

## STEIN Idef-X detector carrier partslist

## v03/v04 Assembly

R1	3.3k $\Omega$	0603	READ LVDS termination
R2	100 $\Omega$	0603	DOUT series termination (CMOS, reflective wave)
R3,R4	100 $\Omega$	0603	TRIG series termination (LDVS, 100 $\mu$ A)
R5,R6	100 $\Omega$	0603	AOUT series termination (Analog)
R7	50 $\Omega$	0603	TEST parallel termination (Analog)
R8	1M $\Omega$	0805	VBIAS filter
R9	100k $\Omega$	0603	VDD0 filter
R10-R13	-	0603	chassis ground, not polulated
C1-C7	220nF, 16V	0805	VDD* filter
C8	10nF,500V	1206	VBIAS filter
C9	220nF, 16V	0805	VDD0 filter
CONN1	Onmetics Bilobe	37-pin male flex, MNP0-37-FF-N-ESJ / A28300-037	

The connector needs to be staked on the GND side with Scotch-Weld or similar immediately after soldering/cleaning/test, to prevent the traces to break at the weak point between solder joint and flex cover film. See IMG\_0713-staking.jpg. The GND side is the one with one fewer pins.

The electroless Nickel-Gold finish on the rigid carrier is less than 100nm Gold, which does not impose any problems for solder joint due to Gold contamination.

## Images:

IMG_0713-staking.jpg	Staking of a bilobe connector
idef-x_assy.png	Assembly drawing, component locations
idef-x_assybot.png	Assembly drawing, backside component locations

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## v05 Assembly

Capacitors with 2-digit numbers are on the backside, except C37.

All resistors shall be populated from flight parts

R1	3.3k $\Omega$	0603	READ LVDS termination
R2	100 $\Omega$	0603	DOUT series termination (CMOS, reflective wave)
R3,R4	100 $\Omega$	0603	TRIG series termination (LDVS, 100 $\mu$ A)
R5,R6	100 $\Omega$	0603	AOUT series termination (Analog)
R7	50 $\Omega$	0603	TEST parallel termination (Analog)
R8	1M $\Omega$	0805	VBIAS filter
R9	100k $\Omega$	0603	VDD0 filter

All top side capacitors on 0805 pads shall be populated from flight parts

C2,C3,C9,C6,C7	220nF 0805
C1,C4,C5	100nF 0805 (or 220nF 0805 if we have enough)

All bias filter capacitors shall be KEMET parts

C8,C80,C80	100nF 1206 200V X7R KEMET
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All other blocking capacitors on the backside shall be KEMET parts

C37,C33,C77,C71,C72	10 $\mu$ F 1206 16V X7R KEMET	3.3V analog
C22,C66,C61,C62	10 $\mu$ F 1206 16V X7R KEMET	2.5V analog
C11,C44,C45	10 $\mu$ F 1206 16V X7R KEMET	3.3V digital
C55	10 $\mu$ F 1206 16V X7R KEMET	3.3V aout buffer
C99	10 $\mu$ F 1206 16V X7R KEMET	3.3V prot. diodes