



SERVICE MANUAL

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MAZDA AUTOMOBILE GENUINE RADIO (MAZDA 1978 RX-7, RX-4) MODEL RT-386C,A

Manufacturer **CLARION CO., LTD.** / Export Division **CLARION SHOJI CO., LTD.**
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SPECIFICATIONS:

Circuit system:	Superheterodyne	Separation:	FM More than 20dB
Tuning system:	Manual μ -tuning 5-push button system	Stereo indicator lighting sensitivity:	Less than 25dB
Receive range:	AM 530KHz to 1,605KHz FM 88MHz to 108MHz	Fidelity:	AM 100Hz H - 1 ± 5 dB L 0 ± 5 dB 4,000Hz H - 13 ± 5 dB L - 25 ± 5 dB FM 100Hz H - 1 ± 5 dB L + 1 ± 5 dB 7,000Hz H - 11 ± 5 dB L - 25 ± 5 dB
Intermediate frequency:	AM 262.5KHz FM 10.7MHz	Power supply voltage:	DC 13.2V (10.8V to 15.6V) Negative ground
Maximum sensitivity:	AM Less than 20dB or 10μ V (at 0.5W output) FM Less than 15dB or 5.623μ V (at 0.5W output)	Load impedance:	$4 \Omega \times 2$
Quieting sensitivity:	AM Less than 30dB or 31.62μ V (at 20dB S/N) FM Less than 20dB or 10μ V (at 30dB S/N)	Power output:	More than $3.5W \times 2$ (at 10% distortion) More than $5.5W \times 2$ (max. power at 4Ω)
Image rejection ratio:	AM More than 57dB FM More than 40dB	Semiconductors:	6 ICs, 3 transistors, 1 FET and 6 diodes
Selectivity:	AM More than 25dB (at ± 10 KHz detune)	Weight:	1.35kg
A.G.C.:	AM More than 50dB	Dimensions:	Width 160mm Height 50mm

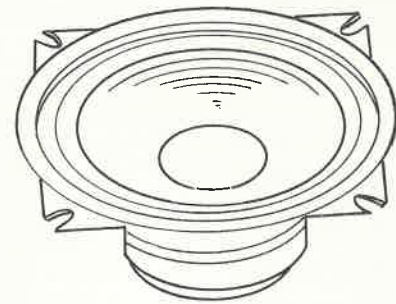
COMPONENTS VIEW:

[RT-386C]

SPA-601-100
(090-0050-20)

Main unit
Speaker ass'y

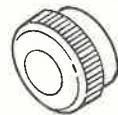
1
2



380-3693-00

Inside knob

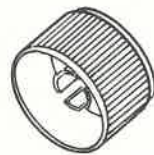
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380-3770-00

Outside knob

2

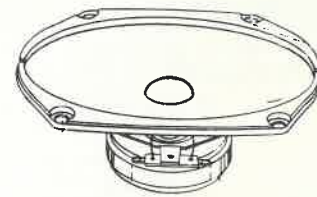


[RT-386A]

SPA-420-106
(090-0170-05)

Main unit
Speaker ass'y

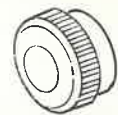
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Inside knob

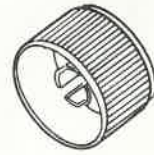
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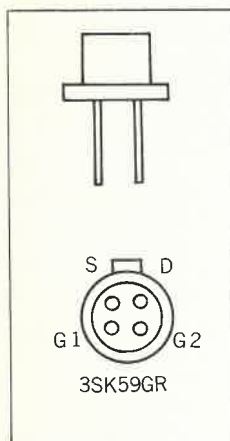
Outside knob

2

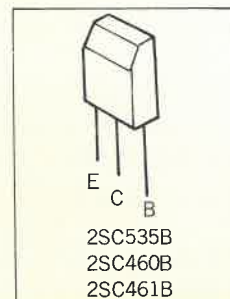


FET, TRANSISTOR, IC OUTER VIEW:

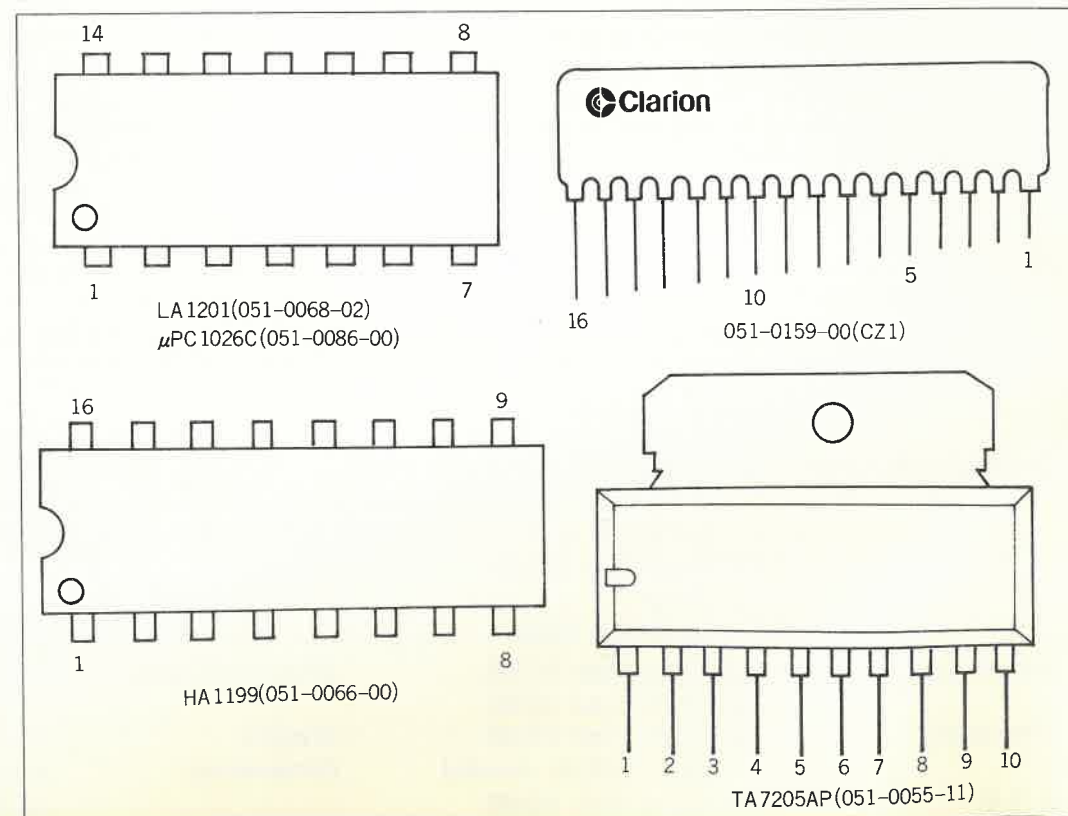
FET



TRANSISTOR



IC



ADJUSTMENT:

AM

Adjustment item	Signal input section	Signal frequency	Signal output section	Adjustment section	Adjustment	Instruments required	Note
IFT	TP ₂₀₁	262.5KHz	TP ₂₀₂	IFT ₂₀₁₋₂₀₄	Adjust the core of IFT maximum waveform height with good symmetry	<ul style="list-style-type: none"> ● Sweep generator ● Oscilloscope ● V.T.V.M. 	<p>IF curve</p> <p>Vol: minimum Tone: maximum Balance: center Dial pointer: right end</p>
Tracking	Antenna receptacle	1620KHz	Speaker lead	①TC ₂₀₃ ②TC ₂₀₂ ③TC ₂₀₁	Adjust the trimmers for maximum indication of V.T.V.M.	<ul style="list-style-type: none"> ● SG ● Speaker ● V.T.V.M. 	<p>Use dummy antenna between SSG and antenna receptacle</p>

