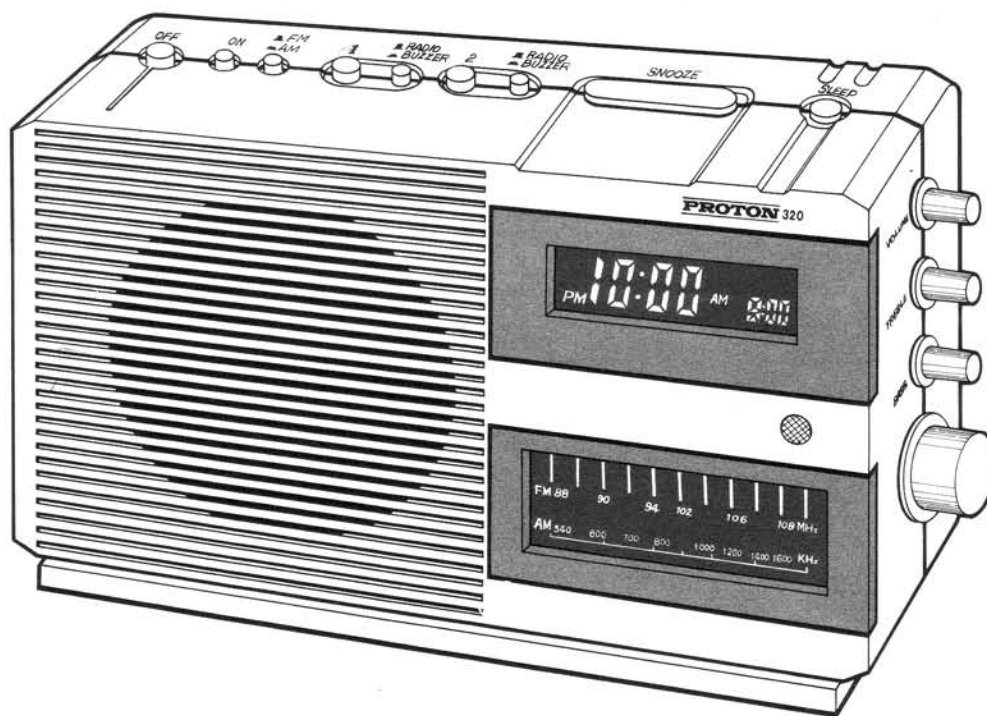


Service Manual

PROTON MODEL 320 CLOCK RADIO



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SPECIFICATIONS

FM SECTION

1. TUNING RANGE	87.5-109 MHz
2. I.H.F. SENSITIVITY	1.8 μ V
3. 50 dB QUIET SENSITIVITY	4 μ V
4. T.H.D.	0.5%
5. S/N RADIO	66 dB
6. CAPTURE RADIO	2 dB
7. IMAGE RESPONSE RADIO	51 dB
8. AMSUPPRESSION	59 dB

AM SECTION

1. TUNING RANGE	525-1650 KHz
2. USABLE SENSITIVITY	320 μ V/M
3. IF BANDWITH	6.2 KHz
4. IMAGE REJECTION	40 dB
5. IF REJECTION	31 dB
6. I.H.D.	0.5%
7. AUDIO BANDWIDTH	17-2600 Hz
8. S/N RADIO	50 dB

AF SECTION

1. BASS CONTROL	+ -8 dB
2. TREBLE CONTROL	+ -8 dB
3. RESIDUAL NOISE	0.3 mV
4. OUTPUT POWER AT 5% DIST	3.5 W

SPEAKER

1. TYPE	FULL RANGE SPEAKER
2. IMPEDANCE	8 OHM
3. MAXIMUM POWER	5 W
4. SIZE	5 INCH

POWER CONSUMPTION 25 W

WEIGHT 2 Kg

DIMENSION W:290 MM H:143 MM D:85MM

ALIGNMENT

1. AM ALIGNMENT: 1. MONITOR OUTPUT AT TP3
2. MODULATION 30%

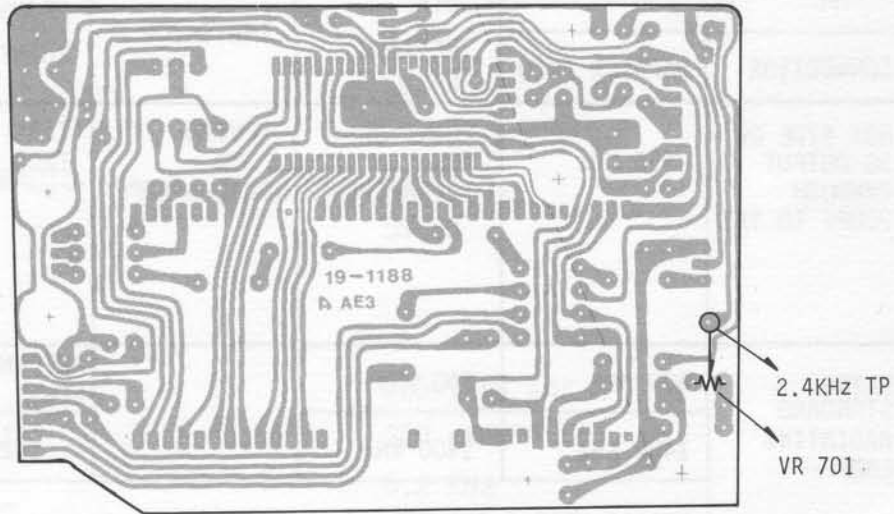
SECTION	AM SG		DIAL SETTING	INDICATOR	ADJUSTMENT POINT	ADJUST FOR
	CONNECTION	CARRIER FREQ				
AM IF	HOT SIDE OF SG OUTPUT THROUGH 200PF TO TP1	455 KHz	POINT OF NON-INTERFERENCE	VTVM OR OSCILLOSCOPE	T201 T202	MAXIMUM OUTPUT
AM RF	1 USING STANDARD RADIATING LOOP	600 KHz	600 KHz		ANTENNA BAR L201	
		1400 KHz	1400 KHz		TC201	
		3 REPEAT STEP 1 AND STEP 2 SEVERAL TIMES				

