Telco Systems
A BATM Company

Access60
T1/E1 Integrated Access Device

Benefits and Features

- Optimized for economical service delivery to small and medium-sized business customers. Ideal for competitive local exchange applications for service providers.
- Scalable, network access: dramatically reduces access costs, uses available bandwidth efficiently.
- Initial deployment costs reduced because you can add functionality and services as required.
- Flexible, redundant architecture supports critical business applications such as transaction processing, service bureaus and information access across wide area networks.
- Integrates voice, synchronous or asynchronous data, image and video services including: POTS, E&M, TO, FXS, FXO, OCU-DP, DS0 DP, DPT, DPO and ADPCM.
- T1/E1 digital access (DSX & CSU functionality)
- 1 x 1 or 1 x N protection on T1/E1 trunks
- Supports D4, ESF and SLC96©.
- SNMP or VT100 menu driven management .
- Non-volatile, flash memory for downloading configuration and upgrades.
- System reconfiguration upon a T1/E1 failure.
- Multiple redundant clock inputs; Int, Ext, DDS, recovered and application module.
- All modules hot swappable.

Economical, Scaleable and Reliable

Telco Systems' Access60® T1/E1 integrated access device (IAD) is designed specifically to help service providers compete effectively within the rapidly emerging, high-stakes local exchange market. Whether your applications require the deployment of one or many different services, Access60 provides economical and reliable access to public, private and hybrid networks. Using Access60, you can deliver a full range of services – such as Plain Old Telephone Service (POTS), fractional T1, legacy data applications and Frame Relay services –at highly competitive rates, thanks to its low per-port cost. This IAD supports the transport of voice, data, image and video, and offers an inexpensive, modular migration path to emerging technologies, applications and carrier services. Access60 meets international (ITU) standards and supports the integration of worldwide networks.

Access60 provides capacity for up to ten T1 or eight E1 trunks and up to 120 POTS lines. Access60 offers 12 user application module slots, redundant AC or DC power as well as redundant configuration, management and maintenance (CMM) module support.

Description of Product Technology

Evolving Business Needs

As technology speeds into the future, network operators and managers must make difficult choices: How to choose which technologies meet current and future user needs? How to integrate a particular technology with existing systems and applications? Which mix of technologies and services is the most cost-effective solution?

Such technological choices further complicate network planning and operations. The challenge is to find a balance between optimizing network performance and controlling rising costs in a constantly changing environment. This dilemma requires a flexible, adaptable network solution that minimizes the risks associated with a complex, changing environment. Telco Systems' T1/E1 Access60 provides the value, performance and flexibility to meet diverse networking challenges.

Access60 supports technologies and services today and in the future. It allows the seamless connection of analog voice, PBXs, routers, bridges, front-end processors and video codecs, to switched voice or data, dedicated (DS0 or N x DS0) or packet services through multiple network interfaces. Ideally suited for SS7 delivery using either V.35 or 4-W DS0-DP circuits. The ability to deliver multiple services on one platform over a single access link dramatically reduces network access costs. A T1/E1 IAD also allows you to save on operational costs because you need less training and maintenance than if you deployed multiple devices.

Because Access60 is modular, you can rapidly deploy new cost-effective services without affecting your existing network topology. Also, initial deployment costs are lower because you can install the basic unit first, then add greater functionality and services later, as your applications require. The flexibility to configure a mixture of services also helps to optimize the network performance. Integrating multiple functions – such as T1/E1 integrated access, digital cross-connect and protection switching – with technologies like ADPCM voice compression and Frame Relay access the Access60 reduces network operation costs and greatly simplifies network planning, implementation and management. Integrated network access allows you to modify your network equipment to support new services and applications quickly and easily.

Abundant Applications

You can configure Access60 in a variety of ways, from simple primary multiplexer for drop-and insert functionality to sophisticated digital cross-connect for concentration and grooming. POTS, E&M, FXS and FXO voice application modules support the connection of telephones and private branch exchanges (PBX) to a central office (CO), or a PBX to another PBX using tie lines. They can provide extensions for telephones in remote points of presence (POPs) or branch offices, as well as modem or fax access. Other modules support remote P-phone and PBX extension from Nortel DMS-100™ switches and PBXs.

