



# Cercis, Inc.

## Model 520 & 520 R Laser Light Source Single & Dual Wavelength

### Putting Light to the Test

Cercis 520 & 520 R Series Laser Light Sources are full-feature handheld instruments with several wavelength options to suit a variety of applications. The 520S or 520D contain single or dual LASER/VCSEL sources, respectively. The 520SR or 520DR includes an RS232\* port to enable PC control. Use in the field, component production, quality control area, or lab.

The 520 & 520R combines a state-of-the-art microprocessor with indicator LEDs. Operation is simple with only 3 keypads: ON/OFF, SOURCE & MOD (modulation). Standard power is Class 1 FDA -10 dBm (100µW); optional -5 dBm (300µW). The user may adjust output by ±1 dB. Cercis Laser Light Sources incorporate industry-standard connector (FC, SC, ST—specify) interchangeable optical adapter or FC interface. All models include protective holster & tethered dustcap, plus 9V battery.



### Features

- *Optical Port: Interchangeable —FC, ST, SC—or FC*
- *Single or Dual Sources—One or Two Ports*
- *Modulation Frequencies: 270, 1000, & 2000 Hz*
- *Stabilized Calibrated Output 0.05 dB over 5 hrs.*
- *Output -10 dBm<sup>+</sup> (source dependent) adjustable +/- 1 dB*
- *>30 hours 9 V Battery Life, AC (center neg.) Port Included*
- *Ergonomic, Tactile Rubber Keys*
- *Protective Holster with Pedestal, Tethered Dust Cap*

Key	Option	Description
ON/OFF	Auto Shutoff (default)	Auto off if no key pressed for ~15 min..
	<b>Single Source</b> -10 dBm <sup>+</sup> (default)	Calibrated output power
Source	<b>Dual Source</b> -10 dBm	1 - 1st wavelength source (i.e. 1310 nm) 2 - 2nd wavelength source (i.e.1550 nm)
	<b>Mod</b>	<b>Press &amp; Hold: (Single &amp; Dual Source)</b> 1X - 270 Hz, 2X - 1000 Hz, 3X - 2000 Hz (Slow blink) (Faster blink) (Very fast blink)

Model	Units	520 Dual 13/15		520 Dual 85/13		520 Single				
Wavelength	nm	1310 Laser	1550 Laser	850 VCSEL	1310 Laser	650 Laser	904 Laser	1310 Laser	1550 Laser	1625 Laser
Wavelength Range	nm	+/- 20	+/- 20	+/-20	+/-20	+/- 20	+/- 20	+/- 20	+/- 20	+/- 20
Spectral Width (FWHM)	nm	2	2	2	2	3	3	2	2	2
Stability: 1 hr. max. deviation	dB	<0.05	<0.05	<0.05	<0.05	<0.15	<0.05	<0.05	<0.03	<0.05
Power Output <sup>+</sup> (Set Point Min.) 9/125 (SMF28) Fiber 50/125 GI MMF 0.21 NA 62.5/125 GI MMF 0.23 NA 100/140 GI MMF 0.29 NA 200/230 GI MMF 0.22 NA***	dBm	-10 -10 -10 -10 -10	-10 -10 -10 -10 -10	N/A -5** -5 -5	N/A -3** -3 -3	0 0 0 0 0	-10 -10 -10 -10 -10	-10 -10 -10 -10 -10	-10 -10 -10 -10 -10	-10 -10 -10 -10 -10
Modulation Frequencies	Hz	270, 1000, 2000								
Functions		MOD (CW DC or modulated output mode), SOURCE (selectable frequency)								
Auto Shutoff / Shutoff Disable		Unit powers down 15 min. after last key has been depressed User-selectable disable function								
Power	V	Requires 1 9 Volt alkaline battery (>30 hrs. battery life) or optional AC adaptors (neg.)								

\*USB Interface optional (520 U)

\*\*Use of same size or larger fibers (*italic*) will yield the same output power since the unit contains a fiber-pigtailed source.

\*\*\*Typical

Specifications subject to change without notice.

MADE IN USA

\*Opt. -5 dBm



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## Part Number Ordering Information (VCSELs)

520S-8521NA	850 nm VCSEL; -5 dBm 50/125 MMF
520D-8331NF	850 nm VCSEL / 1310 nm FP LD (62.5 MMF)
520D-8321NF	850 nm VCSEL / 1310 nm FP LD (50 MMF)

## Information

### Calibration

Cercis Optical Laser Light Sources are calibrated using procedures and equipment traceable to the US National Institute of Standards & Technology (NIST); NPL traceable calibrations are also available.

### LED Indicators

Green and red LEDs indicate Power On, Laser Enabled, Modulation Speed, and Low Battery.

### Lasers

All lasers employ an extremely stable fiber coupling scheme, which yields reliable, long-life devices.

### Dust Cap

When the OLLS is not in use, the permanently tethered dust cap simply snaps in place. The cap protects the interface against dirt and scratches. The dust cap fits over all adapter versions.

### Digital Signal Processing

Proprietary micro control circuitry features digital calibration, and microprocessor control of all OLLS functions.

