

# BlueScope BL6000A

## - Handheld Multi-Protocol Tester – 1G & 10G Ethernet Features



### Benefits

- Accurate and Reliable Test and Measurement
- All-in-one Multi-protocol testing for 1GE/10GE/SONET/SDH/ Fibre Channel/OTN
- Easy to Learn and Operate
- Low Cost of Ownership
- Easy Expansion of Features (Future Proof)
- Hands Free Upgrade
- Multi-Testing Capability
  - 10M ~10G Ethernet
  - VoIP
  - IPTV
- Wide Applications
  - Assurance
  - Activation/Turn Up Services
  - Cloud Computing Network Test
  - Network Installation
  - Troubleshooting & Maintenance
  - Network Performance Test & Measurement
- Ultra Portability

#### ❖ User-friendly Graphical User Interface (GUI)

- 5.7" High Resolution TFT LCD Touch Screen and Keypad
- Intuitive Menu Structure
- Easy to Operate

#### ❖ Multiple Testing Capability

- Ethernet Test (10GE WAN PHY)
- VoIP Test
- IPTV Test

#### ❖ Standard Features

- Performance Measurement (Traffic Generation/Throughput Test)
- Packet Filtering
- IP Tools (Ping, DHCP, Trace Route)
- Loopback (Layer 1/2/3/4)
- Framed Bit Error Test (BERT)
- RFC 2544 (Network Equipment Benchmarking Test)
- Cable Faults Measurement (Copper and Optic Cables)
- Remote Operation
- File Management
- Reporting (ASCII, CSV, and PDF)
- System Tools

#### ❖ Optional Features

- Packet Capture and Analyzer
- Packet Flooding
- 32 Multi-Streams
- L1/Unframed BERT
- Network Discovery
- 100 FX/LX (for 1GE)
- VoIP (for 1GE)
- IPTV (for 1GE)
- 10G WAN PHY (for 10GE)

#### ❖ Applications

- Network Assurance, Activation, and Installation
- Network Performance Test and Measurement
- Network Troubleshooting and Maintenance
- Cloud Computing Network Test

#### ❖ Ultra Lightweight

- 1.3Kg (0.3Kg with Battery)
- Battery Life: Up to 4 Hours in Operation,, 8 Hours in Standby

# BlueScope BL6000A

## - Handheld Multi-Protocol Tester – 1G & 10G Ethernet Features

### Feature Specifications

#### ❖ Performance Measurements

##### (Traffic Generation/Throughput Test)

- Configure:
  - Up to 32 Streams Per Port
  - Layer 1/2/3/4 Packet Frames (Continuous, Burst-Once, Ramp, Random Length)
  - MAC/VLAN/MPLS/ICMP/TCP/UDP Setup
  - Payload (PRBS, Increment, Decrement, User Pattern)
  - Frame Size (Runt to Jumbo)
  - Frame Rate (% , BPS, FPS)
  - VLAN Tags (3 Q-in-Q: TPID, Priority, CFI, VLAN ID)
  - MPLS Label (3 Stacks: Label, Exp., EoS, TTL)
  - Pause Injection with Delay Control
  - Error Injection (FCS, Duplicated, Lost, Late Frame, L3/L4 Checksum, Bit Error)
  - Ping, ARP, Trace Route, DHCP

#### ❖ Packet Filtering

- Source/Destination Addresses (MAC/IP/Port)
- VLAN (Q-in-Q, TPID, Priority, CFI, VID)
- MPLS (Label, Exp., EoS, TTL)
- Packet Fields (TOS/DSCP, Protocol, User Defined)
- Advanced Pattern Matching Based on User Defined Pattern Filters

#### ❖ IP Tools

- IP Setup (MACP, IP, Netmask, Gateway, DNS)
- Static and DHCP Support
- Ping (Destination, Frame Length, Ping Rate, Timeout, Number of Pings)
- Trace Route (Destination IP, Max Hop, Timeout)

#### ❖ Loopback

- Layer 1 (All), L2 (All), L2/3/4 (Filtered), and Auto Loopback
- Per Frame/Per Packet Based Measurements
- Remote Loopback control

#### ❖ Framed Bit Error Test (BERT)

- Framed (Layer 2/3/4) Test Patterns: (PRBS 31 and Inverted)
- Error Packet Generation (Lost/Duplicate/Late Frame): Single, Burst, Rate

