

Using existing PRI's provide BRI ports

Companies often have a large number of ISDN lines. In larger sites the PABX is almost certainly connected via a Primary Rate (PRI) circuit and there can be many other devices connected via Basic Rate (BRI) lines.

Examples of BRI equipment include:

- **ISP internet connections**
- **Router**
- **ISDN backup equipment**
- **Videoconferencing Systems**

As the number of such devices on a site increases, the costs of installing and renting multiple ISDN BRI lines can be substantial.

Furthermore, most applications require network access only occasionally. When the actual usage is taken into account provision of dedicated lines, with the substantial installation and on-going rental charges, can become difficult to justify.

Customers can use Liberator to:

- **Provide BRI/PRI lines in addition to those already installed**
- **Make cost savings**
- **Connect multiple local devices to share network access**
- **Improve customer & staff service levels without increasing network costs**

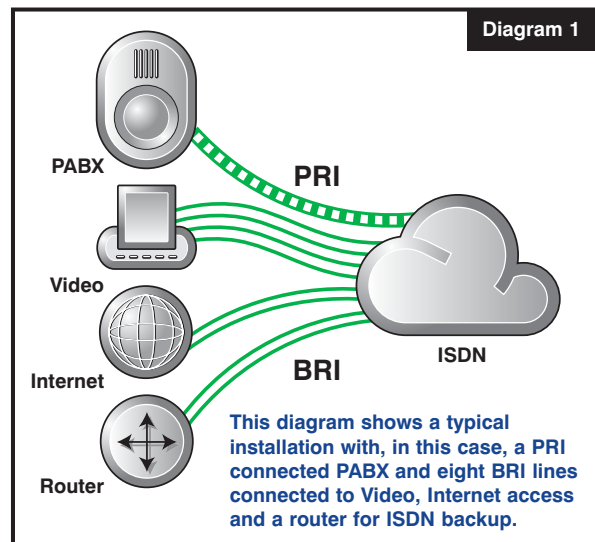
Application descriptions

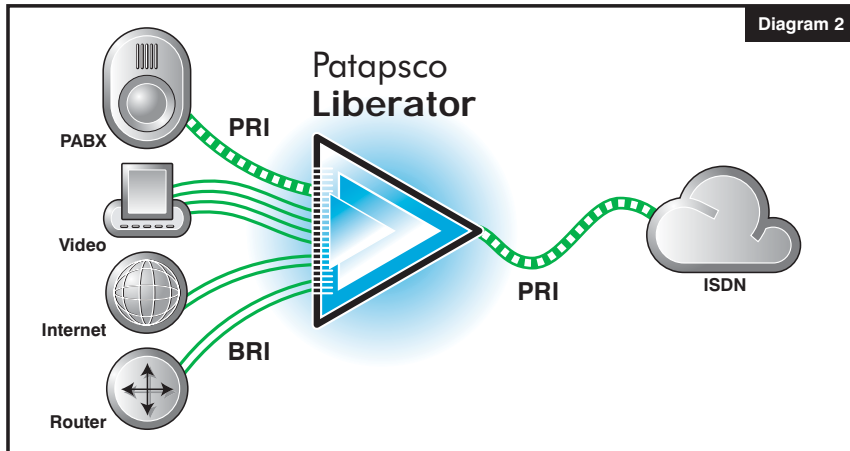
Medium-sized businesses frequently use a PRI interface for the PABX and then install additional BRI circuits for other devices.

In the example in Diagram 1, the PABX may have a part-enabled PRI, say 12 channels. The Video Conferencing System has three lines (6 channels); Internet access uses another 2 channels (4 lines) and the router has access to a further 2 lines (4 channels) for backup.

Each BRI device requires ISDN access only periodically, but rental is being paid on all 26 lines even though it is unlikely that this total capacity is ever required.

By installing Liberator, support for all the BRI connected devices is provided by the existing (or expanded) capacity of the PRI circuit.





Rather than subscribing to many BRI interfaces where installation and on-going rental costs are high, a single ISDN Primary Rate (PRI) line will attract lower rental costs and give a number of advantages over multiple BRIs.

