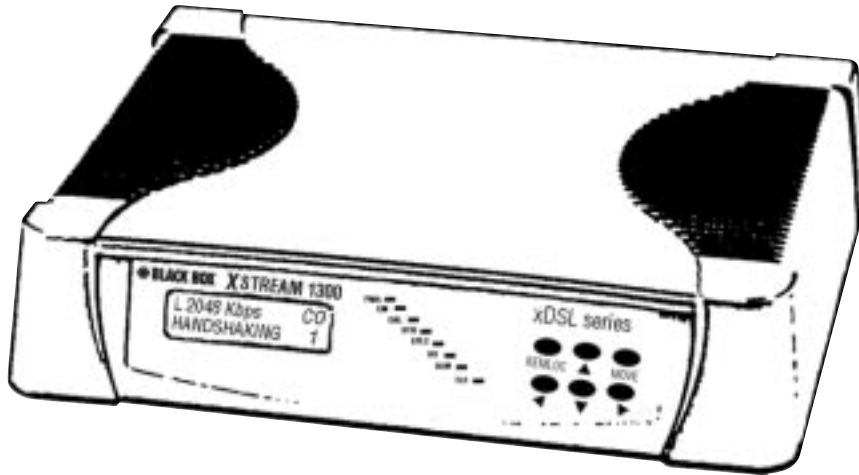# BLACK BOX®
NETWORK SERVICES

MDS1300

Key Features

- ▶ Provide additional transmission distance up to 20 percent longer than competing DSL technologies

- ▶ Carrying symmetrical 2048/1024 Kbps payload for up to 17 Kft/5.1/6.1Km over 24 AWG/0.5 mm single pair over existing copper wire

- ▶ Multi line-rate support including 144K, 272K, 400K, 528K, 784K, 1040K, 1552K, 1936K, 2000K, 2064K, and 2320Kbps (MDS1300/1320)

- ▶ Multi line-rate support including 144K, 272K, 400K, 528K, 784K, 1040Kbps (MDS1310/1330)

- ▶ Automatic line rate configuration according to DTE speed

- ▶ Flexible management through Craft port, Front panel LCD and buttons, or NMS

- ▶ EOC function enables remote configuration and monitoring

- ▶ Support of wetting current keeps loop under best condition

- ▶ Automatic NTU configuration (follow Line-rate & DTE-speed of LTU)

- ▶ High density chassis supports up to 16 line card with 32 ports

The MDS1300/1320/1310/1330 MSDSL solution is the best choice to provision Full and Fractional E1 services. Based on the field proven CAP technology, MDS13* achieves the most cost effective and comprehensive functionality over single pair of existing copper wire compared to other products. Benefit from the advanced noise immunity, MDS13* is capable to carry user traffic 20 percent more than other xDSL technology which eliminates the cost and time for repeater installation. Lots of smart functions are implemented in the MDS13* series to reach the goal for ease-of-use and less maintenance. Such functions including the automatic line rate adaptation (144K, 272K, 400K, 528K, 784K, 1040K, 1552K, 1936K, 2000K, 2064K, 2320Kbps) for MDS1300/1320, (144K, 272K, 400K, 528K, 784K, 1040K) for MDS1310/1330 and automatic CPE configuration during handshake are revolutionary and practical than ever.

Flexibility of configuration is achieved by the modular design of user ports. Two slots are available on the modem, DTE1 for G.703, Router/Bridge module, and the other slot DTE2 for standard digital interfaces as V.35, V.36/RS-449, EIA-530, and X.21/V.11. The user can easily switch the working slot between these two via the front panel LCD or ANSI compatible craft interface. Access devices today require not only reliable service but also focus on a well-developed network management system. The card-type MDS1320/1330 for Super Shelf chassis is managed by either local LCD control panel or Central Network Management Server. Optional SNMP agent is also available to round up with existing OAM&P system.

Overview --> Ordering Informations

Basic Unit/Code	Description
MDS1300	Standalone Unit without DTE Interface module; Nx64 Kbps up to 2.3 Mbps
MDS1310	Standalone Unit without DTE Interface module; Nx64 Kbps up to 1 Mbps,
MDS1320	2-channel per card, without DTE Interface module, one required; up to 2.3 Mbps;
MDS1330	2-channel per card, without DTE Interface module, one required; up to 1 Mbps;

DTE Interface Module for 1300/1310

MDS-R5301F	RS-530 with FIFO; Female for DTE 2
MDS-V351F	V.35 with FIFO; Female with adaptor cable for DTE 2
MDS-V361F	V.36 with FIFO; Female with adaptor cable for DTE 2
MDS-X211F	X.21 with FIFO; Female with adaptor cable for DTE 2
MDS-G703B2L	G.703 Balance (120Ω) for DTE 1, (only for MDS1300)
MDS-G703U2L	G.703 Unbalance (75Ω) for DTE 1, (only for MDS1300)
MDS-ROUT1-R2	Router/Bridge Module with RJ-45 Interface for DTE 1, (only for MDS1300)

