

RECEIVER SECTION ALIGNMENT POINTS

III. Transmitter Alignment

A. Power Amplifier Alignment

1. Connect a dummy load/wattmeter to the ANT jack, and set the transceiver frequency to 445 MHz (435 MHz).
2. Close the PTT switch, and adjust T_{210} , L_{105} , and TC_{101} through TC_{104} for maximum RF output on the wattmeter.

B. TX Balance Mixer Alignment

1. Connect a dummy load through a directional coupler to the ANT jack, and the sampled output from the directional coupler to a spectrum analyzer.
2. Close the PTT switch and adjust VR_{201} for a minimum spurious level which appears ± 15.4 MHz away from the carrier frequency.

Note:

If a spectrum analyzer is not available, never adjust VR_{201} , as serious spurious radiation may result.

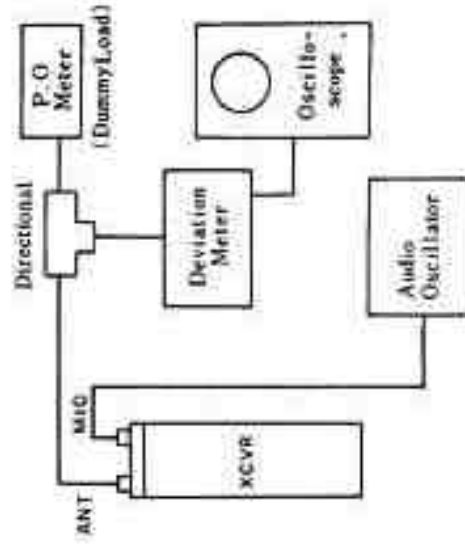
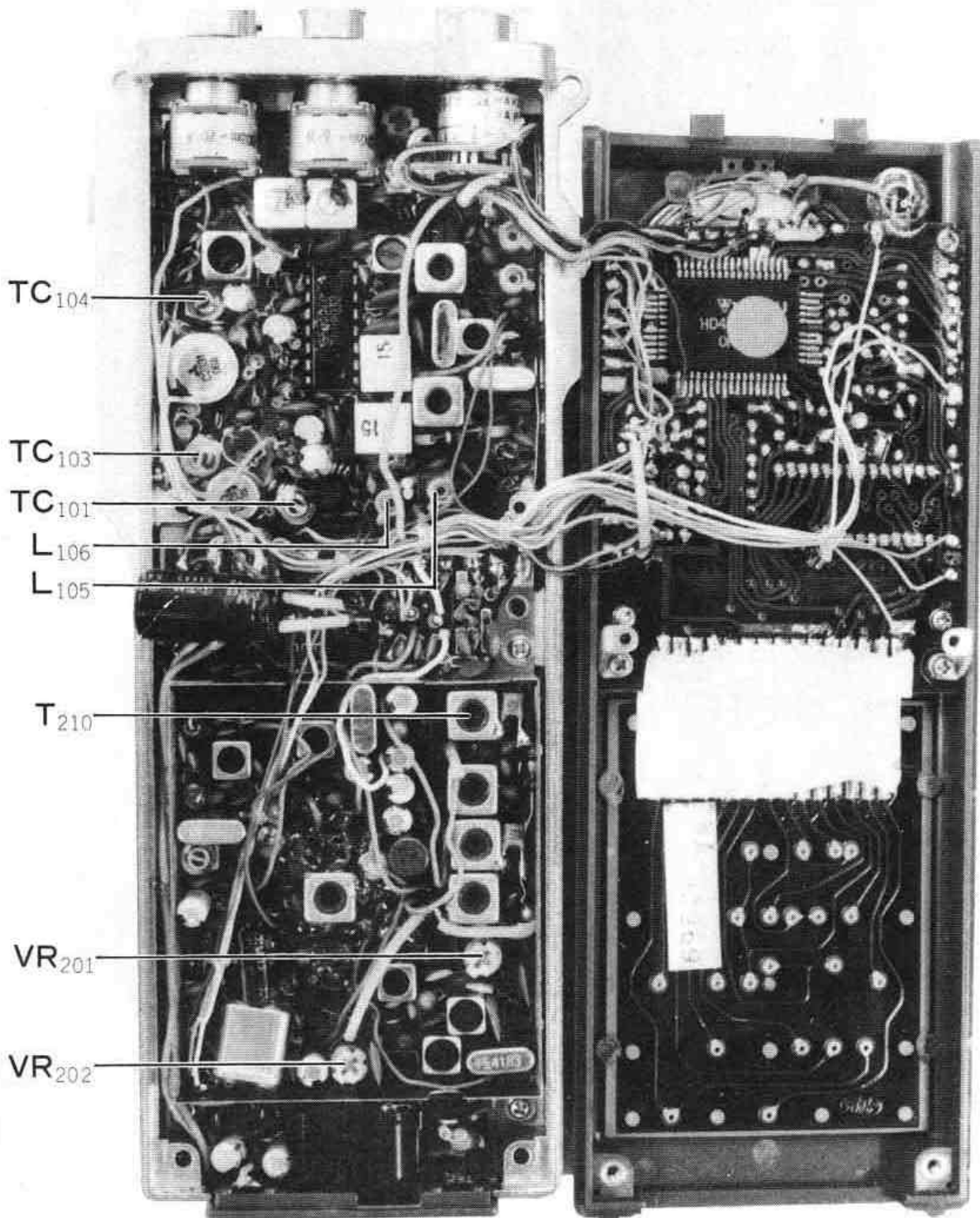


