



Fiber-Coupled Laser Systems User Manual

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1. Laser Safety.

Laser safety warnings:

The lasers devices described hereafter emit visible/invisible light (@640nm to 1650nm) power. They are safe to operate, provided the user complies with following safety procedures:

- a) Post warning sign around laser operating area to alert those present.
- b) Keep all unauthorized personnel out of the area where B & W TEK's laser is operated.
- c) Whenever the laser is running and the beam is not in use, it is good operating practice to mechanically block the emission path.
- d) Never look directly into the laser source or scattering laser light from any reflective surface. Never sight down the beam into the source.
- e) Maintain experimental setup at low heights to prevent inadvertent beam-eye contact.
- f) As a precaution against accidental exposures to the output beam or its reflection, operators should wear laser safety glasses attenuated to the wavelength being generated.

Sources for additional information and assistance on laser safety:

Center for Devices and Radiological Health

Office of Communication, Education and Radiation Programs
Food and Drug Administration
10903 New Hampshire Avenue
W066-4613
Silver Spring, MD 20993
Tel: 800-638-2041
Fax: 301-847-8149

Laser Institute of America

13501 Ingenuity Drive, Suite 128
Orlando, FL 32826
Tel: 407-380-1553
Fax: 407-380-5588

2. Operation:

The B & W fiber coupled diode laser is simple to operate. The light output is almost instantaneous after the power supply is energized.

Note:

A time delay of approximately 5-10 sec is incorporated in the laser driver in accordance to safety regulations. There are no adjustments for the user.

Warning:

Use of controls or adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure. It will also void the warranty.

Operational Procedure:

- a) Make sure that the remote control connector is plugged in and the remote control circuit has been completed.
- b) Connect the power cable to power service outlet.
- c) Check to see that the shutter (cap) is removed from the fiber connector.
- d) Check to see the laser current is not applied. Laser power adjustment knob is turning all the way counterclockwise.
- e) Press the power switch. The power indicator will be on.
- f) Turn the emission key switch to the ON position (in ON position, the key can not be removed from the key-lock) and the laser driver will be powered. The emission indicator will turn on and laser emission may be expected from the aperture in 5-10 seconds.
- g) Slowly turn the laser current adjustment knob clockwise to the desired position. The laser output will be set to the desired power.
- h) To turn off the laser, turn the knob counterclockwise to the end, turn off key-switch, turn off the power switch.

Modulation:

A Standard TTL signal can be applied to the laser through the BNC receptacle on the front panel. The laser output goes to zero when the applied TTL signal is low, to the set power when the applied signal is high (or no connection). The modulation rate can be from DC to 20KHz.

WARNING:

DO NOT LOOK DIRECTLY INTO THE LASER. LASER RADIATION IS HAZARDOUS TO THE EYES. AVOID DIRECT EXPOSURE TO THE BEAM.

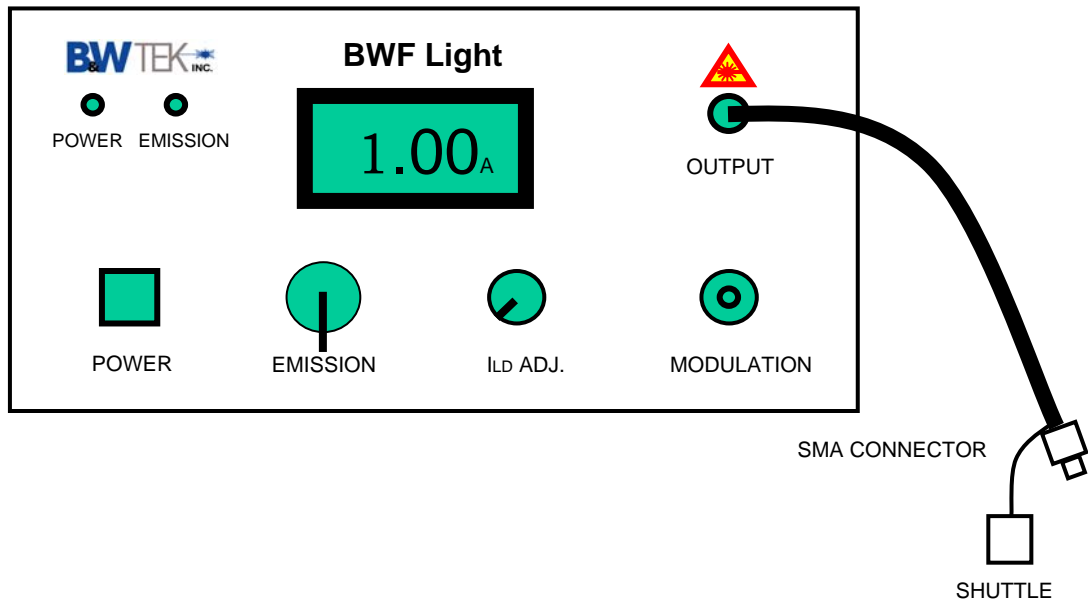
3. CDRH Compliant System

The BWF-1 laser systems, which are certified to be in compliance with Class IIIb, are equipped with keylock switch, remote control connector, laser radiation emission detector, emission time delay (in the laser driver), a beam attenuator (shutter), and appropriate warning labels. The following labels were designed to warn the user of potential hazard.



Identification Label

Front Panel



Back Panel

