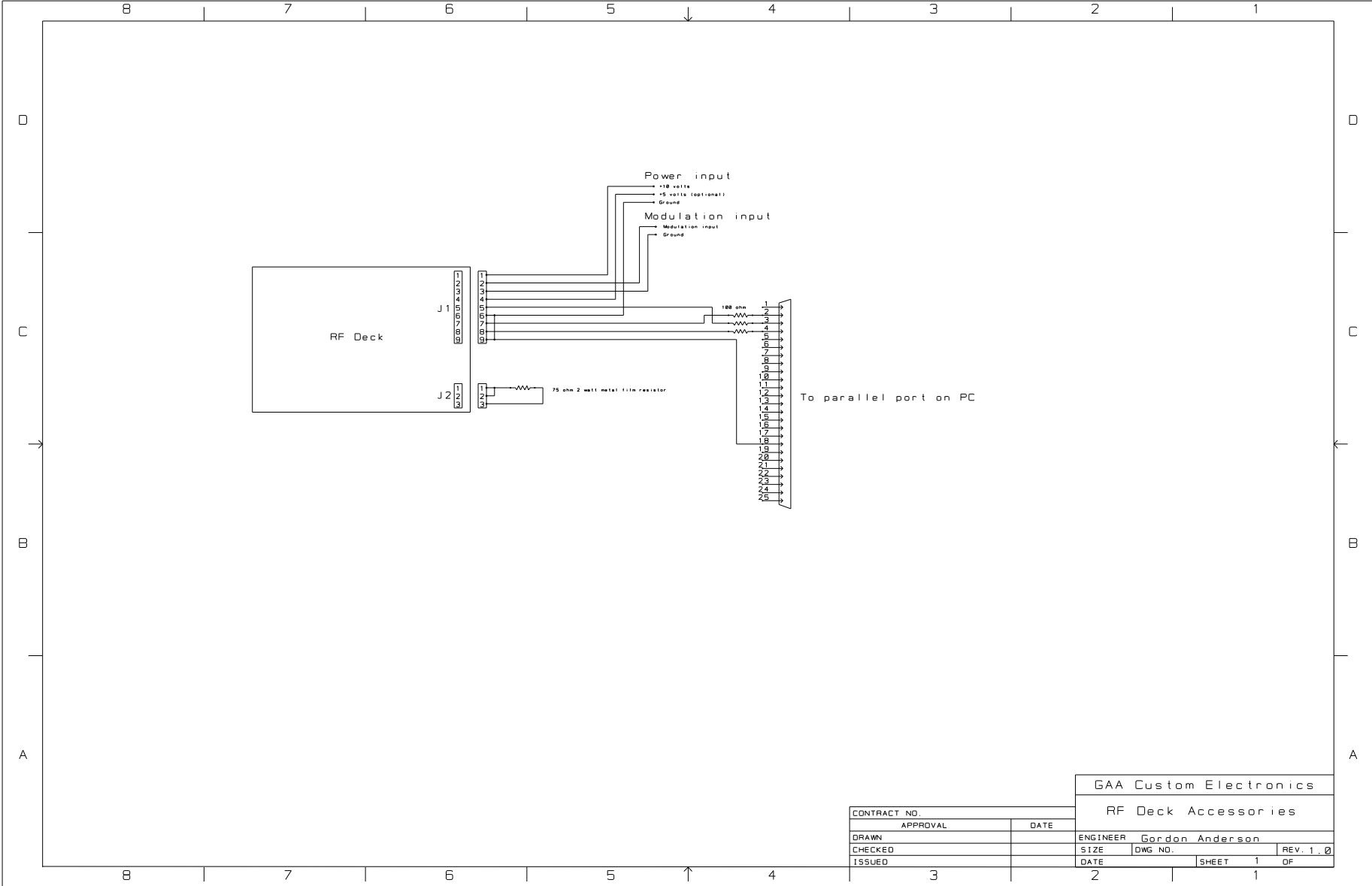


GAA Custom Electronics
 Synthesized RF Deck

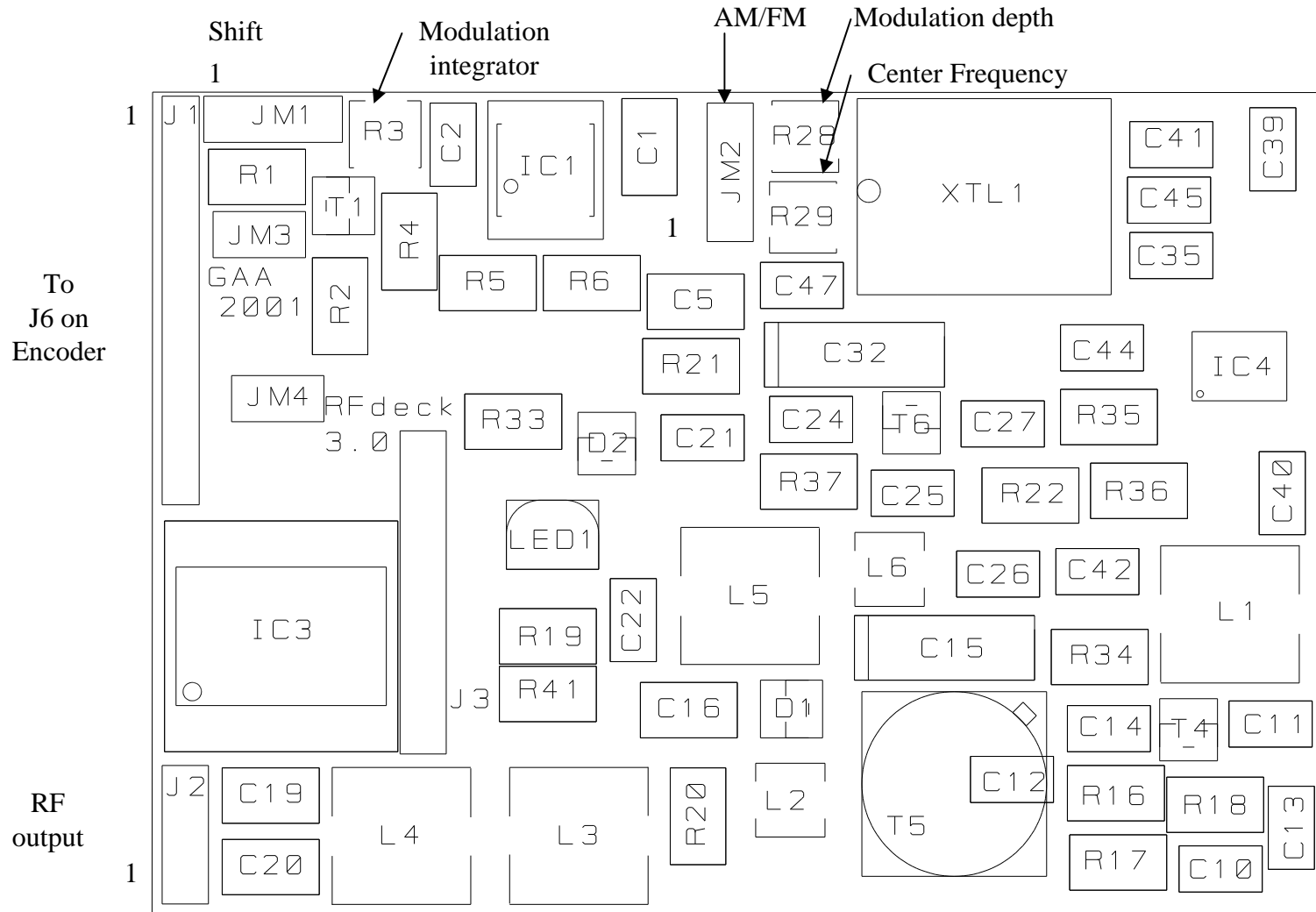
CONTRACT NO.	APPROVAL	DATE

