

WIDE BAND RECEIVER

# DJ-X1/DJ-X1D

## Service Manual

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**ALINCO ELECTRONICS INC.**

# Specifications

Frequency Coverage:	2~905MHz (Guaranteed Range) 100kHz~1299.995MHz (Display Range)
Modulation Modes:	AM/Narrow FM/Wide FM
Channel Steps:	5, 9, 10, 12.5, 20, 25, 30, 50, and 100kHz
Antenna Impedance:	50Ω unbalanced
Operating Voltage:	DC6~15V (Rated DC 9V: Standard)
Current Consumption:	Approximately 300mA (Maximum) Approximately 24mA (While Battery Saving)
Operating Temperature:	-10°C~+60°C (14°F~140°F)
Dimensions:	110(H) x 53(W) x 37(D) mm (4.3 x 2.1 x 1.5 inch) •with dry cell battery case •without projections
Weight (without antenna):	370g (13oz) with dry cell battery case 320g (11.3oz) with EBP -14N
Receiving System:	AM/FM Triple Superheterodyne WFM Double Superheterodyne
Sensitivity:	AM 3~25MHz +4dBμV (10dB S/N) 25~905MHz -2dBμV (10dB S/N) NFM 2~25MHz -2dBμV (12dB SINAD) 25~905MHz -8dBμV (12dB SINAD) WFM 2~25MHz +16dBμV (12dB SINAD) 25~905MHz +10dBμV (12dB SINAD)
Selectivity:	AM 15kHz or over/-6dB NFM 15kHz or over/-6dB WFM 150kHz or over/-6dB
Audio Power Output:	150mW or over (at 9V • 8Ω 10% T.H.D.)
Speaker Impedance:	8Ω

# Parts List (DJ-X1)

CPU UNIT  
FRONT END UNIT

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
<b>CPU UNIT</b>					
BAT1	ED0002	BR1225-1VF	R15	RK3026	MCR03 EZ0J 101
C1	CU3059	CM105 Y5V 104Z 25VAT	R16	RK3056	MCR03 EZ0J 333
C2	CU3059	CM105 Y5V 104Z 25VAT	R17	RK3050	MCR03 EZ0J 103
C3	CU3052	CM105 W5R 103K 25VAT	R18	RK3050	MCR03 EZ0J 103
C4	CS0237	TMC-M 1A 475MTR	R19	RK3044	MCR03 EZ0J 332
C5	CE0308	ECEV0VA 101P	R20	RK3050	MCR03 EZ0J 103
C6	CS0237	TMC-M 1A 475MTR	R21	RK3050	MCR03 EZ0J 103
C7	CU3052	CM105 W5R 103K 25VAT	R22	RK3058	MCR03 EZ0J 473
C8	CS0049	TMC 1C 105TR	R23	RK3038	MCR03 EZ0J 102
C9	CU3076	CM105 CH 101J 50VAT	R24	RK3058	MCR03 EZ0J 473
CN1	UE0130	DF9A-11S-1V(22)	R25	RK3058	MCR03 EZ0J 473
CN2	UP0200	Flex. PCB B (I)	R26	RK3058	MCR03 EZ0J 473
CN3	UP0199	Flex. PCB A (S)	R27	RK3058	MCR03 EZ0J 473
CN4	UE0135	52207-0590	R28	RK3058	MCR03 EZ0J 473
CN5	UE0137	SB4P-HVQ-28	R29	RK3058	MCR03 EZ0J 473
D1	XD0128	MA713TX	R30	RK3058	MCR03 EZ0J 473
D2	XD0128	MA713TX	R31	RK3058	MCR03 EZ0J 473
D3	XD0120	MA704WK TX	R33	RK3001	MCR03 EZ0J 000
IC1	XA0153	M37450M4-620FP	R34	RK3054	MCR03 EZ0J 223
IC1	XA0191	M37451M8-223FP (X1D)	R35	RK3050	MCR03 EZ0J 103
IC2	XA0019	μPD4094BG-T1	R37	RK3046	MCR03 EZ0J 472
IC3	XA0154	LC3518BML	R38	RK1107	MCR18 EZHJ 000E
IC4	XA0141	μPD7225GB-3B7	R39	RK2026	MCR50 JZHJ 000E
IC5	XA0168	S-81252HG-RL-T1	SP1	ES0005	036S13D
IC6	XA0106	S-8054HN-CB-T1	SW1	UU0013	SKHUAB (SWPCB)
J1	RK3001	MCR03 EZ0J 000	SW2	UU0013	SKHUAB (SWPCB)
L2	QC0048	NL322522T-100K	SW3	UU0013	SKHUAB (SWPCB)
LCD1	EL0015	DJF10	X1	XB0004	FAR-C4CA-04194000K0
LED1	XL0025	SLE0022M		DH0006	Lighting Plate
Q1	XU0003	DTC114TK T96		FG0067	LCD Connector (x2)
Q2	XU0003	DTC114TK T96		ST0026	LCD Flame
Q3	XU0024	DTA143EK T96		TZ0022	Lithium Battery Insulator (x2)
Q4	XU0029	DTC114YU T106		UP0198	SW PCB
Q5	XU0029	DTC114YU T106	<b>FRONT END UNIT</b>		
R1	RK3074	MCR03 EZ0J 105	C201	CU3031	CM105 W5R 471K 50VAT
R2	RK3058	MCR03 EZ0J 473	C202	CU3009	CM105 CH 080C 50VAT
R3	RK3058	MCR03 EZ0J 473	C203	CU3070	CM105 CH 330J 50VAT
R4	RK3058	MCR03 EZ0J 473	C204	CU3005	CM105 CH 040C 50VAT
R5	RK3058	MCR03 EZ0J 473	C205	CU3070	CM105 CH 330J 50VAT
R6	RK3058	MCR03 EZ0J 473	C206	CU3009	CM105 CH 080C 50VAT
R7	RK3058	MCR03 EZ0J 473	C207	CU3004	CM105 CH 030C 50VAT
R8	RK3058	MCR03 EZ0J 473	C208	CU3002	CM105 CH 010C 50VAT
R9	RK3064	MCR03 EZ0J 154	C209	CU3003	CM105 CH 020C 50VAT
R10	RK3065	MCR03 EZ0J 184	C211	CU3002	CM105 CH 010C 50VAT
R11	RK3058	MCR03 EZ0J 473	C212	CU3031	CM105 W5R 471K 50VAT
R12	RK3058	MCR03 EZ0J 473	C213	CU3006	CM105 CH 050C 50VAT
R13	RK3001	MCR03 EZ0J 000	C214	CU3031	CM105 W5R 471K 50VAT
R14	RK3058	MCR03 EZ0J 473	C215	CU3031	CM105 W5R 471K 50VAT
			C216	CU3011	CM105 CH 100D 50VAT
			C217	CU3031	CM105 W5R 471K 50VAT
			C218	CU3009	CM105 CH 080C 50VAT
			C219	CU3005	CM105 CH 040C 50VAT
			C220	CU3071	CM105 CH 390J 50VAT

## FRONT END UNIT

## VCO UNIT

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
C221	CU3004	CM105 CH 030C 50VAT	<b>VCO UNIT</b>		
C222	CU3004	CM105 CH 030C 50VAT	C101	CU3035	CM105 W5R 102K 50VAT
C223	CU3003	CM105 CH 020C 50VAT	C102	CU3076	CM105 CH 101J 50VAT
C224	CU3008	CM105 CH 070C 50VAT	C103	CU3035	CM105 W5R 102K 50VAT
C225	CU3002	CM105 CH 010C 50VAT	C104	CU3067	CM105 CH 180J 50VAT
C226	CU3003	CM105 CH 020C 50VAT	C105	CU3035	CM105 W5R 102K 50VAT
C227	CU3006	CM105 CH 050C 50VAT	C106	CS0214	TMC-M 1A 335MTR
C228	CU3031	CM105 W5R 471K 50VAT	C107	CU3002	CM105 CH 010C 50VAT
C229	CU3031	CM105 W5R 471K 50VAT	C108	CU3076	CM105 CH 101J 50VAT
C230	CU3006	CM105 CH 050C 50VAT	C109	CU3052	CM105 W5R 103K 25VAT
CN201	UE0137	SB4P-HVQ-28	C110	CU3035	CM105 W5R 102K 50VAT
CN202	UE0138	SB2P-HVQ-28	C111	CS0214	TMC-M 1A 335MTR
D201	XD0129	1SS318 TT11	C112	CU3002	CM105 CH 010C 50VAT
D202	XD0129	1SS318 TT11	C113	CU3020	CM105 CH 560K50VAT
D203	XD0129	1SS318 TT11	C114	CU3052	CM105 W5R 103K 25VAT
D204	XD0129	1SS318 TT11	C115	CU3076	CM105 CH 101J 50VAT
L201	QC0055	NL322522T-010M	C116	CU3020	CM105 CH 560K50VAT
L202	QC0055	NL322522T-010M	D101	XD0142	MA333 TW
L203	QC0055	NL322522T-010M	D102	XD0142	MA333 TW
L204	QC0055	NL322522T-010M	D103	XD0142	MA333 TW
L205	QC0055	NL322522T-010M	D104	XD0142	MA333 TW
L206	QC0055	NL322522T-010M	L101	QC0067	NL322522T-R10M
L207	QC0061	NL322522T-033M	L102	QK0103	OR5-2X1R5T
L208	QC0061	NL322522T-033M	L103	QC0003	MLF3216A 1R0M
L209	QC0057	NL322522T-015M	L104	QK0108	OR5-1R8X4.5T
L210	QC0057	NL322522T-015M	L105	QC0003	MLF3216A 1R0M
L211	QC0057	NL322522T-015M	Q101	XT0030	2SC3356 T1BR25
L212	QC0061	NL322522T-033M	Q102	XT0030	2SC3356 T1BR25
Q201	XT0098	2SC3904-R.S TX	Q103	XT0098	2SC3904-R.S TX
Q202	XT0098	2SC3904-R.S TX	Q104	XT0100	2SC3585 T1B(R/R44)
Q203	XT0030	2SC3356 T1BR25	R101	RK3046	MCR03 EZ0J 472
Q204	XT0030	2SC3356 T1BR25	R102	RK3038	MCR03 EZ0J 102
R201	RK3037	MCR03 EZ0J 821	R103	RK3022	MCR03 EZ0J 470
R202	RK3057	MCR03 EZ0J 393	R104	RK3057	MCR03 EZ0J 393
R203	RK3014	MCR03 EZ0J 100	R105	RK3026	MCR03 EZ0J 101
R204	RK3058	MCR03 EZ0J 473	R106	RK3058	MCR03 EZ0J 473
R205	RK3034	MCR03 EZ0J 471	R107	RK3014	MCR03 EZ0J 100
R206	RK3037	MCR03 EZ0J 821	R108	RK3026	MCR03 EZ0J 101
R207	RK3037	MCR03 EZ0J 821	R109	RK3034	MCR03 EZ0J 471
R208	RK3058	MCR03 EZ0J 473	R110	RK3050	MCR03 EZ0J 103
R209	RK3022	MCR03 EZ0J 470	R111	RK3054	MCR03 EZ0J 223
R210	RK3057	MCR03 EZ0J 393	R112	RK3026	MCR03 EZ0J 101
R211	RK3022	MCR03 EZ0J 470	R113	RK3042	MCR03 EZ0J 222
R212	RK3037	MCR03 EZ0J 821	R114	RK3053	MCR03 EZ0J 183
	TS0063	Front End Shield Plate	R115	RK3058	MCR03 EZ0J 473
			R116	RK3034	MCR03 EZ0J 471
				TS0058	VCO Case DJX1
				UT0019	PCB Terminal CK-1-2 (X7)
				YZ0013	Hot Melt TC3764(3M) 1G

