.
The cursor is displayed on the right side of the screen. The session on the right is now the active session.
2. Press the Select Left () key.
The cursor is displayed on the left side of the screen. The session on the left is now the active session.
3. Log on to a host application using the session on the left side of the display.
4. Press the Zoom () key.
The display consists of a standard, one-session format.
5. Press the Select Right () key.
The session from the right side of the display becomes the active session. The screen is still zoomed and the right session is the only session displayed.
6. Log on to a host application using the selected right session, which is the only session displayed. While the logon is processing, go to Step 7.
7. Press the Zoom () key.
The display unzooms and consists of the side-by-side format. Wait for logon processing to complete.

Screen Print mode

Follow these steps to perform a screen print in Dual Screen mode:

1. Position on the left the session to be printed, using the Swap and/or Step keys if needed.
2. Print the screen using the normal screen print commands.

Chapter 7

MTX 1490 Twinax Emulator

In this Chapter...

Standard features

Communication Set Up

Screen Setup

Color Setup

Print Setup

Miscellaneous

The 1490 Twinax Emulator is designed to provide a wide range of functions and applications. Data messages are communicated between the emulator and the System/3X or AS/400 through a twinax cable up to 1500 meters long. The 1683 equipped with a 1490 emulator can be attached to any of the following processors and control units:

- IBM System/36
- IBM System/38
- IBM 5394 Control Unit
- IBM 5494 Control Unit
- IBM AS/400

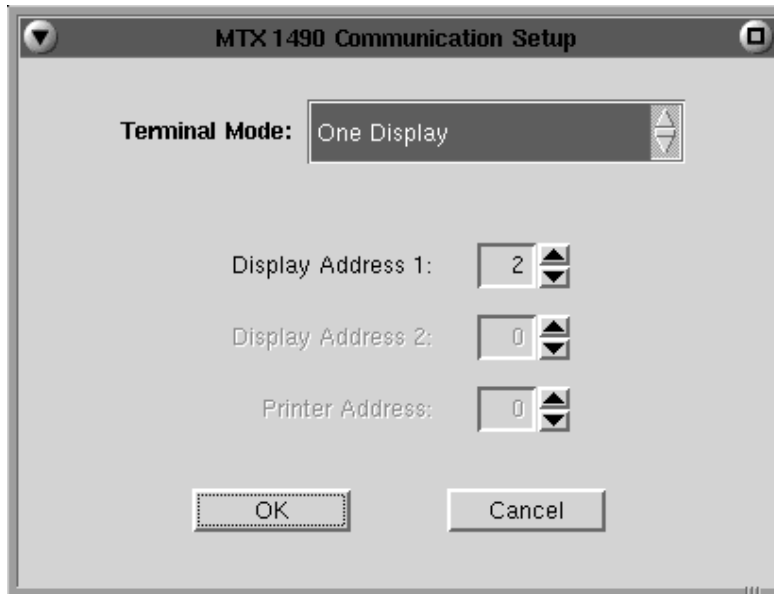
The 1490 supports 122-key and 104-key keyboards..

You can generate hard copy by attaching a twinax printer to the System/3X or AS/400 or by attaching a host addressable printer to the 1683 equipped with a 1490 emulator. The Local Screen Print feature enables you to make a hard copy of the displayed text.

Standard Features

- **Multiple Emulations** – The 1490 can emulate several different display types. Both monochrome and color displays can be emulated. For display stations attached to a System/36 or System/38, a 132-column color format can be selected.
- **Two-Host Sessions** – You can configure one host display sessions and one printer host session that run concurrently.
- **Full-Screen Setup Menus** – The full-screen setup menus offer simplicity and ease of use for all setup functions.
- **User Selectable Color Mixing** – With the color 1490, you can select the shades of the colors for the attributes.
- **Audible Alarm** – Sounds when the host system signals the display station.
- **MVP (Multivendor printers)** – The 1490 supports a wide variety of industry standard printers.
- **Optional Features**
- **US English**
 - 104-Key EBCDIC US English Typewriter
 - 122-Key 5250 US English Typewriter
 - 122-Key 3270 US English Typewriter

Communication Setup



Terminal Mode

Consult the system operator before changing this option.

The 1683 in 1490 mode can operate in two different terminal modes. By enabling up to two independent host sessions to be configured, each with a different address on the system, multiple host functions can be active simultaneously.

- **One-Display** – The 1490 operates as a single display station with one address. This is the default setting. Local screen printing is available.
- **One-Display-Printer** – Both the display and attached printer are logically connected to the host, each having a different address. In this mode, host addressable printing is enabled.

Display Address

The display address is the display station's logical address on the System/3X or AS/400 port. Ask the system supervisor for this address. The 1490 will not operate online until you enter this address. No default address is set at the factory.

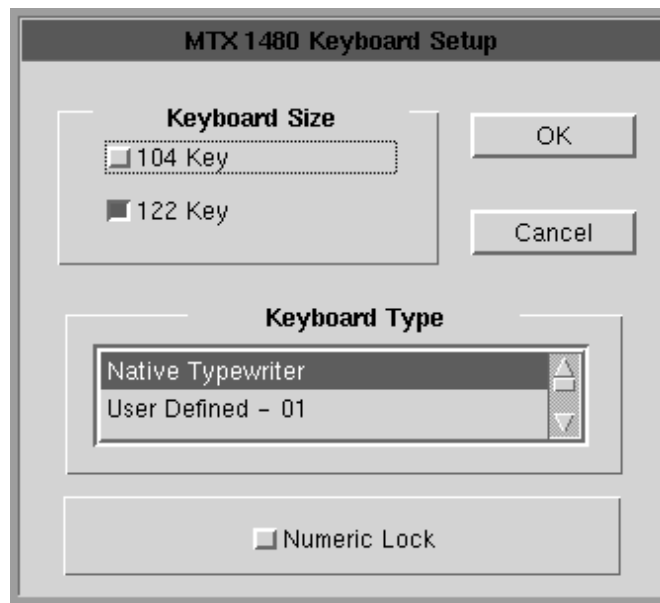
Selection	Description
00 through 06	Select an address from 00 through 06 . Do not assign the same address for a display and a printer.

Printer Address

The printer address is the printer’s logical address on the twinaxial cable originating at the System/3X or AS/400. No default address is set at the factory. Ask the system supervisor for this address. This option is available only if the display station is operating in **One-Display-Printer** mode.

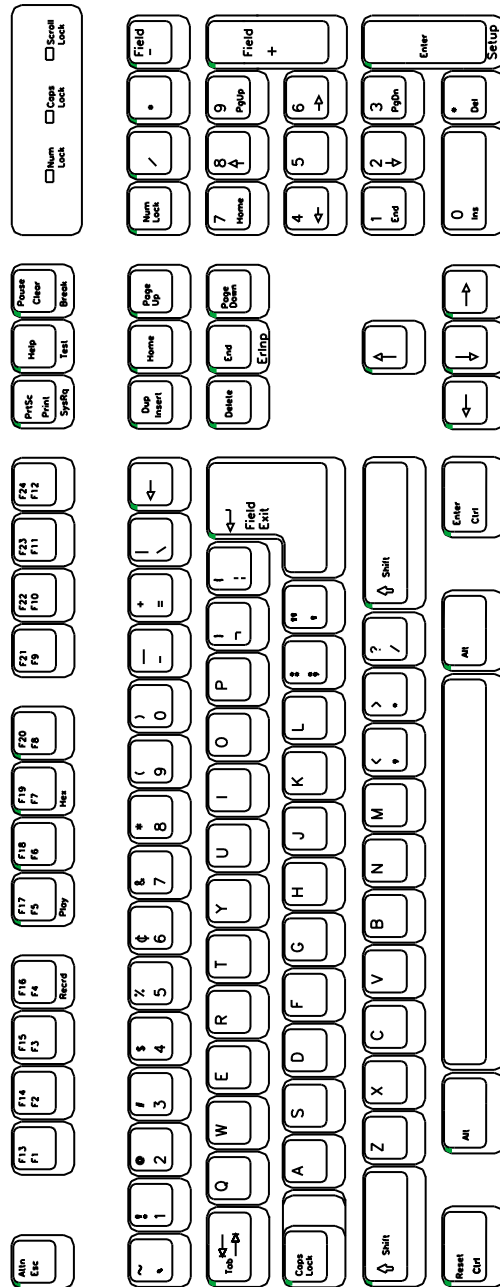
Selection	Description
00 through 06	Select an address from 00 through 06 . Do not assign the same address for a display and a printer.

Keyboard Setup

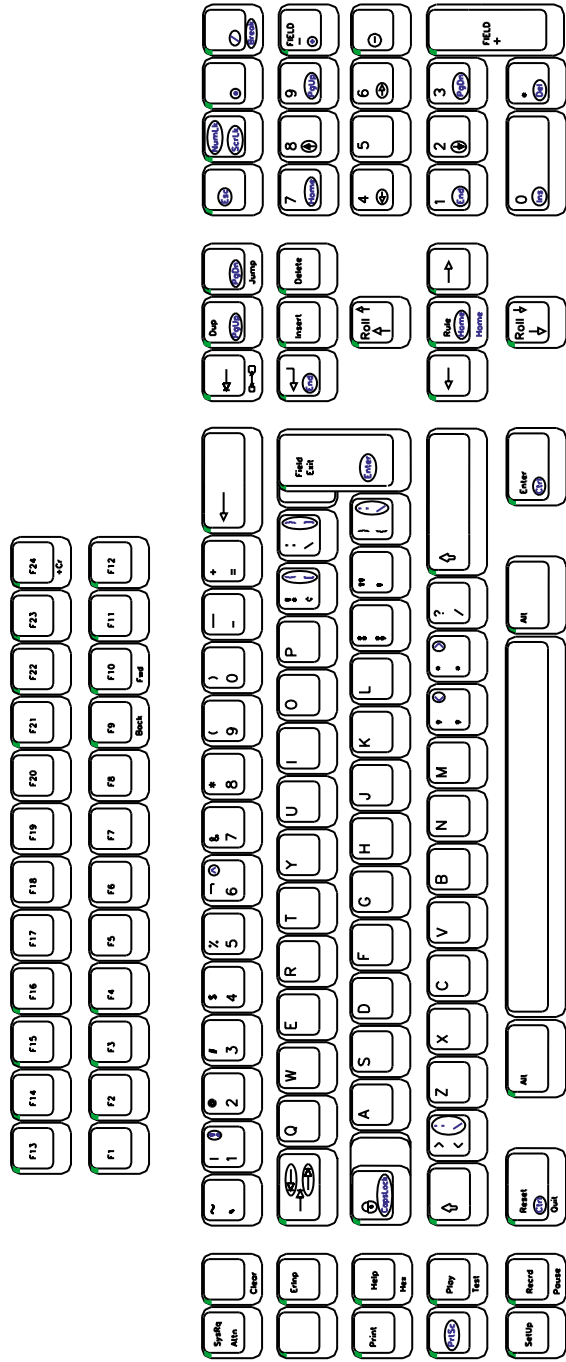


Use the following table to determine which keyboard you have.

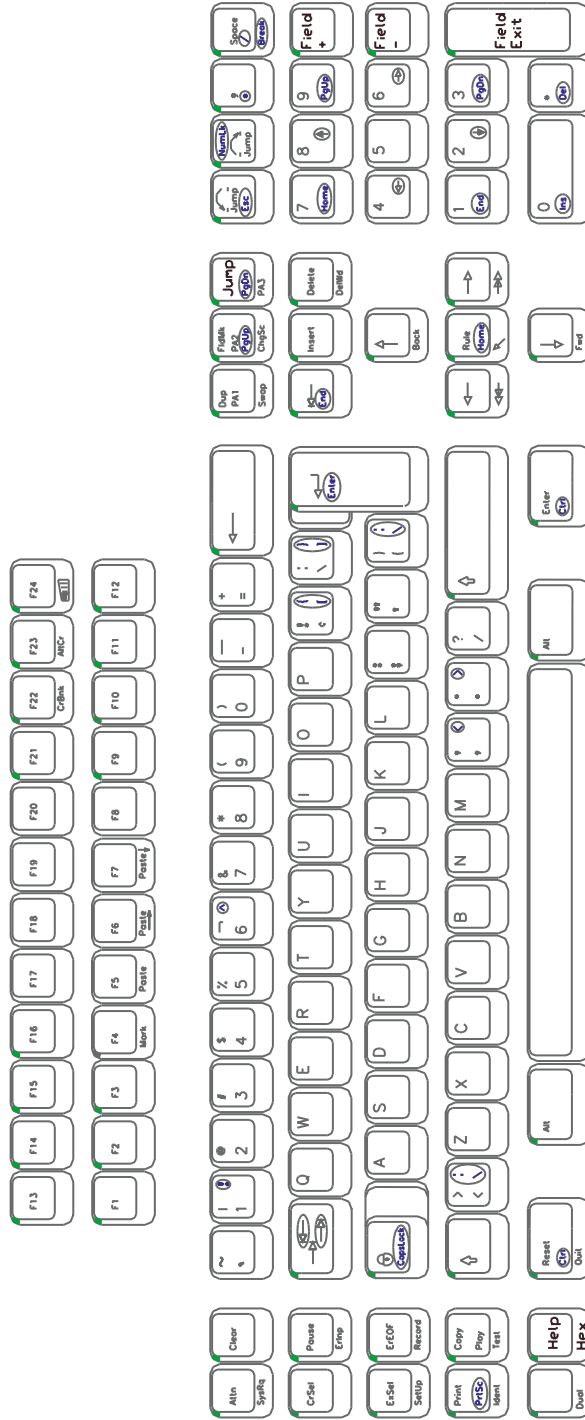
Keyboard	Description
104	See keyboard diagram page 7-5.
122-5250	See keyboard diagram page 7-6.
122-3270	See keyboard diagram page 7-7.



PC Keyboard with Twinax legends

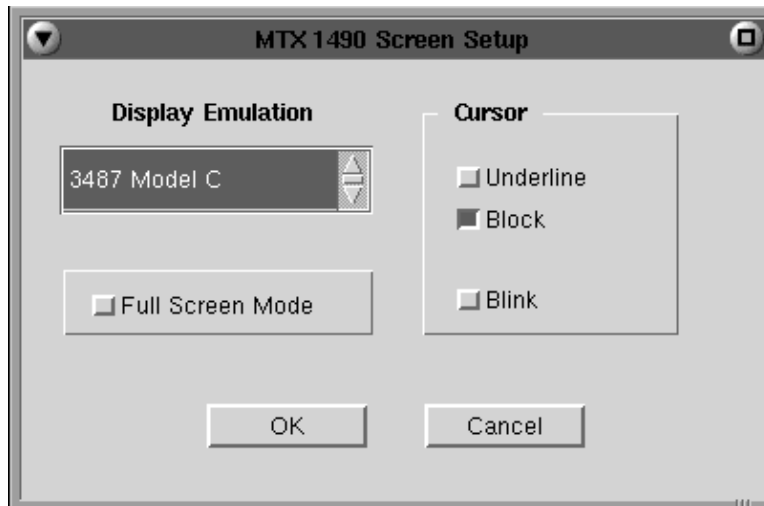


TWINAX WITH PC LEGENDS
KB122 TW/PC TWINAX



Coax with Twinax legends

Screen Setup



Display Emulation

Selection	Description
3477 Model C	132- column color display. This emulation supports Extended character attributes. Select this emulation for display station attached to an AS/400. This is the default setting for color monitors and is available only with color monitors.
3477 Model D	132 column monochrome display. This emulation supports Extended Character attributes. Select this emulation for display station attached to an AS/400. This is the defaults setting for monochrome monitors and is available with both color and monochrome monitors.
3197 Model D 3180 Model 2	132-column monochrome display. Select one of these emulations for 132-column support for display stations attached to a System/3X. This option is available with both color and monochrome monitors.
3196	80-column monochrome display. This option is available with both color and monochrome monitors.
3197 Model 2	80-column monochrome display. This option is available with only color monitors.
3487 Model C	132-column color display.
3487 Model G	132-column monochrome display.

By selecting one of the 132-column monochrome emulations, you can enable a 1490 display station attached to a System/3X to have 132-column capability, even though the System/3X does not support 132-column color displays.

The **Display Emulation** option is also useful when installing and configuring devices where system support services are not readily available (for example, at a remote site). You can select the emulation of the display that is already configured on your system without having to change the host configuration.

Cursor

Selection	Description
Block	Selects a block (■). This is the default setting.
Underline	Selects an underline cursor(_).
Blink	When selected the cursor will blink. Otherwise the cursor is solid.
Full Screen	Select full screen mode. The menu bar will be hidden at the next power on reset. The menu bar can be unhidden by depressing the "setup" key on a 122 key keyboard or "Alt-numeric keypad enter" on a 104 key keyboard.

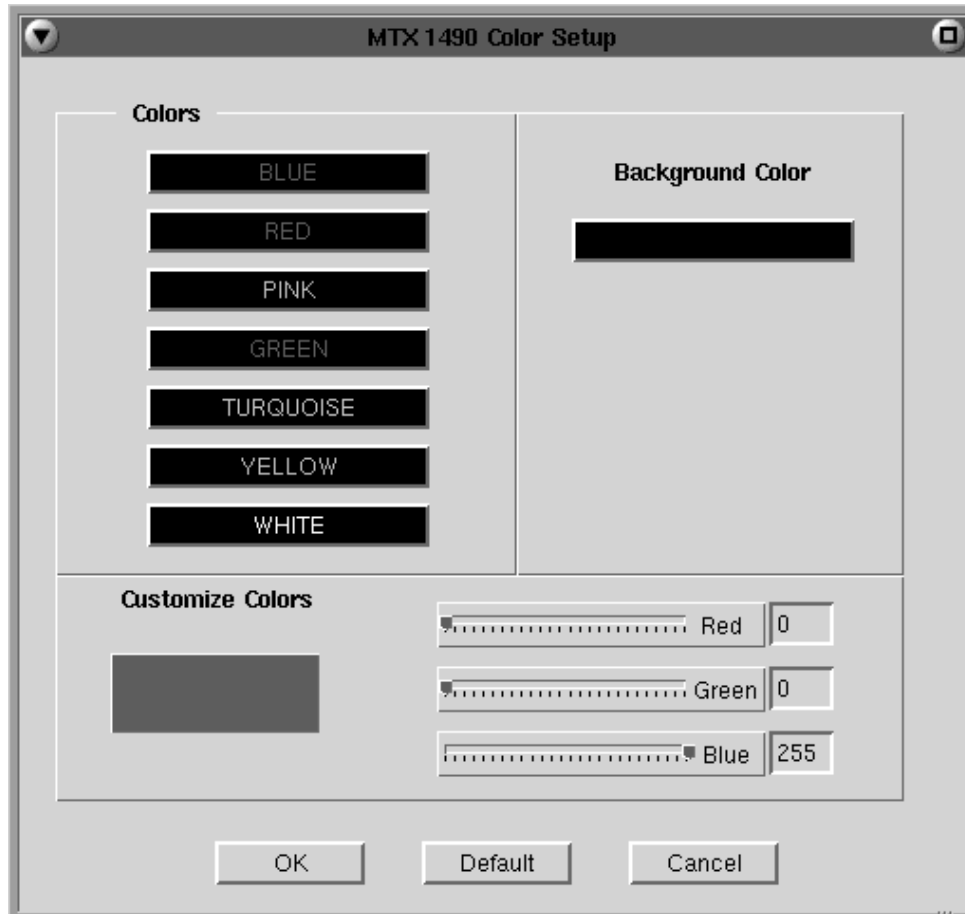


Note: Underline and Block cursor mode are mutually exclusive.

Full Screen Mode

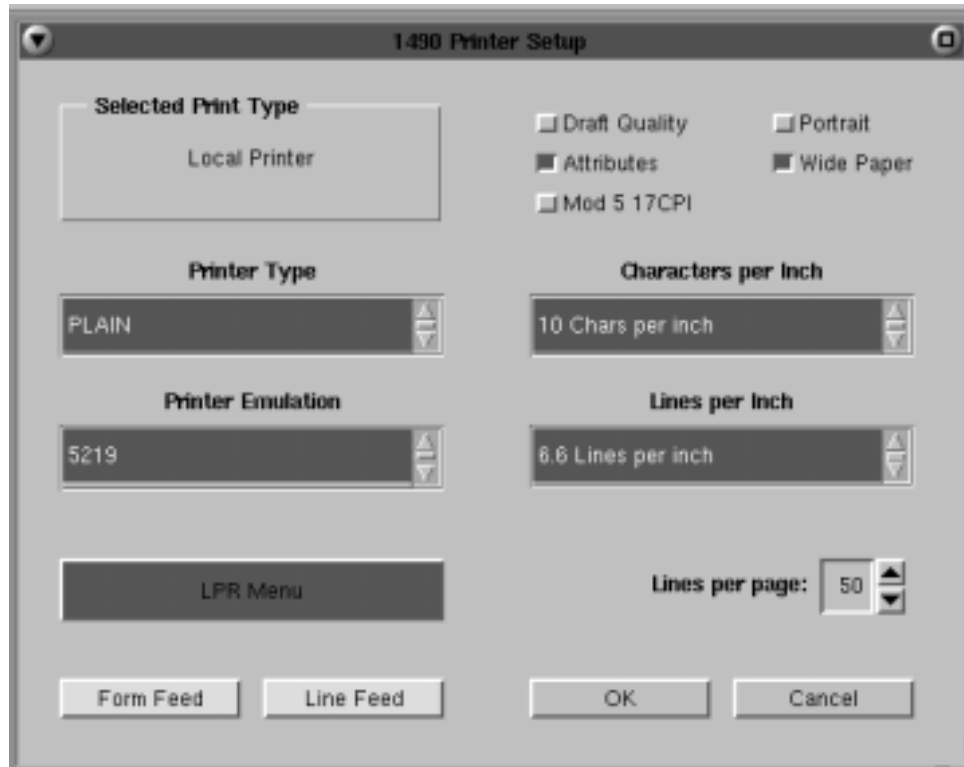
Selection	Description
Full Screen	Select full screen mode. The menu bar will be hidden at the next power on reset. The menu bar can be unhidden by depressing the "setup" key on a 122 key keyboard or "Alt-numeric keypad enter" on a 104 key keyboard.

Color Setup



- **Colors** – Use to select a color you desire as background or designated text.
- **Background Color** – Use any or all of the three slider bars until the desired color shows in the Background Color box and as the background of this screen.
- **Customize Colors** – Use any or all three slider bars to adjust the colors showing on the color list.

Printer Setup



The printer menu sets the printer parameters and controls the appearances of the printed text.

The LPR menu can be used to direct the print to either a local or network printer. Screen print and system print destinations are defined by this panel.

Attached Printer Type

The table below lists the printer type supported for each printer.

Menu Option	Printer types	
PRO-I/II	IBM Proprinter, Proprinter II and compatibles	Download character support is required for international characters. This is the default setting.
HP-LASER	HP Laser Jet II, Laser Jet II and compatibles	Uses Roman-8 symbol set for best font support. Font cartridges required for support of nonresident fonts.
EPSON-LQ	Epson LQ series printers and compatibles	Download character support required for international characters.
PLAIN	TTI	

Printer Emulation

The table below lists the printer emulations supported for each printer type.

Selection	Printer type	Description
5219	PAGE-II HP-LASER	Used for sophisticated word processing tasks that require font selection, automatic justification, bolding, underlining and overstriking. Supported only on laser printers and advanced 24-wire dot matrix printers.
4214	PRO-I/II HP-LASER EPSON-LQ	Used for general purpose printing. This emulation supports system control of some printing parameters, such as characters per inch, lines per inch and print quality. This is the default setting.
5256	PRO-I/II HP-LASER EPSON-LQ	Provides basic printing for systems that do not support the other printer emulations.

Characters per Inch

Selection	Description
10,12,17	Select a numerical value, 10, 12 or 17 characters per inch for the character density. 10 is the default setting for local printers.
10.5	Forces the text to be printed at 10.5 characters per inch. This enables 80 characters to be printed on a line of A4 paper.

Lines per Inch

Selection	Description
3, 4, 6, 6.6, 8.4	Select a numerical value, 3, 4, 6, 6.6, 8.4 lines per inch, for the character density. 6 is the default setting for local printers.

LPR Menu

To configure LPR, select the **LPR Menu** button from within the 1490 Printer Setup Screen. The LPR Setup panel is shown below:



- **Enable LPR** – Select to enable LPR printing.
- **LPR scroll window** – used to select an LPR printer. A blue background indicates the printer is selected.
- **Local Name** – User-defined name of the printer.
- **Remote Name** – Queue name that print jobs are sent to from an LPR-enabled device.
- **Remote Address** – IP address of the selected printer. Click **OK** to save the changes and exit the screen, or **Cancel** to discard the changes and exit.



Note: For changes to the LPR Menu to become effective, the 1490 must be restarted via the Miscellaneous Menu, or by turning the unit off and back on again.

1490 Miscellaneous

Normally the 1490 emulator is running with the Twinax communications active over the Twinaxial cable to the mainframe host controller. For instances where the user may want to change a configuration item such as keyboard type (104 to 122), this screen provides the ability to make modifications to the emulator without powering off the 1683 NCT and then powering it back on.

The user may make all the desired menu changes first. Some of the menu items only take effect during the initial exchange of data with the controller.

Restarting the 1490 Emulator

1. Click **Setup** in the upper left-hand corner of the screen to open the 1490 Setup menu.
2. Click **Miscellaneous**. The 1490 Miscellaneous screen is shown below.



3. Click **Stop Twinax**.
4. Click the **OK** button. This stops the 1490 from responding to the controller and the menu will be removed from the screen.



CAUTION: All data on the 1490 screen and unprinted data will be lost.

When 1490 screen data is erased the Miscellaneous panel will disappear and the cursor is placed in the upper right corner of the screen.

5. To open the miscellaneous menu, repeat steps 1 and 2.
6. Click **Start Twinax**.
7. Click the **OK** button to restart the Twinax communications and initiate the exchange of configuration items with the controller.

Chapter 8

Using Telnet, TN3270, TN5250 and VT220

In this Chapter...

