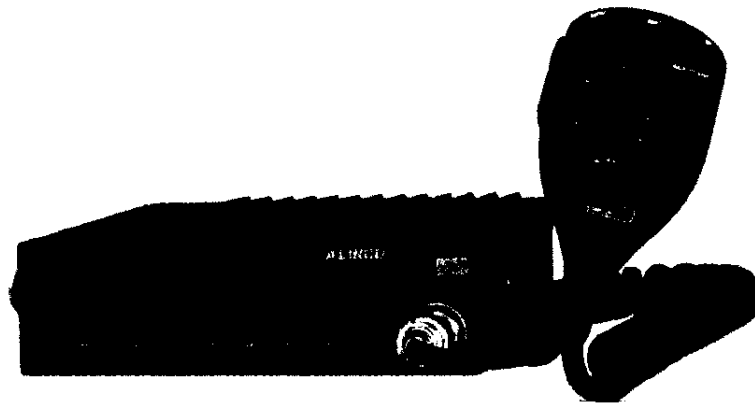


VHF FM TRANSCEIVER

# DR-112 T/E

## Service Manual



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**ALINCO ELECTRONICS INC.**

# ■ PARTS LIST

Ref. No.	Part Code	Part Name and Number
<b>APC Unit</b>		
R1	RK0039	Chip R, MCR10EZJH222E
R2	RK0035	Chip R, MCR10EZJH102E
R3	RK0037	Chip R, MCR10EZJH152E
R4	RK0062	Chip R, MCR10EZJH103E
R5	RK0052	Chip R, MCR10EZJH103E
R6	RK0038	Chip R, MCR10EZJH122E
C1	CU8016	Chip C, C2012B1H102K
C2	CS0084	Chip Tantal, TMC1A155TR
C3	CU8024	Chip C, C2012B1H472K
C4	CU8016	Chip C, C2012B1H102K
C5	CU8024	Chip C, C2012B1H472K
C6	CU8016	Chip C, C2012B1H102K
Q1	XU0020	Transistor FMW1T98
Q2	XU0020	Transistor FMW1T98
Q3	XU0038	Transistor 2SA1037KT96R
<b>Lock SW Unit</b>		
R1	RK0045	Chip R, MCR10EZJH472E
R2	RK0045	Chip R, MCR10EZJH472E
R3	RK0045	Chip R, MCR10EZJH472E
R4	RK0045	Chip R, MCR10EZJH472E
R5	RK0045	Chip R, MCR10EZJH472E
R6	RK0052	Chip R, MCR10EZJH103E
C1	CU8016	Chip C, C2012B1H102K
C2	CU8016	Chip C, C2012B1H102K
D1	XD0040	Diode DAN202K T96
Q1	XT0038	Transistor 2SA1037KT96R
Q2	XT0038	Transistor 2SA1037KT96R
Q3	XT0037	Transistor 2SC2412KT96R
<b>IF Unit</b>		
R1	RK0069	Chip R, MCR10EZJH104E
R2	RK0069	Chip R, MCR10EZJH104E
R4	RK0042	Chip R, MCR10EZJH332E
R5	RK0038	Chip R, MCR10EZJH182E
C2	CU8016	Chip C, C2012B1H102K
C3	CU0068	Chip C, C2012CH1H330J
C4	CU8024	Chip C, C2012B1H472K
C5	CU2059	Chip C, C2012L1H561J
C6	CU8024	Chip C, C2012B1H472K
C7	CU8028	Chip C, C2012B1H103K
C8	CU8003	Chip C, C2012JF1E104Z
C9	CU8003	Chip C, C2012JF1E104Z
C10	CU8003	Chip C, C2012JF1E104Z
IC1	XA0070	IC, MC3361D T
L1	QC0049	Coil, NL322522T-221K
L2	QC0050	Coil, NL453232T-102K
<b>SQL Unit</b>		
R1	RK0069	Chip R, MCR10EZJH104E
R2	RK0040	Chip R, MCR10EZJH272E
R3	RK0039	Chip R, MCR10EZJH222E
R4	RK0056	Chip R, MCR10EZJH223E
R5	RK0042	Chip R, MCR10EZJH332E
R6	RK0048	Chip R, MCR10EZJH682E
R7	RK0052	Chip R, MCR10EZJH103E
R8	RK0069	Chip R, MCR10EZJH104E
R9	RK0045	Chip R, MCR10EZJH472E
R10	RK0079	Chip R, MCR10EZJH474E
R11	RK0057	Chip R, MCR10EZJH273E
R12	RK0056	Chip R, MCR10EZJH223E
R13	RK0039	Chip R, MCR10EZJH222E
R14	RK0061	Chip R, MCR10EZJH393E
R15	RK0057	Chip R, MCR10EZJH273E
R17	RK0039	Chip R, MCR10EZJH222E

Ref. No.	Part Code	Part Name and Number
C1	CU8016	Chip C, C2012B1H102K
C2	CU0068	Chip C, C2012CH1H330J
C4	CU9015	Chip C, 3216E 0.1 μFZ
C5	CU8038	Chip C, CM316Y5V105Z25VAT
C6	CS0085	Chip Tantal, TMC1D684TR
C7	CU8035	Chip C, C2012B1E393K
C8	CU8035	Chip C, C2012B1E393K
C9	CU8030	Chip C, C2012B1H153K
C10	CU8034	Chip C, C2012B1E333K
D1	XD0103	Diode ISS226TE85L
D2	XD0041	Diode DAP202KT96
Q1	XT0037	Transistor, 2SC2412KT96R
Q2	XT0037	Transistor, 2SC2412KT96R
Q3	XT0076	Transistor, 2SC3295BTE85L
Q4	XT0076	Transistor, 2SC3295BTE85L
Q5	XT0037	Transistor, 2SC2412KT96R
Q6	XT0037	Transistor, 2SC2412KT96R
<b>MIC Unit</b>		
R1	RK0063	Chip R, MCR10EZJH123E
R2	RK0062	Chip R, MCR10EZJH473E
R3	RK0064	Chip R, MCR10EZJH563E
R4	RK0018	Chip R, MCR10EZJH101E
R5	RK0071	Chip R, MCR10EZJH154E
R6	RK0089	Chip R, MCR10EZJH104E
R7	RK0018	Chip R, MCR10EZJH101E
R8	RK0062	Chip R, MCR10EZJH473E
R9	RK0062	Chip R, MCR10EZJH473E
R10	RK0030	Chip R, MCR10EZJH561E
R11	RK0074	Chip R, MCR10EZJH274E
R12	RK0064	Chip R, MCR10EZJH563E
R13	RK0073	Chip R, MCR10EZJH224E
R14	RK0067	Chip R, MCR10EZJH823E
R15	RK0067	Chip R, MCR10EZJH823E
R16	RK0067	Chip R, MCR10EZJH823E
R17	RK0052	Chip R, MCR10EZJH103E
R18	RK0107	Chip R, MCR10EZJH000E
C1	CU8032	Chip C, C2012B1E223K
C2	CU8038	Chip C, CM316Y5V105Z25VAT
C3	CU8034	Chip C, C2012B1E333K
C4	CU8032	Chip C, C2012B1E223K
C6	CU8038	Chip C, CM316Y5V105Z25VAT
C7	CU0071	Chip C, C2012CH1H101J
C8	CU8021	Chip C, C2012B1H272K
C9	CU8038	Chip C, CM316Y5V105Z25VAT
C10	CU0071	Chip C, C2012CH1H101J
C11	CU8015	Chip C, C2012B1H821K
IC1	XA0068	IC, M5218FP-T01-1
IC2	XA0068	IC, M5218FP-T01-1
<b>1750 Hz Tone Burst Unit</b>		
R1	RK0079	Chip R, MCR10EZJH474E
R2	RK0062	Chip R, MCR10EZJH473E
R3	RK0069	Chip R, MCR10EZJH104E
R4	RK0056	Chip R, MCR10EZJH223E
R5	RK0052	Chip R, MCR10EZJH103E
R7	RK0107	Chip R, MCR10EZJH000E
R8	RK0107	Chip R, MCR10EZJH000E
R9	RK0068	Chip R, MCR10EZJH106E
R10	RK0107	Chip R, MCR10EZJH000E
R11	RK0062	Chip R, MCR10EZJH473E
R12	RK0018	Chip R, MCR10EZJH101E
R13	RK0035	Chip R, MCR10EZJH102E
R14	RK0035	Chip R, MCR10EZJH102E
R15	RK0062	Chip R, MCR10EZJH473E
R16	RK0107	Chip R, MCR10EZJH000E
R17	RK0107	Chip R, MCR10EZJH000E
R18	RK0062	Chip R, MCR10EZJH473E
R19	RK0107	Chip R, MCR10EZJH000E
VR1	RH0031	VR, CVR-42A-103AW1D

