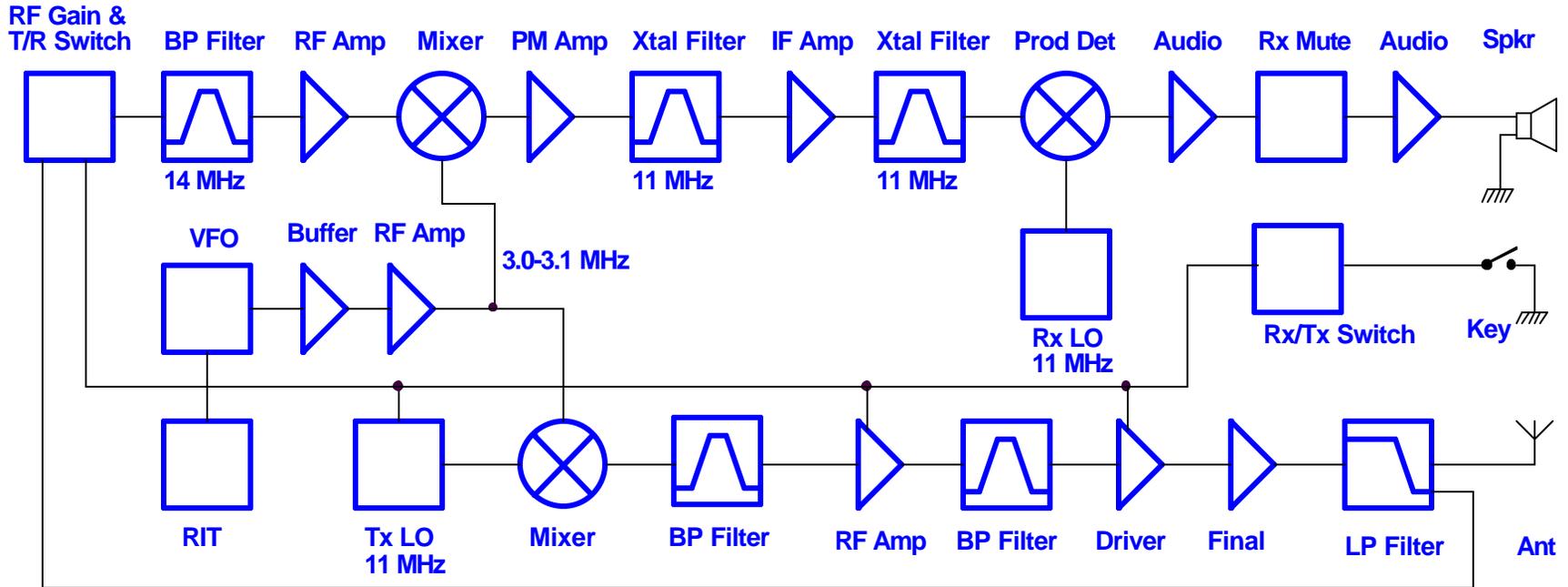


# 2N2/20 Block Diagram

## Receive Strip

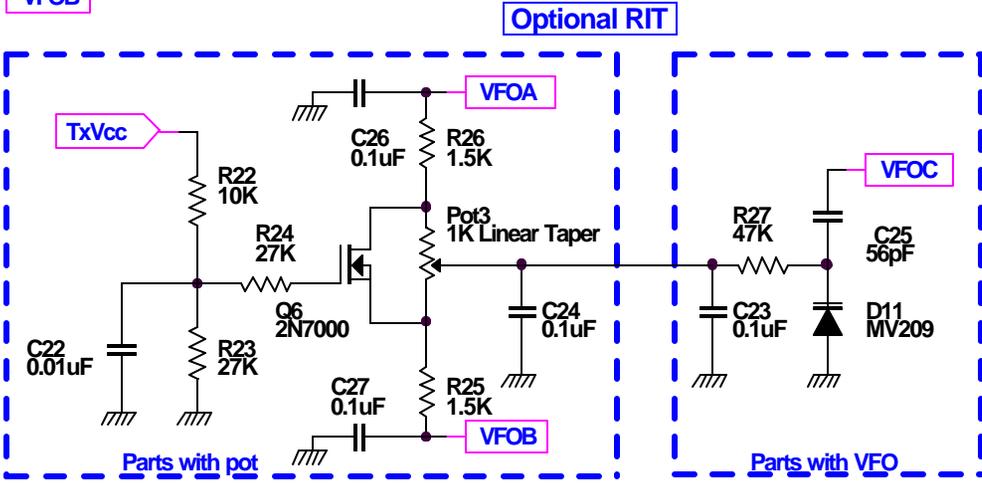
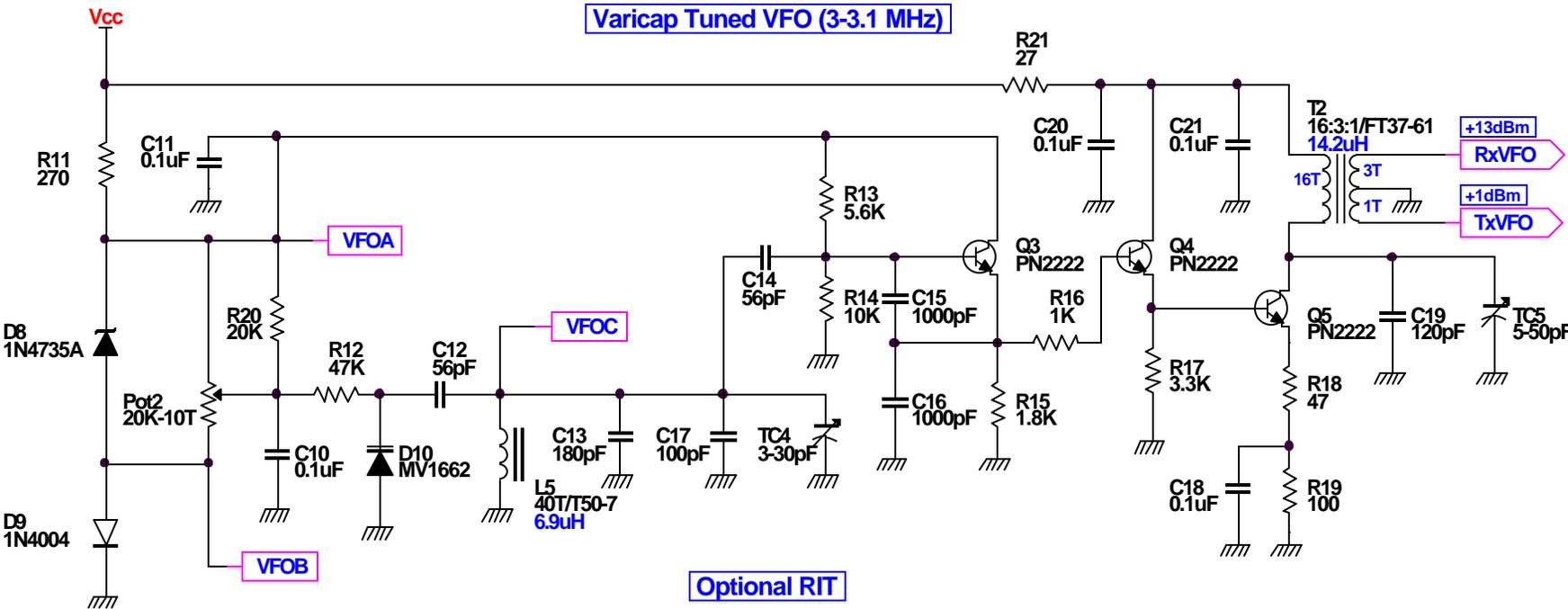


