Service Manual

ATS-808A

CONTENTS

FM ELECTRICAL PERFORMANCE

TEST ITEM	CONDITION	NOMINAL	LIMIT	UNIT
Tuning Range	Min.	87.5		MHz
	Max.	108		MHz
Intermediate freq.		10.7	±0.05	MHz
Max. sens.	90MHz		18	emf dBμ
	98MHz		18	emf dBμ
	106MHz		18	emf dBμ
Useable sens. (S/N 30dB)	90MHz	18	24	emf dBμ
	98MHz	18	24	emf dBμ
	106MHz	18	24	emf dBμ
Audio fidelity (−3dB) (W/Pre-emphasis)	98MHz		150	Hz
	98MHz		8K	Hz
3dB Limiting (10mv)	98MHz	18	24	emf dBμ
Image rejection	106MHz	36	30	dB
I. F. rejection	90MHz	60	50	dB
T. H. D. (75KHz. dev.)	98KHz	2	4	%
Lowest battery voltage	98MHz	3.9	4.2	V
Output power at 10% T. H. D.	98MHz		340	mw
Stereo indicator sens.	98MHz		24	emf dBμ
Tuning indicator sens. (2nd dot)	98MHz		24	emf dBμ
Stereo separation (1KHz)	98MHz	25	20	dB
Auto scanning stop sens.	98MHz		24	emf dBμ
Over load capacity	98MHz		106	emf dBμ
Am. suppression (66 emf dBμ)	98MHz		30	dB
Min. output	98MHz		3	mv
Tone action (6.3KHz)	98MHz		5	dB
S/N ratio (22.5KHz, Dev.)	98MHz	50	44	dB
Supply Voltage: DC 6V R.O.: 50mW	Load: 8 ohm	Modulation: 1KHz/22.5KHz, Dev.		

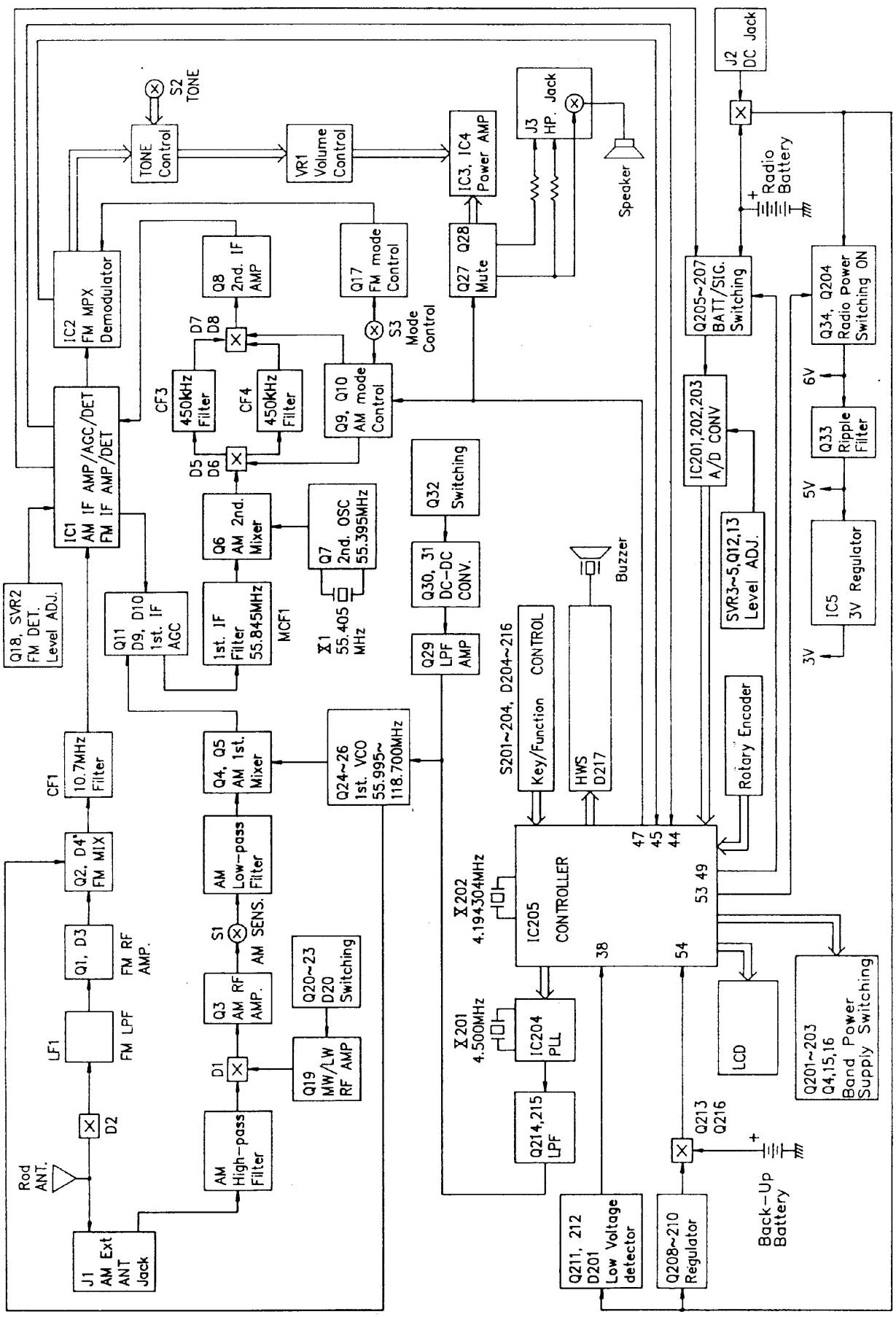
Remark: AM sens. switch: DX, AM mode switch: WIDE

LW ELECTRICAL PERFORMANCE

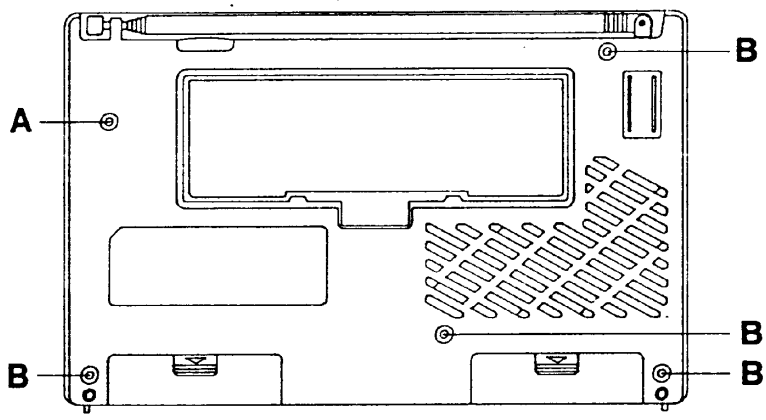
TEST ITEM	CONDITION	NOMINAL	LIMIT	UNIT
Tuning Range	Min.	150		kHz
	Max.	519		
Intermediate Frequency	1st. IF	55845	±1.0	kHz
	2nd.IF	450		
Maximum Sensitivity	180 kHz		66	dB
	225 kHz		64	
	279 kHz		64	
Usable Sensitivity (S/N 20 dB)	180 kHz	66	72	dB
	225 kHz	64	70	
	279 kHz	64	70	
Lowest Battery Voltage	279 kHz	3.9	4.2	V
Tuning Indicator Sensitivity (2nd dot)	279 kHz		66	dB
Auto. Scanning Stop Sensitivity	279 kHz		68	
S/N Ratio (5 mV)	279 kHz		24	
Supply Voltage : DC 6 V R.O. : 50 mW	Load : 8 ohm	Modulation : 1000 Hz/30% Mod.		

Remark: AM sens. switch: DX, AM mode switch: WIDE

BLOCK DIAGRAM



DISASSEMBLY INSTRUCTIONS



TO REMOVE BACK COVER

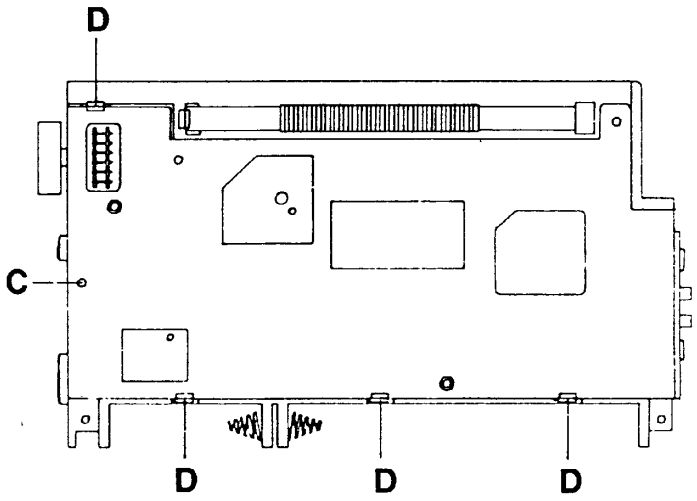
a. Unscrew 1 screw A.
and 4 PTP screws B.

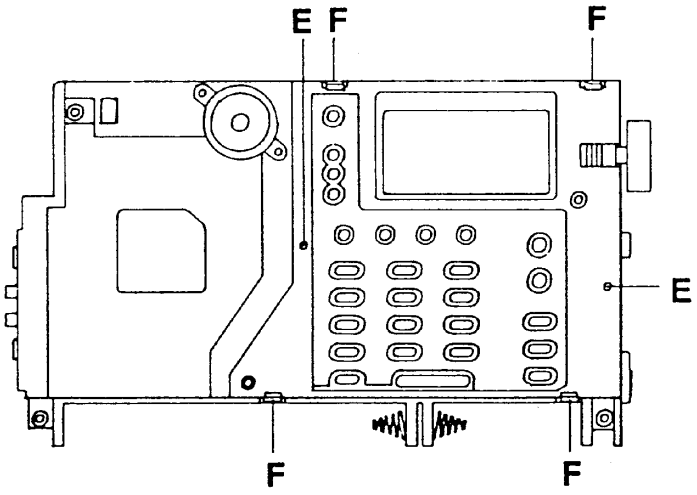
b. Separate front and back cabinet.

TO REMOVE MAIN PCB

a. Remove screw C.

b. Release Main PCB from hooks D to remove it.