2. FM ALIGNMENT: 1. MONITOR OUTPUT AT TP3
2. MODULATION 100%

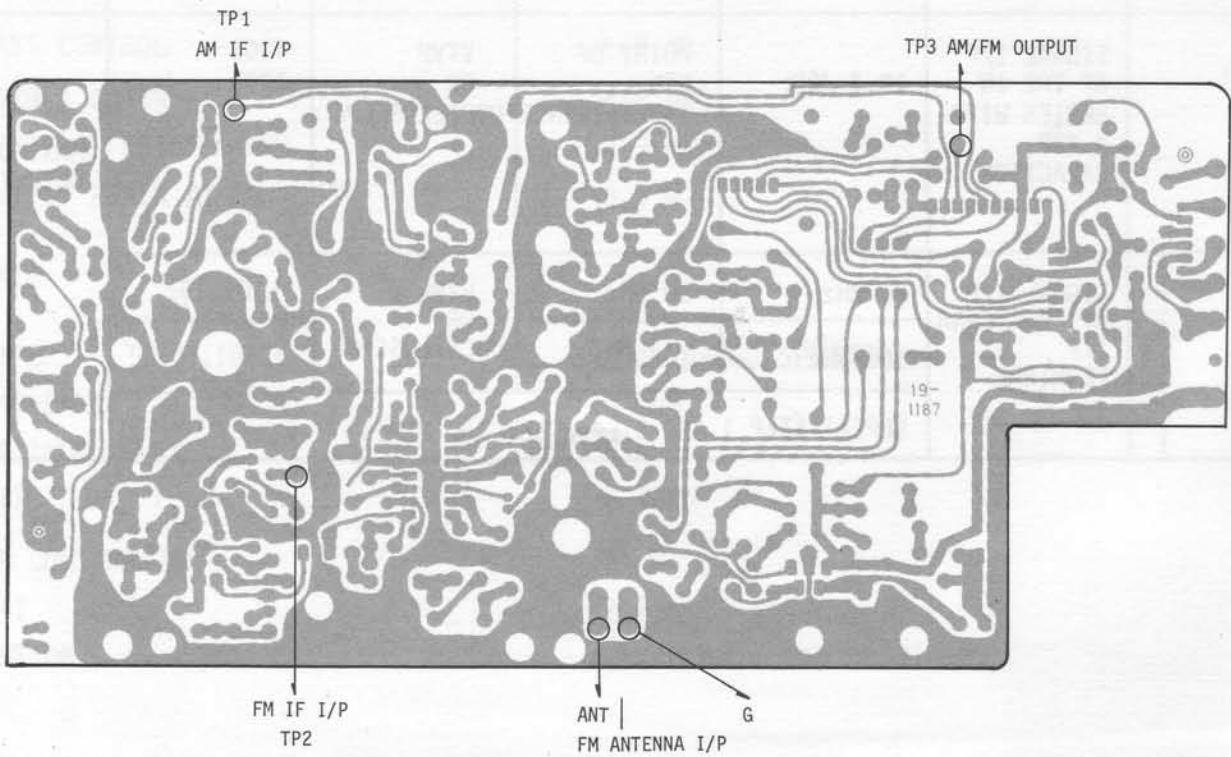
SECTION	FM SG		DIAL SETTING	INDICATOR	ADJUSTMENT POINT	ADJUST FOR
	CONNECTION	CARRIER FREQ				
FM IF	SIGNAL I/P AT TP2 IN SERIES WITH A 33P CAPACITOR	10.7 MHz	POINT OF NON-INTERFERENCE	VTVM OR OSCILLOSCOPE	T101 T203	MAXIMUM OUTPUT
FM RF	1 SIGNAL I/P AT FM ANTENNA I/P TERMINAL	90 MHz	90 MHz	VTVM OR OSCILLOSCOPE	L101,102	
		106 MHz	106 MHz		TC101,TC102	
		3 REPEAT STEP 1 AND STEP 2 SEVERAL TIMES				

ALIGNMENT

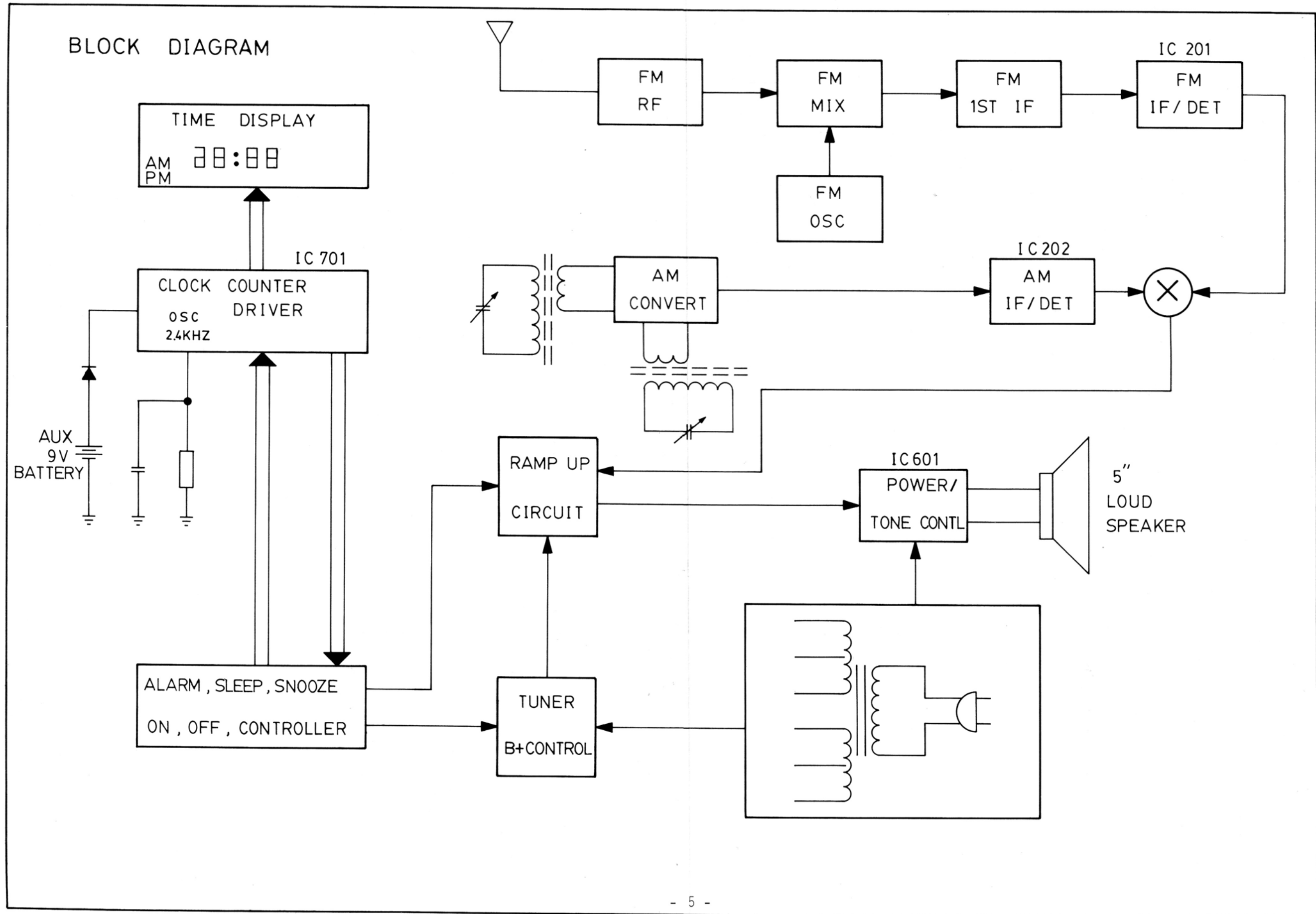
3. CLOCK 2.4KHz ALIGNMENT : 1. AC CORD IS DISCONNECTED
2. POWER SUPPLY OF 9V CONNECTED TO THE BATTERY JACK
3. MONITOR OUTPUT AT 2.4KHz TP



