



The DataBand "MUX-4"

Technical Specification

4-port TDM Multiplexer E1/T1

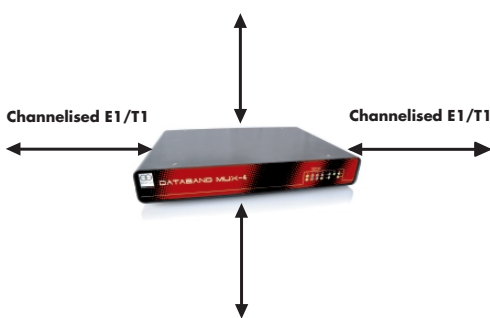
Features

- Provides full cross-connectivity between 4 channelised E1/T1 circuits
- Full timeslot inter-change without constraint (any to any)
- E1 or T1
- Optional E1 T1 conversion
- A-Law to μ -Law conversion for voice
- Support for Fractional circuits
- AC or DC PSU options (internal)
- Clocking hierarchy
- Easy and intuitive to configure via GUI management package
- Approved (Telecoms, Emissions, Safety)
- RoHS compliant

See the DataBand-MUX-32 which supports up to 32 E1/T1 circuits in a resilient 2U chassis.

Overview

DataBand "MUX-4" is designed to provide reliable and flexible multiplexing and cross-connectivity between up to 4 channelised E1 or T1 circuits.



The Mux-4 can be used as a very flexible stand-alone cross-connect drop and insert multiplexer, connecting different circuits and devices.

Any timeslot can be routed to any other timeslot on any interface. DbManager is a high-quality intuitive GUI that connects to and manages/monitors DataBand "MUX-4"; several versions are available in addition to the free DbLite supplied and multiple units can be monitored simultaneously.

All Patapsco products are designed and manufactured to the highest standards and all are independently approved by European test houses.

Software-selectable clock source, using any interface or high-quality internal clock with auto-switchover to secondary/tertiary clocks on circuit/clock loss. The internal clock is accurate to +/- 1ppm.

There is an internal battery-backed real-time clock for Event Log time-stamps and debugging purposes and up to 5000 Events are held



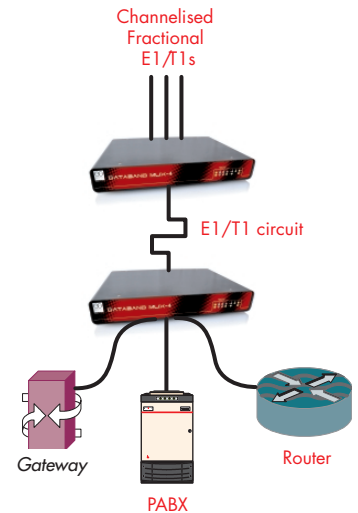
within the DataBand in NV RAM on a FIFO basis. Events can be reported automatically to the locally-attached DbManager or across the LAN.

DbManager can also access the logs and download them when required. DbManager writes all Events and Alarms to a flat .csv file in real-time. This file can be manipulated by external tools to format and extract information.

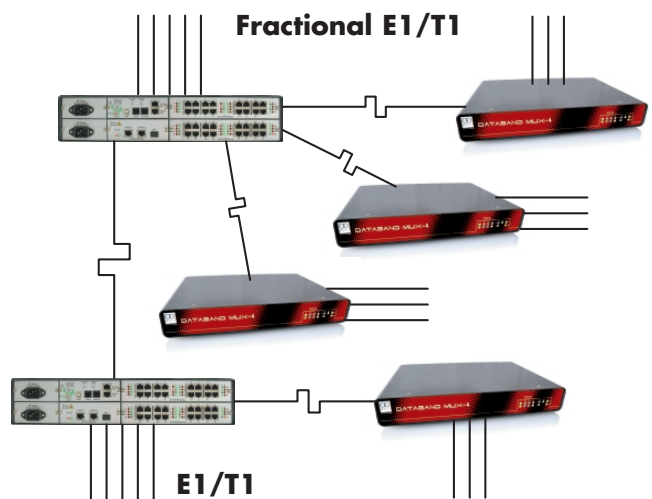
DataBand provides excellent diagnostic and debug tools with visibility of all routing decisions taken across the unit and loops can be set in both directions.