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
<b>MAIN UNIT</b>					
C301	CU3059	CM105 Y5V 104Z 25VAT	C366	CU3003	CM105 CH 020C 50VAT
C302	CU3059	CM105 Y5V 104Z 25VAT	C371	CU3035	CM105 W5R102K 50VAT
C303	CU3031	CM105 W5R 471K 50VAT	C372	CU3008	CM105 CH 070C 50VAT
C304	CU3031	CM105 W5R 471K 50VAT	C373	CU3065	CM105 CH 120J 50VAT
C305	CU3031	CM105 W5R 471K 50VAT	C374	CU3008	CM105 CH 070C 50VAT
C306	CU3004	CM105 CH 030C 50VAT	C376	CU3035	CM105 W5R 102K 50VAT
C307	CU3005	CM105 CH 040C 50VAT	C377	CU3008	CM105 CH 070C 50VAT
C308	CU3003	CM105 CH 020C 50VAT	C379	CU3008	CM105 CH 070C 50VAT
C309	CU3011	CM105 CH 100D 50VAT	C380	CU3035	CM105 W5R 102K 50VAT
C310	CU3065	CM105 CH 120J 50VAT	C381	CU3052	CM105 W5R 103K 25VAT
C311	CU3006	CM105 CH 050C 50VAT	C382	CU3003	CM105 CH 020C 50VAT
C312	CU3011	CM105 CH 100D 50VAT	C383	CU3072	CM105 CH 470J 50VAT
C313	CU3059	CM105 Y5V 104Z 25VAT	C384	CU3011	CM105 CH 100D 50VAT
C314	CU3059	CM105 Y5V 104Z 25VAT	C385	CU3031	CM105 W5R 471K 50VAT
C315	CU3031	CM105 W5R 471K 50VAT	C386	CS0057	TMC 0J 225TR
C316	CU3031	CM105 W5R 471K 50VAT	C387	CU3072	CM105 CH 470J 50VAT
C317	CU3068	CM105 CH 220J 50VAT	C388	CU3068	CM105 CH 220J 50VAT
C318	CU3005	CM105 CH 040C 50VAT	C389	CU3059	CM105 Y5V 104Z 25VAT
C319	CU3068	CM105 CH 220J 50VAT	C390	CS0049	TMC 1C 105TR
C320	CU3005	CM105 CH 040C 50VAT	C391	CU3059	CM105 Y5V 104Z 25VAT
C321	CU3065	CM105 CH 120J 50VAT	C392	CS0210	TMC-M 0J 156MTR B
C322	CU3031	CM105 W5R 471K 50VAT	C393	CU3069	CM105 CH 270J 50VAT
C323	CU3059	CM105 Y5V 104Z 25VAT	C394	CU3069	CM105 CH 270J 50VAT
C324	CU3059	CM105 Y5V 104Z 25VAT	C395	CU3059	CM105 Y5V 104Z 25VAT
C325	CU3056	CM105 Y5V 473Z 25VAT	C396	CU3059	CM105 Y5V 104Z 25VAT
C326	CU3059	CM105 Y5V 104Z 25VAT	C397	CU3075	CM105 CH 820J 50VAT
C327	CU3059	CM105 Y5V 104Z 25VAT	C398	CU3031	CM105 W5R 471K 50VAT
C328	CU3031	CM105 W5R 471K 50VAT	C399	CU3035	CM105 W5R 102K 50VAT
C329	CU3059	CM105 Y5V 104Z 25VAT	C400	CU3035	CM105 W5R 102K 50VAT
C330	CU3031	CM105 W5R 471K 50VAT	C401	CU3076	CM105 CH 101J 50VAT
C335	CU3003	CM105 CH 020C 50VAT	C402	CU3059	CM105 Y5V 104Z 25VAT
C336	CU3001	CM105 CH 0R5C 50VAT	C403	CU3052	CM105 W5R 103K 25VAT
C337	CU3003	CM105 CH 020C 50VAT	C404	CU3035	CM105 W5R 102K 50VAT
C339	CU3052	CM105 W5R 103K 25VAT	C405	CU3035	CM105 W5R 102K 50VAT
C340	CU3072	CM105 CH 470J 50VAT	C406	CU3070	CM105 CH 330J 50VAT
C342	CU3052	CM105 W5R 103K 25VAT	C407	CU3059	CM105 Y5V 104Z 25VAT
C344	CU3052	CM105 W5R 103K 25VAT	C408	CU3059	CM105 Y5V 104Z 25VAT
C345	CU3076	CM105 CH 101J 50VAT	C409	CU3059	CM105 Y5V 104Z 25VAT
C346	CU3076	CM105 CH 101J 50VAT	C410	CU3076	CM105 CH 101J 50VAT
C348	CU3011	CM105 CH 100D 50VAT	C411	CU3056	CM105 Y5V 473Z 25VAT
C349	CU3052	CM105 W5R 103K 25VAT	C412	CU3052	CM105 W5R 103K 25VAT
C350	CU3011	CM105 CH 100D 50VAT	C413	CU3052	CM105 W5R 103K 25VAT
C351	CU3052	CM105 W5R 103K 25VAT	C414	CU3052	CM105 W5R 103K 25VAT
C352	CU3070	CM105 CH 330J 50VAT	C415	CU3053	CM105 Y5V 333Z 25VAT
C353	CU3054	CM105 W5R 223K 25VAT	C416	CU3035	CM105 W5R 102K 50VAT
C354	CS0057	TMC 0J 225TR	C417	CU3059	CM105 Y5V 104Z 25VAT
C355	CU3059	CM105 Y5V 104Z 25VAT	C418	CE0308	ECEVOJA 101P
C356	CU3031	CM105 W5R 471K 50VAT	C419	CU3035	CM105 W5R102K 50VAT
C357	CU3068	CM105 CH 220J 50VAT	C420	CU3054	CM105 W5R 223K 25VAT
C358	CU3035	CM105 W5R 102K 50VAT	C421	CU3052	CM105 W5R 103K 25VAT
C359	CU3005	CM105 CH 040C 50VAT	C422	CS0049	TMC 1C 105TR
C360	CU3002	CM105 CH 010C 50VAT	C423	CU3035	CM105 W5R 102K 50VAT
C361	CU3035	CM105 W5R 102K 50VAT	C424	CE0308	ECEVOJA 101P
C362	CU3003	CM105 CH 020C 50VAT	C425	CU3035	CM105 W5R 102K 50VAT
C363	CU3006	CM105 CH 050C 50VAT	C426	CS0049	TMC 1C 105TR
C364	CU3002	CM105 CH 010C 50VAT	C427	CS0216	TMC-M 1A 106MTR B
C365	CU3006	CM105 CH 050C 50VAT	C428	CS0049	TMC 1C 105TR
			C429	CS0053	TMC 0J 476TR

MAIN UNIT

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
C430	CU3059	CM105 Y5V 104Z 25VAT	D333	XD0129	1SS318 TT11
C432	CU3052	CM105 W5R 103K 25VAT	DBM301	QA0076	DM-50A QA0076
C434	CU3059	CM105 Y5V 104Z 25VAT	FL301	XC0007	SFE 10.7 MS3LH-A
C435	CU3059	CM105 Y5V 104Z 25VAT	FL302	XC0007	SFE 10.7 MS3LH-A
C436	CU3059	CM105 Y5V 104Z 25VAT	FL303	XC0004	CFUM 455E
C437	CU3035	CM105 W5R 102K 50VAT	IC301	XA0151	μPC1676G-T1
C438	CS0049	TMC 1C 105TR	IC302	XA0152	TA7787AF TP1
C439	CU3059	CM105 Y5V 104Z 25VAT	IC303	XA0115	TC4S66F-TE85L
C440	CS0210	TMC-M 0J 156MTR B	IC304	XA0115	TC4S66F-TE85L
C442	CU3059	CM105 Y5V 104Z 25VAT	IC305	XA0149	MB1501LPGF-BND-TF
C444	CU3059	CM105 Y5V 104Z 25VAT	IC306	XA0144	TK-10487MTR
C445	CS0209	TMC-M 0J 106MTR B	IC307	XA0115	TC4S66F-TE85L
C446	CU3076	CM105 CH 101J 50VAT	IC308	XA0061	NJM386M-T1
C447	CU3059	CM105 Y5V 104Z 25VAT	IC309	XA0104	M5236ML-T73A-36
C448	CU3059	CM105 Y5V 104Z 25VAT	J301	RK3001	MCR03 EZ0J 000
C449	CS0069	TMC SA1V 154MTR	J302	RK3001	MCR03 EZ0J 000
C450	CU3031	CM105 W5R 471K 50VAT	J305	RK3001	MCR03 EZ0J 000
C456	CU3011	CM105 CH 100D 50VAT	J306	RK3001	MCR03 EZ0J 000
C457	CU3031	CM105 W5R 471K 50VAT	J308	RK3001	MCR50 EZ0J 000E
C458	CU3031	CM105 W5R 471K 50VAT	J309	RK3001	MCR50 EZ0J 000E
C459	CU3031	CM105 W5R 471K 50VAT	J310	RK3001	MCR03 EZ0J 000
C460	CU3059	CM105 Y5V 104Z 25VAT	J311	RD0108	JPW01 R-01
C461	CE0037	6MV100UW	JK301	UJ0022	HSJ 1102-01-540
CN301	UE0110	52030-1210	JK302	UJ0016	HSJ 1423-01-050
CN302	UE0110	52030-1210	JK303	UJ0015	HEC 1781-01-020
CN303	UE0029A	BNC Receptacle DJ460	L301	QC0055	NL322522T-010M
D301	XD0138	1SS302 TE85L	L302	QC0055	NL322522T-010M
D302	XD0129	1SS318 TT11	L303	QC0055	NL322522T-010M
D303	XD0129	1SS318 TT11	L304	QC0060	NL322522T-027M
D304	XD0129	1SS318 TT11	L305	QC0060	NL322522T-027M
D305	XD0129	1SS318 TT11	L306	QC0060	NL322522T-027M
D306	XD0129	1SS318 TT11	L307	QC0048	NL322522T-100K
D307	XD0129	1SS318 TT11	L308	QC0048	NL322522T-100K
D308	XD0129	1SS318 TT11	L310	QC0060	NL322522T-027M
D309	XD0129	1SS318 TT11	L311	QC0060	NL322522T-027M
D310	XD0129	1SS318 TT11	L312	QC0060	NL322522T-027M
D311	XD0129	1SS318 TT11	L313	QA0074	QA0074
D312	XD0129	1SS318 TT11	L314	QA0075	QA0075
D313	XD0129	1SS318 TT11	L315	QC0067	NL322522T-R10M
D314	XD0129	1SS318 TT11	L316	QC0039	NL322522T-1R0M
D315	XD0129	1SS318 TT11	L317	QC0064	NL322522T-056M
D316	XD0129	1SS318 TT11	L318	QC0064	NL322522T-056M
D317	XD0129	1SS318 TT11	L320	QC0055	NL322522T-010M
D318	XD0132	1SV215 TPH4	L322	QC0057	NL322522T-015M
D319	XD0129	1SS318 TT11	Q301	XT0098	2SC3904-R.S TX
D320	XD0129	1SS318 TT11	Q302	XT0030	2SC3356 T1 BR25
D321	XD0129	1SS318 TT11	Q303	XU0027	FMA7 XT98
D322	XD0129	1SS318 TT11	Q304	XU0027	FMA7 XT98
D323	XD0129	1SS318 TT11	Q305	XU0027	FMA7 XT98
D326	XD0118	MA716 TW	Q306	XU0027	FMA7 XT98
D327	XD0129	1SS318 TT11	Q307	XT0098	2SC3904-R.S TX
D328	XD0132	1SS318 TT11			
D329	XD0137	DTZ6.2A TT11			
D330	XD0225	U1GWJ44 TE12L			
D331	XD0225	U1GWJ44 TE12L			
D332	XD0129	1SS318 TT11			

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
Q308	XT0097	2SC4393 TE85L	R337	RK3026	MCR03 EZ0J 101
Q309	XT0097	2SC4393 TE85L	R338	RK3030	MCR03 EZ0J 221
Q311	XT0096	2SC4099 T106N	R339	RK3026	MCR03 EZ0J 101
Q312	XT0030	2SC3356 T1 BR25	R340	RK3062	MCR03 EZ0J 104
Q313	XT0030	2SC3356 T1 BR25	R341	RK3026	MCR03 EZ0J 101
Q314	XU0032	DTA 143 XU T106	R342	RK3060	MCR03 EZ0J 683
Q315	XU0027	FMA7 XT98	R343	RK3062	MCR03 EZ0J 104
Q316	XU0029	DTC 114 YU T106	R344	RK3064	MCR03 EZ0J 154
Q317	XT0030	2SC3356 T1 BR25	R345	RK3042	MCR03 EZ0J 222
Q318	XT0096	2SC4099 T106N	R346	RK3042	MCR03 EZ0J 222
Q319	XT0095	2SC4081 T 106R	R347	RK3042	MCR03 EZ0J 222
Q320	XU0029	DTC 114 YU T106	R348	RK3042	MCR03 EZ0J 222
Q321	XU0029	DTC 114 YU T106	R349	RK3042	MCR03 EZ0J 222
Q322	XT0095	2SC4081 T 106R	R353	RK3060	MCR03 EZ0J 683
Q323	XT0095	2SC4081 T 106R	R354	RK3001	MCR03 EZ0J 000
Q324	XT0095	2SC4081 T 106R	R355	RK3038	MCR03 EZ0J 102
Q325	XT0095	2SC4081 T 106R	R356	RK3038	MCR03 EZ0J 102
Q326	XU0029	DTC 114 YU T106	R357	RK3021	MCR03 EZ0J 390
Q327	XU0031	DTB 143 EK T106	R358	RK3058	MCR03 EZ0J 473
Q328	XT0095	2SC4081 T 106R	R359	RK3038	MCR03 EZ0J 102
Q329	XT0088	2SA1213Y TE 12L	R360	RK3037	MCR03 EZ0J 821
Q330	XU0029	DTC 114 YU T106	R361	RK3062	MCR03 EZ0J 104
Q331	XT0088	2SA1213Y TE 12L	R362	RK3072	MCR03 EZ0J 684
Q332	XU0029	DTC 114 YU T106	R363	RK3070	MCR03 EZ0J 474
Q333	XU0029	DTC 114 YU T106	R364	RK3030	MCR03 EZ0J 221
Q334	XU0029	DTC 114 YU T106	R365	RK3042	MCR03 EZ0J 222
Q335	XU0029	DTC 114 YU T106	R366	RK3046	MCR03 EZ0J 472
Q336	XU0032	DTA 143 XU T106	R367	RK3034	MCR03 EZ0J 471
Q337	XT0095	2SC4081 T 106R	R368	RK3038	MCR03 EZ0J 102
R301	RK3037	MCR03 EZ0J 821	R369	RK3001	MCR03 EZ0J 000
R302	RK3030	MCR03 EZ0J 221	R370	RK3074	MCR03 EZ0J 105
R303	RK3059	MCR03 EZ0J 563	R371	RK3051	MCR03 EZ0J 123
R304	RK3022	MCR03 EZ0J 470	R372	RK3048	MCR03 EZ0J 682
R305	RK3037	MCR03 EZ0J 821	R373	RK3058	MCR03 EZ0J 473
R306	RK3046	MCR03 EZ0J 472	R374	RK3058	MCR03 EZ0J 473
R307	RK3037	MCR03 EZ0J 821	R375	RK3058	MCR03 EZ0J 473
R308	RK3034	MCR03 EZ0J 471	R376	RK3058	MCR03 EZ0J 473
R309	RK3037	MCR03 EZ0J 821	R377	RK3050	MCR03 EZ0J 103
R310	RK3046	MCR03 EZ0J 472	R378	RK3074	MCR03 EZ0J 105
R311	RK3046	MCR03 EZ0J 472	R379	RK3001	MCR03 EZ0J 000
R312	RK3060	MCR03 EZ0J 683	R380	RK3046	MCR03 EZ0J 472
R313	RK3023	MCR03 EZ0J 560	R381	RK3038	MCR03 EZ0J 102
R314	RK3046	MCR03 EZ0J 472	R383	RK3070	MCR03 EZ0J 474
R315	RK3046	MCR03 EZ0J 472	R384	RK3062	MCR03 EZ0J 104
R316	RK3046	MCR03 EZ0J 472	R385	RK3042	MCR03 EZ0J 222
R317	RK3046	MCR03 EZ0J 472	R386	RK3026	MCR03 EZ0J 101
R324	RK3056	MCR03 EZ0J 333	R387	RK3055	MCR03 EZ0J 273
R325	RK3026	MCR03 EZ0J 101	R388	RK3072	MCR03 EZ0J 684
R326	RK3034	MCR03 EZ0J 471	R389	RK3047	MCR03 EZ0J 562
R327	RK3060	MCR03 EZ0J 683	R390	RK3044	MCR03 EZ0J 332
R328	RK3038	MCR03 EZ0J 102	R391	RK3014	MCR03 EZ0J 100
R329	RK3046	MCR03 EZ0J 472	R392	RK3066	MCR03 EZ0J 224
R330	RK3046	MCR03 EZ0J 472	R393	RK3014	MCR03 EZ0J 100
R333	RK3058	MCR03 EZ0J 473	R394	RK3042	MCR03 EZ0J 222
R334	RK3042	MCR03 EZ0J 222	R395	RK3046	MCR03 EZ0J 472
R335	RK3047	MCR03 EZ0J 562	R396	RK3050	MCR03 EZ0J 103
R336	RK3046	MCR03 EZ0J 472	R397	RK3044	MCR03 EZ0J 332
			R398	RK3034	MCR03 EZ0J 471

