



# Patapsco DataBand ISU 1024

## Technical Specification

Inverse Multiplexer

### I-Mux Service Unit. Up to 1.024Mbps with an ISDN PRI plus up to 4 x BRI ISDN ports

#### Product Overview

- ISDN inverse multiplexer or I-Mux
- Single PRI interface to the network
- Optional BRI ports
- BRI ports as 2-wire "U" and/or 4-wire "S"
- Single or dual high speed serial ports
- V.35, RS530, X.21 interfaces
- RS366, control lead, front panel or GUI dialling
- If 2 ports are fitted each can share/contend or all/part of the ISDN
- Speeds to 1.024Mbps
- Supports BONDing standard and 64K 'clear'
- Option to clock or not clock idle ports
- Inter-works with other I-Muxes, including Adtran®ISU
- Interworks with DataBand CSI (Central Site I-Mux)
- Intuitive GUI and front panel control
- Local Management serial port and Ethernet port (can be disabled)
- Password protected
- Encrypted Management protocol
- NV RAM stores configuration
- Dual FLASH banks for updates
- New design using latest supportable components
- Extensive Approvals incl Telecoms
- Low power consumption
- RoHS compliant

#### Other Configurations

- [Multiple PRI and DTE central site](#) unit see the DataBand CSI
- ISDN satellite splitter see DataBand Splitter

#### Typical Applications

- Video conferencing
- Inter-connectivity of encryptors
- High speed file transfer
- Aggregation of several satellite links
- Leased line backup



Patapsco's DataBand ISU and CSI range connect high speed serial data devices together using multiple ISDN calls, in effect dialling a high-speed "leased line" between non-ISDN devices.

The 1024 version is available with one PRI ISDN plus up to 4 Basic Rate ISDN interfaces and can deliver data rates of up to 1.024Mbps per serial port.

Specifying a unit with 1 PRI (user switchable between E1 and T1) plus a mixture of 2-wire "U" BRIs and 4-wire "S" interfaces means users in the field can utilise whatever service is available to them

The "S" BRI interfaces can optionally be individually switched between the standard TE presentation (connects to a carrier-delivered service) and NT presentation (acts like a carrier interface and connects to other ISDN equipment). This feature gives added flexibility on service types and means other ISDN devices can also share the network resources (see diagram 2 overleaf).

Available with 1 or 2 I-Mux serial ports. The ISDN can be partitioned between the 2 ports or access dynamically so 1 port can use all of the ISDN, for example. This gives a great deal of flexibility on potential speeds of different calls.

[Register](#) for downloadable manual.

### Application Examples

#### 1. Standalone Use

The I-Mux capability, using industry standard BONDing algorithms, aggregates the separately dialled and routed ISDN channels, re-ordering them and handling the differential delays between all of the ISDN calls.

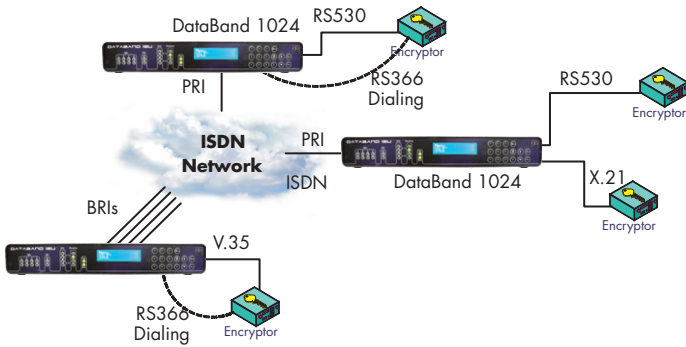
Diagram 1



### 2. Inter-Connection of Encryptors

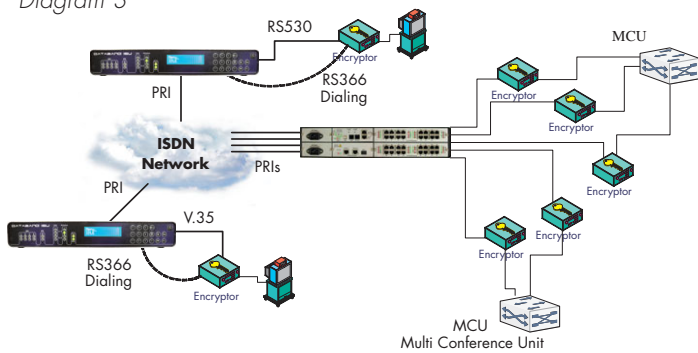
ISDN on-demand access for V.35, RS530 and V.21 encryptors  
Stand-alone DataBand ISU to stand-alone ISU

Diagram 2



And/or stand-alone to CSI Central Site IMux  
(see separate data sheet)