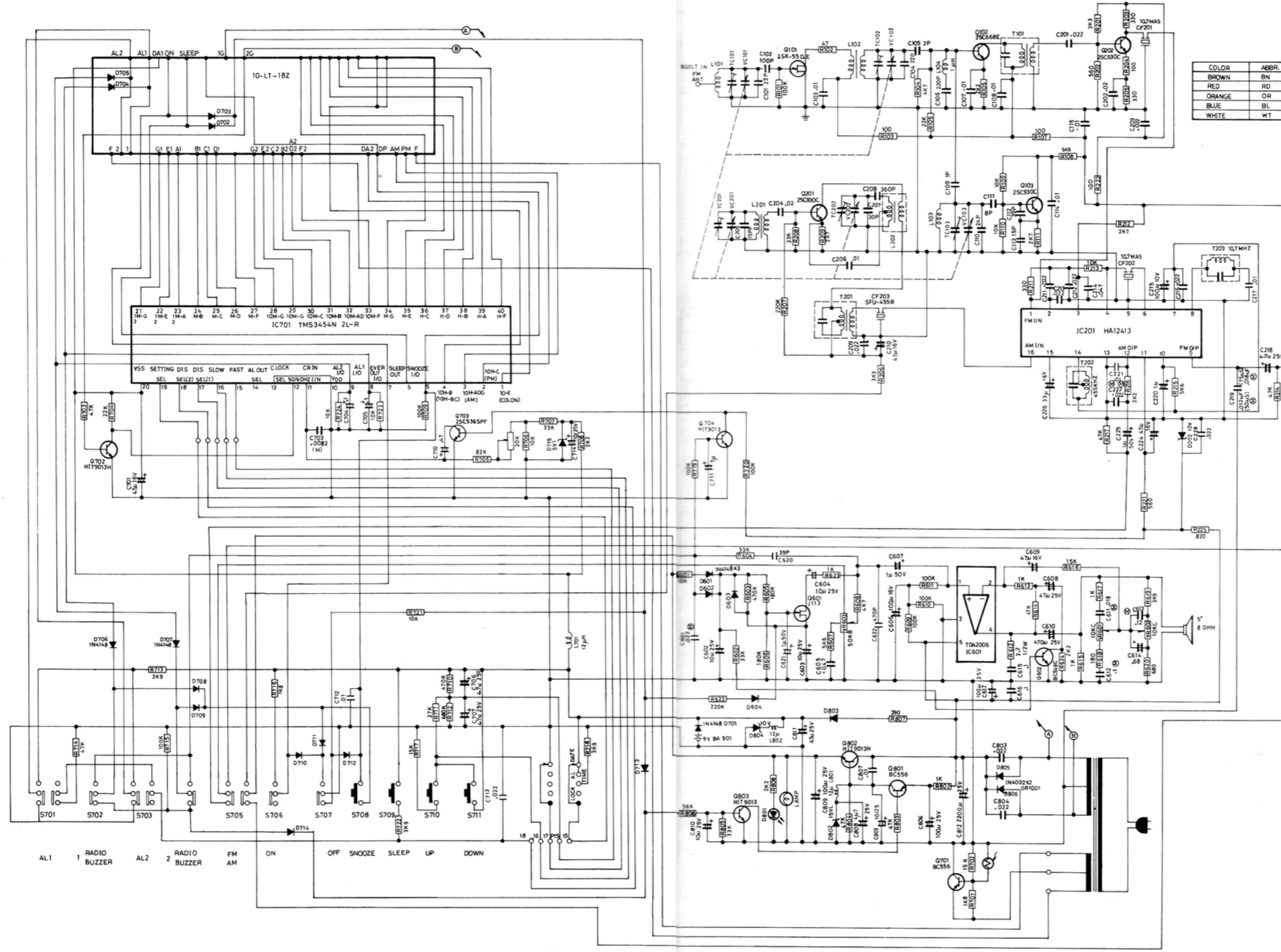
SECTION	INDICATOR	ADJUSTMNT	ADJUST FOR
2.4KHz RC OSCILLATION	FREQUENCY COUNTER THROUGH 100K OHM TO 2.4KHz TP	VR 701	2.4KHz +-10Hz



BLOCK DIAGRAM

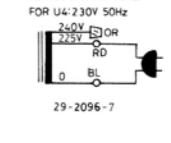
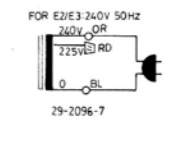
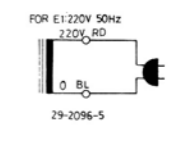
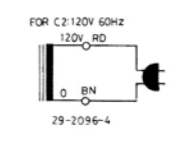
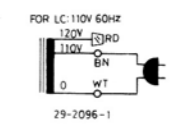
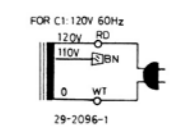