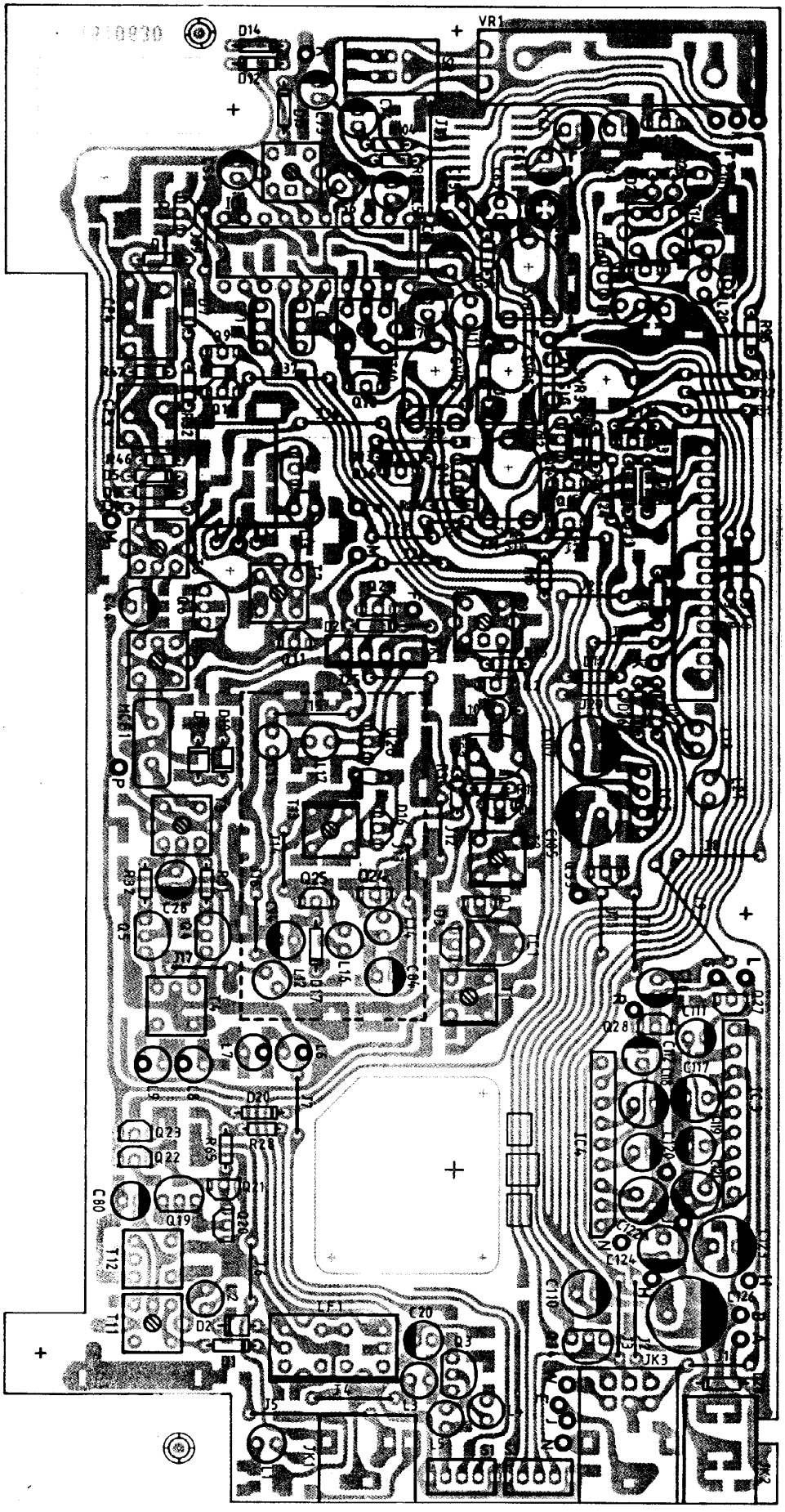


TO REMOVE CONTROL PCB

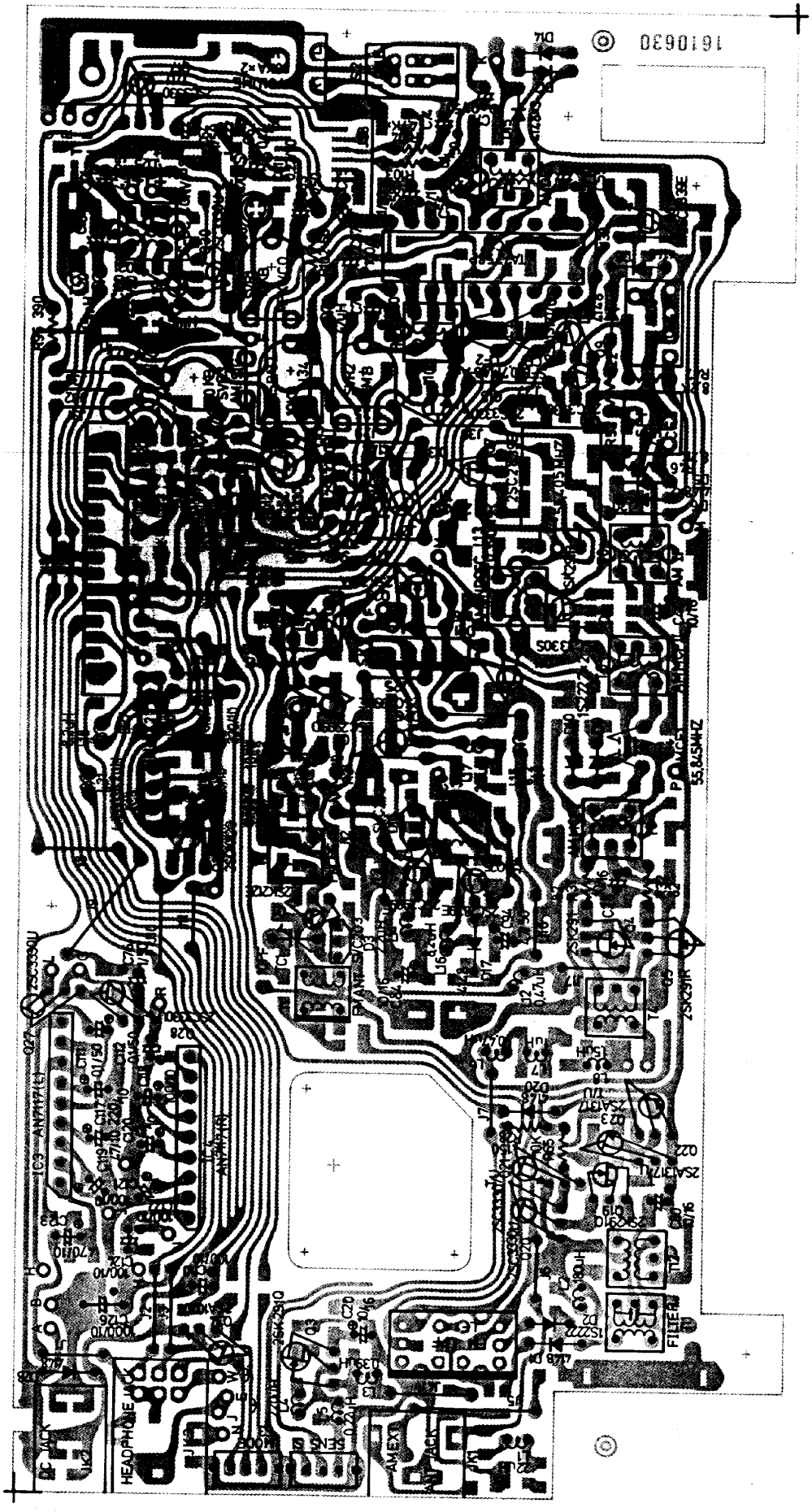
a. Unscrew 2 screws E.

b. Release Control PCB from hooks F to remove it.