Figure 2

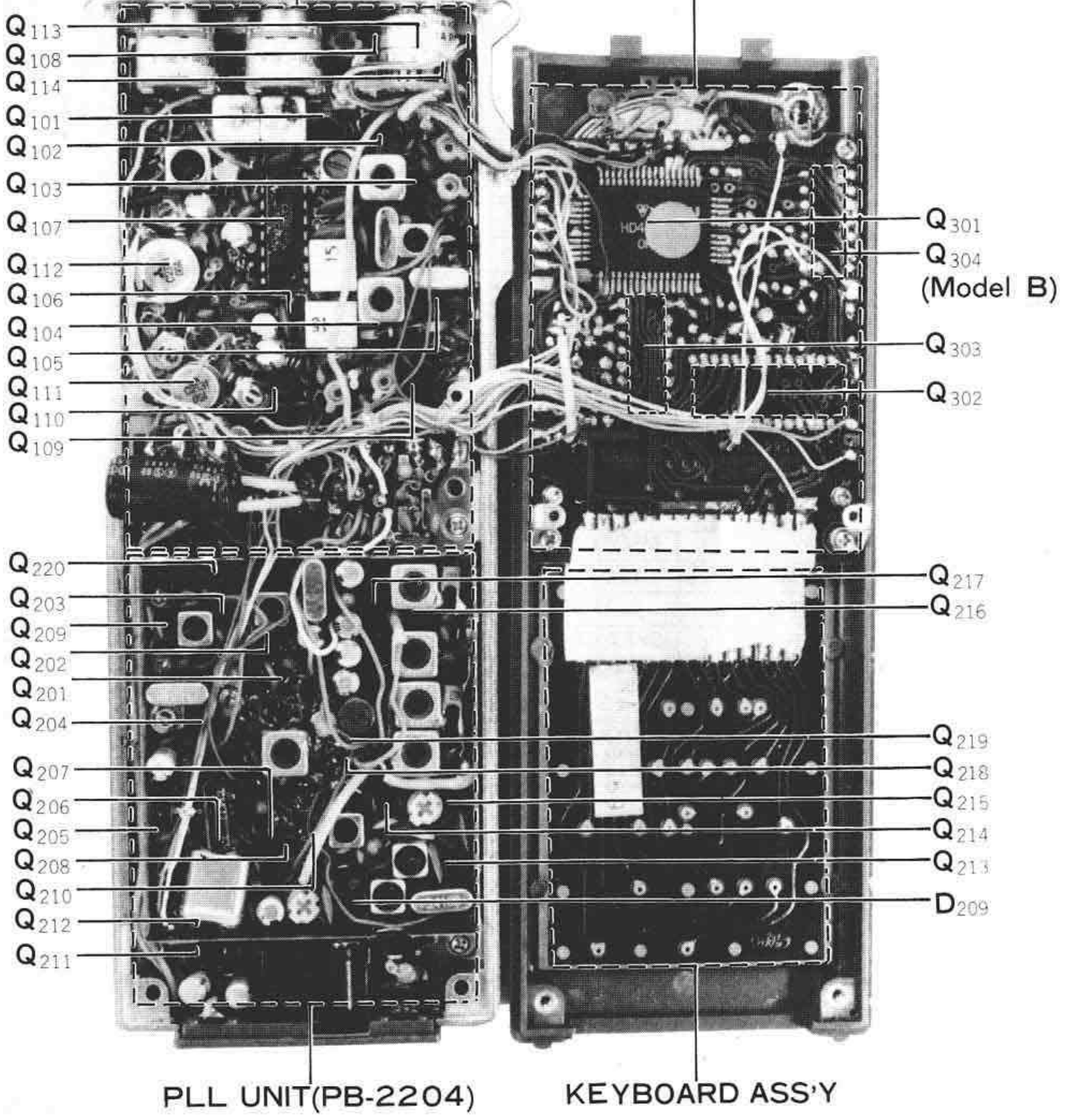
2. Deviation Adjustment

1. Connect a dummy load through a directional coupler to the ANT jack, and a portion of the output from the directional coupler to the deviation meter. Apply a 1 kHz 25 mV signal to the external microphone from an audio oscillator.
2. Adjust VR₂₀₂ for a deviation of ± 5 kHz on the deviation meter (refer to Figure 2).



