

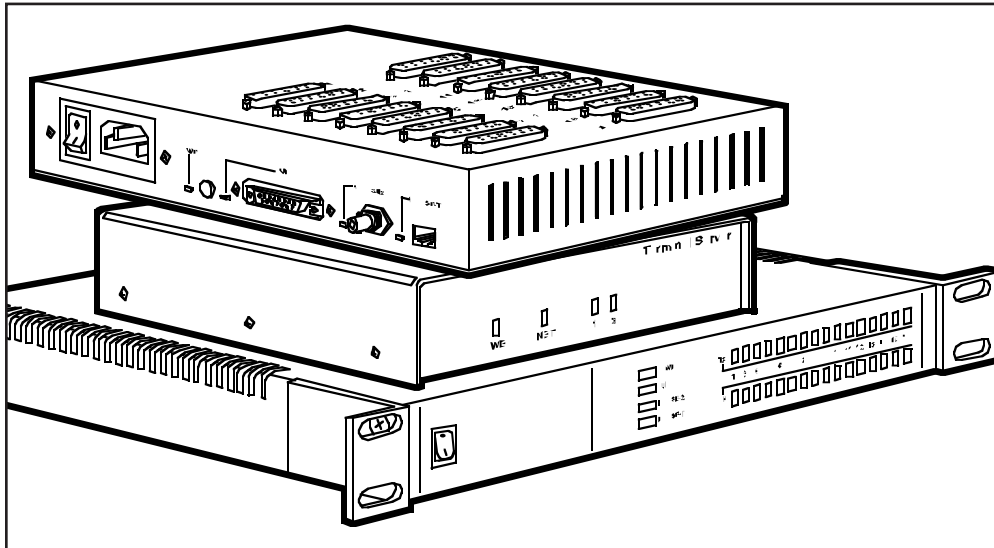


# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

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Black Box Corporation.

## ENHANCED TCP/IP TERMINAL SERVERS



*Attach your PCs,  
terminals, printers,  
and especially  
modems a Terminal  
Server for instant  
connectivity to your  
UNIX hosts.*

### Key Features

- ▶ **2, 4, 8, or 16 RS-232 serial ports, supporting data rates up to 115.2 kbps.**
- ▶ **Available in three chassis: standalone (with DB25 RS-232 ports), standalone (with RJ-45 RS-232 ports), or rackmount (with RJ-45 RS-232 ports).**
- ▶ **Instant connection to 10-Mbps Ethernet.**
- ▶ **Compatible with all known varieties of UNIX<sup>®</sup>, plus WINS support for Windows environments.**

Tired of 10-Mbps Ethernet terminal servers that still “don’t do” TCP/IP and have no clue how to talk to your UNIX<sup>®</sup> computers?

Our Enhanced TCP/IP Terminal Servers are ready for your network. They come in two 8- or 16-port varieties and one 2- or 4-port variety. The standalone 8- or 16-port version has regular DB25 female RS-232 connectors (pinned as DTE). The rackmount 8- or 16-port version has RS-232 RJ-45 sockets. The standalone 2- or 4-port version has RS-232 RJ-45 sockets. (Both DB25 and RJ-45 ports carry all signals necessary for full modem control; less expensive, more flexible twisted-pair cable can be used with the RJ-45 port.) These ports can be set for any standard data format or flow-control option and for most standard async data rates from 50 bps to 115.2 kbps.

You can attach a network cable to any one (but only one) of the 8- or 16-port Terminal Server’s three Ethernet ports (AUI, ThinNet, or 10BASE-T); it will autosense the connection and establish its network presence immediately.

The Terminal Servers are compatible with every type of UNIX we’ve tested them with, including Linux, SCO<sup>®</sup> UNIX and Gemini<sup>®</sup>, AIX<sup>®</sup>, Solaris<sup>®</sup> HP-UX<sup>®</sup>, DG/UX<sup>®</sup>, BSD<sup>®</sup>, IRIX<sup>®</sup>, and Citrix<sup>®</sup> Winframe<sup>®</sup>. All models are also compatible with Windows<sup>®</sup> 3.x, 95, 98, NT, and 2000, though some of their important features (such as TFTP and dial-out socket connections) are not yet available under Windows.

