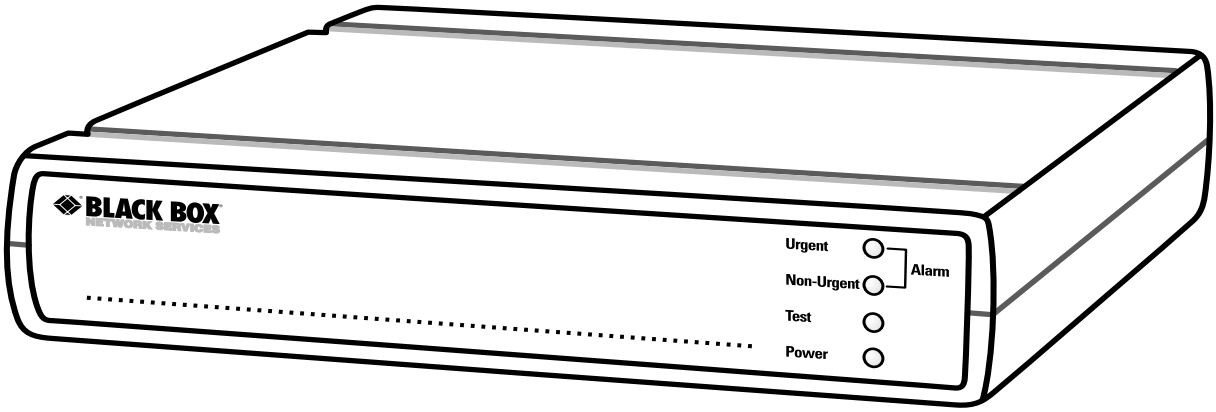
Fiber Optik Extender E1



Key Features

- High reliability and quality
- Cost effective
- Wide range of modular interfaces
- Single optical or fibre transmission
- Management port & software
- Standalone and Rack
- Remote configuration

DIGITAL SUBSCRIBER LINE TECHNOLOGY

The Ascostream MDU2048 family of products has been designed to deliver full 2Mbps, fractional 2Mbps or n x 64kbps services over fibre. With state of the art management systems built in, the MDU2048 family provides Network Operators a powerful flexible solution for high-speed data services. With a choice of line codes the solution can be tailored to meet the specific demands of the operators network.

The MDU2048 family of fibre optic modems may be employed to drive data between computers, high-speed multiplexers, X.25 nodes or routers and peripheral devices. In fact between any two locations that require high-speed data transfer. By means of the external clocking facility, it is possible to tail end Digital Data Network (DDN) or Primary Rate ISDN (PRI) Services from a local exchange to the customers' premises.

FIBRE TRANSMISSION

Full duplex transmission is provided over a single optical fibre. Traditional systems use two optical fibres, one for transmitting and one for receiving data. This new technology effectively doubles the capacity of installed fibre optic cable runs. While the system has been designed and optimised for single mode 1300nm optical fibre, it will also work on multi mode optical fibre. Range performance estimates are given for both fibre types. The use of modular interfaces and a single transmission system for all fibre types reduces the need for extensive stock holding.

ADVANCED FEATURES

A number of advanced features have been incorporated into the system software. These ensure that Network Operators have fully flexible system control, management and test features. This enables them to easily maintain and improve Quality of Service levels to subscribers.
Advanced integrated software allows intelligent system set-up by reading local and remote interfaces fitted. Software upgrades can be easily downloaded via direct PC connection or over the communications channel from an ELU to remote NTU. Comprehensive QoS tools are provided for monitoring link performance according to m.2100 to allow for proactive troubleshooting on high priority links. Timeslot prioritisation in point to point mode, and a timed and dated alarm logbook are further powerful tools available to the Operator. SNMP compatibility has been designed into both standalone and rackmount system software.

STANDALONE UNITS

The Standalone Unit is housed in a professionally styled ABS high impact plastic enclosure with an inner metallised coating to ensure compliance with EMC directives. Front panel LED indicators are provided for Urgent and non-Urgent Alarms, Power and Test Mode.
The Data Interface at the rear of the unit is provided on a plug in module. The standard interface for 2Mbps services is G.703. A range of industry standard data interfaces is also available.
The DC Power, -48V input, is connec ted via a Molex socket. An in line mains power supply with country specific mains cord and plug can also be supplied.

A Controller Port is provided at the rear of each unit, via a 9-way D-type connector. This allows a VT100 terminal, terminal emulator or PC to be connected to an RS232 Serial Com Port for full control of the unit. The larger display available on a PC or terminal allows for ease of configuration and control.

Alternatively using the Windows based menu driven software – ARMS, (Ascom Remote Management Systems) units can be configured, test loops set, status displayed and link performance monitored.

This software can be used to manage point to point standalone links, or for larger networks including standalone or rackmount modems.