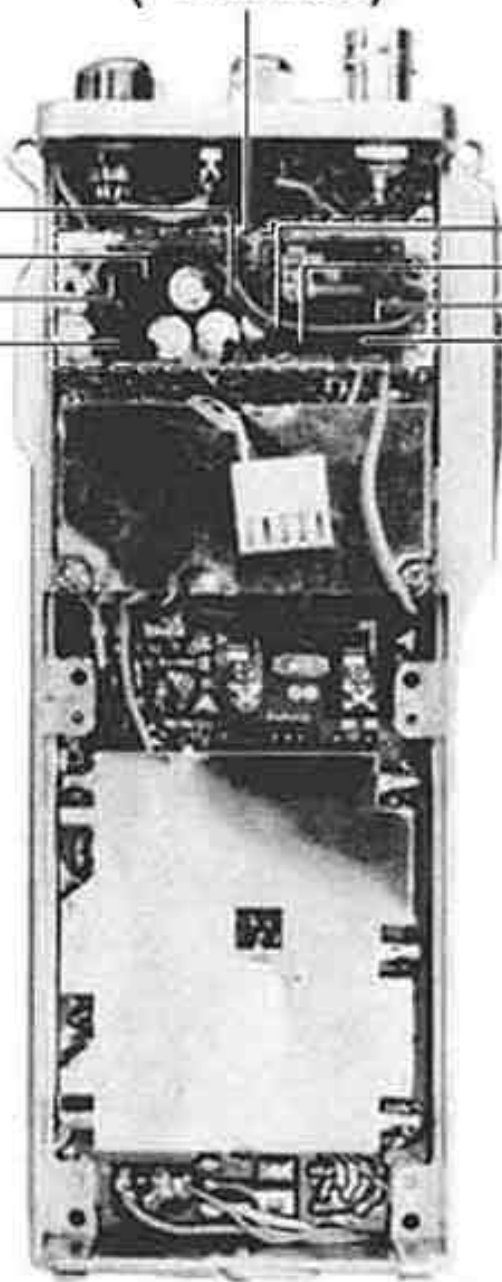
TRANSMITTER SECTION ALIGNMENT POINTS

MAIN UNIT(PB-2203) CONTROL UNIT(PB-2205)



**AF UNIT
(PB-2206)**

- Q 403
- Q 404
- Q 405
- Q 406
- Q 402
- Q 401
- Q 407
- Q 408



LCD

Q 302

Q 303

BU BAT

BUZZER

Q 304

MAIN CHASSIS

Symbol No	Part No.	Description
R1	J01215101	RESISTOR Carbon film 1/8W Tj 100Ω
VR1	J50747104	POTENTIOMETER PSS2K-100kΩ 100kΩB
C1	K02182030	CAPACITOR Ceramic disc 50WV CH 3pF (RD870-1NF0-3R0C63V)
C2	K40129006	Electrolytic 16WV 470μF (16RE470)
S1	N6090025	SWITCH SST(C) 12-04V
S2	N0190080	JRA-1-12-9
S3,A	K4090040	KHG10901
S5	N3090041	KHC10904
S6	N5090006	KEA5A021
J1	P1090197	RECEPTACLE SG-8921
J2	P1090052	SR-30-10R-6S
J3	P1090191	UC-6250/TU
PI (with wire)	T9204050	CONNECTOR Housing 3021-05 (Contact 51597)
M1	M3290091	MICROPHONE EM-76
SP1	M4090050	SPEAKER VS-40A 8Ω 0.1W
FB1,2	1-9190001	FERRITE BEADS Rc 3x3x1
BATT	C9000106	CABLE LITHIUM BATTERY CR-2025

MAIN UNIT

Symbol No	Part No.	Description
FB-2203B	F0002203B	Printed Circuit Board
	C0022030	P.C.B. with Components