Whatever you want to do with TCP/IP, the Servers most likely will handle the protocol. They operate with telnet and rlogin for session control; PPP, SLIP, and CSLIP for modem and remote-

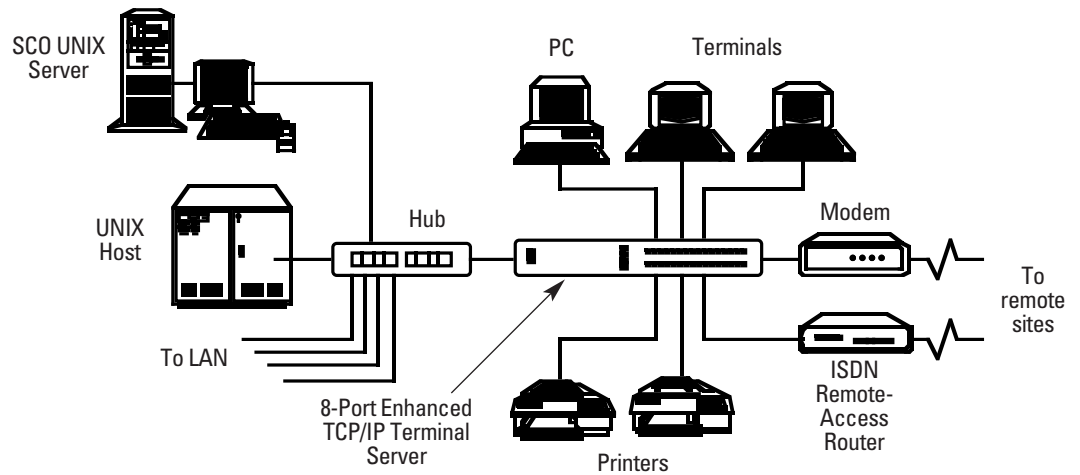
access support; lpd and rcp for printer support; ARP and BOOTP for network-based setup; DNS for internetworking support; and gateway tables for IP-routing support, among others. The Servers also fully support SNMP, and they come with proprietary software that includes utilities that extend modem and printer support, add “fixed tty” support for terminals, and process proprietary SNMP variables.

The Servers have a pop-up menu system (with on-screen help) that can appear in multiple terminals and in any of five languages (English, French, Spanish, German, or Italian).

Security’s assured. The units support supervisor and port passwords; port locking; authentication (including PAP); user access profiles; logging for service, audit, and billing; and modem auto-reset.



**For powerful TCP/IP-based peripheral control and data communication, these Terminal Servers are hard to beat.**



## Specifications

**Compliance:** EMI/RFI: CE (EN55022 Class B), FCC Part 15 Subpart J Class A, IC Class/classe A; Electrical safety: EN 60950, UL 1950 (CSA NRTL/C), C22.2 No. 950

**Standard:** IEEE 802.3 Ethernet, SNAP

**Interface:** All models: Serial: EIA/TIA RS-232 (ITU-T V.24, V.28), DTE; 37688, 37687, 40871, 40870: Network: 10BASE5 ThickNet (AUI), 10BASE2 ThinNet, or 10BASE-T, autosensing; 41872, 41874: Network: 10BASE-T

**Protocols:** Serial: Asynchronous; Network: TCP/IP (including telnet and rlogin), UDP, ICMP, BOOTP discovery user services, TFTP download/upload services, PPP, SLIP, CSLIP, and SNMP (MIB I, MIB II, and proprietary variables)

**Data Format:** Serial: 5, 6, 7, or 8 data bits; even, odd, or no parity; and 1, 1.5, or 2 stop bits; independently user-selectable for each port

**Flow Control:** Serial: X-ON/X-OFF (software), RTS/CTS (hardware), both software and hardware, WANG® compatible, or none—enabled on either the input side or the output side or both— independently user-selectable for each port

**Data Rate:** Serial: 115,200, 57,600, 38,400, 19,200, 9600, 4800, 2400, 1800, 1200, 600, 300, 150, 110, or 50 bps, independently user-selectable for each port; Network: 10 Mbps