#### ❖ RFC 2544 (Network Equipment Benchmarking Test)

- Per Packet Size Test:
  - Performance Measurement (Throughput Test)
  - Delay Measurement (Latency Test)
  - Packet Frame Loss Measurement (Frame Loss Test)
- Back-to-Back Test
- Packet Jitter Test
- Report Generation (ASCII, CSV, and PDF)

#### ❖ Cable Faults Test and Measurement

- Copper Cable (Twist Pair):
  - TDR (Time Division Reflector)
  - Cable Fault, Length
  - Irregular Impedance of Cable Pair
- Optic Cable:
  - Rx Power Level
  - WaveLength ( $\lambda$ )

#### ❖ Remote Operation

- All features controllable Remotely via Internet or Network
- Windows Based Client Remote Viewer Supplied

#### ❖ File Management

- File Transfer fro/to USB Memory Stick
- Usage of Space (in %)
- File View, Print, Export to CSV, Rename, Delete
- USB Mount/Unmount

#### ❖ Reporting

- Custom Report Generation
- Report Formats: ASCII, CSV, and PDF

# BlueScope BL6000A

## - Handheld Multi-Protocol Tester – 1G & 10G Ethernet Features

### ❖ System Tools

- Data and Time
- Network Settings:
  - Static vs. DHCP
  - IP Address, Subnet, Gateway, DNS, Remote Control
- License Control
- Display Control (Brightness)
- Auto Power On/Off
- System and User Info:
  - SN, S/W Version, H/W Version, User Info for Custom Report
- Printer:
  - HP Laserjet Compatible
  - Network or USB Connection
- Factory Default Setting
- FTP Upgrade
- USB Upgrade

### Status & Measurement Statistics

#### ❖ Link Status

- Connection Link Status (Up/Down), Link Speed, Duplex, Activity, Optical Power Level (Rx Level)
- Auto Negotiation Status (Acknowledgement/Advertisement)

#### ❖ Streams Status

- Frame/Packet Based, Selected Stream, ARP

#### ❖ Measurements

- Time Based Measurement
- Independent Tx/Rx Measurement and Synchronous Tx/Rx Measurement
- Aggregation Status:
  - Tx/Rx Frame Statistics
  - TX/Rx Packet Statistics (Uni/Multi/Broadcast/Extra)
  - FCS Error
  - Tx/Rx Pause Packet Count, Runt/Jumbo Packet Count
  - Tx/Rx Frame Distribution
  - Frame Rate
- Usage:
  - Current Bandwidth Usage (%) - Instantaneous
  - Max/Avg/Min Bandwidth - Cumulative
  - Current Frames Per Sec.. (FPS) - Instantaneous
  - Max/Avg/Min Frames Per Sec. - Cumulative
- Stream Statistics:
  - Tx/Rx Frame Statistics
  - Stream Error Count
  - Runt/Jumbo Frame Count
  - Tx/Rx Frame Size Distribution
- Stream Error:
  - Late Frame Count (Out-of-Sequence)
  - Duplicate Frame Count
  - Loss Frame Count
  - Layer 3 Checksum Error Count
  - Layer 4 Checksum Error Count
  - Bit Error Count/Rate
- Jitter (in Micro Seconds):
  - Latency (Max/Avg/Min)
  - Packet Arrival Interval (Max/Avg/Min)
  - Jitter (Max/Avg/Min)

# BlueScope BL6000A

## - Handheld Multi-Protocol Tester – 1G & 10G Ethernet Features

### Optional Features

#### ❖ Packet Capture and Analyzer

- Filtered Captured
- Event Trigger Captured:
  - VLAN, Pause Frame, Multicast/Broadcast
  - FCS Error, Frame Size, L3/L4 Checksum Error
- Captured Data Decoding
- Compatible with WireShark/EtherReal

#### ❖ Packet Flooding

- Random or Incremental Flooding
- Flooding Based on MAC, VLAN, IP, User Defined Field
- Flooding Controlled by Start and Stop Values

#### ❖ Throughput 32 Multi-Streams

- Generates maximum of 32 Independent Streams (Tx)
- Receive Up To 32 Independent Streams (Rx)
- Ramp,-Continuous,, Ramp-Cyclic, Burst-Continuous, and Burst-Cyclic Modes

#### ❖ L1/Unframed Bit Error Test (BERT)

- Unframed (Layer 1) Test Patterns: PRBS 9, 11, 15, 20 and Inverted

#### ❖ Network Discovery

- Network Status (Up/Down), IP, MAC, Vendor, Port Info, OS, OS Type, SNMP Info.