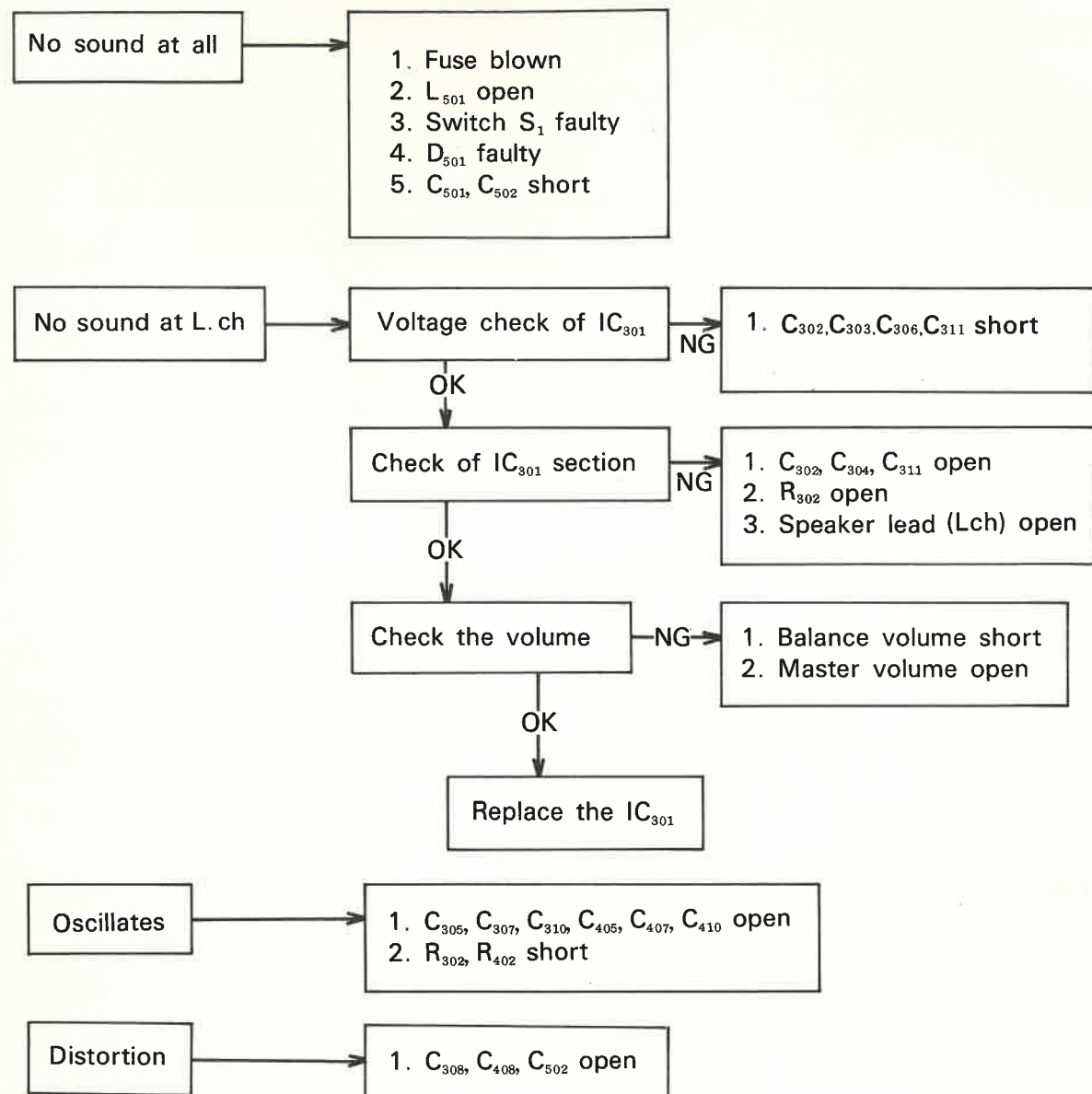
FM

Adjustment item.	Signal input section	Signal frequency	Signal output section	Adjustment section	Adjustment	Instruments required	Note
IFT	TP ₁₀₁	10.7MHz	TP ₁₀₂	IFT _{101,104,105}	Detune by tuning the secondary side Ferrite core (IFT105) of the DISC. Next adjust the Ferrite cores of IFT101,104 maximum waveform height with good symmetry.	<ul style="list-style-type: none"> ● Sweep generator ● Oscilloscope ● V.T.V.M. 	
[Note] At this time, adjust the center frequency to the resonance frequency of the ceramic filter.							
S curve	TP ₁	10.7MHz	TP ₁₀₂	IFT ₁₀₅	Adjust the core of the secondary side of the DISC. transformer so that the peak point of the IF curve comes exactly under the point where the S curve intersects the X axis.	<ul style="list-style-type: none"> ● Sweep generator ● Oscilloscope ● V.T.V.M. 	<p>IF curve</p> <p>S-curve</p>
Tracking	Antenna receptacle	87.0MHz	Speaker lead	87.0MHz TC ₁₀₃ 98.0MHz ①TC ₁₀₂ ②TC ₁₀₁	Adjust the trimmers for maximum indication of V.T.V.M.	<ul style="list-style-type: none"> ● SG ● Speaker ● V.T.V.M. 	
<MPX> 19KHz Pilot signal (VCO)	Antenna receptacle	19KHz Pilot signal	TP ₁₀₃	VR ₁₀₂	Adjust the Lissajous figure does not move	<ul style="list-style-type: none"> ● MPX stereo SG 	<p>after adjust</p>

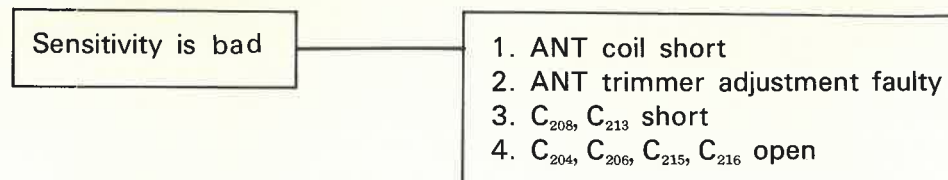
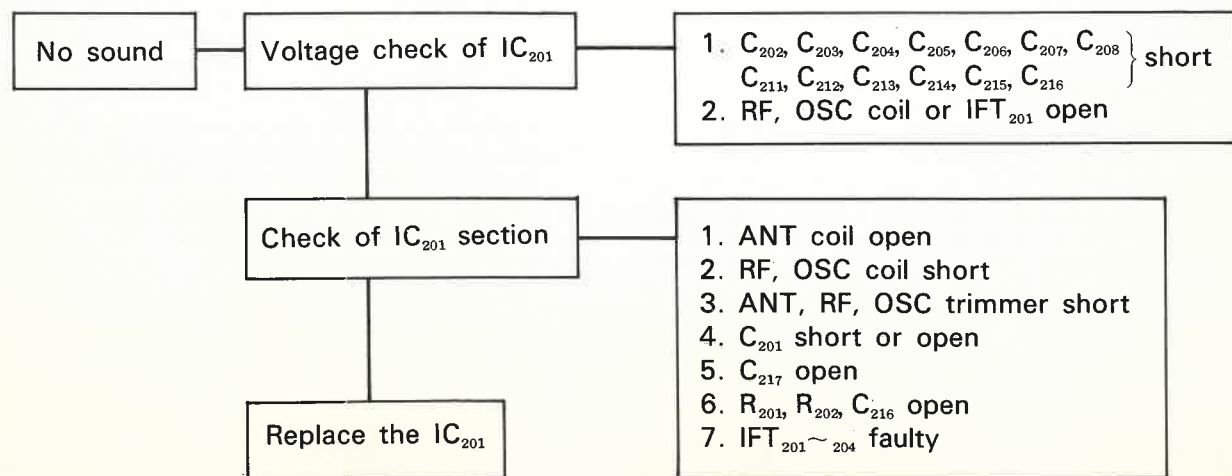
■ TROUBLESHOOTING:

(Refer to the schematic diagram and printed wiring board)

