



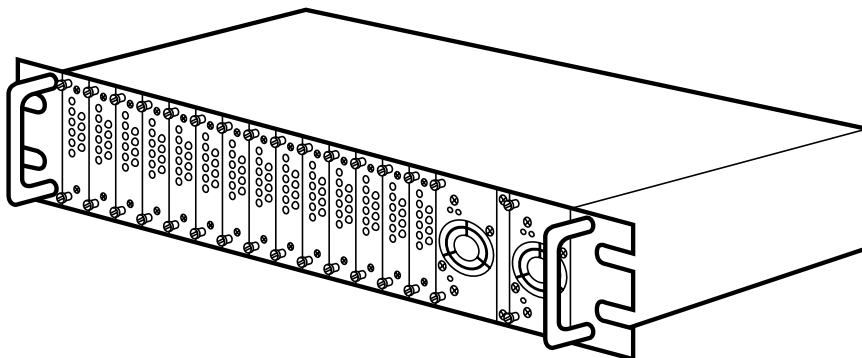
© 2002. All rights reserved.
Black Box Corporation.

BLACK BOX[®]

NETWORK SERVICES

Black Box Corporation • 1000 Park Drive • Lawrence, PA 15055-1018 • Tech Support: 724-746-5500 • www.blackbox.com • e-mail: info@blackbox.com

16-PORT MANAGED MICRORACK



Install up to 16 interface cards in only 2U of rack space—and manage them via SNMP/HTTP!

Key Features

- ▶ **Compact rack system occupies just 2U of vertical space.**
- ▶ **Order the SNMP/HTTP Card for flexible rack management.**
- ▶ **Load-sharing, dual-redundant power supplies.**
- ▶ **Daisychain up to 8 racks for additional connections.**
- ▶ **A wide variety of cards available for different interfaces.**
- ▶ **Cards for mDSL, hDSL, and iDSL connections.**
- ▶ **Up to 50-km distances between two single-mode fiber cards.**

When space is tight, choose the BLACK BOX[®] 16-Port Managed MicroRACK system. Resilient dual-power supplies and the ability to mix different types of access solution cards add up to a compact, reliable solution—all in only 2U (3.5") of vertical space in a 19" rack!

Two sturdy front handles allow the rack to be installed, extracted, or transported easily. Plus, it's expandable; you can cascade multiple racks and establish up to 320 card connections.

The 16-Port Managed MicroRACK can not only save you space and effort, but it also has slots for a pair of power supplies that provide redundant power to keep your mission-critical applications alive. Each power supply is capable of providing 100% of your rack power requirements. In the event of a power failure, the other supply immediately takes over and the MicroRACK alerts you to the failure. The rack also notifies the central site operator of the power failure through the network management system.

There are two types of rack power supplies. The AC version (PS466A) plugs into any standard AC outlet (90–264 VAC, 50/60 Hz); the rack comes with one of these already installed. The DC supply (PS466A-DC) can be attached to a site's -48-VDC power (actual voltage range can be from -42 to -60 VDC). Each of these power supplies—as do all of the function cards designed for the MicroRACK—consists of a front-mounted "front card" and a rear-mounted "rear card"; these cards meet at a midplane interface inside the rack.

A Managed MicroRACK can take any combination of the power supplies. A single supply provides power to up to 16 rack cards. With a pair of power supplies, you can provide redundant power for up to 14 rack cards. This way, you can keep your system operating smoothly; it won't come to a standstill if one supply fails.

Once powered, the rack begins operating automatically—it has no on/off switch—and you can check

the status of the power supply via front-card LEDs.

There are five possible configurations for the rack:

- Standard—16 cards and 1 power supply;
- Managed—15 cards, 1 SNMP/HTTP Card, and 1 power supply;
- Redundant—14 cards and 2 power supplies;
- Managed/redundant—13 cards, 1 SNMP/HTTP Card, and 2 power supplies;
- Daisychained/redundant (up to 8 racks)—13 cards, 1 SNMP/HTTP Card, or 1 Control Module, and 2 power supplies.

A wide variety of function cards are available. You may also want an SNMP/HTTP network management module, which enables you to configure and perform diagnostics using SNMP or HTTP over a 10BASE-T Ethernet connection. If you want to daisychain racks together, order the Control Module (RM262C).

