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NetXpert XG PLUS

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COPPER AND FIBER - CABLE AND NETWORK- APPLICATION TESTER

Prove 1Gb/s to 10Gb/s Ethernet Speed with BERT

IT Networks

itnetworks.softing.com/us/netxpertxg

The all-in-one Ethernet cable application qualifier

Prove cable speeds from 1Gb/s to 10Gb/s Ethernet over copper or fiber, test active networks connecting through copper, fiber or WiFi switches, test POE, and create reports with this all-in-one application qualifier.

Application qualification means proving cable speed with a real world test. The only way to prove cable speed is by testing with BERT (bit error rate test). This is not a link light. BERT sends real data through your cable, which takes your cable for a real-world test drive and proves speed. There's no easier way to prove cable speed, end to end, no matter what passive components are in the middle - patch panels, connectors, splices - doesn't matter.

How can you prove that your installed cables can support the new speeds of your wireless router? How can you prove your systems integration project will support the speeds you need for your application? Prove cable speed before commissioning access points to avoid any unpleasant surprises.

NETXPERT XG PLUS

- **Prove copper and fiber Ethernet cable speed with BERT, SNR, Delay Skew**
- **Test active networks connecting to router or switch via copper, fiber, or WiFi**
- **Test POE, POE+, POE++**
- **Create reports**

PROVE CABLE SPEEDS MEET YOUR APPLICATION NEEDS

The NetXpert XG PLUS proves whether copper or fiber optic cabling supports Ethernet transmission up to 10Gb/s regardless of cable category, patch panels, or junction boxes used; everything in-between is tested because this is your application.

After checking the wiremap and advising of distance to opens/shorts and noting reversals/miswires, the NetXpert XG PLUS proves speed to IEEE standards by automatically running three individual tests and combining these into an overall result.

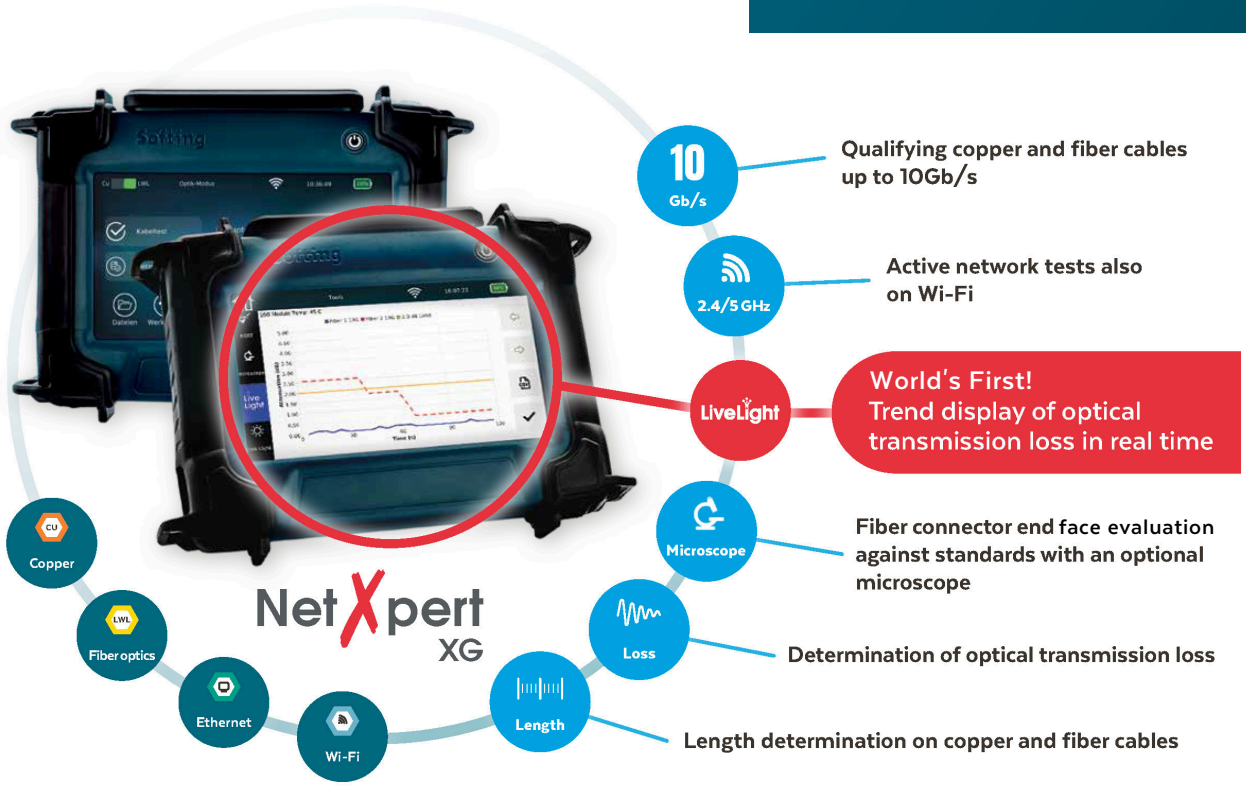
The three tests: Signal-to-noise ratio (SNR), followed by a bit error rate test (BERT), and then delay skew test. All tests are required to prove and qualify the gigabit transmission.

