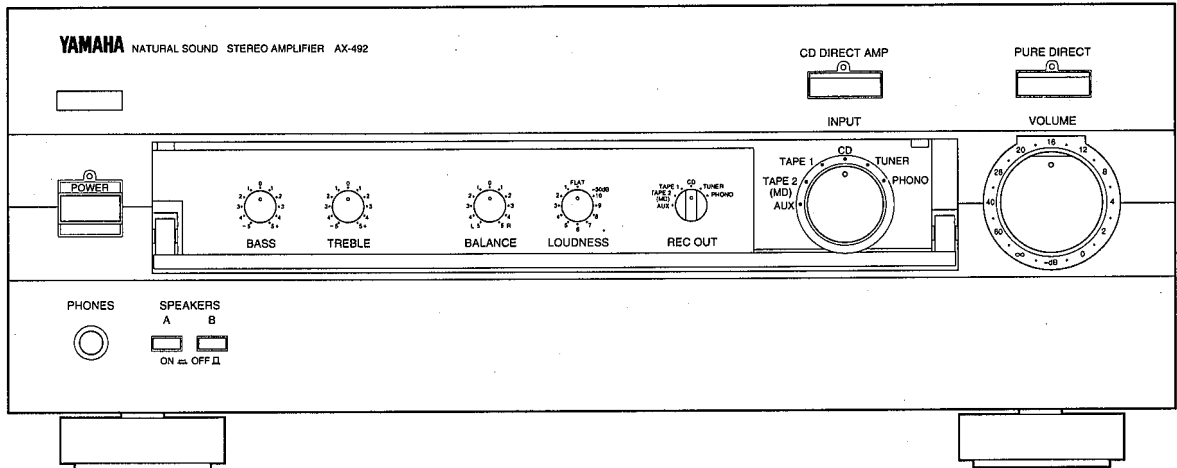


# STEREO AMPLIFIER

# AX-492

## SERVICE MANUAL



### IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

**WARNING:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

**IMPORTANT:** The presentation or sale of this manual to any individual of firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

**IMPORTANT:** Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

### ■ CONTENTS

TO SERVICE PERSONNEL .....	1
REMOTE CONTROL PANEL .....	1
REAR PANELS .....	2
SPECIFICATIONS .....	3
INTERNAL VIEW .....	4
DISASSEMBLY PROCEDURES .....	4
BLOCK DIAGRAM .....	5

ADJUSTMENT .....	6
μ-COM DATA .....	7
PRINTED CIRCUIT BOARD .....	8~15
SCHEMATIC DIAGRAM .....	16~17
PARTS LIST .....	18~25
REMOTE CONTROL TRANSMITTER .....	26

100573


**YAMAHA**  
YAMAHA CORPORATION  
P.O.Box1.Hamamatsu.Japan

2.9K-452 (PM) Printed in Japan '97.7



## ■ TO SERVICE PERSONNEL

### 1. Critical Components information.

Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

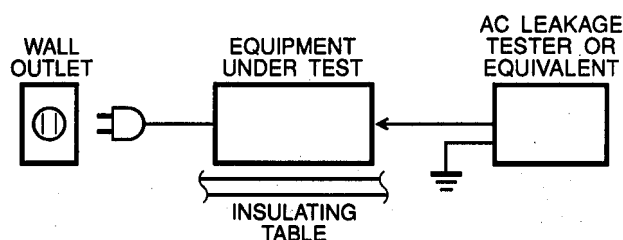
### 2. Leakage Current Measurement (For 120V Model only). When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by  $0.15\mu\text{F}$ .
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



#### "CAUTION"

"F101 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 6.0A, 125V FUSE"  
"F103 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 1.6A, 250V FUSE"



## WARNING: CHEMICAL CONTENT NOTICE!

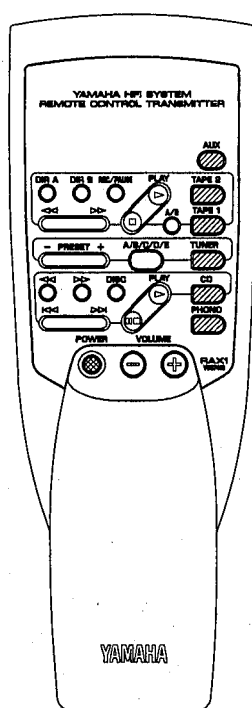
The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

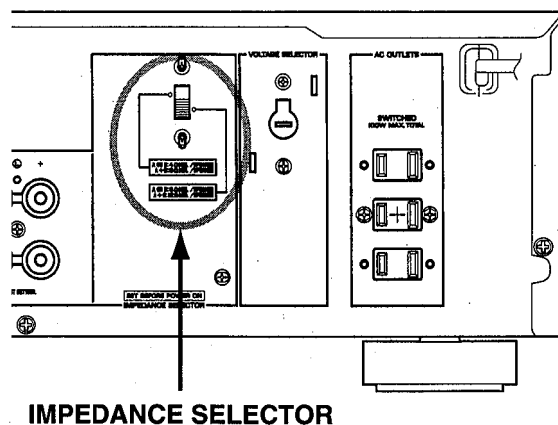
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

## ■ REMOTE CONTROL PANEL



### WARNING

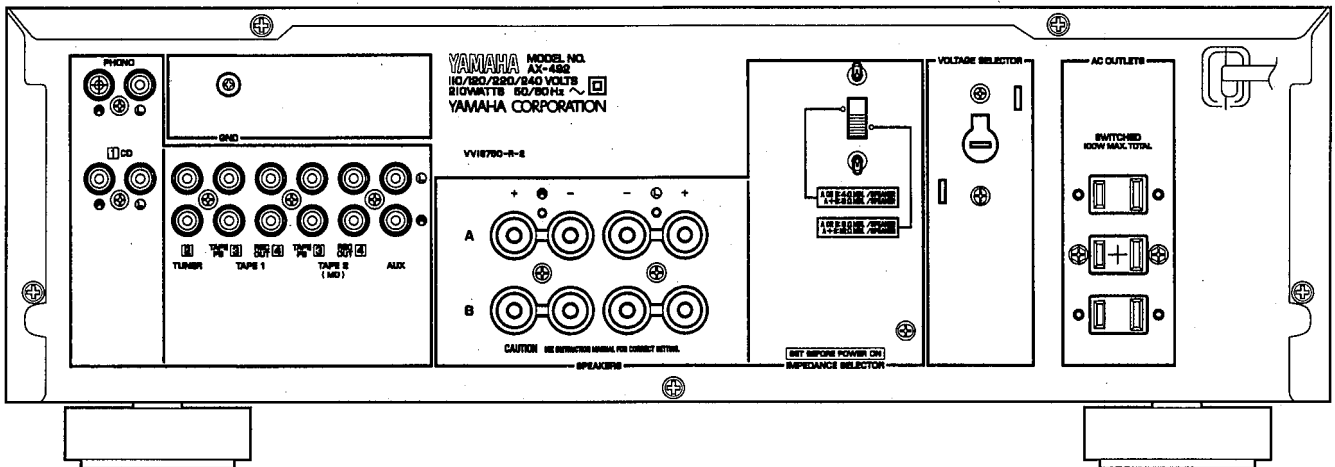
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.



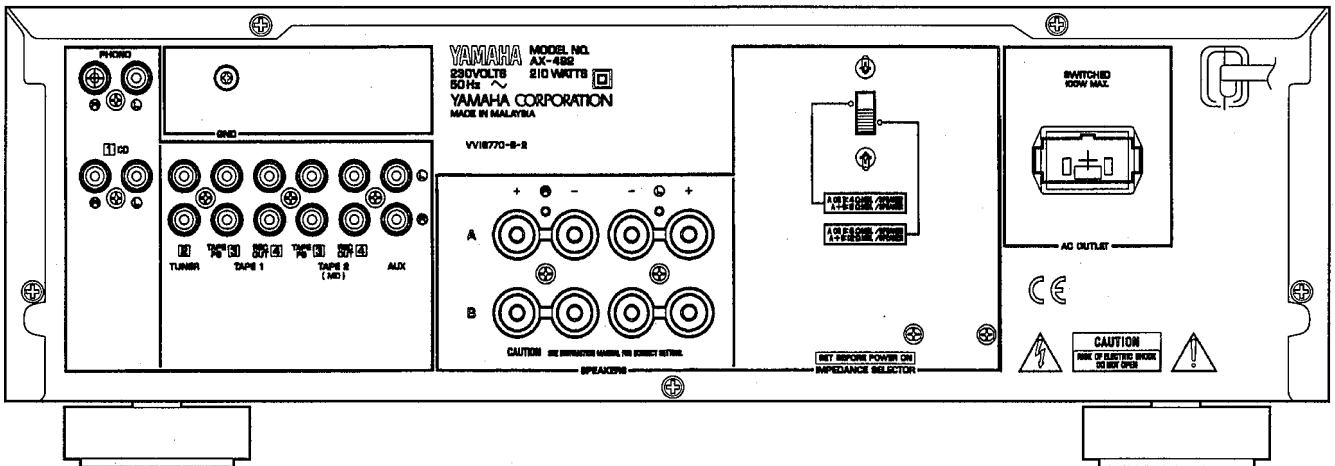


## REAR PANELS

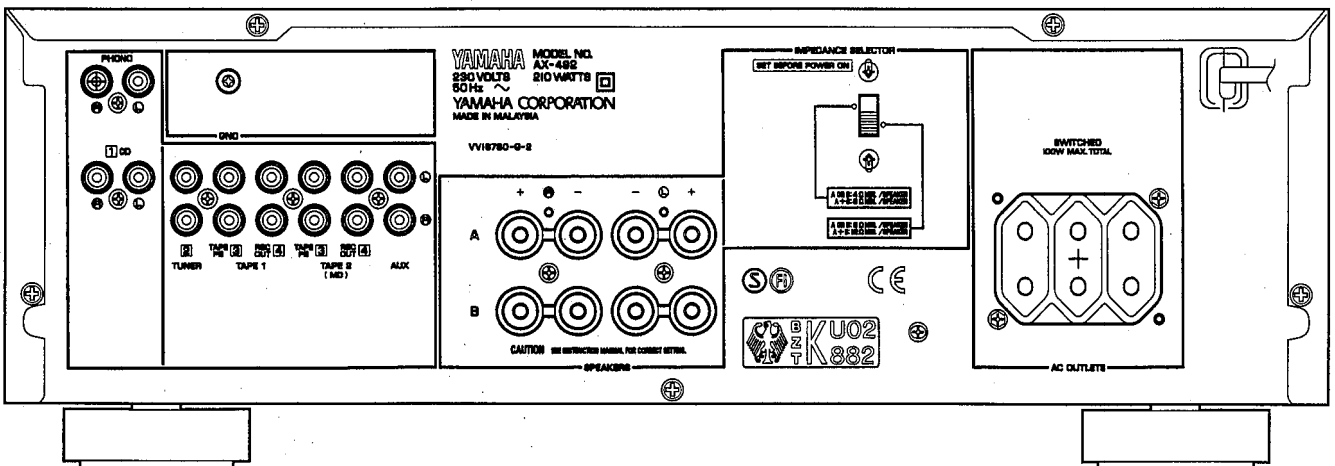
### ▼ R & T models



### ▼ B model



### ▼ G model





## SPECIFICATIONS

### AUDIO SECTION

#### Minimum RMS output Power per Channel

20Hz to 20kHz, 0.019% THD, 8Ω	85W+85W
20Hz to 20kHz, 0.038% THD, 6Ω	100W+100W

#### Dynamic Power Per Channel(IHF)

8/6/4/2Ω	130/150/185/220W
----------	------------------

#### DIN Standard Output Power Per Channel

G model only	
1kHz, 0.7% THD, 4Ω	120W

#### IEC Power

G model only	
1kHz, 0.019% THD, 6Ω	100W

#### Power Band Width

0.038% THD, 42.5W, 8Ω	10Hz to 50kHz
-----------------------	---------------

#### Damping Factor (SP-A)

20Hz to 20kHz, 8Ω	240 or more
-------------------	-------------

#### Maximum Power (EIAJ)

R model only	
1kHz, 10% THD, 8/6Ω	130/150W

#### Input Sensitivity/Impedance

PHONO	2.5mV/47kΩ
CD etc	150mV/47kΩ

#### Maximum input Signal Level

PHONO, 1kHz, 0.003% THD	115mV
-------------------------	-------

#### Output Level/Impedance

REC OUT	150mV/600Ω
---------	------------

#### Headphone Jack Rated Output/Impedance

0.019% THD, RL=8Ω	0.3V/680Ω
-------------------	-----------

#### Frequency Response(20Hz to 20kHz)

CD etc	0±0.5dB
--------	---------

#### RIAA Equalization Deviation

PHONO	0±0.3dB
-------	---------

#### Total Harmonic Distortion(20Hz to 20kHz)

PHONO to REC OUT (3V)	0.003%
CD etc to SP OUT(42.5W/8Ω)	0.008%

#### Signal-to-Noise Ratio(IHF-A-Network)

PHONO, (5mV Input Shorted)	88dB
CD, CD DIRECT AMP ON (Shorted)	110dB

#### Residual Noise(IHF-A-Network)

CD DIRECT AMP ON	35μV
PURE DIRECT ON	90μV

#### Channel Separation(Vol. -30dB)

CD etc(Input 5.1kΩ terminated), 1kHz/10kHz	65/50dB
--	---------

#### Tone Control Characteristics

BASS : Boost/Cut	±10dB(20Hz)
: Turnover Frequency	350Hz
TREBLE : Boost/Cut	±10dB(20kHz)
: Turnover Frequency	3.5kHz

