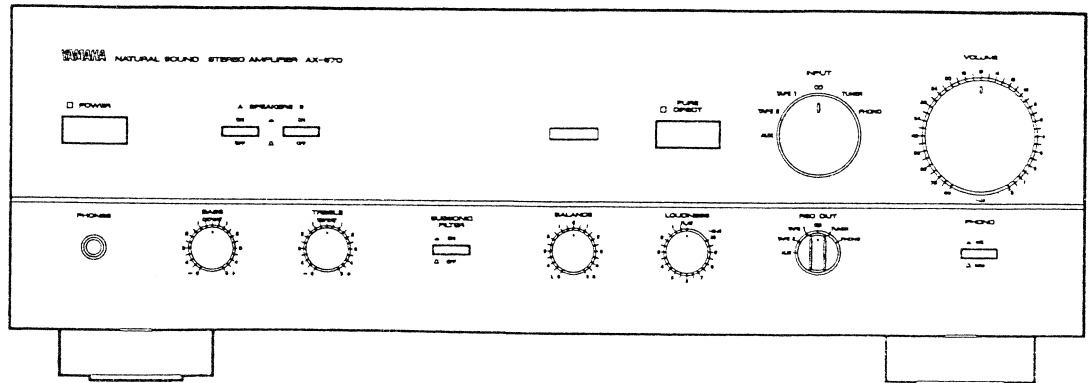
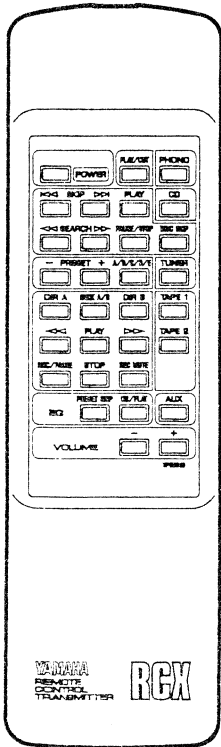


# STEREO INTEGRATED AMPLIFIER AX-570

## SERVICE MANUAL

### FRONT PANEL



### 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 be 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 all 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 or 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 department 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 parts replacement. Recheck all work before you apply power to the unit.

### CONTENTS

TO SERVICE PERSONNEL .....	1	ADJUSTMENTS .....	5
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100450

**YAMAHA**

YAMAHA CORPORATION  
HAMAMATSU, JAPAN

3.13K-812 © Printed in Japan '93.3

AX-570

## ■ TO SERVICE PERSONNEL

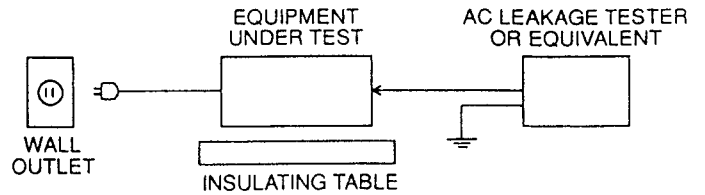
### 1. Critical Component Information

Components having special characteristics are marked  $\frac{1}{1}$  with and must be replaced with parts having specifications equal to those originally installed.

### 2. Leakage Current Measurement (For 120 V Model only).

When a service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuit.

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



## 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.

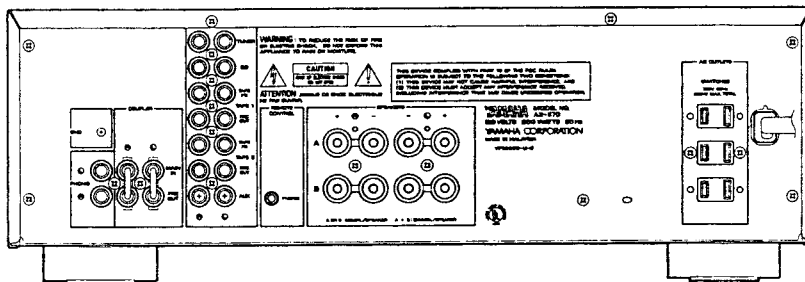
**DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!**

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

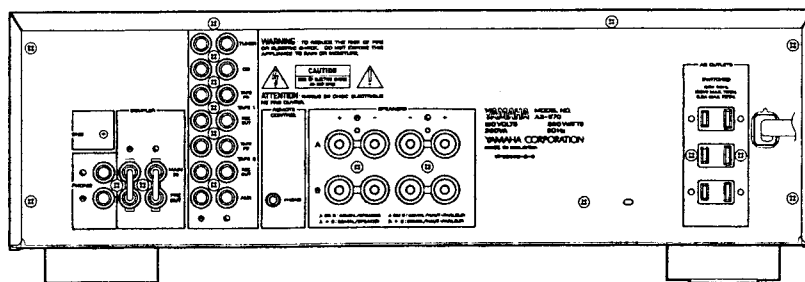
If you come in contact with solder or components located inside the enclosure or this product, wash your hands before handling food.

## ■ REAR PANELS

### ● U.S.A. model

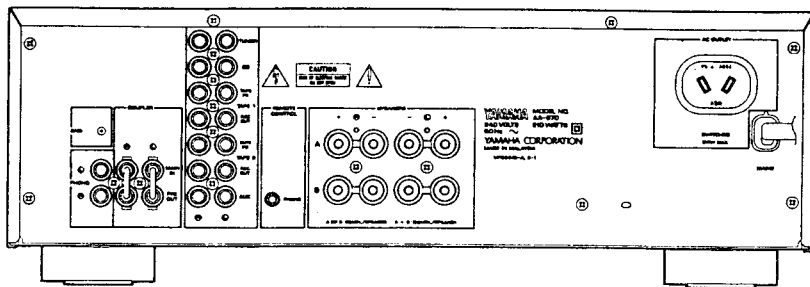


### ● Canadian model

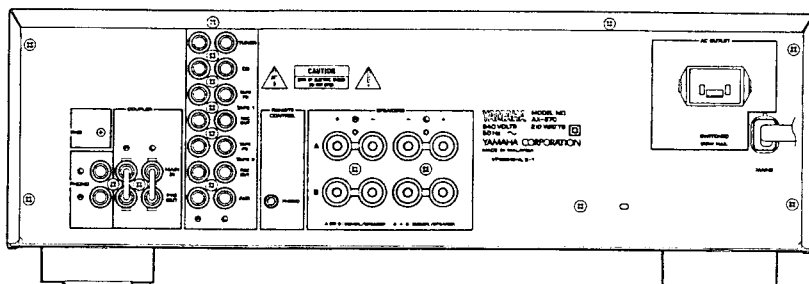


● Australian and British models

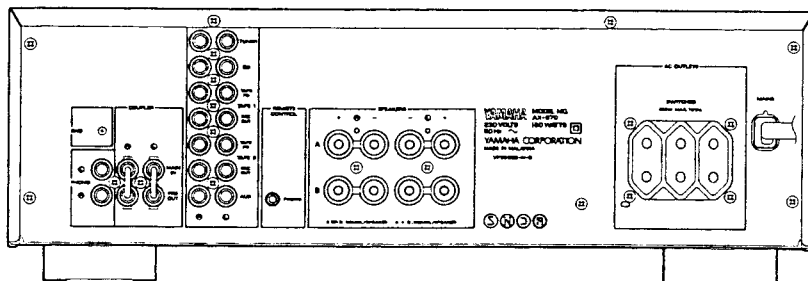
A model



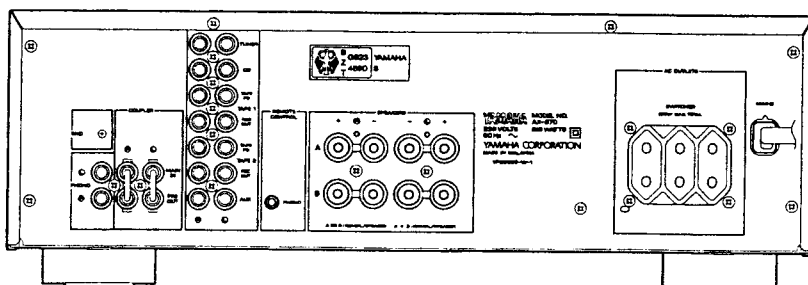
B model



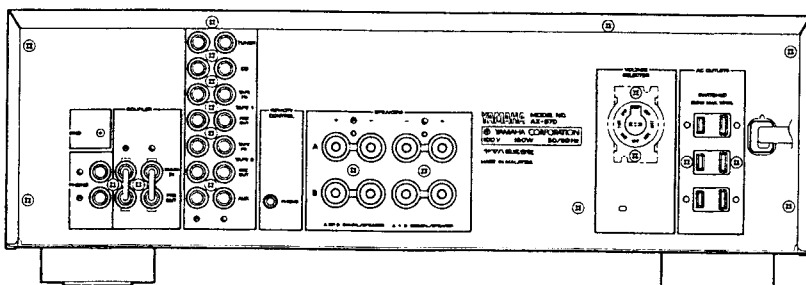
● German models



● North European model



● General model



**■ SPECIFICATIONS**

Minimum RMS Output Power Per Channel  
 CD Pure Direct-ON  
 20 Hz - 20 kHz 0.015 % THD ..... 8 Ω  
 U, C, R, A, B, H, W ..... 100 W  
 20 Hz - 20 kHz 0.03 % THD ..... 6 Ω  
 U, C, R, A, B, W ..... 120 W

Dynamic Power Per Channel  
 (by IHF Dynamic Headroom measuring method)  
 U, C, R, A, B, H  
 8 Ω/6 Ω/4 Ω/2 Ω ..... 140 W/170 W/220 W/290 W

DIN Standard Output Power Per Channel  
 1 kHz 0.7 % THD 4 Ω  
 H, W ..... 150 W

IEC Power  
 1 kHz 0.015 % THD 8 Ω  
 H, W ..... 110 W

Power Band Width  
 0.03 % THD 50 W 8 Ω ..... 10 Hz - 50 kHz

Damping Factor  
 20 Hz - 20 kHz 8 Ω ..... 320

A, B, H, W  
 40 Hz 4 Ω ..... 160

Input Sensitivity/Impedance  
 Phono MC ..... 160 μV/220 Ω  
 MM ..... 2.5 mV/47 kΩ  
 CD etc. .... 150 mV/47 kΩ  
 MAIN IN ..... 1.0 V/10 kΩ

Maximum Input Signal 1 kHz  
 A, B, H, W  
 Phono MC ..... 10 mV  
 MM ..... 150 mV

Output Level Impedance  
 Rec Out ..... 150 mV/220 Ω  
 Pre Out ..... 1.0 V/470 Ω

Headphone Jack Rated Output/Impedance  
 0.015 % THD RL = 8 Ω ..... 0.47 V/470 Ω

Frequency Response  
 20 Hz - 20 kHz CD etc. .... 0 ±0.5 dB  
 MAIN IN ..... 0 ±0.5 dB

RIAA Equalization Deviation  
 Phono MC ..... ±0.5 dB  
 MM ..... ±0.3 dB

Total Harmonic Distortion 20 Hz - 20 kHz  
 Phono MC to Rec Out 3 V ..... 0.007 %  
 MM 3 V ..... 0.003 %  
 CD etc. to Pre Out 1 V ..... 0.005 %  
 CD etc. to Sp Out 50 W/8 Ω ..... 0.008 %

Intermodulation Distortion  
 CD etc. Rated Output/8 Ω ..... 0.01 %

Signal to Noise Ratio (IHF-A-Network)  
 Phono MC ..... 0.5 mV Input 76 dB  
 MM ..... 5 mV Input 92dB  
 CD etc. (Shorted) ..... 110 dB  
 Residual Noise (IHF-A-Network) ..... 70 μV

Channel Separation Vol -30 dB  
 Phono MM, MC Input Shorted  
 1 kHz/10 kHz ..... 75 dB/60 dB  
 CD etc. Input 5.1 kΩ terminated  
 1 kHz/10 kHz ..... 65 dB/50 dB

Tone Control Characteristics

Bass  
 Boost/Cut ..... 10 dB (20 Hz)  
 Treble  
 Boost/Cut ..... ±10 dB (20 kHz)

Filter Characteristics  
 Subsonic ..... 15 Hz - 18 dB/oct

Continuous Loudness Control  
 (Level Related Equalization)  
 Attenuation ..... -30 dB (1 kHz)  
 Gain Tracking Error (0 - -60 dB) ..... 2 dB

Power Supply  
 U, C ..... AC 120 V 60 Hz  
 A, B ..... AC 240 V 50 Hz  
 H, W ..... AC 230 V 50 Hz  
 R ..... AC 110/120/220/240 V 60/50 Hz

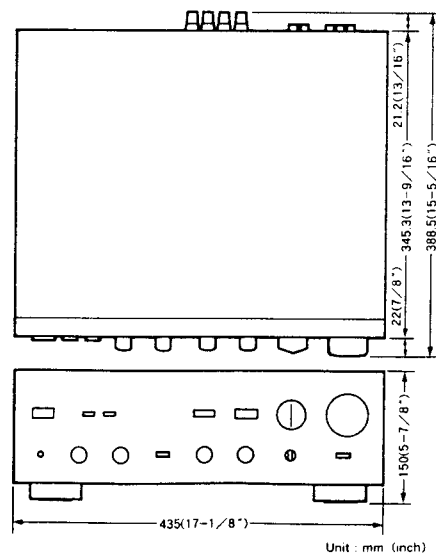
Power Consumption  
 U ..... 200 W  
 C ..... 330 VA/260 W  
 R ..... 210 W  
 A, B, W ..... 210 W  
 H ..... 180 W

AC Outlet  
 Switched ..... 100 W Max.

