TestPort

TestPort Ethernet Multifunction Tester

Multiple Technology tester with all the features you need to install or maintain Gigabit Ethernet Synchronous Ethernet (SyncE), Datacom & PTP based telecom networks and optional E1.

SYNCHRONOUS ETHERNET TEST SYSTEM

TestPort Multi-Function Tester works with legacy, present and future networks with support for the most common transmission technologies GbE/E1 and new generation protocols based on SyncE/PTP. No need for multiple test sets or additional modules. Just one hand-held unit supports the installation and maintenance of transmission and synchronization networks.

SPECIFICATION OVERVIEW:

- QoS and SLA certification
- Automatic Sym/Asym RFC2544, Y.1464
- pdf & csv reports on SD/USB
- VNC, LAN or wi-fi control
- ESMC / SSM generation, analysis and capture
- Y.1564 (e-SAM) FTD, 2-way FDV, FDV, 2-way FTD, FLR SES, PEU and PEA
- Y.1731 QoS statistics
- 2xSFP + 2 x RJ-45 interfaces
- FCS error insertion
- L1/L2/L3/L4 loopback
- Multistreams for IPTV, VoIP,
- Q-in-Q for demarcation tests, MPLS support
- Scan MAC/I P/VLAN/QinQ
- Wander E1 / GbE / PTP; E1 jitter and Pulse Mask
- PDF, CSV reports
- VNC LAN or wi-fi control
- Multilingual

PLATFORM

- Configuration, report storage and export through USB port or SD card
- TFT display true Color 4.3" LCD, 480 x 272px
- Dimensions: 223mm x 144mm x 65mm
- Weight: 1.2kg
- AD/DC adapter (220 V AC / 50-60 Hz)
- Li-Po batteries with 5 hours operating time

ABSOLUTE ANALYSIS
VALIDATING SERIAL COMMUNICATIONS

Contact NextGig Systems   805-277-2400   www.nextgigsystems.com

Features

ETHERNET TEST

TestPort Multi-Function Tester is an Ethernet & IP tester equipped with all the features you need, including Y.1564, V.1731, and FCS error insertion, 8 x Multistream and MPLS, to verify QoS and qualify SLA of new Multiplay services.

"Equipped with everything: GbE, SyncE, PTP, Y.1564, E1, Datacom, Jitter, Wander..."

This test-set can also simulate those services and qualify the key QoS and SLA parameters for each application.

Synchronization: SyncE & PTP

The TestPort Multi-Function Tester will also function as a field tester for Synchronous Ethernet, and is equipped with all the features needed to deploy and troubleshoot SyncE and standard PTP protocols, including wander measurement and master/slave emulation.

World's most comprehensive E1 test

The unit includes Dual Port, CAS ana/gen, G.703 co-dir, G.821 , G.826, M.2100, DTE/DCE, Jitter/Wander, Pulse mask, VNC control, VF test, and much more.

Gigabit Ethernet

TestPort Multi-Function Tester provides instantaneous traffic generation set up, and you can modify transmission parameters such as headers, bandwidth and frame size direct from the intuitive interface.

m-Layer BERT

Layer 1, 2, and 3 BER testing is supported, and this can be configured to use either regular PRBS test patterns, Gigabit Ethernet specific or user-defined test patterns to simulate real traffic conditions.

Improved RFC 2544

Perform RFC 2544 throughput, frame loss, latency, jitter and burst testing with symmetric and asymmetric tests. Target devices can be in loopback or peer-to-peer configuration.

Multistream

TestPort Multi-Function Tester supports up to 8 traffic streams configured with proper CoS and QoS prioritization. The flows simulate real traffic conditions for applications such as Internet VoIP and IPTV.

IP Services test

TestPort Multi-Function supports common IP test features to verify end-to-end connectivity using Ping and Trace Route, with ICMP echo request and analysis fully supported.

