xGenius

Cutting edge Transmission & synchronization Tester
Global Manufacturer telecom nodes & instruments
**xGenius: Transmission & Synchronization**

- BNC + RJ-45: E1 / T1 balanced / unbalanced testing
- Dual SFP / SFP+ ports: GbE, 10GbE
- Double RJ-45 ports: 10 / 100 / 1000 Mb/s Ethernet
- Full Datacom and C37.94 support
- RTD and OWD (GPS assisted)
- Built in clock reference inputs and outputs, including GNSS
- MicroSD card support
8-inch Capacitive Touch Screen

800 x 480 pixels
Tests, Settings and Results at a Glance

Recently used:
- Ping/Traceroute (Port A)
- Local profile (Port A)
- Performance test
- eSAM objectives (Performance test)
- Port A

Config:
- Port A
  - Local profile
  - Physical layer
  - Frame layer
  - Ping/Traceroute
  - ESMC
- Port B
  - Wander generator
  - Reference clock

Started: 17/11/2017 18:02:01
Stopped: 00:09:16

Stopped: 00:09:16
Config -> Port A/Ping/Traceroute

PING

100 %

Destination IPv4 address from Host name
Destination IPv4 address 0.0.0.0
Destination IPv4 address (DNS) 90.71.64.152

Destination host name www.albedotelecom.com

Timeout 5.0 s
Interval 1.0 s
ICMP packet size (bytes) 56
TTL 255
Max. number of hops 30
Number of packets/hop 1
Traceroute protocol ICMP
UDP port 33333
Intuitive while effective GUI

- Quick access to panels
- Flows, filters, protocols and frames
- Always visible, real-time / historic events
Chronographs for virtually any event measured in xGenius
Detailed view for events such as Latency or Time error
Vertical axis auto-scale, custom zoom and positioning functions
World Best testing features

- Built in Rubidium or OCXO
- Multistream for Multiplay
- RFC 2544, eSAM symmetric and asymmetric
- RTD and OWD assisted with GNSS
- VLAN, Q-in-Q MPLS and IPv6
- Datacom: V11, V24, V35, V36, EIA530, EIA530A, Co-dir
- E1 / T1 test with pulse mask, frame verification and BER
- IEEE 1588v2 / PTP master and slave emulation
- 1PPS and clock analysis, including SyncE
- Synchronization tests: TE, cTE, dTE, TIE, MTIE, TDEV, FPP
- Comprehensive C37.94 support with Terminal/Monitor modes
Dual Port Traffic Generation

- Single direction traffic generation and analysis
- Loopback test for joint verification of both transmission directions
- Double concurrent traffic generation and analysis (two multi-stream traffic generators and two analysers)
Automatic Quality test

- RFC 2544
  - Throughput
  - Frame loss
  - Latency / Jitter
  - Back-to-back frames
  - System recovery time

- eSAM
  - Configuration and performance tests
  - Supports colored traffic
  - Tests up to 8 services
Time / Phase testing

- IEEE 1588v2 / PTP pseudo-slave emulation
- 1PPS / ToD and clock analysis, including SyncE
- Synchronization tests: TE, cTE, dTE, TIE, MTIE, TDEV, FPP
Asymmetry generates a time offset in PTP slaves and for this reason it has to be tightly controlled

- Forward vs. reverse path delay
- Delay difference (asymmetry)
- Measured in the PTP interface (pktFilteredTIE / MTIE / TDEV)
- Measured in the ITU-T G.8271 / G.703 1 PPS slave output
- Measured in freq. Interfaces (E1, T1, 2048 kHz, 1544, 10 MHz)
Packets suffer a variable delay (PDV). The floor delay population statistics account for the PDV magnitude:

- **Floor Packet Count (FPC):** Total number of valid packets
- **Floor Percent Packet (FPP):** Valid packets percentage (%)
- **Floor Packet Rate (FPR):** Effective valid packet rate (p/s)
ToD analysis and reference

- Self-synchronized master and slave test with better accuracy (~10 ns)
- The same setup applies to OWD, RFC 2544 and eSAM test scenarios
- Clock test using ToD as a test interface. The reference could be ToD or GNSS
Predefined tests

- Displays to the most relevant panel for every test
- Pre-configures the unit to run common tests
- Pre-loads shortcuts in the “Recently used” panel
New hardware
TCP throughput test

- Single flow and multi-flow configurations for the RFC 6349 test
- Compatible with Iperf and Albedo remote agents
- Simple to use, automatic parameter configuration whenever is possible
Test Professional Markets

- Telecom operators, vendors, installers and service integrators
- 4G, 5G cellular communications applications
- Utility companies: Power, Gas...
- Railways, Defence, Finance market, Air traffic control
- Enterprise
Field & Lab multitechnology tester

- Monitoring
- Commissioning
- Troubleshooting
- Xgenius

- lab
- residential
- enterprise
- outdoors
- central office
- field
Market Analysis

- EXFO
- VeEX
- Viavi
- xGenius
- Opwill

Price vs. Features diagram

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Why xGenius?

- Latest electronics: Fast, powerful, long operation time
- Multi-technology: Handheld, battery powered
- Built in GNSS and Rubidium for great synchronization
- Includes SyncE, PTP: Ready for LTE testing
- Datacom and C37.94 support
- 1 / 10 GbE double port (generation and analysis)
- E1 / T1 to facilitate migration from legacy installation
- Easy navigation in 8 inches: Touch, Mouse & Keyboard
That's all