Telnet Terminal

TN3270

TN5250

VT220

Telnet Terminal

What is Telnet?

Telnet, using the Telnet protocol and the Internet, enables the user to gain access to computer systems around the world.

In effect, the 1683 NCT functions as though it were a terminal connected to a remote host. Once logged in, whatever tools are provided on the host can be used to do a variety of things, such as:

- search databases to locate targeted information
- run specialized programs
- enter into online discussions

Telnet makes it possible for your terminal to “look like” whatever terminal the host normally supports. An exception is certain IBM mainframe hosts running 3270 applications. To access a host as a 3270-type terminal, use the TN3270 feature, described later in this section.

To gain permission to access a remote host, you can look up standard userids distributed by those hosts whose administrators encourage public access, or you can set up an account with a host and acquire a private userid and password. Some host administrators set up access so that you can log in directly without a userid or password. Some provide special port identifiers that need to be used.

In all cases, the host name of the computer system you wish to access is required.

Logging in to a remote host

To connect and log in to a remote host:

1. Click the **MTX** button in the lower left hand corner of the screen. The application menu will appear.
2. Click **Telnet** to start a Telnet session.

You will see this prompt in the window:

```
telnet >
```

Type:

```
open host
```

where *host* is the official name, an alias, or the Internet address of the computer system to which you wish to connect. For example,
open {host} . {domain} .com



Note: If the host requires that a port number be specified when connecting, simply append the port number to the *host* name, separated by a space.

Telnet will connect to the remote host. The host then will normally respond with a welcome and will lead you through its log in process. Log in, employing one of the following combinations:

- With the userid and password supplied by the administrator of the host
- With just a userid (some hosts do not require passwords)
- Neither, if the remote host has been set up for it.

Once connected, use the menus, commands and features of the remote host, which are largely text-based and can vary from host to host.

Logging out of a remote host

When you are finished using the remote host, use that host's normal log out command. Telnet will automatically finish running.

To disconnect from the host when its log out command is not available, or if you are stuck for any other reason, enter one of the following:

- Ctrl -]
- the escape character displayed by the host upon logging in.

Recommended reference guides

Telnet enables many special telecommunication features to be configured, such as how carriage returns or interrupts are processed. Such features may be needed when accessing a non-Unix remote host. Contact your system administrator or refer to one of the following references:

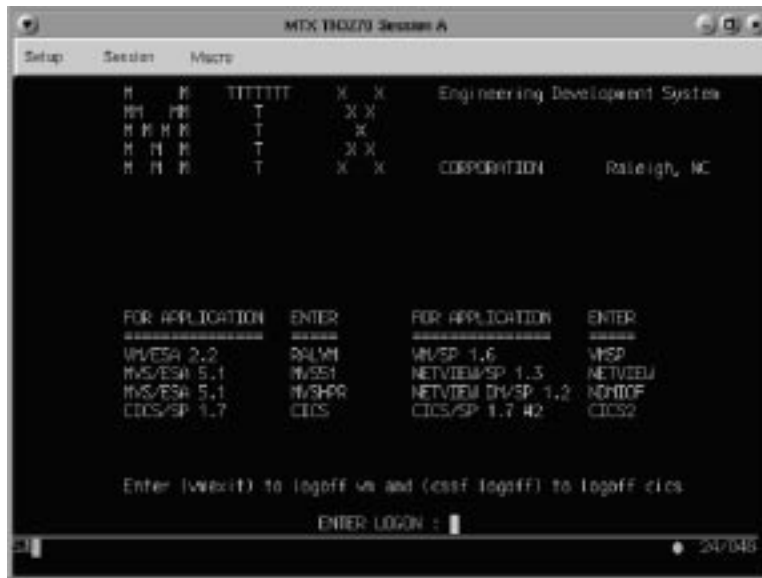
Hunt, Craig, *TCP/IP Network Administration*, O'Reilly & Associates, Inc., Cambridge, MA.

Heywood, Drew; Jerney, Janos; Johnston, Jon, et al, *Connectivity: Local Area Networks*, New Riders Publishing, Carmel, IN.

TN3270

What is TN3270?

Like Telnet, TN3270 enables access to programs running on remote hosts. Unlike Telnet, TN3270 provides the means to access 3270 programs running on IBM mainframes.



TN3270 enables the 1683 NCT to function as though it were a 3279 mod 2, mod 3, mod 4, or mod 5 terminal. Unlike Telnet, TN3270 can manipulate the entire screen image, fields and function keys, in a way identical to a 3270 terminal. TN3270 provides the following standard features:

- **Window Menu** – The window menus offer simplicity and ease of use for all setup functions.
- **Color Display** – The color monitor is programmable in seven colors.
- **Switchable Screen Formats** – TN3270 supports four (4) screen sizes that can be selected from setup menus. The server to which the TN3270 client attaches must be configured to support the screen size used. Check with your system administrator.
- **Mono/DualCase Mode** – Allows characters to be displayed as all uppercase characters or as upper- and lowercase characters.
- **Mark Unprotected Field Indicator** – The 1480 CUT Emulator can be requested to mark unprotected fields with a special character.
- **Row/Column Indicator** – Displays the current cursor location on the operator status row.
- **Numeric Lock** – Allows a field to be defined to accept only numeric characters and the Period, Minus, and Dup keys. The comma may be substituted for the period on some international keyboards.
- **Multiple Sessions** – A maximum of 10 sessions can be accessed with this emulator.

Setting up a remote host as a 3270 terminal

To setup a remote host:

1. Click the **MTX** button in the lower left-hand corner of the screen. The application menu will appear.
2. Click **TN3270**. The main TN3270 screen will appear with two menu options, **Setup** and **Session**.
3. Click **Setup**.
4. Click **Communications** from the Setup menu. This screen will appear:

- **Session Name** – Enter the name to be displayed in the window title.
- **Host** – Enter the Internet address of the TN3270 server to which you wish to connect, for example, 255.255.XXX.XXX.
- **Port** – If the host requires that a port number (other than port 23) be specified when connecting, select the port number using the up and down arrows or by typing the port in directly.
- **Enable TN3270E** – Select to enable TN3270E support.
- **LU Name** – Enter LU name string (optional, for TN3270E).
- **Auto Connect** – Select to auto connect at program start and to reconnect automatically if disconnected by the server.

Click **OK** to save changes and close Communications Setup, or **Cancel** to close and discard any changes.

Connecting to a TN3270 session

TN3270 will connect to the remote IBM mainframe host. The host then will normally respond with a welcome and will lead you through its log in process. Log in, employing one of the following combinations:

- With the userid and password supplied by the administrator of the host
- With just a userid (some hosts do not require passwords)
- Neither, if the remote host has been set up for it.

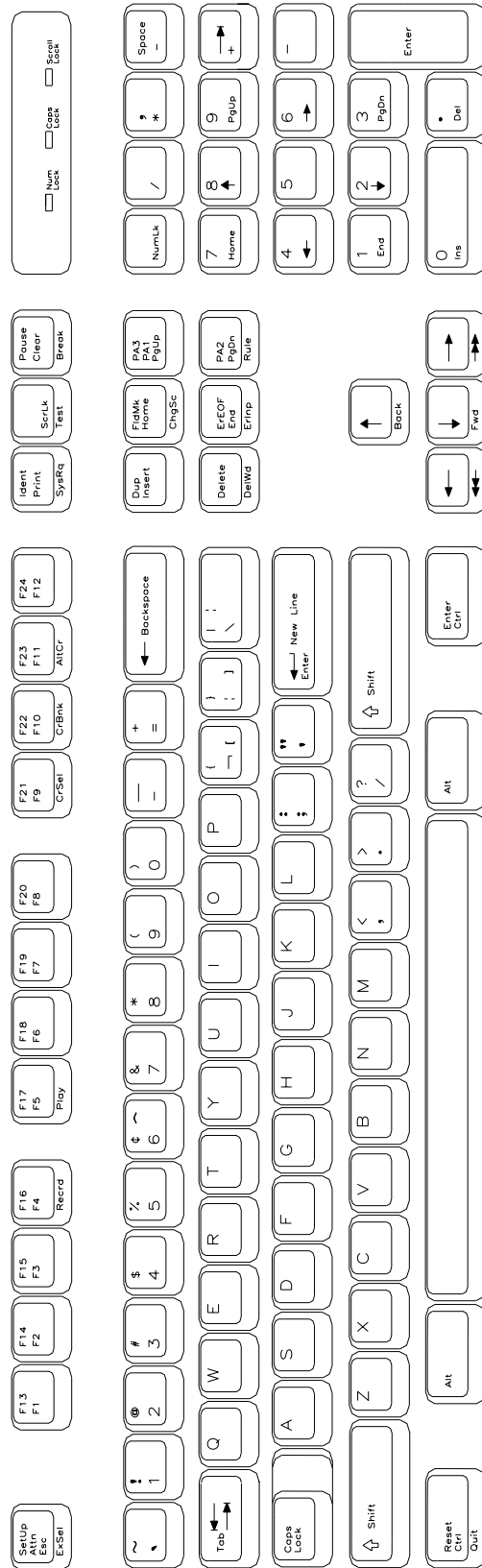
To connect to a TN3270 remote host from the main TN3270 screen:

1. Click **Session** to open the TN3270 Session menu.
2. Click **Connect**.

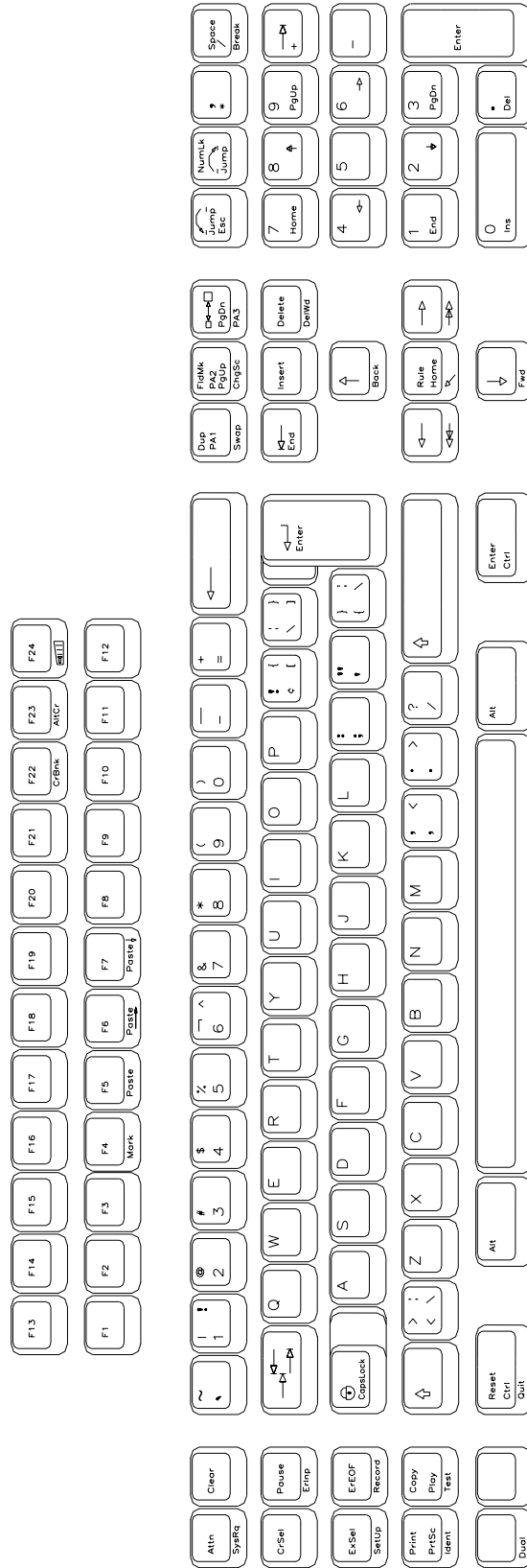
Once connected, use the menus, commands and features of the remote host to access and run 3270 applications.

Logging out of a remote host

1. When you have finished using the remote host, use the host's normal log out command.
2. To disconnect from the host, select **Disconnect** from the **Session** menu.



TN3270
104-key Keyboard Layout



TN3270
122-key Keyboard Layout

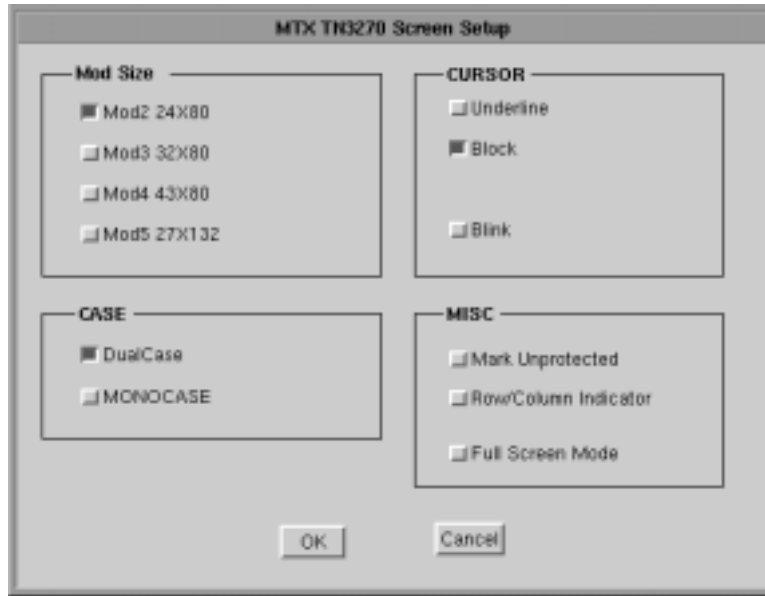
Configuring TN3270 for an application

TN3270 can be configured for a particular application by selecting **Screen**, **Keyboard** or **Color** from the Setup menu.

Screen setup

From the main TN3270 application screen:

1. Click **Setup** to open the TN3270 Setup menu.
2. Click **Screen**.



- **Mod Size** – Select the mod required by the design of the application program. Applications are designed to use one of the above mods, based on the number of rows per screen and characters per row, respectively. The default is Mod 2.
- **Case** – Select **DualCase** for upper and lower case characters. Select **MONOCASE** for all characters displayed as upper case letters.
- **Cursor** – Choose either an underline cursor or a block cursor. Select **Blink** for a blinking cursor.
- **Mark Unprotected** – Select to display a special symbol in each unprotected field on the screen. This enables you to recognize locations where keystrokes can be entered.
- **Row/Column Indicator** – Select to display the current cursor location on the operator status row. Note that the location is determined by the application program on the host system.
- **Full Screen Mode** – Select to open the TN3270 application in Full Screen Mode. TN3270 must be closed and reopened for this setting to become effective.



Note: To access the taskbar or minimized applications on the taskbar while Full Screen Mode is in effect, hold down the Ctrl and Alt keys while pressing the tab key. Press the tab key repeatedly until the name of the application you wish to bring to the front is displayed.

Click **OK** to save changes and close Screen Setup, or **Cancel** to close and discard any changes.

Keyboard setup

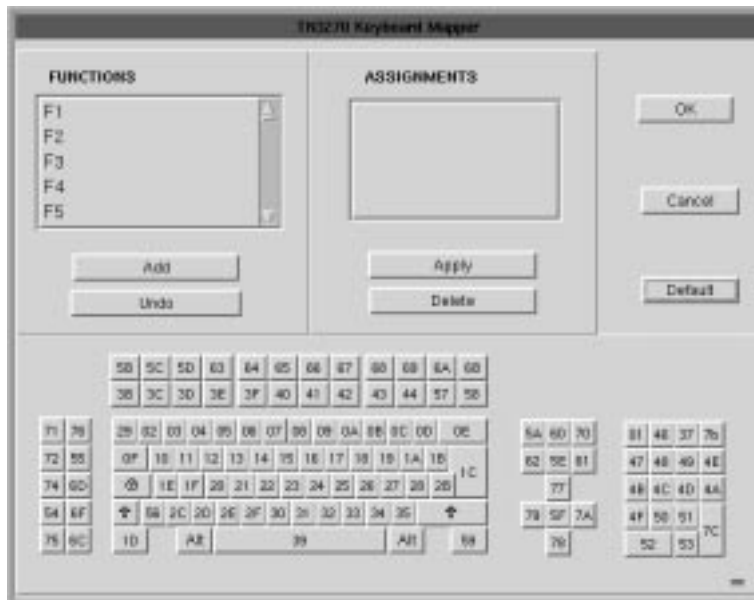
From the main TN3270 application screen:

1. Click **Setup** to open the TN3270 Setup menu.
2. Click **Keyboard**.



- **Keyboard Size** – Select either the 104 or 122-key keyboard.
- **Numeric lock** – If supported by the TN3270 server, will allow numeric keys only for numeric fields.
- **Typeahead** – Enable the Typeahead feature.
- **Key Mapper** – The key assignment (mapping) may be verified or changed as necessary for use in TN3270 applications.


Keyboard Mapper




To determine which 1683 key is currently assigned to the key, click the appropriate key in the Functions box and the assigned value will be displayed in the Assignments box. Alternatively, on the keyboard layout, using the mouse click on the key to which the value needs to be displayed, the key will be displayed in the Functions box and the assigned value in the Assignments box.

To change the key assignment:

1. Using the mouse, click on the key that needs to be changed on the keyboard layout or alternatively, choose the function from the Functions box.
2. Click **Add** below the Functions box.
3. Assign the new assignment required for the key selected. If a key combination is desired, click either the **Shift**, **Control**, or **Shift + Control** buttons.
4. Click **Apply** when satisfied with selection or click **Undo** to reassign.

 **Note:** A function can be applied to multiple 1683 keys. Assigning a function to a key does not unassign it from a previous definition.

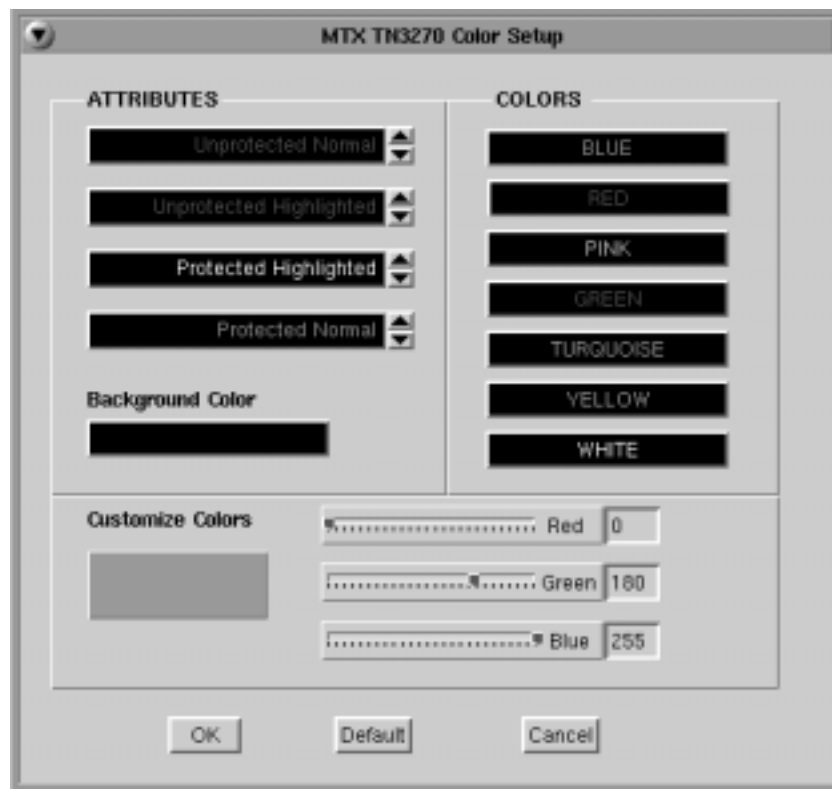
5. Click **OK** to save changes and Exit, or **Cancel** to discard changes and exit. To return the key assignments to their default state, click **Default**.

 **Note:** TN3270 application must be closed and restarted for changes to become effective.

Color Setup

From the main TN3270 application screen:

1. Click **Setup** to open the TN3270 Setup menu.
2. Click **Colors**.



- **Attributes** – Use the arrows to select colors from the Colors list on the right. Select for protected, unprotected, normal and highlighted fields.
- **Customize Colors** – Select a color from the colors list. Use any or all of the three slider bars to adjust the selected color.
- **Background color** – Select the Background Color bar, then apply any or all of the three slider bars until the desired color shows in the Background Color box.

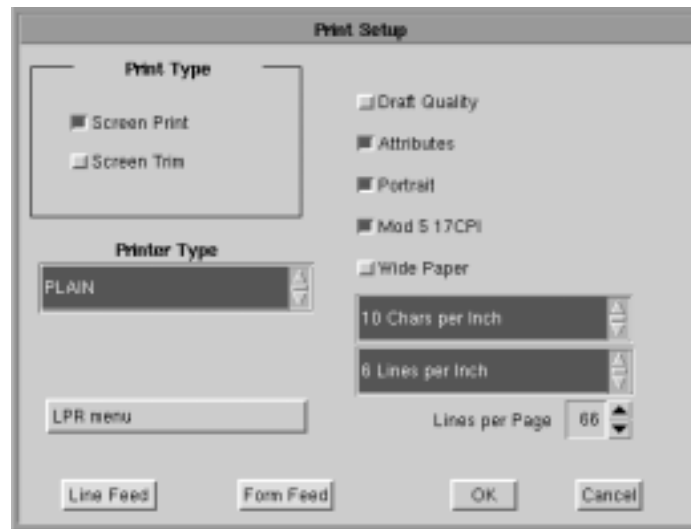
Click **OK** to save changes and close Color Setup, or **Cancel** to close and discard any changes.

Print setup

To access the Print Setup screen (shown below) from the main TN3270 screen:

1. Click **Setup** to open the TN3270 Setup menu.
2. Click **Printer**.

Print type



- **Screen print** – Prints the entire contents of the application window
- **Screen Trim** – Prints the user-selectable area within the application window. (This feature is not currently implemented)
- **Printer Type** – Specifies the printer driver to use when printing. Options are:
 - Plain
 - HP Laserjet
 - Epson Inkjet
 - Proprinter
 - Postscript



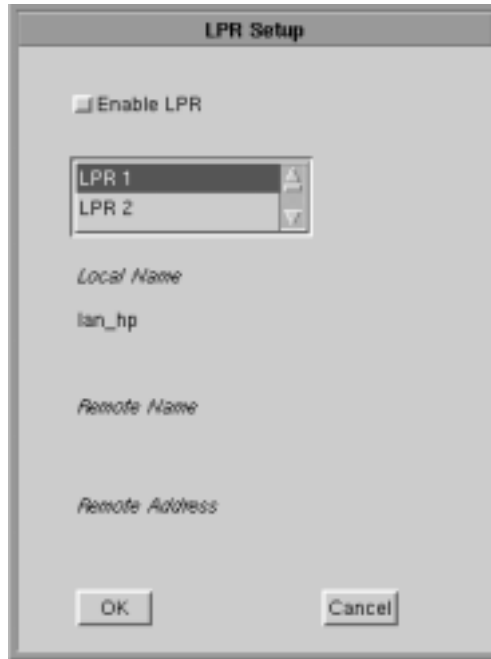
Note: Printing options found on this configuration panel may vary depending on the printer type selected.

- **Draft** – Prints draft quality when selected. Otherwise printing is letter quality.
- **Attributes** – If selected, prints intensified characters as bold and underlined when required.

- **Portrait** – If enabled, prints in Portrait mode. If disabled, prints in Landscape mode.
- **Mod 5 17 CPI** – If selected, printing automatically changes to 17 CPI (characters per inch) if the application screen is Mod 5.
- **Wide Paper** – If enabled, allows printing of more than 80 characters per line. This setting is generally used when Proprinter is selected as the Printer Type.
- **CPI Selection** – Specifies the number of Characters Per Inch to print. Options are 10, 10.5, 12, and 17 CPI.
- **LPI Selection** – Specifies the number of Lines Per Inch to print. Options are 3, 4, 6, 8, and 8.4 LPI.
- **Lines per page** – Specifies the number of Lines per Page to print. Selectable range is 0-255.
- **Line Feed** – Sends an immediate Line Feed to the selected printer.
- **Form Feed** – Sends an immediate Form Feed to the selected printer.
- **LPR Menu** – Displays the LPR configuration menu. The LPR menu button is gray when LPR is disabled and green when enabled.

LPR menu

To configure LPR, select the **LPR Menu** button. The LPR Setup panel is shown below:



- **Enable LPR** – Select to enable LPR printing.
- **LPR scroll window** – Used to select an LPR printer. A blue background indicates the printer is selected.
- **Local Name** – User-defined name of the printer.
- **Remote Name** – Queue name that print jobs are sent to from an LPR-enabled device.
- **Remote Address** – IP address of the selected printer.

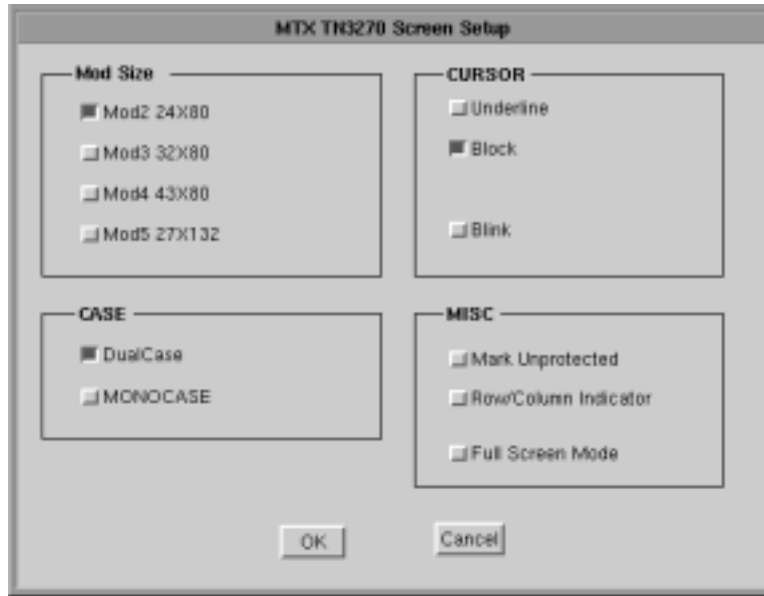
Click **OK** to save changes and exit, or **Cancel** to exit and discard any changes.