Wiremap is important, but SNR can provide evidence of signal degradation or noise intrusion caused by the cable, installation or nearby sources. BERT can show dropped bits caused by improper shielding or EMI for copper, or dirty end faces, cable bends, or bad splices for fiber. Delay skew indicates length differences in copper pairs; if there is too much delay, the receiver will not be able to assemble the data properly.

Your benefits

All-in-one application qualifier

- Prove copper or fiber cable speed up to 10Gb/s with BERT
- Prove active network configuration for copper, fiber, and WiFi
- Prove end device connectivity and find duplicate IP addresses
- Troubleshoot POE up to POE++
- Create reports and document network devices and findings
- Extend NetXpert XG capabilities with evergreen firmware updates



NetXpert XG PLUS

Technical properties

PASSIVE CABLE TESTS

- Test against IEEE 802.3 compliance for data cabling at transmission rates up to 10Gb/s
- **Copper cabling**:
  - Determine signal-to-noise ratio (SNR)
  - Execute bit error rate test (BERT)
  - Determine delay skew
  - Measure length of cable using combined TDR and capacitive measurements for a more precise measurement and simpler troubleshooting, even with short circuits
  - Color wiring diagram shows interruption, swap, short circuits, and split pairs so they can be clearly identified
- **Fiber optic cabling**:
  - Execute bit error rate test (BERT)
  - Includes LiveLight, a real-time, continuous trend of fiber light loss measurement. This allows you to troubleshoot a loose connector, bends, and intermittent problems
  - Length of fiber measurement from SFP to SFP
  - Evaluate connector end faces using an optional fiber microscope

Standards-compliant signal-to-noise ratio (copper) and bit error rate tests (BERT)(copper and fiber) show the performance of cabling

For network discovery, simply connect NetXpert XG to a switch via copper, fiber, or WiFi with the local unit

ACTIVE ETHERNET TESTS

- PoE load test up to 90W (class 8)
- DHCP test
- Locate devices on the network (network discovery)
- Definition and storage of ping lists
- Traceroute
- LLDP/CDP detection and analysis
- WiFi scan of the available access points (2.4GHz or 5GHz with dongle)
- Detect VLANs

TROUBLESHOOTING ACTIVE NETWORKS

The NetXpert XG offers extensive tools for troubleshooting active networks. PoE up to the highest performance class (PoE ++) are tested for stability and by stress tests, devices on the network are identified (network discovery), and devices are checked for accessibility (ping and traceroute).

ENABLE PORTS FOR FIBER OPTIC TESTS

The NetXpert XG offers full flexibility regardless of whether you are testing fiber optic or copper cabling. When it comes to passive tests, a throughput test of the fiber optic cabling is possible with NetXpert XG-PLUS.

QUALIFICATION OF FIBER OPTIC CABLING

The classic measurements on fiber optic links only contain information about the attenuation and the reflection behavior, but this does not prove whether the Ethernet performance can be achieved. The BERT test of the NetXpert XG-PLUS proves that the cable links can run at the planned application speed, either 1Gb/s or 10Gb/s multimode or single mode.

Old, existing cables can be tested as to whether they can handle an increase in the transmission speed to 10Gb/s, or if you have to rip and replace.

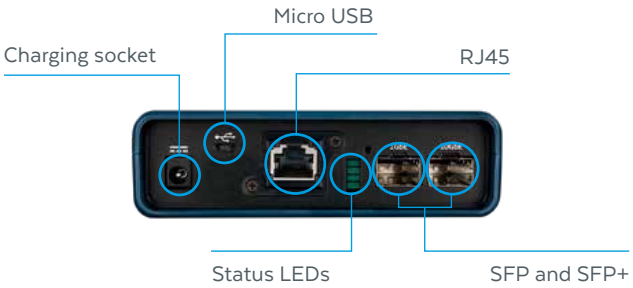
AUTOMATED ASSESSMENT OF CONNECTOR END FACES SAVES YOU TIME AND HEADACHES

In the world of fiber optic cables, defects such as scratches or chipping, and especially dirt on the fiber end faces of connectors are the main cause of errors and deterioration of the transmission quality on the transmission lines.