MAIN UNIT / WIRES

OTHERS

Ref. No.	Parts No.	Description
R399	RK3030	MCR03 EZ0J 221
R400	RK0105	MCR10 EZHJ 2R2E
R401	RK3058	MCR03 EZ0J 473
R402	RK3038	MCR03 EZ0J 102
R403	RK3042	MCR03 EZ0J 222
R405	RK3052	MCR03 EZ0J 153
R406	RK3033	MCR03 EZ0J 391
R407	RK3046	MCR03 EZ0J 472
R408	RK3036	MCR03 EZ0J 681
R409	RK3022	MCR03 EZ0J 470
R410	RK3046	MCR03 EZ0J 472
R412	RK3062	MCR03 EZ0J 104
R413	RK3051	MCR03 EZ0J 123
R414	RK3040	MCR03 EZ0J 152
R415	RK3034	MCR03 EZ0J 471
R416	RK3050	MCR03 EZ0J 103
R417	RK3050	MCR03 EZ0J 103
R418	RK3034	MCR03 EZ0J 471
R419	RK3050	MCR03 EZ0J 103
R420	RK3050	MCR03 EZ0J 103
R421	RK3050	MCR03 EZ0J 103
R422	RK3026	MCR03 EZ0J 101
RE301	UR0006	EC09 P20-51
TC301	CT0012	CTZ-10AW
TC302	CT0012	CTZ-10AW
TC303	CT0012	CTZ-10AW
VR301	RH0064	MVR32HXBR N103
VR302	RH0066	MVR32HXBR N222
VR303	RV0014	RK09722115 R1211
X301	XQ0047	UM5 85.3MHz
X302	XQ0048	UM1 10.245MHz
X303	XK0002	CDBM 455C7
X304	XQ0035	UM1 12.8MHz
	TZ0028	VOL SPACER
	YZ0061	UL TAPE W10mm L1mm
WIRES		
W1	MBCL02AA	Wire #02 Black(SP)
W2	MBCL02AA	Wire #02 Black(SP)
W3	MRCK07AA	Wire #07 Red(Power +)
W4	MBCK04AA	Wire #04 Black(Power-)
	TT1002	Tube 1.0 15mm
	MBCL04GG	Wire #30 B H1-040-H1
	MWCL04GG	Wire #30 W H1-040-H1
	MKCL04GG	Wire #30 K H1-040-H1

Ref. No.	Parts No.	Description
OTHERS		
	AN0013	Dial Nut (x2)
	AS0152	Screw Set X1
	DP0054	LCD Panel
	FF0019	Mask Sheet
	FG0058	PTT Rubber
	FG0059	Rubber Mat
	FG0061A	Silicon Rubber Switch A
	FG0063A	Silicon Rubber Switch 2B
	FG0066	DC Rubber
	FG0069	Key
	FG0071	P1 Side Rubber
	FG0083	LINE Rubber
	FG0084	Rubber Cushion DJK1 (x2)
	FG0088	Water Proof Mat C
	FG0089	Cushion X1
	FM0047A	Release Plate
	FM0051	BNC Ground Plate
	FP0046	Terminal Flame (x2)
	FP0052	Hole Sheet (x3)
	KM0084	Front Case ( G )
	KM0085	Front Case ( W )
	KM0086	Front Case ( Y )
	KM0103	Front Panel X1 ( B )
	KM0104	Front Panel X1 ( W )
	KM0105	Front Panel X1 ( Y )
	KM0109	Key Pad Panel X1 ( B )
	KM0110	Key Pad Panel X1 ( W )
	KM0111	Key Pad Panel X1 ( Y )
	KU0075	Top Panel ( B )
	KU0076	Top Panel ( W )
	KU0077	Top Panel ( Y )
	NB0040	Release Knob
	NB0041	Lock Knob
	NK0020	VOL Knob
	NK0021	Dial Knob
	NW0005	SQL Knob
	SA0008	Boss (x2)
	SA0009	Release Boss (x2)
	SC0005	Spring
	SS0051	Rear Panel X1
	ST0027	PTT Plate
	ST0028	SP Holder
	TG0009	Speaker Net
	TG0011	Front Net
	TZ0043	Insulator Sheet DJX1
	UT0024	Terminal
	YZ0042	Adhesion G-17 1g
	YZ0044	Screw Lock 1401C
	YZ0102	PTT PCB Tape
	YZ0103	Acrylic Panel Tape
	YZ0104	Case Tape A
	YZ0105	Case Tape B (x2)
	YZ0106	LCD Tape
	YZ0109	Adhesion GEL10



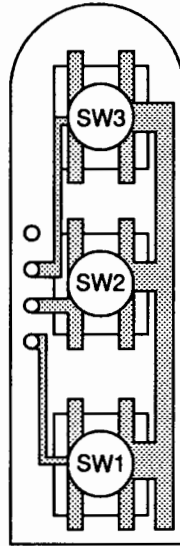
PACKING / KEY BOARD  
BATTERY CASE DJF1 SERIES / SCREW SET X1 AS0152

Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
<b>PACKING</b>			<b>BATTERY CASE DJF1 SERIES</b>		
	#H0351	Battery Case DJF1 Series		AF0016	Screw 2 + 2 Fe BC1 (x4) (38FN20020AB)
	BB0005	Belt 560		FG0076	Battery Rubber (x3)
	BH0008	Belt Clip DJK1		FG0077	Battery Cushion (x3)
	DS0179	Model Name Plate X1		FM0044	Holder
	DS0241	Model Name Plate X1D		FM0045	BC Plate
	EA0019	Antenna High Band DJX1		KD0022A	Battery Case
	EA0020	Antenna Low Band DJX1		KF0018	Battery Case
	HH0027	Polystyrene Foamed Fixture K1		MBDJH5AA	Wire #H5 Black
	HH0028	Polystyrene Plate K1		SD0016	Battery Terminal A
	HH0029	10sets Carton Cushion DJ-F1T (X1D)		SD0017	Battery Terminal B
	HK0231A	Item Carton Box DJX1		SD0018	Battery Terminal C
	HM0083	5sets Carton Box DJK1		SD0019	Battery Terminal D
	HM0085	10sets Carton Box DJK1 (X1D)		SD0020	Terminal (x2)
	HP0003	Protection Bag 5 x 75 x 110		SD0021	Minus Terminal
	HP0006	Protection Bag 5 x 90 x 170		YZ0044	Screw Lock1401C
	HP0028	Protection Bag 5 x 165 x 280			
	PH0004	Registration Card (X1D)			
	PH0005	Registration Card			
	PK0040	Circuit Diagram (X1D)			
	PR0109	Seal White			
	PR0110	Seal Yellow			
	PR0153	Seal D (X1D)			
	PS0136C	Instruction Manual DJX1			
	PS0157	Instruction Manual DJX1D			
	PT0004A	Lot Number Seal X1			
<b>KEY BOARD</b>			<b>SCREW SET X1 AS0152</b>		
CN801	UE0133	DF9A-11P-1V(22)		AA0036	Screw 2 + 5 Fe N (x3) (38AN20050GN)
D801	XL0016	SLM-13MW T96B		AA0037	Screw 2 + 4 Fe (x2) (38AS20040GZ)
D802	XL0016	SLM-13MW T96B		AA0038	Screw 2 + 16 Fe N (x1) (38AS20160GN)
D803	XL0016	SLM-13MW T96B		AF0005	Screw 0 # 2 + 3.5 Fe N1 (x12) (38FN20035AN)
D804	XL0016	SLM-13MW T96B		AF0015	Screw 0 # 2 + 3 Fe BC1 (x4) (38FN20030AB)
R801	RK3024	MCR03 EZ0J 680		AF0016	Screw 0 # 2 + 2 Fe BC1 (x6) (38FN20020AB)
R802	RK3024	MCR03 EZ0J 680		AF0017	Screw 0 # 2 + 8 Fe N1 (x2) (38FN20080AN)
	UP0210	PCB			