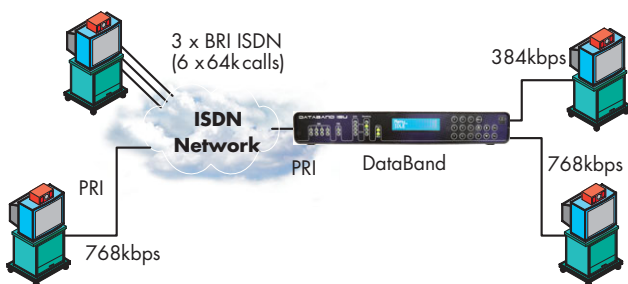
Diagram 3



### 3. Videoconferencing (VC)

ISDN access for non-ISDN videoconference units.  
Inter-operates with VCs with internal ISDN ports and BONDing aggregation.  
Dual-port version gives access to two attached devices, each sharing the ISDN at the same time, or using all the ISDN for one device.

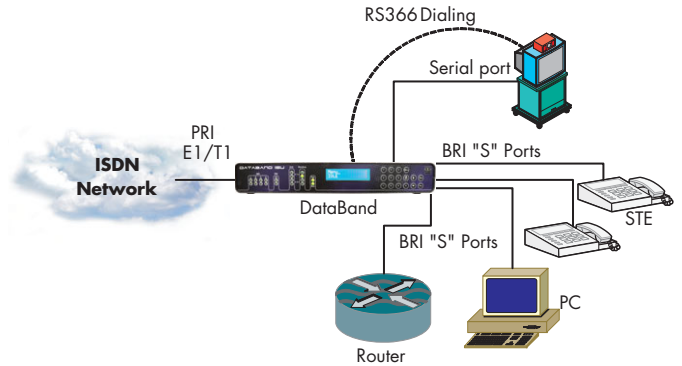
Diagram 4



### 4. Share ISDN access

Use ISDN services between data devices using the I-Mux capability and other ISDN equipment.

Diagram 5



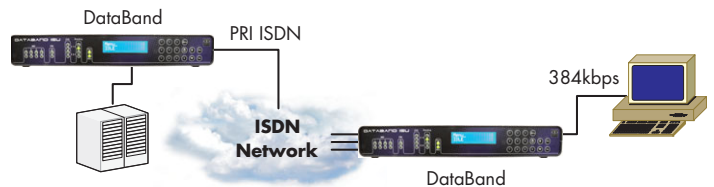
This example shows a PRI to the network and 4 BRI NT ports to local devices, such as STE encrypted telephones, PCs, routers etc. The VC can run at up to 1.024Mbps and the BRIs have access to both "B" channels.

For other ISDN switch, conversion and sharing capabilities see our Liberator range.

### 5. High Speed File Transfer

Dial up high speed access when needed.

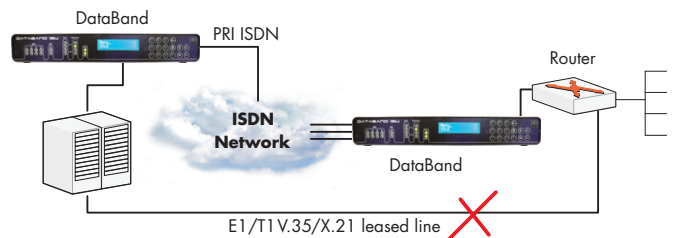
Diagram 6



### 6. Leased Line Backup or Disaster Recovery

Dial backup capacity when needed, via an independent network.

Diagram 7





### General

Available in several versions:

- ISDN Interfaces
  - 1 PRI ISDN, user switchable E1/T1
  - 4 BRI ports as:
    - 4 x 4-wire "S" interfaces user switchable NT/TE
    - 4 x 2-wire "U" interfaces for connection to the network
    - 2 x "S" and 2 x "U"
- Data or Serial Interfaces

DataBand ISU 1024 is available with one or two factory-fit interfaces, fitted in any combination

- V.35 "MRAC"
- RS530 25-way "D" – standard pin-out
- RS530 25-way "D" – Adtran compatible
- X.21/V.11 15-way "D"
- RS366 dialling port 25-way "D"

The ISU 1024 supports a single interface to a DTE plus an RS366 dialling port, or one or two DTE interfaces (using a dialling method other than RS366).

All units use high-quality internal PSUs and are available with AC or DC inputs.

Ability for H-Mux ports to provide clock or not. This overcomes issues with some attached devices.

The keypad and LCD are designed for fast and simple operation of the device with minimal input required to perform the dialling functions. Detailed configuration is achieved via the GUI, which can be connected via the serial port (can be disabled), an Ethernet port (used only for configuration access and can be disabled) or via a remote ISDN call (can be disabled). Various Password levels are available if required.

The GUI (DbLite) is free of charge and provides configuration of one unit at a time. A networking version is available which gives visibility of multiple DataBand ISUs and central site CSIs – contact for information.

Ethernet access can be removed in hardware. Select line item when ordering.

