

# OPTICAL RETURN LOSS TEST SET



## 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.

[www.EXFO.com](http://www.EXFO.com)  
Telecom Test and Measurement

**EXFO**  
EXPERTISE REACHING OUT

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**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 ± 2 °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**
  - OTRs
  - OLTs
  - ORL meters
  - Variable attenuators
- DWDM TEST SYSTEMS**
  - OSAs
  - PMD analyzers
  - Chromatic dispersion analyzer
- TRANSPORT AND DATA COM**
  - 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

EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC. Rules Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. All of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit [www.EXFO.com/recycle](http://www.EXFO.com/recycle). However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

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