



CTDI Products

Features

- Easy migration to future network technologies and services
- ATM, Frame Relay, and IP support
- System redundancy
- Wide range of analog voice and data interfaces
- Wide range of server cards supporting multiple applications
- Integral Digital Cross Connect
- ISDN PRI and BRI
- Supports up to 8 T1 WAN interfaces
- Supports up to 62 analog voice lines and 80 data interfaces
- T1 to E1 conversion
- XPP 6000 offers a mid size front loading chassis
- XPP 8000 offers standard front and rear loading chassis
- XPP 9000 offers the same density as the XPP 8000 in a front loading chassis
- A single XPP 6000/8000/9000 unit can be equipped to perform a variety of applications, including:
 - Redundant T1/E1 channel bank
 - 1/0 digital access cross-connect system (DCS)
 - Bandwidth-on-demand inverse multiplexer supporting switched T1/E1, ISDN, or BONDING
 - Frame Relay switch and access concentrator
 - IP Router
 - ISDN Primary Rate Inter (PRI) H0 and H11 channel controller
 - LAN to WAN connections
 - Dialed backup for leased circuit disaster recovery
 - In-band to ISDN signaling conversion
 - Call-by-call service selection and bandwidth optimization

XPP 6000/8000/9000 Integrated Access Platforms

The XPP 6000/8000/9000 platforms are the most feature rich members of the XPP Complete Access™ platform family, offering three different chassis configurations to fit almost any need in today's changing communications environment. These platforms provide a cost effective, upgradeable, server-based system handling not only today's networking needs, but providing an easy migration path to the wide range of evolving service applications. The XPP 6000/8000/9000 provide a compact solution for users needing reliable access to circuit-based public and private voice and data services, and a trouble-free migration path to emerging technologies, applications, and carrier services.



The XPP 6000/8000/9000 field upgradeable architecture extends the product life cycle and eliminates expensive hardware replacements as customer requirements change and new carrier services emerge. The XPP 6000/8000/9000 support dedicated data, Frame Relay, IP, ISDN, ATM, and voice traffic on a single facility. These platforms may be used in the central office to aggregate, concentrate, and manage traffic from remote integrated access devices. Or they may be used effectively at the customer premises to deliver a multitude of voice and data services.

Each T1/E1 WAN card contains up to two T1/E1 interface connections. Each connection is individually configured with a CEPT interface for E1 operation or a DSX-1 interface for T1 operation. The DSX-1 interface can also be equipped with an intelligent channel service unit (CSU) that operates in either D4 or ESF mode. All WAN interfaces and CSUs are standards based. Each WAN card can operate in dual channel bank, drop and insert, or full cross-connect mode and can perform T1 to E1 conversion. When fully populated with four dual WAN cards, the XPP 6000/8000/9000 support eight T1 or E1 connections, with any combination of interfaces.

Server Cards: The XPP 6000/8000/9000 can be equipped with up to three server cards that provide unique services for multiple channels of user voice or data. Available server cards support ISDN Primary Rate, Frame Relay, Voice Compression, Inverse Multiplexing (Bonding compatible), ATM, BRI/PRI, and Forward Error Correction processors.

Voice Access Cards: Four types of voice cards are provided to deliver analog voice services. They are FXS, FXO, E&M, and P-Phone. The FXS and FXO cards provide connectivity or provisioning for 2-wire analog peripherals, such as telephones, modems, and key system trunks. The E&M cards provide connectivity for local 2- or 4-wire analog peripherals, such as PBX Trunks or audio transmission equipment, and the PPhone cards provide connection for support of the premium Meridian Digital Centrex (MDC) services. The ISDN BRI cards provide 8 ports 2-wire interface 2B1Q and S/T 4-wire interface.

Data Access Cards: The XPP Complete Access product family supports multiple types of data cards for transport of Digital Data in 2-, 4-, 8-, or 10-port models. They include Highspeed synchronous V.35, EIA530, RS-449, RS-422, V.1 data, low-speed RS-232, V.24 data, DDS traffic (Digital Data via an OCU-DP), or DSO-DP and ISDN-BRI.

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XPP 6000/8000/9000 Technical Specifications

Description

- XPP Integrated Access System

Public Network Compatibility

- Interface: FT1, T1, E1
- Line Rate: T1 (1.544 Mbps), E1 (2.048 Mbps)
- Channel Format: PCM: 24 channels (T1), 30, 31 channels CEPT (E1); ADPCM: 60 channels
- Channelization: DS0, Subrate
- Data Format: 56 Kbps, DS0A, DDS; Subrate DS0A, DDS and DS0B SDM; Super-Rate 56/64 X N
- Compatibilities AT&T TR54016, TR62411 and TR41449; CCITT Rec., G.703, G.704, G.735 and G.736; FCC: Part 68, and Part 15 – Subpart J

System Features

- Multiplex Type: Time division, byte interleaved
- Trunk Capacity: 8 E1 or 8 T1 or any combination
- Redundancy Trunk: 1:3, logic 1:1, power 1:1 load sharing
- Network Types: Mesh, Star, Ring, Drop/Insert
- Connection Type: Duplex, Broadcast
- Storage: Non-volatile memory
- Network Protection: Trunk Redundancy
- System Statistics: Errored seconds, unavailable seconds, severely errored seconds, bursty errored seconds, loss of frame count, slips, degraded minute
- Password Protection: Four levels
- Alarms: External alarm card, form C contact closures, major or minor alarms