Copy/Paste Between TN3270 Sessions

Use the Copy/Paste feature to copy data between sessions or applications. This feature allows you to quickly mark, copy and paste data between fields in different sessions.

The mark field is the area which is highlighted as the data source. The data to be pasted must be within a displayed field. Data cannot be marked for pasting if it is in a nondisplayable field. Data may be pasted from protected as well as unprotected fields. You must select the mark field before you select the paste field.

Mark/Copy Field



To select the mark field, position the cursor with the mouse, then press and hold the **Shift** key while dragging the cursor over the source field you wish to copy. The mark field is displayed in reverse video to indicate that it has been selected. The choice between “Standard” (default) and “Frame” in the Screen Setup, Edit Select Mode (as shown above), will either highlight text lines or will select complete text blocks.



Note: Data can be marked and copied from protected as well as unprotected fields.

After selecting a field, press **Alt C** to copy selection into the clipboard where it may be used to paste to other sessions.

Data may also be copied from other applications into a TN3270 session as long as the applications support “text only” copy.

Paste Field

The paste field is the field that receives the data from the mark field. The paste field must be an unprotected field. Standard data truncation rules apply when the paste and mark fields are of different lengths. If the paste field is longer than the mark field, data is replaced in the paste field only up to the length of the mark field. If the paste field is shorter than the mark field, data is truncated up to the length of the paste field. The data that has been pasted is temporary until you press an Aid key (Enter or F key). To paste the data you select using the Copy/Paste, position the cursor with the mouse and press Alt V.

Copy/Paste From Calculator to TN3270 Session



All entries on the calculator are automatically stored into the clipboard, therefore, there is no need to copy the field. Perform the calculation you require, switch back to the session and place the cursor where the data is required. Press **Alt V** to paste the calculated field.



Note: Every entry on the calculator overrides the buffer in the clipboard. Only the last entry/calculation is available.

Recommended reference guide

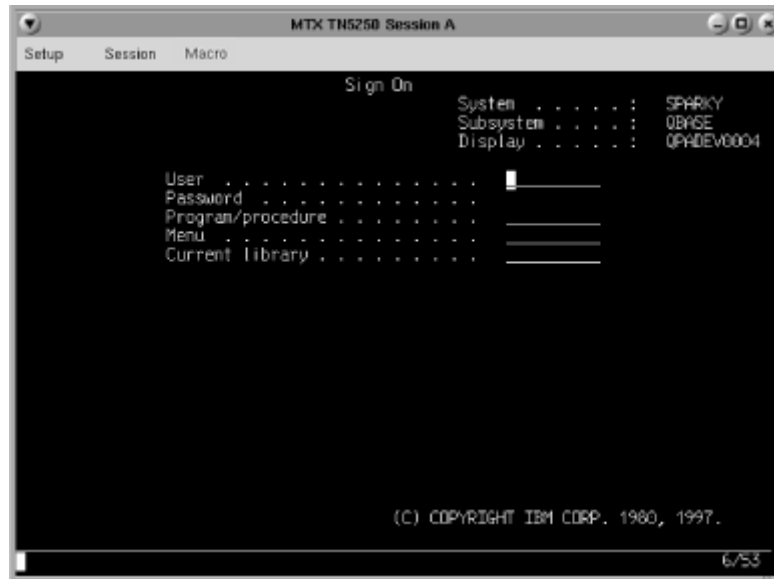
TN3270 allows you to configure special features and to temporarily suspend/resume a host session. You may need to configure new 3278 models as support for them becomes available, or you may need more information on controlling a host session. Contact your system administrator or refer to the following reference:

“Yale ASCII Terminal Communication,” System II Program Description/Operator’s Manual (IBM SB30-1911).

TN5250

What is TN5250?

Like Telnet, TN5250 enables the user to access programs running on remote hosts. TN5250 provides the means to access 5250 programs running on IBM midframes.



TN5250 can manipulate the entire screen image, fields and function keys, in a way identical to a 5250 terminal. TN5250 provides the following standard features:

- **Window Menu** – The window menus offer simplicity and ease of use for all setup functions.
- **Color Display** – The color monitor is programmable in seven colors.
- **Row/Column Indicator** – Displays the current cursor location on the operator status row.
- **Multiple Sessions** – A maximum of 10 sessions can be accessed with this emulator.

Setting up a remote host as a 5250 terminal

To setup a remote host:

1. Click the **MTX** button in the lower left-hand corner of the screen. The application menu will appear.
2. Click **TN5250**. The main TN5250 screen will appear with two menu options, **Setup** and **Session**.
3. Click **Setup**.

4. Click **Communications** from the Setup menu. This screen will appear:

- **Session Name** – Enter the name to be displayed in the window title.
- **Host** – Enter the Internet address of the TN5250 server to which you wish to connect, for example, 255.255.XXX.XXX.
- **Port** – If the host requires that a port number (other than port 23) be specified when connecting, select the port number using the up and down arrows or by typing the port in directly.
- **Device Name** – Enter a name for the device or LU name.
- **Auto Connect** – Select to auto connect at program start and to reconnect automatically if disconnected by the server.

Click **OK** to save changes and close Communications Setup, or **Cancel** to close and discard any changes.

Connecting to a TN5250 session

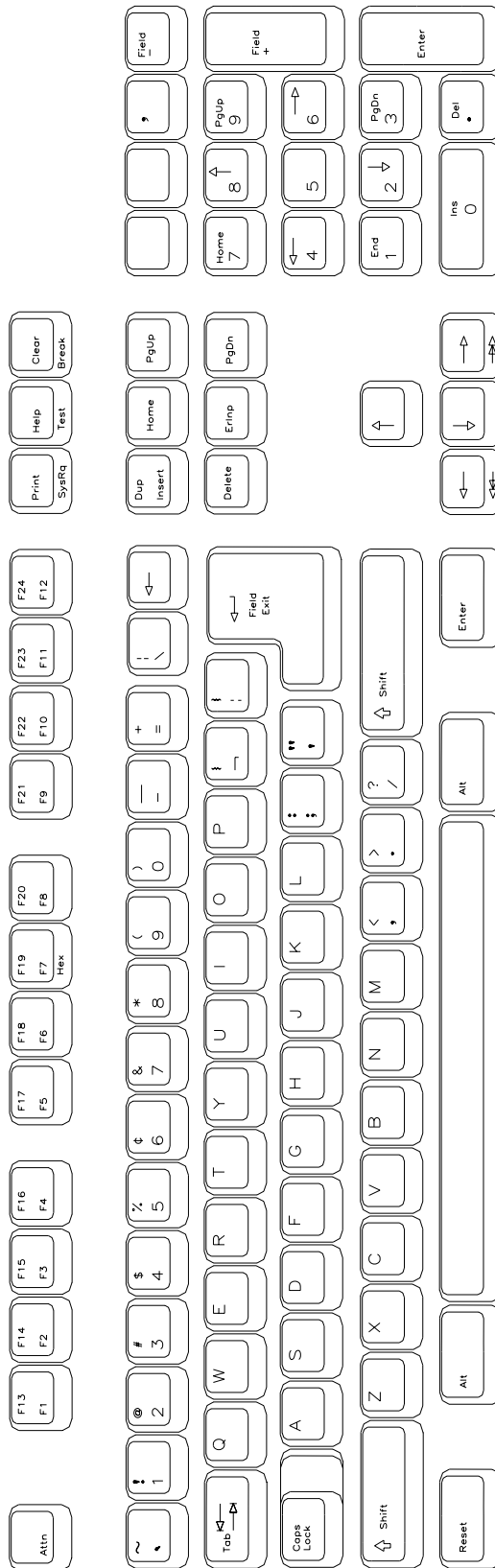
TN5250 will connect to the remote host. The host then will normally respond with a welcome and will lead you through its log in process. Log in, employing one of the following combinations:

- With the userid and password supplied by the administrator of the host
- With just a userid (some hosts do not require passwords)
- Neither, if the remote host has been set up for it.

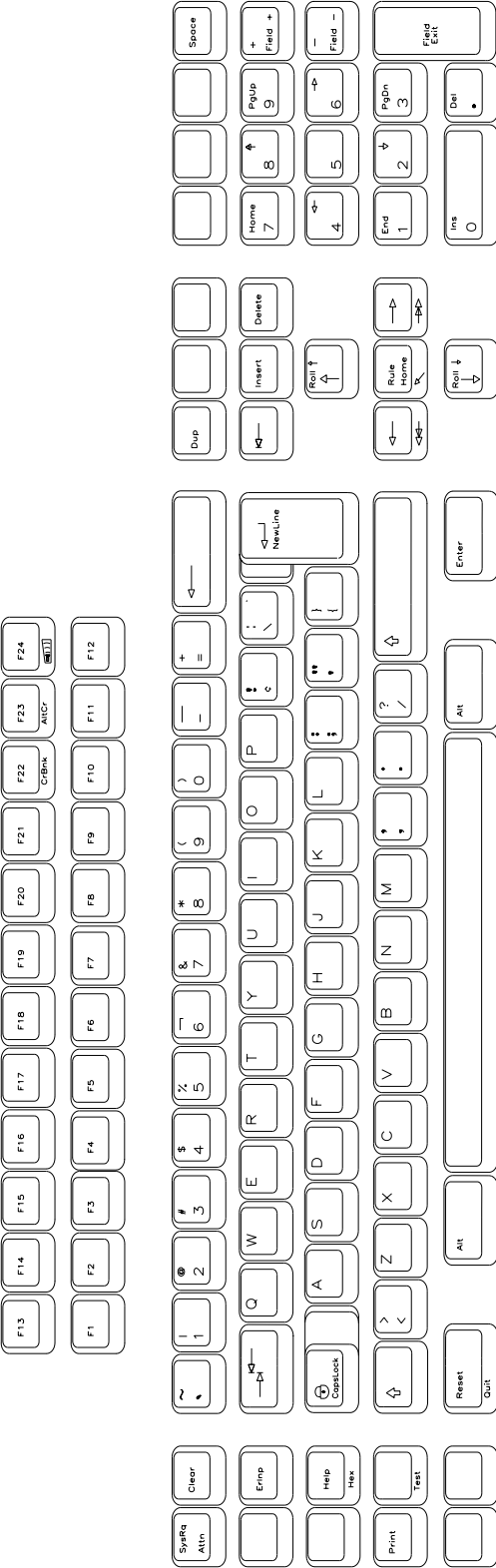
To connect to a TN5250 remote host from the main TN5250 screen:

1. Click **Session** to open the TN5250 Session menu.
2. Click **Connect**.

Once connected, use the menus, commands and features of the remote host to access and run 5250 applications.



TN5250
104-key Keyboard Layout



TN5250
122-key Keyboard Layout

Logging out of a remote host

1. When you have finished using the remote host, use the host's normal log out command.
2. To disconnect from the host, select **Disconnect** from the **Session** menu.

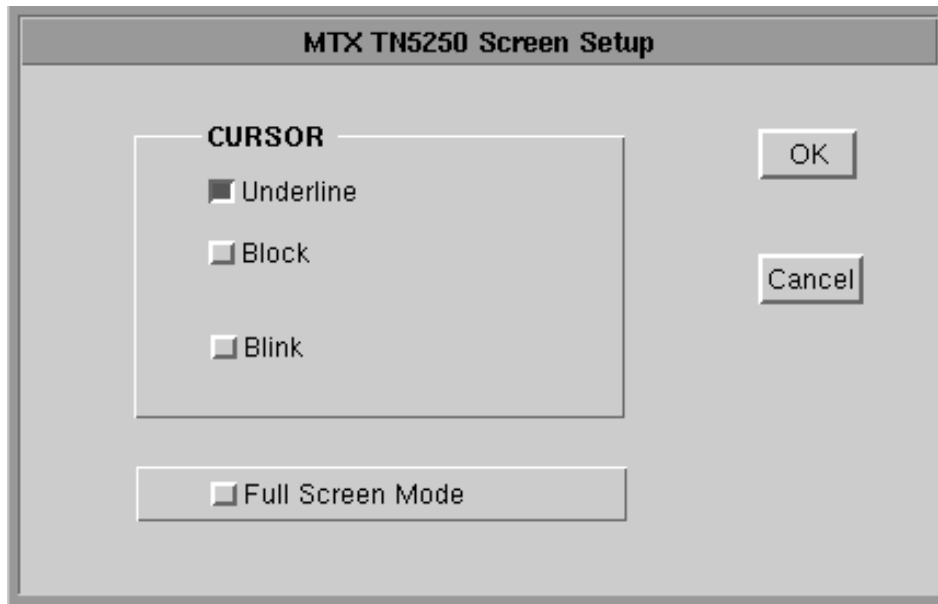
Configuring TN5250 for an application

TN5250 can be configured for a particular application by selecting **Screen**, **Keyboard** or **Color** from the Setup menu.

Screen setup

From the main TN5250 application screen:

1. Click **Setup** to open the TN5250 Setup menu.
2. Click **Screen**.



- **Cursor** – Choose either an underline cursor or a block cursor. Select **Blink** for a blinking cursor.
- **Full Screen Mode** – Select to open the TN5250 application in Full Screen Mode. TN5250 must be closed and reopened for this setting to become effective.



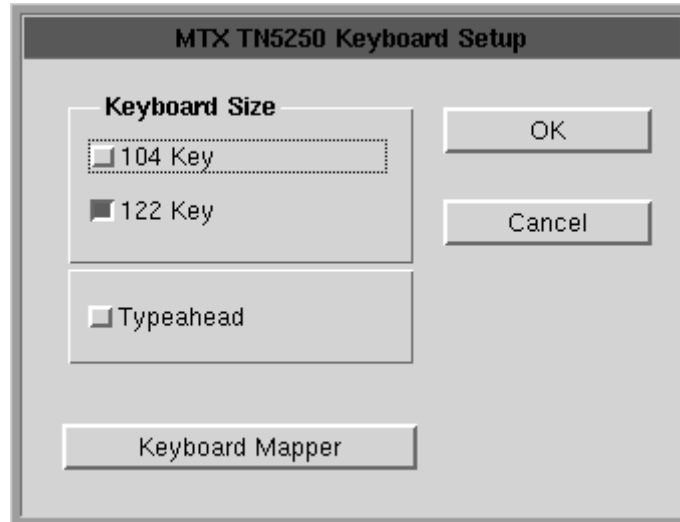
Note: To access the taskbar or minimized applications on the taskbar while Full Screen Mode is in effect, hold down the Ctrl and Alt keys while pressing the tab key. Press the tab key repeatedly until the name of the application you wish to bring to the front is displayed.

Click **OK** to save changes and close Screen Setup, or **Cancel** to close and ignore any changes.

Keyboard setup

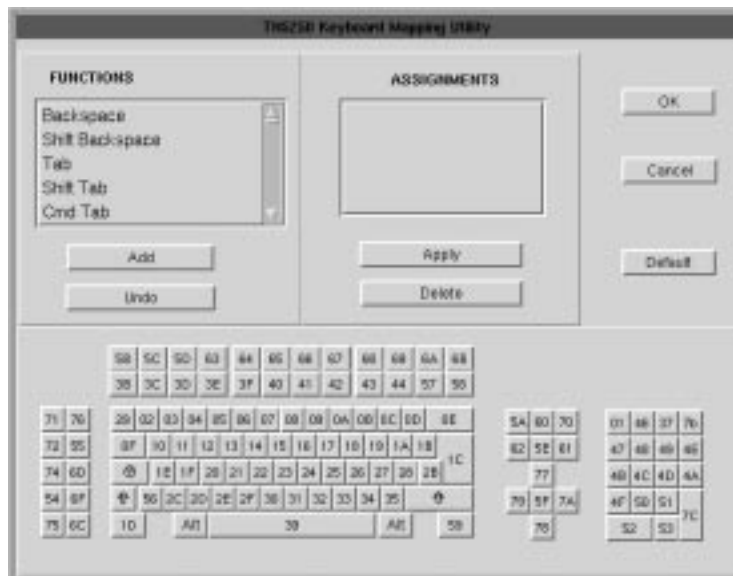
From the main TN5250 application screen:

1. Click **Setup** to open the TN5250 Setup menu.
2. Click **Keyboard**.



- **Keyboard Size** – Select either 104 or 122-key keyboard.
- **Typeahead** – Enable the Typeahead feature.
- **Keyboard Mapper** – The key assignment (mapping) may be verified or changed as necessary for use in TN5250 applications.

Keyboard Mapper




To determine which 1683 key is currently assigned to the key, click the appropriate key in the Functions box and the assigned value will be displayed in the Assignments box.


Alternatively, on the keyboard layout, using the mouse click on the key to which the value needs to be displayed, the key will be displayed in the Functions box and the assigned value in the Assignments box.

To change the key assignment:

1. Using the mouse, click on the key that needs to be changed on the keyboard layout or alternatively, choose the function from the Functions box.
2. Click **Add** below the Functions box.
3. Assign the new assignment required for the key selected. If a key combination is desired, click either the **Shift**, **Control**, or **Shift + Control** buttons.
4. Click **Apply** when satisfied with selection or click **Undo** to reassign.

 **Note:** A function can be applied to multiple 1683 keys. Assigning a function to a key does not unassign it from a previous definition.

5. Click **OK** to save changes and Exit, or **Cancel** to discard changes and exit. To return the key assignments to their default state, click **Default**.

 **Note:** TN5250 application must be closed and restarted for changes to become effective.

Color Setup

From the main TN5250 application screen:

1. Click **Setup** to open the TN5250 Setup screen.
2. Click **Colors**.



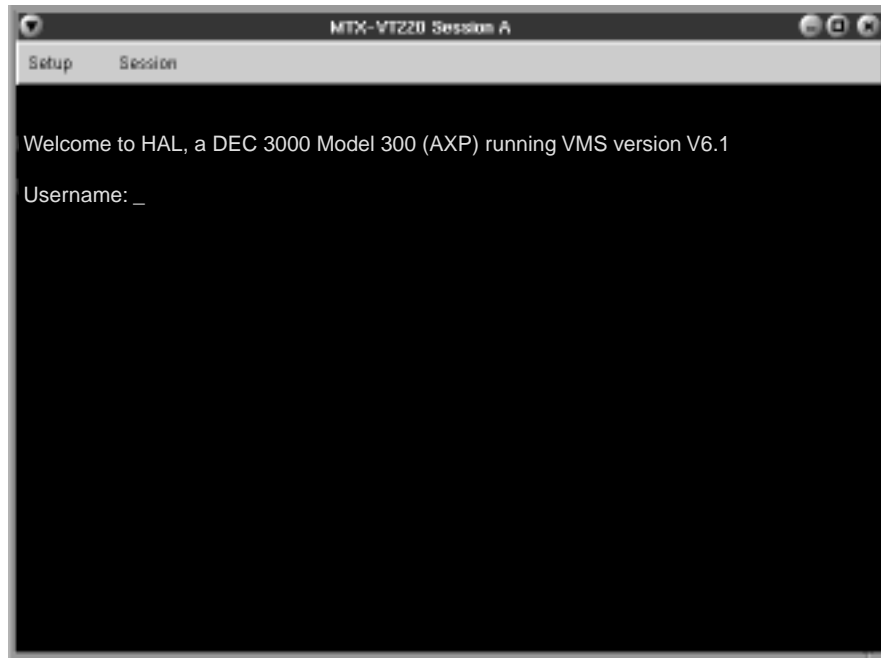
3. Select a color from the Colors list or Background Color. Use any or all of the three slider bars to adjust the selected color.

Click **OK** to save changes and close Color Setup, or **Cancel** to close and discard any changes.

VT220

What is VT220?

Like Telnet, VT220 enables you to access programs running on remote hosts.



VT220 enables the 1683 NCT to function as though it were a standard VT220 display. VT220 provides the following standard features:

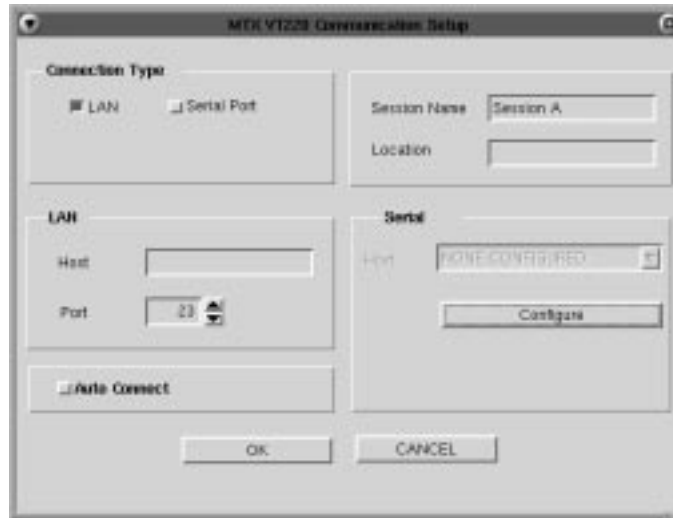
- **Window Menus** – The window menus offer simplicity and ease of use for all setup functions.
- **Color Display** – The color monitor is programmable.
- **Multiple Sessions** – A maximum of 10 sessions can be accessed with this emulator.

Setting up VT220

To setup a remote host:

1. Click the **MTX** button in the lower left-hand corner of the screen. The application menu will appear.
2. Click **VT220**. The main VT220 screen will open with two menu options, **Setup** and **Session**.
3. Click **Setup**.

4. Click **Communications** from the Setup menu. This screen will appear:



- **Connection Type** – Select either a LAN or Serial connection.
- **LAN**
 - **Host** – Enter the Internet address of the VT220 server to which you wish to connect, for example, 255.255.XXX.XXX.
 - **Port** – If the host requires that a port number (other than port 23) be specified when connecting, select the port number using the up and down arrows or by typing the port in directly.
- **Auto Connect** – Select to auto connect at program start-up.
- **Session Name** – Enter the name to be displayed in the window title.
- **Serial** – Select the Baud rate, parity, data bits and stop bits for the serial connection.
- **Configure** – Select to display the Serial Communications Configuration Panel.



Click **OK** to save changes and close Communications Setup, or **Cancel** to close and discard any changes.

Connecting to a VT220 session

VT220 will connect to the remote host. The host then will normally respond with a welcome and will lead you through its log in process. Log in, employing one of the following combinations:

- With the userid and password supplied by the administrator of the host
- With just a userid (some hosts do not require passwords)
- Neither, if the remote host has been set up for it.

To connect to a VT220 remote host from the main VT220 screen:

1. Click **Session** to open the VT220 Session menu.
2. Click **Connect**.

Once connected, use the menus, commands and features of the remote host to access and run VT220 applications.

Logging out of a remote host

1. When you have finished using the remote host, use the host's normal log out command.
2. To disconnect from the host, select **Disconnect** from the **Session** menu.

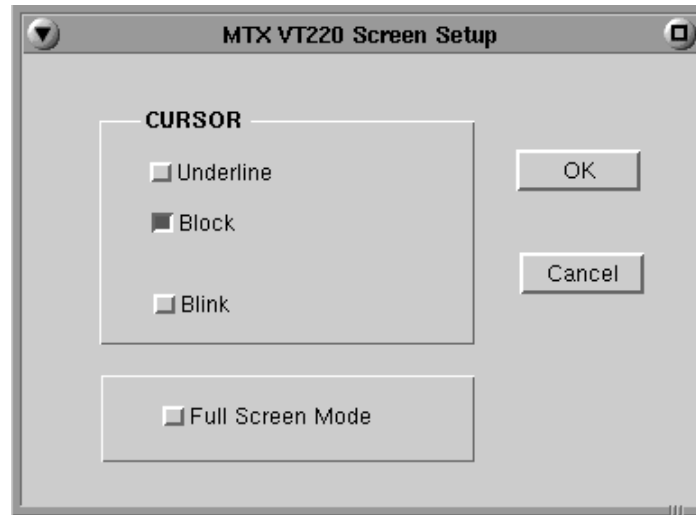
Configuring VT220 for an application

VT220 can be configured for a particular application by selecting **Screen**, **Keyboard** or **Color** from the Setup menu.

Screen setup

From the main VT220 application screen:

1. Click **Setup** to open the VT220 Setup menu.
2. Click **Screen**.



- **Cursor** – Choose either an underline cursor or a block cursor. Select **Blink** for a blinking cursor.
- **Full Screen Mode** – Select to open the VT220 application in Full Screen Mode. VT220 must be closed and reopened for this setting to become effective.



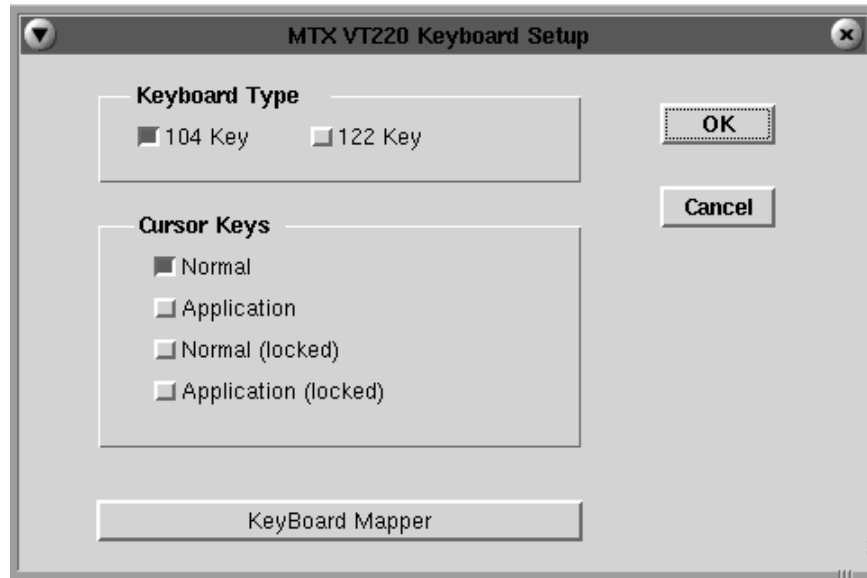
Note: To access the taskbar or minimized applications on the taskbar while Full Screen Mode is in effect, hold down the Ctrl and Alt keys while pressing the tab key. Press the tab key repeatedly until the name of the application you wish to bring to the front is displayed.

