



OC-48/STM-16 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 OC-48/STM-16 Transmitter with other test modules in a single chassis for multiple rate testing.

SIMULTANEOUS MULTI-PORT TESTING

With the OC-48/STM-16 Transmitter, you can install as many as 17 modules for simultaneous multi-port testing. Using EPXam™ tools such as Group Manager, Test Controls, or Script Runner, control multiple instances of the same test simultaneously. Or conduct different tests at the same time.

EPX400 TRANSMITTER

The EPX400 Transmitter supports OC-48 or STM-16 signal generation with selectable payload mappings. It is designed for all gnubi's chassis models. You can easily switch between SONET and SDH protocols without powering down the test system.

PAYLOAD GENERATION AND OVERHEAD INSERTION

The EPX400 module provides complete SONET/SDH payload generation and overhead insertion. Features include SONET/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 test resources with others.

With Checkpoint/Resume, recovering from a power failure is easy. Module setup and test data are saved at intervals that you can define. When the system is restarted after a power failure, tests are resumed with minimal data loss.

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 2.488 GHz
- Selectable payload mappings
- SONET/SDH payload generation and overhead insertion
- Checkpoint/Resume
- Test multiple rates and protocols within a single chassis
- SONET/SDH runtime switching
- 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
- WDM traffic loading
- Add/drop multiplex and demultiplex
- Simultaneously transmit up to 17 channels
- In-line monitoring and loopback testing using an OC-48 Transmitter and Receiver pair installed in adjacent slots
- Transmit BERT

Specifications

OC-48/STM-16 Transmitter

Model	EPX400	OC-48/STM-16 Transmitter
Installation	All gnubi chassis models; uses one slot	
Signal Rates	SONET	OC-48 (2.488 GHz)
	SDH	STM-16 (2.488 GHz)
Optical Interface	Output	1310 nm: P ₀ = -7 dBm typical (SR-1/I-16), P ₀ = -3 dBm typical (IR-1/S-16.1), P ₀ = 0 dBm, typical (LR-1/L-16.1) 1550 nm: P ₀ = 0 dBm typical (LR-2/L-16.2)
	Connectors	SC, ST, or FC connectors
Timing References	EPX100 Clock Module	BITS input, external input, internal
	As Received	Recovered clock from OC-48/STM-16 Receiver
Maintenance Port	SMA connector; transmit clock output (155.52 MHz, nominal)	
Payload Mappings	SONET	STS-48c, STS-12c, STS-3c, STS-1
	SDH	VC-4-16c, VC-4-4c, VC-4, VC-3
Alarm Insertion	SONET	LOS, LOF, SEF, AIS-L, RDI-L, LOP, AIS-P, Path Unequipped, RDI-P, LPS
	SDH	LOS, LOF, OOF, MS-AIS, MS-RDI, AU-AIS, AU-LOP, HP Unequipped, HP-RDI, LSS
Error Insertion	SONET	Physical (Random), Section (B1), Line (B2), REI-L, Path (B3), REI-P, Payload Bit Errors
	SDH	Physical (Random), Regenerator Section (B1), Multiplex Section (B2), MS-REI, Path (B3), HP-REI, Test Sequence Errors
Error Rates	Insert a single error or insert errors at 1E-3 to 1E-12 rates	
Data Patterns	PRBS	True and inverted: 2 ¹⁵ -1, 2 ²⁰ -1, and 2 ²³ -1
	Other	Fixed 8-bit user word
Overhead Insertion	SONET/SDH	Transport overhead (except B1, B2, H1, H2, H3), path overhead (except B3)
Trace Messages	SONET	64-byte J0 section and J1 path trace message insertion
	SDH	16-byte J0 trace message insertion 16- or 64-byte J1 trace message insertion
Pointer	Increment, decrement, move with NDF, move without NDF, and set pointer values	
K1/K2 Values and Messages	User-defined K1, K2 byte values K1/K2 message encode: K1 Request, K1 Channel, K2 Operation, K2 Architecture, K2 Channel	
Compliance	SONET	GR-253 eye mask, jitter
	SDH	ITU-T G.957 eye mask, jitter
Operating Temperature	0° to 40° Celsius, non-condensing	
Warranty and Service	Standard	1 year parts and labor
	Extended	Service Plan available

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