

TROUBLESHOOTING

Note: The information in this section is intended to be used as an aid to the user in assessing problems with the operation of the laser and as a guide to assist experienced users in resolving routine problems. If there is any question about the procedures contained in this section or associated hazards, call DPSS Lasers Inc. Customer Service.

Caution: These procedures could result in exposure to hazardous laser radiation or bright light sources. Procedures should be performed only by persons who are familiar with the hazards involved and with the use of appropriate safety equipment.

WARNING: **Do not remove any covers from the laser unless specified:**

- 1) **Unauthorized removal of covers from the laser will void all warranties.**
- 2) **There are no user serviceable components within the laser head or power supply.**
- 3) **Inexperienced handling of the components in the laser can cause severe damage.**

TROUBLE SHOOTING GUIDE:

PROBLEM	POSSIBLE CAUSES	SOLUTION
Power-On light not on	<ul style="list-style-type: none"> • Line cord not connected • Main power switch at rear of power supply not on 	<ul style="list-style-type: none"> • Connect line cord to power supply and suitable AC power source • Turn on main power switch at rear of power supply.
Key switch on but no status LED's on.	<ul style="list-style-type: none"> • Cables not connected between power supply and laser head • Cables J2 & J3 interchanged at head or power supply 	<ul style="list-style-type: none"> • Connect all cables between power supply and laser head • Verify that all cables are well seated and there are no bent pins in the connectors • Verify that J2 & J3 are correctly connected.
Fault light on at first turn on	<ul style="list-style-type: none"> • Interlock open • Cooling system not turned on • System recently turned on and water (water cooled units only) has not started flowing yet. • Flow switch interlock connector (water cooled units only) not plugged in at power supply or laser head • Water hoses interchanged at Cooling system (water cooled units only) • Cooling system pump malfunction (water cooled units only) • Laser head over temperature • Power supply over temperature 	<ul style="list-style-type: none"> • Check all user installed interlocks for proper operation. • Turn on Cooling system. • Wait 30 seconds and press STANDBY button to clear fault • Open Cooling system reservoir (water cooled units only) and verify that water is bubbling. • Verify that the flow switch interlock cable (red twisted pair) is connected at power supply and laser head. • Reverse water hose connections at Cooling system (water cooled units only) • Touch laser baseplate to verify that it is close to room temperature. • Touch power supply enclosure and verify that it is close to room temperature • Ensure that ambient cooling air is

		not recirculating through power supply or Cooling System.
Fault light on after laser is operating.	<ul style="list-style-type: none"> • Interlock open • Cooling system water not flowing (water cooled units only) • Laser head over temperature • Power supply over temperature 	<ul style="list-style-type: none"> • Check all user installed interlocks • Open Cooling system reservoir and verify bubbling action of water • Verify that laser baseplate is at or near room temperature • Verify that the power supply chassis is at or near room temperature • Ensure that there is adequate ventilation for the Cooling system and the power supply
No pulsed laser output after 5 minutes (assumes no faults detected and system running with laser READY and q-switch ENABLE)	<ul style="list-style-type: none"> • Shutter not open • REMOTE connector not connected • RF BNC cable not connected at power supply or laser head 	<ul style="list-style-type: none"> • Open shutter on laser head • Verify that either JUMPER or alternate control is connected to REMOTE connector • Verify that RF BNC cable is connected at power supply and laser head
Low output power after one hour warm-up	<ul style="list-style-type: none"> • Beam path partially blocked • Ambient temperature too high • Cooling system not functioning properly • Laser misaligned • Damaged or contaminated optics internal to the laser head 	<ul style="list-style-type: none"> • Verify that shutter is fully open • Verify that ambient temperature is within acceptable operating limits • Verify that Cooling system is maintaining set temperature • Refer to Service Appendix for laser alignment procedure.
Power oscillation after turn-on	<ul style="list-style-type: none"> • It is normal for the laser output power to oscillate slightly during the first hour of operation 	<ul style="list-style-type: none"> • Allow laser to warm-up for one hour prior to use.
Power oscillation after several hours of operation	<ul style="list-style-type: none"> • Ambient temperature changing dramatically • Cables J2 or J3 not seated well • Cooling system malfunction 	<ul style="list-style-type: none"> • Verify that ambient temperature remains within acceptable operating limits. • Verify that cables J2 and J3 are well connected at power supply and laser head. • Verify that Cooling system is maintaining set temperature.
Poor beam quality	<ul style="list-style-type: none"> • Contaminated or damaged optics external to the laser head • Contamination or damage to laser output window 	<ul style="list-style-type: none"> • Check optics in optical path for contamination or damage • Turn of laser system and clean laser output window according to cleaning instruction in Service Appendix
Scattered green emission with UV output	<ul style="list-style-type: none"> • It is normal for some green light to be emitted with the UV output 	<ul style="list-style-type: none"> • If necessary, an aperture can be placed one foot away from the laser head to block this green emission
Strong UV emission when q-switch is DISABLE	<ul style="list-style-type: none"> • Electronic malfunction 	<ul style="list-style-type: none"> • Contact DPSS Service Representative

If the problem experienced cannot be resolved by this troubleshooting guide, please contact a DPSS Lasers Inc., Customer Service Representative at either your local distributor or directly through the DPSS Lasers Inc., Customer Service Department.