Card Choices

Mix and match the widest range of cards, whether you want to provide high-speed G.703 access, router links, or short-haul modem hook-ups. We offer cards for various DSL, mDSL, hDSL, and iDSL connections, including V.24, V.35, X.21, 10BASE-T, G.703, and RS-530. And as new DSL technologies develop, this range will expand!

As with the Managed MicroRACK's power supplies, the rack's function and SNMP/HTTP cards come in two parts: a front card and a rear card.

QuikConnect™ technology enables you to hot-swap rear modules and switch interfaces.

G.703/E1 Fiber Line Driver Cards

These cards are designed to link a local G.703/G.704 or E1 device or network to a remote site across a single strand of fiber optic cabling.

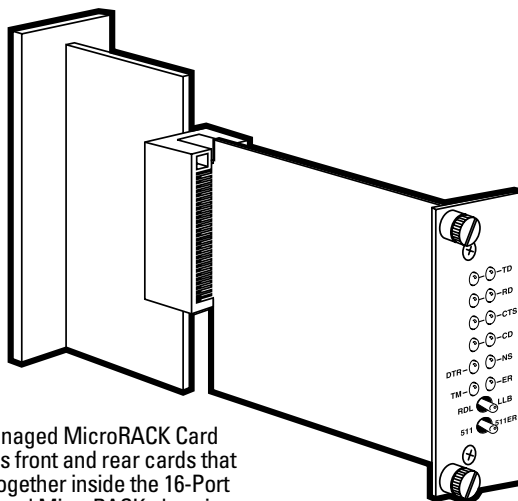
They're ideal for extending the G.703 signals on multiplexors or cellular base stations. In a mobile telephony application, for instance, you can use the G.703/E1 Fiber Line Driver Cards to connect cell towers with your native G.703 equipment. Or you can extend the reach of a G.703 network to any location not served by a traditional G.703 transceiver.

The cards operate full-duplex over just one fiber strand, maximizing your cabling investment. And with fiber, there's no need to worry about electrical interference, surges, or unauthorized access to your data.

Several models are available:

- The multimode version can transmit across as much as 2.5 km (1.5 mi.) of 62.5/125- μ m multimode cable. It has ST® fiber connectors.
- The single-mode versions can transmit across as much as 50 km (31 mi.) of 9/125- μ m single-mode cable. These cards are available with FC and SC fiber connectors.

The G.703/E1 Fiber Line Driver Cards accept either 120-ohm twisted-pair or 75-ohm dual-coaxial E1 or G.703/G.704 connections. They each have an RJ-48C jack for the



A Managed MicroRACK Card includes front and rear cards that snap together inside the 16-Port Managed MicroRACK chassis.

twisted-pair and two BNC jacks (one TX, one RX) for the coax.

You can set the cards to use any valid combination of internal clock, network clock (external from the attached device or network), or receive-recover clock (across the fiber line from the other driver card).

The drivers typically use HDB3 coding for E1 or G.703/G.704 data. But if you have older equipment, you can set them to use AMI data coding instead.

Six front-panel LED indicators alert you to fiber-line and E1-line status, loss of sync, test mode, error, and no signal.

The cards also have two switches for running V.54-compliant local analog loopback and remote digital loopback tests and for controlling the injection of V.52-compliant 511-bit and errored 511-bit BERT patterns.

For more information, request Product Data Sheet 25838, which also includes details on the standalone models.

2-Wire Short-Range DSL Line Driver Cards

Choose these cards for fast DSL connections to the Internet as well as ATM, Frame Relay, and campus networks. With multiple interface options, we have a driver that's right for you!

mDSL Cards

These cards provide high-speed 2-wire connectivity to ISPs, PTTs, and organizations using mDSL (multi-rate Digital Subscriber Line) technology. Multi-rate DSL delivers the maximum bit rate that a twisted-pair line can accommodate.

Supporting multiple line rates from 144 kbps to 2.320 Mbps, the mDSL Card provides "Megabit" speeds to leased-line, LAN-to-LAN interconnection, and WAN access networks over 3.6 mi./5.8 km (1.054 Mbps on 24-AWG/0.5-mm wire). DTE speeds range from 64 kbps to 2.3 Mbps in 64-kbps increments. Transmitting at shorter distances gives you the highest speeds.

Features include loopback diagnostics, out-of-band SNMP/HTTP remote management capabilities when using the SNMP/HTTP Card, and three externally accessible, eight-position configuration DIP switches. Along with its two proprietary loopback test modes, the card has a built-in V.52 BER test-pattern generator, which evaluates the condition of the modems and the communication link.

