

BA-4000-L2 Traffic and Bit Analyzer

800G/1.6T TESTER OF L2 TRAFFIC PLUS L1 BER

- Combined L1 BER tester and L2 traffic analyzer for 800G DR4/FR4/LR4 and 1.6T optical engines.



KEY FEATURES

- Inherits BA-4000 signal integrity and BER test function
- Powerful and user-friendly graphical user interface (GUI)
- L2 frame test
- Real-traffic FEC analysis
- Supports breakout cable testing scenario
- Latency testing for AI/ML transceiver
- Supports various frame sizes from 64 to 16000

BA-4000-L2 READY FOR 800G AND 1.6T TESTING

The BA-4000-L2 is an industry-leading 800G/1.6T traffic analyzer and BER tester from L2 system view.

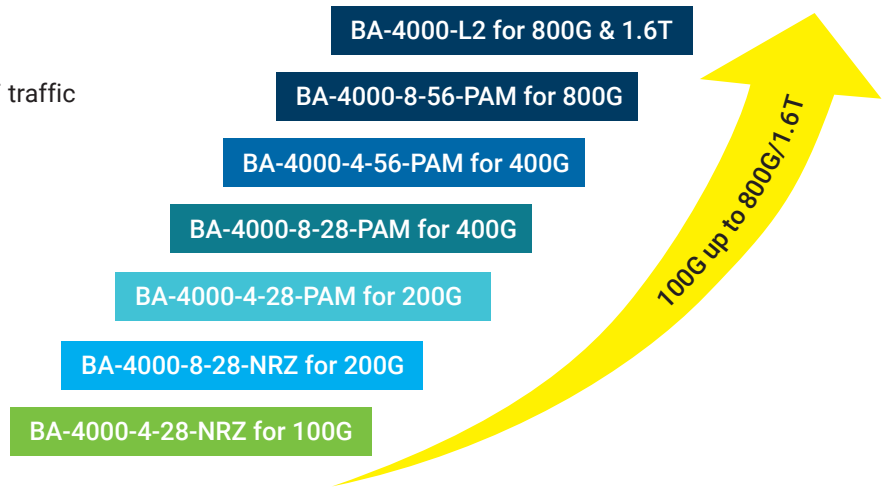


Figure 1. Part of the BA-4000 series of optical test solutions (from 100G to 800G+), the BA-4000-L2 features powerful layer-2 functions.

POWERFUL AND SIMPLIFIED USER INTERFACE

The BA-4000-L2 graphical user interface (GUI) provides simplified and real-time test results per channel. It requires an external Windows-based PC with Ethernet capability to run the GUI and API.

