Clarion

SERVICE MANUAL

Closer Relations through "CLARION SERVICE MANUAL"

DATSUN AUTOMOBILE GENUINE RADIO

MODEL RN-925B

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

Circuit system:	Superheterodyne	
Tuning system:	Manual μ-tuning	
Receive range:	AM	528KHz to 1610KHz
	FM	88MHz to 108MHz
Intermediate frequency:	AM	452.5KHz
	FM	10.7MHz
Maximum sensitivity:	AM	Better than 20dB
Quieting sensitivity:	AM	Better than 30dB (at 20dB S/N)
	FM	Better than 18dB (at 30dB S/N)
Image rejection ratio:	AM	More than 55dB
	FM	More than 35dB
IF rejection ratio:	AM	More than 40dB
	FM	More than 60dB
Selectivity:	AM	More than 20dB (at ± 10KHz detune)
Limiting sensitivity:	FM	Better than 30dB
A.F.C:	FM	300KHz to 700KHz
A.G.C:	AM	More than 40dB
Separation:	FM	More than 18dB

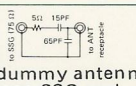
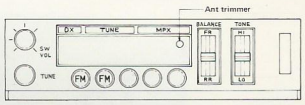
Fidelity:	AM 100Hz	H	0 ± 3dB
		L	0 ± 3dB
	4000Hz	H	−13 ± 5dB
		L	−30 ± 5dB
	FM 100Hz	H	0 ± 3dB
		L	0 ± 3dB
	7000Hz	H	−13 ± 5dB
		L	−34 ± 5dB
Auto tuning stop sensitivity:	AM Dx 24dB to 40dB		
	Lo 50dB to 70dB		
	FM Dx 28dB to 38dB		
	Lo 40dB to 60dB		
Power supply voltage:	DC 13.2V (10.8V to 15.6V) Negative ground		
Load impedance:	4Ω x 2		
Power output:	More than 3.5W x 2 (at 10% distortion)		
	More than 5.5W x 2 (at max. volume)		
Semiconductors:	5 ICs, 1 FET, 30 transistors and 25 diodes.		
Weight:	2.2Kg		
Dimensions:	Width	180mm	
	Height	55mm	
	Depth	170mm	

■COMPONENTS:

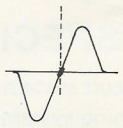
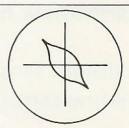
085-0162-02	Noise suppressor	1	SPA-662-100 (090-0080-78)	Front speaker	2
085-0100-31	Noise suppressor	1			
085-0121-00	Noise suppressor	1	SPA-664-100 (090-0100-48)	Rear speaker	2
PAP-025-100	Motor antenna ass'y	1			
PAN-076-100	Antenna ass'y	1	093-0768-00	Antenna jumper	1
RKA-016-108	Remote controller	1	074-0603-00	Outlet socket	1
			335-1081-00	Antenna mask	1

■ADJUSTMENTS:

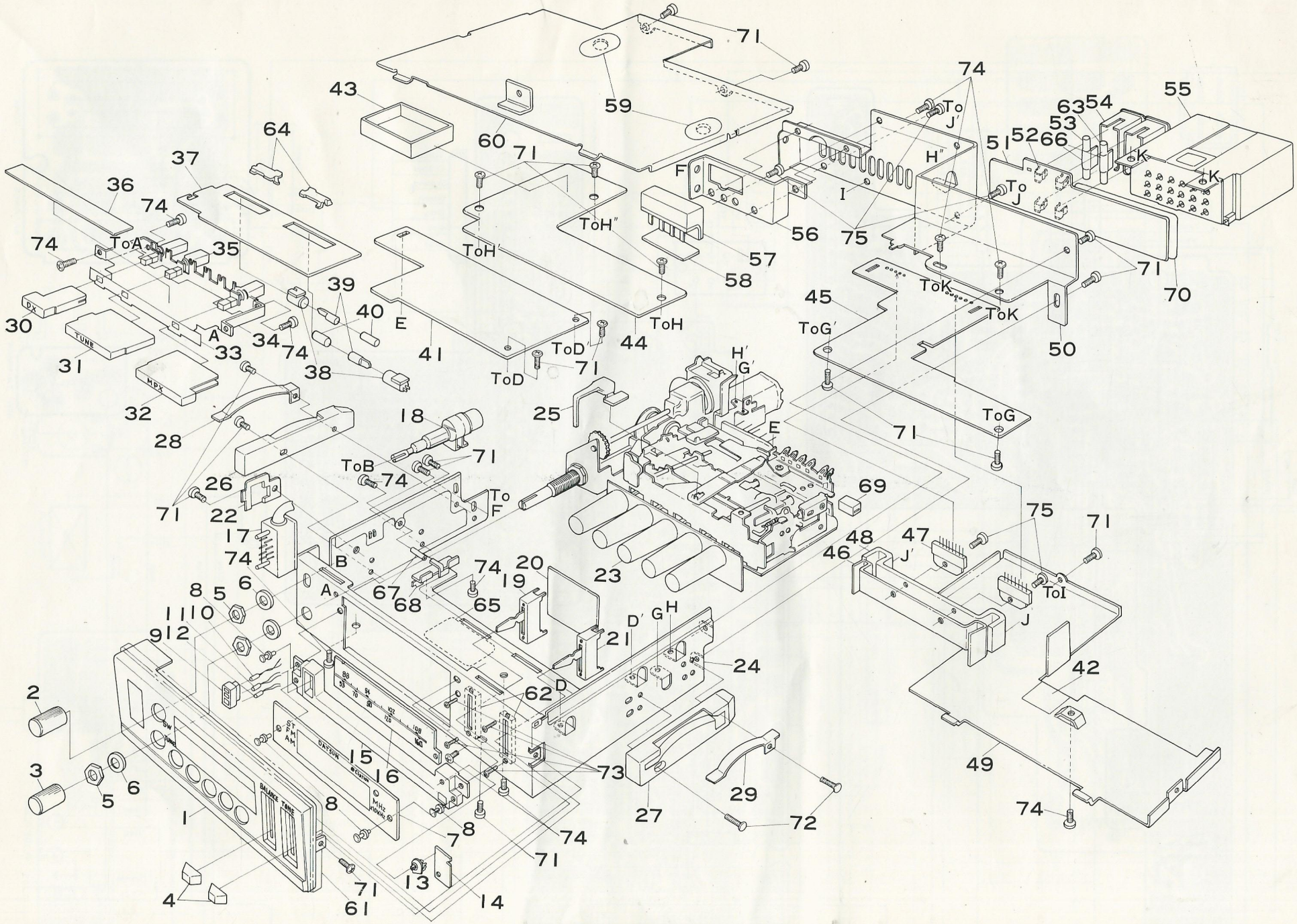
▪ AM CIRCUIT

Adjustment item	Signal input section	Signal frequency	Signal output section	Adjustment section	Adjustment	Instruments required	Remark
IFT	TP4	452.5KHz	TP5	IFT203,204	Adjust the core of IFT maximum waveform height with good symmetry	● Sweep generator ● Oscilloscope ● V.T.V.M.	IF curve Vol: minimum Tone: maximum Balance: Center Dial pointer: right end
Tracking	Antenna receptacle	1.620KHz	Meter across the speaker voice coil	1 TC201 2 TC202 3 TC203	Adjust the trimmers for maximum indication of V.T.V.M.	● SG ● Speaker ● V.T.V.M.	 Use dummy antenna between SSG and ANT receptacle
Antenna trimmer	Set the receiver VOL. control to max., TONE control to high, 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.						
Trigger	TP4	452.5kHz	TP6	IFT201,202	Adjust for a wide waveform with the marker at the center.	● Sweep generator ● Oscilloscope ● V.T.V.M	Disconnect the red lead (red wire) of the pin connector of the trigger section.
Stop sensitivity	Antenna receptacle	600kHz 1,000kHz 1.400kHz		VR201	DX:24dB to 40dB Lo:50dB to 70dB	●SG	

