

*Dual port T1 interface modules for the
HPX-1600 family of modular multi-service provisioning platforms*

**ECONOMICAL T1 SOLUTION**

The Dual T1 Interface Module (IM) offers a cost-effective solution for voice network and specialist low speed utility applications. Operating at n x 64 kbps up to 1544 kbps, the Dual T1 IM allows direct connection to T1 networks via two RJ45 ports. Up to 16 Dual T1 IMs can be loaded into a single HPX-1600 chassis, and cross-connected by the Digital Access Cross Connect (DACS) in both synch and framed modes. The DACS can support a maximum of 32 x T1 digital data streams, all cross-connected at a DS0 (64kbps) granularity. All Dual T1 IMs can be used equally as trunks or tributaries.

Commonly deployed in voice network and utility applications, the Dual T1 IM supports RBS/CAS signaling, utilizing conversion between T1-CAS to E1-R2 with D4 and ESF framing compatibility. This innovative IM enables the user to convert the T1 signal to suit connection to E1 devices with μ -Law to A-Law companding conversion. With a transmission range of up to 2 kms, this compact module can be configured in ring, linear or star topologies, over any copper connection.

Unassailable protection features such as 1+1 redundancy and a protective switching speed of less than 50 Milliseconds, have made this IM indispensable to mission critical network applications. Comprehensive diagnostics and reporting via Syslog and crisis averting alarm capabilities are managed through graphical EMS/NMS, HPXView.

- n x 64 kbps up to 1544 kbps
- Automated Protection Switching
- Direct connection to T1 networks
- T1 to E1 conversion
- Drag-and-drop provisioning
- Hot swappable - field upgradeable
- Complies with ITU-T G.751

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

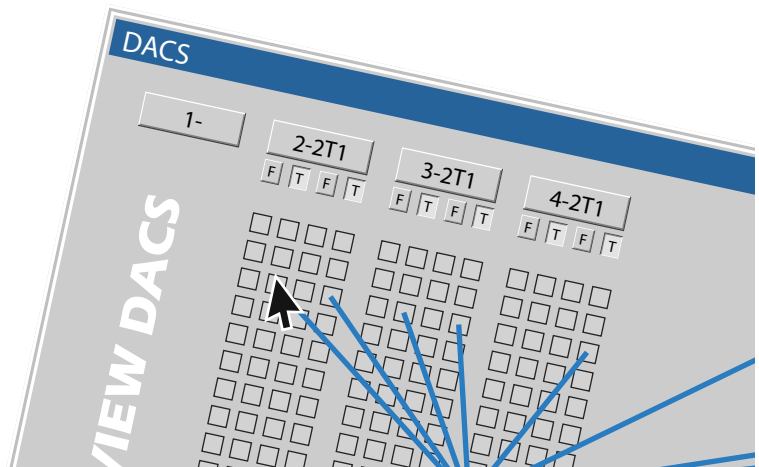
Over Copper, Fiber, Wireless

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

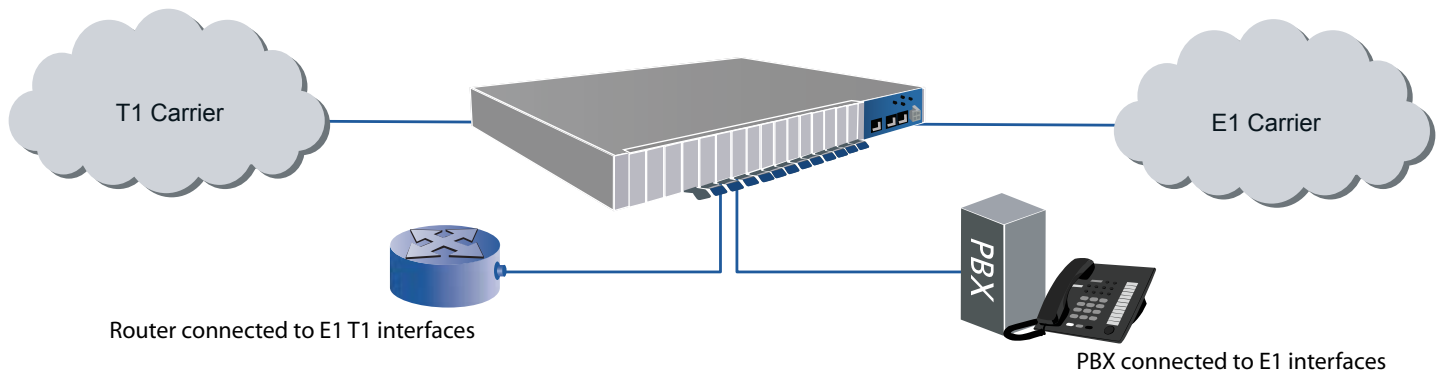
With HPXView, Interface Modules can be configured remotely in a matter of minutes, eradicating costly truck rolls and greatly reducing the need for regional technical staff. HPXView places the power of network management in the hands of even the uninitiated user - with graphical interfacing and **drag-&-drop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

T1 APPLICATION

HPX-1600-IA up to 32 E1 and T1 interfaces



SPECIFICATION

Connector	Dual RJ45, 100 Ohm
Bit Rate	n x 64/56 kbps up to 1544kbps
Signaling/framing	Sync/Framed, Async/Unframed, RBS/CAS
E1/T1 signal conversion	μ -Law to A-Law companding conversion
Line coding	B8ZS
BER testing	Line and backplane
Receive sensitivity	Better than -40dB @1024kHz
Loopbacks	IM loopback and line loopback
Redundancy	1+1
Power consumption	< 5 Watts
Alarms	LOS, LOF, RDI, RxAIS, SD,SF
Indicator LEDs	Normal Data Transmission, Error AIS, Error LOF or LOS, Firmware loaded waiting for configuration, Files to be loaded
Standards	ITU-T G.711, G.712, Belcore TR-NWT00005712
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, DACS
Configuration rules	Supported by HPX-1600-IA, HPX-1600-SS, HPX-1600-EV
Part Number	HPX-IM-1620-T1