Q107	G1090145	IC MC3357
Q114	G311750E	TRANSISTOR 2SA1175E
Q102	G3317800	2SC1780
Q102	G3320260	2SC2026
Q111,112	G3321310	2SC2131
Q109,110	G3324070	2SC2407
Q101	G3325490	2SC2549
Q108,113	G3327850E	2SC2785E
Q104,105	G3327860L	2SC2786L
Q106	G3327870L	2SC2787L
D101,103	G2090027	DIODE Si 1S853
D102	G2015550	1S1555
X101	H0102375	CRYSTAL HC-18/T 45.8MHz
XF101	H1102029	FILTER HCM46FA
CF101,102	H0900030	LFD-15
R141	J01215100	RESISTOR Carbon Film 1/8W Tj 10Ω
R138,140	J00215560	Composition 1/4W GK 30Ω
R144	J10246560	Composition 1/4W GK 30Ω
R136	J01215820	Film 1/8W Tj 82Ω
R111	J10246101	Composition 1/4W GK 100Ω
R117	J00215101	Film 1/8W Vj 100Ω
R105,108,109	J00215331	Composition 1/8W Tj 330Ω
R151	J01215471	Composition 1/4W Tj 470Ω
R139	J00215561	Composition 1/4W Vj 560Ω
R130	J01215681	Composition 1/4W Tj 680Ω
R128	J00215102	Film 1/8W Vj 1kΩ
R125	J00215152	Composition 1/4W Tj 1.5kΩ
R133,135	J00215182	Composition 1/4W Tj 1.8kΩ
R114,116,118	J00215222	Composition 1/4W Tj 2.2kΩ
R121,129	J00215472	Composition 1/4W Tj 4.7kΩ
R134	J00215682	Composition 1/4W Tj 6.8kΩ
R122	J10246103	Composition 1/4W GK 10kΩ
R103,147,148, 149	J01215103	Film 1/8W Tj 10kΩ
R124	J00215223	Composition 1/4W Tj 22kΩ
R131	J00215333	Composition 1/4W Tj 33kΩ
R120	J00215473	Composition 1/4W Tj 47kΩ
R119	J00215513	Composition 1/4W Tj 51kΩ

RI02	J00215563	Carbon Film	1.8W VJ	56kΩ
RI07	J00215683	"	"	68kΩ
RI27	J10246823	Composition	1/4W GK	82kΩ
RI32	J10246104	Composition	1/4W GK	100kΩ
RI50	J00215104	Film	1.8W VJ	100kΩ
RI10, 115	J00215124	"	"	120kΩ
RI04	J00215224	"	"	220kΩ
RI26	J00215274	"	"	270kΩ
RI12	J00215334	"	"	330kΩ
		POTENTIOMETER		
VR101 (with S101)	J60800075	K121B100KE-5N1111-20KΩA		
VR102 (with S102)	J60800076	" -5N1111-5KΩB		
VR103	J51745103	H0651A001 10KΩB		
		CAPACITOR		
CI06, 116, 149	K00182059	Ceramic Disc (RD870-15L0R-5C63V)	63WV SL	0.5pF
CI55	K02182020	" (RD870-1NPO2R0C63V)	" CH	2pF
CI17, 146	K04182030	" (RD870-1N150-3R0C63V)	" PG	3pF
CI64, 170	K02182030	" (RD870-1NPO-3R0C63V)	" CH	3pF
CI14	K04182050	" (RD870-1N150-5R0C63V)	" PG	5pF
CI19	K00182050	" (RD870-15L-5R0C63V)	" SL	5pF
CI10	K04183060	" (RD870-1N150-6R0D63V)	" PG	6pF
CI62	K02183060	" (RD870-1NPO-6R0D63V)	" CH	6pF
CI63	K02183080	" (RD870-1NPO-8R0D63V)	"	8pF
CI11	K02183100	" (RD870-1NPO-100D63V)	"	10pF
CI30	K00183100	" (RD870-15L-100D63V)	" SL	10pF
	K04185150	" (RD870-1N150-150D63V)	" PG	15pF
CI72	K02179040	" (2.222-632-10159)	" CH	15pF
CI51	K07185330	" (RD871-1N150-330E63V)	" PG	33pF
CI22	K06185220	" (RD870-1N750-220E63V)	" UJ	22pF

