STM-1 CMI Transmitter

gnubi's™ SONET/SDH transmitters and receivers are ideal cost-effective, multi-channel solutions for an equipment manufacturer's production and verification labs in the metro and long haul markets.

Expandable Multiple Rate Testing

Unlike other test equipment, gnubi's SONET/SDH test products give you the flexibility to create the test applications that you need now and the expandability to grow with your testing needs in the future. You can mix the STM-1 CMI Transmitter with other test modules in a single chassis for multiple rate testing.

Simultaneous Multi-port Testing

With the STM-1 CMI Transmitter, you can install as many as 17 modules for simultaneous multi-port testing. Use EPXam™ tools such as Group Manager, Test Controls, or Script Runner to control multiple instances of the same test simultaneously. Or conduct different tests at the same time.

EPX610 Transmitter

The EPX610 Transmitter supports STM-1 signal generation with selectable Virtual Container (VC) payload mappings. The physical interface is electrical with CMI encoding. It is designed for all gnubi's chassis models.

Payload Generation and Overhead Insertion

The EPX610 Transmitter provides complete SDH payload generation and overhead insertion. Features include SDH alarm and error insertion, trace message insertion, pointer manipulation, K1/K2 byte manipulation, and K1/K2 message encoding.

Easy to Use

You can start testing quickly and easily with the EPXam graphical user interface. Other ease-of-use features include saving and restoring test configurations, connecting remotely with a web browser, scripting, and sharing with other users.

Upgradable

As new features are developed for gnubi's test modules, download the upgrades from our website. Visit www.gnubi.com to learn about the latest features and upgrades.

Features

- Transmit at 155.52 MHz
- CMI encoding
- Selectable payload mappings
- SDH payload generation and overhead insertion
- Test multiple rates and protocols within a single chassis
- Full-featured graphical and command-line user interfaces
- Multi-user remote access via web browser

Applications

- Production, validation, and metro market applications that test multiple rates and channels
- Signal regeneration and retransmission
- Add/drop multiplex and demultiplex
- Optical-to-electrcal signal translation with an STM-1 CMI Transmitter and STM-4/1 Receiver
- Transmit BERT

Specifications

STM-1 CMI Transmitter

Model	EPX610	STM-1 CMI Transmitter
Installation	All gnubi chassis models; uses one slot	
Signal Rates	STM-1 (155.52 MHz)	
Electrical Interface	Line Coding	CMI encoding
	Connector	BNC (75-Ohm) connector
Timing References	EPX100 Clock Module	BITS input, external input, internal
	As Received	Recovered clock from STM-1 CMI Receiver in an adjacent slot
Payload Mappings	VC-4, bulk fill	
	VC-3, bulk fill	
Alarm Insertion	LOS, LOF, OOF, MS-AIS, MS-RDI, AU-LOP, AU-AIS, HP UNEQ, HP-RDI, LSS	
Error Insertion	Physical (Random), Regenerator Section (B1), Multiplex Section (B2), MS-REI, Path (B3), HP-REI, Test Sequence Errors (TSE)	
Error Rates	Insert a single error or insert errors at 1E-3 to 1E-9 rates	
Data Patterns	PRBS	True and inverted: 2^{15}-1, 2^{20}-1, 2^{23}-1
	Other	All ones; all zeroes; alternating 10; alternating 01; fixed 8-bit user word
Overhead Insertion	Regenerator Section (except A1, A2, B1), Multiplex Section (except B2, H1, H2, H3), High-Order Path (except B3, H4)	
Trace Messages	16-byte J0 trace message insertion 64- or 16-byte J1 trace message insertion	
Pointer	Increment, decrement, move with NDF, move without NDF, and set pointer values	
K1/K2 Values and Messages	Set K1, K2 byte values K1/K2 message encode: K1 Request, K1 Channel, K2 Operation, K2 Architecture, K2 Channel	
Compliance	Electrical Interface: ITU G.707 (physical layer requirements) ITU-T G.825 jitter generation ITU-T G.703 pulse and eye mask	
Operating Temperature	0º to 40º Celsius, non-condensing	
Warranty and Service	Standard	1 year parts and labor
	Extended	Service Plan available