SANYO

All-transistor Stereophonic Radio-phonograph

MODEL DC-600CA
SERVICE MANUAL

SANYO ELECTRIC CO., LTD.
INTERNATIONAL DIVISION: SANYO ELECTRIC TRADING CO., LTD.
OSAKA, JAPAN

SPECIFICATIONS

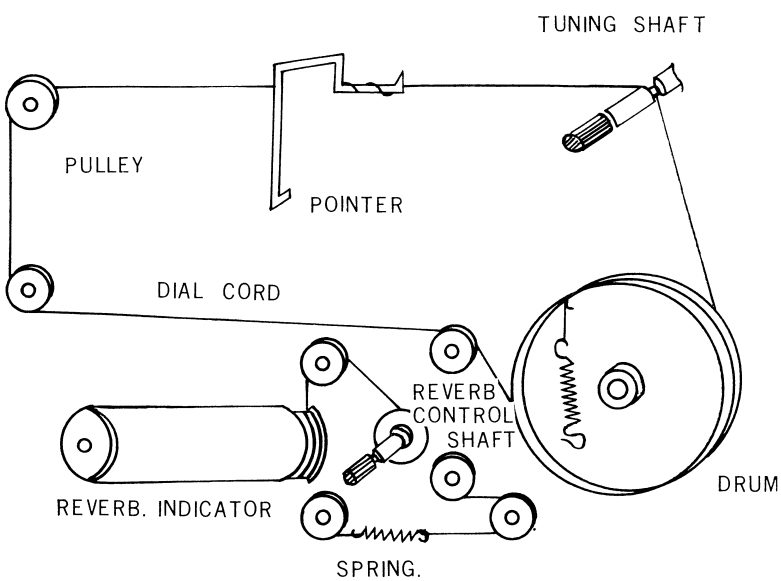
TUNER/AMPLIFIER UNIT

TRANSISTORS	1×Frequency Converter 1×Local Oscillator 1×1st IF Amplifier 1×2nd IF Amplifier 6×AF Amplifier 4×Power Amplifier 1×Reverberation Amplifier
DIODES	1×Detector 1×AGC
SILICONS	2×Rectifier
FREQUENCY RANGES	MW 535–1,605 KC SW1 2.3–7.3 MC SW2 8–22 MC
INTERMEDIATE FREQUENCY	455 KC
POWER OUTPUT	Undistorted 11W+11W (Pair 22W) Maximum 15W+15W (Pair 30W)
CROSSTALK	More than 40 db (1 KC)
LOUDNESS CONTROL	100 cps+10 db, 10 Kcps +10 db
FUNCTIONABLE TEMPERATURE	Up to 45°C
WARMING UP TIME	0.5 second
LOUDSPEAKERS	2×8″ woofer (for Bass) 2×2½″ tweeter (for Treble)
FREQUENCY RESPONSE	50–20,000 cps
POWER CONSUMPTION	45 VA
POWER SOURCE	AC 100/220/230/240V, 50/60 cps
DIMENSIONS	45¼″ wide×24″ high×14⅛″ deep
NET WEIGHT	77 lbs approx.

RECORD PLAYER

PLAYER	4-speed Auto-Changer
MOTOR	Induction Motor (Tpye TP8)
TURNTABLE	9″ Diameter
PICK-UP	Ceramic type stereo cartridge with sapphire stylus (Type ST-3)
OUTPUT	0.3V 50mm/1 KC/sec
STYLUS PRESSURE	0.035 ozs (7g)
POWER CONSUMPTION	15 VA
POWER SOURCE	AC 100V 50/60 cps
DIMENSIONS	13¼″ wide×6″ high×11¼″ deep
WEIGHT	6¼ lbs approx.

