

# 520 Series

## 523B-13/15 Single-Mode Optical Test Set

### Features

- 1310nm/1550nm dual laser source
- Optical power meter with 1mm indium-gallium-arsenide (InGaAs) photodetector
- Large, backlit 2.5 x 2 inch LCD display
- Rugged, splashproof, balanced case
- Protective rubber boot shields the optical ports from damage
- Powered by a rechargeable nickel-metal hydride (NiMH) battery pack, four alkaline batteries, or AC adapter
- Built-in NiMH battery charger with external power supply
- Data storage for 1,000 measurements
- RS232 interface for instrument configuration and data transfer to a PC-compatible workstation or serial printer
- **fiberWORKS®** Connect application enables remote testing using the 523B-13/15 and data uploads or downloads
- Pass/Fail testing with audible signal
- Manual or timer-driven data logging for periods from one second to one hour



### Key Specifications

<b>Output wavelengths</b>	1310nm/1550nm
<b>Measurement range</b>	+3 to -75dBm
<b>Absolute accuracy</b>	±0.25dB
<b>Wavelength range</b>	840nm to 1700nm
<b>Cal. wavelengths</b>	850nm, 980nm, 1310nm, 1480nm, 1550nm, 1625nm
<b>Linearity: -3dBm to -65dBm<sup>1</sup></b>	±0.05dB

<sup>1</sup> At 1310nm.

### Applications

#### Insertion Loss and Link Loss Testing

The 523B-13/15 single-mode optical test set incorporates a 1300nm/1550nm dual laser source and a 1mm indium-gallium-arsenide optical power meter in a compact, portable package.

With a typical output power of -7dBm from the laser source and a dynamic range of +3dBm to -75dBm, the 523B-13/15 is ideal for general single-mode and multimode fiber optic testing.

A large, backlit LCD display enables users to easily view measured optical power levels and the calibration wavelength in use. A color-coded, user-friendly keypad and simple, intuitive controls make optical power measurements, data storage and retrieval, and report printing easy and efficient.

Up to 1,000 separate data records—each containing a power reading, reference value, calibration wavelength, date, and time information—can be stored and retrieved from the instrument's non-volatile memory. Stored measurement data can be printed via an RS232 port on the side of the instrument or downloaded to a PC-compatible workstation using **fiberWORKS®** Connect software by RIFOCS Corp. The 523B-13/15 can also be operated remotely, permitting the automation of tedious or complex measurement tasks.

A rechargeable nickel-metal hydride (NiMH) battery pack or four AA-size alkaline batteries provide up to 14 hours of continuous operation (7 hours with the laser source in continuous wave mode). The 523B-13/15 can also be operated for extended periods on the benchtop when used with an AC power supply.

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## 523B-13/15 Single-Mode Optical Test Set

### Ordering Information

One FC-type Snap-On Connector (SOC) adapter and one FC-type Universal Connector Interface (UCI) adapter are included with the 523B-13/15 single-mode optical test set. Additional adapters may also be ordered separately. See tables below.

Part No.	Description
523B	523B single-mode optical test set

### SOC Adapter Table

Part No.	Description
1001	Blank
1010	DIN 47256
1020	NTT/FC-PC
1030	AT&T/ST-PC
1038	MIL-T-29504 optical termini
1040	HMS-10 (2.5mm)
1047	Mini-BNC
1050	Diamond HMS-0 (3.5mm)
1057	Stratos 430/Holtek 38000
1062	NTT/SC-PC
1081	Radiall VFO
1086	Diamond HMS-10A (SMA-2.5)
1087	SMA-905/906
10E0	Radiall EC
10E2	Diamond E-2000
10TB	Simplex TOSLINK/Spectran J-pin
10TD	TR/TX set, duplex TOSLINK/Spectran J-pin
10TR	Duplex TOSLINK TX
10TX	Duplex TOSLINK TR
10ZP	H-P Versalink/Spectran V/Z-pin

### UCI Adapter Table

Adapter Code	Connector Type
AD-234	DIN 47256
AE2-10	Diamond E-2000
APC-10	NTT/FC-PC
AMS-00	Diamond HMS-0 (3.5mm)
AMT-10	Diamond HMS-10A (SMA-2.5)
ASM-90	SMA-905/906
AHP-10	HMS-10/HP (2.5mm)
AML-38	MIL-T-29504/4 and /5
ASC-10	NTT/SC-PC
ATS-16	AT&T/ST-PC

### Specifications<sup>1</sup>

*Subject to change without notice*

Output wavelengths	1310nm/1550nm
Output power: Minimal Typical (factory adjusted)	-8dBm -7dBm $\pm 0.75$ dB
Detector type	1mm InGaAs
Measurement range	+3dBm to -75dBm
Wavelength range	840nm to 1700nm
N.I.S.T. traceable calibration wavelengths: Standard	850nm, 980nm, 1310nm, 1480nm, 1550nm, 1625nm
Absolute accuracy at calibration conditions	$\pm 0.25$ dB
Linearity at 1310nm: $\pm 0.5$ dB $\pm 0.05$ dB $\pm 0.5$ dB	+3dBm to -3dBm -3dBm to -65dBm < -65dBm
Polarization dependency	< 0.1dB
Repeatability	< 0.05dB
Measurement modes	dB, dBm, Watt (mW, $\mu$ W, nW, pW)
Connector interface	Snap-On Connector (SOC) interface
Resolution (selectable)	0.001dB/0.01dB/0.1dB/0.01pW
Power requirements	Rechargeable nickel-metal hydride (NiMH) or four alkaline batteries provide up to 14 hours of continuous operation (7 hours with the laser source in CW mode). AC input for prolonged operation on the benchtop.
Data storage: Data recorded Storage capacity	dB/dBm/Watt measurement, reference value, wavelength, time, date 1,000 data record sets
Remote control interface	RS232 serial port. 9600 baud, 8 data bits, no parity, 2 stop bits
Environmental: Operating temp. Storage temp. Humidity	-18°C to +50°C -40°C to +70°C 0 to 95% RH, non-condensing
Dimensions with rubber boot	19.30 x 10.92 x 5.84 cm (7.60 x 4.30 x 2.30 in.)
Weight	1.08 kg (2.39 lbs.)

<sup>1</sup> Within specified operating environment of +20°C to +25°C.



**RIFOCS Corporation**  
Fiber Optic Instruments & Components



ISO 9001

DS-P523B-13/15 Rev. A

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