**User Controls:** All models: Included software; Firmware-based menu and command-line systems; Standalone models: Side-mounted ON/OFF rocker switch and reset pushbutton; Rackmount models: Rear-mounted ON/OFF rocker switch and reset pushbutton

**Indicators:** 37688, 37687: (4) Side-mounted LEDs: Power, AUI, BNC, 10BASE-T; 40871, 40870: Rear-mounted LEDs: (1) Power, (1) AUI, (1) BNC, (1) 10BASE-T; Port Activity: 40871 model: (8); 40870 model: (16); 41872, 41874: Front-mounted LEDs: Power, Network, Port Activity: 41872 model: (2), 41874 model: (4)

### Connectors:

37688, 37687: Top-mounted DB25 female (serial): 37688 model: (8); 37687 model: (16); Side-mounted: (1) DB15 female for AUI; (1) BNC female for 10BASE2; (1) RJ-45 female for 10BASE-T; (1) IEC 320 male power inlet;

41872, 41874: All rear-mounted: LAN: (1) 10BASE-T RJ-45; Serial: 41872 model: (2) RJ-45, 41874 model: (4) RJ-45;

40871, 40870: All rear-mounted: RJ-45 female (serial): 40871 model: (8); 40870 model: (16); (1) DB15 female for AUI; (1) BNC female for 10BASE2; (1) RJ-45 female for 10BASE-T; (1) IEC 320 male power inlet

### Power:

37688, 37687, 40871, 40870: 100 to 230 VAC, 47 to 63 Hz, at 0.2 amps (115 VAC) or 0.11 amps (230 VAC), from utility-power (mains) AC outlet through a detachable power cord to an internal transformer;

41872, 41874: 110 to 230 VAC, 50/60 Hz, autosensing, external;

All models: Consumption: 30 watts maximum; Thermal Dissipation: 30 milliwatts maximum

**MTBF:** 50,000 hours at 33°C

**Altitude Tolerance:** -152.4 m to +4572 m

**Temperature Tolerance:** Operating: 5 to +50°C; Storage: -30 to +80°C

**Humidity Tolerance:** Operating: 10 to 90% noncondensing; Storage: 5 to 95% noncondensing

**Impact Tolerance:** Up to 2 G at 330 Hz

**Size:** 37688, 37687: 4.6 x 22.9 x 30.5 cm; 41872, 41874: 3.3 x 23.1 x 16.3 cm; 40871, 40870: 4.3 x 49 x 30 cm

**Weight:** 37688, 37687: 1.6 kg; 41872, 41874: 1.3 kg; 40871, 40870: 1.8 kg



## Typical Applications

- Attach a whole bank of modems and have the Terminal Server function as a front-end processor for your UNIX host's remote data communication.
- Attach a system of RS-232 sensors and data loggers and feed the data through your LAN to your monitoring server running Windows NT.

## The Complete Package:

- The Enhanced TCP/IP Terminal Server.
- Its power cable.
- (1) 3.5" software diskette.
- (2) mounting brackets (for 40870, 40871) or (4) mounting brackets (for 37687, 37688).

**NOTE: No mounting brackets are included with the 41872 or 41874.**

- (1) RS-232 loopback-test connector.
- (1) 10BASE-T loopback-test connector.
- A users' manual.
- An electrical-safety booklet.

## Additional Equipment You May Need:

- Cables to run your equipment.
- AC-power and data-line surge protectors.

## Ordering Information

ITEM	CODE
Enhanced TCP/IP Terminal Servers	
Standalone with DB25 Connectors	
8-Port.....	37688
16-Port.....	37687
Standalone with RJ-45 Connectors	
2-Port.....	41872
4-Port.....	41874
Rackmount with RJ-45 Connectors	
8-Port.....	40871
16-Port.....	40870

### You might also want to order...

#### For modems:

Straight-through pinned RS-232 cable,  
DB25 male to DB25 male,  
10-ft. (3-m) .....ECM25C-MM-0010

#### For PCs, terminals, printers (DTEs):

Proper cross-pinning can vary depending on your equipment. Please call Black Box Technical Support at 724-746-5500 to make sure you get the right cable for your application.

