

*Single channel, auto sensing, 10/100 fast Ethernet interface modules for the HPX-1600-IA and HPX-1600-SS multi-service provisioning platforms*



## LAN2WAN SOLUTION

Haliplex's Single Ethernet Interface Module (IM) provides network operators with a cost-effective means of bridging Ethernet Local Area Networks (LANs) or extending LANs to a Wide Area Network (WAN). For use with the HPX-1600-IA and HPX-1600-SS multi-service provisioning platforms, the Single Ethernet IM is a single channel 10/100 Mbps device that achieves connection via a standard RJ45. All IM performance, statistical, and alarm parameters are controlled through Haliplex's EMS/NMS, HPXView.

The Single Ethernet IM provides a bridged, LAN protocol independent solution that requires minimal configuration and self-learns the locally connected LAN devices. Mixed LAN interfaces can be used in pairs, with one IM operating at 100 Mbps, and the other IM at 10 Mbps. The WAN interface of the Ethernet IM conforms to ITU-T standard X.86 – Ethernet over LAPS. LAPS although designed for transmission over SDH can be used in Haliplex multiplexers for transmission over any combination of SDH/SONET/PDH and fiber optic trunk circuits. When loaded into the HPX-1600-IA, the Single Ethernet IM can be synchronously mapped over a single E1 or T1 circuit.

Haliplex's own graphical EMS/NMS, HPXView, provides network operators with comprehensive, realtime insight into network activity and IM status. This software interface displays all traffic passed through the IM, and over the WAN, including both transmit and receive traffic in byte and packet counts. Up to 1024 MAC addresses are stored on the IM. Testing features include bi-directional loopback at the IM connector and alarms include Loss of Link, Loss of WAN Link.

- LAN to LAN bridging
- LAN to WAN bridging
- Self learning
- Up to 1024 MAC addresses
- SDH/SONET/PDH
- GUI 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***

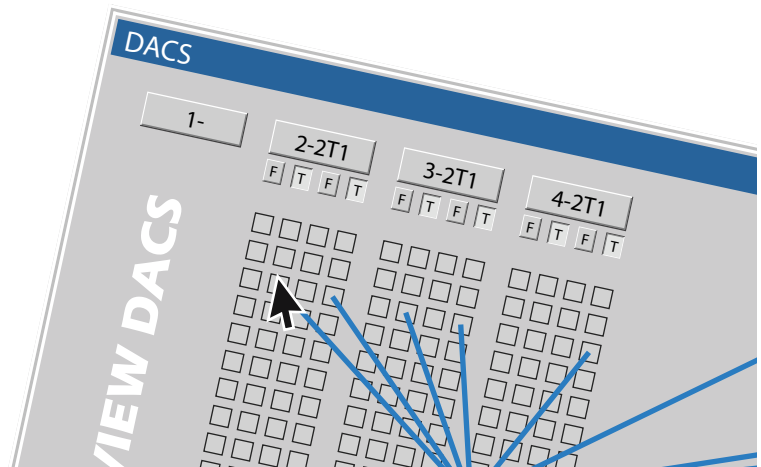
## SIMPLE MANAGEMENT

*Configure Circuits in Seconds*

Haliplex platforms are centrally managed with graphical EMS/NMS solution, HPXView. This industry leading software enables operators to configure IMs 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. Operators can now 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.



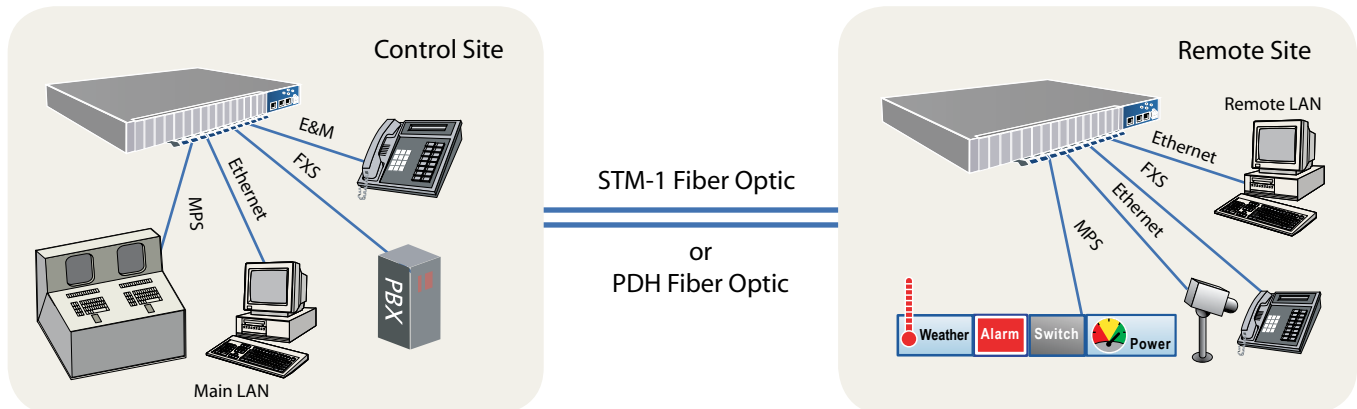
- Direct Management via USB, Ethernet, Serial Console port
- Remote IP based management; PPP over SONET/SDH DCC
- SNMP configuration and alarm reporting
- Periodic performance and alarm reporting with Syslog
- Digital Access Cross Connect Switch (DACs)
- Line and Backplane BER testing

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.

## 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.

## BRIDGING APPLICATION



## SPECIFICATION

|                       |   |
|-----------------------|---|
| Connector             | RJ45 connector configured as an NIC   |
| Bit rate              | 10/100 Mbps (half or full duplex auto-negotiation)                          |
| Trunk speed           | n x 64 kbps (ITU-T X.86 LAPS Compliant; Ethernet over PDH)                  |
| Bridging function     | Capacity to learn up to 1024 MAC addresses with automatic aging and purging |
| WAN protocol          | Complies with ITU-T X.86 (Ethernet over LAPS)                               |
| Max frame size        | 1522 bytes  |
| Layer 2 functionality | Capacity to learn up to 1024 MAC addresses with automatic aging & purging   |
| Loopbacks             | IM connector  |
| Redundancy            | 1+1   |
| Power consumption     | <3 Watts  |
| Alarms                | Loss of Link (LOL) and Loss of WAN link                                     |
| Indicator LEDs        | WAN link status; transmit and receive; LAN activity, 10/100 LAN status      |
| Standards             | IEEE 802.3; ITU-T X.86 (LAPS)   |
| 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         | Configuration with HPXView or SNMP  |
| Configuration rules   | Supported by HPX-1600-IA, HPX-1600-SS                                       |
| Part Number           | HPX-IM-1670   |