CIRCUIT DIAGRAM

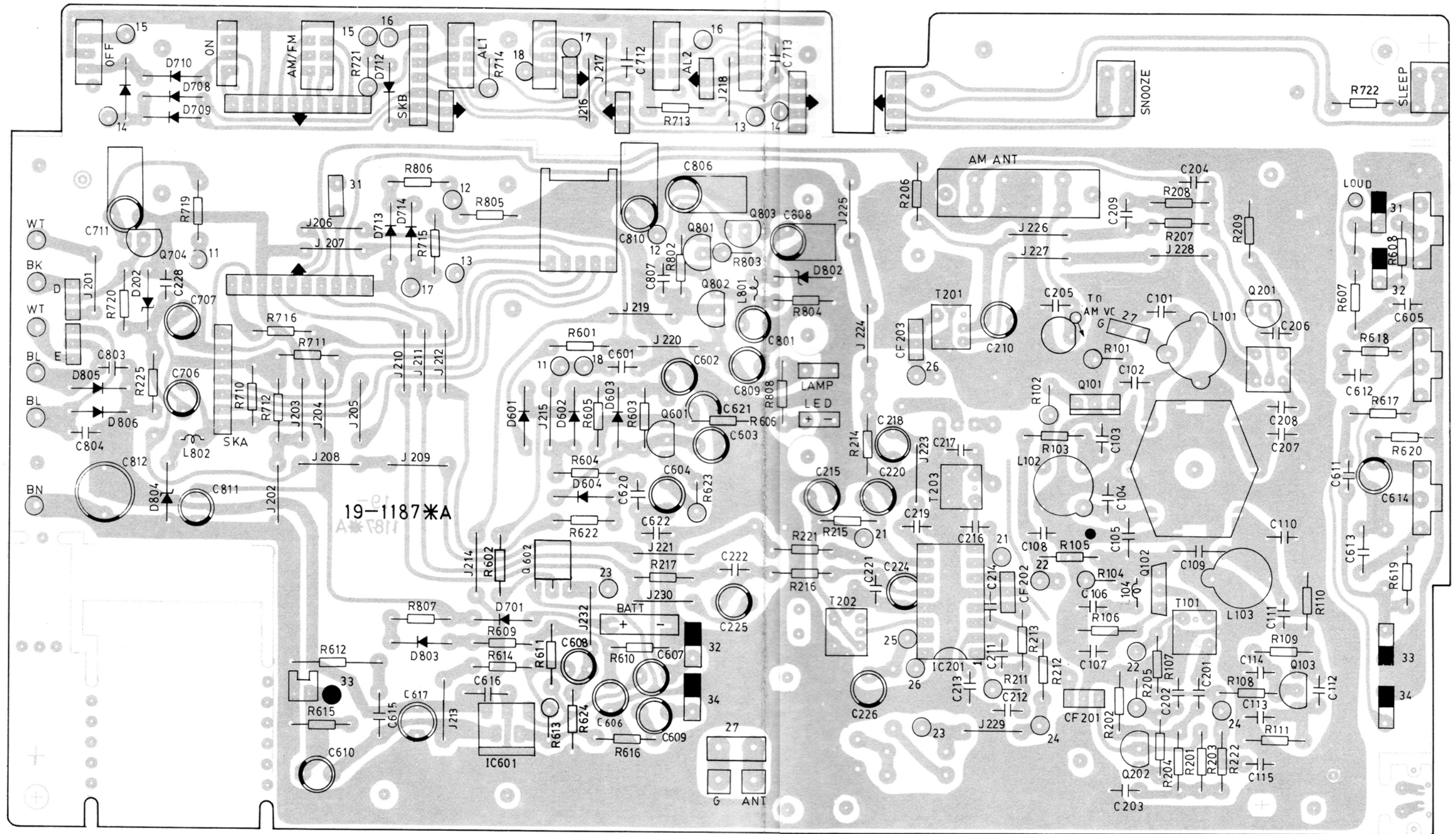


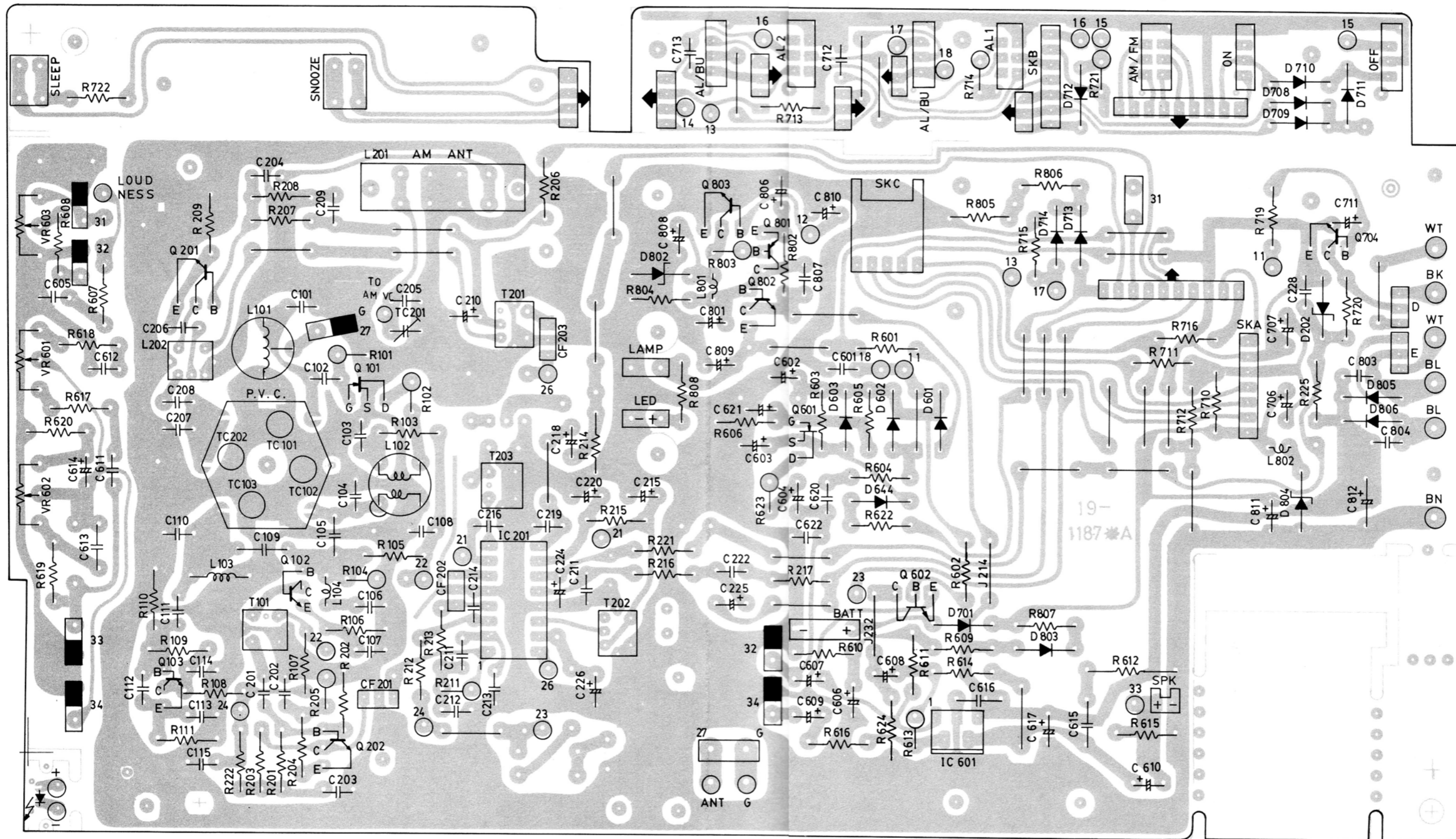
COLOR	ABBR.
BROWN	BN
RED	RD
ORANGE	OR
BLUE	BL
WHITE	WT

INPUT RATING
POWER TRANSFORMER
OF PRIMARY SECTION



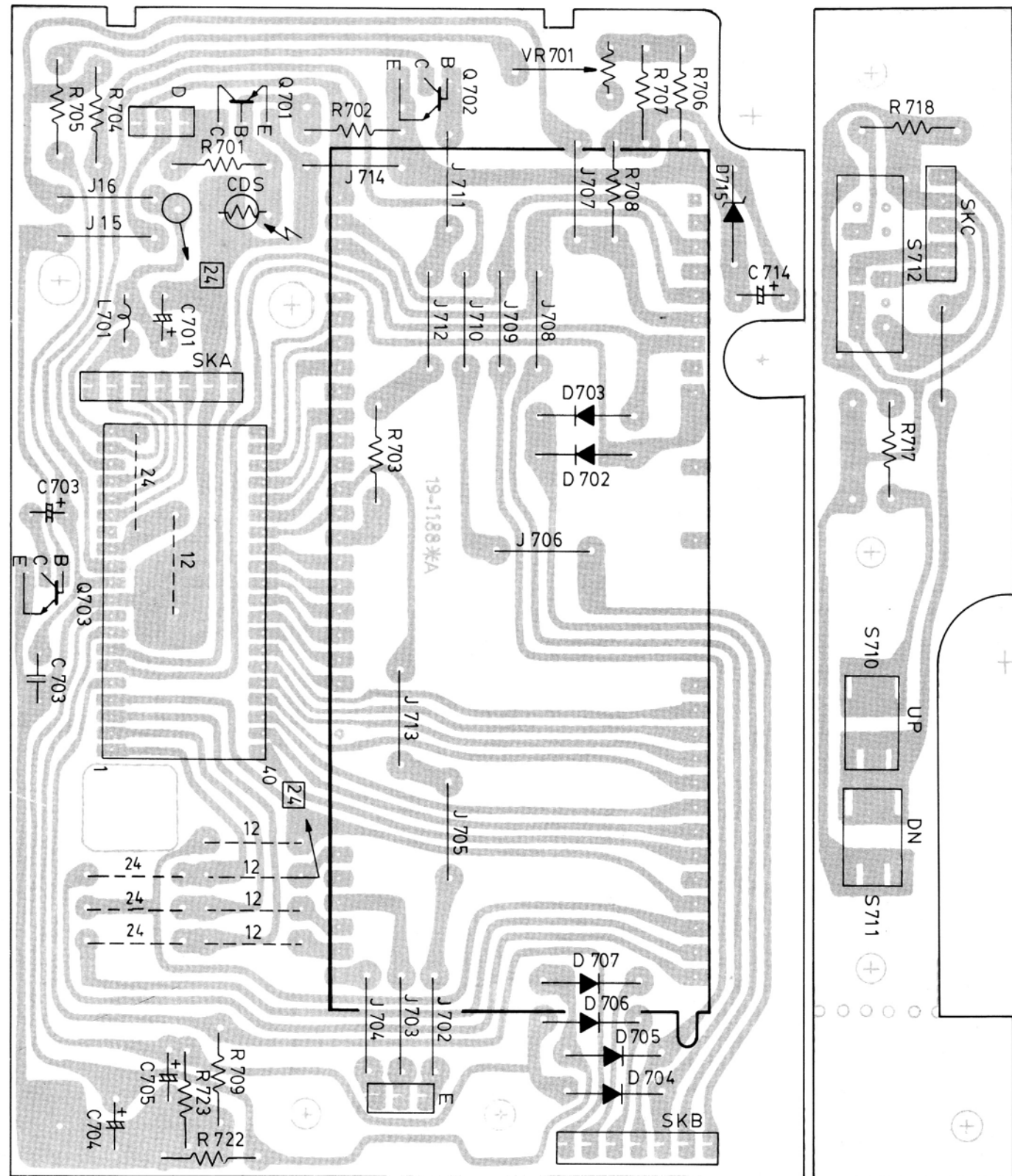
PCB PARTS LOCATION (TOP VIEW)



