Access Servers

T1/E1 Multiplexers

Simplify Your Network and Lower Costs. Intraplex® ACS-160 and ACS-260 Series Access Servers provide a single, high-reliability multiplexing platform that enables a wide range of mission-critical voice, data and audio applications for land mobile radio, microwave, transportation and government networking operations. Consequently, network managers can significantly reduce the need to add and manage additional, multivendor access equipment and circuits, while actually increasing performance and uptime.

The Intraplex Access Server features a common architecture and platform that can seamlessly support almost any combination of T1 or E1 transmission requirements over copper- and fiber-based services, as well as licensed microwave or spread spectrum radio links in point-to-point or drop-and-insert configurations. Application modules are available for voice; LAN, synchronous or asynchronous data; and high-fidelity audio. The product design allows application modules, network interface modules and power supplies to be shared and swapped among units for additional flexibility and savings. The Intraplex Access Server is available in a 3RU package (T1 models ACS-163, -165, -166 and E1 models ACS-263, -265, -266) that provides maximum application flexibility or a space-saving 1RU enclosure (T1 models ACS-167, -168, -169 and E1 models ACS-267, -268, -269).

Meeting Application and Industry Requirements

The Intraplex Access Server is in use daily, helping to meet industry and application needs in a variety of settings, including:

- Mobile radio — for transmission of two-way radio traffic between dispatch centers and transmitter sites
- State and municipal microwave networks — for reliable, integrated voice and data interconnect
- High-reliability federal government installations — for transport of specialized voice and data traffic
- LAN connectivity — for LAN extension and bridging
- Specialized audio — for transmission of linear uncompressed, as well as compressed, high-quality audio in a variety of formats including MPEG Layer 2 and 3, enhanced apt-X and J.41

GatesAir professionals are available to provide assistance with network design, planning, application support and training.

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Product Features

- Proprietary robust framing algorithm optimized to maintain operation in poor transmission environments
- Versatile system timing options to facilitate connection to almost any network
- Compliance with ANSI SF (D4) and ESF T1 frame formats as well as B8ZS and AMI T1 line codes
- Byte-formatted time-division multiplexing for compatibility with local exchange and inter-exchange carrier digital crossconnect switches (DCS)
- Remote access for control and status monitoring
- Optional SNMP proxy module for interface to network management systems
- Integrated channel service unit (CSU) compliant with ANSI T1.403 and AT&T TR54016 (MA-215) (T1 systems only)
- Reporting of near and far end line performance statistics
- Compatible with Intraplex SynchroCast3 for simulcast operation
- Universal AC, 48-Volt DC and 24-Volt DC power supplies available
- Optional power supply redundancy
- Optional Line and Module redundancy for T1 / E1 interfaces
- IntraGuide® software and optional SCMIP SNMP proxy provide flexible, intuitive Network Configuration and Management options

Product Details

Unmatched Performance

The Intraplex Access Server outperforms other multiplexers by incorporating unique transmission techniques that maximize end-to-end circuit availability for real-time application traffic and services. As a result, these products can maintain connectivity even under network conditions and error rates that would cause other equipment to fail.

The product can be configured to provide power supply and common equipment hardware redundancy, with automatic switchover when any failure is detected. Complete automatic line protection switching options are also available. The T1 access server includes an integrated Channel Service Unit (CSU) that provides performance monitoring and electrical protection, allowing for direct connection to public networks.

Reduce Network Management Burden

Integrating transmission requirements on the Intraplex Access Server eliminates the need to configure, maintain and manage a proliferation of specialized equipment. The product's Windows®-based graphical user interface and command line interface simplify local or remote configuration, system diagnostics and monitoring of performance and alarm information. Bandwidth can be allocated to the server's built-in network management communications channel for remote monitoring, and a single Intraplex Access Server can be used as a gateway to collect, store, and forward network management information from other Intraplex Access Servers located in one network. Complete SNMP monitoring and control of the Intraplex Access Server is provided using an optional system control module.