#### Continuous Loudness Control

Attenuation (Level related equalization)	-30dB(1kHz)
--	-------------

#### Gain Tracking Error(0~-60dB)

	2dB
--	-----

### GENERAL

#### Power Supply

R model	AC110/120/220/240V, 50/60Hz
B, G models	AC230V, 50Hz

#### Power Consumption

210W

#### AC Outlet

R, G models, Switched x 3	100W max (Total)
B model, Switched x 1	100W max

#### Dimensions (W x H x D)

435 x 151 x 391mm  
(17-1/8"x5-15/16"x15-13/32")

#### Weight

9.6kg(21lbs 2oz)

#### Accessories

Remote Control Transmitter x 1  
Battery (size "AA", "R06") x 2

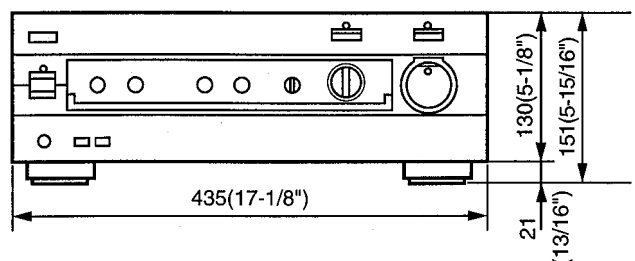
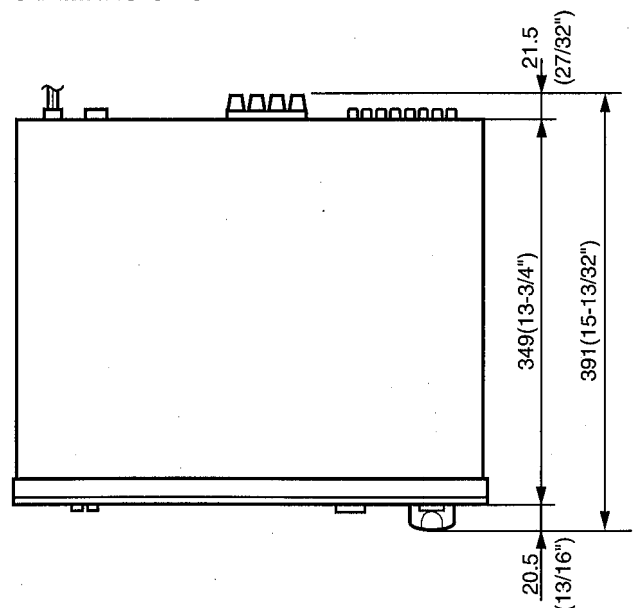
\* Specifications subject to change without notice.

R ..... General model

B ..... British model

G ..... European model

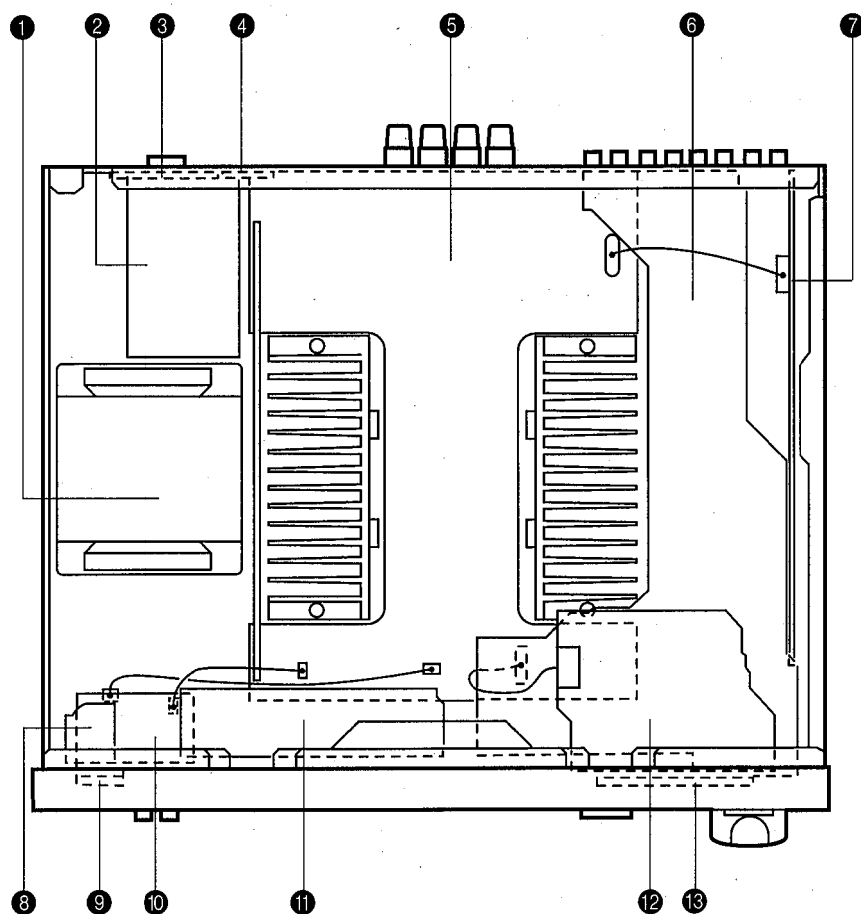
### DIMENSIONS



Units: mm (inch)



## INTERNAL VIEW



- ① POWER TRANSFORMER
- ② MAIN P.C.B. ASS'Y (2)
- ③ MAIN P.C.B. ASS'Y (6) (R model Only)
- ④ MAIN P.C.B. ASS'Y (11)
- ⑤ MAIN P.C.B. ASS'Y (1)
- ⑥ FUNCTION P.C.B. ASS'Y (2)
- ⑦ FUNCTION P.C.B. ASS'Y (1)
- ⑧ FUNCTION P.C.B. ASS'Y (9)
- ⑨ FUNCTION P.C.B. ASS'Y (5)
- ⑩ FUNCTION P.C.B. ASS'Y (8)
- ⑪ FUNCTION P.C.B. ASS'Y (4)
- ⑫ FUNCTION P.C.B. ASS'Y (3)
- ⑬ FUNCTION P.C.B. ASS'Y (6)

## DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

### 1. Removal of Top Cover

- a. Remove 4 screws (①) in Fig. 1.
- b. Remove 4 screws (②) in Fig. 1.

### 2. Removal of Front Panel

- a. Remove 7 knobs in Fig. 1.
- b. Remove 3 screws (③) in Fig. 1.

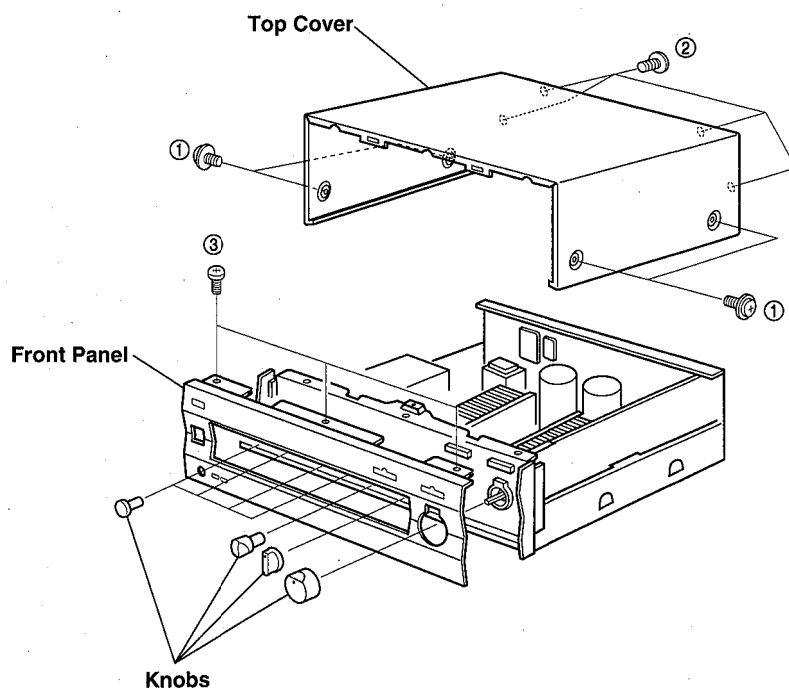
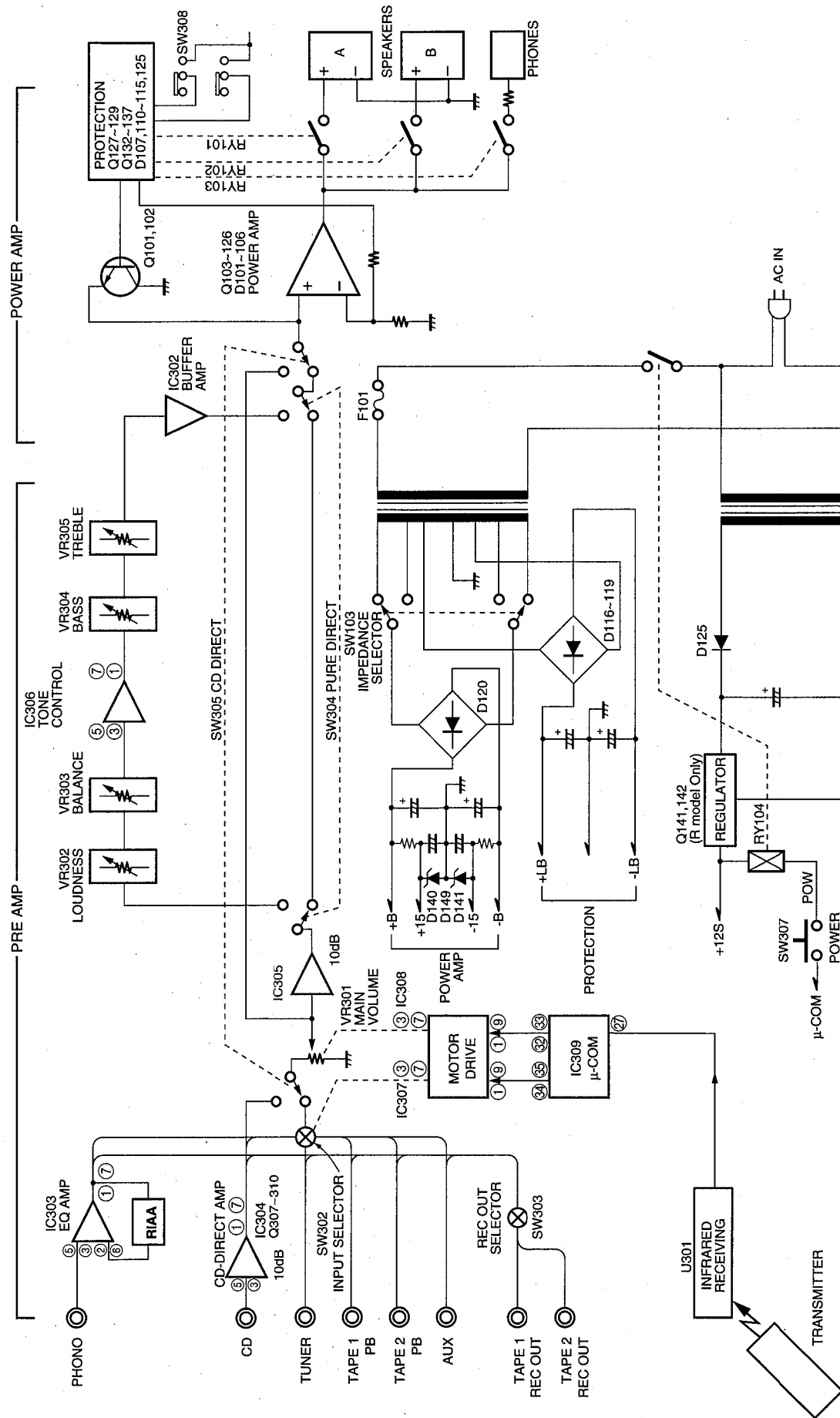


