

Bulletin No. SVC-FSB-0023 Rev. A

Release Date **9/22/2015**

Contact ngceoservice@ngc.com

Product

eDrive with internal 25W RF driver

Special Information

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WARNING ESD: Handle Appropriately

WARNING Shock Hazard: Use caution.

Q Switch Fault, HVSWR Fault

Purpose

The HVSWR fault level should be greater than 8W of reflected power. If the HVSWR fault level is set too high, then connecting an open ended cable may decrease the reflected power sufficiently, and there will not be a HVSWR fault. For example, if the RF output power is 25W and the HVSWR fault level is set to 23W, then connecting an open ended cable that only reflects 20W will not cause an RF fault. When the HVSWR fault level is reduced to less than 10W the HVSWR fault will function properly when the RF cable is disconnected from the load.

Scope

The HVSWR fault not working was first observed December of 2014 in a 16W Patara eDrive. The RF driver for this configuration is set to 25W, and the RF driver vendor should set the HVSWR fault to 8W.

Safety and Environmental

The eDrive covers must be removed to adjust the HVSWR fault level. Use caution when working around energized electronics; remove jewelry.

Supplies Needed

- Phillips screw driver
- Insulated flat screw driver
- 85-044-10 Shorting Connector
- 50 ohm RF load
- 4 ft. BNC cable
- 1 ft. BNC cable
- Byrd Watt Meter

HVSWR FAULT ADJUSTMENT WITHOUT CHANGING THE RF POWER LEVEL

1. The 85-044-10 shorting connector can be used to operate the eDrive without connecting it to a Patara Laser. See Figure 3.
2. Use the Phillips screw driver and remove the eDrive top and bottom covers
3. Turn on the eDrive for normal operation.
4. Disconnect the RF cable to verify that there is no HVSWR fault.
5. Turn the HVSWR fault adjustment clockwise until the HVSWR fault light on the RF Driver comes on.
 - a. Use an insulated flat screw driver when adjusting the HVSWR fault level.
 - b. The HVSWR fault adjustment may require one or two complete revolutions clockwise.
 - c. When the HVSWR fault light comes on, turn the fault adjustment an additional half turn clockwise.
6. See figure 2; exclude the Byrd Watt Meter. Connect the eDrive RF OUT to the 50 ohm RF load using the BNC cable, and reset the fault.
7. Disconnect the RF cable to verify that the HVSWR fault is operating normally.
8. Install the eDrive top and bottom covers.

HVSWR FAULT ADJUSTMENT USING A BYRD WATT METER

1. The 85-044-10 shorting connector can be used to operate the eDrive without connecting it to a Patara Laser. See Figure 3.
2. Remove the eDrive top and bottom covers.

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3. See Figure 2. Disconnect the 1 foot BNC cable from the RF driver to the eDrive rear panel. Use the 4 foot BNC cable and connect directly from the RF driver to a Byrd Watt meter. Remove the load at the output of the Bird Wattmeter so all that remains is 4 foot BNC cable and an unloaded Bird Wattmeter.
4. Use the RF POWER adjustment on the RF driver and reduce the RF power to 8 W.
5. Disconnect the RF cable at the RF driver.
6. See Figure 1 for the location of the HVSWR fault level adjustment potentiometer. Use an insulated screw driver and turn the HVSWR fault adjustment clockwise until the HVSWR fault light on the RF Driver comes on.
7. The HVSWR fault adjustment may require one or two complete revolutions clockwise.
8. Connect the RF cable and reset the fault.
9. Use the 1 foot BNC cable and connect the 50 ohm RF load to the Byrd Wattmeter.
10. Use the RF POWER adjustment on the RF driver and increase the RF power to 25W.
11. Disconnect the RF cable to verify that the HVSWR fault is operating normally.
12. Install the eDrive top and bottom covers

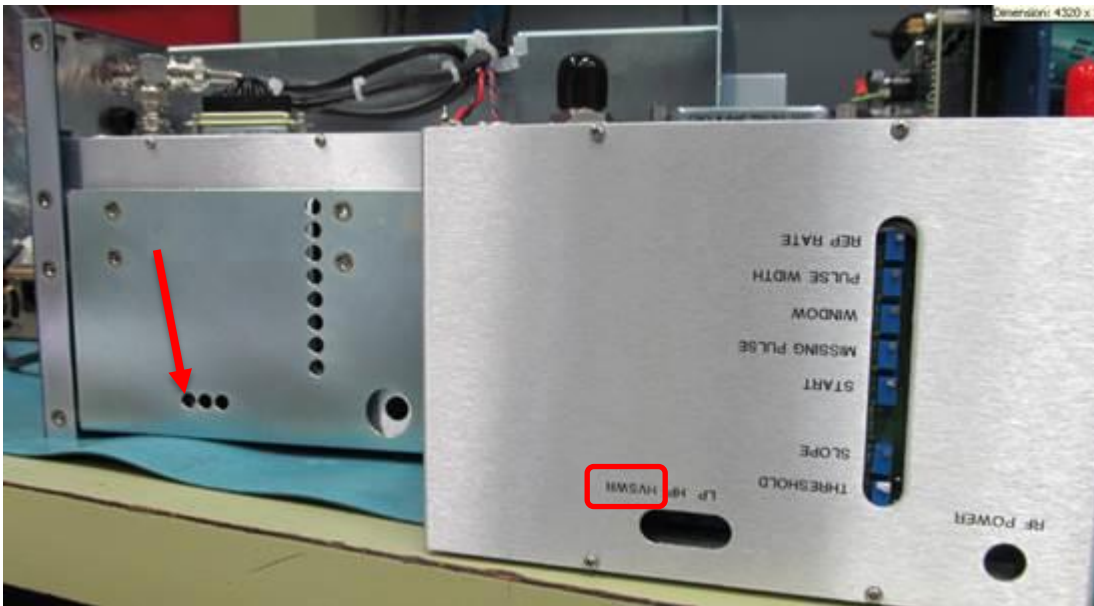


Figure 1 HVSWR Fault Level Adjustment Location

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Figure 2 Byrd Watt Meter and 50 ohm RF Load Connected to RF OUT 1



Figure 3 85-044-10 Shorting Connector