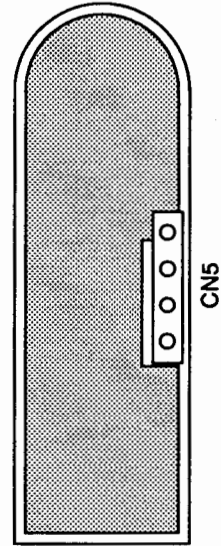
# PC Board Views

## 1) SW Unit

Side A

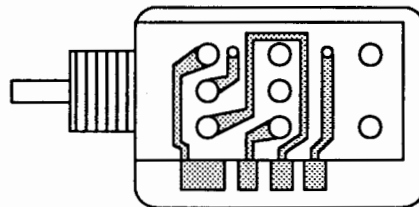


Side B



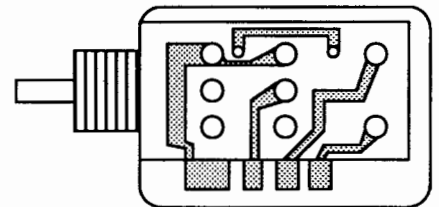
## 2) VOL Unit

Side A



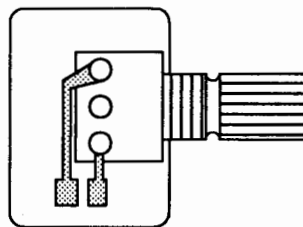
VR303  
RK09722115R1211

Side B



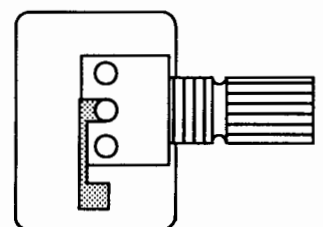
## 3) REN Unit

Side A



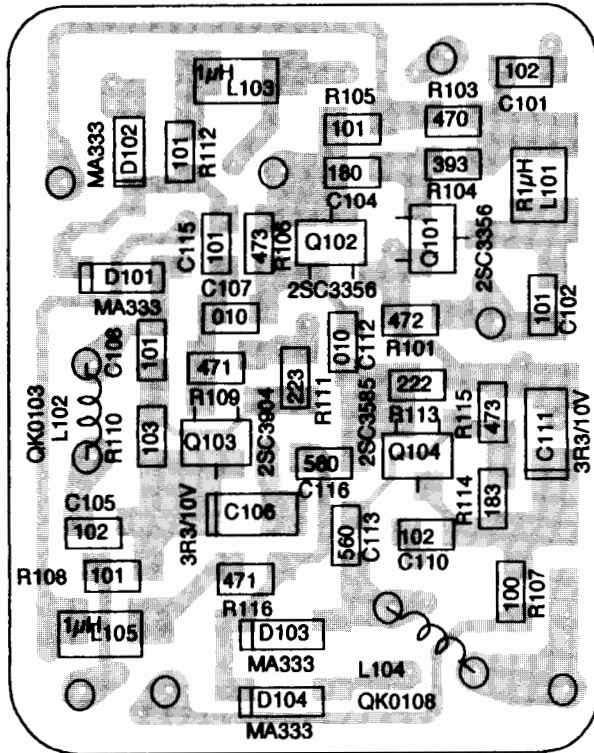
RE301  
EC09P20-51

Side B

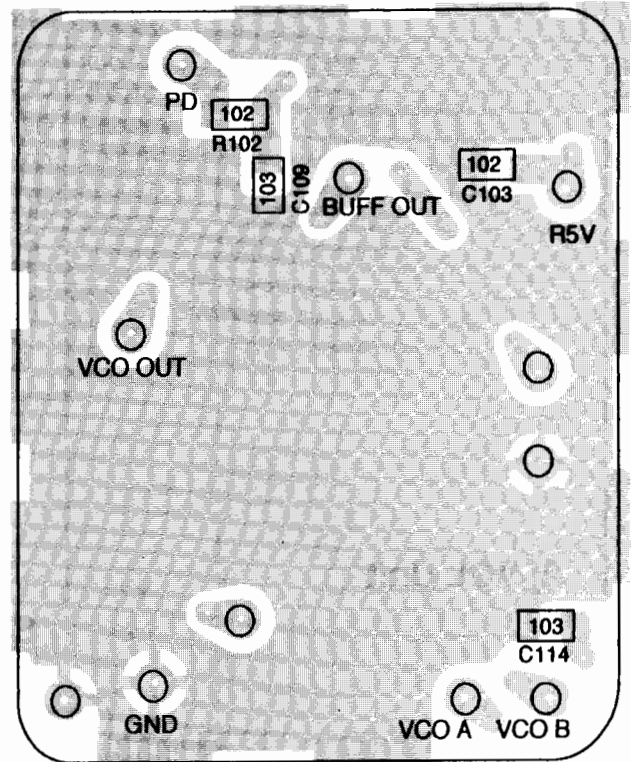


#### 4) VCO Unit

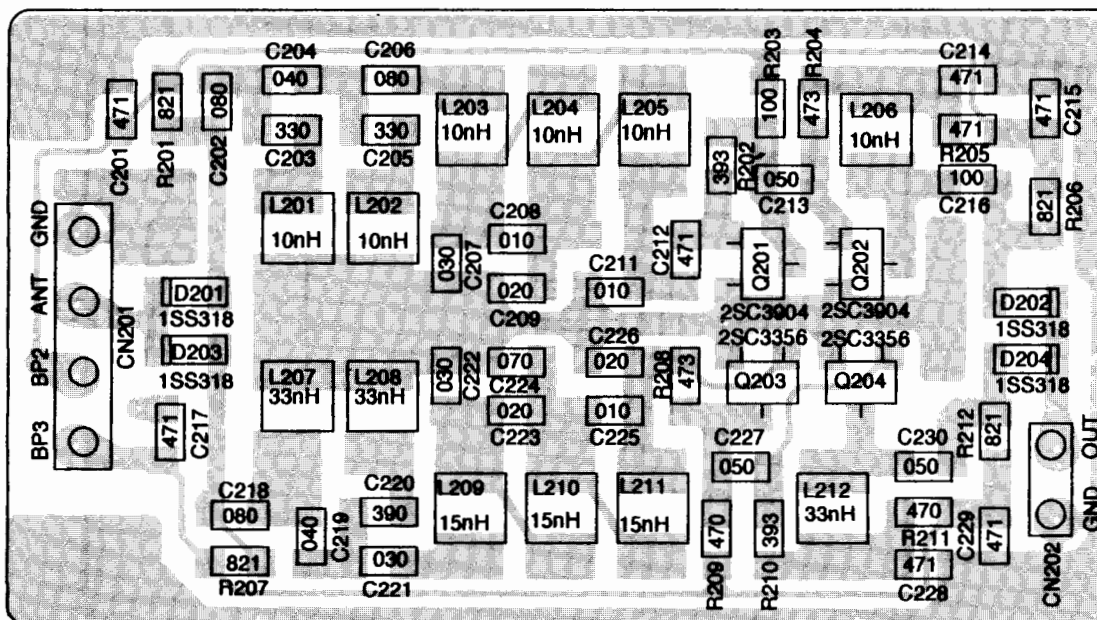
Side A



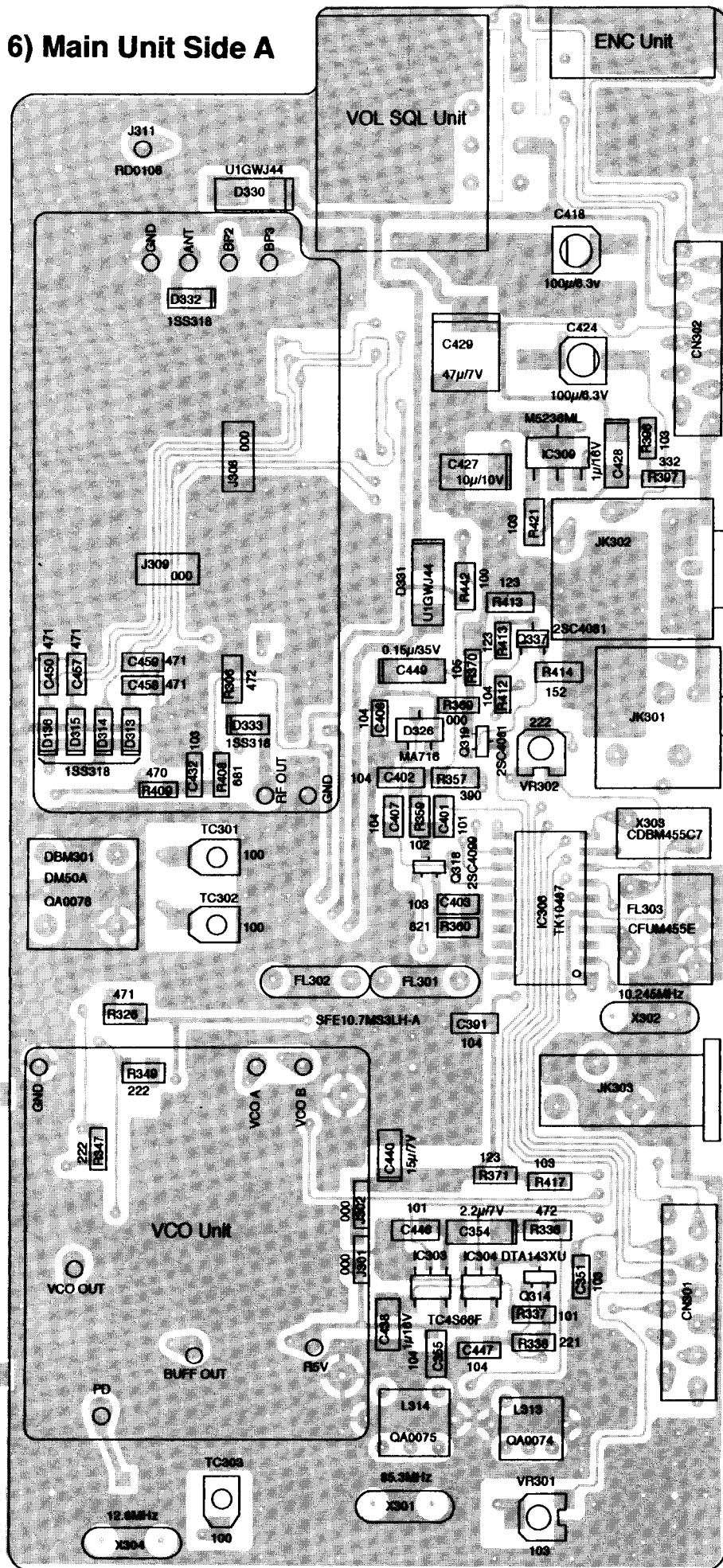
Side B



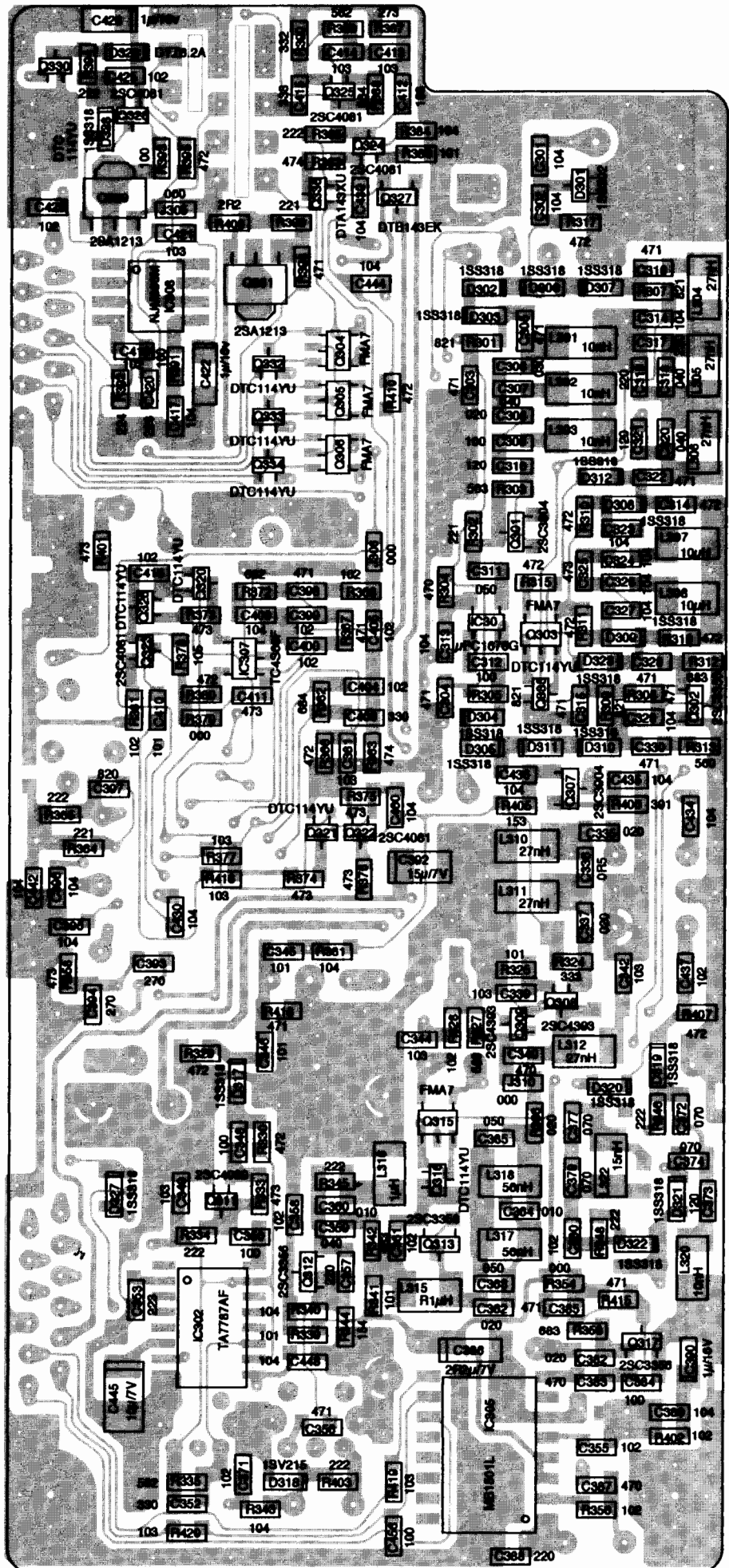
#### 5) Front End Unit



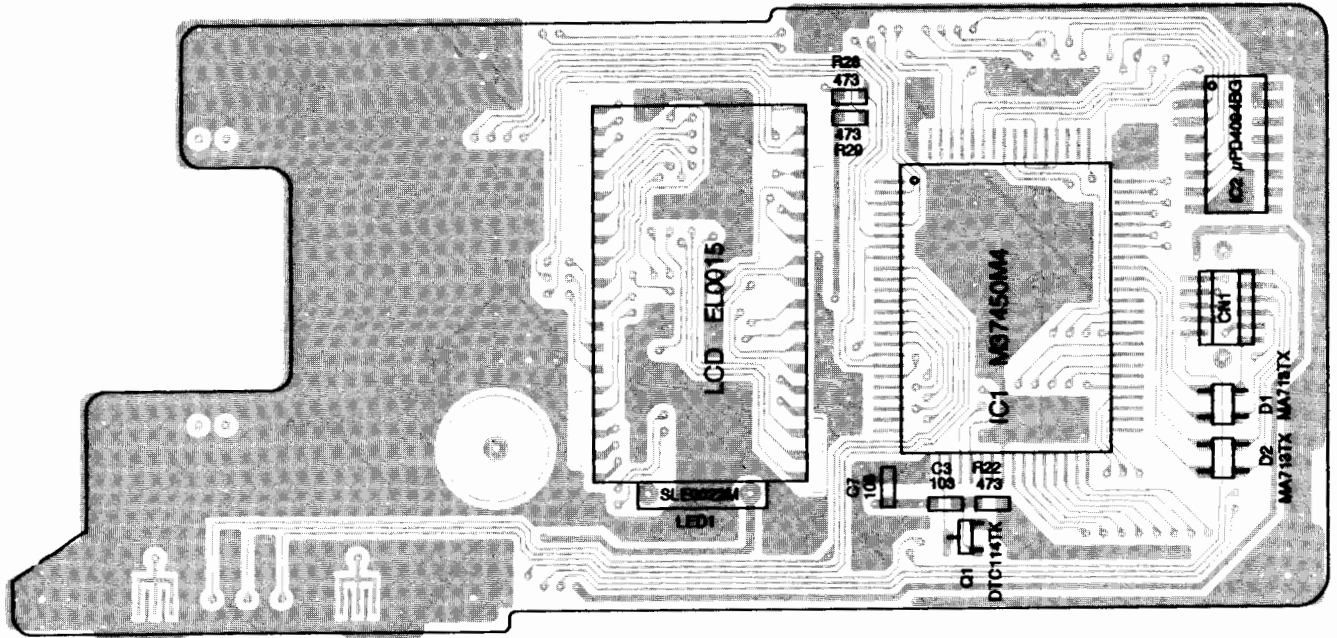
# 6) Main Unit Side A



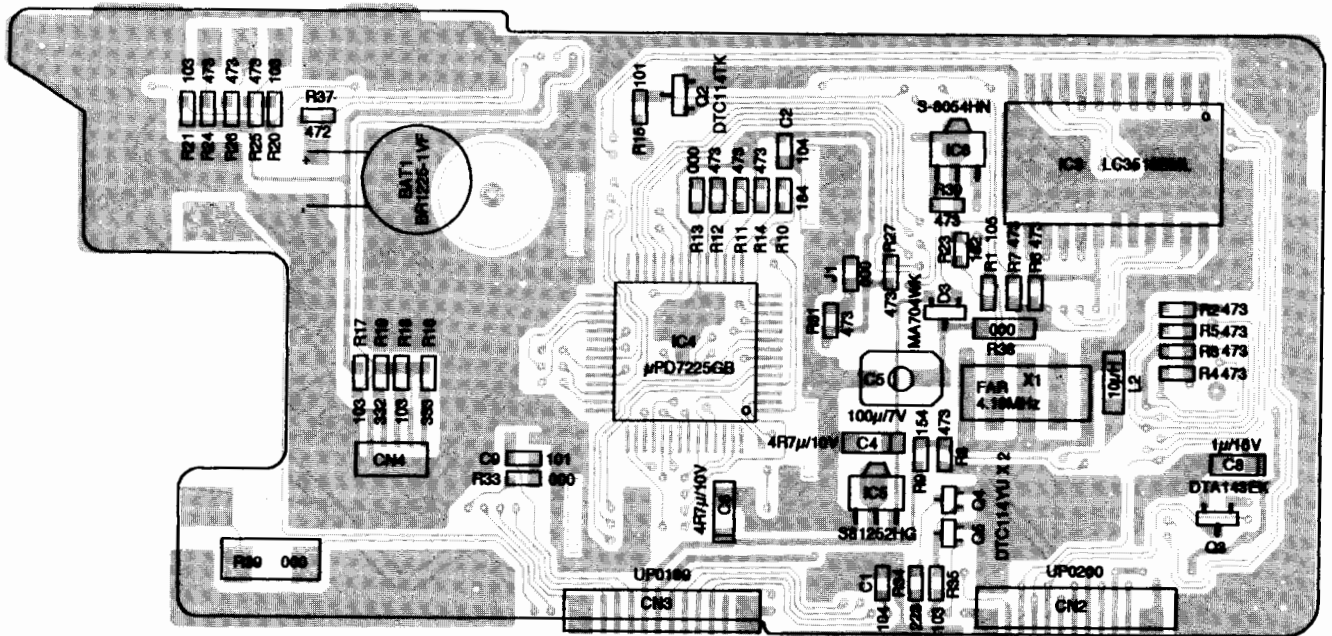
7) Main Unit  
Side B



## 8) CPU Unit Side A

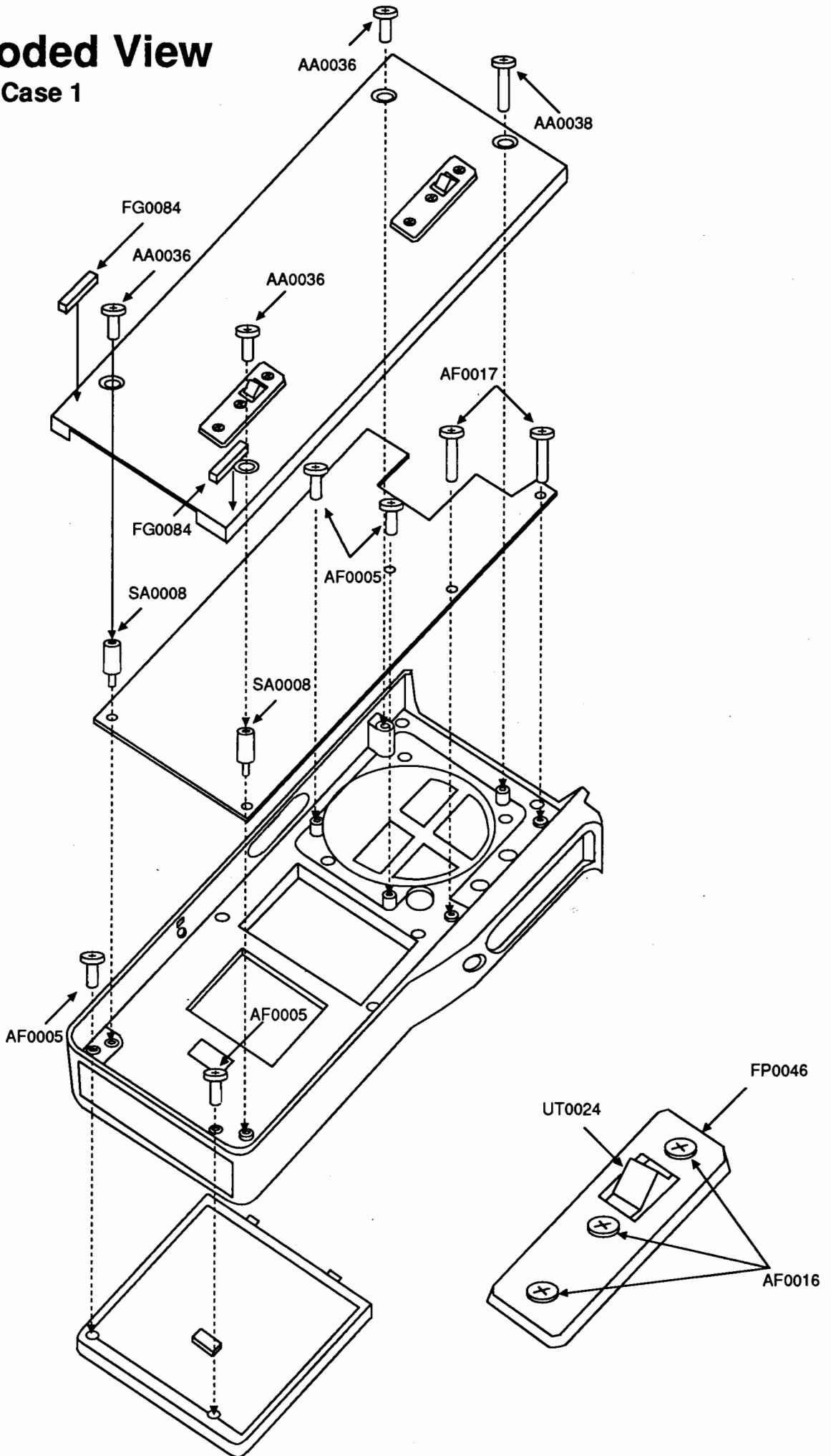


## 9) CPU Unit Side B

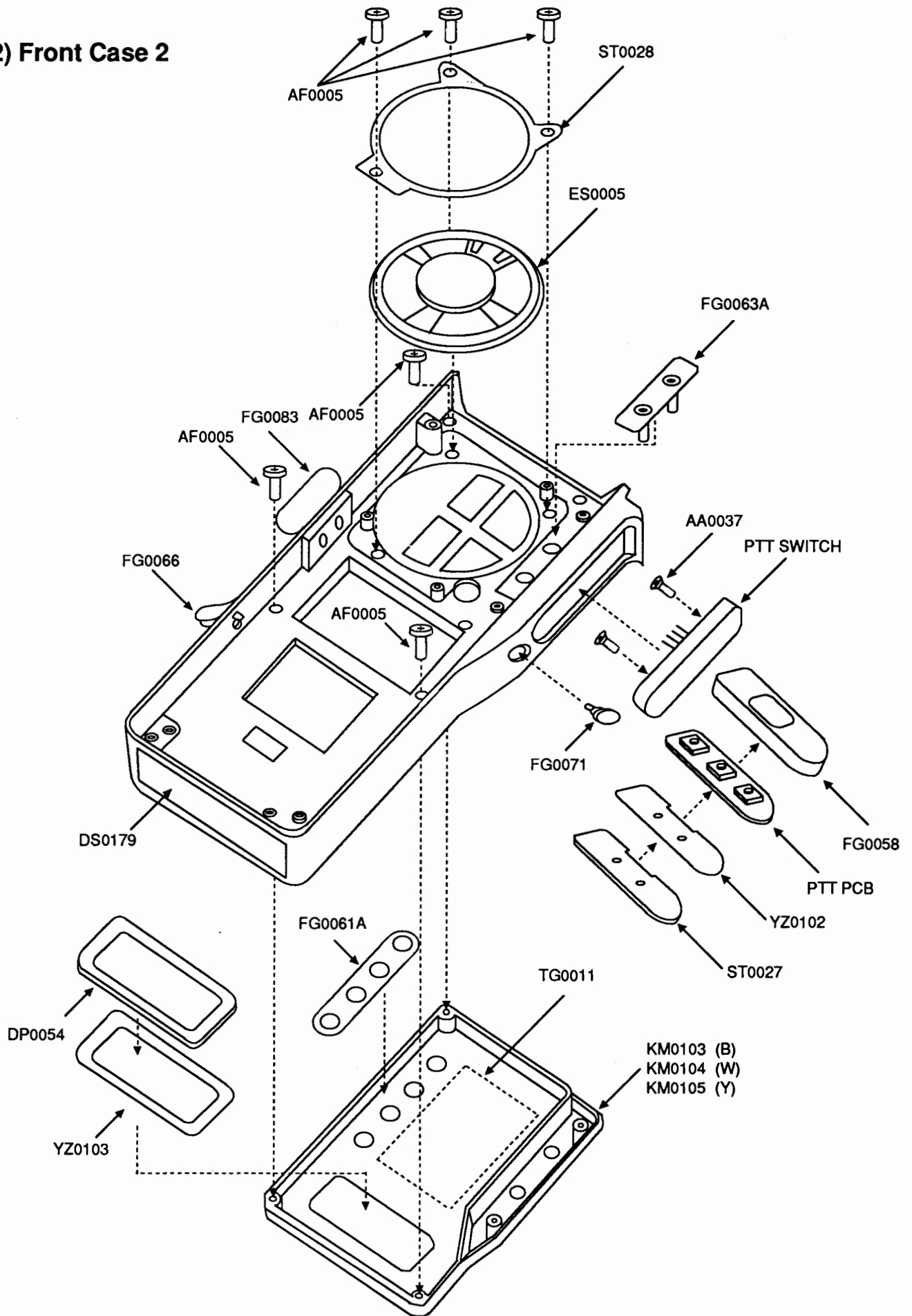


# Exploded View

## 1) Front Case 1

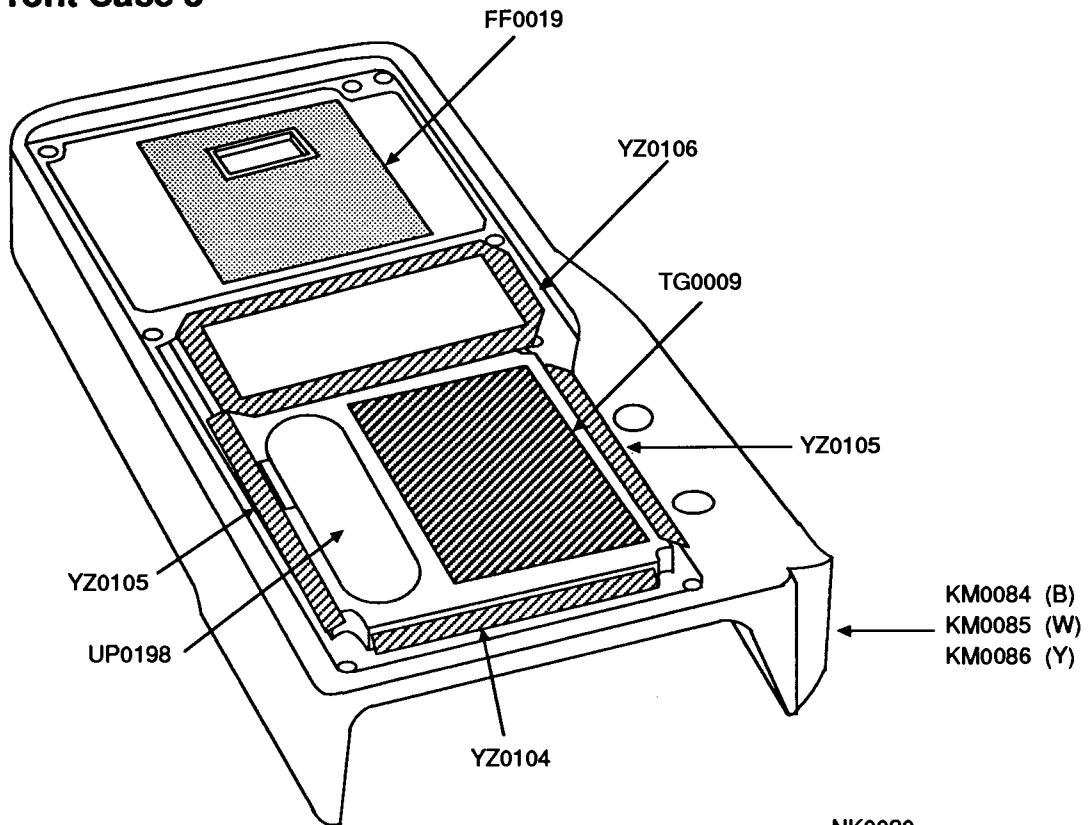


## 2) Front Case 2

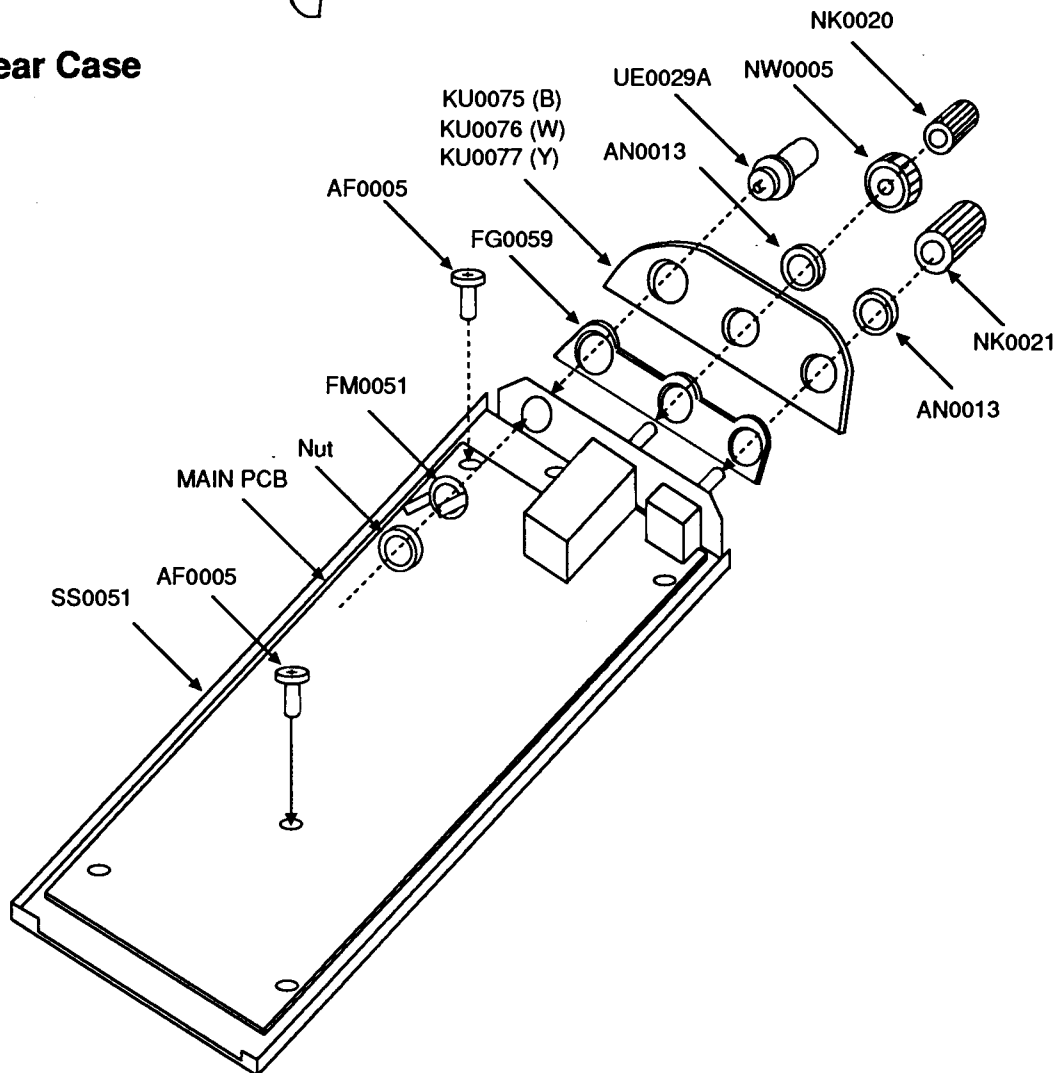




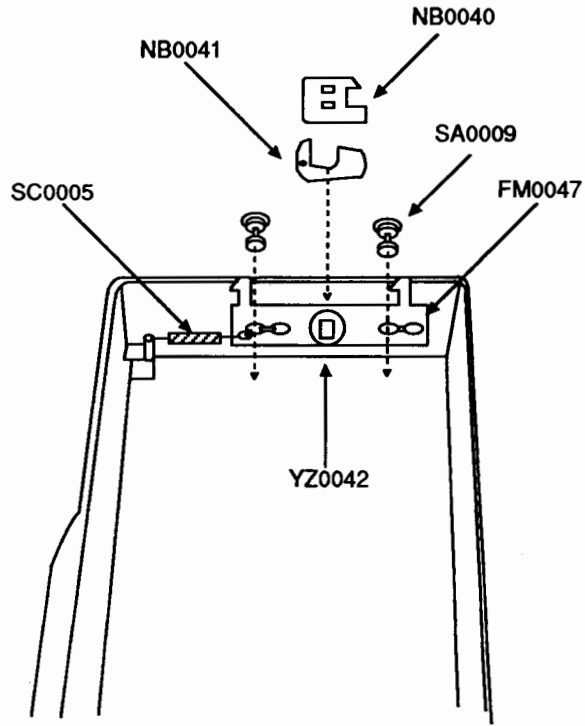
### 3) Front Case 3



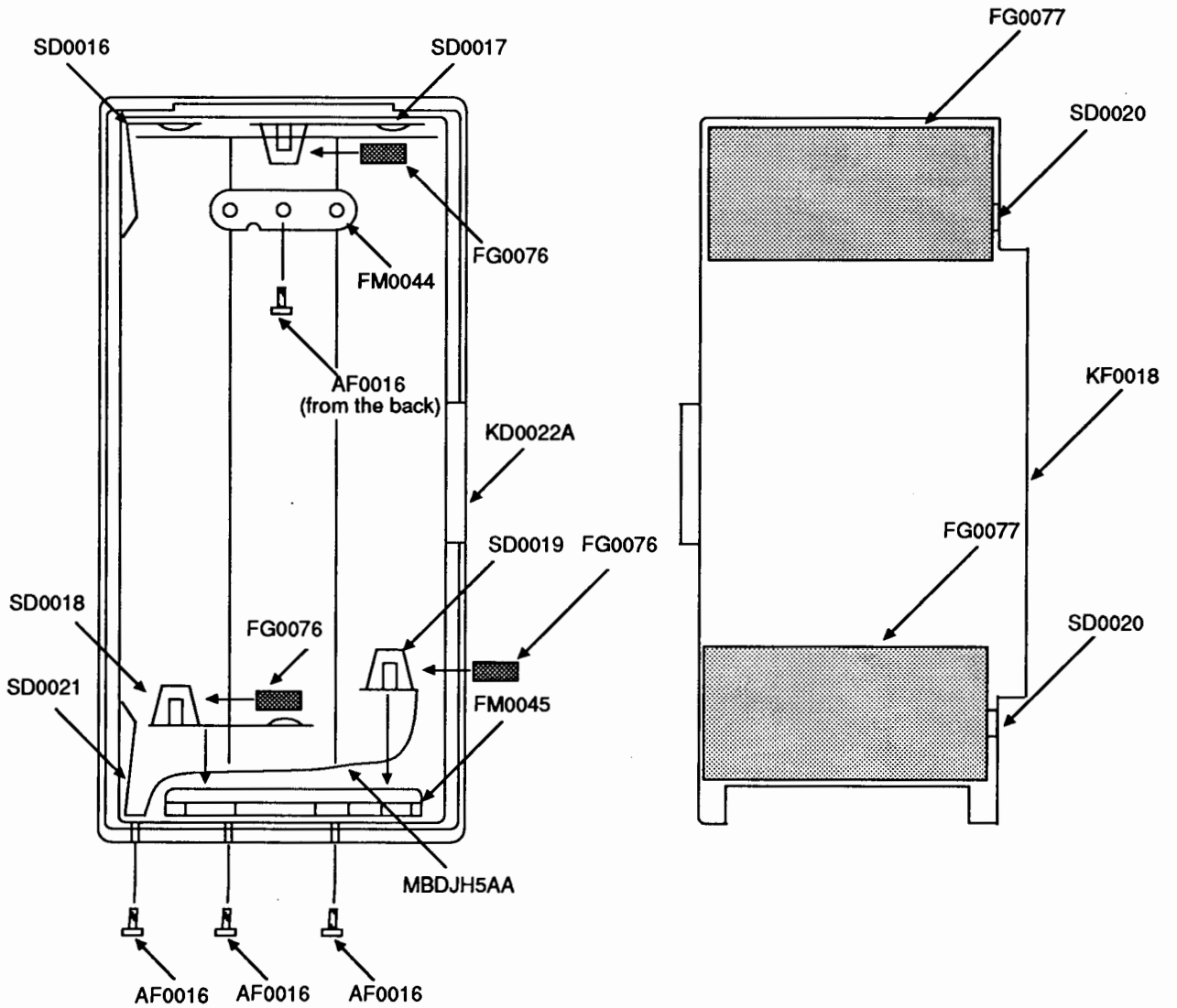