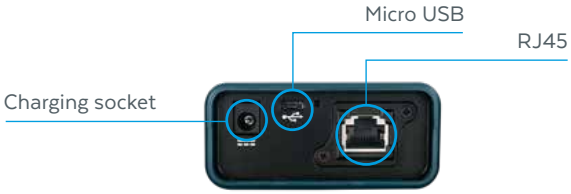
Contamination leads to increased reflections and an increase in insertion loss over the entire line. Contamination can lead to scratching or even the destruction of the fiber end faces of other connectors when connecting patch cables. Examining the connector end faces of the cabling before each plug-in operation and cleaning them adequately is essential. In combination with the optionally available electronic microscope, the NetXpert XG PLUS offers the ability to view all four connector end faces of a classic duplex cable, evaluating them against the IEC 61300-3-35 standard and including the results in the documentation as a graphic.

Winner of 2020 Cabling Installation & Maintenance Gold Innovators Awards

MAIN UNIT CONNECTIONS



ACTIVE REMOTE CONNECTIONS

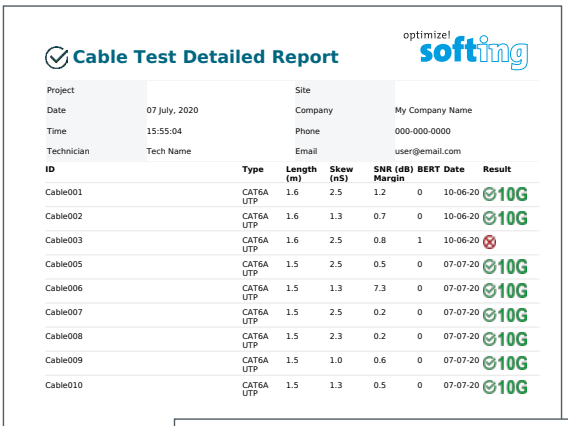


The optional fiber optic microscope can be used to quickly and easily check the connector end faces and provide an automatic "pass/fail" assessment

Project management and reporting

The NetXpert XG offers enough internal memory for even large projects and generates finished acceptance reports with all necessary information about the test. PDF reports are generated internally and can be transmitted via USB stick.

The file manager can be accessed directly from the home screen. NetXpert XG generates detailed result reports in PDF or CSV format



Cable Test Detailed Report

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Project		Site	
Date	07 July, 2020	Company	My Company Name
Time	15:55:04	Phone	000-000-0000
Technician	Tech Name	Email	user@email.com

ID	Type	Length (m)	Skew (nS)	SNR (dB) Margin	BERT	Date	Result
Cable001	CAT6A UTP	1.6	2.5	1.2	0	10-06-20	10G
Cable002	CAT6A UTP	1.6	1.3	0.7	0	10-06-20	10G
Cable003	CAT6A UTP	1.6	2.5	0.8	1	10-06-20	⊗
Cable005	CAT6A UTP	1.5	2.5	0.5	0	07-07-20	10G
Cable006	CAT6A UTP	1.5	1.3	7.3	0	07-07-20	10G
Cable007	CAT6A UTP	1.5	2.5	0.2	0	07-07-20	10G
Cable008	CAT6A UTP	1.5	2.3	0.2	0	07-07-20	10G
Cable009	CAT6A UTP	1.5	1.0	0.6	0	07-07-20	10G
Cable010	CAT6A UTP	1.5	1.3	0.5	0	07-07-20	10G

Cable Test Detailed Report

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Project		Site	
Date	07 July, 2020	Company	My Company Name
Time	15:55:04	Phone	000-000-0000
Technician	Tech Name	Email	user@email.com