▪ FM CIRCUIT

Adjustment item	Signal input section	Signal frequency	Signal output section	Adjustment section	Adjustment	Instruments required	Remark
IFT S curve	TP1	10.7MHz	TP2	IFT101 IFT102,106	Adjust the cores of IFT maximum waveform height with good symmetry	● Sweep generator ● Oscilloscope ● V.T.V.M.	 S-curve
Tracking	Antenna receptacle	87.5MHz	Meter acorss the speaker voice coil	87.5MHz TC103 98.0MHz 1 TC102 2 TC101	Adjust the trimmers for maximum Indication of V.T.V.M	● SG ● Speaker ● V.T.V.M.	
<MPX> 19KHz Pilot signal (VCO)	Antenna receptacle	19KHz Pilot signal	TP3	VR104	Adjust the Lissajuous figure does not move	MPX stereo SG	 after adjusted
Separation	Antenna receptacle	Right or left signal (400Hz)	Speaker lead	VR105	Adjust the VR for maximum separation	MPX stereo SG and SSG	
Trigger	TP1	10.7MHz	TP6	IFT103,104	Adjust for a wide waveform with the marker at the center.	● Sweep generator ● Oscilloscope ● V.T.V.M	Disconnect the red lead (red wire) of the pin connector of the trigger section.
Stop Sensitivity	Antenna receptacle	88MHz 98MHz 108MHz		VR106	DX:28dB to 38dB Lo: 40dB to 60dB	● SG	
SASC circuit	Set to the specified modulation (30%), assuming an FM SSG output 55dB, modulation frequency 7kHz. Set the output level to 0dBm (=0.775V) using the volume control. Set the FM SSG output to 35dB and adjust VR103 so that the output level is —3dBm.						
Noise killer circuit	The noise killer system has been perfectly adjusted with the help of special measuring instruments. Therefore, do not touch the core, semifixed VR, etc. of this circuit. However, if pulse noise is found to be remarkably high in actual use in car, it means that adjustment of the noise killer system is disturbed. Therefore, in this case, adjust only VR101 and VR102. Noise gets eliminated as VR101 is turned towards the center position and VR102 is turned in the clockwise direction. However, do not turn these controls more than necessary. If no change occurs by adjusting these controls, bring the controls back to their original position.						

■EXPLODED VIEW:



RN-925B

■PARTS LIST:

◎Main section

REF. NO.	PART NO.(ORDER NO.)	DESCRIPTION	Q'TY
1	940-2502-00 940-2503-00	Escutcheon ass'y (RN-925B-01)(RN-925B-02)	1
2	380-3879-00	Knob	1
3	380-3880-00	Knob	1
4	380-3881-00	Knob	2
5	722-0282-00	Hexagon nut	3
6	745-0561-00	Flat washer	3
7	373-0247-07	Dial cover	1
8	729-0009-00	Rivet	4
9	345-3075-00	P.L holder	1
10	017-0314-30	Pilot lamp	1
11	017-0314-26	Pilot lamp	1
12	017-0314-27	Pilot lamp	1
13	004-1516-01	Antenna trimmer	1
14	099-5494-00	P.W.B	1
15	377-0168-01	Dial supporter	1
16	372-2903-01	Dial plate	1
17	852-6180-01 852-6179-01	Extension lead (RN-925B-01) (RN-925B-02)	1
18	012-3690-00	Variable resistor	1
19	012-3695-00	Variable resistor	1
20	099-5578-00	P.W.B	1
21	012-3592-01	Variable resistor	1
22	321-0846-00	Clamp	1
23	942-0238-02	Auto tuning mechanism	1
	965-2771-00	Tuning coil ass'y	1
	013-3388-00	Band select switch	1
	680-0082-00	Push button	3
	680-0082-01	Push button (FM)	2
	673-0219-00	Tuning shaft	1
24	308-0935-01	Front cover	1
25	376-0840-00	Dial pointer	1
26	335-1074-00	Side supporter	1
27	335-1073-00	Side supporter	1
28	684-0080-01	Plate spring	1
29	684-0080-00	Plate spring	1
30	382-0162-00	Button	1
31	382-0161-00	Button	1
32	382-0163-00	Button	1
33	345-3146-00	Shade	1
34	330-6858-00	Switch holder	1
35	013-3452-00	Switch	1
36	353-0149-00	Shade	1
37	099-5579-00	P.W.B	1
38	070-0952-00	P.L socket	2
39	017-0323-00	Pilot lamp	2
40	345-3076-01	P.L. cap	2
41	099-5580-00	P.W.B	1
42	347-0739-00	Insulator	1
43	330-6520-03	Shield case	1
44	099-5576-02	P.W.B	1
45	099-5577-01	P.W.B	1
46	330-6860-00	IC holder	1
47	051-0181-00	IC	2
48	313-1080-06	Heat sink	1
49	304-0321-00	Lower cover	1
50	307-0317-01	Rear cover	1
51	099-5581-02	P.W.B	1
52	077-0079-00	Fuse receptacle	1
53	120-0050-02	Fuse (5A)	1
54	335-0837-00	Fuse holder	2
55	074-0599-02	Outlet socket	1
56	330-6859-00	Socket holder	1
57	074-0615-00	Outlet socket	1
58	099-5592-00	P.W.B	1
59	290-2567-01	Label	2
60	310-0984-00	Upper case	1
61	345-3117-00	Protector sponge	1
62	345-3138-00	Spacer	2
63	120-0020-02	Fuse (2A)	1
64	345-3118-00	Cap	2
65	286-3678-00	Set plate	1
66	825-0234-00	Tube	2
67	860-4020-25	Vinyl tube	1
68	321-0837-01	Clamp	1
69	345-2757-00	Spacer	1
70	347-0870-00	Insulator	1
71	731-3006-80	Taptight (M3X6)	16
72	731-3010-80	Taptight (M3X10)	2
73	714-2004-81	Machine screw(M2X4)	4
74	714-3004-81	Machine screw(M3X4)	11
75	714-3006-81	Machine screw(M3X6)	5