The traffic between the Manager GUI and the device can be optionally encrypted via an AES256bit system with key exchange routines.

Unlike most other devices, the DataBand has formal Telecommunications Approvals for direct connection to carrier ISDN services.



### Ordering Information

DB/ISU/1024/AC	Base unit with AC PSU and single PRI
DB/ISU/1024/DC	Base unit with DC PSU and single PRI
DB/ISU/1024/512	DTE port(s) at up to 512kbps max BONDing speed each
DB/ISU/1024/1024	Upgrade DTE port(s) to 1024kbps max BONDing speed each
DB/ISU/1024/4U	4 "U" ISDN interfaces
DB/ISU/1024/4S	4 "S" ISDN TE interfaces
DB/ISU/1024/2U2S	4 ISDN interfaces - 2 "U" and 2 "S" TE
DB/ISU/1024/DUAL	Upgrade to enable 2nd DTE port
DB/ISU/1024/V35	V.35 DCE female "MRAC" interface
DB/ISU/1024/X21	X.21/V.11 DCE female 15-way "D"
DB/ISU/1024/530	RS530 DCE female 25-way "D"
DB/ISU/1024/366	RS366 dialling port female 25-way "D"
DB/ISU/1024/RMK	19" Rack Mount Kit
DB/ISU/1024/2U/UP	Field upgrade from 2 "U" ISDN interfaces to 4
DB/ISU/1024/SEC	Security Management Pack
DB/ISU/512/NETH	Remove Ethernet Management hardware

- Includes Manual and other documentation on CD, paper Quick Start guide, serial port Controller Cable.

### Product Specifications

#### A. Network Interfaces

- 1 PRI RJ45 ISDN interface E1/T1
- Optionally 4 BRI interfaces, RJ45
  - o Available as "S" or "U"

#### B. DTE Interfaces

Up to two factory-fit cards available. Any combination:

- V.35 "MRAC"
- RS530 25-way "D" – Adtran compatible
- X.21/V.11 15-way "D"
- RS366 dialling port 25-way "D" - Adtran compatible
- Speeds to 512kbps each interface
- Optionally speeds up to 1.024Mbps each interface

#### C. LCD/Front Panel

- 2 x 16 character LCD
- 16 button key-pad

#### D. Out-going Dialling Options

- GUI
- Front key-pad/LCD
  - o Password protected
  - o Pre-stored numbers
  - o Manual entry of number(s)
- Control lead – pre-stored
- RS366

#### E. In-coming Call Options

- Accept all
- Accept authorised (CLI)
- Manual accept
- Reject all

#### F. Data Rates

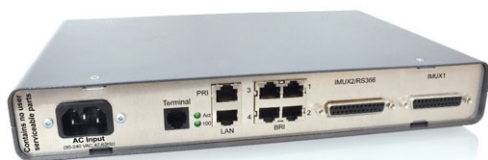
64kbps to 1.024Mbps per data port. (BONDing)  
64kbps 'clear'

#### G. Inter-operability

BONDing compatible devices, including inverse multiplexers

#### H. ISDN switch compatibility

National 1 (USA), 5ESS, DMS100, Euro-ISDN  
PatapSCO have been shipping ISDN products across the world for over 17 years and have experienced most "issues".  
DataBand GUI has many options to cater for different country's implementations and is extremely flexible.



#### I. Power

- AC
  - o Internal switch mode supply
  - o Standard IEC connector
  - o 95-240VAC auto-sensing
  - o Max current consumption 100mA @230VAC
- DC
  - o Internal supply
  - o Standard 4mm Terminal Block
  - o -33 to -75 VDC
  - o 0.35A max consumption

#### J. Non-Volatile Memory

- Configuration held in non-volatile FLASH memory

#### K. Physical

- 292w x 200d x 44h
- Metal chassis, front & rear panels
- 1.4Kg 2.4lb
- Optional 19" Rack Mount Kit

#### L. Environment

- Operating 0-55°C
- Humidity 10-90% non-condensing
- Natural convection cooling

#### M. Maintenance

There are no serviceable parts or maintenance required.

#### N. Approvals - pending

- Safety
  - o 'CE' marked
  - o IEC60950-1:2nd Edition
  - o ACS/NZS60950:1:2011- IEC60950 and ETSI telecoms safety standards. Suitability to the latest interim ACMA telecoms safety requirement cannot be guaranteed - external primary surge protection may be required. Check specific local carrier compliance requirements.
- Emissions
  - o FCC Part 15 Class A
  - o EN55022:2006 - A1:2007
  - o EN55024:1998 - A2:2003
  - o EN61000-3-2:2006
  - o AS/NZS CISPR32:2001
- Telecoms
  - o TBR3 / TBR4
  - o AS-ACIF- SO31 and SO38
  - o CS-03 Canada
  - o TIA-968-A USA
- RoHS
  - o Compliant

All details subject to change without notification E&OE

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