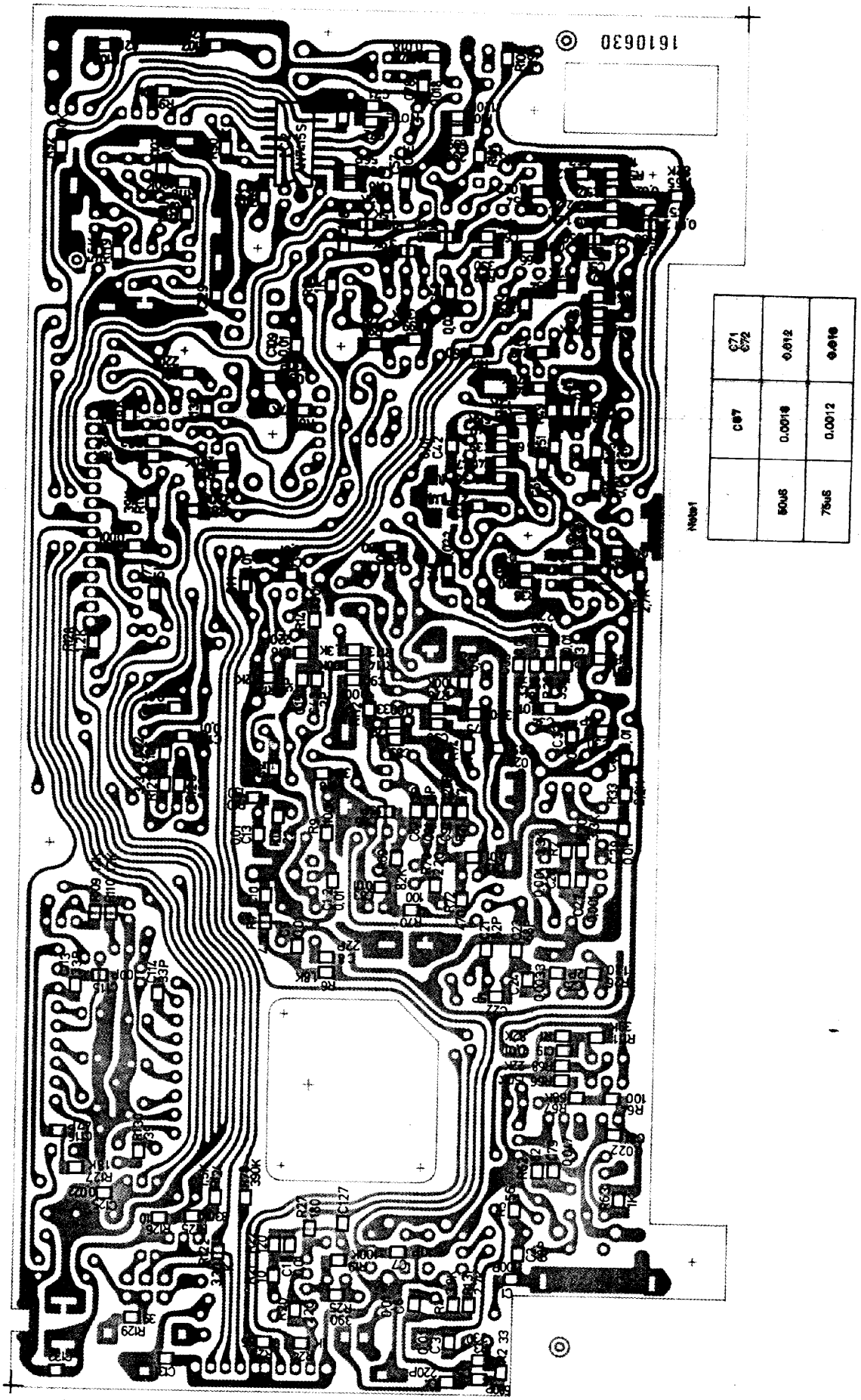
MAIN PCB TOP VIEW



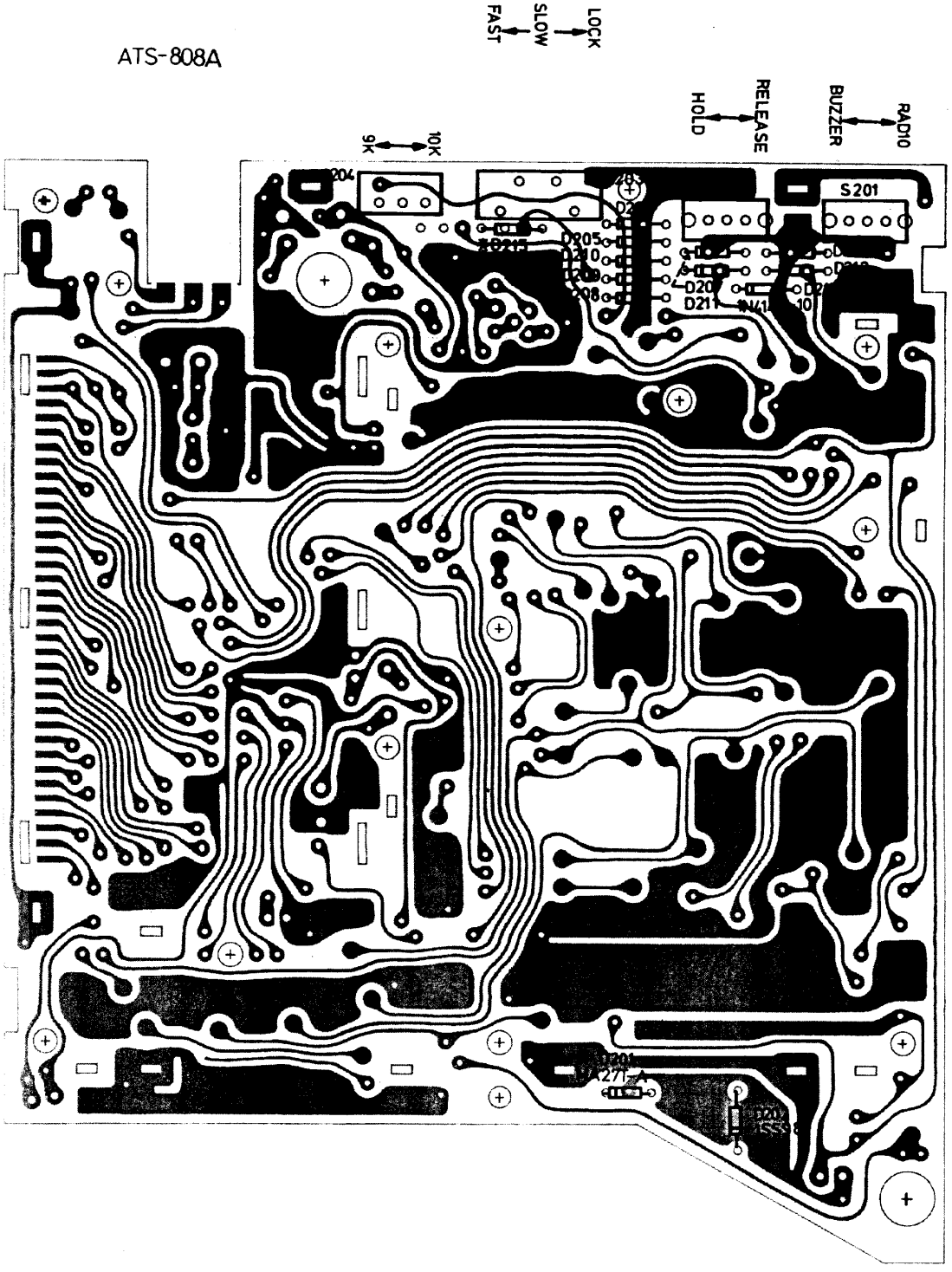
MAIN PCB BOTTOM VIEW



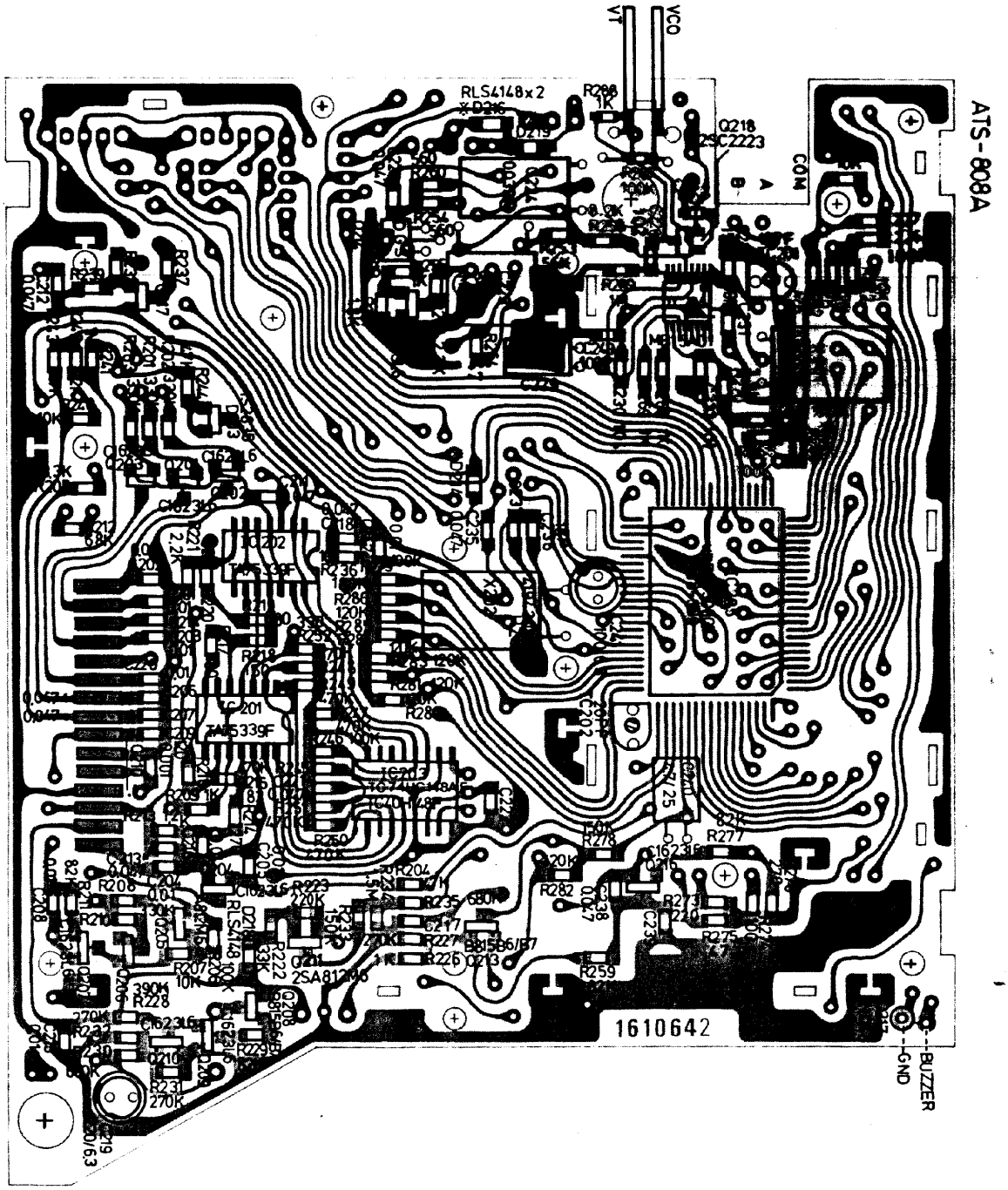
MAIN PCB CHIP SIDE



CONTROL PCB TOP VIEW

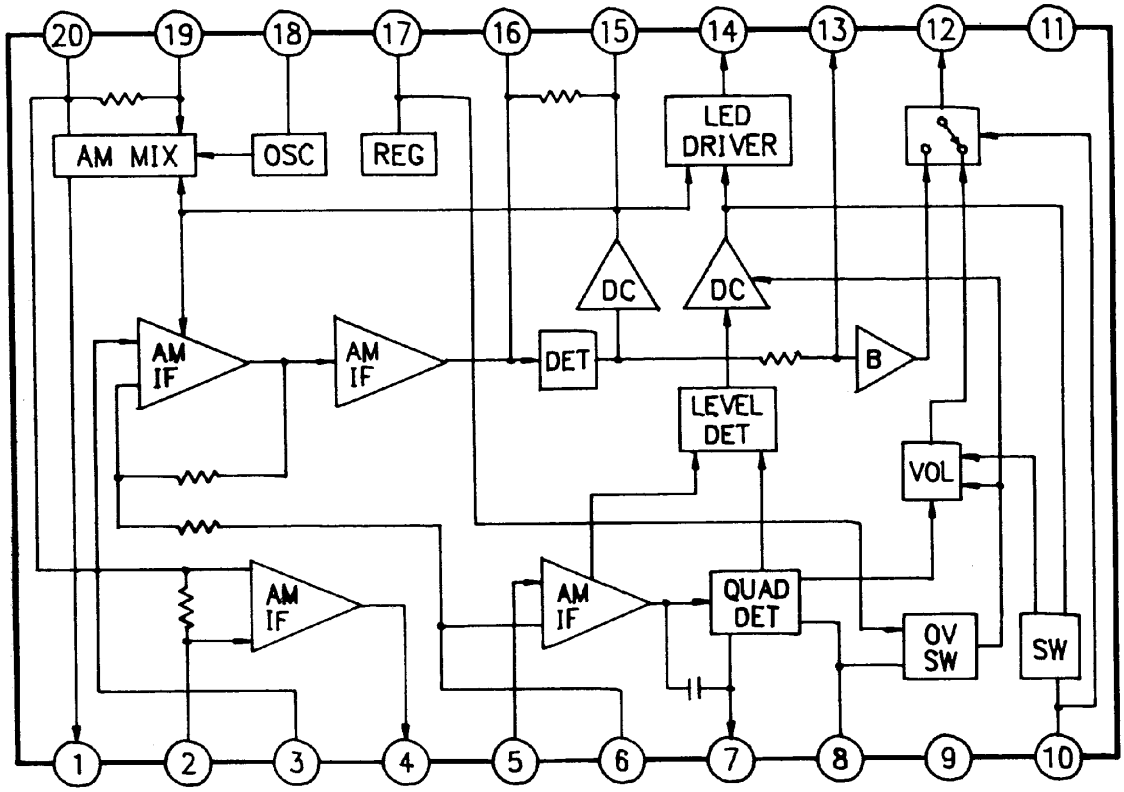


CONTROL PCB BOTTOM VIEW

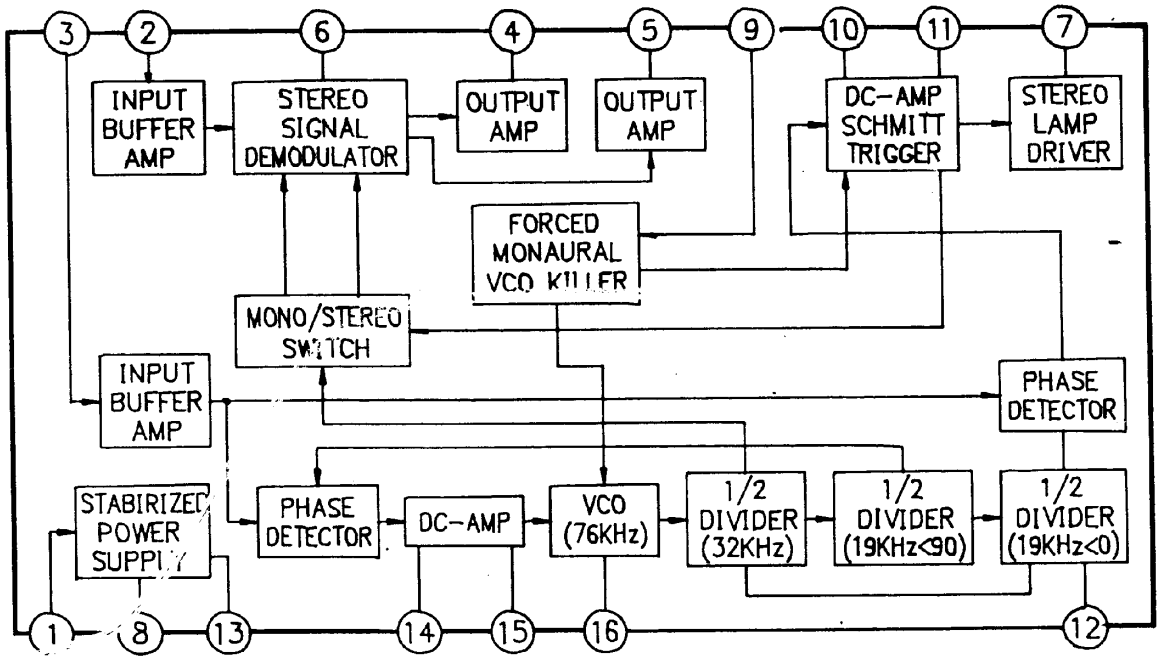


CIRCUIT DESCRIPTION

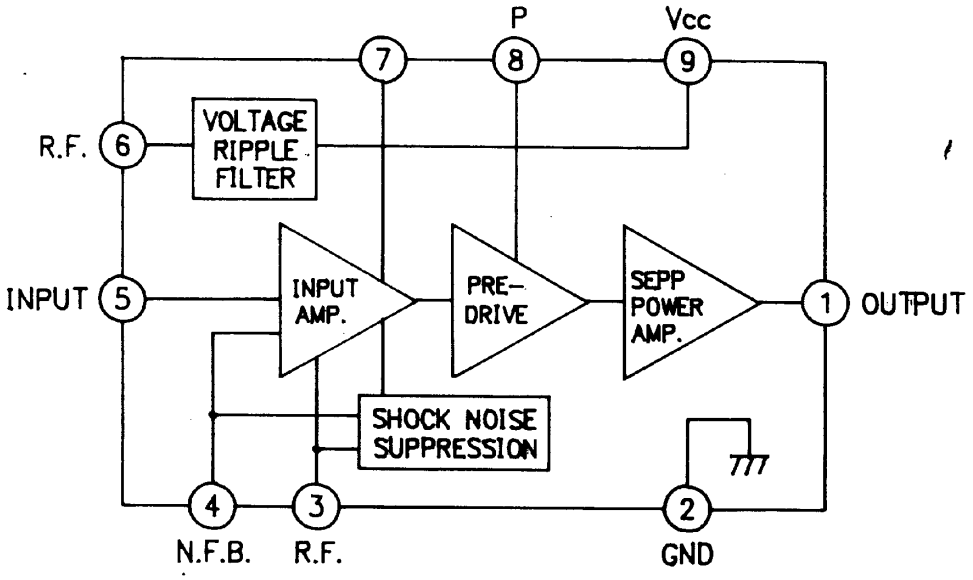
IC1-TA7758P



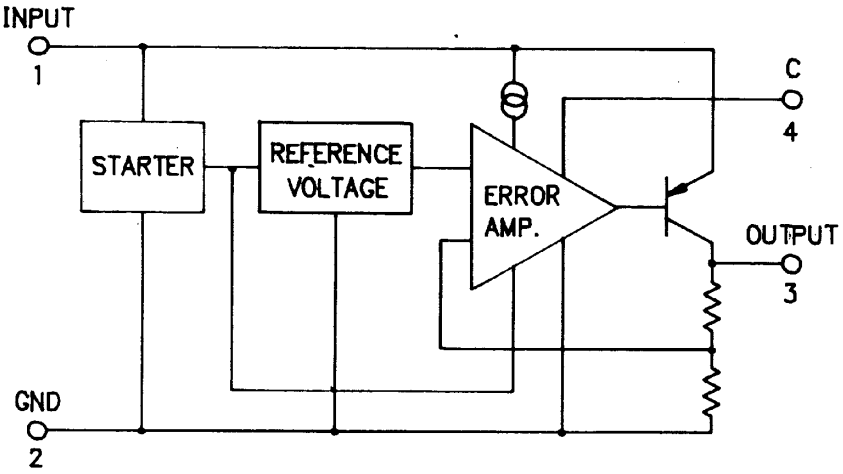
IC2-AN7415S



IC3,4-AN7117

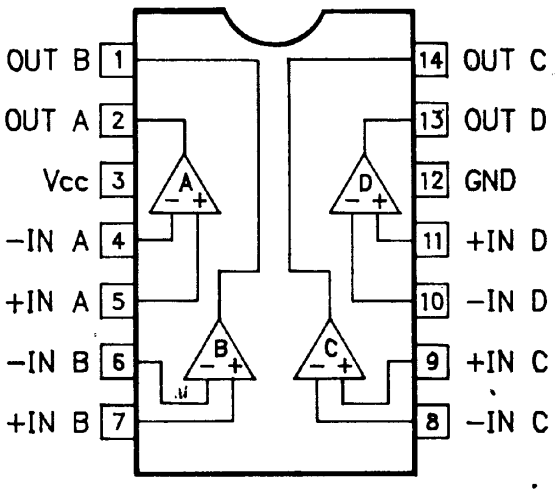


IC5-LA5003

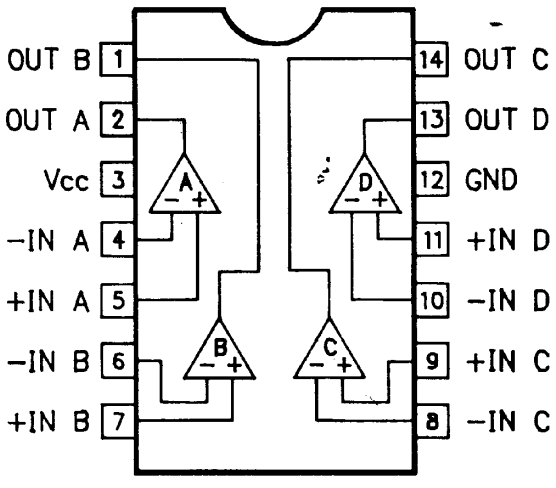


IC201,202-TA75339F

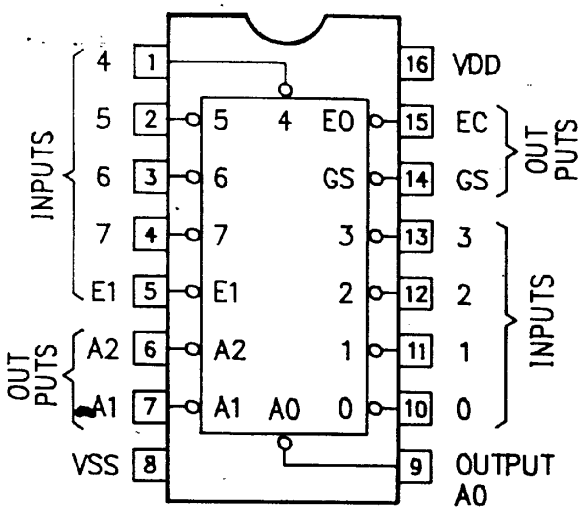
(TOP VIEW)



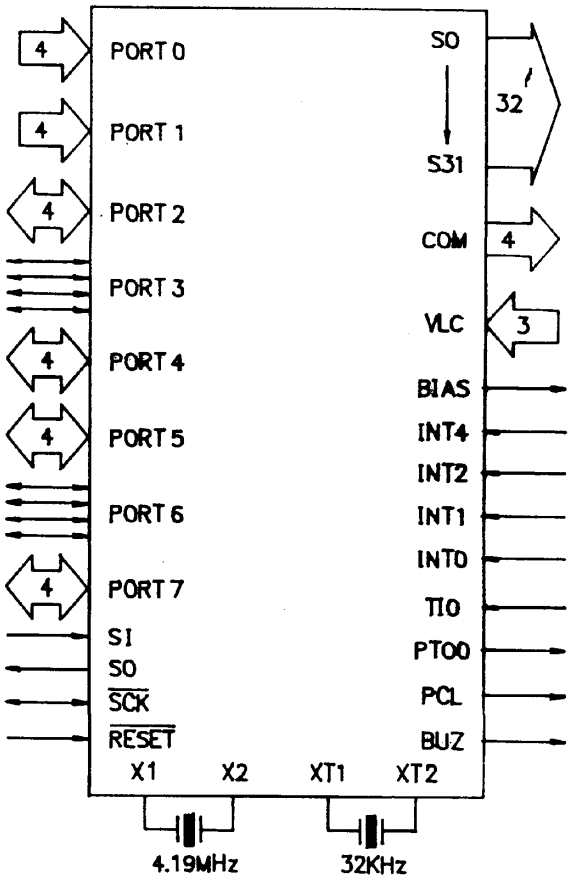
(TOP VIEW)