As a symmetric DSL NTU, the mDSL Card gives you the same data rates in both directions over a single pair of regular phone lines using Carrierless Amplitude and Phase (CAP) modulation.

You can configure the DTE rate for the link from the rack card at the central office. This application includes a standalone line driver unit (such as Black Box part number ME0005A-xx) at the customer premise site. The standalone unit can automatically configure itself to the DTE rate of the rack card while other configuration parameters fall to the default state. This way, you can make configuration changes from a single end of the link.

The mDSL Cards are available in six fixed-interface versions. We have models for V.24, V.35, X.21, 10BASE-T Ethernet, G.703/G.704, and RS-530 networks. Each of these options supports one DTE interface connection and one 2-wire line connection.

For details on the standalone line driver models, request Product Data Sheet 25869 or 25852. Or simply call Tech Support.

hDSL Cards

These cards are similar to the mDSL ones but offer high-speed 2-wire connectivity to ISPs, PTTs, and other organizations using hDSL technology. They, too, offer the ability to deliver the maximum bit rate that a twisted-pair line can accommodate.

As a symmetric DSL NTU, hDSL (high-speed DSL) offers the same data rates in both directions over a single pair of ordinary telephone lines using 2B1Q modulation, which also lessens crosstalk between adjacent lines and improves signal-to-noise ratios.

The card supports multiple line rates from 144 kbps to 1168 Mbps, bringing Megabit speeds to leased-line, LAN-to-LAN interconnection, and WAN access networks over 2.9 mi./4.7 km (1.152 Mbps on 24-AWG/0.5-mm wire).

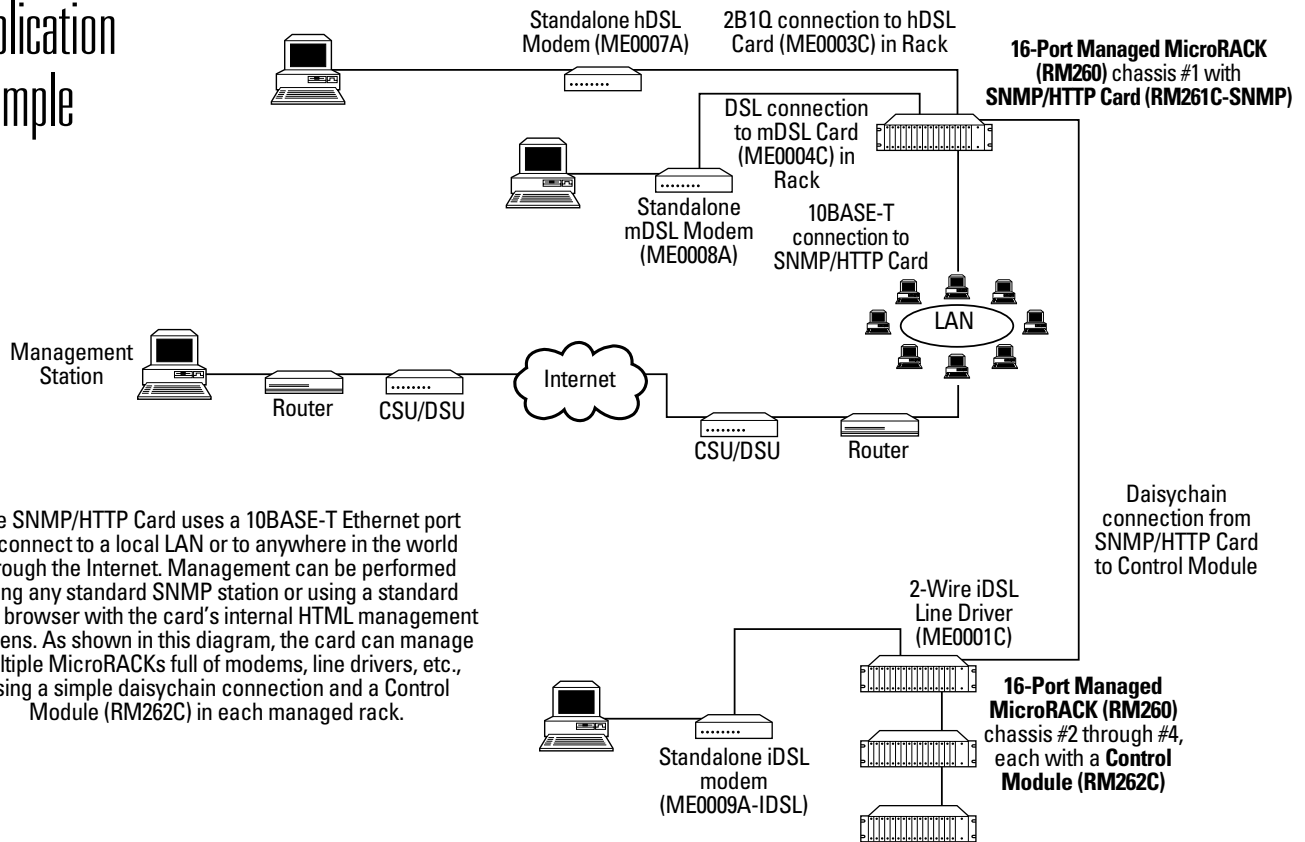
With the card, you can achieve DTE speeds from 64 kbps to 1.152 Mbps in 64-kbps increments. Use lower speeds to achieve the greatest distances. Features include loopback diagnostics, out-of-band SNMP/HTTP remote management capabilities, and easy-to-access configuration DIP switches.