TUNING DIAL STRING



PARTS LIST

Description				Q'ty
RESISTORS				
Carbon R Type	½W	100 ohm	±10%	2
〃	¼W	200 〃	〃	3
〃	〃	220 〃	〃	1
〃	½W	400 〃	〃	2
〃	¼W	470 〃	〃	2
Carbon RT Type	1 W	500 〃	〃	4
Carbon R Type	¼W	560 〃	〃	1
Carbon ELR Type	〃	620 〃	〃	1
Carbon R Type	〃	500 〃	〃	2
〃	〃	820 〃	〃	1
〃	〃	1K 〃	〃	1
Carbon ELR Type	〃	1K 〃	〃	1
Carbon RT Type	1 W	1.2K 〃	〃	1
Carbon R Type	¼W	1.5K 〃	〃	1
Carbon ELR Type	〃	1.5K 〃	〃	1
Carbon R Type	〃	1.8K 〃	〃	1
〃	〃	2K 〃	〃	6
Carbon ELR Type	〃	2.2K 〃	± 5%	1
Carbon R Type	〃	4.7K 〃	±10%	1
〃	〃	5K 〃	〃	2
〃	〃	5.6K 〃	± 5%	1
〃	〃	5.6K 〃	±10%	7
〃	〃	500K 〃	〃	2
〃	〃	6.8K 〃	〃	2
〃	〃	10K 〃	〃	6
〃	〃	15K 〃	〃	3
〃	〃	18K 〃	〃	1
〃	〃	20K 〃	〃	1
〃	〃	22K 〃	〃	2
〃	〃	25K 〃	〃	1
Carbon ELR Type	〃	4.7K 〃	〃	1
Carbon R Type	〃	33K 〃	〃	2
〃	〃	50K 〃	〃	2
〃	〃	56K 〃	〃	2
〃	〃	56K 〃	± 5%	1
〃	〃	68K 〃	±10%	2
〃	〃	100K 〃	〃	1
Carbon RD Type	〃	150K 〃	〃	3
Carbon R Type	〃	470K 〃	〃	2
CAPACITORS				
Paper Capacitor	0.003μF	±20%	400WV	2
〃	0.02μF	〃	〃	2
〃	0.05μF	〃	〃	2
Electrolytic Capacitor, Vertical	10μF	−10-+100%	10WV	3
〃	30μF	〃	3WV	5
〃	100μF	〃	〃	2
〃	100μF	〃	6WV	2
〃	100μF	〃	12WV	4

Description				Q'ty
CAPACITORS				
Electrolytic Capacitor, Vertical	200μF	-10-+100%	25WV	2
〃	200μF	〃	40WV	2
Electrolytic Capacitor, Tubular	200μF	〃	15WV	1
〃	500μF	〃	30WV	2
Mylar Vertical Capacitor	0.001μF	±20%	50WV	2
〃	0.005μF	〃	〃	6
〃	0.01μF	〃	〃	6
〃	0.03μF	〃	〃	2
〃	0.02μF	〃	〃	1
〃	0.05μF	〃	〃	10
〃	0.2μF	〃	〃	2
AC Tubular	1μF	±50%	15WV	2
Electrolytic Capacitor (Aluminum)	2μF	−20-+40%	10WV	2
〃	5μF	〃	3WV	2
Styrol Capacitor	330pF	±10%	35WV	1
〃	460pF	〃	〃	1
〃	1,800pF	〃	〃	1
〃	6,500pF	〃	〃	1
Titanium Capacitor	0.01μF	±20%	50WV	2
〃	0.04μF	0-+100%	〃	6
〃	1pF	±0.25pF	〃	1
〃	2.5pF	±10%	〃	1
〃	10pF	〃	〃	3
〃	20pF	〃	〃	1
Mylar Capacitor	0.002μF	±20%	〃	2
Titanium Capacitor	300pF	±10%	75WV	2

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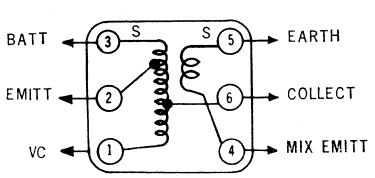
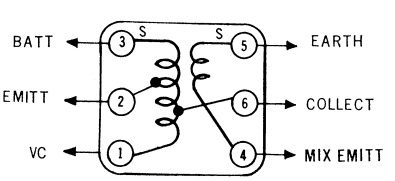
ADJUSTMENT

STEP	Adjusting circuit	Power Input		Position of Tuning Dial	Adjustment	V.T.V.M.
		Connections	Frequency			
IF ALIGNMENT						
1	IF Circuit	Connect standard loop antenna to output terminals of SG.	455 KC	VC max, or min.	IFT_1, IFT_2, IFT_3	Max.
AM RF ALIGNMENT						
1	Frequency Converter Circuit (Adjust repeatedly)	Connect standard loop antenna to output terminals of SG.	1,400 KC	1,400 KC, 106.9 m/m from cardinal point on dial scale	TC_1, TC_2	Max.
2			600 KC	600 KC, 23.4 m/m from cardinal point on dial scale	L_1, L_2	Max.
3			535 KC 1,605 KC	535 KC 1,605 KC	Check whether frequency ranges mentioned on the left column are fully covered or not; if not repeat step 1 and step 2.	
SW1 RF ALIGNMENT						
1	Frequency Converter Circuit (Adjust repeatedly)	Connect standard loop antenna to output terminals of SG.	3 MC	3 MC. 41.9m/m from cardinal point on dial scale	L_5, L_3	Max.
2			7 MC	7 MC, 120.9m/m from cardinal point on dial scale	TC_5, TC_3	Max.
3			2.3 MC 7.3 MC	2.3 MC 7.3 MC	Check whether frequency ranges mentioned on the left column are fully covered or not; if not repeat step 1 and step 2.	
SW2 RF ALIGNMENT						
1	Frequency Converter Circuit (Adjust repeatedly)	Connect standard loop antenna to output terminals of SG.	9 MC	9 MC, 23.6m/m from cardinal point on dial scale	L_6, L_4	Max.
2			21 MC	21 MC, 110.6m/m from cardinal point on dial scale	TC_6, TC_4	Max.
3			8 MC 22 MC	8 MC 22 MC	Check whether frequency ranges mentioned on the left column are fully covered or not; if not repeat step 1 and step 2.	