■PARTS LIST:

◎ Electrical section

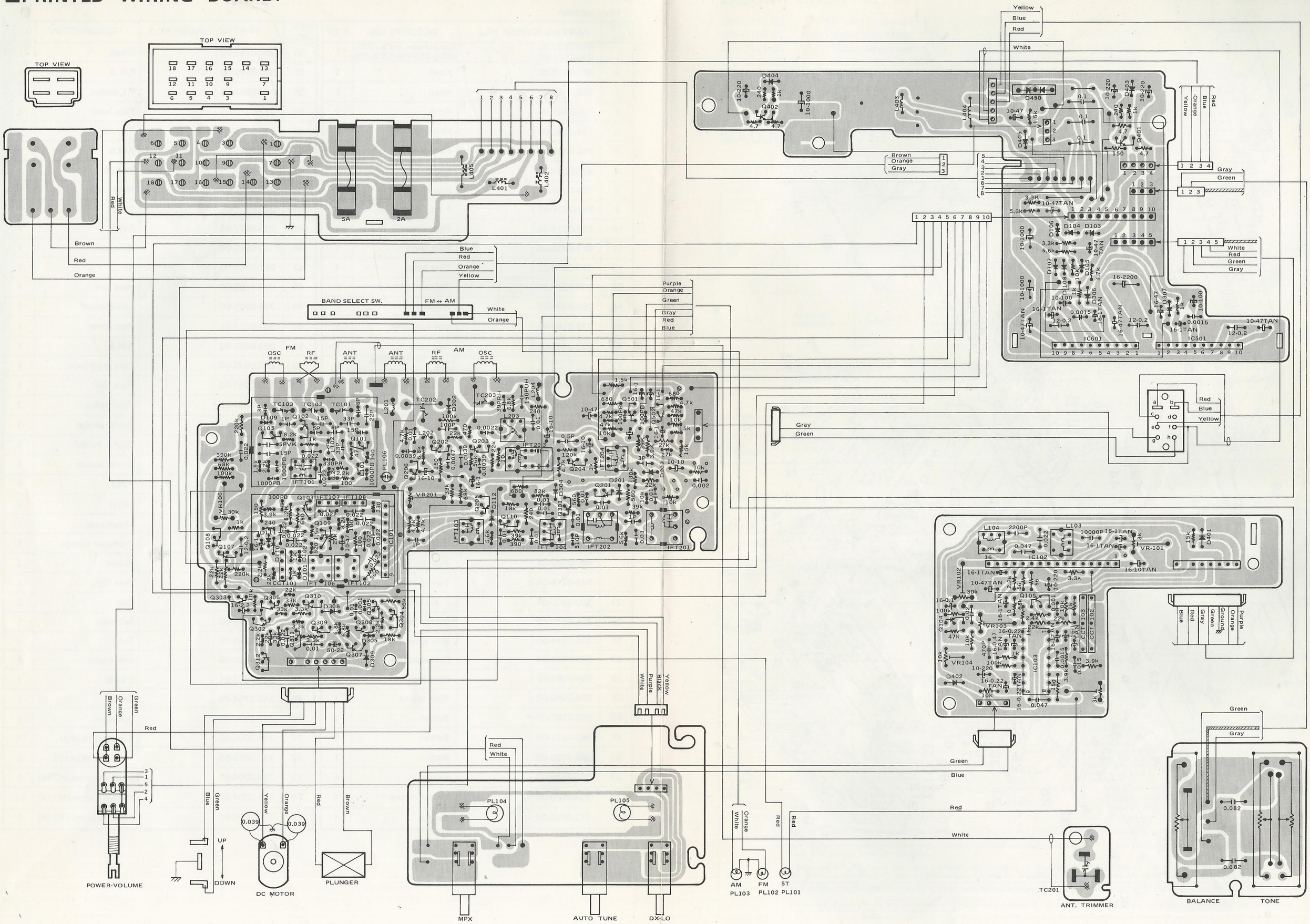
REF. NO.	PART NO.(ORDER NO.)	DESCRIPTION	Q'TY
D 112,201,202, 203,304,305	001-0095-00	Diode (1S2076)	6
D 103,104,105, 106,107,108, 401,402	001-0110-03	Diode (1S2473VM)	8
D 450	001-0172-00	Diode (S3VC20)	1
D 101,102,110, 111,306,307	001-0180-00	Diode (1S188FML)	6
D 308,309,405	001-0190-01	Diode (1SR34VL)	3
D 403,404	001-0213-03	Diode (HZ9B1)	2
D 109	001-0231-00	Diode (ITT410)	1
TC 103	004-1512-02	Trimmer	1
TC 101,102	004-1512-03	Trimmer	2
TC 201	004-1516-01	Trimmer	1
TC 202,203	004-1521-00	Trimmer	2
IFT 202	005-0110-01	IF-transformer	1
IFT 201	005-0130-01	IF-transformer	1
IFT 103	005-0688-00	IF-transformer	1
IFT 104	005-0689-00	IF-transformer	1
IFT 101	005-0698-00	IF-transformer	1
IFT 204	005-0707-00	IF-transformer	1
IFT 203	005-0709-00	IF-transformer	1
IFT 107,108	005-0724-00	IF-transformer	2
IFT 102	005-0754-01	IF-transformer	1
IFT 106	005-0835-00	IF-transformer	1
L 403	009-0470-02	Choke	1
L 404	009-0621-00	Choke	1
L 201	010-0930-00	Coil	1
L 202	010-1030-01	Coil	1
L 101	010-1180-00	Coil	1
L 102	010-1570-01	Coil	1
L 401,402	010-1712-00	Coil	2
L 204	010-1730-00	Coil	1
L 203	010-1805-01	Coil	1
L 103	010-1820-00	Coil	1
L 104	010-1821-00	Coil	1
VR 101,105	012-2700-00	Variable resistor (3K)	2
VR 104	012-2740-00	Variable resistor (10K)	1
VR 102,106	012-3249-00	Variable resistor (30K)	2
VR 103	012-3278-00	Variable resistor (200K)	1
VR 201	012-3394-00	Variable resistor (10K)	1
VR 451	012-3592-01	Variable resistor (tone)	1
VR 450	012-3695-00	Variable resistor (balance)	1

