



# Cercis



# Beacon

## Putting Light to the Test

▶ Volume 5, Issue 8

**Cercis, Inc.**

**October 17, 2005**

## Model 610 Data Logging Optical Power Meter—On Sale Now!

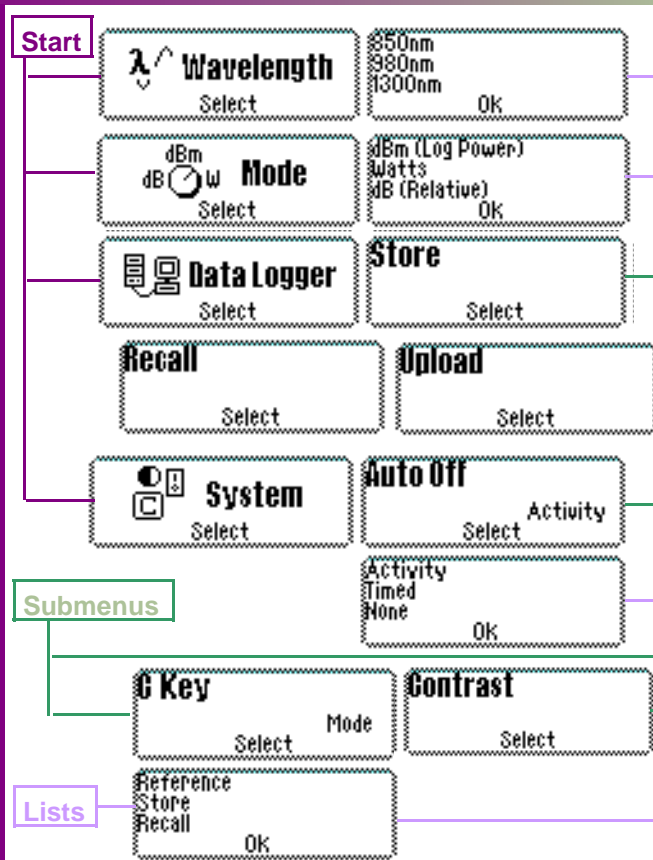
Throughout the month of January, Cercis Model 610i data logging optical power meter is offered at the discounted price of \$750. Other versions—610S (Silicon 350-1100 nm); 610g (Germanium 750-1800 nm) & 610iH (High Power InGaAs) - are also on sale. All Cercis power meters include autoranging readout in nW,  $\mu$ W, & mW + dB & dBm with reference store—plus a graphic display, interchangeable adapter port, and 9V battery + AC port. Included with each 610 power meter is: one interchangeable adapter (user can specify any one), a RS232 shielded DB9-to-3.5 mm male plug 1 meter cable, and instruction manual.

The 610 OPM is versatile for use in quality control, manufacturing or engineering environments. Data transfer to printer or PC is possible via an RS232 port. Additionally, the instrument may be controlled via standard PC software—such as LabView<sup>®</sup>, Visual C<sup>®</sup> or Visual Basic<sup>®</sup>—to perform repetitive measurements.



Model 610 Power Meter

### 610 Menus, Submenus & Lists



Cercis 610 Series Data Logging Optical Power Meters are full-featured hand-held instruments which can store and recall up to 1000 separate data records—containing unique user-assigned label, power reading, reference value, calibration wavelength, operating mode, data and time — in the instrument's non-volatile memory.

#### Features

- 3 Modes: nW, mW, mW, dBm & dB with Relative Store
- Input Range: +5 to -70 dBm (varies by detector type)
- Digital Calibration (up to 8 calibration points per meter)
- Easily Readable Graphic Display, adjustable contrast

The 610 combines a state-of-the-art microprocessor with a graphic display. Operation is simple with 5 menu keys: ON/OFF, START, C, U and D. A menu, submenu and list allows the user to label, store and recall measurements as needed. Cercis OPMS utilize a quick-connect fiber optical connector interface. All models are supplied with one adapter (default is 2.5 mm universal); others available separately.