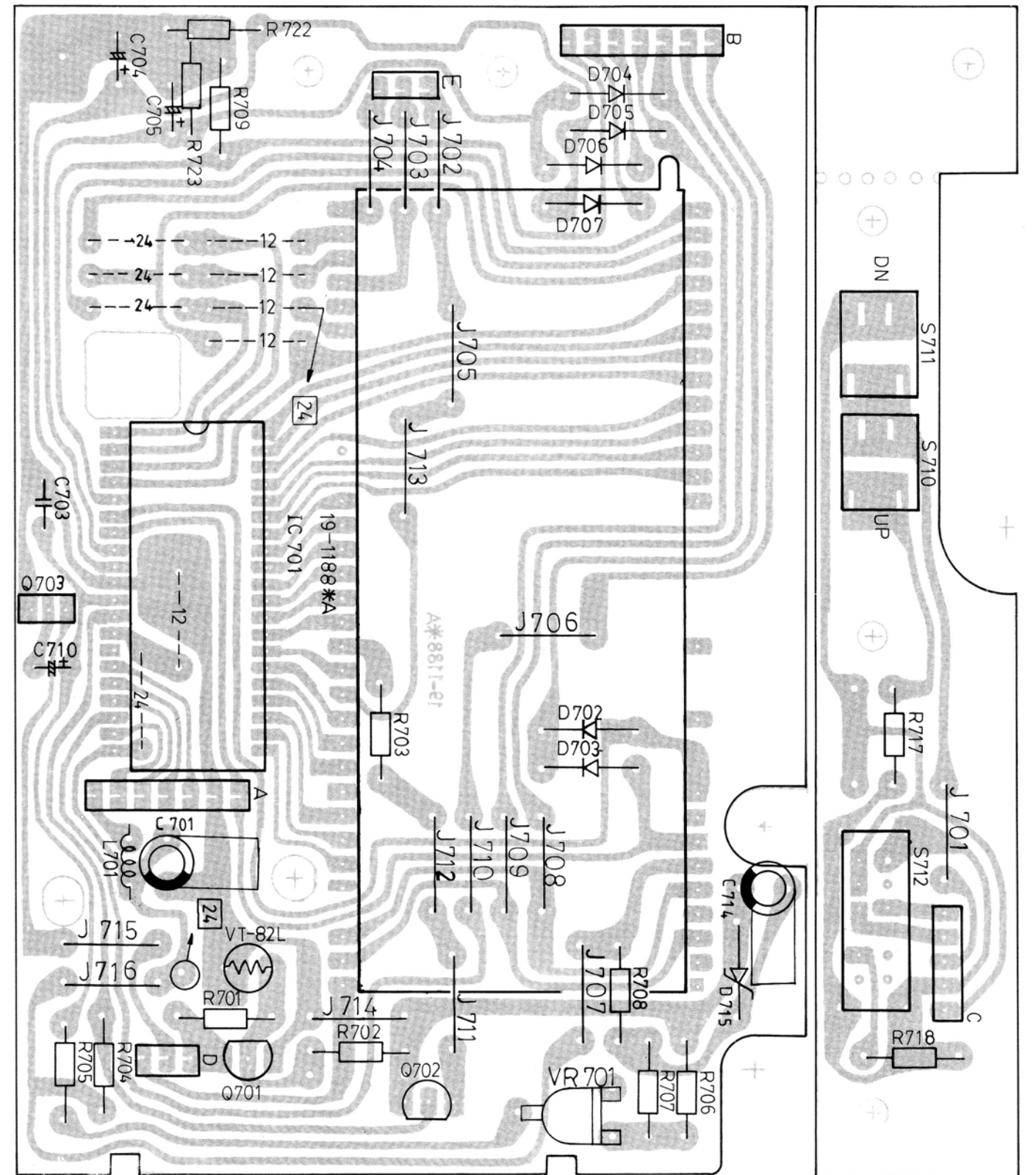


139 x 246

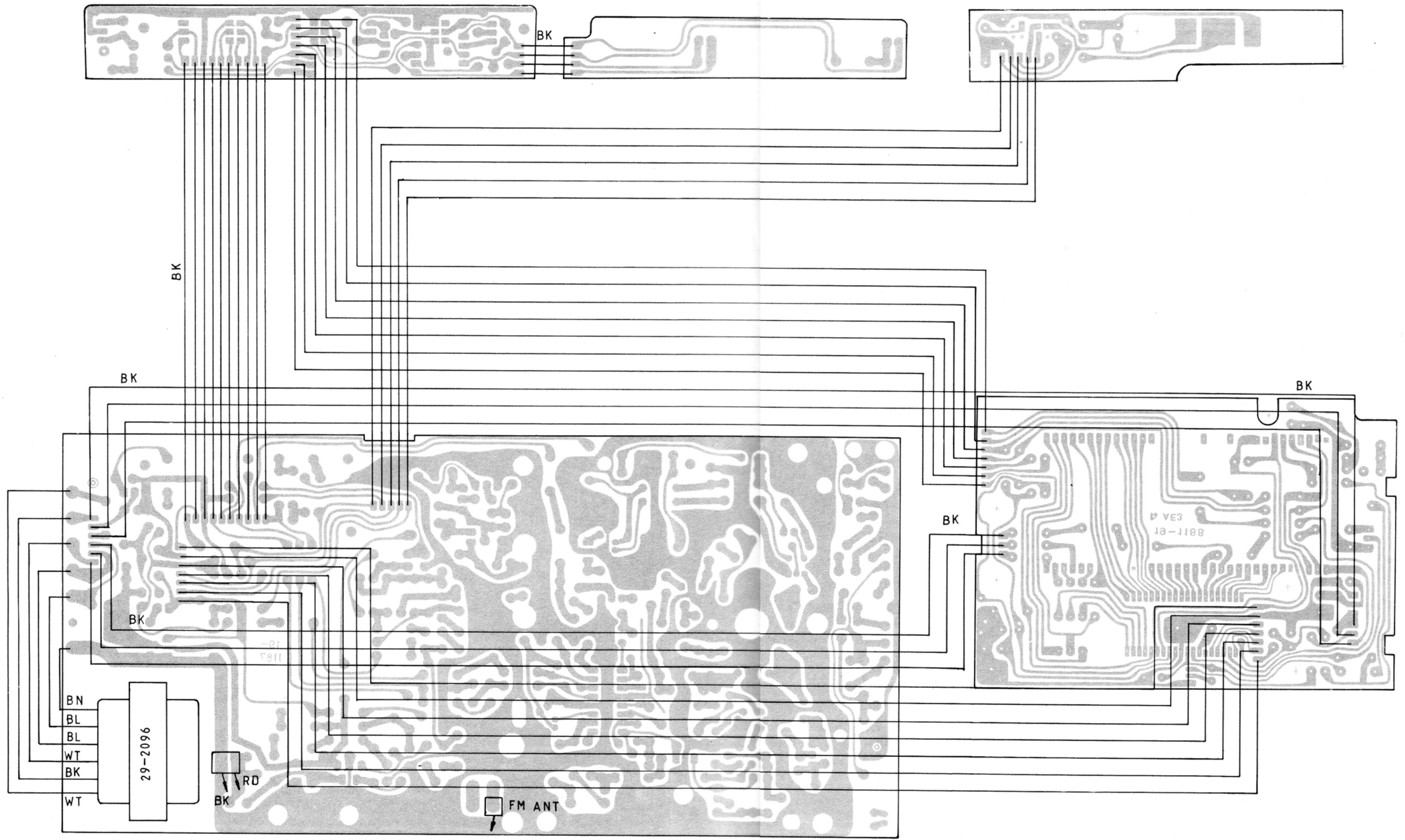
PCB PARTS LOCATION (TOP VIEW)



PCB PARTS LOCATION (BOTTOM VIEW)