Cable007

Pair	Length	Building	Floor	Room	Rack	Panel	Date
1,2	1.6						07-07-20

Type	Shield	Skew	Margin	BERT
3,6	1.7			
CAT6A UTP	N	2.5	0.2	0

Distance	Result
4,5 1.7 / 7,8 1.5	10G

Cable008

Pair	Length	Building	Floor	Room	Rack	Panel	Date
1,2	1.6						07-07-20

Type	Shield	Skew	Margin	BERT
3,6	1.7			
CAT6A UTP	N	2.3	0.2	0

Distance	Result
4,5 1.7 / 7,8 1.5	10G

Cable009

Pair	Length	Building	Floor	Room	Rack	Panel	Date
1,2	1.6						07-07-20

Type	Shield	Skew	Margin	BERT
3,6	1.7			
CAT6A UTP	N	1.0	0.6	0

Distance	Result
4,5 1.7 / 7,8 1.5	10G

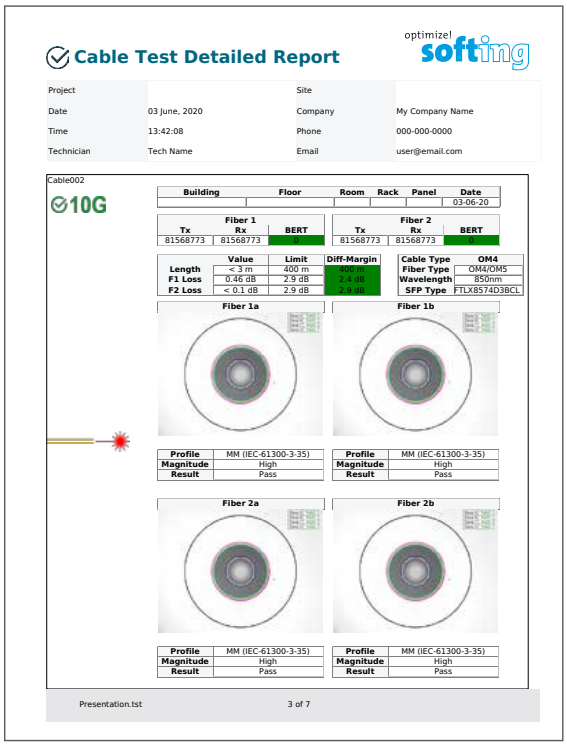
Cable010

Pair	Length	Building	Floor	Room	Rack	Panel	Date
1,2	1.6						07-07-20

Type	Shield	Skew	Margin	BERT
3,6	1.7			
CAT6A UTP	N	1.3	0.5	0

Distance	Result
4,5 1.7 / 7,8 1.5	10G

Copper.tst 3 of 4



Cable Test Detailed Report

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Project		Site	
Date	03 June, 2020	Company	My Company Name
Time	13:42:08	Phone	000-000-0000
Technician	Tech Name	Email	user@email.com

Cable002 — 10G

Building	Floor	Room	Rack	Panel	Date
					03-06-20

Fiber 1 Tx	Fiber 1 Rx	Fiber 1 BERT	Fiber 2 Tx	Fiber 2 Rx	Fiber 2 BERT
81568773	81568773	0	81568773	81568773	0

	Value	Limit	Diff-Margin
Length	< 3 m	400 m	0
F1 Loss	0.46 dB	2.9 dB	2.4 dB
F2 Loss	< 0.1 dB	2.9 dB	2.9 dB

Cable Type	OM4
Fiber Type	OM4/OM5
Wavelength	850nm
SFP Type	FTLX8574D3BCL

Fiber 1a

Profile	MM (IEC-61300-3-35)
Magnitude	High
Result	Pass

Fiber 1b

Profile	MM (IEC-61300-3-35)
Magnitude	High
Result	Pass

Fiber 2a

Profile	MM (IEC-61300-3-35)
Magnitude	High
Result	Pass

Fiber 2b

Profile	MM (IEC-61300-3-35)
Magnitude	High
Result	Pass

Presentation.tst 3 of 7

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Ordering Information

Ordering NetXpert XG PLUS kit	
226585	NetXpert XG PLUS kit includes two main tester units, patch cables, one remote tester for copper testing, charging adapters, hard carrying case

Options	
WX-FX-INSP-KIT	Digital microscope end face inspection kit with USB connection to NetXpert XG PLUS and SC, FC, LC connections
XC-AC-CKIT-STSCFC	ST, SC, FC end face XpertClean fiber optic cleaning kit for 2.5 mm connectors
XC-AC-CKIT-LC	LC end face XpertClean fiber optic cleaning kit for 1.25 mm connectors
XC-AC-CKIT-MPO	MPO end face XpertClean fiber optic cleaning kit for MPO connectors
226528	Wiremap remotes
226581	RJ45 remote identifier set
226582	Spare RJ45 test sockets
400985	SFP+ Module, MM, 10GBase-SR/SW, 10G fiber channel, 1200-Mx-SN-IDuplex LC connector
400986	SFP+ Module, Singlemode, 10GBASE-LR/LW, 10G Fiber Channel 1200-SM-LL-L Duplex LC connector

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