Click **OK** to save changes and close Screen Setup, or **Cancel** to close and discard any changes.

Keyboard setup

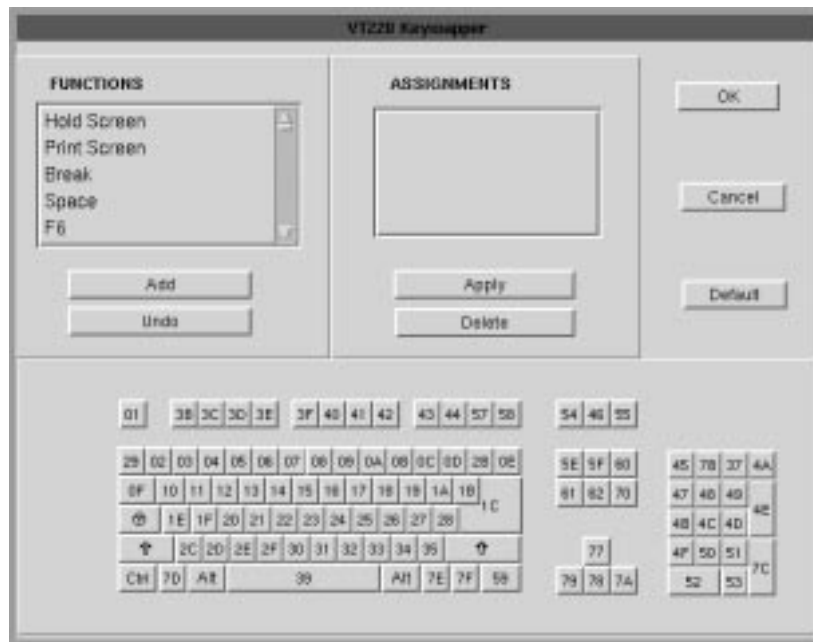
From the main VT220 application screen:

1. Click **Setup** to open the VT220 Setup menu.
2. Click **Keyboard**.



- **Keyboard Type** – Select either 104 or 122-key keyboard.
- **Cursor Keys**
 - **Normal** – Use normal cursor key escape sequences.
 - **Application** – Uses application cursor key escape sequences. The keypad generates application control sequences.
 - **Normal (locked)** – Uses normal cursor key escape sequences. The application cannot override the defined value.
 - **Application (locked)** – Uses application cursor key escape sequences. The application may not override the defined value.

- **Keyboard Mapper** – The key assignment (mapping) may be verified or changed as necessary for use in VT220 applications.



To determine which 1683 key is currently assigned to the VT key, click the appropriate VT key in the Functions box and the assigned value will be displayed in the Assignments box. Alternatively, on the keyboard layout, using the mouse click on the key to which the value needs to be displayed, the key will be displayed in the Functions box and the assigned value in the Assignments box.

To change the key assignment:

1. Using the mouse click on the key that needs to be changed on the keyboard layout or alternatively, choose the function from the Functions box.
2. Click **Add** below the Functions box.
3. Assign the new assignment required for the key selected. If a key combination is desired, click either the **Shift**, **Control**, or **Shift + Control** buttons.
4. Click **Apply** when satisfied with selection or click **Undo** to reassign.



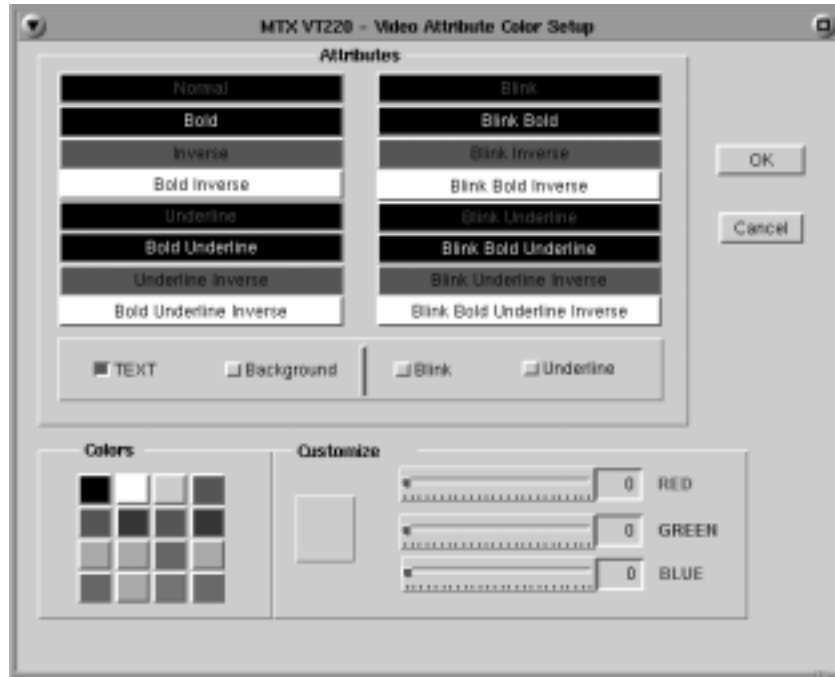
Note: A function can be applied to multiple 1683 keys. Assigning a function to a key does not unassign it from a previous definition.

5. Click **OK** to save changes and Exit, or **Cancel** to discard changes and exit. To return the key assignments to their default state, click **Default**.

Color setup

From the main VT220 application screen:

1. Click **Setup** to open the VT220 Setup screen.
2. Click **Colors**.



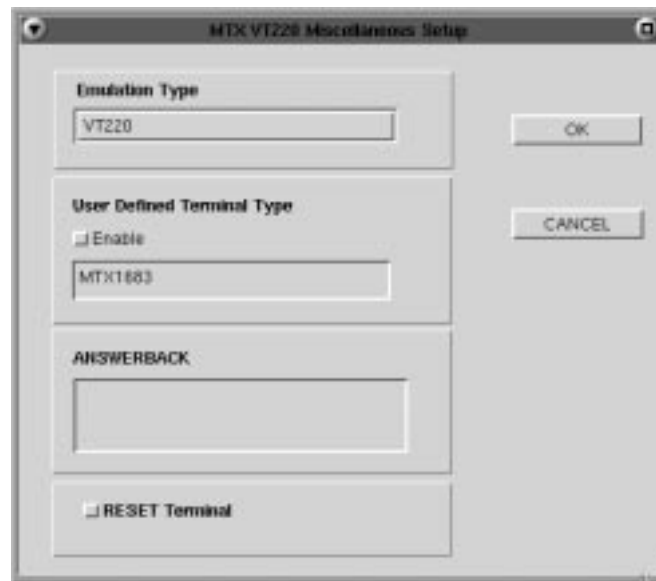
To change the text or background color in VT220 applications:

1. Click either the **Text** or **Background** button.
2. Click the Attribute to be changed. The current color will appear in the Customize box.
3. Change the color by clicking one of the 16 color blocks, or customize the color by using the sliders. The colors in the attribute block will change accordingly.
4. Click **Blink** and/or **Underline** to apply to the selected attribute.
5. Click **OK** to save changes and exit, or **Cancel** to discard changes and exit.

Miscellaneous setup

From the main VT220 application screen:

1. Click **Setup**.
2. Click **Miscellaneous**. The VT220 Miscellaneous Setup screen is shown below:



- **Emulation Type** – Displays emulation type to be used (only VT220 currently supported)
 - **User Defined Terminal Type** – Terminal type string sent to the host.
 - **ANSWERBACK** – Enter the Answerback string.
 - **RESET Terminal** – Select to reset the Emulator.
3. Click **OK** to save changes and exit, or **Cancel** to discard changes and exit.

Printer setup

From the main VT220 application screen:

1. Click **Setup**.
2. Click **Printer**.



Select either **Local** or **LPR** printing. If using LPR, select the appropriate printer from the list of configured LPR printers.

Chapter 9

TN3270/TN5250 Keyboard Macros

In this Chapter...

Keystroke Record/Playback

Storing Keystroke Sequences

Playing Keystroke Sequences

Removing Keystroke Sequences

Advanced Feature Set: Pauses

Advanced Feature Set: Delays

Advanced Feature Set: Playback Speed

Special Notes

Keystroke Record/Playback

The Keystroke Record/Playback function enables you to reduce the number of keystrokes required for a frequently repeated entry such as a logon sequences. Unique keystroke sequences can be stored for each of the 24 Function keys on the keyboard. The entered keystroke sequences are stored in nonvolatile memory, which means that the data is retained even if the power is turned off.



Note: There is a 7000 key limit on the length of each macro.

Storing Keystroke Sequences

Figure 1	TN3270 122 key keyboard
Figure 2	TN3270 104 key keyboard
Figure 3	TN5250 122 key keyboard
Figure 4	TN5250 104 key keyboard

Follow the steps below to store macros:

1. Press the **Record** key (See figures 1 - 4).
2. Press the F or PF key you wish to be associated with the macro. Any key other than an F or PF key will exit from macro record mode. If the key pressed to exit macro record mode was anything other than Quit, there will be a beep to alert you of the (possibly unintentional) cancellation.
3. Type the keys to be associate with the macro.
4. Press the **Record** key to save the macro and exit macro record mode. Press **Quit** key to abandon the macro and exit record mode.



Caution: To avoid inadvertently recording over a macro, once you press the **Record** key and then select the F or PF key to be associated with a macro, be sure to note the number of keys already associated with the macro. This number will be displayed on the status line. If there is no macro associated with F or PF, the number of keys will be displayed as zero. If you do not wish to record over this macro press the **Quit** key and you will exit record mode.

Playing Keystroke Sequences

Follow the steps below to initiate macros:

1. Press the **Play** key (See figures 1 - 4).
2. Press the F or PF key associated with the macro you wish to recall. Any key other than an F or PF key will exit from macro play mode. If the key pressed to exit macro play mode was anything other than Quit, there will be a beep to notify you of the (possibly unintentional) cancellation.
3. The macro will be automatically recalled.
4. The macro will automatically terminate once all keys have been played. If you desire, the macro may be terminated at any point by pressing the **Quit** key.

Removing Keystroke Sequences

Follow the steps below to remove macros:

1. Press the **Record** key (See figures 1 - 4).
2. Press the F or PF key associated with the macro you wish to remove. Any key other than an F or PF key will exit from macro record mode. If the key pressed to exit macro record mode was anything other than Quit, there will be a beep to notify you of the (possibly unintentional) cancellation.
3. Press the **Record** key to delete the macro and exit record mode. Press the **Quit** key to abort and exit macro record mode with no changes made.

Advanced Feature Set: Pauses

There are certain key sequences, such as a logon password, that a user may wish to exclude from a macro. At any point while recording a macro key sequence, the **Pause** key (see figures 1 - 4) may be pressed to temporarily suspend record mode. The keystrokes from this point forward will not be recorded within the macro until macro record mode is resumed by pressing the **Record** key. The **Quit** key will abandon the macro, even while macro record is paused.

If the **Pause** key is pressed while in macro record mode, besides suspending recording, it will be embedded within the macro and cause the macro to pause automatically each time it is played back.

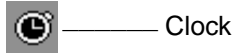
While playing back a macro the **Pause** key may be pressed to temporarily suspend the macro. At this point you may type in normal mode. Pressing the **Play** key will resume the macro. The **Quit** key will abandon the macro and return you to normal mode, even while macro play is paused.



Note: It is important to note that a Pause key may be embedded within a macro as mentioned in the paragraph above. If a macro pauses because of an embedded Pause key, a Play key is still required to resume the macro or a Quit key to terminate it. There is no key combination that will permanently alter the functionality of a macro while in macro play mode.

Advanced Feature Set: Delays

Delays can be automatically introduced while in Input Inhibit mode. Input Inhibit (clock) will hold playback until released by host. Only **Quit** is permitted while the clock is displayed. If delays are desired at other times, the **Delay** key (see figures 1 - 4) may be pressed while in macro record mode to embed an approximately one second delay within the macro. Multiple Delay keys may be combined to extend the length of the delay.



Advanced Feature Set: Playback Speed

Follow the steps below to change the default playback speed:

1. Press the **Speed** key (see figures 1 - 4) while in normal mode.
2. Press the number associated with the new global playback speed. Valid numbers range from “1”, slowest, to “9”, fastest. Any key other than a “1” through “9” will exit from set playback speed mode. There will be a beep to notify you of the (possibly unintentional) cancellation.

Macro playback speed can be varied on a macro by macro basis by embedding **Speed** keys within the macro. These **Speed** keys do not change the default playback speed, only the current playback speed within the current emulator session.

The special speed “0” becomes valid while in macro record mode. The “0” speed changes the speed back to the default speed. A Speed “0” is automatically embedded at both ends of a macro at the time it is created.

Playback speeds range between five and twenty-five characters per second with Speed “1” being the slowest and Speed “9” being the fastest.

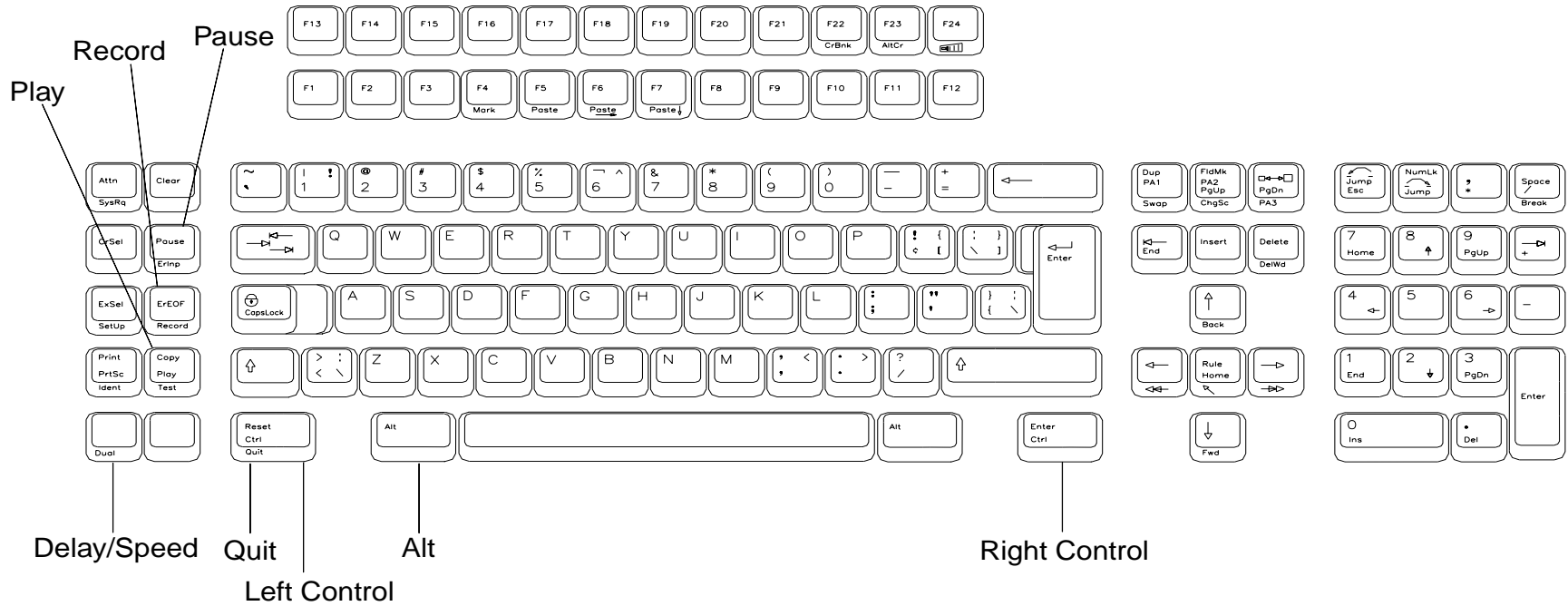
Special Notes

To allow a macro to run in the background while you switch to another application, use the **Alt-Right Ctrl-Tab** keys on the 122/104 key keyboard to prevent an accidental Quit key from terminating macro modes. If the **Alt-Right Ctrl-Tab** keys are used, the emulator macro modes will not be affected. Upon return to the emulator the macro modes will be exactly as they were before switching tasks.

When key sequences are added, deleted or edited, the file storage area is updated as necessary to avoid gaps in the available storage area. There is a 7000 key limit on the length of each macro.

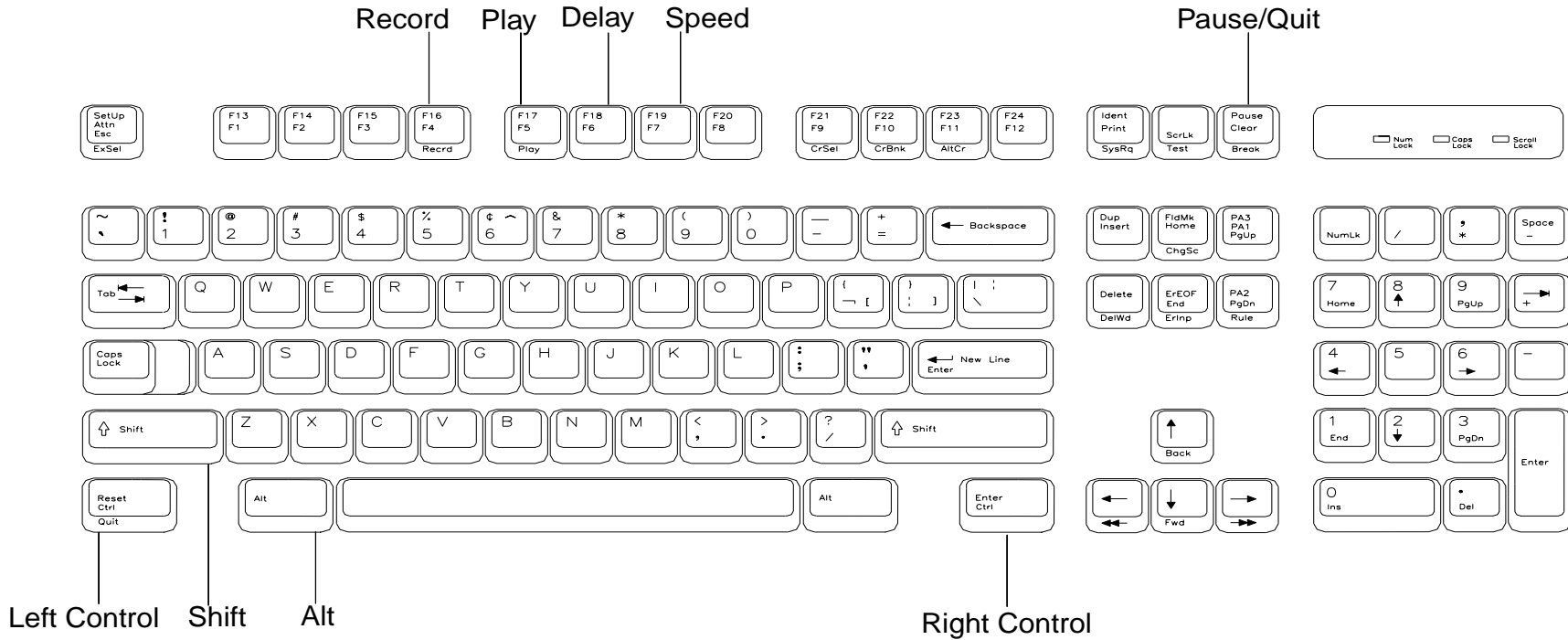
Macros are independent of both keyboard and keyboard mapping. This allows stored key files to be retrieved and sent to other 1683's via FTP even if both machines do not use the same style keyboard or special keyboard mappings are in place on one or both of the machines.

Sessions within the same emulator will use the same set of macros. They will playback independently, but if you record and save a macro in one session, that macro is changed for all sessions.



- | | |
|-----------------------|---|
| Macro Function Record | Corresponds to Key: "ALT-Record" |
| Macro Function Play | Corresponds to Key: "Play" |
| Macro Function Pause | Corresponds to Key: "Pause" |
| Macro Function Quit | Corresponds to Key: "ALT-Quit" |
| Macro Function Delay | Corresponds to Key: "ALT-Speed" |
| F1, F2...F24 | Correspond to Keys: "F1", "F2"... "F24" |

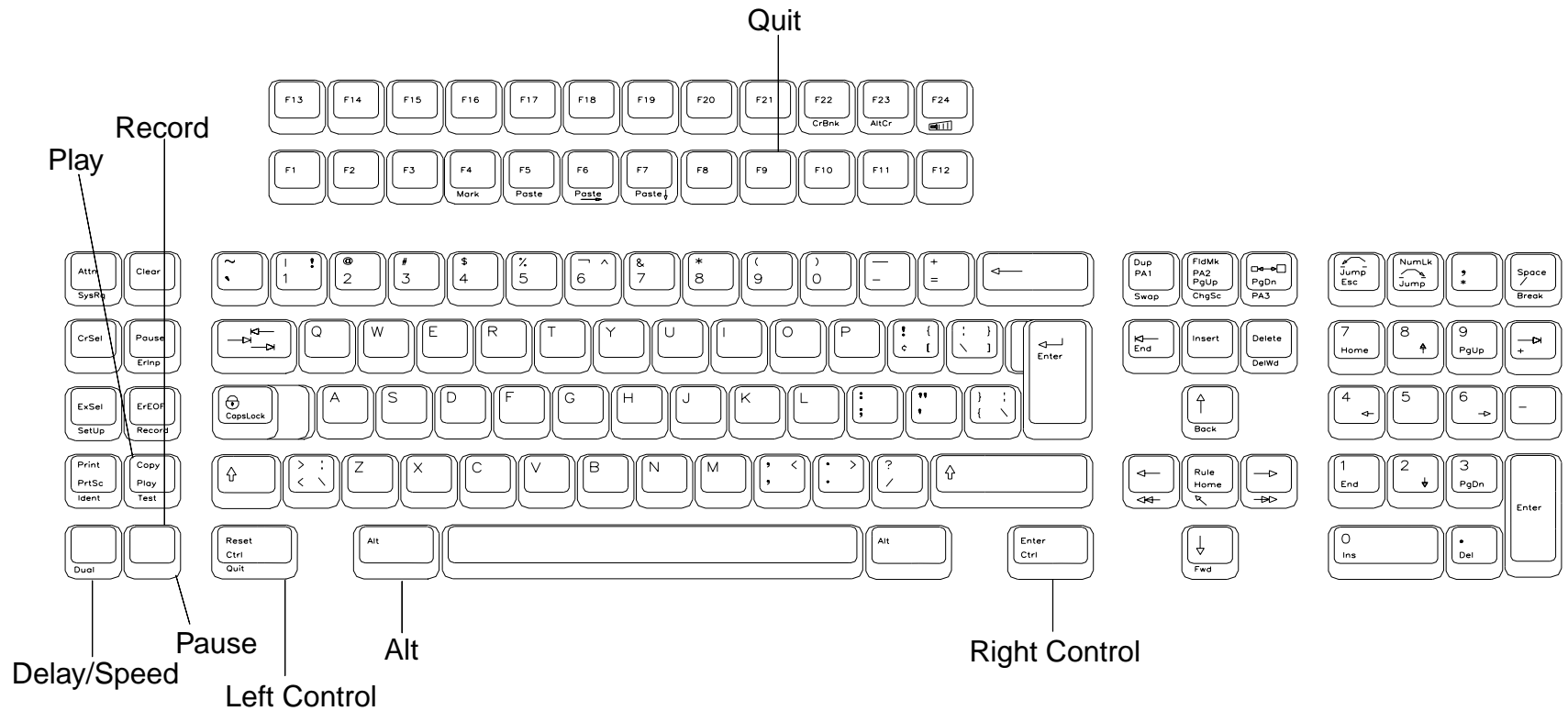
Figure 1. 3270 122-Key Keyboard



Macro Function Record
 Macro Function Play
 Macro Function Pause
 Macro Function Quit
 Macro Function Delay
 Macro Functions F1, F2...F12
 Macro Function Speed
 F12, F13...F24

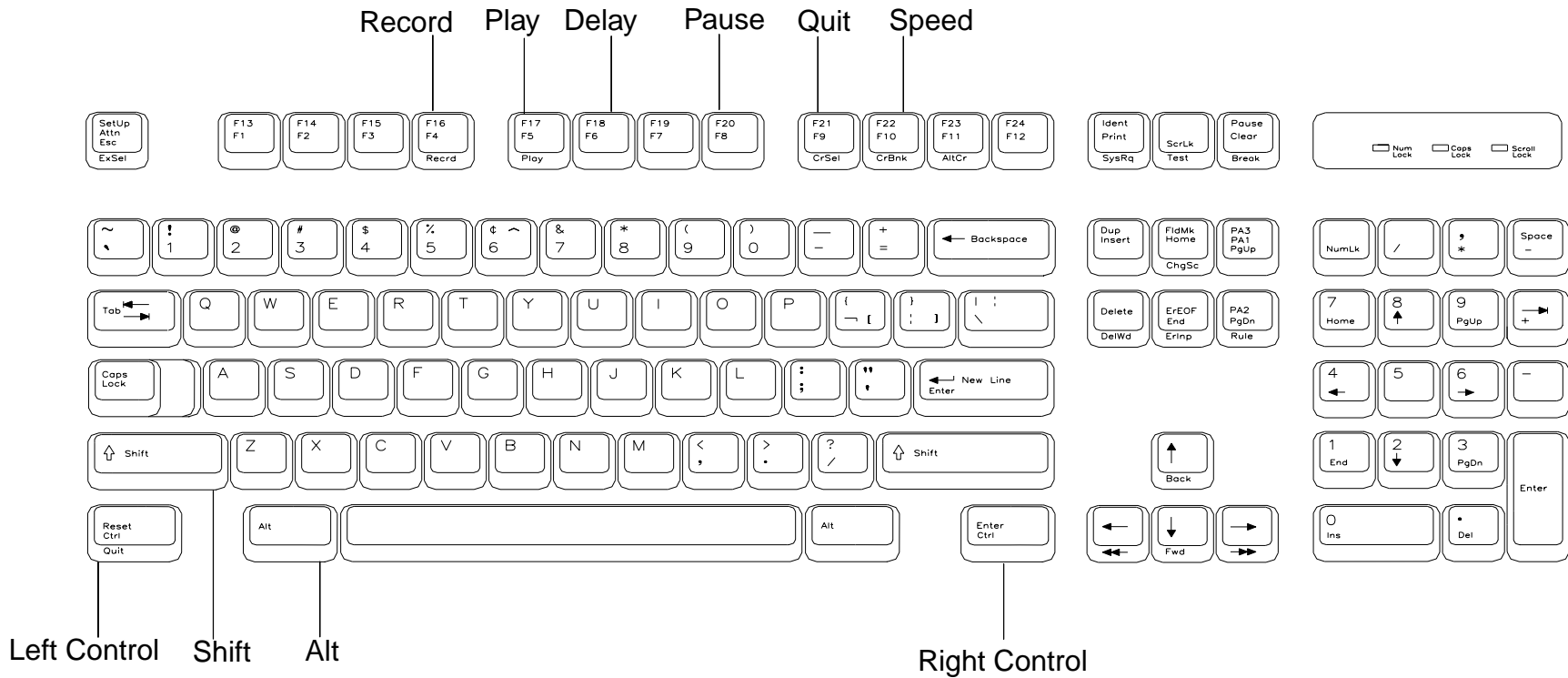
Corresponds to Key: **"ALT-Record"**
 Corresponds to Key: **"ALT-Play"**
 Corresponds to Key: **"SHIFT-Pause"**
 Corresponds to Key: **"ALT-Quit"**
 Corresponds to Key: **"ALT-Delay"**
 Correspond to Keys: **"F1", "F2"... "F12"**
 Corresponds to Key: **"ALT-Speed"**
 Correspond to Keys: **"SHIFT-F1", "SHIFT-F2" ...SHIFT-F12"**

Figure 2. 3270 101/104-Key Keyboard



- | | |
|-----------------------|---|
| Macro Function Record | Corresponds to Key: "ALT-Record" |
| Macro Function Play | Corresponds to Key: "Play" |
| Macro Function Pause | Corresponds to Key: "Pause" |
| Macro Function Quit | Corresponds to Key: "ALT-Quit" |
| Macro Function Delay | Corresponds to Key: "ALT-Delay" |
| Macro Function Speed | Corresponds to Key: "ALT-Speed" |
| F1, F2...F24 | Correspond to Keys: "F1", "F2"... "F24" |

Figure 3. 5250 122-Key Keyboard



Macro Function Record
 Macro Function Play
 Macro Function Pause
 Macro Function Quit
 Macro Function Delay
 Macro Functions F1, F2...F12
 Macro Function Speed
 F12, F13...F24

Corresponds to Key: **"ALT-Record"**
 Corresponds to Key: **"ALT-Play"**
 Corresponds to Key: **"SHIFT-Pause"**
 Corresponds to Key: **"ALT-Quit"**
 Corresponds to Key: **"ALT-Delay"**
 Correspond to Keys: **"F1", "F2"..."F12"**
 Corresponds to Key: **"ALT-Speed"**
 Correspond to Keys: **"SHIFT-F1", "SHIFT-F2"..."SHIFT-F12"**

Figure 4. 5250 101/104-Key Keyboard

Chapter 10

Accessing your intranet and the Internet

In this Chapter...