The same fixed interfaces available on the mDSL cards are available on the hDSL models. Choose from cards for V.24, V.35, X.21, 10BASE-T, G.703/G.704, and RS-530 networks. Each card supports one DTE interface connection and one 2-wire line connection.

For details on the standalone hDSL line driver models, request Product Data Sheet 25869 or 25852. You can also call our Tech Support.

(continued on page 3)

Application Example



The SNMP/HTTP Card uses a 10BASE-T Ethernet port to connect to a local LAN or to anywhere in the world through the Internet. Management can be performed using any standard SNMP station or using a standard Web browser with the card's internal HTML management screens. As shown in this diagram, the card can manage multiple MicroRACKs full of modems, line drivers, etc., using a simple daisychain connection and a Control Module (RM262C) in each managed rack.

(continued from page 2)

2-Wire iDSL Line Drivers

Extend your distances by using four wires instead of two. This iDSL (ISDN DSL) card supports high-speed operation on single or dual copper pairs. Specifically, it enables synchronous or asynchronous data to be transmitted point-to-point up to 10 mi./16.1 km over one or two twisted pair (2- or 4-wire).

Supporting synchronous speeds up to 128 kbps and asynchronous speeds up to 38.4 kbps, the card is perfect for LAN interconnection or high-speed Internet links.

To compensate for poor line quality, the iDSL Card supports 2B1Q encoding, automatic equalization, and auto gain control. 2B1Q line coding lessens crosstalk between adjacent lines and improves signal-to-noise ratios.

The card is fully SNMP manageable using the SNMP/HTTP Card. As with the hDSL and mDSL cards, the iDSL Card features convenient front-panel diagnostic DIP switches, LEDs that allow for easy setup, configuration, and

testing, as well as remote digital loopback and local line loopback diagnostics.

The 2-Wire iDSL Line Driver Card can be ordered with interfaces for V.24, V.35, X.21, 10BASE-T, G.703/G.704, or RS-530 networks.

For more information, including details on our standalone models, request Product Data Sheet 25845. Our Tech Support experts are also ready to answer your questions.

Micro T1 CSU/DSU Cards

With this 4-wire card, you get a T1/Fractional T1 (FT1) CSU/DSU and high-speed point-to-point modem in a single rack card package.

It's an excellent choice for terminating leased lines, Frame Relay backbones, Internet access, and LAN-to-LAN services. The card provides digital access to a local WAN service provider or between two facilities over a dedicated 4-wire circuit.

Specifically, the Micro T1 CSU/DSU Card terminates T1 or FT1 lines over a 4-wire RJ-48C interface. When used to terminate a T1-dedicated digital circuit, the card supports $n \times 56$ kbps and $n \times 64$ kbps framing for T1 and 10BASE-T Ethernet, V.35, and RS-530

interfaces. Each of these options supports one DTE interface connection and one 4-wire line connection.

A full range of system and diagnostic features make setup simple and easy. The card supports D4/ESF framing options and AMI/B8ZS/B7ZS line coding. You can set framing, line coding, and aggregate bandwidth plus initiate remote digital loopbacks and local line loopbacks as well as send test patterns.

