

Simple Troubleshooting Process for JPT Lasers

Step 1: Use alcohol and a lint-free cloth to clean the isolator lens, galvanometer mirrors, and field lens of the laser. While cleaning, check these components for visible scratches or damage, and inspect the field lens protective lens for heavy contamination.

Step 2: Use a frequency-doubling plate (1064 nm), also called a ceramic plate or neutral density (ND) filter. Place it in front of the isolator or below the galvanometer (do **not** install the field lens). Use the following parameters for continuous laser emission to observe the beam spot:

- Draw a circle of size 0.1
- Speed: 1 mm/s
- Power: 20–30%
- Frequency: 40KHz
- Pulse width: 200ns
- Continuous emission

Observe whether the laser spot has any missing or blocked areas to troubleshoot spot issues.

Step 3: After Step 2, confirm that the spot below the galvanometer is smooth and unobstructed, and determine the focus position. While continuously emitting, use a multimeter to measure the output of the power supply and check for stability. Determine whether voltage fluctuations are causing unstable output.

Step 4:

Use an RS232 DB9 female-to-USB cable with an FTDI chip to connect the DB9 port on the back of the laser to a computer. Use the internal control software to monitor the laser signals and check the laser alarm records.

Focus on whether the laser triggers alarms during fault occurrences (including required idle times), the alarm types, and the signal control status.



As shown in the image, the content in the red box indicates the laser's alarm light, which turns red

when an alarm occurs. The content in the yellow box shows the number of alarms.
The content in the green box represents the emission signal. When the laser receives an emission signal, the PA and M0 lights turn green.

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CommunicationGUI InstructionLanguage(L)System Setting

GUI Ctrl

Free Ctrl

Ctrl M0

Ctrl Red

Power

offline

Power (%)100Edit

Prr (khz)100Edit

PW (ns)100Edit

Prity Way

SN 000000000000

Laser

Red

Ctrl Mode

PowerEXT

PrrEXT

PWEXT

PAEXT

M0EXT

System Setting

Lock Prr0Edit

Default Pulse0Edit

Simmer0Edit

Lock Power0Edit

Red Power0Edit

Mode Selection

Ext Fre

Pin9Lock

Pin23Stop

FanSpeed

Monitoring

Setting

Log

Alarm Log

Pump

PA

M0

Red

D7

D6

D5

D4

D3

D2

D1

D0

Prr (khz)0

PW (ns)0

-20°C

-20°C

0A

0°C

Sensor1

Sensor2

Current

TEC Temp

Sensor1 LT

999

Sensor1 OT

999

Pre LowE

999

Sensor2 LT

999

Sensor2 OT

999

Power Low

999

Seed TEC

999

No Seed

999

Communication Type: COM

Connect State: Disconnected

Laser State: Laser Close