

Service Manual

Closer Relations through
"Clarion Service Manual"

Overseas Sales Branch Offices

Clarion Corporation of America

5500 Rosecrans Ave., Lawndale, Calif., 90260 U.S.A. Tel: 213-973-1100 Telex: CLARIONLSA 66-4447

Clarion Corporation of America (Eastern Division)

100 Thirteenth Avenue, Ronkonkoma, New York 11779 U.S.A. Tel: 516-467-1120 Telex: 64-0787

Clarion Shoji (EUROPA) G.m.b.H.

Rudolf-Diesel-Strasse 2, 6236 Eschborn 2, West Germany Tel: 06173-61036 Telex: 415414

Clarion (HONG KONG) Co., Ltd.

526, Ocean Centre, Canton Road, Tsimshatsui, Kowloon, Hong Kong Tel: 3-690528 Telex: HX64293 CLAHK

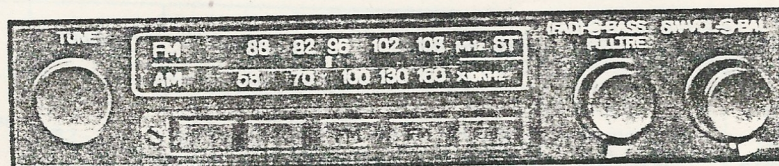
Clarion Canada Inc.

1401 Meyerside Dr. Mississauga, Ontario L5T 1G8, Canada Tel: 416-678-1367 Telex: 216968573 CLARION MSGA

Clarion Shoji (U.K.) Ltd.

4-6, Faraday Road, Dorcan Industrial Estate, Dorcan, Swindon, Wiltshire, SN3 5HQ United Kingdom Tel: (0793) 24081 Telex: 44689

MAZDA Automobile Genuine Radio Model RT-3042D,F



TUNER Push Buttons 382-0583-01 AM SILVER
" " " 382-0584-01 FM "
" " " 382-0583-04 AM BLACK
" " " 382-0584-04 FM "

SPECIFICATIONS:

Circuit system: Superheterodyne
Tuning system: Manual μ -tuning
5 push button system
Receive range: AM 530 to 1,610kHz
FM 88 to 108MHz

Intermediate frequency: AM 455kHz
FM 10.7MHz

Quieting sensitivity: AM Less than 30dB
(at 20dB S N)
FM Less than 18dB
(at 30dB S N)

Selectivity: AM More than 40dB
(at \pm 10kHz detune)

AFC: FM 300 to 700kHz
FM More than 20dB

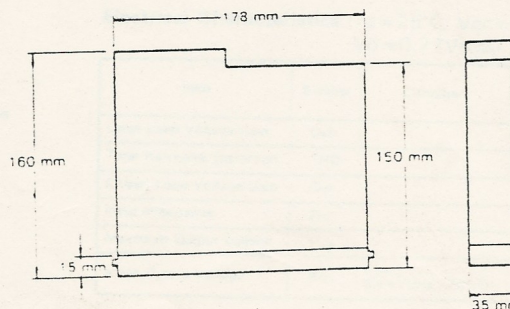
Separation: AM 100Hz -1 ± 4 dB
400Hz 0dB
4kHz -16 ± 6 dB

Fidelity: (bass, treble = flat)
FM 100Hz -1 ± 6 dB
400Hz 0dB
7kHz -18 ± 6 dB

Load impedance: $4\Omega \times 2$
Power output: $3W \times 2$ (at 10% distortion)
 $5W \times 2$ (at max. output)
Power supply voltage: DC 13.2V (10.8 to 15.6V)
Negative ground

Current consumption: Less than 5A

Dimensions:



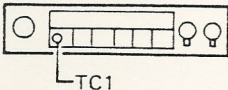
Weight: 950g

COMPONENT:

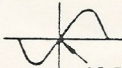
● RT-3042F-A	Main unit	1
● RT-3042F-B	Main unit	1
● RT-3042F-C	Main unit	1
● RT-3042D-A	Main unit	1

ADJUSTMENTS:

<AM circuit>

Antenna trimmer	Set the receiver volume control to max., tone control to flat, and the dial pointer to around 1,400kHz to receive white noise (hissing noise) and adjust the antenna trimmer (screw) so that the noise output becomes maximum.	 TC1
-----------------	--	--