ENGINEER	Gordon Anderson	
SIZE	DWG NO.	REV. 2.2
DATE	SHEET	1 OF
	2	1

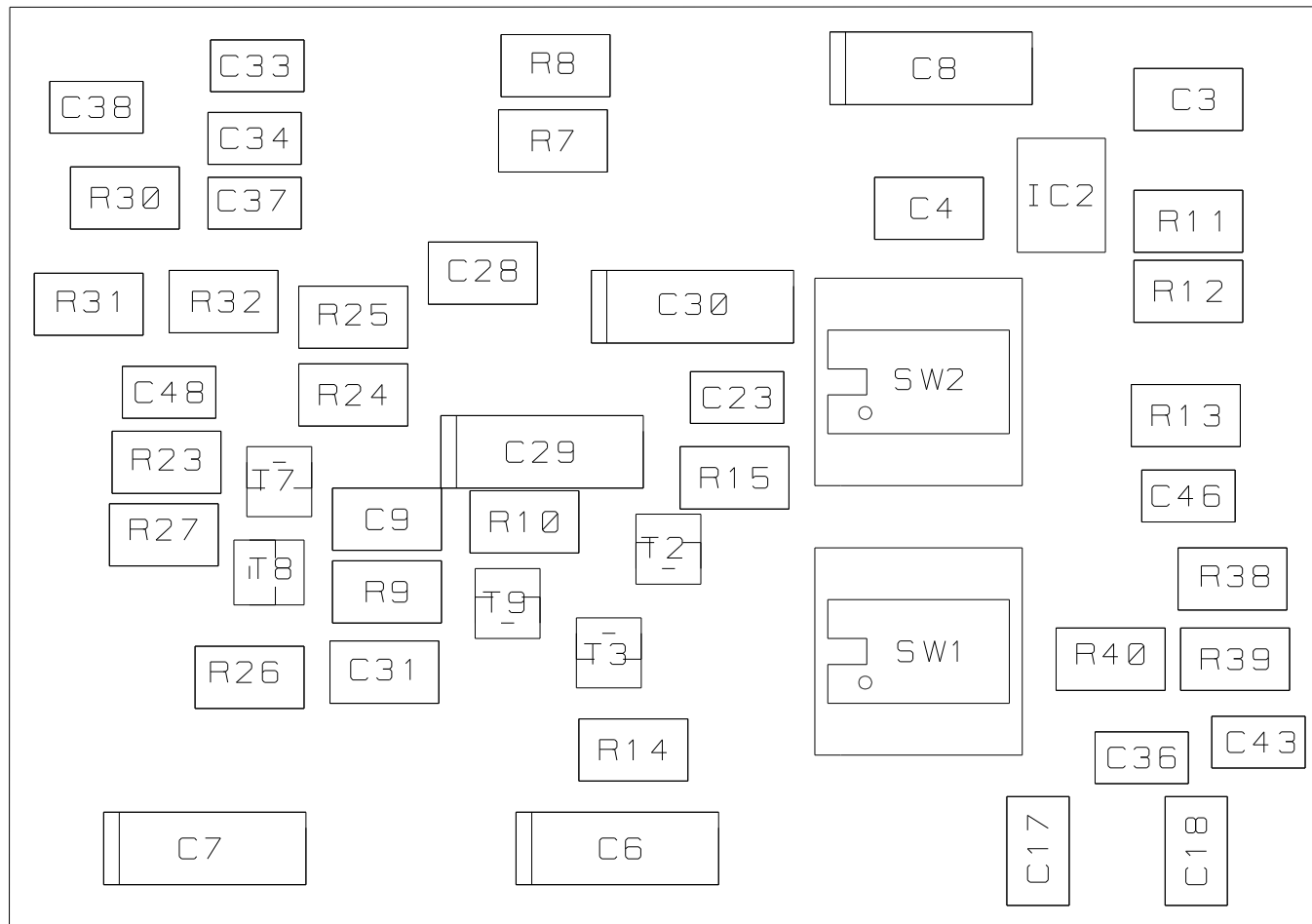


GAA Custom Electronics			
RF Deck Accessories			
CONTRACT NO.	APPROVAL	DATE	ENGINEER Gordon Anderson
DRAWN			SIZE DWG NO. REV. 1.0
CHECKED			DATE SHEET 1 OF
ISSUED			2 1