### 4) Rear Case



### 5) Lock System



### 6) Battery Case



# Adjustment

## 1) Required Test Equipment

### 1. Regulated Power Supply

Supply voltage: 2V to 15V  
 Current: 1A or more  
 Standard voltage: 12V

### 2. Frequency Counter

Measurable frequency: Up to 1GHz  
 Measurements stability: 0.2ppm or so

### 3. Oscilloscope

Measurable frequency: DC to 30MHz

### 4. AF Voltmeter

Measurable frequency: 50Hz to 1MHz  
 Maximum sensitivity: 1mV or more

### 5. SSG

Maximum frequency: 1.3GHz or more  
 Output: -20dB/0.1 $\mu$ V to 120dB/1V  
 Output impedance: 50 $\Omega$  unbalanced

### 6. Digital Multimeter

Voltage range: FS = 18V or so  
 Input resistance: 1M $\Omega$  or more

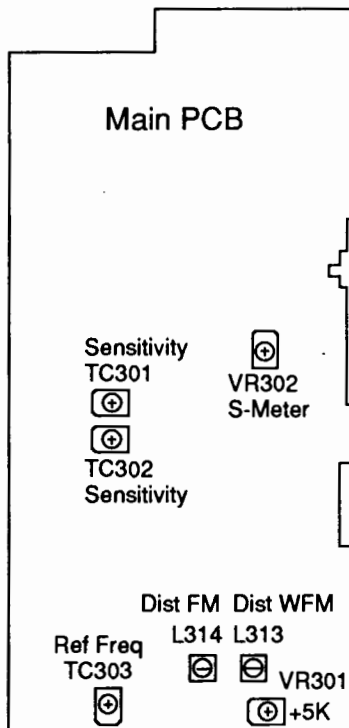
### 7. Dummy Load

Impedance: 8 $\Omega$   
 Dissipation: 1W or more

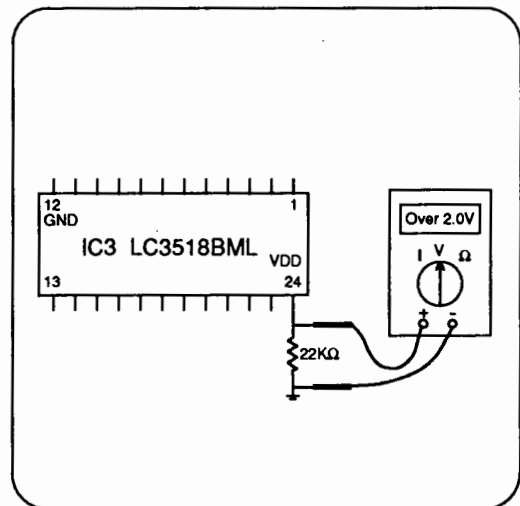
### 8. Distortion Meter

Measurable frequency: 30Hz to 100kHz  
 Input level: 50mV to 10V rms

## 2) Adjustment Points



## 3) Backup Check Method



#### 4) Adjustment (Power Supply Voltage: 12V)

##### RX Pre-adjustment

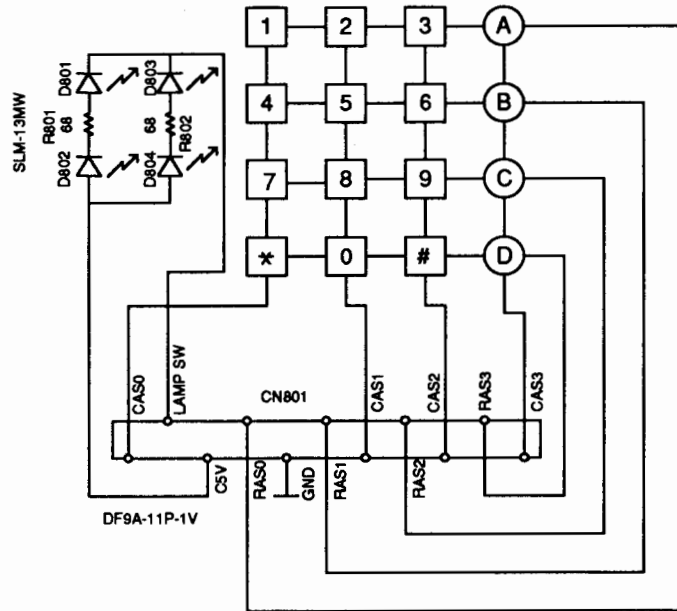
Item	Condition	Measurement		Adjustment			Specifications/ Remarks
		Test-equipment	Terminal	Unit	Parts	Method	
Reference Frequency	RX Frequency: 10.00MHz	Frequency Counter	VCO	MAIN	TC303		276.7MHz +/-0.01MHz