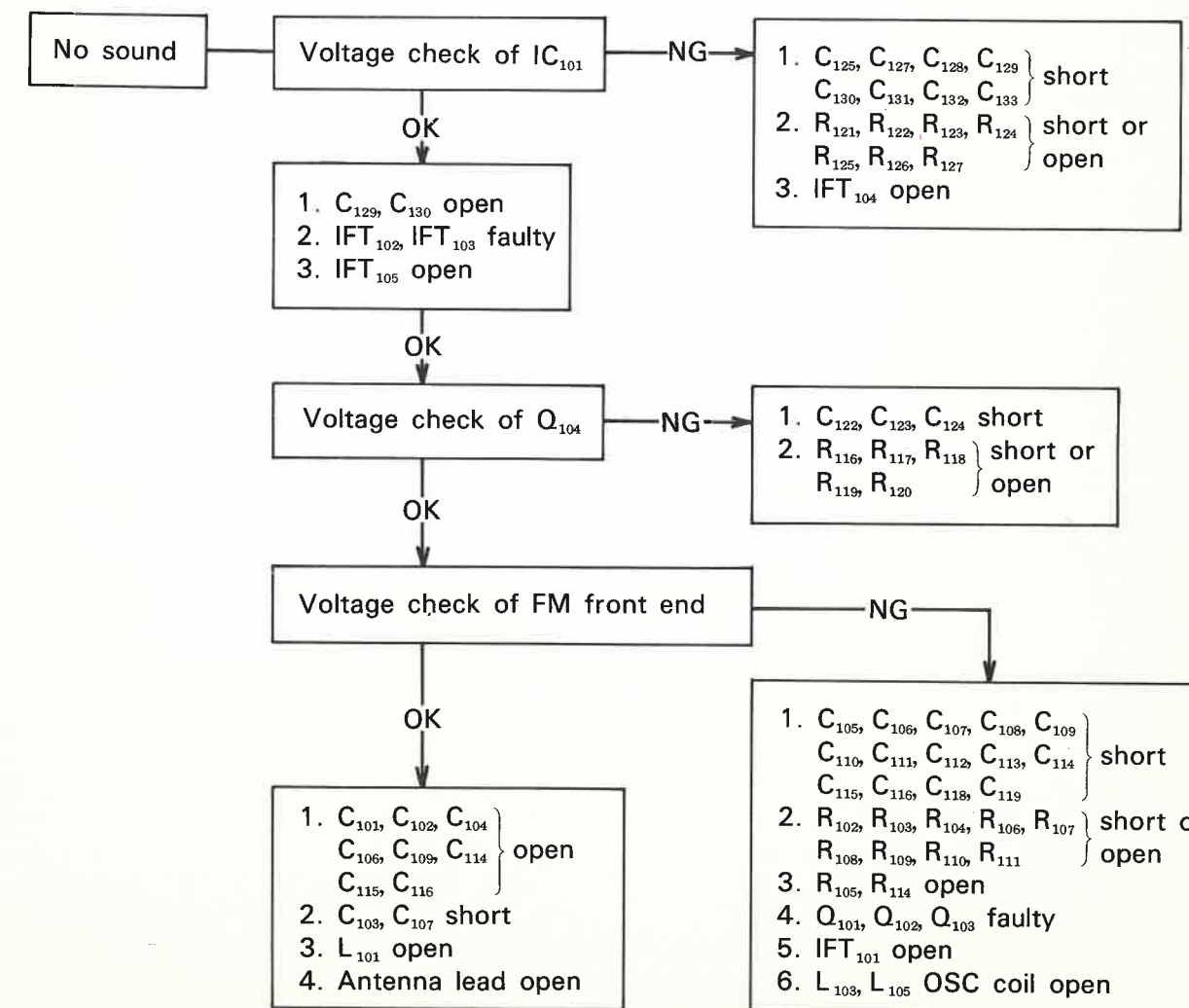
AUDIO SECTION (circuit)

