



OC-192/STM-64 RECEIVER

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-192/STM-64 Receiver with other test modules in a single chassis for multiple rate testing.

SIMULTANEOUS MULTI-PORT TESTING

With the OC-192/STM-64 receiver, you can install as many as 8 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.

EPX3000 RECEIVER

The EPX3000 Receiver supports monitoring OC-192 or STM-64 signals 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 MONITORING AND OVERHEAD CAPTURE

The EPX3000 Receiver provides full-featured SONET/SDH payload and overhead monitoring. Monitor alarm history, error counts and rates, live traffic, SONET performance statistics, trace messages, pointer event counts, K1/K2 byte values and messages.

SERVICE DISRUPTION MONITORING

Service disruption monitoring can be applied to many different test scenarios and network architectures. For example, measure switch time for network elements or multi-port optical switches.

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 equipment, download the upgrades from our website. Visit www.gnubi.com to learn about the latest features and upgrades.



Features

- Monitor at 9.953 GHz
- Selectable payload mappings
- SONET/SDH payload monitor and overhead capture
- Configurable service disruption 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, error, and performance monitoring statistics
- Multi-user, remote access via web browser

Applications

- Production, validation, and metro market applications that test multiple rates and channels
- Switch time measurement
- WDM traffic monitoring
- Add/drop multiplex and demultiplex
- Live traffic monitoring
- Receive BERT

Specifications

OC-192/STM-64 Receiver

Model	EPX3000	OC-192/STM-64 Receiver
Installation	All gnubi chassis models; uses two slots	
Signal Rates	SONET	OC-192 (9.953 GHz)
	SDH	STM-64 (9.953 GHz)
Optical Interface	Receiver response	1250 to 1600 nm
	APD Sensitivity/ Overload	1550 nm: -22/-13 dBm 1310 nm: -20/-13 dBm
	PIN Sensitivity/ Overload	1550 nm: -14/-1 dBm (SR-2, IR-2) 1310 nm: -14/-1 dBm (SR-1, IR-1)
	Connectors	LC, SC, ST, or FC optical connectors; SMA User Trigger and Clock Trigger connectors
Payload Mappings	SONET	Framed: STS-192c, STS-48c, STS-12c, STS-3c, STS-1 Unframed: Optical BERT input with NRZ encoding
	SDH	Framed: VC-4-64c, VC-4-16c, VC-4-4c, VC-4, VC-3 Unframed: Optical BERT input with NRZ encoding
Alarm Monitoring	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-LOP, AU-AIS, HP Unequipped, HP-RDI, LSS
Error Monitoring	SONET	Section (B1), Line (B2), REI-L, Path (B3), REI-P, Payload Bit Errors
	SDH	Regenerator Section (B1), Multiplex Section (B2), MS-REI, Path (B3), HP-REI, Test Sequence Errors
Data Patterns	PRBS	True and Inverted: 2^7-1 , $2^{15}-1$, $2^{20}-1$, $2^{23}-1$, $2^{31}-1$
	Other	Fixed 8-bit or 16-bit user-defined word, live traffic
Overhead Capture	SONET	Full transport and path overhead capture
	SDH	Full regenerator section, multiplex section, and high-order path capture
Trace Messages	SONET	J0 section and J1 path trace message monitor
	SDH	J0 trace message monitor (actual and expected), RS-TIM alarm monitor J1 trace message monitor (actual and expected), HP-TIM alarm monitor
Performance Data	Alarms and Errors	Alarm history, error counts, and error ratios
	Pointers	Pointer value, counts for increments, decrements, moves with NDF, moves without NDF
	K1/K2 Values and Messages	Monitor K1, K2 byte values K1/K2 message decode: K1 Request, K1 Channel, K2 Operation, K2 Architecture, K2 Channel
	SONET Performance Monitoring	ES (Errored Seconds), SES (Severely Errored Seconds), and UAS (Unavailable Seconds) for Section, Near-End Line, Far-End Line, Near-End Path, and Far-End Path Layers
	Service Disruption Monitoring	Longest, shortest, most recent service disruption (in milliseconds), In-service status; Configurable alarm trigger: LOS, LOF, AIS-L/MS-AIS, LOP/AU-LOP, AIS-P/AU-AIS, Path UNEQ/HP-UNEQ, LPS/LSS, B3 (Path CV); +/-1 frame accuracy
User Trigger	Framed: Synchronized to input, 50 Ohm AC-coupled, software controlled, trigger pulse at start of frame	
Clock Trigger	Synchronized to input, 622.08 MHz nominal (serial data rate divided by 16), AC coupled, software controlled	
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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