REF. NO.	PART NO.(ORDER NO.)	DESCRIPTION	Q'TY
VR 452	012-3696-00	Variable resistor (SW-Volume)	1
PL 102	017-0314-26	Pilotlamp (FM)	1
PL 103	017-0314-27	Pilotlamp (AM)	1
PL 101	017-0314-30	Pilotlamp(MPX)	1
PL 106	017-0321-01	Pilotlamp	1
PL 104,105	017-0323-00	Pilotlamp	2
C 506,606	042-0174-00	Electrolytic capacitor (TAN) (16V-4.7μF)	2
C 129,212,219, 221,223, 401	042-0176-00	Electrolytic capacitor (TAN) (16V-10μF)	6
C 157,158,508, 608,122,120	042-0200-00	Electrolytic capacitor (TAN) (10V-47μF)	6
C 126,142,401, 403, 704	042-0219-00	Electrolytic capacitor (10V-220μF)	5
C 302	042-0227-00	Electrolytic capacitor (TAN) (16V-2.2μF)	1
C 136	042-0230-00	Electrolytic capacitor (TAN) (35V-0.47μF)	1
C 146,152,218, 501,502,602, 707,128,130, 131,135,145, 304, 601	042-0239-00	Electrolytic capacitor (TAN) (16V-1μF)	14
C 452	042-0246-01	Electrolytic capacitor (16V-2200μF)	1
C 132	042-0248-00	Electrolytic capacitor (TAN) (16V-0.1μF)	1
C 137,139,140	042-0249-00	Electrolytic capacitor (TAN) (16V-0.22μF)	3
C 507,607	042-0264-00	Electrolytic capacitor (10V-100μF)	2
C 402,510,610	042-0269-00	Electrolytic capacitor (10V-1000μF)	3
C 121,451,509, 609	043-0020-01	Ceramic capacitor (12V-0.2μF)	4
C 217	043-0088-00	Ceramic capacitor (0.5PCH)	1
C 105,148,713	043-0125-00	Ceramic capacitor(50V-1000pB)	3
C 119,122,150, 151,152,112, 113,115,116, 117,118,133	043-0133-00	Ceramic capacitor (25V-0.022μF)	12
C 134,712	141-1022-10	Polyester capacitor (50V-0.001μF)	2
C 309,206,220, 214,708,134 123,154,155, 202,204,301, 303	141-1032-10	Polyester capacitor (50V-0.01μF)	13
C 702,703,705	141-1042-10	Polyester capacitor (50V-0.1μF)	3
C 505,605	141-1522-10	Polyester capacitor (50V-0.0015μF)	2
C 143,144	141-1532-10	Polyester capacitor (50V-0.015μF)	2
C 213	141-2222-10	Polyester capacitor (50V-0.0022μF)	1
C 308,710,711	141-2232-10	Polyester capacitor (50V-0.022μF)	3
C 207,211	141-3922-10	Polyester capacitor (50V-0.0039μF)	2
C 209	141-3932-10	Polyester capacitor (50V-0.039μF)	1
C 208	141-3322-10	Polyester capacitor (50V-0.0033μF)	1
C 125,141	141-4732-10	Polyester capacitor (50V-0.047μF)	2
C 156	141-5112-10	Polyester capacitor (50V-510P)	1
C 203	141-8212-10	Polyester capacitor (50V-820P)	1
C 709	143-1031-50	Polyester capacitor (50V-0.01μF)	1
C 222	143-2221-50	Polyester capacitor (50V-0.0022μF)	1
C 138	143-4712-50	Polyester capacitor (50V-470p)	1
C 212	144-1012-10	Mica capacitor (100p)	1

