



OC-48/STM-16 TRANSCEIVER

gnubi's™ SONET/SDH transceivers 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 Transceiver with other test modules in a single chassis for multiple rate testing.

SIMULTANEOUS MULTI-PORT TESTING

With the OC-48/STM-16 Transceiver, 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.

EPX950 TRANSCEIVER

The EPX950 Transceiver supports OC-48 or STM-16 signal generation and monitoring with selectable payload mappings. It is designed for all of gnubi's chassis models. You can easily switch between SONET and SDH protocols without powering down the test system chassis.

PAYLOAD GENERATION AND MONITORING

The EPX950 module provides SONET/SDH payload generation and monitoring. Features include SONET/SDH alarm and error insertion and monitoring, section trace message insertion and monitoring, and K1/K2 byte manipulation and values.

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 configurations, connecting remotely with a web browser, scripting, logging, 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 and monitor at 2.488 GHz
- Selectable payload mappings
- SONET/SDH payload generation and monitoring
- Checkpoint/Resume
- Test multiple rates and protocols within a single chassis
- SONET/SDH runtime switching
- Full-featured graphical and command-line user interfaces
- Log alarm and error statistics
- Multi-user, remote access via web browser

Applications

- Production, validation, and metro market applications that test multiple rates and channels
- WDM traffic loading and monitoring
- Add/drop multiplex and demultiplex
- Live traffic monitoring
- Transmit and receive BERT

Specifications

OC-48/STM-16 Transceiver

Model	EPX950	OC-48/STM-16 Transceiver
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)
	Response	1260 to 1360 nm, 1430 to 1580 nm
	APD Sensitivity/ Overload	-9/-28 dBm (LR-1/L-16.1, LR-2/L-16.2)
	PIN Sensitivity/ Overload	0/-18 dBm (IR-1/S-16.1, IR-2/S-16.2)
	Connectors	SC, ST, or FC (Dual port)
Timing References	EPX100 Clock Module	BITS input, external input, internal
	As Received	Recovered clock from OC-48/STM-16 Receiver or from receiver port
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, LOP, LPS
	SDH	LOS, LOF, OOF, AU-LOP, LSS
Alarm Monitoring	SONET	LOS, LOF, SEF, LOP, LPS
	SDH	LOS, LOF, OOF, AU-LOP, LSS
Error Insertion	SONET	Physical (Random), Section (B1), Line (B2), Path (B3), Payload Bit Errors
	SDH	Physical (Random), Regenerator Section (B1), Multiplex Section (B2), Path (B3), Test Sequence Errors
	Errors Rates	Insert a single error or insert errors at 1E-3 to 1E-11 rates
Error Monitoring	SONET	Section (B1), Line (B2), Path (B3), Payload Bit Errors
	SDH	Regenerator Section (B1), Multiplex Section (B2), Path (B3), Test Sequence Errors
Data Patterns	PRBS	True and inverted: 2 ¹⁵ -1, 2 ²⁰ -1, 2 ²³ -1
	Other	Fixed 8-bit user word, live traffic (monitor only)
Trace Messages	SONET	64-byte J0 section trace message insertion and monitoring
	SDH	16-byte J0 trace message insertion and monitoring (actual and expected)
K1/K2 Values	User-defined K1, K2 byte values; broadcast values to next slot	
Performance Data	Alarms and Errors	Alarm history, error counts, and error ratios
	K1/K2 Values	Monitor K1, K2 byte values
Compliance	SONET	GR-253 eye mask, jitter tolerance
	SDH	ITU-T G.957 eye mask, jitter tolerance
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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