FT1/T1/E1/TRUNK Features

- Signaling: TS 16-channel associated signaling (E1), Robbed bit or D channel signaling (T1), or clear channel
- Line Coding: AMI, B8Zs, HDB3
- Interface: CSU per ANSI T1.403 and AT&T 54106; DSX; CEPT
- Framing: D4 or ESF (T1), CRC-4 or double-frame framing

Data Interfaces

- HSU Card: V.35 on DB25F, Trunk or Peripheral; Configurable, Nx56/64K, RS-232 at 56Kbps.
- OCUDP Card: Permanent, switched, DS0-A, DS0-B, 2.4, 4.8, 9.6, 19.2, and 56 Kbps, built-in BERT and OCU loopback (Local and Remote)

Data Interfaces (continued)

- FRAD Card: 10-Port, RS-232, HDLC/SDLC or Async encapsulation, Transparent Sync up to 38.4Kbps, Concentrates up to 8 non-frame inputs into 2 data streams at 56 Kbps or 64 Kbps, Total of 10 ports must be assigned to input (FRAD) or output (concentrator) ports
- SRU Card: RS-232C/V.24 Sync/Async Operation, from 300 bps to 38.4 Kbps. Supports DS0-A, DS0-B and X.50 Division 3 subrate multiplexing formats. Supports Multiplexing with voice traffic on ADPCM up to 19.2 Kbps data circuit in 24 Kbps ADPCM channel
- IOR Card: LAN Protocols TCP/IP and IPX, WAN Protocols RFCs 1171, 1172, 1331, 1334, 1618; Frame Relay. LMI Support ANSI T1/E1.617; Annex-D LMI and LMI (Cisco/Stratacom). Inverse ARP (FRC 1490) for dynamic discovery of IP addresses of other routers. Up to 14 Frame Relay PVC's. Interfaces: One Ethernet 10BaseT LAN, 1 Asynchronous serial (115.2 Kbps)
- WAN: Supports up to 2 T1 or E1 interfaces, CAS or CCS Modes, T1 interfaces have CSU or DSX for SLC96 termination

Voice Cards

- FXO Card: 2-W interfaces, supporting signaling modes; FXO (connects to 2-way PBX trunk or key system), FX Software defined network (new access services, with wink option), DPT (1-way incoming trunks from PBX, key system, or telephone) and MRD (point-to-point unswitched). Settings Loop-Start and Ground-Start
- FXS Card: 2-W Interface, Supporting signaling modes FXS (connects to 2-way PBX trunk or Key System), FX software defined network (new access services with wink option), PLAR (point to-point unswitched), DPO (1-way trunks from PBX, Key system or Telephone) and SLC96. Settings Loop-Start and Ground-Start.
- E&M Card: Supports E&M types I, II, IV, and V. Normal E&M transmission only (TO), and E&MR2 modes are supported.
- BRI Card: 8-Port, 2-Wire 2B1Q interface via single RJ27X(F) (50 Pin AMP). 2B+D Format, Supports NTUs from dedicated operation or for connection to BRI"U" interface. Sealing current @ 7.5mA or 15mA.
- P-Phone: Both Office and Subscriber cards are extended features of the Meridian Business Sets to locations which are beyond the normal distance limitations of the Meridian Digital Centrex system. These cards are 2-wire employing Data Over Voice (DOV) to provide 8 kHz signaling channel using the least significant bit of each PCM sample.

Server Cards

- Frame Relay: ANSI T1.617; 2.4, 4.8, 9.6 and 19.2 Kbps – performs switching and concentration
- ISDN: Up to 8 D channels; Supports NFAS up to 239 B+D
- ADPCM Module: 1 Maximum per system; 24, 32, and 48 Kbps ADPCM; ANSI T1.302-1989
- ATM Module: 1DS3/OC3c/STM1, Cbit, M23 for DS3, STS3c, STM1, One configurable VPI VCI (33 to 1023 Configurable), Traffic types (CBR and VBR), 68 VBR, 96 CBR, ATM Forum UNI3.0, ITU-T 1.363, ITU-T G.709 BellCore TR-NWT-000253, ATM Forum Circuit-Emulation Services over DS1/E1, ATM Forum Services Interoperability
- BRI-PRI Module: Manages both dedicated and switched carrier services, Permanent connections (e.g., LAN-to WAN) and periodic connections (e.g., Video Conferencing). Also enables originating and receiving calls to BRI cards.
- IPR Module: The IPR card provides routing of Ethernet IP traffic using FR encapsulation over a maximum of 128 FR PVCs; (3 physical ports). ARP, RIP, and inverse ARP are used as routing protocols.
- MCC Module: The MCC card and firmware allows up to 128 IP management channels to be concentrated onto a single Ethernet link, providing the means to manage a large network of XPP products from a single location using IP techniques. The MCC card provides IP connectivity up to 131 remote XPP units. Local connectivity to the MCC card is provided through the on-board 10BaseT Ethernet connector.

Synchronization

- System Clock: Stratum IV internal, or any T1 or E1

Power Supply

- AC: 120/220 VAC; 50/60 Hz
- DC: -42/-60 VDC or +24 VDC
- Ring Generators Up to 300 Watt available

Warranty and Support

- One (1) year warranty

Feature	XPP 6000 9PR-8916-HSG	XPP 8000 9PR-8918-HSG	XPP 9000 9PR-8919-HSG
Max User Cards	7	8	8
Max Server Cards	3	3	3
Max WAN Cards	4	4	4
Max Total Cards	10	17	17
Optional CPU Redundancy	Yes	Yes	Yes
Optional PSU Redundancy	Yes	Yes	Yes
Loading	Front	Front and Rear	Front
Dimensions H, W, D (inches)	9.25, 17, 9.13	9.25, 17, 15.4	15.5, 17, 9.5

