

## HBR-2502 ETHERNET SWITCH MODULE HBR-ETH



The IPITEK HBR-2502 Ethernet switch module provides three 10BASE-T / 100BASE-TX Ethernet ports. This module offers service providers the unique ability to transport IP traffic via the HBR-2502 digital transport system. The IP over SONET/SDH design presents higher throughput than ATM networks yet still delivers the resiliency/self-healing capabilities of SONET/SDH.

The module provides a layer-2 MAC switching capability, eliminating the need for a standalone router or ATM switch. Each port creates a separate network segment with dedicated bandwidth to connected devices.

The automatic address learning, aging and migration capability ensures that the source addresses are identified, stored and updated in the MAC address table. Little user intervention is required when a device is connected, disconnected from a port or moved to another port. Coupled with the hardware-based speed sensing, full/half duplex, flow control (IEEE 802.3x), and MDI/MDI-X auto crossover, the Ethernet switch module can be put into operation with little or no user configuration.

### FEATURES

- Three auto-negotiation 10BASE-T / 100BASE-TX Ethernet ports
- Supports MDI / MDI-X (Media Dependent Interface / MDI with Crossover) auto crossover
- Layer-2 MAC address switching
- Automatic address learning, address aging and address migration
- Broadcast storm protection
- Speed and collision indication
- Aggregate bandwidth programmable in 27 Mb/s increments
- Hot swappable

### APPLICATIONS

- Cable modem data services
- LAN interconnection services
- MPEG compressed video transport for VoD (Video on Demand) or ad insertions
- Transport of TV set-top box access and control information

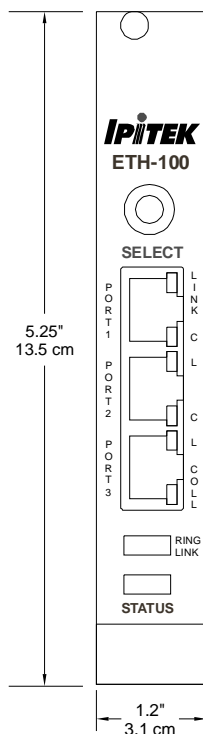
The Ethernet bandwidth is mapped directly to a multiple 27 Mb/s channel within the 2.488 Gb/s payload of HBR-2502. The aggregate channel bandwidth is programmable from 27 Mb/s to 108 Mb/s.

The broadcast storm protection feature protects the Ethernet switch module from receiving too many broadcast packets. Broadcast packets will be forwarded to all ports except the source port, and thus will use too many switch resources. The module will discard broadcast or multicast packets if the number of those packets exceeds the threshold in a preset period of time. If the preset period expires, it will then resume receiving broadcast or multicast packets until the threshold is reached.

Status monitoring and alarms are included with the module. Front panel LEDs indicate the link and collision state for each port and health status for the entire module, while detailed status and configuration controls are accessed via the terminal's node controller, craft utility, or NodeWizard element management system.

The unit also includes non-volatile memory containing module identification and tracking information.

## MECHANICAL



## SPECIFICATIONS

Ring Network Bandwidth:	Full duplex up to 108 Mb/s
Operation:	Full or half duplex (auto-negotiation)
Bandwidth Per Port:	10 Mb/s or 100 Mb/s (auto-sensing)
MAC Addresses:	1k usable by all 3 ports
Connectors:	3 RJ-45 female EMI connectors
Cabling for 10BASE-T:	CAT 3, CAT4, CAT 5 or better UTP straight or crossover cable
Cabling for 100BASE-TX:	CAT 5 or better UTP straight or crossover cable
Max Distance from Card to Ethernet Equipment:	100m (328 ft.)
Standards:	IEEE 802.3 (CSMA/CD), 802.3i (10BASE-T), 802.3u (100BASE-TX), 802.3x

### Environmental

Operating Temperature:	0° to 50° C
Storage Temperature:	-55° to +75°C
Operating Humidity:	to 90%, non-condensing
Dimensions:	5.25"H x 1.2" W x 8.58"D (13.5cm x 3.1cm x 22 cm)

## ORDERING INFORMATION

<b>HBR</b>	-	<b>ETH</b>	-	<b>100</b>
<i>HBR-250X System Compatible</i>		Type ETH = Ethernet Module		Data Rate 100 = 100 Mb/s

\*Contact sales for rear connector version.



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