BLACK BOX®
NETWORK SERVICES

E1 NTU with QoS

Key Features

▶ Structured and unstructured G.703 to X.21 conversion.

▶ Supports X.21, V.35, RS-530 and RS-449 DTE interfaces.

▶ Monitors the entire protocol stack with RMON 1 & 2.

▶ Full FRF-13 standard-based SLA verification.

▶ LMI conditioning for easy trouble-shooting.

▶ Field-upgradable when QoS functionality is required.

▶ In-band management.

▶ Ethernet management interface.

▶ Link-based testing and delay monitoring.

▶ Embedded SNMP agent.

The E1 NTU with QoS is Black Box's most sophisticated single-port NTU yet. In basic form, it's used to connect DTE equipment with X.21, V.35 or RS-449 interfaces to structured or unstructured E1 services. But it's also capable of fully flexible G.704 time slot mapping for Nx64k services, external timing for onward linking services and adjustable framing parameters such as CRC/MF. The unit comes with an autosensing power supply but can also accept DC power (ranging from -40 to -72 VDC) with no modification.

Management features:
With the E1 NTU with QoS, you're given extensive management features, including:
• An Ethernet management interface and an embedded SNMP agent, so you can use standards-based MIBs to easily manage the unit.
• Simultaneous SNMP, Telnet™, PING or TFTP management capabilities.
• Link testing and delay monitoring using the NTU's built-in PING facility.
• A DB9 (dumb terminal) connector and DIP switches for easy configuration.

By using the Local Management Interface (LMI) conditioning option, you can set up separate data link connection identifiers (DLCIs) for your service provider and customer network management systems. That way, even in the event of Frame Relay network failure, they can still communicate with the E1 NTU.
E1 NTU with QoS provides 0, 32 or 96 DLCI monitoring options. You can select the most appropriate level now and upgrade as your requirements change.

Ensure Quality of Service (QoS)
Quality of Service is the FRF-13 standard for Service Level Agreements (SLAs). FRF-13 verifies that you're getti ng what you pay for from your service provider by monitoring the network performance using industry-standard metrics.
As a service provider , you can monitor and ensure you're delivering the service you have agreed to with your customer. The ET NTU with QoS does this by collecting data and displaying it in easy-to-read screens of the optional ChoiceView Network Monitor software.
Specifically, FRF-13 measures frame delivery ratio (FDR), data delivery ratio (DDR), frame transfer delay and service availability.

It's upgradable!
The E1 NTU with QoS breaks new ground in offering a range of field-upgradable QoS options. These can be feature-keyed at any time.
Options include:
• **Real-Time Performance Monitoring —** correct issues before they become outages by monitoring traffic at critical network points. This function provides reports on load levels and available capacity, so you can plan effectively for network expansion.
• **Four Standards-Based RMON-1 Tables —** RMON-1 monitors network activity, helps pinpoint problems and provides efficient and intelligent data, such as Statistics, History, Alarms and Events.
• **Four Standards-Based RMON-2 Tables —** RMON-2 monitors the entire protocol stack, enabling you to keep track of applications, protocols and top talkers. The RMON-2 tables collected: Protocol Directory, Protocol Distribution, Network-Layer Host and Application-Layer Host. What's more, as new enhancements (like IP QoS) are released, you can download code updates to the NTU.

Specifications

Controls — Front-panel controls for loopback

Speed — E1 port: 2.048 Mbps ± 50 bps; DTE port: Nx64 kbps (N = 1 to 31)

System Requirements — ChoiceView Network Monitor software; Pentium® (or compatible) 233-MHz or faster processor; 64-MB RAM; 30-MB of hard drive space; Windows® 95, 98 or NT® (4.0); MS® Internet Explorer® (5.x or higher); Netscape Navigator® 4.x or higher

Connectors — (1) DB25 F (DTE port) ; (2) BNC or (1) DB15 F (network port)

Indicators — (11) LEDs
Power — 100–240 VAC 50–60 Hz internal, 9W

Size — 4.4H x 22.2W x 31.8D cm

Weight — 2.95 kg

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▼ *Ordering information*

ITEM	CODE
E1 NTU with QoS	.MTU9086-120