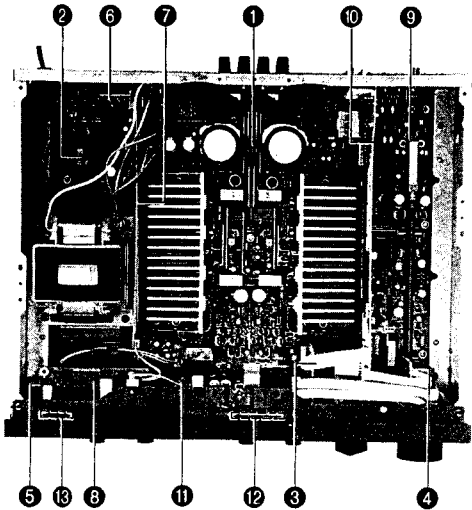
Dimensions  
 Width x Height x Depth .. 435 mm x 150 mm x 388.5 mm  
 (17-1/8 " x 5-7/8 " x 15-5/16 ")  
 Weight ..... 11 kg  
 (20 lbs. 14 oz)  
 Accessories ..... Remote Control Transmitter and Batteries

The specifications are subject to change without notice.  
 U ..... U.S.A model  
 C ..... Canadian model  
 A ..... Australian model  
 H ..... North European model  
 B ..... British model  
 R ..... General model  
 W ..... German model

**■ DIMENSIONS**



**INTERNAL VIEW**



- ① Main Circuit Board (1)
- ② Main Circuit Board (2)
- ③ Main Circuit Board (3)
- ④ Main Circuit Board (4)
- ⑤ Main Circuit Board (5)
- ⑥ Main Circuit Board (6) R(General) model only
- ⑦ Main Circuit Board (7)
- ⑧ Main Circuit Board (8)
- ⑨ Function Circuit Board (1)
- ⑩ Function Circuit Board (2)
- ⑪ Function Circuit Board (3)
- ⑫ Function Circuit Board (4)
- ⑬ Function Circuit Board (5)

**DISASSEMBLY PROCEDURE**

(Remove parts in disassembly order as numbered.)

**1. Removal of Top Cover**

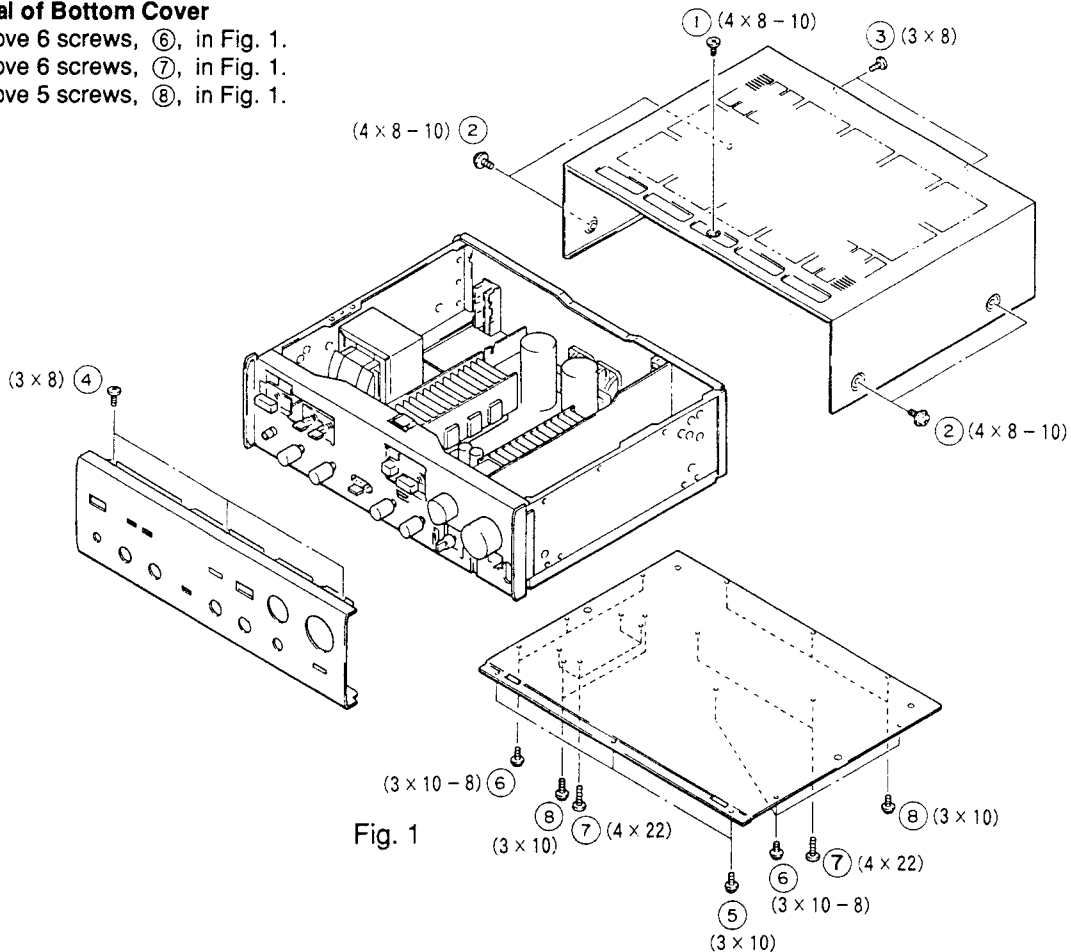
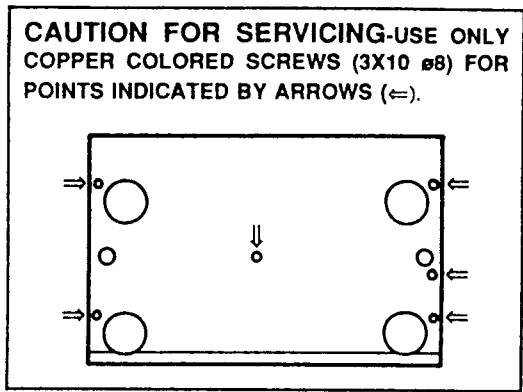
Remove 7 screws, ① to ③, in Fig. 1, and slide the Top Cover back.

**2. Removal of Front Panel**

Remove 6 screws, ④ and ⑤, in Fig. 1, and pull the Front Panel forward.

**3. Removal of Bottom Cover**

- a. Remove 6 screws, ⑥, in Fig. 1.
- b. Remove 6 screws, ⑦, in Fig. 1.
- b. Remove 5 screws, ⑧, in Fig. 1.



## ADJUSTMENTS

### 1. Before Adjustment

- Make sure that AC line voltage is within:

Model	AC line voltage
U, C	120 V $\pm$ 10 %
W, H	230 V $\pm$ 10 %
A, B	240 V $\pm$ 10 %

### 2. Instruments required

- AC VM or dual channel AC VM
- DC VM

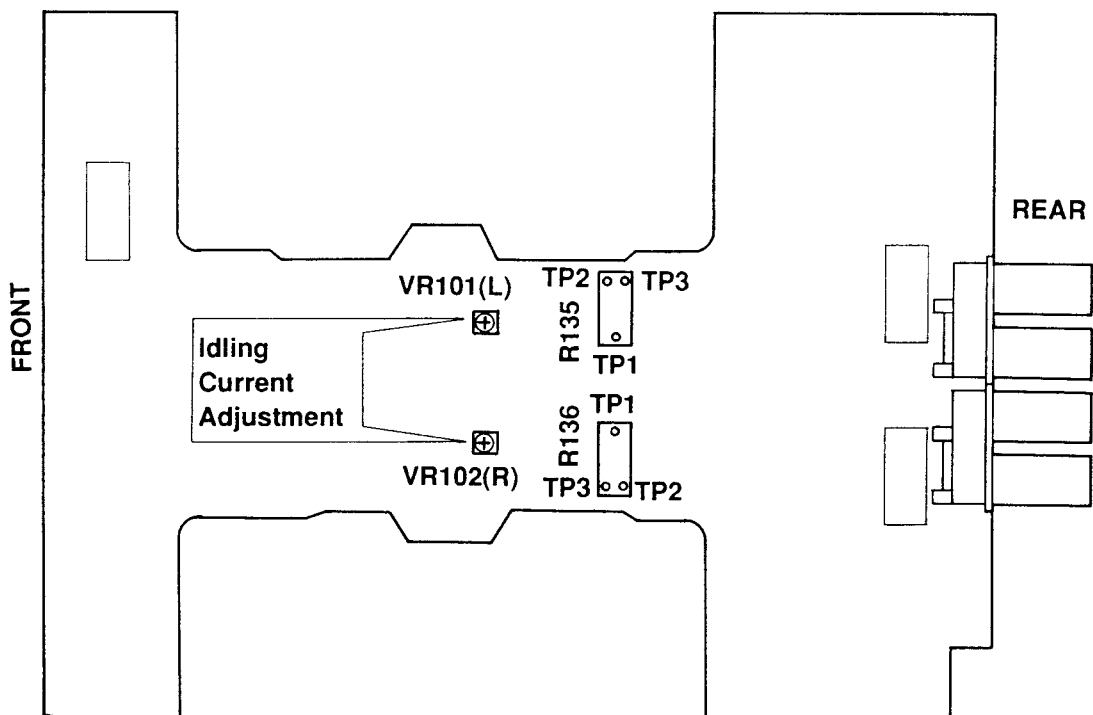
### ● IDLING CURRENT ADJUSTMENTS

- When replacing any of the power or drive transistors, adjust idling current.
- After the power has been turned on, age about 10 minutes in unloaded condition.
- Adjust VR101 (L ch.) and VR102 (R ch.) so that the voltages across the terminals become as shown below.

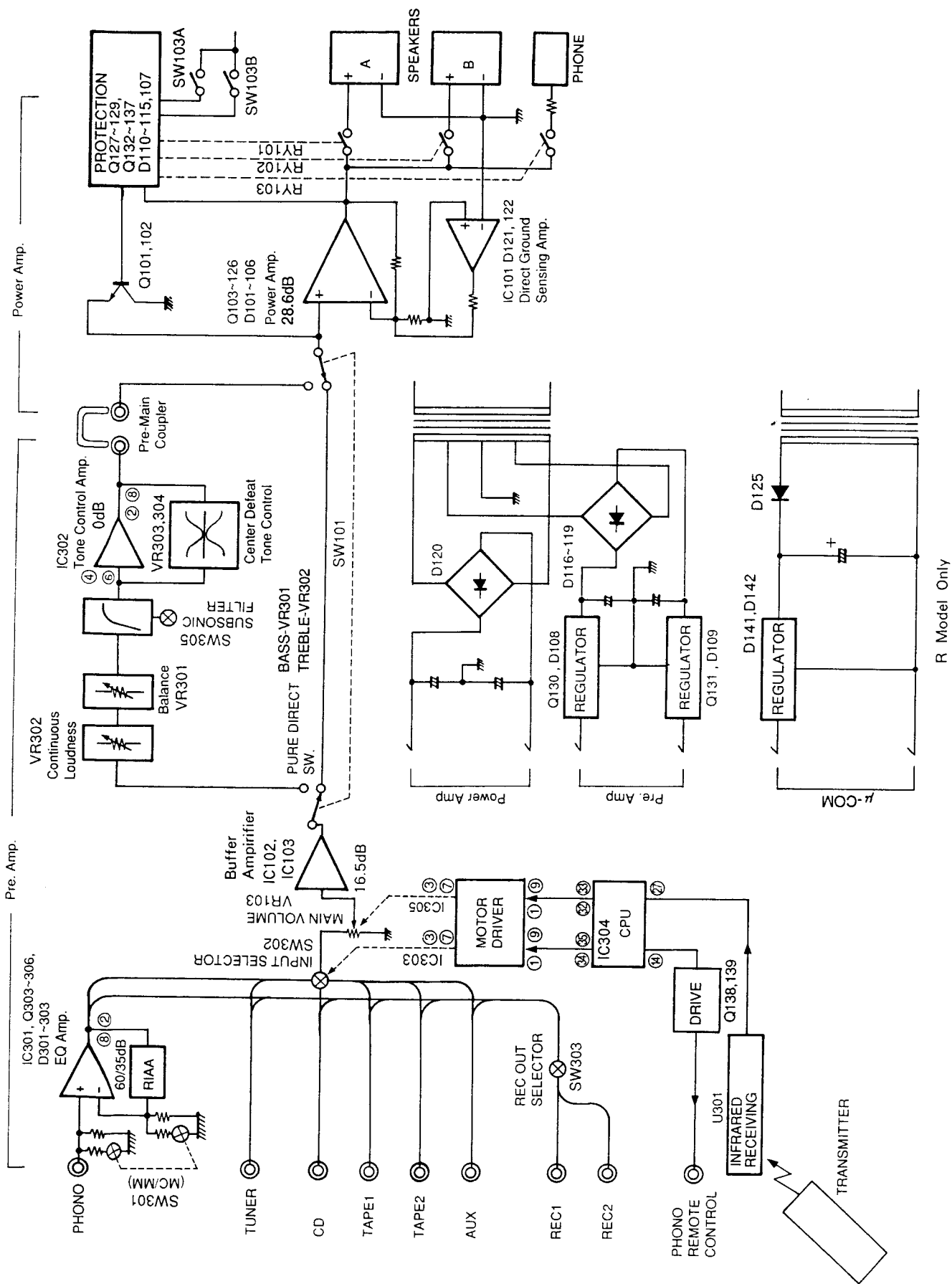
	Test Points	Adjustment Points	Rating
L ch	Across the terminals of R135 (TP1 and 2 or 1 and 3)	VR101	10 mV $\pm$ 4 mV DC
R ch	Across the terminals of R136 (TP1 and 2 or 1 and 3)	VR102	10 mV $\pm$ 4 mV DC