RF Deck Top, Component Side

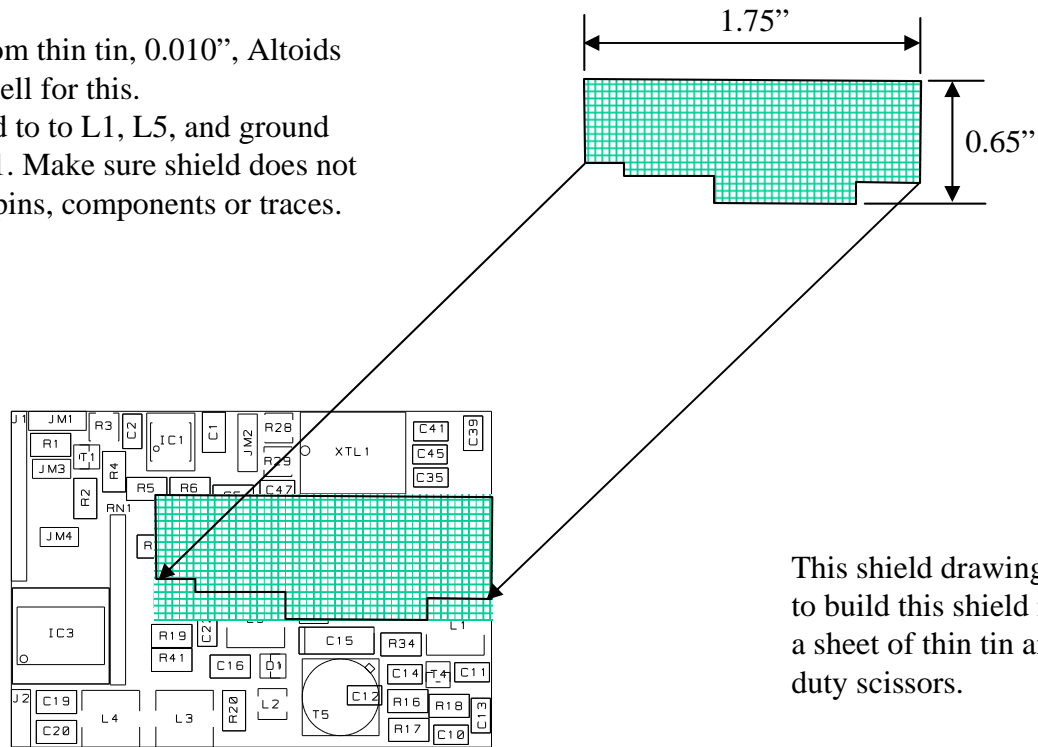


RF Deck Bottom, Solder Side



RF Deck shield

Fabricate from thin tin, 0.010", Altoids cans work well for this.
Solder shield to L1, L5, and ground pin on XTL1. Make sure shield does not touch other pins, components or traces.



This shield drawing is to scale. The best way to build this shield is to past this drawing to a sheet of thin tin and cut it out using heavy duty scissors.

RF Deck Parts List

Item	Quantity	ID	Part number	Description	Supplier	Cost each	Total cost	Notes
1	2	SW1,SW2	CKN3044-ND	BCD switch	Digikey	4.5	9	1
2	1	C9	77-VJ12Y50V103K	0.01uF 1206 X7R	Mouser	0.13	0.13	
3	1	IC2	TK11650UCT-ND	5V Regulator	Digikey	1.78	1.78	1
4	1	T1	FMMT2222ACT-ND	NPN transistor	Digikey	0.36	0.36	
5	3	T2,T3,T9	FMMT2907ACT-ND	PNP transistor	Digikey	0.36	1.08	
6	3	T4,T7,T8	BFS17HCT-ND	NPN RF transistor	Digikey	0.54	1.62	
7	1	T6	MMBF4416LT1	N FET	Allied	0.37	0.37	
8	1	T5	610-2N4427	NPN RF power transistor	Mouser	2.07	2.07	
9	1	IC1	MAX4123ESA	op-amp	Digikey	2.39	2.39	
10	1	IC4	LMX2306TM-ND	PLL, National	Digikey	5.48	5.48	
11	1	IC3	PIC16F628-20I/SO-ND	Microcontrollers	Digikey	4.35	4.35	1
12	1	R20	263-1	1 ohm resistor 1206	Mouser	0.019	0.019	
13	3	R30,R31,R34	263-10	10 ohm resistor 1206	Mouser	0.019	0.057	
14	2	R18,R22	263-100	100 ohm resistor 1206	Mouser	0.019	0.038	
15	4	R14,R15,R23, R26	263-470	470 ohm resistor 1206	Mouser	0.019	0.076	
16	6	R2,R4,R17,R1 9,R24,R27	263-1K	1K resistor 1206	Mouser	0.019	0.114	
17	1	R25	263-2.7K	2.7K resistor 1206	Mouser	0.019	0.019	
18	5	R5,R6,R8,R16 ,R40	263-4.7K	4.7K resistor 1206	Mouser	0.019	0.095	
19	10	R1,R7,R10,R1 1,R12,R13,R3 2,R38,R39,R4	263-10K	10K resistor 1206	Mouser	0.019	0.19	
20	1	R33	263-33K	33K resistor 1206	Mouser	0.019		
21	4	R9,R21,R35,R 37	263-100K	100K resistor 1206	Mouser	0.019		
22	1	R29	72-ST30A-5K	5K trimpot	Mouser	0.4	0.4	
23	2	R3,R28	72-ST30A-50K	50K trimpot	Mouser	0.4	0.8	
24	7	C6,C7,C8,C15 ,C29,C30,C32	PCT3106CT-ND	10 uF capacitor	Digikey	1.166	8.162	4

