

M13/C MUX INTERFACE MODULE



PDH 2 SDH SOLUTION

The popular M13/C Multiplexer (Mux) Interface Module (IM) is commonly used for interconnection of PDH and SDH/SONET networks or for migration from PDH to SDH/SONET networks. Used with the HPX-1600-SS Multi Service Provisioning Platform (MSPP), the M13/C Mux IM provides E1 to E3, or T1 to T3 PDH multiplexing that allows for E1 or T1 tributaries to be connected between SDH and SONET networks. Additionally, the M13/C Mux IM can multiplex E1 or T1 circuits. Connectivity is achieved via two BNC connectors.

The M13/C Mux IM can be soft configured to one of four multiplexer standards:

| | |
|---------------------------|--|
| M13: | 28x T1 (1.5 Mbps) into a DS3 (45 Mbps) |
| T3 (C bit parity): | 28x T1 (1.5 Mbps) into a DS3 (45 Mbps) |
| E13: | 16x E1 (2 Mbps) into an E3 (34 Mbps) |
| G.747: | 21x E1 (2 Mbps) into a DS3 (45 Mbps) |

A remote management HDLC channel is supported in either T3 or E13 operational modes.

To ensure continuous availability, the M13/C Mux IM is equipped with comprehensive alarm capabilities, managed through graphical EMS/NMS software, HPXView. Alarms include: Loss of Signal (LOS) and Loss of Frame (LOF). Each M13/C Mux IM has a single alarm indicator LED on the front panel that displays red for Loss of Signal (LOS). When configured in conjunction with another E3/DS3 IM Automatic Switching Protection (ASP) is enabled.

- PDH to SDH/SONET
- T3 or E13 operational modes
- Migration from PDH to SDH/SONET networks
- Network interconnection
- GUI configurable
- Remote management

HPX-1600 Modularity

Support for more than

20 different Interface Modules

The world's broadest service mix from a

1RU consolidated platform

Low and High Speed Triple Play

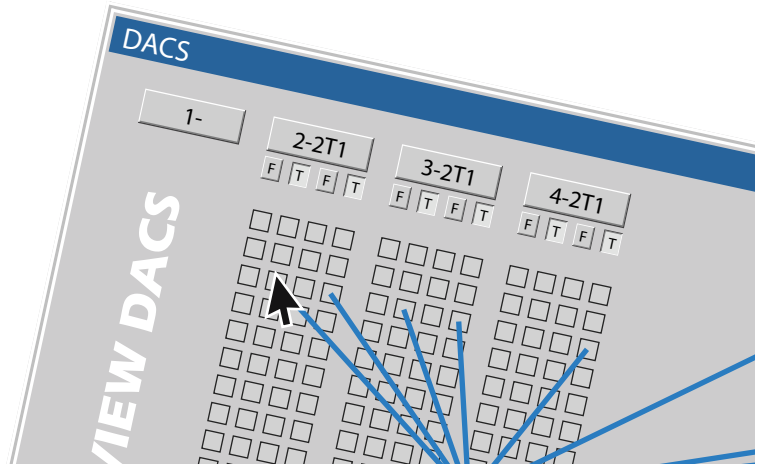
Over Copper, Fiber, Wireless

SIMPLE MANAGEMENT

Configure Circuits in Seconds

Haliplex platforms are centrally managed with Haliplex's own world-class graphical EMS/NMS solution, HPXView. This industry leading software empowers operators to realize the full potential of their services with the economy of remote management and diagnostics. Windows-driven and ready for integration with concurrent SNMP software, including SNMPc and HPOpenView, this management solution can be implemented in any new or existing network.

HPXView also includes Haliplex's revolutionary Digital Access Cross-Connect Switch (DACs) – a time-saving drag-and-drop answer to bandwidth optimization. The DACs is used to groom voice interfaces and serial data for simplex (one-way) or duplex (two-way) cross connects in multiples of DS0 (nx64kbps) into composite E1 or T1 trunks for local termination or transport over a high speed optic trunk.