Ref. No.	Part Code	Part Name and Number
Q1	XT0037	Transistor, 2SC2412KT96R
Q2	XT0038	Transistor, 2SA1037KT96R
X1	XQ0021	X'Tal DSMAT 3.58 MHz
IC2	XA0084	IC, MPD40208G-T1
IC3	XA0085	IC, MPD40608G-T1
<b>Tone Squelch Unit</b>		
R1	RK0062	Chip R, MCR10EZJH473E
R2	RK0062	Chip R, MCR10EZJH473E
R3	RK0039	Chip R, MCR10EZJH222E
R4	RK0073	Chip R, MCR10EZJH224E
R5	RK0062	Chip R, MCR10EZJH473E
R6	RK0031	Chip R, MCR10EZJH881E
R7	RK0052	Chip R, MCR10EZJH103E
R8	RK0052	Chip R, MCR10EZJH103E
R9	RK0039	Chip R, MCR10EZJH222E
R10	RK0068	Chip R, MCR10EZJH106E
R11	RK0062	Chip R, MCR10EZJH473E
R12	RK0022	Chip R, MCR10EZJH221E
R13	RK0052	Chip R, MCR10EZJH103E
R14	RK0050	Chip R, MCR10EZJH822E
R15	RK0039	Chip R, MCR10EZJH222E
R16	RK0071	Chip R, MCR10EZJH154E
R17	RK0053	Chip R, MCR10EZJH123E
R18	RK0050	Chip R, MCR10EZJH822E
R19	RK0035	Chip R, MCR10EZJH102E
R20	RK0107	Chip R, MCR10EZJH000E
C1	CS0049	Chip Tantal, TMC1C106TR
C2	CS0049	Chip Tantal, TMC1C106TR
C3	CU8003	Chip C, C2012JF1E104Z
C4	CU8003	Chip C, C2012JF1E104Z
C5	CU8028	Chip C, C2012B1H103K
C6	CU0051	Chip Tantal, TMC1C106TR
C8	CU8003	Chip C, C2012JF1E104Z
C11	CS0051	Chip Tantal, TMC1C106TR
C12	CS0049	Chip Tantal, TMC1C106TR
C13	CU8038	Chip C, C3216B1H105K
C14	CS0049	Chip Tantal, TMC1C106TR
C15	CS0050	Chip Tantal, TMC1A475TR
C16	CC0105	Ceramic C, 50 V 4 pF CH
C17	CU8003	Chip C, C2012JF1E104Z
Q1	XU0002	Transistor, DTC114YKT96
Q2	XU0002	Transistor, DTC114YKT96
Q3	XT0037	Transistor, 2SC2412KT96R
Q4	XU0002	Transistor, DTC114YKT96
Q5	XU0002	Transistor, DTC114YKT96
Q6	XT0037	Transistor, 2SC2412KT96R
Q7	XU0002	Transistor, DTC114YKT96
IC1	XA0020	IC, MN6520
IC2	XA0019	IC, MPD4094BG
FAR1	XB0002	FAR, C4CA04194000K01
VR1	RH0051	VR, CVR-42A-472AW1D