#### Inside this issue:

|                                       |   |
|---------------------------------------|---|
| 610 OPM - January Sale                | 1 |
| OEMLight Sources and Accessories      | 2 |
| Comparison of Hand-Held Light Sources | 3 |
| Available Accessories                 | 3 |
| 90–264 VAC Adaptor Interchangeable    | 4 |

## Cercis OEM Products—May We Build Something for You?

**Cercis 520L Universal Reference Laser with Collimator**  
 Cercis Model 520L is a handheld 904 nm laser source used to simulate a pulsed laser for testing of target acquisition devices. It includes eight user-selectable modes—1, 2, 3 kHz and External up to 10 kHz, plus MILES (Multiple Integrated Laser Engagement Systems) Codes 0, 27, 29 & 30. Six energy levels are selectable—17.5, 22, 28, 34, 38 & 43  $\mu$ Ergs, and the user may adjust energy output from 1  $\mu$ Erg to 100  $\mu$ Ergs (~0.1 nW to 10 nW). Selectable word sequences (1, 2, 4, 8 or 16 words), or auto trigger (to send MILES codes in ~1 second intervals) are user-options.



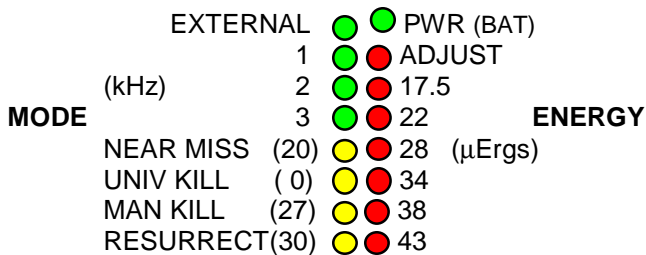
Cercis Model 520L Universal Reference Laser with Collimator

A collimator, designed to fit over a domed detector, includes lenses which diffuse the modal scattering of laser output and focus the beam onto the device under test. A detachable FC:FC multimode fiber jumper is included.

**Features**

- ◆ FC/PC compatible optical port
- ◆ 904 nm laser diode source, fiber coupled
- ◆ LEDs illuminate at active mode and energy
- ◆ Compact, 3X5X1" plastic, handheld enclosure
- ◆ Internal 9V battery + AC port, 1.3mm center negative
- ◆ Real keys—all features are key-accessible

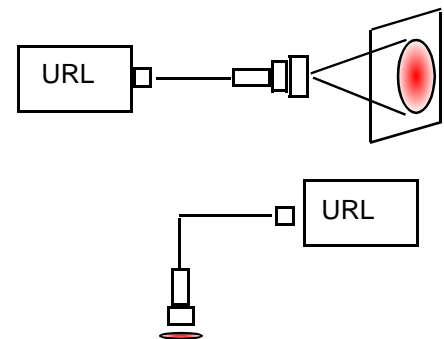
**Front Panel—Cercis 520L Reference Laser**



|  |                 |  |
|--|-----------------|--|
| Wavelength                                   | nm              | 904 CW Laser                           |
|  | nm              |  |
|  | dB              |  |
|  | $\mu$ m         |  |
| Mode Select – Adjustable Range (approximate) | nW              | 0.1 – 10<br>1 - 100                    |
| Battery Life (approximate)                   | hrs             | 7–10<br>PWR LED flashes if battery low |
| External Input                               | MHz             | 0 – 10                                 |
| Optical Spot Size                            | cm <sup>2</sup> | 2.3                                    |
| Description                                  |                 | Over Filtered Photodetector            |
| Input Fiber – Core / Cladding                | $\mu$ m         | 62.5 / 125                             |