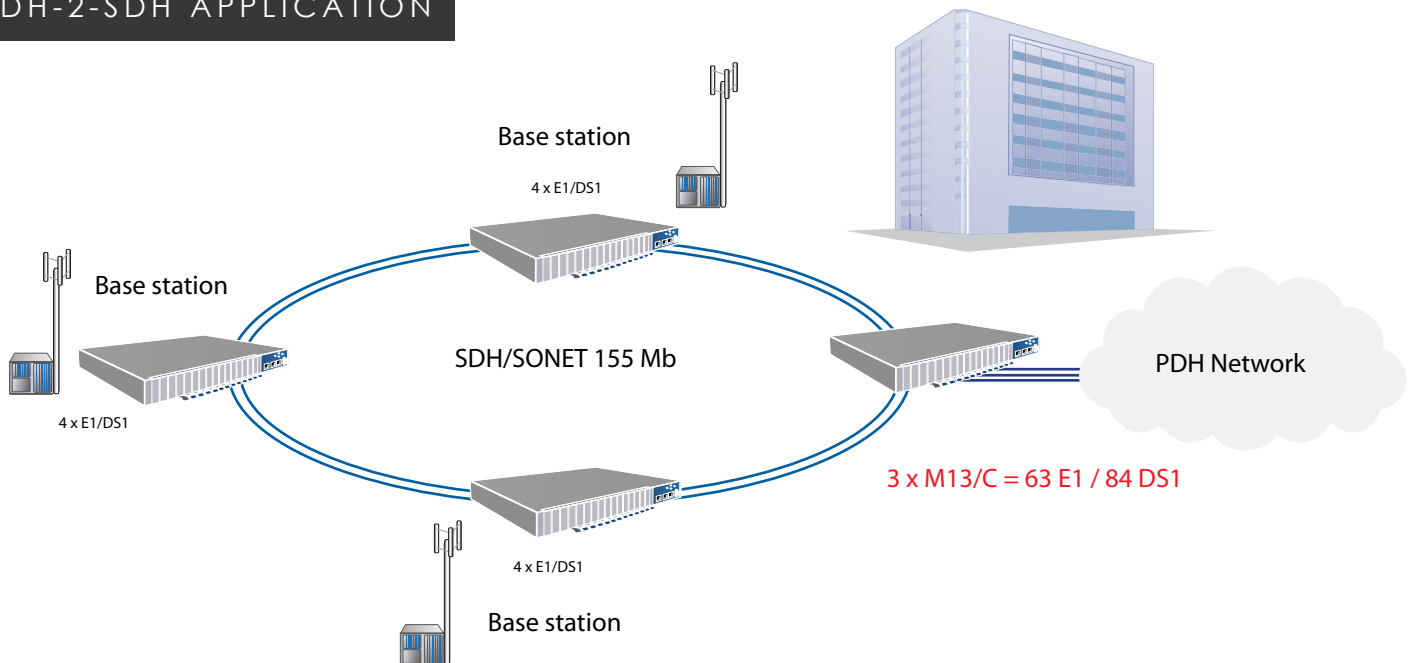
- Direct Management via USB, Ethernet, Serial Console port
- Remote IP based management; PPP over SONET/SDH DCC
- SNMP configuration and alarm reporting
- Periodic performance and alarm reporting with Syslog
- Digital Access Cross Connect Switch (DACs)
- Line and Backplane BER testing

With HPXView, Interface Modules can be configured remotely in a matter of minutes, eradicating costly truck rolls and greatly reducing the need for regional technical staff. HPXView places the power of network management in the hands of even the uninitiated user - with graphical interfacing and **drag-&-drop functionality**, configuration is just a mouse click away.

HPX 1600 SERIES

The HPX-1600 delivers voice, video and data services via a broad range of low and high speed hot-swappable Interface Modules. Each HPX-1600 chassis can be loaded with up to 16 modules in numerous configurations. This modular, mix-&-match design means operators can provision for today's requirements, and position the network for scalable, pay-as-you-grow expansion. Streamlined for optimal port density, these standards compliant modules can be shared and interchanged across platforms, and are implemented instantly with graphical user interface, HPXView. Implementing new services causes no disruption to uptime, or to power distribution through the chassis. In addition to fiber optic 1+1, SNCP and UPSR mechanisms, protection is available for PDH circuits at E1/T1 and E3/DS3 level.

PDH-2-SDH APPLICATION



SPECIFICATION

| | |
|---------------------|---|
| Connector | BNC - 75 Ohms |
| Bit rate | 34.368 Mbps (E3); 44.736 Mbps (DS3) |
| Framing | M13, T3 C-bit parity, E13, G.747 |
| Line coding | E3: HDB3, DS3: B3ZS |
| Remote management | HDLC in T3 C-bit parity and E13 mode |
| Loopbacks | Line, equipment, or both |
| Redundancy | 1+1 or 1:1 with Y-cable |
| Power consumption | <3 Watts |
| Alarms | LOS, LOF |
| Indicator LEDs | LOS |
| Standards | ITU-T: G.703, G.747, G.775, G.823, ETS00 166 ANSI T1.107 |
| Compliances | CE, A Tick, C Tick, FCC part 15 class B, UL |
| Physical | Height: 4.2 cm, Width: 2cm, Depth: 16cm, Weight: <150 grams |
| Configuration | HPXView, SNMP |
| Configuration rules | Supported by HPX-1600 SS |
| Part Number | HPX-IM-1632 |