



# PatapSCO Databand LLB

Providing leased line backup at speeds to 2.048Mbps

- 1 or 2 Leased Lines.**
- Speeds from 64kbps to 2.048Mbps.**
- Fast Dialling of Replacement Capacity.**
- BRI and/or PRI ISDN.**
- Remote Feeder to Databand 120 Chassis System.**
- Fully upgradeable.**
- Point-to-Point, Triangulated & Meshed Networks.**
- Dual Power.**
- Relay Protected.**
- Secure.**



The LLB range forms part of the Databand family of expandable, high-performance ISDN products. Focused on provision of fast automatic ISDN back-up at speeds between 64kbps and a full 2.048Mbps, the Databand LLB provides alternative routing for leased lines, giving reliable, inexpensive system resilience.

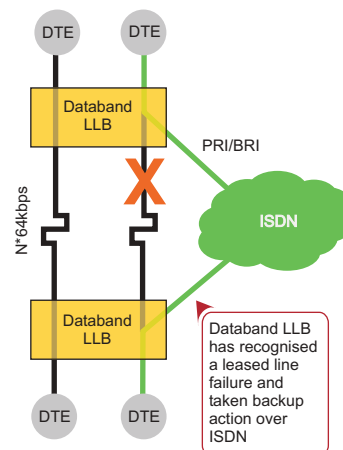
In the event of circuit loss, Databand LLB automatically dials the necessary number of BRI or PRI ISDN channels to provide replacement capacity. When leased line operation is restored, traffic is transferred back to the primary route, and the ISDN calls terminated.

Each Databand LLB can be used in conjunction with other members of the LLB range, or as part of a larger network solution using, for example, the Databand 120 hub (please see the separate Databand 120 brochure).

The in-built flexibility of the Databand LLB includes the ability to support one or two leased lines simultaneously, or to support a single leased line with the second interface used for other "bandwidth-on-demand" applications.

A combination of Basic Rate Interfaces (BRI) and Primary Rate Interfaces (PRI) can be supported, with the option to change or upgrade at any point in the future. Single or optional dual power supplies available.

**Databand LLB automatically detects failure of leased lines and dials ISDN capacity as a temporary replacement.**



## Why choose Databand LLB over other solutions?

**Its functionality, flexibility, modularity, expansion capabilities, security, simple installation and management make the Databand LLB the most attractive solution on the market. Coupled with the inter-working capabilities with other members of the family and its attractive pricing, the Databand LLB becomes the obvious choice for back-up of key services.**

How does the LLB detect a leased line has failed?

The Databand LLB continually monitors for loss of clock, control signals or data transitions. The LLB also has the ability to monitor CRCs within HDLC-16 user traffic to identify individual errors. This provides enhanced circuit visibility and enables the Databand LLB to take back-up action prior to the line failing completely. Simple graphical prompts configure a number of flexible parameters for example failure/recovery timers, back-up windows and ISDN test periods. The failed leased line is checked for recovery, with a facility to delay switch-back to the primary route ensuring complete reliability.

How will I know that the leased line has failed?

A management package highlights any problems with links or units; the front panel displays the unit's status; an alarm relay is activated; remote units can dial a central site to report alarms. The Databand LLB can be configured to require manual acknowledgment of a leased line failure. Unless the acknowledgment is made within a user set period, the Databand LLB clears down the dialled ISDN, irrespective of the state of the leased line. Luckily that the trunk failure may go unnoticed this facility provides an immediate indication that a leased line has failed and protection against "surprise" ISDN bills.

What business benefits will the LLB bring?

The Databand LLB is designed to ensure continued service for applications and end users when leased lines fail. The effect of leased line failure without back-up can be catastrophic. The costs can be obvious, but more often are hidden in lost time, effort to re-start applications, lost sales and customer confidence. The low cost of a Databand LLB system is quickly justified after even a single back-up event. Leased line back-up is, in effect, a commercial insurance policy for your business.

What systems are suitable for use with the Databand LLB?

Any synchronous device which uses a leased line can be safeguarded.

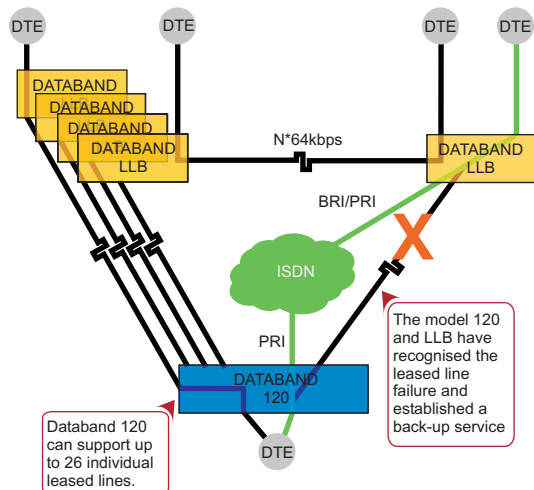
### How will Databand affect our users?

The speed at which ISDN back-up is dialled, aggregated and provided to the DTE/application is so fast that users are frequently unaware a leased line failure has occurred.