Configuring Voyager Browser

Basic browsing

Using hotlists

Printing

The 1683 NCT allows connecting to the Internet in four different ways: via Coax, Ethernet, Token Ring, and the Serial Port. Your system administrator will have taken care of the physical connection when installing the network terminal.

The Voyager browser is a lightweight Web browser optimized for non-PC devices. Voyager can help manage access to your organization's intranet as well as to the Internet.

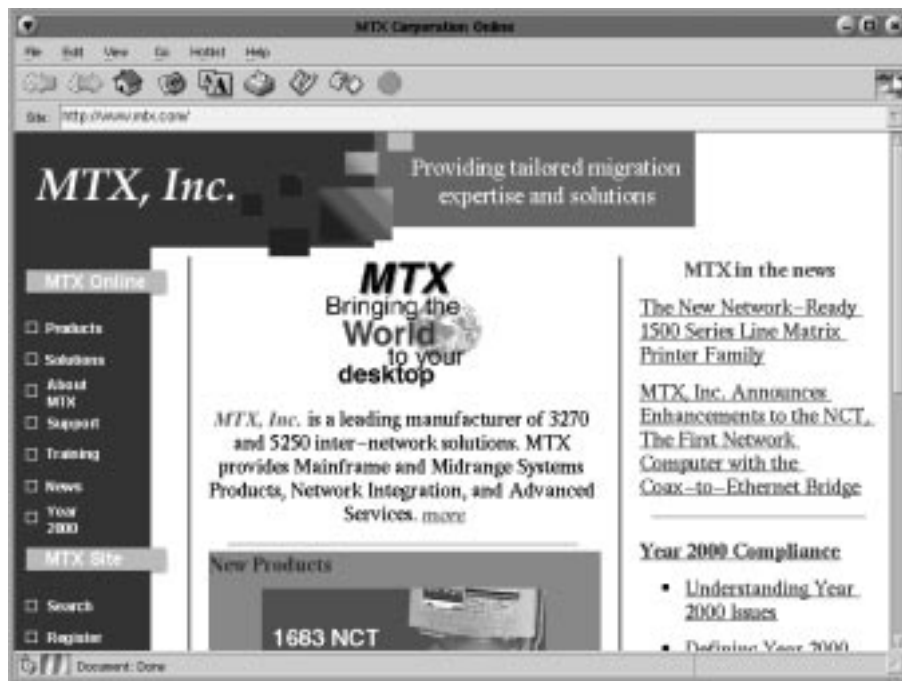
Configuring Voyager Browser

In Voyager, you can configure parameters such as:

- Memory caching
- General information, such as your home page
- Font and color display

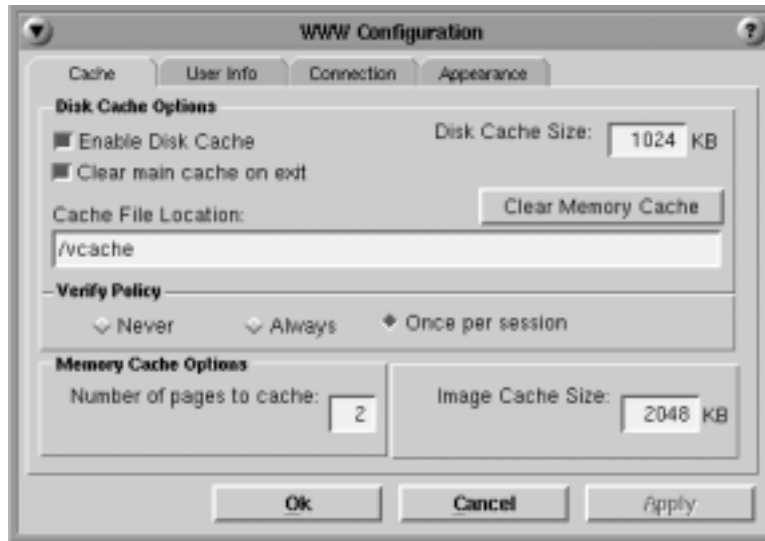
To access the configuration screens for Voyager browser:

1. Click the **MTX** button in the lower-left corner of the screen.
2. Select **Voyager** from the application menu. The Voyager browser window will open:



3. Click **File** on Voyager's Toolbar menu.
4. Click **Voyager Configuration**. The WWW Configuration dialog box will appear.

Cache tab



- **Enable Disk Cache** – Allows internet pages to be stored in the cache for faster retrieval.
- **Disk Cache Size** – Specify the amount of space used for the disk cache.
- **Clear main cache on exit** – The disk cache will be cleared each time Voyager is closed.
- **Clear Memory Cache** – Clears the memory cache immediately.
- **Cache File Location** – This field is informational only and cannot be changed.
- **Cache Verify Policy**
 - **Never** - Voyager never verifies the web page in the cache with the Internet; it always retrieves the page from the cache.
 - **Always** - Voyager always downloads the web page from the Internet, even if it is already stored in the cache.
 - **Once per session** - Voyager will check once during each session to see if a web page on the Internet has changed from the page stored in the cache.



Note: Voyager does not update the files on your network (that is, if you typed *file* in the Site input field instead of *http*). If a file has been changed, click **Reload** to see the updated version.

- **Number of pages to cache** – Specify the number of pages to store in the memory cache. The default is 2. Voyager will run faster if a large number of web pages are cached; however, increasing the number of cached pages will use more memory.

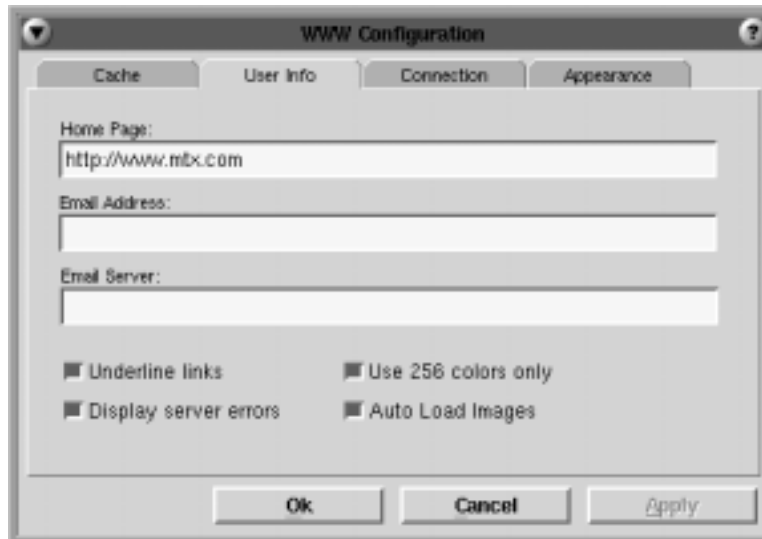
- **Image Cache size** – Specify the maximum cache size for images that are to be held in the cache. The default is 1024KB for full; 512KB for compact. Recommended sizes are:
 - 512KB for a memory-constrained environment
 - 1024KB for 256 Color
 - 2048KB for High Color or True Color

The image cache holds all images rendered to the screen. If web pages are loading with images not displayed, or you have a high-color monitor graphics driver running and the “Use 256 colors only” button is disabled, the image cache size may need to be increased.



Note: The cache file directory is cleared when Voyager Browser is closed. Your system administrator can advise you on setting these options.

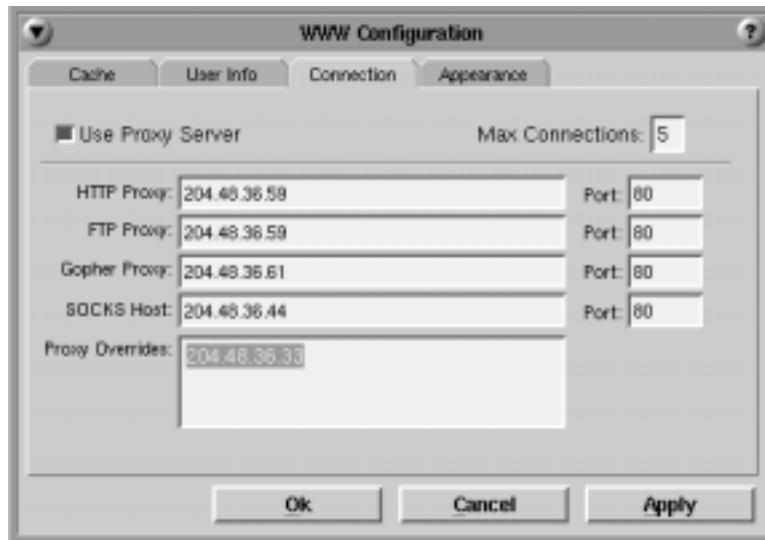
User Info tab



- **Home Page** – Enter the complete URL of the web page to be loaded each time Voyager is started. This field may also be left blank to avoid loading any page. Voyager must be restarted for the change to become effective.
- **Email Address** – Enter your e-mail address.
- **Email Server** – Enter the IP address of your SMTP server – for example, quics.qnx.com or 10.0.0.222.
- **Underline links** – Enable if the links on web pages should be underlined.
- **Display server errors** – Enable if error pages should be generated by the host server.
- **Use 256 colors only** – Display web graphics using 256 colors only (instead of High Color or True Color).
- **Auto Load Images** – Select to automatically load and display HTML images on a given page.

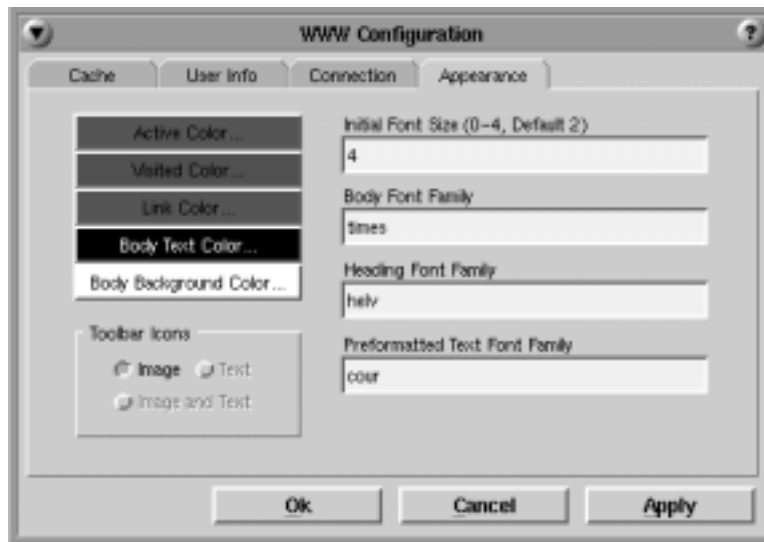
Connection tab

Use the Connection tab to set up network addresses needed by Voyager:



- **Use Proxy Server** – Enable if a proxy server is used for HTTP, FTP Gopher, or if a SOCKS host is used to connect to the Internet. Enter the IP address of the proxy server(s) in the appropriate field. Enter the port number in the adjacent field.
- **Max Connections** – Enter the maximum number of connections to the Internet allowed at one time.
- **Proxy Overrides** – Enter the addresses of computers that should not go through the proxy server(s). The wildcard character “ * ” may also be used in the override field.

Appearance tab

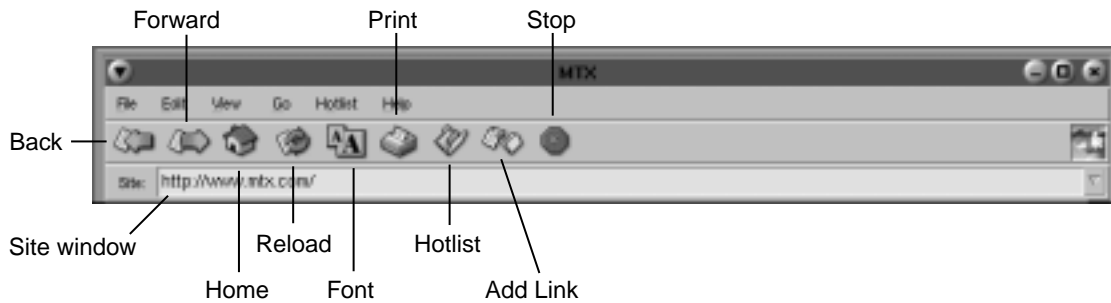


Use the Appearance tab to customize the following options:

- **Fonts**
 - **Initial Font Size:** May be 0-4, with 0 the smallest and 4 the largest. The default is 2.
 - **Body Font Family:** Font used to display the web page text.
 - **Heading Font Family:** Font used to display the headings on a web page with HTML header tags H1 to H6.
 - **Preformatted Text Font Family:** Font used to display text formatted with the HTML header tag <PRE>.
 - **Colors**
 - **Active Color:** Color of the currently selected link.
 - **Visited Color:** Color of links to pages you have already visited.
 - **Link Color:** Color of links that are neither active nor visited.
 - **HL Color:** Cut and paste highlight color.
 - **Body Text Color:** Paragraph text color.
 - **Body Background Color:** Color of background behind text.
- Clicking any of the color attribute blocks listed above will open the Color Selector; the color of the selected attribute can be changed by using the Hue, Saturation, and Brightness sliders.
- **Toolbar Icons**
 - **Image:** Display Toolbar icons using images only.

Basic browsing

Toolbar icons



- **Back:** Display the previous page.
- **Forward:** Move forward one page (if **Back** has been used at least once).
- **Site Window:** Displays the URL of the currently loaded page.
- **Home:** Return to the home page (if designated in Voyager configuration).
- **Reload:** Retrieve the complete page if data transfer was stopped.
- **Font:** Increase or decrease the size of the font.
- **Print:** Print the currently displayed page.
- **Hotlist:** Open the Hotlist dialog box.
- **Add Link:** Add the URL of the currently displayed page to Voyager's Hotlist.
- **Stop:** Stop the retrieval of the currently loading page.

Browsing the Internet

To travel the Internet, enter the URL address (such as `http://www.mtx.com`) in the Site window and press the Enter key. Or, from the File menu:

1. Select the **Open Site... (URL)** item; the Goto Site (URL) dialog box appears.
2. Enter the URL in the window and click **Open**.



Note: Entering “http://” as part of the URL is optional - it is appended automatically.

Stopping data transfer

A data transfer operation (an upload or download, a search, retrieving a Web page or media, etc.) may be stopped at any time by clicking the **Stop** button icon on the toolbar. The portion of the page that was transferred prior to the Stop operation remains in the Voyager window. Any links displayed in the partially transferred page are usable.

Refreshing the current page

If data transfer was stopped before the page finished loading, the complete page can be retrieved by clicking the **Reload** button or by choosing the **Reload** item from the View menu. This can also be used to update pages that may have been changed since being stored in the cache.

Going backward and forward

The **Back** button on the toolbar displays the previous document; click the **Forward** button to move forward one page (only if the **Back** button has been used at least once). **Back** and **Forward** can also be selected from the Go menu.

Returning to your home page

To return to your home page at any time, click the **Home** button on the toolbar or choose **Home** from the Go menu.

Finding text

To find specific text:

1. Open the Search dialog box by choosing **Find in Document** from the Edit menu.
2. Type the text that you want to find in the Search For: window.
3. If required, you can toggle the option boxes to:
 - start the search at the top of the page
 - search backwards
 - turn off text case-sensitivity
4. Click **Find**. To search for additional instances of the same text, click **Find Again**.

Changing the size of the font

The font size may be increased and decreased by clicking the **Font** button on the toolbar. Clicking this button repeatedly will toggle through the 5 available font sizes. The font size may also be changed by selecting **Increase Font** or **Decrease Font** from the **View** menu.

Viewing history

Voyager keeps a running list of places that were visited during your sessions. To revisit one of those sites, choose **History List** from the Go menu. Double click the title of the site that should be reopened.

Using hotlists

Hotlists

Use the Hotlist to keep track of your favorite sites and to go to a site without typing its URL. When a link is added to Voyager's Hotlist, the title and URL of the site will be saved.

Adding sites to Hotlist

To add a shortcut for the current page click on the **Add Link** icon on the toolbar or:

1. Open the Hotlist dialog box by selecting **Hotlist** from Voyager's toolbar menu.
2. From the dropdown menu, click **Add to Hotlist**. The item will be added to the Hotlist screen and will also be available from the Hotlist dropdown menu.

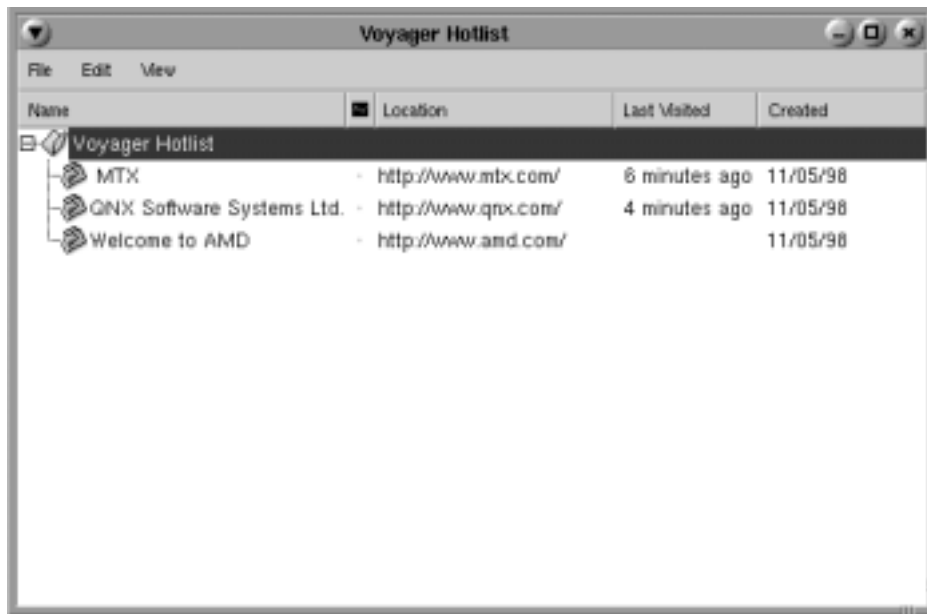


Note: The Hotlist uses Flash file space that may be in limited supply.

Viewing hotlists

To go to a site that has been added to the Hotlist, click the **Hotlist** button on the Toolbar menu and select the site from the dropdown menu. The site may also be selected from the Hotlist dialog box as follows:

1. Select **Hotlist** from the Toolbar menu.
2. Click **Edit Hotlist...** The Hotlist dialog box will be displayed:



3. Double-click the title of the site that you wish to visit, or click **Load Link** from Hotlist's View menu.

Deleting sites from the hotlist

To delete site addresses that are no longer required:

1. Open the Hotlist dialog box.
2. Select the line to be deleted.
3. Click the Delete key or select **Delete** from Hotlist's Edit menu.

Printing

The currently displayed Web page can be printed by clicking the **Print** button on the toolbar or by selecting **Print** from the File menu. Printer Setup can also be accessed from the File menu.

Chapter 11

Using personal productivity tools

In this Chapter...

NCT Mail

Message Pad

DayMinder

Calculator

Snapshot

Dial-up connection

NCT Mail

1683 NCT Mail provides an easy-to-use way to send and receive e-mail (electronic mail).

Starting NCT Mail

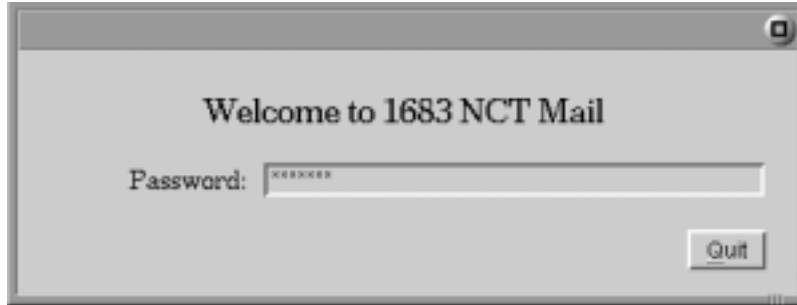
Start NCT Mail by performing the following actions:

1. Click the **MTX** button (located at the lower left-hand corner of the screen).
2. Select **Email** from the application menu. If password protection was not selected during configuration, the NCT Mail window will open.



Note: If NCT Mail was not configured by your system administrator prior to opening the application for the first time, a configuration screen will appear. See Chapter 11: *Configuring NCT Mail* for configuration details.

If password protection was selected during configuration, the “Welcome” screen (shown below) will appear.



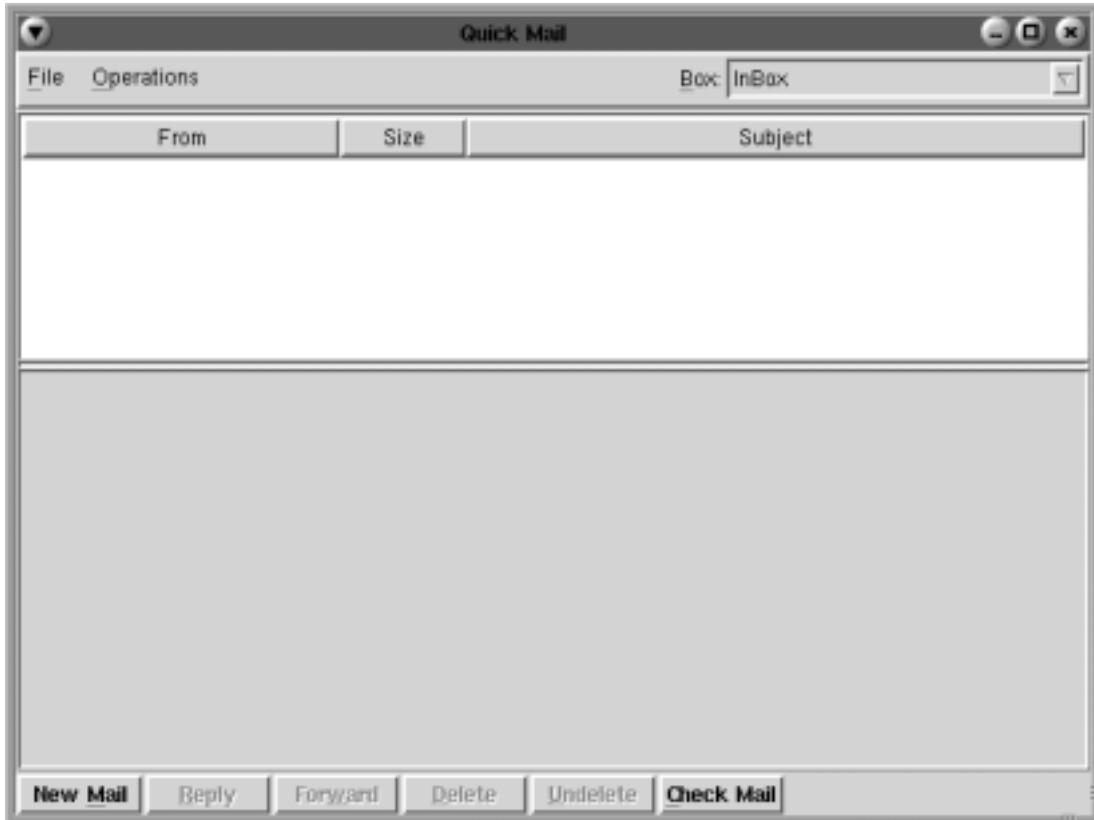
1. Enter your password in the dialog box.
2. Press Enter on the keyboard. The NCT Mail window will appear.



