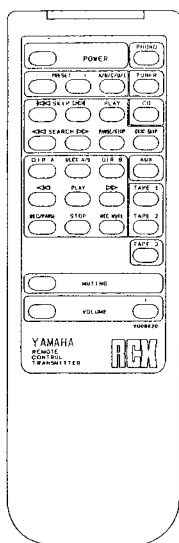
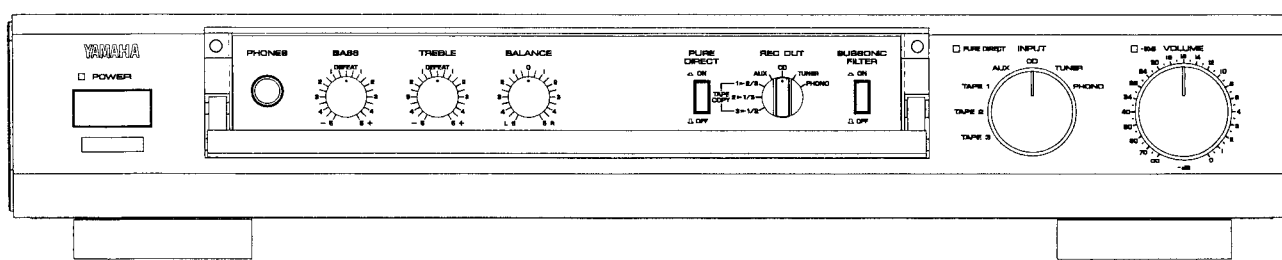


STEREO CONTROL AMPLIFIER CX-1

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 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 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.

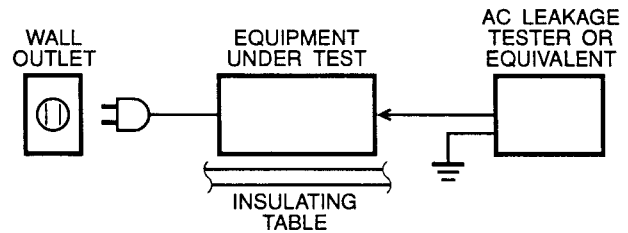
CONTENTS

TO SERVICE PERSONNEL	1
REAR PANELS	2
SPECIFICATIONS	3
BLOCK DIAGRAM	4
INTERNAL VIEW	5
DISASSEMBLY PROCEDURES	5
PRINTED CIRCUIT BOARD	6~13

μ-COM DATA	14
IC BLOCK	15
TEST POINT WAVEFORMS	15
SCHEMATIC DIAGRAM	16~17
REMOTE CONTROL TRANSMITTER	18
PARTS LIST	19~30

■ 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 Models Only).
When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.
 - Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μ F.
 - Leakage current must not exceed 0.5mA.
 - 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.

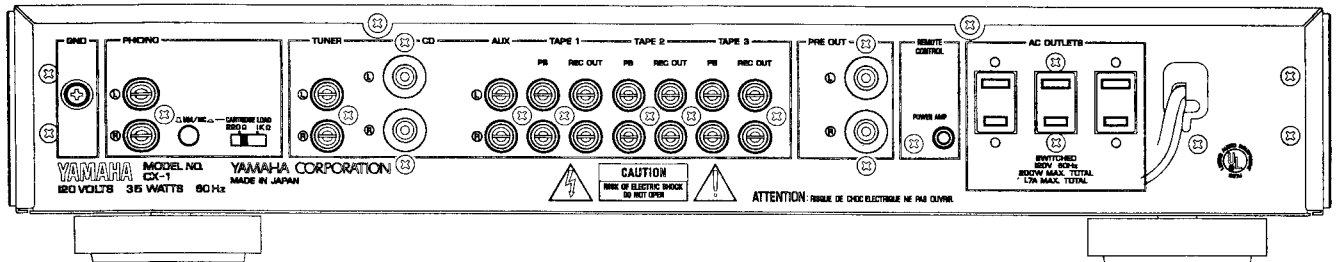
DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

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

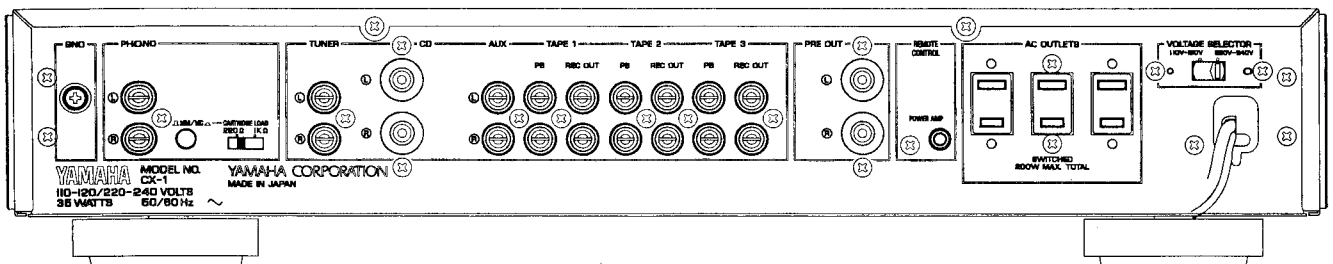
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

REAR PANELS

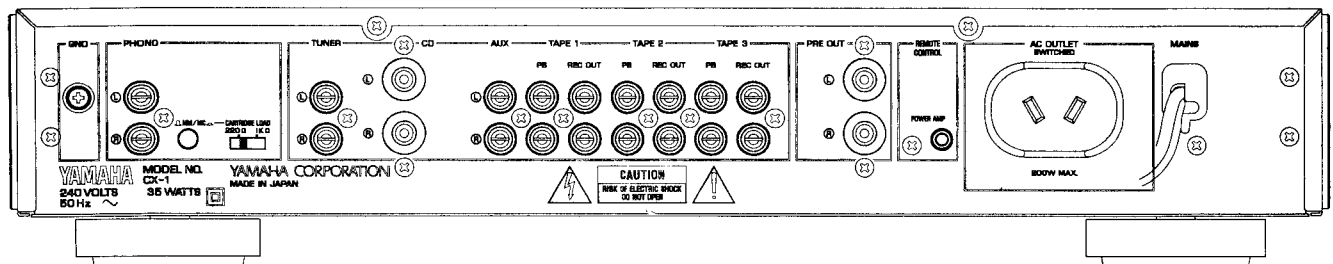
U, C models



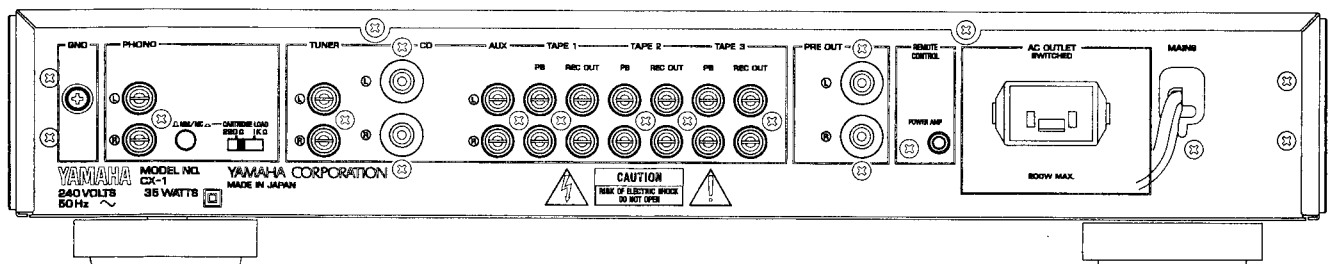
R model



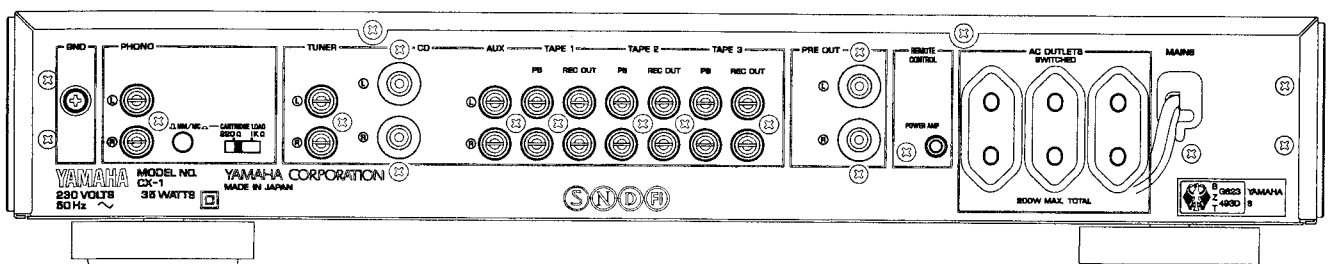
A model



B model



G model



SPECIFICATIONS

Input Sensitivity/Impedance

Phono MC	100 μ V/220 Ω , 1k Ω
Phono MM	2.5mV/47k Ω
CD etc	150mV/47k Ω

Input Sensitivity (New IHF)

Phono MC	33 μ V
Phono MM	0.83mV
CD etc	50mV

Maximum Input Signal (1kHz)

Phono MC 0.05% THD	6mV
Phono MM 0.05% THD	150mV

Output Level/Impedance

Rec Out	150mV/2.5k Ω
Pre Out	1.5V/47 Ω

Maximum Output Voltage (20Hz~20kHz 1% THD)

Pre Out	8V
---------	----

Headphone Jack Rated Output/Impedance

0.1% THD RL=100 Ω	4.5V/68 Ω
--------------------------	------------------

Frequency Response (20Hz~20kHz)

CD etc	0 $\pm$ 0.2dB
--------	---------------

RIAA Equalization Deviation

Phono MC/MM 20Hz~20kHz	$\pm$ 0.2/ $\pm$ 0.2dB
------------------------	------------------------

Total Harmonic Distortion (20Hz~20kHz)

Phono MC to Rec Out 3V	0.003%
Phono MM to Rec Out 3V	0.002%
CD etc to Pre Out 3V	0.002%

Signal to Noise Ratio (IHF-A Network)

Phono MC (500 μ V Input Shorted)	90dB
Phono MM (5mV Input Shorted)	95dB
CD (Shorted)	110dB
AUX etc (Shorted)	107dB

Residual Noise (IHF-A Network)

	1.0 μ V
--	-------------

Channel Separation (Vol. -30dB)

Phono MM, MC	
(Input Shorted 1kHz/10kHz)	80dB/70dB
CD etc	
(Input 5.1k Ω terminated 1kHz/10kHz)	85dB/65dB

Tone Control Characteristics

BASS	boost/cut	$\pm$ 10dB (20Hz)
	turnover frequency	350Hz
TREBLE	boost/cut	$\pm$ 10dB (20kHz)
	turnover frequency	3.5kHz

Filter Characteristics

Subsonic (15Hz)	-18dB/oct
-----------------	-----------

Audio Muting

	-20dB
--	-------

Gain Tracking Error (0~-60dB)

	2dB
--	-----

Power Supply

U, C models	AC120V, 60Hz
R model	AC110V—120V/220V—240V, 60/50Hz
A, B models	AC240V, 50Hz
G model	AC230V, 50Hz

Power Consumption

35W

AC Outlet

Switched x 3	
U, C models	200W max. Total
	1.7A max. Total
G, R models	200W max. Total
Switched x 1	
A, B models	200W max.

Dimensions (W x H x D)

438 x 86 x 405mm
(17-1/4" x 3-3/8" x 15-15/16")

Weight

8.8kg (19lbs 6oz)

* Specifications subject to change without notice.

U U.S.A. Model

B British Model

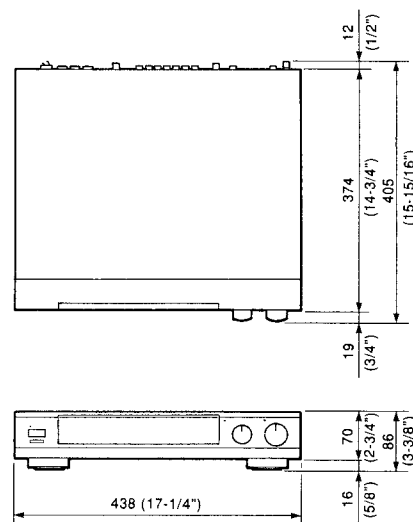
C Canadian Model

G European Model

A Australian Model

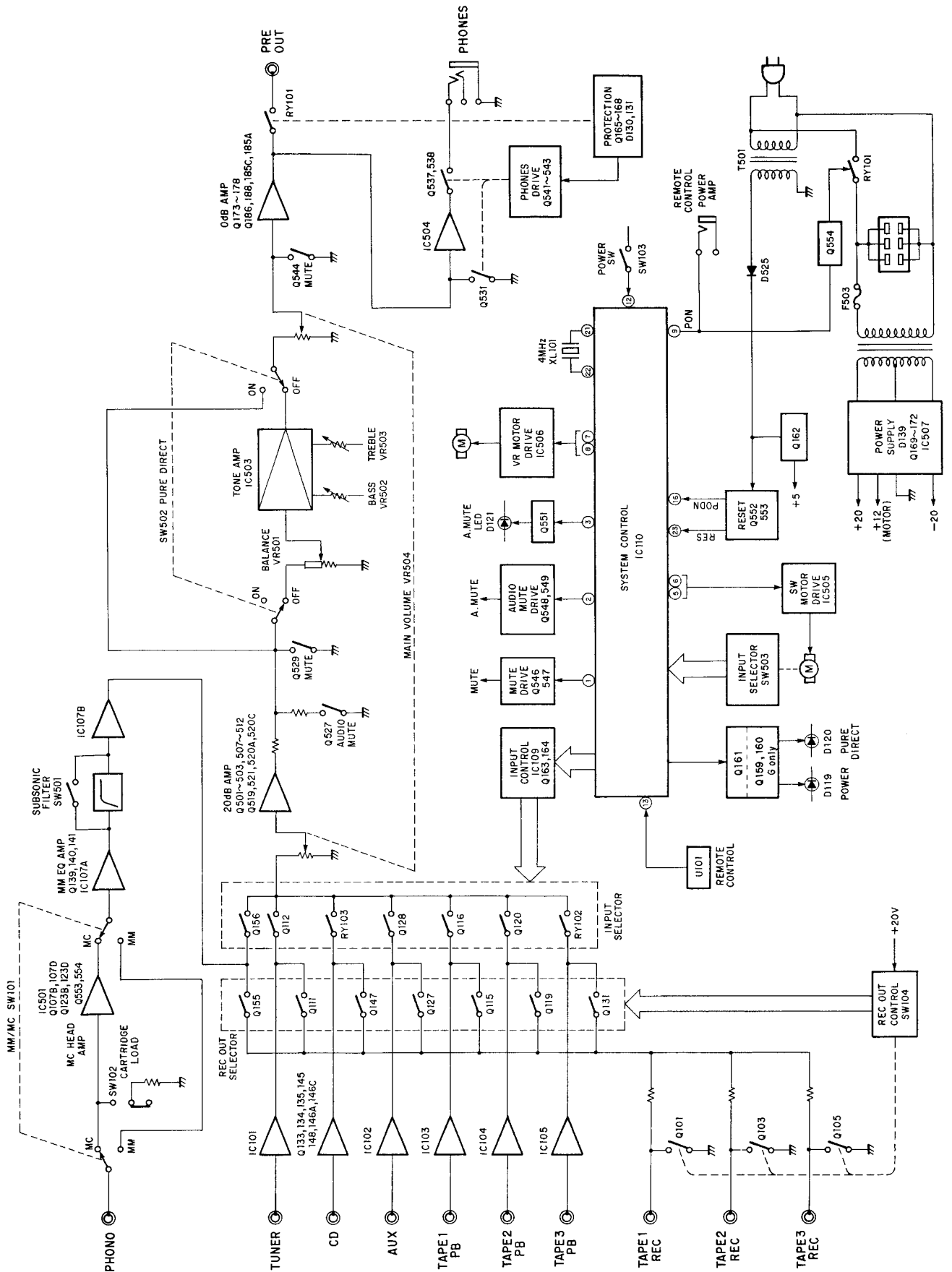
R General Model

DIMENSIONS

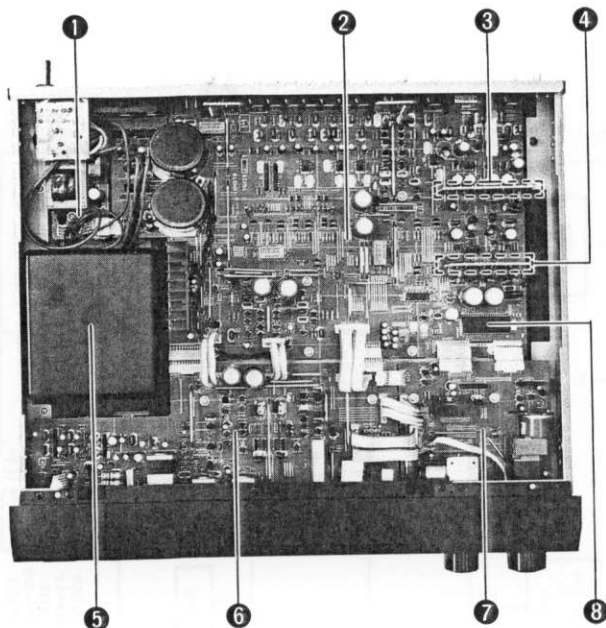


Units : mm (inch)

BLOCK DIAGRAM



INTERNAL VIEW



- ① TONE CONTROL P.C.B. ASS'Y (3)
- ② MAIN P.C.B. ASS'Y (1)
- ③ TONE CONTROL P.C.B. ASS'Y (4)
- ④ MAIN P.C.B. ASS'Y (2)
- ⑤ POWER TRANSFORMER
- ⑥ TONE CONTROL P.C.B. ASS'Y (1)
- ⑦ TONE CONTROL P.C.B. ASS'Y (2)
- ⑧ 4bit μ -COM (IC110 : LC66304A)

DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

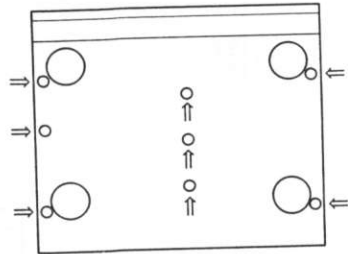
1. Removal of Top Cover

- a. Remove 4 screws (①) and then remove the Side Cover.
- b. Remove 6 screws (②).

