

## *Equipment for back-up of high speed over ISDN*

- *Back-up equipment for high speed leased lines using up to 8 B ISDN channels.*
- *Dynamic delay compensation over ISDN according to Bonding specifications ISO/IEC 13871 modes 1 & 2.*
- *Two modes: Back-up/Terminal Adapter*
- *Transparent to protocol*
- *Highly secure*
- *Multiple back-up criteria.*
- *SNMP Management*
- *Compatible with TEMIS System*

### *Back-up equipment for high speed lines*

**M**ITTO offers back-up to high speed leased lines of up to 2 Mbps. The maximum back-up speed is 512 Kbps. For this purpose the MITTO aggregates the bandwidth of up to 8 B ISDN channels thus creating a single  $n \times 64$  Kbps pipe. Should a line failure be detected, the MITTO establishes the back-up connections between each end of the leased line terminations. It uses as many B channels as necessary to achieve the required bandwidth. The remote end device is usually another MITTO or TELDAT's TEMIS System. The MITTO constantly monitors, initiating return from back-up once the leased line is restored and ensures there is no loss of session due to the quick mechanisms involved in ISDN call signaling.



# MITTO

## **Dynamic Delay Compensation**

MITTO absorbs and evens out the different delays associated with each B channel. When in mode 2 the MITTO accomplishes this dynamically due to the time-variant nature of these delays. It's able to perform this even when handling all 8 B channels in a single pipe of 8 x 64 Kbps. When configured in mode 1 the delay compensation is accomplished at the beginning of the back-up calls.

## **TWO MODES OF OPERATION**

MITTO works in two ways:

**Back-up mode.** MITTO constantly monitors the leased line and when necessary diverts the traffic through the single pipe made up of up to 8 B channels.

**Terminal adapter mode.** It allows the transmission of data at high speed using a preconfigured number of B channels.

In both modes the maximum speed possible through the ISDN path is 512 Kbps.

MITTO supports a wide variety of interfaces in both the Terminal and the CSU/DSU sides, as well as enormous flexibility in the handling of the DTR signal.

## **Multiple Back-up Criteria**

One MITTO can be configured to make the calls and the other MITTO to receive them. An important cost effective feature.

MITTO can be configured to detect leased line failures such as loss of signals from the CSU/DSU interface (DSR, DCD, CTS, RxD, TxC, RxC). Each of these has two independent timers, one for going to back-up and the second to return from back-up.

### **Back-up** criteria:

- Loss of DSR signal
- Loss of DCD signal
- Loss of CTS signal
- Absence of received data (RxD)
- Absence of data clocks (TxC, RxC)

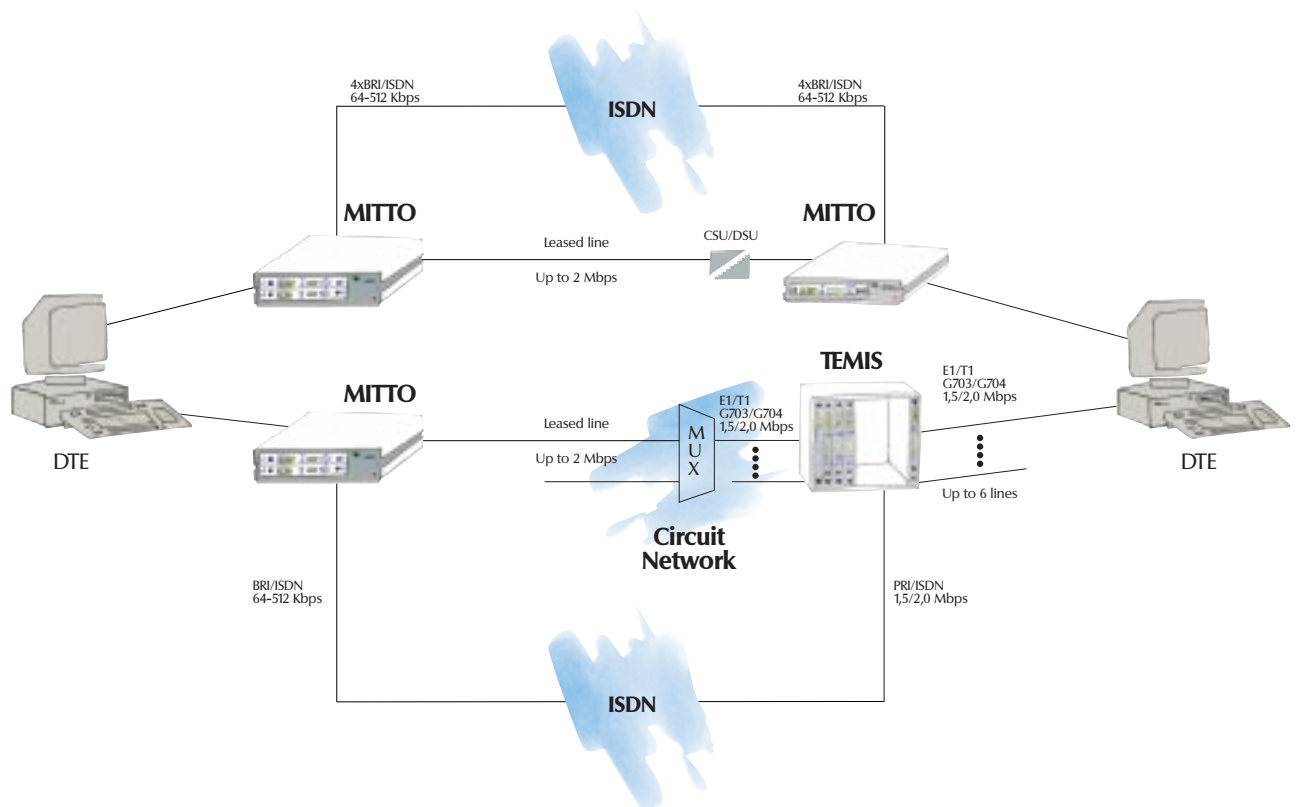
The MITTO supports a time/date (hours & minutes) window. Another important cost effective feature. This prevents back-up from being carried out within unproductive periods, e.g.; weekends, evenings, etc.

