



## 1U Rack Mounted General Purpose Terminal Quick Start Setup Guide



## SECTION 1

### Introduction

The 1U Terminal is a general purpose character terminal with a 15" colour LCD display and keyboard mounted in a 1U high rack mountable tray.

The terminal connects to servers using either a serial RS232 console connection or an Ethernet telnet RSC console connection (to the RSC Ethernet console port where available).

The terminal offers multiple personalities, and can connect to multiple servers when used with a Console Server (for RS232 connections) or with an Ethernet Switch (for Ethernet connections).

**This guide describes the basic installations and configuration procedure. For further details, please see the Reference Manual which is available at [http://www.nlsgdisplays.com/pdf/docs/iterm/iTerm\\_v6-manual.pdf](http://www.nlsgdisplays.com/pdf/docs/iterm/iTerm_v6-manual.pdf)**

### SECTION 2

#### Hardware Installation

**Hardware installation consists of the following steps:**

- **Adjust and mount the removable slide rails in the rack.**

The slide rails that the terminal tray is delivered with must first be detached from the terminal tray by undoing the front thumb screws, extending the rails fully towards the rear (until they lock), disengaging the exposed safety catches (located midway along each side of the tray), and then completely removing the rails towards the rear. The rail length should then be adjusted to match that of the rack by slackening the 3 bolts holding the extendible rear rail sections.

Bolt the rails into the rack using the 8 included bolts. Please select a height that ensures that the terminal is easily visible, and where the keyboard can be used comfortably. Most racks will allow the rails to be bolted from the front and rear of the rack. Very deep racks may require the back of the rails to be bolted to an internal mid-rail within the rack, in which case the rear rail extensions should be reversed so as to present the appropriate mounting holes to the rack mid-rails.

- Mount the terminal tray in the slide rails.

Ensure that the fitted rails are not extended (by centering the catches located on the inside edges of the rails), and carefully slide the terminal tray into the fitted rails until it locks in to place. Please note that forcing the terminal tray in to the mounted rails without making certain of a good fit may cause permanent damage to the rail mechanisms. The terminal tray should slide easily when fitted correctly.

When fully extended, the terminal tray will lock in to position. The rail locks must be disengaged by springing the catches located mid way along the sides of the terminal tray before it can be slid home.

### SECTION 3

## Cable Connections

The terminal may be configured to communicate using either a serial RS232 connection or an Ethernet telnet connection. Although it is possible to connect both RS232 and Ethernet cables, it is only possible to use one type of connection at any time (depending on configuration defined in terminal set up).

The Ethernet network connection may be used to connect to any 10Mb compatible Ethernet host adapter. However the Ethernet connection is most suited for use with RSC (Remote System Control) Ethernet ports since these provide the same functionality as serial (tty) console ports.

If connecting a serial RS232 cable to the server, it is advisable to power down the server first.

The rear of the terminal tray has the following connections.



SERIAL 2                      PARALLEL                      SERIAL 1    10BASE T

- **Serial 2 and Parallel**

The terminal supports a local printer which can be connected to a serial (male 9-pin D connector) or parallel (female 25-pin D connector) interface. Printer cables are not included with the terminal, and specific printers have not been qualified for this connection.

- **Serial 1**

This is a male 9-pin D connector port which should be used for a serial RS232 console connection. The included cable can be used to connect this port to a female 25-pin D connector console port. The included 25-pin to 9-pin adapter should be used in conjunction with this cable when connecting to a male 9-pin D connector console port.

If your server has an RJ45 serial (RS232) port, connect the included 9-pin to 25-pin adapter directly to the SERIAL 1 port at the rear of the terminal. Then use the RJ45 cable and RJ45 to DB25 adapter (part number 530-2889) which are included with the server to connect to the terminal.

When the terminal loses power or is powered off, a 'break' may be generated on the RS232 (SERIAL 1) host port (as is common with most general purpose terminals).

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If connecting the terminal using the RS232 connection to a Console Server, use cabling recommended by the Console Server manufacturer. In this case an alternate break sequence may not be required, since some console servers are "Break Safe". Refer to the Console Server documentation for details.

- 10Base T

This is an RJ45 port that may be used for an Ethernet server connection.

This connection may be used with any 10Mb compatible Ethernet host adaptor. However the Ethernet connection is most suited for use with the RSC (Remote System Control) Ethernet ports since these provide the same functionality as serial (tty) console ports.