### What can I use for larger sites?

The Databand LLB is ideal for sites with one or two leased lines and can be configured as a point to-point system or in simple integrated networks.

The Databand 120 hub (see separate Product Guide) supports more leased lines and addresses additional applications. The Databand 120 is fully compatible with other members of the Databand family, including the LLB, which can be used as a "feeder" device from remote locations.



### How flexible is the Databand LLB?

The Databand LLB includes a number of practical features which maximise the use of available resources. BRI, multiple BRI and PRI ISDN access is available.

One or two leased lines at speeds from 64kbps to a full 2.048Mbps can be backed up. When supporting a single leased line, a second DTE port can be configured to use the ISDN when not used for back-up. FLASH-based memory enables remote software downloads and configuration. Databand LLB units may be upgraded to any other models in the range. Total system flexibility is 'built-in' by design.

### Can I upgrade the units?

Most company's data requirements grow, similarly the Databand can be expanded to match changing needs by adding/changing modules.

Back-up speeds and ISDN access types are completely upgradeable from 64kbps to a full 2.048Mbps using PRI and BRI modules on the 4 available ISDN ports.

The product is upgradeable within the range, from a single link 64kbps unit through to a high-speed dual-port LLB.

### How do I manage and install Databand LLB?

The whole Databand range is very simple to install and manage. The units are configured and controlled via an intuitive PC-based Graphical User Interface (GUI).

The GUI indicates the status of both local and remote units. If a problem is detected, remote units can automatically dial the central site to pass status, events and alarm messages. More than one management station can exist within a network.

A demonstration version of the GUI is available which illustrates its ease of use and gives an excellent insight into the Databand's capabilities.

### What about security?

In-coming events can be screened by a variety of methods such as DDI, CLI and a user-programmable password, through to a very secure system using a unique factory-set code which is specific to only one LLB unit.

# Technical Details & Functionality

## Overview

Supports one or two leased lines, or one leased line and an optional "on-demand" port.  
Back-up of leased lines running at speeds from 64kbps to 2.048Mbps.  
Aggregates up to 34 "B" channels to provide an exact 2.048Mbps for a single port.  
Two ports, each up to 17 "B" channels for 2 x 1.024Mbps.  
Up to 4 BRI interfaces (8 "B" channels).  
One PRI (up to 30 "B" channels).  
Two PRI or one PRI and two BRI (up to 34 "B" channels).  
Any model may be upgraded to any other.  
290mm wide, 199mm deep and 41mm high.

## Interfaces

Leased line ports 15 way density-and-a-half male "D" supporting V.11, V.35 and G.703.  
DTE/Application port 15-way density-and-a-half female "D" supporting V.11, V.35 and G.703.  
Leased line and application ports are power failure relay protected. If power is lost the leased line is connected directly to the application.  
All ISDN interfaces are RJ45 sockets.  
Local Management/GUI port is an RJ11 socket.  
Cables in various lengths are available.

## Power

An external unit provides power.  
Optional second load-sharing supply for added resilience.

## Leased Line Failure

Continually monitors leased line for loss of clock, data transitions and control leads.  
Monitors user's HDLC-16 frames for CRC errors. Identifies line failure/degradation.  
User-set parameters tailor the line failure criteria.  
User-set parameters for back-up time windows and ISDN test scheduler.  
Monitors loss of transitions from the application/DTE. Inhibits back-up action should be application/DTE fail.  
Half-duplex failures detected.  
Constantly tests the failed leased line. Once recovered for a user-set period, data is switched to the leased line and ISDN cleared.

## Dialling

Fully automatic when a leased line fails. Should the primary back-up destination be unavailable, it is possible to dial an alternative location.  
Scheduled test dialling between locations can be pre-programmed.  
Tests ISDN and aggregation units without affecting the leased line operation.

## Aggregation

Patapsco's ISDN aggregation system handles domestic, International and satellite-routed calls with a maximum differential delay of 700msecs.  
Databand LLB supplies the application with the requested or maximum available ISDN capacity, and will try to establish and "missing" circuits.  
If an ISDN "B" channel fails (or has excessive errors), the LLB will reduce the data rate to the application/DTE, re-dial the circuit and increase the data rate.  
Minimum acceptable back-up data rates can be configured.  
Databand LLB handles all aspects of the leased line failure, ISDN call dialling, ISDN management, leased line recovery and switch back.  
Users enjoy enhanced and reliable service levels.  
Fully independent of, and transparent to, user data.  
Clocking options and methods are available to support Time Division Multiplexors (TDM's). Please consult the Enquiry Line for Information.

## Security

Incoming calls can be screened using CLI, DDI and a password.  
Calls for management purposes and also password protected.  
Enhanced security is available using a unique factory-set identifier. This means calls will only be accepted from authorised Databand LLB units.

## Management

A clear, easy to use Network Management System.  
SNMP available as an upgrade.  
The GUI provides simple configuration and management of local and remote devices via ISDN or network paths.  
Automatic reporting of critical alarms.  
Software down-line loadable.  
Configuration and event log held in NV memory.

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