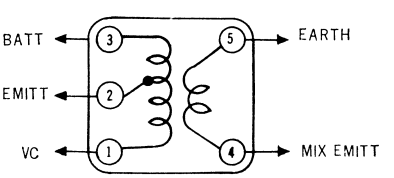
PARTS CONNECTION



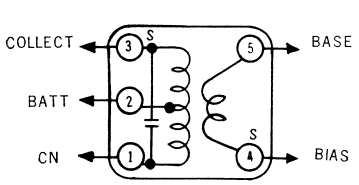
BC OSC COIL



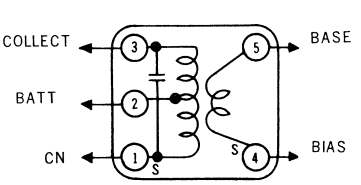
SW-1 OSC COIL



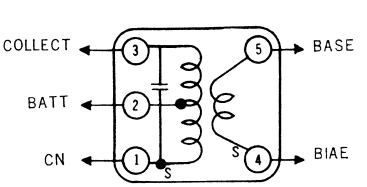
SW-2 OSC COIL



IFT 1ST 445KC

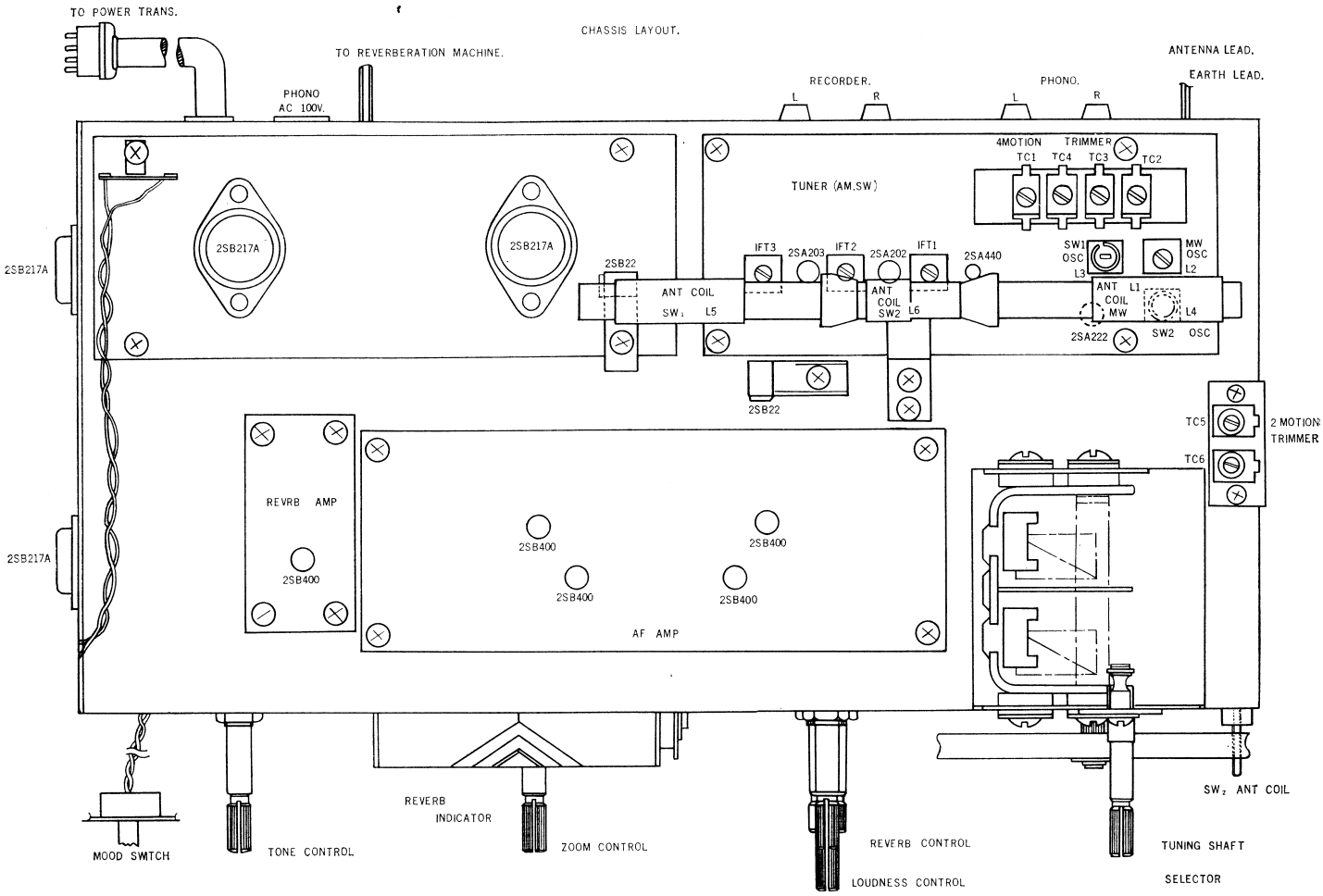


IFT 2ND 455KC

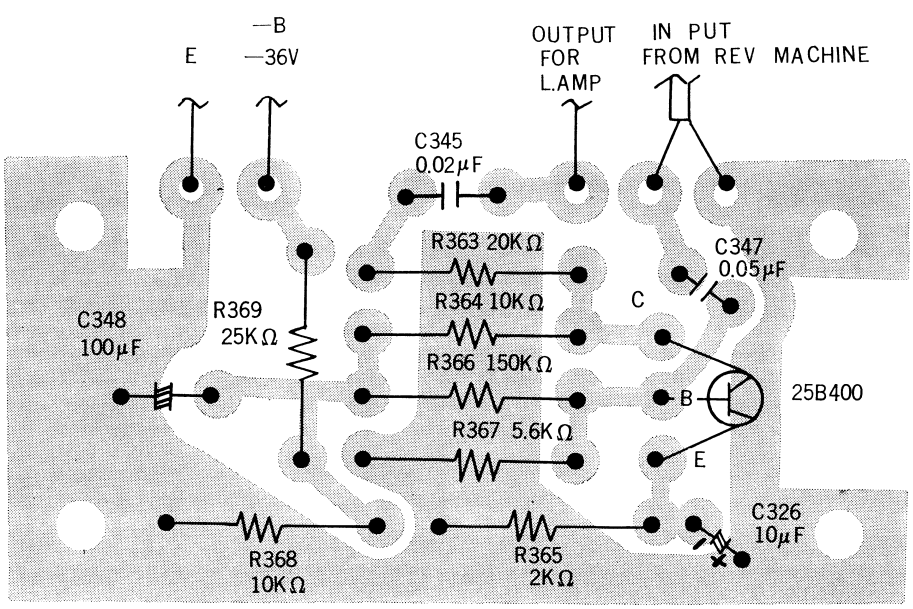


