

RF modules need to be mounted on mounting plate.  
VCO box is 1050\_128 variant.

Cable V4 is 34-pin twisted-pair flat-ribbon.  
V5 are 3 pairs of twisted hook up wire.

Cables for V2 and V3 are twisted pair and soldered to the amplifiers.  
Solder a 10nF capacitor across each power terminal.

Adjust power levels by adding attenuators values before B9:  
Pasternack PE7161/PE7001.

For PLL variants connect SMA tee to tune input of VCO oscillator  
and connect the SMA cable to PLL SMA connector.

FDD variants use a by-10 divider rather than by-16.

For PLL variants use hook-up wire to connect V15, VCC and OK.  
Solder the OK wire to the bottom side of TP14 on the power board.  
Use rear panel D1300808-v1 instead of D090607-B.

- PN2 2U chassis LIGO D0900142-v2
- PN3 Mounting Plate LIGO D0900608-v5
- PN4 Front Panel LIGO D0900606-v2
- PN5 Rear Panel LIGO D0900607-B
- PN6 Filter Mounting Plate LIGO D1101899-v1

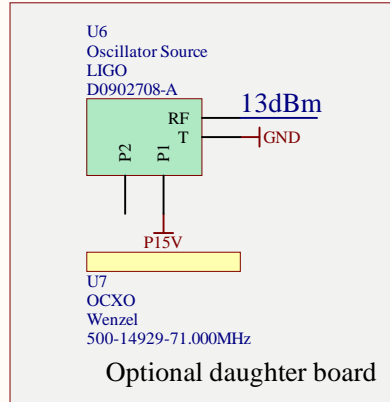
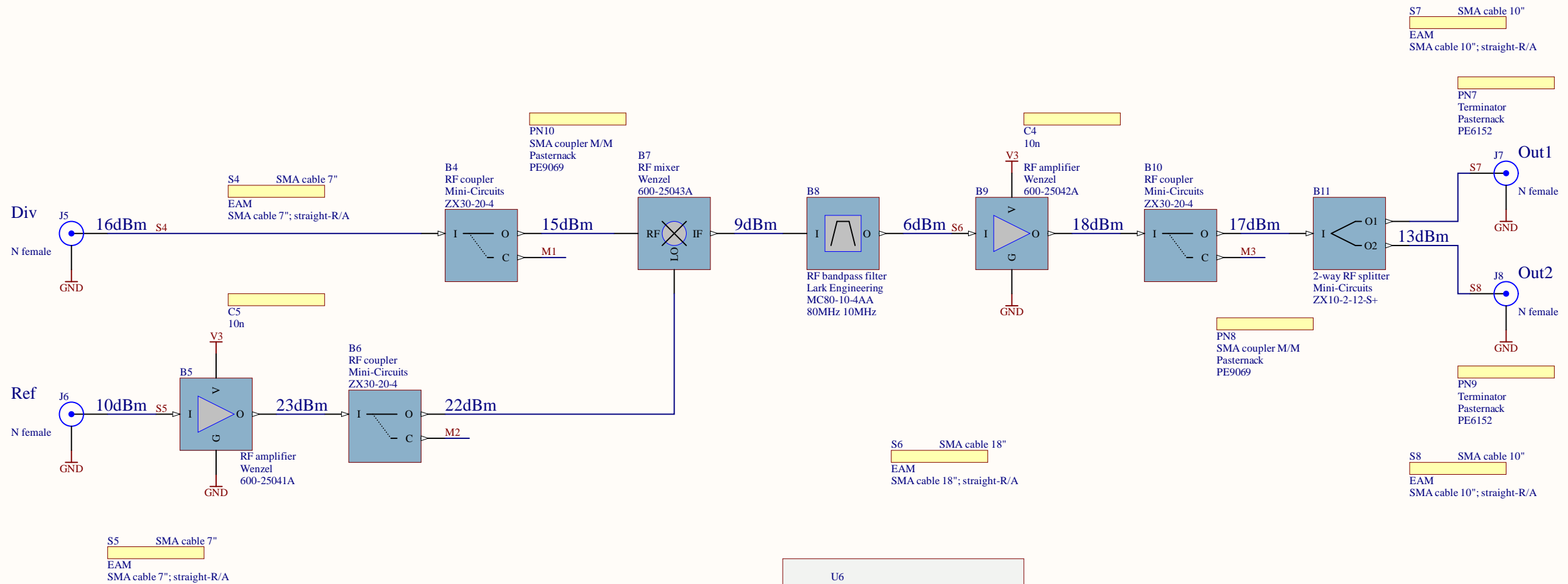
- PN1 Cable, 1 pair, shielded Mouser 566-9501-100
- V2/V3 cables