Note: To setup or change the password, see Chapter 11: *Configuring NCT Mail*.

Checking for - and reading - your mail

To check for mail addressed to you, click the **Check Mail** button in the 1683 NCT Mail menu bar at the bottom of the screen or select **Check Mail** from the Operations menu.



A list of incoming mail messages will be presented in the top part of the display, with the name of the sender, the subject, and the size of the message.

To read a message

Double-click anywhere on the message information. The sender's message will be displayed in the Message Area. The header information may be displayed by resizing the area between the 2 horizontal bars above the message area.

Replying to and forwarding mail

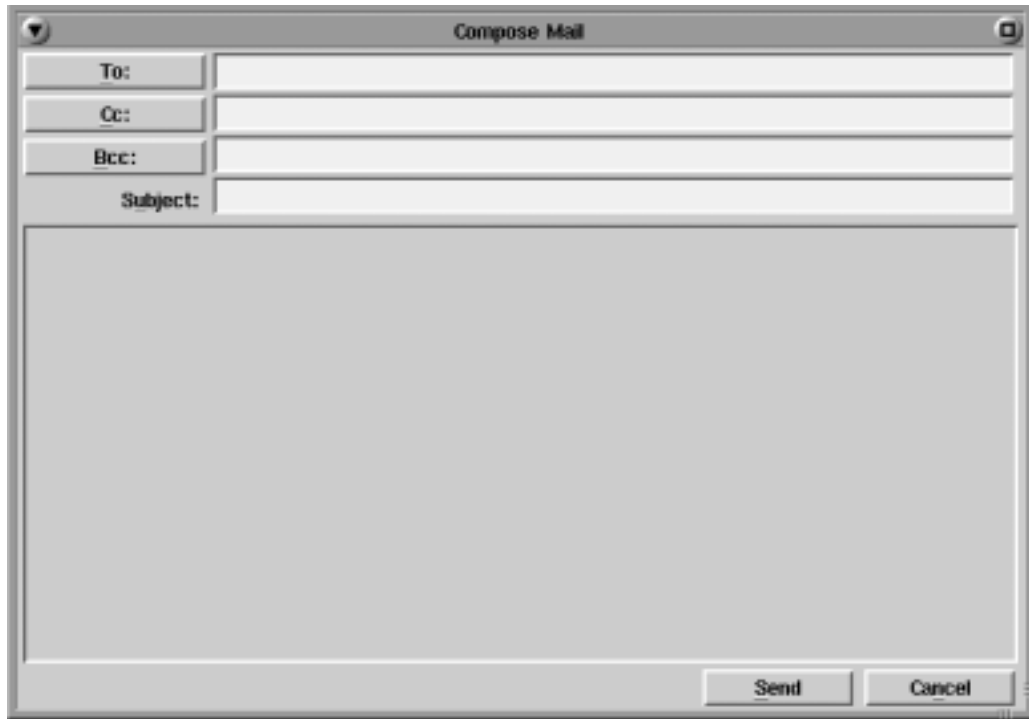
With the message you wish to reply to displayed in the message area, click the **Reply** button at the bottom of the window. Follow the directions for sending new mail (page 9-4) to reply to a received message.

To forward a message you have received:

1. Click the **Forward** button.
2. Fill in the address of the person to whom you are forwarding the message.
3. Click **Send**.

Sending new mail

1. Click the **New Mail** button at the bottom of the window. The Compose Mail screen will appear:



2. Fill in the address fields. Enter the e-mail address of a recipient by typing the address in the To: field. Separate two or more addresses by using a comma between the addresses.
 - **To:** – Sends message to one or more recipients.
 - **Cc:** – Optional. Sends a copy to this (these) address(es). The people receiving copies will be listed in the Message Header Area.
 - **Bcc:** – Optional. Sends a “blind” copy to this (these) address(es). The people receiving copies will not be listed in the Message Header Area.



Note: If you are replying, the To: address field is automatically filled.

3. Fill in the subject title.
4. Enter a message in the space provided.
5. Click **Send**.

To exit NCT Mail, select **Exit** from the File dropdown menu.

Message Pad

The 1683 NCT includes a handy “sticky note” utility that lets you post a to-do list or free-form text message on your workspace. The capacity of the Message Pad is 4096 characters. Characters are of a fixed font and can be inserted and deleted. When Message Pad is closed the note is saved and will appear in the message area the next time Message Pad is opened. The Message Pad window can be sized and moved the same as other windows.

Posting a note to yourself

To post a note on your workspace:

1. Click the **MTX** button (located at the lower left-hand corner of the screen) to open the application menu.
2. Click **Message Pad**. The following screen will appear:



3. Click in the Message area and type your message.
4. To close the Message Pad, click its menu button (top left), and select **Close** from the dropdown menu.

DayMinder

What is DayMinder?

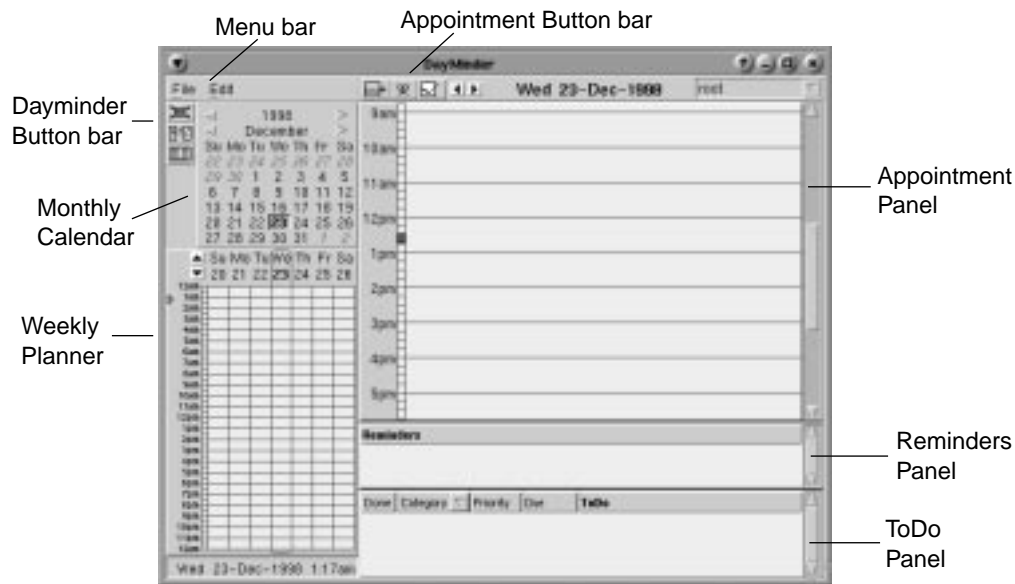
DayMinder provides a simple, graphical way to organize your daily schedule and activities. With DayMinder, you can schedule appointments, plan meetings, track your tasks, and maintain your address book.

Starting DayMinder

1. Click the **MTX** button (located at the lower left-hand corner of the screen) to open the application menu.
2. Click **DayMinder**.

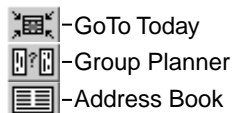
DayMinder at a glance

A typical DayMinder session may look like this:



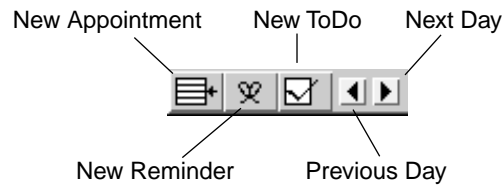
The DayMinder window provides the following:

- **DayMinder button bar** – Offers the following shortcuts:



- **Menu Bar** – Perform most major functions, from creating appointments and tasks to setting application preferences.

- **Appointment button bar** – Quickly add new appointments, reminders, tasks, or view a different day’s activities.



- **Monthly calendar** – Displays a month at a glance. Clicking on the “next” or “previous” scroll arrows on either side of the month or year label will scroll the date forward or backward. The current date is displayed in bold. The selected date is highlighted in yellow.
- **Weekly planner** – Displays a week’s activities at a glance. Black areas indicate scheduled appointments; blue areas indicate repeating appointments. A thick horizontal black line is displayed at the top of each date column that has a reminder.
- **Appointment panel** – Shows scheduled appointments for the day selected on the monthly calendar.
- **Reminders panel** – Displays the reminders (or untimed events) for the day selected on the monthly calendar.
- **To Do panel** – Displays ongoing tasks and their details: status, category, priority, and date due.

Resizing windows

The Monthly and Weekly planner panels are fixed sizes, but the sizes for the Appointment, Reminders, and ToDo panels can be adjusted. For example, to resize the Reminders panel:

1. Move the pointer to the horizontal line that separates the Appointments and Reminders panels. The mouse pointer changes to a resize pointer.
2. Click and drag the line upwards until the Reminders panel is the desired size.

Similarly, the size of the fields in the ToDo panel can be changed. Grab the vertical bar that separates the two fields and move it to the right or left until the fields are the desired size.

Customizing application preferences



Note: Some of the fields in the DayMinder Preferences box may not be implemented at the time of release.

Customize the DayMinder application preferences using the Preferences dialog box. Access the Preferences dialog box by selecting **Preferences** from the File menu, or by clicking with the RIGHT mouse button within the Appointment panel. Select Properties from the pop-up menu.

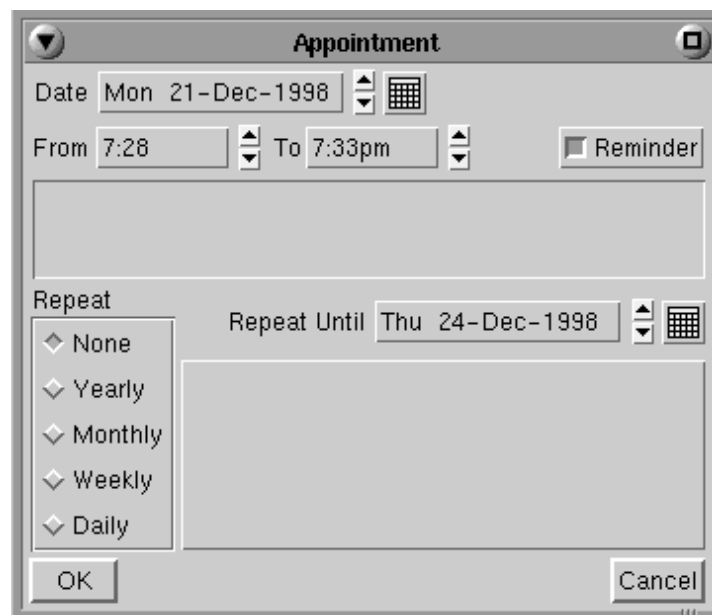
Types of scheduled activities

- **Appointments** – Scheduled events with a specified date and time. A meeting is a good example because it is planned for a specified time on a specified day.
- **Reminders** – Untimed events with a specified date but no associated time, such as a birthday or anniversary.
- **To Do** – Events or tasks that are defined over a period of time by a starting and an ending date. An example of a task could be the writing and distributing of the minutes of a meeting, because the writing of the minutes occurs over a period of time and has a due date.

Adding appointments

Adding an appointment to **DayMinder** is easy:

1. In the Monthly Calendar panel, click the next or previous month scroll arrows until the appropriate calendar for the month and year is displayed. Click on the desired day. DayMinder highlights the selection in the Weekly planner.
2. In the Appointments panel, select the desired block of time for your appointment. For example, if your appointment is scheduled from 2 p.m. to 3 p.m. on Friday, November 29, select the period by clicking the 2 p.m. start time on Friday, November 29, and dragging to the 3 p.m. end time. The same procedure may be followed to select a block of time from the Weekly Planner panel. The selected block of time is indicated on the left side of the Appointments panel beside the time and by a box in the Weekly planner.
3. The details of the appointment are entered in the Appointment dialog box. The dialog box can be displayed using any one of the following methods:
 - Click the **New Appointment** button on the Appointment button bar.
 - Move the mouse pointer into the Appointments panel, click the RIGHT mouse button, and then select the **New Appt.** item from the pop-up menu.
 - From the Edit menu, select the **New Appt...** item.



You can change or add the:

- **Date** – Use the up or down arrows or the month icon to select or change the date.
- **Time** – Nudge the time in 5-minute intervals using the up and down arrows.
- **Description** – Click in the box below the time to enter the appropriate description and information about the appointment.
- **Repetition** – If the appointment occurs on a repeating basis, select the frequency and DayMinder will automatically make the entry for each occurrence.

To save the changes, click **OK**. To leave the dialog box without saving changes, click **Cancel**.

Adding reminders

Adding a Reminder to DayMinder is like adding an appointment, but in the case of a reminder, there is no specific time assigned.

To create a Reminder do one of the following:

- Select the **New Reminder** button from the Appointment button bar.
- Move the mouse pointer into the Appointments or Reminders panel, click the **RIGHT** mouse button, and select the **New Reminder** item.
- From the Edit menu, select the **New Reminder...** item. The Appointment dialog box appears with the Reminder toggle “lit.”

Enter the date and the description of the reminder and click **OK**.



Note: An appointment can be changed into a reminder (or a reminder into an appointment) by toggling the **Reminder** button in the appointment panel.

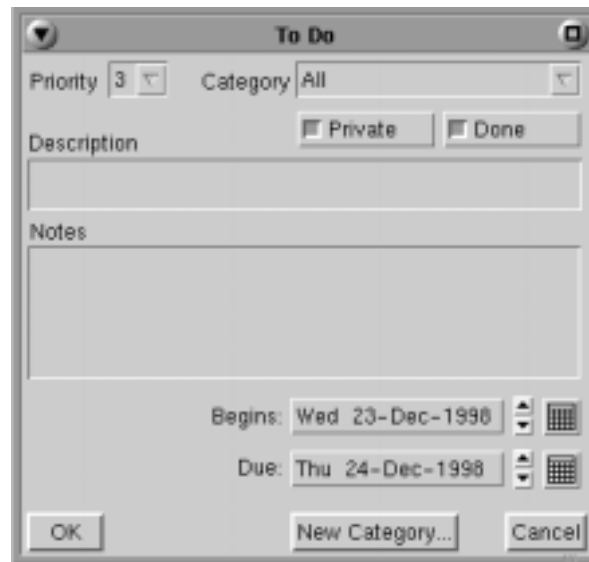
Adding a task to the ToDo list

To create a task do one of the following:

- Select the **New ToDo** button from the Appointment button bar.
- Move the mouse pointer into the Appointments or ToDo panel, click the **RIGHT** mouse button, and select the **New ToDo** item from the pop-up list.
- From the Edit menu, select the **New ToDo...** item.

Here you can specify the following:

- **Priority** – The importance of the task may be selected by choosing a number between 1 and 5 inclusive. Priority 1 is more important than priority 5. The default is 3.
- **Category** – Tasks can be categorized by type. Use the up arrow to select the required task type (the default is All). New categories can be created by selecting the **New Category** button.
- **Description** – A description of the task.
- **Notes** – A field for any other pertinent information. Notes are displayed only when the task is edited.
- **Begin Date** – The start date of the task. Select the date by clicking the up or down arrows or by clicking the month icon and selecting the desired date.



- **End Date** – The planned end date of the task. Select the date by clicking the up or down arrows or by clicking the month icon and selecting the required date.

To save the changes, click **OK**. To leave the dialog box without saving changes, click **Cancel**.

Editing and deleting scheduled activities

Appointments, Reminders, and ToDo activities may be edited or deleted; an appointment may also be copied. To edit a scheduled activity do one of the following:

- Move the pointer on top of the activity or event and click the **RIGHT** mouse button. A pop-up window appears with the available commands.
- Select the appropriate editing command from the **Edit** item on the main menu (copy, cut, delete, edit, paste).

Address Book



Note: Some features in the Address Book may not be implemented at the time of release.

You can keep track of friends and colleagues in the Address Book. To open the Address Book, click the **Address Book** icon in the DayMinder button bar.

- **Address Book** – Make entries for both private and business addresses.
- **Sort by** – Determines how to sort the entries in the book. The default is by last name.
- **Alphabet Buttons** – Quickly find entries by selecting the first letter. If no entries exist for a specified letter, the first entry under the next letter is displayed.
- **OK** – Saves the current entry and exits the Address Book. By default, the Address Book always saves the information on the screen when you move to another entry.
- **New** – Brings up a blank address form.
- **Delete** – Deletes the current screen entry.

- **Copy** – Copies the information in the current screen entry to a new screen entry. A plus sign (+) is appended to the last name of each copied entry to help differentiate the entries.

The screenshot shows the 'Address Book' application window. At the top, there is a title bar with the text 'Address Book'. Below the title bar, there are two dropdown menus: 'Address Book:' set to 'Private' and 'Sort by:' set to 'Last Name'. Below these are navigation arrows and a row of letter buttons from A to Z. The main area contains a form for a contact entry. The fields are as follows:

Last Name:	Morgan	Company:	MTX, Inc.
First Name:	Ray	Address 1:	2917 Highwoods Blvd.
Title:	Marketing Technical Special	Address 2:	Suite 100
Dept:		City:	Raleigh
e-mail @	morgan@mtx.com	State/Prov:	NC
Work #	919-279-6287	Country:	
Home #		Post Code:	27604
Fax #	919-279-6049	Custom 1:	
WWW @		Custom 2:	
Other #		Custom 3:	

Below the form is a 'Notes:' section with a text area containing the text: 'Ask Ray about the MTX 1683 NCT'.

- **Doodle** – A doodle pad.
- **Dial** – Not implemented.
- **e-mail** – Opens the NCT Mail window.
- **WWW** – Not implemented.
- **Cancel** – Deletes the current entry (if not saved) and exits the Address Book.

Calculator

1. Click the **MTX** button (located at the lower left-hand corner of the screen).
2. Select **Calculator** from the application menu.

This screen will appear:

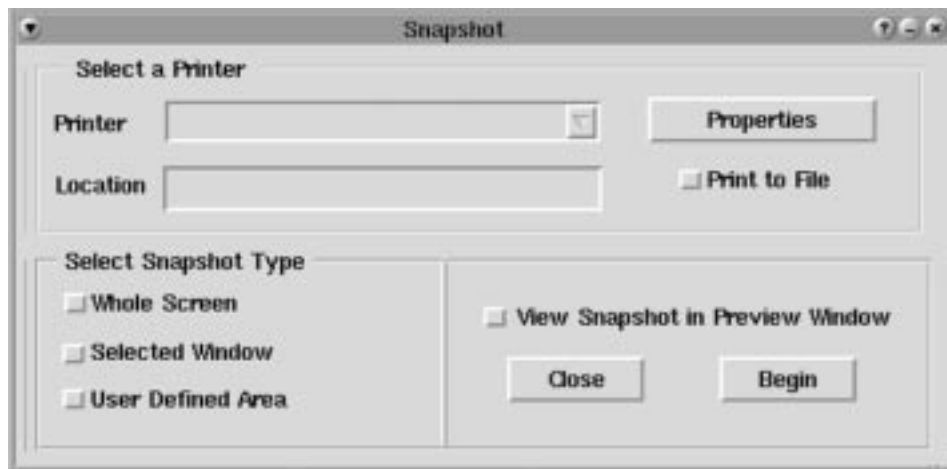


You can use the calculator by pressing the digits on the keyboard or by clicking the numbers on the calculator with the mouse.

Snapshot

Snapshot can take a “picture” of the contents of the screen display and send it to a printer.

1. Click the **MTX** button (located at the lower left-hand corner of the screen). The application menu will appear.
2. Click **Snapshot**. The Snapshot window will open:



Printing a snapshot

1. Select a printer from the list to which the image will be printed. If print to file is chosen, enter a path and filename for the snapshot.



CAUTION: The Print to File feature can consume significant memory resources. Use with care.

2. Select one of the following screen portions:
 - **Whole Screen** – Prints the entire display.
 - **Selected Window** – Click on the window to be printed.
 - **User Defined Area** – Drag the mouse to frame the exact area to be printed.
3. Click the **Begin** button; if **Whole Screen** was chosen, no other action is required – the snapshot will be sent to the printer. If **Selected Window** was chosen, click the window to be printed with the hand pointer. If **User Defined Area** was chosen, drag the mouse to frame the exact area to be printed.
4. Click the **Close** button to stop printing and/or to close the Snapshot window.

Dial-up connection

If you don't have a direct connection to the Internet, a connection will need to be established using the Internet Dial-up Connector. With the Internet Dial-up Connector, you can set up and make a connection to your Internet Service Provider (ISP). The dialer supports dialing scripts and basic TCP/IP configurations to automate your connection.

Starting the Dialer

1. Click the **MTX** button (located at the lower left-hand corner of the screen).
2. Select **Dialer** from the application menu.



Setup an ISP

The first time the dialer is run, you will be prompted to set up a new ISP:

The screenshot shows the 'ISP Setup' dialog box with the following fields and buttons:

- ISP Description: msn
- Phone No.: 92,872-6557
- Login Script: (empty)
- Idle Timeout: 10 Minutes
- Total Time connected: 0:00:00
- User Name: msn/dancody
- Password: ***** (Optional)
- Buttons: Help..., TCP/IP Settings..., Modem Settings..., Edit Script..., Remove Script, Use Terminal, Apply, Remove, Cancel

Typical ISP setup

1. Enter an ISP descriptive name into the **ISP Description** box.
2. Enter the phone number of the ISP. If a number must be dialed to access an outside line, enter this number followed by a comma and the phone number. (For example: 9,555-1234 or 9,5551234.)
3. If your ISP requires a simple “username/password” to establish a PPP connection, leave the **Login Script** field blank. If your login process is more complicated, you can edit or create a new login script. See *Script Editor* on page 9-16 for details.
4. Enter an **Idle Timeout** Value. The dial-up connection will be broken if no modem activity occurs during this time period.
5. Type the **User Name**.
6. *Optional:* Enter your account **Password**. If this field is left blank, the password will have to be entered each time you connect to the ISP.

The **Total Time connected** field will help keep track of connection time. It will continue to increment time for each session until the **Reset Time** button is clicked.

Use Terminal, if selected, displays a terminal window for user input when a connection is established.

After all changes are complete, click **Apply** for changes to become effective immediately, or **Cancel** to discard changes.

Advanced ISP setup

The typical ISP setup just described should work in most cases. If you can not make a connection using the typical ISP setup, you may need to provide some additional customizations like TCP/IP settings and creating a login script.

TCP/IP settings

- **ISP Address** – This is the IP address of your ISP. This is usually assigned automatically upon connection to the ISP. If your ISP tells you to specify this address, type the value here. Example: 255 . 255 . 252 . 1
- **Your Address** – This is your IP address. Most ISP providers will dynamically allocate one when a connection is made. If you have a fixed IP address that never changes, then it should be entered here. Example: 255 . 255 . 252 . 1 .

Modem settings

The Initialization String and Baud Rate may be changed if necessary. The Initialization String is ATZ by default.



CAUTION: Do not change the device (port) field. Changing this field will render the serial port inoperable.

Login script

The dialer has a built-in login script that will do the following:

1. Wait for a login prompt from the ISP and then issue your username.
2. Wait for a password prompt from the ISP and then issue your password.
3. Run pppd.

To use this default script, leave the Login Script field in ISP Setup blank.

If your login process deviates from the above procedure, you'll need to create a new login script. Suppose your ISP has a two-level login process; you could create a login script that looks like this:

Wait for:	Reply with:	Status:
login	pppuser	Connected...
password	xyzyy	
login	\$USER	Logging in...
password	\$PASSWORD	

Script Editor

To create a new login script

1. Start the **Dialer**.
2. Click **New**. The ISP Setup dialog box will open.
3. Follow the procedures detailed in *Setup An ISP*.
4. Enter a name for the new script in the Login Script field.
5. Click **Edit Script...** to open Script Editor.
6. Create or edit the script using the elements, patterns and special character sequences described in the following sections.

To edit a row

1. Click the row in the script that is to be changed.
2. Tab to a field in the row at the bottom of Script Editor and type in the change.
3. Click **Modify**. Otherwise the changes to a row won't be saved.

To add a row to the script

1. Click a row in the script that is either before or after the position where the new row should be inserted.
2. Enter the script in the fields at the bottom of Script Editor.
3. Click either **Insert Before** or **Insert After**; the row will be added to the script.

Click **Done** when the script is completed. This creates a login script file.

Login script elements:

Login script element	Description
Wait For	<p>The dialer receives characters from the remote host until there is a match with the pattern in the Wait For entry. The dialer uses the POSIX function fnmatch (pattern, line, FNM_QUOTE) to do the match.</p> <p>The syntax for patterns is similar to the shell's filename patterns, except that a forward slash is treated as an ordinary character. Fo example, *** will match any line of characters containing an asterisk. For a list of special characters, see the Special characters table in the Patterns section on page 9-17.</p> <p>All Wait For checks are done in lower case which means that "LOGIN" and "login" will match.</p> <p>If a pattern consisting of a single backslash is used in the first line of a script, the dialer proceeds without waiting for characters from the remote host.</p>
Reply With	<p>When the dialer has a match for the Wait For entry, the dialer emits the reply in the Reply With entry to the remote host.</p> <p>The dialer then emits a CR character unless the reply ends with a backslash. For other special character sequences, see the Special Character Sequence table in The Reply section on page 9-17.</p>
Status	<p>In this field, compose a status message reflecting a stage during the login process. Status messages are displayed in the dialer status window.</p>

Patterns

Patterns use ? * [] \ as special characters:

Special Character	Description
?	Match any single character.
*	Match any sequence of characters, including an empty string.
[...]	Match a single character specified by the bracket expression.
\	Quotes the following character.

