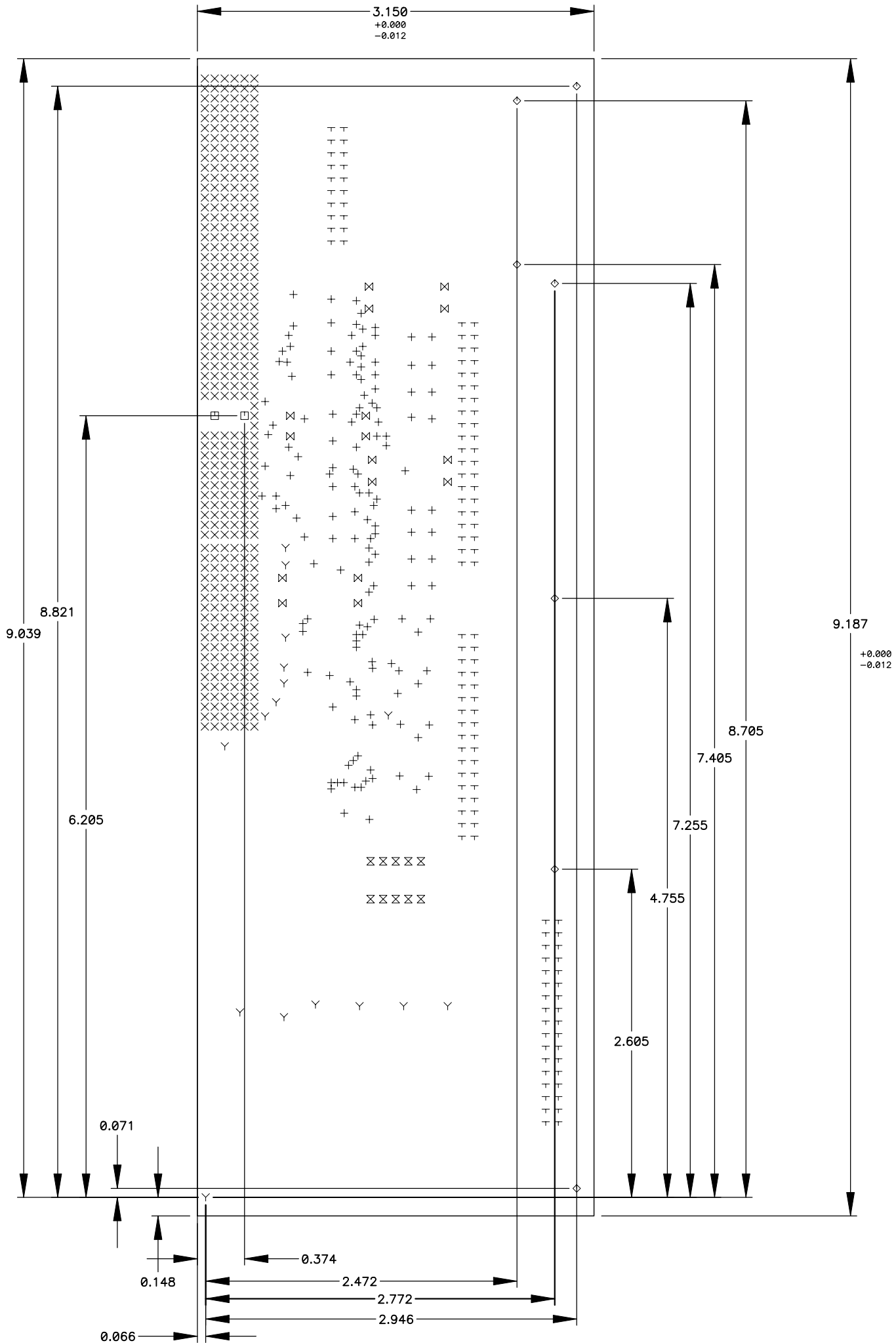


REVISIONS					
ZONE	LTR	REVISIONS	ECR	DATE	BY APRV



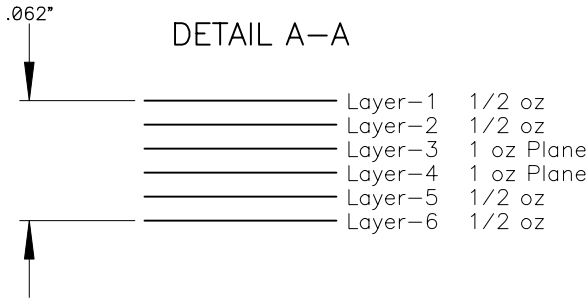
NOTES: unless otherwise specified

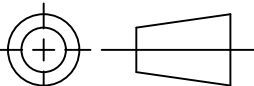
- 1.0 Applicable documents
The following items are required:
PATTERN FILM DWG # MNSN-EL-04-3009
DETAIL DRAWING DWG # MNSN-EL-04-1009 THIS DOCUMENT
- 2.0 BASE MATERIAL
2.1 Laminate base material shall be natural color, FR-4 or equivalent.
See Detail A-A for layer to layer specification and overall thickness.
2.2 B-Stage shall be selected at vendors discretion to meet over all board thickness and end item requirements.
- 3.0 COPPER PLATING
3.1 Copper plating shall have a minimum purity of 99.5 percent and a minimum thickness of .001 inch. This also applies to the plating in the holes.
- 4.0 SOLDERMASK
4.1 Apply LPI Green soldermask over bare copper according to the soldermask pattern file per IPC-SM-840.
- 5.0 FINISH
5.1 The printed circuit board shall be tin/lead solder plated and reflow solder finished or equivalent on all exposed metalization.
Solder plating shall conform to the visual criteria of IPC-A-600.
- 6.0 SILK SCREEN
6.1 Silk screen top (-1) and bottom (-6) side of board using white epoxy ink according to the -1ss pattern film and the -6ss pattern film.
Ink shall not cover any exposed metal.
- 7.0 DIMENSIONS
7.1 All dimensions are in inches.
7.2 Unless otherwise specified all hole sizes apply after plating.
Hole sizes are shown in the drill schedule.
- 8.0 TOLERANCES
8.1 Hole size tolerance $\pm .003$ after plating unless otherwise specified.