DTE interface module for 1320/1330

MDS-R5301FR	RS-530 interface, Female
MDS-V351FR	V.35 interface, Female with adaptor cable
MDS-V361FR	V.36 interface, Female with adaptor cable
MDS-X211FR	X.21 interface, Female with adaptor cable
MDS-G703FR	G.703 interface, Balanced

Shelf

MDSCSRACK	19" Rack Mounted chassis with 50 pin centronic connector with Cooling Fan

Controller Module

MDSCSR	Shelf Controller with CS function ; Ethernet port with LCD and Keypads power module

MDS180A	180W, 90 ~ 260 VAC, AC power module
MDS180AR	180W, 90 ~ 260 VAC, AC power module with redundant power module
on request	180W, -48VDC, DC power module
on request	180W, -48VDC, DC power module with redundant power module

Panel Module (optional)

MDSTB32	Optional real panel: Daughter Board for line connection
on request	Optional 50 pin cable

Specifications

DTE Interface —
V.35 interface: 2Mbps & Nx64Kbps
V.36/RS-449 interface: 2Mbps & Nx64Kbps
RS-530 interface: 2Mbps & Nx64Kbps
X.21/V.11 interface: 2Mbps & Nx64Kbps
G.703/G.704 Full & fractional E1 interface
Ethernet (10BaseT) port with IP Router Bridge functionality

Line Requirement — 2-wire: one unloaded twisted pair

Modulation — CAP (Carrierless Amplitude Phase)

Data Rate — Symmetrical Synchronous Nx64K (MDS1300/1320): 64, 128, 256, 384, 512, 768, 1024, 1536, 1920, 1984, 2048, 2304Kbps
Symmetrical Synchronous Nx64K (MDS1310/1330):64, 128, 256, 384, 512, 768, 1024Kbps

Equalization — Adaptive EQ

Control Facility — Front Panel LCD menu-driven via buttons
Craft Interface:19200bps N,8,1, DB-9F (Configurable to 9600, 19200, 38400, 115200bps), Support ANSI terminal or compatible emulators (S.A only)

Line Status Monitoring — S/N ratio, TX power, Receiver gain, Estimated loop distance

Diagnostic Capabilities — Local Loopback (LL), Digital Loopback (DL), G.703/G.704 loopback, Remote Configuration

Timing Modes — Internal Clock, Received (loop) Clock, DTE (external) Clock

Indicators and LCD Display —
LCD: 2 x 16 characters with back-light
LED: PWR - Power status
CPE - LT/NT mode Indicator
DSL - Connection progress
DTE1,DTE2 - Data port status (for MDS1300 only)
SQ - Signal quality indicator
ALM - Alarm indicator
TST - Test mode indicator
For Router modular
WAN - PPP link
LAN - Ethernet link
ACT - Router ready
AUX - PPP link

IP Router Bridge Functionality (only with Router Bridge module) —
WAN Protocol: SyncPPP Frame Relay over MSDSL link
AUX Port: Sync/AsyncPPP, RJ-45/V.24 interface
Routing Protocol: RIP V1/V2, Static Route
IP Feature: NAT, IP filter, Ping diagnostics, DHCP
Ethernet Interface: 10Base-T
Management: MDS1300 LCD Panel/Craft Port, TELNET, SNMP agent

Line Interface — Stand alone: RJ-45
Card type: Terminal-block or 50-pin Centronic connector

Physical Dimensions —
Stand alone: 278mm (W) x 63mm (H) x 200mm (D)
Rack mounted: 480mm (W) x 220mm (H) x 380mm (D)

Weight — Stand alone: 1.5Kg
Rack mounted: 17Kg

Environment — Temperature: 0 to 50°C (Operating), - 40 to 70°C (Storage)
Relative humidity: 5% to 90% (non-condensing)

Power (integrated) —
AC PSU: 110/220V autorange, 47 ~ 63 Hz
DC PSU: -36 ~ -72V
Dual redundant power supply (option for rack mounted version only)

Power Consumption —
Stand alone: Less than 10W
Card type: Less than 11W per card
Sealing current: Less than 5mA

The Complete Package

- MDS13* series user's manual
- Power cord
- RJ-45 cable
- RJ-45 box

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We are, with 25 years of experience, the world leader in network infrastructure services.

On the Phone — no charge, answer calls in less than 20 secounds, find the right product with our technical experts.

On-site — superior design and engineering, Certified installations, end-to-end service.

On-line — receive techincal knowledge on-line, including technology overviews, BLACK BOX Explains and the Knowledge Box.

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Ordering information

ITEM	CODE
Basismodem Xstream 1300, 1-Pair, MSDSL, 2,3 Mbps MDS1300	
Interface modules	
X.21 Module incl. Adatercable MDS-X211F	
V.35 Module incl. Adaptercable MDS-V351F	
V.36 Module incl. Adaptercable MDS-V361F	
RS530 Module incl. Adaptercable MDS-RS5301F	
Ethernet Bridge-Routermodule (10Base-T) MDSROUT1-R2	
G.703 Standard module (120Ω) MDS-G703B2L	
G.703 Standard module (75Ω) MDS-G703U2L	