

# LOSS TEST SET

# 3900

## LTS-3900

R&D AND MANUFACTURING



- Power meter, light source, ORL meter
- Label printing
- Up to 20 programmable wavelengths
- Exceptional data storage
- Standard GPIB and RS-232 interface

# Loss Measurements Made Easy

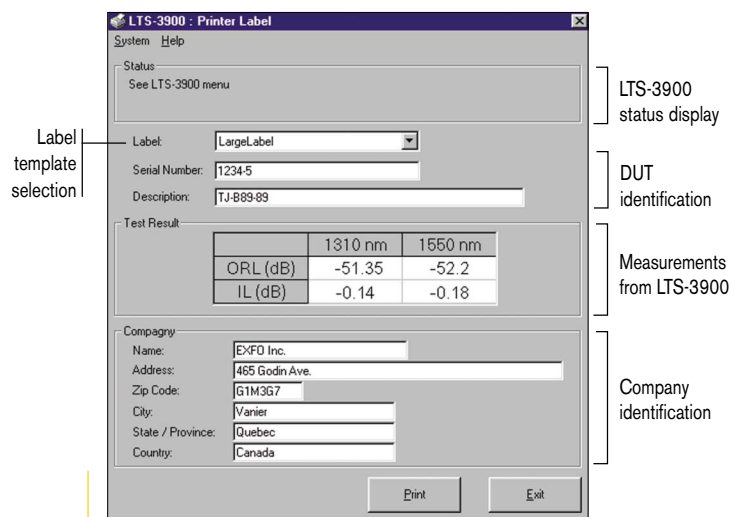
The LTS-3900 Loss Test Set provides a combination of high-resolution optical test tools: a power meter, light source, an ORL meter as well as an optional Visual Fault Locator (VFL). Power and loss measurements may be displayed in dBm or watts. Take advantage of ORL testing as well as manual data storage, programmed data acquisition and label printing of the insertion loss and optical return loss test results.

The LTS-3900 is particularly well-suited to the most demanding laboratory and manufacturing qualification applications, including component testing, fiber assembly testing and a wide variety of power measurements.



## Automation and Printing Capabilities

The model that includes an ORL meter features a step-by-step procedure for automated ORL and insertion loss tests. Once the procedure is initiated, the LTS-3900 guides you through the test steps and lets you store the results at the end. With a label printer connected to your PC, you can take advantage of the LTS-3900 label-printing utility to generate labels of your LTS-3900 test results. In RS-232 control mode, real-time measurements are automatically displayed in the Test Result section.



LTS-3900 Label-Printing Utility Window

## Visual Fault Locator (optional)

Using a VFL is the easiest way to identify bends, faulty connectors or splices, and other causes of signal loss for a distance of up to 5 km. The VFL creates a bright red glow at the exact location of a fault on singlemode or multimode fibers. This bright signal can be continuous (CW) or modulated (1 Hz) and is visible through most yellow-jacketed fibers.

## Easy Testing

The LTS-3900 is truly intuitive and easy to use. Most functions can be performed at the touch of a button. With our clear display, you can read any measurement up to 30 feet away, thus providing you with greater mobility.

## Remote Control Capability

Standard GPIB and RS-232 interface and control codes enable remote operation from any compatible PC or test station. You can program your own software solutions for complex test procedures and benefit from the added convenience of computer capabilities.

## Exceptional Storage

The LTS-3900 enables you to store up to 512 readings manually for future reference or viewing. You can also run a program that will store up to 1024 data points, with each data point containing the value of the measurement, wavelength and offset. The user can store up to 20 different wavelengths in the setup; for a multiple-user environment, 10 different setups can be stored in the LTS-3900.

## Rack Mount

The LTS-3900 can be used as a stand-alone instrument, or it may be mounted in a 19-inch rack (option).

## Applications

- Insertion and return loss measurements
- Component testing
- Fiber-assembly testing
- Power measurements

## Multiple Functions

The LTS-3900 can be operated as

- an optical power meter
- a stable optical source
- an optical return loss (ORL) meter
- a visual fault locator (VFL) (option)

## SPECIFICATIONS<sup>1</sup>

Power meter <sup>5</sup>	LTS-3902	LTS-3902X	LTS-3903
Power meter	Ge (1 mm)	GeX (2 mm)	InGaAs (1 mm)
Wavelength range (nm)	780 to 1625	780 to 1625	840 to 1650
Measurement range <sup>2</sup> (dBm)	+10 to -73	+21 to -62	+4 to -75
Uncertainty <sup>3,4</sup> (%)	± 5 (0 to -53 dBm)	± 5 (+10 to -42 dBm)	± 5 (0 to -55 dBm)
Linearity <sup>2,4,6</sup> (dB)	± 0.05 (0 to -53 dBm)	± 0.05 (+10 to -42 dBm)	± 0.05 (0 to -55 dBm)
Resolution <sup>6</sup> (dB)	0.01 (+10 to -53 dBm) 0.1 (-53 to -63 dBm) 1 (-63 to -73 dBm)	0.01 (+21 to -42 dBm) 0.1 (-42 to -52 dBm) 1 (-52 to -62 dBm)	0.01 (+4 to -55 dBm) 0.1 (-55 to -65 dBm) 1 (-65 to -75 dBm)