## Transmit Strip

Jim Kortge, K8IQY  
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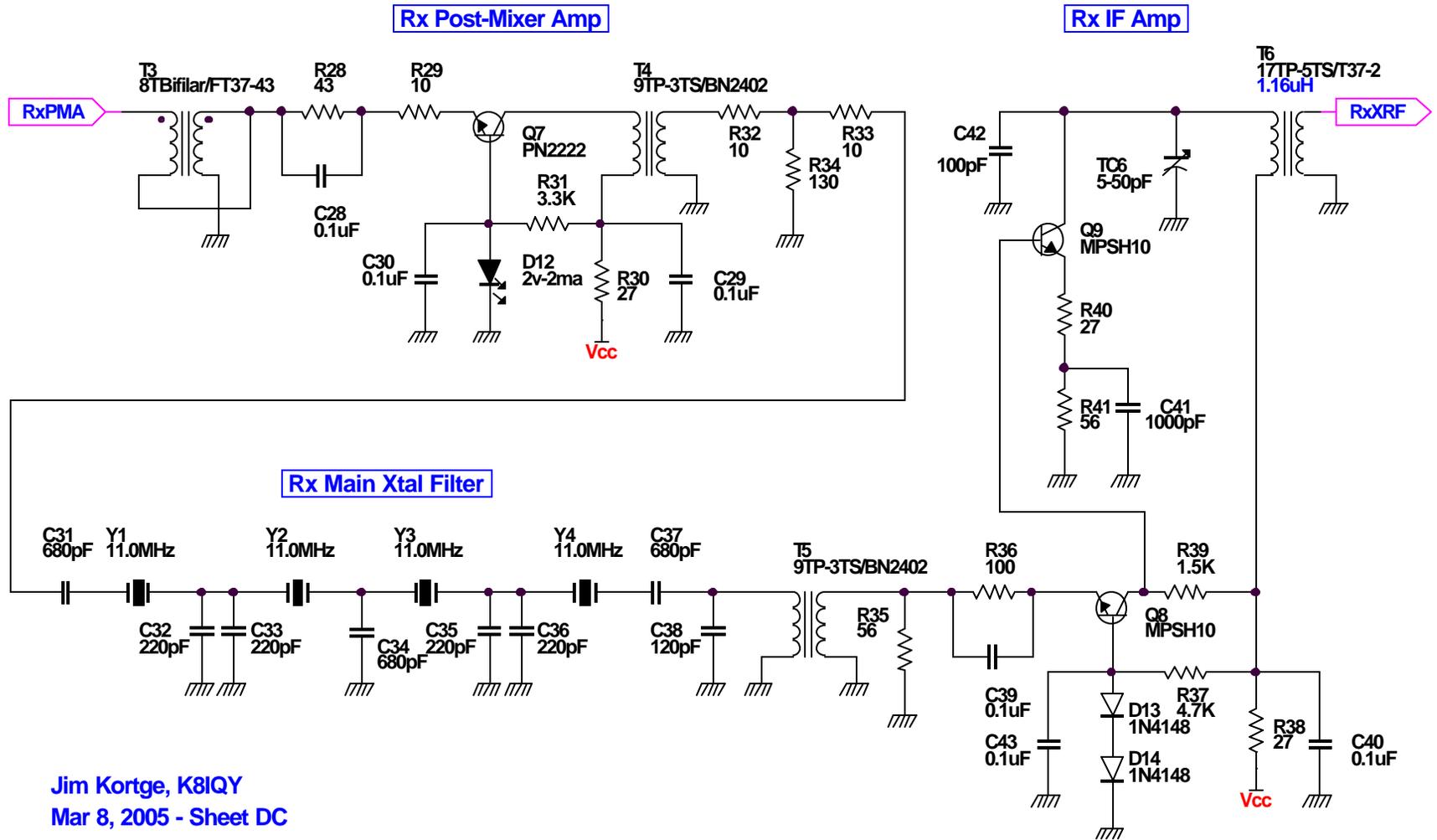


