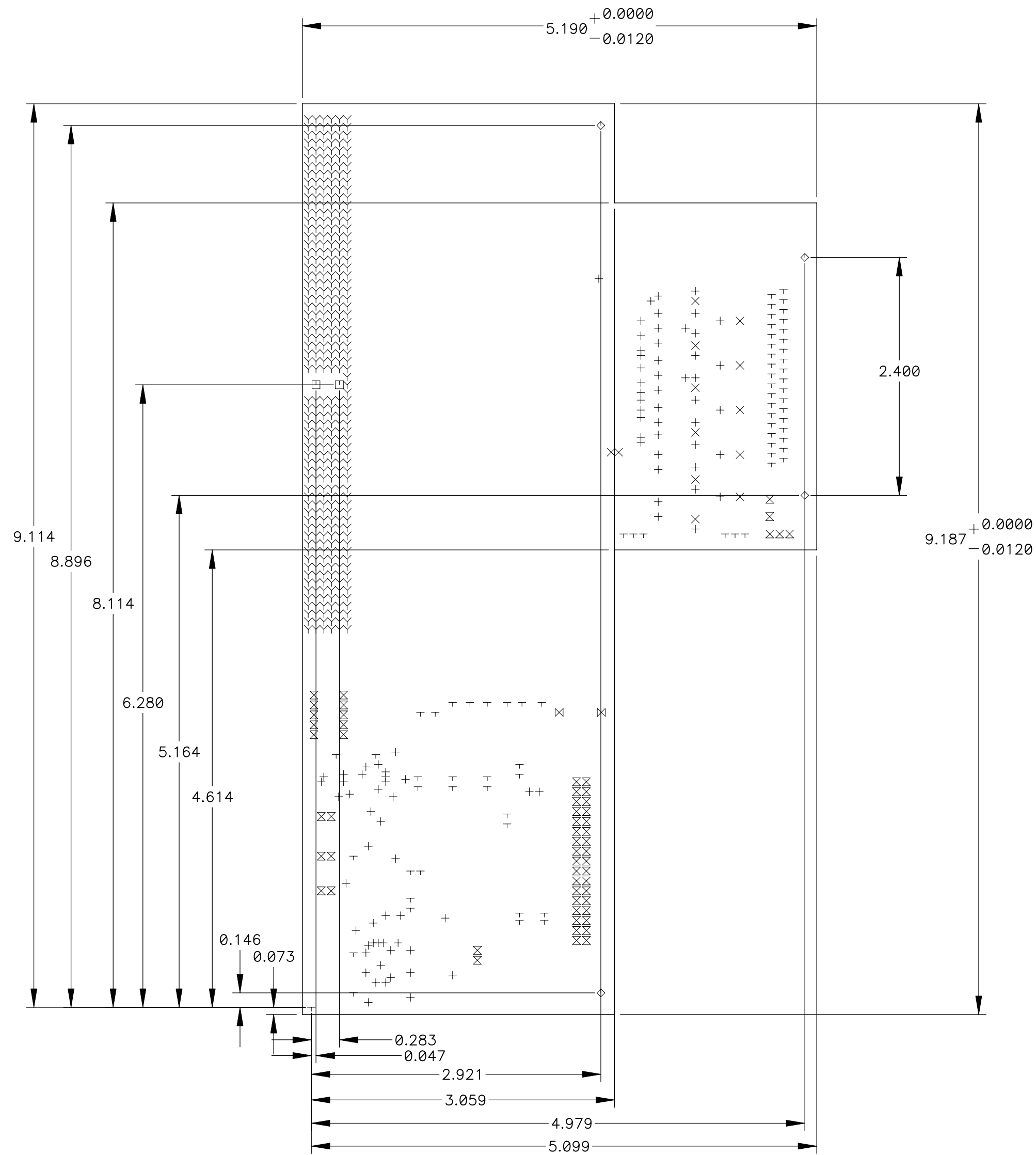


REVISIONS

ZONE	LTR	REVISIONS	ECR	DATE	BY	APRV
	-	INITIAL RELEASE		03MAR06	dms	m.hunten
	A	Part additions & changes.	MNSN-0117	13feb07	dms	m.hunten

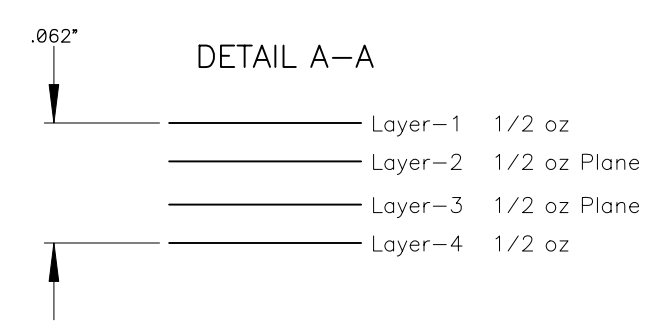


NOTES: unless otherwise specified

- 1.0 APPLICABLE DOCUMENTS  
The following items are required:  
PATTERN FILM DWG # MNSN-EL-04-3012  
DETAIL DRAWING DWG # MNSN-EL-04-1012 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 (-4) side of board using white epoxy ink according to the -1S pattern film and the -4S 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 +- .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	+	91	Yes	+- .002
0.018	X	13	Yes	
0.025	Y	381	Yes	
0.032	+	74	Yes	
0.042	X	57	Yes	
0.053	X	2	Yes	
0.080	□	2	No	
0.125	◇	4	No	



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Modified Date: Tue Feb 13, 2007  
Print Date: Tue Feb 13, 2007

QTY REQ'D	PART OR IDENTIFYING NO	ITEM DESCRIPTION	ITEM NO
TOLERANCES UNLESS OTHERWISE NOTED		 THIRD ANGLE PROJECTION	<b>NATIONAL OPTICAL ASTRONOMY OBSERVATORIES</b> OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY UNDER COOPERATIVE AGREEMENT WITH NATIONAL SCIENCE FOUNDATION
.XX ± .03 ANGULAR .XXX ± .010 ±.5°			
DO NOT SCALE DRAWING		NAME	USED ON
NEXT ASSEMBLY		<b>DETAIL</b> IR ACQ TRANSITION BOARD WHIRC	Monsoon
REFER TO SCHEMATIC			DWG SIZE
MNSN-EL-04-0012		C	A
MNSN-EL-04-2012		SCALE: FULL	DWG NO
		DESIGNED BY D. Stover	03MAR06
		DRAWN BY Dee Stover	03MAR06
		CHECKED BY	DATE
		APPROVED BY	DATE
		RELEASED	
		MNSN-EL-04-1012	
		SHEET 1 OF 1	