

## OPTICAL RETURN LOSS TEST SET

# BRT-320A

NETWORK TESTING—OPTICAL



### Features Sous-titre

- Built-in thermoelectrically cooled (TEC) laser(s)
- Range of 0 dB to -70 dB
- Quick and easy to operate
- Rugged, field-ready
- Stores up to 300 readings

### Fast Stabilization

EXFO's BRT-320A is a field-ready return loss test set offered in five configurations: 1310 nm, 1550 nm or 1625 nm; dual-wavelength 1310/1550 nm or 1550/1625 nm. All come equipped with rapidly stabilizing TEC lasers and low-drift photodetectors to ensure constant optical return loss (ORL) measurements year after year.

### Built-In User-Friendliness

Use the BRT-320A to read backreflection from 0 dB to -70 dB and easily store up to 300 readings in a non-volatile memory. ORL readings appear directly on the large, backlit LCD. An ORL zero function accounts for incidental backreflections before the point of measurement and complies with Bellcore optical continuous wave reflectometer (OCWR) requirements. In User Calibration mode, you can calibrate the unit to a known reflection. Other features include three-way powering (rechargeable NiCd battery pack, 9 V battery, AC adapter/charger), 0.01 dB resolution,  $\pm 0.1$  dB linearity, internal InGaAs detector, low-battery indicator and a protective holster with shoulder strap.

### Reveal Return Loss Problems

Many digital and analog fiber systems require ORL characterization. ORL along a fiber span is a combination of Rayleigh scattering and Fresnel reflections. Together, these phenomena can reduce fiber system performance and increase bit error rate (BER) by degrading transmitter stability. The BRT-320A measures cumulative link return loss and individual component reflectance to reveal potential ORL problems before they seriously affect your applications.

### Versatile

The BRT-320A is ideal for local and long-distance Telco, CATV, utility, broadband and transmission equipment manufacturing applications. These environments often require complete network ORL characterization and component reflectance verification. The BRT-320A also functions as a stable, continuous-wavelength light source for attenuation measurements. Other applications include fiber component and cable manufacturing.

**SPECIFICATIONS<sup>a</sup>**

Model	BRT-320A-02BLC-58	BRT-320A-03BLC-58	BRT-320A-23BLC-58	BRT-320A-04BLC	BRT-320A-34BLC
Wavelength (nm)	1310 ± 15	1550 ± 15	1310/1550 ± 15	1625 ± 15	1550/1625 ± 15
Spectral width (rms) <sup>b</sup> (nm)	< 5	< 5	< 5	< 5	< 5
Output power stability (dB)					
15 minutes <sup>c</sup>	± 0.01	± 0.01	± 0.02	–	–
1 hour <sup>d</sup>	± 0.05	± 0.05	± 0.06	–	–
Temperature stability <sup>e</sup> (dB)	± 0.2	± 0.2	± 0.3	–	–
Reflection range (dB)	0 to –70	0 to –70	0 to –70	0 to –70	0 to –70
Display resolution <sup>f</sup> (dB)	0.01	0.01	0.01	0.01	0.01
Linearity <sup>g</sup> (dB)	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1
Uncertainty (accuracy) <sup>g</sup> (dB)	± 0.5	± 0.5	± 0.5	± 0.5	± 0.5
Minimum output power (dBm)	–6.5	–6.5	–7.5	–3	–9/–7
Polarization sensitivity <sup>h</sup> (dB)	± 0.15	± 0.15	± 0.15	± 0.15	± 0.15

**GENERAL SPECIFICATIONS<sup>a</sup>**

Size (H x W x D)		21 cm x 11 cm x 5 cm	(8 3/4 in x 4 1/2 in x 2 in)
Weight unit	0.8 kg	(1 3/4 lb)	
shipping	2.5 kg	(5 1/2 lb)	
Temperature			
operating		–10 °C to 40 °C	(14 °F to 104 °F)
storage	–30 °C to 60 °C	(–22 °F to 140 °F)	
Relative humidity		0 % to 95 % non-condensing	
Power	Built-in NiCd batteries (10 hours of operation), 9 V alkaline battery backup, AC adapter/charger		

**ORDERING INFORMATION**

**BRT-320A-XXBLC-XX**

**Source code** ■

- 02BLC = 1310 nm TEC laser
- 03BLC = 1550 nm TEC laser
- 23BLC = 1310/1550 nm TEC laser
- 04BLC = 1625 nm TEC laser
- 34BLC = 1550/1625 nm TEC laser

**Connector code** ■

- EA-EUI-28 = APC/DIN 47256
- EA-EUI-89 = APC/FC narrow key
- EA-EUI-91 = APC/SC
- EA-EUI-95 = APC/E-2000

With EA, a standard test jumper is provided:

- EUI-28 = TJ-B86-86
- EUI-89 = TJ-B58-58
- EUI-91 = TJ-B88-88
- EUI-95 = TJ-B96-96

Example: BRT-320A-02BLC-EA-EUI-89

**STANDARD ACCESSORIES**

User Guide, AC adapter/charger, NiCd batteries, 9 V alkaline battery, carrying case, protective holster, shoulder strap, mandrel tool, complimentary test jumper, and Certificate of Compliance.

**SAFETY**

This product complies with 21 CFR 1040.10 and IEC 60825-1: Ed 1.1 1998:  
CLASS 1 LASER PRODUCT

**NOTES**

- a. Characterized at 23 °C ± 2 °C (70 °F ± to 77 °F).
- b. rms = root mean square.
- c. Typical, after 5-minute warmup (measurement mode activated only after warmup).
- d. Typical, after a 15 minute warmup.
- e. For temperatures ranging from –10 °C to 40 °C (14 °F to 104 °F).
- f. From 0 dB to –30 dB.
- g. For reflection measurements from –15 dB to –50 dB. Connector on measurement port must cause less than –50 dB of reflection to maintain resolution.
- h. Typical.

**Rugged Handheld Solutions**

**OPTICAL**

- OLTs
- Power meters
- Light sources
- Talk sets

**COPPER ACCESS**

- ADSL/ADSL2+, SHDSL, VDSL test sets
- VoIP and IPTV test sets
- Ethernet test sets
- POTS test sets

**Platform-Based Solutions**

**OPTICAL FIBER**

- OTDRs
- OLTs
- ORL meters
- Variable attenuators

**DWDM TEST SYSTEMS**

- OSAs
- PMD analyzers
- Chromatic dispersion analyzer

**TRANSPORT AND DATACOM**

- Next Generation SONET/SDH and OTN testers
- SONET/DSn (DS0 to OC-192) testers
- SDH/PDH (64 kb/s to STM-64) testers
- T1/T3, E1 testers
- 10/100M and Gigabit Ethernet testers
- Fibre Channel testers
- 10 Gigabit Ethernet testers

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.EXFO.com](http://www.EXFO.com).

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