Access60 supports access to Frame Relay and X.25 services: this smoothes the migration from X.25 to Frame Relay. Synchronous data modules support data rates from 1.2 kbps to 64 kbps – as well as multiples of 56 kbps or 64 kbps, up to 1.984 mbps – for use with routers, bridges and front-end processors. Subrate data multiplexing (SRDM) and asynchronous data multiplexing (ADM) modules support low- to medium-speed devices such as terminals. The SRDM and ADM modules support multiple channels at 19.2 kbps and lower per 64 kbps time slot. Access60 supports both single-span, redundant-LIU (T1/E1) and redundant-facility (LIU and span) configurations. Options include either single or dual DSX-1 interfaces or integral CSUs. All Access60 T1 LIUs support either D4 or ESF framing. These network service modules also support digital cross-connect and bidirectional drop-and-insert applications. E1 LIU supports timeslot 16 CAS signaling, has balanced or non-balanced G.703 line interface with various termination options.

Redundant Architecture

Access60 uses a distributed architecture design. This removes the inherent limitations of centralized architectures, providing a scalable system with no single point of failure. Reliability is enhanced through route diversity, protection switching and system redundancy. Users can choose the level of network availability required for their application through various redundancy options. In the Access60, network service module redundancy (1:N) and power supply redundancy (1:1) protect against hardware failures. 1:N T1/E1 facility redundancy protects against network failures. Access60 can switch traffic to an alternate facility in the event of a link failure, with priority bumping to improve the cost-effectiveness of redundant, point-to-point configurations. Various configuration maps can be stored and updates can be remotely downloaded in FLASH memory. The power supply unit and ring generators can be used in redundant or load-sharing configuration for maximum protection and utilization.

System and Network Management

Today's critical networks require extensive monitoring, diagnostics and control capabilities. Access60 supports two management options: ASCII VT100 terminal and SNMP which are accessible by a front panel serial port, internal modem connection or optional Ethernet interface. SNMP provides alarms and access to configuration and text parameters for remote network management. In addition, utilities such as TELNET, the Trivial File Transfer Protocol (TFTP) and the flash memory card assist in the ease of software and configuration downloads.

Specifications

Scalable up to 120 DS0 (64 kbps) channels.
Digital cross-connect up to 10 T1s, 20 fractional T1s, 8 E1s, or 16 fractional E1s.
Automated facility backup and restoral.
Meets ITU and North American standards.

Slots
16 (12 available)

Voice Ports per Chassis
120

Distributed Architecture
Yes

Protection
1:1 Power
1:1 T1/E1
1:N T1/E1

T1/E1 Interfaces
10 Ports per Chassis, Single T1, Single E1, Dual T1, Dual E1, TR-08

Analog Voice Interfaces
2/4-wire E&M/TO: 6 port
2-wire FXS/PLAR/FXSDN: 6, 12 port
2-wire FXS/PLAR/FXSDN/DPO with Battery Reversal: 12 port
2-wire FXO/MRD/DPT: 6 port
P-Phone: 6 port

Data Interfaces
Synch Subrate Digital Multiplexer: 2, 5 port
Office Channel Unit (OCUDP): 2, 5 port
Digital Signal Zero (DS0-DP) 5 port
Universal Synchronous Data: 2, 4 port
Async Subrate module (ADM) 6 port

Applications
Voice and Data over Multi-T1/E1
T1 or E1 Cross-Connects
Utilities/Wireless Backhaul

Management
Embedded SNMP, ASCII Terminal, Telnet, Flash Memory, Remote Alarm Reporting, Built-in Modem

General

Dimensions	8.75"(H) x 17.5"(W) x 12"(D) 22.2(H) x 44.5(W) x 30.5(D) cm
Power Supply	-48 Vdc, w/RG, 110/220 Vac w/ RG
Operating Temp.	32°F to 122°F (0°C to 50°C)
Relative Humidity	Up to 90%, non-condensing

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