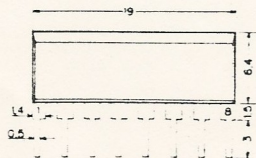
<FM circuit>

Item	Input	Output	Frequency	Method of adjustment		Instruments required	Note
S curve	TP1 (Tuner pack)	TP2	10.7MHz	IFT901 (Tuner pack) IFT2	Adjust the core for waveform having good symmetry and good linearity	● Sweep generator ● Oscilloscope	 Ground pin 6 of LA1140
<MPX> VCO	Antenna receptacle	TP4	98MHz 55dB	VR3	Connect a frequency counter to TP4, and adjust VR3 to 76kHz.	● SSG ● Frequency counter	
Separation		Meter across the speaker voice coil	Right or left signal (400Hz)	VR1	Adjust the VR1 for maximum separation	● Stereo SG ● SSG ● V.T.V.M.	
SASC	Set to the specified modulation (30%), assuming an FM SSG output 65dB, modulation frequency 7kHz. (98MHz) Set the output level to 0dB (=0.775V) using the volume control. Next set the FM SSG output to 40dB and adjust VR2 so that the output level is 1dB down.						

EXPLANATION OF IC's:

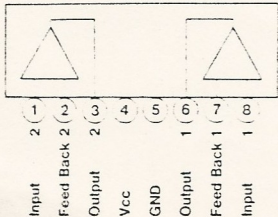
■ M51522L	051-0301-00	DUAL PRE. AMPLIFIER
■ M51522AL	051-0301-02	

Outward Form



M51522AL is additionally provided with charging circuit for accelerating the rising time with power input to M51522L.

Block Diagram



Absolute Maximum Ratings (Ta=25°C)

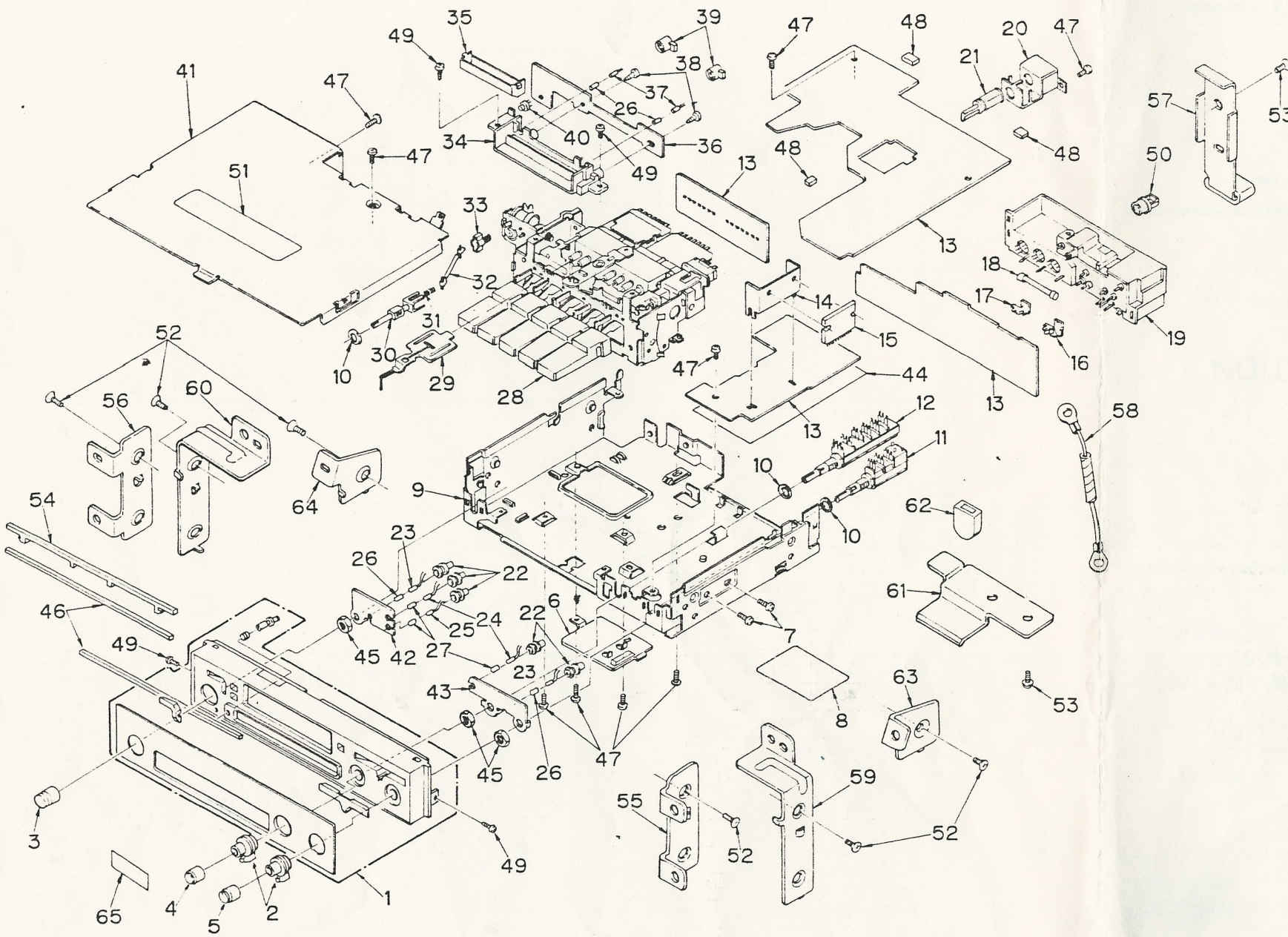
Supply Voltage	Vcc	18 V
Circuit Current	Icc	36mA
Power Dissipation	Pd	650mW