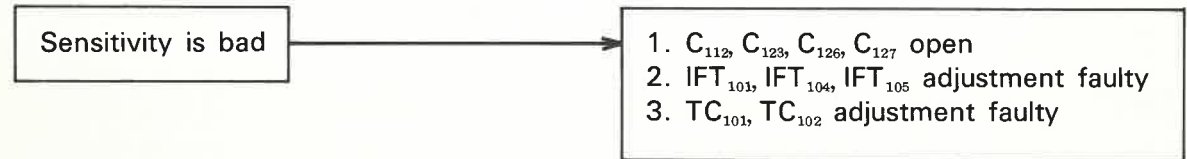
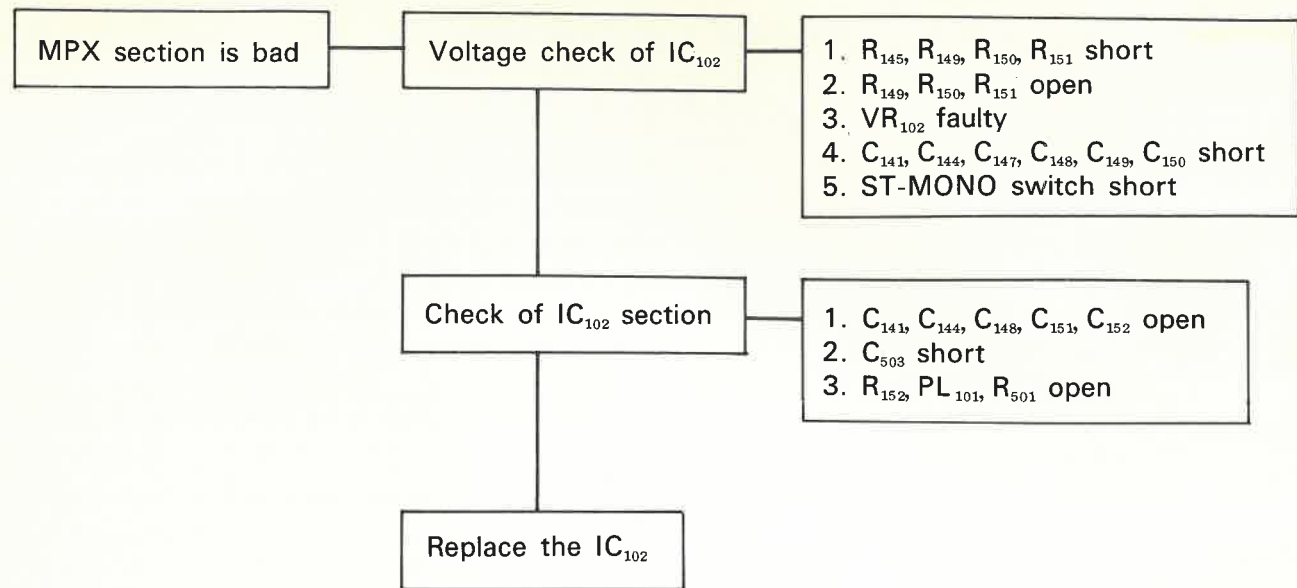


AM SECTION (circuit)



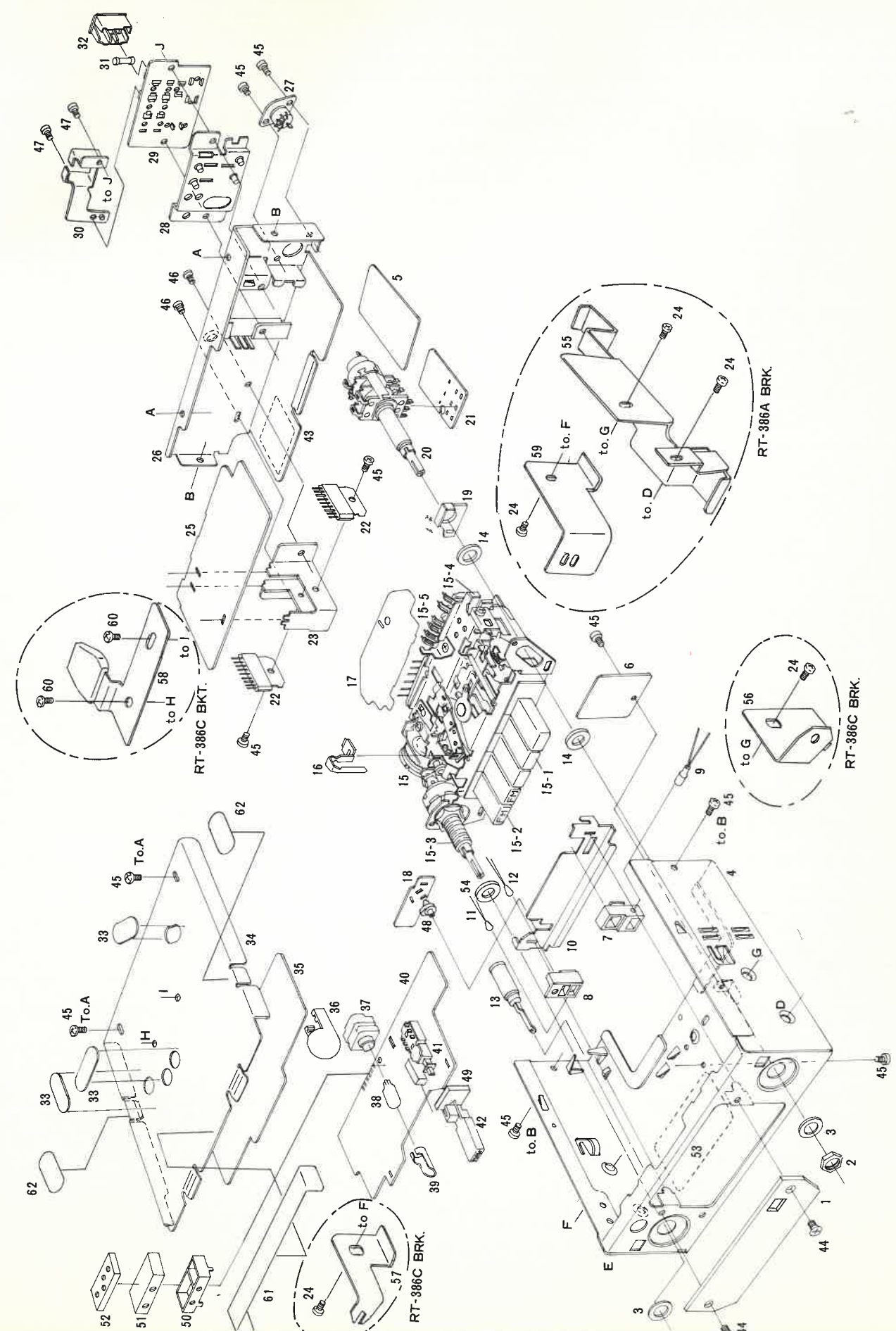
FM SECTION (circuit)