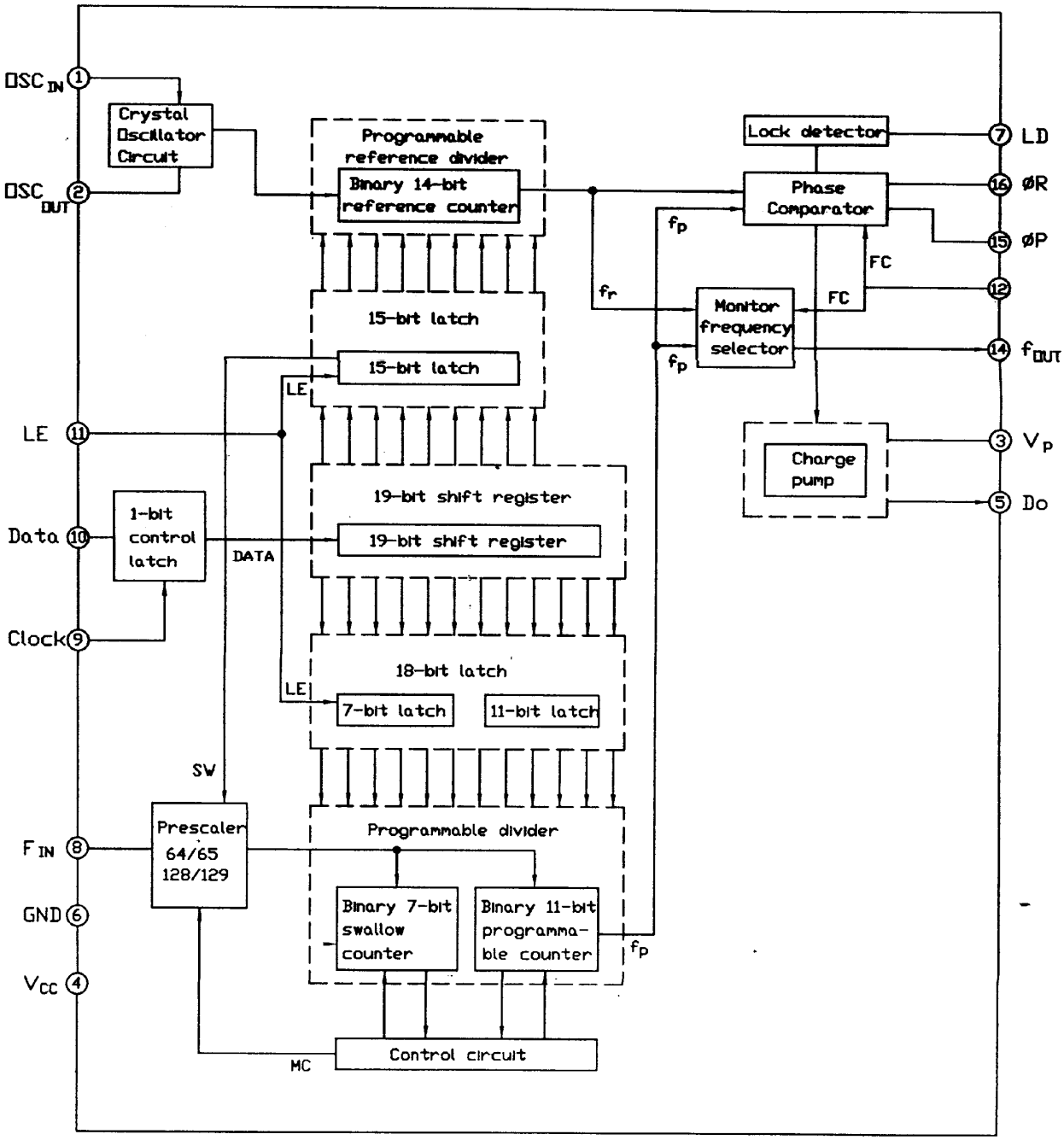
IC203-TC40H148F



IC205-uPD75308GF-508-3B9



IC204 - MB15A01PFV1-G-BND-EF



ICS' & TRANSISTORS' VOLTAGE LIST

IC1

PIN NO.	FM	AM
1	4.39	3.80
2	1.66	1.66
3	1.83	1.60
4	1.27	1.79
5	1.38	1.60
6	1.38	1.60
7	5.04	4.99
8	2.60	2.25
9	5.04	4.99
10	4.93	0
11	0	0
12	1.50	1.59
13	0	2.35
14	2.97	2.97
15	1.12	1.08
16	1.12	1.08
17	2.38	2.33
18	1.77	1.46
19	1.66	1.66
20	1.66	1.66

IC2

PIN NO.	FM	AM
1	2.86	2.86
2	0.46	0.46
3	0.46	0.46
4	0.93	0.93
5	0.93	0.93
6	0.02	0.02
7	2.99	2.99
8	0	0
9	1.04	1.04
10	0.45	0.45
11	1.17	1.17
12	1.32	1.32
13	1.43	1.43
14	1.15	1.15
15	1.15	1.15
16	0.02	0.02

IC3

PIN NO.	FM	AM
1	2.76	2.76
2	0	0
3	2.76	2.76
4	2.75	2.75
5	2.74	2.74
6	5.92	5.92
7	4.65	4.65
8	3.34	3.34
9	5.97	5.97

IC4

PIN NO.	FM	AM
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	-0

IC5

PIN NO.	FM	AM
1	5.05	5.00
2	0	0
3	3.00	3.00
4	4.30	4.25

TESTING CONDITION:

1. WITHOUT ANY INPUT SIGNAL AND SETTING VOLUME TO MIN.
2. SPEAKER MODE.
3. EXTERNAL ANT. IS NOT USED.
4. AM IS RECEIVED BY 150kHz AND PUT ON THE WIDE BW & LOCAL POSITION.
5. FM IS RECEIVED BY 98MHz AND PUT ON THE STEREO POSITION.
6. LOAD IN RADIO BATTERY 6.0V AND BACK UP BATTERY 3.0V.
7. UNIT OF MEASURE: VOLTS

IC201

PIN NO.	FM	AM
1	3.00	3.00
2	3.00	3.00
3	3.00	3.00
4	0.75	0.70
5	1.11	0.94
6	0.75	0.70
7	1.19	1.00
8	0.75	0.70
9	1.24	1.04
10	0.75	0.70
11	1.27	1.07
12	0	0
13	3.00	3.00
14	3.00	3.00

IC202

PIN NO.	FM	AM
1	3.00	3.00
2	3.00	3.00
3	3.00	3.00
4	0	0
5	1.05	0.88
6	0.75	0.70
7	0.94	0.79
8	0.75	0.70
9	0.97	0.82
10	0.75	0.70
11	1.05	0.88
12	0	0
13	3.00	3.00
14	3.00	3.00

IC203

PIN NO.	FM	AM
1	3.00	3.00
2	3.00	3.00
3	3.00	3.00
4	3.00	3.00
5	0	0
6	3.00	3.00
7	3.00	3.00
8	0	0
9	3.00	3.00
10	0	0
11	3.00	3.00
12	3.00	3.00
13	3.00	3.00
14	0	0
15	3.00	3.00
16	3.00	3.00

IC204

	FM	AM
1	1.24	1.24
2	1.37	1.39
3	3.03	3.03
4	3.03	3.03
5	0.75	0.75
6	0	0
7	3.03	3.03
8	2.01	2.01
9	0	0
10	0	0
11	0.18	0.18
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0

IC205

PIN NO.	FM	AM
1-15	LCD SEGMENT	
16	1.57	1.57
17	3.20	0
18	0	3.20
19	0	0
20	0	0
21-24	LCD back plane	
25	3.22	3.22
26	3.22	3.22
27	2.15	2.15
28	1.08	1.08
29	3.00	3.00
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	3.00	3.00
38	3.20	3.20
39	3.00	3.00
40	3.00	3.00
41	3.00	3.00
42	3.00	3.00
43	3.00	3.00
44	3.00	3.00
45	3.00	3.00

PIN NO.	FM	AM
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	3.22	3.22
54	3.22	3.22
55	0	0
56	3.22	3.22
57	0	0
58	1.47	1.47
59	1.50	1.50
60	3.10	3.10
61	3.22	3.22
62	3.22	3.22
63	3.22	3.22
64	3.22	3.22
65	3.22	3.22
66	3.22	3.22
67	3.22	3.22
68	3.22	3.22
69-80	LCD SEGMENT	

TRANSISTORS

		FM	AM
Q1	S	0	0
	G	0	0
	D	4.02	0
Q2	E	0	0
	B	0.65	0
	C	4.00	0
Q3	S	0	0.43
	G	0	0
	D	0	3.85
Q4	S	0	0.92
	G	0	0
	D	0	3.55
Q5	S	0	0.92
	G	0	0
	D	0	3.55
Q6	S	0	0.78
	G	0	0
	D	0	4.34
Q7	E	0	0
	B	0	0.65
	C	0	1.40
Q8	E	0	0.28
	B	0	0.93
	C	0	2.40
Q9	E	0	4.91
	B	0.01	4.35
	C	0	0.01
Q10	E	0	0
	B	0.56	0
	C	0.01	4.35

		FM	AM
Q11	E	0	0
	B	0.29	0.29
	C	3.00	3.00
Q12	E	0	0
	B	0	0.66
	C	1.38	0.02
Q13	E	0	0
	B	0.66	0
	C	0.02	1.16
Q14	E	5.05	5.00
	B	4.93	4.29
	C	0	4.91
Q15	E	5.05	5.00
	B	4.36	5.30
	C	4.99	0
Q16	E	3.00	3.00
	B	4.35	2.32
	C	0	2.98
Q17	E	2.85	2.85
	B	3.45	3.45
	C	2.86	2.86
Q18	E	0	0
	B	0.64	0
	C	0.01	2.25
Q19	S	0	0.37
	G	0	0
	D	0	4.20
Q20	E	0	0
	B	0	0.04
	C	0	0

		FM	AM
Q21	E	0	0
	B	0	0.64
	C	0	0.04
Q22	E	0	4.91
	B	0	4.22
	C	0	4.85
Q23	E	0	4.91
	B	0	4.78
	C	0	4.22
Q24	E	0	0
	B	0.75	0.75
	C	2.64	2.64
Q25	E	0.75	0.75
	B	1.40	1.40
	C	1.68	1.68
Q26	E	0	0
	B	0.74	0.74
	C	2.04	2.04
Q27	E	0	0
	B	0	0
	C	0	0
Q28	E	0	0
	B	0	0
	C	0	0
Q29	S	10.15	1.97
	G	9.97	1.78
	D	14.90	2.77
Q30	E	0	0
	B	0.53	0
	C	0.68	0

		FM	AM
Q31	E	0	0
	B	0.68	0
	C	5.81	0
Q32	E	5.97	5.97
	B	5.27	5.96
	C	5.87	0
Q33	E	5.15	5.13
	B	5.84	5.83
	C	5.97	5.97
Q34	E	6.00	6.00
	B	5.31	5.31
	C	5.97	5.97

		FM	AM
Q201	E	0	0
	B	0.61	0
	C	0.07	5.30
Q202	E	0	0
	B	0	0.61
	C	4.93	0.07
Q203	E	0	0
	B	0	0
	C	0.46	5.96
Q204	E	0	0
	B	0.66	0.66
	C	0.07	0.07
Q205	E	6.00	6.00
	B	6.00	6.00
	C	0.75	0.70
Q207	E	0	0
	B	0	0
	C	6.00	6.00
Q208	E	6.00	6.00
	B	5.42	5.42
	C	3.52	3.52
Q209	E	0	0
	B	0.48	0.48
	C	5.32	5.32
Q210	E	0	0
	B	0.53	0.53
	C	0.48	0.48

		FM	AM
Q211	E	0	0
	B	0.51	0.51
	C	1.35	1.35
Q213	E	3.00	3.00
	B	4.42	4.42
	C	3.22	3.22
Q214	S	0.93	0.94
	G	0.68	0.69
	D	2.63	2.63
Q215	E	0	0
	B	0.61	0.61
	C	4.66	0.53
Q216	E	0	0
	B	0	0
	C	4.42	4.42
Q218	E	0	0
	B	0.72	0.74
	C	2.15	2.14

ALIGNMENT INSTRUCTIONS

NOTE: 1. ALL TEST POINTS ARE SHOWN BOTH ON SCHEMATIC DIAGRAM AND THE FIGURE 1, 2.
2. PLEASE LOAD IN FRESH BATTERIES BEFORE ANY ALIGNMENT PROCEDURES.

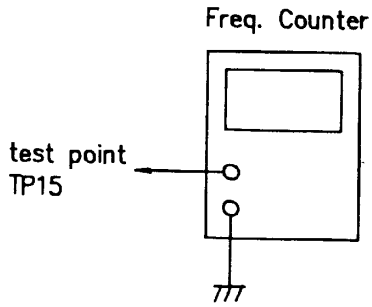
(1) ALIGNMENT FOR CLOCK TIME ACCURACY

a. Required Instrument
Frequency Counter

b. Alignment Procedure

Adjustment	Procedure
TC202	(1) Turn the radio to SLEEP ON mode. (2) Set the SAFETY switch upward to electrically lock all push buttons. (3) Remove batteries away from the RADIO BATTERY compartment and the TIME BASE signal will created automatically. (4) Connect a frequency counter to TP15 (pin (48) of IC205) (5) Adjust TC202 to reach a reading 524288 ± 4Hz (± 7.6PPM or ± 20 sec/month) on counter.

c. Instrument Connection



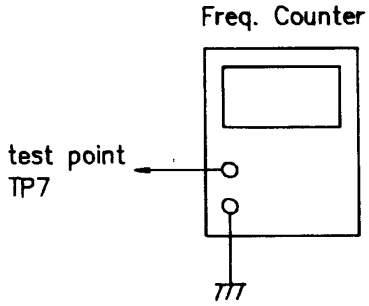
(2) ALIGNMENT FOR PLL FREQUENCY

a. Required Instrument
Frequency Counter

b. Alignment Procedure

Mode	Adjustment	Procedure
FM	TC201	(1) Turn the radio ON. (2) Select the tuner frequency at 108 MHz. (3) Connect the test probes of frequency counter to TP7 and ground. The ground point should be as near as possible to the test point TP7. (4) Adjust TC201 to have a reading of 118.69975MHz-118.70025MHz.

c. Instrument Connection



(3) ALIGNMENT FOR AM 2ND LOCAL OSC

a. Required Instrument

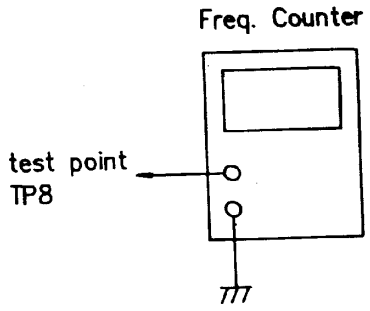
Frequency counter with higher impedance probe.

b. Alignment Procedure

Mode	Adjustment	Procedure
AM	T7	(1) Turn the radio ON. (2) Tune the frequency far away from any station to avoid interference. (3) Connect the test probes of frequency counter to TP8 and ground. (4) Adjust T7 to have a reading of 55.39485MHz-55.39515MHz.