Using a Liberator means all BRI devices can share access to all the PRI channels (if wished). This means fewer channels need to be rented and rather than have a dedicated BRI, each Device can have access to any available circuit, sharing and contending with other network users.

How Liberator can help (1) – Reduce Network Costs.

Significant reductions costs can be achieved in 2 main areas:

- a) Instead of subscribing to multiple BRI interfaces where installation and on-going rental costs are high, models from the Liberator range support one or more ISDN Primary Rates (PRIs) and allow local BRI and PRI devices to share network resources.

It is fast and simple to add channels when they are required, cabling and space is reduced and billing greatly simplified for improved cost-control.

- b) Utilising a single PRI network connection across multiple local devices means they all have access to, and can share ISDN network channels. This creates a larger "pool" on which each device can draw resources

As the BRI devices only make occasional calls, and rarely at the same time, fewer channels need to be rented from the carrier and the BRI devices can share and contend for network access further reducing costs.

If required, a minimum number of channels can be reserved for an application, so in Diagram 2 the customer may decide to keep 8 circuits available for the PABX. These 8 channels will be available to use at all times but if the other devices are not using the rest of the ISDN, the PABX can dial up to the maximum number of channels rented (assuming no other devices have a pre-configured "reserved" capacity).

The other devices will dynamically share the remaining available channels between them and they may or may not have maximum and minimum network.

This facility means there can always be a "base" level of capacity available for any Device, and the remaining ISDN capacity can be shared and "pooled" for use on an "as-needed" basis – reducing costs and using services more efficiently.

How Liberator can help (2) – Maintain network costs but improve service levels.

The Liberator range can improve customer service by enhancing access for in-coming calls and give local voice and data users improved support without increasing network costs.

In Diagram 2 the Liberator unit gave all users more efficient access to the available network ports by sharing the single PRI line. This means average access levels can be maintained whilst reducing network ports and therefore costs.

It would also be possible to maintain the number of network channels but increase the number of local ISDN ports. This gives Devices the ability to share and have access to more network resources without increasing network costs. This facility and its benefits are covered in more detail in Application Note 6F

How Liberator can help (3) – Mixed Applications

Whilst this note is one of a series that considers different applications separately, Liberator places no restriction on the number of applications that can be supported simultaneously.

Overall, the benefits of Liberator for multiple ISDN installations are:

- Improved ISDN usage by giving all devices access to a single "pool" of circuits, allowing the overall number of circuits to be reduced
- Increase in service levels to/from devices by maintaining the number of network ports yet increasing the number of connections from the devices to the Liberator
- Reduced installation costs
- Reduced rental costs by using capacity more efficiently
- Simplify billing and circuit tracking.
- Fast availability of extra BRIs for expansion at virtually no cost
- Less space, fewer "boxes" and simplified cabling
- Fast, simple installation with minimal user-impact
- Simple to configure and re-configure (unlike most PABXs!)
- Increased Erlangs

Summary

The Liberator is a range of professional products for carriers and corporates. Priced to help reduce ISDN installation costs, reduce rental costs and improve flexibility and expansion, it requires no system changes or user disruption, keeps data applications separate from voice and is easy to install and configure.

Other application notes in this series cover:

AN-006(A)	PRI to BRI Conversion
AN-006(B)	Using existing PRI's to provide BRI ports
AN-006(C)	Sharing a single PRI between PRI and BRI devices
AN-006(D)	ISDN "Time-of-Day" Reconfiguration
AN-006(E)	Low-cost ISDN backup by sharing ISDN
AN-006(F)	Improve dial-in and dial-out access and user/application performance without increasing network costs
AN-006(G)	Pre-allocate network resources applications have access to
AN-006(H)	Stand-alone BRI and/or PRI "networks" for demonstration and testing or across-site communications
AN-006(I)	Low-cost Carrier provision of PRI, Fractional E1 and BRI
AN-006(J)	Least Cost routing to a second carrier