Connect a RJ45 to RJ45 UTP cable (not supplied) between this port and an Ethernet 10Mb compatible hub or switch. The network hub/switch should in turn be connected to the server RSC Ethernet port(s). The terminal supports 12 concurrent telnet connections when configured in Econ-80 screen column mode. The number of concurrent telnet connections reduces to 8 when using standard 80 column mode.

It is advisable that this network remain a private network for security reasons. If only one server is to be connected to by the terminal, a crossover (or cascade) UTP cable may be used.

When using an Ethernet console connection, the alternate break sequence need not be defined. However, the RSC Ethernet port must be configured using the "rsc-config" command.

**Finally, connect the power cable, which terminates in a male IEC320 connector, to a standard IEC320 socket in the rack.**

**SECTION 4**

**Configuration**

The terminal is delivered largely pre-configured. This section describes configuration for console serial or network connections. Refer to the reference manual for details.

- Switch on the terminal using the power switch located at the rear of the unit.
- Raise the screen, and if the screen power LED is not lit, use the power button at the bottom of the column of buttons located at the edge of the screen.
- Hold down the ALT key and then depress the Esc key to enter Setup Mode.
- Adjust the screen's brightness with the controls marked + and - located at the edge of the screen.
- If the screen image is not centered correctly, activate LCD auto-setup by pressing the 'Select' button (located second from bottom) at the edge of the screen. This should only be done when displaying the terminal setup screen.

To navigate the setup menus, use a function key to enter a setup menu, and then use the arrow keys to highlight the field to be changed. Use the space key to change the value of a parameter. Use F12 to return to the top level menu, and F12 again to leave setup mode. You will be prompted at this point if the setup parameters are to be saved for future sessions.

The terminal is delivered pre-configured with the following settings which are suitable for most RS232 serial console connections at 9600 baud using VT-100 emulation.

<p>Disp SETUP Menu</p> <p>Columns = Econ-80                  Cursor = Blink Block                  Screen Saver = Off                  Lines = 24                  Background = Dark                  Page Length = 1 x Lines                  Auto Page = Off                  Width change clear = Off                  ANSI Reverse = Off                  Display= LCD</p>	<p>F2 General SETUP Menu</p> <p>Personality = VT 100                  Enhance = On                  Status Line = Standard                  Scroll Speed = Jump                  Auto Scroll = On                  End of Line Wrap = On                  Rcvd CR = CR                  Monitor = Off                  Attribute = Char</p>	<p>F3 Keybd SETUP Menu</p> <p>Keyclick = Off                  Key Repeat = 5                  Xmt Limit = None                  Margin Bell = Off                  Language = US                  Keycode = ASCII                  NRC = Off                  Bell Volume = 2                  NUM Start = Off                  DEL Keypad = Dot/Del</p>
<p>F4 Comm SETUP Menu</p> <p>Baud rate = 9600                  Data / Stop Bits = 8/1                  Parity = None                  Rcv Hndshake = Xon/Xoff                  Xmt Hndshake = Xon/Xoff                  Comm Mode = FDX                  XPC Handshake = On                  Printer Selection = Off                  Multiple Sessions = Off                  Ethernet Mode = Off                  Auto Connect = Off</p>	<p>F5 Misc SETUP Menu</p> <p>Wprt Intensity = Dim                  Wprt Reverse = Off                  Wprt Underline = Off                  Block End = US/CR                  Ptr Baud rate = 38400                  Ptr Data/Stop Bits = 8/1                  Ptr Parity = None                  Ptr Rcv Hndshake = Xon/Xoff                  Ptr Xmt Hndshake = Xon/Xoff                  Ptr Rcv = Off</p>	<p>F9 Lan Setup Menu</p> <p>Local IP Address = {blank}                  Netmask = {blank}                  Gateway = {blank}                  Remote IP 0..B Address = {blank}                  Port 0..B = 23                  Term Type = vt100                  Ethernet Node ID = (default)</p>

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For use with an Ethernet connection the following parameters need to be configured:

- Display Setup (F1 in setup mode)

Page Length = 1\*Lines (only required if 'Multiple Sessions=On')

- Communications Setup (F4 in setup menu)

Multiple Sessions = off *or* on  
Ethernet Mode = on  
Auto Connect = off *or* on

'Multiple Sessions=on' should be set if multiple telnet sessions are required.  
'Auto Connect=on' is used to prevent the need to press return to establish a telnet connection.

