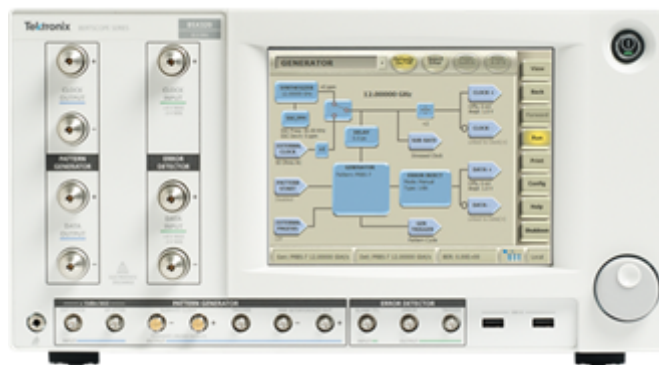


## [BERTScope talks to DUT through protocols](#)

[Martin Rowe](#) - February 10, 2017

High-speed serial links such as PCIe Gen3/4 and USB3.1 require Bit-error ratio (BER) testing to assure the integrity of the data. As data rates push ever higher, it's no longer enough to perform a typical loopback test on a receiver to measure BER. Equalization and error correction have become so sophisticated that BER testers (BERTs) need to know the receiver's state to properly detect bit errors.



That's where the Tektronix BERTScope BSX series of BER testers come in. Available in three models with data rates of 12 Gbps, 24 Gbps, and 30 Gbps, the BSX series can communicate with a PCIe or USB device under test (DUT) because it knows protocols. That lets the BERT know the state of a receiver during a test.

In addition to being "protocol aware," the BSX BERTScope combines features that required two boxes in previous models. You can now use a single unit to generate test patterns as well as capture and analyze them. That means fewer cables to distort signals. Features now built in include:

- Built-in 4-tap equalization
- Built-in programmable reference clock multiplier
- Compliant link training
- Built-in DMSI and CMSI source
- Margin testing above 16 Gbps
- ~30 dB output voltage dynamic range

The BSX series BERTScope was on display at DesignCon 2017. See a demonstration in the video below.

Prices start at \$199,999 (12.5 Gbps), \$259,999 (24 Gbps), and \$294,000 (32 Gbps). The table below shows available options. In addition, compliance bundles are available for PCIe Gen4 and USB 3.1 (\$24,000). SATA is not available at time of release.

Option	Description	MSRP (USD)
STR	Stressed Signal Generation	\$47,200
TXEQ	4-Tap Tx Equalizer	\$29,000
J-MAP	Jitter Decomposition Software	\$18,000
LDA	Live Data Analysis Software	\$3,500
SLD	Stressed Live Data Software	\$11,900
FEC	Forward Error Correction Emulation	\$9,000
UPM	User Defined Detector Pattern Match	\$13,000

Tektronix, [BSX series BERTScope product page](#).