Distortion	Freq: 145.05MHz SSG mod: 1kHz DEV: 3.5kHz Output: 66dB $\mu$ V (EMF) RX Mode: FM	SSG Oscilloscope AF Voltmeter Distortion meter	SP		L314	Mini	Below 4%
Receive Sensitivity	Freq: 145.05MHz SG mod: kHz RX Mode: FM				TC301 TC302	12dB SINAD: Max	12dB SINAD -6dB $\mu$ V (EMF)

##### RX Adjustment

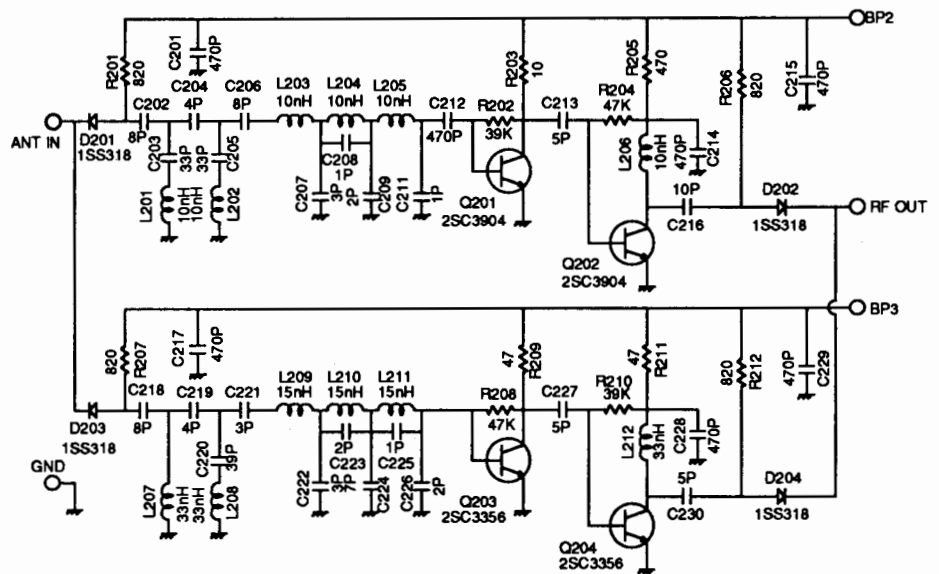
Item	Condition	Measurement		Adjustment			Specifications/ Remarks
		Test-equipment	Terminal	Unit	Parts	Method	
Distortion	Freq: 145.05MHz SSG mod: 1kHz DEV: 3.5kHz Output: 66dB $\mu$ V (EMF) RX Mode: FM	SSG Oscilloscope AF Voltmeter Distortion meter	SP	MAIN	L314	Distortion Mini and Audio Max	Below 3.5%
Receive Sensitivity	Freq: 10.05MHz SSG mod: 1kHz RX Mode: FM			MAIN	TC302	12dB SINAD: Max	12dB SINAD -5dB $\mu$ V (EMF)
	Freq: 435.05MHz SSG mod: 1kHz RX Mode: FM			MAIN	TC301	12dB SINAD: Max	12dB SINAD -5dB $\mu$ V (EMF)
+5kHz	Freq: 880.055MHz RX Mode: FM			MAIN	VR301	12dB SINAD: Max	
S-Meter	Freq: 145.05MHz SSG mod: 1kHz DEV: 3.5kHz Output: 20dB $\mu$ V (EMF) RX Mode: FM				VR302		"Full" Flashing
Distortion	Freq: 145.05MHz SSG mod: 1kHz DEV: 50kHz Output: 66dB $\mu$ V (EMF) RX Mode: WFM				L313	Distortion Mini and Audio Max	Below 3.5%
Backup Current				Digital Multimeter			IC3 Pin24