### ● TEST POINTS

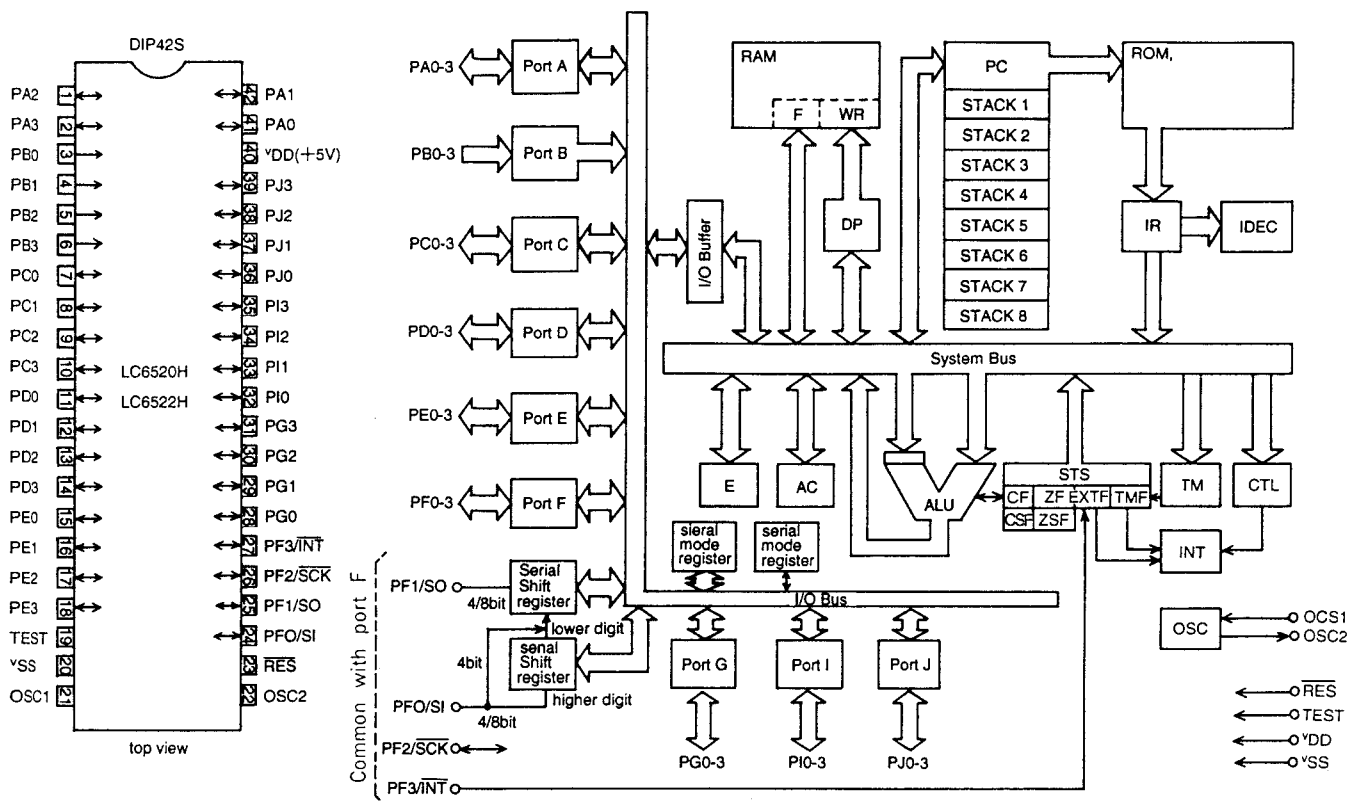
Idling Current Adjustment



**BLOCK DIAGRAM**



■ μ-COM DATA(IC305: LC6520H - 4B14)



PIN NO.	PIN NAME	I/O	FUNCTION	PIN NO.	PIN NAME	I/O	FUNCTION
1	PA2	-	GND	22	OSC2		
2	PA3	I	VDD	23	RES		Reset input
3	PB0	I	Selector position data	24	PF0		GND
4	PB1	I	Selector position data	25	PF1	I	Power on start H: Reset PON
5	PB2	I	Selector position data	26	PF2	I	Remote control power on/off H: on
6	PB3	I	Selector position data	27	PF3	I	Remote control data
7	PC0	I	Selector position data	28	PG0	I	Power switch data
8	PC1	I	Selector position data	29	PG1	I	Power control H:on L:off
9	PC2	I	Selector position data	30	PG2	O	Power output H:on
10	PC3	I	Selector position data	31	PG3	O	Stand-by H:on
11	PD0	I	Selector cam position data	32	PI0	O	Volume motor data
12	PD1	I	Selector 6 or 7 Select L:6	33	PI1	O	Volume motor data
13	PD2	I	Audio mute key data	34	PI2	O	Selector motor data
14	PD3	O	PLAY/CUT (Player control)	35	PI3	O	Selector motor data
15	PE0	I	Power data H: G	36	PJ0	I	Power on audio muting H:on
16	PE1	I	Power down data	37	PJ1	O	Audio muting LED control
17	PE2		GND	38	PJ2	O	Audio muting control
18	PE3	I	Stop select H: Non stop	39	PJ3	O	Muting control H:on
19	TEST		GND	40	VDD		+5V
20	VSS		GND	41	PA0		GND
21	OSC1			42	PA1		GND