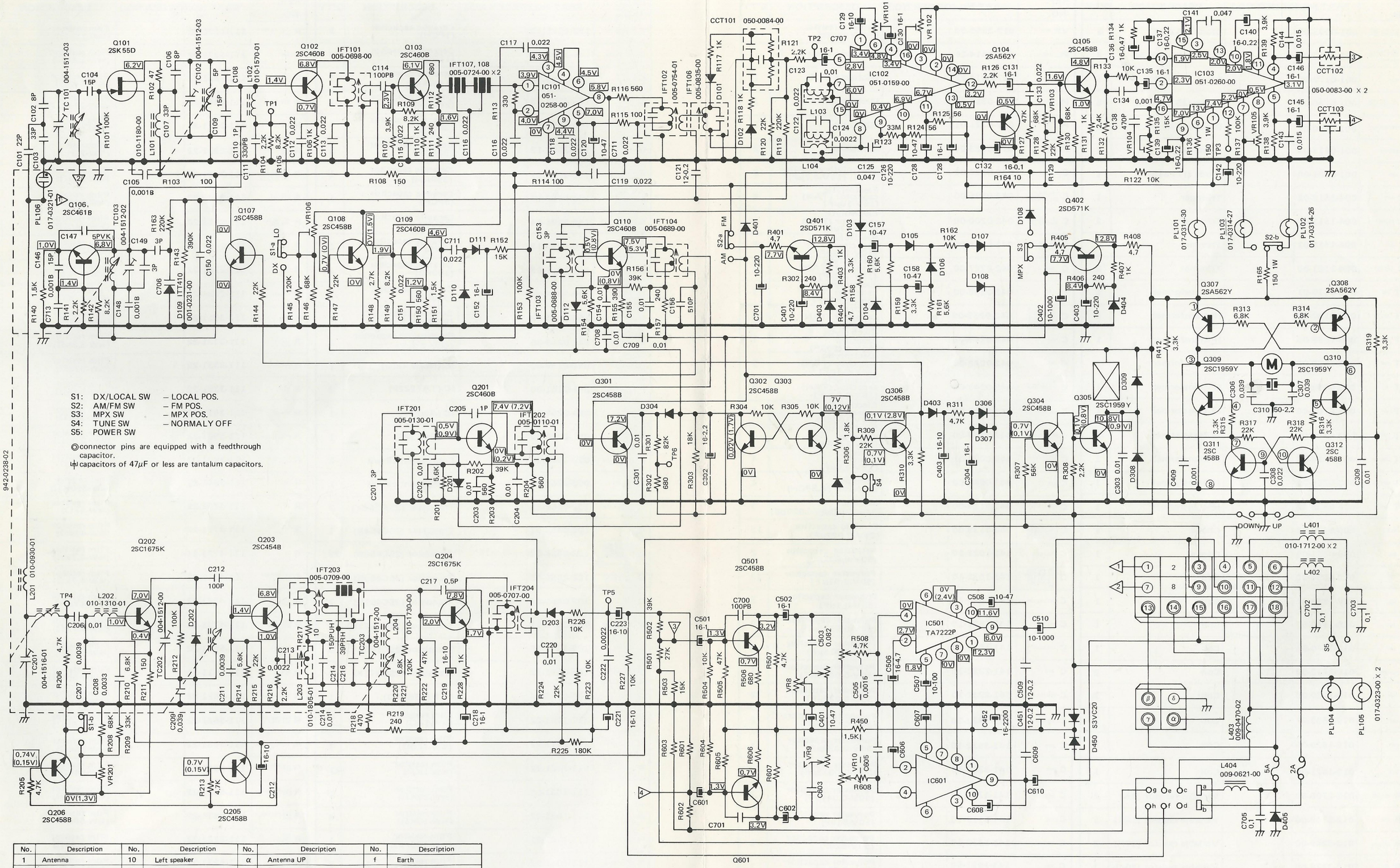
REF. NO.	PART NO.(ORDER NO.)	DESCRIPTION	Q'TY
C 110,153,205	150-1096-13	Ceramic capacitor (1PCH)	3
C 104,109,146	150-1502-13	Ceramic capacitor (15PCH)	3
C 214	150-1512-56	Ceramic capacitor (150PUH)	1
C 101	150-2202-13	Ceramic capacitor (22PCH)	1
C 149,201,706	150-3096-13	Ceramic capacitor (3PCH)	3
C 103,107	150-3302-13	Ceramic capacitor (33PCH)	2
C 216	150-3902-37	Ceramic capacitor (39PRH)	1
C 108	150-5096-13	Ceramic capacitor (5PCH)	1
C 147	150-5096-64	Ceramic capacitor (5PVK)	1
C 102,106	150-8097-13	Ceramic capacitor (8 PCH)	2
C 114,700,701	160-1012-05	Ceramic capacitor (100PB)	3
C 111	160-3312-05	Ceramic capacitor (330PB)	1
C 306,307	160-3935-02	Ceramic capacitor (0.039YG)	2
C 310	042-0218-00	Electrolytic capacitor (50V-2.2μF)	1
IC 102	051-0159-00	IC (Noise killer)	1
IC 501,601	051-0181-00	IC (TA7222P)	2
IC 101	051-0258-00	IC (AN278)	1
IC 103	051-0260-00	IC (BA1320)	1
CCT 102,103	050-0083-00	Component circuit	2
CCT 101	050-0084-00	Component circuit	1
