# TB246 (Rev1) - SD Drive Trouble Shooting

**Purpose:** This document describes what to check when you are getting "439 Servo Drive Data Output Error"

### Required Tools

- Multimeter (that can read 300VDC +/- 25VDC, and diode check)
- Philips screw driver

### Instructions

1. Power up the system with the electrical cabinet door open and E-stop pushed in.
2. Check fiber optic cables 4 thru 7 at the CPU10B and the SD drive. Verify that they are snapped in to place. Re-seat them and verify you have light coming from the CPU10B on fibers 4, 6, & 7 and light from the SD drive on fiber 5. Also make sure you are using shielded twisted pair ribbon cables for SDxB drives while SDx drives will have copper tape on the ribbon cables.
3. Are the green logic LED(s) lit up on the SD drive(s)? Set multimeter to read above 300VDC. Place the black lead on Vm- and the red lead on Logic Power. Do you read approximately 300VDC? If yes, proceed to next step. If no, trace back logic power.
4. Release E-stop. Measure across Vm+ and Vm- and verify that you have approximately 300VDC. On SD1/SD1B drives you should also see the Vm power LED lit up as well. If this is true, proceed to next step. If not, trace back Vm power.
5. Power system down. Set meter to test for diode check and check all the fuses on the SD drive(s). If any fuses are blown, you will need to call Centroid Tech Support as the SD drive(s) will need repaired.
6. With the meter still set for diode check, place the black lead on Vm+ and then touch the red lead to U, V, & W on all axes. Verify that you measure approximately 0.35V. If you measure 0V, an IGBT is bad and the SD drive(s) will need repaired.
7. Repeat step 6 only now place the red lead on Vm- and then touch the black lead to U, V, & W on all axes.
8. Motor and cable test, set your meter to highest Ohm setting (20M). Put the black lead on BLUE GND wire of the motor cable and touch the red to each one of the disconnected motor power leads. The reading should be OL (higher than what the meter can read).

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**Document History**

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