### CW & Modulated Output Modes

The Model 520 Optical Laser Light Sources (OLLS) feature both CW and modulated output modes. In CW mode, the Model 520 Series features stabilized and calibrated output power of -10 dBm; this is adjustable within a +/- 1 dB range (-9 to -11 dBm) with easy key function. In modulated mode, the tone frequency for use with fiber identifiers may be set to 270 Hz, 1 KHz or 2 KHz (LED flashes slow, medium, & fast, respectively) by depressing the MOD key.

### Holster for Additional Protection and Convenience

Included with every instrument is a removable protective housing. This molded silicon shell protects against shock in the field, and has a pivoting bale to hold the instrument upright when required. Also, there are holes for a wrist or neck strap.

### RS232 Data Port

The optional RS232 data port allows the user to control the functions of the 520 light source from a PC. Windows<sup>R</sup> DLL drivers can be downloaded from Cercis website.

Part No.	Description	Character No.	Description
520DR3511NA 1-4 5 6 7 8 9 10 11		1-3, 4, 5	520 LASER Src; Single (S), Dual (D), Tri (3), Quad (Q); RS232
		6-7, 8, 10	Src(s) λ's; fiber (1=SMF28, 2=50, 3=62.5); N (1.3mm neg ctr AC)
		9, 11	Optical: No.Pt (1 single, 2 dual, etc); A interchgbt adptr (1/port)

## Part Number Ordering Information

520S-1311NA	1310 nm Fabry-Perot Laser Diode
520S-1511NA	1550 nm Fabry-Perot Laser Diode
520S-1611NA	1625 nm Fabry-Perot Laser Diode
520D-3A12NA	Dual OLLS 1310/635 nm FP LD
520S-9411NF	904 nm Fabry-Perot Laser Diode, fixed FC
520D-3511NA	Dual OLLS 1310/1550 nm FP LD
520DR3511NA	Dual OLLS 1310/1550 nm w/ RS232
520DR3511NF	Dual OLLS 1310/1550 nm RS232, fixed FC

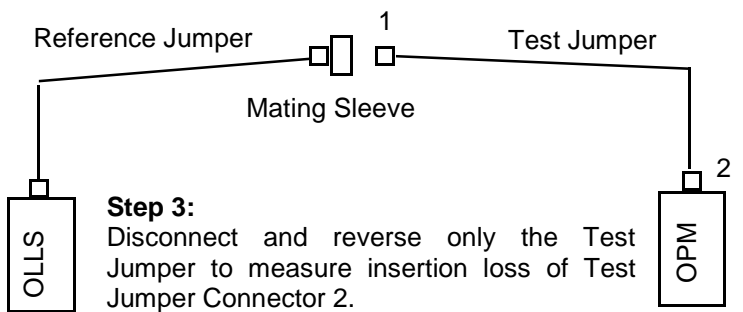
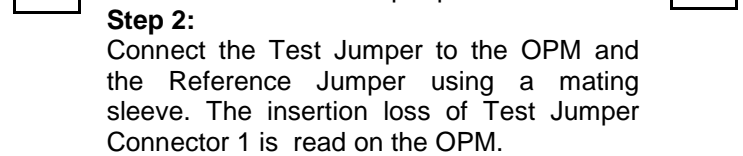
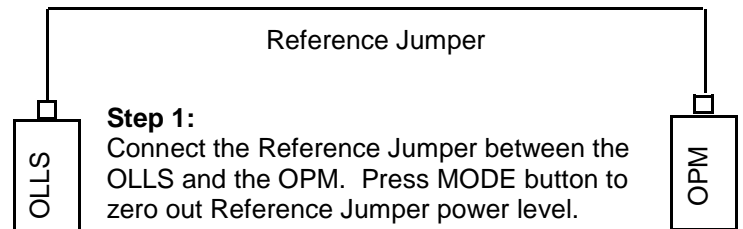
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## Interchangeable Adapters

LS102	FC Adapter
LS103	ST Adapter
LS104	SC Adapter



## Insertion Loss Test Model 520 OLLS & Model 510 OPM



## Part Number Accessories Ordering Information

A604N	Adapter 120V, 9V, 500mA, 1.3mm cntr neg
A605N	Adapter 90-264V AC, 47-63Hz, 1.3mm neg.
A605A,E,K,S	A605 International plugs US, Europe, UK & Australia
A604N-E	Adapter 230V Euro, 9V, 500mA, 1.3mm cntr neg
A232	RS232 DB9 Cable
ADLL	Windows <sup>R</sup> Software Drivers (download)

## Operational & Mechanical Data

<b>Temperature Range</b> Operating	C	-15 C to +50 C
	(F)	(20 to 50 F)
Storage	C	-35C to +70 C
	(F)	(20 to 50 F)
<b>Dimensions</b> Instrument (with battery)	mm	Width X Length X Height 70 X 125 X 25 mm
	(in.)	(2.75 X 5 X 1 in.)
Shipping		75 X 130 X 40 mm
		(3 X 5 X 1.5 in.)
<b>Weight</b> Instrument (with battery)	g	300 g (10.6 oz.)
	(oz.)	350 g (12.4 oz.)