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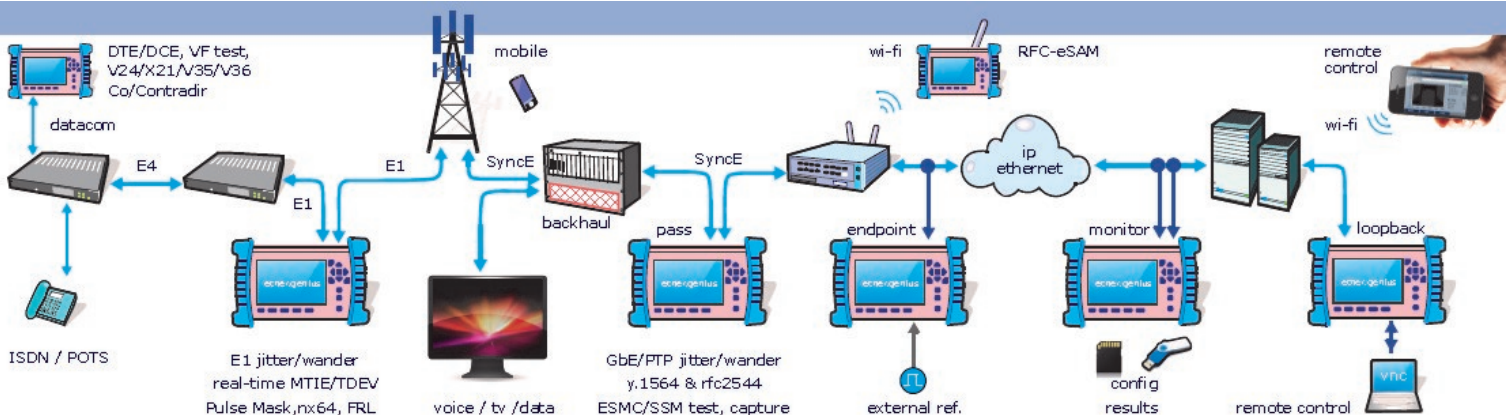
Features

Traffic Scan and Discovery

TestPort Multi-Function Tester can quickly scan network traffic to select the flows to be tested, then choose whether to monitor or initiate further testing.

Q-in-Q

Tests QoS using the VLAN CoS bits as used for VLAN stacking.

ITU-T Y.1564 e-SAM test

TestPort Multi-Function Tester's Ethernet methodology executes multiple traffic streams completing the test in two phases:

• Service Configuration: confirms end-to-end set-up while quickly checking the Information Rate (IR), Frame Delay Variation (FDV), Frame Loss Ratio (FLR), and Frame Loss Ratio at the Service Acceptance Criteria (FLRSAC).

• Service Performance: transmits all configured traffic streams at the CIR confirming all traffic is able to transverse the network under full load while checking IR, FDV, FLR and availability.

All you need

Expert users can now emulate 1588v2 slave/master clocks, and ensure network QoS by generating PTP messages, and measure key parameters like Packet Delay Variation (PDV) stability over time.

E1 Datacom (optional)

TestPort Multi-Function Tester provides a scalable test solution for E1 and datacom that includes a full set of physical layer tests for E1 balanced and unbalanced circuits. These include BERT, VF, round trip delay and signal level. System software can also be upgraded via an integrated USB interface.

USERS

- Fixed / Mobile operators
- GbE, E1, SyncE Installers
- Commissioning / Maintenance
- Laboratory and field test
- ISDN / FRL service
- Synchronization networks

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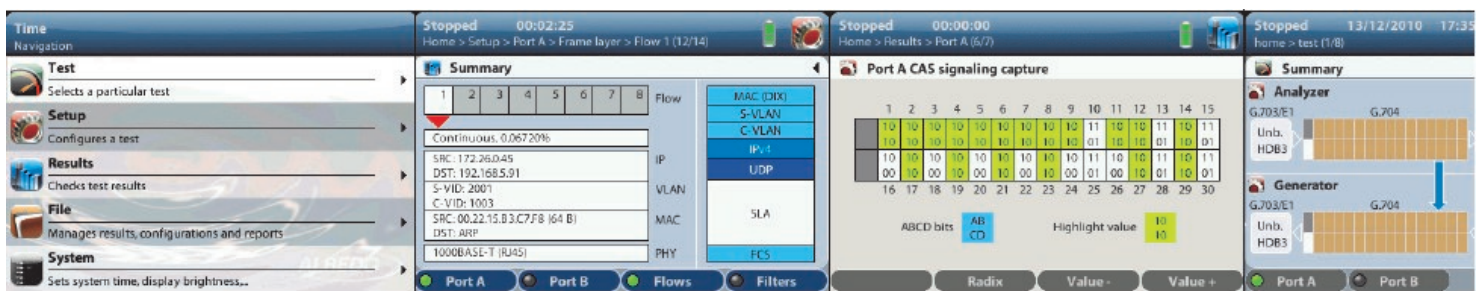
Features