WIRING DIAGRAM



ELECTRICAL PARTS LIST

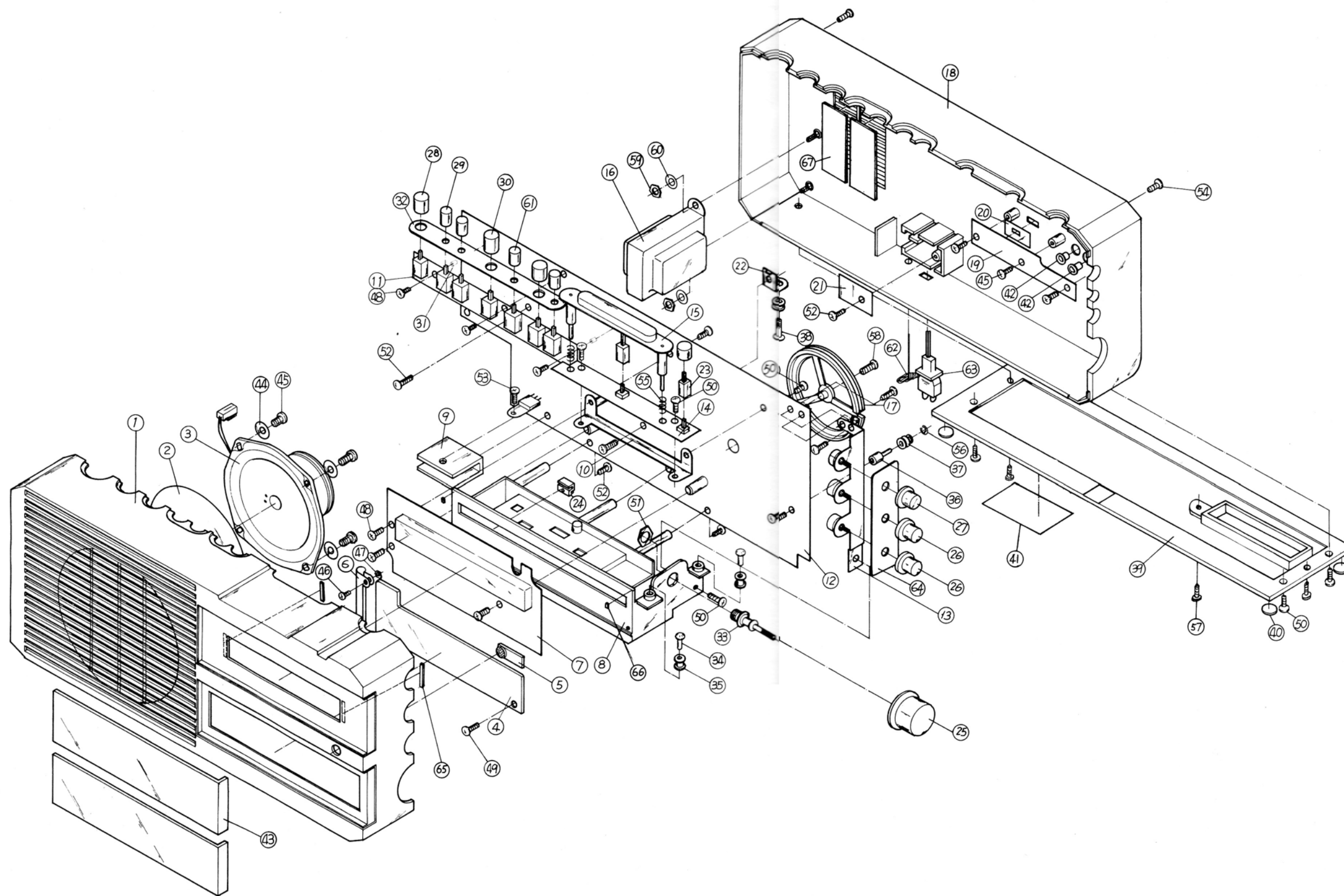
REF. NO.	PART NO.	DESCRIPTION
RESISTORS (All are carbon film $\frac{1}{4}W$ +5% unless noted otherwise)		
R101	16- $\frac{1}{4}$ CR105J	100K OHM
R102	16- $\frac{1}{4}$ CR470J	47 OHM
R103	16- $\frac{1}{4}$ CA101J	100 OHM
R104	16- $\frac{1}{4}$ CR472J	4K7 OHM
R105	16- $\frac{1}{4}$ CA223J	22K OHM
R106	16- $\frac{1}{4}$ CA222J	2K2 OHM
R107	16- $\frac{1}{4}$ CA101J	100 OHM
R108	16- $\frac{1}{4}$ CA562J	5K6 OHM
R109 R110	16- $\frac{1}{4}$ CA103J	10K OHM
R111	16- $\frac{1}{4}$ CA272J	2K7 OHM
R201	16- $\frac{1}{4}$ CA332J	3K3 OHM
R202	16- $\frac{1}{4}$ CA561J	560 OHM
R203	16- $\frac{1}{4}$ CA331J	330 OHM
R204	16- $\frac{1}{4}$ CA101J	100 OHM
R205	16- $\frac{1}{4}$ CR331J	330 OHM
R206	16- $\frac{1}{4}$ CA332J	3K3 OHM
R207	16- $\frac{1}{4}$ CA224J	220K ohm
R208	16- $\frac{1}{4}$ CA333J	33K OHM
R209	16- $\frac{1}{4}$ CA272J	2K7 OHM
R211	16- $\frac{1}{4}$ CR331J	330 OHM
R212	16- $\frac{1}{4}$ CA272J	2K7 OHM
R213	16- $\frac{1}{4}$ CA103J	10K OHM
R214	16- $\frac{1}{4}$ CA473J	47K OHM
R215	16- $\frac{1}{4}$ CA562J	5K6 OHM
R216	16- $\frac{1}{4}$ CA222J	2K2 OHM
R217	16- $\frac{1}{4}$ CA473J	47K OHM
R221	16- $\frac{1}{4}$ CA561J	560 OHM
R222	16- $\frac{1}{4}$ CA101J	100 OHM
R225	16- $\frac{1}{4}$ CA821J	820 OHM
R601	16- $\frac{1}{4}$ CA103J	10K OHM
R602	16- $\frac{1}{4}$ CA333J	33K OHM
R603	16- $\frac{1}{4}$ CA474J	470K OHM
R604	16- $\frac{1}{4}$ CA333J	33K OHM
R605 R606	16- $\frac{1}{4}$ CA184J	180K OHM
R607	16- $\frac{1}{4}$ CA562J	5K6 OHM
R608	16- $\frac{1}{4}$ CA472J	4K7 OHM
R609-R611	16- $\frac{1}{4}$ CA104J	100K OHM
R612	16- $\frac{1}{4}$ CN2R2J	2.2 OHM
R613/R615	16- $\frac{1}{4}$ CA102J	1K OHM
R614	16- $\frac{1}{4}$ CA103J	10K OHM
R616	16- $\frac{1}{4}$ CA153	15K OHM
R617	16- $\frac{1}{4}$ CA102J	1K OHM
R618	16- $\frac{1}{4}$ CA181J	180 OHM
R619	16- $\frac{1}{4}$ 392J	3K9 OHM
R620	16- $\frac{1}{4}$ CA681J	680 OHM
R622	16- $\frac{1}{4}$ CA224J	220K OHM
R623	16- $\frac{1}{4}$ CR102J	1K OHM
R624	16- $\frac{1}{4}$ CA222J	2K2 OHM
R701	16- $\frac{1}{4}$ CA182J	1K8 OHM
R702	16- $\frac{1}{4}$ CA153J	15K OHM
R703	16- $\frac{1}{4}$ CA473J	47K OHM
R704	16- $\frac{1}{4}$ CA223J	22K OHM
R705	16- $\frac{1}{4}$ CA823J	82K OHM
R706	16- $\frac{1}{4}$ CA103J	10K OHM
R707	16- $\frac{1}{4}$ CA333J	33K OHM
R708	16- $\frac{1}{4}$ CA222J	2K2 OHM
R709	16- $\frac{1}{4}$ CA104J	100K OHM
R710	16- $\frac{1}{4}$ CA474J	470K OHM
R711	16- $\frac{1}{4}$ CA273J	27K OHM
R712	16- $\frac{1}{4}$ CA684J	680K OHM
R713	16- $\frac{1}{4}$ CA392J	3K9 OHM
R714	16- $\frac{1}{4}$ CR473J	47K OHM
R715	16- $\frac{1}{4}$ CA104J	100K OHM
R716	16- $\frac{1}{4}$ CA182J	1K8 OHM
R717	16- $\frac{1}{4}$ CA153J	15K OHM
R718	16- $\frac{1}{4}$ CA392J	3K9 OHM
R719 R720	16- $\frac{1}{4}$ CA104J	100K OHM