EXPLODED VIEW:

©Main section



■ PARTS LIST:

©Main section

REF.NO.	PART NO.	DESCRIPTION	P.C.S	REF.NO.	PART NO.	DESCRIPTION	P.C.S
1	372-2849-01	Dial plate	1	28	944-0467-01	Filter ass'y	1
2	722-0297-00	Hexagon nut	2	29	074-0528-01	Outlet socket	1
3	745-0430-00	Flat washer	2	30	330-6437-00	Socket holder	1
4	308-0870-04	Front cover	1	31	120-0020-02	Fuse (2A)	1
5	347-0577-00	Insulater sheet	1	32	335-0837-00	Fuse holder	1
6	099-5094-01	P.W.B	1	33	290-2567-01	Label	3
7	345-2777-01	Pilotlamp holder	1	34	310-0871-04	Upper case	1
8	345-2868-01	Pilotlamp holder	1	35	347-0368-03	Insulater sheet	1
9	017-0308-01	Pilotlamp	1	36	335-0635-02	P.L accessory	1
10	374-0729-01	Back plate	1	37	070-0927-01	P.L socket	1
11	017-0314-02	Pilotlamp	1	38	017-0306-01	Pilotlamp	1
12	017-0314-02	Pilotlamp	1	39	330-5002-00	P.L cover	1
13	092-0516-00	Antenna receptacle	1	40	099-4981-01	P.W.B	1
14	745-0451-00	Spacer	1	41	013-3279-00	Switch	1
15	937-0155-29	6 coil manual tuner Use RT-386C	1	42	380-3416-01	Push button	1
	937-0155-20	6 coil manual tuner Use RT-386A		43	286-4084-00	Setplate	1
15-1	680-0069-02	Push button Use RT-386C	3	44	731-3006-40	Taptight(M3x6)	2
	680-0055-00	Push button Use RT-386A		45	731-3006-80	Taptight(M3x6)	10
15-2	680-0069-03	Push button(FM) Use RT-386C	2	46	714-3006-81	Machine screw (M3x6)	2
	680-0055-01	Push button(FM) Use RT-386A		47	731-3008-80	Taptight(M3x8)	2
15-3	012-3509-00	Variable resistor	1	48	004-1516-01	Antenna trimmer	1
15-4	013-3388-00	Switch	1	49	345-2875-00	Push button holder	1
15-5	965-2569-00	Tuner coil ass'y	1	50	330-6061-01	Shielded case	1
16	376-0803-01 376-0803-00	Dial pointer RT-386C RT-386A	1	51	330-6060-01	Shielded case	1
17	347-0523-02	Insulater sheet	1	52	345-2783-01	Cover	1
18	099-5079-00	P.W.B	1	53	285-0160-00	FCC label	1
19	330-6087-00	Holder plate	1	54	745-0430-00	Flat washer	1
20	012-3542-00	Variable resistor	1	55	300-5772-00	Mounting bracket (Use RT-386A)	1
21	099-4742-00	P.W.B	1	56	300-5758-00	Mounting bracket (Use RT-386C)	1
22	051-0055-11	Power IC (TA7205AP)	2	57	300-5759-00	Mounting bracket (Use RT-386C)	1
23	313-0957-01	Heat sink	1	58	300-5760-00	Mounting bracket (Use RT-386C)	1
24	714-5008-81	Machine screw (M5x8)	3	59	300-5771-00	Mounting bracket (Use RT-386A)	1
25	099-4616-05	P.W.B	1	60	731-3006-80	Taptight (Use RT-386C)	2
26	307-0260-02	Rear cover	1	61	290-2957-00	Label(Use RT-386C)	1
27	074-0539-00	Outlet socket	1	62	290-2567-00	Label(Use RT-386C)	2

PARTS LIST:

©Electrical section

REF.NO.	PART NO.	DESCRIPTION	P.C.S	REF.NO.	PART NO.	DESCRIPTION	P.C.S
D _{102,103}	001-0020-00	Diode(1N60)	2	C ₆₁₂	042-0239-00	Electrolytic capacitor (16V1 μ FTAN)	1
D ₃₀₁	001-0072-00	Diode(10D4)	1	C ₆₀₉	180-2274-22	Electrolytic capacitor (10V220 μ F)	1
D _{104,601}	001-0099-01	Diode(HZ7B)	2	C ₆₁₀	180-2274-32	Electrolytic capacitor (16V220 μ F)	1
D ₁₀₁	001-0130-00	Diode(1S2790WT)	1	C _{146,302,402,603}	180-1054-62	Electrolytic capacitor (50V1 μ F)	4
TC _{202,203}	004-1441-00	Trimmer	1	C _{213,217}	180-1064-22	Electrolytic capacitor (10V10 μ F)	2
TC ₁₀₃	004-1512-02	Trimmer	1	C _{147,601,602,604}	180-1064-32	Electrolytic capacitor (16V10 μ F)	4
TC _{101,102}	004-1512-03	Trimmer	2	C _{306,406}	180-1074-22	Electrolytic capacitor (10V100 μ F)	2
TC ₂₀₁	004-1516-01	Trimmer	1	C ₂₃₄	180-1074-32	Electrolytic capacitor (16V100 μ F)	1
IFT ₁₀₁	005-0698-00	IF-trans	1	C _{311,411}	180-1084-22	Electrolytic capacitor (10V1000 μ F)	2
IFT ₂₀₁	005-0731-00	IF-trans	1	C _{141,151,152}	180-2254-62	Electrolytic capacitor (50V2.2 μ F)	3
IFT ₂₀₃	005-0732-00	IF-trans	1	C _{207,304,404}	180-2264-22	Electrolytic capacitor (10V2.2 μ F)	3
IFT _{202,204}	005-0733-00	IF-trans	2	C ₁₃₁	180-3354-52	Electrolytic capacitor (35V3.3 μ F)	1
IFT ₁₀₄	005-0740-00	IF-trans	1	C ₁₃₃	180-4744-62	Electrolytic capacitor (50V0.47 μ F)	1
IFT ₁₀₅	005-0741-00	IF-trans	1	C _{138,308,408,611}	180-4764-22	Electrolytic capacitor (10V47 μ F)	4
IFT _{102,103}	005-0765-00	IF-trans (Ceramic filter)	2	C _{140,210}	141-1023-11	Polyester capacitor (50V0.001 μ F)	2
L ₅₀₁	009-0592-01	Choke	1	C _{123,124,126,128,129,130,132,201}	141-1033-12	Polyester capacitor (50V0.01 μ F)	8
L ₁₀₃	010-1180-00	Coil	1	C _{203,501}	141-1043-16	Polyester capacitor (50V0.1 μ F)	2
L ₁₀₄	010-1560-00	Coil	1	C _{303,403}	141-1523-11	Polyester capacitor (50V0.0015 μ F)	2
L ₁₀₅	010-1570-01	Coil	1	C ₂₀₅	141-2223-11	Polyester capacitor (50V0.0022 μ F)	1
L ₁₀₂	010-1649-00	Coil	1	C _{127,310,410,605}	141-2233-13	Polyester capacitor (50V0.022 μ F)	4
L ₁₀₁	010-1708-00	Coil	1	C ₂₀₂	141-3323-11	Polyester capacitor (50V0.0033 μ F)	1
L ₂₀₁	010-1804-00	Coil	1	C _{144,216,218,219}	141-3333-13	Polyester capacitor (50V0.033 μ F)	4
L ₆₀₁	010-1820-00	Coil	1	C _{312,412}	141-3933-13	Polyester capacitor (50V0.039 μ F)	2
L ₆₀₂	010-1821-00	Coil	1	C _{208,212,313,413}	141-4723-11	Polyester capacitor (50V0.0047 μ F)	4
VR ₁₀₂	012-3394-01	Variable resistor	1	C _{126,204,608}	141-4733-13	Polyester capacitor (50V0.047 μ F)	3
S ₁ , VR ₅₀₁	012-3542-00	Variable resistor	1	C _{149,150}	141-5623-11	Polyester capacitor (50V0.0056 μ F)	2
VR ₆₀₁	012-3550-03	Variable resistor (3K Ω)	1	C _{301,401}	141-5633-14	Polyester capacitor (50V0.056 μ F)	2
VR ₆₀₂	012-3550-04	Variable resistor (30K Ω)	1	C ₆₀₆	143-1031-50	Polystylen capacitor (0.01 μ F)	1
VR ₁₀₁	012-3391-00	Variable resistor (100K Ω)	1	C ₆₀₇	143-2221-50	Polystylen capacitor (2200PF)	1
S ₂	013-3279-00	Switch	1	C ₂₀₆	144-1112-14	Mica capacitor (50V110PF)	1
PL ₅₀₁	017-0306-01	Pilotlamp	1	C ₁₄₈	144-5112-17	Mica capacitor (50V510PF)	1
PL ₁₀₁	017-0308-01	Pilotlamp	1	C ₁₁₈	151-1097-13	Ceramic capacitor (1PFCH)	1
PL ₅₀₃	017-0314-02	Pilotlamp	1	C ₁₀₆	151-3097-13	Ceramic capacitor (3PFCH)	1
PL ₅₀₂	017-0314-03	Pilotlamp	1	C _{101,102,104,109,117}	151-5097-13	Ceramic capacitor (5PFCH)	5
PL ₂₀₁	017-0321-01	Pilotlamp	1	C ₁₂₀	151-6097-13	Ceramic capacitor (6PFCH)	1
IC ₂₀₁	051-0066-00	IC(HA1199)	1	C _{110,115,209}	152-1502-13	Ceramic capacitor (15PFCH)	3
IC ₁₀₁	051-0068-02	IC(LA1201)	1	C _{103,107}	152-3302-13	Ceramic capacitor (33PFCH)	2
IC ₁₀₂	051-0086-00	IC(μ PC1026C)	1	C _{305,405}	152-3902-13	Ceramic capacitor (39PFCH)	2
IC ₆₀₁	051-0159-00	IC	1	C _{307,407}	153-8202-13	Ceramic capacitor (82PFCH)	2
IC _{301,401}	051-0055-11	IC(TA7205AP)	2	C ₁₁₄	153-5097-70	Ceramic capacitor (5PFVK)	1
Q ₁₀₄	102-0460-02	Transistor (2SC460B)	1	C ₂₁₁	154-3312-64	Ceramic capacitor (330PFVK)	1
Q ₁₀₃	102-0461-02	Transistor (2SC461B)	1	C ₂₁₅	160-4712-05	Ceramic capacitor (50V470PFB)	1
Q ₁₀₂	102-0535-02	Transistor (2SC535B)	1	C _{105,108,112,113,116,118,121,122}	160-1022-05	Ceramic capacitor (0.001 μ FB)	8
Q ₁₀₁	124-0059-28	FET(3SK59GR)	1	C _{111,135,136}	160-3312-05	Ceramic capacitor (330PF)	3
C _{145,309,409}	042-0140-00	Electrolytic capacitor (50V0.22 μ F)	3	C ₆₁₃	160-2212-05	Ceramic capacitor (220PFB)	1
C _{502,503}	042-0178-00	Electrolytic capacitor (16V1000 μ F)	2	R ₅₀₁	110-1211-42	Solid resistor ($\frac{1}{2}$ W120 Ω)	1
C _{134,143}	043-0020-00	Ceramic capacitor (12V0.2 μ F)	2	R ₁₅₂	110-2211-41	Solid resistor ($\frac{1}{2}$ W220 Ω)	1