8.2 Conductor widths and spacing shall be within 20% of the artwork originals.
8.3 Layer to layer registration shall be .007 inches of true position
8.4 Board dimensions shall meet the requirements of the board drawing.
8.5 Warp and twist shall not exceed that defined in IPC-A-600.
- 9.0 APPEARANCE
9.1 All inside and outside corners shall have a maximum radius of .065
9.2 Remove all burrs and smooth sharp edges to .010 max.

VENDOR NOTE: NOTIFY US OF ANY CONFLICTING REQUIREMENTS OR IF BOARDS CANNOT BE MANUFACTURED TO MEET THE ABOVE REQUIREMENTS, DUE TO VENDORS PROCESS AND/OR TECHNIQUES OR BECAUSE PHOTO TOOLS AND/OR SPECIFICATIONS ARE INADEQUATE.

Drill Table			
Hole Dia (inch)	Symbol	Quantity	Plated
0.013	+	147	Yes
0.024	X	381	Yes
0.032	Y	16	Yes
0.037	-	128	Yes
0.047	X	10	Yes
0.053	M	16	Yes
0.080	□	2	No
0.125	◇	7	No

$\pm .002$



QTY REQ'D		PART OR IDENTIFYING NO		ITEM DESCRIPTION				ITEM NO			
TOLERANCES UNLESS OTHERWISE NOTED .XX ± .03 .XXX ± .010			ANGULAR ±.5°		 THIRD ANGLE PROJECTION		NATIONAL OPTICAL ASTRONOMY OBSERVATORIES OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY UNDER COOPERATIVE AGREEMENT WITH NATIONAL SCIENCE FOUNDATION				
DO NOT SCALE DRAWING				NAME				USED ON		REF	
NEXT ASSEMBLY MNSN-EL-04-0009				DETAIL GENERIC CCD ACQ TRANSITION				Monsoon			
REFER TO SCHEMATIC MNSN-EL-04-2009								DWG SIZE C			
SCALE: FULL		DESIGNED BY P. Moore		DATE 21 Sept 2004		CHECKED BY		DATE		DWG NO MNSN-EL-04-1009	
DWG PRODUCED USING PCAD2002		DRAWN BY R. Leiva		DATE 08 Nov 2004		APPROVED BY		DATE		RELEASED	
										SHEET 1 OF 1	