# Circuit Diagrams

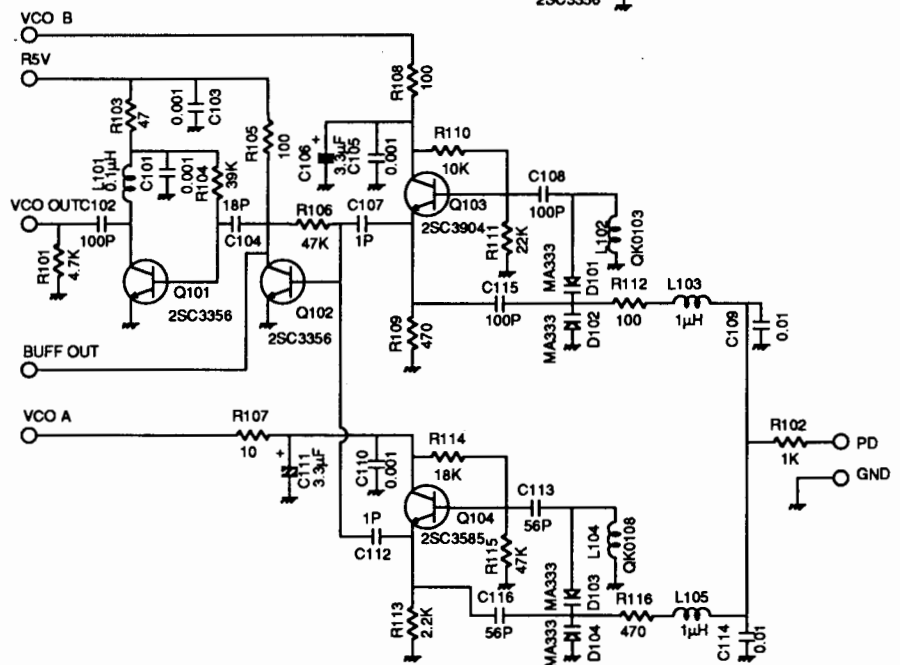
## 1) Key Unit



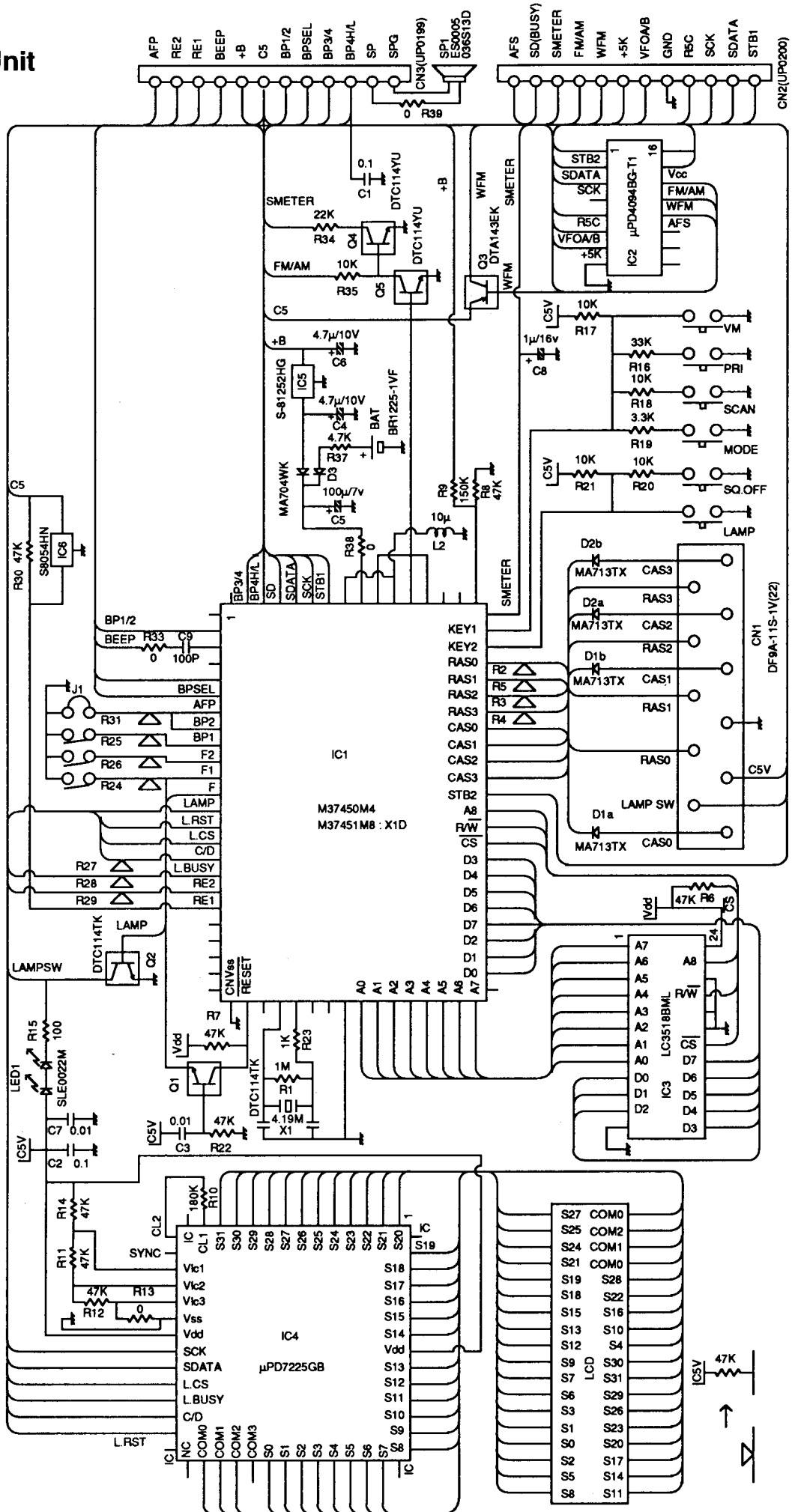
## 2) Front End Unit



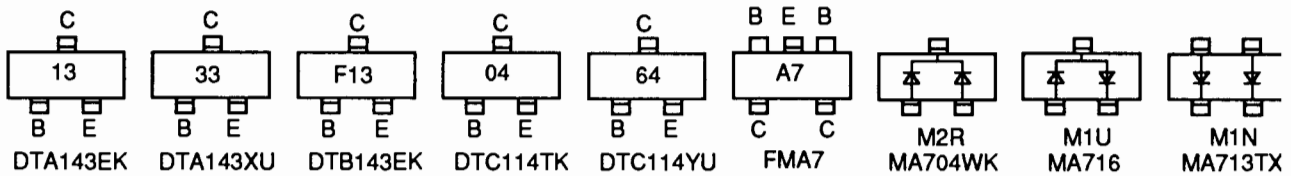
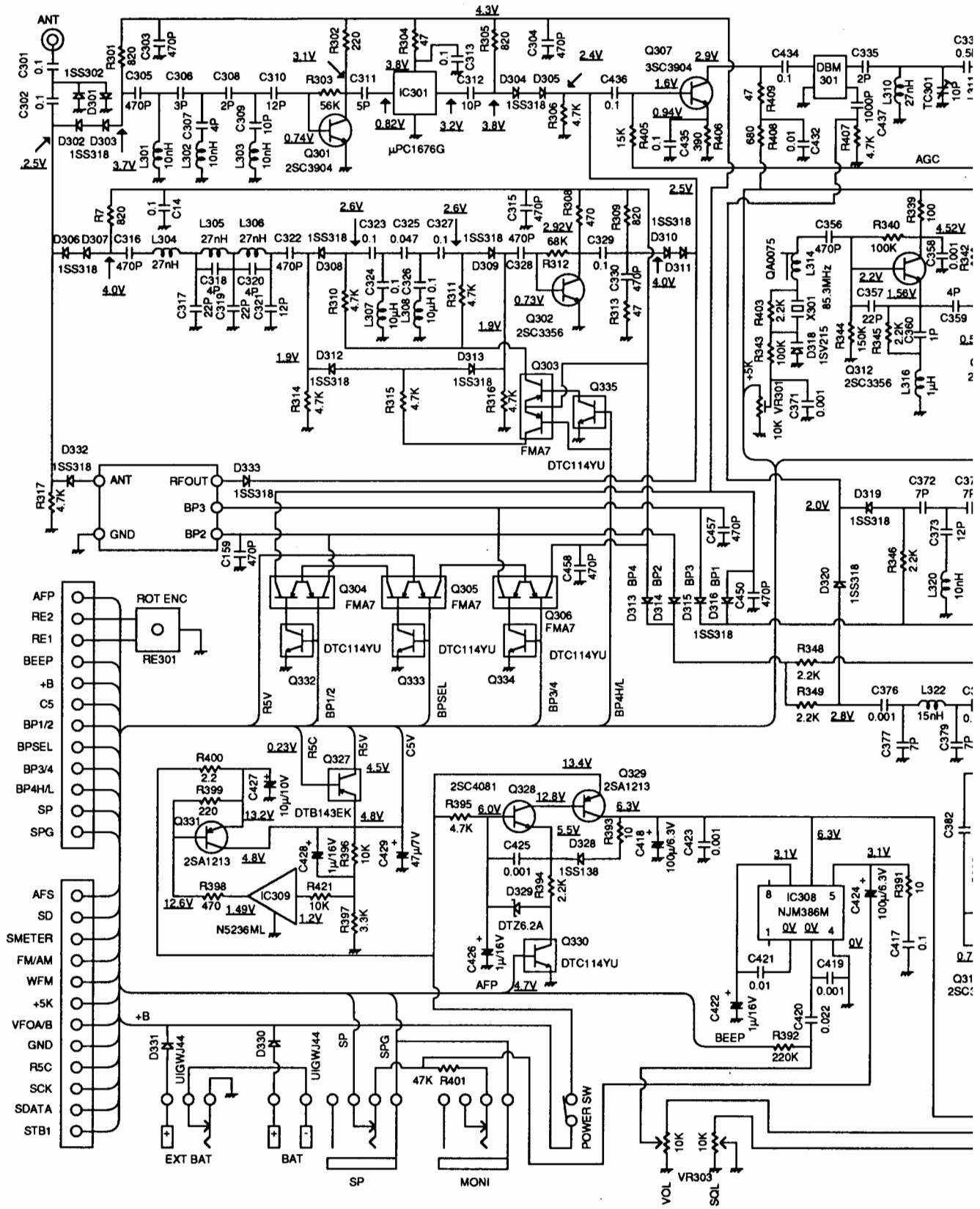
## 3) VCO Unit

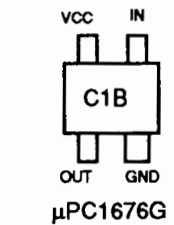
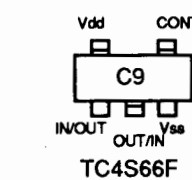
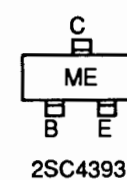
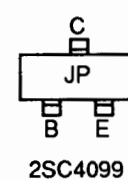
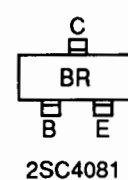
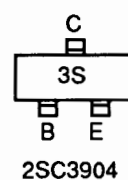
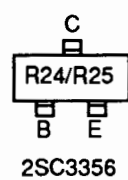
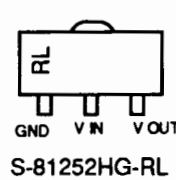
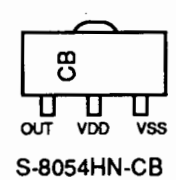
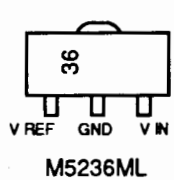
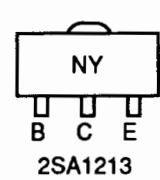
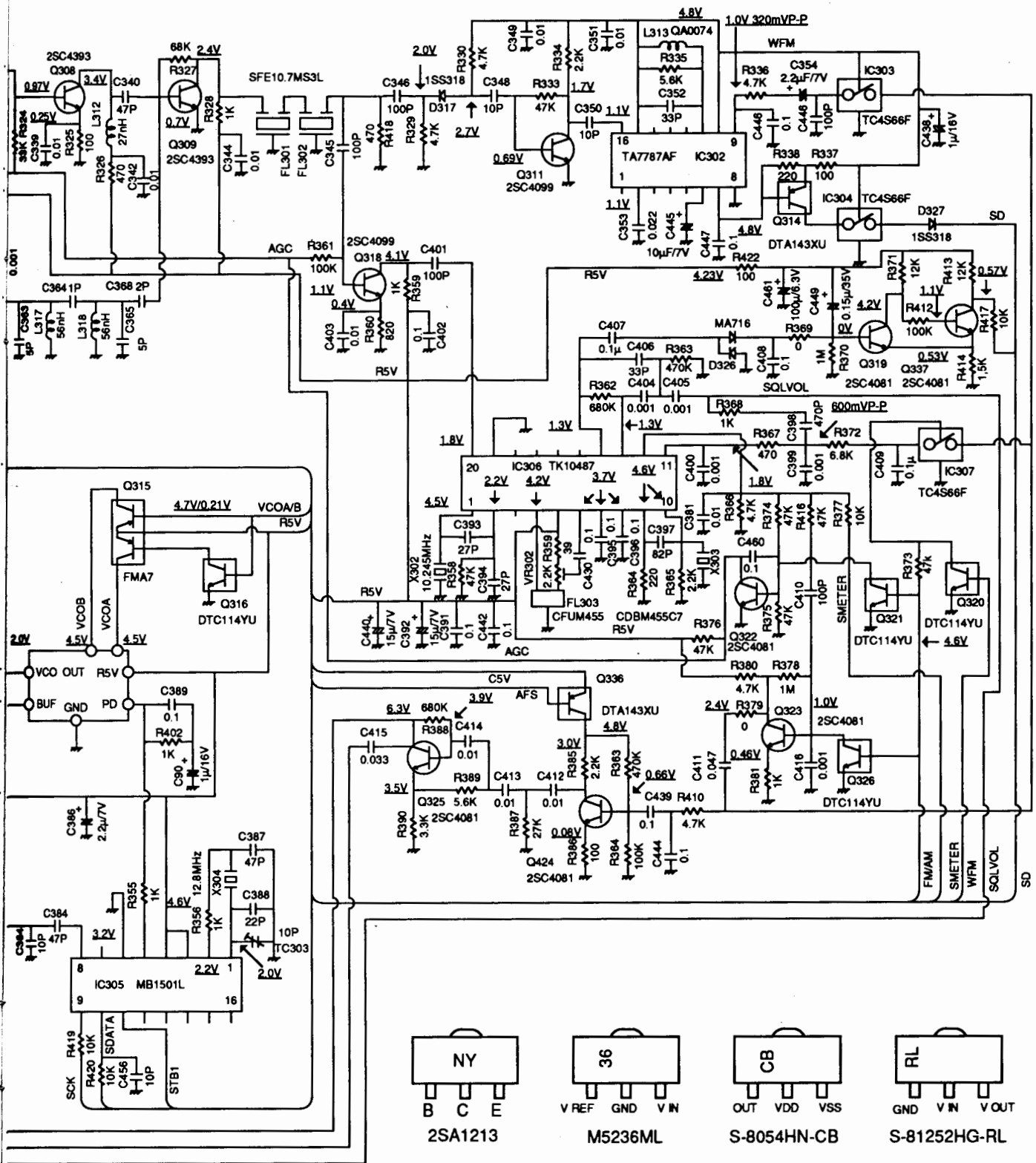


