



OZ Optics

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VISOR™ BASED DUAL LASER DIODE SOURCE

Features:

- Dual wavelength laser diode sources, with interchangeable modules: four wavelengths and three connector types available
- Real-time, high-resolution temperature display
- Real-time laser diode current display
- Square wave modulation for one output
- Easy interface to PC
- Compact and portable
- Low cost

Applications:

- Testing and maintaining local area networks (LAN)
- Installing fiber distributed data interfaces (FDDI)
- Identifying fibers and tracing optical paths by using modulated signals
- Measuring insertion loss, back reflection, and attenuation

Product Description:

The Visor Based Dual Laser Diode Source is a dual wavelength laser source, based on the Handspring™ Visor™ platform. The modular design enables the user to have the flexibility to use any two of four wavelengths at one time, with three selectable receptacles.

The on-board EEPROM contains all the identification information of the individual unit for remote tracing, software upgrading, and recalling calibration data. The square wave modulation gives the unit the ability to be used for many applications. The use of the hand-held Handspring Visor platform allows the Visor Based Dual Laser Diode Source to take advantage of its storage, processing, and transformation functions. This allows development of operation control and management systems in production environments.

The Visor Based Dual Laser Diode Source can be ordered as a complete unit or as separate components. Available separately, the source insert module can be used with a customer-supplied Handspring Visor. Two daughter modules, each of which contain a source, can be installed in the source insert module. Standard modules for 1310 and 1550nm wavelengths couple about 1mW into singlemode fiber, while modules for other wavelengths couple about 0.5mW. The graphical display shows real-time temperature and current for each laser source daughter module that is inserted and active. An attractive, removable boot adds protection to the instrument without impeding the normal functionality of the Visor.

CORRECT BATTERY SELECTION FOR VISOR BASED TEST EQUIPMENT



Certain models of the Handspring Visor, such as the Visor Prism or Pro, contain built-in rechargeable batteries. These batteries are automatically recharged whenever the Visor is placed on its communication/ recharging cradle. As an option, rechargeable versions of OZ Optics modules with built-in sources can be provided, with the NiMH rechargeable batteries permanently installed. The module is charged simultaneously with the Visor. However modules with this option cannot be used with versions of the Visor that do not have the recharging feature, such as the Visor Neo.



Visor Based Dual Laser Diode Source With Boot



Visor Based Dual Laser Diode Source Insert Module



Laser Diode Daughter Modules

Ordering Information For Standard Parts:

Bar Code	Part Number	Description
13585	PLDS-100	Visor Based Dual Laser Diode Source. Visor, insert module and protective boot included. Daughter modules must be ordered separately.
13586	PLDS-01	Visor Based Dual Laser Diode Source insert module. Daughter modules must be ordered separately.
13587	PLDS-D-635/3-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and FC/PC receptacle.
13588	PLDS-D-635/2.5U-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and universal receptacle for 2.5 mm diameter ferrule.
13589	PLDS-D-635/1.25U-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and universal receptacle for 1.25 mm diameter ferrule.
13590	PLDS-D-635/8-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and ST receptacle.
13591	PLDS-D-850/3-0.5	Visor Based Dual Laser Diode Source daughter module with 850 nm wavelength, 0.5 mW output power, and FC/PC receptacle.
13592	PLDS-D-850/8-0.5	Visor Based Dual Laser Diode Source daughter module with 850 nm wavelength, 0.5 mW output power, and ST receptacle.
13593	PLDS-D-1310/3-1	Visor Based Dual Laser Diode Source daughter module with 1310 nm wavelength, 1 mW output power, and FC/PC receptacle.
13594	PLDS-D-1310/8-1	Visor Based Dual Laser Diode Source daughter module with 1310 nm wavelength, 1 mW output power, and ST receptacle.
13595	PLDS-D-1550/3-1	Visor Based Dual Laser Diode Source daughter module with 1550 nm wavelength, 1 mW output power, and FC/PC receptacle.
13596	PLDS-D-1550/8-1	Visor Based Dual Laser Diode Source daughter module with 1550 nm wavelength, 1 mW output power, and ST receptacle.
13770	VISOR-B	Boot for Visor-based product family.