ETHERNET TESTING

Interfaces

- Dual RJ-45 port for electrical connection I0/I00/I000BASE-T

- 2 x SFPs ports: I0BASE-T, I00BASE-TX, I00BASE-FX, I000BASE-T, I000BASE-SX I000BASE-LX, I000BASE-ZX and I000BASE-BX

- Autonegotiation: 10/100/1000 Mbit/s, and manual set up

- EtherType II (DIV v2) IEEE 802.3, IEEE 802.IQ, and IEEE 802.1ad, IEEE 802.2-LLCI and IEEE 802.3—SNAP IPv4 (IETF RFC 791)

Generation (up to 8 independent streams)

- MAC address: Source / destination Default / user defined, single / range

- VLAN: Single VLAN support, Q-in-Q stacking VID and Priority

- Type / Length: Generation/ Analysis, Jumbo frames with MTU up to 10kB

- Bandwidth Profile: Constant, in bit/s and frames/s. Periodic Burst, in high/low traffic, Ramp, in hi h/low traffic, Poisson

- Loopback: L1 or wire Ioopback. L2 or frame Ioopback, L3 or packet loopback, L4 or application loopback

- Single, burst, rate, random FCS error insertion in pass-through mode

- Unframed Layer 1 (IEEE 802.3-2008 Annex 36A): High, Low, Mixed Frequency Test, Long, Short (INCITS TR-25-1999): RPAT, JJTPAT, SPAT

- Framed Layer 1-4 BERT; PRB: 2e11-1, 2e15-1, 2e20-1, 2e23-1, 2e31-1 and inverted, All 1, all 0 ud. (32 bits), SLA Payload Y.1731

- RTD and tone generation

ICMP (RFC 792)

- IP Ping / Traceroute, ICMP echo request generation: Destination IP address, Packet Length, Generation interval

- Analysis of ICMP echo reply: Round Trip Time, Lost packets, Time-To-Live Exceeded, Port Unreachable

Automatic Test (ITU-T Y.1564 and RFC 2544)

- RFC 2544: Throughout, Latency, Frame Loss, Back-to-Back, Recovery

- Bandwidth Setup: CIR, EIR and Throughput

- Quality Tests and Results: Frame Delay (FTD) Frame Delay Variation (FDV) and Frame Loss Ratio (FLR)

- Network Configuration Test (Phase 1): Set step and duration while CIR, EIR and Throughput rates are calculated

- Ethernet Service Test (Phase 2): Set phase duration and Bandwidth profile (deterministic, poisson) traffic generated, at CIR rate

Continued . . .

Features continued

Results: Physical layer - SLA (Y.1563)

- Twisted Cable: MDI/MDI-X status, Open, Cable Length Test, Short, Polarities, Pair Skew, Autonegotiation: Current bit rate, Duplex mode

- SFP: Current interface, Vendor Part Number, Optical Power (requires compatible SFP)

- Point-to-point Frame Transfer Delay (FTD) Histogram, Min, Max, Median, Mean

- Frame Delay Variation (FDV): 2-way 0-99% interquantile FTD values, 2-way Ethernet Frame Delay Variation (2-way FDV)

- Frame loss (FL): lost Frames count, 2-way Ethernet Frame Loss Ratio (FLR)

- Availability Statistics: Severe Errored Seconds (SE S), Percent Ethernet Unavailability (PEU), Percent Ethernet Service Availability (PEA)

Filters

- Ethernet Selection: MAC address, Type/Length VID, and CoS with selection mask

- IP Selection: Address, protocol field, DSCP field: single value or range. TCP/UDP Selection: port: single value or range

Traffic Counts and Statistics (Separate Reports Port A & B)