A

B

C

D

E

F

G

H

I

PRINTED CIRCUIT BOARD

AX-570

AX-570

1

2

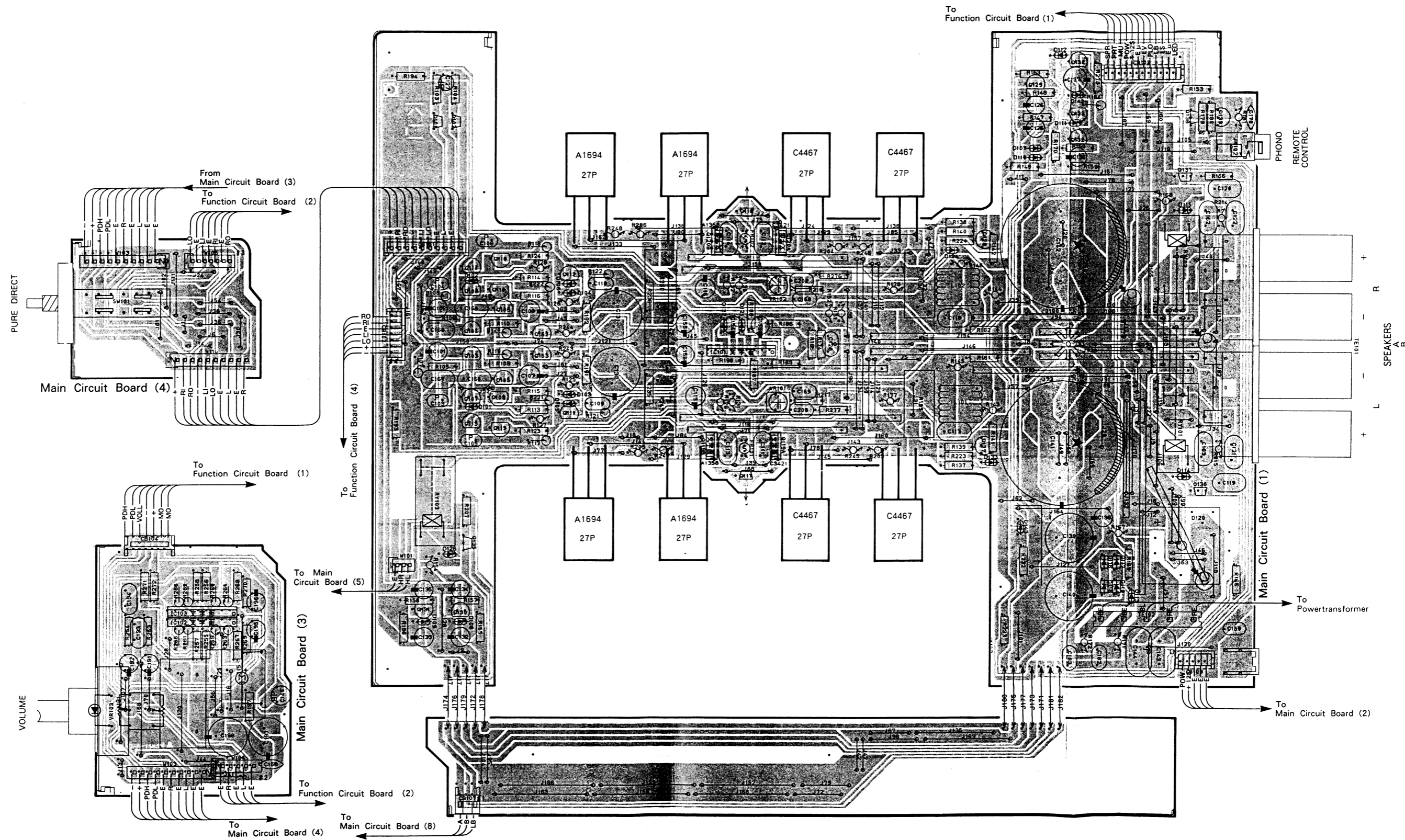
3

4

5

6

7



**AX-570**  
**PRINTED CIRCUIT BOARD**

AX-570

1

2

3

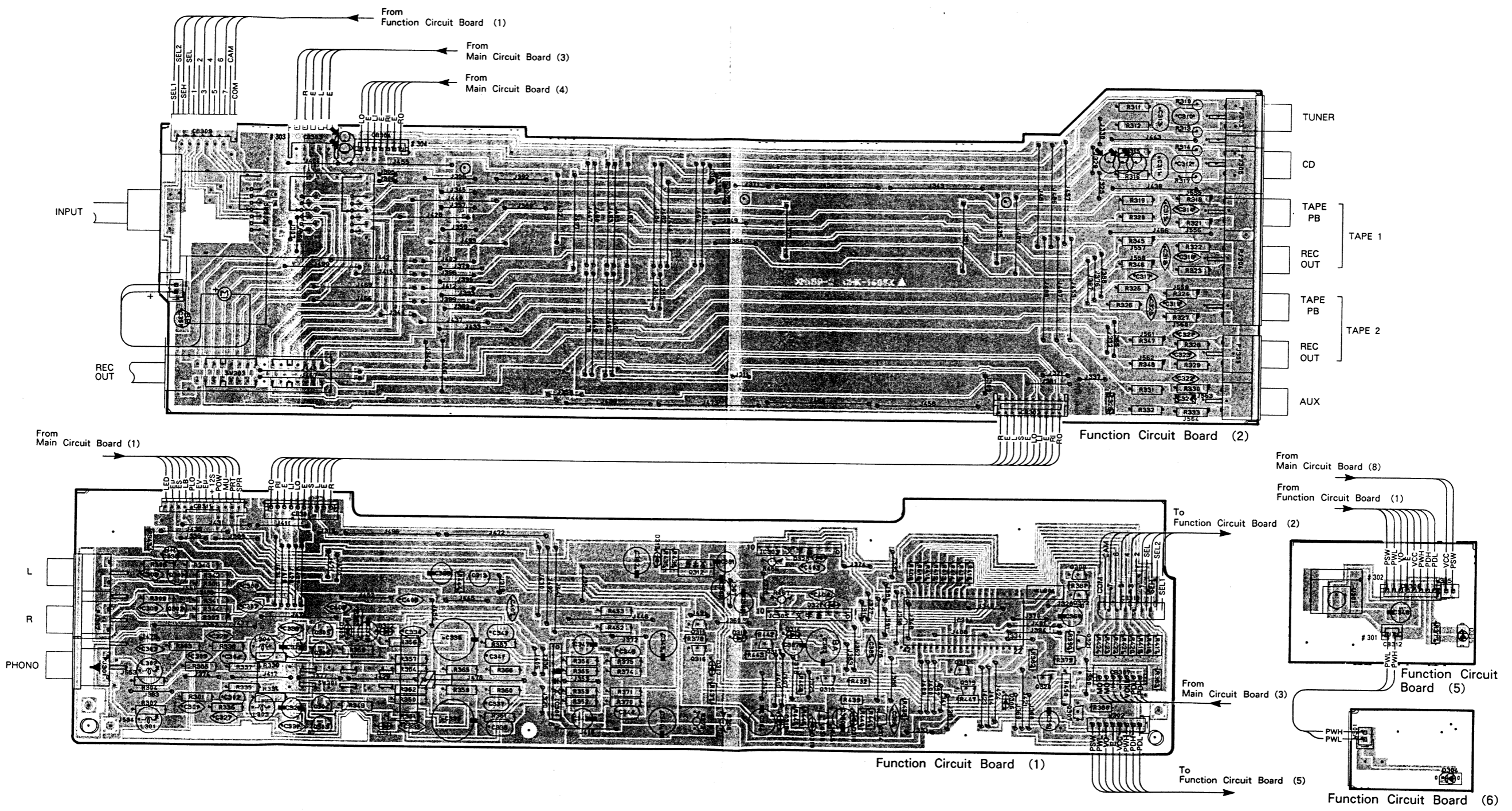
4

5

6

7

10



# PRINTED CIRCUIT BOARD

1

2

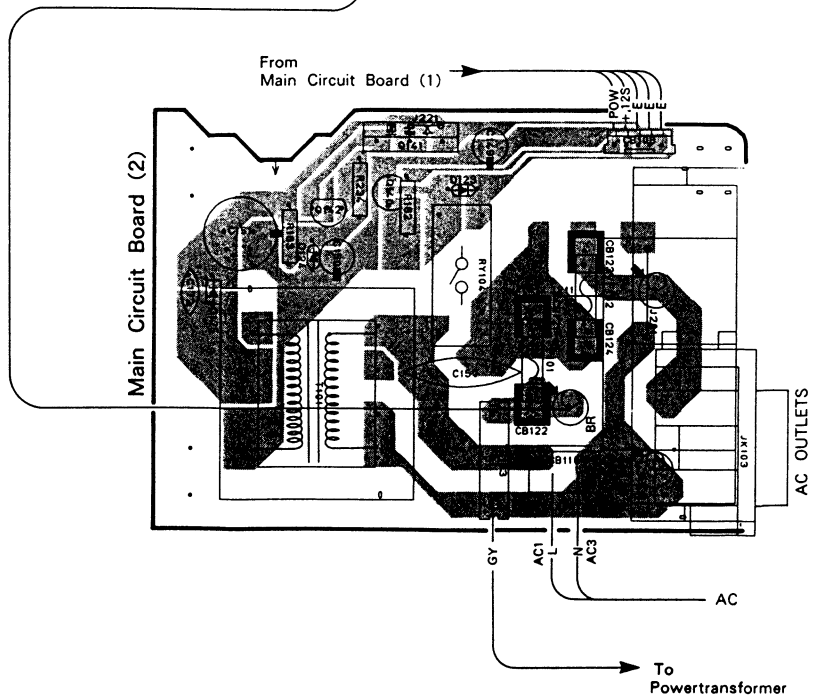
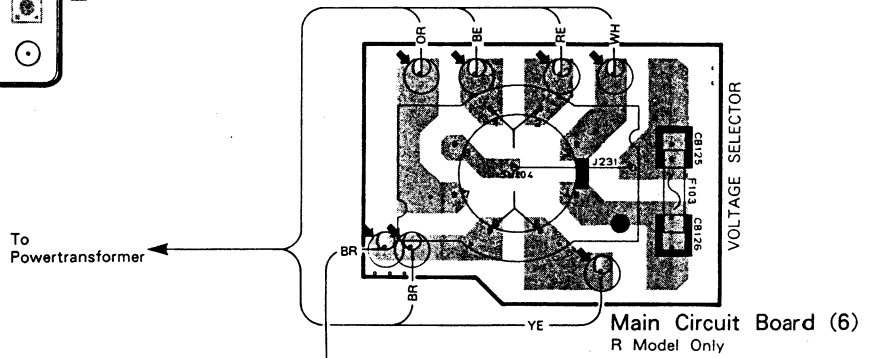
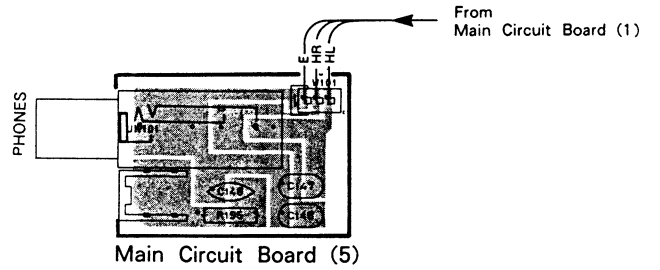
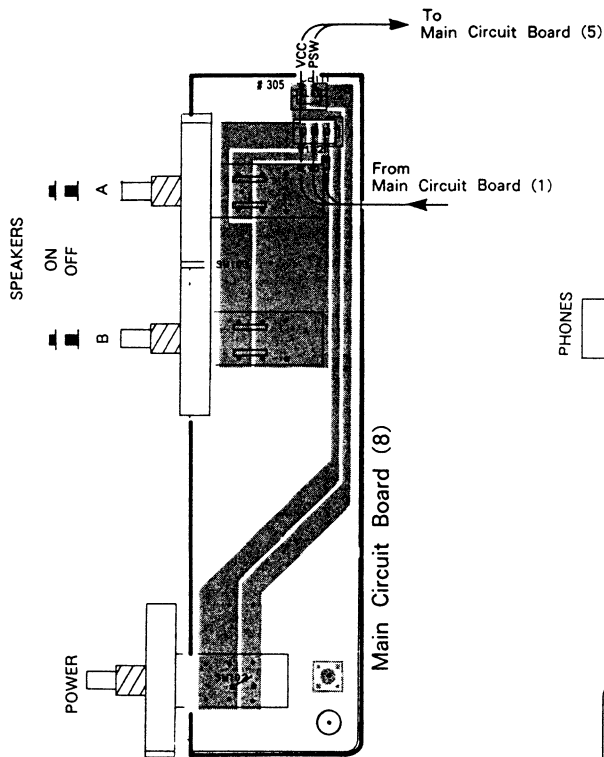
3

4

5

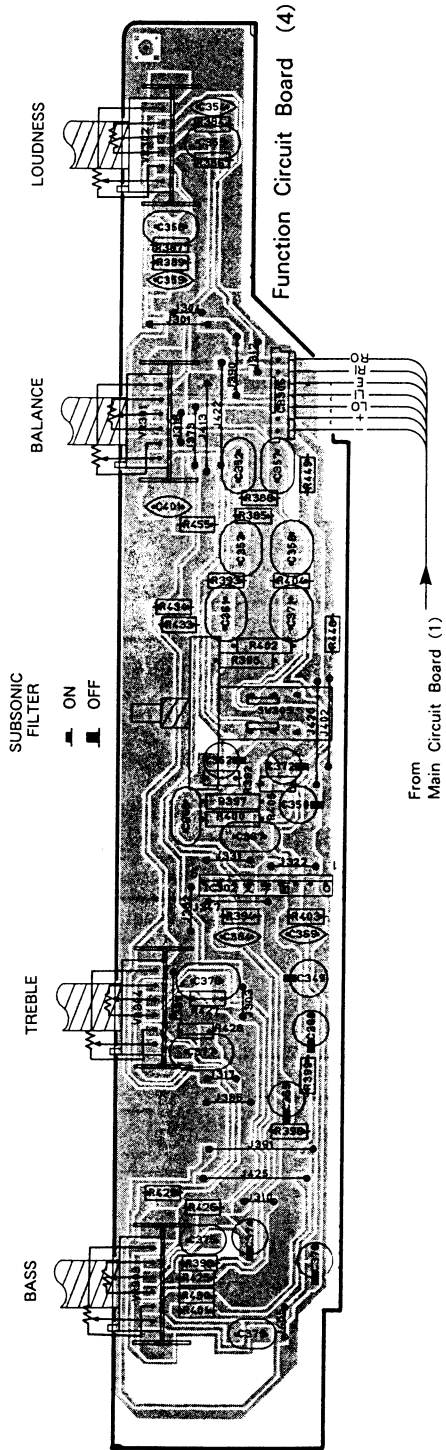
6

7

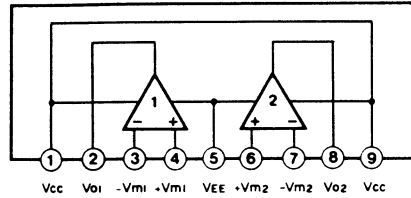


PRINTED CIRCUIT BOARD

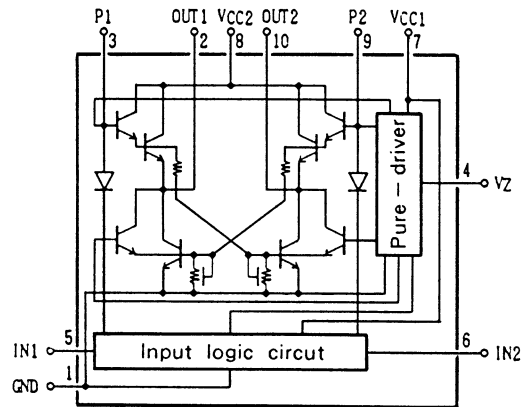
IC BLOCK



IC301:  $\mu$ PC4570HA  
 IC302: NJM2068S-D  
 (Dual Op-amp)



IC303. 305: LB1641  
 (Motor Drive)



IC304: LC6520H-4A71  
 (See page 7.)

A

B

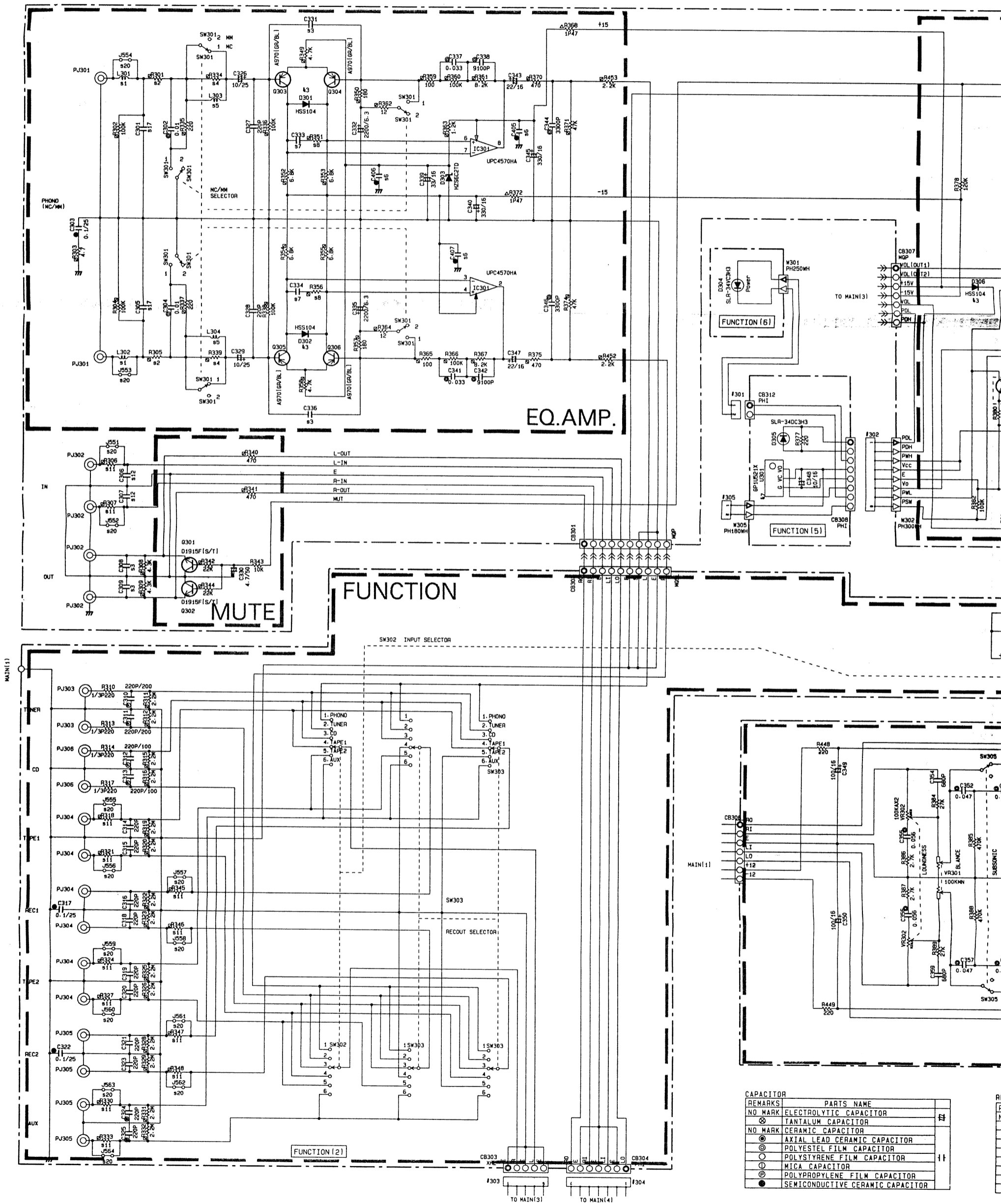
C

D

E

F

SCHEMATIC DIAGRAM



REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	77
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
⊙	AXIAL LEAD CERAMIC CAPACITOR	
⊖	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
○	MICA CAPACITOR	11
⊙	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

FUNCTION (1)

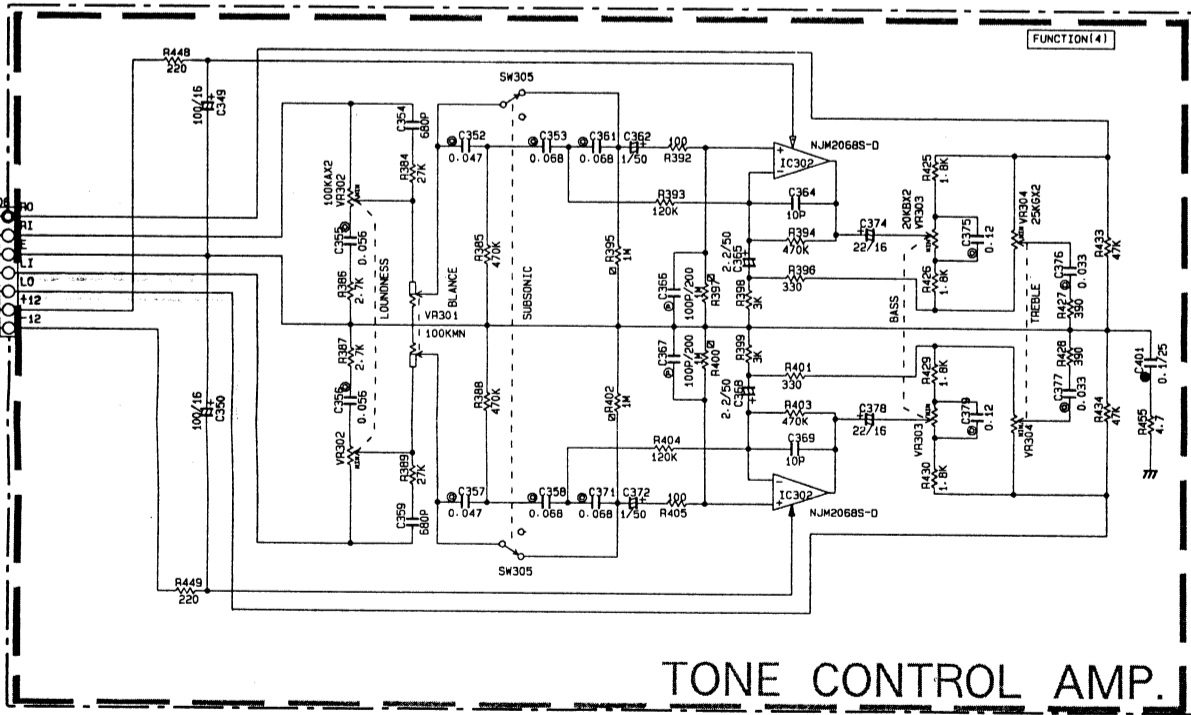
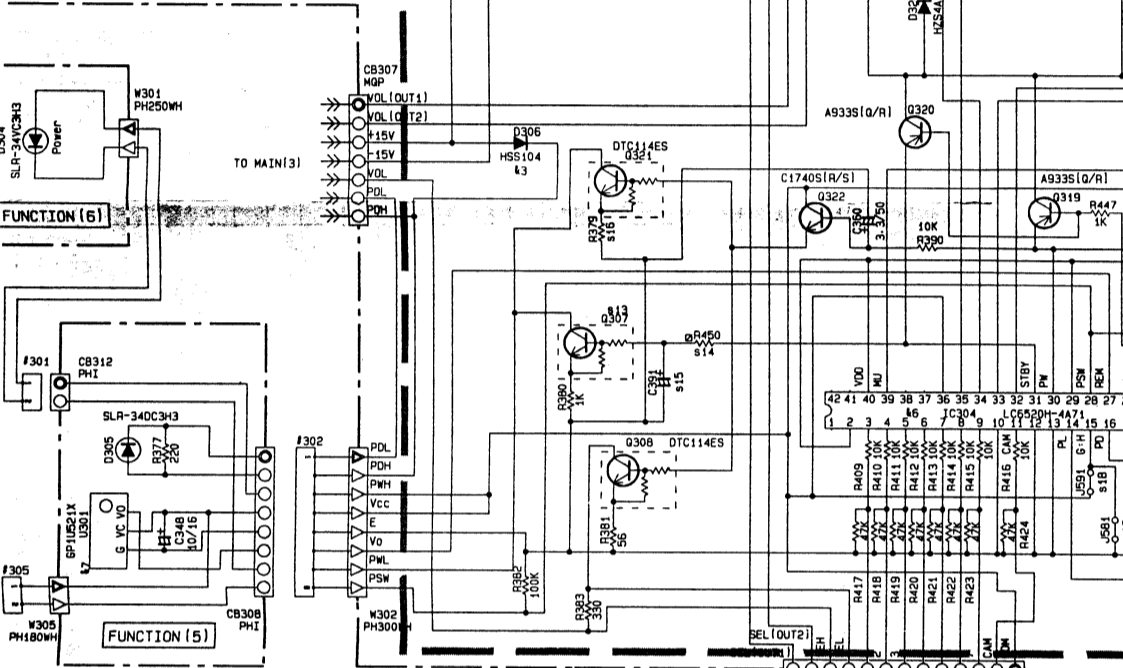
SYSTEM CONTROL