**Identification**

- POWER LED on when URL on; blinks if battery low
- EXTERNAL Up to 10 MHz External Input
- 1, 2, 3 kHz 1, 2 (default), 3 kHz
- MILES Words Ext = 1, 1 = 2, 2 = 4, 3 = 8, All = 16 MILES Words
- MILES CODES Near Miss (29), Univ. Kill (0), Man Kill (27), Resurrect (30)
- ENERGY 17.5  $\mu$ Ergs (default), 22, 28, 34, 38, 43
- ADJUST Use  $\blacktriangle$   $\blacktriangledown$  keys to increase or decrease calibrated power density (~ range 0.1 nW to 20 nW; 1 to 200  $\mu$ Ergs)



**Cercis 5200 Multi-Laser Light Source**

Cercis Model 5200 is a custom CW 10-mW 1300 nm 12-laser source used for Automatic Power Control (APC) Testing for InGaAs photodiodes. The unit has an interlock, plus each laser has on/off switch and FC/PC connection. This unit is used for burn-in testing (200C, 24 hrs at 10mW power input) by a leading manufacturer of high speed photodiodes. The 1300 nm lasers are coaxial-pigtailed; all lasers are thermoelectrically cooled. Cercis can customize the unit by changing laser wavelength(s) or optical power output, to suit customer requirements.

## Comparison of Dual Laser Light Sources

| Manufacturer                | Cercis                                | Noyes/Alcoa                        | Nettest                           | Tempo/Rifocs                        | Agilent                           |
|-----------------------------|---------------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| Model                       | 610i-40-1NA                           | OPM5-3C                            | GN-6025                           | 522B                                | N3970A                            |
| Detector Type/Size          | InGaAs 2 mm                           | InGaAs 1 mm                        | InGaAs 1 mm                       | InGaAs 1 mm                         | Germanium 2 mm                    |
| Range (dBm)                 | +5 to -70                             | +5 to -70                          | +5 to -70                         | +3 to -75                           | +5 to -70                         |
| Calibrated Wavelengths (nm) | 850, 1310, 1550, 1625 *               | 850, 1300, 1310, 1550              | 850, 1300, 1310, 1550             | 850, 980, 1310, 1480, 1550, 1625    | 850, 1300, 1310, 1550             |
| Modes (autoranging)         | dB, dBm, n/μ/mW                       | dBr, dBm, n/μ/mW                   | dBr, dBm                          | dB, dBm, p/n/μ/mW                   | dBr, dBm                          |
| Optical Port                | Interchangeable Click-on/off; 1 incl. | Interchangeable Screw-on; separate | Interchangeable Screw-on; 1 incl. | Interchangeable Snap-on/off; 1 incl | Interchangeable Screw-on; 1 incl. |
| Display                     | Graphic LCD contrast adj              | 4 digit LCD                        | 4 digit LCD                       | LCD backlit 2.5X2"                  | LCD backlite                      |
| Resolution/Accuracy (dB)    | ±0.01**<br>±0.25                      | ±0.01<br>±0.25                     | ±0.01<br>±0.25                    | Selectable<br>±0.25                 | ±0.01<br>±0.3                     |
| Battery Type/Hrs            | 9 V*** / 50 hrs.                      | 9V / 30 hrs.                       | 2 AA*** / ~ 0 hrs.                | 4 AA*** / 14 hrs.                   | 2 C*** / 250 hrs.                 |
| Record Storage              | 1000                                  | 500                                | 900                               | 1000                                |                                   |
| Size (inches)               | 5.5 X 3.1 X 1.6****                   | 5.5 X 3.2 X 1.5                    | 6.3 X 3.3 X 1.3                   | 7.6 X 4.3 X 2.3                     | 7.9 X 5.4 X 2.9                   |
| Price                       | \$950                                 | ?                                  | \$1050                            | \$1450                              | \$1440                            |

**CONVERSION CHART AVAILABLE** Pick up a handy Watts to dBm conversion chart—a convenient reference for anyone needing to calculate optical power in Watts from the dBm readout of power meters without Watt option. Or contact Cercis by phone, fax or EMAIL to request a conversion chart.