#### ❖ 100-FX/LX

- 100-FX/LX Support (Optical)

#### ❖ VoIP

- Supported Features:
  - ITU-T G.107 Based Scalable Quality Measurement and Analysis
  - Analysis of Sudden Packet Loss Based on ETSI TS 101 329-5 Annex E
  - RTCP XR (RFC 3611) VoIP Measurement; Payload Sampling and Analysis
  - Japan TTC JJ20101 VoIP Monitoring Specifications

#### ❖ VoIP (cont.)

- VoIP Measurement:
  - H.323 QoS Reporting (ITU-T H.460.9 Annex B)
  - Megaco QoS Reporting (ITU-T H.248.30)
  - VoIP Trunking Gateway (ITU-T G.799.1)
  - IETF SIP RTCP Summary draft
  - IETF RTCP XR MIB draft
- Quality Measurement:
  - Call Calling and Receiving Quality Check (ACR Included) (ITU/TTC Scaling, MOS-LQ, MOS-CQ)
  - Call Calling and Receiving Quality – R Value Check (R-LQ, R-CQ)
  - R Value Checks for R-Burst and R-Gap
- IP/RTP Measurement:
  - Packet Loss Ratio, Packet Abandonment Ratio, Burst Length/Density, Gap Length/Density
- Quality Degradation Factor Measurement:
  - Quality Degradation Rate due to Loss, Jitter, Codec, Delay, Signal Level, Noise Level, and Echo

#### ❖ IPTV

- IP Scan
- Per IP Address Statistics
- MPEG-TS Analysis (PAT/PMT/PID)
- MPEG Analysis (Q1 2011)

# BlueScope BL6000A

## - Handheld Multi-Protocol Tester – 1G & 10G Ethernet Features

### Hardware Specifications

#### ❖ Port Configurations by Model

##### – BL6000A:

- 1 XFP port: 9.95G – 11.32G
- 1 SFP port: 125M – 4.25G
- 1 Bantam(Rx): BITS Clock in
- 1 SMA(Tx): Tx reference Clock out
- Dual Bantam (Tx/Rx): 1.5M – 2M (with PDH H/W option)
- 2 BNC: 34M/45M/51M/139M/155M (with PDH H/W option)

##### ※ Common Port Interface for All Models:

- 1 x Auxiliary RJ45 10/100/1000Base-T
- 1 x USB (Universal Serial Bus) Dimension: 172.5 (W) x 227 (H) x 58.5 (D) mm

❖ **Dimension:** 172.5 (W) x 227 (H) x 58.5 (D) mm

❖ **Weight:** 1.0Kg (Chassis), 0.3Kg (Battery)

❖ **Operating Temperature :** 0°C - 50°C

❖ **Storage Temperature:** 20°C - 70°C

❖ **Humidity:** 10% - 95%

❖ **Display:** 5.7" Color TFT LCD, Touch Screen

❖ **Power:** DC 14V ~ 21V

❖ **Battery:** Standard Li-Ion Battery

(4 Hours Typical, 8 Hours Standby)

❖ **Internal Storage:** 2GB SD card



### Accessories

#### ❖ Cable and LAN Tester Kit

- RJ11 / RJ 45 Cable Measurement
- T568A/B Standards Based Cable Measurement
- Shielded or Unshielded Cat3, Cat4, Cat5, Cat5E Cable Test
- Disconnect, Short, Miswire, Split Pair Sensing
- Per Pair Cable Length Measurement
- Cable Length Measurement Range: 0 ~ 457 meters (0 to 1500 Feet)
- Wiremap Display
- Measurement Time (Within 10 Seconds)

※ Common Accessories: AC/DC Power Adapter, Carry Bag, Rubber Boot, Manual CD .

※ Optional Accessories: 1G SFP, 100-FX SFP, 10G XFP and Optical Patch Cords

Contact your Bluelight Technology representative for more information

#### ❖ Sales Contact

US and Canada:  
Tel.: (408) 435-3897  
Fax: (408) 435-2719

Sales: [sales@bluelighttec.com](mailto:sales@bluelighttec.com)  
Web: [www.bluelighttec.com](http://www.bluelighttec.com)

Hours: Monday Through Friday,  
9:00 AM to 5:00 PM PST Except on Public  
Holidays