Electrical Characteristics (Ta=25°C, Vcc=13.2V, f=1kHz, Vo=0.77Vrms)

Item	Symbol	Condition	Value			Unit
			min	typ	max	
Open Loop Voltage Gain	Gvo		70	83		dB
Total Harmonic Distortion	THD			0.04	0.2	%
Closed Loop Voltage Gain	Gvc		43	45	47	dB
Input Impedance	Zi		50	150		kΩ
Maximum Output Voltage	Vov		1.0	1.6		Vrms
Noise Output Voltage	No	Pd=2.7kΩ Bw=20Hz-20kHz		0.18	0.36	mVrms

EXPLODED VIEW • PARTS LIST:

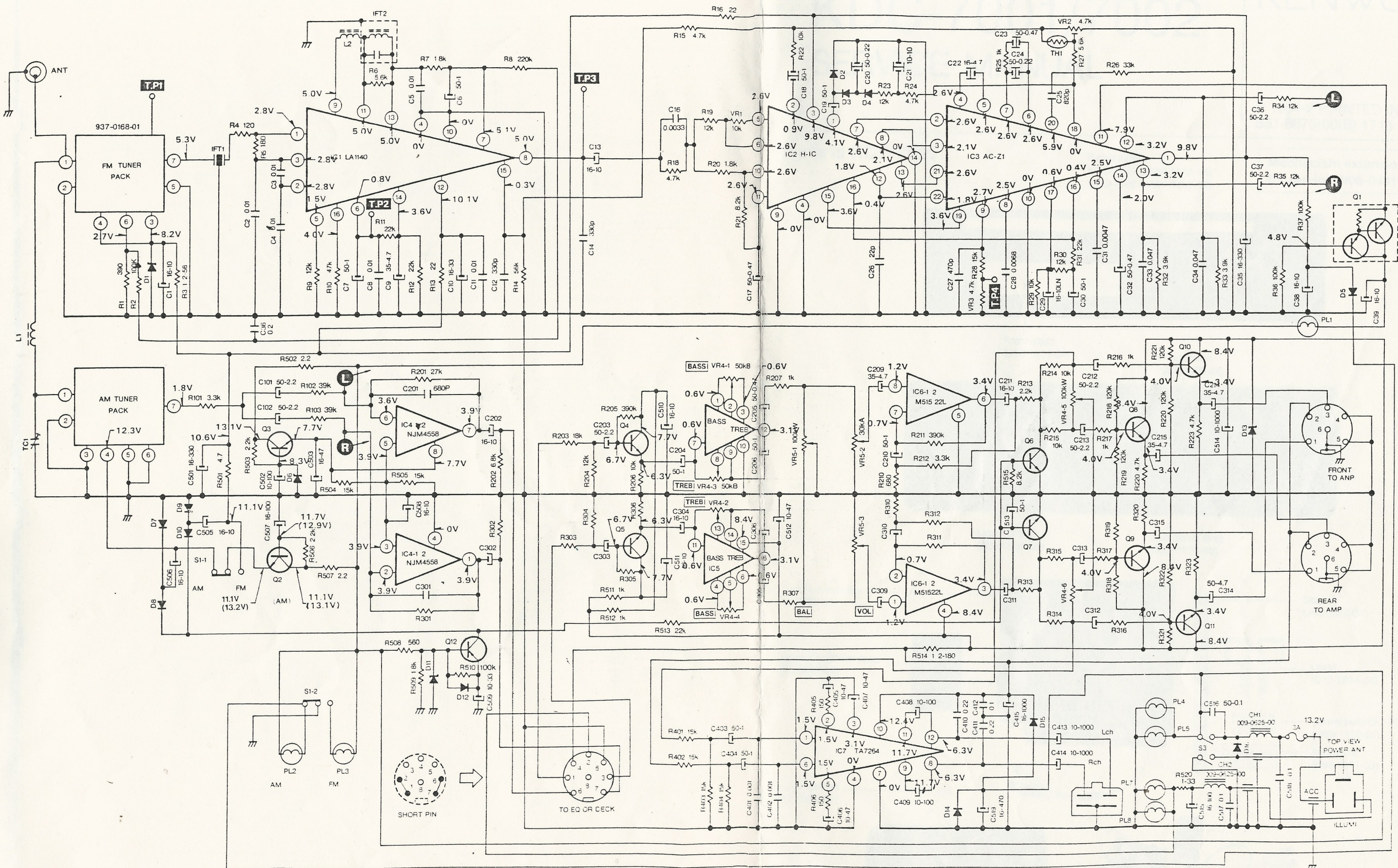
©Main section



REF.NO.	DESCRIPTION	RT-3042F-A	Q'TY	RT-3042F-B	Q'TY	RT-3042F-C	Q'TY	RT-3042D-A	Q'TY
1	Escutcheon ass'y	940-0539A	1	←	←	←	←	←	←
2	Knob (FAD/BAL)	380-4570-00	2	←	←	←	←	←	←
3	Knob (TUNE)	380-4378-03	1	←	←	←	←	←	←
4	Knob (BASS/TREB)	380-4376-03	1	←	←	←	←	←	←
5	Knob (VOL)	380-4571-00	1	←	←	←	←	←	←
6	Lower cover	304-0364-00	1	←	←	←	←	←	←
7	Tap tight (M3x10)	731-3010-80	2	←	←	←	←	←	←
8	Set plate	286-3678-00	1	←	←	←	←	←	←
9	Lower case	311-1130-04	1	←	←	←	←	←	←
10	Washer	745-0514-01	3	←	←	←	←	←	←
11	Variable resistor (VOL)	012-4129-01	1	←	←	←	←	←	←
12	Variable resistor (BASS)	012-4130-00	1	←	←	←	←	←	←