The reply

Special character sequences that can be used in a reply:

Special Character Sequence	Description
\$USER	User Name specified in the ISP entry
\$PASSWORD	Password specified in the ISP entry
\r	CR character
\n	Newline character
\xhh	Single character whose hex representation follows as hh
\B	500 msec break on the line using <i>tcsendbreak()</i>
\D	Drop the line for 1 second using <i>tcdropline()</i>
\Phh	Pause for hh 1/10's of a second where hh is two hex characters
\d#	Set the number of data bits (# is 5, 6, 7, or 8)
\s#	Set the number of stop bits (# is 1 or 2)
\p#	Set the parity (# is n=none, e=even, o=odd, m=mark, s=space)

Chapter 12

Safety, Power, and Environmental Requirements

In this Chapter...

Space planning: physical statistics

Meeting environmental requirements

Power cable requirements

Power outlet requirements

Electrical interference and atmospheric considerations

This chapter details the physical statistics and environmental requirements for the 1683 NCT. Use this information to plan your installation.

The 1683 NCT was designed for the user to install into a safe environment. No special tools are required.

Space planning: physical statistics

Measurement	Logic Element
Weight	3.45 lb (1.56 kg)
Height	2.30 in (5.84 cm)
Depth	12.00 in (30.48 cm)
Width	11.80 in (29.97 cm)
Power Consumption	6 Watts typical
Heat Dissipation	20 BTU typical

Refer to the owner's manual that comes with your monitor for its individual specifications.

Meeting environmental requirements

The following table lists the environmental requirements of the 1683 NCT:

Clearance	Six inches on all sides of the unit (Damage may result if air vents are blocked.)
Operating Temperature Range	50° to 105°F (10° to 40.6° C)
Relative Humidity	8% to 80% no condensation
Maximum Wet Bulb	80°F (26.7°C)
Power	90 to 132 VAC or 180 to 205 VAC at 2.5 or 2.0 amps respectively at 47 to 64 Hz including tolerances

Power cable requirements

For units operating at 100-120V

The power cable required for domestic units is a UL listed, CSA certified 18/3 AWG, type SVT or SJT cable (9-foot maximum):

- Terminated on one end by a 125V, 15A grounding type attachment connector.
- Terminated at the other end by a 125V, 15A parallel blade, grounding type attachment plug.

For units operating at 200-240V

The power cable required for domestic units is a UL listed, CSA certified, 18/3 AWG, type SVT or SJT cable (9-foot maximum):

- Terminated on one end by a 250V, 15A grounding type attachment connector
- Terminated at the other end by a 250V, 15A tandem blade, grounding type attachment plug.

For international units

The power cable required is an 18/3 AWG, type SJT cable (9-foot maximum):

- Terminated on one end by a 250V, 15A grounding type attachment plug body
- Terminated at the other end by a 250V, 15A grounding type cord connector.

The cord set is marked HAR to signify appropriate safety approvals. The socket outlet must be nearby and easily accessible, per IEC 950 Sec. 1.7.2.

Power outlet requirements

The installation site must provide a properly wired and grounded power outlet. Circuits connected to air conditioners and devices that generate significant transient electrical noise should be avoided.

Electrical interference and atmospheric considerations

Electrostatic discharge in the vicinity of the unit should be minimized by avoiding high resistance floor material and carpeting that does not have anti-static properties, by avoiding the use of plastic seats and covers, and by avoiding low humidity levels. The unit should be located away from areas that generate electromagnetic interference (for example, transformers, power distribution panels, welding equipment, motors, and transmitters). Do not put the unit next to fluorescent lights. The 1683 NCT should not be installed where the atmosphere contains corrosive elements that can damage the unit.

Do not run the power cable or signal cables in areas that produce electromagnetic interference (for example, near transformers, switching equipment, welding equipment, power distribution panels, and under carpets where vacuum cleaning is done). Also, do not roll heavy equipment over the cable.

Chapter 13

System Administrator's Guide

In this Chapter...

Accessing the Configuration Screens

Administrator Functions

Configuring Options

Defining Administrator's Password

Setting Date and Time

Configuring NCT Network

Configuring NCT Mail

Configuring NCT Applications

Configuring NCT Miscellaneous

ICA

NCT Update Configuration

Language Configuration

Ping

This chapter explains how to configure features, local connections and remote connections in order to use the 1683 NCT successfully.

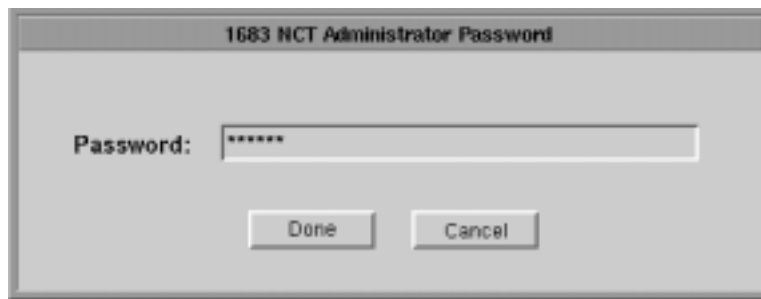
Most of the configuration screens are accessed by following the steps described below. One exception is the Voyager browser; for this information see Chapter 8, *Accessing your intranet and the Internet*.

Accessing the configuration screens

1. Click the **MTX** button (located at the lower left-hand corner of the screen).
2. Select **Config** from the application menu.

If an Administrator Password has been set, the following screen will appear. If the password has NOT been set, the Administrator Functions panel will appear and steps 3 and 4 should be skipped.

3. Enter the Administrator Password.



4. Click **Done** when complete.



Note: The 1683 NCT is shipped from the manufacturer without a preset password. To define or change the password, refer to *Defining Administrator's Password* in this chapter.

Administrator Functions

The screenshot shows a software interface titled "1683 NCT Administrator Functions" with a "Configure" tab. The main section is "1683 NCT Vital Product Data". It contains two columns of input fields for various system parameters. A "Done" button is located at the bottom center.

1683 NCT Vital Product Data			
Ethernet IP Address	192.168.0.5	COAX IP Addr	N/A
Ethernet Mac Address	080039402188	COAX MAC Addr	00039402188
Ethernet Subnet Mask	255.255.255.0	COAX Subnet Mask	N/A
Default Gateway	N/A	DNS Server	88
Node Name	rs0039402188	Domain Name	
Serial Number	Twinax	Manufacture Date	Fri Nov 5 11:07:53 1999
Integration Level	045	Manufacture Place	NC

Vital Product Data

The information provided in the 1683 NCT Administrator Functions panel will help with the determination of hardware and software levels of your unit. Information that is provided in this panel is:

- **Ethernet IP Address** – Configured Ethernet IP Address
- **Ethernet Mac Address** – Media Access Control Address - a hardware address that uniquely identifies each node of a network.
- **Ethernet Subnet Mask** – Configured Ethernet Subnet IP Address
- **Default Gateway** – Default Gateway IP Address
- **Node Name** – Configured Node Name
- **Serial Number** – Hardware serial number of the unit, provided during the manufacturing process.
- **Integration Level** – Software Integration level of the unit.
- **COAX IP Address** – Configured COAX IP Address
- **COAX Mac Address** – Media Access Control Address - a hardware address that uniquely identifies each node of a network.
- **Coax Subnet Mask** – Configured Ethernet Subnet IP Address
- **DNS Server** – Domain Name Server primary IP Address
- **Domain Name** – Configured Domain Name
- **Manufacture Date** – Date and time the unit completed final testing.
- **Manufacture Place** – Location of the unit manufacturer.

Configuring Options

Click **Configure** in the upper left-hand corner of the Administrator Functions panel. The following options are available for modification:

- **Administrator Password** – Define or modify the Administrator's Password.
- **Date and Time** – Set the time and date in the unit.
- **NCT Network** – Define the Connection, Gateway and DNS parameters of the host.
- **NCT Mail** – Configure the easy-to-use e-mail (electronic mail) application.
- **NCT Applications** – Define which applications are available to the unit and which applications can be automatically started when the unit is powered on.
- **Modem Configuration** – Define destinations, phone number, baud, parity, data bits and stop bits.
- **NCT Miscellaneous** – Password protect modifications to the display unit setting, set the display resolution and activate the Power Saving feature.
- **ICA Configure** – Define the application servers to be used with the ICA Client.
- **NCT Update** – Define when the unit's software programs should be updated.
- **Languages** – Select the language to be displayed in the applications that support this feature.
- **Quit** – Exit the Administrator's Functions panel.

Certain applications, such as the 1480 emulator, TN3270, TN5250, VT220 and Voyager Browser, allow setting user preferences. These preference screens are described in the respective chapters.

Defining Administrator's Password

1. Click **Configure** in the upper left-hand corner of the Administrator Function dialog panel.
2. Click **Administrator Password**. The following screen will appear:

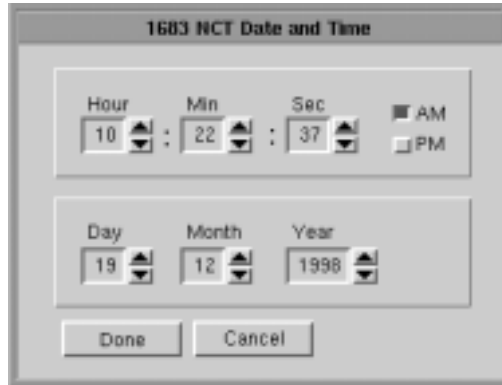


3. Carefully enter your new password in both text boxes.
4. Click **Done**.

This password will become effective immediately, and will be required whenever the **Config** option is chosen from the MTX application menu. If you wish to return to the default state with no password being required, return to this screen and click **Done** without entering any characters in the text boxes.

Setting date and time

1. Click **Configure** in the upper left-hand corner of the Administrator Functions panel.
2. Click **Date and Time**.

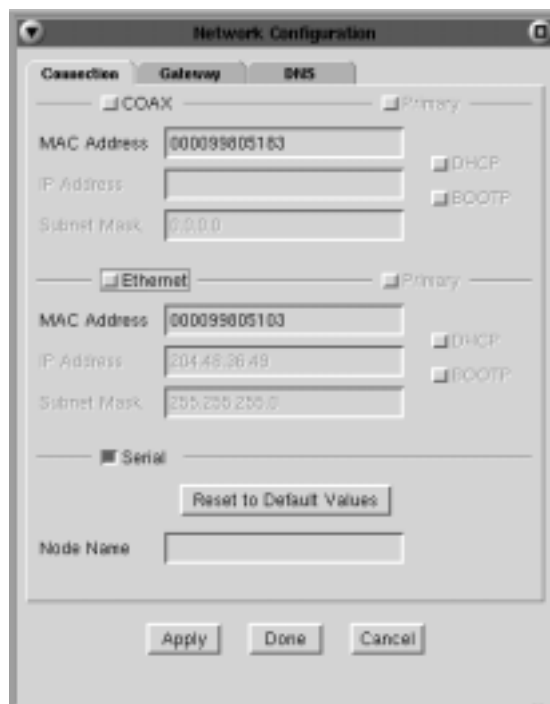


3. Use the arrow buttons to set the date and/or time.
4. Click **Done** when complete.

The unit must be restarted for date and time changes to become effective.

Configuring NCT Network

1. Click **Configure** in the upper left-hand corner of the Administrator Function dialog panel.
2. Click **NCT Network**. The following screen will appear, with tabbed sections for setting the Connection, Gateway, and DNS parameters:



Connection tab

To specify how the unit is connected locally, click any combination of one or more of the internal connection toggle-switch buttons: **COAX**, **Ethernet**, and/or **Serial**. If more than one is selected, be sure to designate one connection as primary. The primary connection will be the connection used when the 1683 NCT originates communication with remote networks and hosts.

- **Mac Addresses** – The two Media Access Connection (MAC) addresses initially displayed are factory-installed or burned in. To store the burned in address, click **Default**. To override either the COAX MAC address or the Ethernet MAC address, type over the supplied addresses.
- **IP Addresses** – Enter a unique Ethernet and/or COAX IP address for this terminal. Alternately, if you wish the server to supply the IP address upon start-up, click the **DHCP** (Dynamic Host Connection Protocol) button. If you wish the 1174 or any other BOOTP server to provide the IP address at start-up, click **BOOTP**.
- **Sub-net masks** – Enter a sub-net mask for each connection selected.
- **Node Name** – Unique alphabetic identifier for the 1683 NCT being used in IP applications.

Gateway tab



To provide connections with external networks and systems, enter the network address for any and all types you plan to support.

Adding Gateway Connections

- **Default Gateway** - Enter the Gateway address in the Default Gateway text block.
- **Disable RIP** - Selecting this button will disable the forwarding of Routing Information Protocol packets received by the 1683.
- **Static Routes**
 - Enter Destination Static Route in the Destination Field.
 - Enter the Gateway in the Gateway field.
- Click **Add** to add the Static route
- Select the Static Route to be removed and click **Remove** to remove the static route from the table.
- Select the Static Route to be modified and click **Modify** to change the Static route.
- Click **Apply** to accept all the information that has been entered.
- Click **Done** to exit when complete.
- Click **Cancel** to discard changes and exit.

DNS tab

- **Domain** – Enter your organization's domain name for the primary connection.
- **Domain Name Servers** – Enter the IP address of your organization's domain name server. This is a mandatory field. Up to three server addresses may be entered; the address at the top of the list is always primary.

Adding Domain Name Servers (DNS)

1. Enter the IP address of the DNS.
2. Click **Add**.
3. Click **Apply**.

Designating the Primary Domain Name Server

1. Select the address that should be primary.
2. Click **Select Default**. The address will be moved to the top of the list.
3. Click **Apply**.

Deleting Domain Name Servers

1. Click the DNS address to be deleted.
2. Click **Remove** to remove the highlighted DNS address.
3. Click **Apply**.

When all additions and/or changes are complete, click **Done** to close the screen.

Configuring NCT Mail

1. Click **Configure** in the upper left-hand corner of the Administrator Functions dialog panel.
2. Click **NCT Mail**. This configuration screen will appear:

The screenshot shows a dialog box titled "1603 NCT Mail Configuration". At the top, there is a note: "Note: The fields under 'Mail Configuration Information' are to be filled out in accordance with information provided by your Internet Service Provider." Below the note, the section "Mail Configuration Information:" contains several input fields: "Your Name:" with the value "Joe User", "Your UID:" with the value "user", "SMTP Server:" with the value "MTXEXCHANGE.MTX.COM", "POP Server:" with the value "MTXEXCHANGE.MTX.COM", "POP Password:" with a masked password "*****", and "Operator Password:" which is empty. At the bottom of the configuration section, there are two checked checkboxes: "Require Operator Password for Mail Entry" and "Prompt for User ID and POP Password on Mail Startup". At the very bottom of the dialog box are two buttons: "Done" and "Cancel".

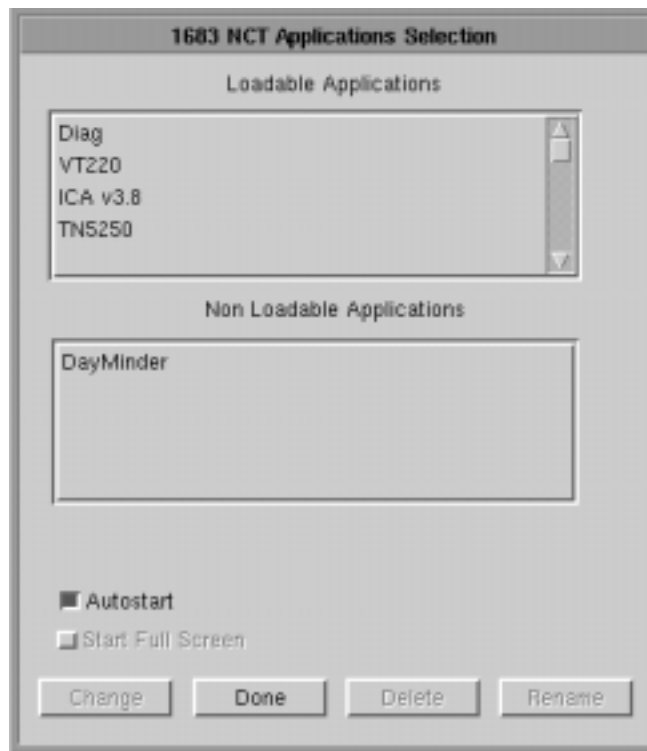
3. Enter your name.
4. Enter the following, which your Internet Service Provider will supply: **UID (User ID)**, **SMTP Server**, **POP Server**, and **POP Password**. If **Prompt for User ID and POP Password on Mail Startup** are selected, you will be asked to enter your User ID and POP Password each time NCT Mail is opened.
5. Enter an Operator Password. If **Require Operator Password for Mail Entry** is also selected, you will be asked to enter this password each time NCT Mail is opened.
6. Click **Done**.

The unit must be restarted for changes to become effective.

Configuring NCT Applications

1. Click **Configure** in the upper left-hand corner of the Administrator Function dialog panel.
2. Click **NCT Applications**.

This screen specifies which applications are available to the terminal. Each application selected as loadable will be listed in the Start menu for the terminal.



- **Loadable Applications** – To specify that an application is to be available, select the application from the list of non-loadable applications and press **Change**. The application will move to the loadable list.
- **Non-Loadable Applications** – To remove an application from the list of loadable applications, select the application and press **Change**. The application will move to the non-loadable list.

- **Autostart** – The Loadable application selected is started automatically when the 1683 is powered on.
- **Start Full Screen** – If Autostart has been chosen for the selected application, this option may be chosen to have the application loaded as a full screen, rather than a windowed application.



Note: To exit from full screen mode, press key chord: Ctrl - Alt - Tab.

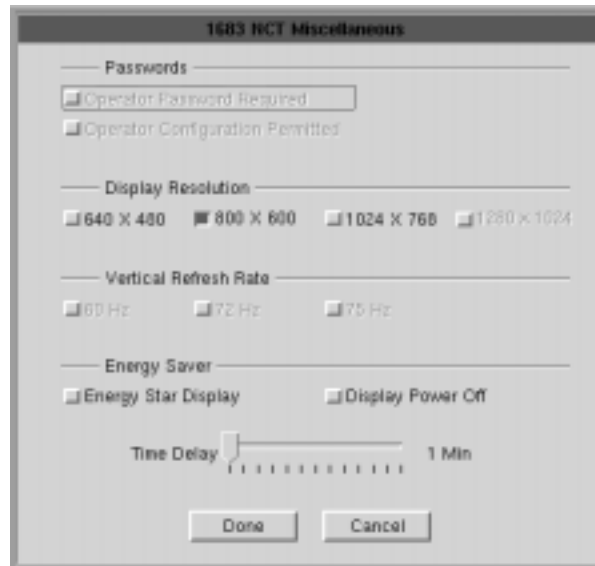
- **Delete** – Applications that will not be used may be deleted to free up flash memory space. Select the application and press **Delete**.



CAUTION: Once an application has been deleted a flash update will be required to restore it.

Configuring NCT Miscellaneous

1. Click **Configure** in the upper left-hand corner of the Administrator Function dialog panel.



2. Click **NCT Miscellaneous**.
 - **Operator Password Required** – The user will be prompted for a password upon startup.
 - **Display resolution** – The default setting from the manufacturer is 640 x 480. To change to a higher resolution, select the 800 x 600 button, the 1024 x 768 button, or the 1280 x 1024 button.



CAUTION: Selecting a resolution that your display cannot support could result in inability to use the 1683 NCT. To revert to 640 x 480 resolution, hold down the **R** key and restart the 1683 NCT.

- **Vertical Refresh Rate** – Select the refresh rate that is supported by your monitor.

- **Energy Saver** – If your display unit is Energy Star compliant, click the **Energy Star Display** button, then select the Time Delay. When no keyboard or mouse activity is detected for the specified amount of time, the display unit will utilize its own power down circuitry and shut itself off.

If the display unit is not Energy Star compliant, click **Display Power Off**. After the specified amount of time with no activity, the 1683 NCT logic unit will shut down the power to the display unit. The display unit will not power off if plugged directly into an electrical outlet instead of the logic unit.

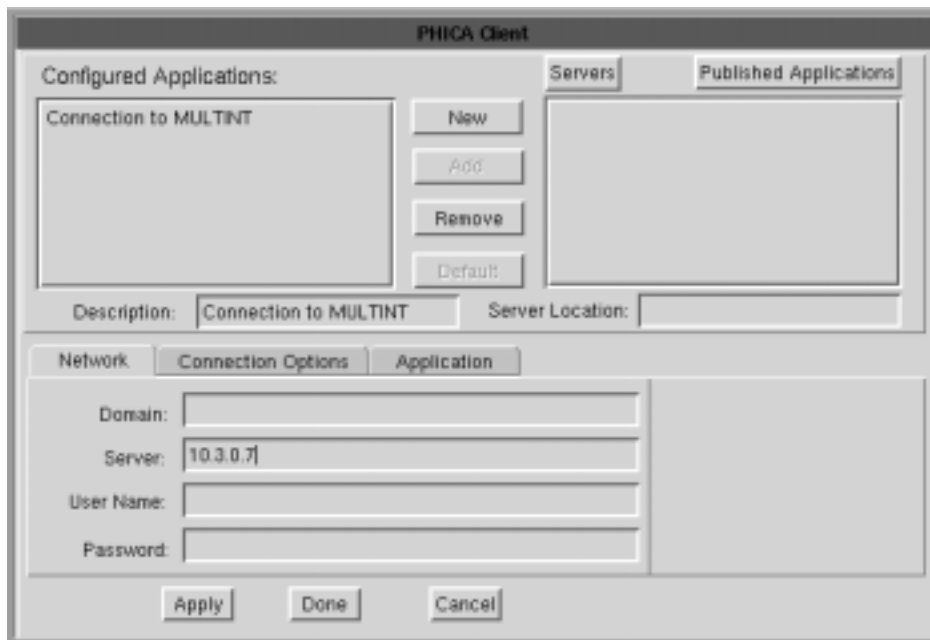
Click **Done** when changes are complete. The unit must be restarted for changes to become effective.

ICA

ICA (Independent Computing Architecture) is a presentation protocol used to establish a connection to a Windows NT multi-user server. The ICA client enables users to run server-based windows applications from the 1683 desktop. Examples of multi-user NT servers include Citrix Winframe, NCD's Wincenter PRO, and Microsoft's Terminal Server Edition with the Citrix Metaframe plug-in.


Configuring ICA

1. Click **Configure** in the upper left-hand corner of the Administrator Functions dialog.
2. Click **ICA Configure**. The ICA client configuration panel (shown below) will appear:




Application servers

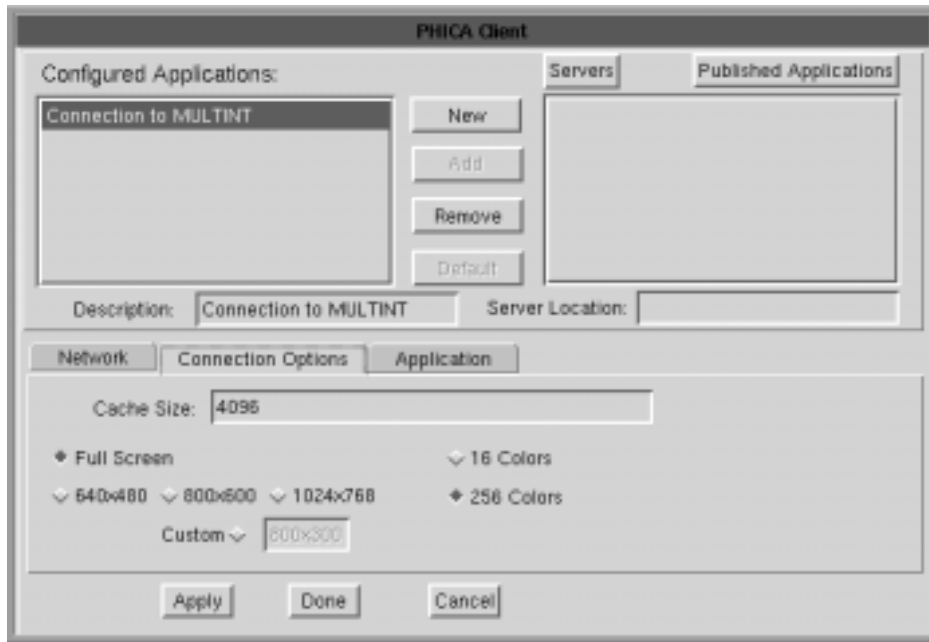
- **Add** – Add a new application server configuration.
- **Remove** – Remove an existing application server configuration. To remove an application server, highlight the server and click **Remove**.
- **Default** – Selects the default application server. To select a default server, highlight the application server and click **Default**. If the 1683 is configured to auto-connect an ICA session, the selected default application server will be used at POR.
- **Description** – User-defined application server name.

 **Note:** The Description field may not contain the following characters: . (period), ? (question mark), = (equal sign), # (pound sign), [(left bracket), or] (right bracket).

Network tab

- **Domain** – Server domain name
- **Server** – Application Server IP address
- **User Name** – Application Server Login ID
- **Password** – Application Server password.