Standard Product Specifications:

Parameter		Specifications
Available wavelengths		635, 850, 1310, and 1550 nm
Wavelength accuracy		±20nm (maximum)
Available receptacles		FC/PC, ST, 1.25 mm or 2.5 mm ID Universal
Optical power ¹		1mW (Standard) for 1300nm, 1550nm wavelengths, 0.5mW for other wavelengths
Optical power stability		±5%, after 30 minutes warm up at 25 °C
Waveform modulation		CW: Continuous output Square wave modulation: 1 Hz to 2 kHz, 1 Hz resolution (50% duty cycle)
Real time laser diode temperature display resolution		0.03 °C
Real time laser diode current display resolution		0.01 mA
On-board memory		256 bytes EEPROM for individual calibration and ID information inside each daughter module
Computer interface		Infrared; RS-232 or USB cradle, using the functions of the Visor
Power supply		Two AAA alkaline, non-rechargeable batteries for eight hours operation with one source active, four hours operation with two sources active. Built-in rechargeable AAA NiMH batteries are available as an option for Visor models that have the capability to charge batteries.
Temperature range	Operating	0 to +40 °C
	Storage	-10 to +65 °C
Dimensions (Visor, Insert Module & Daughter Module)		140 x 75 x 25 mm (5.5 x 3.0 x 1.1 in.)
Weight (Visor, Insert Module & Daughter Module)		200 g (0.45 lb.), including batteries
Note: ¹ For other power levels, please contact OZ Optics.		

Ordering Examples For Standard Parts:

1. A customer needs a 635 nm and a 1550 nm dual wavelength laser diode source, the 635 nm wavelength source should have 0.5 mW output power and an FC/PC receptacle. 1550 nm wavelength has 1 mW output with ST receptacle.

Bar Code	Part Number	Description
13585	PLDS-100	Visor Based Dual Laser Diode Source. Visor, insert module and protective boot included. Daughter modules must be ordered separately
13587	PLDS-D-635/3-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and FC/PC receptacle.
13596	PLDS-D-1550/8-1	Visor Based Dual Laser Diode Source daughter module with 1550 nm wavelength, 1 mW output power, and ST receptacle.

2. A customer already has a non-rechargeable Handspring Visor PDA. He would like to buy a Visor Based Dual Laser Diode Source Insert Module and daughter modules for 635nm and 1550nm, with FC/PC receptacles, and also wants one more daughter module with 1310 nm, 1 mW output, with an FC receptacle.

Bar Code	Part Number	Description
13586	PLDS-01	Visor Based Dual Laser Diode Source Insert Module. Daughter modules must be ordered separately
13587	PLDS-D-635/3-0.5	Visor Based Dual Laser Diode Source daughter module with 635 nm wavelength, 0.5 mW output power, and FC/PC receptacle.
13595	PLDS-D-1550/3-1	Visor Based Dual Laser Diode Source daughter module with 1550 nm wavelength, 1 mW output power, and FC/PC receptacle.
13593	PLDS-D-1310/3-1	Visor Based Dual Laser Diode Source daughter module with 1310 nm wavelength, 1 mW output power, and FC/PC receptacle.

Ordering Information For Custom Parts:

OZ Optics welcomes the opportunity to provide custom designed products to meet your application needs. As with most manufacturers, customized products do take additional effort so please expect some differences in the pricing compared to our standard parts list. In particular, we will need additional time to prepare a comprehensive quotation, and lead times will be longer than normal. In most cases non-recurring engineering (NRE) charges, lot charges, and a 10 piece minimum order will be necessary. These points will be carefully explained in your quotation, so your decision will be as well-informed as possible. We strongly recommend buying our standard products.

Questionnaire For Custom Parts:

1. What are the required wavelengths for the laser diode sources?
2. What is the required maximum output power of the laser diode source?
3. What type of receptacles are required for laser diode sources?

Visor Based Dual Laser Diode Source

Visor and insert module is included.

Daughter modules must be ordered separately.

Visor Based Dual Laser Diode Source Insert Module

Daughter modules must be ordered separately.

Visor Based Dual Laser Diode Source Daughter Modules (interchangeable)

W = Laser diode source wavelength in nm: 635 = 635 nm
850 = 850 nm
Contact OZ Optics for other wavelengths. 1310 = 1310 nm
1550 = 1550 nm

X = Connector receptacle:
3 = FC/PC, Super FC/PC, or Ultra FC/PC
8 = ST
1.25U = Universal receptacle for 1.25mm diameter ferrule connectors (LC, MU etc).
2.5U = Universal receptacle for 2.5 mm diameter ferrule connectors(FC/PC, ST, SC, etc.)

PLDS-100(-RB)¹

PLDS-01(-RB)¹

PLDS-D-W/X-P

P =Power level coupled into SM fiber in mW. Standard power: 0.5mW for 635, 850nm. 1mW for 1310nm, 1550nm

Notes: ¹ Add -RB to the part number for the rechargeable battery option.

Ordering Examples For Custom Parts:

A customer has a rechargeable Handspring Visor PDA. He wants a Visor Based Dual Laser Diode Source Insert Module and Daughter modules. He would like a 0.5mW, 685nm source with an FC receptacle, and 650nm source with a 1.25mm universal receptacle. He prefers the rechargeable battery option.

Bar Code	Part Number	Description
N/A	PLDS-01-RB	Visor Based Dual Laser Diode Source Insert Module with rechargeable battery option. Daughter modules must be ordered separately.
N/A	PLDS-D-685/3-0.5	Visor Based Dual Laser Diode Source daughter Module, with 685nm wavelength, 0.5mW output power and FC/PC receptacle.
N/A	PLDS-D-650/1.25U-0.5	Visor Based Dual Laser Diode Source Daughter Module, with 650nm wavelength, 0.5mW output power and 1.25mm ID universal receptacle.