Q 104,307,308	100-0562-25	Transistor (2SA562Y)	3
Q 203	102-0454-02	Transistor (2SC454B)	1
Q 304,311,312, 205,206,501, 601,105,107, 108,306,302, 303	102-0458-02	Transistor (2SC458B)	13
Q 102,103,109, 110,201,301	102-0460-02	Transistor (2SC460B)	6
Q 106	102-0461-02	Transistor (2SC461B)	1
Q 202,204	102-1675-11	Transistor (2SC1675K)	2
Q 305,309,310	102-1959-25	Transistor (2SC1959Y)	3
Q 401,402	103-0571-12	Transistor (2SD571K)	2
Q 101	108-0055-04	FET (2SK55D)	1
R 164,217	111-1001-22	Film resistor (1/4W-10Ω)	2
R 114,115,103	111-1011-22	Film resistor (1/4W-100Ω)	3
R 407,508,608, 229,106,110, 117,118,131, 134,403	111-1021-22	Film resistor (1/4W-1KΩ)	11
R 122	111-1031-21	Film resistor (1/4W-10KΩ)	1
R 304,504,604 132,162,223, 226,227	111-1031-22	Film reisstor (1/4W-10KΩ)	8
R 101	111-1041-21	Film resistor (1/4W-100KΩ)	1
R 137,153,212	111-1041-22	Film reistor (1/4W-100KΩ)	3
R 145,221	111-1241-22	Film resistor (1/4W-120kΩ)	2
R 136,211	111-1511-22	Film resistor (1/4W-150Ω)	2
R 140,151	111-1521-22	Film resistor (1/4W-1.5KΩ)	2