### Laser Source Specifications

Laser source <sup>4</sup>	02BL	03BL	23BL	BR23BL
Wavelength (nm)	1310 ± 25	1550 ± 25	1310 ± 25 1550 ± 25	1310 ± 25 1550 ± 25
Spectral width <sup>7</sup> (nm)	≤ 5	≤ 5	≤ 5/5	≤ 5/5
Output power <sup>8</sup> (dBm)	≥ -3.5	≥ -5.5	≥ -3.5/-5.5	≥ -5/-7
Stability (8 h) <sup>10</sup> (dB)	± 0.10	± 0.10	± 0.10	± 0.10

### LED Source Specifications

LED source <sup>4</sup>	12C	12D	23B
Wavelength (nm)	850 ± 30 1300 ± 50	850 ± 30 1300 ± 40	1310 ± 25 1550 ± 25
Spectral width <sup>7</sup> (nm)	≤ 50/145	≤ 50/145	≤ 80
Output power <sup>8</sup> (dBm)	≥ -18/-22	≥ -15/-18	≥ -25/-30
Stability <sup>10</sup> (15 min) (dB)	± 0.01	± 0.01	N/A
Stability <sup>10</sup> (8 h) (dB)	± 0.05	± 0.05	± 0.1

### Optical Return Loss Specifications

Optical return loss <sup>9</sup>	BR23BL
Range (dB)	65
Uncertainty <sup>3,4</sup> (dB)	± 0.4
Resolution <sup>9</sup> (dB)	0.01 (0 to -45 dBm) 0.1 (-45 to -55 dBm) 1 (-55 to -65 dBm)

**VFL'****Visual fault locator**

Emitter type	Laser
Wavelength (nm)	650 ± 10
Output power <sup>a</sup> (CW) (dBm)	-1
Modulation (Hz)	1

**General Specifications**

Dimensions	11 cm x 22 cm x 28 cm	(4 1/2 in x 8 1/2 in x 11 1/4 in)
Temperature		
Operation	0 °C to +40 °C	(32 °F to +104 °F)
Storage	-20 °C to +60 °C	(-4 °F to 140 °F)
Humidity	0 to 80 % non-condensed	

**Notes**

- All specifications are for a temperature of 23 °C (73 °F) with FC/PC connector unless otherwise specified.
- At 1310 nm.
- Uncertainty is a function of the resolution and power level detected.
- After a warmup time of 20 minutes.
- Followed by an offset nulling for the power meter.
- Resolution and linearity are functions of the power level detected.
- As defined per Telcordia TR-TSY-000887, rms for lasers and FWHM for LEDs.
- Typical output power.
- Specification valid at a temperature of 23 °C (73 °F) with FC/APC connector.
- The stability is expressed as ± half the difference between the maximum and minimum values measured during the period.

**ORDERING INFORMATION****LTS-39XX-XXXXXX-XX-XXX-XX****Detector code**

02 = Ge  
 02X = High-power Ge  
 03 = InGaAs

**CW source code**

12C/D = 850/1300 nm LED  
 23B = 1310/1550 nm LED  
 02BL = 1310 nm laser  
 03BL = 1550 nm laser  
 23BL = 1310/1550 nm laser  
 BR23BL = 1310/1550 nm laser  
 with ORL (only available with APC Universal Interface)

**Source connector code**

76 = HMS-10/AG (EI only)  
 90 = ST (EI only)  
 95 = E 2000  
 EI-EUI-28 = UPC/DIN 47256  
 EI-EUI-89 = UPC/FC (Narrow key)  
 EI-EUI-91 = UPC/SC  
 EA-EUI-28 = APC/DIN 47256  
 EA-EUI-89 = APC/FC (Narrow key)  
 EA-EUI-91 = APC/SC

**VFL connector code (optional)**

VFL 50 = FC  
 VFL 54 = SC  
 VFL 74 = ST

Specify model number and the connector adapter you wish to obtain (one free connector adapter included):

FOA-216: SMA 906 low reflection  
 FOA-222: FC low reflection: FC, FC (/PC/SPC/UPC/APC), NEC-D3  
 FOA-228: DIN 47256 (LSA) low reflection: DIN 47256 (/PC/APC)  
 FOA-232: ST low reflection: ST, ST (/PC/SPC/UPC)  
 FOA-240: Diamond HMS-0, HFS-3 (3.5 mm) low reflection

FOA-276: FSMA HMS-10/AG, HFS-10/AG low reflection  
 FOA-284: Diamond HMS-10, HFS-13 low reflection  
 FOA-296: E-2000 low reflection: E-2000 (/PC/APC)  
 FOA-298: LC low reflection  
 FOA-299: MU low reflection

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