Use the four easily accessible DIP switches to program the card's data rates, framing, and coding options. You can also perform these functions using a menu-driven VT100[™] terminal, which connects via the card's software control port. Just order a Control Module, which installs alongside the Micro T1 CSU/DSU Card in the 16-Port Managed MicroRACK.

SNMP/HTTP Card

The SNMP/HTTP Card is the perfect complement to the function cards and 16-Port Managed MicroRACK. It comes with user-friendly management software that enables an operator to control the rack from anywhere in the world via the Internet.

Once it's installed in the 16-Port Managed MicroRACK, you can use an SNMP workstation to configure and monitor a number of interconnected MicroRACKs, the cards installed in them, and any remote units linked to modem and line driver cards.

The card functions as an SNMP proxy agent for other MicroRACK cards and their remote standalone units. Once it's fully booted, the SNMP/HTTP Card polls the system, looking for modems, line drivers, and other function cards.

The SNMP/HTTP Card supports generic SNMP management software and MIB-walking tools. Alternatively, you can use a standard Web browser to access the card's embedded HTML management screens.

The SNMP/HTTP Card can be connected to an SNMP workstation through a 10BASE-T Ethernet. And, by making an FTP connection to the card, you can use its modular RJ-45 10BASE-T port for flash upgrades.

To use the card, you'll not only need a VT100 terminal or VT100 terminal emulator but also a null-

(continued on page 4)

(continued from page 3)

modem cable for connecting the terminal to the card. Also be sure to have a 10BASE-T connection from your local LAN, a locally connected workstation that you can use to ping and HTTP into the card, and an IP address for the card. In addition, you'll need the network's space and submask and the IP address for the default gateway of your LAN.

Control Module

This Control Modules enable you to daisychain up to eight 16-Port Managed MicroRACKs and control them all.

With a Control Module installed in each of the racks, you have total control of up to 120 installed DSL

modem, line driver, or fiber modem or CSU/DSU cards! What's more, you can manage the 120 remote modem/line drivers as well.

Installed in the 16-Port Managed MicroRACK, the module is used to control the rack's other cards from an asynchronous RS-232 terminal or a computer running terminal emulation. Supporting terminal data rates to 19.2 kbps, the Control Module has a modular port for connection to the RS-232 terminal, and a serial port for daisy chaining between racks.

When you want to reach or configure a particular function card, simply key in an addressable

command, which the Control Module passes along to all the function cards in the rack. The appropriate card recognizes its address and responds to the command.

As with the 16-Port Managed MicroRACK's function cards, the Control Module consists of a front card and a rear card that meet in the middle of the rack. The rear card has two modular 10-pin RJ jacks (labeled Port A1) for connection to the RS-232 terminal. If the Control Module is being used in a daisy chained application, the module's Port B1 provides the link to the next Control Module in the chain.

Wiring a local Control Module for a daisychain connection requires the use of two straight-through modular cables. One cable connects the serial port of the RS-232 terminal to Port A1 of the chain's first Control Module; and the second connects Port B1 of the chain's first module to Port A1 of the chain's second module. You would use the same cabling procedure to connect the second module to a third module, and so on if there are additional modules in the chain.

Specifications

MicroRACK

Compliance: CE; FCC Part 15, Class A

Connectors: (6) card-edge contacts for each of (17) card slots (male toward front cards, female toward rear cards), plus (2) sets of (10) female card-edge contacts for power supplies

Operating Temperature Tolerance: 32 to 122°F (0 to 50°C)

Humidity Tolerance: Up to 90% noncondensing

Power: From one or two cardmount power supplies, either AC or DC input (comes with one supply installed)

Size: 3.5"H (3U) x 19"W x 7.25"D (8.9 x 48.3 x 18.4 cm)

Weight: 6.6 lb. (3 kg)

Power Supplies

PS466A, PS466A-DC

Compliance: Both: CE; FCC Part 15 Subpart B Class A, IC Class/classe A; PS466A: NRTL, UL®1950, CSA 950, EN 60950

Input: PS466A: 90–264 VAC (115 or 230 VAC nominal), 47–63 Hz; PS466A-DC: -42 to -60 VDC (-48 VDC nominal)

Output: To midplane bus at 75% voltage: 12.3 to 12.5 VDC (12.4 VDC nominal); Power: 72 watts, continuous; efficiency (at full load, with 115-VAC input for PS466A or -48-VDC input for PS466A-DC): 78% minimum, 88% maximum

