CAMtasticDXP (TM):

# NOTES (UNLESS OTHERWISE SPECIFIED):

# GENERAL

- 1) PCB IS 12-LAYER, .062" THICK.
  2) CONSTRUCTION IS SOLDER-MASK-OVER-BARE-COPPER (SMOBC).
- 3) ACCEPTABILITY SHALL BE BASED ON IPC-A-600, CLASS 2.
- 4) THE FOLLOWING GERBER RS274X PHOTO TOOL FILES SHALL BE USED TO DEFINE ALL CIRCUIT FEATURES:
- \*.GTL TOP LAYER GERBER DATA
- \*.G1 MID LAYER 1 GERBER DATA
- \*.GP1 INTERNAL PLANE LAYER 1 GERBER DATA
- \*.GP2 NTERNAL PLANE LAYER 2 GERBER DATA \*.GP3 NTERNAL PLANE LAYER 3 GERBER DATA
- \*.GP4- INTERNAL PLANE LAYER 4 GERBER DATA
- \*.GP5- NTERNAL PLANE LAYER 5 GERBER DATA
  \*.GP6- NTERNAL PLANE LAYER 6 GERBER DATA
- \*.GBL BOTTOM LAYER GERBER DATA \*.GTO TOP OVERLAY GERBER DATA
- \*GBO BOTTOM OVERLAY GERBER DATA
- \*.GTP TOP-SIDE SOLDER PASTE MASK
- \*.GBP BOTTOM-SIDE SOLDER PASTE MASK
- \*.GTS TOP SOLDER MASK GERBER DATA \*.GBS - BOTTOM SOLDER MASK GERBER DATA
- 5) THE PHOTO TOOL SHALL NOT BE COMPENSATED WITHOUT PRIOR ENGINEERING APPROVAL. PCB DESIGNER: RICH LOBDILL PH (805) 880-1621 FAX (805) 961-1792.

# FABRICATION TOLERANCES

- 6) END PRODUCT CONDUCTOR WIDTHS AND PAD DIAMETERS SHALL NOT VARY MORE THAN
- 0.002" FROM THE 11 DIMENSIONS OF THE MASTER ARTWORK.

  7) THE CONDUCTIVE PATTERN SHALL BE POSITIONED SO THAT THE LOCATION OF ANY PAD OR LAND SHALL BE WITHIN 0.005" DIAMETER TO THE TRUE POSITION OF THE HOLE IT CIRCUMSCRIBES.
- 8.1) DRILL TOLFRANCES +/- 0.003"
- 8.2) ALL DRILL HOLE SIZES AND TOLERANCES APPLY AFTER PLATING.
- 9) THE MINIMUM ANNULAR RING SHALL BE 0.005".
- 10) BOW AND TWIST SHALL NOT EXCEED 0.010" PER INCH.
- 11) FOR PCB ROUTING DIMENSIONS: .XXX = +/-.005" .XX = +/-.020"

# MATERIAL

- 12) BASE MATERIAL IS FR4 EPOXY FIBERGLASS
  13) SEE STACK-UP LEGEND FOR COPPER CLADDING CALL OUTS

### PLATING

- 14) ALL HOLES AND CONDUCTIVE SURFACES SHALL BE PLATED WITH A MINIMUM OF 0.001" COPPER.
- 15) AFTER SOLDERMASK, ALL EXPOSED HOLES AND CONDUCTIVE SURFACES SHALL BE COATED WITH A GOLD IMMERSION PLATING TO PRESERVE SOLDERABILITY.

- 16) THE SOLDERMASK SHALL BE BLACK LIQUID PHOTO-IMAGEABLE PER IPC-SM-840, TYPE-B, CLASS 2.
- 17) THE SOLDERMASK REGISTRATION ALLOWANCE IS 0.003". THERE SHALL BE NO SOLDERMASK ON ANY SOLDER PAD OR LAND.

- 18) THE LEGEND SHALL BE SCREEN-PRINTED USING PERMANENT YELLOW EPOXY INK.
- 19) THE SCREEN PRINTING REGISTRATION ALLOWANCE IS 0.007". THERE SHALL BE NO INK ON ANY SOLDER PAD OR LAND.
- 20) THE VENDOR CODE AND UL FLAMMABILITY RATING MAY BE ETCHED IN THE FOIL OR MARKED IN PERMANENT EPOXY INK (VENDOR'S OPTION).

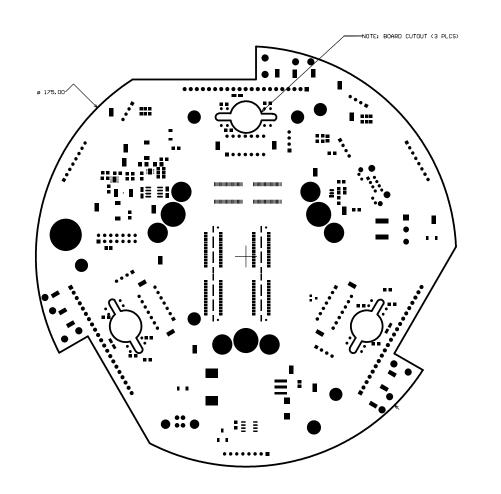
# ELECTRICAL TESTING

21) ALL BOARDS SHALL BE ELECTRICALLY TESTED TO THE SUPPLIED IPC-D-356A NET LIST

Layer Stack Up Detail for: 1	75-00008 rev 1, PCB, M2 Focus Drive.PcbDoc
Layer Name	Copper cladding
Top Layer (*.GTL)	1/2 oz. (1 oz. Finished)
Mid-Layer 1 (*.G1)	1/2 oz
+24U (*.GP1)	1/2 oz
GND (*.GP2)	1/2 oz
+5V (*.GP3)	1/2 oz
+12U (*.GP4)	1/2 oz
-12U (*.GP5)	1/2 oz
+3.3V (*.GP6)	1/2 oz
Bottom Layer (*.GBL)	1/2 oz. (1 oz. Finished)

PRIMARY PCB SPECIFICATIONS (REFER TO COMPLETE SPEC LISTING AT LEFT FOR FURTHER DETAILS) NUMBER OF LAYERS -9 FINISHED THICKNESS .094 BASE MATERIAL FR4 NOTICE

THIS DRAWING EMBODES A PROPRETARY DESIGN OWNED BY LAS CUMBRES
OBSERVATORY. IT IS SUBMITTED FOR A SPECIFIC PURPOSE UNDER A CONFIDENTIAL RELATIONSHY. AND EXCEPT FOR PURPOSES EXPRESSLY CRAINTEL
IN WRITING, ALL RICHITS ARE RESERVED BY LAS CUMBRES OSSERVATORY. GOLD IMMERSION PLATING TYPE SOLDER MASK COLOR -**BLACK** 



NOTE: Non-standard board thickness

Las Cumbres Observatory, Inc. as Cumbres Observator 6740 Cortona Dr. Goleta, CA 93117 Global Telescope Network Rich Lobdill Rich Lobdill 175-00008, M2 Focus Drive

- GPT

3 Sect 1 of 20