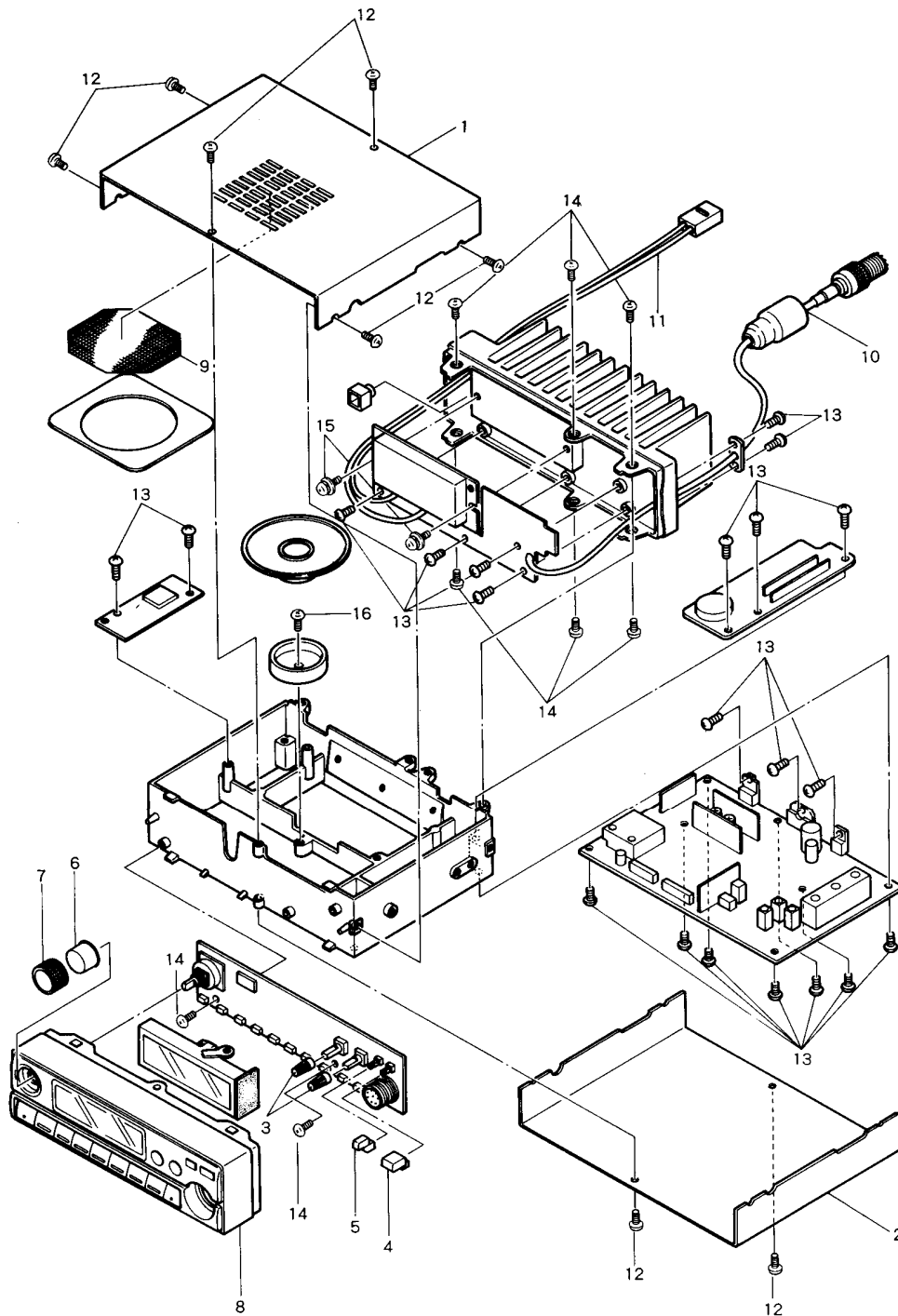
Ref No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number
<b>MAIN Unit</b>			C84	CU8028	Chip C, 2125B1H103K	R54	RK0044	Chip R, 2125MCR10392J
C1	CU0066	Chip C, 2125CH1H330J	C85	CU8028	Chip C, 2125B1H103K	R55	RK0056	Chip R, 2125MCR10223J
C2	CU0061	Chip C, 2125CH1H120J	C86	CU8038	Chip C, 3216Y5V1E105Z	R56	RK0039	Chip R, 2125MCR10222J
C3	CU0009	Chip C, 2125CH1H080D	C87	CU8034	Chip C, 2125B1E333K	R58	RK0018	Chip R, 2125MCR10101J
C4	CU0010	Chip C, 2125CH1H090D	C88	CE0064	Chemical C, 10 V MS947	R59	RK0056	Chip R, 2125MCR10223J
C5	CU8016	Chip C, 2125B1H102K	C89	CE0064	Chemical C, 10 V MS947	R80	RK0052	Chip R, 2125MCR10103J
C6	CU8018	Chip C, 2125B1H102K	C90	CE0064	Chemical C, 10 V MS947	R82	RK0052	Chip R, 2125MCR10103J
C7	CU8028	Chip C, 2125B1H103K	C91	CE0151	Chemical C, 10 V SSP470	R83	RK0082	Chip R, 2125MCR10473J
C8	CU8016	Chip C, 2125B1H102K	C92	CU8003	Chip C, 21251EY104Z	R84	RK0040	Chip R, 2125MCR10272J
C9	CU8016	Chip C, 2125B1H102K	C93	CE0183	Chemical C, 16 V SSP1000	R85	RK0040	Chip R, 2125MCR10272J
C10	CU8028	Chip C, 2125B1H103K	C96	CE0125	Chemical C, 25 V MS74R7	R86	RK0050	Chip R, 2125MCR10822J
C11	CU0005	Chip C, 2125CH1H040C	C97	CE0030	Chemical C, 16 V MS710	R87	RK0038	Chip R, 2125MCR10182J
C12	CU0062	Chip C, 2125CH1H150J	C101	CE0030	Chemical C, 16 V MS710	R88	RK0052	Chip R, 2125MCR10103J
C13	CU8016	Chip C, 2125B1H102K	C102			R89	RK0052	Chip R, 2125MCR10103J
C14	CU8028	Chip C, 2125B1H103K	C103	CE0199	Chemical C, 16 V MS7100	R70	RK0045	Chip R, 2125MCR10472J
C15	CU0006	Chip C, 2125CH1H050C	C114	CU0006	Chip C, 2125CH1H060C	R71	RK0056	Chip R, 2125MCR10223J
C16	CU8016	Chip C, 2125B1H102K	C115	CU0061	Chip C, 2125CH1H120J	R72	RK0052	Chip R, 2125MCR10103J
C17	CU8028	Chip C, 2125B1H103K	C116	CU0006	Chip C, 2125CH1H050C	R73	RK0056	Chip R, 2125MCR10223J
C18	CU8028	Chip C, 2125B1H103K	C117	CU0061	Chip C, 2125CH1H120J	R74	RK0018	Chip R, 2125MCR10101J
C19	CU8028	Chip C, 2125B1H103K	C118	CU0064	Chip C, 2125CH1H220J	R75	RK0035	Chip R, 2125MCR10102J
C20	CU8016	Chip C, 2125B1H102K	C120	CS0033	Chip Tantal TMC1A225TR	R76	RK0018	Chip R, 2125MCR10101J
C21	CU0064	Chemical C, 10 V MS947	C121	CU8016	Chip C, 2125B1H102K	R77	RK0035	Chip R, 2125MCR10102J
C22	CU2073	Chip C, 2125CHSL151J	C122	CU8016	Chip C, 2125B1H102K	R78	RK0056	Chip R, 2125MCR10223J
C23	CU8028	Chip C, 2125B1H103K	C123	CU0071	Chip C, 2125CH1H101J	R79	RK0052	Chip R, 2125MCR10103J
C25	CU0066	Chip C, 2125CH1H330J	C124	CU0071	Chip C, 2125CH1H101J	R80	RK0018	Chip R, 2125MCR10101J
C26	CE0030	Chemical C, 16 V MS710	C125	CU0071	Chip C, 2125CH1H101J	R81	RK0062	Chip R, 2125MCR10103J
C27	CU8016	Chip C, 2125B1H102K	C126	CU0071	Chip C, 2125CH1H101J	R82	RK0052	Chip R, 2125MCR10103J
C29	CU8028	Chip C, 2125B1H103K	C127	CU8016	Chip C, 2125B1H102K	R83	RK0031	Chip R, 2125MCR10681J
C30	CE0064	Chemical C, 10 V MS947	C128	CQ0007	Film C, 50 F2M473K	R84	RK0035	Chip R, 2125MCR10102J
C31	CE0064	Chemical C, 10 V MS947	C130	CS0064	Chip Tantal TMC1A155TR	R85	RK0062	Chip R, 2125MCR10473J
C32	CU8003	Chip C, 21251EY104Z	R1	RK0047	Chip R, 2125MCR10000	R86	RK0105	Chip R, 2125MCR102R2J
C33	CU8003	Chip C, 21251EY104Z	R2	RK0052	Chip R, 2125MCR10103J	R87	RK0082	Chip R, 2125MCR10473J
C34	CU8028	Chip C, 2125B1H103K	R3	RK0056	Chip R, 2125MCR10223J	R88	RK0057	Chip R, 2125MCR10273J
C35	CU8016	Chip C, 2125B1H102K	R4	RK0018	Chip R, 2125MCR10101J	R89	RK0018	Chip R, 2125MCR10101J
C36	CU8016	Chip C, 2125B1H102K	R5	RK0011	Chip R, 2125MCR10470J	R90	RK0038	Chip R, 2125MCR10182J
C37	CE0064	Chemical C, 10 V MS947	R6	RK0025	Chip R, 2125MCR10331J	R91	RK0020	Chip R, 2125MCR10151J
C38	CU8034	Chip C, 2125B1E333K	R7	RK0011	Chip R, 2125MCR10470J	R94	RK0039	Chip R, 2125MCR10222J
C39	CE0064	Chemical C, 10 V MS947	R8	RK0052	Chip R, 2125MCR10103J	R95	RK2008	Chip R, 2125MCR10220E
C40	CU8038	Chip C, 3216Y5V1E105Z	R9	RK0062	Chip R, 2125MCR10473J	R96	RK0089	Chip R, 2125MCR10104J
C41	CU8028	Chip C, 2125B1H103K	R10	RK0011	Chip R, 2125MCR10470J	R97	RK0052	Chip R, 2125MCR10103J
C42	CE0064	Chemical C, 10 V MS947	R11	RK0062	Chip R, 2125MCR10473J	R98	RK0089	Chip R, 2125MCR10104J
C43	CU8028	Chip C, 2125B1H103K	R12	RK0035	Chip R, 2125MCR10102J	R100	RK0045	Chip R, 2125MCR10472J
C44	CE0151	Chemical C, 10 V SSP 470	R13	RK0001	Chip R, 2125MCR10100J	R102	RK0045	Chip R, 2125MCR10472J
C45	CS0049	Chip Tantal TMC 1C105	R14	RK0074	Chip R, 2125MCR10274J	R103	RK0055	Chip R, 2125MCR10183J
C46	CE0064	Chemical C, 10 V MS947	R15	RK0018	Chip R, 2125MCR10101J	R104	RK0052	Chip R, 2125MCR10103J
C47	CU8016	Chip C, 2125B1H102K	R16	RK0038	Chip R, 2125MCR10182J	R105	RK0056	Chip R, 2125MCR10223J
C48	CU8028	Chip C, 2125B1H103K	R17	RK0082	Chip R, 2125MCR10473J	R106	RK0057	Chip R, 2125MCR10273J
C49	CU8028	Chip C, 2125B1H103K	R18	RK0052	Chip R, 2125MCR10103J	R107	RK0081	Chip R, 2125MCR10564J
C50	CU8028	Chip C, 2125B1H103K	R19	RK0018	Chip R, 2125MCR10101J	R108	RK0039	Chip R, 2125MCR10222J
C53	CU8028	Chip C, 2125B1H103K	R20	RK0028	Chip R, 2125MCR10471J	R109	RK0035	Chip R, 2125MCR10102J
C54	CU0064	Chip C, 2125CH1H220J	R21	RK0018	Chip R, 2125MCR10101J	R110	RK0089	Chip R, 2125MCR10104J
C55	CU0043	Chip C, 2125CHCH221K	R23	RK0038	Chip R, 2125MCR10182J	R111	RK0069	Chip R, 2125MCR10104J
C56	CU0071	Chip C, 2125CH1H101J	R25	RK0059	Chip R, 2125MCR10333J	R112	RK0069	Chip R, 2125MCR10104J
C57	CU0071	Chip C, 2125CH1H101J	R26	RK0035	Chip R, 2125MCR10102J	R113	RK0062	Chip R, 2125MCR10473J
C59	CQ0007	Film C, 50 V F2M473K	R27	RK0045	Chip R, 2125MCR10472J	R114	RK0035	Chip R, 2125MCR10102J
C60	CU0071	Chip C, 2125CH1H101J	R28	RK0056	Chip R, 2125MCR10223J	R115	RK0035	Chip R, 2125MCR10102J
C61	CU2051	Chip C, 2125CHSL471K	R29	RK0052	Chip R, 2125MCR10103J	R116	RK0035	Chip R, 2125MCR10102J
C62	CU8019	Chip C, 2125B1H182K	R30	RK0057	Chip R, 2125MCR10273J	R118	RK0107	Chip R, 2125MCR10000
C63	CU8028	Chip C, 2125B1H103K	R31	RK0035	Chip R, 2125MCR10102J	R121	RK0107	Chip R, 2125MCR10000
C65	CU8016	Chip C, 2125B1H102K	R33	RK0089	Chip R, 2125MCR10104J	R122	RK0107	Chip R, 2125MCR10000
C66	CS0060	Chip Tantal TMC1E474	R34	RK0039	Chip R, 2125MCR10222J	R124	RK0107	Chip R, 2125MCR10000
C67	CU8028	Chip C, 2125B1H103K	R35	RK0107	Chip R, 2125MCR10000	R127	RK0056	Chip R, 2125MCR10223J
C69	CS0049	Chip Tantal, TMC1C105	R36	RK0038	Chip R, 2125MCR10182J	R128	RK0057	Chip R, 2125MCR10273J
C70	CE0199	Chemical C, 16 V MS7100	R37	RK0052	Chip R, 2125MCR10103J	R129	RK0008	Chip R, 2125MCR10330J
C72	CU0066	Chip C, 2125CH1H330J	R38	RK0038	Chip R, 2125MCR10182J	R130	RK0052	Chip R, 2125MCR10103J
C73	CU8016	Chip C, 2125B1H102K	R40	RK0052	Chip R, 2125MCR10103J	R131	RK0052	Chip R, 2125MCR10103J
C74	CU0066	Chip C, 2125CH1H330J	R44	RK0045	Chip R, 2125MCR10472J	R132	RK0056	Chip R, 2125MCR10223J
C75	CU8028	Chip C, 2125B1H103K	R45	RK0062	Chip R, 2125MCR10473J	R135	RK0035	Chip R, 2125MCR10102J
C76	CU0011	Chip C, 2125CH1H100D	R46	RK0082	Chip R, 2125MCR10473J	R136	RD0116	R, R20R02JIRO
C77	CU8016	Chip C, 2125B1H102K	R47	RK0082	Chip R, 2125MCR10473J	R137	RK0035	Chip R, 2125MCR10102J
C78	CU0011	Chip C, 2125CH1H100D	R48	RK0082	Chip R, 2125MCR10473J			
C79	CU8028	Chip C, 2125B1H103K	R49	RK0082	Chip R, 2125MCR10473J	IC1	XA0082	IC, MC7808CT
C80	CU2051	Chip C, 2125CHSL471K	R50	RK0048	Chip R, 2125MCR10882J	IC2	XA0078	IC, M54959P
C81	CU8016	Chip C, 2125B1H102K	R51	RK0076	Chip R, 2125MCR10334J	IC4	XA0079	IC, MPC1241H
C82	CU8028	Chip C, 2125B1H103K	R52	RK0044	Chip R, 2125MCR10392J			
			R53	RK0076	Chip R, 2125MCR10334J			