User Controls: (1) midplane-mounted jumper to select maintenance mode (no alarm if power supply is removed)

Connectors: PS466A: (1) IEC-320, 3-pin alarm; PS466A-DC: (3) screw terminals, 3-pin alarm

Indicators: (3) LEDs for normal operation, power failure, excessive internal temperatures

Temperature Tolerance: Operating: 32 to 122°F (0 to 50°C) at up to 100% load; above 122°F (50°C), load capacity is derated linearly by 2.5% for each 1.8°F until a maximum temperature of 158°F (70°C) is reached at up to 50% load

Humidity Tolerance: Up to 90% noncondensing

Size: Front card: 3.3"H x 1.5"W x 5"D (8.4 x 3.8 x 12.7 cm); Rear card: 3.3"H x 1.5"W x 2.25"D (8.4 x 3.8 x 5.7 cm)

SNMP/HTTP Card

Compliance: CE; FCC Part 15 Subpart B Class A, IC Class/classe

Standard: IEEE 802.3 Ethernet v2

Interfaces: 10BASE-T; EIA/TIA RS-232, DTE; proprietary Managed MicroRACK power and data bus

Transmission Format: RS-232: Asynchronous

Data Format: RS-232: 8 data bits, no parity, 1 stop bit (fixed)

Data Rate: 10BASE-T: 10 Mbps; RS-232: 19,200 bps (fixed)

Flow Control: RS-232: Responds to CTS (hardware) flow control only

Maximum Distance: 10BASE-T: 328 ft. (100 m) to next device; RS-232: 50 ft. (15.2 m) to next device

User Controls: RS-232 terminal session console (requires VT100™ or compatible terminal emulation); internal HTML management pages accessible through Ethernet network

Indicators: (9) LEDs: Power, (2) TD (Transmit Data), (2) RD (Receive Data), LI (Link Integrity), PPP (*not supported at this time*), Poll (poll signal), Fault (Fault Detection)

Connectors: (1) RJ-45 female for 10BASE-T; (1) DB25 female for RS-232; 50-pin card-edge on both front and rear cards

Power: From one or two cardmount power supplies, either AC or DC input (comes with one supply installed)

Temperature Tolerance: Operating: 32 to 122°F (0 to 50°C)

Humidity Tolerance: 5 to 95% noncondensing

Size: Front card: 3.3"H x 1.5"W x 5"D (8.4 x 3.8 x 12.7 cm); Rear card: 3.3"H x 1.5"W x 2.25"D (8.4 x 3.8 x 5.7 cm)

Control Module

Compliance: CE; FCC Part 15 Subpart B Class A, IC Class/classe A

Interfaces: EIA/TIA RS-232, proprietarily pinned on 10-pin RJ connectors in a manner similar to EIA/TIA-561; port A1 is DCE, port B1 is DTE; proprietary Managed MicroRACK power and data bus

Transmission Format: Asynchronous

Data Format: Transparent to data format (data bits, stop bits, and parity)

Data Rate: Transparent to data rates up to 19.2 kbps

Flow Control: Transparent to software flow control; RS-232 hardware flow-control leads are always ON (for continuous transmission)

User Controls: (5) rear-card jumpers: (1) for signal ground/frame ground connection or isolation; (4) not used

Indicators: (5) LEDs: Power, (2) TD (Transmit Data), (2) RD (Receive Data)

Connectors: (2) 10-pin RJ female: (1) for output to terminal or another module (Port A1, DCE); (1) for input from another module (Port B1, DTE)

Power: From one or two cardmount power supplies, either AC or DC input (comes with one supply installed)

Operating Temperature Tolerance: 32 to 122°F (0 to 50°C)

Humidity Tolerance: Up to 95% noncondensing

Size: Front card: 3.3"H x 1.5"W x 5"D (8.4 x 3.8 x 12.7 cm); Rear card: 3.3"H x 1.5"W x 2.25"D (8.4 x 3.8 x 5.7 cm)

Specifications

Interface Cards

All

Compliance: All cards: CE;
ME911C cards: FCC Part 15 Class A
and Part 68;
All except ME911C cards: FCC
Part 15 Subpart B, Class A
IC Class/classe A; CTR 12

Clocking: Internal, external, or receive
recovered clock

Temperature Tolerance: Operating:
32 to 122°F (0 to 50°C)

Humidity Tolerance: 5 to 95%
noncondensing

Power: From the rack power
module(s)