 **Note:** If the User Name and Password are omitted, the user will be prompted for this information at login.



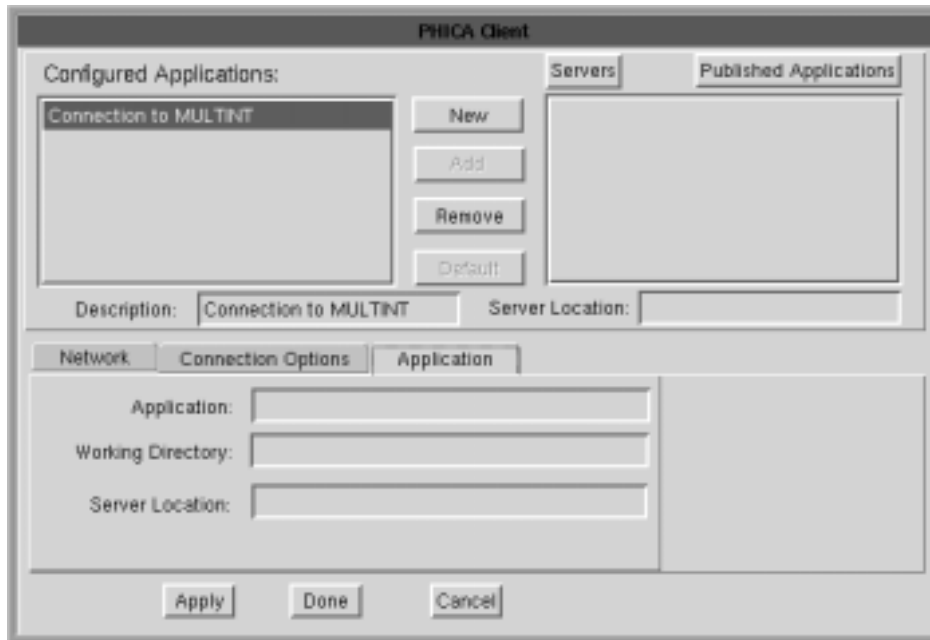
Connection Options tab

- **Cache Size** – Bitmap caching to RAM stores commonly-used graphical objects such as bitmaps in RAM on the local client. If your connection is bandwidth-limited, increasing the cache size will increase performance. If your client is on a high-speed LAN, you may not need to increase the cache size.

- **Window Resolution** – Select the Window Resolution size. Available choices are:
 - Full Screen
 - 640x480
 - 800x600
 - 1024x768
 - Custom
- **Color Resolution** – Select either 16 or 256 color resolution

Application tab

- **Application** - This field specifies the application to run once the logon to the server is successful. It should be left blank to run a Windows desktop on the server. Enter the fully qualified drive and path of the program to run, followed by any necessary command line parameters and switches.



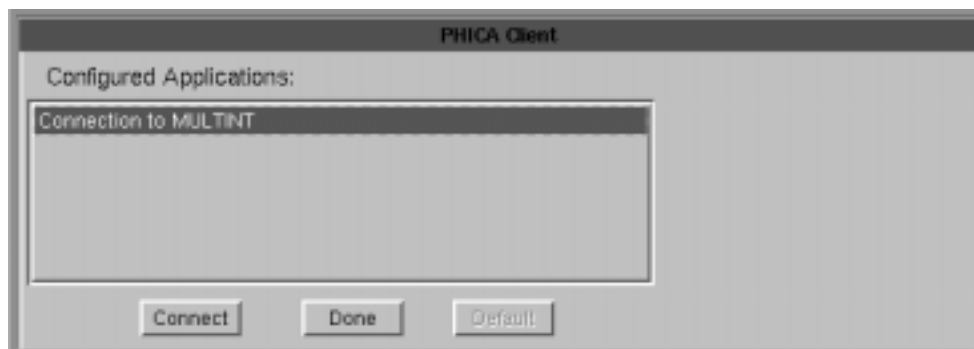
- **Working Directory** – This field specifies the working directory to use with the program specified in the Application field. Enter a working directory path in the field.
- **Server Location** – Enter the Master Browse IP Address in this field.

Starting the ICA session

Select **ICA** from the MTX application menu. The Citrix ICA splash screen will appear. If an ICA connection has been configured, an ICA session will be established.



If an ICA connection was not configured or an attempt to establish a connection failed, the Application Server panel (shown below) will appear. The panel will also appear when an ICA session is closed.



To reconnect or to connect to a different Application Server:

1. Highlight an Application Server from the Configured Applications list.
2. Click **Connect**.

To close the ICA program, click **Done**.

NCT Update configuration

1683 NCT Update program allows programs and files to be updated from any FTP server on your network. Updates can be done immediately or can be scheduled to take place at a time when network traffic is at a minimum. Updates can be programs that make up a new integration level from MTX, Inc. or configuration files distributed by a system administrator.

The system administrator provides the address of the FTP server, the name and password required to access the server, and the path to the update list file on the server using the NCT Update panel (shown below), accessed from the Configuration drop down menu.

- **Update Server Address** – The IP address of the FTP server containing the update list and the new programs and files.
- **Name** – The user's name expected by the file server (maximum 32 characters).
- **Password** – The user's password on the file server (maximum 32 characters).
- **Update List File** – The file path of the file on the server that contains the list of programs and files to be updated.
- **Do Update** – The time when the update will automatically be started. The minute field is changed in 5 minute increments using the arrows.
- **Reboot 1683 upon completion** – Select to reboot the 1683 after the update has completed.



Note: The program that starts NCT Update samples this time every 3 minutes, so the update process could begin 3 minutes after the selected update time.

- **Automatic** – The updates will be handled automatically at the time chosen by the user.
- **Immediate** – Overrides the update time; the update process will begin immediately.



WARNING: All applications except the NCT Update program should be closed before starting an update. **DO NOT** shut off the machine or start any programs during the update process. Notify the system administrator of any failures.

NCT Update troubleshooting process

The NCT performs the software update in the following manner:

1. The NCT looks at the information provided in the configuration file for server address and update list file. If one or more of these items are left blank or not in the correct format, the NCT Update program will terminate. When the information is provided correctly, the next step is taken.
2. The NCT now attempts to establish communication with the designated server and retrieve the *update list file (ULF)* from the server. If the NCT is unable to locate or initiate communication with the server, the NCT Update program will terminate. When the server is located and the *ULF* is obtained, the next step is taken.
3. The NCT will now verify that the Integration Level in the *ULF* is higher than the Integration Level currently being used by the NCT. If it is not greater than the existing Integration Level, the 1683 NCT Update program is terminated and the NCT will not be updated. If the Integration Level is greater than the existing level being utilized by the NCT, the program will be updated.



Note: An update can be left on the FTP server indefinitely, but a particular 1683 will only attempt the update once.

4. Once the NCT has established communication with the server, File Transfer Protocol (FTP) is opened with the user name and password. The files and programs that are contained in the ULF are retrieved and written into the 1683 NCT's flash memory. Each line in the ULF will execute as a complete transaction.
5. While the NCT is performing the file updates, a blue, green, and red full screen panel will be displayed to warn the user to not start any programs or power-off the machine.
6. At the completion of each transaction attempt, the status of that transaction will be displayed in either the success or failed list on the panel.
7. When the update is completed, FTP is terminated and the **OK** button on the panel is "unblocked". If all files were transferred successfully, the Integration Level shown in the Administrator Functions panel will be updated to the new level.

Update list file format

The format of the update list is:

	<Action>, <Source >, <Destination>
	Cp cb il
Action:	Cp => copy source file to destination Cb => compress and copy source file to destination il => change integration level to <source> if update successful.
Source:	Complete path of file on server (64 characters).
Destination:	Complete path of file on 1683 (64 characters).



Note: The maximum number of transactions in the *update list file* is 128.

Language configuration

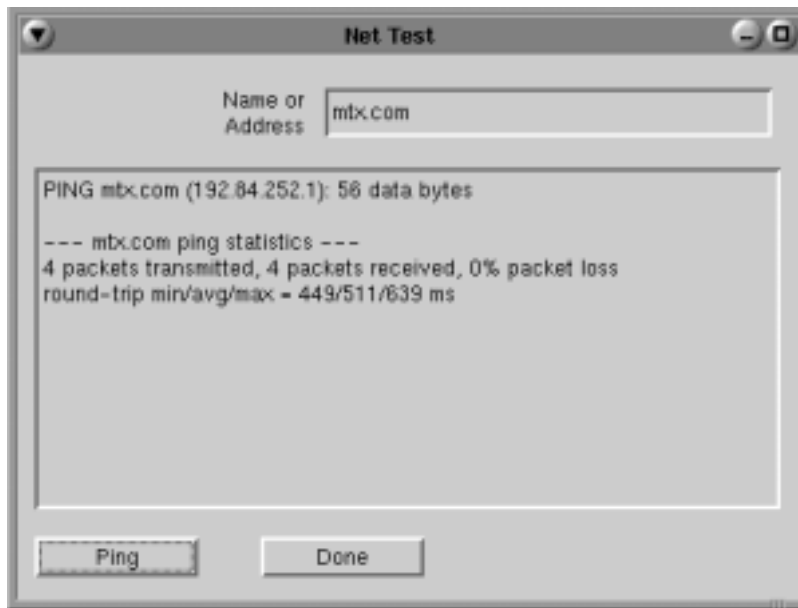
1. Click **Configure** in the upper left-hand corner of the Administrator Functions dialog.
2. Click **Languages**. A new list will open with the following choices:
 - **English** (Canada, UK, US)
 - **French** (Belgian, Canada, French, Swiss)
 - **German** (German, Swiss)
 - **Spanish**
 - **Italian**
3. Select a language. The Language configuration menu will close.

The unit must be restarted for changes to become effective.

Ping

Ping can be used to verify that a particular host is operational. It can also be used to determine the numeric IP address of a host. To open the Ping dialog box:

1. Click the **MTX** button in the lower-left corner of the screen.
2. Select **Ping** from the application menu.
3. Enter the host's domain name or IP address.



4. Click the **Ping** button.

The response will provide the numeric IP address as well as statistics including packets sent, received, data lost and the time it took for the packets to be sent and returned.

To close the Ping dialog box, click **Done**.

Index

Symbols

1480 CUT Emulator

- about, 6-2
- accessing applications, 6-3
- Base VPD, 6-10
- Coax indicator, 6-10
- Coax printer assignment, 6-15
- color setup, 6-13
- Configuring, 6-9
- Configuring Dual Screen mode, 6-19
- Controller Step Key = ChgSc, 6-10
- data entry features, 6-2
- Disable color override, 6-10
- DualScreen mode, 6-10, 6-19 - 6-24
- entering and editing data, 6-5
- Function (F or PF) keys, 6-6
- HAP menu, 6-16
- Increase session delay, 6-10
- key assignments, 6-21
- keyboard layout, 104-key, 6-7
- keyboard layout, 122-key, 6-8
- keyboard setup, 6-12
- local printing, 6-2
- LPR menu, 6-18
- Mark unprotected, 6-10
- miscellaneous setup, 6-11
- Monitoring response time, 6-9
- monitors for, 6-2
- moving the cursor, 6-4
- Printer setup, 6-14
- printing, 6-14
- Program Access (PA) function, 6-6
- remote printing, 6-2
- restarting, 6-11
- Row/Column indicator, 6-10
- Screen print mode, 6-24
- screen setup, 6-9
- selecting data fields, 6-5
- sending data, 6-6
- standard features, 6-2
- starting, 6-3
- starting Dual Screen mode, 6-20

1490 Twinax Emulator

- color setup, 7-10
- communication setup, 7-3
- display address, 7-3
- keyboard setup, 7-4
- LPR menu, 7-13

- miscellaneous, 7-13
- printer setup, 7-11
- restarting, 7-14
- screen setup, 7-8
- standard features, 7-2
- terminal mode, 7-3

1683 NCT

- 3279 terminal, functioning as, 8-4
- 5250 terminal, functioning as, 8-16
- about, 2-2
- administrator functions, 13-2 - 13-17
- application window, 4-4
- as an LPR server, 5-8
- atmospheric considerations, 12-3
- back of logic unit, illustrated, 3-3
- configuration, 13-2
- electrical interference, 12-3
- environmental requirements, 12-2
- integration level, 13-3
- international units, power cable, 12-3
- manufacture date, 13-3
- monitor weight support, 3-2
- physical statistics, 12-2
- power cable requirements, 12-2
- power outlet requirements, 12-3
- safety requirements, 12-2 - 12-3
- serial number, 13-3
- setting up, 3-2
- standard features, 2-2
- starting, 4-2
- unpacking, 3-2
- updates, programs and files, 13-15
- using, 4-2
- VT220 display, functioning as, 8-23

A

- Add printer, 5-3
- Administrator functions
 - accessing, 13-2
 - date and time, setting, 13-5
 - password, 13-2, 13-4
 - vital product data, 13-3
- Administrator password
 - defining, 13-4
 - entering, 13-2
 - preset, 13-2
- Answerback, VT220, 8-30
- Application server
 - ICA, 13-12

- Audible alarm, 6-3
- Autostart, selecting application for, 13-10
- Available printers, 5-2
- B**
- Base VPD, 1480 CUT Emulator, 6-10
- C**
- Cache
 - size, ICA, 13-12
 - Voyager Browser, 10-3
- Calculator, 11-12
- Cautions, 1-3
- Citrix ICA Client, 2-2 *See also* ICA
- Close button, 4-4
- Coax indicator, 1480 CUT Emulator, 6-10
- Coax IP address, 13-3
- Coax Mac address, 13-3
- Coax printer assignment, 1480 CUT Emulator, 6-15
- Coax printing
 - 1480 CUT Emulator, 6-3
- Color setup
 - 1480 CUT Emulator, 6-13
 - TN3270, 8-11
 - TN5250, 8-22
 - VT220, 8-29
- Colors
 - resolution, ICA, 13-13
 - Voyager Browser, 10-4, 10-6
- Communication setup
 - TN5250, 8-17
 - VT220, 8-24
- Configuration, 1683 NCT, 13-2
- Configuration screens
 - accessing administrator functions, 13-2
 - administrator password, 13-4
 - color setup, TN3270, 8-11
 - color setup, TN5250, 8-22
 - color setup, VT220, 8-29
 - communications setup, TN3270, 8-5
 - communications setup, TN5250, 8-17
 - communications setup, VT220, 8-24
 - date and time, 13-5
 - ISP setup, 11-14
 - keyboard setup, TN3270, 8-10
 - keyboard setup, TN5250, 8-21
 - keyboard setup, VT220, 8-27
 - miscellaneous setup, VT220, 8-30
 - NCT applications, 13-9
 - NCT mail, 13-8
 - NCT miscellaneous, 13-10
 - NCT network, 13-5 - 13-8
 - NCT update, 13-15
 - print setup, TN3270, 8-12
 - screen setup, TN3270, 8-9
 - screen setup, TN5250, 8-20
 - screen setup, VT220, 8-26
 - WWW, 10-3 - 10-6
- Configuring
 - administrator options, 13-4
 - administrator password, 13-4
 - connections, NCT network, 13-6
 - Date and time, 13-5
 - Dayminder preferences, 11-7
 - Dial-up connection, 11-14
 - Domain name servers, NCT network, 13-7
 - energy saver, monitor, 13-11
 - Gateway, NCT network, 13-6
 - ICA client, 13-11
 - language, 13-17
 - NCT applications, 13-9
 - NCT mail, 11-2, 13-8
 - NCT miscellaneous, 13-10
 - NCT network, 13-5
 - NCT update, 13-15
 - password, administrator, 13-4
 - TN3270, applications for, 8-9
 - TN5250, applications for, 8-20
 - Voyager Browser, 10-2
 - VT220, applications for, 8-26
- Configuring remote printers, 5-7
- Controller Step Key = ChgSc, 1480 CUT Emulator, 6-10
- CrSel key, 6-5
- D**
- Date and time, setting, 13-5
- DayMinder
 - about, 11-6
 - adding appointments, 11-8
 - adding reminders, 11-9
 - address book, 11-10
 - appointment button bar, 11-7
 - appointment panel, 11-7
 - button bar, 11-6
 - customizing, 11-7
 - Menu bar, 11-6
 - monthly calendar, 11-7
 - preferences, 11-7
 - reminders, 11-9
 - reminders panel, 11-7
 - starting, 11-6

- ToDo list, 11-8
- ToDo list, adding to, 11-9
- ToDo panel, 11-7
- weekly planner, 11-7
- window features, 11-6 - 11-7
- windows, resizing, 11-7
- Default printer, changing, 5-3
- Dial-up connection
 - about, 11-13
 - ISP setup, 11-14
 - login script, 11-15
 - modem setting, 11-15
 - script editor, 11-16
 - starting, 11-13
- Disable color override, 1480 CUT Emulator, 6-10
- Domain name server, 13-7
 - adding, 13-8
 - deleting, 13-8
 - designating primary, 13-8
- Doodle pad, 11-11
- Dual Screen mode
 - 1480 CUT Emulator, 6-10, 6-21
 - configuring, 6-19
 - enhancements, 6-21
 - starting, 6-20

E

- E-mail *See* NCT Mail
- Entering and editing data, 1480 CUT Emulator, 6-5
- Entry assist function, 6-3
- Environmental requirements, 12-2

F

- Frame, 4-4
- Full screen mode, 4-5
- Function (F or PF) keys, 1480 CUT Emulator, 6-6

G

- Graphics, printer, 5-5

H

- HAP Menu, 1480 CUT Emulator, 6-16
- Hotlists, Voyager Browser
 - adding sites to, 10-8
 - deleting sites from, 10-9
 - viewing, 10-9

I

- ICA
 - application servers, 13-12
 - configuring, 13-11
 - starting session, 13-14
- Increase session delay, 1480 CUT Emulator, 6-10
- Inspecting the package, 3-2
- Installed printers, 5-2
- Integration level, 13-3
- ISP
 - setup, 11-14
 - TCP/IP settings, 11-15

K

- Key assignments, 1480 CUT Emulator, 6-21
- Keyboard
 - chord instructions, 1-2
 - input, 1-2
 - PS/2 connector, 3-2
 - shortcuts, 4-6
- Keyboard layout
 - 1480 CUT Emulator, 104-key, 6-7
 - 1480 CUT Emulator, 122-key, 6-8
 - 1490 Twinax Emulator, 104-key, 7-5
 - 1490 Twinax Emulator, 122-key - 3270, 7-7
 - 1490 Twinax Emulator, 122-key - 5250, 7-6
 - TN3270, 104-key, 8-7
 - TN3270, 122-key, 8-8
 - TN5250, 104-key, 8-18
 - TN5250, 122-key, 8-19
- Keyboard Setup
 - 1490 Twinax Emulator, 7-4
- Keyboard setup
 - 1480 CUT Emulator, 6-12
 - TN3270, 8-10
 - TN5250, 8-21
 - VT220, 8-27

L

- Language configuration, 13-17
- Light-Pen, 1480 CUT Emulator, 6-3
- Loadable applications, 13-9
- Local printer, 5-2
- Local screen print
 - 1480 CUT Emulator, 6-3
 - printer connector, 3-2
- LPR menu
 - 1480 CUT Emulator, 6-18
 - 1490 Twinax Emulator, 7-13
 - TN3270, 8-13

LPR server, using the 1683 as, 5-8
LPR/LPD print feature, 5-7

M

Margins, printer, 5-5
Mark, 1480 CUT Emulator, 6-23
Mark field, 1480 CUT Emulator, 6-23
Mark Unprotected, 1480 CUT Emulator, 6-10
Mark Unprotected field indicator, 6-2
Mark/Paste, 1480 CUT Emulator, 6-23
Maximize/Restore button, 4-4
Message Pad, 2-3, 11-5
Minimize button, 4-4
Miscellaneous setup
 1480 CUT Emulator, 6-11
 VT220, 8-30
Modem
 login script, 11-15
 script editor, 11-16
 settings, 11-15
Modifiable keyboard, 1480 CUT Emulator, 6-3
Monitoring response time, 1480 CUT
 Emulator, 6-9
Mono/DualCase mode, 6-2, 8-4
Mouse
 click, 1-3, 4-3
 connecting, 3-3
 double-click, 1-3
 drag, 1-3, 4-3
 point, 1-3
 right button, 4-3
 using, 4-3
Mouse-Pen, 1480 CUT Emulator, 6-3
Moving the cursor, 1480 CUT Emulator, 6-4

N

NCT applications, configuring, 13-9
NCT Mail
 checking for mail, 11-3
 configuring, 13-8
 forwarding mail, 11-3
 reading messages, 11-3
 replying to mail, 11-3
 sending new mail, 11-4
 starting, 11-2
 welcome screen, 11-2
NCT miscellaneous, configuring, 13-10
NCT Network
 configuring, 13-5
 connection, 13-6
 DNS, 13-7
 gateway, 13-6

NCT Update
 configuration, 13-15
 troubleshooting, 13-16
 update list file format, 13-16
Non-loadable applications, 13-9
Notes, 1-3
Numeric lock, 1480 CUT Emulator, 6-2

O

Operator Password, 13-10

P

Paper selection, printer, 5-4
Password, 4-2
 administrator, 13-2
Paste, 1480 CUT Emulator, 6-23
Paste field, 1480 CUT Emulator, 6-23
Photon micro-GUI, 2-2
Physical statistics, 12-2
Ping, 13-17
Pointers
 basic, 4-3
 busy, 4-3
 I-beam, 4-3
 move, 4-3
 no input, 4-3
 resize, 4-3
Power cable
 connecting, 3-3
Power cable requirements, 12-2
Power outlet requirements, 12-3
Print preview, 5-6
Print setup
 1480 CUT Emulator, 6-14
 TN3270, 8-12
 VT220, 8-31
Print type, TN3270, 8-12
Printer
 adding, 5-3
 attached, 5-8
 available, 5-2
 color mode, 5-5
 default, 5-3
 graphics, 5-5
 install, 5-2
 installed, 5-2
 installing, 5-3
 local, 5-2
 margins, 5-5
 name, 5-8
 paper selection, 5-4

- properties, 5-2, 5-4
- remote, 5-2, 5-8
- set default, 5-2
- setup, 5-2
- uninstall, 5-2
- Printing
 - 1480 CUT Emulator, 6-14
 - screen Snapshot, 11-13
 - Voyager Browser, 10-9
- Printing features, 1480 CUT Emulator, 6-3
- PS/2 connector, keyboard, 3-2
- R**
- Remote host
 - connecting to, TN3270, 8-6
 - connecting to, TN5250, 8-17
 - connecting to, VT220, 8-25
 - logging in to, Telnet, 8-2
 - logging out of, Telnet, 8-3
 - logging out of, TN3270, 8-6
 - logging out of, TN5250, 8-20
 - logging out of, VT220, 8-25
 - setting up, TN3270, 8-5
 - setting up, TN5250, 8-16
- Remote printers
 - adding, 5-8
 - configuring, 5-7
 - support, 5-7
- Resize corner, 4-4
- Resizing windows, DayMinder, 11-7
- Response time monitor
 - 1480 CUT Emulator, 6-3
- Response time monitor, 1480 CUT Emulator, 6-3
- Right mouse button, 1-3, 4-3
- S**
- Screen print mode, 1480 CUT Emulator, 6-24
- Screen setup
 - 1480 CUT Emulator, 6-9
 - TN3270, 8-9
 - TN5250, 8-20
 - VT220, 8-26
- Select left, 1480 CUT Emulator, 6-21
- Select right, 1480 CUT Emulator, 6-21
- Selecting data fields, 1480 CUT Emulator, 6-5
- Sending data, 1480 CUT Emulator, 6-6
- Set default printer, 5-2, 5-3
- Setting up the 1683 NCT, 3-2
- Snapshot, 11-12
 - printing from, 11-13
- Standard features, 2-2
- Step Active session, 1480 CUT Emulator, 6-22
- Swap session, 1480 CUT Emulator, 6-22
- Switchable Screen Formats, 1480 CUT Emulator, 6-2
- T**
- Taskbar
 - functions, 4-2
 - using, 4-5
- Taskbar, accessing from full screen mode, 8-9, 8-20, 8-26
- Telnet session
 - ending, 8-3
 - starting, 8-2
- Telnet Terminal, 8-2
 - logging in to a remote host, 8-2
 - logging out of a remote host, 8-3
- Title bar, 4-4
- TN3270
 - about, 8-4
 - color setup, 8-11
 - communications setup, 8-5
 - configuring for an application, 8-9
 - copy/paste between sessions, 8-14
 - copy/paste from Calculator to, 8-15
 - features, 8-4
 - keyboard layout, 104-key, 8-7
 - keyboard layout, 122-key, 8-8
 - keyboard setup, 8-10
 - LPR menu, 8-13
 - print setup, 8-12
 - print type, 8-12
 - screen setup, 8-9
 - session, connecting to, 8-6
 - session, ending, 8-6
 - setting up a remote host, 8-5
- TN3270/TN5250 Keyboard Macros, 9-1
 - delays, 9-4
 - keystroke record/playback, 9-2
 - pauses, 9-3
 - playback speed, 9-4
 - playing keystroke sequences, 9-3
 - removing keystroke sequences, 9-3
 - storing keystroke sequences, 9-2
- TN5250
 - about, 8-16
 - color setup, 8-22
 - communications setup, 8-17
 - configuring for an application, 8-20
 - keyboard layout, 104-key, 8-18
 - keyboard layout, 122-key, 8-19
 - keyboard setup, 8-21
 - screen setup, 8-20

Index

- session, connecting to, 8-20
- session, ending, 8-20
- setting up a remote host, 8-16
- Toolbar icons, Voyager Browser, 10-7

U

- User ID, 4-2

V

- Vital Product Data, 13-3

- Voyager Browser

- appearance, 10-6
- cache, 10-3
- configuring, 10-2
- connection, 10-5
- printing, 10-9
- toolbar icons, 10-7
- user info, 10-4

- VT220

- about, 8-23
- color setup, 8-29
- configuring for an application, 8-26
- keyboard setup, 8-27
- miscellaneous setup, 8-30
- screen setup, 8-26
- session, connecting to, 8-25
- session, ending, 8-25
- setting up, 8-23

W

- Warnings, 1-3

- Window menu

- close, 4-5
- maximize, 4-5
- minimize, 4-5
- move, 4-5
- restore, 4-5
- size, 4-5
- to back, 4-5

- Window menu button, 4-4

- Window operations, 4-6

- Workspace operations, 4-6

Z

- Zoom key, 1480 CUT Emulator, 6-21