### International 90-264V AC Interchangeable Adaptor Available

Cercis provides an interchangeable AC adaptor which is able to accept AC currents 90–264 V. The adaptor is supplied with interchangeable plugs, compatible with US, Europe, UK and Australian configurations.

The A605 is a standard AC power supply with a negative center plug compatible with Cercis test instruments.

Interchangeable plugs compatible with US (A605A), UK (A605K), Europe (A605E) and Australia (A605S) electrical configurations snap on or off. Once the proper plug is attached, just plug it into the outlet and you're ready to use your Cercis power meter, light source of visual fault finder with any 90-264V AC worldwide.



Cercis A605 Interchangeable Adaptor – 90-264V AC, 47-63 Hz, 9V DC

### Uses for a Visual Fault Finder



- Detect fiber breaks or microbends >5 km
- End-to-End fiber ID
- ID Fibers within multi-fiber cables
- Inspect Optical Elements for Cracks, Chips

\*Custom calibrated wavelengths also available, up to 8 / instrument.  
 \*\*Resolution over entire dynamic range.  
 \*\*\*AC adapter available  
 \*\*\*\*Holster & adapter included.  
 Information accurate to the best of our knowledge; specs obtained from publicly-available documents. Corrections will be made upon receipt of published data sheet from manufacturer.  
 dBm = relative logarithmic dB

### Fiber-Coupling of LASERs, VCSELs, LEDs

Cercis fiber-couples its own lasers, VCSELs, and LEDs, beginning with commercially-available devices in TO cans. Most standard devices use either TO18 / TO 46 or 5.6 mm CD headers. Fiber coupling is done external to the hermetically sealed device using various singlet lenses. Fiber coupling gives Cercis the flexibility to provide its light sources with higher or lower optical output powers. For instance, 1310 or 1550 nm FP lasers can be provided with output powers of 100 mW (-10 dBm), 200 mW (-5 dBm), 500 mW (-3 dBm), 1 mW (0 dBm), or 2 mW (3 dBm). It also enables Cercis to use nonstandard or customer-provided fibers and/or sources to meet various application requirements.

All Cercis light sources used fiber coupled devices which, unlike active receptacle elements, mode strip the fiber—eliminating the need for an external mandrel-wrap. On a special-order, limited quantity basis, Cercis will provide fiber coupled devices—either standard or custom wavelengths or packages. Cercis standard (stocked) lasers include: 635, 850 VCSEL, 1310, 1550 & 1625 nm.



| Features         | Safety Approvals         |
|------------------|--------------------------|
| Double Insulated | UL 1950, Class 2         |
| Power-On LED     | CSA 22.2 M950            |
| Class B EMI      | TUV EN60950 (In Process) |



## Cercis, Inc.

25 Rt. 31 S, Ste C 2030  
 Pennington, NJ 08534  
 TEL: 609-737-5120  
 FAX: 609-564-0546  
 EMAIL: info@cercis.com

**Putting Light  
 to the Test**

*We're on the Web!*  
[www.cercis.com](http://www.cercis.com)

### Add to Mailing List/Corrections

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ FAX: \_\_\_\_\_

EMAIL: \_\_\_\_\_

Primary Function: Engineering \_\_\_\_\_ Research \_\_\_\_\_

Technician \_\_\_\_\_ Scientist \_\_\_\_\_ Purchasing \_\_\_\_\_

Sales/Mktg \_\_\_\_\_ Management \_\_\_\_\_ Other \_\_\_\_\_

Do you plan to purchase any of the following during the next  
 1 mo \_\_\_\_\_ 3 mos \_\_\_\_\_ 6 mos \_\_\_\_\_ 1 yr \_\_\_\_\_

Light Source \_\_\_\_\_ OPM \_\_\_\_\_ VFF \_\_\_\_\_

Have a Cercis representative contact me.  Add to mail list.