# K8IQY's 2N2/20, 20 Meter CW Transceiver



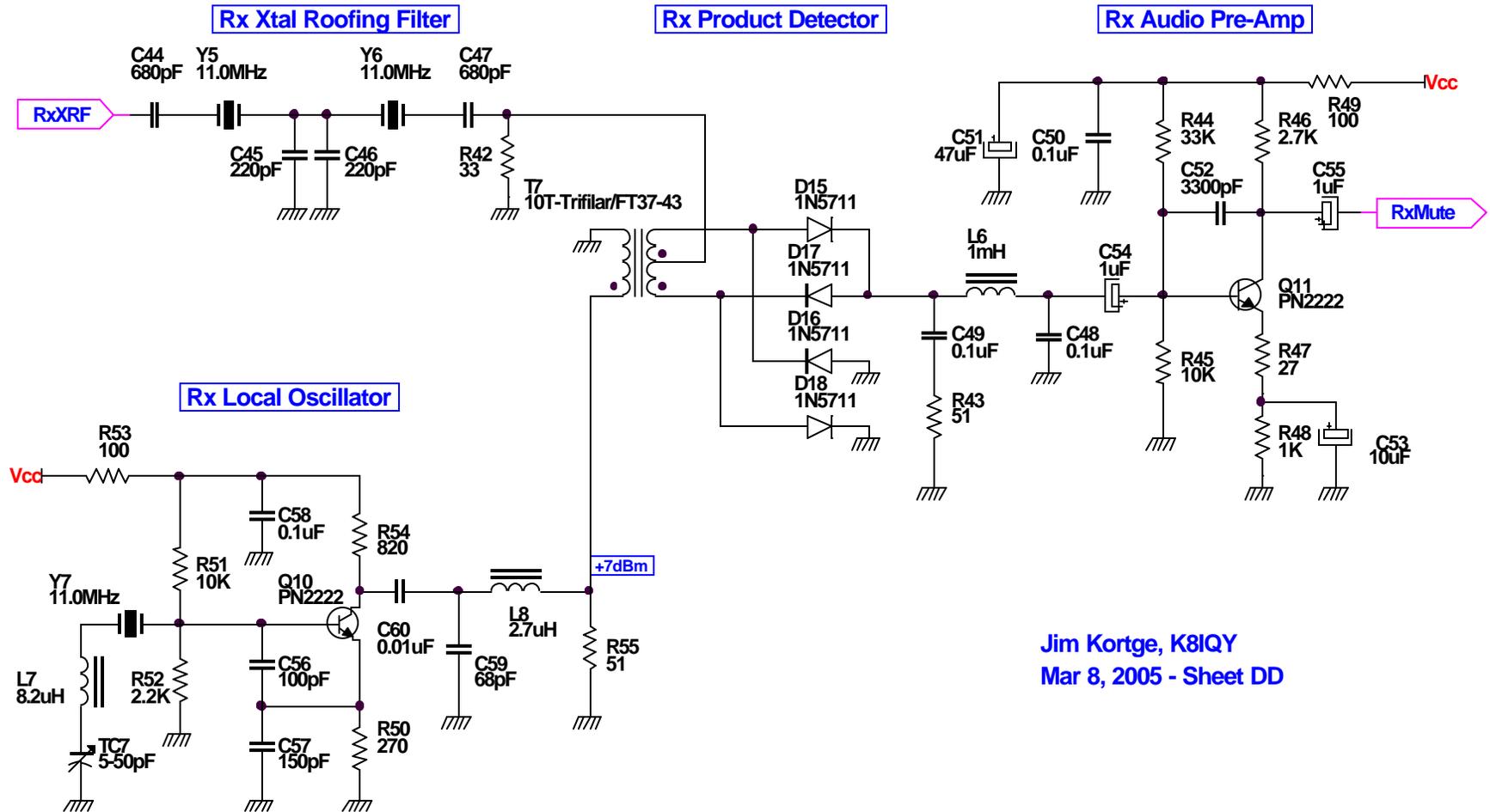
Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DB