IFT 3RD 455KC

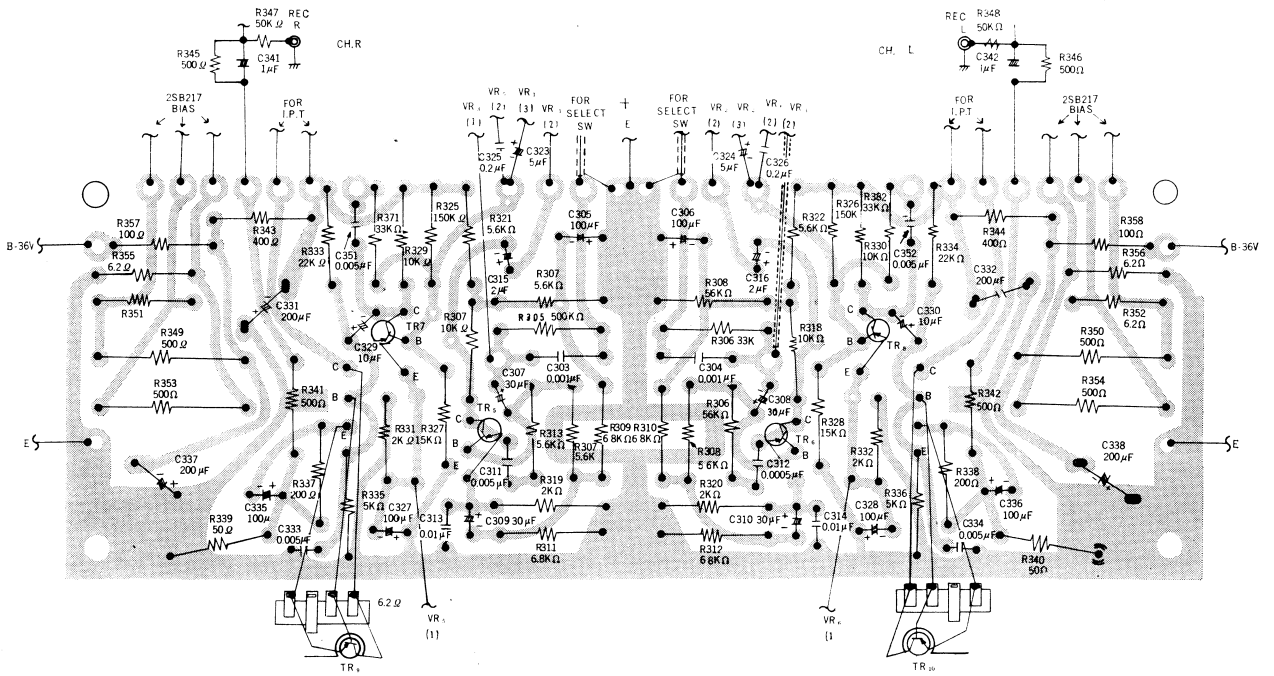
MAIN PARTS LOCATION



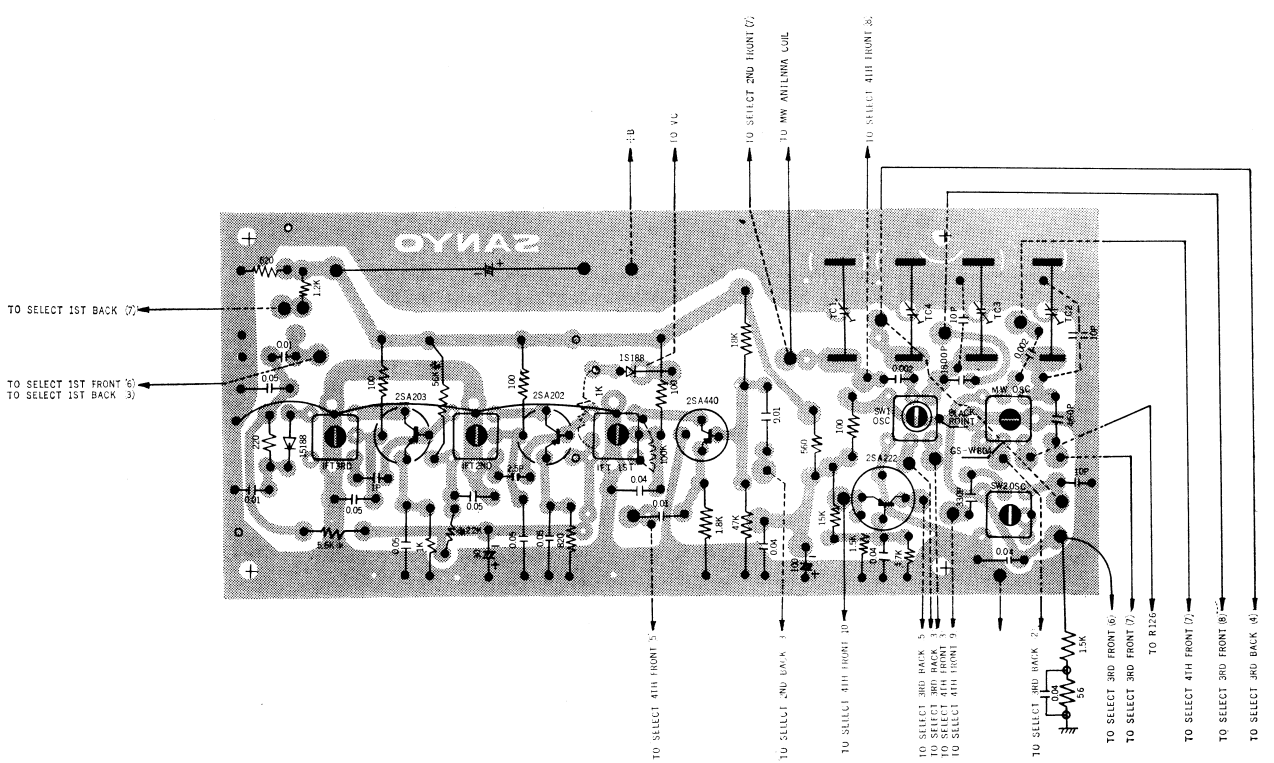
REVERBERATION AMP. PARTS LOCATION MAP