- Most common talkers: Source / Destination MAC addresses and IP addresses, VID (VLAN), CVID (Q-in-Q), S-VID (MPLS)

- Ethernet Frame Counts (RFC 2819): VLAN Q-in-Q, Priority, Control, Pause, BPDUs

- Tx/Rx Uni-Multi-Broadcast, Errors, Undersized, Oversized, Fragments, Jabbers, Runts, Collisions, Late Collisions. Size by Range

- IP Counts: TCP, UDP, ICMP, IPv4 checksum errors, Unicast Multicast, Broadcast

- Bandwidth Statistics: Rate, Max, Min and Average, Rate bits/sec and frames/sec, Occupancy (%) Unicast, Multicast, Broadcast (%)

SyncE and FTP Testing

Synchronous Ethernet (SyncE)

- Line frequency (MHz) Offset (ppm), Drift (ppm/s) (clause10)

- Wander generation (ITU-T 0.174 section 8.4) and MTIE / TDEV measurement (ITU-T 0.172 clause 10

- Generation / Decoding ESMC and SSM (ITU-T G.8264)

PIP - EEE 1588.2008 (V2)

- PTP protocol generation, analysis and emulation, end-point and pass-through mode

- Both Master and Slave operations, ability to force Slave role. Encapsulations PTP over UDP over IPv4, Wander

- Sync Inter Packet Gap: average, current. Sync delay/req: current, min, max, average, std deviation, range

Continued . . .

Features continued

E1 Testing (Optional)

Interfaces

- Port A: Coaxial Pair Impedance: 75 Ohm BNC unbalanced and 120 Ohm RJ-45 balanced

- Port B: Symmetrical Pair Impedance 120 Ohm RJ-45 balanced

- Coaxial Pair Impedance: 75 Ohm BNC unbalanced. Analogue voice frequency audio port.

- Additional balanced secondary EI port 0 to -6dB, nominal and PMP -20dB

- Bit Rate: 2048 Kbit/s ± 3ppm. Codes: HDB3 / AMI

- Clock Source: Internal Timing: 2.048 MHz ± 25,000 ppm. External Timing. Recovery from RX Timing (Loop Timing)

BERT

- Unframed. PCM3I: FAS / FAS+CRC4. PCM30: FAS+CAS / FAS +CRC.

- Standard, non-standard PRBS, and user patterns. Transmit Error Rate.

- Force Single Error: Bit, Frame, CRC, and BPV (Bipolar Violation). Alarms and errors count and generation. G.826, G121, and M.2100

Datacom Interfaces

- Smart Serial 26p DTE / DCE lorts. DTE, DCE emulation and monitor.

- V.11/X24, V24/V28, V24/V35, V.24/V.I I (V.36/RS449), EIA530 and EIA-530A. Co-directional according G.703

- Rate: 50, 60 bps 1.2, 2.4, 4.8, 8, 9.6, 16, 19.2, 32, 48, 72, 128, I44, 192, 1544 kbps, Nx56 kb/s; Nx64 kbips, up to 10 Mbps

Jitter & Wander (E1) (Overpass 0.172)

- Jitter level, tolerance, transfer and Event detection. 100% digital based generation and analyzer

- Wander Generation and Measurements (TIE, MTIE, TDEV). Wander results from 20 to 100,000s

Pulse Mask (Meets ITU G.703)

- PASS/FAIL function. Graphic display scope

- Nominal 2.37V for Coaxial Pair 75 Ohm, Nominal 3.00V for Symmetrical Pair 120 Ohm

Platform

- Configuration, report storage and export through USB port , SD card or RS-232C port

- TFT display true Color 4.3" LCD, 480 x 272px

- Dimensions: 223mm x 144mm x 65mm

- Weight: 1.2kg

- Li-Po batteries (5 hours operating time). Fast recharge time

Service and Support

Absolute Analysis provides unsurpassed service to all TestPort™ users including remote diagnostics, extended warranties, and upgrade paths to current offerings from any system.

Training

Absolute Analysis offers comprehensive training courses for products and protocols. Training can be provided at your location or remotely, and can be customized to your requirements.

For More Information

Contact

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