# K8IQY's 2N2/20, 20 Meter CW Transceiver



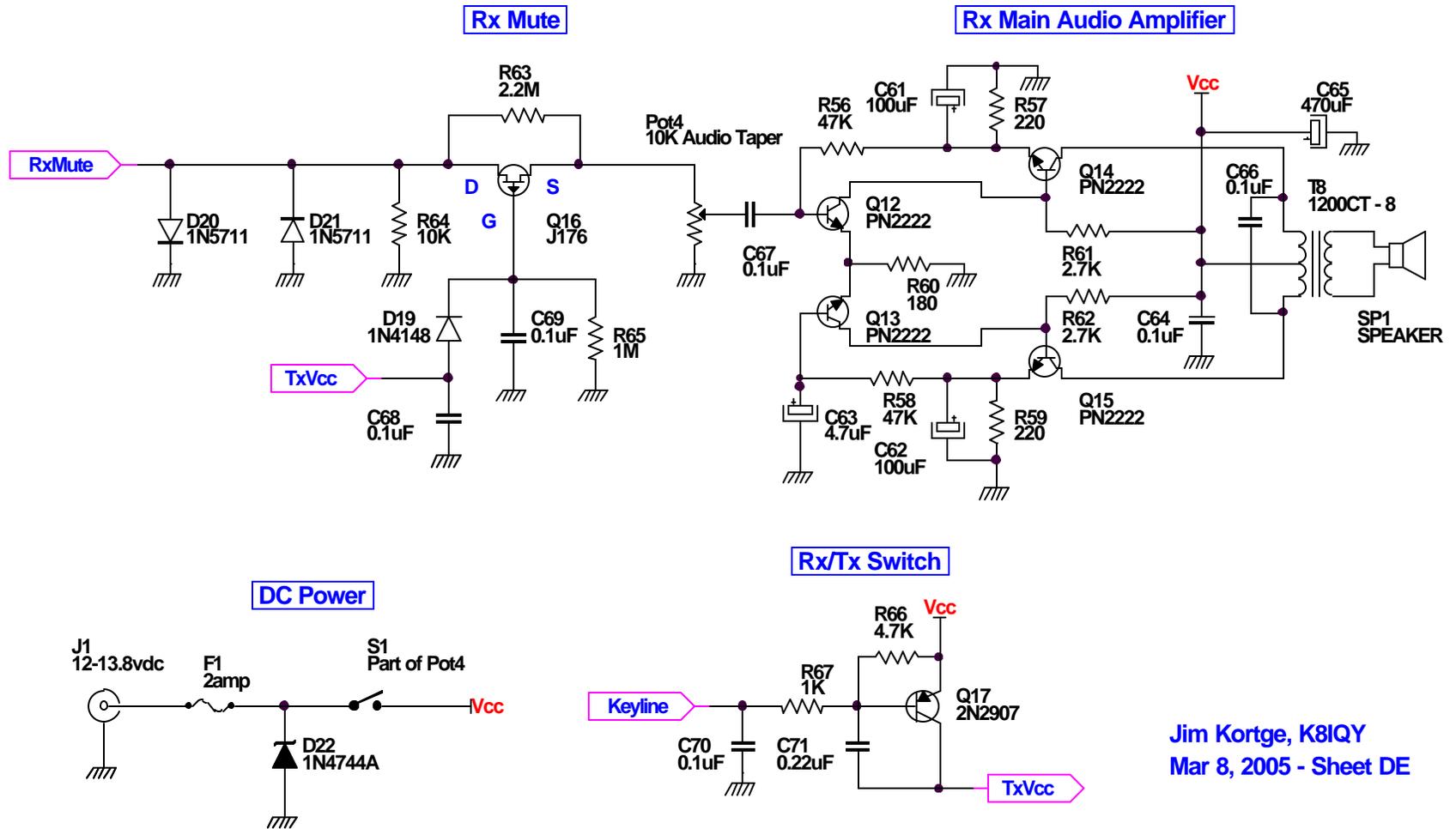
Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DC