- M1 SMA cable 7" EAM SMA cable 7"; straight-R/A
- M2 SMA cable 18" EAM SMA cable 18"; straight-R/A
- M3 SMA cable 18" EAM SMA cable 18"; straight-R/A
- M1-3 cables

- S1 SMA cable 6" EAM SMA cable 6"; straight-R/A
- S2 SMA cable 6" EAM SMA cable 6"; straight-R/A

- S3 SMA cable 7" EAM SMA cable 12"; straight-R/A

Title <b>Low Noise VCO</b>		
Size B	Number <b>D0900605</b>	Revision <b>5</b>
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File: C:\Users\...\VCO1.SchDoc	Drawn By: Daniel Sigg	



Title <b>Frequency Difference Divider</b>		
Size B	Number <b>D0900605</b>	Revision <b>5</b>
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H1	Handle, 3"	E5	#4-40 3/16" flat	E6	#4-40 3/16" flat
H2	Handle, 3"	E7	#4-40 3/16" flat	E8	#4-40 3/16" flat
Mouser		E9	#4-40 3/16" flat	E10	#4-40 3/16" flat
534-9109		E11	#4-40 3/16" flat	E12	#4-40 3/16" flat
H11	Ferrule	E13	#4-40 3/16" flat	E14	#4-40 3/16" flat
H12	Ferrule	E15	#4-40 3/16" flat	E16	#4-40 3/16" flat
H21	Ferrule	E17	#4-40 3/16" flat	E18	#4-40 3/16" flat
H30	Ferrule	E19	#4-40 3/16" flat	E20	#4-40 3/16" flat
Mouser		E21	#4-40 3/16" flat	E22	#4-40 3/16" flat
534-9121		E23	#4-40 3/16" flat	E24	#4-40 3/16" flat
H46	#6-32 1/4" flat	E25	#4-40 3/16" flat	E26	#4-40 3/16" flat
H55	#6-32 1/4" flat	E27	#4-40 3/16" flat	E28	#4-40 3/16" flat
H64	#6-32 1/4" flat	E29	#4-40 3/16" flat	E30	#4-40 3/16" flat
H73	#6-32 1/4" flat	E31	#4-40 3/16" flat	E32	#4-40 3/16" flat
H77	#6-32 1/4" flat	E33	#4-40 3/16" flat	E34	#4-40 3/16" flat
H80	#6-32 1/4" flat	E35	#4-40 3/16" flat	E36	#4-40 3/16" flat
McMaster-Carr		E37	#4-40 3/16" flat	E38	#4-40 3/16" flat
91099A205		E39	#4-40 3/16" flat	E40	#4-40 3/16" flat
H85	#6-32 3/8" flat	E41	#4-40 3/16" flat	E42	#4-40 3/16" flat
H88	#6-32 3/8" flat	E43	#4-40 3/16" flat	E44	#4-40 3/16" flat
H91	#6-32 3/8" flat	E45	#4-40 3/16" flat	E46	#4-40 3/16" flat
H94	#6-32 3/8" flat	E47	#4-40 3/16" flat	E48	#4-40 3/16" flat
McMaster-Carr					
91099A215					
Enclosure					