Ref. No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number
VR1	RH0043	VR, VM6CK-PV-1S501B	L11	QL0007	Choke coil, 1R6mHR6A	C30	CU8016	Chip C, 2125B1H102K
VR2	RH0044	VR, VM6CK-PV-1S103B	L12	QC0045	Chip L, NL322522T3R3M	C31	CU8016	Chip C, 2125B1H102K
VR3	RH0044	VR, VM6CK-PV-1S103B	L13	QC0045	Chip L, NL322522T3R3M	C32	CU8016	Chip C, 2125B1H102K
VR4	RH0046	VR, VM6CK-PV-1S503B	L14	QC0034	Chip L, NL322522TR39M	C34	CU8016	Chip C, 2125B1H102K
VR5	RH0046	VR, VM6CK-PV-1S503B	L15	QK0032	Coil, 3x4x0.6	C35	CU8016	Chip C, 2125B1H102K
VR6	RH0044	VR, VM6CK-PV-1S103B	L16	QK0042	Coil, 3x5x0.6	PL1	EP0004	Lamp, BQ031-30659A
VR7	RH0045	VR, VM6CK-PV-1S303B	<b>PA Unit</b>			PL2	EP0004	Lamp, BQ031-30659A
VR8	RH0021	VR, H0651A 10KB				PL3	EP0004	Lamp, BQ031-30659A
FL1	XF0004	X. Fil, 10.7M15A49/T	C1	CE0044	Chemical C, 16 V MS5 10M	PL4	EP0003	Lamp, BQ031-30403A
FL2	XF0001	Ceramic Fil, CFW455F	C2	CE0044	Chemical C, 16 V MS5 10M	PL5	EP0003	Lamp, BQ031-30403A
X1	XQ0037	X'tal HC-49/u 12.8 MHz	C3	CC5002	Ceramic C, HM60SJS1.100D	PL6	EP0004	Lamp, BQ031-30659A
X2	XQ0039	X'tal HC-49/u 10.245 MHz	C4	CC5020	Ceramic C, HM60SJS1.180J	VR1	RV0010	Vol, EVU-F2AF20B54
TH1	XS0004	Thermistor TD5A150D	C5	CC5025	Ceramic C, HM60SJS1.102K	VR2	RV0009	Vol, EVU-F2AF20B14
TC1	CT0015	Trimmer C, CV05A0601	C6	CC5020	Ceramic C, HM60SJS1.180D	IC1	XA0072	F-IC, MB88543-142M
TC3	CT0025	Trimmer C, ECRLA020E12	C7	CC5023	Ceramic C, HM60SJS1.300J	IC2	XA0022	CMOS IC, MBL82C43PF
TC4	CT0025	Trimmer C, ECRLA020E12	C8	CC0102	Ceramic C, CC451HCH010	IC3	XA0033	IC, VPC393G-T
D1	XD0103	D, ISS226TE85L	C9	CC5003	Ceramic C, HM60SJS1.303J	IC4	XA0073	F-IC, MN1280-T
D2	XD0041	D, DAP202KT96	C10	CC0102	Ceramic C, CC451HCH010	IC5	XA0074	F-IC, AN8006
D3	XD0040	D, DAN202KT96	C11	CC5021	Ceramic C, HM60SJS1.220J	D1	XD0061	Chip D, DA204KT96
D4	XD0040	D, DAN202KT96	C12	CU8016	Chip C, 2125B1H102K	D2	XD0040	Chip D, DAN202KT96
D5	XD0104	Zener 02CZ6.2YTE85L	C13	CU8016	Chip C, 2125B1H102K	D6	XD0040	Chip D, DAN202KT96
D6	XD0041	D, DAP202KT96	C14	CU8016	Chip C, 2125B1H102K	Q1	XU0015	Digital TR DTC144TKT96
D7	XD0070	D, ISS265	C15	CU8016	Chip C, 2125B1H102K	Q4	XT0088	Chip TR, 2SA1213Y
D8	XD0070	D, ISS265	C16	CU8016	Chip C, 2125B1H102K	Q5		
D9	XD0041	D, DAP202KT96	C17	CK0003	Ceramic C, 50V102Z	R1	RK0052	Chip R, 2125MCR10103J
D10	XD0058	D, ISS181	C19	CU0009	Chip C, 2125CH1H080	R2	RK0018	Chip R, 2125MCR10101J
D11	XD0100	Vari cap, ISV184T1	L1	QK0044	Coil, 3x9.5x0.5	R3	RK0067	Chip R, 2125MCR10823
D12	XD0100	Vari cap, ISV184T1	L2	QK0031	Coil, 3x6T	R4	RK0054	Chip R, 2125MCR10153
D13	XD0100	Vari cap, ISV184T1	L3	QK0041	Coil, 3x4x0.8	R5	RK0071	Chip R, 2125MCR10154
D15	XD0078	D, DAN235KT96	L4	QK0044	Coil, 3x9.5x0.5	R6	RK0067	Chip R, 2125MCR10823
D16	XD0078	D, DAN235KT96	L5	QK0041	Coil, 3x4x0.8	R7	RK0059	Chip R, 2125MCR10333
D17	XD0040	D, DAN202KT96	L6	QK0041	Coil, 3x4x0.8	R8	RK0035	Chip R, 2125MCR10102J
D18	XD0040	D, DAN202KT96	L7	QC0051	Coil, FL4HIRO	R9	RK0062	Chip R, 2125MCR10473
D19	XD0080	D, RB400DT96	L8	QK0046	Coil, 2.2x2.25T	R10	RK0062	Chip R, 2125MCR10473
D20	XD0080	D, RB400DT96	L9	QK0046	Coil, 2.2x2.25T	R11	RK0045	Chip R, 2125MCR10472J
D21	XD0112	D, ISV128	R1	RD1008	R, R50x151J	R12	RK0062	Chip R, 2125MCR10473J
Q1	XE0013	Chip FET, 3SK184STX	R2	RD0054	R, R20x153J	R13	RK0062	Chip R, 2125MCR10473J
Q2	XE0012	Chip FET, 3SK131V12T1	VR1	RH0048	VR, TM64K2(PH)101B	R14	RK0062	Chip R, 2125MCR10473J
Q3	XT0059	Chip TR, 2SC3082KT96Q	FC1	XA0043	IC; M57726	R15	RK0062	Chip R, 2125MCR10473J
Q4	XT0077	Chip TR, 2SC328ATE85L	D1	XD0107	D, G3B	R16	RK0062	Chip R, 2125MCR10473J
Q5	XT0061	Chip TR, 2SB1132T100Q	D2	XD0106	PWD, UM9401	R17	RK0062	Chip R, 2125MCR10473J
Q6	XT0061	Chip TR, 2SB1132T100Q	D3	XD0014	PWD, M1308	R18	RK0062	Chip R, 2125MCR10473J
Q7	XU0018	Digital TR, DTC124EKT96	D4	XD0095	D, IS2472	R19	RK0062	Chip R, 2125MCR10473J
Q8	XU0018	Digital TR, DTC124EKT96	D5	XD0095	D, IS2472	R20	RK0062	Chip R, 2125MCR10473J
Q9	XT0037	Chip TR, 2SC2412KT96R	<b>Control Unit</b>			R21	RK0062	Chip R, 2125MCR10473J
Q11	XT0081	Chip TR, 2SC2714Y				C1	CU0071	Chip C, 2125CH1H101J
Q12	XT0081	Chip TR, 2SC2714Y	C2	CE0057	Chemical C, 6.3 V MS9 330M	R23	RK0062	Chip R, 2125MCR10473J
Q13	XT0037	Chip TR, 2SC2412KT96R	C3	CU8016	Chip C, 2125B1H102K	R24	RK0062	Chip R, 2125MCR10473J
Q14	XT0037	Chip TR, 2SC2412KT96R	C4	CU8028	Chip C, 2125B1H103K	R25	RK0062	Chip R, 2125MCR10473J
Q15	XT0038	Chip TR, 2SA1037KT96R	C5	CE0033	Chemical C, 10 V MS5 10M	R26	RK0062	Chip R, 2125MCR10473J
Q16	XT0030	Chip TR, 2SC3356T1	C6	CU8016	Chip C, 2125B1H102K	T27	RK0070	Chip R, 2125MCR10124
Q17	XT0030	Chip TR, 2SC3356T1	C7	CU8016	Chip C, 2125B1H102K	R28	RK0070	Chip R, 2125MCR10124
Q18	XT0037	Chip TR, 2SC2412KT96R	C8	CU8016	Chip C, 2125B1H102K	R29	RK0062	Chip R, 2125MCR10473J
Q19	XT0078	TR, 2SC3369	C9	CU8016	Chip C, 2125B1H102K	R30	RK0070	Chip R, 2125MCR10124J
Q20	XT0064	TR, 2SD1781E	C10	CU8016	Chip C, 2125B1H102K	R31	RK0070	Chip R, 2125MCR10124J
Q21	XT0037	Chip TR, 2SC2412KT96R	C11	CU8016	Chip C, 2125B1H102K	R32	RK0107	Chip R, 2125MCR10000J
Q22	XT0037	Chip TR, 2SC2412KT96R	C12	CU8016	Chip C, 2125B1H102K	R33	RK0062	Chip R, 2125MCR10473J
Q23	XT0037	Chip TR, 2SC2412KT96R	C13	CU8016	Chip C, 2125B1H102K	R34	RK0070	Chip R, 2125MCR10124J
Q24	XU0012	Digital TR, DTC114EKT96	C14	CU8016	Chip C, 2125B1H102K	R35	RK1035	Chip R, 3216MCR10102J
L1	QA0038	Coil, 144MRF	C15	CU8016	Chip C, 2125B1H102K	R38	RK0082	Chip R, 2125MCR10473J
L2	QA0038	Coil, 144MRF	C19	CU8016	Chip C, 2125B1H102K	R39	RK0086	Chip R, 2125MCR10105J
L3	QA0053	Coil, 144M	C20	CU8016	Chip C, 2125B1H102K	R40	RK1012	Chip R, 3216MCR10510J
L4	QA0053	Coil, 144M	C21	CU8024	Chip C, 2125B1H472K	R41	RK0038	Chip R, 2125MCR10182J
L5	QA0054	Coil, 144M	C24	CU0071	Chip C, 2125CH1H101J	R42	RK0038	Chip R, 2125MCR10182J
L6	QA0037	Coil, 144MTC	C25	CU0071	Chip C, 2125CH1H101J	R43	RK0038	Chip R, 2125MCR10182J
L7	QA0039	Coil, 10R7MIF	C26	CU0071	Chip C, 2125CH1H101J	R44	RK0038	Chip R, 2125MCR10182J
L8	QA0039	Coil, 10R7MIF	C27	CU0071	Chip C, 2125CH1H101J	R45	RK0038	Chip R, 2125MCR10182J
L10	QA0041	Coil, 455KIF	C28	CU8016	Chip C, 2125B1H102K	R46	RK1039	Chip R, 3216MCR10222J
			C29	CU8016	Chip C, 2125B1H102K	R48	RK0035	Chip R, 2125MCR10102J