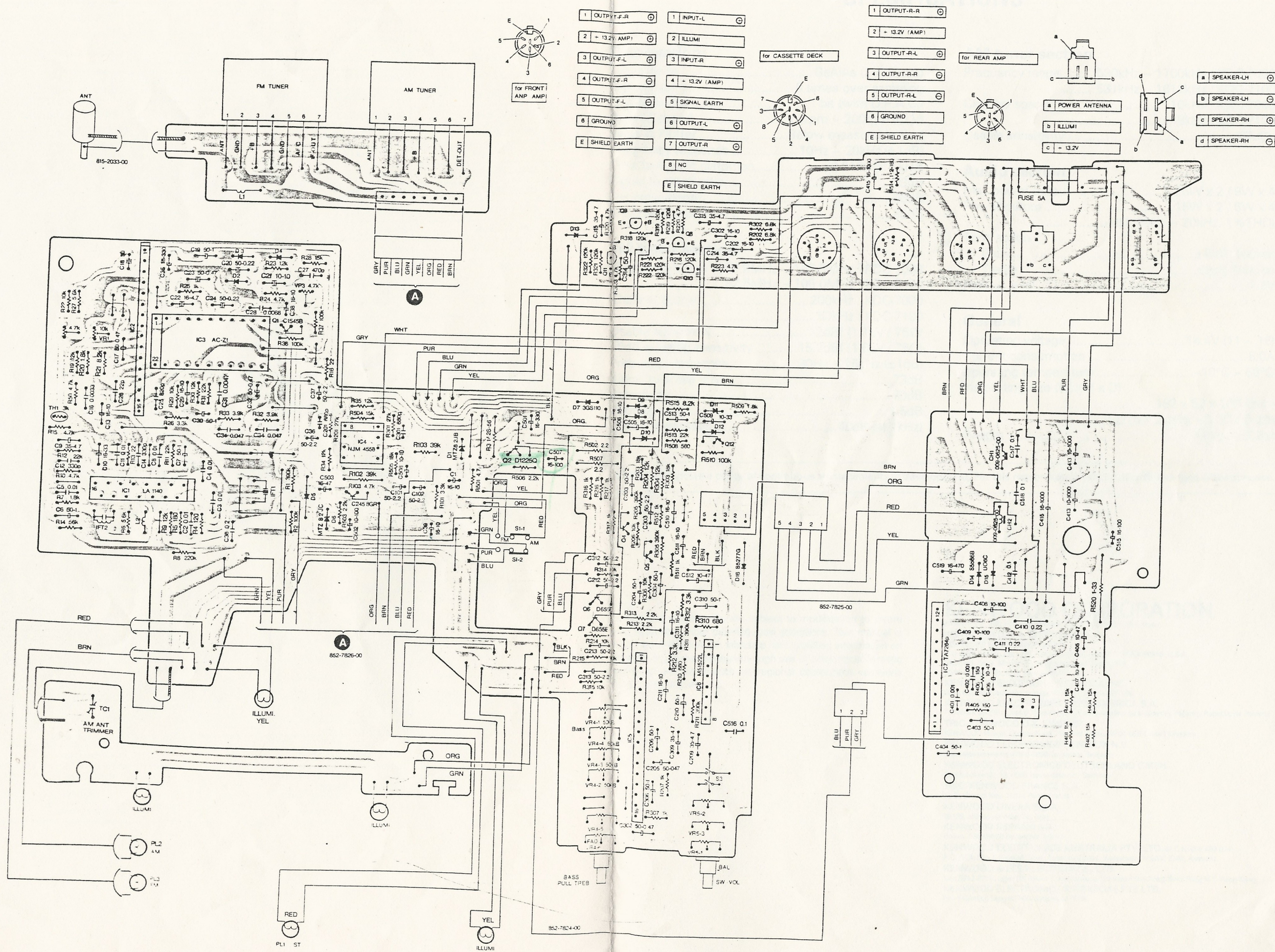
REF.NO.	DESCRIPTION	RT-3042F-A	Q'TY	RT-3042F-B	Q'TY	RT-3042F-C	Q'TY	RT-3042D-A	Q'TY
13	P.W.B	099-7495-00	1	←	←	←	←	←	←
14	P.W.B bracket	330-7383-00	1	←	←	←	←	←	←
15	IC	051-0510-01	1	←	←	←	←	←	←
16	Fuse holder	077-0081-04	1	←	←	←	←	←	←
17	Fuse holder	077-0081-05	1	←	←	←	←	←	←
18	Fuse (5A)	120-0050-02	1	←	←	←	←	←	←
19	Outlet socket	074-0719-07	1	←	←	←	←	←	←
20	Antenna bracket	330-7826-00	1	←	←	←	←	←	←
21	Antenna receptacle	092-0516-01	1	←	←	←	←	←	←
22	P.L holder	345-4148-00	5	←	←	←	←	←	←
23	Pilot lamp	017-0345-32	2	←	←	←	←	←	←
24	Pilot lamp	017-0349-11	2	←	←	←	←	←	←
25	Pilot lamp	017-0349-10	1	←	←	←	←	←	←
26	P.L cap	345-2830-67	4	←	←	←	←	←	←
27	P.L cap	345-2830-67	3	←	←	←	←	←	←
28	6 coil tuner	937-0168-01	1	←	←	←	←	←	←
29	Dial pointer	376-0890-04	1	←	←	←	←	←	←
30	Tuning shaft ass'y	961-2921-01	1	←	←	←	←	←	←
31	Spring	750-2367-00	1	←	←	←	←	←	←
32	Jointer	335-1682-00	1	←	←	←	←	←	←
33	Jointer	335-1681-00	1	←	←	←	←	←	←
34	Back plate	374-0844-03	1	←	←	←	←	←	←
35	Reflector	330-7859-01	1	←	←	←	←	←	←
36	P.W.B	099-7496-00	1	←	←	←	←	←	←
37	Pilot lamp	017-0345-09	2	←	←	←	←	←	←