25	7	C1,C3,C4,C5, C16,C28,C31	140-CC502B104K	0.1 uF capacitor, 1205	Mouser	0.07	0.49	
26	3	C17,C18,C19	77-VJ12A100V101J	100 pF 1206 NPO	Mouser	0.053	0.159	
27	2	C17,C18	77-VJ12A100V470J	47 pF 1206 NPO	Mouser	0.053	0.106	5
28	1	C20	77-VJ12Y50V102K	1000 pF 1206 X7R	Mouser	0.053	0.053	
29	2	C33,C36	77-VJ08Y50V103K	0.01uF 805 X7R	Mouser	0.12	0.24	
30	1	C14	140-CC501N220J	20 pF 0805 NPO	Mouser	0.043	0.043	
31	4	C11,C24,C25, C26	140-CC501N220J	20 pF 0805 NPO	Mouser	0.043	0.172	
32	1	C22	140-CC501N470J	47 pF 0805 NPO	Mouser	0.043	0.043	
33	8	C12,C34,C37, C40,C42,C43, C45,C46	140-CC501N101J	100 pF 0805 NPO	Mouser	0.043	0.344	
34	2	C21,C23	140-CC501N121J	120 pF 0805 NPO	Mouser	0.043	0.086	
35	10	C2,C10,C13,C 27,C35,C38,C 39,C41,C44,C 48	140-CC501B102K	1000 pF 0805 NPO	Mouser	0.043	0.43	
36	3	L1,L3,L5	434-0712-6.5CS	.130-.145 uH inductor (blue)	Mouser	0.6	1.8	
37	1	L4	434-0712-8.5CS	.171-.190 uH inductor (gray)	Mouser	0.6	0.6	
38	2	L2,L6	435-18-100K	10 uH inductor	Mouser	0.84	1.68	
39	1	D1	MA3X152A0LCT-ND	Signal diode	Digikey	0.39	0.39	
40	1	D2	ZC830ACT-ND	Capacitance diode	Digikey	2.52	2.52	
41	1	LED1	67-1064-ND	LED	Digikey	0.117	0.117	
42	2	J1-J2,JM1- JM4	WM4010-ND	Straight header	Digikey	0.98	1.96	
43	1	XTL1	SE3605CT-ND	19.2 MHz VCXO	Digikey	13.68	13.68	
44	2		534-1798A	2-56 x .187" standoffs	Mouser	0.38	0.76	
45	1		HS217-ND	Heatsink	Digikey	0.5	0.5	

Grand Total

64.773

Notes

- 1 These components are required only for the stand alone version
- 2 R36 is not used
- 3 This is not a duplication of item 26. These 47 pF caps are soldered in parallel (soldered piggyback) with the 100 pF caps that are specified in item 26.
- 4 Sold in package of 10
- 5 C47 is not used

RF output spectral response