- LAN Setup (F9 in setup mode)

Local IP Address = *IP address of the terminal*  
Netmask = *Netmask value for the network*  
Gateway = *gateway address if required by the network*  
Remote IP 0 Address = *IP address of first server* Port = 23  
Remote IP 1 Address = *IP address of second server* Port = 23  
....  
Remote IP B Address = *IP address of twelfth server* Port = 23  
Term Type = *Same as personality specified in General Setup menu*  
Ethernet Node ID = *leave at default value*

If only one host is being connected to, all twelve Remote IP addresses and ports should be set the same value.

Note: Eight separate telnet sessions are allowed if any columns other than Econ-80 is selected in Terminal Display set up. If Econ-80 is selected, the Multiple Sessions option allows twelve concurrent telnet sessions to be used.

Once the terminal has been configured, press F12 to prompt if the setup is to be saved. Select Yes by pressing space and then press F12 again to exit setup mode.

If any IP addresses or Ethernet settings have been defined or edited, the terminal must now be power cycled by using the switch at the rear of the terminal (ensure that no serially connected host is present prior to power cycling the terminal).

If the host server is connected and active, pressing return (if Auto Connect was set to off) should now display a server login prompt.

Each of the defined servers may be selected by using ALT and a function key. For example to connect to a server which has been defined as Remote IP Address 3, press ALT and Function Key 4 (since the IP addresses are defined from 0 to 11 and the function keys are labeled 1 through to 12).

When connecting to a server which is switched off or does not have telnet configured, a 10 second timeout will occur when the server is selected (if Auto Connect is on), or after pressing return when the server is selected (if Auto Connect is off). During this 10 second timeout, it is not possible to select another server or enter setup.

Please ensure that the Page Length is set to '1\*Lines' in the Display Setup (F1 in setup) to prevent possible problems when switching between different servers.



SECTION 5

Specifications

<b>Physical</b>	
Dimensions	44mm x 483mm x 615mm HxWxD
Weight	13Kg
Temperature	0°~40°C operating, -20°~60°C storage
Humidity	5% to 95% non condensing
Power Supply	Auto-ranging 90-262 VAC, 47-63Hz
Power Consumption	60W (max), <25W (standby)
Cables Included	Power (IEC320), 3m RS232 terminating in DB25M, DB25F-DB9F adapter
Rack mount kit	Included for Sun & most EIA 19" racks
Standards	CE, FCC
Installation	User Installable
Warranty	12 months RTD (return to depot)
Maintenance	Contact Sun Support for options
<b>LCD Panel Specifications</b>	
Screen size	15.1" visible diagonal
Resolution	800x600
Controls	contrast, brightness, auto-adjust, colour
LCD Power switch	Automatic with manual override
Brightness	250cd/m <sup>2</sup> (typical)
Contrast	300:1 (typical)
Viewing Angle	L/R=75°/75°, U/D=55°/65°
Screen protection	2mm glass
LCD Approvals	FCC-B, CE, VCCI-II, BSMI, CCIB, UL, CUL, TUV, CB, TCO'99
<b>Keyboard Specifications</b>	
Type	101 key
Layout	US
<b>Terminal Emulation</b>	
Emulations	VT52, VT100, VT220, Console ANSI, PC TERM, TVI910+/925, WY-50+, WY-60, WY-100, WY-120, WY-325, PCG Alpha
Character matrix	7x12 dot matrix in 10x16 cell
Screen size	80x25
Page length	1, 2, or 4 screens (single-screen page length only when using multiple telnet sessions)
Cursor	Blink or steady, block or underline
Modes	Full duplex, half duplex, block mode, half block mode
Colour modes	16 foreground and 16 background colours
<b>Communication Ports</b>	
Serial port for host connection	One DB9M RS232 port
Network port	One RJ45 10Base-T Ethernet port
Local printer ports	DB25F Parallel and DB9M RS232 port
Serial baud rates	50 to 115,200 bps
Data format	7/8 data bits with/without parity, 1/2 stop bits
Serial handshake	XON/XOFF, XPC, and hardware DTR
Communications options	Single RS232 server connection, or up to 12 Ethernet telnet sessions to predefined IP addresses. Both serial and Ethernet connections can not be used concurrently.