Ref. No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number	Ref. No.	Part Code	Part Name and Number
R49	RK0035	Chip R, 2125MCR10102J	R6	RK0027	Chip R, 2125MCR10391J			
R50	RK0035	Chip R, 2125MCR10102J	R7	RK0069	Chip R, 2125MCR10104J			
R53	RK0035	Chip R, 2125MCR10102J	R8	RK0052	Chip R, 2125MCR10103J			
R54	RK0035	Chip R, 2125MCR10102J	R9	RK0037	Chip R, 2125MCR10152J			
<b>Drive Unit</b>			R10	RK0067	Chip R, 2125MCR10823J			
C3	CU8028	Chip C, 2125MCR10103K	R11	Rk0073	Chip R, 2125MCR10224J			
C4	CU8028	Chip C, 2125MCR10103K	R12	RK0011	Chip R, 2125MCR10470J			
C5	CU8016	Chip C, 2125MCR10102K	R13	RK0021	Chip R, 2125MCR10181J			
C7	CU8028	Chip C, 2125MCR10103K	R14	RK0048	Chip R, 2125MCR10682J			
C8	CU8028	Chip C, 2125MCR10103K	R15	RK0052	Chip R, 2125MCR10103J			
C9	CU8028	Chip C, 2125MCR10103K	R16	RK0052	Chip R, 2125MCR10103J			
C10	CU8016	Chip C, 2125MCR10102K	R17	RK0035	Chip R, 2125MCR10102J			
C11	CS0049	Chip Tantal, TMC1C105TR	D1	XD0040	Chip D, DAN202KT96			
C12	CU0003	Chip C, 2125MCR10020C	D2	XD0010	Chip D, ISV164T1			
L1	QC0024	Chip C, K300860NH	D3	XD0101	Chip D, ISV166T1			
Q4	XT0059	Chip TR, 2SC3082KT96Q	D4	XD0101	Chip D, ISV166T1			
Q5	XT0071	Chip TR, 2SC3837KT96N	D5	XD0094	Chip D, ISS153T1			
R8	RK0035	Chip R, 2125MCR10102J	Q1	XT0075	Chip TR, 2SC275T1			
R10	RK0014	Chip R, 2125MCR10680J	Q2	XE0010	Chip FET, 2SK508K52T1			
R11	RK0038	Chip R, 2125MCR10182J	Q3	XT0037	Chip TR, 2SK508K52T1			
R12	RK0028	Chip R, 2125MCR10471J	Q4	XE0011	Chip FET, 2SK508K51T1			
R13	RK0010	Chip R, 2125MCR10390J						
R14	RK0005	Chip R, 2125MCR10220J						
R16	RK0025	Chip R, 2125MCR10331J						
R17	RK0045	Chip R, 2125MCR10472J						
R19	RK0056	Chip R, 2125MCR10223J						
<b>VCO Unit</b>								
C1	CU8016	Chip C, 2125CH1H102K						
C2	CU8016	Chip C, 2125CH1H102K						
C3	CU0004	Chip C, 2125CH1H030C						
C4	CU8028	Chip C, 2125CH1H103K						
C5	CU0004	Chip C, 2125CH1H030C						
C6	CU0011	Chip C, 2125CH1H100D						
C7	CU0009	Chip C, 2125CH1H080D						
C8	CU0064	Chip C, 2125CH1H220J						
C9	CU0001	Chip C, 2125CH1H0R5C						
C10	CU0065	Chip C, 2125CH1H270J						
C11	CU8016	Chip C, 2125CH1H102K						
C12	CU0004	Chip C, 2125CH1H030C						
C13	CU8028	Chip C, 2125CH1H103K						
C14	CU0004	Chip C, 2125CH1H030C						
C15	CU0061	Chip C, 2125CH1H120J						
C16	CU0066	Chip C, 2125CH1H330J						
C17	CU0060	Chip C, 2125CH1H470J						
C18	CU0011	Chip C, 2125CH1H100D						
C19	CU8016	Chip C, 2125CH1H102K						
C20	CU0060	Chip C, 2125CH1H470J						
C21	CU8016	Chip C, 2125CH1H102K						
C22	CU8016	Chip C, 2125CH1H102K						
C23	CE0198	Chemical C, 10 V MS5 100M						
TC1	CT0021	Trimmer C, ECRJA010A 12W						
TC2	CT0021	Trimmer C, ECRJA010A 12W						
L1	QC0045	Chip L, NL322522T3R3M						
L2	QK0042	Coil, 3x5x0.6						
L3	QC0045	Chip L, NL322522T3R3M						
L4	QC0045	Chip L, NL322522T3R3M						
L5	QK0041	Coil, 3x4x0.8						
L6	QC0039	Chip L, NL322522T1R0M						
R1	RK0018	Chip R, 2125MCR10101J						
R2	RK0056	Chip R, 2125MCR10223J						
R3	RK0052	Chip R, 2125MCR10103J						
R4	RK0018	Chip R, 2125MCR10101J						
R5	RK0011	Chip R, 2125MCR10470J						

# ■ CABINET PARTS LOCATION



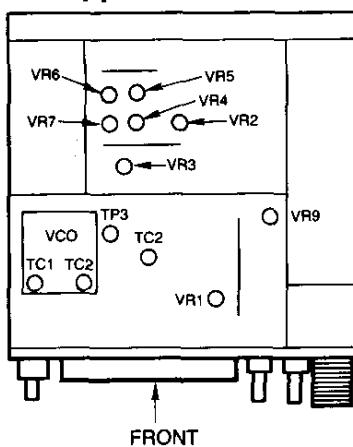
Ref. No.	Part Code	Part Name and Number
<b>Mechanical Parts</b>		
1	KS0032	Upper Case,
2	KS0031	Lower Case,
3	NK0010	Vol Knob,
4	NP0015	Power Knob,
5	NP0016	HI/LO Knob,
6	NK0009	Dial Knob,
7	ND0004	Dial Cover,
8	KM0055	Front Panel,
9	FF0013	SP Sheet,
10	UF0053	Coaxial Cable,
11	UA0002	DC Power Cable,

<b>Screws</b>		
12	AA0031	M2.6×5,
13	AJ0015	2.6×6 (tap),
14	AA0027	M2×4,
15	AD0001	M3×8,
16	AJ0005	3×8 (tap),