38	Tap screw (2.6x6)	704-2606-81	2	←	←	←	←	←	←
39	P.L holder	345-4056-00	2	←	←	←	←	←	←
40	Antenna trimmer	004-1561-01	1	←	←	←	←	←	←
41	Upper case	310-1160-00	1	←	←	←	←	←	←
42	P.L bracket	330-8301-00	1	←	←	←	←	←	←
43	P.L bracket	330-8300-00	1	←	←	←	←	←	←
44	Insulator	347-1676-00	1	←	←	←	←	←	←
45	Nut	722-0231-00	3	←	←	←	←	←	←
46	Spacer			345-3639-00	2	←	←	345-3639-01	1
47	Tap tight (M3x6)	731-3006-80	9						
48	Spacer	345-3797-00	3						
49	Machine screw (M3x6)	714-3006-81	4						
50	Plug			076-0267-01	1	←	←	←	←
51	Label			290-3876-00	1	290-3878-00	1	290-3879-00	1
52	Machine screw (M5x8)			714-5008-41	2	←	←	←	←
53	Screw			716-0417-00	1	←	←	←	2
54	Spacer							335-1685-00	1
55	Mounting bracket			300-7087-00	1				
56	Mounting bracket			300-7088-00	1				
57	Mounting bracket			300-7112-00	1	←	←		
58	Bonding wire							840-0445-00	1
59	Mounting bracket					300-7090-01	1		
60	Mounting bracket					300-7091-00	1		
61	Mounting bracket							300-6683-01	1
62	Cap							345-3782-00	1
63	Mounting bracket							300-7171-00	1
64	Mounting bracket							300-7172-00	1
65	Label							290-3910-00	1