2. Removal of Bottom Cover

- a. Remove 6 screws (③).
- b. Remove 8 screws (④).
- c. Remove 2 screws (⑤).

CAUTION FOR SERVICING-USE ONLY
COPPER COLORED SCREWS (3X10 ϕ 8) FOR
POINTS INDICATED BY ARROWS ($\Leftarrow$).



3. Removal of Front Panel

- a. Remove 6 knobs.
- b. Remove 4 screws (⑥).

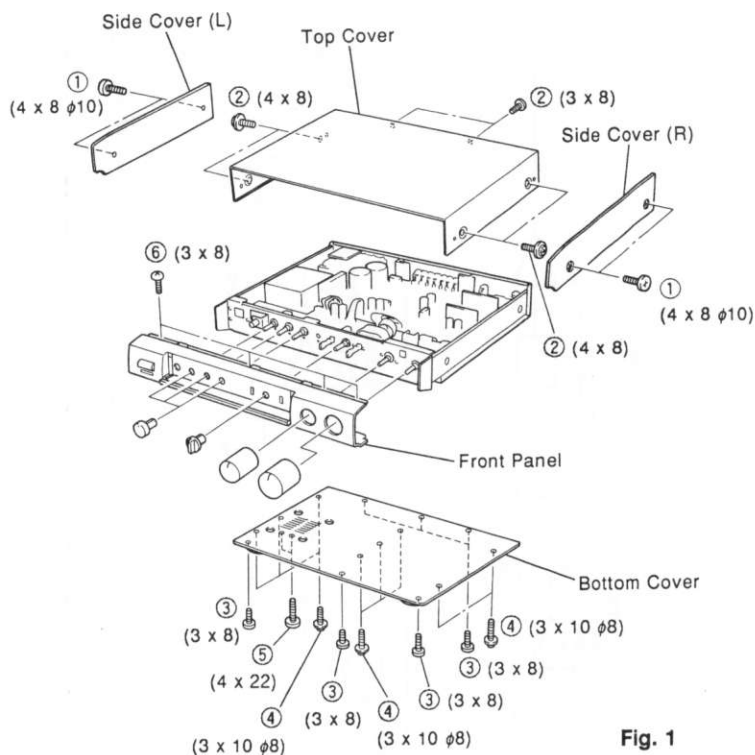


Fig. 1

Precautions for Replacement of Input Selector Switch

Make sure to perform initial setting of the input selector switch after its replacement.

● How to perform initial setting

Position the selector switch at the mid-point between the CD position and TUNER position and turn ON the POWER switch. Then the SELECTOR switch turns automatically until it finally stops at the "CD" position.

A

B

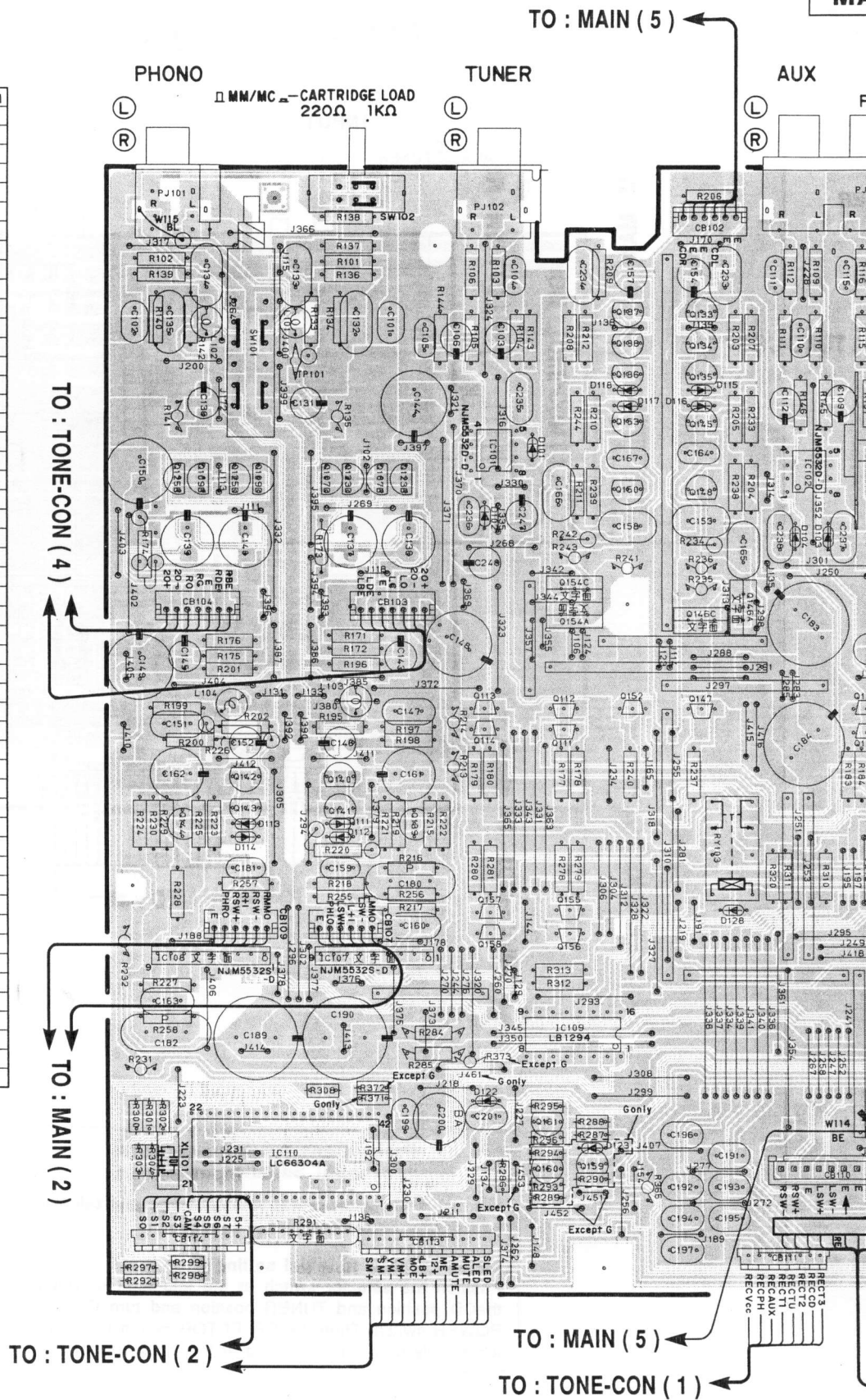
C

D

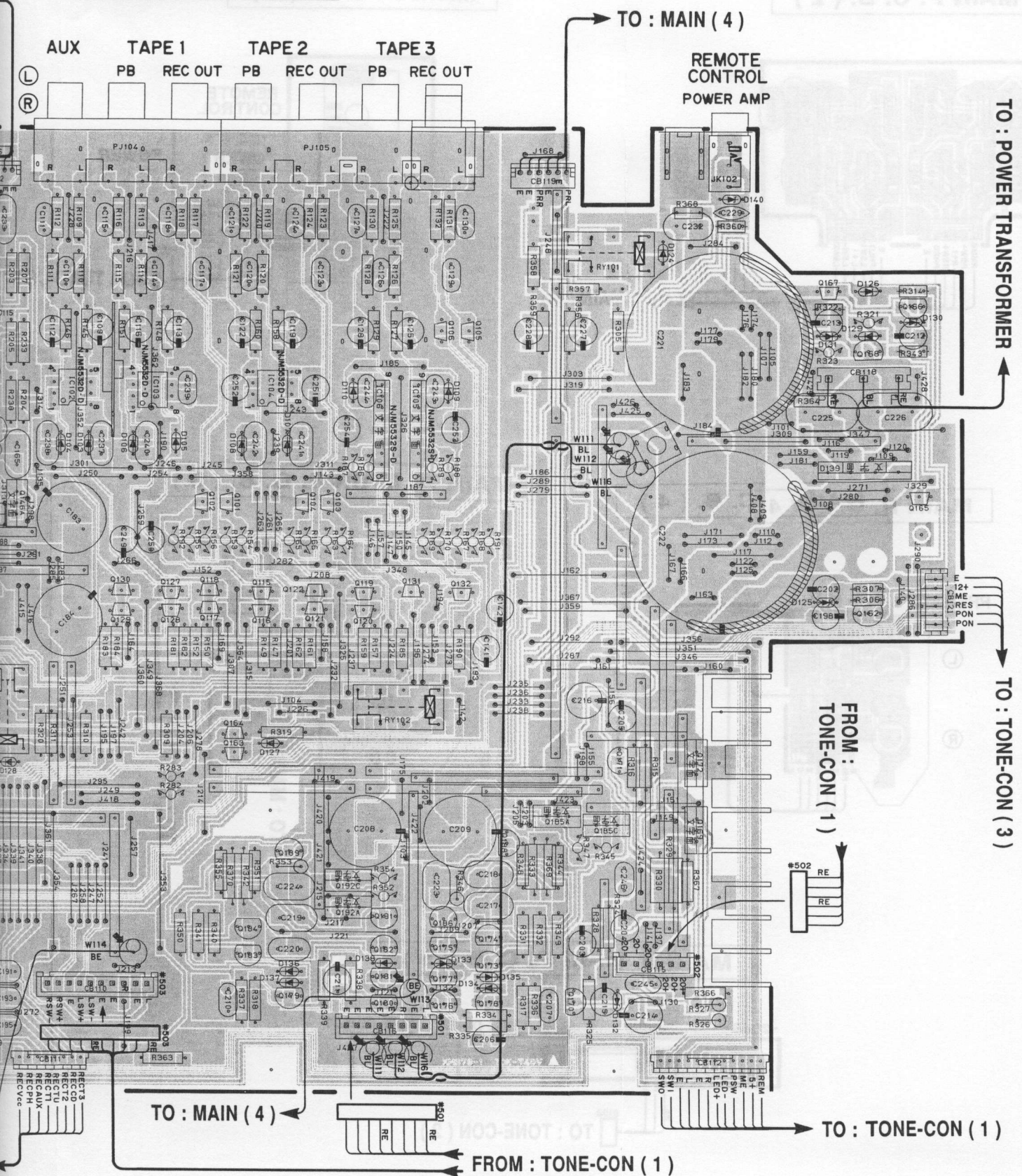
PRINTED CIRCUIT BOARD (Foil Side)

Semiconductor Location

Ref. No.	Location	Ref. No.	Location
IC 101	C3	Q 142	B4
IC 102	D3	Q 143	B4
IC 103	E3	Q 144	B4
IC 104	E3	Q 145	D3
IC 105	F3	Q146A	D3
IC 106	F3	Q146C	D3
IC 107	C4	Q 147	D3
IC 108	B4	Q 148	D3
IC 109	D5	Q 150	D3
IC 110	C5	Q 152	D3
Q 101	E3	Q 153	D3
Q 102	E3	Q154A	D3
Q 103	E3	Q154C	D3
Q 104	E3	Q 155	D4
Q 105	F2	Q 156	D4
Q 106	F2	Q 157	C4
Q107B	C3	Q 158	C4
Q107D	C3	Q 159	D5
Q109B	B3	Q 160	C5
Q109D	C3	Q 161	C5
Q 111	D4	Q 162	G4
Q 112	D3	Q 163	E4
Q 113	C3	Q 164	E4
Q 114	C4	Q 165	H3
Q 115	E3	Q 166	H2
Q 116	E4	Q 167	G2
Q 117	E4	Q 168	G3
Q 118	E3	Q 169	G4
Q 119	E3	Q 170	F5
Q 120	E4	Q 171	F4
Q 121	E4	Q 172	G4
Q 122	E3	Q 173	F4
Q123B	C3	Q 174	F4
Q123D	C3	Q 175	F5
Q125B	B3	Q 176	F5
Q125D	B3	Q 177	F5
Q 127	E3	Q 178	F4
Q 128	E4	Q 179	E5
Q 129	E4	Q 180	F5
Q 130	E3	Q 181	F5
Q 131	F3	Q 182	F5
Q 132	F3	Q 183	E5
Q 133	D2	Q 184	E5
Q 134	D2	Q185A	F4
Q 135	D2	Q185C	F4
Q 136	D2	Q 186	F5
Q 137	D2	Q 188	F4
Q 138	D2	Q 189	E4
Q 139	C4	Q 191	F5
Q 140	C4	Q192A	E5
Q 141	C4	Q192C	E5

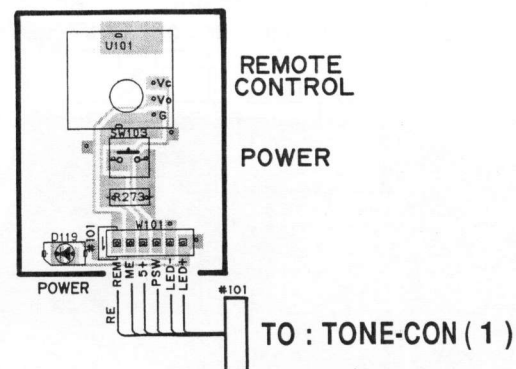


MAIN P. C. B. (1)

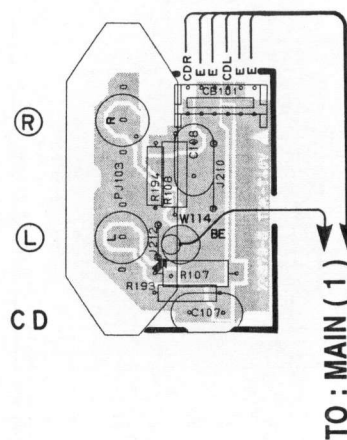


■ PRINTED CIRCUIT BOARD (Foil Side)

MAIN P. C. B. (3)



MAIN P. C. B. (5)



-20dB **PURE DIRECT**

D124 W102 P20

RE 24 AMU

#102

TO : TONE-CON (2)

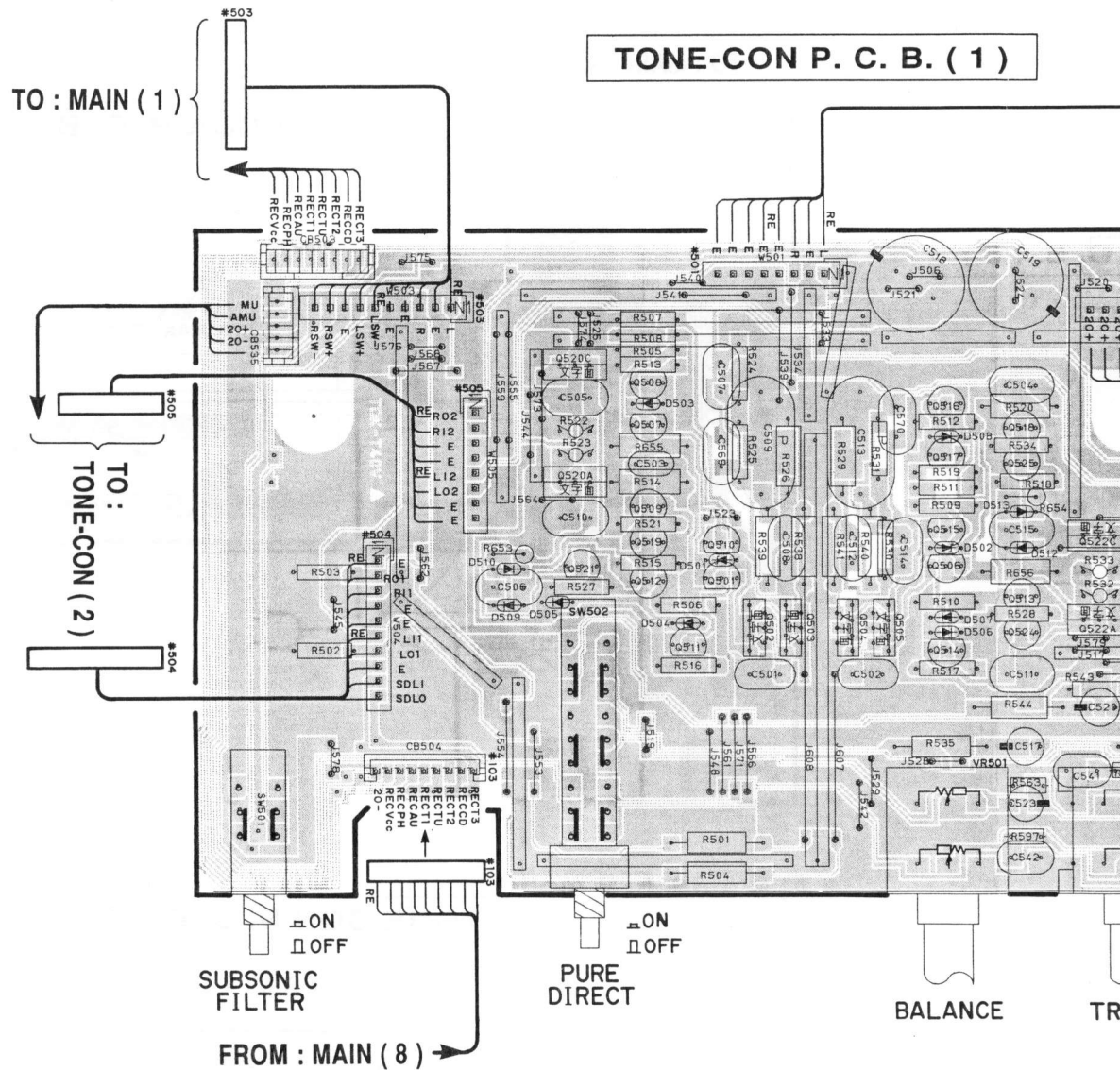
A

B

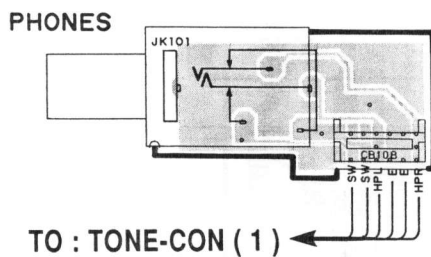
C

D

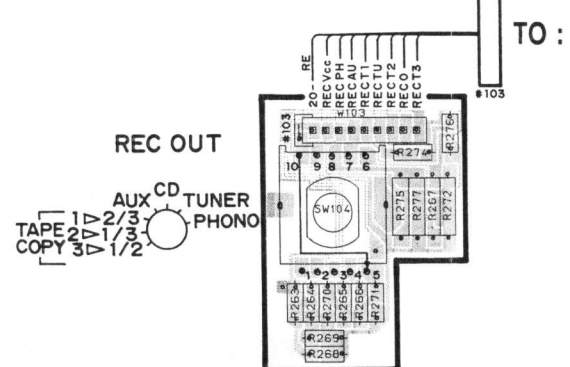
■ PRINTED CIRCUIT BOARD (Foil Side)

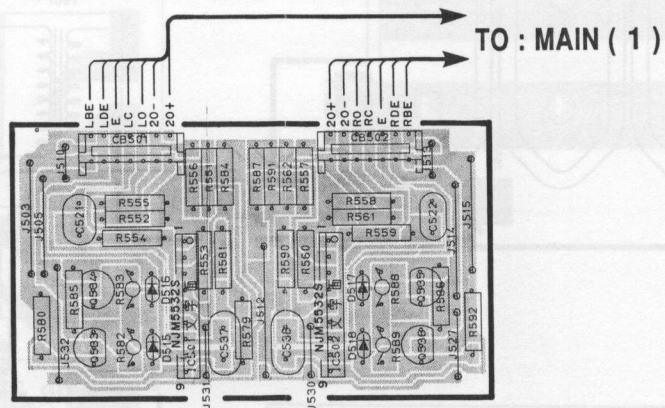
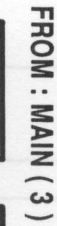


MAIN P. C. B. (7)



MAIN P. C. B. (8)





PRINTED CIRCUIT BOARD (Foil Side)

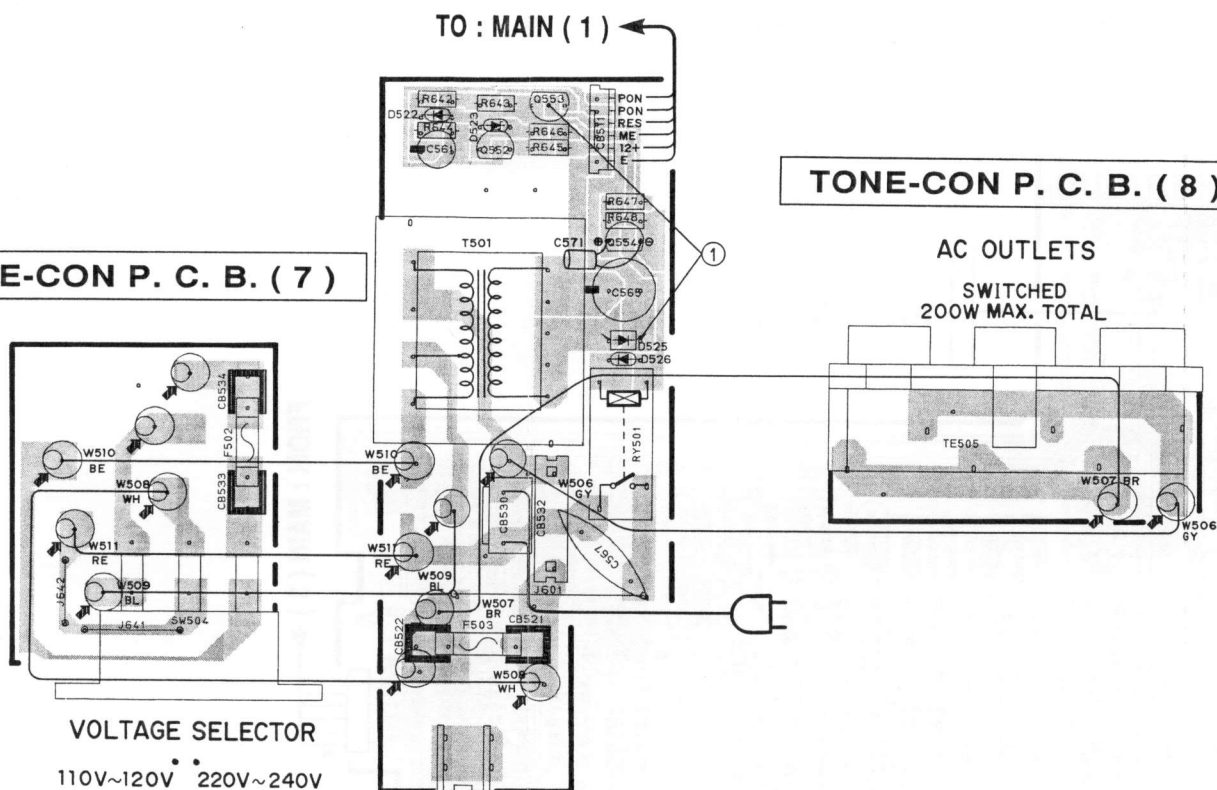
① : TEST POINT WAVEFORMS (See Page 15)

● R model

TONE-CON P. C. B. (3)

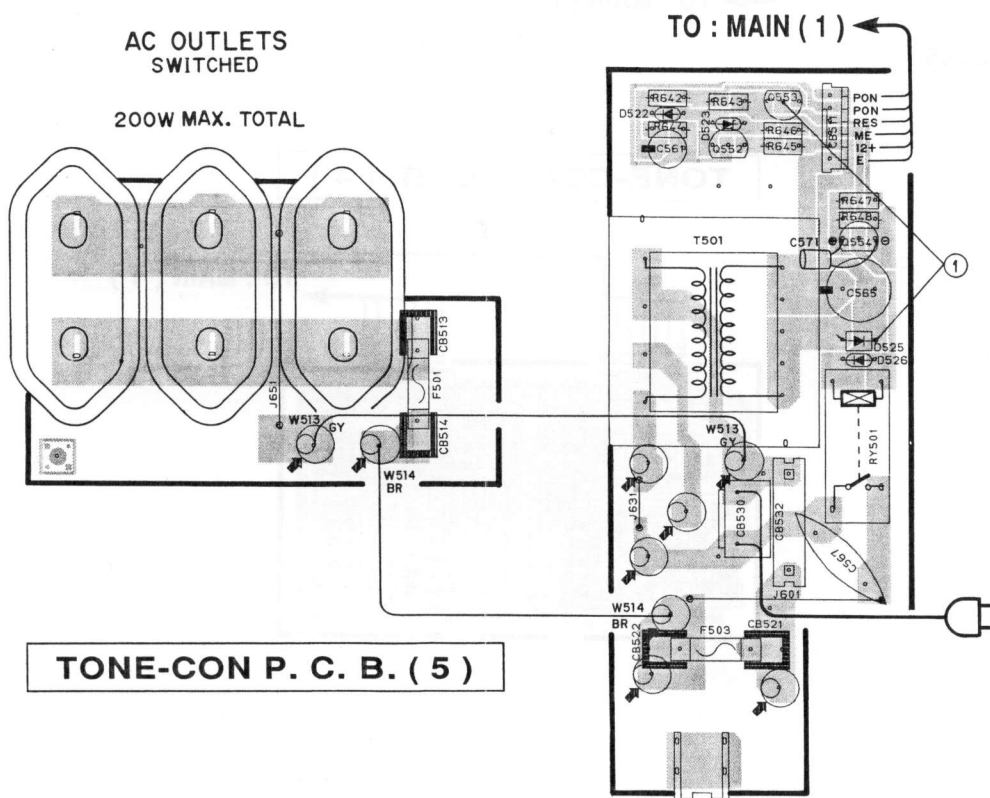
TONE-CON P. C. B. (8)

TONE-CON P. C. B. (7)



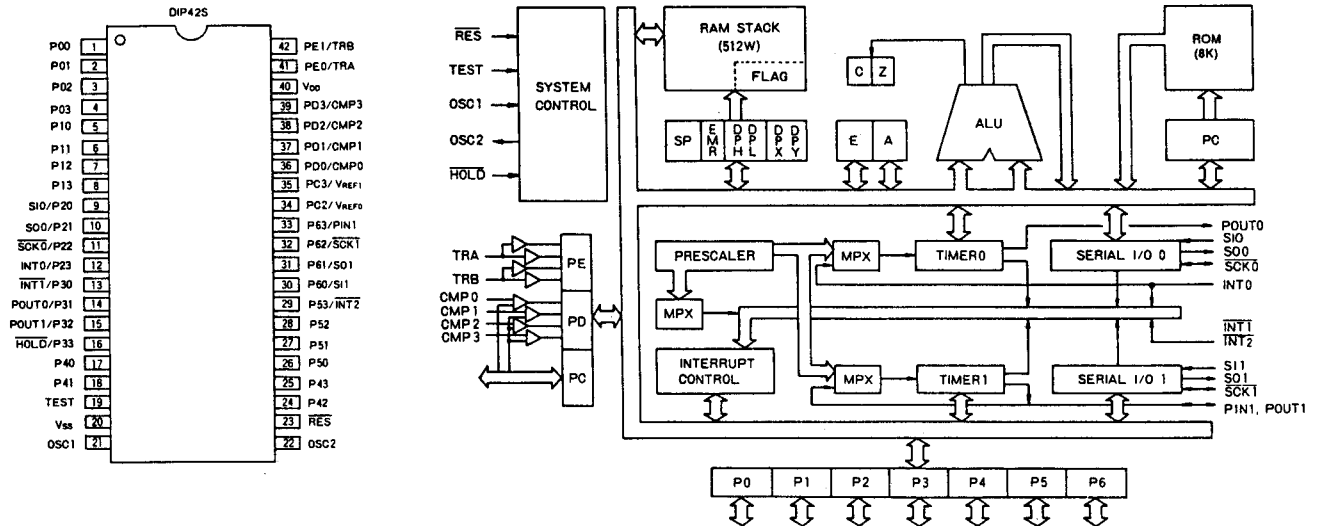
● G model

TONE-CON P. C. B. (3)



TONE-CON P. C. B. (6)

IC110 : LC66304A
4bit μ -COM

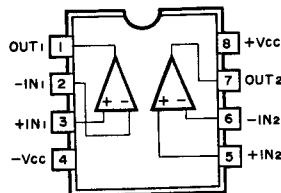


No.	PORT	I/O	NAME	FUNCTION	
1	P00	O	MUTE	Mute	
2	P01	O	AMUTE	Audio Mute	
3	P02	O	AMLED	Audio Mute LED	
4	P03	O	STBY	Standby LED	
5	P10	O	SM+	Input Selector	Turn Right
6	P11	O	SM-		Turn Left
7	P12	O	VM+	Main Volume	Up
8	P13	O	VM-		Down
9	SI0/P20	O	PON	Main Relay ON (POWER ON/OFF)	
10	SO0/P21			N. C.	
11	SCK0/P22				
12	INT0/P23	I	PWSW	Power SW	
13	INT1/P30	I	REM	Remote Control	
14	POUT0/P31			N. C.	
15	POUT1/P32				
16	HOLD/P33	I	PWDN	Power Down Detect	
17	P40	O	T1	Function Select	TAPE 1
18	P41	O	T2		TAPE 2
19	TEST			GND	
20	VSS			GND	
21	OSC1	I		Clock (4MHz)	

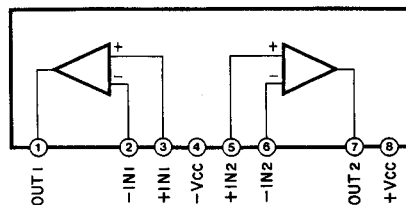
No.	PORT	I/O	NAME	FUNCTION
22	OSC2	O		Clock (4MHz)
23	$\overline{\text{RES}}$	I	RES	Reset Input
24	P42	O	T3	Function Select TAPE 3
25	P43			N. C.
26	P50	O	PH	Function Select PHONO TUNER CD AUX
27	P51	O	TU	
28	P52	O	CD	
29	P53/INT2	O	AUX	
30	P60/SI1	I	S0	Input Selector Position Detect
31	P61/SO1	I	S1	
32	P62/ $\overline{\text{SCK1}}$	I	S2	
33	P63/PIN1	I	S3	
34	PC2/VREF0	I		N. C.
35	PC3/VREF1	I	CAM	Cam Position Detect
36	PD0/CMP0	I	S4	Input Selector Position Detect
37	PD1/CMP1	I	S5	
38	PD2/CMP2	I	S6	
39	PD3/CMP3	I	S7	
40	VDD			+5V
41	PE0/TRA	I		Market Detect H : G L : Not G
42	PE1/TRB	I		Model Detect H : CX-1 L : CX-2

■ IC BLOCK

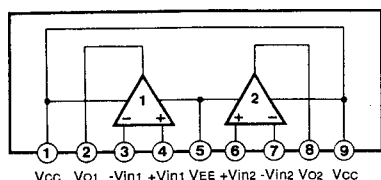
IC101~104 : NJM5532D-D Dual OP-Amp



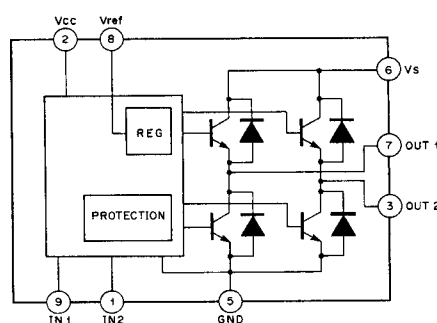
IC503 : M5219L Dual OP-Amp



IC105~108 : NJM5532SD IC501, 502 : NJM5532S IC504 : NJM4556S-A Dual OP-Amp

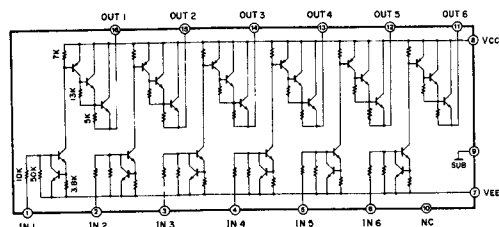


IC505, 506 : TA7291S Motor Driver



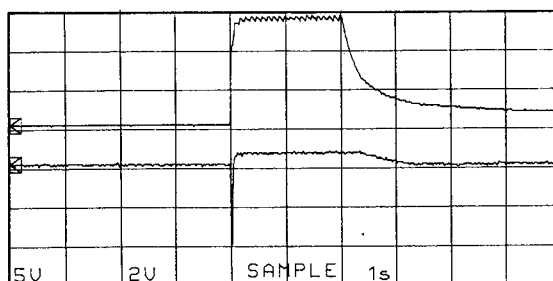
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

IC109 : LB1294 Driver Array



■ WAVEFORM OF TEST POINT

Point ① (CH1 : Cathode of D525
CH2 : Collector of Q553)
V : 5V/div (CH1) V : 2V/div (CH2)
H : 1sec/div DC range
1 : 1 probe

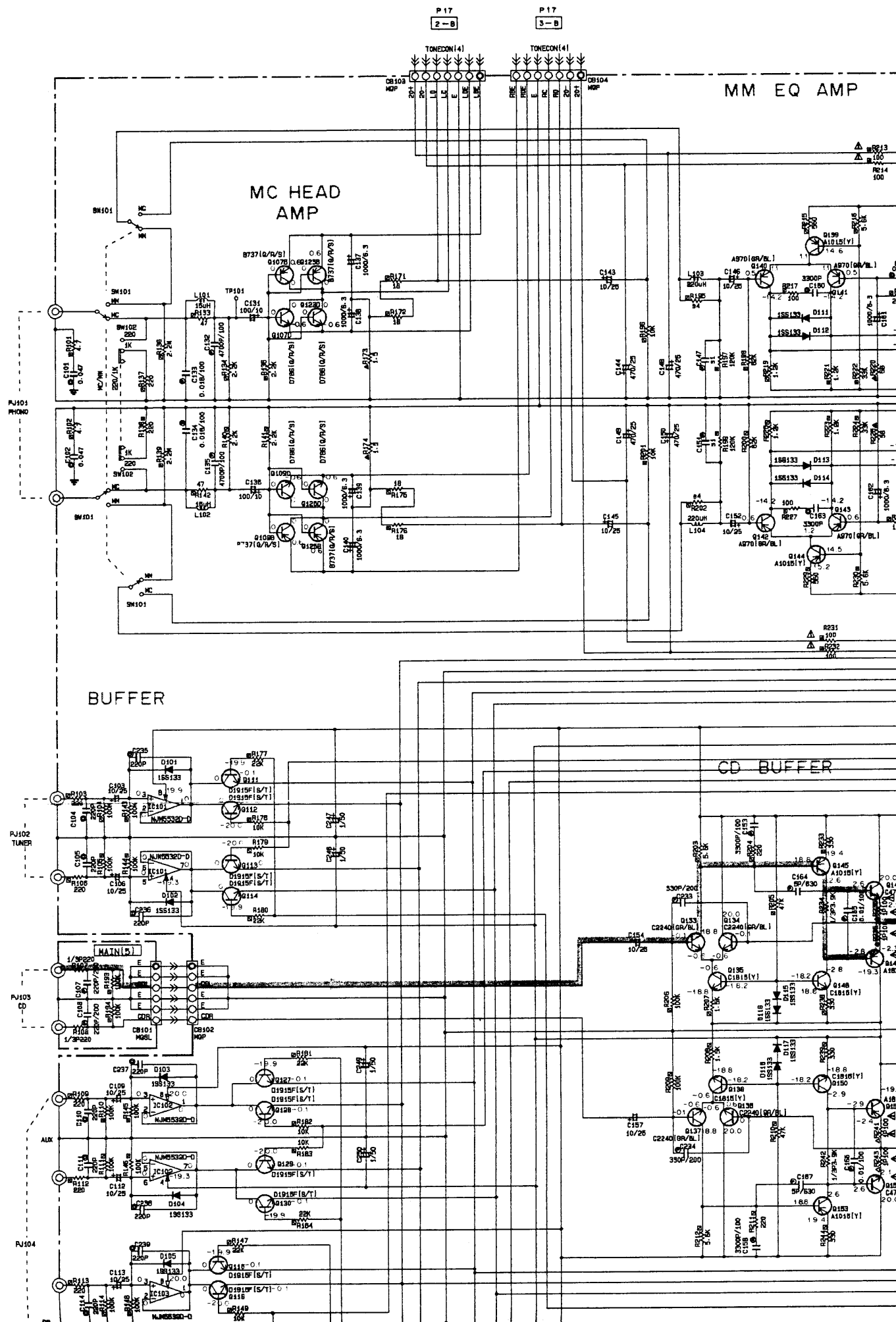


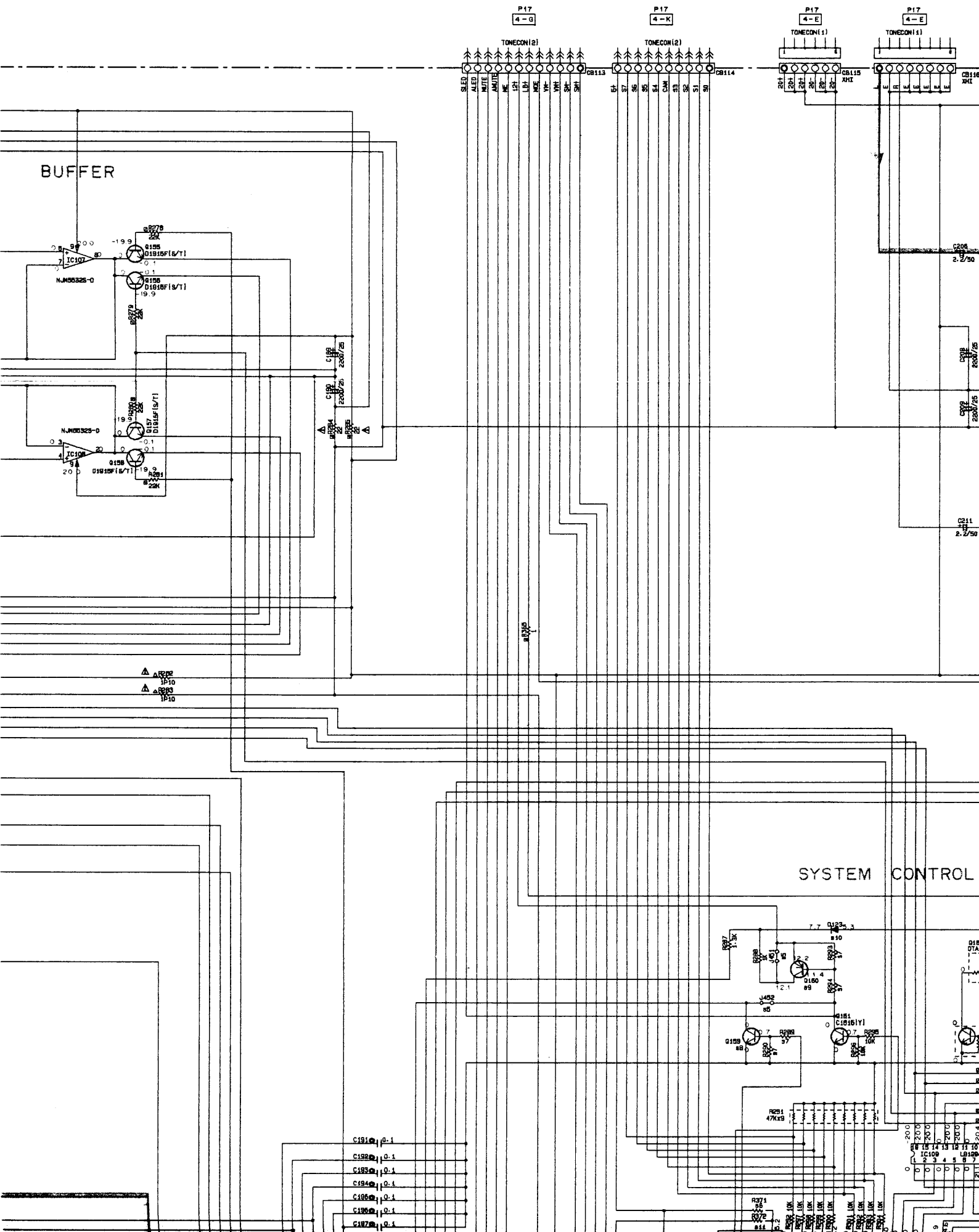
With the POWER switch turned ON, connect the power cord to the AC outlet.

Disconnect the power cord from the AC outlet.

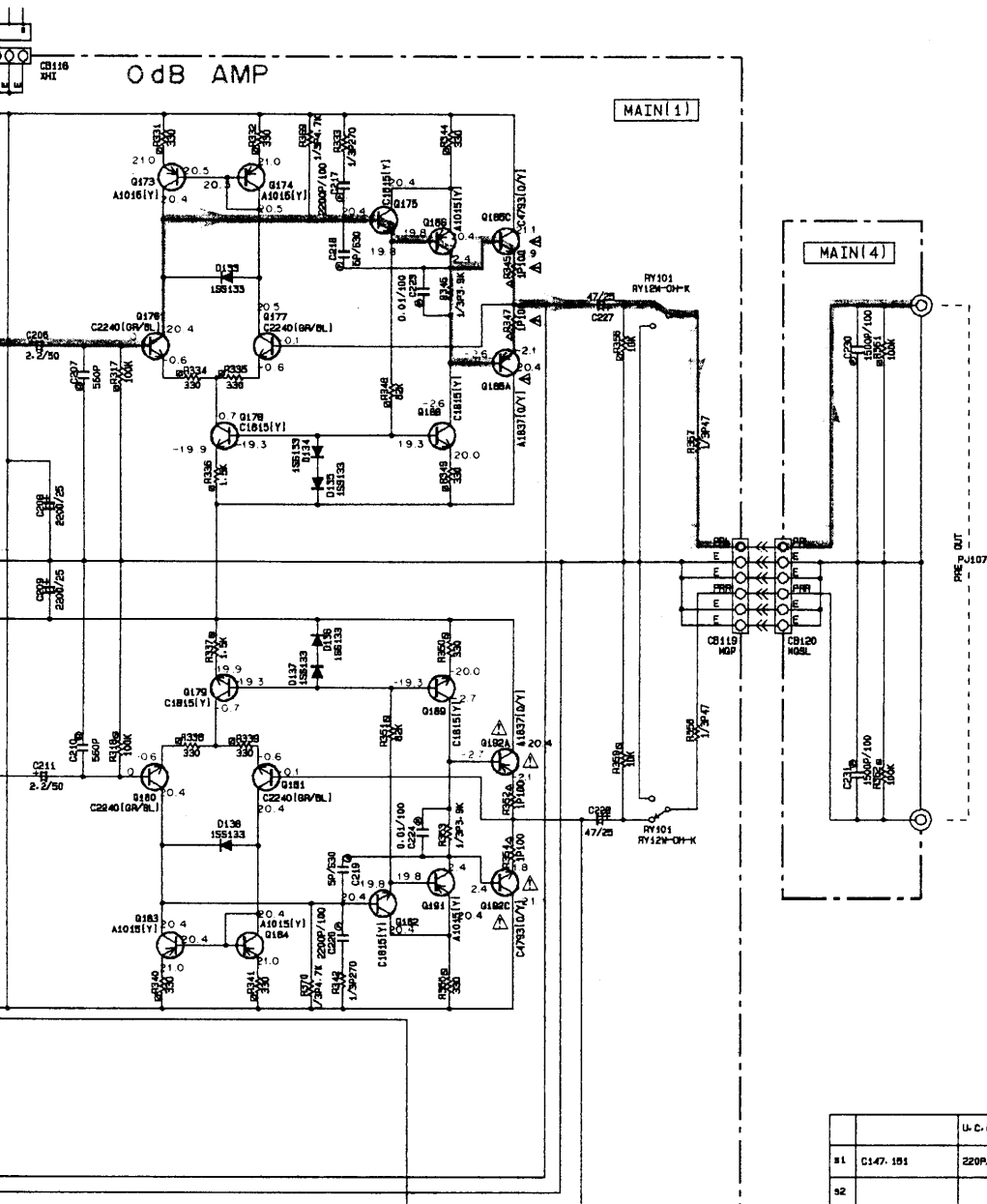
(This waveform is not available by pushing the power switch ON and OFF.)

6

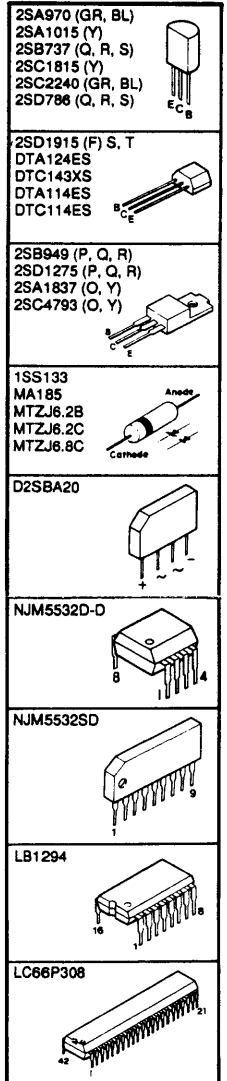
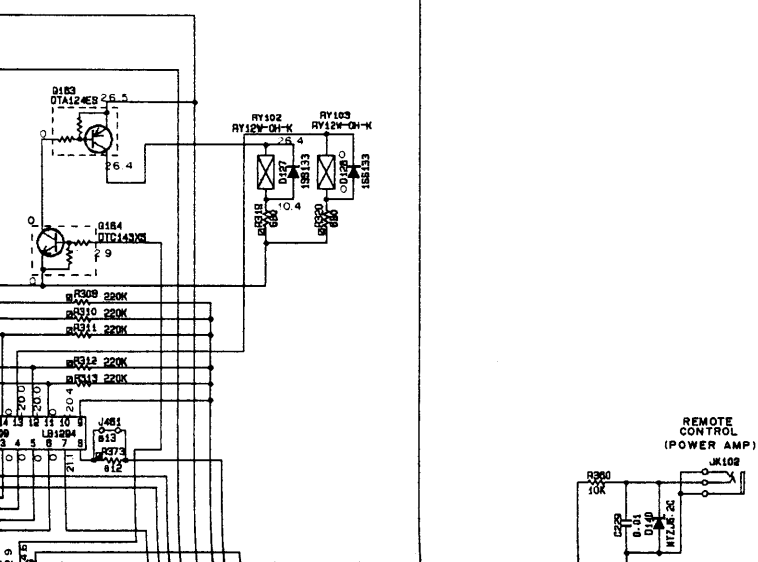




PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.



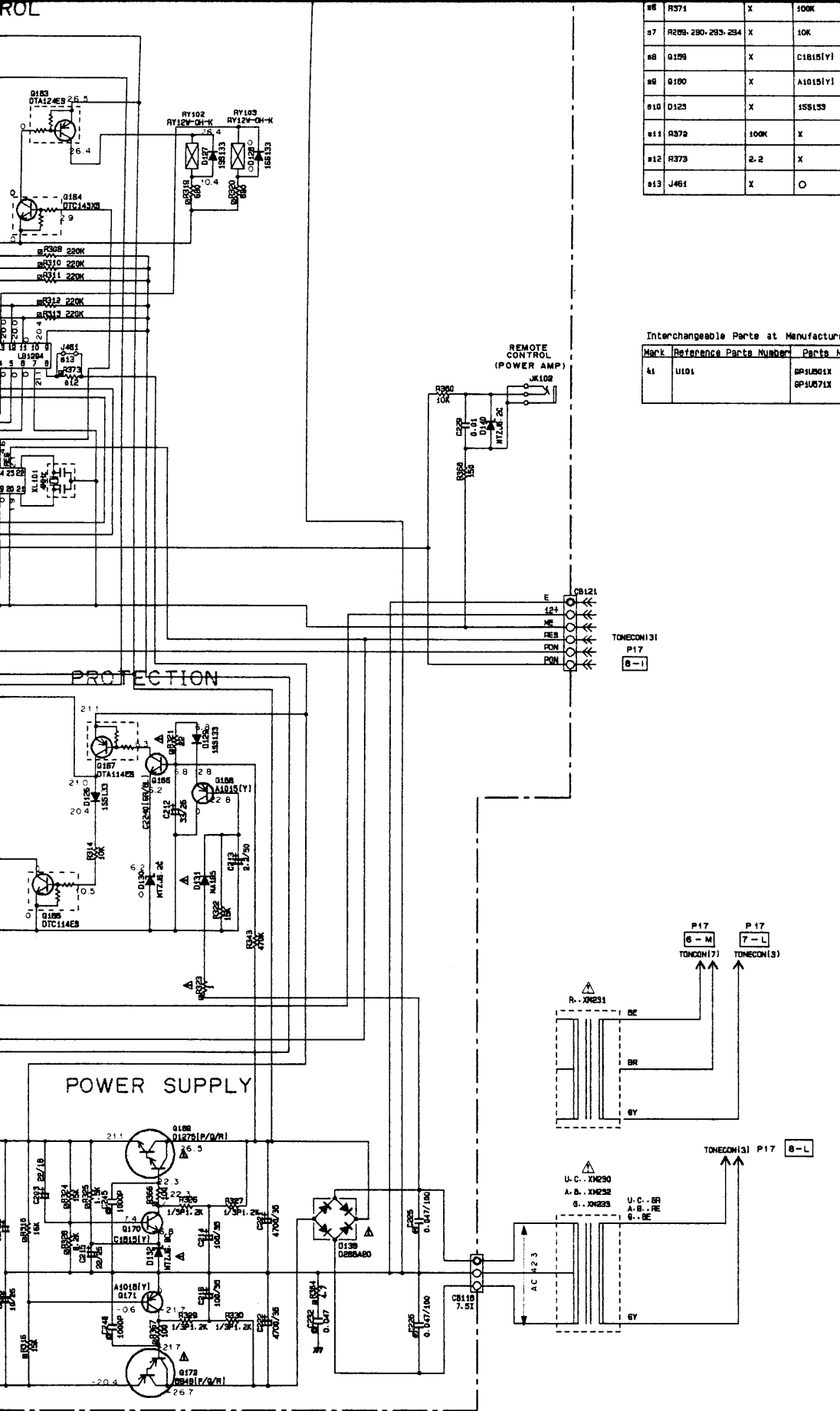
TROL



		U. C. R. A. S	S
#1	C147. 151	220P/100	330P/100
#2			
#3			
#4	R195- 202	220	2. 3K
#5	J491. 452	O	X
#6	R371	X	100K
#7	R255- 280- 293- 294	X	10K
#8	Q195	X	C1815(V)
#9	Q190	X	A1815(V)
#10	D123	X	155153
#11	R372	100K	X
#12	R373	2- 2	X
#13	J461	X	O

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
41	U101	GP1U001X GP1U071X

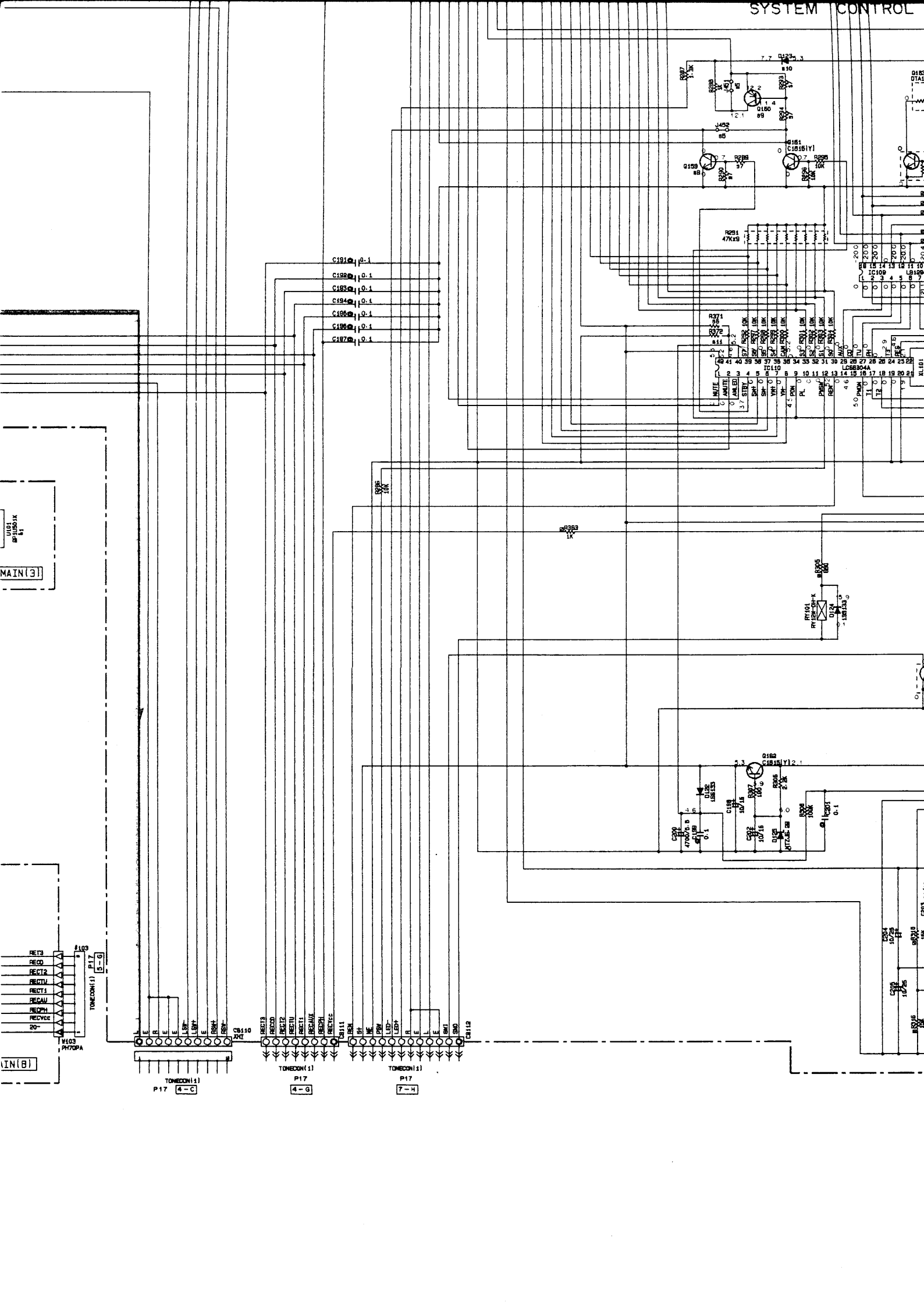


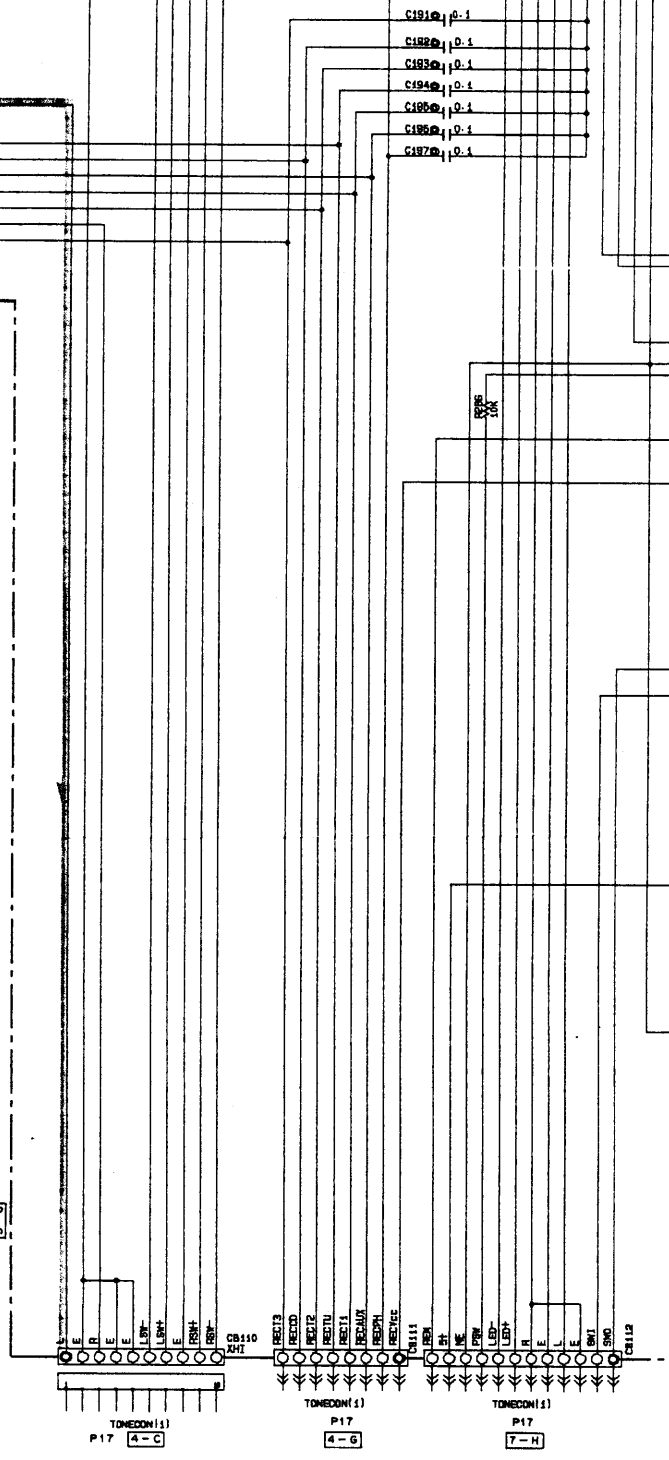
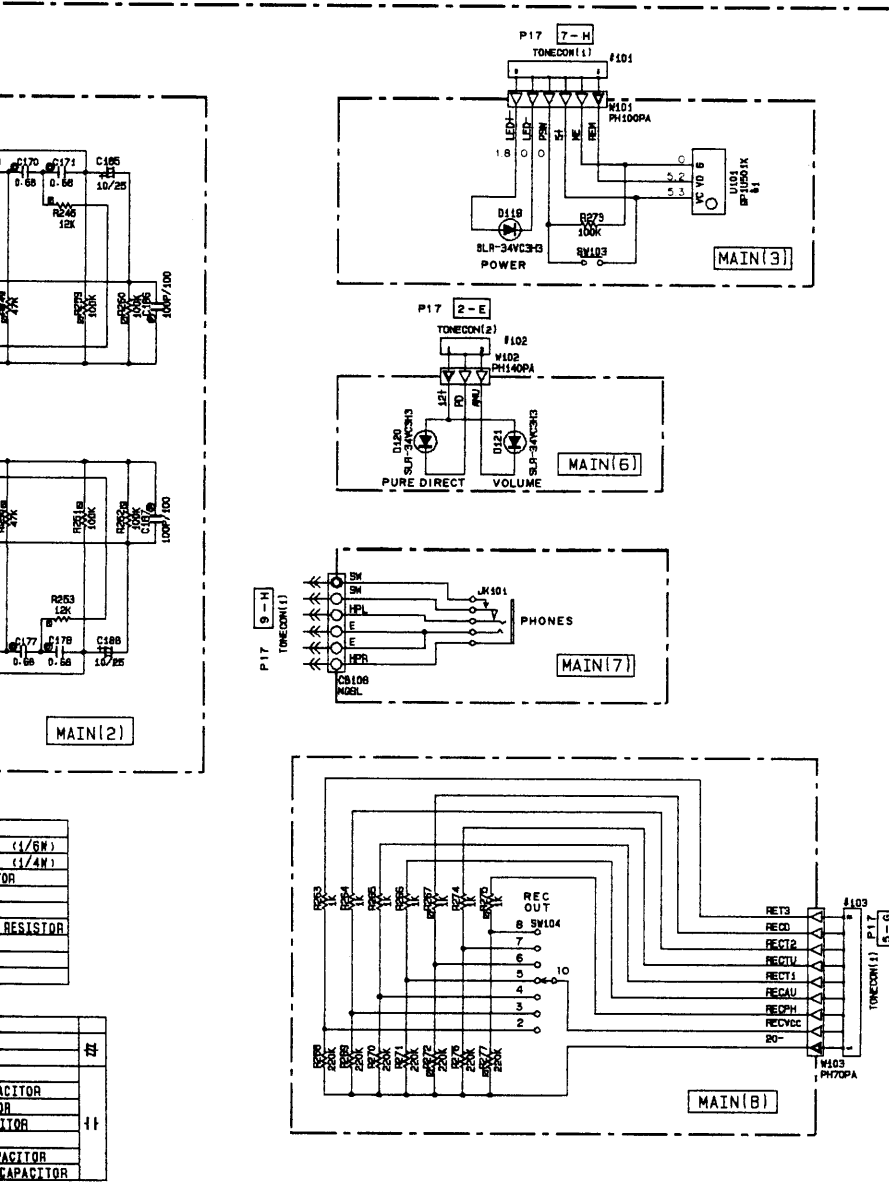
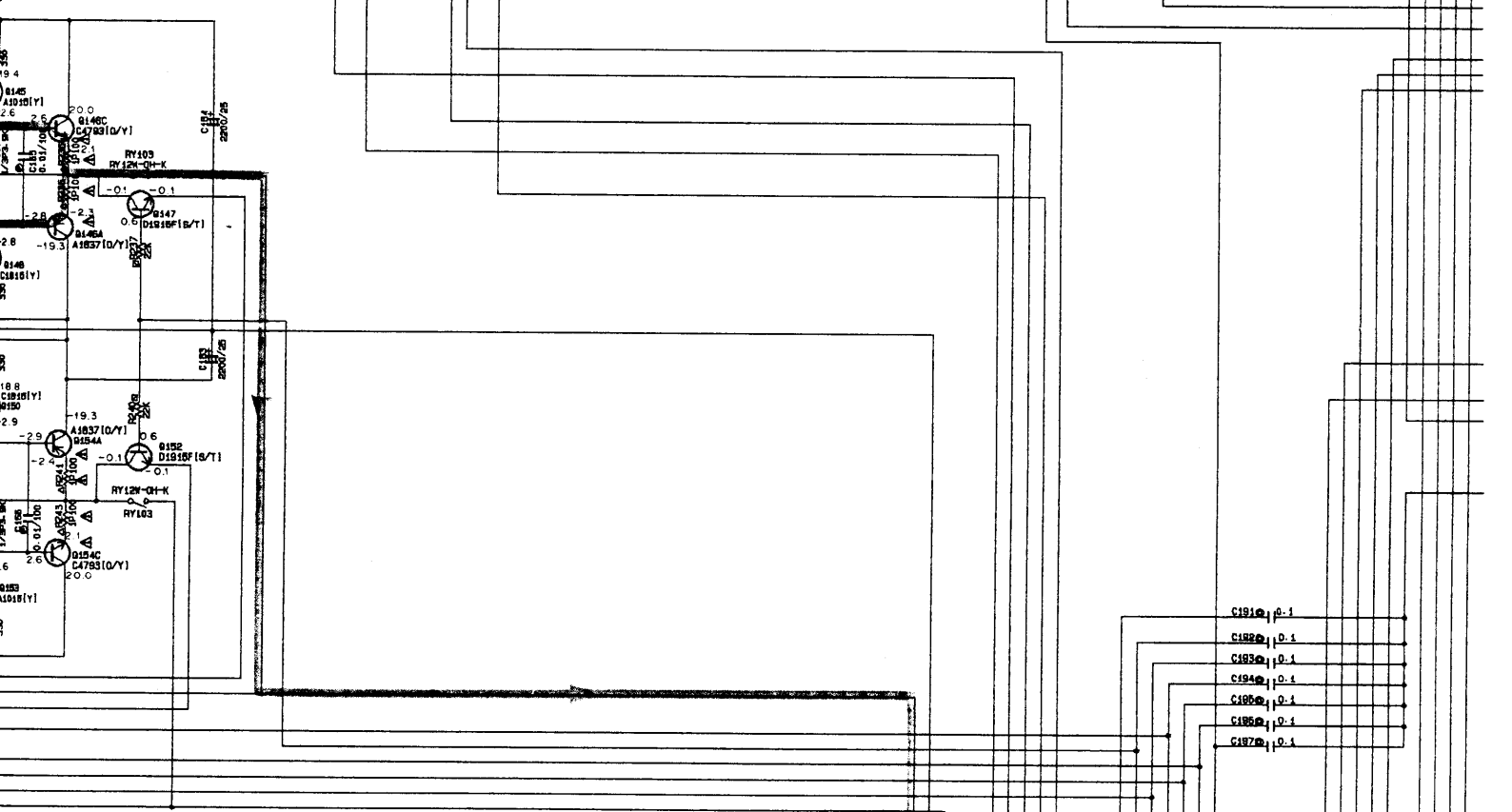
98	R371	X	100K
97	R298, 280, 293, 294	X	10K
96	Q199	X	C18151Y
95	Q190	X	A10151Y
910	D123	X	15B153
911	R372	100K	X
912	R373	2-2	X
913	J461	X	○

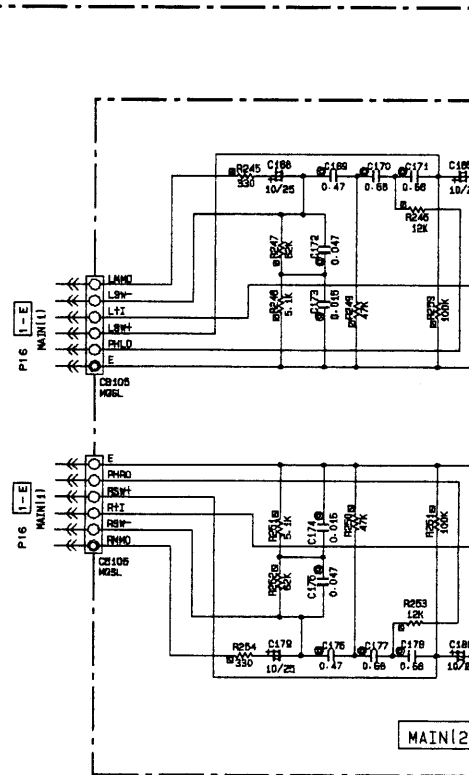
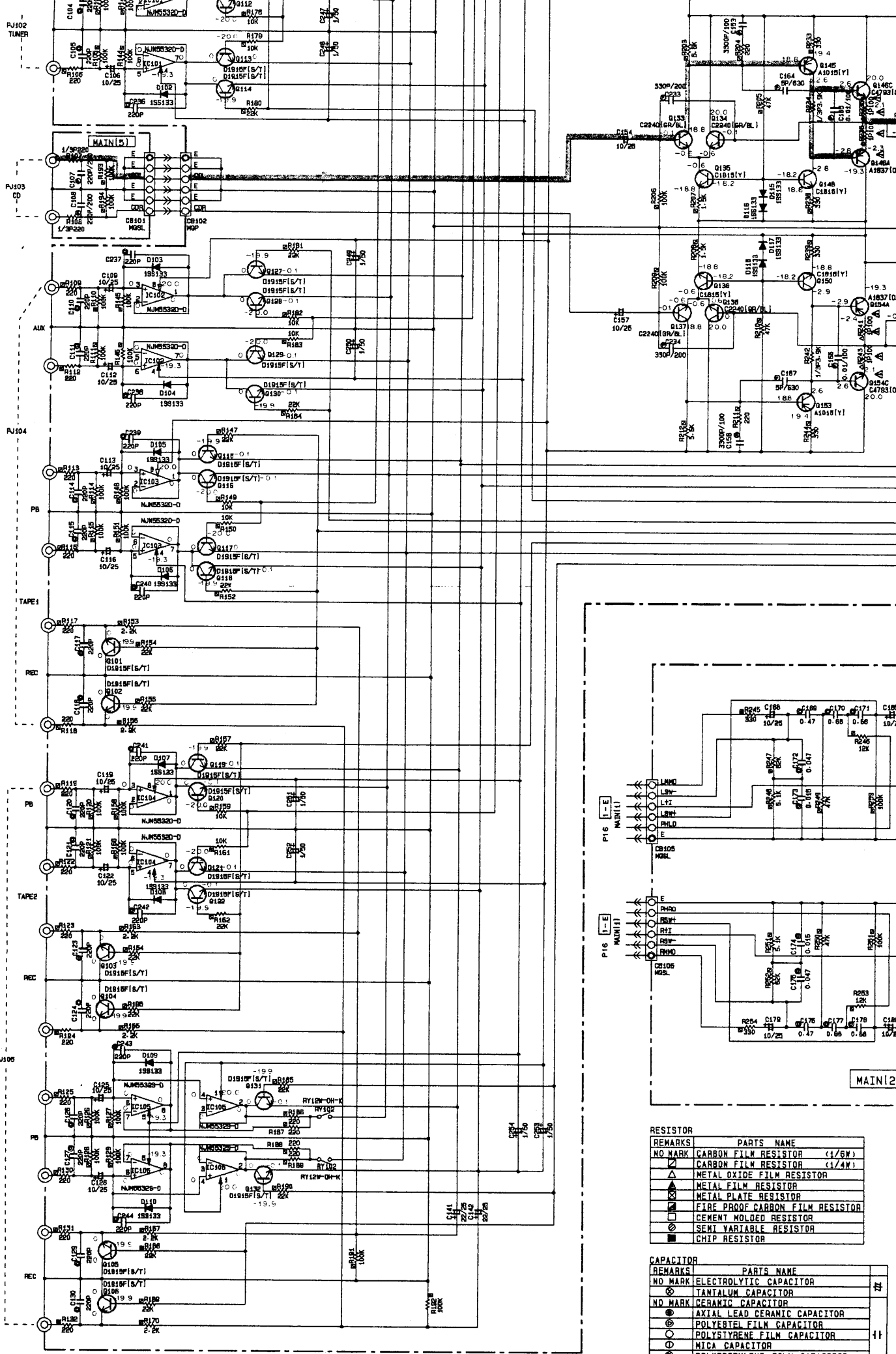
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
41	U101	SP1U501X SP1U571X

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



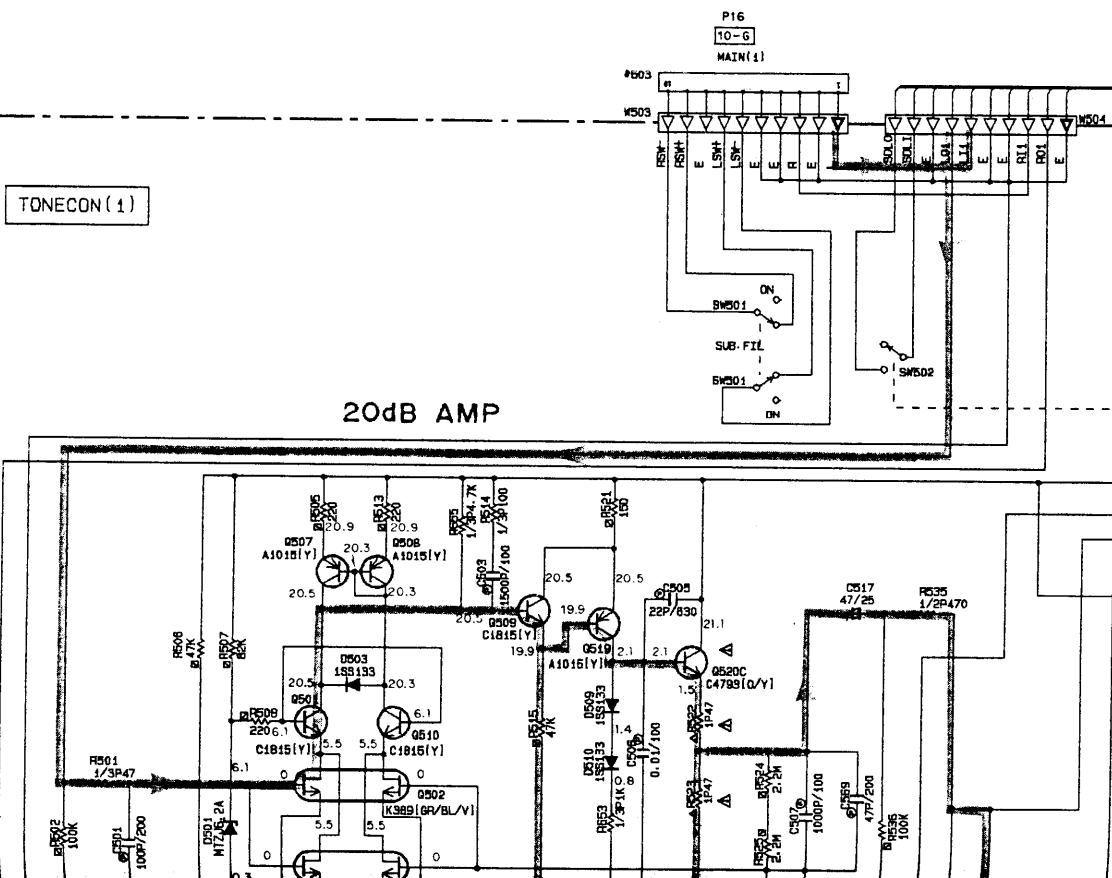
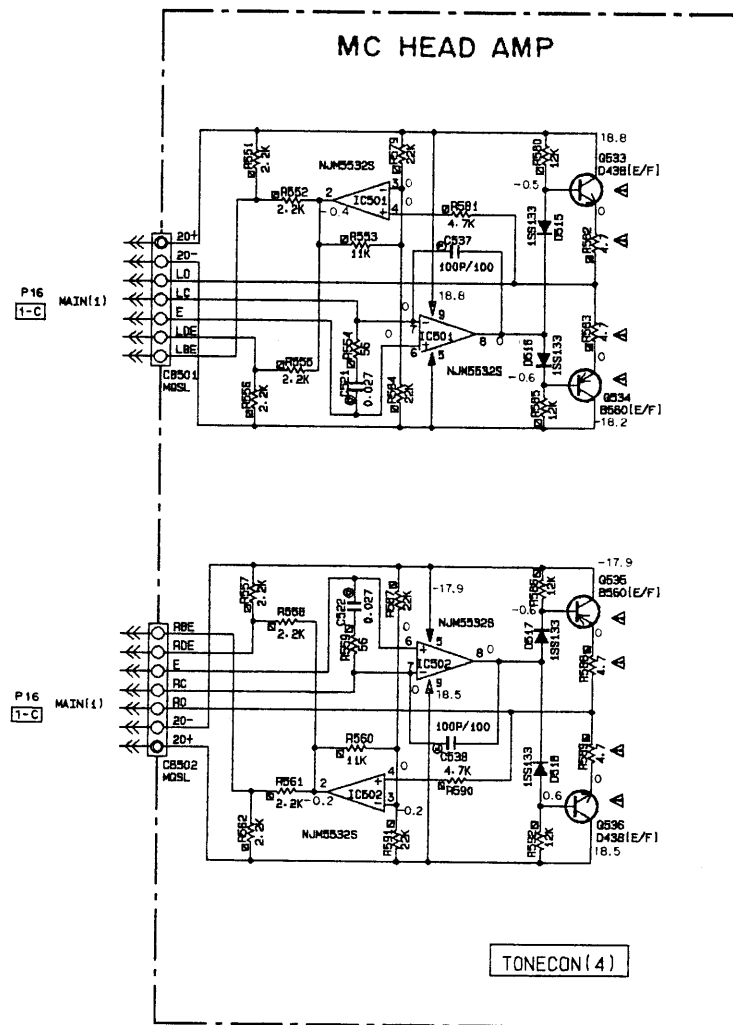




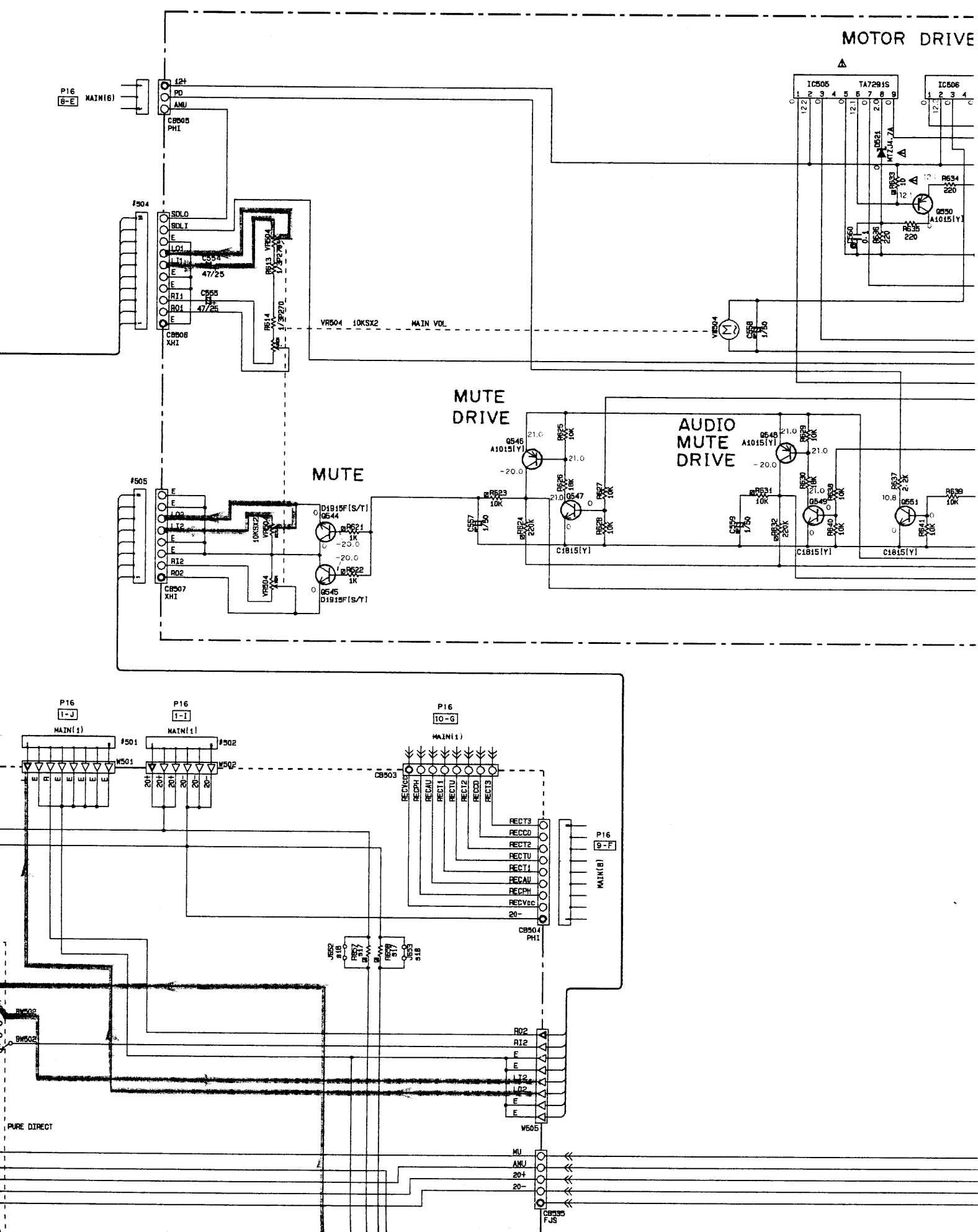
RESISTOR	
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/8W)
⊗	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
⬢	METAL FILM RESISTOR
⬢	METAL PLATE RESISTOR
⬢	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊕	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

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

■ SCHEMATIC DIAGRAM (TONE-CON)

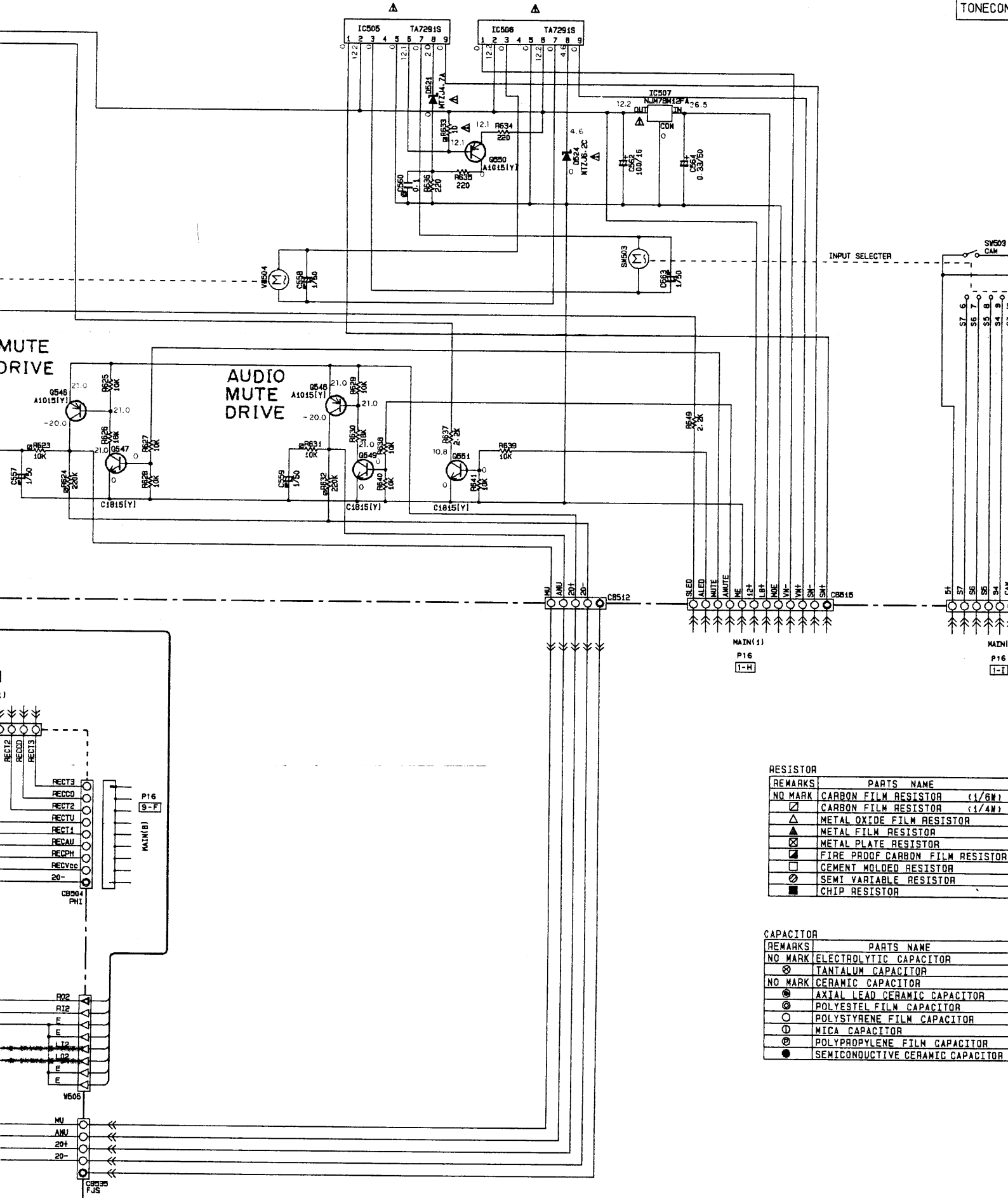


MOTOR DRIVE



MOTOR DRIVE

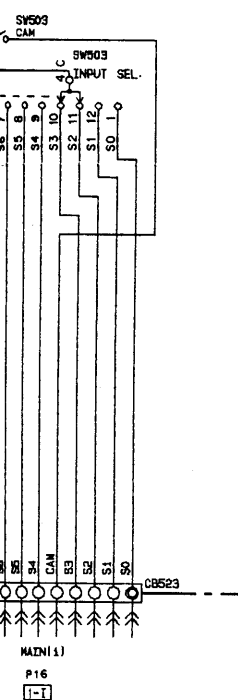
TONECON



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

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

TONECON (2)



(8W)

(4W)

SISTOR

ZZ

FOR

11

TOR

ACITOR

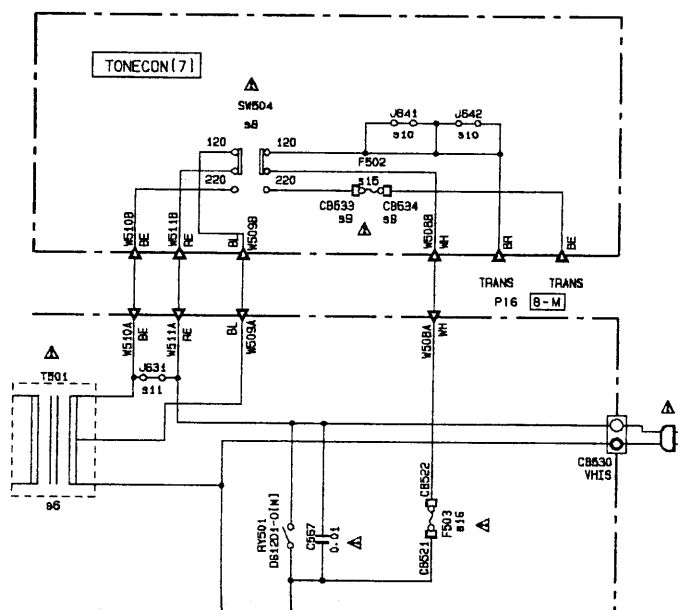
SELECTOR POSITION DATA (INPUT)

	S0	S1	S2	S3	S4	S5	S6	S7	CAM
	1	12	11	10	9	8	7	6	
PHONO	■	■	■	■	■	■	■	■	■
TUNER	■	■	■	■	■	■	■	■	■
CD	■	■	■	■	■	■	■	■	■
AUX	■	■	■	■	■	■	■	■	■
TAPE 1	■	■	■	■	■	■	■	■	■
TAPE 2	■	■	■	■	■	■	■	■	■
TAPE 3	■	■	■	■	■	■	■	■	■

■ : ON EXTENT

	U.C	R	A+B	S
s1				
s2				
s3				
s4	C568	X	X	X
s5	R650	X	X	X
s6	T501	XM366	XM367	XM368
s7	TE505	V607540	V607540	X
s8	SW504	X	VQ18660	X
s9	CB533-534	X	VP20650	X
s10	J641-642	X	○	X
s11	J631	○	X	○
s12	J651	X	X	X
s13	CB513-514	X	X	VP20650
s14	F501	X	X	X
s15	F502	X	T400mA250V	X
s16	F503	2A250V	2A250V	T400mA250V
s17	R657, R658	1	1	1
s18	J652-653	X	X	X

(R)

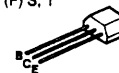


PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

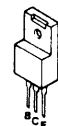
2SA1015 (Y)
2SB580 (E, F)
2SC1815 (Y)
2SC2240 (GR, BL)
2SD438 (E, F)



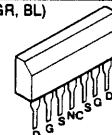
2SD1915 (F) S, T



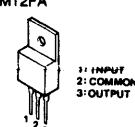
2SA1837 (O, Y)
2SC4793 (O, Y)



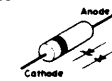
2SK389 (GR, BL)



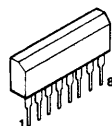
NJM78M12FA



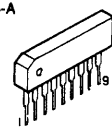
1SS133
1SR139-100
MTZJ4.3B
MTZJ4.7A
MTZJ5.1A
MTZJ6.2A
MTZJ6.2C



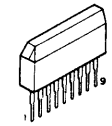
M5219L



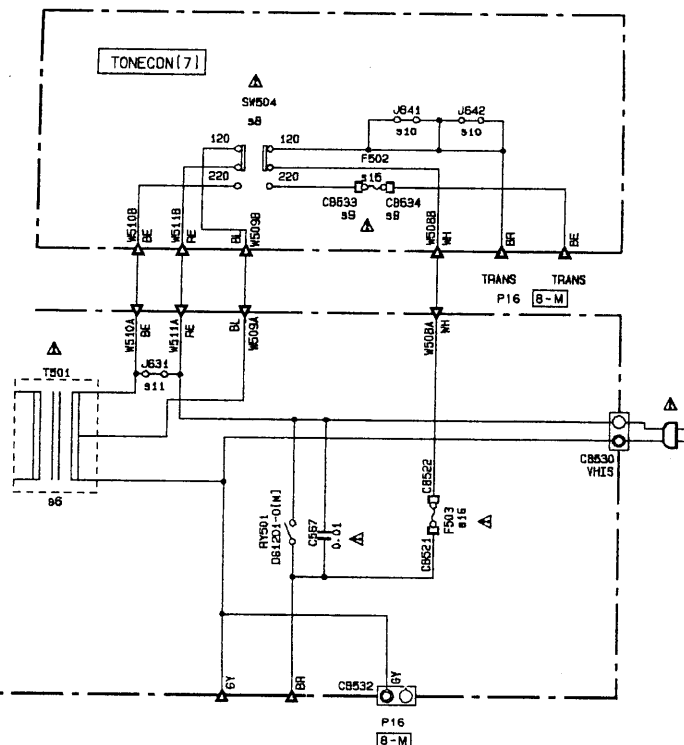
NJM4556S-A
NJM5532S



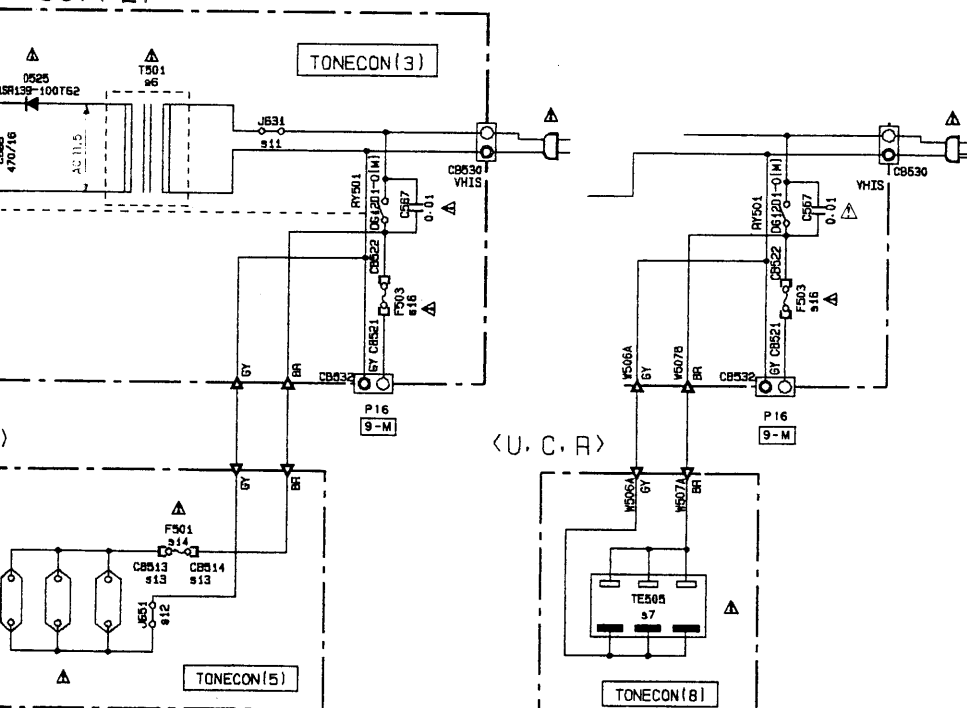
TA7291S



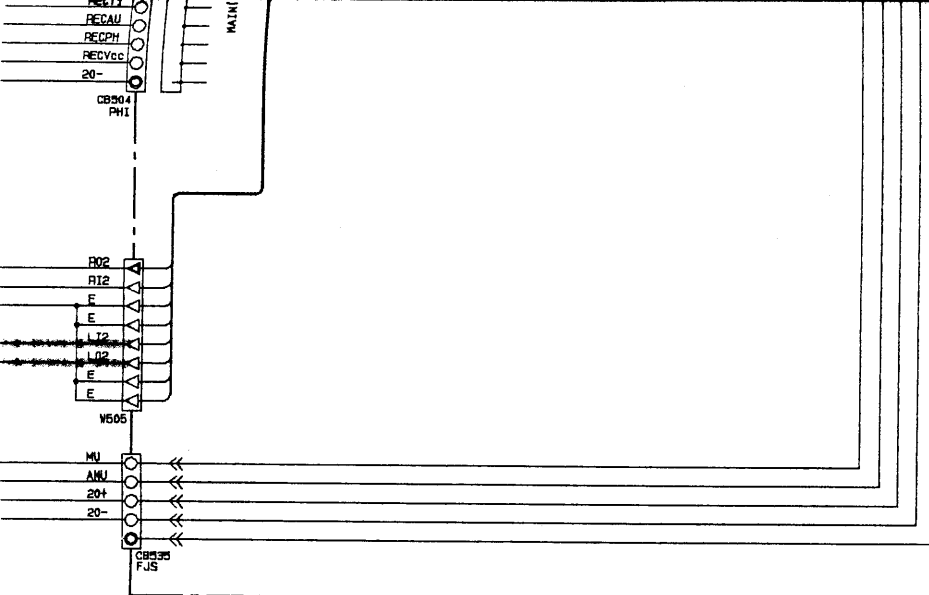
		77
TOR		
R		11
TOR		
ACITOR		



SUB
POWER
SUPPLY

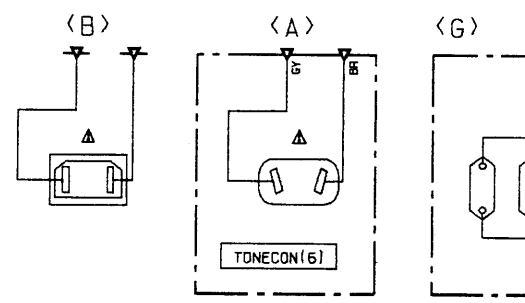
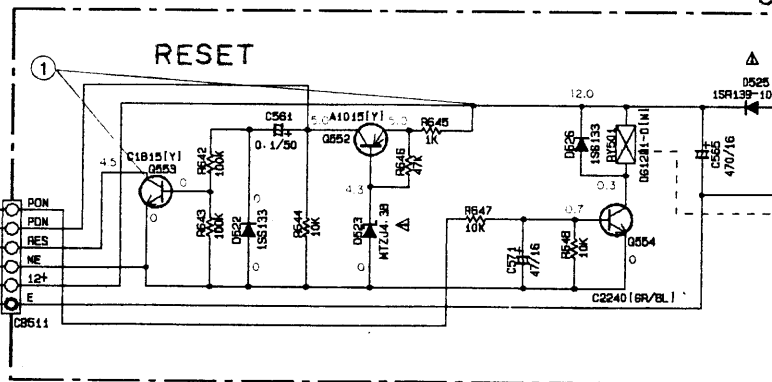
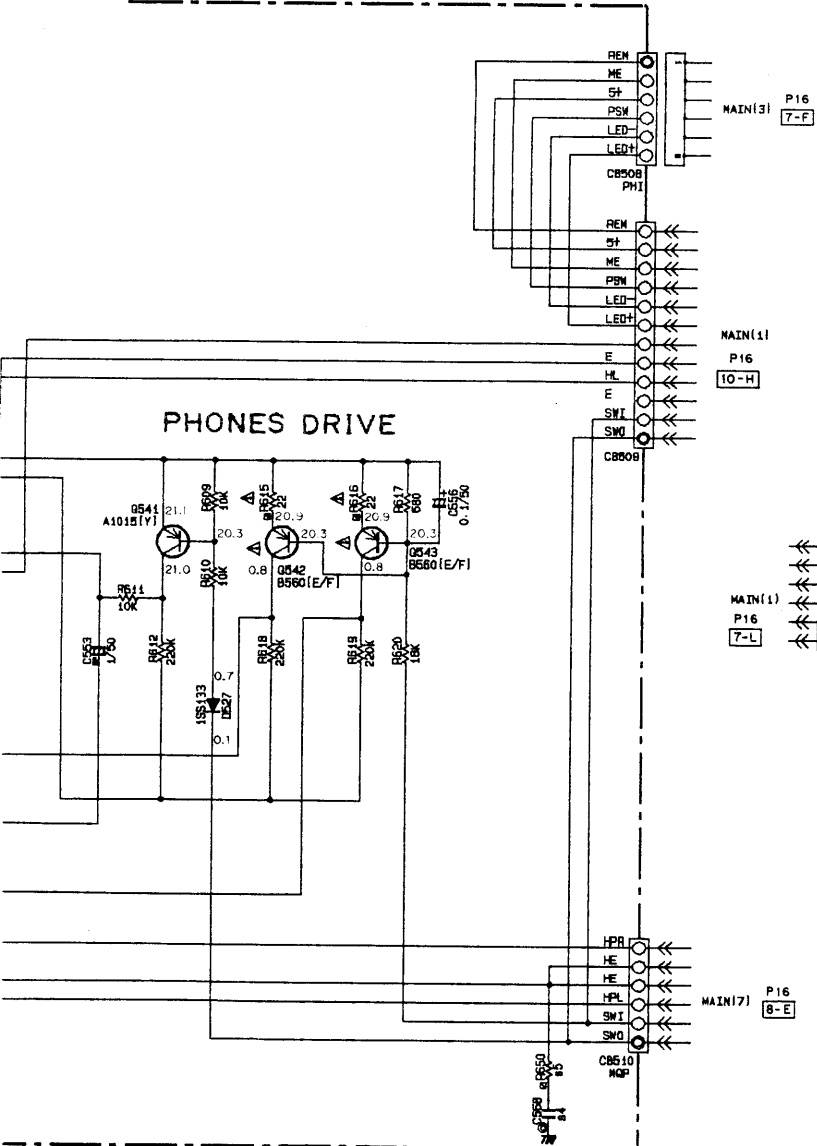


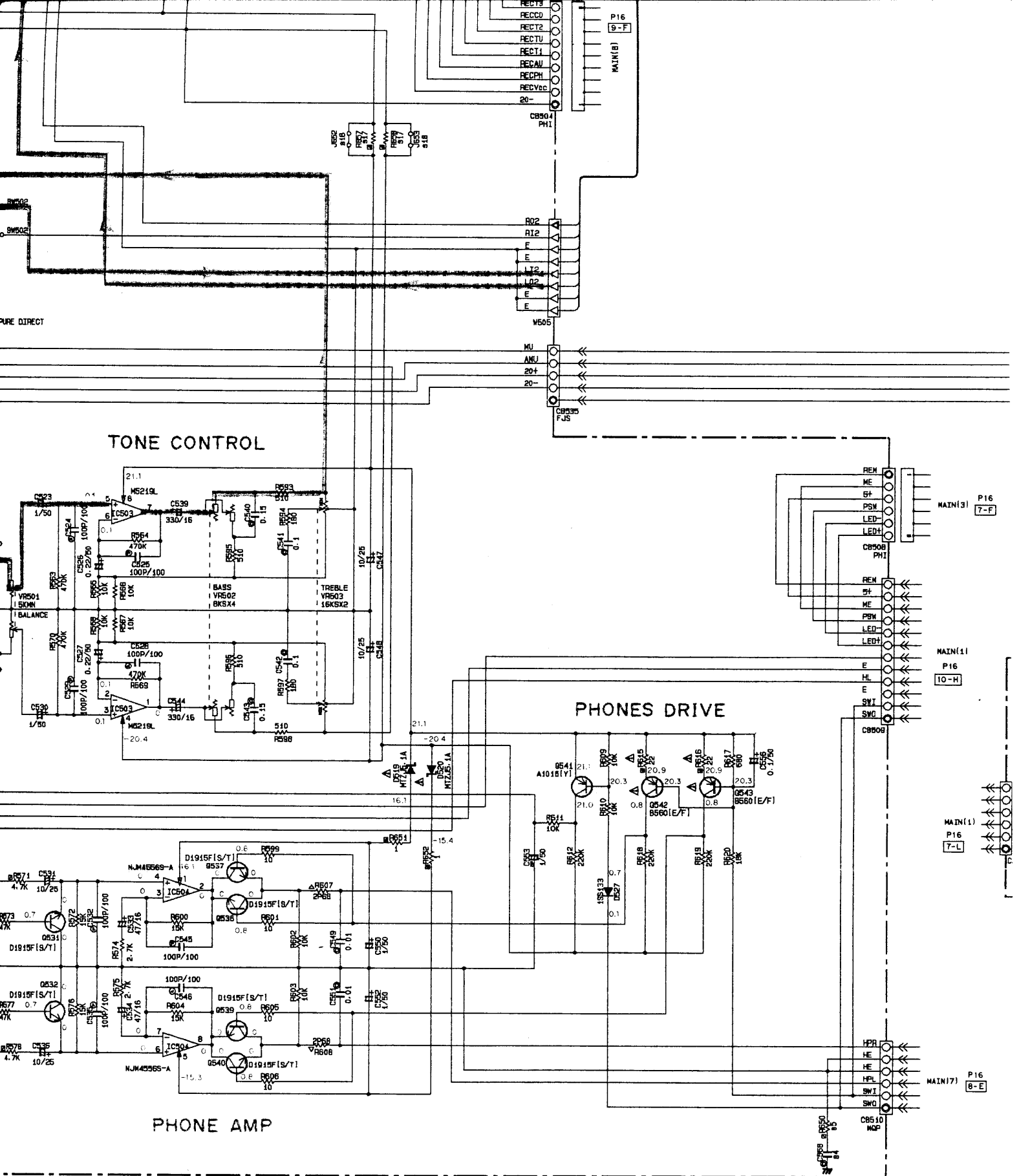
- * All voltage are measured with a 10M Ω /V DC electric volt meter.
- * Components having special characteristics are marked $\triangle$ and must be replaced with parts having specifications equal to those originally installed.
- * Schematic diagram is subject to change without notice.



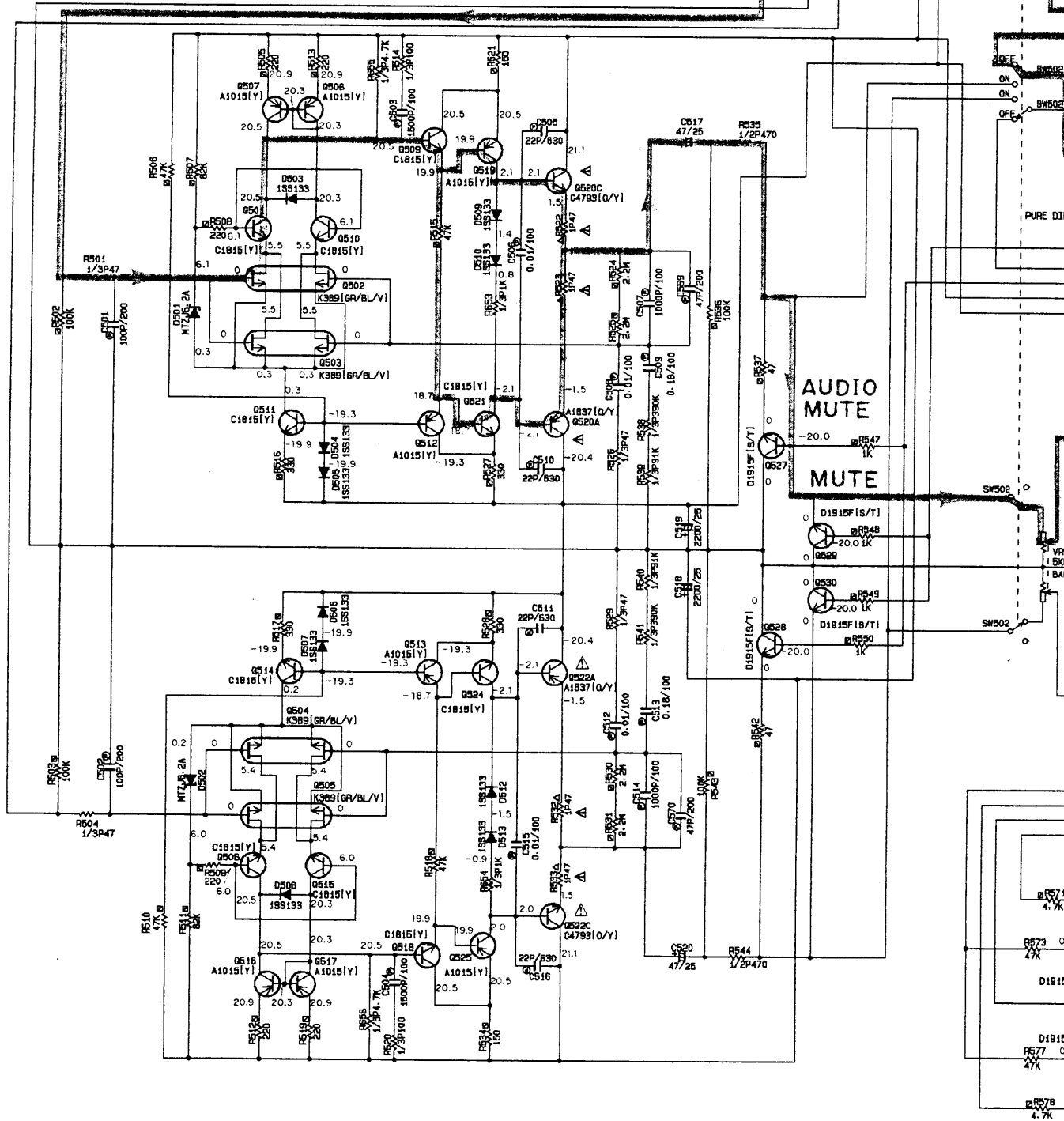
⊠	METAL PLATE RESISTOR
■	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊗	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

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



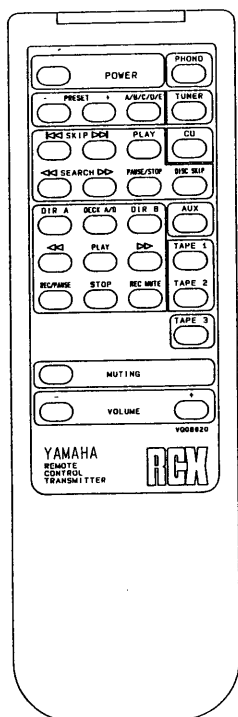
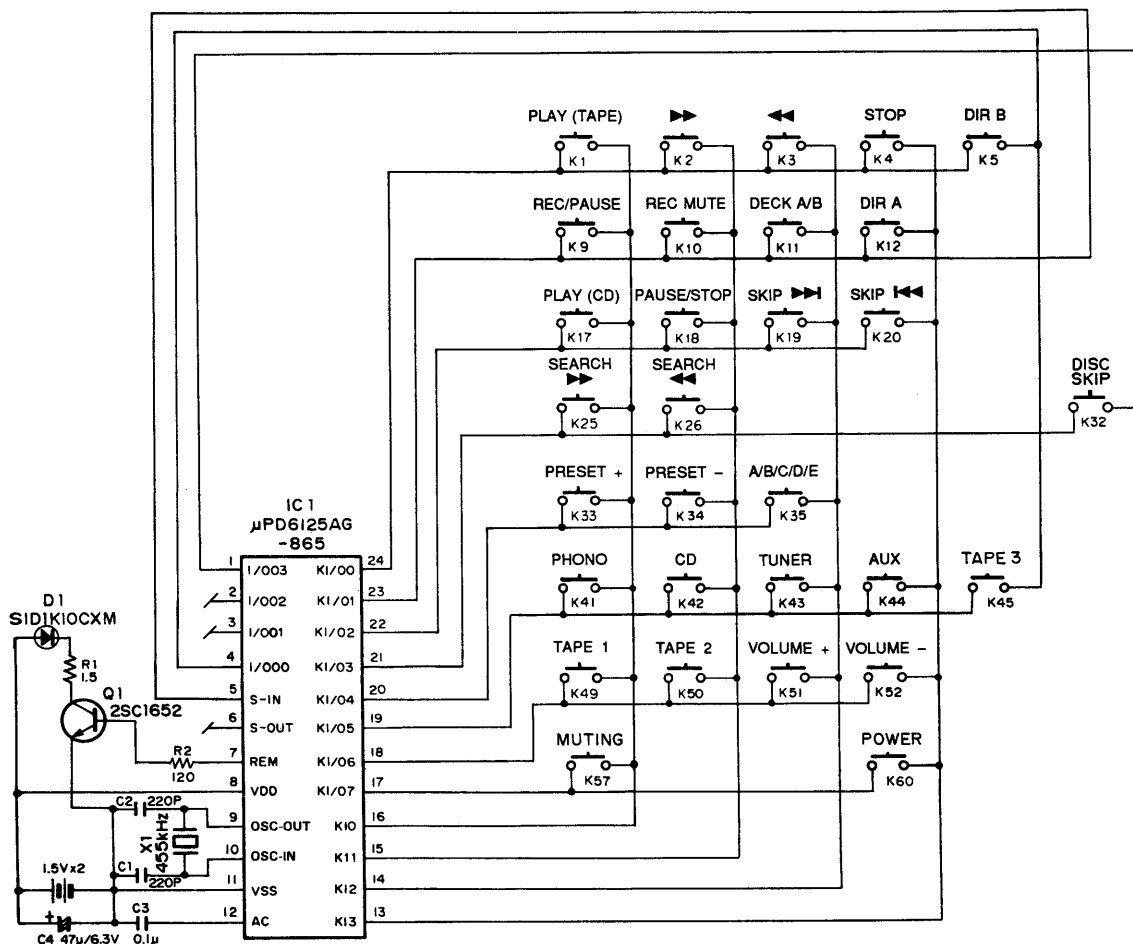


20dB AMP



REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM



Key No.	CUSTAOM (HEX)	DATA (HEX)	FUNCTION
1	7A	00	PLAY (TAPE)
2	7A	01	◀ (TAPE)
3	7A	02	▶ (TAPE)
4	7A	03	STOP (TAPE)
5	7A	04	DIR B (TAPE)
9	7A	05	REC/PAUSE (TAPE)
10	7A	06	REC MUTE (TAPE)
11	7A	07	DECK A/B (TAPE)
12	7A	08	DIR A (TAPE)
17	7A	09	PLAY (CD)
18	7A	0A	PAUSE/STOP (CD)
19	7A	0B	SKIP ▶▶ (CD)
20	7A	0C	SKIP ◀◀ (CD)
25	7A	0D	SEARCH ▶▶ (CD)
26	7A	0E	SEARCH ◀◀ (CD)
32	7A	0F	DISC SKIP (CD)
33	7A	10	PRESET + (TUNER)
34	7A	11	PRESET - (TUNER)
35	7A	12	A/B/C/D/E (TUNER)
41	7A	13	PHONO (INPUT)
42	7A	14	CD (INPUT)
43	7A	15	TUNER (INPUT)
44	7A	16	AUX (INPUT)
45	7A	17	TAPE 3 (INPUT)
49	7A	18	TAPE 1 (INPUT)
50	7A	19	TAPE 2 (INPUT)
51	7A	1A	VOLUME +
52	7A	1B	VOLUME -
57	7A	1C	MUTING
60	7A	1F	POWER

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

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

MAIN P. C. B.