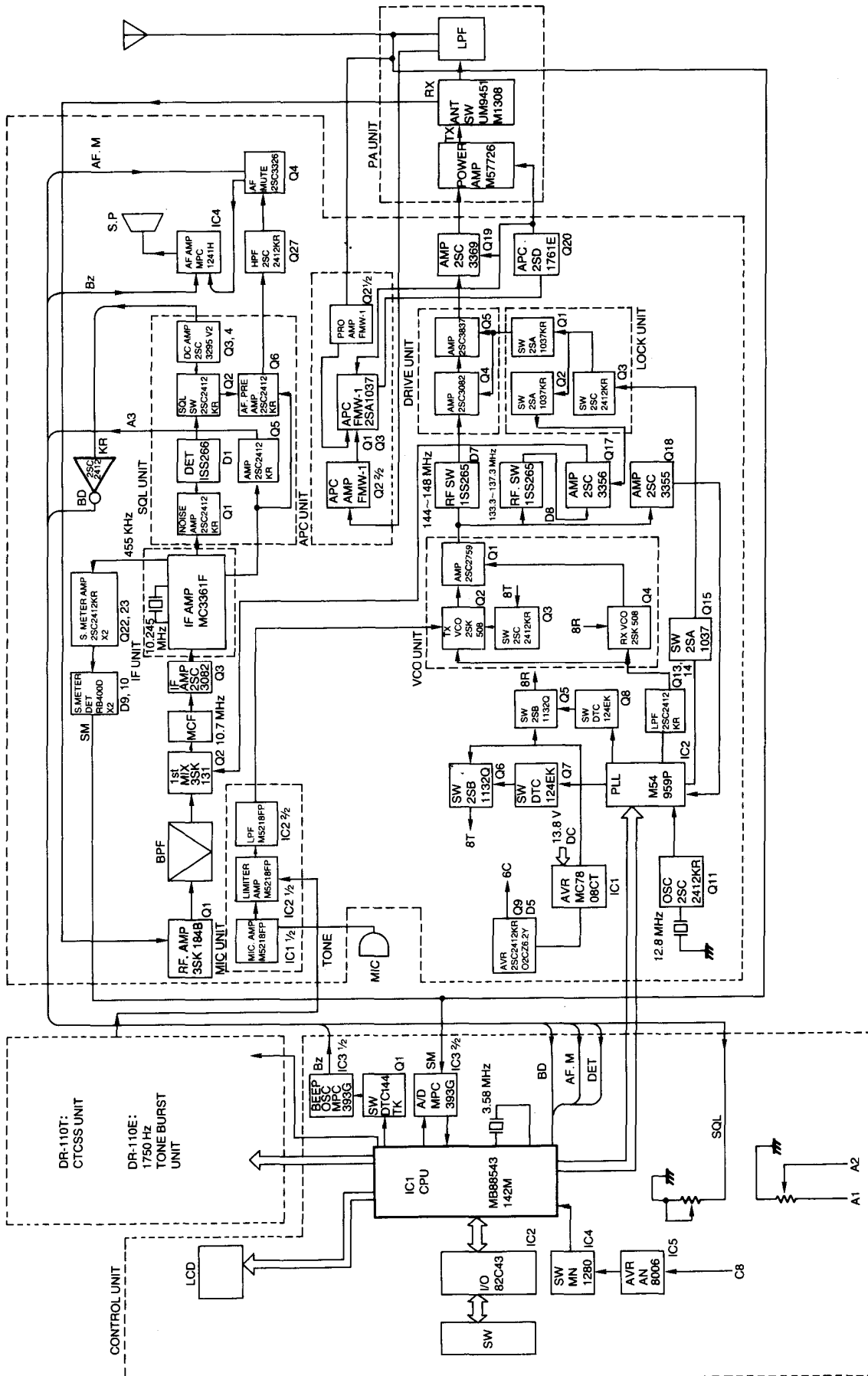
## ■ ADJUSTMENT

Item	Adjustment point	Adjustment method
VCO P/D Voltage (RX)	TC2 (VCO Box)	Adjust TC2 so that the voltage of TP3 is 4V on the receiving mode.
VCO P/D Voltage (TX)	TC1 (VCO Box)	Adjust TC1 so that the voltage of TP3 is 3V on the transmission mode.
Frequency	TC2 (Main Board)	Set the unit in the transmission mode at 145.00 MHz and adjust TC2.
Power output	VR6 (Hi)	On "HI" position, turn VR6 for 45 W output at 145.00 MHz.
	VR7 (Lo)	On "LO" position, turn VR7 for 5 W output at 145.00 MHz.
RF Power Meter	VR4	Turn VR4 so that three segments will light on "LO" position.
Deviation	VR3	Input a signal of 1 KHz/25 mV into the MIC jack and adjust VR3 so that you obtain 4.9 KHz/Dev in the transmission mode.
MIC Gain	VR2	Input a signal of 1 KHz/10 mV into the MIC jack and adjust VR2 so that you obtain 4.0 KHz/Dev in the transmission mode.
Protection Circuit	VR5	Disconnect the antenna in the transmission mode and adjust VR5 so that the current consumption will be 5A.
Subaudible Tone Deviation (DR-110T)	VR1 (Tone squelch board)	On the "ENC" mode at 146.00 MHz, turn VR1 so that the deviation is 0.7 KHz.
1750 Hz Tone Deviation (DR-110E)	VR1 (Tone burst board)	Pressing Tone button at 145.00 MHz, turn VR1 so that the deviation is 3.5 KHz.
S-Meter (SG output: 3 dB $\mu$ EMF)	VR1	Turn VR1 so that the [1] begins to light.
Squelch Sensitivity (SG output: -6 dB $\mu$ EMF)	VR9	Turn the squelch control fully clockwise and turn VR9 so that the squelch will be closed at the SG output of -6 dB $\mu$ .

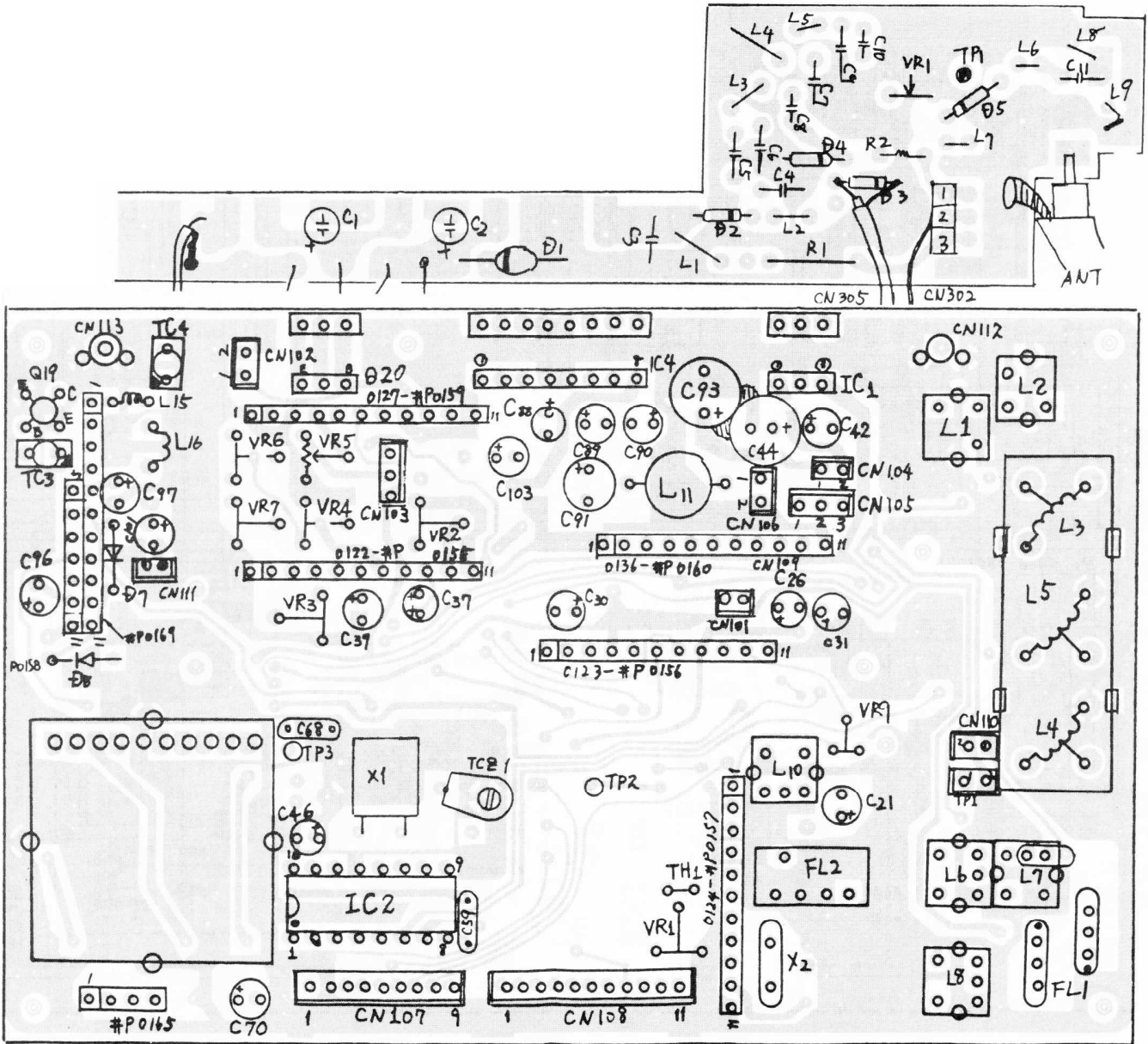
### Upper Side View



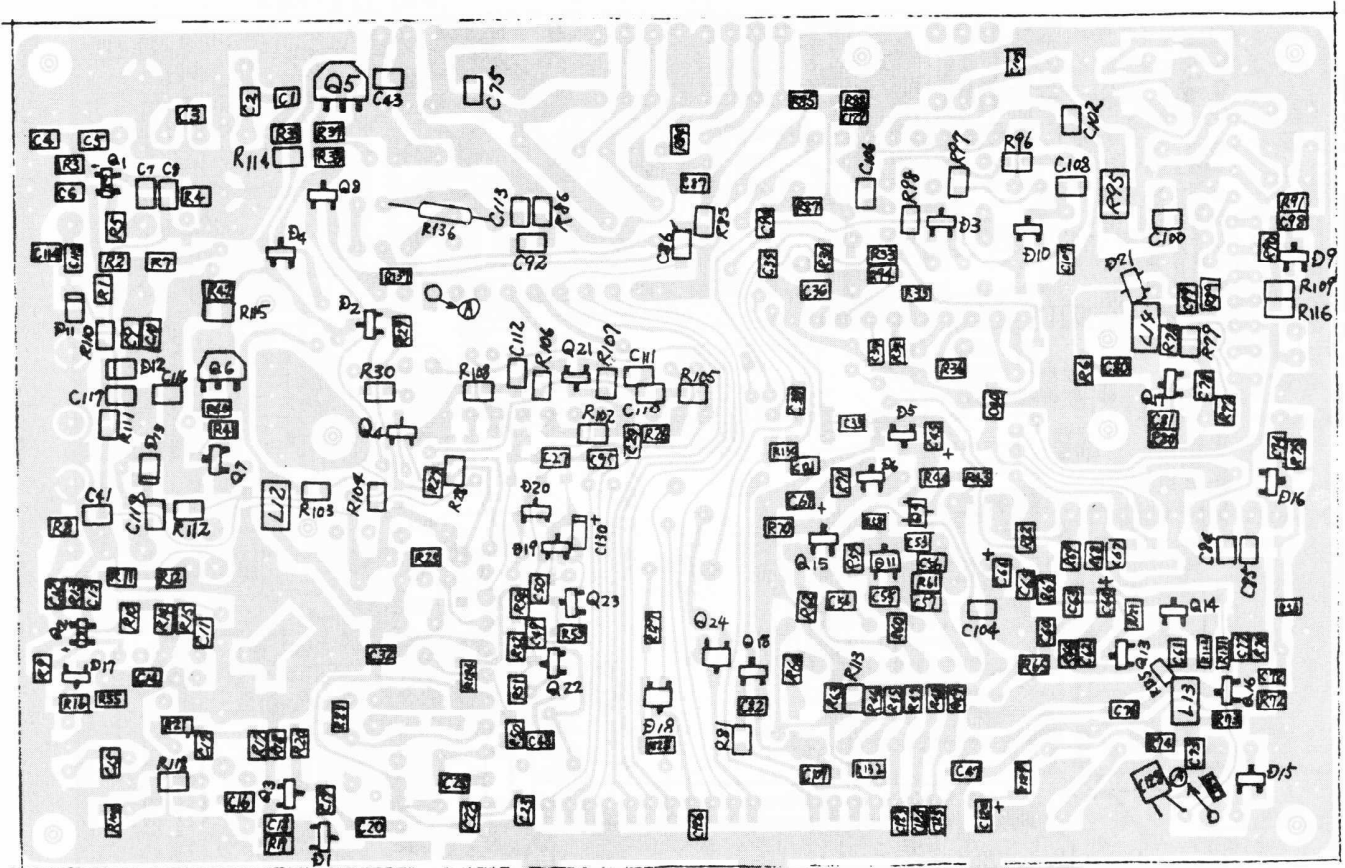
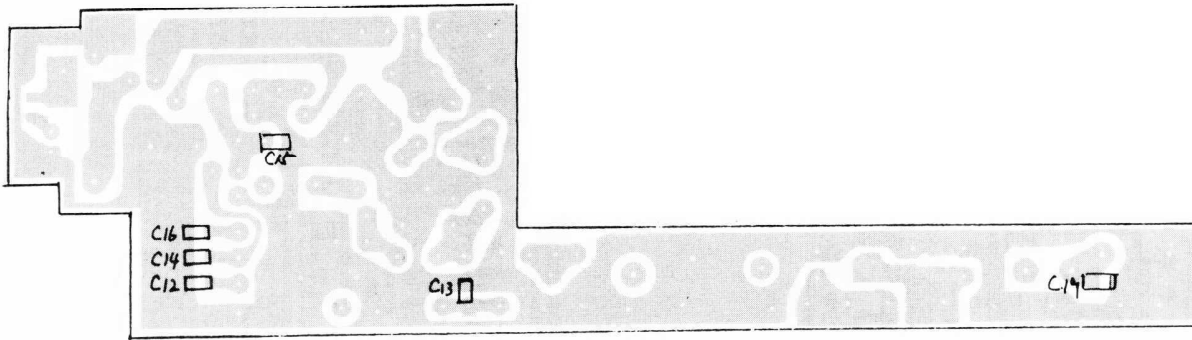
# ■ BLOCK DIAGRAM