LAST NO.	
C	404
R	469
Q	321
D	321
IC	305
CB	312

	J-U-C-R-A-B	H	M	
#1	L301-302	X	X	15 $\mu$ H
#2	R301-305	10	10	33
#3	C308-309-331-335	X	X	100P
#4	R334-339	33	33	2.2K
#5	L303-304	X	X	220 $\mu$ H
#6	C405-407	X	X	0.1/25
#7	C333-334	1500P	1500P	2700P
#8	R351-355	100	100	180
#9				
#10				
#11	R306-307-318-321-324-327-330-333-345-346-347-348	X	X	220
#12	C306-307	X	X	220P
#13	Q307	X	DTC114ES	DTC114ES
#14	R450	X	10K	10K
#15	C391	X	3.3/50	3.3/50
#16	R379	220	560	560
#17	C301-305	X	X	270P
#18	J591	X	O	O
#19	J581	O	X	X
#20	J551-564	O	O	X

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1		
#2		
#3	D301-302-306-314-317	HSS104 ISS133 ISS176
#4		
#5		
#6	IC304	LC6520H-4A71 LC6520H-4B14
#7	U301	6P1U521X 6P1U5B1X



CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	ZZ
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
⊙	AXIAL LEAD CERAMIC CAPACITOR	
⊖	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
⊙	MICA CAPACITOR	
⊖	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

RESISTOR

REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (1/6W)	
⊠	CARBON FILM RESISTOR (1/4W)	
⊖	METAL OXIDE FILM RESISTOR	
⊙	METAL FILM RESISTOR	
⊗	METAL PLATE RESISTOR	
⊖	FIRE PROOF CARBON FILM RESISTOR	
⊖	CEMENT MOLDED RESISTOR	
⊖	SEMI VARIABLE RESISTOR	
■	CHIP RESISTOR	

NOTICE  
(J)..... Japanese model  
(U)..... U.S.A model  
(C)..... Canadian model  
(A)..... Australian model  
(G)..... European model  
(B)..... British model  
(R)..... General model  
(P)..... RP model

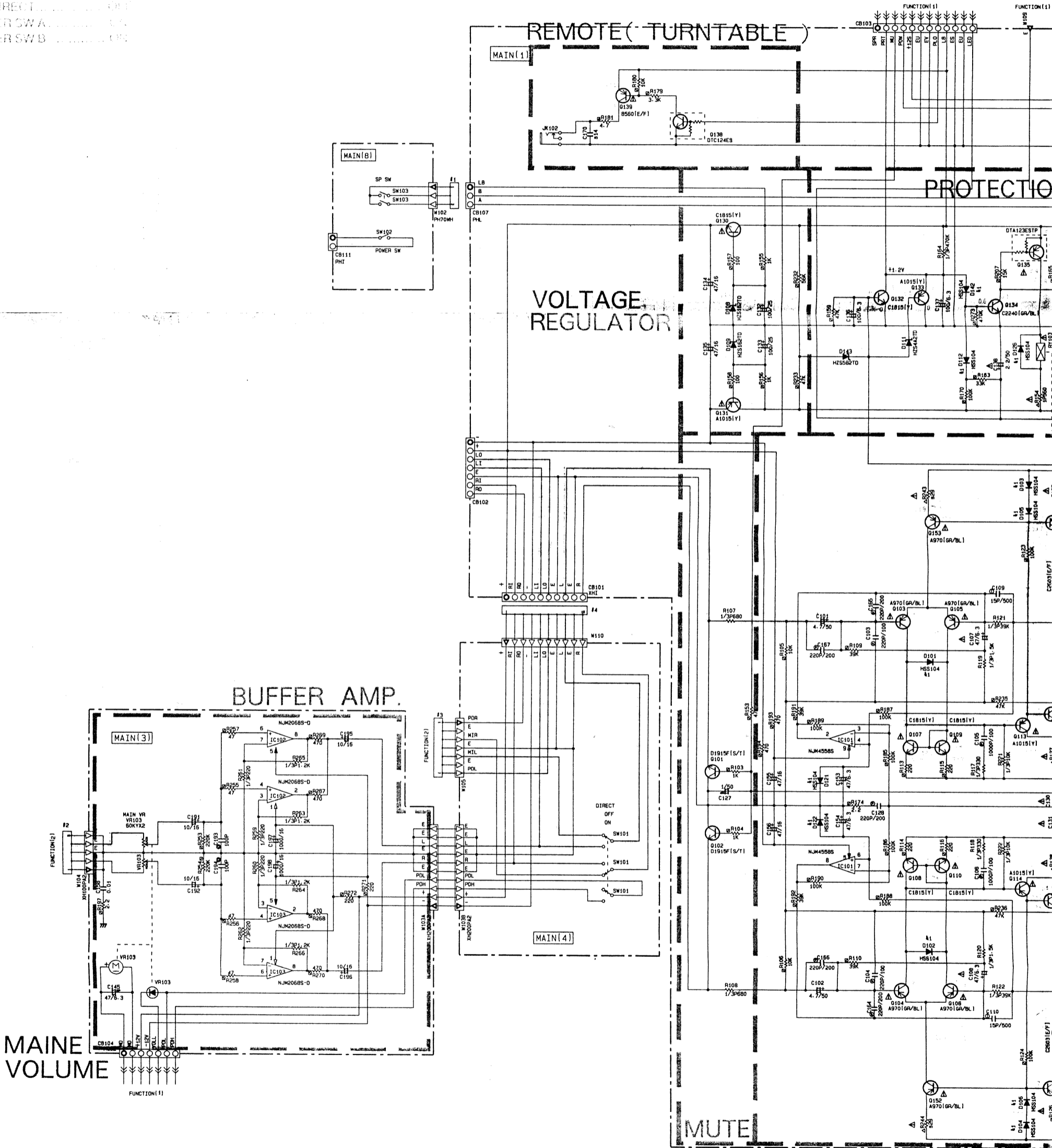
SCHEMATIC DIAGRAM

MAIN SELECTOR...  
DIRECT...  
POWER SW A...  
POWER SW B...

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	Z
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
⊙	AXIAL LEAD CERAMIC CAPACITOR	
⊖	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
①	MICA CAPACITOR	
⊕	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR (1/6W)	
⊠	CARBON FILM RESISTOR (1/4W)	
⊡	METAL OXIDE FILM RESISTOR	
⊢	METAL FILM RESISTOR	
⊣	METAL PLATE RESISTOR	
⊤	FIRE PROOF CARBON FILM RESISTOR	
⊥	CEMENT MOLDED RESISTOR	
⊦	SEMI VARIABLE RESISTOR	
■	CHIP RESISTOR	

NOTICE  
 (J)..... Japanese model  
 (U)..... U. S. A. model  
 (C)..... Canadian model  
 (A)..... Australian model  
 (G)..... European model  
 (B)..... British model  
 (R)..... General model  
 (P)..... JP model



2SC2603 2SD1915 2SC1740S DTA123ES 2SC2878 2SA933S	DTC124ES DTA114 DTC144 DTC114ES	2SA970 2SA1015 2SA1145 2SC1890A 2SC1815	2SC2240 2SC2705 2SB560 2SC1890A 2SC1815	All Diodes 	2SC3852 	4BE01257 2SC4467 2SA1694 	2SA1358 2SC3421 	LB1641 	NJM2068S μ PC4570HA 	LC 
--	--	---	---	----------------	-------------	------------------------------------	------------------------	------------	----------------------------	--------



F

G

H

I

J

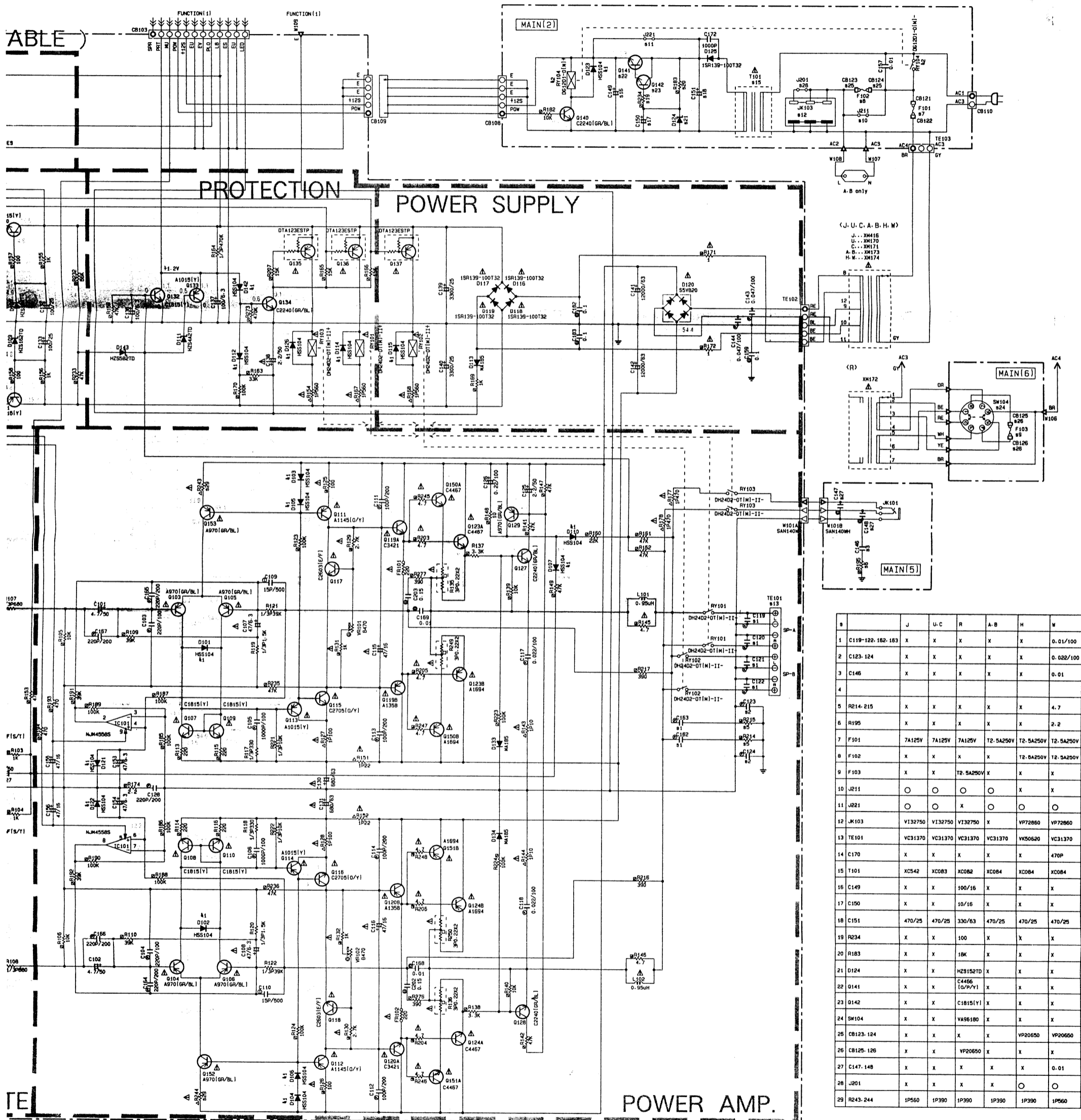
K

NAME
RESISTOR (1/5W)
RESISTOR (1/4W)
ILM RESISTOR
RESISTOR
RESISTOR
RESISTOR
RESISTOR
RESISTOR
RESISTOR
RESISTOR

NOTICE  
 (J)..... Japanese model  
 (U)..... U.S.A model  
 (C)..... Canadian model  
 (A)..... Australian model  
 (G)..... European model  
 (B)..... British model  
 (R)..... General model  
 (P)..... RP model

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
41	D101-107, 110, 112, 114, 115 121-123, 126, 142	HSS104 1SS133 1SS176
42	RY104	DC2SP-1 D61201-01W1
43		



	B	J	U.C	R	A.B	H	M
1	C119-122, 162, 163	X	X	X	X	X	0.01/100
2	C123-124	X	X	X	X	X	0.022/100
3	C146	X	X	X	X	X	0.01
4							
5	R214-215	X	X	X	X	X	4.7
6	R195	X	X	X	X	X	2.2
7	F101	7A125V	7A125V	7A125V	T2-5A250V	T2-5A250V	T2-5A250V
8	F102	X	X	X	X	X	T2-5A250V
9	F103	X	X	X	X	X	X
10	J211					X	X
11	J221			X			
12	JK103	VI32750	VI32750	VI32750	X	VP72860	VP72860
13	TE101	VC31370	VC31370	VC31370	VC31370	VK50620	VC31370
14	C170	X	X	X	X	X	470P
15	T101	XC542	XC0B3	XC0B2	XC0B4	XC0B4	XC0B4
16	C149	X	X	100/16	X	X	X
17	C150	X	X	10/16	X	X	X
18	C151	470/25	470/25	330/63	470/25	470/25	470/25
19	R234	X	X	100	X	X	X
20	R183	X	X	18K	X	X	X
21	D124	X	X	H2S152TD	X	X	X
22	Q141	X	X	C4466	X	X	X
23	Q142	X	X	C18151Y1	X	X	X
24	SW104	X	X	VA96180	X	X	X
25	CB123-124	X	X	X	X	VP20650	VP20650
26	CB125-126	X	X	VP20850	X	X	X
27	C147, 148	X	X	X	X	X	0.01
28	J201	X	X	X	X		
29	R243, 244	1P550	1P390	1P390	1P390	1P390	1P560

358 421	LB1641	NJM2068S μ PC4570HA	LC6520H
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## ■ 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 parts No. of the carbon resistors, refer to last page.

### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

C.A.EL.CHP	: CHIP ALUMI. ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED, INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR, RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN, TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
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.FLM	: 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.CRYS	: CRYSTAL RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL	: TANTALUM CAP	R.WW	: WIRE WOUND RESISTOR
C.TNTL.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		

**MAIN P.C.B.**

#: Marked Transistors are not included in P.C.B. ass'y.  
See the MECHANICAL PARTS list and EXPLODED VIEW.

Schm Ref.	PART NO.	Description
*	VP406000	P. C. B. MAIN(UC)
*	VP406100	P. C. B. MAIN(R)
*	VP406200	P. C. B. MAIN(AB)
*	VP406300	P. C. B. MAIN(H)
*	VP406400	P. C. B. MAIN(W)
* CB101	VL845400	CN XH 10P TE
CB107	VB858200	CN. BS. PIN PH L-TYPE 3P SE
CB108	VP768100	CN. BS. PIN FJ 5P TE
CB110	VG879900	CN. BS. PIN VH 2P TE
CB111	VD004500	CN. BS. PIN PH i-TYPE 2P TE
CB121	VP206500	HOLDER. FUS EYF-52BC
CB122	VP206500	HOLDER. FUS EYF-52BC
CB123	VP206500	HOLDER. FUS EYF-52BC(HW)
CB124	VP206500	HOLDER. FUS EYF-52BC(HW)
CB125	VP206500	HOLDER. FUS EYF-52BC(R)
CB126	VP206500	HOLDER. FUS EYF-52BC(R)
C101	VE021900	C. EL 4.7uF 100V
C102	VE021900	C. EL 4.7uF 100V
* C103	VP917600	C. PP 220pF 100V
* C104	VP917600	C. PP 220pF 100V
C105	VP917800	C. PP 1000pF 100V
C106	VP917800	C. PP 1000pF 100V
△ C107	VC937500	C. EL 47uF 6.3V
△ C108	VC937500	C. EL 47uF 6.3V
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	VK534200	C. PP 0.022uF 100V
C118	VK534200	C. PP 0.022uF 100V
C119	VK534100	C. PP 0.01uF 100V(W)
C120	VK534100	C. PP 0.01uF 100V(W)
C121	VK534100	C. PP 0.01uF 100V(W)
C122	VK534100	C. PP 0.01uF 100V(W)
C123	VK534200	C. PP 0.022uF 100V(W)
C124	VK534200	C. PP 0.022uF 100V(W)
C125	VG290600	C. EL 2.2uF 50V
C126	UJ895220	C. EL 0.22uF 100V
C127	VG722100	C. EL 1uF 50V
C128	VK534000	C. PP 220pF 200V
△ C130	VP918500	C. EL 680uF 63V
△ C131	VP918500	C. EL 680uF 63V
C132	VG288900	C. EL 100uF 25V
C133	VG288900	C. EL 100uF 25V
C134	VG291200	C. EL 47uF 50V
C135	VG291200	C. EL 47uF 50V
C136	VF760000	C. EL 100uF 10V
C137	VK679700	C. EL 100uF 6.3V
△ C138	VG290600	C. EL 2.2uF 50V

\*New Parts

Schm Ref.	PART NO.	Description
C139	VG289400	C. EL 3300uF 25V
C140	VG289400	C. EL 3300uF 25V
C141	VK574600	C. EL 12000uF 63V
C142	VK574600	C. EL 12000uF 63V
C143	VK534400	C. PP 0.047uF 100V
C144	VK534400	C. PP 0.047uF 100V
C145	VN508100	C. EL 47uF 6.3V
C146	UG444100	C. CE 0.01uF 50V(W)
C147	UA654100	C. MYLAR 0.01uF 50V(W)
C148	UA654100	C. MYLAR 0.01uF 50V(W)
C149	VG288900	C. EL 100uF 25V(R)
C150	VG290900	C. EL 10uF 50V(R)
C151	VG289200	C. EL 470uF 25V(UCABHW)
C151	VK699400	C. EL 330uF 63V(R)
* C153	VE016400	C. EL 47uF 6.3V
* C154	VE016400	C. EL 47uF 6.3V
C155	VG291200	C. EL 47uF 50V
C156	VG291200	C. EL 47uF 50V
C157	Fi514100	C. CE. SAFTY 0.01uF VA-1
C158	UG444100	C. CE 0.01uF 50V
C159	VK398700	C. MYLAR. ML 0.1uF 50V
C162	VK534100	C. PP 0.01uF 100V(W)
C163	VK534100	C. PP 0.01uF 100V(W)
C164	VK533800	C. PP 47pF 200V
C165	VK533800	C. PP 47pF 200V
C166	VK534000	C. PP 220pF 200V
C167	VK534000	C. PP 220pF 200V
C168	VE324800	C. MYLAR. ML 0.01uF 50V
C169	VE324800	C. MYLAR. ML 0.01uF 50V
C170	FG212470	C. CE 470pF 50V(W)
C172	FG213470	C. CE 4700pF 50V
C182	VK398700	C. MYLAR. ML 0.1uF 50V
C183	VK398700	C. MYLAR. ML 0.1uF 50V
* C191	VQ082700	C. EL 10uF 16V
* C192	VQ082700	C. EL 10uF 16V
C193	VK512500	C. MYLAR 100pF 50V
C194	VK512500	C. MYLAR 100pF 50V
* C195	VQ082700	C. EL 10uF 16V
* C196	VQ082700	C. EL 10uF 16V
C197	VG779100	C. EL 1000uF 16V
C198	VG779100	C. EL 1000uF 16V
* C202	VE326200	C. MYLAR. ML 0.15uF 50V
* C203	VE326200	C. MYLAR. ML 0.15uF 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
D108	VM975900	DIODE. ZENR HZS162TD 16V
D109	VM975900	DIODE. ZENR HZS162TD 16V
D110	VD631600	DIODE 1SS133,176,HSS104

\*New Parts

**MAIN P.C.B.**

Schm Ref.	PART NO.	Description
D111	VM973700	DIODE. ZENR HZS4A2TD 4.0V
D112	VD631600	DIODE 1SS133,176,HSS104
D113	VC398400	DIODE MA185
D114	VD631600	DIODE 1SS133,176,HSS104
△ D115	VD631600	DIODE 1SS133,176,HSS104
△ D116	VH770800	DIODE 1SR139-100 T-32
△ D117	VH770800	DIODE 1SR139-100 T-32
△ D118	VH770800	DIODE 1SR139-100 T-32
△ D119	VH770800	DIODE 1SR139-100 T-32
△ D120	VM702000	DIODE. BRG S5VB20 3.5A 200V
D121	VD631600	DIODE 1SS133,176,HSS104
D122	VD631600	DIODE 1SS133,176,HSS104
D123	VD631600	DIODE 1SS133,176,HSS104
D124	VM975800	DIODE. ZENR HZS152TD 15V(R)
D125	VH770800	DIODE 1SR139-100 T-32
D126	VD631600	DIODE 1SS133,176,HSS104
D133	VC398400	DIODE MA185
D134	VC398400	DIODE MA185
D142	VD631600	DIODE 1SS133,176,HSS104
D143	VG437400	DIODE. ZENR MTZJ5.1B 5.1V
F101	KB003080	FUSE T2.5A 250V(ABHW)
F101	VP909900	FUSE T7.0A 125V(UCR)
F102	KB000690	FUSE T2.5A 250V(HW)
F103	KB003080	FUSE T2.5A 250V(R)
△ FR101	VK188200	R. FUS 220Ω 1/4W
△ FR102	VK188200	R. FUS 220Ω 1/4W
IC101	iG076800	IC NJM4558S
IC102	XE322001	IC NJM2068S-D
IC103	XE322001	IC NJM2068S-D
JK101	LB301720	JACK. PHONE M1669-A
JK102	VJ726800	JACK. MNI
JK103	Vi327500	OUTLET. AC 3P(UCR)
JK103	VP728600	OUTLET. AC 3P(HW)
L101	VC664100	COIL 0.95uH
△ L102	VC664100	COIL 0.95uH
Q101	VK432900	TR 2SD1915F S,T
Q102	VK432900	TR 2SD1915F S,T
Q103	iA097000	TR 2SA970 GR,BL
Q104	iA097000	TR 2SA970 GR,BL
Q105	iA097000	TR 2SA970 GR,BL
Q106	iA097000	TR 2SA970 GR,BL
Q107	iC1815C0	TR 2SC1815 Y
Q108	iC1815C0	TR 2SC1815 Y
Q109	iC1815C0	TR 2SC1815 Y
△ Q110	iC1815C0	TR 2SC1815 Y
△ Q111	VE198700	TR 2SA1145 O,Y
△ Q112	VE198700	TR 2SA1145 O,Y
△ Q113	iA101521	TR 2SA1015 Y
△ Q114	iA101521	TR 2SA1015 Y
△ Q115	VE198800	TR 2SC2705 O,Y
△ Q116	VE198800	TR 2SC2705 O,Y
△ Q117	iC260320	TR 2SC2603 E,F
△ Q118	iC260320	TR 2SC2603 E,F

※New Parts

Schm Ref.	PART NO.	Description
△ Q119B	iX603580	TR 2SA1358
△ Q119A	iX603590	TR 2SC3421
△ Q120B	iX603580	TR 2SA1358
△ Q120A	iX603590	TR 2SC3421
△# Q123B	iX615750	TR 2SA1694 O,P,Y
△# Q123A	iX615760	TR 2SC4467 O,P,Y
△# Q124B	iX615750	TR 2SA1694 O,P,Y
△# Q124A	iX615760	TR 2SC4467 O,P,Y
Q127	iC224030	TR 2SC2240 GR,BL
Q128	iC224030	TR 2SC2240 GR,BL
Q129	iA097000	TR 2SA970 GR,BL
Q130	iC1815C0	TR 2SC1815 Y
Q131	iA101521	TR 2SA1015 Y
Q132	iC1815C0	TR 2SC1815 Y
Q133	iA101521	TR 2SA1015 Y
Q134	iC224030	TR 2SC2240 GR,BL
△ Q135	VF325300	TR. DGT DTA123ESTP
△ Q136	VF325300	TR. DGT DTA123ESTP
△ Q137	VF325300	TR. DGT DTA123ESTP
Q138	VF331200	TR. DGT DTC124ES
Q139	iB056020	TR 2SB560 E,F
Q140	iC224030	TR 2SC2240 GR,BL
Q141	VP768300	TR 2SC4466 O,P,Y(R)
Q142	iC1815C0	TR 2SC1815 Y(R)
△# Q150B	iX615750	TR 2SA1694 O,P,Y
△# Q150A	iX615760	TR 2SC4467 O,P,Y
△# Q151B	iX615750	TR 2SA1694 O,P,Y
△# Q151A	iX615760	TR 2SC4467 O,P,Y
△ Q152	iA097000	TR 2SA970 GR,BL
Q153	iA097000	TR 2SA970 GR,BL
△ R125	HV455100	R. CAR. FP 100Ω 1/4W
△ R126	HV455100	R. CAR. FP 100Ω 1/4W
△ R127	HL315100	R. MTL. OXD 100Ω 1W
R128	HL315100	R. MTL. OXD 100Ω 1W
△ R129	HV456270	R. CAR. FP 2.7KΩ 1/4W
△ R130	HV456270	R. CAR. FP 2.7KΩ 1/4W
△ R131	HV456100	R. CAR. FP 1KΩ 1/4W
△ R132	HV456100	R. CAR. FP 1KΩ 1/4W
△ R135	VJ695400	R. WW 0.22Ωx2 3W
△ R136	VJ695400	R. WW 0.22Ωx2 3W
△ R143	HL314100	R. MTL. OXD 10Ω 1W
△ R144	HL314100	R. MTL. OXD 10Ω 1W
R145	HV453470	R. CAR. FP 4.7Ω 1/4W
R146	HV453470	R. CAR. FP 4.7Ω 1/4W
R151	HL314220	R. MTL. OXD 22Ω 1W
△ R152	HL314220	R. MTL. OXD 22Ω 1W
△ R154	HL315560	R. MTL. OXD 560Ω 1W
△ R167	HL315560	R. MTL. OXD 560Ω 1W
△ R168	HL315560	R. MTL. OXD 560Ω 1W
△ R171	HV453100	R. CAR. FP 1Ω 1/4W
△ R172	HV453100	R. CAR. FP 1Ω 1/4W
△ R177	HL315470	R. MTL. OXD 470Ω 1W
△ R178	HL315470	R. MTL. OXD 470Ω 1W

※New Parts

FUNCTION P.C.B.