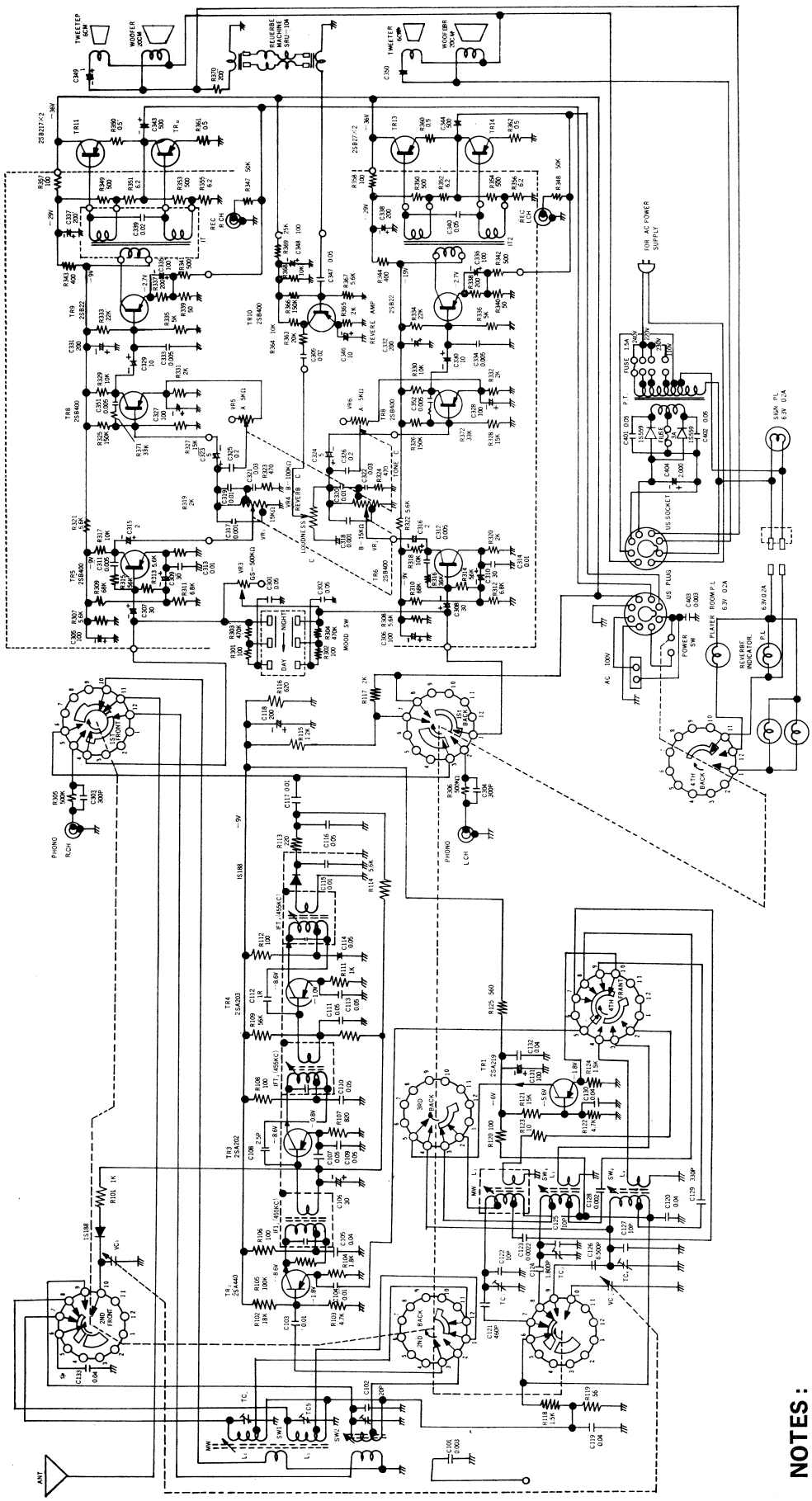


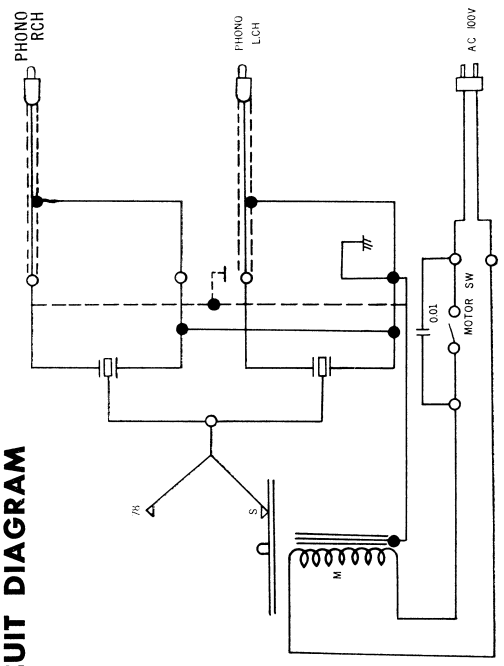
AF. P.C.B. PARTS LOCATION MAP



RF. P.C.B. PARTS LOCATION MAP







PLAYER CIRCUIT DIAGRAM

NOTES:

(1) **SELECT SWITCH** Now position is power OFF. Continue to PHONO, MW, SW_1 & SW_2

(2) **VOLTAGE** Voltage figures note at MW.

(3) **UNIT** Resistors are indicated of Ω. capacitors are indicated of μF except pF.

PARTS LIST

Stock No.	Description	Q'ty
CABINET		
GS-46129	Cabinet	1
GS-46098	Door (right)	1
GS-46099	Door (left)	1
GS-46100	Baffle board	1
GS-S8389	Name plate, assembly	1
GS-38028	Name plate	1
GS-26155	Knob panel	1
GS-26076	Decoration A, Name plate	2
GS-23038	Decoration B, Name plate	1
GS-33057	Frame, Name plate	2
GS-46101	Bearing, Name plate	1
GS-S8190	Knob F, assembly	3
GS-33058	Knob F	3
GS-26077	Knob decoration F	3
GS-S8191	Knob G1 assembly	1
GS-33059	Knob G1	1
GS-26078	Knob decoration G1	1
GS-S8192	Knob G2, assembly	1
GS-33060	Knob G2	1
GS-26079	Knob decoration G2	1
GS-S8193	Knob H. assembly	2
GS-33058	Knob F	2
GS-26080	Knob decoration H	2
GS-43013	Knob felt A	5
GS-43018	Knob felt D	1
GS-26081	Decoration, Shelf	3
GS-23017	Badge	1
GS-23039	T. S. badge	1
GS-S8194	Handle, assembly	2
GS-24114	Handle shaft	2
GS-23047	Bearing, Handle	2
GS-24115	Decoration link	2
GS-S8195	Door shaft A, assembly	2
GS-11433	Bearing door shaft	2
GS-24116	Door shaft A	2
GS-S8244	Door shaft C, assembly	2
GS-11493	Bearing door shaft B	2
GS-24215	Door shaft C	2
GS-35016	Cap, door shaft	4
GS-44040	Slide rail, up	1
GS-44044	Slide rail, down	1
GS-45001	Slide door, glass	1
GS-32037	Cover, illumination	1
GS-32017	Sign board	1
GS-26033	Decoration, sign board	1
GS-38004	Lens	1
GS-36020	Color board	1
GS-44018	Mounting rubber A, Back board	2
GS-44012	Mounting rubber B, Back board	4
GS-11188	Mounting metal, Back board	7

Stock No.	Description	Q'ty
CABINET		
GS-11525	Mounting metal, Back board	2
GS-S8062	Mounting screw A, Back board	9
GS-11378	Angle	2
GS-44043	Rubber pad	4
GS-11129	Angle A, reinforcement	13
GS-11179	Angle B, reinforcement	2
GS-11258	Angle F, reinforcement	2
GS-S8218	Magnet, assembly	2
GS-11436	Stopper	2
GS-11497	Door reinforce board B	4
GS-11093	Angle	1
GS-46103	Mounting base, chassis	2
	Net	1
GS-11434	Mounting metal, leg	4
GS-S8197	Leg, round, assembly	4
GS-46102	Leg, round	4
GS-S7004	Mountnig screw, leg	4
GS-23018	Decoration, leg	4
GS-23019	Rubber, decoration, leg	4
GS-44016	Leg, rubber	4
GS-11109	Washer	4
GS-42440	Back board A	1
GS-42242	Back board B	1
GS-42294	Back board C	1
GS-47160	Explanation fig	1
GS-47171	Label, specifications	1
CHASSIS		
GS-11540a	Chassis	1
GS-11442	Leg, chassis	2
GS-11443	Mounting board, chassis	2
GS-11421a	Pillar (right)	1
GS-11422a	Pillar (left)	1
GS-11424	Mounting metal, R drum	1
GS-11426	Mounting angle, Socket	1
GS-24271	Pointer	1
GS-S8184	Dial shaft, assembly	1
GS-24111	Dial shaft	1
GS-24043	Shaft metal	1
GS-11171	Reinforcement board, metal	1
	Ring, E type	1
GS-S8271	Antenna holder, assembly	1
GS-11545	Antenna holder	1
GS-11430	Angle, antenna	1
GS-24113	Shaft C, rivet	1
	Washer C	1
	Cord stopper	1
GS-44009	V. C. rubber	3
GS-44030	Cushion rubber	4
GS-24060	Sleeve	4