REF. NO.	PART NO.	DESCRIPTION
RESISTORS (All are carbon film $\frac{1}{4}W$ +5% unless noted otherwise)		
R721	16- $\frac{1}{4}$ CR103J	10K OHM
R722	16- $\frac{1}{4}$ CA392J	3K9 OHM
R723 R724	16- $\frac{1}{4}$ CA103J	10K OHM
R802	16- $\frac{1}{4}$ CA102J	1K OHM
R803	16- $\frac{1}{4}$ CR473J	47K OHM
R804	16- $\frac{1}{4}$ CA473J	47K OHM
R805	16- $\frac{1}{4}$ CA333J	33K OHM
R806	16- $\frac{1}{4}$ CA563J	56K OHM
R807	16- $\frac{1}{4}$ CA391J	390 OHM
R808	16- $\frac{1}{4}$ CA222J	2K2 OHM
CAPACITORS		
C101	17-5DR220KPH	CERAMIC 22pF 50V +-10% PH
C102	17-5DR101KSL	CERAMIC 100pF 50V +-10% SL
C103	17-5DR103Z	CERAMIC 0.01uF 50V +80-20%
C104	17-5DR220KPH	CERAMIC 22pF 50V +-10% PH
C105	17-5D2ROCCH	CERAMIC 2pF 50V +-0.25pF CH
C106	17-5DR221KSL	CERAMIC 220p 50V +-10% SL
C107 C108	17-5DR103Z	CERAMIC 0.01uF 50V +80-20%
C109	17-5D1ROCCH	CERAMIC 1pF 50V +-0.25pF CH
C110	17-5DR220KCH	CERAMIC 14pF 50V +-10% CH
C111	17-5DR8RODCH	CERAMIC 8pF 50V +-0.5pF CH
C112	17-5DR390KCH	CERAMIC 39p 50V +-10% CH
C113	17-5DR15PKCH	CERAMIC 15p 50V +-10% CH
C114 C115	17-5DR103Z	CERAMIC 0.01uF 50V +80-20%
C201-C204	17-5DR223Z	CERAMIC 0.022uF 50V +80-20%
C205	17-5DR150KCH	CERAMIC 15p 50V +-10% CH
C206	17-5DR103Z	CERAMIC 0.01uF +80-20%
C207	17-5DR300KPH	CERAMIC 30pF +-10% PH
C208	17-5U361J	POLYSTYRENE 360pF 50V +-5%
C209	17-5DR223Z	CERAMIC 0.022uF +80-20%
C210	17-1.6ER476Y	ELECTROLYTIC 47uF 16V +50-10%
C211-C213	17-5DR223Z	CERAMIC 0.022uF +80-20%
C214	17-5DR473Z	CERAMIC 0.047uF +80-20%
C215	17-1ER107Y	ELECTROLYTIC 100uF 10V +50-10%
C216	17-5DR223Z	CERAMIC 0.022uF 50V +80-20%
C217	17-5DR103Z	CERAMIC 0.01uF 50V +80-20%
C218	17-2.5ER475Y	ELECTROLYTIC 4.7uF 25V +50-10%
C219	17-5FR183J	MYLAR(75uS) 0.018uF 50V +-5%
	17-5FR123J	MYLAR(50uS) 0.012uF 50V +-5%
C220	17-5ER105Y	ELECTROLYTIC 1uF 50V +50-10%
C221	17-5FR103J	MYLAR 0.01uF 50V +-5%
C222	17-5ER223J	MYLAR 0.022uF 50V +-5%
C224	17-1.6ER476Y	ELECTROLYTIC 47uF 16V +50-10%
C225	17-5ER105Y	ELECTROLYTIC 1u 50V +50-10%
C226	17-1.6ER336Y	ELECTROLYTIC 33uF 16V +50-10%
C601	17-5ER223J	MYLAR 0.022uF 50V +-5%
C602-C604	17-2.5ER106Y	ELECTROLYTIC 10uF 25V +50-10%
C605	17-5FR473J	MYLAR 0.047uF 50V +-5%
C606	17-1.6ER107Y	ELECTROLYTIC 100uF 16V +50-10%
C607	17-5ER105Y	ELECTROLYTIC 1uF 50V +50-10%
C608	17-2.5ER476Y	ELECTROLYTIC 47uF 25V +50-10%
C609	17-1.6ER476Y	ELECTROLYTIC 47uF 16V +50-10%
C610	17-2.5ER477Y	ELECTROLYTIC 470uF 25V +50-10%
C611	17-5FR183J	MYLAR 0.018uF 50V +-5%
C612	17-5FF104J	MYLAR 0.1uF 50V +-5%
C613	17-5FF124J	MYLAR 0.12uF 50V +-5%
C614	17-1.6R684K	ELECTROLYTIC 0.68uF 16V +-10%
C615	17-5FF104J	MYLAR 0.1uF 50F +-5%
C616	17-5DH104Z	CERAMIC 0.1uF 50V +80-20%
C617	17-2.5ER107Y	ELECTROLYTIC 100uF 25V +50-10%
C620	17-5DR390KCH	CERAMIC 39pF 50V +-10%CH
C621	17-5E105Y	ELECTROLYTIC 1uF 50V +50-10%
C622	17-5DR471KSL	CERAMIC 470pF 50V +-10%
C701	17-1.6E476Y	ELECTROLYTIC 47uF 16V +50-10%
C703	17-5F822J	MYLAR 0.0082uF 50V +-5%

REF. NO.	PART NO.	DESCRIPTION
CAPACITORS		
C704 C705	17-1.6 μ 104M	TANTALUM 0.1 μ F 16V +50-10%
C706 C707	17-2.5ER475Y	ELECTROLYTIC 4.7 μ F 25V +50-10%
C710	17-1.6 μ 474M	TANTALUM 0.47 μ F 16V +-20%
C711	17-5ER105Y	ELECTROLYTIC 1 μ F 50V +50-10%
C712	17-5DR103Z	CERAMIC 0.01 μ F 50F +80-20%
C713	17-5DR223Z	CERAMIC 0.022 μ F 50V +80-20%
C714	17-2.5E106Y	ELECTROLYTIC 10 μ F 25V +50-10%
C801	17-2.5ER106Y	ELECTROLYTIC 10 μ F 25V +50-10%
C803 C804	17-5DR223Z	CERAMIC 0.022 μ F 50V +80-20%
C806	17-2.5ER107Y	ELECTROLYTIC 100 μ F 25V +50-10%
C807	17-5DR103Z	CERAMIC 0.01 μ F 50V +80-20%
C808	17-2.5ER475Y	ELECTROLYTIC 4.7 μ F 25V +50-10%
C809	17-2.5ER107Y	ELECTROLYTIC 100 μ F 25V +50-10%
C810	17-2.5ER106Y	ELECTROLYTIC 10 μ F 25V +50-10%
C811	17-2.5ER476Y	ELECTROLYTIC 47 μ F 25V +50-10%
C812	17-2.5E228Y	ELECTROLYTIC 2200 μ F 25V +50-10%
DIODE		
D202	30-1151-1	ZENER 10V HZ11A-3
D601-D604	301152TA	IN4148
D715	30-1077-1	ZENER 4.7V HZ5A-3
D701-714	30-1152TA	IN4148
D801	30-1192	LED AY2434D
D802	30-1183-1	ZENER 15V HZ15L-2
D803	30-1152TA	IN4148
D804	30-1151	ZENER 10V HZ11A-3
D805 D806	30-1002	IN4002
TRANSISTOR		
Q101	30-2298	FET 2SK55D
Q102	30-2239-1	2SC668E OR 2SC2787K
Q103	30-2919	2SC930C
Q201 Q202	30-2019	2SC930C
Q601	30-2309	FET J113
Q602	30-2084-3	BC549C
Q701	30-2096	BC556B
Q702	30-2319	HIT9013
Q703	30-2270	2SC536SPF
Q801	30-2096	BC556B
Q802 Q803	30-2319	HIT9013
INTEGRATED CIRCUITS		
IC021	30-3245	HA12413
IC601	30-3241	TDA2006
IC701	30-3242	TMS3454N2L-R
COILS & IFT		
L101	29-1063*A	COIL FM ANT
L102	29-1111	COIL FM RF
L103	29-1112	DOLL FM OSC
L104	29-1109	COIL 1 μ H
L201	29-5022	AM ANT
L202	29-3141	AM OSC
L701	29-1092	COIL 12 μ H
L801 L802	29-1092	COIL 12 μ H
T101	29-3111	IFT FM MIXER
T201	29-3149	IFT AM
T202	29-3150	IFT AM
T203	29-3151	IFT FM
MISCELLANEOUS		
VC101-VC103	17-1042	PVC CB52EK311
VC201 VC202	17-1042	PVC CB52EK311