# K8IQY's 2N2/20, 20 Meter CW Transceiver



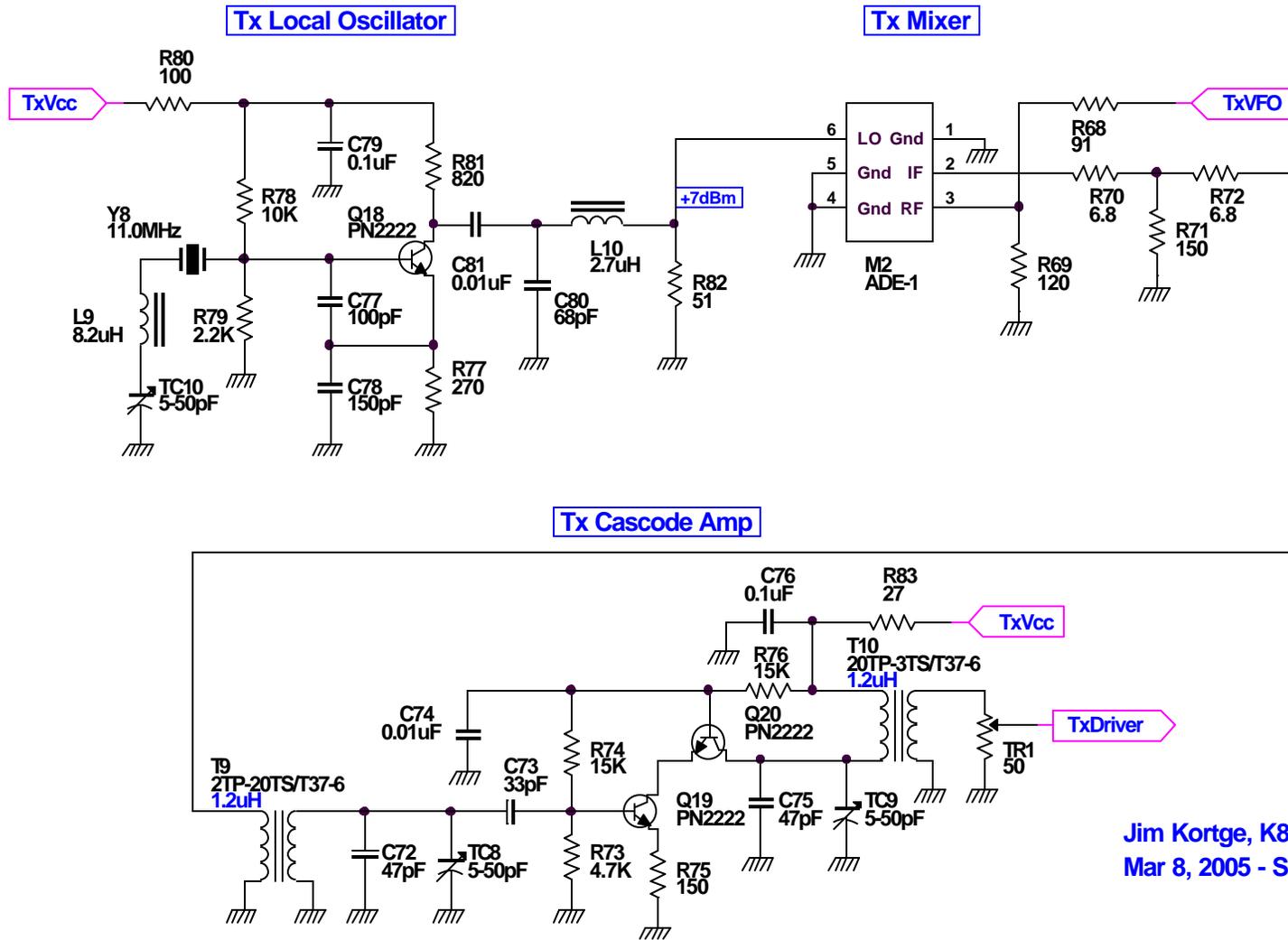
Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DD