Fig.1



# ■ BLOCK DIAGRAM

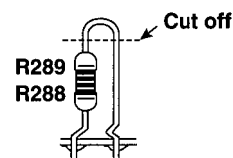
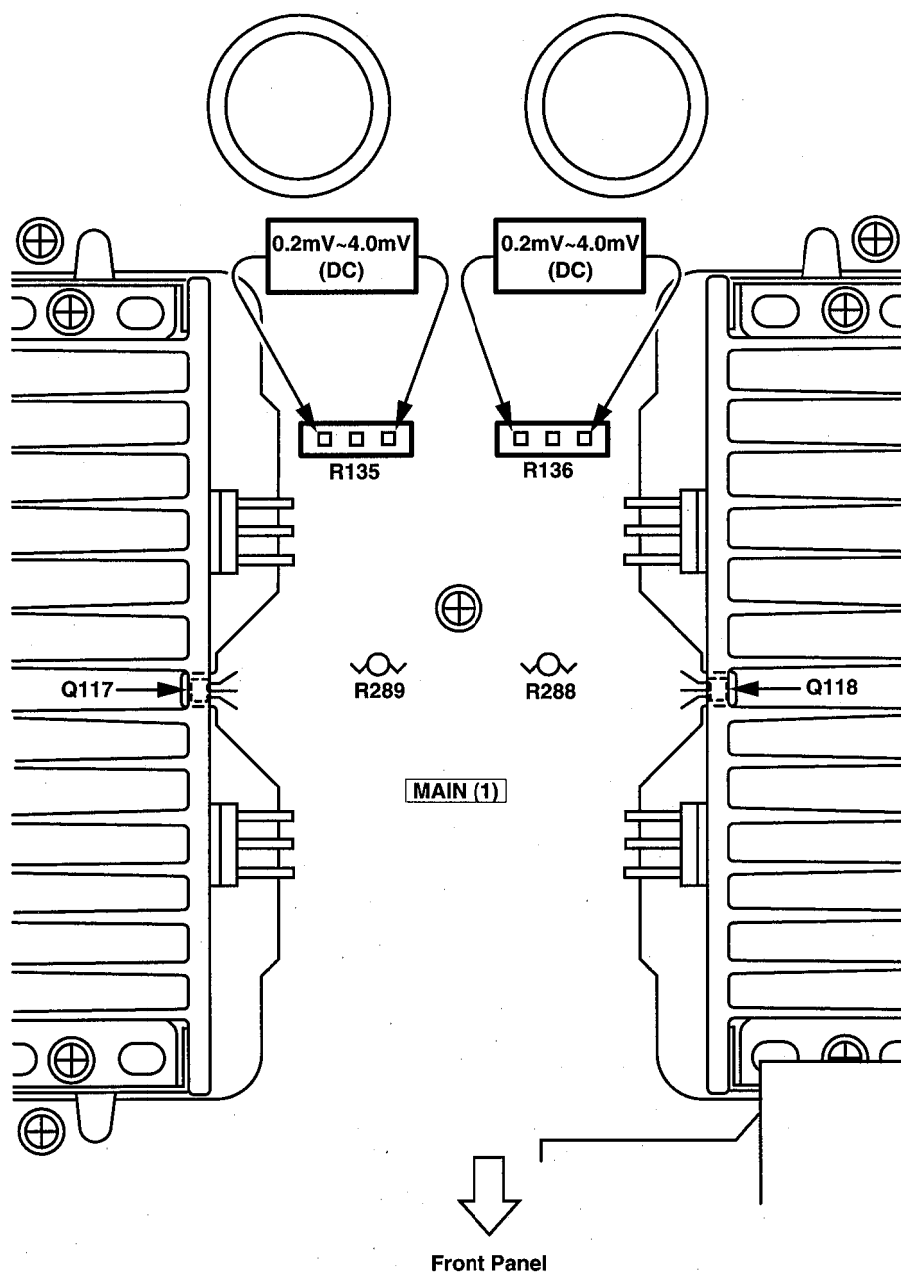




## ■ AMP ADJUSTMENT

### Confirmation of Idling Current

- Right after power is turned on, confirm that the voltage across the terminals of R135 (Lch) and R136 (Rch) are between 0.2mV~4.0mV.
- If it exceeds 4.1mV, open (cut off) R289 (on R135), R288 (on R136) and reconfirm the voltage.

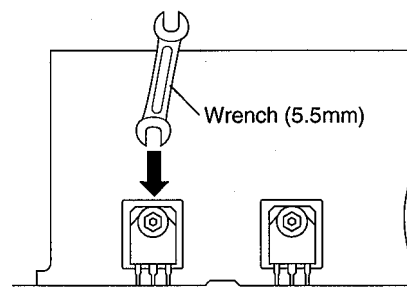


#### Note)

- If R289 and R288 have already been cut off and idling current does not flow, reconnect R288 and R289.
- Q117 and Q118 are transistors for temperature correction. Apply silicone grease to contact surface with the heat sink.

#### • Removal of Power Transistor

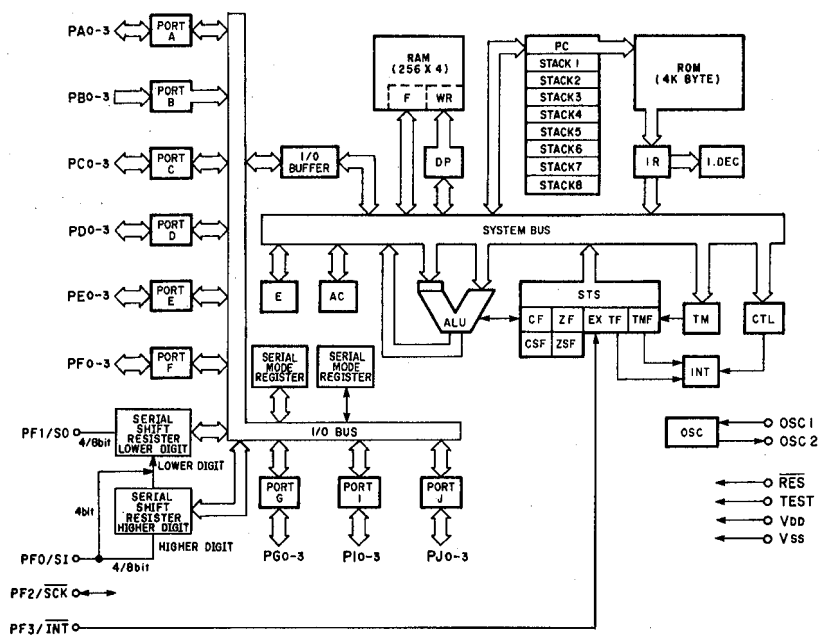
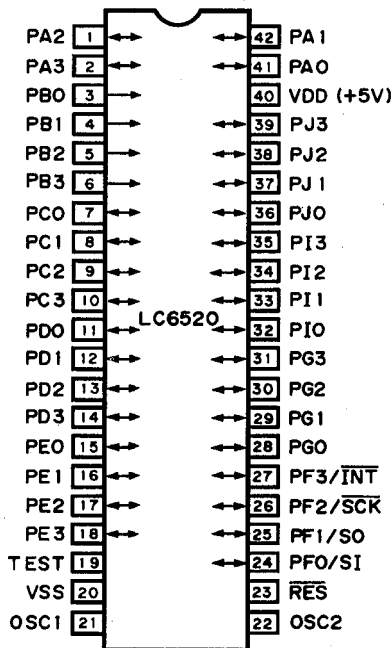
- Use a 5.5mm wrench or a small size adjustable wrench.
- Using the above tool, remove the screw holding the Power Transistor.





# ■ $\mu$ -COM DATA

IC309 : LC6520H-4J33

4bit  $\mu$ -COM

**Table A**  
Selector Position Data(S1 to S8)

PIN No.									FUNCTION
3	4	5	6	7	8	9	10		
1	1	0	0	0	0	0	0	PHONO	
0	1	1	0	0	0	0	0	TUNER	
0	0	1	1	0	0	0	0	CD	
0	0	0	1	1	0	0	0	TAPE1	
0	0	0	0	1	1	0	0	TAPE2	
0	0	0	0	0	1	1	0	AUX	

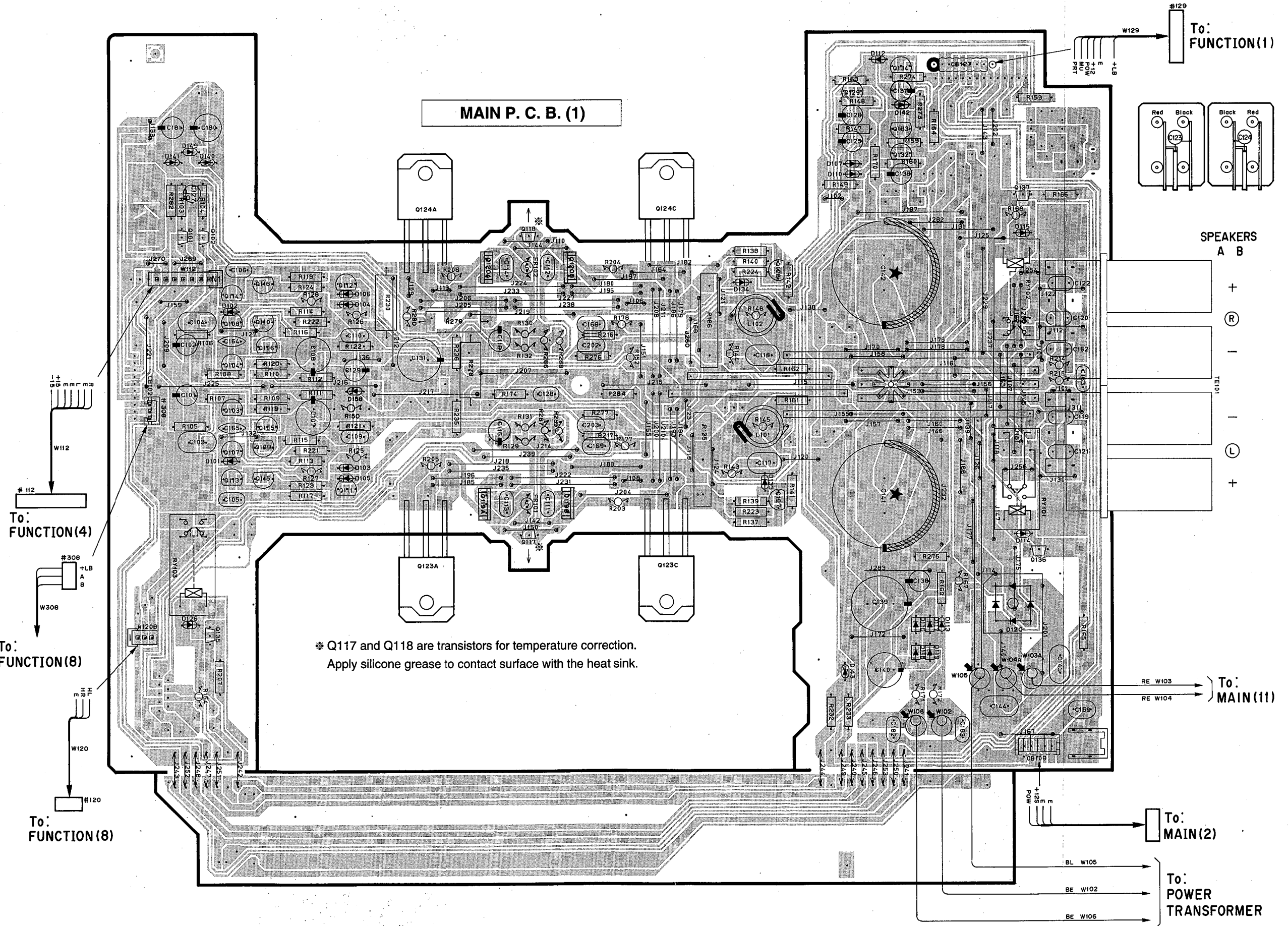
No.	Port	I/O	Function	Logic
1	PA2		GND	
2	PA3		+5V	
3	PB0	I	Selector Position data (Table A)	S1
4	PB1	I		S2
5	PB2	I		S3
6	PB3	I		S4
7	PC0	I		S5 (L: RESET)
8	PC1	I		S6(L: RESET)
9	PC2	I		S7(L: RESET)
10	PC3	I		S8(L: RESET)
11	PD0	I	Cam position data	H: CAM(L: RESET)
12	PD1		GND	(L: RESET)
13	PD2		GND	(L: RESET)
14	PD3	O	PLAY / CUT (Player control)	H: ON(L: RESET)
15	PE0		GND	
16	PE1	I	Power down detect (BACK-UP mode)	L: PD
17	PE2		GND	
18	PE3		GND	
19	TEST		GND	
20	Vss		GND	
21	OSC1		4MHz	

No.	Port	I/O	Function	Logic
42	PA1		GND	
41	PA0		GND	
40	VDD		+5V	
39	PJ3	O	Muting control detect	H: ON
38	PJ2		OPEN	
37	PJ1		OPEN	
36	PJ0		GND	
35	PI3	O	Selector control signal	
34	PI2	O	Selector control signal	
33	PI1	O	Volume control signal	
32	PI0	O	Volume control signal	
31	PG3	O	Standby detect	H: ON
30	PG2	O	Power detect	H: ON
29	PG1	I	Power SW Type detect	H: LOCK
28	PG0	I	Power SW Key detect	H: SW ON
27	PF3	I	Remote Control data	
26	PF2	I	Protection detect	H: PRT
25	PF1		GND	
24	PF0		GND	
23	RES		RESET	L: RESET
22	OSC2		4MHz	

\*When in the BACK-UP mode.(i.e., when the AC plug has been unplugged), the state before unplugging the AC plug (POWER ON/OFF) is kept in memory.



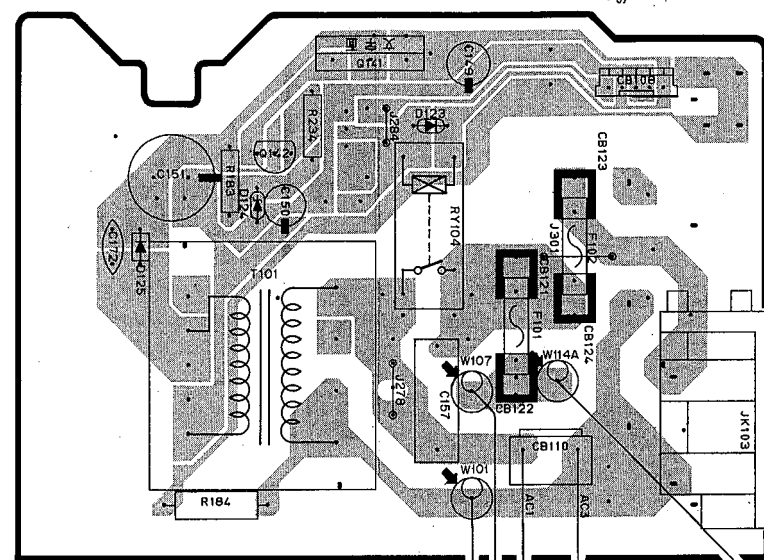
■ PRINTED CIRCUIT BOARD (Foil side)





**MAIN P. C. B. ( 2 )**

To:  
MAIN(1)



To:  
POWER  
TRANSFORMER

AC OUTLETS'  
SWITCHED  
100W MAX. TOTAL

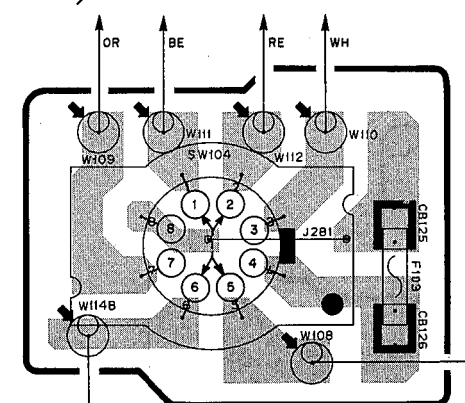
Ref. No.	Location
D123	C2
D124	B2
D125	B2
Q141	C1
Q142	B2

W114 BR (R only)

● R model only  
MAIN P. C. B. ( 6 )

**MAIN P. C. B. ( 11 )**

To:  
POWER TRANSFORMER

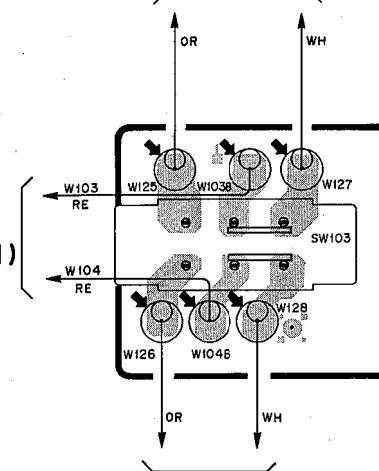


VOLTAGE SELECTOR

240V	1-2 / 5-6
220V	2-3 / 6-7
110V	3-4 / 7-8
120V	4-5 / 8-1

To:  
MAIN(1)

To:  
POWER TRANSFORMER

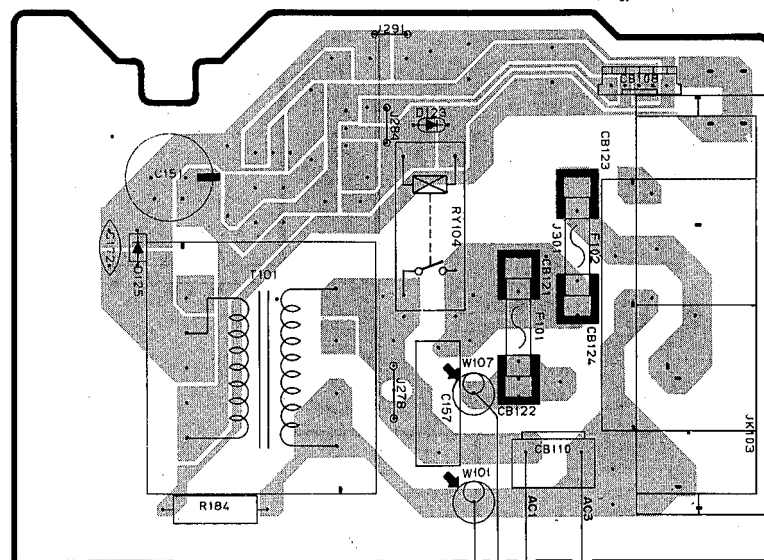


To:  
POWER TRANSFORMER

IMPEDANCE SELECTOR  
SET BEFORE POWER ON

**MAIN P. C. B. ( 2 )**

To:   
 MAIN(1)

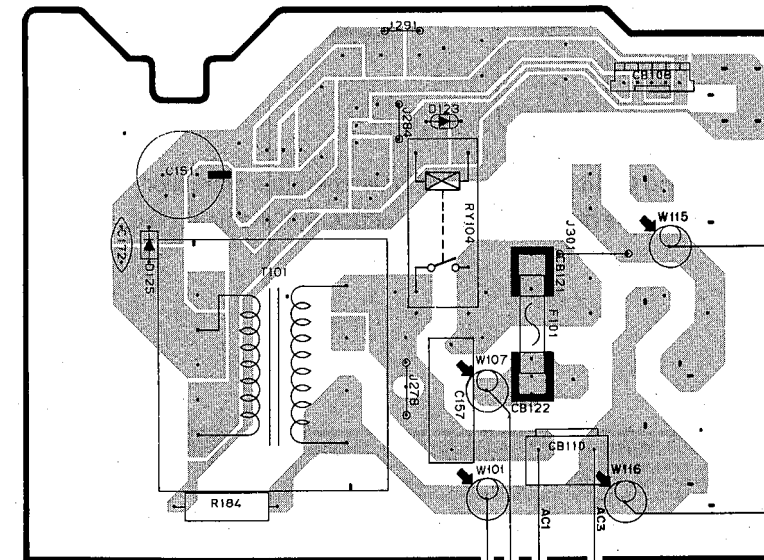


To:  
POWER  
TRANSFORMER

AC OUTLETS'  
SWITCHED  
100W MAX. TOTAL

**MAIN P. C. B. ( 2 )**

To:  
MAIN(1)



To:  
POWER  
TRANSFORMER

To:  
AC OUTLET

SWITCHED  
100W MAX.

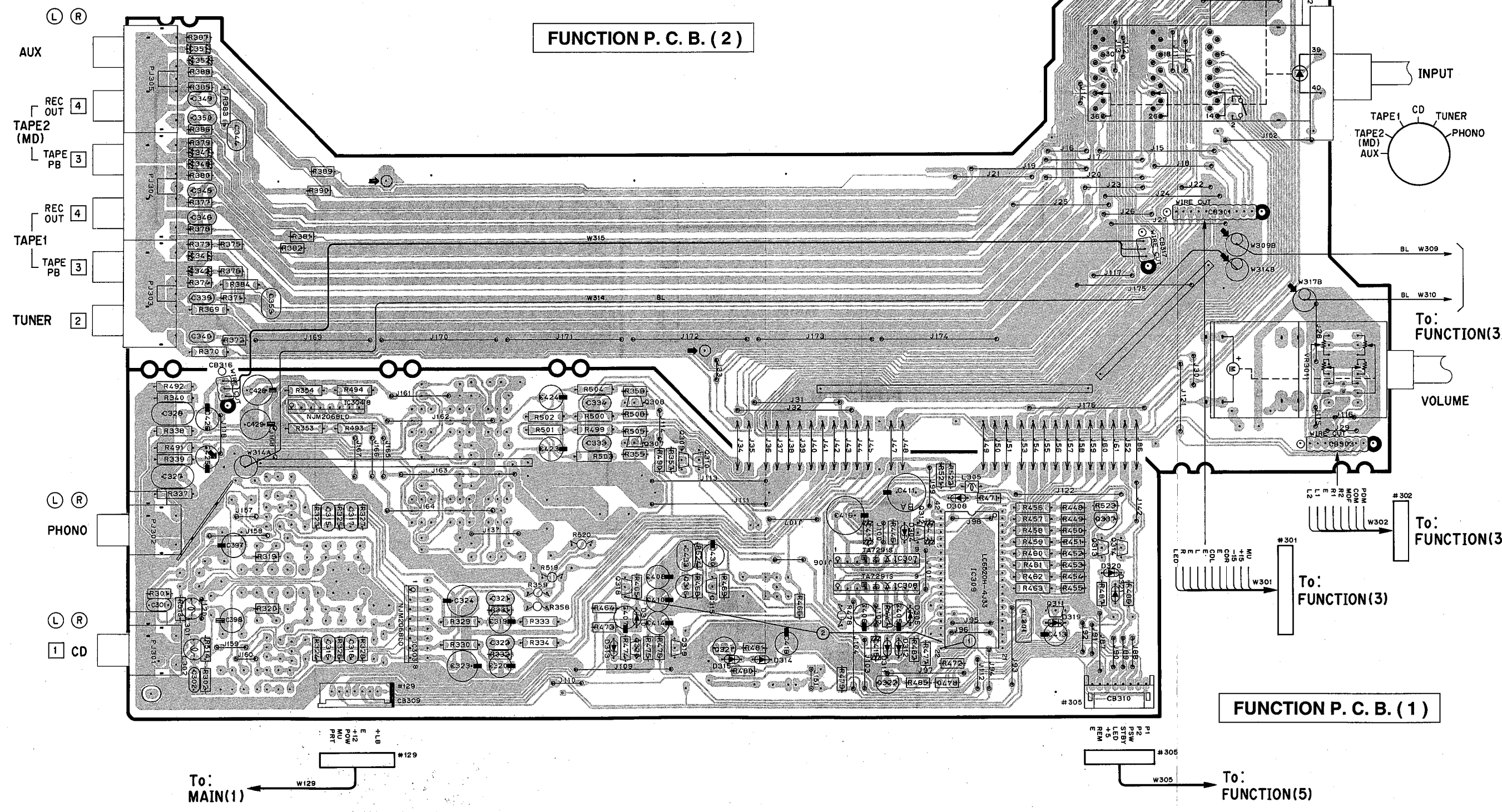


PRINTED CIRCUIT BOARD (Foil side)

① and ② : TEST POINT WAVEFORMS(See page 16)

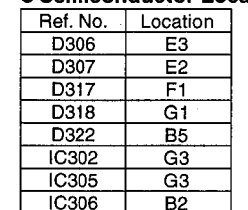
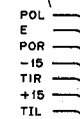
Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D304	E5	D320	F5	Q310	D4	Q321	D5
D305	E5	D321	F5	Q311	F5	Q322	E5
D308	E4	IC303	C5	Q312	E5	Q337	F5
D310	D5	IC304	B4	Q313	F5		
D311	E5	IC307	E5	Q314	F5		
D312	E5	IC308	E5	Q315	D5		
D313	D5	IC309	E5	Q316	D5		
D314	D5	Q307	D4	Q318	D5		
D315	D5	Q308	D4	Q319	D5		
D319	F5	Q309	D4	Q320	D5		





**FUNCTION P. C. B. ( 4 )**

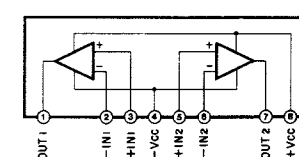




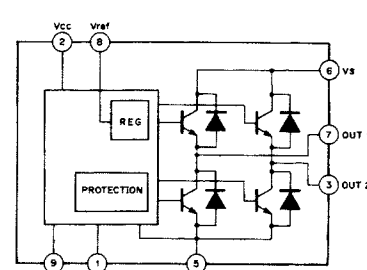
## ■ SCHEMATIC DIAGRAM (FUNCTION)

## IC BLOCK

IC302 : NJM4558LD  
IC303-306 : NJM2068LD  
Dual OP Amp



IC307, 308 : TA7291S  
Motor Drive



REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
⊗	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
□	METAL PLATE RESISTOR
■	FIRE PROOF CARBON FILM RESISTOR
●	CEMENT MOLDED RESISTOR
◻	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

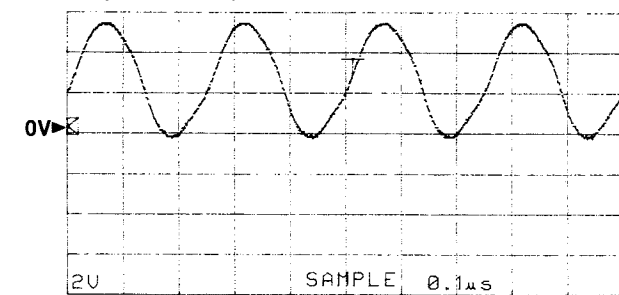
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊗	CERAMIC TUBULAR CAPACITOR
⊗	POLYESTER FILM CAPACITOR
⊗	MICA CAPACITOR
⊗	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

Interchangeable Parts at Manufacture Stage

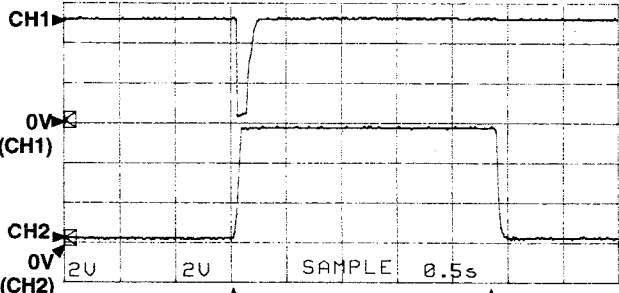
Mark	Reference Parts Number	Parts Name
41	0306-306-311-312-314-315	HSS104
42	319-321	HSS176

## TEST POINT WAVEFORMS

Point ①  
(Pin 22 of IC309)  
V : 2V/div  
DC range



Point ②  
(CH1 : Collector of Q319)  
(CH2 : Emitter of Q318)  
V : 2V/div  
DC range



With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.

(This waveform is not available by pushing the power switch ON and OFF.)

## PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

1SS133 MTZJ3.0A  
1SS176 MTZJ5.6C  
HSS104 MTZJ6.2C  
MTZJ4.7A Anode

2SA933S (Q, R)  
2SC1740S (R, S)  
2SD1915F (S, T)  
DTA144ES  
DTC114ES  
DTC144ES

2SC2240 (GR, BL)  
2SC1890A (D, E)

NJM2068LD  
NJM4558LD

TA7291S

LC6520H-4J33

Conditions  
● FUNCTION → CD  
● REC OUT → CD  
● SPEAKERS → A:ON  
→ B:OFF  
● VOLUME → minimum (∞)  
● VOLTAGE SELECTOR → 240V  
● IMPEDANCE SELECTOR → Upper side  
→ (Bottom side)

\* All voltages are measured with a 10MΩ/V DC electric volt meter.  
\* Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.



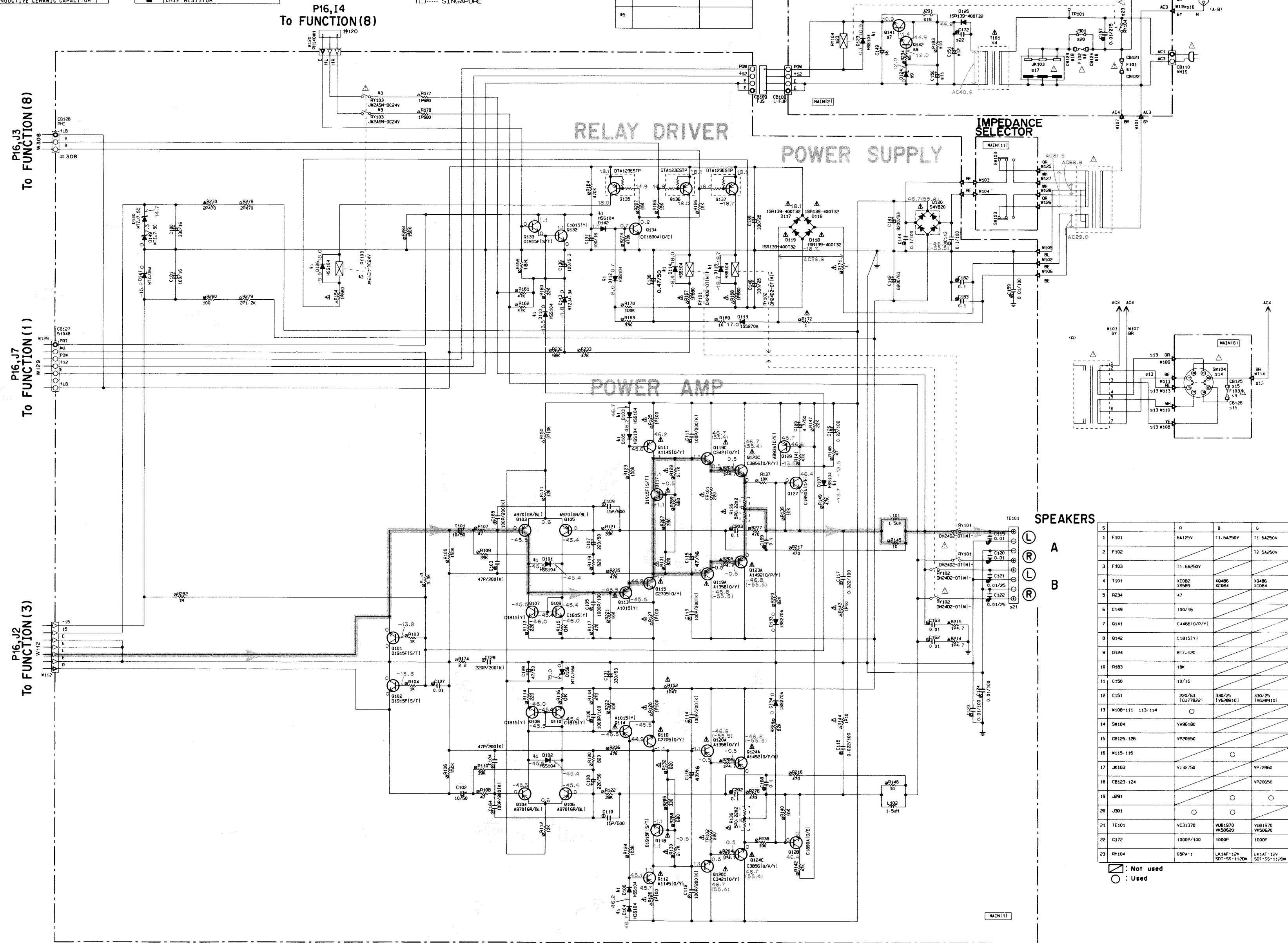
SCHEMATIC DIAGRAM (MAIN)

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⊕
NO MARK	TANTALUM CAPACITOR	⊕
NO MARK	CERAMIC CAPACITOR	⊕
NO MARK	CERAMIC TUBULAR CAPACITOR	⊕
NO MARK	POLYESTER FILM CAPACITOR	⊕
NO MARK	POLYSTYRENE FILM CAPACITOR	⊕
NO MARK	MICA CAPACITOR	⊕
NO MARK	POLYPROPYLENE FILM CAPACITOR	⊕
NO MARK	SEMICONDUCTIVE CERAMIC CAPACITOR	⊕

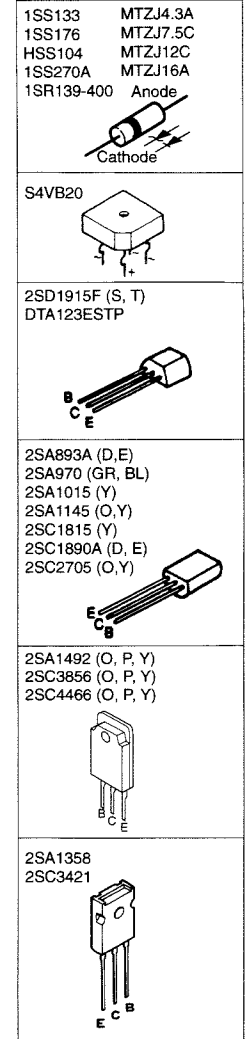
REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (P=5)	⊕
NO MARK	CARBON FILM RESISTOR (P=10)	⊕
NO MARK	METAL OXIDE FILM RESISTOR	⊕
NO MARK	METAL FILM RESISTOR	⊕
NO MARK	METAL PLATE RESISTOR	⊕
NO MARK	FINE PROOF CARBON FILM RESISTOR	⊕
NO MARK	CEMENT MOLDED RESISTOR	⊕
NO MARK	SEMI VARIABLE RESISTOR	⊕
NO MARK	CHIP RESISTOR	⊕

NOTICE (model)  
(J)..... JAPANESE  
(U)..... U.S.A  
(C)..... CANADIAN  
(R)..... GENERAL  
(A)..... AUSTRALIAN  
(B)..... BRITISH  
(S)..... EUROPEAN  
(T)..... CHINA  
(L)..... SINGAPORE

Mark	Reference Parts Number	Parts Name
41	D101-107, 110, 112, 114, 115, 123, 126, 142	HSS104
42		15S133
43	R103	JN404N-DC24V
44		DH402-051M11
45		



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.



SPEAKERS

A  
B

S	R	B	G
1 F101	BA125V	T1. 6A250V	T1. 6A250V
2 F102			T2. 5A250V
3 F103	T1. 6A250V		
4 T101	XC080 XS089	XC086 XC084	XC086 XC084
5 R234	47		
6 C149	100/16		
7 Q141	C4466 (D/P/Y)		
8 Q142	C1815 (Y)		
9 D124	W12, 12C		
10 R183	10K		
11 C150	10/16		
12 C151	200/43 (U77A22)	330/25 VC089101	330/25 VC089101
13 W108-111 113-114			
14 SW104	VA96180		
15 CB125, 126	VP20650		
16 W115, 116			
17 JK103	V132750		VP72960
18 CB123, 124			VP20650
19 J201			
20 J301			
21 TE101	VC31370	VB81970 VC50620	VB81970 VC50620
22 C172	1000P/100	1000P	1000P
23 RY104	GSPx 1	L134F 12V SD1-SS-1120M	L134F 12V SD1-SS-1120M

⊕ : Not used  
⊕ : Used

\* All voltages are measured with a 10MΩ/V DC electric volt meter.  
\* Components having special characteristics are marked ⊕ and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.



# PARTS LIST

## ■ ELECTRICAL PARTS

### ■ WARNING

Components having special characteristics are marked  $\triangle$  and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the part Nos. of the carbon resistors, refer to the last page.

### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C. A. EL. CHP	: CHIP ALUMI. ELECTROLYTIC CAP	LED. DSPLY	: LED DISPLAY
C. CE	: CERAMIC CAP	LED. INFRD	: LED, INFRARED
C. CE. ARRAY	: CERAMIC CAP ARRAY	MODUL. RF	: MODULATOR, RF
C. CE. CHP	: CHIP CERAMIC CAP	PHOT. CPL	: PHOTO COUPLER
C. CE. ML	: MULTILAYER CERAMIC CAP	PHOT. INTR	: PHOTO INTERRUPTER
C. CE. M. CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT. RFLCT	: PHOTO REFLECTOR
C. CE. SAFTY	: RECOGNIZED CERAMIC CAP	PIN. TEST	: PIN, TEST POINT
C. CE. TUBLR	: CERAMIC TUBULAR CAP	PLST. RIVET	: PLASTIC RIVET
C. EL. SMI	: SEMI CONDUCTIVE CERAMIC CAP	R. ARRAY	: RESISTOR ARRAY
C. EL	: ELECTROLYTIC CAP	R. CAR	: CARBON RESISTOR
C. MICA	: MICA CAP	R. CAR. CHP	: CHIP RESISTOR
C. ML. FLM	: MULTILAYER FILM CAP	R. CAR.FP	: FLAME PROOF CARBON RESISTOR
C. MP	: METALLIZED PAPER CAP	R. FUS	: FUSABLE RESISTOR
C. MYLAR	: MYLAR FILM CAP	R. MTL. CHP	: CHIP METAL FILM RESISTOR
C. MYLAR. ML	: MULTILAYER MYLAR FILM CAP	R. MTL. FILM	: METAL FILM RESISTOR
C. PAPER	: PAPER CAPACITOR	R. MTL. OXD	: METAL OXIDE FILM RESISTOR
C. PLS	: POLYSTYRENE FILM CAP	R. MTL. PLAT	: METAL PLATE RESISTOR
C. POL	: POLYESTER FILM CAP	RSNR. CE	: CERAMIC RESONATOR
C. POLY	: POLYETHYLENE FILM CAP	RSNR. CRYST	: CRYSTAL RESONATOR
C. PP	: POLYPROPYLENE FILM CAP	R. TW. CEM	: TWIN CEMENT FIXED RESISTOR
C. TNLT	: TANTALUM CAP	R. WW	: WIRE WOUND RESISTOR
C. TNT. CHP	: CHIP TANTALUM CAP	SCR. BND. HD	: BIND HEAD B-TITE SCREW
C. TRIM	: TRIMMER CAP	SCR. BW. HD	: BW HEAD TAPPING SCREW
CN	: CONNECTOR	SCR. CUP	: CUP TITE SCREW
CN. BS. PIN	: CONNECTOR, BASE PIN	SCR. TERM	: SCREW TERMINAL
CN. CANNON	: CONNECTOR, CANNON	SCR. TR	: SCREW, TRANSISTOR
CN. DIN	: CONNECTOR, DIN	SUPRT. PCB	: SUPPORT, P. C. B.
CN. FLAT	: CONNECTOR, FLAT CABLE	SURG. PRTCT	: SURGE PROTECTOR
CN. POST	: CONNECTOR, BASE POST	SW. TACT	: TACT SWITCH
COIL. MX. AM	: COIL, AM MIX	SW. LEAF	: LEAF SWITCH
COIL. AT. FM	: COIL, FM ANTENNA	SW. LEVER	: LEVER SWITCH
COIL. DT. FM	: COIL, FM DETECT	SW. MICRO	: MICRO SWITCH
COIL. MX. FM	: COIL, FM MIX	SW. PUSH	: PUSH SWITCH
COIL. OUTPT	: OUTPUT COIL	SW. RT. ENC	: ROTARY ENCODER
DIOD. ARRAY	: DIODE ARRAY	SW. RT. MTR	: ROTARY SWITCH WITH MOTOR
DIODE. BRG	: DIODE BRIDGE	SW. RT	: ROTARY SWITCH
DIODE. CHP	: CHIP DIODE	SW. SLIDE	: SLIDE SWITCH
DIODE. VAR	: VARACTOR DIODE	TERM. SP	: SPEAKER TERMINAL
DIOD. Z. CHP	: CHIP ZENER DIODE	TERM. WRAP	: WRAPPING TERMINAL
DIODE. ZENR	: ZENER DIODE	THRMST. CHP	: CHIP THERMISTOR
DSCR. CE	: CERAMIC DISCRIMINATOR	TR. CHP	: CHIP TRANSISTOR
FER. BEAD	: FERRITE BEADS	TR. DGT	: DIGITAL TRANSISTOR
FER. CORE	: FERRITE CORE	TR. DGT. CHP	: CHIP DIGITAL TRANSISTOR
FET. CHP	: CHIP FET	TRANS	: TRANSFORMER
FL. DSPLY	: FLUORESCENT DISPLAY	TRANS. PULS	: PULSE TRANSFORMER
FLTR. CE	: CERAMIC FILTER	TRANS. PWR	: POWER TRANSFORMER ASS'y
FLTR. COMB	: COMB FILTER MODULE	TUNER. AM	: TUNER PACK, AM
FLTR. LC. RF	: LC FILTER, EMI	TUNER. FM	: TUNER PACK, FM
GND. MTL	: GROUND PLATE	TUNER. PK	: FRONT-END TUNER PACK
GND. TERM	: GROUND TERMINAL	VR	: ROTARY POTENTIOMETER
HOLDER. FUS	: FUSE HOLDER	VR. MTR	: POTENTIOMETER WITH MOTOR
IC. PRTCT	: IC PROTECTOR	VR. SW	: POTENTIOMETER WITH ROTARY SW
JUMPER. CN	: JUMPER CONNECTOR	VR. SLIDE	: SLIDE POTENTIOMETER
JUMPER. TST	: JUMPER, TEST POINT	VR. TRIM	: TRIMMER POTENTIOMETER
L. DTCT	: LIGHT DETECTING MODULE		
L. EMIT	: LIGHT EMITTING MODULE		

Note) Those parts marked with "#" are not included in the P. C. B. Ass'y.



## MAIN P.C.B.

Schm Ref.	PART NO.	Description
* VY654400	P.C.B.	MAIN(RT)
* VY654500	P.C.B.	MAIN(B)
* VY654600	P.C.B.	MAIN(G)
CB108	VS839400	CN.BS.PIN 4P
CB109	VS839500	CN 4P
CB110	VG879900	CN.BS.PIN 2P
CB121	VP206500	HOLDER.FUS EYF-52BC
CB122	VP206500	HOLDER.FUS EYF-52BC
CB123	VP206500	HOLDER.FUS EYF-52BC(G)
CB124	VP206500	HOLDER.FUS EYF-52BC(G)
CB125	VP206500	HOLDER.FUS EYF-52BC(RT)
CB126	VP206500	HOLDER.FUS EYF-52BC(RT)
CB127	Vi878500	CN.BS.PIN 7P
CB128	VD004600	CN.BS.PIN 3P
C101	VE742700	C.EL 10uF 50V
C102	VE742700	C.EL 10uF 50V
C103	VK533800	C.PP 47pF 200V
C104	VK533800	C.PP 47pF 200V
C105	VP917800	C.PP 1000pF 100V
C106	VP917800	C.PP 1000pF 100V
C107	VG291400	C.EL 220uF 50V
C108	VG291400	C.EL 220uF 50V
C109	FU451150	C.MICA 15pF 500V
C110	FU451150	C.MICA 15pF 500V
C111	VK533900	C.PP 100pF 200V
C112	VK533900	C.PP 100pF 200V
C113	VK533900	C.PP 100pF 200V
C114	VK533900	C.PP 100pF 200V
C115	VE742600	C.EL 47uF 25V
C116	VE742600	C.EL 47uF 25V
C117	VP918300	C.PP 0.022uF 100V
C118	VP918300	C.PP 0.022uF 100V
C119	Vi716700	C.MYLAR 0.01uF 50V
C120	Vi716700	C.MYLAR 0.01uF 50V
C121	VJ311800	C.CE.TUBLR 0.01uF 25V
C122	VJ311800	C.CE.TUBLR 0.01uF 25V
C123	VK534100	C.PP 0.01uF 100V
C124	VK534100	C.PP 0.01uF 100V
C125	Vi377400	C.EL 4.7uF 63V
C126	UJ895220	C.EL 0.22uF 100V
C127	UA654100	C.MYLAR 0.01uF 50V
C128	VK534000	C.PP 220pF 200V
C129	VG291200	C.EL 47uF 50V
C131	VK699400	C.EL 330uF 63V
C136	VF760000	C.EL 100uF 10V
C137	VQ083100	C.EL 100uF 16V
C138	VJ839100	C.EL 1uF 50V
C139	VG289100	C.EL 330uF 25V
C140	VG289100	C.EL 330uF 25V
C141	VK574400	C.EL 8200uF 63V
C142	VK574400	C.EL 8200uF 63V
C143	VR325400	C.MYLAR 0.1uF 100V
C144	VR325400	C.MYLAR 0.1uF 100V

\* New Parts

Schm Ref.	PART NO.	Description
C149	VG288900	C.EL 100uF 25V(RT)
C150	VG290900	C.EL 10uF 50V(RT)
C151	UJ778220	C.EL 220uF 63V(RT)
C151	VG289100	C.EL 330uF 25V(BG)
C157	VS741700	C.CE.SAFTY 0.01uF 275V
C159	VK534100	C.PP 0.01uF 100V
C162	Vi716700	C.MYLAR 0.01uF 50V
C163	Vi716700	C.MYLAR 0.01uF 50V
C164	VK533900	C.PP 100pF 200V
C165	VK533900	C.PP 100pF 200V
C168	Vi550600	C.MYLAR.ML 0.1uF 50V
C169	Vi550600	C.MYLAR.ML 0.1uF 50V
C172	Vi715500	C.MYLAR 1000pF 50V(BG)
C172	VU019500	C.MYLAR 1000pF 100V(RT)
C180	VG287800	C.EL 330uF 16V
C181	VG288900	C.EL 100uF 25V
C182	UA655100	C.MYLAR 0.1uF 50V
C183	UA655100	C.MYLAR 0.1uF 50V
C202	Vi550600	C.MYLAR.ML 0.1uF 50V
C203	Vi550600	C.MYLAR.ML 0.1uF 50V
D101	VD631600	DIODE 1SS133,176,HSS104
D102	VD631600	DIODE 1SS133,176,HSS104
D103	VD631600	DIODE 1SS133,176,HSS104
D104	VD631600	DIODE 1SS133,176,HSS104
D105	VD631600	DIODE 1SS133,176,HSS104
D106	VD631600	DIODE 1SS133,176,HSS104
D107	VD631600	DIODE 1SS133,176,HSS104
D110	VD631600	DIODE 1SS133,176,HSS104
D112	VD631600	DIODE 1SS133,176,HSS104
D113	VN008700	DIODE 1SS270A
D114	VD631600	DIODE 1SS133,176,HSS104
D115	VD631600	DIODE 1SS133,176,HSS104
D116	VU264100	DIODE 1SR139-400
D117	VU264100	DIODE 1SR139-400
D118	VU264100	DIODE 1SR139-400
D119	VU264100	DIODE 1SR139-400
D120	iH001090	DIODE.BRG S4VB20 2.6A 200V
D123	VD631600	DIODE 1SS133,176,HSS104
D124	VG440300	DIODE.ZENR MTZJ12C 12V(RT)
D125	VU264100	DIODE 1SR139-400
D126	VD631600	DIODE 1SS133,176,HSS104
D133	VN008700	DIODE 1SS270A
D134	VN008700	DIODE 1SS270A
D140	VG438700	DIODE.ZENR MTZJ7.5C 7.5V
D141	VG441000	DIODE.ZENR MTZJ16A 16V
D142	VD631600	DIODE 1SS133,176,HSS104
D143	VG436700	DIODE.ZENR MTZJ4.3A 4.3V
D149	VG438700	DIODE.ZENR MTZJ7.5C 7.5V
D158	VG441000	DIODE.ZENR MTZJ16A 16V
F101	KB001660	FUSE T1.60A 250V(BG)
F101	VS823100	FUSE 6.0A 125V(RT)
F102	KB002980	FUSE T2.5A 250V(G)
F103	KB001660	FUSE T1.60A 250V(RT)

\* New Parts



MAIN P.C.B. & FUNCTION P.C.B.
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Schm Ref.	PART NO.	Description		Schm Ref.	PART NO.	Description
FR101	VK188200	R.FUS	220Ω 1/4W	△	R143	HL314100 R.MTL.OXD 10Ω 1W
FR102	VK188200	R.FUS	220Ω 1/4W	△	R144	HL314100 R.MTL.OXD 10Ω 1W
JK103	Vi327500	OUTLET.AC	3P(RT)		R145	HV454100 R.CAR.FP 10Ω 1/4W
JK103	VP728600	OUTLET.AC	3P(G)		R146	HV454100 R.CAR.FP 10Ω 1/4W
L101	VP575600	COIL	1.5uH		R150	VP941800 R.MTL.OXD 10KΩ 1W
L102	VP575600	COIL	1.5uH	△	R152	HL314470 R.MTL.OXD 47Ω 1W
Q101	VK432900	TR	2SD1915F S,T	△	R154	HL315680 R.MTL.OXD 680Ω 1W
Q102	VK432900	TR	2SD1915F S,T	△	R167	HL315680 R.MTL.OXD 680Ω 1W
Q103	iA097000	TR	2SA970 GR,BL	△	R168	HL315680 R.MTL.OXD 680Ω 1W
Q104	iA097000	TR	2SA970 GR,BL	△	R171	HV453100 R.CAR.FP 1Ω 1/4W
Q105	iA097000	TR	2SA970 GR,BL	△	R172	HV453100 R.CAR.FP 1Ω 1/4W
Q106	iA097000	TR	2SA970 GR,BL	△	R177	HL315680 R.MTL.OXD 680Ω 1W
Q107	iC1815C0	TR	2SC1815 Y	△	R178	HL315680 R.MTL.OXD 680Ω 1W
Q108	iC1815C0	TR	2SC1815 Y		R203	VP939700 R.MTL.FLM 4.7Ω 1W
Q109	iC1815C0	TR	2SC1815 Y		R204	VP939700 R.MTL.FLM 4.7Ω 1W
Q110	iC1815C0	TR	2SC1815 Y		R205	VP939700 R.MTL.FLM 4.7Ω 1W
△	Q111	VE198700	2SA1145 O,Y		R206	VP939700 R.MTL.FLM 4.7Ω 1W
△	Q112	VE198700	2SA1145 O,Y		R214	VP939700 R.MTL.FLM 4.7Ω 1W
△	Q113	iA101521	2SA1015 Y		R215	VP939700 R.MTL.FLM 4.7Ω 1W
△	Q114	iA101521	2SA1015 Y		R230	HL325470 R.MTL.OXD 470Ω 2W
△	Q115	VE198800	2SC2705 O,Y		R278	HL325470 R.MTL.OXD 470Ω 2W
△	Q116	VE198800	2SC2705 O,Y		R279	HL326120 R.MTL.OXD 1.2KΩ 2W
△	Q117	VK432900	2SD1915F S,T		R280	HV455100 R.CAR.FP 100Ω 1/4W
△	Q118	VK432900	2SD1915F S,T		R286	HV455330 R.CAR.FP 330Ω 1/4W
△	Q119A	iX603580	2SA1358		R287	HV455330 R.CAR.FP 330Ω 1/4W
△	Q119C	iX603590	2SC3421		R288	HV455680 R.CAR.FP 680Ω 1/4W
△	Q120A	iX603580	2SA1358		R289	HV455680 R.CAR.FP 680Ω 1/4W
△	Q120C	iX603590	2SC3421	△	RY101	VK438300 RELAY DH24D2-OT/M2
△ #	Q123A	iX606460	2SA1492 O,P,Y	△	RY102	VK438300 RELAY DH24D2-OT/M2
△ #	Q123C	iX606470	2SC3856 O,P,Y	△	RY103	VT561500 RELAY DC JW2ASN-DC24V
△ #	Q124A	iX606460	2SA1492 O,P,Y	△	RY104	VU398500 RELAY DC LK1AF-12V(BG)
△ #	Q124C	iX606470	2SC3856 O,P,Y	△	RY104	VY735300 RELAY DC G5P-1(RT)
	Q127	VP883100	2SC1890A D,E		SW103	VV523800 SW.SLIDE SL13B-022-BMC1
	Q128	VP883100	2SC1890A D,E	△	SW104	VA961800 VOLT.SELCT ESE-37247-F(R)(RT)
	Q129	VP883000	2SA893A D,E	△	T101	XC082A00 TRANS.PWR (RT)
	Q132	iC1815C0	2SC1815 Y	△	T101	XQ486B00 TRANS.PWR (BG)
	Q133	VK432900	2SD1915F S,T		TE101	VC313700 TERM.SP 8P(RT)
	Q134	VP883100	2SC1890A D,E		TE101	VU819700 TERM.SP 8P(BG)
	Q135	VF325300	TR.DGT DTA123ESTP			BB071360 SCR.TERM 8.3x13
	Q136	VF325300	TR.DGT DTA123ESTP			BB070700 GND.MTL
	Q137	VF325300	TR.DGT DTA123ESTP			
	Q141	VP768300	TR 2SC4466 O,P,Y(RT)			
	Q142	iC1815C0	TR 2SC1815 Y(RT)			
△	R125	HL315100	R.MTL.OXD 100Ω 1W	*	VY654300	P.C.B. FUNCTION
△	R126	HL315100	R.MTL.OXD 100Ω 1W		CB301	Vi878900 CN.BS.PIN 11P
△	R127	HL315100	R.MTL.OXD 100Ω 1W		CB302	VK025500 CN.BS.PIN 11P
△	R128	HL315100	R.MTL.OXD 100Ω 1W		CB303	Vi878600 CN.BS.PIN 8P
△	R129	HV456270	R.CAR.FP 2.7KΩ 1/4W		CB304	VK025200 CN.BS.PIN 8P
△	R130	HV456270	R.CAR.FP 2.7KΩ 1/4W		CB307	Vi878500 CN.BS.PIN 7P
△	R131	HV455820	R.CAR.FP 820Ω 1/4W		CB308	VK025100 CN.BS.PIN 7P
△	R132	HV455820	R.CAR.FP 820Ω 1/4W		CB309	VK026600 CN.BS.PIN 7P
△	R135	HZ003780	R.MTL.PLAT 0.22Ω +0.22 5W		CB310	VB858700 CN.BS.PIN 8P
△	R136	HZ003780	R.MTL.PLAT 0.22Ω +0.22 5W		CB312	LB919070 CN.BS.PIN 7P

\* New Parts

\* New Parts



## FUNCTION P. C. B.

Schm Ref.	PART NO.	Description
CB314	VB858200	CN.BS.PIN 3P
CB316	Vi878100	CN.BS.PIN 3P
CB317	Vi878100	CN.BS.PIN 3P
C301	VQ462600	C.MYLAR 220pF 50V
C302	VQ462600	C.MYLAR 220pF 50V
C315	UA654330	C.MYLAR 0.033uF 50V
C316	UA654330	C.MYLAR 0.033uF 50V
C317	UA653910	C.MYLAR 9100pF 50V
C318	UA653910	C.MYLAR 9100pF 50V
C319	VG290900	C.EL 10uF 50V
C320	VG290900	C.EL 10uF 50V
C321	Vi715900	C.MYLAR 2200pF 50V
C322	Vi715900	C.MYLAR 2200pF 50V
C323	VG288900	C.EL 100uF 25V
C324	VG288900	C.EL 100uF 25V
C327	VK533900	C.PP 100pF 200V
C328	VK533900	C.PP 100pF 200V
C333	Vi715100	C.MYLAR 470pF 50V
C334	Vi715100	C.MYLAR 470pF 50V
C339	VQ645600	C.MYLAR 100pF 50V
C340	VQ645600	C.MYLAR 100pF 50V
C341	VF466800	C.CE.TUBLR 100pF 50V
C342	VF466800	C.CE.TUBLR 100pF 50V
C344	UA655100	C.MYLAR 0.1uF 50V
C345	VK533800	C.PP 47pF 200V
C346	VK533800	C.PP 47pF 200V
C347	VF466800	C.CE.TUBLR 100pF 50V
C348	VF466800	C.CE.TUBLR 100pF 50V
C349	FU451470	C.MICA 47pF 500V
C350	FU451470	C.MICA 47pF 500V
C351	VF466800	C.CE.TUBLR 100pF 50V
C352	VF466800	C.CE.TUBLR 100pF 50V
C353	UA655100	C.MYLAR 0.1uF 50V
C354	Vi716700	C.MYLAR 0.01uF 50V
C355	VK533800	C.PP 47pF 200V
C356	VK533800	C.PP 47pF 200V
C357	Vi377400	C.EL 4.7uF 63V
C358	Vi377400	C.EL 4.7uF 63V
C359	VG287100	C.EL 470uF 10V
C360	VG287100	C.EL 470uF 10V
C361	Vi377400	C.EL 4.7uF 63V
C362	Vi377400	C.EL 4.7uF 63V
C363	UA653220	C.MYLAR 2200pF 50V
C364	UA653220	C.MYLAR 2200pF 50V
C365	VG288900	C.EL 100uF 25V
C366	VG288900	C.EL 100uF 25V
C367	UA653220	C.MYLAR 2200pF 50V
C368	UA653220	C.MYLAR 2200pF 50V
C369	VG291200	C.EL 47uF 50V
C370	VG291200	C.EL 47uF 50V
C371	VG286900	C.EL 220uF 10V
C372	VG286900	C.EL 220uF 10V
C373	VG288900	C.EL 100uF 25V

\* New Parts

Schm Ref.	PART NO.	Description
C374	VG288900	C.EL 100uF 25V
C375	UA654560	C.MYLAR 0.056uF 50V
C376	UA654560	C.MYLAR 0.056uF 50V
C377	VG278900	C.CE.TUBLR 680pF 50V
C378	VG278900	C.CE.TUBLR 680pF 50V
C385	VG290300	C.EL 0.47uF 50V
C386	VG290300	C.EL 0.47uF 50V
C387	VG278400	C.CE.TUBLR 220pF 50V
C388	VG278400	C.CE.TUBLR 220pF 50V
C389	Vi377400	C.EL 4.7uF 63V
C390	Vi377400	C.EL 4.7uF 63V
C391	VF466700	C.CE.TUBLR 47pF 50V
C392	VF466700	C.CE.TUBLR 47pF 50V
C393	VG291200	C.EL 47uF 50V
C394	VG291200	C.EL 47uF 50V
C395	UA655120	C.MYLAR 0.12uF 50V
C396	UA655120	C.MYLAR 0.12uF 50V
C397	VG286900	C.EL 220uF 10V
C398	VG286900	C.EL 220uF 10V
C399	UA654330	C.MYLAR 0.033uF 50V
C400	UA654330	C.MYLAR 0.033uF 50V
C401	VG288900	C.EL 100uF 25V
C402	VG288900	C.EL 100uF 25V
C403	UA654100	C.MYLAR 0.01uF 50V
C404	UA654100	C.MYLAR 0.01uF 50V
C405	VF760000	C.EL 100uF 10V
C406	VF760000	C.EL 100uF 10V
C407	VG290900	C.EL 10uF 50V
C408	VG290700	C.EL 3.3uF 50V
C410	VG291200	C.EL 47uF 50V
C411	VT180400	C.EL 4700uF 5.5V
C412	VH053100	C.CE.TUBLR 0.1uF 50V
C413	VG290900	C.EL 10uF 50V
C414	VG290500	C.EL 1uF 50V
C415	VH053100	C.CE.TUBLR 0.1uF 50V
C416	VG289100	C.EL 330uF 25V
C417	VH053100	C.CE.TUBLR 0.1uF 50V
C418	VG291200	C.EL 47uF 50V
C423	VQ083100	C.EL 100uF 16V
C424	VQ083100	C.EL 100uF 16V
C425	VE021900	C.EL 4.7uF 100V
C426	VE021900	C.EL 4.7uF 100V
C428	VG287800	C.EL 330uF 16V
C429	VG287800	C.EL 330uF 16V
C430	Vi377400	C.EL 4.7uF 63V
C431	UA655120	C.MYLAR 0.12uF 50V
C432	UA655120	C.MYLAR 0.12uF 50V
C433	UA655100	C.MYLAR 0.1uF 50V
C435	VF467100	C.CE.TUBLR 4700pF 16V
C436	VF467100	C.CE.TUBLR 4700pF 16V
D304	VG435800	DIODE.ZENR MTZJ3.0A 3.0V
D305	VG437000	DIODE.ZENR MTZJ4.7A 4.7V
D306	VD631600	DIODE 1SS133,176,HSS104

\* New Parts



## FUNCTION P.C.B.

Schm Ref.	PART NO.	Description	
D307	VD631600	DIODE	1SS133,176,HSS104
D308	VD631600	DIODE	1SS133,176,HSS104
D310	VG438100	DIODE.ZENR	MTZJ6.2C 6.2V
D311	VD631600	DIODE	1SS133,176,HSS104
D312	VD631600	DIODE	1SS133,176,HSS104
D313	VG437800	DIODE.ZENR	MTZJ5.6C 5.6V
D314	VD631600	DIODE	1SS133,176,HSS104
D315	VD631600	DIODE	1SS133,176,HSS104
D317	VR711500	LED(or)	SLR-325DC
D318	VR711500	LED(or)	SLR-325DC
D319	VD631600	DIODE	1SS133,176,HSS104
D320	VD631600	DIODE	1SS133,176,HSS104
D321	VD631600	DIODE	1SS133,176,HSS104
D322	VS132300	LED(re)	SLR-325VCT31
IC302	XQ212A00	IC	NJM4558LD
IC303	XM356A00	IC	NJM2068LD
IC304	XM356A00	IC	NJM2068LD
IC305	XM356A00	IC	NJM2068LD
IC306	XM356A00	IC	NJM2068LD
IC307	XF557A00	IC	TA7291S
IC308	XF557A00	IC	TA7291S
* IC309	XS966A00	IC	LC6520H-4J33 CPU
JK301	VS899700	JACK.PHONE	JY-6317-02-030
L301	VB056900	COIL	220uH
L302	VB056900	COIL	220uH
L305	Vi543300	COIL	1.0uH
* PJ301	VV377000	JACK.PIN	2P
* PJ302	VV377000	JACK.PIN	2P
PJ303	VV306900	JACK.PIN	4P
PJ304	VV306900	JACK.PIN	4P
PJ305	VV306900	JACK.PIN	4P
Q307	VK432900	TR	2SD1915F S,T
Q308	VK432900	TR	2SD1915F S,T
Q309	VG721700	TR.DGT	DTA144ES
Q310	VD678700	TR.DGT	DTC114ES
Q311	VD678700	TR.DGT	DTC114ES
Q312	VD678700	TR.DGT	DTC114ES
Q313	IC174020	TR	2SC1740S R,S
Q314	VG721700	TR.DGT	DTA144ES
Q315	IA093320	TR	2SA933S Q,R
Q316	VP883100	TR	2SC1890A D,E
Q318	IC174020	TR	2SC1740S R,S
Q319	VG722000	TR.DGT	DTC144ES
Q320	IA093320	TR	2SA933S Q,R
Q321	VP883100	TR	2SC1890A D,E
Q322	IC224030	TR	2SC2240 GR,BL
Q337	VP883100	TR	2SC1890A D,E
R358	HL315470	R.MTL.OXD	470Ω 1W
R359	HL315470	R.MTL.OXD	470Ω 1W
R478	HV453470	R.CAR.FP	4.7Ω 1/4W
R519	HL315100	R.MTL.OXD	100Ω 1W
R520	HL315100	R.MTL.OXD	100Ω 1W
SW302	VT146000	SW.RT	SRBAA46

\* New Parts

Schm Ref.	PART NO.	Description	
SW303	VT021200	SW.RT	RS003-A046BHN-20F4
* SW304	VV399900	SW.PUSH	SPUN12
* SW305	VV399800	SW.PUSH	SPUN12
* SW307	VV496300	SW.PUSH	PS-9A2-022-18A-A
SW308	VV523900	SW.PUSH	PBS-YM-001
U301	VU591000	L.DTCT	GP1U271X
* VR301	VV856700	VR.MTR	A100KΩ
VR302	VP700700	VR	A100KΩ
VR303	VP742000	VR	MN100KΩ
VR304	VP741800	VR	B20KΩ
VR305	VP741900	VR	G25KΩ
XL301	VE906000	RSNR.CE	4MHz
	VJ828000	PIN	IMSA-6024-03E
	BB071360	SCR.TERM	8.3x13
	VR710800	PLATE	W25

\* New Parts



## 6





# MECHANICAL PARTS

Ref. No.	PART NO.	Description	Remarks	Markets
1-1	VV188100	FRONT PANEL	BL	
* 1-1	VV188200	FRONT PANEL	TI	
* 1-3	VV185400	ESCUTCHEON	BL	
* 1-3	VV185500	ESCUTCHEON	TI	
1-4	VV123700	ESCUTCHEON, 3/8	BL	
1-4	VV123800	ESCUTCHEON, 3/8	TI	
* 1-5	VV185600	LENS, LED	D2	
* 1-7	VV185700	LENS, FILTER	7x24	
2-1-1	VV187200	PANEL, LID	BL	
2-1-1	VV187300	PANEL, LID	TI	
2-1-2	VS585900	HINGE, LID	BL	
2-1-2	VS586000	HINGE, LID	TI	
2-1-5	EX601590	BIND HEAD P-TITE SCREW	2.6x8 FCRM3-BL	
2-2-1	VV184500	SUB PANEL	BL	
2-2-1	VV184600	SUB PANEL	TI	
2-2-2	VV339400	PLATE, LID	BL	
2-2-2	VV339500	PLATE, LID	TI	
2-2-3	VY940400	CUSHION, LID	T=0.8	
2-3	VS586100	SPRING	HINGE	
* 2-5	VV185600	LENS, LED	D2	
2-7	EX600310	BIND HEAD P-TITE SCREW	3x8 FCRM3-BL	
△ # 5-1-1	IX606460	TRANSISTOR	2SA1492 O,P,Y	Q123A,124A
△ # 5-1-2	IX606470	TRANSISTOR	2SC3856 O,P,Y	Q123C,124C
* 5-1-4	VV903800	HEATSINK ASS'Y		
5-1-5	VK195900	SHEET	19x24	
5-1-6	VP922500	DAMPER	2x10x170	
5-1-7	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
* 5-4	VY654400	P.C.B. ASS'Y	MAIN	(RT)
* 5-4	VY654500	P.C.B. ASS'Y	MAIN	(B)
* 5-4	VY654600	P.C.B. ASS'Y	MAIN	(G)
5-7	VS586500	CHASSIS		
5-9	VB770200	PW HEAD P-TITE SCREW	3x10-8 FCM3	
* 6	VY654300	P.C.B. ASS'Y	FUNCTION	
△ * 8	XT064A00	POWER TRANSFORMER		(BG)
△ 8	XT065A00	POWER TRANSFORMER		(RT)
10	VN158600	CORD STOPPER	No.2104	
△ 12	VL238100	POWER CORD ASS'Y		(R)
△ 12	VN363700	POWER CORD ASS'Y		(G)
△ 12	VV437300	POWER CORD ASS'Y		(B)
△ * 12	VZ542500	POWER CORD ASS'Y		(T)
△ 14	VJ775000	AC OUTLET	2P	(B)
18	VU590000	BINDING TIE	CBTD001B	
101	VV121300	TOP COVER	BL	
101	VV121500	TOP COVER	TI	
102	VS001400	CHASSIS		
* 106	VV187500	REAR PANEL		(RT)
* 106	VV187700	REAR PANEL		(B)
* 106	VV187800	REAR PANEL		(G)
* 107	VV187400	SUB CHASSIS		
108	VS025000	LEG	D60xH21	
110	VV148800	KNOB	D40	BL
110	VV148900	KNOB	D40	TI
* 112	VV387800	KNOB, LED	D28	BL
* 112	VV387900	KNOB, LED	D28	TI

\* New Parts

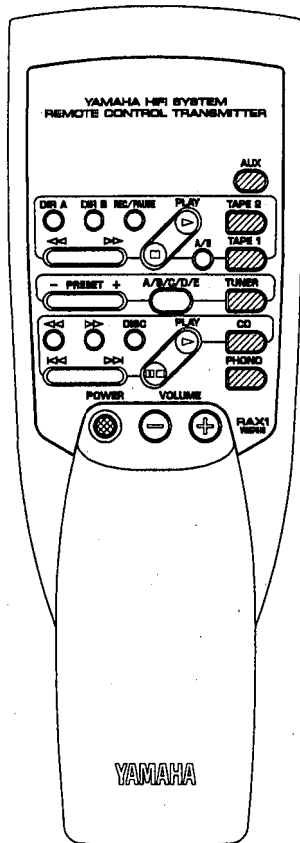
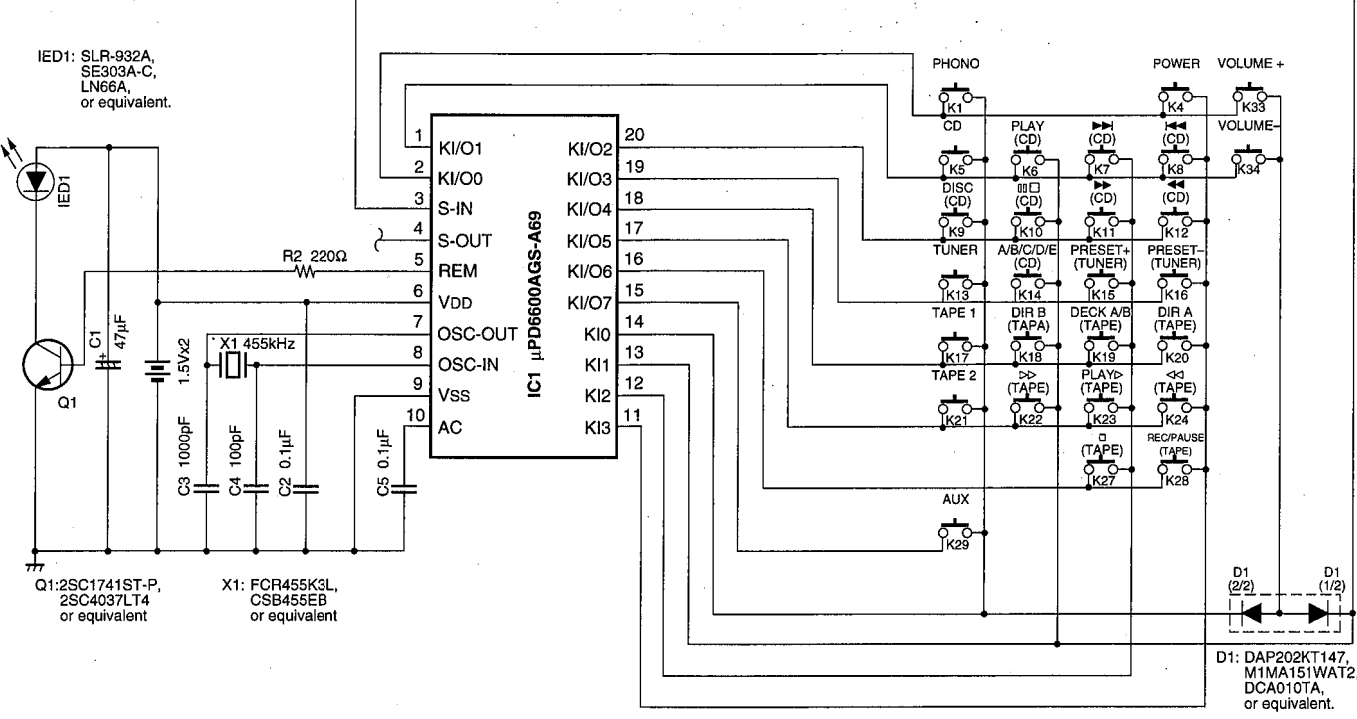
Ref. No.	PART NO.	Description	Remarks	Markets
113	VV149500	ESCUTCHEON, VOL	BL	
113	VV149600	ESCUTCHEON, VOL	TI	
114	VS757400	KNOB, PL	D12	BL
114	VS757500	KNOB, PL	D12	TI
116	VS757200	KNOB, P	D12	BL
116	VS757300	KNOB, P	D12	TI
118	VT275100	KNOB	D12R	BL
118	VT275200	KNOB	D12R	TI
* 120	VV185200	BUTTON	8x26	BL
* 120	VV185300	BUTTON	8x26	TI
122	VV123500	BUTTON, 3/8		BL
122	VV123600	BUTTON, 3/8		TI
* 123	VU875100	BUTTON	9.5x22	BL
* 123	VU875200	BUTTON	9.5x22	TI
* 125	VV188000	SUPPORT, P.C.B.		
127	VY805200	SUPPORT, F		
129	VS586600	FRAME, PCB		
132	VQ368600	PUSH RIVET	P3555-B	
133	VV124300	PLATE SIDE L	130	BL
133	VV124400	PLATE SIDE L	130	TI
134	VV124500	PLATE SIDE R	130	BL
134	VV124600	PLATE SIDE R	130	TI
135	VQ368500	PUSH RIVET	P3545-B	
137	VY928900	DAMPER, TRANS	T=36	(G)
142	VU984400	RING	D14	
148	VY989400	DAMPER	SIDE	
155	AA627310	GROUND TERMINAL		
156	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
157	EN301010	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL	
158	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
160	EK930010	PW HEAD B-TITE SCREW	3x8-8 FCRM3-BL	
161	EL300480	PW HEAD B-TITE SCREW	3x15-8 FCRM3-BL	
168	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	BL
169	Ei030086	BIND HEAD B-TITE SCREW	3x8 ZMC2-Y	
171	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL	TI
172	VY731200	BONDING HEAD TAPPING SCREW	3x10 MFNI33	
173	VB770200	PW HEAD P-TITE SCREW	3x10-8 FCM3	
200	VU074100	ACCESSORIES		
200-1	CX679050	REMOTE CONTROL TRANSMITTER		
		LID	74x34BLALPS	
		BATTERY, MANGANESE	SUM-3,AA,R06	

\* New Parts



REMOTE CONTROL TRANSMITTER

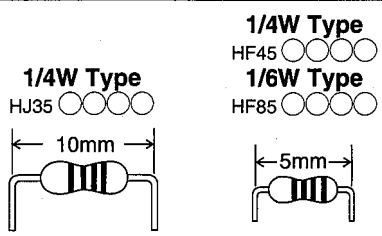
SCHEMATIC DIAGRAM



Key No.	Function	HEX	
		CUSTOM	DATA
1	PHONO	7A	14
4	POWER	7A	1F
5	CD	7A	15
6	PLAY ▷ (CD)	7A	08
7	SKIP ▷▷ (CD)	7A	0A
8	SKIP ◁◁ (CD)	7A	0B
9	DISC SKIP (CD)	7A	4F
10	PAUSE/STOP ◻◻ (CD)	7A	09
11	SEARCH ▷▷ (CD)	7A	0C
12	SEARCH ◁◁ (CD)	7A	0D
13	TUNER	7A	16
14	A/B/C/D/E (TUNER)	7A	12
15	PRESET + (TUNER)	7A	10
16	PRESET - (TUNER)	7A	11
17	TAPE 1	7A	18
18	DIR B (TAPE)	7A	40
19	DECK A/B (TAPE)	7A	06
20	DIR A (TAPE)	7A	07
21	TAPE 2	7A	19
22	▷▷ (TAPE)	7A	02
23	PLAY ▷ (TAPE)	7A	00
24	◁◁ (TAPE)	7A	01
27	STOP ◻ (TAPE)	7A	03
28	REC/PAUSE (TAPE)	7A	04
29	AUX	7A	17
33	VOLUME +	7A	1A
34	VOLUME -	7A	1B

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	10 kΩ	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	*	11 kΩ	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 kΩ	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 kΩ	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 kΩ	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 kΩ	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 kΩ	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 kΩ	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 kΩ	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 kΩ	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 kΩ	HF45 7330	HF45 7330
39 Ω	HJ35 4390	HF85 4390	36 kΩ	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 kΩ	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 kΩ	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 kΩ	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 kΩ	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 kΩ	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 kΩ	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 kΩ	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 kΩ	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 kΩ	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 kΩ	HF45 8110	HF45 8110
160 Ω	HJ35 5160	*	120 kΩ	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	*
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	*
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			



※: Not available  
27