

To: Solstice® Ace™ and Spitfire® Ace Laser Users
Date: June 2020
Subject: Extended Laser Shut Down – Restart Procedure

Restarting the lasers after extended non-operational period. Please follow these guidelines for starting up your laser system. Refer to the user's manual for a detailed startup procedure for your specific product.

- a. Start up the **Chillers** for **Mai Tai**® (seed laser) and **Empower**®/**Ascend**® (pump laser):
Switch the rocker switches to the **ON** position.
- b. Check the surrounding area for water that may be leaking from the system.
- c. You may wish to perform your preventative maintenance at this time, and change/clean filters, and drain/refill your reservoirs with new coolant.
2. **TURN-ON** the power supplies:
 - a. On the front panel of the **Mai Tai** power supply, turn the interlock key to the **ON** position.
 - b. Be sure that the key on **Empower/Ascend** power supplies is in **OFF** position.
Note that, if the Empower/Ascend power supplies were off, they will need about 10-20 minutes for the LBO doubling crystals to reach their proper operating temperature.
 - c. Turn the key **ON** for **Empower**, or the **Ascend** power supply. Note that, the PA systems have an additional pump laser, so repeat the same process for second pump.
 - d. Confirm that the cooling fans and LED have turned **ON**.
 - e. Wait for them to complete their boot sequences, before starting the **GUI**.
 - i. **Mai Tai** - for several seconds it reads waiting for **Mai Tai**.
 - ii. **Empower/Ascend** - recall that since the Empower or Ascend power supply was off, it will need about 10-20 minutes to heat the LBO doubling crystal to its proper operating temperature before proceeding.
 - f. **TURN-ON** the Timing and Delay Generator (TDG) and Temperature Control Unit (TCU). Wait for status indicator of TDG to turn green.
 - g. Both chiller and power supply are now on. Wait 45 minutes after turning both **ON** to allow the system to thermally equilibrate.
3. Open the **GUI** software:
 - a. Start the computer running the **Spitfire Ace or Solstice Ace** software and log on.
 - b. Start the **Spitfire Ace or Solstice Ace** software and wait for software initialization.
4. **TURN-ON** the laser emissions through the software. Click and hold down the **ON** button until the emission light turns on (about 3 seconds).
 - a. **Mai Tai** – wait until the status on the Main Tab says System Ready, then **TURN-ON** laser emission.
 - b. **Empower/Ascend** – Wait until the status line (seen at the bottom center of the screen) says Ready before turning on the laser emission.
 - c. Clear faults at **Active Faults** tab, if needed.
5. Check relative humidity of the laser system. It may take several days for this value to drop below 10%.

Please reference laser user's manuals for complete **TURN-ON** and **TURN-OFF** procedures. The seed laser and pump laser are described in detail in separate manuals included with the **Solstice Ace or Spitfire Ace** system.

If you have any questions, please contact our Technical Support at +1-800-456-2552 or via email service@spectra-physics.com.