REF. NO.	PART NO.(ORDER NO.)	DESCRIPTION	Q'TY
R 135,152,503 603	111-1531-22	Film resistor (1/4W-15kΩ)	4
R 306	111-1821-22	Film resistor (1/4W-1.8kΩ)	1
R 303	111-1831-22	Film resistor (1/4W-18kΩ)	1
R 225	111-1841-22	Film reistor (1/4W-180KΩ)	1
R 104,121	111-2221-21	Film resistor (1/4W-2.2kΩ)	2
R 126,141,216, 308,	111-2221-22	Film resistor (1/4W-2.2kΩ)	4
R 309,317,318 120,129,144, 147,215,224	111-2231-22	Film resistor (1/4W-22kΩ)	9
R 119,163	111-2241-22	Film resistor (1/4W-220kΩ)	2
R 111,157,219, 402,406	111-2411-22	Film resistor (1/4W-240Ω)	5
R 132	111-2421-22	Film resistor (1/4W-2.4Ω)	1
R 148	111-2721-22	Film resistor (1/4W-2.7kΩ)	1
R 501,601	111-2731-22	Film resistor (1/4W-27KΩ)	2
R 113	111-3311-22	Film resistor (1/4W-330Ω)	1
R 316,319 158,159,310, 312,313	111-3321-22	Film resistor (1/4W-3.3kΩ)	7
R 209,305	111-3331-22	Film resistor (1/4W-33kΩ)	2
R 123	111-3351-22	Film resistor (1/4W-3.3MΩ)	1
R 155	111-3911-22	Film resistor (1/4W-390Ω)	1
R 107,138,139	111-3921-22	Film resistor (1/4W-3.9kΩ)	3
R 156,202,502, 602	111-3931-22	Film resistor (1/4W-39kΩ)	4
R 143	111-3941-22	Film resistor (1/4W-390KΩ)	1
R 102	111-4701-22	Film resistor (1/4W-47Ω)	1
R 218	111-4711-22	Film resistor (1/4W-470Ω)	1
R 311	111-4721-21	Film resistor (1/4W-4.7kΩ)	1
R 205,206,213, 404,405,	111-4721-22	Film resistor (1/4W-4.7kΩ)	5
R 127,222,505, 605	111-4731-22	Film resistor (1/4W-47kΩ)	4
R 507,607,408, 401	111-4791-22	Film resistor (1/4W-4.7kΩ)	4
R 124,125	111-5601-22	Film resistor (1/4W-56Ω)	2
R 116	111-5611-11	Film resistor (1/8W-560Ω)	1
R 150,203,204	111-5611-22	Film resistor (1/4W-560Ω)	3
R 154,160,161, 201,214	111-5621-22	Film resistor (1/4W-5.6kΩ)	5
R 307	111-5631-22	Film resistor (1/4W-56kΩ)	1
R 112,302,506, 606	111-6811-22	Film resistor (1/4W-680Ω)	4
R 210,220,313, 314	111-6821-22	Film resistor (1/4W-6.8kΩ)	4
R 128,130,146, 208	111-6831-22	Film resistor (1/4W-68kΩ)	4
R 109 105,142, 149,	111-8221-22	Film resistor (1/4W-8.2kΩ)	4
R 301	111-8231-21	Film resistor (1/4W-82kΩ)	1
R 108	114-1511-51	Film resistor (1W-150Ω)	1
R 165	114-1511-52	Film resistor (1W-150Ω)	1

■PRINTED WIRING BOARD:



CIRCUIT DIAGRAM:



No.	Description	No.	Description	No.	Description	No.	Description
1	Antenna	10	Left speaker	α	Antenna UP	f	Earth
2	———	11	Rheostat	β	Antenna down	g	Right signal
3	Rear tune	12	Radio +B	γ	Antenna power supply	h	Left signal
4	Earth	13	Antenna down	δ	Earth		
5	Rear ON – OFF	14	Antenna up	a	Deck power supply		
6	Rear ON – OFF	15	Right speaker	b	Radio +B		
7	Antenna shield	16	Right speaker	c	Illumination		
8	———	17	Illumination	d	———		
9	Left speaker	18	+13.2V	e	Amp. +B		

Auto tuning circuit voltage Inside voltage indicates voltage at a search.

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
UP (V)	12.5 (12.7)	12.5(12.7)	12.5 (1.1)	0 (0)	0 (0)	12.5 (12.6)	11.2 (6.8)	10.8	0	0.7
DOWN(V)	(12.4)		(12.6)	11.6(1.7)	11 (1.2)	(1.1)	0 (0)	(0.9)	0.7	0

Sanwa tester (Internal resistance 20KΩ/V) used.

RN-925B