# 4) CPU Unit



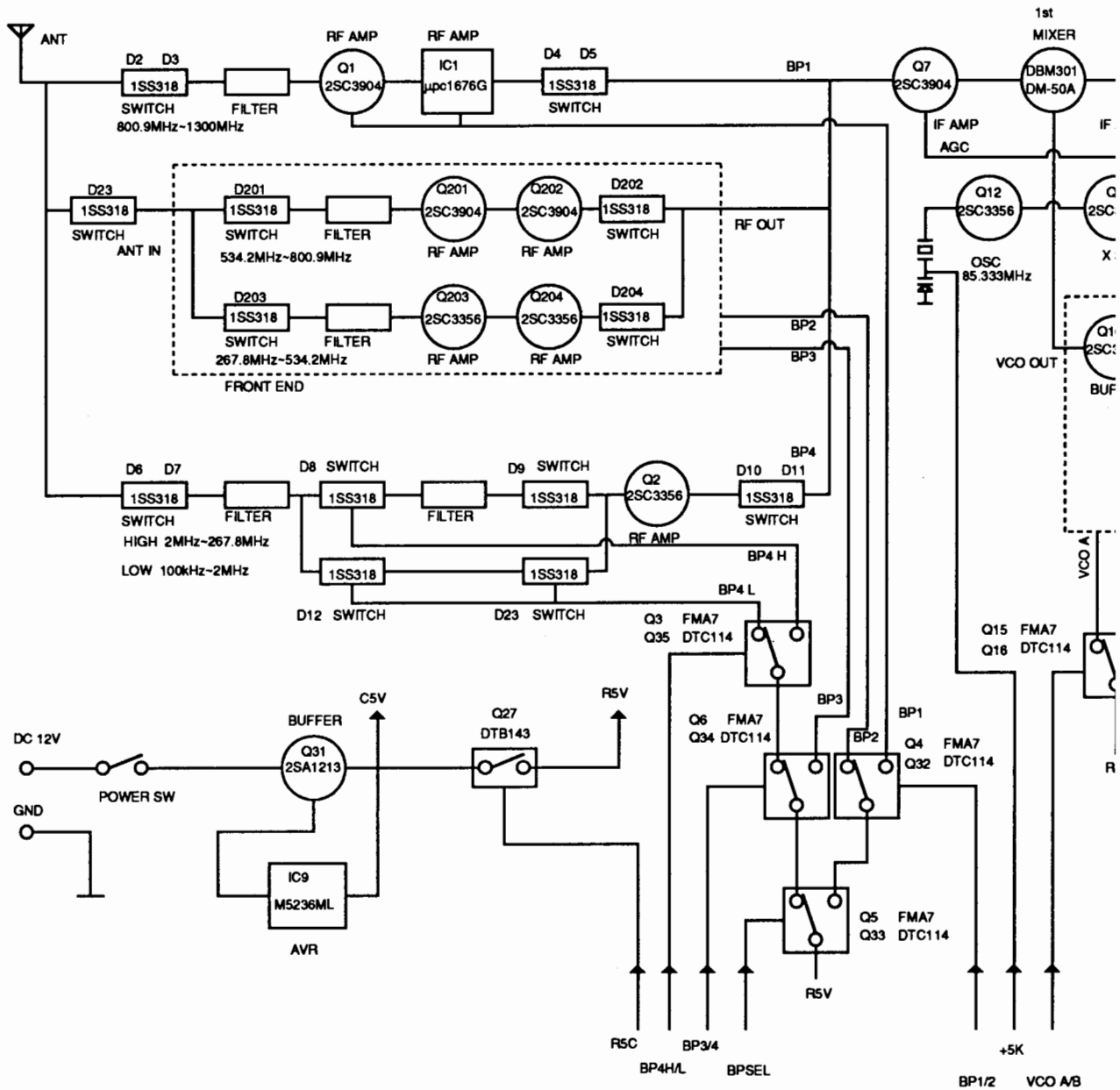
# 5) Main Unit



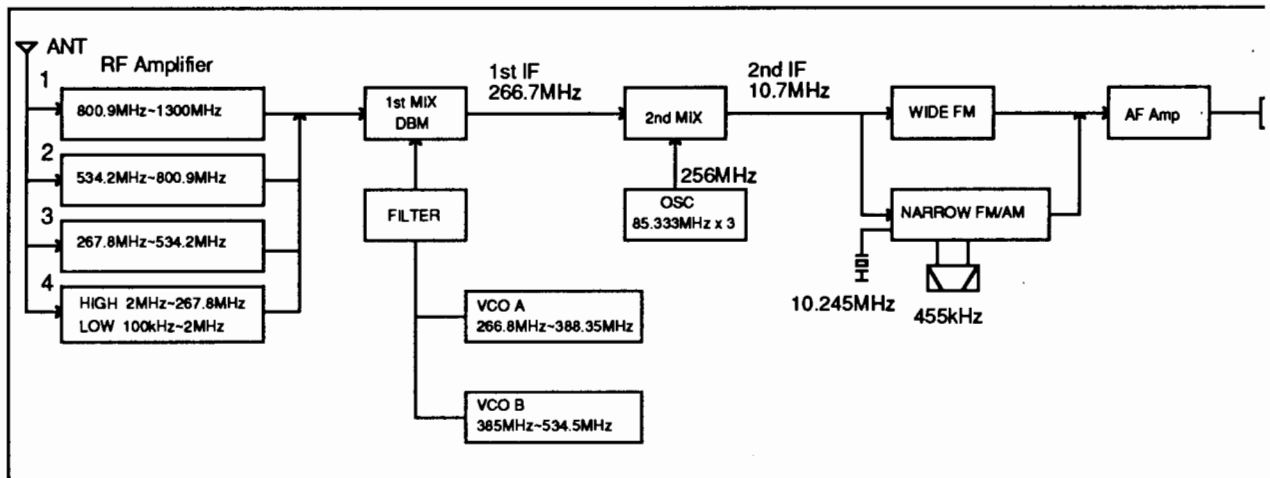


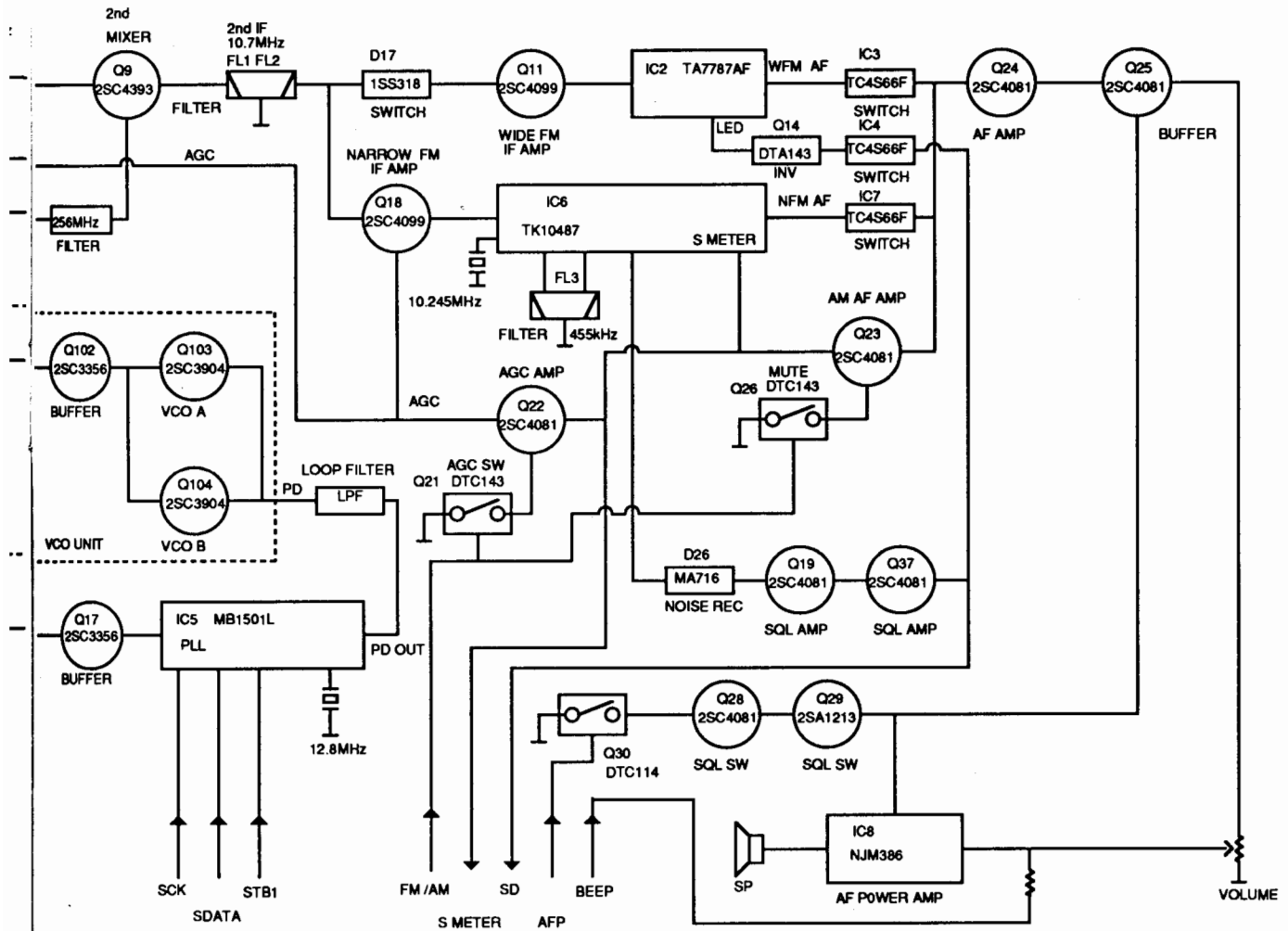


# Block Diagram



## Frequency Configuration





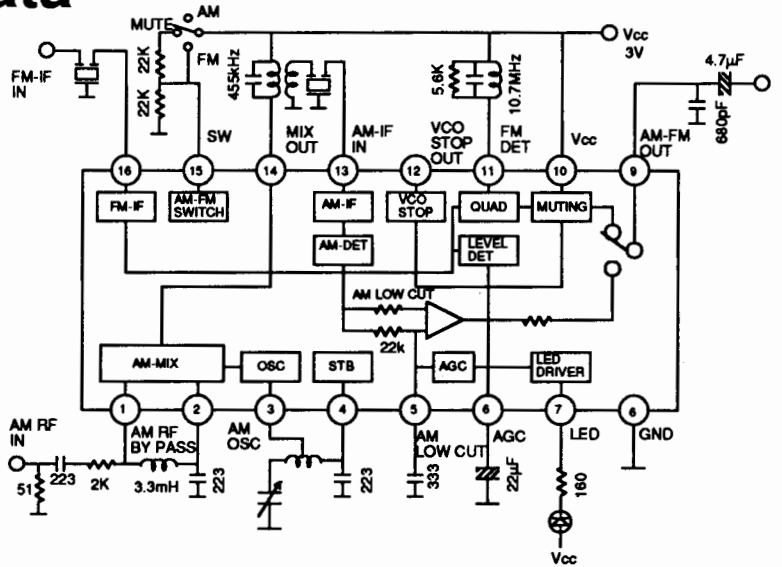
### Frequency System

Receive Frequency	RF Amp	VCO	VCO Frequency
100kHz ~ 2MHz	4 Low	A	Upper 266.8MHz ~ 268.7MHz
2MHz ~ 118.3MHz	4 High	A	Upper 268.7MHz ~ 345MHz
118.3MHz ~ 267.8MHz	4 High	B	Upper 345MHz ~ 494.5MHz
267.8MHz ~ 510MHz	3	A	Upper (267.25MHz ~ 388.35MHz) x 2
510MHz ~ 534.2MHz	3	B	Upper (388.35MHz ~ 400.45MHz) x 2
534.2MHz ~ 651.7MHz	2	A	Lower 267.5MHz ~ 385MHz
651.7MHz ~ 800.9MHz	2	B	Lower 385 MHz ~ 534.2MHz
800.9MHz ~ 1036.7MHz	1	A	Lower (267.1MHz ~ 385MHz) x 2
1036.7MHz ~ 1300MHz	1	B	Lower (385MHz ~ 516.65MHz) x 2

# Semiconductor Data

## 1) TA7787AF (XA0152) AM/FM IF IC

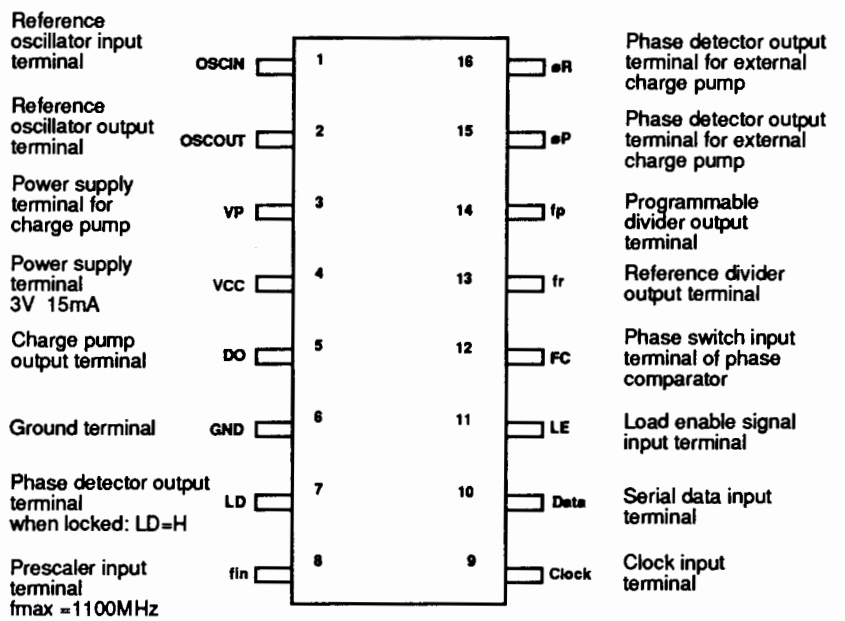
Vcc: 3V  
 FM: F=10.7MHz dev=22.5kHz fm=1kHz  
 Limit: 43dBμV -3dB  
 SN: 68dB  
 THD: 0.1%



## 2) MB1501LPFG (XA0149) Frequency Synthesizer

Function Table

FC input	P.D.input	Do output
High or Low	fr=fp	Hi Z
High	fr>fp	High
High	fr<fp	Low
Low	fr>fp	Low
Low	fr<fp	High



## 3) TK10487MTR (XA0144) Narrow Band FM IC

Vcc: 3V  
 Freq: 10.7MHz  
 Icc: 5mA  
 Limit: 2μV -3dB  
 Vo: 180mV DEV=3kHz  
 THD: 1.0%