# K8IQY's 2N2/20, 20 Meter CW Transceiver



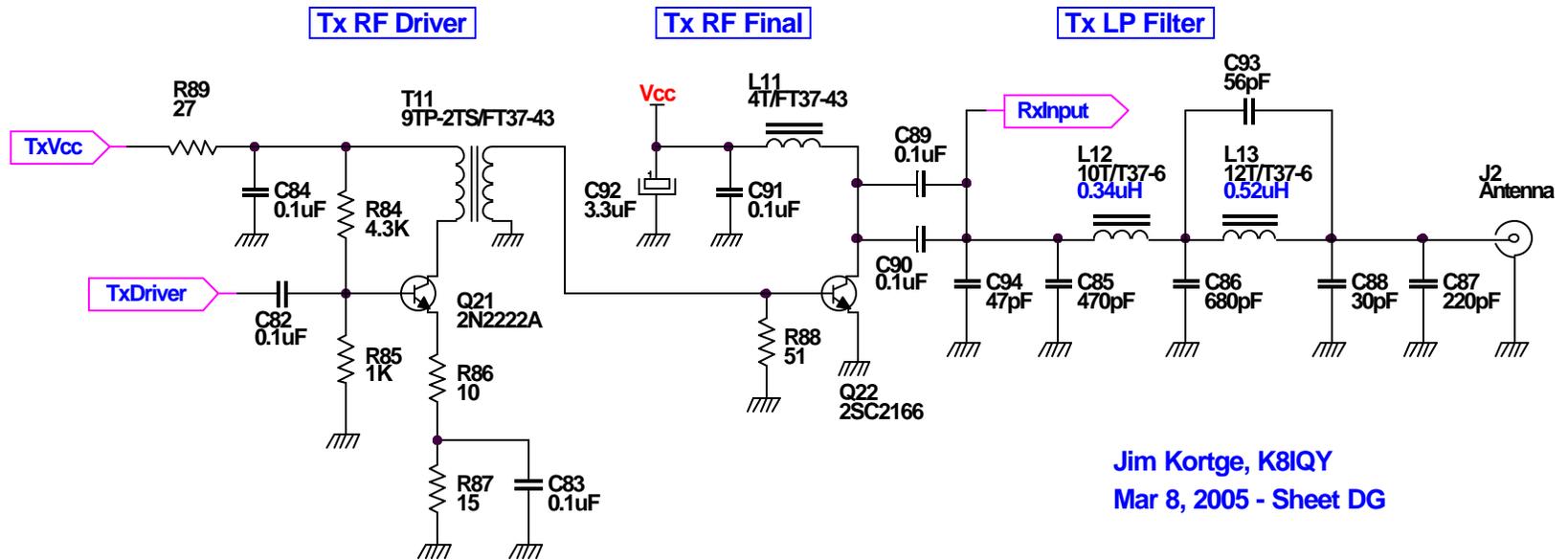
Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DE