CIRCUIT DIAGRAM:

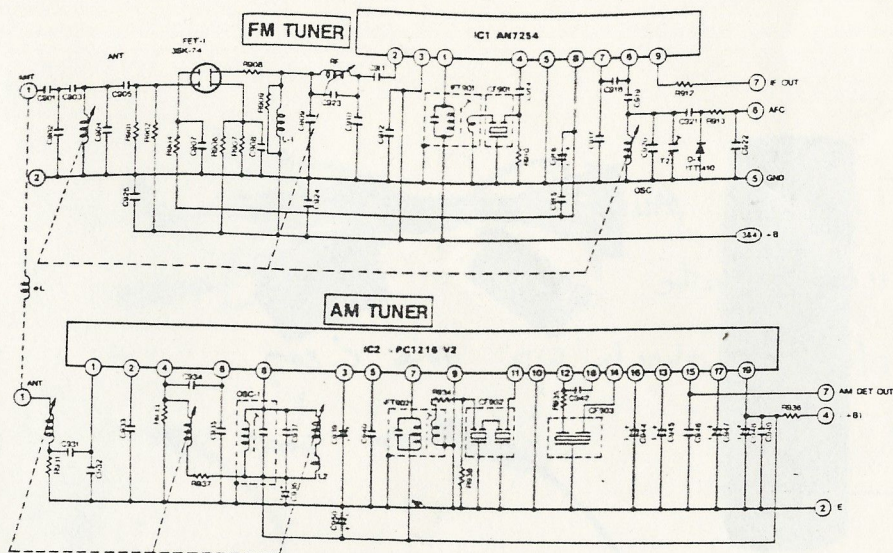


- | | | | |
|---------|--------------|-----|----------|
| D1 | MT28 2J | Q1 | 2SC1545B |
| D2 | 5, D7 10 D12 | Q2 | 2SD1225Q |
| D6, D13 | MT28 2JC | Q3 | 5, Q8 11 |
| D14 | S5566B | Q6 | 7 |
| D15 | UO6C | Q12 | 2SA1048Y |
| D16 | S5277G | | |
| D11 | MT27 5JA | | |

■ PRINTED WIRING BOARD:

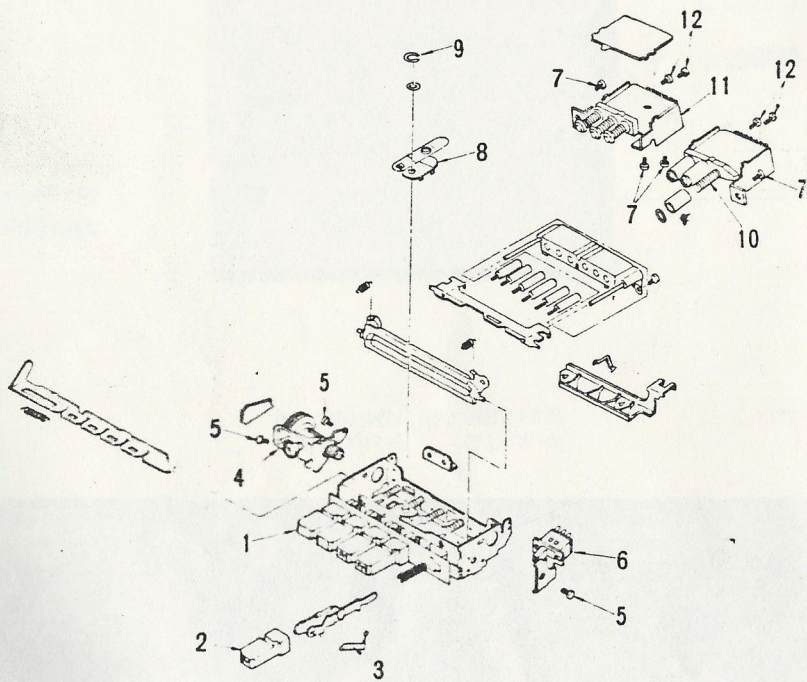


■ TUNER PACK CIRCUIT:



■EXPLODED VIEW • PARTS LIST:

©Tuner section



REF NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	382-0583-01	Push button	2
2	382-0584-01	Push button(FM)	3
3	658-0154-02	Lock spring	5
4	658-0154-07	Clutch ass'y	1
5	731-2605-11	Taptight	3
6	658-0154-09	Switch bracket	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
7	731-2604-11	Taptight	4
8	658-0154-22	Point ass'y	1
9	743-3000-00	E-Ring	1
10	658-0154-24	AM PWB-ass'y	1
11	658-0154-28	FM PWB-ass'y	1
12	731-2006-11	Taptight	4

PARTS LIST:

ⓄElectrical section

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY	REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D ₁₅	001-0200-00	Diode (U06C)	1	C _{2,3,4,5,8,11}	171-1033-06	Ceramic capacitor (0.01μF) SC	6
D ₁₆	001-0263-00	Diode (S5277G)	1	C ₃₁	171-4723-06	Ceramic capacitor (0.0047μF) SC	1
D _{2,3,4,5,7,8,9,10,12}	001-0330-00	Diode (1SS119)	9	C _{33,34}	171-4733-06	Ceramic capacitor (0.047μF) SC	2
D ₁₁	001-0376-40	Diode (MTZ7.5JA)	1	C ₂₈	171-6823-06	Ceramic capacitor (0.0068μF) SC	1
D ₁	001-0376-44	Diode (MTZ8.2JB)	1	C ₂₆	174-2200-13	Ceramic capacitor (22pF) TC	1
D _{6,13}	001-0376-45	Diode (MTZ8.2JC)	2	C ₂₇	043-0147-00	Polyester capacitor (470pF)	1
D ₁₄	001-0360-00	Diode (S5566B)	1	C _{412,516,517,518}	173-1042-10	Polyester capacitor (50V0.1μF) S	4
TH ₁	002-0193-00	Thermister	1	C _{410,411}	173-2242-10	Polyester capacitor (50V0.22μF) S	2
TC ₁	004-1561-01	Trimmer	1	C ₁₆	173-3322-10	Polyester capacitor (50V0.0033μF) S	1
IFT ₁	005-0765-00	IF-transformer	1	C ₄₁₅	042-0288-00	Electrolytic capacitor (16V1000μF)	1
IFT ₂	005-0888-01	IF-transformer	1	C _{6,19}	179-1053-62	Electrolytic capacitor (50V1μF) S	2
CH ₁	009-0625-00	Choke	2	C ₁₃	179-1063-32	Electrolytic capacitor (16V10μF) S	1
L ₂	010-1976-00	Coil	1	C _{413,414,514}	179-1083-23	Electrolytic capacitor (10V1000μF) S	3
L ₁	010-2046-17	Coil	1	C ₁₀	179-3363-32	Electrolytic capacitor (16V33μF) S	1
VR _{2,3}	012-3808-05	Variable resistor (4.7kΩ)	2	C _{35,501}	179-3373-33	Electrolytic capacitor (16V330μF) S	2
VR ₁	012-3808-06	Variable resistor (10kΩ)	1	C ₃₁₄	179-4753-62	Electrolytic capacitor (50V4.7μF) S	1
IC ₆	051-0301-00	IC (M51522L)	1	C ₅₁₉	179-4773-33	Electrolytic capacitor (16V470μF) S	1
IC ₁	051-0363-00	IC (LA1140)	1	C ₂₉	181-1063-32	Electrolytic capacitor (16V10μF) LL	1
IC ₄	051-0422-51	IC (NJM4558D)	1	C _{7,204,206,210,304,306,310,403,404}	182-1053-62	Electrolytic capacitor (50V1μF) SS	9
IC ₃	051-0463-00	IC (ACZ1)	1	C ₁₈	182-1056-62	Electrolytic capacitor (50V1μF) SS	1
IC ₂	051-0467-00	IC (HIC)	1	C _{202,211,302,311,510,511}	182-1063-32	Electrolytic capacitor (16V10μF) SS	6
IC ₇	051-0510-01	IC (TA7264P)	1	C ₂₁	182-1066-22	Electrolytic capacitor (10V10μF) SS	1
IC ₅	051-0524-00	IC (Bass/Tre)	1	C _{408,409,502}	182-1073-22	Electrolytic capacitor (10V100μF) SS	3
Q ₁₂	100-1048-25	Transistor (2SA1048Y)	1	C _{507,515}	182-1073-32	Electrolytic capacitor (16V100μF) SS	2
Q ₁	102-1545-02	Transistor (2SC1545B)	1	C _{20,24}	182-2246-62	Electrolytic capacitor (50V0.22μF) SS	2
Q _{3,4,5,8,9,10,11}	102-2458-28	Transistor (2SC2458GR)	7	C _{203,212,213,303,312,315}	182-2253-62	Electrolytic capacitor (50V2.2μF) SS	6
Q _{6,7}	103-0655-05	Transistor (2SD655E)	2	C _{17,23,32}	182-4743-62	Electrolytic capacitor (50V0.47μF) SS	3
Q ₂	103-1225-17	Transistor (2SD1225Q)	1	C ₂₃	182-4746-62	Electrolytic capacitor (50V0.47μF) SS	1
R ₂₈	032-0059-04	Film resistor (15kΩ)	1	C _{9,209,214,215,309,315}	182-4753-52	Electrolytic capacitor (35V4.7μF) SS	6
H ₁₁	032-0059-05	Film resistor (22kΩ)	1	C ₂₂	182-4756-32	Electrolytic capacitor (16V4.7μF) SS	1
R ₅₁₄	111-1811-82	Film resistor (1/2Ws180Ω)	1	C _{405,406,407,512}	182-4763-22	Electrolytic capacitor (10V47μF) SS	4
R ₃	111-5601-81	Film resistor (1/2Ws56Ω)	1	C _{30,513}	183-1053-62	Electrolytic capacitor (50V1μF) USS	2
R ₅₂₀	114-3301-11	Film resistor (1W33Ω) OM	1	C _{1,38,39,505,506,508}	183-1063-32	Electrolytic capacitor (16V10μF) USS	6
C ₃₆	043-0126-01	Ceramic capacitor (12V0.2μF)	1	C _{36,37,101,102}	183-2253-62	Electrolytic capacitor (50V2.2μF) USS	4
C _{401,402}	160-1022-05	Ceramic capacitor (0.001μF) HD	2	C ₅₀₉	183-3363-22	Electrolytic capacitor (10V33μF) USS	1
C _{12,14}	160-3312-05	Ceramic capacitor (330pF) HD	2	C ₁₇	183-4743-62	Electrolytic capacitor (50V0.47μF) USS	1
C _{201,301}	160-6812-05	Ceramic capacitor (680pF) HD	2	C ₅₀₃	183-4763-32	Electrolytic capacitor (16V47μF) USS	1
C ₂₅	160-8212-05	Ceramic capacitor (820pF) HD	1				