CAUTION: A loading effect could emerge in the circuit if the inserted with a lower impedance probe of frequency counter.

c. Instrument Connection



(4) ALIGNMENT FOR AM 2ND IF

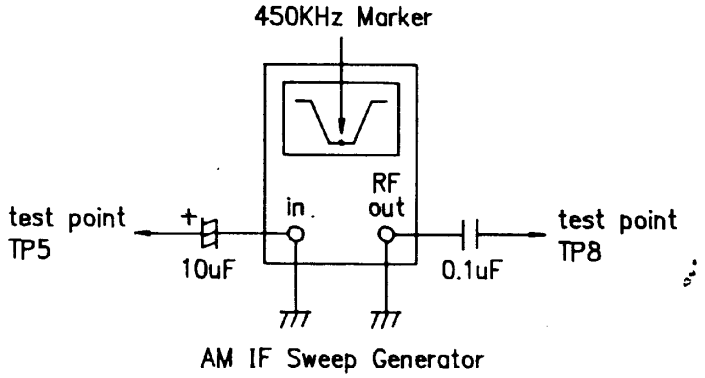
a. Required Instrument

AM IF Sweep Generator with scope

b. Alignment Procedure

Mode	Adjustment	Procedure
AM		(1) Turn the radio ON.
		(2) Set the bandwidth switch to WIDE position.
		(3) Connect the input terminal of AM IF sweep generator in series with a capacitor of 10μF to the test point TP5.
		(4) Connect the RF output terminal of AM IF sweep generator in series with a capacitor 0.1μF to another test point TP8.
	T8	(5) Adjust T8 to have a max. output with a marker frequency of 450KHz on the sweep scope.
	T9	(6) Adjust T9 to have a max. output with a marker frequency of 450KHz on the sweep scope.
		(7) Repeat (5) and (6) until a max. 450KHz output is reached.

c. Instrument Connection



(5) ALIGNMENT FOR FM IF

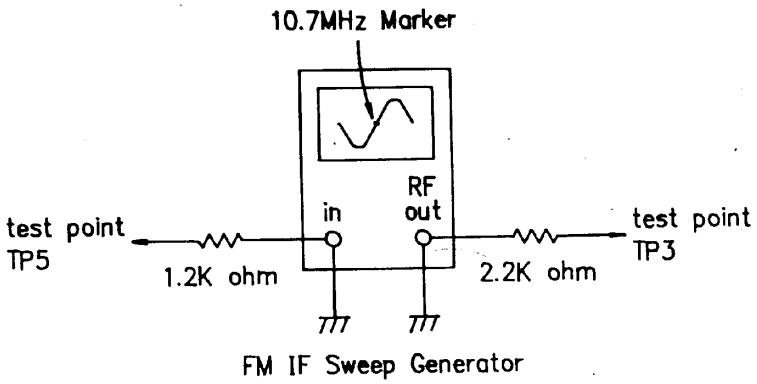
a. Required Instrument

FM IF Sweep Generator with scope.

b. Alignment Procedure

Mode	Adjustment	Procedure
FM	T3 T10	(1) Turn the radio ON. (2) Connect the input of FM IF sweep generator in series with a resistor of 1.2K ohm to the test point TP5. (3) Connect the RF output of FM IF sweep generator in series with a resistor of 2.2K ohm to another test point TP3. (4) Adjust T3 and T10 to have a max output and best symmetrical S curve with respect to the center marker frequency of 10.7MHz.

c. Instrument Connection



(6) ALIGNMENT FOR AM SENSITIVITY

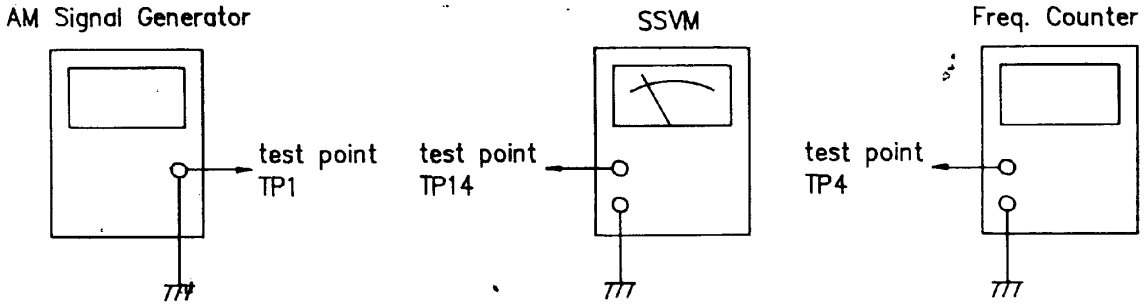
a. Required Instrument

AM Signal Generator
SSVM
Frequency counter

b. Alignment Procedure

Mode	Adjustment	Procedure
AM		(1) Turn the radio ON.
		(2) Set the bandwidth switch to WIDE and sens. switch to DX position.
		(3) Tune the radio band frequency to 15.100MHz.
		(4) Feed a signal with modulation from AM signal generator output to the test point TP1 and connect a SSVM to speaker (TP14).
		(5) Tune the generator frequency exactly the same as that of the radio frequency displayed.
	T5 T6	(6) Adjust T5 and T6 to have a max. audio output.
		(7) Connect the probe of frequency counter at the test point TP4.
	T7	(8) Adjust T7 to meet the specification frequency 450KHz ± 0.15KHz.
		(9) Remove the counter and repeat (6) to (8) until the specification frequency is met.

c. Instrument Connection



(7) ALIGNMENT FOR FM SENSITIVITY

a. Required Instrument

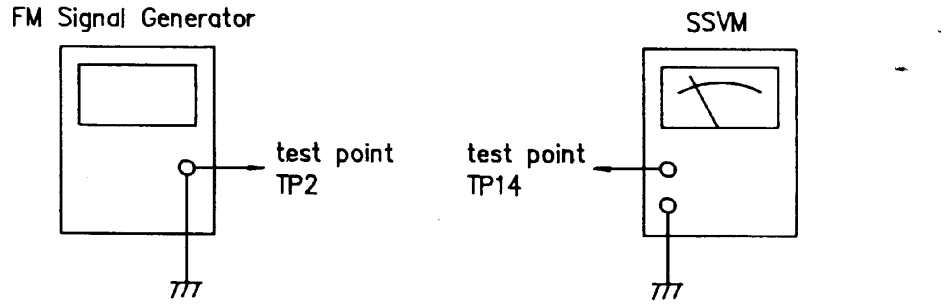
FM Signal Generator

SSVM

b. Alignment Procedure

Mode	Adjustment	Procedure
FM		(1) Turn the radio ON.
		(2) Connect a SSVM to speaker (TP14).
		(3) Connect a FM signal generator to the input terminal of Rod Ant. (TP2).
		(4) Set the signal generator to 22.5KHz deviation with 1KHz modulation.
	T1 T2	(5) Tune the radio band frequency to 90MHz and adjust T1, T2 to have a max. reading on SSVM.
	TC1 TC2	(6) Return the radio band frequency to 106MHz and adjust TC1, TC2 to have a max. reading on SSVM.
		(7) Repeat (5) and (6) until a best sensitivity on these two frequencies are formed.

c. Instrument Connection



(8) ALIGNMENT FOR MPX

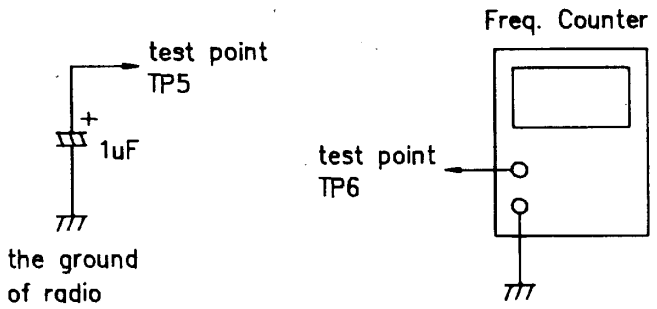
a. Required Instrument

Frequency Counter

b. Alignment Procedure

Mode	Adjustment	Procedure
FM	SVR1	(1) Turn the radio ON. (2) Set the FM mode switch to STEREO position. (3) Insert a plug of headphone into the HEADPHONE JACK (J3). (4) Connect the test point TP5 in series with a capacitor of 1μF to ground. (5) Connect a frequency counter to TP6. (6) Adjust SVR1 to have a reading of 18.95KHz-19.05KHz on frequency counter.

c. Instrument Connection



(9) ALIGNMENT FOR INDICATE LEVEL OF BATTERY

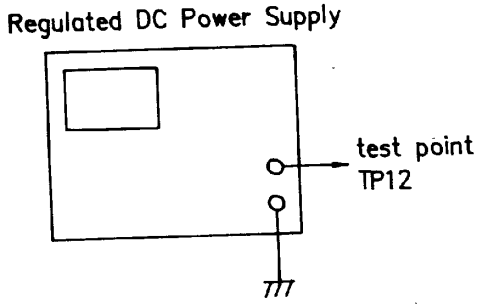
a. Required Instrument

DC Power Supply with voltage meter

b. Alignment Procedure

Adjustment	Procedure
SVR5	(1) Remove batteries away from the RADIO BATTERY compartment. (2) Connect a DC power supply to the test point TP12. (3) Set the voltage to a reading of 4.4V. (4) Turn the radio ON and adjust SVR5. (5) Push POWER key again to shut off the radio and the BATTERY LEVEL INDICATOR will immediately appeared on LCD for a period of 5 seconds. (6) Repeat (4) and (5) until the level was indicated on the 2nd. scale.

c. Instrument Connection



(10) ALIGNMENT FOR SIGNAL STRENGTH LEVEL

a. Required Instrument

FM Signal Generator

AM Signal Generator

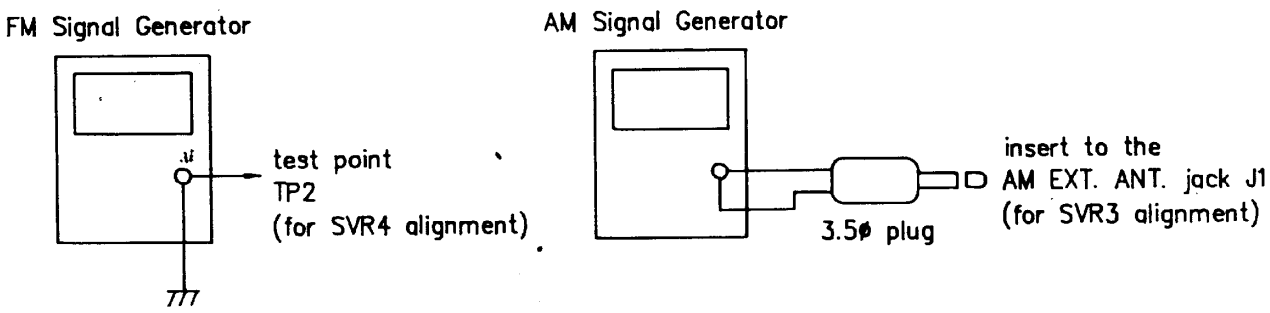
b. Alignment Procedure

Mode	Adjustment	Procedure
FM		(1) Turn the radio ON.
		(2) Connect a FM signal generator to the input terminal of Rod Ant. (TP2).
		(3) Set the signal generator to 98MHz with 1KHz Mod, 22.5KHz deviation and 36 emf dBμ/75 ohm output level.
	SVR4	(4) Tune the radio band frequency to 98MHz and adjust SVR4 to have a strength level reading of 6th scale.

AM		(1) Turn the radio ON.
		(2) Set the bandwidth switch to WIDE and sens. switch to DX position.
		(3) Tune the radio band frequency to 15.100MHz.
		(4) Feed a signal with 30% modulation and 36 emf dBμ/50 ohm output level into the AM EXT. ANT. Jack.
		(5) Tune the generator frequency exactly the same as that of the radio frequency displayed.
	SVR3	(6) Adjust SVR3 to have a strength level reading of 5th scale.