REF. NO.	PART NO.	DESCRIPTION
MISCELLANEOUS		
TC101-TC103	17-1042	PVC CB52EK311
TC202	17-1042	PVC CB52EK311
TC201	17-1030	CAP TRIM TZ03T110F
S701	31-1269	SW SPJ322NE01-FL
S702	31-1268	SW SPJ312NE01-FL
S703	31-1269	SW SPJ322NE01-FL
S704	31-1268	SW SPJ312NE01-FL
S705	31-1269	SW SPJ322NE01-FL
S706 S707	31-1270	SW SPJ312SE06-FL
S708 S709	31-1258	SW EVQ-Q8R13K
S710 S711	11-1136	METAL
	11-8243	SPRING PLATE
S712	31-1262	SW SLB-24MP-045
VR601 VR602	29-4209	VR 10KC
VR603	29-4210	VR 50KB
CF201 CF202	29-3147	CF FM 10.7MA5
CF203	29-3101	CF AM SFU455B
SVR701	29-4184	VR SEMI 8 μ 20KB FLAT
	19-1187*A	PCB MAIN 246x139
	19-1188*A	PCB CLOCK 105.5x122
	16-2005	CDS VT-82L
	31-3005	DISPLAY TUBE 10-LT-18Z
	31-2029	LAMP 14V 60MA
	36-1004	BATTERY 9V 006P
	WA-0003-050K	JUMPER LEAD ASSY 2468 3x50MM
	WA-0003-220K	JUMPER LEAD ASSY 2468 3x220MM
	WA-0003-320K	JUMPER LEAD ASSY 2468 3x320MM
	WA-0004-050K	JUMPER LEAD ASSY 2468 4x50MM
	WA-0005-050K	JUMPER LEAD ASSY 2468 5x50MM
	W9-0E150C10-10	COAXIAL 1.5C-2V 75 OHM 150MM
	14-0E150C10-10	COAXIAL 1.5C-2V 75 OHM 150MM
	14-4085	WIRE ASSY BATTERY
	12-1125	CONNECTOR PCB 2P PLUG U
	12-1126	CONNECTOR PCB 5P PLUG U SIDE
	12-1127	CONNECTOR PCB 7P PLUG U
	14-4151	WIRE ASSY SOCKET 2P 100MM
	14-4152	WIRE ASSY SOCKET 5P 150MM
	14-4153	WIER ASSY SOCKET 7P 120MM
	14-4154	WIER ASSY SOCKET 7P 280MM
	14-4155	WIER ASSY SOCKET 1P 1200MM
	29-2096-1	XFMR PW E1-48 110/120V
	29-2096-4	XFMR PW E1-48 120V UL
	29-2096-5	XFMR PW E1-48 220V DNSF
	29-2096-7	XFMR PW E1-48 225/240V

ASSEMBLY DIAGRAM



MECHANICAL PARTS LIST

ITEM	PART NO.	DESCRIPTION	Q'TY
1	11-1133	CASE FRONT HALF	1
2	28-2095	SPEAKER NET	1
3	35-6016	SPEAKER FULL 5W 8 OHM 5 INCH	1
4	11-8242	DIAL SCALE PLATE	1
5	11-8241	C.D.S. WINDOW	1
6	11-3068	HOLDER LAMP	1
7	90-1188	ASS'Y PCB DISPLAY	1
8	11-6132	CHASSIS	1
9	11-5065	HEAT SINK	1
10	11-2297	BRACKET (B)	1
11	11-118701	ASS'Y PCB SWITCH (A)	1
12	11-1187	ASS'Y PCB MAIN	1
13	11-2292*A	BRACKET (A)	1
14	11-1187-2	ASS'Y PCB SWITCH (B)	1
15	12-3153	KNOB SNOOZE	1
16	29-2096-1	XFMR PW E1-48 110/120V	1
17	13-5050	WHEEL	1
18	11-1132	CASE BACK HALF	1
19	90-1188-1	ASS'Y PCB FUNCTION	1
20	11-9112	SPACER (A)	1
21	15-4031	FIBER BOARD	1
22	11-3054	HOLDER DOUBLE PULLEY	1
23	12-1101	CONNECTOR	2
24	12-4021	POINTER GUIDE	1
25	12-3T03	TUNING KNOB	1
26	12-3T01-1	TREBLE/BASS LNOB	2
27	12-3T01-2	VOLUME KNOB	1
28	12-3149-1	KNOB PUSH (B)	1
29	12-3148-1	KNOB PUSH (A)	1
30	12-3149	KNOB PUSH (B)	3
31	11-7057*A	BOSS SUPPORT(C)	3
32	28-2097	CUSHION (B)	1
33	11-7052	TUNING SHAFT	1
34	15-1033	RIVET (A)	3
35	13-5044	PULLEY (B)	4
36	11-7058*A	PULLEY SHAFT (B)	1
37	13-5040	DOUBLE PULLEY	1
38	11-7032*A	PULLEY SHAFT	1
39	11-1134	CASE BOTTOM	1
40	28-1068	RUBBER FOOT	4
41	21-1144	RATING PLATE	1
42	12-3T05	KNOB	2
43	11-8232	DIAL WINDOW	2
44	A3.5A09SN01	WASHER	4
45	S2B03+I08SZ-2	TAPPING SCREW 3/8x8L STEEL	8
46	S1B02+I06SZ-2	MACHINE SCREW 2/8x6L STEEL	1
47	N02A3.8I1.2BN	NUT 2/8x3.8Dx1.2T BRASS	1
48	S1D03+I04SZ-2	MACHINE SCREW 3/8x4L STEEL	11
49	S2B2.6+I08SZ-2	TAPPING SCREW 2.6/8x8L STEEL	2
50	S1D03+I06SL-2	MACHINE SCREW 3/8x6L STEEL	10
51	N09A12I1.8BN	NUT 9/8x12Dx1.8T BRASS	1
52	S2D03+I10SZ-2	TAPPING SCREW 3/8x10L STEEL	7
53	S2B03+I06SZ-2	TAPPING SCREW 3/8x6L STEEL	2
54	S1D03+I0SL-2	MACHINE SCREW 3/8x10L STEEL	2
55	12-5043	SPRING KNOB SNOOZE	2
56	15-5008	E RING 2.3MMD	1
57	S2D03+I15SL-2	TAPPING SCREW 3/8x15L STEEL	2
58	S1B2.6+I10SZ-2	MACHINE SCREW 2.6/10L STEEL	1
59	N03A06I1.2SZ	NUT 3/8x6Dx2.5T STEEL	2
60	A03G06SZ01	S/W ST ZMC3A	2
61	12-3148	KNOB PUSH (A)	3
62	W2-0F	ANTENNA WIRE PVC #24 1007 BK	1
63	14-5047	PW CORD SPT-1 #18 PLUG	1
64	28-2096	CUSHION (A)	1
65	28-2104*A	MASKER(A)	2
66	28-2105	MASKER(B)	2
67	28-2106	MASKER(C)	2

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