REF.NO.	PART NO.	DESCRIPTION	P.C.S	REF.NO.	PART NO.	DESCRIPTION	P.C.S
R ₁₄₀	110-2211-42	Solid resistor ($\frac{1}{2}$ W220 Ω)	1	R ₁₁₅	111-2241-22	Film resistor ($\frac{1}{8}$ W220K Ω)	1
R ₁₄₃	111-1041-31	Film resistor ($\frac{1}{4}$ W100K Ω)	1	R ₁₂₇	111-2711-32	Film resistor ($\frac{1}{4}$ W270 Ω)	1
R ₂₀₆	111-1231-31	Film resistor ($\frac{1}{4}$ W12K Ω)	1	R ₁₀₇	111-2731-22	Film resistor ($\frac{1}{8}$ W27K Ω)	1
R _{134,201}	111-4721-31	Film resistor ($\frac{1}{4}$ W4.7K Ω)	2	R _{113,119,121,155}	111-3311-32	Film resistor ($\frac{1}{4}$ W330 Ω)	4
R ₁₁₄	111-1011-22	Film resistor ($\frac{1}{8}$ W100 Ω)	1	R _{126,205}	111-3321-32	Film resistor ($\frac{1}{8}$ W3.3K Ω)	2
R ₁₀₈	111-1021-22	Film resistor ($\frac{1}{8}$ W1K Ω)	1	R ₁₀₂	111-3331-22	Film resistor ($\frac{1}{8}$ W33K Ω)	1
R _{123,125,128,129,148,204}	111-1021-32	Film resistor ($\frac{1}{8}$ W1K Ω)	6	R _{117,144}	111-3331-32	Film resistor ($\frac{1}{4}$ W33K Ω)	2
R _{101,109,112}	111-1041-22	Film resistor ($\frac{1}{8}$ W100K Ω)	3	R ₆₀₃	111-3351-32	Film resistor ($\frac{1}{4}$ W3.3M Ω)	1
R ₁₂₀	111-1211-32	Film resistor ($\frac{1}{4}$ W120 Ω)	1	R ₁₁₀	111-3921-22	Film resistor ($\frac{1}{4}$ W3.9K Ω)	1
R _{122,145}	111-2241-32	Film resistor ($\frac{1}{4}$ W220K Ω)	2	R _{303,403}	111-3931-32	Film resistor ($\frac{1}{4}$ W39K Ω)	2
R ₆₁₂	111-3311-42	Film resistor ($\frac{1}{8}$ W330 Ω)	1	R ₁₀₄	111-4701-22	Film resistor ($\frac{1}{4}$ W47 Ω)	1
R ₁₀₆	111-4721-21	Film resistor ($\frac{1}{8}$ W4.7K Ω)	1	R _{116,130,131,133,150,151}	111-4721-32	Film resistor ($\frac{1}{4}$ W4.7K Ω)	6
R _{149,207}	111-1231-32	Film resistor ($\frac{1}{4}$ W12K Ω)	2	R ₁₂₄	111-4731-32	Film resistor ($\frac{1}{4}$ W47K Ω)	1
R ₂₀₂	111-1241-32	Film resistor ($\frac{1}{8}$ W120K Ω)	1	R ₁₀₅	111-4791-22	Film resistor ($\frac{1}{8}$ W4.7 Ω)	1
R ₁₁₁	111-1531-22	Film resistor ($\frac{1}{8}$ W15K Ω)	1	R _{304,305,404,405}	111-5631-32	Film resistor ($\frac{1}{4}$ W56K Ω)	4
R ₂₀₃	111-1531-32	Film resistor ($\frac{1}{4}$ W15K Ω)	1	R _{302,402}	111-8201-32	Film resistor ($\frac{1}{4}$ W82 Ω)	2
R _{109,120,122}	111-2221-22	Film resistor ($\frac{1}{4}$ W2.2K Ω)	3	R ₆₁₀	111-1511-32	Film resistor ($\frac{1}{4}$ W150 Ω)	1
R _{153,154,208,209}	111-2221-32	Film resistor ($\frac{1}{4}$ W2.2K Ω)	4	R ₅₀₂	115-1511-51	Film resistor (1W150 Ω)	1
R ₁₁₈	111-2231-22	Film resistor ($\frac{1}{8}$ W22K Ω)	1				

SCHEMATIC DIAGRAM:

