INTRAPLEX® STL HD
T1 STL System

Whether you're looking for simple one-way audio transport or multichannel FM plus HD Radio™, control data, or off-premises extension telephones, there's an Intraplex® STL HD package that's right for you.

Intraplex® STL HD Product Features

STL HD is a modular family of products designed to let you customize your T1 STL with exactly the features and circuits you require. The system transports crystal-clear digital audio over any distance or terrain, and can be used on all types of T1 links, including leased telco T1 circuits, microwave, spread spectrum radio and fiber optic. STL HD systems can be equipped to carry one-way or full-duplex stereo audio, with or without compression. STL HD also provides a wide range of data interface options and supports a variety of telephone, intercom, and other voice-grade applications.

Intraplex T1 Technology

Building on 20+ years of experience, STL HD is the latest generation of Intraplex, continuing the tradition of unsurpassed reliability and state-of-the-art technology, while maintaining compatibility with earlier generations of Intraplex T1 systems. Hot-standby redundant power supplies and advanced T1 error mitigation techniques provide enhanced transmission robustness, making STL HD a system you can rely on for years to come

Audio Transport

With STL HD, uncompressed audio occupies about three-fourths of the T1, leaving room for additional traffic in each direction. A wide selection of compression options, including Enhanced apt-X®, MPEG-2, MPEG-3, J.41, and G.722, allows the carrying of multiple audio channels on a single T1. Audio I/O is either analog or AES/EBU digital, while sample rates ranging from 16 kS/s to 48 kS/s provide for audio bandwidth options from 7 kHz up to 20 kHz and beyond.

Telephone Links

A full range of telephone interface options allows the STL HD to support a variety of telephone and other voice-grade audio applications, including 2-wire and 4-wire E&M for linking PBXs and KSUs, Off-Premises

Extension (OPX) circuits that allow you to connect a telephone handset at the transmitter site to a PBX at the studio as if it were in the next room, and open 4-wire circuits to support talkback and intercom systems with both standard (3.4 kHz) and wideband (7 kHz) voice quality, as well as FSK tones for use with telephone keypad-operated remote controls.

Data Circuits

The industry's most extensive array of data interface options allows you to set aside part of your T1 STL to create a LAN bridge, carry HD Radio data traffic in either I2E or E2X format, and link to virtually any type of control and data storage equipment. Available synchronous and asynchronous interfaces include RS-232, RS-449, V.35, X.21, TCP/ IP, UDP, TTL and more.

AudioLink Plus™

AudioLink Plus™ is a family of E1 audio multiplexers that offers all the same features as STL HD does for T1. If you are planning to use microwave radios to establish your STL, consider using E1 instead of T1. Most telecoms radios that can carry T1 can also be configured to carry E1, and you get one-third more carrying capacity at the same price.

Intraplex® STL HD

Specifications

Specifications and designs are subject to change without notice

STL HD Systems	
All STL HD systems start with one pair of T1 multiplexers, whose specifications are found below, plus some combination of the following:	
PT/PR-353 linear audio cards with MA-508/509	
PT/PR-153 compressed audio cards with MA-508/509	
DA-191B RS-232 data cards with MA-404s	
DS-64NC LAN bridge cards with MA-427s	
VF-15/VF-16A Off-Premise Extension voice cards with MA-303s	
VF-25 4-wire voice cards with MA-306s	
T1 Section	
Connector	RJ48C, 100 Ohms
Frame Formats	Extended Superframe (ESF) D4/Superframe (SF)
Line Codes	B8ZS or AMI
T1 Timing	Internal, external, loop
Line Build Out (LBO)	Up to 655 ft (199.6 m) LBO 0, -7.5 or -15 dB
Integral CSU	No external CSU required
Status and Diagnostics	
LED Indicators	Power, normal, alert, alarm
Loopbacks	Line, equipment, payload
T1 Test Access	Bantam Jacks
CSU Performance Monitoring	Compliant with ANSI T1.403 - 1995 and AT&T Pub 54016 User Interface ISiCL commandline interface IntraGuide™ configuration and management software Optional SNMP proxy agent
Control Interface	RS-232 and RS-485
Physical and Environmental	
Power Requirements	Universal AC standard Less than 25 W, each shelf
Dimensions (H x W x D)	3RU: 5.25 x 19 x 14.75 in. (13.4 x 48.x 37.5 cm) EIA rack mountable
Weight	12 lbs (5.4 kg)
Regulatory Compliance	CE Approved FCC Part 15, FCC Part 68 UL 1950 Industry Canada CS-03
Linear Audio	
Audio Section	
PT-353 Input Module	Digital/analog input, auto-detect
PR-353 Output Module	Digital/analog output, simultaneous
Audio Channels	1 or 2 per module
Sample Rate and Audio	

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Bandwidth	48 ks/s for 22.5 kHz operation 44.1 ks/s for 20 kHz operation 32 ks/s for 15 kHz operation
Coding	16-bit linear coding
Date Rater and Time Slot Usage (with FEC on)	2 ch. 22.5 kHz: 25 TS (1.600 Mb/s) 2 ch. 20 kHz: 23 TS (1.472 Mb/s) 2 ch. 15 kHz: 17 TS (1.088 Mb/s)
Processing Delay (digital audio through one pair of modules)	Less than 6.0 ms
Error Correction (FEC)	Reed Solomon
Data Channel	RS-232 up to 9.6 kb/s, simplex
Input/Output Connectors	Audio Inputs: XLR female Audio Outputs: XLR male Ext. clock, data/alarm: RJ11
Digital Audio Operation	Accepted audio sampling rates AES/EBU rate 32 to 48 ks/s
Rate conversion (PT) (user selectable)	Converts any AES/EBU input rate to 48, 44.1, or 32 ks/s
Rate Adaptation	PT locks to incoming AES/EBU clock rate, which is preserved to the output (PR)
External Sync (PR)	External AES/EBU reference signal or RS-422 clock to synchronize audio output to facility timing
Input/Output Impedance	Balanced, 110 ohms ±20%
Analog Audio Operation	
Frequency Response ±0.5 dB	48 ks/s: 1 Hz to 22 kHz 44.1 ks/s: 1 Hz to 20.5 kHz 32 ks/s: 1 Hz-15 kHz
Full Load Level	+9 to +24 dBu
Crosstalk	Greater than -80 dB
Total Distortion (THD+N)	Less than 0.003% at 1 kHz -1 dBFS input
Dynamic Range	Greater than 91 dB
Input Impedance	Balanced, 600 ohms nominal or greater than 10 K ohms
Output Impedance	Balanced, less than 52 ohms
VU meter	5-segment LED Audio Level with overload indication
Test Tone Generator	1004 Hz at -12 dBFS
Audio Module Alarm	Card level failure relay contacts