



RACKMUX® Series

RACKMUX-T15 Rack Mount ANSI Terminal Drawer

Quick Start Setup Guide

Introduction

The RACKMUX-T15 (RACKMUX) is a general-purpose character terminal with a 15" color LCD display and keyboard mounted in a 1U high rack mountable tray. The RACKMUX 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 RACKMUX-TERMINAL Installation and Operation Manual.

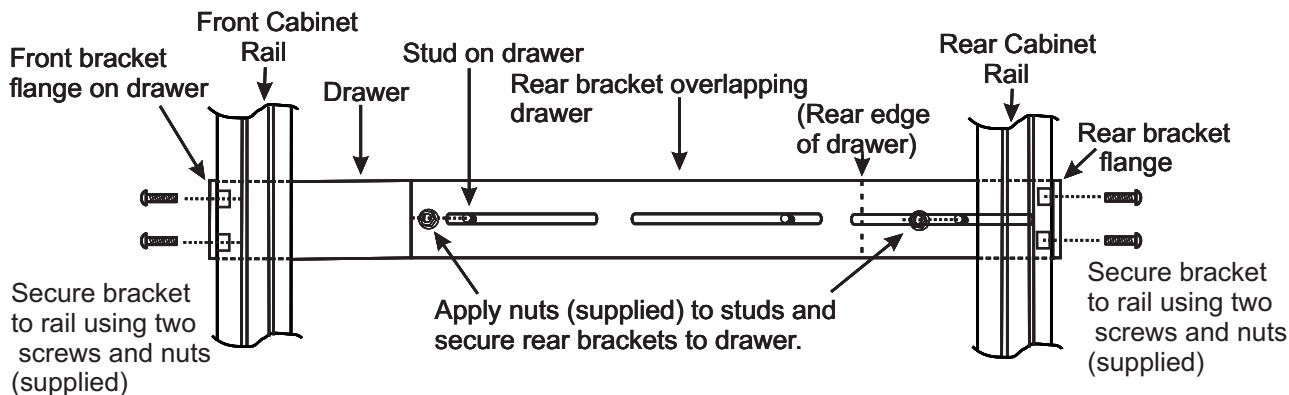
Hardware Installation

Hardware installation consists of the following steps:

1. Determine the mounting height in the rack for the drawer. It should be a height comfortable to use the keyboard and see the LCD display. Mark holes in each of the 4 corner cabinet rails at points all level with each other.
2. Secure the rear brackets to the rear rack cabinet rails at the holes marked in step 1 using #10-32x3/4" screws and cage nuts (supplied). Be sure to tighten the screws securely.
3. Lift the keyboard into position and line the studs on the left and right sides up with the slotted openings in the rear bracket. Apply the nuts (supplied) to the studs but do not tighten the nuts yet.

FYI: There are 5 mounting studs provided on each side of the RACKMUX. Depending on the depth of the rack and distance apart of the cabinet rails, the position of the rear bracket may make all 5 studs available for use. In this case, apply the 2 nuts to the studs furthest apart from each other on each side.

4. Slide the drawer in until the top holes in the front bracket flanges line up with the holes marked in step 1. Secure the front brackets on the drawer to the front cabinet rails using #10-32x3/4" screws and cage nuts (supplied). Be sure to tighten the screws securely. Then tighten the nuts applied in step 3.



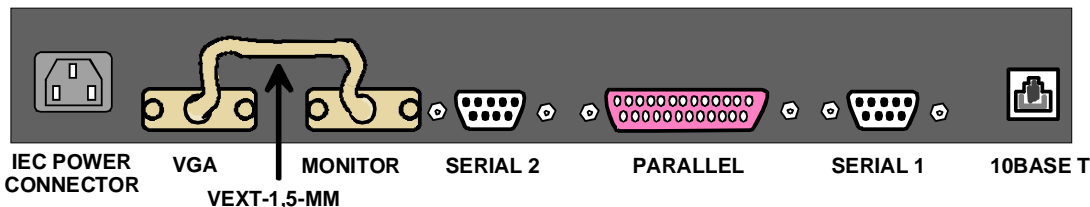
Note: Very deep racks may require the back of the rails to be bolted to an internal mid-rail within the rack, in which case the rear rail extensions should be reversed so as to present the appropriate mounting holes to the rack mid-rails.

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 (determined by the 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 (ttya) 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.



- **VGA and MONITOR**

These two 15HD female video ports must be joined together using the VEXT-1,5-MM cable supplied. Connect this cable between these ports.

- **Serial 2 and Parallel**

The terminal supports a local printer that 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 that should be used for a serial RS232 console connection. The included 9DB female to 25DB male null modem cable can be used to connect this port to a female 25-pin D connector console port. A 25-pin to 9-pin adapter will be needed (not included) in conjunction with this cable when connecting to a male 9-pin D connector console port.

If connecting to a SUN server, when the terminal loses power or is powered OFF, a 'break' may be generated on the RS232 (SERIAL 1) CPU port (as is common with most general purpose terminals). To prevent this halting a connected Sun server, ensure that the "alternate break" sequence is configured. See SunSolve Info Doc 21258 for details.

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 adapter. 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 (ttya) console ports.

Connect an 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.

Note: It is advisable that this network remains 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 powercord to the IEC connector.

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 keyboard.
- 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 rear of the keyboard.
- If the screen image is not centered correctly, activate LCD auto-setup by pressing the 'Select' button at the rear of the keyboard. 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. The user 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 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>

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*

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

Note: Eight separate telnet sessions are allowed if any columns other than Econ-80 is selected in Terminal Display Setup. 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 <F4> (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.

Technical Specifications

Physical	
Size (In.) WxDxH	19x21.9x1.725
Weight	23.3 lbs.
Temperature	0°~40°C operating, -20°~60°C storage
Humidity	20% to 90% non condensing
Power Supply (Standard)	110/220VAC, 50-60Hz
Power Supply (RACKMUX-T15-48V model only)	36-72VDC
Power Consumption	60W (max), <25W (standby)
Cables Included	IEC Power cord (country specific), 1-1/2 foot 15HD VGA, 6 foot DB9 female to DB25 male null modem cable
Rack mount kit	Included for Sun & most EIA 19" racks
LCD Panel Specifications	
Screen size	15.1" visible diagonal
Resolution	800x600
Controls	contrast, brightness, auto-adjust, color temperature
Brightness	250cd/m ² (Nits)
Contrast	500:1 (typical)
Viewing Angle	140° H / 125° V
Keyboard Specifications	
Type	83 key (US) / 84 key (Europe)
Terminal Emulation	
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 with 3 dot descenders
Screen size	80x25
Page length	1, 2, or 4 screens (multiple screen page length reduces maximum number of possible telnet sessions)
Cursor	Blink or steady, block or underline
Modes	Full duplex, half duplex, block mode, half block mode
Color modes	16 foreground and 16 background colors
Communication Ports	
Serial port for host connection	One DB9M RS232 port
Network port	One RJ45 10Base-T Ethernet port
Local printer ports	One DB25F Parallel and one DB9M RS232 port
Serial baud rates	50 to 115,200 bps
Data format	7 or 8 data bits with or without parity, 1 or 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.