The MDU2048C Family rack mounted cards can be housed in two versions of a High Density Shelf. Both versions are 19" Standard Rack mounting shelves. Each shelf is designed to hold up to a maximum of 12 MDU2048C Family modems. The shelf also accommodates a -48V DC power supply and a Network Element for Management purposes.
The network element provides two 9-way D-type connections. The first is the local Controller port for connection to a PC or VT 100 terminal. The second can be used to "daisy chain" over an RS485 link, a number (up to 64) of DSL racks for management from a single point.
One version of the shelf is intended primarily for exchange based use, while the other is essentially a Customer Premises Shelf. The exchange-based shelf has an extended backplane, required for termination of multiple 2M G.703 circuits. This shelf is compatible with all the DSL family cards. The CPE shelf is used when a high density of circuits terminated on copper and fibre is needed, but is not compatible with the OM4x2.

All card versions are functionally equivalent to Standalone Units, and consist of a double eurocard size p.c.b. with a metal front panel. Front Panel LED Indicators are provided for Urgent and Non-urgent alarms, Test Mode and Power. The MDU2048C Family cards may be mixed in any combination of copper and optical line driving versions in the same shelf, and with any combination of industry standard interface types.

The line connections to each card are via an RJ45 front panel socket. Similarly for all cards, the data terminations are also via a front panel connector.
For more sophisticated network management of larger networks, a Windows NT based version of ARMS is available. This version of ARMS allows SNMP (Simple Network Management Protocol) to be used with the DSL Rack systems.

Specifications

COMMON FEATURES
SW Download — SW field upgrades via Management Port
Interface Options — X.21/V.11; V.35; G.703/G.704 75Ω & G.703/G.704 120Ω Plug-in modules for standalones, modular assemblies for rackmount cards
Connectors — X.21- 15 way D-type; V.35 - 34 way MRAC (Winchester); G.703 75Ω - BNC; G.703 120Ω - RJ45
Diagnostics — m.2100 Performance Monitoring; Built in BERT with PRBS injection or user specified 8-bit pattern; In Service Test; Local Loop (X.150 loops 3c); Loopback (loop 2b); Remote Loop V.54
Timing — Software selected Internal or External
Auxiliary Alarm — Port 13-way circular DIN (6 input; 2 output)

COPPER SYSTEMS
Transmission — Full duplex, 768kbps, 1024kbps or 2048kbps per wire pair
Line Codes — 2B1Q/3B1O or CAP
Line Requirements — 2-wire EPS-9 or unloaded copper twisted pair per transmission module
Baud Rate — 261kbaud (768k) or 341kbaud (1024k)
Data Rate — 2048kbps (n x 64kbps, n=1-32)

FIBRE SYSTEMS
Transmission — Full Duplex 1300nm wavelength
Line Code — 5B6B
Fibre Requirements — Single mode optical fibre or Multi mode optical fibre
Transmission Rates — 2.048Mbps
Data Rates — 2.048Mbps (n x 64kbps n = 1 to 32)
Optical Connectors — FC/SPC & ST - standard options.

STANDALONES
Enclosure — ABS high impact plastic outer casing, flammability UL94 V0
Dimensions — WxHxD; 275x250x55mm
LEDs — Urgent Alarm; Non-urgent Alarm; Test and Power
Power Supply — -48V DC; 110V AC or 240V AC via in-line PSU; Remote Line Powering option for copper systems
Power — 6.5W maximum dissipation @ 48V DC
Line Connection — 8-way RJ45 socket on rear of unit
Management — 9 way RS232 connection & VT100
Humidity — Max 95% relative humidity - non-condensing
Temperature — -5°C to +45°C
Weight — 1.35kg

SHELVES
Enclosure — DIN41494 - 19" Rack mounting shelf
Dimensions — WxHxD; 482 x 356mm x 310mm (CPE-Rack 268mm)
LEDs — (card) Urgent; Non-urgent; Test and Power
Power Supply — -48V dc (-40 to -57V range); 6A
Power — 220W maximum dissipation (P-MP & Remote Powering)
Line Connection — Front Panel 8-way RJ45 socket
Management — VT100 via 9 way RS232 D-type ARMS on Windows - via RS232 Management Port
Network Port — Daisy chain racks via 9-way D-type RS485
Humidity — Max 95% relative humidity - non-condensing
Temperature — +5°C to +40°C
Weight — Shelf: 2.8kg; Card: 0.6kg

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Ordering information

ITEM	CODE
Optical E1-Basismodem	
Desktop Module G703	MDU2048-G703
Desktop Module X21	MDU2048-X21
Desktop Module .35	MDU2048-V35
Rack	
Rack mounted card G703	MDU2048C-G703
Rack mounted card .21	MDU2048C-X21
Rack mounted card V35	MDU2048-V35
Rackmount chassis 19"	RMU2048
Rack/Shelf	RMU2048