Schm Ref.	PART NO.	Description
R181	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R203	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R204	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R205	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R206	HV453470	R. CAR. FP 4.7Ω 1/4W
R214	VP939700	R. MTL 4.7Ω 1W(W)
R215	VP939700	R. MTL 4.7Ω 1W(W)
* R243	VP940900	R. MTL. OXD 560Ω 1W(W)
R243	VP944500	R. MTL. OXD 390Ω 1W(UCRABH)
* R244	VP940900	R. MTL. OXD 560Ω 1W(W)
R244	VP944500	R. MTL. OXD 390Ω 1W(UCRABH)
R245	HV453470	R. CAR. FP 4.7Ω 1/4W
R246	HV453470	R. CAR. FP 4.7Ω 1/4W
R247	HV453470	R. CAR. FP 4.7Ω 1/4W
R248	HV453470	R. CAR. FP 4.7Ω 1/4W
R249	VJ695400	R. WW 0.22Ωx2 3W
R250	VJ695400	R. WW 0.22Ωx2 3W
RY101	VK438300	RELAY DH24D2-OTM- II
RY102	VK438300	RELAY DH24D2-OTM- II
RY103	VK438300	RELAY DH24D2-OTM- II
RY104	VD506000	RELAY AC DG12D1-OM
* SW101	VP870900	SW. PUSH SPUL12
SW102	VP065600	SW. PUSH SPUL12410A
* SW103	VP924100	SW. PUSH PSC02 CF4K2K
SW104	VA961800	VOLT. SELCT ESE-37247-F(R)
T101	XC082A00	TRANS. PWR (R)
T101	XC083A00	TRANS. PWR (UC)
T101	XC084A00	TRANS. PWR (ABHW)
TE101	VC313700	TERM. SP 8P(UCRABW)
TE101	VK506200	TERM. SP 8P(H)
TE102	LA002340	TERM. WRAP 5P i-TYPE P=7.5
TE103	LA002320	TERM. WRAP 3P i-TYPE P=7.5
VR101	VJ692800	VR. TRIM B470Ω
VR102	VJ692800	VR. TRIM B470Ω
VR103	VK475700	VR Y60KΩx2
	BB071360	SCR. TERM 8.3x13
	BB070700	GND. MTL
* VP406500	P. C. B.	FUNCTION(UCRAB)
* VP406600	P. C. B.	FUNCTION(H)
* VP406700	P. C. B.	FUNCTION(W)
CB301	Vi378000	CN. BS. PIN MQ 10P TE
CB303	LB919050	CN. BS. PIN XH L-TYPE 5P SE
CB304	VD005000	CN. BS. PIN PH i-TYPE 7P TE
CB307	VB994800	CN MQ 7P
CB308	VD005100	CN. BS. PIN PH i-TYPE 8P TE
* CB309	VQ044600	CN. BS. PIN 52044 13P SE
CB310	VM923600	CN. BS. PIN 52045 13P TE
CB312	VD004500	CN. BS. PIN PH i-TYPE 2P TE
C301	FG252270	C. CE 270pF 50V(W)
C302	UA654100	C. MYLAR 0.01uF 50V
C303	VD930900	C. CE. SMI 0.1uF 25V

\* New Parts

Schm Ref.	PART NO.	Description
C304	UA654100	C. MYLAR 0.01uF 50V
C305	FG252270	C. CE 270pF 50V(W)
C306	FG212220	C. CE 220pF 50V(W)
C307	FG212220	C. CE 220pF 50V(W)
C308	VE551900	C. CE 100pF 50V(W)
C309	VE551900	C. CE 100pF 50V(W)
C310	VK534000	C. PP 220pF 200V
C311	VK534000	C. PP 220pF 200V
* C312	VP917600	C. PP 220pF 100V
* C313	VP917600	C. PP 220pF 100V
C314	FG212220	C. CE 220pF 50V
C315	FG212220	C. CE 220pF 50V
C316	FG212220	C. CE 220pF 50V
C317	VD930900	C. CE. SMI 0.1uF 25V
C318	FG212220	C. CE 220pF 50V
C319	FG212220	C. CE 220pF 50V
C320	FG212220	C. CE 220pF 50V
C321	FG212220	C. CE 220pF 50V
C322	VD930900	C. CE. SMI 0.1uF 25V
C323	FG212220	C. CE 220pF 50V
C324	VG278400	C. CE. TUBLR 220pF 50V
C325	VG278400	C. CE. TUBLR 220pF 50V
C326	VG290900	C. EL 10uF 50V
C327	FG212220	C. CE 220pF 50V
C328	FG212220	C. CE 220pF 50V
C329	VG290900	C. EL 10uF 50V
C330	VD929600	C. EL 4.7uF 50V
C331	VE551900	C. CE 100pF 50V(W)
C332	Vi460900	C. EL 2200uF 6.3V
C333	FG213150	C. CE 1500pF 50V(UCRABH)
C333	FG713270	C. CE 2700pF 50V(W)
C334	FG213150	C. CE 1500pF 50V(UCRABH)
C334	FG713270	C. CE 2700pF 50V(W)
C335	Vi460900	C. EL 2200uF 6.3V
C336	VE551900	C. CE 100pF 50V(W)
C337	UA654330	C. MYLAR 0.033uF 50V
C338	UA653910	C. MYLAR 9100pF 50V
C339	VG291100	C. EL 33uF 50V
C340	VG287800	C. EL 330uF 16V
C341	UA654330	C. MYLAR 0.033uF 50V
C342	UA653910	C. MYLAR 9100pF 50V
C343	VG291000	C. EL 22uF 50V
C344	UA653330	C. MYLAR 3300pF 50V
C345	VG287800	C. EL 330uF 16V
C346	UA653330	C. MYLAR 3300pF 50V
C347	VG291000	C. EL 22uF 50V
C348	VG290900	C. EL 10uF 50V
C349	VG288900	C. EL 100uF 25V
C350	VG288900	C. EL 100uF 25V
C351	VD916400	C. EL 2.2uF 50V
C352	UA654470	C. MYLAR 0.047uF 50V
C353	UA654680	C. MYLAR 0.068uF 50V
C354	FG212680	C. CE 680pF 50V

\* New Parts

## FUNCTION P.C.B.

Schm Ref.	PART NO.	Description
C355	UA654560	C. MYLAR 0.056uF 50V
C356	UA654560	C. MYLAR 0.056uF 50V
C357	UA654470	C. MYLAR 0.047uF 50V
C358	UA654680	C. MYLAR 0.068uF 50V
C359	FG212680	C. CE 680pF 50V
C360	VG290700	C. EL 3.3uF 50V
C361	UA654680	C. MYLAR 0.068uF 50V
C362	VG290500	C. EL 1uF 50V
C364	Fi551100	C. CE 10pF 50V
C365	VG290600	C. EL 2.2uF 50V
C366	VK533900	C. PP 100pF 200V
C367	VK533900	C. PP 100pF 200V
C368	VG290600	C. EL 2.2uF 50V
C369	Fi551100	C. CE 10pF 50V
C371	UA654680	C. MYLAR 0.068uF 50V
C372	VG290500	C. EL 1uF 50V
C374	VG291000	C. EL 22uF 50V
C375	UA655120	C. MYLAR 0.12uF 50V
C376	UA654330	C. MYLAR 0.033uF 50V
C377	UA654330	C. MYLAR 0.033uF 50V
C378	VG291000	C. EL 22uF 50V
C379	UA655120	C. MYLAR 0.12uF 50V
C380	VG290700	C. EL 3.3uF 50V
C381	VG290900	C. EL 10uF 50V
C382	VG287800	C. EL 330uF 16V
C383	VF992600	C. EL 4700uF 5.5V
C384	VG287800	C. EL 330uF 16V
C385	VD930900	C. CE. SMI 0.1uF 25V
C386	VD930900	C. CE. SMI 0.1uF 25V
C387	VG290900	C. EL 10uF 50V
C388	VG290900	C. EL 10uF 50V
C389	VG291200	C. EL 47uF 50V
C390	VG290500	C. EL 1uF 50V
C391	VG290700	C. EL 3.3uF 50V(HW)
C401	VD930900	C. CE. SMI 0.1uF 25V
C403	UG444100	C. CE 0.01uF 50V
C404	UG444100	C. CE 0.01uF 50V
C405	VD930900	C. CE. SMI 0.1uF 25V(W)
C406	VD930900	C. CE. SMI 0.1uF 25V(W)
C407	VD930900	C. CE. SMI 0.1uF 25V(W)
D301	VD631600	DIODE 1SS133,176,HSS104
D302	VD631600	DIODE 1SS133,176,HSS104
* D303	VM974500	DIODE. ZENR HZS6C2TD 6.0V
D304	Vi013600	LED(re) SLR-34VC3H3
D305	VF402500	LED(or) SLR-34DC3H3
D306	VD631600	DIODE 1SS133,176,HSS104
* D313	VM975500	DIODE. ZENR HZS12A2TD 12V
D314	VD631600	DIODE 1SS133,176,HSS104
D315	VD631600	DIODE 1SS133,176,HSS104
D316	VD631600	DIODE 1SS133,176,HSS104
D317	VD631600	DIODE 1SS133,176,HSS104
* D318	VM974500	DIODE. ZENR HZS6C2TD 6.0V
D319	VM973900	DIODE. ZENR HZS4C2TD 4.0V

\*New Parts

Schm Ref.	PART NO.	Description
D320	VM973700	DIODE. ZENR HZS4A2TD 4.0V
D321	VM973700	DIODE. ZENR HZS4A2TD 4.0V
IC301	XB247301	IC uPC4570HA
IC302	XE322001	IC NJM2068S-D
IC303	XF494A00	IC LB1641
IC304	XM088A00	IC LC6520H-4A71
IC305	XF494A00	IC LB1641
L301	VF541100	COIL 15uH(W)
L302	VF541100	COIL 15uH(W)
L303	VB056900	COIL 220uH(W)
L304	VB056900	COIL 220uH(W)
PJ301	VH805600	JACK. PIN 2P
PJ302	LB401040	JACK. PIN 4P
PJ303	LB202260	JACK. PIN
PJ304	LB606090	JACK. PIN 6P
PJ305	LB401030	JACK. PIN 4P
PJ306	LB202610	JACK. PIN 2P
Q301	VK432900	TR 2SD1915F S,T
Q302	VK432900	TR 2SD1915F S,T
Q303	iA097000	TR 2SA970 GR,BL
Q304	iA097000	TR 2SA970 GR,BL
Q305	iA097000	TR 2SA970 GR,BL
Q306	iA097000	TR 2SA970 GR,BL
Q307	VD678700	TR. DGT DTC114ES(HW)
Q308	VD678700	TR. DGT DTC114ES
Q310	iC174020	TR 2SC1740S R,S
Q311	VD678500	TR. DGT DTA114ES
Q312	VC938500	TR 2SC3852
Q313	iC224030	TR 2SC2240 GR,BL
Q314	iC174020	TR 2SC1740S R,S
Q315	VD678500	TR. DGT DTA114ES
Q316	VG722000	TR. DGT DTC144ES
△ Q317	iC174020	TR 2SC1740S R,S
Q318	iA093320	TR 2SA933S Q,R
Q319	iA093320	TR 2SA933S Q,R
Q320	iA093320	TR 2SA933S Q,R
Q321	VD678700	TR. DGT DTC114ES
Q322	iC174020	TR 2SC1740S R,S
R368	HL314470	R. MTL. OXD 47Ω 1W
R372	HL314470	R. MTL. OXD 47Ω 1W
R466	HV454100	R. CAR. FP 10Ω 1/4W
R467	HV454100	R. CAR. FP 10Ω 1/4W
SW301	VK333500	SW. PUSH SPUN19 6-2
SW302	VJ779400	SW. RT
SW303	VJ786400	SW. RT SRRZS4
* SW305	VP924200	SW. PUSH PSK00-CF2K2K
U301	VG990800	L. DTCT GPIU521X
* VR301	VP742000	VR MN50KΩ
* VR302	VP700700	VR A100KΩ
* VR303	VP741800	VR B20KΩ
* VR304	VP741900	VR G25KΩ
XL301	VB759100	RSNR. CE 4MHz
	VB966900	CN IMSA-6024