CAUTION: Before these signal strength alignment procedures, the SVR5 (for Battery level) should be in correct position.

c. Instrument Connection



(11) ALIGNMENT FOR 450KHz TRAP

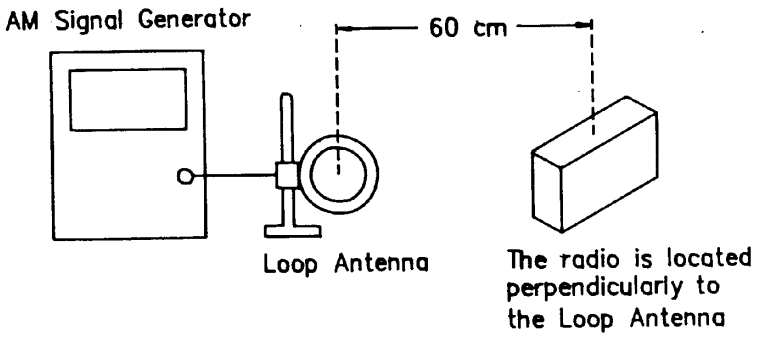
a. Required Instrument

AM Signal Generator
Loop Antenna
SSVM

b. Alignment Procedure

Mode	Adjustment	Procedure
AM	T11	(1) Turn the radio ON. (2) Set the bandwidth switch to WIDE and sens. switch to DX position. (3) Tune the radio band frequency to 450KHz. (4) Connect a AM signal generator together with standard loop dummy antenna and feed a stronger signal to the MW/LW ferrite bar antenna. (5) Tune the generator frequency to 450KHz and set modulation depth to 30%~50%. (6) Connect a SSVM to speaker (TP14). (7) Adjust T11 to have a min. audio output.

c. Instrument Connection



(12) ALIGNMENT FOR FM STATION DETECT

a. Required Instrument

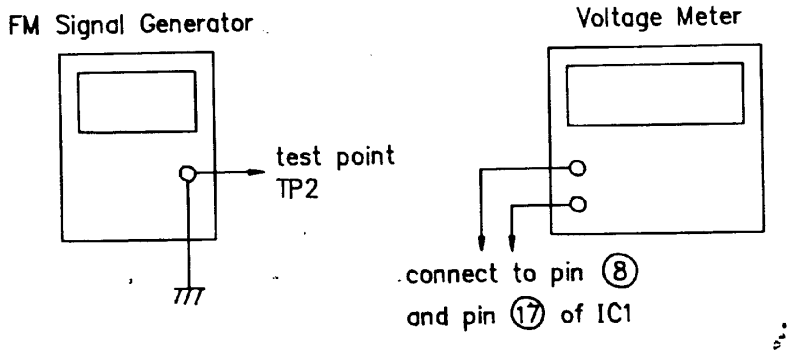
FM Signal Generator

Voltage Meter

b. Alignment Procedure

Mode	Adjustment	Procedure
FM	SVR2	(1) Turn the radio ON. (2) Connect a voltage meter between pin (8) and pin (17) of IC1 TA7758P. (3) Connect a FM signal generator to the input terminal of Rod Ant. (TP2). (4) Set the signal generator to 98MHz with 1KHz Mod, 22.5KHz deviation and 66 emf dBμ/75 ohm Output level. (5) Tune the radio band frequency to 98MHz and adjust SVR2 until the voltage difference between pin (8) and pin (17) is less than 0.3 Volt.

c. Instrument Connection



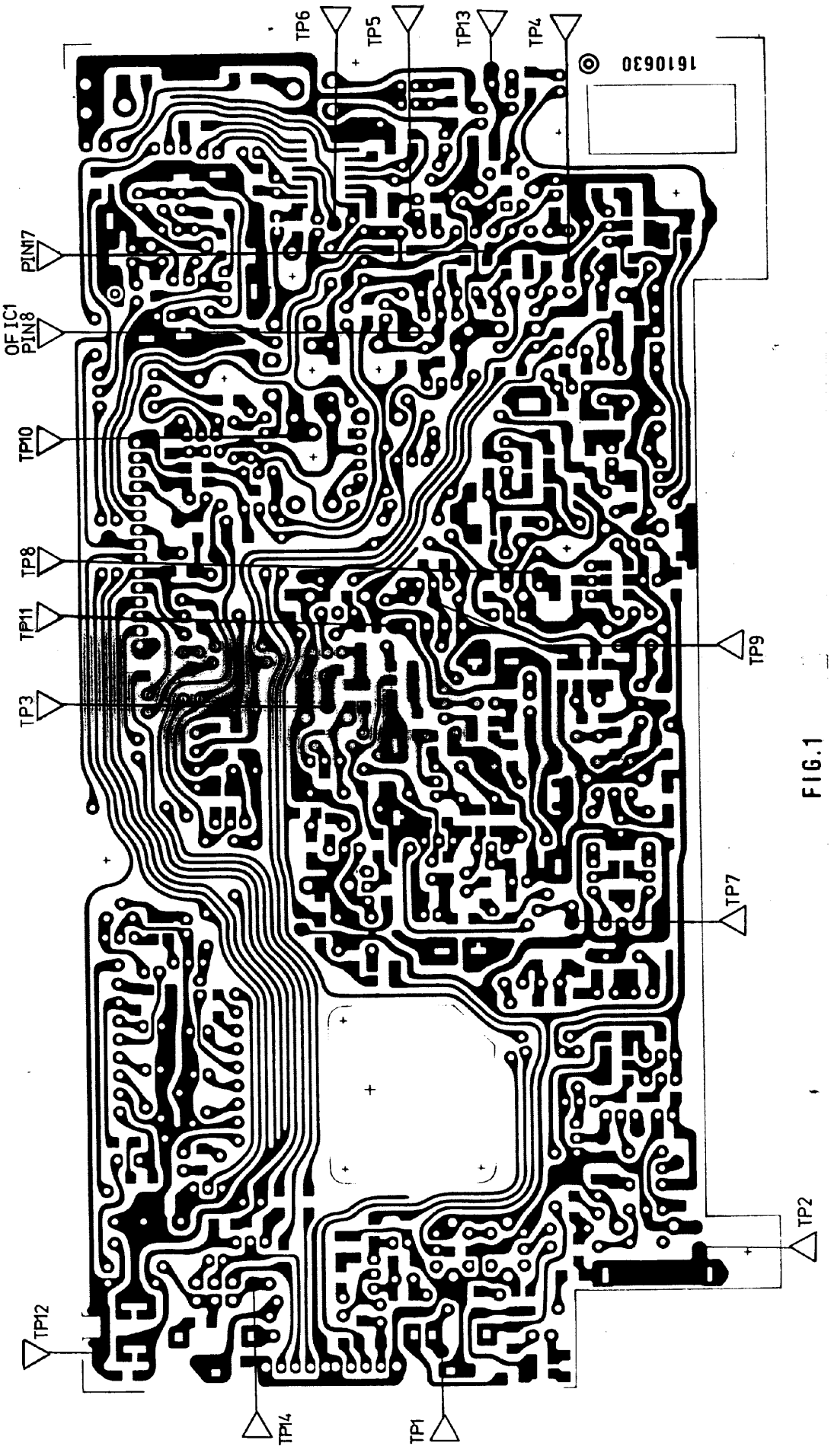

TP6
TP5
TP13
TP4
1610630
PIN17
OF IC1
PIN8
TP10
TP8
TP11
TP3
TP9
TP7
TP2
TP12
TP14
TP1

FIG.1

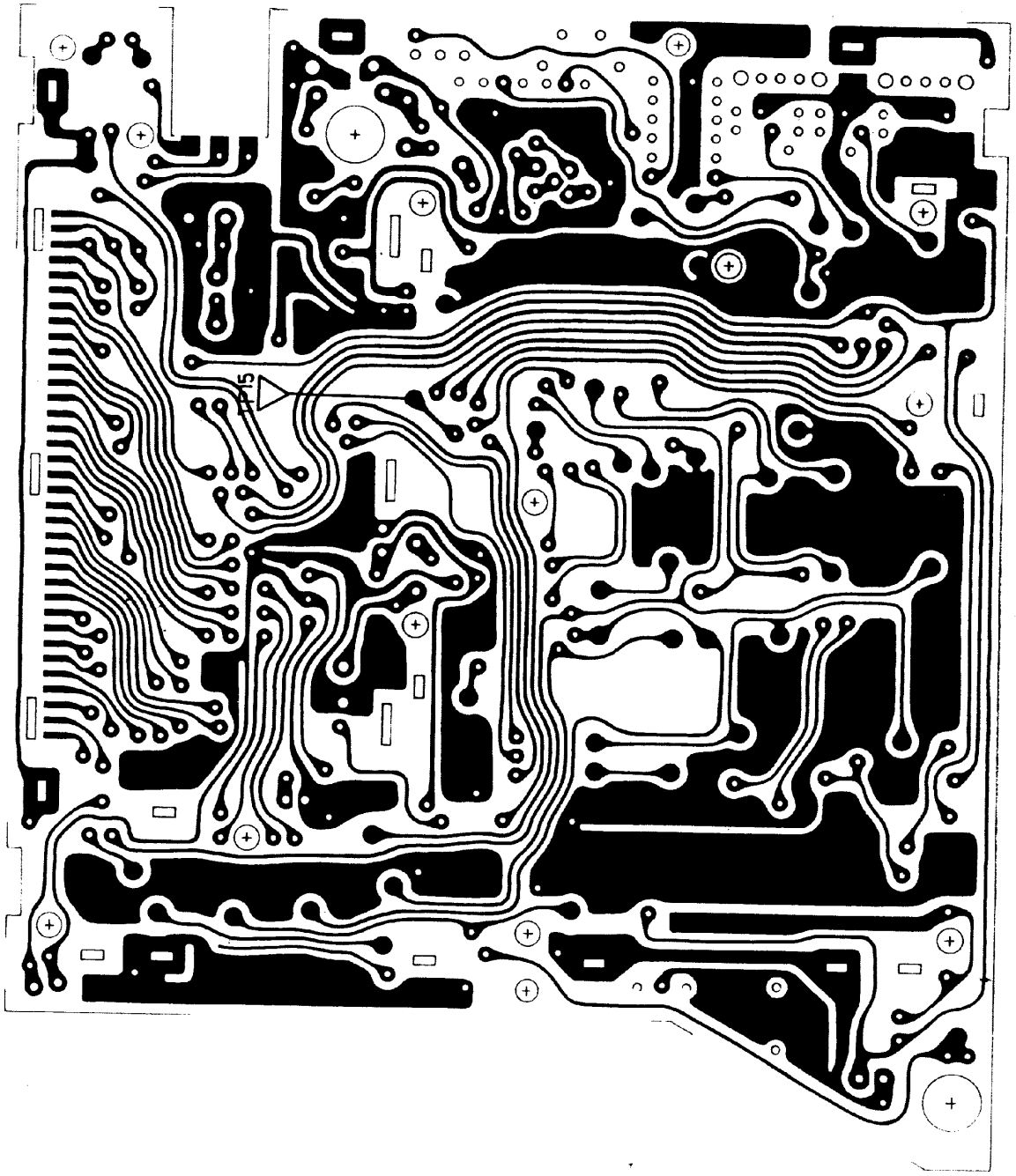


FIG. 2

EIECTRICAL PARTS LIST

ATS-808A

Part No.	Description	Q'ty	Remark
1000240	LSI μPD75308GF-T65-3B9	1	IC205
1010000	IC AN7117	2	CI3,4
1010031	IC AN7415S	1	IC2
1010140	IC LA5003	1	IC5
1010300	IC TA7758P	1	IC1
1011040R	IC TA75339F	2	IC201,202
1011050R	IC TC40H148F	1	IC203
1012410	IC MB15A01PFV1-G-BND-EF	1	IC204
1020180	TR 2SC2999E	2	Q24,26
1020181	TR 2SC2999D	1	Q2
1020210/1	CH TR 2SB815 B6/B7	2	Q208,213
1020230/362	CH TR 2SA812 M6/2SA1162GR-SG	2	Q205,211
1020240/2142	CH TR 2SC1623 L6/2SC2712GR-LG	9	Q201-204,207,209,210,215,216
1020250T	TR 2SA1020Y	1	Q34
1020260	CH TR 2SC2223 F13	1	Q218
1020271/3	TR 2SA1317U/T	7	Q9,14,15,16,22,23,32
1022000	TR 2SC2839E	3	Q7,8,25
1022020	TR 2SC3330S	1	Q11
1022021	TR 2SC3330U	5	Q20,27,28,30,31
1022021/3	TR 2SC3330U/T	6	Q10,12,13,17,18,21
1023000	TR 2SD1012G	1	Q33
1030001	FET 2SK212E	1	Q1
1030~~030~~121	FET 2SK~~152-2~~ 435C	1	Q6
1030~~031~~122	FET 2SK~~152-3~~ 435D	3	Q3,4,5
1030070	FET 2SK381A	1	Q29
1030071	FET 2SK381B	1	Q214
1030081	FET 2SK715W	1	Q19
1040020	DIODE 1N4148	4	D1,11,12,26
1040020T	DIODE1N4148T/R	25	D5-8,13-15,17-20,22,23,25,27,204-212,217
1040030	DIODE 1N60/1K60	1	D21
1042010T/00	DIODE 1SS238/1S2222	3	D2,9,10
1042040	DIODE 1S2835-T2B A3	1	D203
1043060	VARACTOR SVC203 (AA1/AA2)	3	D3,4,16
1044040	DIODE MA27T-A	1	D201
1045090	ZENER UZ-15BH	1	D24
1046000T	DIODE 1SS98-T	1	D202
1046010	CH DIODE RLS4148	2	D218,219
1110360	BAR & COIL 0360	1	LW/MW ANT
1122200	L.C.FILTER	1	LF 1,LPF
1122211	ADJ. COIL 2211	1	T1,FM ANT
1122220	ADJ. COIL 2220	1	T2, FM RF
1122231	ADJ. COIL 2231	1	T3, FM MIX
1122250	ADJ. COIL 2250	1	T10,FM DET
1122260	ADJ. COIL 2260	1	T6,AM MCF
1122270	ADJ. COIL 2270	1	T8, AM IF
1122280	ADJ. COIL 2280	2	T9,11,AM DET .FILTER
1122290	ADJ. COIL 2290	1	T14,DC CONV
1122300	ADJ. COIL 2300	1	T7,AM OSC
1122420	ADJ. COIL 2420	1	T5,AM MCF
1122441	ADJ. COIL 2441	1	T13, VCO