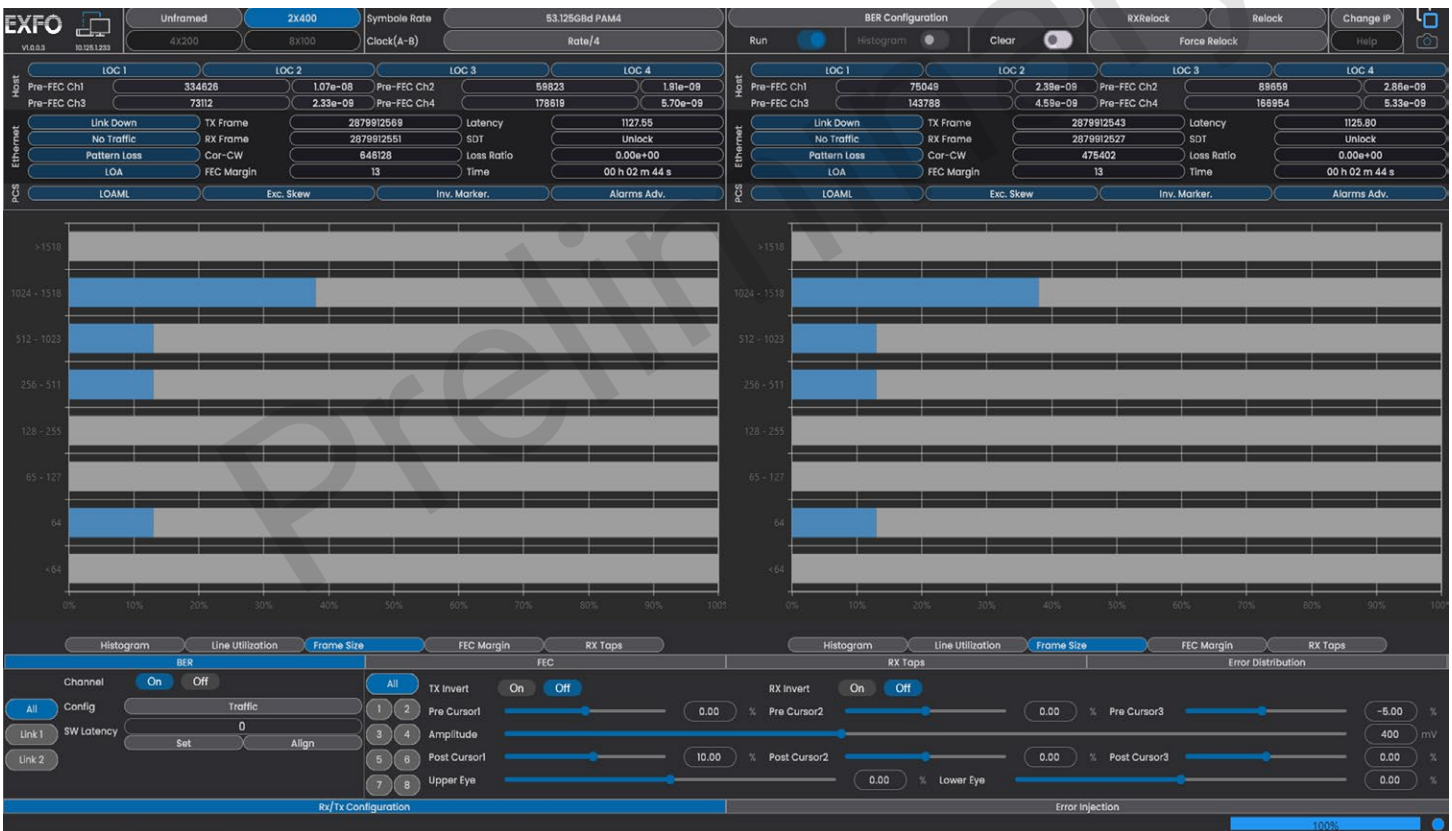


Figure 2. User-friendly GUI.

COMBINED L1 BER TESTER AND L2 TRAFFIC ANALYZER

The BA-4000-L2 supports up to 32-tap feed-forward equalizer (FFE). It detects intersymbol interference (ISI) and far-end reflection.



Figure 3. Detect ISI and far-end reflection.

Monitor key parameters such as Rx/Tx frame counts and line utilization. Real-time FEC analysis provides testing of pre/post FEC BER, symbol error distribution and FEC margin.



Figure 4. Test pre/post FEC BER, symbol error distribution and FEC margin.

SPECIFICATIONS

All specifications are typical, at 23 °C ± 2 °C unless otherwise specified.

TECHNICAL SPECIFICATIONS	
Interface	4x0-SMPM RF connector (67 GHz bandwidth)
Unframed BERT (pattern supported by PPG)	PRBS 9Q/11Q/15Q/23Q/31QSSPRQ and user-defined pattern
Unframed BERT (pattern supported by ED)	PRBS 9Q/11Q/15Q/23Q/31Q
Ethernet frame L2 configurable into 2x400G or 8x100G	Tx/Rx frame counts Frame loss ratio Frame size 64 to 16000 bytes, EMIX supported Line utilization Frame size distribution Traffic shaping Alarms/Errors: link down, no traffic, pattern loss, LOA
L2 MAC address	Configurable
FEC statistics/distribution	FEC margin/distribution plot
Channel polarity	Support Tx/Rx invert
Tx pre-emphasis	7 taps (3 pre-cursors, a main cursor, and 3 post-cursors)
Unframed BERT (error injection)	Inject bit error in PRBS pattern
Rx equalizer	Auto adaptive CTLE, 32-tap FFE, and DFE
Rx equalizer tap value display	Display on dashboard
Clock output	For sampling scope & sync, and clock ratio /4,/8,/16,/32
Clock in	For sync with another unit to support 1.6 T (16x100G)
Low speed control interface I2C	Control transceiver with EXFO 800G MCB
Option – PCSA	
PCS error generation	FEC-UNCOR-CW, 66B Block, FEC-COR-CW, FEC-SYMB, Alignment marker errors
PCS information monitor	Pre-FEC BER/SER by PCS lanes, PCS lane mapping etc.
PCS skew generation and measurement	TBD
PCS alarms and errors	LOAML, Exc. Skew, Inv. Marker, Alarms Adv.
Latency measurement	2x400G, 8x100G, able to be turned on/off
Software latency	Set and align
Frequency offset injection	Unframed mode: ±300 ppm Framed mode: ±300 ppm
Frequency offset monitoring	Supported

GENERAL SPECIFICATIONS	
Size (H × W × D)	139 mm × 443 mm × 229 mm (5 1/2 in × 17 1/2 in × 9 in)
Weight	≤ 10 kg (22 lb)
Temperature	Operating: 5 °C to 40 °C (41 °F to 104 °F) Storage: -20 °C to 70 °C (-4 °F to 158 °F)
Relative humidity	20% to 80%
Power	100 to 127 V, 50/60 Hz 200 to 240 V, 50/60 Hz 400 W max.

ORDERING INFORMATION

BA-4000-XX-XX

Model

L2 = 800G 8-channel traffic analyzer and BER tester

Option

PCSA = Advanced PCS functions

Example: BA-4000-L2-PCSA

Preliminary

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