G.703/E1 Fiber Cards

Transmission Format: Synchronous

Data Rates: 2.048 Mbps on both line
and network interfaces

Line Coding: Network: AMI or HDB3;
Fiber line: 8B10B

Transmission Line: Full-duplex on
fiber

Transmitter Launch Power:
ME400C: 0 dBm;
ME401C: 0 to -10 dBm

Receiver Sensitivity: 18 dBm

Optical Budget: ME400C: 7.5 dB;
ME401C: 0 to -10 dBm

Maximum Coupling Loss: 1.5 dB per
connector

Maximum Distance: Network cabling
from card to next device: 1 mi.
(1.6 km) of 24 AWG wire;
Fiber between (2) cards:
ME400C: 850 nm: 2.5 km (1.5 mi.);
ME401C: 1310 nm: 50 km (31 mi.)

User Controls: (2) front-mounted
toggle switches for loopback and
BER testing; (1) 8-position DIP
switch for clock source and line
coding (board-mounted on front
card); (4) jumpers for network-
interface type (board-mounted on
rear card)

Diagnostics: ITU V.54-compliant
local (to G.703/G.704 network) or
remote (to fiber line) loopback
testing; ITU V.52-compliant 511/511E
BER testing

Connectors: All: (1) RJ-48C for
120-ohm twisted-pair;
(2) BNC female ([1] TX, [1] RX) for
75-ohm coaxial;
ME400C-ST: (1) ST female for fiber;
ME401C-FC: (1) FC female for fiber;
ME401C-SC: (1) SC female for fiber;
matching 50-pin card-edge
connectors on front and rear
cards

Leads/Signals Supported: RJ-48C:
Pins 1, 2, 4, 5 (Rx+, Rx-, Tx+, and Tx-
respectively)

Isolation: G.703/G.704 interface:
Transformer coupled, 1500 VAC
RMS

Size: Front card: 3.1"H x 0.95"W x 4.8"D
(7.9 x 2.4 x 12.2 cm);
Rear card: 3.3"H x 0.95"W x 2.25"D
(8.4 x 2.4 x 5.7 cm)

2-Wire Short-Range mDSL Cards

Transmission Format: Synchronous

Transmission Line: Two-wire
unconditioned twisted pair

Maximum Distance: 3.6 mi. (5.8 km)

Line Rates: 144, 272, 400, 528, 784,
1040, 1552, 2064, and 2320 kbps

DTE Rates: 64 to 2304 kbps in 64-kbps
steps

Diagnostics: V.52-compliant bit error
rate pattern (511/511E pattern)
generator and detector with error
injection mode; local line loopback
and remote digital loopback,
activated by front-panel switch
or via serial interface

Connectors: Line side: All: RJ-45;
Interface side: DB25 female, M/34
female, DB15 female, RJ-45, or
dual BNC, depending upon
module installed

Size: Front Card: 3.1"H x 0.95"W x 4.8"D
(7.9 x 2.4 x 12.2 cm);
Rear Card: 3.3"H x 0.95"W x 2.8"D
(8.4 x 2.4 x 7.1 cm)

2-Wire Short-Range hDSL Cards

Transmission Format: Synchronous

Transmission Line: Two-wire
unconditioned twisted pair

Line Rates: 144, 272, 400, 528, 784,
1040, and 1168 kbps

DTE Rates: 64 to 1152 kbps in 64-kbps
steps

Diagnostics: V.52-compliant bit error
rate pattern (511/511E pattern)
generator and detector with error
injection mode; local line loopback
and remote digital loopback,
activated by front-panel switch
or via serial interface

Connectors: Line side: All: RJ-45;
Interface side: DB25 female, M/34
female, DB15 female, RJ-45, or
dual BNC, depending upon
module installed

Size: Front card: 3.1"H x 0.95"W x 4.8"D
(7.9 x 2.4 x 12.2 cm);
Rear card: 3.3"H x 0.95"W x 2.8"D
(8.4 x 2.4 x 7.1 cm)

2-Wire iDSL Cards

Transmission Format: Synchronous
or asynchronous

Transmission Line: One- or two-pair
unconditioned twisted wire

Maximum Distance: 10.8 mi. (17.4 km)

DTE Rates: Synchronous: 19.2, 32, 56,
64, and 128 kbps;
Asynchronous: Up to 38.4 kbps