Tell us about a product which would be useful to you and why.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Before returning, please make sure you have:**

- ▶ Provided full & legible company name & address or attached a business card) & completed the form

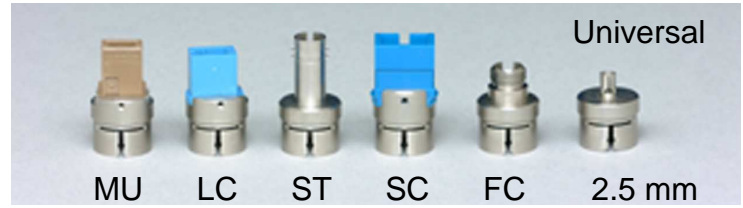
**Custom/OEM requirements welcome.** If you have a custom requirement for a fiber optic, medical, sensor, industrial or military application, please contact us. We have done custom meters for tactical and military multifiber connectors, a fiber-coupled instrument to replace a range finding laser, & 10 mW multi-laser station for 40 Gb/s detector screening.

## Accessories—Bare Fiber Adapters, Mating Sleeves, Jumpers

| Part No.      | Description                             |
|---------------|---|
| B128FC,B125FC | FC Bare Fiber Adapter (SM/MM)           |
| B125ST        | ST Bare Fiber Adapter (SM/MM)           |
| B125SC        | SC Bare Fiber Adapter (SM/MM)           |
| BA-FC         | FC:FC Mating Sleeve (SM/MM) 2-D, Zir SS |
| BA-ST         | ST:ST Mating Sleeve (SM/MM) Zir SS      |
| BA-SC         | SC:SC Mating Sleeve (SM/MM) Zir SS      |
| BA-FC/ST      | FC:ST Mating Sleeve (SM/MM) Zir SS      |
| FC-1H1-FC     | FC:FC Jumper, 1 m 9/125/900 μm SMF      |

## Interchangeable Optical Adapters

Although interchangeable adapters for light sources and power meters are similar, they cannot be switched. The light source adapters have a large drilled hole to accommodate a split sleeve—simulating a connector mating sleeve. For 1.25 mm or other ferrules, a hybrid jumper or adapters can be used. The power meter adapters have a small drilled hole which stops the connector ferrule at a set distance from the detector—preventing damage to the window.



| Connector | Light Source | Power Meter | Comments                                    |
|-----------|--------------|-------------|---|
| 2.5 mm    | LS101        | PM101       | Compatible FC, ST, SC & any 2.5 mm ferrule  |
| FC        | LS102        | PM102       | PM: PC, APC, UPC<br>LS: PC, UPC (APC order) |
| ST        | LS103        | PM103       | PM: PC, APC, UPC<br>LS: PC, UPC (APC order) |
| SC        | LS104        | PM104       | PM: PC, APC, UPC<br>LS: PC, UPC (APC order) |
| LC        | LS105*       | PM105       | PM: PC, APC, UPC<br>LS: PC, UPC (APC order) |
| SMA       | -            | PM106       | PM: SMA connector                           |

\*Light sources using 1.25 mm connectors must be used only for those connectors; not interchangeable with 2.5 mm

**CONVERSION CHART AVAILABLE** Pick up a handy Watts to dBm conversion chart—a convenient reference for anyone needing to calculate optical power in Watts from the dBm readout of power meters without Watt option. Or contact Cercis by phone, fax or EMAIL to request a conversion chart.

## Yes, We Accept Credit Cards—VISA, MC, Amex



Cercis accepts credit card orders. We are able to process all major credit card types, including VISA, Mastercard, American Express, and others.

To assist its customers with measurement of optical components, Cercis provides accessories for use with fibers and connectors. Items such as bare fiber adapters, standard and hybrid mating sleeves, jumpers and custom assemblies are supplied from stock or by request. To

To prevent scratches, it is advisable that bare fiber adapters be mated to jumpers rather than to instruments directly. Bare fiber adapters allow the user to strip the fiber, insert it into the adapter, then cleave it—providing a quick fiber termination. However, the cleaved fiber could damage a mated component.



Cercis Bare Fiber Adapter