Frequently Asked Questions (FAQs):

Q: Why use a Visor Based Dual Laser Diode Source, rather than another source?

A: The Visor Based Dual Laser Diode Source has multi-wavelength capability. It can accommodate interchangeable daughter modules available in four wavelengths, providing a low cost, single-unit solution.

Q: Is the receptacle interchangeable for the source?

A: The receptacle is fixed to the daughter module. However, daughter modules with different receptacles can be ordered separately. A universal receptacle can be used to accommodate several types of connectors for visible sources. A universal receptacle is not recommended for sources other than 635nm. (See next question)

Q: Do you offer 1.25mm and 2.5mm ID universal adaptors for your sources?

A: We can, but we do not recommend them. Universal adaptors do not have a retaining mechanism, so the fiber can fall out if you do not hold it in place. In addition, the lack of a retaining mechanism will cause the coupled power from the source to be unstable. Universal receptacles can be used in applications where you are not concerned with the power stability, such as visible sources for fault location, or PFOSS or HIPFOSS polarized sources for PM fiber patchcords

Q: Why is there a real-time display of the laser diode temperature and current?

A: The real-time display provides a reference on output power. The optical output power may change slightly if the temperature or current changes. By monitoring these values, the user can identify changes in operating conditions that may require further attention.

Q: Will the unit work with just one laser daughter module installed?

A: Yes.

Q: Can the FC/PC receptacle work with both FC/PC and FC/APC terminated fibers?

A: Not on the source. If an FC/APC connector is plugged into an FC/PC receptacle then there will be significant insertion losses causing the output power through the fiber to be weak. For the detector it does not matter because the wide area detector inside will capture all the light.

Q: How can I use the Visor Based Dual Laser Diode Source with my patchcords, which have FC/APC connectors on them?

A: The easiest way is to use a patchcord with an FC/PC connector on one side, and an FC/APC connector on the other. For example, for 1300nm and 1550nm wavelengths, OZ Optics stocks such a patchcord, (BC#2115, SMJ-3S3A-1300/1550-9/125-3-1). Use a sleeve-thru adaptor to connect the two patchcords together.

Q: Can the modules work with PDA's other than the Visor?

A: Not at this time. OZ Optics is developing products for other manufacturers.



Visor Based Dual Laser Diode Source Without Boot

Application Notes:

The OZ Optics Visor Based Dual Laser Diode Source (PLDS) is a compact, highly portable, economical, controllable laser source. It is based on the Handspring Visor platform and uses the Visor graphical touch screen user interface to control a dual laser source. With a variety of Fabry-Perot laser sources with four different wavelengths and three connector types to choose from, and with both CW and square wave modulation modes, these devices satisfy almost any laser source requirement.

Easy to use:

The LCD touch screen and graphical display, which show real-time laser diode current and temperature, make the PLDS easy to use. To change to a source with different wavelengths, simply install the daughter module in the control module and activate it. When the sources are not in use, the full functionality of the Visor is maintained.

To ensure the best performance of the PLDS, always clean the connectors of the PLDS and the fiber.

Ensure that the daughter module, which contains a laser diode source, is packed 'ESD safe' when the source is not in use.

Testing and maintaining a LAN:

The PLDS can operate any two of four wavelengths at one time. With the on-board EEPROM, which contains the ID information of the individual unit, it is possible to perform remote tracing, software upgrades, and calibration data recall.

Identifying fiber and tracing optical signals:

When a daughter module that contains a visible wavelength and modulated signals is selected, the PLDS can be used to trace fiber. When fiber is broken or there is a need to trace the optical path from one end to another through many connections, the PLDS is used to look for visible signs of damage.

The modulated signal of the PLDS can be used to detect a breakpoint or the local loss within the fiber cable with an optical fiber identifier. It allows the isolation of specific fibers in a bundle prior to splicing or rerouting.

Using bare fibers with pigtail style sources:

A common application is to connect a fiber without any connector (bare fiber) to either another fiber or to a source or meter that contains a fiber stub. In these applications the best approach is to use an intermediate patchcord, with the appropriate connector on one end, and a bare fiber on the other end. The end with the connector is attached to the source or meter, and the bare fiber end is connected to the bare fiber on the device to be tested. Both fibers are first stripped, cleaned and cleaved and then spliced together. This can be done with a fusion splicer, or alternatively, a simple mechanical splice (OZ Bar Code #1933) can be used. Each fiber end is first dabbed into index matching gel (GEL-01, OZ Bar Code 2861) to act as a lubricant. One end is inserted about half way into the splice, while the other end is pushed in until it butts against the first fiber. Losses are typically less than 1dB, and the parts can be reused.