Intraplex Channel Modules

In addition to standard voice and data modules, the Intraplex Access Server also supports specialized cards for transmission of variable rate data, non-standard fixed data rates, baseband encrypted voice signals, and broadcast-quality audio signals. SynchroCast3™ capability can also be added to the Intraplex Access Server to establish robust GPS-based simulcast land mobile radio systems.

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Specifications

Specifications and designs are subject to change without notice

Access Server ACS-160 Series	3RU	1RU
T1 Terminal multiplexer	ACS-163	ACS-167
T1 Drop & Insert multiplexer	ACS-165	ACS-168
T1 Dual Terminal multiplexer	ACS-166	ACS-169
Access Server ACS-260 Series	3RU	1RU
E1 Terminal multiplexer	ACS-263	ACS-267
E1 Drop & Insert multiplexer	ACS-265	ACS-268
E1 Dual Terminal multiplexer	ACS-266	ACS-269

T1 Inputs/Outputs	
Connector	RJ-48C, 100 ohms
Frame Formats	Extended Superframe (ESF)
	D4/Superframe (SF)
	Per ANSI T1.403-1995 and AT&T Pubs 62411
Line Codes	Bipolar with 8 Zero Substitution (B8ZS)
	Alternate Mark Inversion (AMI)
Timing	Internal, 1.544 Mb/s ±30 ppm output
	External, RS-422 clock input
	Loop
Line Build Out (LBO)	Up to 655 ft. from standard DSX or CSU LBO 0, -7.5 or -15 dB
Integral CSU	Does not require external CSU for connection to public network
	FCC Part 68 Registered
E1 Input/Outputs	
Connector	BNC, 75 ohms or RJ-48C, 100 ohms
Frame Formats	Channel Associated Signaling (CAS)
	Common Channel Signaling (CCS)
	Per ITU G.703, G.704 and G.706
Line Codes	High Density Bipolar 3 (HDB3)
	Alternate Mark Inversion (AMI)
Timing	Internal, 2.048 Mb/s ±30 ppm
	External, RS-422 clock input
	Loop
Status and Diagnostics	
LED Indicators	Shelf Power, Normal, Alert, Alarm
Contact Closures	Alert, Alarm
Loopbacks	Line loopback, Equipment loopback, Payload loopback
Test Access	Bantam jacks for T1/E1 input/output signal and T1/E1 input/output monitoring
CSU Performance Monitoring (T1)	Compliant with ANSI T1.403-1995
	Compliant with AT&T Pub 54016
	(standard and enhanced parameters)

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Remote Access and Control	
User Interface	Remote programming and monitoring using ISiCL command-line interface or IntraGuide® graphical user interface software
Control Interface	RS-232C and RS-485 asynchronous for user interface Optional 10/100Base-T SNMP interface ANSI T1.403 Performance Report Messages on T1 Facility Data Link AT&T Pub 54016 Polled Performance Reports on T1 Facility Data Link
Network Management Communications	Remote control and monitoring of Access Server(s) over the network using fractional DS0 timeslot Optional SNMP interface using SCMIP proxy module
Physical and Environmental	
Power Requirements	3RU: Universal AC standard Optional -48 V DC, -24 V DC or ±24 V DC Optional hot-standby redundant supply 1RU: Universal AC
Nominal Power Consumption	3RU: Fully loaded system less than 40 W typical 1RU: Fully loaded system less than 13 W typical
Temperature	0° to 50° C (32° to 122° F) Operating
Humidity	10% to 90% Non-condensing
Dimensions (H X W X D)	3RU: 5.25 x 19 x 14.75 in. (13.4 x 48.3 x 37.5 cm) EIA rack mounable 1RU: 1.75 x 19 x 14.75 in. (4.5 x 48.3 x 37.5 cm) EIA rack mountable
Regulatory Compliance	CE Compliant FCC Part 15, Part 68 UL 1950 CS-03 CTR12, CTR13

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