Part No.	Description	Q'ty	Remark
1130500	FIXED COIL 0.22 μ HM(A)	1	L5
1130800	FIXED COIL 0.39 μ H15% (A)	2	L3,13
1130900	FIXED COIL 0.47 μ HM (A)	2	L6,12
1131300	FIXED COIL 1 μ HM (A)	1	L7
1131370	FIXED COIL 1 μ HK (B)	1	L10
1131500	FIXED COIL 1.5 μ HM (A)	1	L8
1131700	FIXED COIL 2.2 μ HK (A)	2	L14,17
1132401	FIXED COIL 8.2 μ HK (A)	4	L15,16,18,21
1132900	FIXED COIL 22 μ HK (A)	1	L1
1133301	FIXED COIL 47 μ H	1	L11
1134000	FIXED COIL 180 μ HK (A)	1	L2
1134100	FIXED COIL 220 μ HK (A)	1	L4
1135101/0	FIXED COIL 1.5 mH	2	L19,20
1136100	FIXED COIL 10 mH	1	T12, LW/MW RF
1150000	TOROID COIL 720 μ H	1	T4
1210000	TC 20P (A)	1	TC202
1210003	TC 10P	1	TC201
1210010	TC 10P 2222 808 23109	2	TC1,2
1300020	S-VR 50KA x 2	1	VR1
1320000	S. F-VR 10KB (A)	4	SVR1,3,4,5
1320070	S. F-VR 1MB TB087M-0	1	SVR2
1600050	LCD (F) B9414A	1	
1610631	PCB MAIN	1	
1610642	PCB CONTROL	1	
1610651	ENCODER SW PCB	1	
1620030	SP. 3" 8 Ω 0.5W (C)	1	
1625000	PIEZO BUZZER 20235	1	
1630040	SW. 1P2C (D)	1	S204 (9K/10K)
1630070	SWITCH SSSS422NA1-SG	1	S2, (TONE)
1630280	SWITCH 1P2C	4	S1,3,201,202,
			1 - DX/LOCAL
			3 - WIDE/NARROW
			201 - BUZZ/RADIO
			202 - HOLD
1630440	SWITCH SSSS2-S-011	1	S203, (FAST/SLOW/LOCK)
1640060	JACK HEADPHONE (F)	1	JK3 , (HEADPHONE)
1647000	DC JACK (A)	1	JK2 , (DC 1N)
1649021	JACK EXT ANT (C)-1	1	JK1, (EXT. ANT)
1650020	X'TAL 55.405 MHz	1	X1
1650031	X'TAL 4.500 MHz	1	X201
1650041	MCF 55.845 MHz	1	MCF1
1650071	X'TAL 4.194304 MHz	1	X202
1660080	FILTER SFE10.7MA8-A	2	CF1,2
1660170	FILTER SFPS450I	1	CF3
1660360	FILTER SFR450J	1	CF4
1702050	CNT HOUSING 4P (EH)	1	SK1
1703120	CNT WIRE ASS'Y 15P	1	
1703130	CNT CABLE ASS'Y 4P	1	
1730060	ROTARY ENCODER	1	
2149120	ANT TERMINAL PIN	1	

Part No.	Description	Q'ty	Remark
2324000	EVA SPACER	1	
4000501	CH CC 050C 50V NPO-A	1	C43
4001001	CH CC 010C 50V NPO-A	1	C36
4002001	CH CC 020C 50V NPO-A	3	C25,87,96
4003001	CH CC 030C 50V NPO-A	1	C15
4005001	CH CC 050C 50V NPO-A	2	C22,86
4006002	CH CC 060D 50V NPO-A	1	C30
4008002	CH CC 080D 50V NPO-A	2	C31,91
4010002	CH CC 100D 50V NPO-A	2	C7,244
4015001	CH CC 150J 50V NPO-A	1	C232
4018001	CH CC 180J 50V NPO-A	1	C236
4022001	CH CC 220J 50V NPO-A	1	C8
4027016	CH CC 270J 50V UJ-A	1	C38
4033001	CH CC 330J 50V NPO-A	2	C113,114
4039001	CH CC 390J 50V NPO-A	1	C231
4047001	CH CC 470J 50V NPO-A	3	C40,50,116
4056001	CH CC 560J 50V NPO-A	2	C39,59
4056016	CH CC 560J 50V NPO-A	1	C41
4068001	CH CC 680J 50V NPO-A	2	C2,23
4082001	CH CC 820J 50V NPO-A	1	C21
4010101	CH CC 101J 50V NPO-A	4	C1,115,233,243
4015101	CH CC 151J 50V NPO-A	1	C103
4022010	CH CC 221J 50V NPO-A	3	C4,16,92
4033101	CH CC 331J 50V NPO-A	1	C98
4039101	CH CC 391J 50V NPO-A	1	C99
4068119	CH CC 681J 50V SL-A	1	C5
4010219	CH CC 102J 50V SL-A	6	C26,27,90,97,210,228
4018261	CH CC 182K 50V X7R-A	1	C57
4033261	CH CC 332K 50V X7R-A	1	C24
4033273	CH CC 332K 50V B425-A	1	C88
4010367	CH CC 103K 25V X7R-A	44	C3,6,9,11-14,17-19,29,32-35,37,42, 45-47, 49-51,65,69,82,83,93,95,108,109,130, 201-205,208,209,215,216,220,226,227,242
4012367	CH CC 123K 25V X7R-A	4	C53,66,71,72
4018367	CH CC 183K 25V X7R-A	2	C77,78
4022368	CH CC 223M 25V X7R-A	8	C48,52,54,68,81,85,106,125
4047363	CH CC 473M 50V Z5U-A	10	C206,207,211-213,218,221,225,235,238
4047371	CH CC 473Z 25V Y5V-A	2	C79,102
4010471	CH CC 104Z 25V Y5V-A	1	C230
4410461	EL 104M 50V 5 x 11 (2)	4	C73,74,111,112
4422460	EL 224 M 50V 5 x 11	1	C61
4447461	EL 474M 50V 5 x 11	1	C62
4410560	EL 105M 50V 4 x 7	1	C100
4410561	EL 105M 50V 5 x 11	5	C58,63,64,70,76
4447540	EL 475M 25V 4 x 7	2	C101,240
4447562	EL 475M 50V 5 x 11	1	C94
4410631	EL 106M 16V 4 x 7	1	C104
4410632	EL 106M 16V 5 x 11	5	C20,28,44,80,84
4422630	EL 226M 16V 5 x 11	1	C56
4447601	EL 476M 4V 4 x 7(1.5)	1	C229

Part No.	Description	Q'ty	Remark
4447620	EL 476M 10V 5 x 11	4	C55,75,119,120
4410710	EL 107M 6.3 V 6.3 x 7 - 2.5	1	C241
4410722	EL 107M 10V 6.3 x 11.2 - 2.5	6	C67,110,118,121,122,124
4422711	EL 227M 6.3 V 6.3 x 7 (2.5)	1	C219
4422720	EL 227M 10V 8 x 11.2 - 3.5	2	C105,107
4422721	EL 227M 10V 6.3 x 11.5 - 2.5	1	C117
4447721	EL 477M 10V 8 x 11.5 - 3.5	1	C123
4410820	EL 108M 10V 10 x 16 - 5	1	C126
4504710	PS 471J 50V 4.8 x 12	1	C60
4633365	MY 333J 50V	1	C224
4822461	MP/C 224J 50V	1	C223 , t < 4.5 m/m
6010531	RD 1/8W 390JSM5	1	R96
6010547	RD 1/8W 8.2KJSM5	1	R46
6050712T	RD 1/6W 10J-T	1	R34
6050716T	RD 1/6W 22J-T	1	R52
6050721T	RD 1/6W 56J-T	1	R102
6050722T	RD 1/6W 68J-T	1	R16
6050723T	RD 1/6W 82J-T	2	R31,32
6050726T	RD 1/6W 150J-T	1	R28
6050735T	RD 1/6W 820J-T	1	R15
6050744T	RD 1/6W 4.7KJ-T	2	R103,104
6050747T	RD 1/6W 8.2KJ-T	1	R47
6050748T	RD 1/6W 10KJ-T	1	R65
6050753T	RD 1/6W 27KJ-T	2	R80,84
6050760T	RD 1/6W 100KJ-T	1	R12
6050762T	RD 1/6W 150KJ-T	1	R120
6160106	CH RD 1/10W 3.3J-A	1	R121
6160112	CH RD 1/10W 10J-A	3	R21,126,236
6160116	CH RD 1/10W 22J-A	2	R11,101
6160118	CH RD 1/10W 33J-A	1	R2
6160119	CH RD 1/10W 39J-A	2	R129,130
6160120	CH RD 1/10W 47J-A	2	R275,264
6160121	CH RD 1/10W 56J-A	2	R5,23
6160123	CH RD 1/10W 82J-A	4	R57,62,215,220
6160124	CH RD 1/10W 100J-A	5	R38,39,64,70,274
6160125	CH RD 1/10W 120J-A	2	R26,216
6160126	CH RD 1/10W 150J-A	2	R10,218
6160127	CH RD 1/10W 180J-A	3	R27,217,219
6160128	CH RD 1/10W 220J-A	4	R20,22,73,273
6160129	CH RD 1/10W 270J-A	2	R214,276
6160130	CH RD 1/10W 330J-A	5	R3,60,75,93,252
6160131	CH RD 1/10W 390J-A	1	R25
6160132	CH RD 1/10W 470J-A	1	R71
6160133	CH RD 1/10W 560J-A	5	R17,18,72,254,260
6160134	CH RD 1/10W 680J-A	2	R115,123
6160135	CH RD 1/10W 820J-A	2	R107,108
6160136	CH RD 1/10W 1KJ-A	14	R24,58,63,74,90,94,95,112,209,226,256,268, 269,288
6160137	CH RD 1/10W 1.2KJ-A	4	R33,41,128,213
6160138	CH RD 1/10W 1.5KJ-A	2	R105,124

Part No.	Description	Q'ty	Remark
6160139	CH RD 1/10W 1.8KJ-A	2	R6,257
6160140	CH RD 1/10W 2.2KJ-A	5	R13,51,59,221,255
6160141	CH RD 1/10W 2.7KJ-A	2	R42,131
6160142	CH RD 1/10W 3.3KJ-A	6	R29,30,50,53,113,205
6160143	CH RD 1/10W 3.9KJ-A	3	R4,97,270
6160144	CH RD 1/10W 4.7KJ-A	1	R61
6160145	CH RD 1/10W 5.6KJ-A	1	R49
6160146	CH RD 1/10W 6.8KJ-A	2	R37,212
6160147	CH RD 1/10W 8.2KJ-A	1	R258
6160148	CH RD 1/10W 10KJ-A	5	R91,207,240,271,272
6160149	CH RD 1/10W 12KJ-A	2	R109,110
6160150	CH RD 1/10W 15KJ-A	1	R77
6160151	CH RD 1/10W 18KJ-A	4	R82,86,116,127
6160152	CH RD 1/10W 22KJ-A	6	R43,45,68,79,89,242
6160153	CH RD 1/10W 27KJ-A	2	R54,98
6160154	CH RD 1/10W 33KJ-A	4	R35,36,87,222
6160155	CH RD 1/10W 39KJ-A	3	R100,111,117
6160156	CH RD 1/10W 47KJ-A	6	R7,204,243,244,261,262
6160157	CH RD 1/10W 56KJ-A	2	R119,253
6160158	CH RD 1/10W 68KJ-A	2	R40,67
6160159	CH RD 1/10W 82KJ-A	6	R1,69,211,229,259,277
616015G	CH RD 1/10W 75KJ-A	1	R55
6160160	CH RD 1/10W 100KJ-A	13	R9,19,76,92,114,118,206,246,265-267,279, 287
6160161	CH RD 1/10W 120KJ-A	7	R106,280-285
6160162	CH RD 1/10W 150KJ-A	4	R66,88,233,278
6160163	CH RD 1/10W 180KJ-A	1	R286
6160164	CH RD 1/10W 220KJ-A	4	R81,83,85,223
6160165	CH RD 1/10W 270KJ-A	3	R227,231,232
6160166	CH RD 1/10W 330KJ-A	9	R8,14,99,122,125,201-203,208
6160167	CH RD 1/10W 390KJ-A	2	R78,228
6160168	CH RD 1/10W 470KJ-A	8	R44,48,245,247-251
6160170	CH RD 1/10W 680KJ-A	2	R230,235
6160172	CH RD 1/10W 1MJ-A	2	R241,289
6160173	CH RD 1/10W 1.2MJ-A	1	R56
6160174	CH RD 1/10W 1.5MJ-A	1	R234
8000010	W/JUMP 5 (10) 0.6 mm	1	J28
8000030	W/JUMP 7.5 (10) 0.6 mm	26	J1,6,7,11-14,16-27,30-35,39
8000040	W/JUMP 10 (10) 0.6 mm	9	J2-4,8,10,15,29,36,37
8000090	W/JUMP 15 (10) 0.6 mm	3	J5,9,38
8000140	W/JUMP 25 (0) 0.6 mm	2	X1-GND SP. FRAME - GND
8170662	W/PVC 50 (9+9) RED	1	#1095 AWG28 BATT +6 -MAIN PCB
8170866	W/PVC 60 (9+9) BLUE	2	#1095 AWG28 R OUT - HDJ(R) AM AGC
8171060	W/PVC 70 (9+9) BLK	1	#1095 AWG28,R OUT(G) - HDJ(G)
8171063	W/PVC 70 (9+9) ORN	1	#1095 AWG28,DC CONV OUT
8171460	W/PVC 90 (9+9) BLK	1	#1095 AWG28,SP - -MAIN PCB+