# K8IQY's 2N2/20, 20 Meter CW Transceiver



Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DF

# K8IQY's 2N2/20, 20 Meter CW Transceiver



Jim Kortge, K8IQY  
Mar 8, 2005 - Sheet DG

2N2/20 Bill of Materials - Version 3/8/2005				
Item	Qty	References	Value	Supplier
<b>Capacitors</b>				
1	1	C3	2.0pF NPO ceramic	Mouser Electronics
2	1	C88	30pF NPO ceramic	Mouser Electronics
3	1	C73	33pF NPO ceramic	Mouser Electronics
4	3	C72,C75,C94	47pF NPO ceramic	Mouser Electronics
5	4	C12,C14,C25,C93	56pF NPO ceramic	Mouser Electronics
6	2	C59,C80	68pF NPO ceramic	Mouser Electronics
7	2	C2,C4	82 pF NPO ceramic	Mouser Electronics
8	3	C42,C56,C77	100pF NPO ceramic	Mouser Electronics
9	1	C17	100pF Polystyrene	Mouser Electronics
10	2	C19,C38	120pF NPO ceramic	Mouser Electronics
11	2	C57,C78	150pF NPO ceramic	Mouser Electronics
12	1	C13	180pF NPO ceramic	Mouser Electronics
13	7	C32,C33,C35,C36,C45,C46,C87	220pF NPO ceramic	Mouser Electronics
14	1	C85	470pF NPO ceramic	Mouser Electronics
15	6	C31,C34,C37,C44,C47,C86	680pF NPO ceramic	Mouser Electronics
16	3	C15,C16, C41	1000pF NPO ceramic	Mouser Electronics
17	2	C1,C5	1200 pF NPO ceramic	Mouser Electronics
18	1	C52	3300pF NPO ceramic	Mouser Electronics
19	4	C22,C60,C74,C81,95,96	0.01uF X7R ceramic	Mouser Electronics
20	37	C6,C7,C8,C9,C10,C11,C18,C20,C21,C23,C24,C26,C27,C28,C29,C30,C39,C40,C43,C48,C49,C50,C58,C64,C66,C67,C68,C69,C70,C76,C79,C82,C83,C84,C89,C90,C91	0.1uF X7R ceramic	Mouser Electronics
21	1	C71	0.22uF X7R ceramic	Mouser Electronics
22	2	C54,C55	1uF - 25V tantalum	Mouser Electronics
23	1	C92	3.3uF - 25V tantalum	Mouser Electronics
24	1	C63	4.7uF - 25V electrolytic	Mouser Electronics
25	1	C53	10uF - 25V electrolytic	Mouser Electronics
26	1	C51	47uF- 25V electrolytic	Mouser Electronics
27	2	C61,C62	100uF - 25V electrolytic	Mouser Electronics
28	1	C65	470uF - 25V electrolytic	Mouser Electronics
29	1	TC4	3-30pF yellow trimcap	Mouser Electronics
30	9	TC1,TC2,TC3,TC5,TC6,TC7,TC8,TC9,TC10	5-50 pF green trimcap	Mouser Electronics
<b>Resistors</b>				
31	2	R70,R72	6.8	Mouser Electronics
32	4	R29,R32,R33,R86	10	Mouser Electronics
33	1	R87	15	Mouser Electronics
34	2	R7,R8	16	Mouser Electronics
35	8	R5,R21,R30,R38,R40,R47,R83,R89	27	Mouser Electronics
36	1	R42	33	Mouser Electronics
37	1	R28	43	Mouser Electronics
38	1	R18	47	Mouser Electronics
39	5	R10,R43,R55,R82,R88	51	Mouser Electronics