H3	#2-56 flat head, 3/8"	H4	#2-56 pan head, 1/4"	H5	#0-80 flat head, 1/4"
McMaster-Carr		McMaster-Carr		McMaster-Carr	
91771A105		90272A077		91771A055	
H13	#2-56 flat head, 3/8"	H14	#2-56 pan head, 1/4"	H15	#0-80 flat head, 1/4"
H22	#2-56 flat head, 3/8"	H23	#2-56 pan head, 1/4"	H24	#0-80 flat head, 1/4"
H31	#2-56 flat head, 3/8"	H32	#2-56 pan head, 1/4"	H33	#0-80 flat head, 1/4"
H39	#2-56 flat head, 3/8"	H40	#2-56 pan head, 1/4"	H49	#2-56 pan head, 1/4"
H47	#2-56 flat head, 3/8"	H48	#2-56 pan head, 1/4"	H58	#2-56 pan head, 1/4"
H56	#2-56 flat head, 3/8"	H57	#2-56 pan head, 1/4"	H67	#2-56 pan head, 1/4"
H65	#2-56 flat head, 3/8"	H66	#2-56 pan head, 1/4"	H75	#2-56 pan head, 1/4"
H74	#2-56 flat head, 3/8"				
H78	#2-56 flat head, 3/8"				
H81	#2-56 flat head, 3/8"				
H83	#2-56 flat head, 3/8"				
H86	#2-56 flat head, 3/8"				
H89	#2-56 flat head, 3/8"				
H92	#2-56 flat head, 3/8"				
H95	#2-56 flat head, 3/8"				
Wenzel/Filter					

H6	M2.5 pan head, 8mm	H7	M2.5 washer	H8	M2.5 lock washer	H9	M2.5 nut	H10	#4 washer, 62mil
McMaster-Carr		McMaster-Carr		McMaster-Carr		McMaster-Carr		McMaster-Carr	
92005A069		93475A196		93925A220		90591A113		98370A005	
H16	M2.5 pan head, 8mm	H17	M2.5 washer	H18	M2.5 lock washer	H19	M2.5 nut	H20	#4 washer, 62mil
H25	M2.5 pan head, 8mm	H26	M2.5 washer	H27	M2.5 lock washer	H28	M2.5 nut	H29	#4 washer, 62mil
H34	M2.5 pan head, 8mm	H35	M2.5 washer	H36	M2.5 lock washer	H37	M2.5 nut	H38	#4 washer, 62mil
H41	M2.5 pan head, 8mm	H42	M2.5 washer	H43	M2.5 lock washer	H44	M2.5 nut	H45	#4 washer, 62mil
H50	M2.5 pan head, 8mm	H51	M2.5 washer	H52	M2.5 lock washer	H53	M2.5 nut	H54	#4 washer, 62mil
H59	M2.5 pan head, 8mm	H60	M2.5 washer	H61	M2.5 lock washer	H62	M2.5 nut	H63	#4 washer, 62mil
H68	M2.5 pan head, 8mm	H69	M2.5 washer	H70	M2.5 lock washer	H71	M2.5 nut	H72	#4 washer, 62mil
H76	M2.5 washer								
H79	M2.5 washer								
H82	M2.5 washer								
H84	M2.5 washer								
H87	M2.5 washer								
H90	M2.5 washer								
H93	M2.5 washer								
H96	M2.5 washer								
Couplers/Splitter									

H107	#4-40 SHCS, 1-1/4"
McMaster-Carr	
92196A032	
H108#4-40 SHCS, 1-1/4"	
H109#4-40 SHCS, 1-1/4"	
H110#4-40 SHCS, 1-1/4"	
Box	

H98	#6-32 pan, lock washer, 5/16"	E49	#6-32 1/4" flat
McMaster-Carr		E52	#6-32 1/4" flat
96909A445		E55	#6-32 1/4" flat
H99	#6-32 pan, lock washer, 5/16"	E58	#6-32 1/4" flat
H100#6-32 pan, lock washer, 5/16"		E64	BNC lock washer
H101#6-32 pan, lock washer, 5/16"		E66	BNC nut
H102#6-32 pan, lock washer, 5/16"		E67	BNC lock washer
H103#6-32 pan, lock washer, 5/16"		E68	BNC nut
H104#6-32 pan, lock washer, 5/16"		E69	BNC lock washer
H105#6-32 pan, lock washer, 5/16"		E70	BNC nut
H106#6-32 pan, lock washer, 5/16"			
Base plate/PCBs			

H97	#6-32 1/4" flat	E50	BNC lock washer	E51	BNC lock washer
McMaster-Carr		E53	BNC nut	E54	BNC nut
91099A205		E56	BNC lock washer	E57	BNC lock washer
E59	BNC nut	E60	BNC nut	E62	BNC lock washer
E61	BNC lock washer	E63	BNC nut	Digi-Key	
E63	BNC nut	Digi-Key		A97567-ND	
Digi-Key		A97566-ND		E65	BNC nut
PLL					

Title		
<b>Mounting Hardware</b>		
Size	Number	Revision
B	<b>D0900605</b>	<b>5</b>
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