Configuration is held in non-volatile FLASH memory (retained during power-off) and downloadable to/from the DbManager. Configuration files can be saved to a file on a PC.

New versions of software can be remotely uploaded to DataBand via the DbManager. This is loaded to an offline sector of FLASH and a confirmation check-sum given. The operator can switch software banks or revert to the original software at any time. If the DataBand is unable to run from the new software, it will revert to the original.



Use the Mux-4 to transport multiple fractional E1/T1 services across a single circuit.



Mux-32 inter-working with the smaller Mux-4 to distribute fractional E1/T1s.

The DataBand "MUX-4" benefits from a wide range of approvals for connection to leased lines. All Patapsco equipment is RoHS compliant.

Specification

1 Interfaces

1.1 E1/T1 - 4 TDM ports.

Marked as '21' '22' '23' and '24'

By default 21 and 23 are configured to be DTE (connect to leased lines); 22 and 24 as DCE (connect to CPE)

The default configurations can be changed by the user but crossed cables are necessary.

E1

RJ45 120Ohm balanced

G.704 HDB3 encoded

Auto-detect CRC4 or non- CRC4 framing

(Multiframe or Doubleframe)

Support of non-switched E1 and Fractional E1 services

T1

RJ45 100Ohm balanced

ESF or D4 Framing selectable

B8ZS or AMI Line code selectable

All ports are configured by the users as E1 or T1. Software option available to mix and convert between E1 and T1 which includes A-Law to μ -Law voice encoding conversion.

1.2 Control Ports

RJ11 Marked 'Terminal'

Asynchronous 8 data, 1 stop bit no parity 19.2kbps to 115kbps (auto-detect)

Password protected

Ethernet RJ45 Marked 'LAN' 10baseT or 100baseT

Password protected

2 LEDs

TDM x 4

Each TDM Interface has 2 associated LEDs

Upper LED - fl=synchronising to Layer 1; solid=Layer 2 established

Lower LED - fl=circuit establishing; solid=at least 1 64kbps channel in place LAN ACT x 1 Activity on the LAN

LAN 100 x 1 Off = 10baseT operation; on = 100baseT operation

3 Relay Protection

Interface pairs 21 to 22 and 23 to 24 are Power-Failure Relay protected and will be connected together in the event of power failure. This forms a metallic path between the two ports

4 Power

1. Mains AC

Internal high-quality switch-mode supply IEC connector

Voltage range 95-240VAC auto-sensing

Input frequency 47-63Hz

Max current consumption 200mA @ 230VAC

2. Power – DC

Internal -48VDC nominal

-33VDC to -75VDC

0.35A max

4mm Terminal Block

MTBF – 1,790,000 hrs

3. Power - DC

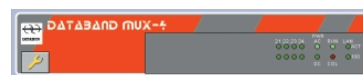
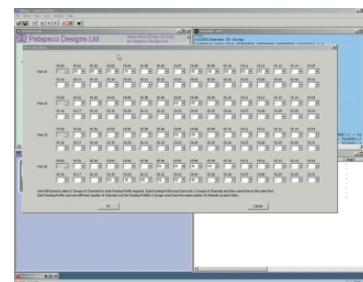
Internal -24VDC nominal

-18VDC to -75VDC

0.55A max

4mm Terminal Block

MTBF – 800,000 hrs



5 Environment

Operating 0–55 °C

Humidity 10-90% non-condensing

Natural convection cooling

6 Physical

292mm wide x 200mm deep x 44mm high

Metal chassis, front and rear panels

Weight is 1.1Kgs 2.4lb

Optional 19' rack-mounting kit

7 Maintenance

There are no serviceable parts or maintenance required.

The battery used for the realtime clock and some NV RAM elements has a 7 year (typical) lifetime.

8 Approvals

All approvals completed in UK

Accredited laboratory - reports available

1. Telecoms

TBR12/TBR13

TBR4:1995, 1997 Amendment

TIA/E1A-IS/968

TNA117

AS-ACIF-S006/S016

CS-03 Canada

TIA-968-A USA

2. Safety

IEC60950-1:2007

ACS/NZS60950:2000

AS/NZS3260:1993

ACA TS001:1997

3. EMC

EN55022:2006

EN55024:2001

A12001

EN61000-3-

2/3:1995

AS/NZS

CISPR22:2000

All details subject to change without notification E&OE

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