Bad Injectors & Multiplexers Sent from CERN

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Summary

	Received	Fixed & Tested
Injector	9	4
Multiplexer	7	5



M48

Symptoms

- 1. No image with BCAM
- 2. No loop back with device
- 3. Burn marks (see fig.)
- 4. Gap between the burn marks is in the interval (0.81,0.98) mm
- 5. Hot logic chip (U65)
- 6. Abnormally high supply current (next slide)

M48 (cont.)

 +5V supply current of a working multiplexer as control group is 32.551mA Diagnostic 9 Software Version: 15 Hardware Type: 71 Hardware Version: 2 Firmware Version: 9 Most Recent Loop Time (ns): 0 Data transfer speed (kBytes/s): 942 +15V Supply Voltage (V): 14.843 +15V Supply Current (mA): 11.149 +5V Supply Voltage (V): 4.854 +5V Supply Current (mA): 208.583 -15V Supply Voltage (V): -14.850 -15V Supply Current (mA): 7.952 Commom Mode Gain (V/V): 0.0202 Differential Mode Gain (V/V): 65.6





M116

♦ Symptoms

- 1. No image with BCAM
- 2. \sim 50ns loop back without device
- 3. Burnt PCD and capacitor (see fig.)
- 4. Abnormally high supply current (next slide)

M116 (cont.)

 +5V supply current of a working multiplexer as control group is 32.551mA Diagnostic 10 Software Version: 15 Hardware Type: 71 Hardware Version: 2 Firmware Version: 9 Most Recent Loop Time (ns): 50 Data transfer speed (kBytes/s): 904 +15V Supply Voltage (V): 14.842 +15V Supply Current (mA): 11.255 +5V Supply Voltage (V): 4.899 +5V Supply Current (mA): 125.364 -15V Supply Voltage (V): -14.854 -15V Supply Current (mA): 8.088 Commom Mode Gain (V/V): 0.0204 Differential Mode Gain (V/V): 65.6





J155

♦ Symptoms

- 1. No LED works with HEX command
- 2. Casing deformed (see lower fig.)
- 3. C25 gone with possibly damaged track (see upper fig.)

J113



♦ Symptoms

- 1. D341 gone
- 2. Pin pads & track of D341 damaged (see fig.)
- 3. U3 gone

Hypothesis

- In transportation or storage, injectors are <u>stacked in a way</u> <u>that the knobs of one injector</u> <u>point at the exposed back</u> <u>side of another</u>, presumably with bubble wrap or equivalent as separator.
- Fig.: Sketch of the positions of the knobs and damages on several injectors.