\*New Parts



## MECHANICAL PARTS

Ref. No.	PART NO.	Description	Remarks	Markets
*	1	VP405800	FRONT PANEL UNIT	BL (UCRAB)
*	1	VP407900	FRONT PANEL UNIT	TI (HW)
*	1-1	VP335200	FRONT PANEL	BL (UCRAB)
*	1-1	VP335300	FRONT PANEL	TI (HW)
	1-3	VH816700	BUTTON GUIDE 10x25	BL
	1-3	VH816800	BUTTON GUIDE 10x25	TI
	1-4	VJ833200	BUTTON GUIDE 2P	TI
	1-4	VJ833300	BUTTON GUIDE 2P	BL
	1-5	VH897700	LENS	
*	1-6	VP857700	DAMPER 4x6x55	
	1-7	VH897500	LENS	
*	2-1	VP589600	SUB CHASSIS	
	2-2	CB099600	PLASTIC RIVET No. 920	
△	3-1	iX615750	TRANSISTOR 2SA1694 O,P,Y	Q123B,Q124B, Q150B,Q151B
△	3-2	iX615760	TRANSISTOR 2SC4467 O,P,Y	Q123A,Q124A, Q150A,Q151A
*	3-4	VP492400	HEAT SINK ASS'y	
	3-5	VK195900	SHEET 19x24	
	3-7	VK173200	SCREW, TRANSISTOR 3x15 SP FCM3	
*	5	VP406000	P.C.B. ASS'y, MAIN	(UC)
*	5	VP406100	P.C.B. ASS'y, MAIN	(R)
*	5	VP406200	P.C.B. ASS'y, MAIN	(AB)
*	5	VP406300	P.C.B. ASS'y, MAIN	(H)
*	5	VP406400	P.C.B. ASS'y, MAIN	(W)
*	6	VP406500	P.C.B. ASS'y, FUNCTION	(UCRAB)
*	6	VP406600	P.C.B. ASS'y, FUNCTION	(H)
*	6	VP406700	P.C.B. ASS'y, FUNCTION	(W)
△*	8	XM170A00	POWER TRANSFORMER	(U)
△*	8	XM171A00	POWER TRANSFORMER	(C)
*	8	XM172A00	POWER TRANSFORMER	(R)
*	8	XM173A00	POWER TRANSFORMER	(AB)
△*	8	XM174A00	POWER TRANSFORMER	(HW)
△	9	VL012900	POWER CORD ASS'y	(UC)
△	9	VL238100	POWER CORD ASS'y	(R)
△*	9	VL238400	POWER CORD ASS'y	(A)
△	9	VL238900	POWER CORD ASS'y	(HW)
△	9	VN804500	POWER CORD ASS'y	(B)
	10	VN158600	CORD STOPPER No. 2104	
	14	VJ775000	AC OUTLET 2P	(B)
	14	VP418700	AC OUTLET 2P	(A)
	15	CB069250	BINDING TIE BK-1	
	16	LB101110	SHORT PLUG	
*	17	VP918800	CONNECTOR, FLAT CABLE 13P 140mm	
*	101	VL664300	TOP COVER	BL
*	101	VL664400	TOP COVER	TI
*	102	VN946400	CHASSIS	
*	104	VL664700	BOTTOM COVER	
*	105	VL664800	FRAME, SIDE	
*	106	VP338800	REAR PANEL	(U)
*	106	VP338900	REAR PANEL	(C)
*	106	VP339000	REAR PANEL	(R)
*	106	VP339100	REAR PANEL	(AB)

※New Parts

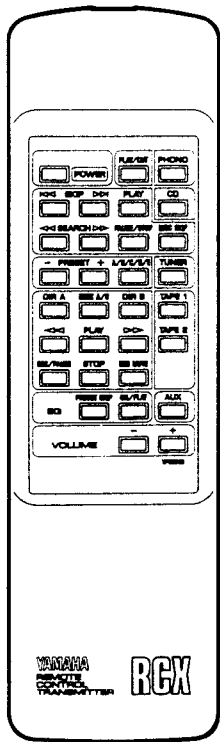
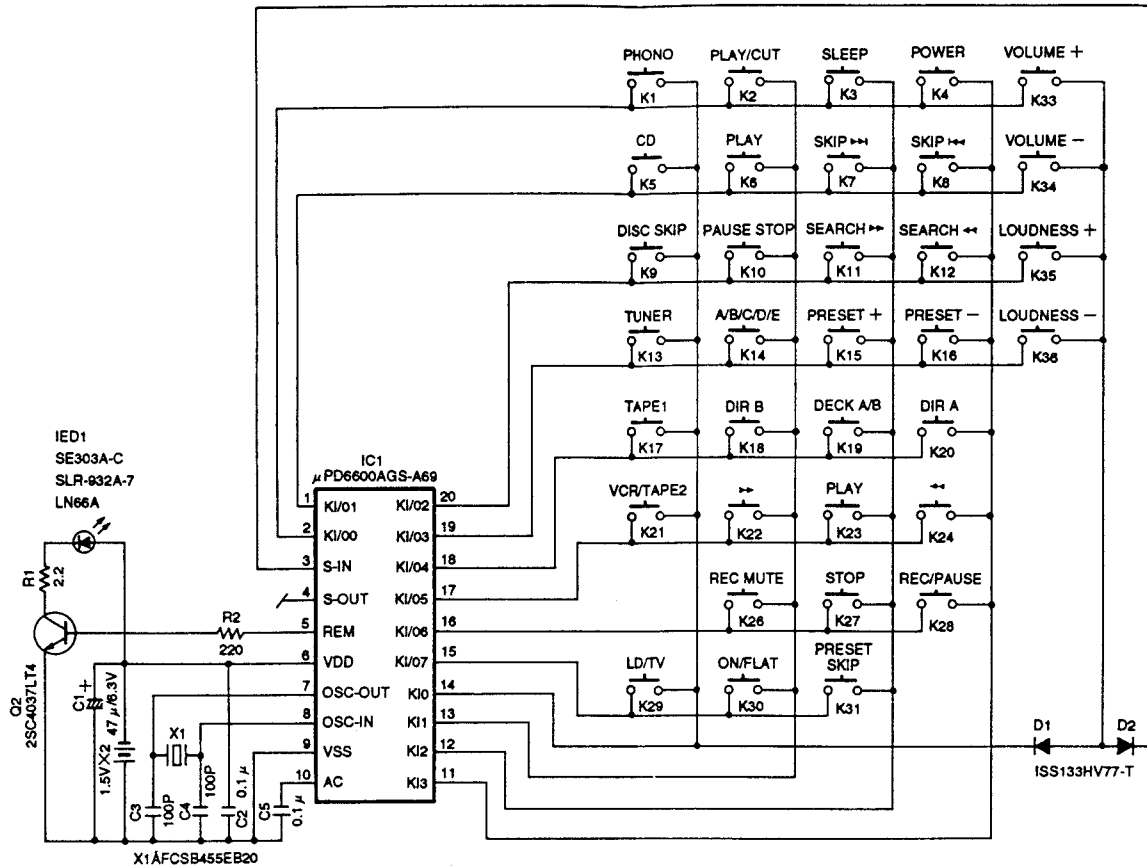


Ref. No.	PART NO.	Description	Remarks	Markets
* 106	VP339200	REAR PANEL		(H)
* 106	VP339300	REAR PANEL		(W)
108	VK016500	LEG	φ 60/H21	
110	VK015100	KNOB	φ 45	BL VOLUME
110	VK015200	KNOB	φ 45	TI VOLUME
112	VK219900	KNOB	φ 32	BL INPUT
112	VK220000	KNOB	φ 32	TI INPUT
114	VK232700	KNOB	φ 17	BL LOUDNESS
114	VK232800	KNOB	φ 17	TI LOUDNESS
116	VK232500	KNOB	φ 17	BL BALANCE
116	VK232600	KNOB	φ 17	TI BALANCE
118	VK865500	KNOB	φ 16	BL REC
118	VK865600	KNOB	φ 16	TI REC
120	VH841900	BUTTON		BL POWER, DIRECT
120	VP663400	BUTTON		TI POWER, DIRECT
122	VM736600	BUTTON		BL PHONO, SP.
122	VP564500	BUTTON		TI PHONO, SP.
125	VK230800	EXTENSION BAR		PHONO
126	VK234600	PLATE SIDE		BL
126	VK234700	PLATE SIDE		TI
* 129	VP596200	FRAME		
* 131	VQ449800	DAMPER SHIELD	65	
135	CB099600	PLASTIC RIVET	No. 920	
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
159	VB770200	BW HEAD P-TITE SCREW	3x10-8	FCM3
160	EX602240	BW HEAD TAPPING SCREW	3x10	
161	EN330060	BIND HEAD B-TITE SCREW	4x16	FCRM3-BL
162	VL184400	BIND HEAD B-TITE SCREW	4x22	FCRM3-BL
166	EX601850	SPECIAL SCREW S-TITE	4x8-10	FCRM3-BL
166	EX601860	SPECIAL SCREW S-TITE	4x8-10	FNM3-BL
168	EK365090	BW HEAD SCREW	4x8	ZMC2-BL
168	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL
169	iX632630	LED	BR3932S	VOLUME
170	iX630490	LED	SLR-34DC3F	INPUT
		ACCESSORIES		
* 200	VP590400	REMOTE CONTROL TRANSMITTER	SBAR20013A	36KEY
200-1	CX674370	LID	54x32.9	N3ALPS
		BATTERY, MANGANESE	SUM-3, AA, R06	

\*New Parts

# REMOTE CONTROL TRANSMITTER

CUSTOM CODE C0 C1 C2 C3 C4 C5 C6 C7



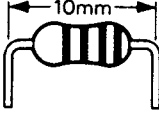

KEY NO.	DATA CODE HEX	D0	D1	D2	D3	D4	D5	D6	D7	FUNCTION
K1	14	0	0	1	0	1	0	0	0	PHONO
K2	0E	0	1	1	1	0	0	0	0	PLAY/CUT
K4	1F	1	1	1	1	1	0	0	0	POWER
K5	15	1	0	1	0	1	0	0	0	CD
K6	08	0	0	0	1	0	0	0	0	PLAY
K7	0A	0	1	0	1	0	0	0	0	SKIP >>
K8	0B	1	1	0	1	0	0	0	0	SKIP <<
K9	4F	1	1	1	1	0	0	1	0	DISK SKIP
K10	09	1	0	0	1	0	0	0	0	PAUSE/STOP
K11	0C	0	0	1	1	0	0	0	0	SEARCH >>
K12	0D	1	0	1	1	0	0	0	0	SEARCH <<
K13	16	0	1	1	0	1	0	0	0	TUNER
K14	12	0	1	0	0	1	0	0	0	A/B/C/D/E
K15	10	0	0	0	0	1	0	0	0	PRESET +
K16	11	1	0	0	0	1	0	0	0	PRESET -
K17	18	0	0	0	1	1	0	0	0	TAPE 1
K18	40	0	0	0	0	0	0	1	0	DIR B
K19	06	0	1	1	0	0	0	0	0	DECK A/B
K20	07	1	1	1	0	0	0	0	0	DIR A
K21	19	1	0	0	1	1	0	0	0	TAPE 2
K22	02	0	1	0	0	0	0	0	0	>>
K23	00	0	0	0	0	0	0	0	0	PLAY
K24	01	1	0	0	0	0	0	0	0	<<
K26	05	1	0	1	0	0	0	0	0	REC MUTE
K27	03	1	1	0	0	0	0	0	0	STOP
K28	04	0	0	1	0	0	0	0	0	REC/PAUSE
K29	17	1	1	1	0	1	0	0	0	AUX
K30	5A	0	1	0	1	1	0	1	0	ON/FLAT
K31	5B	1	1	0	1	1	0	1	0	PRESET SKIP
K33	1A	0	1	0	1	1	0	0	0	VOLUME +
K34	1B	1	1	0	1	1	0	0	0	VOLUME -

■ PARTS LIST

Parts List for Carbon Resistor

# Parts List for Carbon Resistor

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	HJ353100	HF853100	12K Ω	HJ357120	HF857120
1.8 "	HJ353180	*	15 "	HJ357150	HF857150
2.2 "	HJ353220	HF853220	18 "	HJ357180	HF857180
3.3 "	HJ353330	HF853330	22 "	HJ357220	HF857220
4.7 "	HJ353470	HF853470	27 "	HJ357270	HF857270
5.6 "	HJ353560	HF853560	33 "	HJ357330	HF857330
10 "	HJ354100	HF854100	39 "	HJ357390	HF857390
15 "	HJ354150	HF854150	47 "	HJ357470	HF857470
22 "	HJ354220	HF854220	56 "	HJ357560	HF857560
27 "	HJ354270	HF854270	68 "	HJ357680	HF857680
33 "	HJ354330	HF854330	82 "	HJ357820	HF857820
39 "	HJ354390	HF854390	91 "	HJ357910	HF857910
47 "	HJ354470	HF854470	100 "	HJ358100	HF858100
56 "	HJ354560	HF854560	120 "	HJ358120	HF858120
68 "	HJ354680	HF854680	150 "	HJ358150	HF858150
82 "	HJ354820	HF854820	180 "	HJ358180	HF858180
100 "	HJ355100	HF855100	220 "	HJ358220	HF858220
110 "	HJ355110	HF855110	270 "	HJ358270	HF858270
120 "	HJ355120	HF855120	330 "	HJ358330	HF858330
150 "	HJ355150	HF855150	390 "	HJ358390	HF858390
160 "	HJ355160	*	470 "	HJ358470	HF858470
180 "	HJ355180	HF855180	560 "	HJ358560	HF858560
220 "	HJ355220	HF855220	680 "	HJ358680	HF858680
270 "	HJ355270	HF855270	820 "	HJ358820	HF858820
330 "	HJ355330	HF855330	1.0M Ω	HJ359100	HF859100
390 "	HJ355390	HF855390	1.2 "	HJ359120	*
470 "	HJ355470	HF855470	1.5 "	HJ359150	HF859150
510 "	*	HF855510	1.8 "	HJ359180	HF859180
560 "	HJ355560	HF855560	2.2 "	HJ359220	HF859220
680 "	HJ355680	HF855680	3.3 "	HJ359330	HF859330
820 "	HJ355820	HF855820	3.9 "	HJ359390	*
910 "	HJ355910	HF855910	4.7 "	HJ359470	HF859470
1.0K Ω	HJ356100	HF856100			
1.2 "	HJ356120	HF856120			
1.5 "	HJ356150	HF856150			
1.8 "	HJ356180	HF856180			
2.0 "	HJ356200	HF856200			
2.2 "	HJ356220	HF856220			
2.4 "	HJ356240	HF856240			
2.7 "	HJ356270	HF856270			
3.0 "	HJ356300	HF856300			
3.3 "	HJ356330	HF856330			
3.6 "	HJ356360	HF856360			
3.9 "	HJ356390	HF856390			
4.7 "	HJ356470	HF856470			
5.1 "	HJ356510	HF856510			
5.6 "	HJ356560	HF856560			
6.8 "	HJ356680	HF856680			
8.2 "	HJ356820	HF856820			
9.1 "	HJ356910	HF856910			
10 "	HJ357100	HF857100			

<p>1/4W Type</p> <p>HJ35○○○○</p> 	<p>1/6W Type</p> <p>HF85○○○○</p> 
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