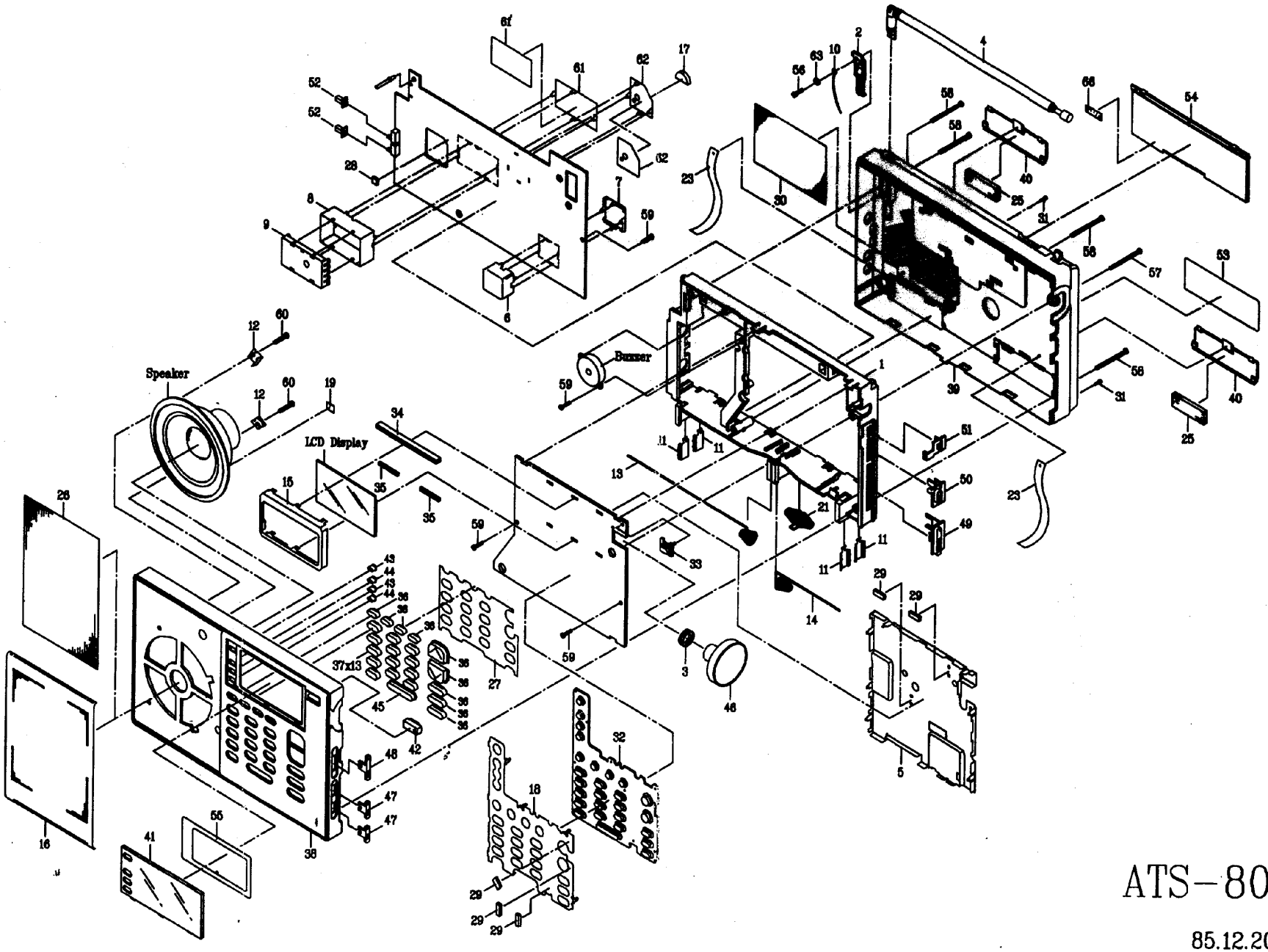
Part No.	Description	Q'ty	Remark
8171465	W/PVC 90 (9+9) GRN	2	#1095 AWG28, SP + -MAIN PCB, AM B+
8171829	W/PVC 110 (6+3) WHT	1	#1095 AWG28, BATT +3 -CONTROL PCB
8172465	W/PVC 140 (9+9) GRN	1	#1095 AWG28, VIL. -AN7117 (G)
8172468	W/PVC 140 (9+9) GRY	2	#1095 AWG28, VIL. -AN7117 (L), TA7758P -CNT(5)
8172661	W/PVC 150 (9+9) BRN	1	#1095 AWG28, VOL. - AN7117 (R)
8172860	W/PVC 160 (9+9) BLK	1	#1095 AWG28, BATT-6 -MAIN PCB
8181496	W/PVC 90 (25+25) BLU	1	#1095 AWG28, AN7117(L) -B+

MECHANICAL PARTS LIST

Ref. No.	Description	RS Part No.	Mfr. Part No.
1	MIDDLE CHASSIS		302A201
2	ROD ANT HOLDER		2049010
3	TUNING HOLDER		2049021
4	ROT ANT TY-8801-0402		3604902
5	CONTROL PCB SHIELD		2149011
6	DC/DC SHIELD (UP)		2149020
7	DC/DC SHIELD (DOWN)		2149030
8	VCO SHIELD (FRAME)		2149041
9	VCO SHIELD (COVER)		2149051
10	CNT WIRE ASS'Y 1P-A		1703260
11	BATTERY CONTACT PLATE (+)		2149070
12	SPEAKER FIXER		2149080
13	BATT. CONT. SPRING (-) (B)		2149091
14	BATT. CONT. SPRING (-) (C)		2149100
15	LCD(DISPLAY) HOLDER		2149110
16	SPEAKER GRILL		343A201
17	SPACER EVA 1/2		2338070
18	KEYBOARD SHIELD		2149180
19	SPEAKER EVA SPACER		2365070
20	NOT USED		
21	BATT. CONT. SPRING (-) (A)		2149220
22	ANT BAR SPACER " B "		2316010
23	RIBBON		2249010
24	P.C.B. HEMELON		2256000
25	H.D. SPONGE		2349041
26	HEAT BONDING NET		2349000
27	KEYBOARD SPACER		2349010
28	RUBBER SPACER		2449050
29	SHIELD EVA		2349030
30	BACK SALON NET		2249020
31	FOOT RUBBER		2449000
32	KEYBOARD RUBBER		2449010
33	POWER RUBBER		2449020
34	CONDUCT RUBBER		2449031
35	SPACE RUBBER		2449040
36	KEY KNOB ASS'Y (A)		318A201
37	KEY KNOB ASS'Y (B)		319A201
38	FRONT CABINET		301A201
39	BACK COVER		303A201A
40	BATTERY COVER		304A201
41	LCD WINDOW		305A201
42	POWER KNOB		3104933
43	TIME-KEY KNOB (A)		3154933
44	TIME-KEY KNOB (B)		3164933
45	ENTER KNOB		317A201
46	TUNING KNOB ASS'Y		3124933A
47	2 SECTION SW. KNOB		3204933
48	3 SECTION SW. KNOB		3214933
49	VOLUME KNOB		3114933
50	TONE KNOB		3224933

Ref. No.	Description	RS Part No.	Mfr. Part No.
51	9K-10K SW. KNOB		3234933
52	SELECT KNOB		3244933
53	ID PLATE		340A201
54	BACK SUPPORTER		306A201
55	DISPLAY PLATE		3444901
56	SCREW JMP 2.6 x 5 (NI)		9002052
57	SCREW PTP 2.6 x 22 (NI)		9202222
58	SCREW PTP 2.6 x 25 (NI)		9202252
59	SCREW PTP 2 x 5 (NI)		9101052
60	SCREW PTP 2.6 x 8 (NI)		9102082
61	1ST OSC SHIELD MYLAR		2349050
62	2ND OSC SHIELD MAYLAR		2349060
63	WASHER INNER GEAR φ 2.8		9910010

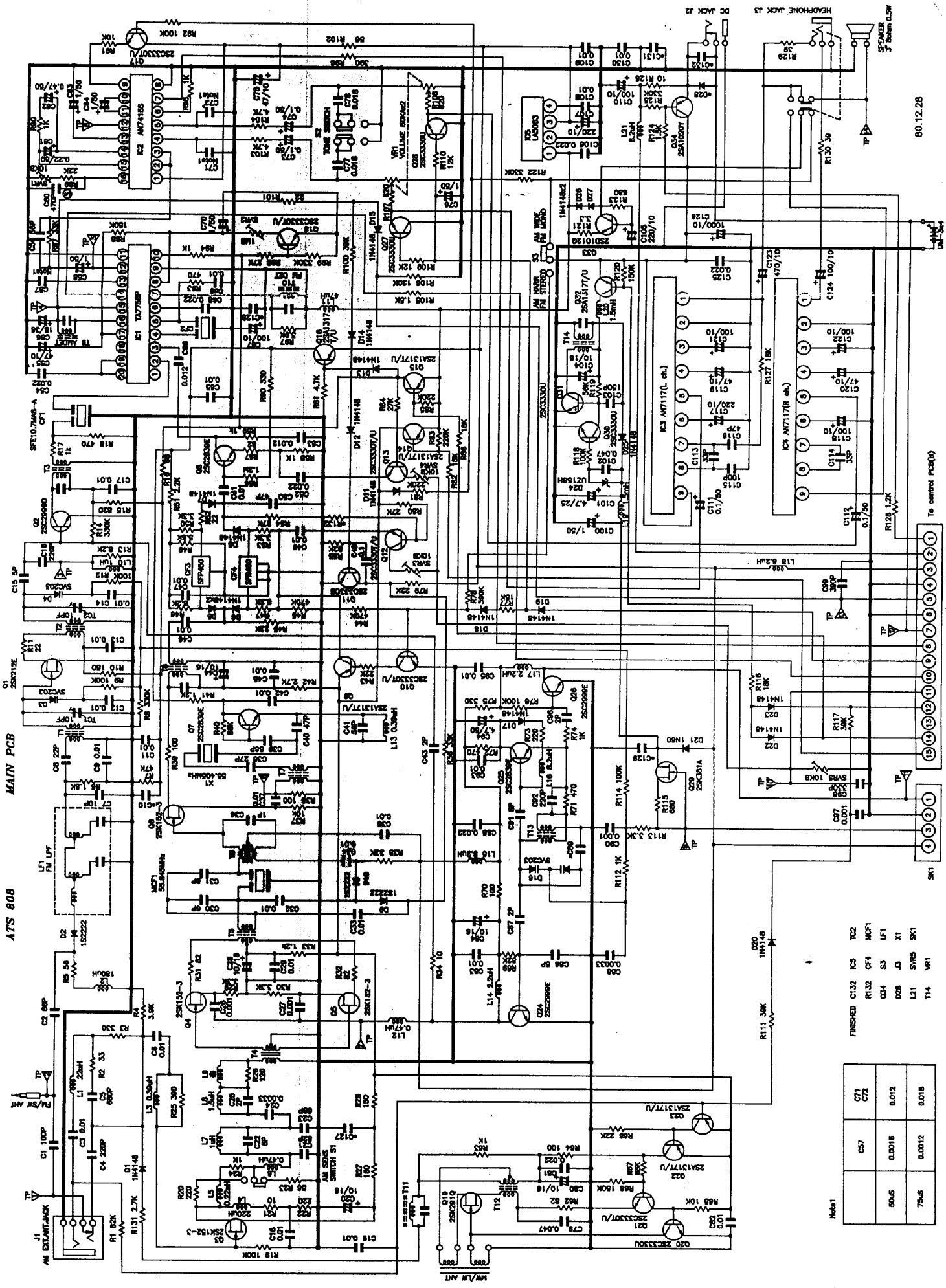
EXPLODED VIEW



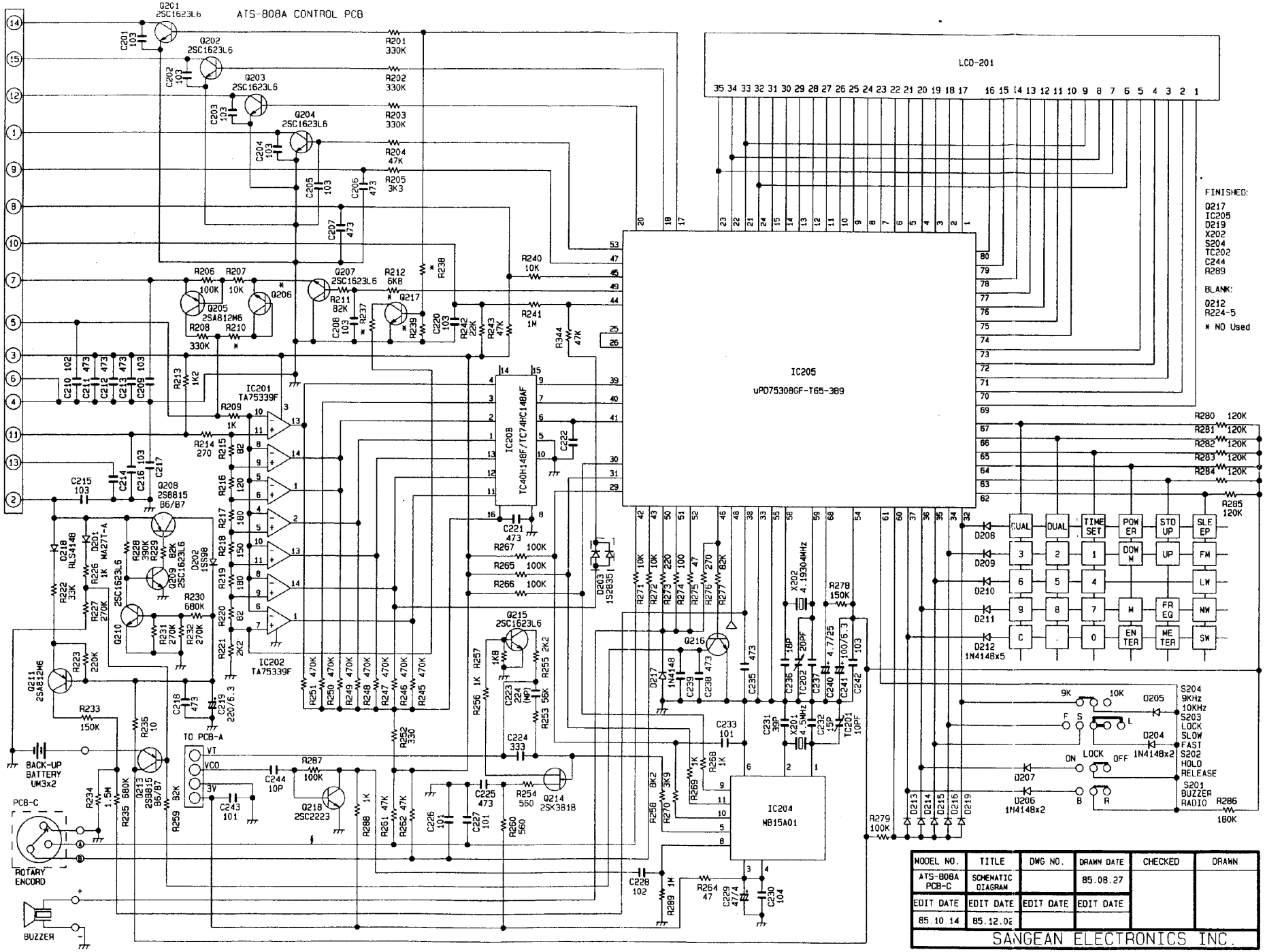
ATS-808A

85.12.20

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



MODEL NO.	TITLE	DWG NO.	DRAWN DATE	CHECKED	DRAWN
ATS-808A PCB-C	SCHEMATIC DIAGRAM		85.08.27		
EDIT DATE	EDIT DATE	EDIT DATE	EDIT DATE		
85.10.14	85.12.02				
SANGEAN ELECTRONICS INC.					