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Engineering Note

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Project: CFT/CPS Axial Daughterboard
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Subject: CFT/CPS Axial Daughterboard Inspection and Test Specification

Board Naming Convention

Each assembled board shall be assigned a serial number by the vendor. The vendor shall write the serial number in the small white silkscreen box identified as "SERNO". Numbering shall begin at 100.

Inspection and Testing

- 1) Each assembled CFT/CPS Axial Daughterboard must be visually inspected.
- 2) Each BGA device must be XRAY inspected for shorts and opens. The vendor must supply on disk (floppy, CDR, etc.) the complete XRAY image of each BGA device. The filenames should reference the board number and the device number.
- 3) The final test checks for "solder bridge" type shorts across the power planes. The procedure is listed below.
 - A. On an unpowered daughterboard, place the (-) probe of a DMM on the GND tab of component U2. Place the (+) probe on the VCC via (near U2 pin 2). Resistance should be greater than 100 ohms.
 - B. Keep the (-) probe on the U2 GND tab. Move the (+) probe to the VCC2 via (near U2 pin 4). Resistance should be greater than 100 ohms.
 - C. Keep the (+) probe on the VCC2 via. Move the (-) probe to the VCC via (U2 pin 2). Resistance should be greater than 100 ohms.
- 4) Boards that fail the resistance checks must be re-inspected for solder bridge type faults. We have found that these types of shorts can occur between the passive components and vias on the solder side of the board. **Do not attempt to remove solder bridge type faults by powering up the daughterboard.** Power plane bridge faults must be fixed prior to shipment to Fermilab.