■ VHF MAIN PC BOARDS



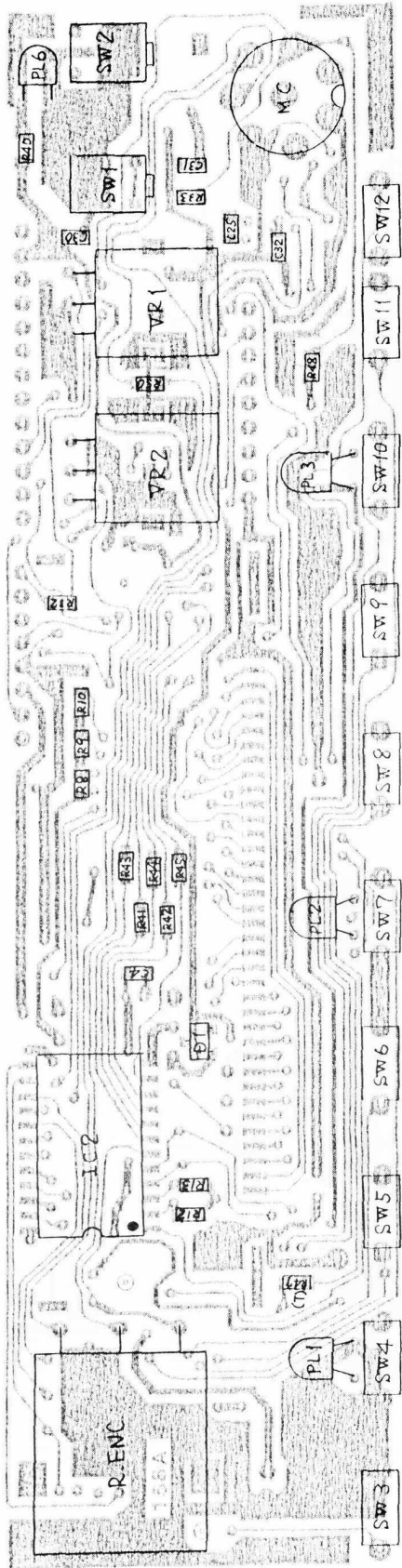
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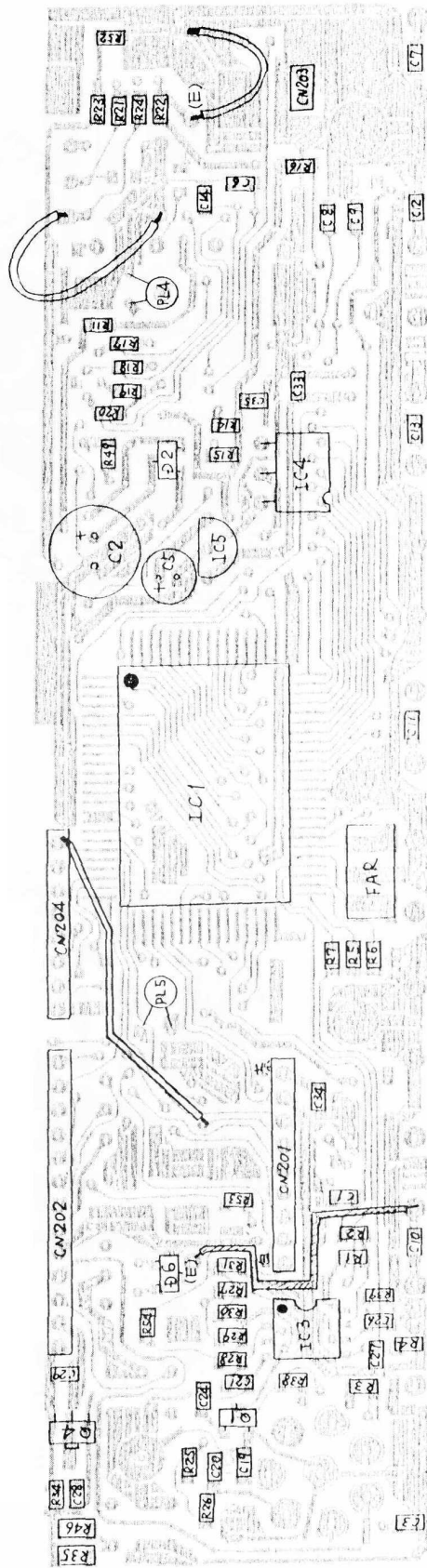
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# CONTROL PC BOARDS

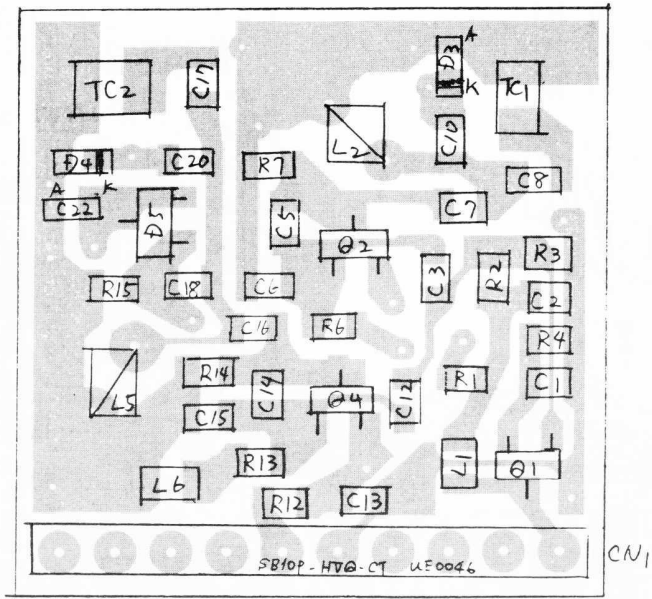
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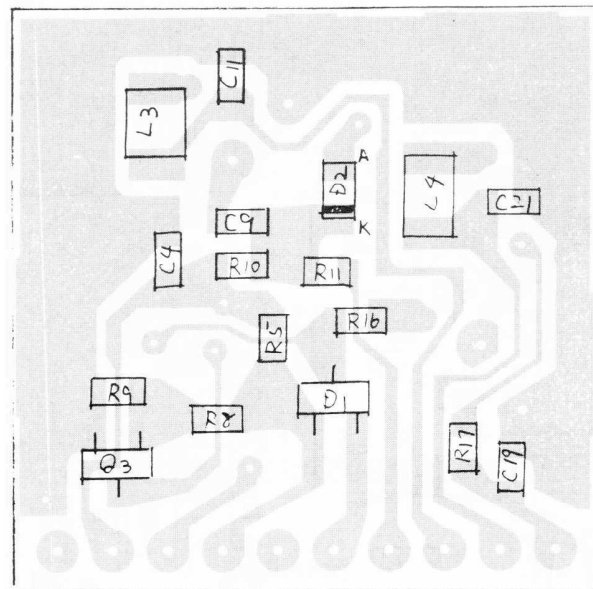
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■ 144 VCO PC BOARDS