PARTS LIST

Stock No.	Description	Q'ty
CHASSIS		
GS-11168	Angle C, pulley	4
GS-35024	Pulley	6
GS-24007	Shaft, pulley	6
GS-33024	Drum, shaft	1
GS-24040	Boss, drum	1
GS-S8076	Drum R, assembly	1
GS-27002	Pipe	1
GS-36010	Pulley	1
GS-36011	Cap	1
GS-47041	Indication paper	1
GS-24039	Special screw	1
GS-S8188	Drum, assembly	1
GS-11200	Drum	1
GS-28001	Shaft bearing, drum	1
GS-15006	Rope spring	3
	Eyelet, stopper	1
	Lug, egg like	11
	Rope	3
GS-11445	Mounting angle, SW	1
GS-36045	Back plate C	1
GS-26105a	Fin	2
GS-31005	Mounting base	6
	Washer	4
GS-12015	Band, electrolytic capacitor	2
ELECTRIC PARTS		
	Transistor 2SB400	5
	〃 2SB22	2
	〃 2SB217	4
	〃 2SB440	1
	〃 2SB219	1
	〃 2SA202	1
	〃 2SA203	1
	Diode 1S188	2
	Silicon rectifier 1S559	2
GS-C9008	Electrolytic capacitor 2,000μF 40WV	1
GS-W7021	Power transformer	1
GS-W6013	I. P. T.	2
GS-W2024	Antenna coil, 2-band	1
GS-W2025	Antenna coil, SW-2	1
GS-W8001	Oscillator coil, MW	1
GS-W8002	Oscillator coil, SW-1	1
GS-W8003	Oscillator coil, SW-2	1
GS-W5T004	I. F. T. 455 Kc 1	1
GS-W5T005	I. F. T. 455 Kc 2	1
GS-W5T006	I. F. T. 455 Kc 3	1
GS-C1002	Variable capacitor, 2-motior, sy-220	1
GS-C0004	Trimmer, 2-motion	1
GS-C0003	Trimmer, 4-motion	1
GS-R1062	VR, 5K ohm×2A	1

Stock No.	Description	Q'ty
ELECTRIC PARTS		
GS-R1034	VR, 500K ohm×1GS	1
GS-R1067	VR, 100K 〃 ×1B	1
GS-R1054	VR, 15K 〃 ×2B	1
GS-S4048	Rotary SW	1
GS-S1005	Fuse, 1.5A	1
GS-S1026	Fuse, 3A	1
GS-S1011	2P socket, mold	1
GS-S2013	US type socket	1
GS-S2012	US type plug	1
GS-S1007a	PU socket, 2-motion	2
GS-S6046	Speaker, S-20F14	2
GS-S6013	Speaker, 6HA	2
GS-S1006	PL lamp, 6.3V 0.2A	5
GS-41028	Printed circuit board	1
GS-41039	Printed circuit board	1
GS-41051	Printed circuit board	1
GS-84011	Slide SW, 2-2	1
GS-S3043	-Fin assembly	2
GS-S3042	-Braided wire	2
GS-23041	-Fin lug	2
GS-S3048	AC cord	1
GS-S1038	Plug, cord tip	4
GS-S3054	2P special lug board	1
GS-S3071	1-2P special lug board	1
GS-S6021	Reverb machine, SRU-104	1
GS-S3006	1-1P (R) lug board	3
GS-S3009	1-2P lug board	2
GS-S3013	1-3P (R) lug board	2
GS-S3007	1-4P lug board	3
GS-28287	-PL (C1) assembly	1
GS-11562	-Angle (C1), PL	1
	-E-10 bearing metal	1
GS-S8082	-PL (C) assembly	1
GS-11175	-Angle (C), PL	1
	-E-10, bearing metal	1
GS-S8080	-PL (A) assembly	1
GS-11172	-Angle A1, PL	1
GS-11173	-Angle A2, PL	1
	-E-10 bearing metal	1
GS-S8046	-PL socket, assembly	1
GS-11029	-Angle, PL	1
	-E-10 bearing metal	1
GS-S3008	1-3P (L) lug board	1
RESISTORS		
Winding	1 W 0.5 ohm ±10%	4
Carbon R Type	¼W 6.2 〃 〃	4
〃	〃 10 〃 〃	1
〃	〃 50 〃 〃	2
〃	〃 56 〃 〃	1
〃	〃 100 〃 〃	6