Line Rates: 128 kbps

Diagnostics: V.52-compliant bit error
rate pattern (511/511E pattern)
generator and detector with error
injection mode; local line loopback
and remote digital loopback,
activated by front-panel switch or
via serial interface

Connectors: Line side: All: RJ-45;
Interface side: DB25 female, M/34
female, DB15 female, RJ-45, or
dual BNC, depending upon
module installed

Size: Front card: 3.1"H x 0.95"W x 4.8"D
(7.9 x 2.4 x 12.2 cm);
Rear card: 3.3"H x 0.95"W x 2.8"D
(8.4 x 2.4 x 7.1 cm)

Micro T1 CSU/DSU Cards

Transmission Format: T1 AMI or
B8ZS line coding

DTE Rates: 64, 128, 192, 256, 320, 384,
448, 512, 576, 640, 704, 768, 832, 896,
960, 1024, 1088, 1152, 1216, 1280,
1344, 1408, 1472, and 1536 kbps

WAN Speed: 1.544 Mbps
(unstructured)

Connectors: On line side: RJ48C;
Interface side: DB25 female, M/34
female, or RJ-45, depending
upon module installed

Diagnostics: Responds to CO-initiated
D4 loopup and loopdown codes,
ESF line loop and payload loop FDL
messages, universal loopback
deactivate message

Size: Front card: 3.1"H x 0.95"W x 4.8"D
(7.9 x 2.4 x 12.2 cm);
Rear card: 3.3"H x 0.95"W x 2.8"D
(8.4 x 2.4 x 7.1 cm)

Ordering Information

| ITEM | CODE | ITEM | CODE |
|--|---------------|---|---------------|
| 16-Port Managed MicroRACK..... | RM260 | 2-Wire idSL Line Drivers | |
| <i>Choose your power supply card:</i> | | V.24 (DB25 F) | ME0001C-V24 |
| <i>NOTE: RM260 comes with (1) AC power supply front and back card.</i> | | V.35 (M/34 F) | ME0001C-V35 |
| AC Power Supply (90 to 260 VAC) | | X.21 (DB15 F)..... | ME0001C-X21 |
| for Redundancy..... | PS466A | 10BASE-T (RJ-45)..... | ME0001C-10BT |
| DC Power Supply (-48 VDC)..... | PS466A-DC | G.703/G.704 (Dual BNC or RJ-45) | ME0001C-G703 |
| <i>Choose the interface cards for your application...</i> | | RS-530 (DB25 F) | ME0001C-RS530 |
| G.703/E1 Fiber Line Driver Cards | | Micro T1 CSU/DSU Cards | |
| Multimode with ST® Connectors | ME400C-ST | 10BASE-T (RJ-45) | MT911C-10BT |
| Single-Mode with FC Connectors | ME401C-FC | V.35 (M/34 F) | MT911C-35 |
| with SC Connectors | ME401C-SC | RS-530 (DB25 F)..... | MT911C-530 |
| 2-Wire Short-Range DSL Line Driver Cards | | <i>To protect unpopulated rack ports, order...</i> | |
| mDSL | | Blank Panels | |
| V.24 (DB25 F)..... | ME0004C-V24 | Front Panel 1", 1-Slot Wide..... | 010Z20885 |
| V.35 (M/34 F) | ME0004C-V35 | 4", 4-Slot Wide..... | 010Z20887 |
| X.21 (DB15 F) | ME0004C-X21 | Rear Panel 1", 1-Slot Wide..... | 010Z20888 |
| 10BASE-T (RJ-45)..... | ME0004C-10BT | 4", 4-Slot Wide..... | 010Z20889 |
| G.703/G.704 (Dual BNC or RJ-45) | ME0004C-G703 | Bag of (16) Screws for Blank Panels..... | Z1Z184566 |
| RS-530 (DB25 F) | ME0004C-RS530 | <i>For additional management capabilities, order...</i> | |
| hDSL | | SNMP/HTTP Card | RM261C-SNMP |
| V.24/V.35 (DB25 F) | ME0003C-V24 | <i>To control daisy-chained racks, order...</i> | |
| V.35 (M/34 F) | ME0003C-V35 | Control Module | RM262C |
| X.21 (DB15 F) | ME0003C-X21 | | |
| 10BASE-T (RJ-45)..... | ME0003C-10BT | | |
| G.703/G.704 (Dual BNC or RJ-45) | ME0003C-G703 | | |
| RS-530 (DB25 F) | ME0003C-RS530 | | |