2N2/20 Bill of Materials - Version 3/8/2005				
Item	Qty	References	Value	Supplier
40	3	R4,R35,R41	56	Mouser Electronics
41	1	R9	68	Mouser Electronics
42	1	R68	91	Mouser Electronics
43	5	R19,R36,R49,R53,R80	100	Mouser Electronics
44	1	R69	120	Mouser Electronics
45	1	R34	130	Mouser Electronics
46	2	R71,R75	150	Mouser Electronics
47	1	R60	180	Mouser Electronics
48	2	R57,R59	220	Mouser Electronics
49	3	R11,R50,R77	270	Mouser Electronics
50	2	R54,R81	820	Mouser Electronics
51	5	R16,R48,R67,R85,POT1	1K	Mouser Electronics
52	3	R25,R26,R39	1.5K	Mouser Electronics
53	1	R15	1.8K	Mouser Electronics
54	2	R52,R79	2.2K	Mouser Electronics
55	3	R46,R61,R62	2.7K	Mouser Electronics
56	3	R6,R17,R31	3.3K	Mouser Electronics
57	1	R3	3.9K	Mouser Electronics
58	1	R84	4.3K	Mouser Electronics
59	4	R2,R37,R66,R73	4.7K	Mouser Electronics
60	1	R13	5.6K	Mouser Electronics
61	6	R14,R22,R45,R51,R64,R78	10K	Mouser Electronics
62	3	R1,R74,R76	15K	Mouser Electronics
63	1	R20	20K	Mouser Electronics
64	2	R23,R24	27K	Mouser Electronics
65	1	R44	33K	Mouser Electronics
66	4	R12,R27,R56,R58	47K	Mouser Electronics
67	1	R65,R90	1M	Mouser Electronics
68	1	R63	2.2M	Mouser Electronics
69	1	TR1	50 1-turn trimpot	Mouser Electronics
70	1	Pot1	1K Audio Taper	Mouser Electronics
71	1	Pot2	20K-10T	Mouser Electronics
72	1	Pot3	1K Linear Taper with center detent	Mouser Electronics
73	1	Pot4	10K Audio Taper	Mouser Electronics
74	1	S1	S1 is part of Pot4	
		<b>Semiconductors</b>		
75	8	D1,D2,D3,D5,D7,D13,D14,D19	1N4148	Mouser Electronics
76	3	D4,D6,D12	2v-2ma LED	Mouser Electronics
77	1	D8	1N4735A - 6.8V, 1 Watt	Mouser Electronics
78	1	D9	1N4004	Mouser Electronics
79	1	D10	MV1662	Hosfelt Electronics
80	1	D11	MV209	Hosfelt Electronics

2N2/20 Bill of Materials - Version 3/8/2005				
Item	Qty	References	Value	Supplier
81	6	D15,D16,D17,D18,D20,D21	1N5711	Mouser Electronics
82	1	D22	1N4744A - 15V, 1 Watt	Mouser Electronics
83	14	Q1,Q3,Q4,Q5,Q7,Q10,Q11,Q12,Q13,Q14,Q15,Q18,Q19,Q20	PN2222	Mouser Electronics
84	1	Q2	2N4124	Mouser Electronics
85	1	Q6	2N7000	Mouser Electronics
86	2	Q8,Q9	MPSH10	Mouser Electronics
87	1	Q16	J176	Mouser Electronics
88	1	Q17	2N2907	Mouser Electronics
89	1	Q21	2N2222A	Mouser Electronics
90	1	Q22	2SC2166 (Substitute 2SC2075)	Consolidated Electronics KitsandParts
<b>Inductors</b>				
91	2	L8,L10	2.7uH molded	Mouser Electronics
92	1	L1	5.6 uH molded	Mouser Electronics
93	1	L5	40T/T50-7	KitsandParts
94	2	L7,L9	8.2uH molded	Mouser Electronics
95	1	L4	100uH molded	Mouser Electronics
96	1	L6	1mH molded	Mouser Electronics
97	2	L2,L3	18T/T37-6	KitsandParts
98	1	L11	4T/FT37-43	KitsandParts
99	1	L12	10T/T37-6	KitsandParts
100	1	L13	12T/T37-6	KitsandParts
<b>Transformers</b>				
101	1	T1	1:4:11T/FT37-43	KitsandParts
102	1	T2	16:3:1/FT37-61	KitsandParts
103	1	T3	8TBifilar/FT37-43	KitsandParts
104	2	T4,T5	9TP-3TS/BN2402	KitsandParts
105	1	T6	17TP-5TS/T37-2	KitsandParts
106	1	T7	10T-Trifilar/FT37-43	KitsandParts
107	1	T8	1200CT - 8 Ohm audio transformer	Mouser Electronics
108	1	T9	2TP-20TS/T37-6	KitsandParts
109	1	T10	20TP-3TS/T37-6	KitsandParts
110	1	T11	9TP-2TS/FT37-43	KitsandParts
<b>Miscellaneous Parts</b>				
111	2	M1,M2	ADE-1 (or SCM-1) mixer	MiniCircuits
112	8	Y1,Y2,Y3,Y4,Y5,Y6,Y7,Y8	11.0MHz crystal ECS-110-S-1	Mouser Electronics
113	1	F1	Fuse holder & 2 amp fuse	Mouser Electronics
114	1	J1	12-13.8vdc power jack	Mouser Electronics
115	1	J2	Antenna BNC connector	Mouser Electronics
116	1	SP1	Speaker jack	Mouser Electronics