CI23	K06185330	" (RD870-1N750-330E63V)	"	"	33pF
CI69	K02185470	" (RD872-1NPO470E63V)	"	CH	47pF
CI03, 105, 107, 108, 112, 113, 118, 134, 135, 140, 141, 143-145, 147, 148, 152-154, 156, 158, 160, 161, 165-168	K10180102	Ceramic Disc (RD870-10102K63V)	63WV B		0.001μF
CI24	K14180103	"	"	"	0.01μF
CI20, 132	K19149013	Semiconductor (UAT05X103K-L05AE)	25WV X		0.01μF
CI25, 126, 128, 129, 131, 139	K19149017	" (UAT06X223K-L45AE)	"	"	0.022μF
CI04, 115, 166, 167, 171, 173, 174-178	K23140005	" Chip (GR40W5R102M)	50WV		0.001μF
CI33, 136	K40179002	Electrolyte (50RC2-81)	"	"	0.1μF
CI27, 138, 157, 159	K40129012	" (168C2-10)	16WV		10μF
CI37	K70127475	Tantalum (CS15E)C4R7M)	"	"	4.7μF
		TRIMMER CAPACITOR			
TC101, 106	K91000059	ECV-12W04x53			4pF
TC103, 104	K91000029	ECV-12W20x53			20pF
		CAVITY			
CV101	Q9000114B	CV-441B			
		INDUCTOR			
L101	L1020675				
L102, 105, 106	L0190021				
L103	L0190022				
L104	L0020745B				
L107, 109, 111	L1020677				
L108, 118	L0020578A				
L110	L0020877A				
L111	L1020684				
L112, 116	L0020876				
L114	L1020683				
L115, 119	L0020875A				

CAPACITOR						
Symbol No.	Part No.	Description	63WV	B	470pF	
C305	K10186471	Ceramic Disc (RD870-1B471K63V)	63WV	B	470pF	
C302,304	K10186102	"	"	"	0.001µF	
C306	K19149009	Semiconductor Ceramic (UAT05X472K-L05AE)	25WV		0.0047µF	
C307	K19149013	"	"	"	0.01µF	
C301	K70127335	Tantalum (CS15E1C3R3M)	16WV		3.3µF	
C303	K40129012	Electrolytic (16RC2-10)	"		10µF	
PL301	Q1000046	LAMP BQ931-30103A				
AF UNIT						
Symbol No.	Part No.	Description				
PB-2006A	F0002206A	Printed Circuit Board				
	C0022060	P.C.B. with Components				
TRANSISTOR						
Q406	G3109500Y	2SA950Y				
Q402,404	G3111750E	2SA1175E				
Q408	G3312800A	2SC1280A				
Q405	G3331200Y	2SC3120Y				
Q401,403,407	G3327850E	2SC2785E				
Q408	G3408920Q	2SD892Q or R				
	/R					
DIODE						
D402,403	G2090027	Si	ISS53			
D401	G9090017	Varistor	MV-11			
RESISTOR						
R411,417	J10246279	Carbon Composition	1/4W	GK	2.7Ω	
R406	J00215560	" Film	1/8W	VJ	56Ω	
R410	J00215121	"	"	"	120Ω	
R408	J00215151	"	"	"	150Ω	
R409	J00215221	"	"	"	220Ω	
R405	J00215102	"	"	"	1kΩ	
R407	J00215222	"	"	"	2.2kΩ	
R414	J10246472	" Composition	1/4W	GK	4.7kΩ	
R417	J10246562	" Composition	"	GK	5.6kΩ	

R401	J00215103	Carbon Film	1/8W	VJ	10kΩ	
R402	J00215473	"	"	"	47kΩ	
R403	J00215823	"	"	"	82kΩ	
R416	J01215823	"	1/8W	VJ	82kΩ	
R404	J00215224	"	"	VJ	220kΩ	
R413	J10246224	Composition	1/4W	GK	220kΩ	
R415	J20336390	Metallic Film	2W		33Ω	
CAPACITOR						
C410-413	K10185102	Ceramic Disc (RD870-1B102K63V)	63WV	B	0.001µF	
C402,404,414	K19149013	Semiconductor Ceramic (UAT05X103K-L05AE)	25WV		0.01µF	
C406	K23170003	Burner Layer (RPE112F104Z50V)	50WV		0.1µF	
C401	K40129012	Electrolytic (16RC2-10)	16WV		10µF	
C407-409	K40129014	"	"	"	3µF	
C403,405	K40109010	" (16RC2-33) (16RC2-47)	10WV		47µF	
RELAY						
RL401	M1190027	G2V-282P 190Ω				
ACCESSORIES						
Symbol No.	Parts No.	Description				
	Q3000019	Antenna	YHA-44			
	Q9000088	Battery Pack	FNB-2			
	M4190001	Ear Phone				
	Q9000071	Battery Charger	NC-9B (for 117V)			
	Q9000072	"	NC-9C (for 220-240V)			
	R7068220	Carrying Case (Vinyl)				
	R70487928	Shoulder Strap				
	S5000013	Triangle Ring				