Note : OM (Oxidized Metal) SS (Super Small)
S (Small) TC (Temperature-Compensating)
HD (Higher Dielectric) LL (Low Leak)
SC (Semi-Conductor) USS (Ultra Super Small)

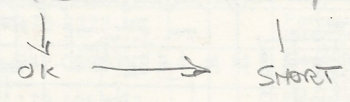
PARTS LIST

TUNER PACK CIRCUIT

RADIO no Go AM/FM (Audio)

Turns on - ill ok etc

No pwr to c/o sw. check Q2 And C507



QTY	PART NO	DESCRIPTION	QTY	PART NO	DESCRIPTION
1	100-0125-01	Resistor 100K 1/2W	1	100-0125-01	Resistor 100K 1/2W
1	100-0125-02	Resistor 100K 1/2W	1	100-0125-02	Resistor 100K 1/2W
1	100-0125-03	Resistor 100K 1/2W	1	100-0125-03	Resistor 100K 1/2W
1	100-0125-04	Resistor 100K 1/2W	1	100-0125-04	Resistor 100K 1/2W
1	100-0125-05	Resistor 100K 1/2W	1	100-0125-05	Resistor 100K 1/2W
1	100-0125-06	Resistor 100K 1/2W	1	100-0125-06	Resistor 100K 1/2W
1	100-0125-07	Resistor 100K 1/2W	1	100-0125-07	Resistor 100K 1/2W
1	100-0125-08	Resistor 100K 1/2W	1	100-0125-08	Resistor 100K 1/2W
1	100-0125-09	Resistor 100K 1/2W	1	100-0125-09	Resistor 100K 1/2W
1	100-0125-10	Resistor 100K 1/2W	1	100-0125-10	Resistor 100K 1/2W