## **Highly Secure**

MITTO supports a two-level system of security. Firstly by using the CLIP (Calling Line Identification Presentation) in incoming calls and secondly by an exchange of passwords in-band, making this very secure.

## **Local Management**

MITTO has an alphanumerical display and a keyboard on the front panel. A user-



friendly menu system allows quick programming. Both status and diagnostic information are displayed under normal operating conditions.

You can remotely configure the MITTO at the other end of the leased line through the display/keyboard. It is also possible to configure the MITTO from the TEMIS system.

### **TELDAGES. Remote SNMP Management**

Multiplatform SNMP management is possible using two kinds of Proxy-SNMP equipment: ICU-PLUS and TEMIS system.

In both cases the Proxy-SNMP devices include routing possibilities, with LAN/WAN interfaces (or even BRI/ISDN in the case of the ICU-PLUS). Supported protocols are Frame Relay, X.25, PPP, IP among others.

MITTO can be managed from a workstation running PC/Windows NT or UNIX (HP, IBM, SUN). Management application can work in a stand-alone mode or be integrated in an open platform as HP OpenView, Tivoli (NetView 6000) or Spectrum. Beside the

features included in the user selected platform it is possible to:

- **define access profiles**, with different degrees of privileges.
- **fully configure** the devices on both sides of the line.
- **present all the Teldat devices** (not only MITTO) in useful cards.
- flexibly perform **user-defined group operations** on the database.
- generate **user-defined monitoring windows** using Teldat's built-in Reports Editor.
- **graphically present alarms** and events.
- have **real time display of the device panel**.
- perform **special operations** such as remote downloading of software, reset, etc.
- **process statistics**.
- **easily integrate the MIB** in any external application.

## TECHNICAL SPECIFICATIONS

### Terminal Interface (DTE):

V.35/V.36/V.10/V.11/X.21

Speed: up to 2Mbps.

### DSU/CSU Interface (DCE):

V.35/V.36/V.10/V.11

Speed: up to 2 Mbps

### ISDN ports

Type: S/T BUS BRI interface

Connector: 4 x RJ45

Channels: 2 channels per BRI access

U interface also available in desktop double slot box.

### General Capabilities

- Protocol independent
- Year 2000 Compliant
- Switch to/from back-up are defined from the following DCE signals (DSR, DCD, CTS, TxC, RxC, RxD)
- Configurable hour/date window to enable/disable back-up calls
- Configurable way to release calls when getting out from hour/date window
- Programmable leased line test with no loss of back-up data
- Programmable back-up lines test with no loss of leased line data
- Programmable alarm generation
- Local/remote management, both by display/keyboard and by management application
- Highly flexible SNMP management
- Fully compatible MIB
- MITTO is shipped in two versions:

- rack-mounted board.
- desktop double slot box where an internal and compatible CSU/DSU (e.g. Teldat's MBBU or EBANO) can be mounted.

### Dimensions (H x W x D)

- Rack version: 221 x 25 x 295 mm. (8.70" x 0.98" x 11.61"), compatible with Teldat's BM-17TL rack.
- Desktop version, double slot box:  
71 x 318 x 317 mm.  
(2.80"x12.52"x12.48")

### Weight

- Rack version: 450 gr. (0.99 lbs.)
- Desktop version, double slot box: 3000 + 450 gr. (6.67 + 0.99 lbs.)

### Environment

- Temperature range:  
operating: 5 to 35°C (41 to 95°F)  
stored: -20 to 60°C (-4 to 140°F)
- Relative humidity, not condensing:  
operating: 8 to 80%  
stored: 5 to 90%

### Electrical Characteristics

Rack version:

- Power supply: +5,+12,-12 Vdc ±10%
- Consumption: 0.5,0.2,-0.2 A max

Desktop version:

- Power supply: 100-240 Vac, 50-60 Hz
- Consumption: 15 VA max.(DSU/CSU not included)



ISO 9001



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