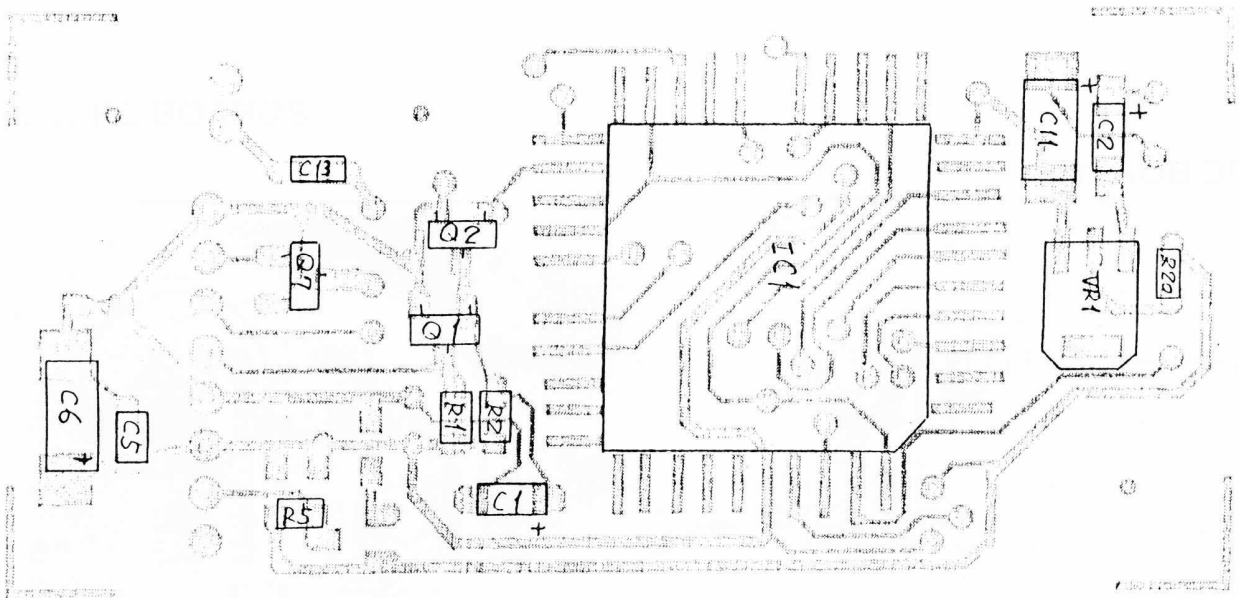
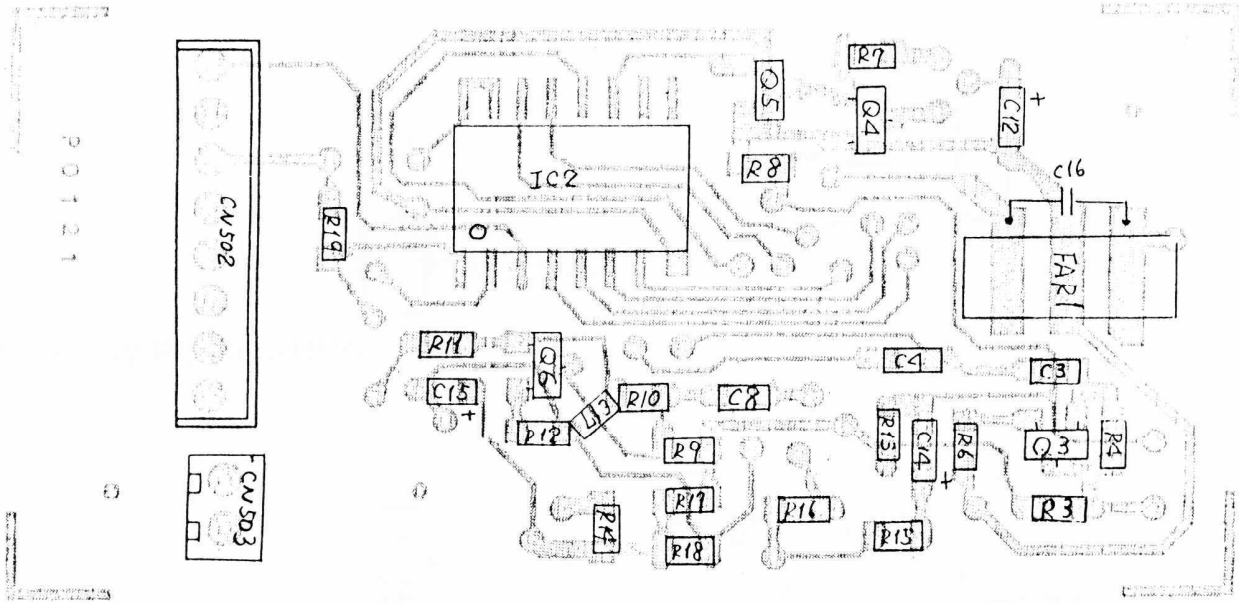
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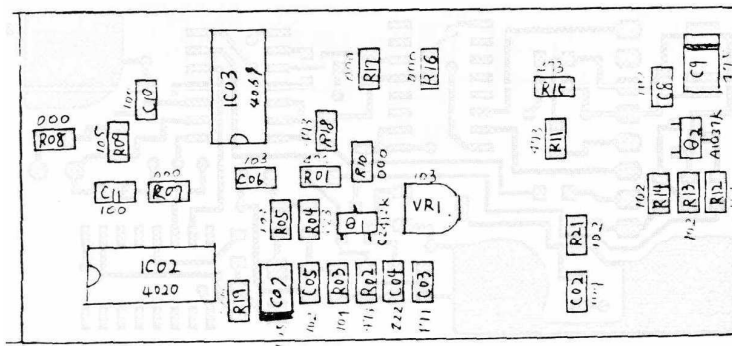
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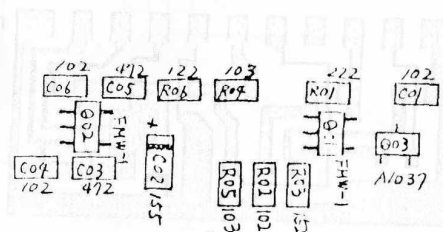
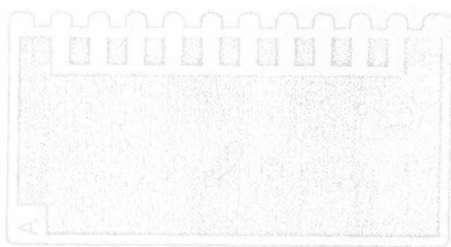
■ TONE SQUELCH PC BOARDS (DR-110T Only)



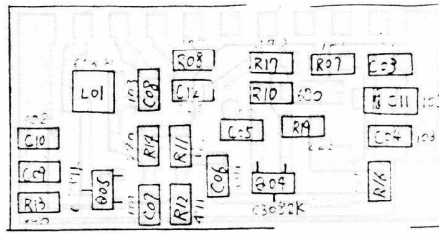
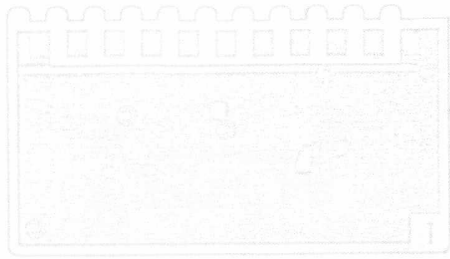
## ■ TONE BURST PC BOARDS (DR-110E Only)



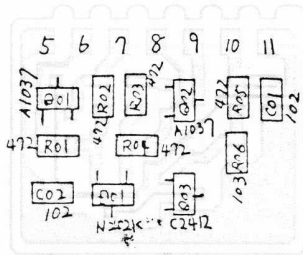
## ■ APC PC BOARDS



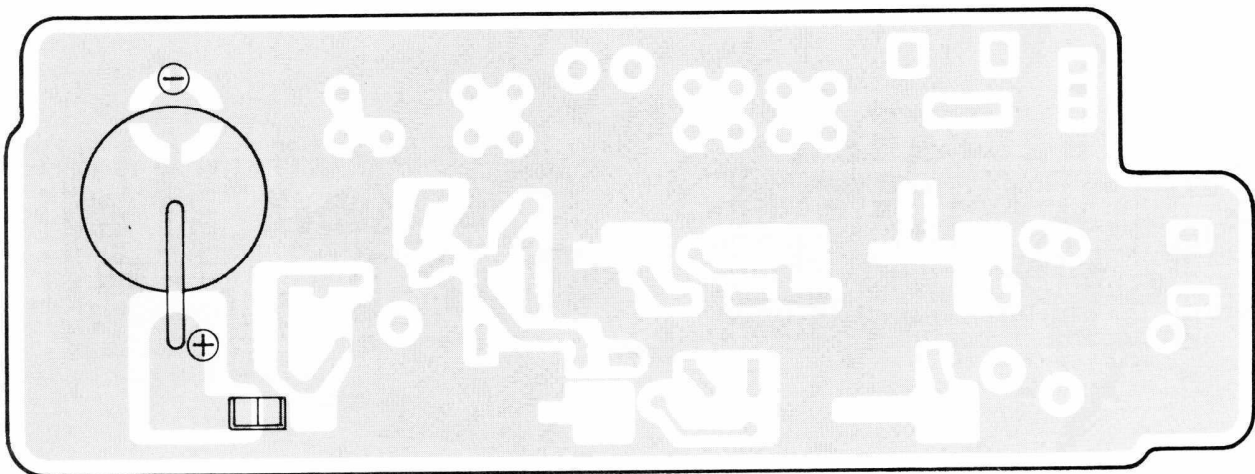
## ■ DRIVE PC BOARDS



## ■ LOCK SW PC BOARDS



## ■ LI BAT PC BOARDS





## ■ SPECIFICATIONS

### ■ General

Frequency Coverage	144.0~148.0 MHz (DR-112T) 144.0~146.0 MHz (DR-112E)
Antenna Impedance	50 ohms unbalanced
Power Supply Requirement	13.8 Volts D.C.
Current Drain at 13.8 V	Receiving abt. 0.5 A Transmitting abt. 9.5 A (Hi) abt. 4.0 A (Lo)
Dimension	140 mm (W)×40 mm (H)×170 mm (D) (5½"×2"×6¾")
Weight	Approx. 1.1 kgs. (2.64 lbs.)

### ■ Transmitter

Output Power	High; 45 Watts Low; Approx. 5 Watts
Emission Mode	16F3
Modulation System	Variable Reactance F.M.
Max. Frequency Deviation	±5 kHz
Spurious Emission	60 dB below carrier
Microphone	Electret Condenser Microphone
Operating Mode	Simplex Duplex ±600 kHz, 1.6 MHz, 5 MHz, 7.6 MHz or odd splits from receive frequency
DTMF Encoder	Built-in (U.S. Version)

### ■ Receiver

Receiving System	Superhetrodyne, dual conversion
Modulation Acceptance	16F3
Intermediate Frequency	10.7 MHz/455 kHz
Sensitivity	12 dB SINAD less than 0.16 μV
Selectivity	More than ±6 kHz at -6 dB Less than ±12 kHz at -60 dB
Audio Power Output	abt. 2 W (8 ohms-10% Distortion)
Speaker Impedance	8 ohms

\*Subject to change without notice.



## ALINCO ELECTRONICS INC.

Head Office : "TWIN 21" MID Tower Building 23F

1-61, 2-Chome, Shiromi, Chuo-ku, Osaka No. 540, Japan

Factory : 1-1-1, Mishimae, Takatsuki, Osaka No. 569, Japan

Dealer/Distributor