DSM Hardware Production and Testing Procedure
LBNL

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Final Assembly

1. Number DSM board sequentially beginning at 003 (001, 002 are the prototype boards).
2. Solder LEDs D4 and D9 (cut corner indicator in same orientation as the rest of the front panel LEDs).
3. Attach P1, P2, P3 stiffener bar using a NYLON washer under the screw that goes into the upper hole of the P2 connector (a metal washer will cut through the solder mask and short the traces).
4. Insert light pipes. The lower leg of the light pipe mounting piece will need to cut off for installation.
5. Attach front panel using NYLON washers for the two mid-panel support screws. Also, put kapton tape over the traces on the top side of the DSM board under each of the mid-panel brackets.
6. Melt the legs of the light pipes to hold them in place.

Inspection

1. Part orientation (especially Tantalum Capacitors)
2. Part placement on the ORCA FPGAs (pins well matched to pads)
3. Correct part number (especially IDT74FCT244/245 where different speed and current ratings used)
4. Cold solder joints (i.e. any solder joint that visually looks suspicious)
5. PC Board De-lamination
6. Use DVM to check for power to ground shorts.
7. Note results on production log sheet.

Power

1. Insert PROMs.
2. Set SW1 (ENG CONF CTL) up.
3. Set SW2 (CLK SWITCH) down.
4. Insert DSM into crate with DSMI set to local oscillator mode.
5. Turn on power and note current draw.
6. Check FPGA configuration (LEDs D1, D2, D3 should be off. LED D22 should be green).
7. Note results in production log sheet.

Software Testing

See DSM Software Testing Procedure by Eleanor Judd.