Schm Ref.	PART NO.	Description
* VQ125400	P.C.B.	MAIN (UCRAB)
* VQ125500	P.C.B.	MAIN (G)
CB102	Vi377600	CN.BS.PIN MQ 6P TE
CB103	VB994800	CN MQ 7P
CB104	VB994800	CN MQ 7P
CB107	Vi377600	CN.BS.PIN MQ 6P TE
CB109	Vi377600	CN.BS.PIN MQ 6P TE
CB110	VL845400	CN XH 10P TE
CB115	VL845000	CN.BS.PIN XH 6P TE
CB116	VL845200	CN XH 8P TE
CB118	LA002320	TERM.WRAP 3P i-TYPE P=7.5
CB119	Vi377600	CN.BS.PIN MQ 6P TE
C101	VQ463000	C.MYLAR 0.047uF 50V
C102	VQ463000	C.MYLAR 0.047uF 50V
C103	VG290900	C.EL 10uF 50V
C104	VQ462600	C.MYLAR 220pF 50V
C105	VQ462600	C.MYLAR 220pF 50V
C106	VG290900	C.EL 10uF 50V
C107	VK534000	C.PP 220pF 200V
C108	VK534000	C.PP 220pF 200V
C109	VG290900	C.EL 10uF 50V
C110	VQ462600	C.MYLAR 220pF 50V
C111	VQ462600	C.MYLAR 220pF 50V
C112	VG290900	C.EL 10uF 50V
C113	VG290900	C.EL 10uF 50V
C114	VQ462600	C.MYLAR 220pF 50V
C115	VQ462600	C.MYLAR 220pF 50V
C116	VG290900	C.EL 10uF 50V
C117	VQ462600	C.MYLAR 220pF 50V
C118	VQ462600	C.MYLAR 220pF 50V
C119	VG290900	C.EL 10uF 50V
C120	VQ462600	C.MYLAR 220pF 50V
C121	VQ462600	C.MYLAR 220pF 50V
C122	VG290900	C.EL 10uF 50V
C123	VQ462600	C.MYLAR 220pF 50V
C124	VQ462600	C.MYLAR 220pF 50V
C125	VG290900	C.EL 10uF 50V
C126	VQ462600	C.MYLAR 220pF 50V
C127	VQ462600	C.MYLAR 220pF 50V
C128	VG290900	C.EL 10uF 50V
C129	VQ462600	C.MYLAR 220pF 50V
C130	VQ462600	C.MYLAR 220pF 50V
C131	VG288900	C.EL 100uF 25V
C132	UT453470	C.PP 4700pF 100V
C133	VP755700	C.PP 0.018uF 100V
C134	VP755700	C.PP 0.018uF 100V
C135	UT453470	C.PP 4700pF 100V
C136	VG288900	C.EL 100uF 25V
C137	VG286600	C.EL 1000uF 6.3V
C138	VG286600	C.EL 1000uF 6.3V
C139	VG286600	C.EL 1000uF 6.3V
C140	VG286600	C.EL 1000uF 6.3V
C141	VG291000	C.EL 22uF 50V

* New Parts

Schm Ref.	PART NO.	Description
C142	VG291000	C.EL 22uF 50V
C143	VG290900	C.EL 10uF 50V
C144	VF248400	C.EL 470uF 25V
C145	VG290900	C.EL 10uF 50V
C146	VG290900	C.EL 10uF 50V
C147	UT452220	C.PP 220pF 100V (UCRAB)
C147	UT452330	C.PP 330pF 100V (G)
C148	VF248400	C.EL 470uF 25V
C149	VF248400	C.EL 470uF 25V
C150	VF248400	C.EL 470uF 25V
C151	UT452220	C.PP 220pF 100V (UCRAB)
C151	UT452330	C.PP 330pF 100V (G)
C152	VG290900	C.EL 10uF 50V
C153	VL884000	C.PP 3300pF 100V
* C154	VQ561900	C.EL 10uF 25V
* C157	VQ561900	C.EL 10uF 25V
C158	VL884000	C.PP 3300pF 100V
* C159	Vi717200	C.MYLAR 0.027uF 50V
C160	UA653330	C.MYLAR 3300pF 50V
C161	VG286600	C.EL 1000uF 6.3V
C162	VG286600	C.EL 1000uF 6.3V
C163	UA653330	C.MYLAR 3300pF 50V
C164	VQ282400	C.PP 5pF 630V
C165	VK534100	C.PP 0.01uF 100V
C166	VK534100	C.PP 0.01uF 100V
C167	VQ282400	C.PP 5pF 630V
C168	VG290900	C.EL 10uF 50V
C169	VQ463100	C.MYLAR 0.47uF 50V
C170	VQ463200	C.MYLAR 0.68uF 50V
C171	VQ463200	C.MYLAR 0.68uF 50V
C172	VQ463000	C.MYLAR 0.047uF 50V
C173	Vi716900	C.MYLAR 0.015uF 50V
C174	Vi716900	C.MYLAR 0.015uF 50V
C175	VQ463000	C.MYLAR 0.047uF 50V
C176	VQ463100	C.MYLAR 0.47uF 50V
C177	VQ463200	C.MYLAR 0.68uF 50V
C178	VQ463200	C.MYLAR 0.68uF 50V
C179	VG290900	C.EL 10uF 50V
* C180	VQ237100	C.PP 0.1uF 100V
* C181	Vi717200	C.MYLAR 0.027uF 50V
* C182	VQ237100	C.PP 0.1uF 100V
C183	VF817200	C.EL 2200uF 25V
C184	VF817200	C.EL 2200uF 25V
C185	VG290900	C.EL 10uF 50V
C186	UT452100	C.PP 100pF 100V
C187	UT452100	C.PP 100pF 100V
C188	VG290900	C.EL 10uF 50V
C189	VF817200	C.EL 2200uF 25V
C190	VF817200	C.EL 2200uF 25V
C191	UA655100	C.MYLAR 0.1uF 50V
C192	UA655100	C.MYLAR 0.1uF 50V
C193	UA655100	C.MYLAR 0.1uF 50V
C194	UA655100	C.MYLAR 0.1uF 50V

* New Parts

MAIN P. C. B.

Schm Ref.	PART NO.	Description
C195	UA655100	C.MYLAR 0.1uF 50V
C196	UA655100	C.MYLAR 0.1uF 50V
C197	UA655100	C.MYLAR 0.1uF 50V
C198	VG290900	C.EL 10uF 50V
C199	UA655100	C.MYLAR 0.1uF 50V
C200	VF992600	C.EL 4700uF 5.5V
C201	UA655100	C.MYLAR 0.1uF 50V
C202	VG290900	C.EL 10uF 50V
C203	VG291000	C.EL 22uF 50V
C204	VG290900	C.EL 10uF 50V
C205	VG290900	C.EL 10uF 50V
C206	VE019900	C.EL 2.2uF 50V
C207	VQ468100	C.MYLAR 560pF 50V
C208	VF817200	C.EL 2200uF 25V
C209	VF817200	C.EL 2200uF 25V
C210	VQ468100	C.MYLAR 560pF 50V
C211	VE019900	C.EL 2.2uF 50V
C212	VG291100	C.EL 33uF 50V
C213	VG290600	C.EL 2.2uF 50V
C214	VN011900	C.EL 100uF 35V
C215	VE020300	C.EL 22uF 50V
C216	VN011900	C.EL 100uF 35V
C217	VL883800	C.PP 2200pF 100V
C218	VQ282400	C.PP 5pF 630V
C219	VQ282400	C.PP 5pF 630V
C220	VL883800	C.PP 2200pF 100V
C221	VQ395100	C.EL 4700uF 35V
C222	VQ395100	C.EL 4700uF 35V
C223	VK534100	C.PP 0.01uF 100V
C224	VK534100	C.PP 0.01uF 100V
C225	VK534400	C.PP 0.047uF 100V
C226	VK534400	C.PP 0.047uF 100V
* C227	VQ562000	C.EL 47uF 25V
* C228	VQ562000	C.EL 47uF 25V
C229	UG444100	C.CE 0.01uF 50V
C230	VL883500	C.PP 1500pF 100V
C231	VL883500	C.PP 1500pF 100V
C232	VQ463000	C.MYLAR 0.047uF 50V
C233	VL972900	C.PP 330pF 200V
C234	VL972900	C.PP 330pF 200V
* C235	VQ645600	C.MYLAR 100pF 50V
* C236	VQ645600	C.MYLAR 100pF 50V
* C237	VQ645600	C.MYLAR 100pF 50V
* C238	VQ645600	C.MYLAR 100pF 50V
* C239	VQ645600	C.MYLAR 100pF 50V
* C240	VQ645600	C.MYLAR 100pF 50V
* C241	VQ645600	C.MYLAR 100pF 50V
* C242	VQ645600	C.MYLAR 100pF 50V
* C243	VQ645600	C.MYLAR 100pF 50V
* C244	VQ645600	C.MYLAR 100pF 50V
* C245	Vi715500	C.MYLAR 1000pF 50V
* C246	Vi715500	C.MYLAR 1000pF 50V
C247	VG290500	C.EL 1uF 50V

* New Parts

Schm Ref.	PART NO.	Description
C248	VG290500	C.EL 1uF 50V
C249	VG290500	C.EL 1uF 50V
C250	VG290500	C.EL 1uF 50V
C251	VG290500	C.EL 1uF 50V
C252	VG290500	C.EL 1uF 50V
C253	VG290500	C.EL 1uF 50V
C254	VG290500	C.EL 1uF 50V
D101	iF004600	DIODE 1SS133
D102	iF004600	DIODE 1SS133
D103	iF004600	DIODE 1SS133
D104	iF004600	DIODE 1SS133
D105	iF004600	DIODE 1SS133
D106	iF004600	DIODE 1SS133
D107	iF004600	DIODE 1SS133
D108	iF004600	DIODE 1SS133
D109	iF004600	DIODE 1SS133
D110	iF004600	DIODE 1SS133
D111	iF004600	DIODE 1SS133
D112	iF004600	DIODE 1SS133
D113	iF004600	DIODE 1SS133
D114	iF004600	DIODE 1SS133
D115	iF004600	DIODE 1SS133
D116	iF004600	DIODE 1SS133
D117	iF004600	DIODE 1SS133
D118	iF004600	DIODE 1SS133
D119	Vi013600	LED(re) SLR-34VC3H3
D120	Vi013600	LED(re) SLR-34VC3H3
D121	Vi013600	LED(re) SLR-34VC3H3
D122	iF004600	DIODE 1SS133
D123	iF004600	DIODE 1SS133 (G)
D124	iF004600	DIODE 1SS133
D125	VG438000	DIODE.ZENR MTZJ6.2B 6.2V
D126	iF004600	DIODE 1SS133
D127	iF004600	DIODE 1SS133
D128	iF004600	DIODE 1SS133
D129	iF004600	DIODE 1SS133
D130	VG438100	DIODE.ZENR MTZJ6.2C 6.2V
Δ D131	VC398400	DIODE MA185
Δ D132	VG438400	DIODE.ZENR MTZJ6.8C 6.8V
D133	iF004600	DIODE 1SS133
D134	iF004600	DIODE 1SS133
D135	iF004600	DIODE 1SS133
D136	iF004600	DIODE 1SS133
D137	iF004600	DIODE 1SS133
D138	iF004600	DIODE 1SS133
Δ D139	VP344100	DIODE.BRG D2SBA20 1.5A 200V
D140	VG438100	DIODE.ZENR MTZJ6.2C 6.2V
IC101	XA673A00	IC NJM5532D-D
IC102	XA673A00	IC NJM5532D-D
IC103	XA673A00	IC NJM5532D-D
IC104	XA673A00	IC NJM5532D-D
IC105	XC632A00	IC NJM5532SD
IC106	XC632A00	IC NJM5532SD

* New Parts

MAIN P. C. B.

Schm Ref.	PART NO.	Description
IC107	XC632A00	IC NJM5532SD
IC108	XC632A00	IC NJM5532SD
IC109	XA549A00	IC LB1294
IC110	XM100A00	IC LC66304A
JK101	VA984400	JACK.PHONE M1659-A
JK102	VJ573000	JACK.MNI JC-6
L101	VA983500	COIL 15uH
L102	VA983500	COIL 15uH
L103	VA983600	COIL 220uH
L104	VA983600	COIL 220uH
* PJ101	VP513800	JACK.PIN 2P
PJ102	VM704500	JACK.PIN 2P
* PJ103	VP917200	JACK.PIN 2P
PJ104	VQ392800	JACK.PIN 6P YKC21-3468
PJ105	VQ467000	JACK.PIN 8P YKC21-3468
* PJ107	VP917200	JACK.PIN 2P
Q101	VK432900	TR 2SD1915F S,T
Q102	VK432900	TR 2SD1915F S,T
Q103	VK432900	TR 2SD1915F S,T
Q104	VK432900	TR 2SD1915F S,T
Q105	VK432900	TR 2SD1915F S,T
Q106	VK432900	TR 2SD1915F S,T
Q107	iB073700	TR 2SB737 Q,R,S
Q109	iB073700	TR 2SB737 Q,R,S
Q111	VK432900	TR 2SD1915F S,T
Q112	VK432900	TR 2SD1915F S,T
Q113	VK432900	TR 2SD1915F S,T
Q114	VK432900	TR 2SD1915F S,T
Q115	VK432900	TR 2SD1915F S,T
Q116	VK432900	TR 2SD1915F S,T
Q117	VK432900	TR 2SD1915F S,T
Q118	VK432900	TR 2SD1915F S,T
Q119	VK432900	TR 2SD1915F S,T
Q120	VK432900	TR 2SD1915F S,T
Q121	VK432900	TR 2SD1915F S,T
Q122	VK432900	TR 2SD1915F S,T
Q123	iB073700	TR 2SB737 Q,R,S
Q125	iB073700	TR 2SB737 Q,R,S
Q127	VK432900	TR 2SD1915F S,T
Q128	VK432900	TR 2SD1915F S,T
Q129	VK432900	TR 2SD1915F S,T
Q130	VK432900	TR 2SD1915F S,T
Q131	VK432900	TR 2SD1915F S,T
Q132	VK432900	TR 2SD1915F S,T
Q133	iC224030	TR 2SC2240 GR,BL
Q134	iC224030	TR 2SC2240 GR,BL
Q135	iC1815C0	TR 2SC1815 Y
Q136	iC1815C0	TR 2SC1815 Y
Q137	iC224030	TR 2SC2240 GR,BL
Q138	iC224030	TR 2SC2240 GR,BL
Q139	iA101521	TR 2SA1015 Y
Q140	iA097000	TR 2SA970 GR,BL
Q141	iA097000	TR 2SA970 GR,BL

* New Parts

Schm Ref.	PART NO.	Description
Q142	iA097000	TR 2SA970 GR,BL
Q143	iA097000	TR 2SA970 GR,BL
Q144	iA101521	TR 2SA1015 Y
Q145	iA101521	TR 2SA1015 Y
△ Q146A	iX632610	TR 2SA1837 O,Y
△ Q146C	iX632620	TR 2SC4793 O,Y
Q147	VK432900	TR 2SD1915F S,T
Q148	iC1815C0	TR 2SC1815 Y
Q150	iC1815C0	TR 2SC1815 Y
Q152	VK432900	TR 2SD1915F S,T
Q153	iA101521	TR 2SA1015 Y
△ Q154A	iX632610	TR 2SA1837 O,Y
△ Q154C	iX632620	TR 2SC4793 O,Y
Q155	VK432900	TR 2SD1915F S,T
Q156	VK432900	TR 2SD1915F S,T
Q157	VK432900	TR 2SD1915F S,T
Q158	VK432900	TR 2SD1915F S,T
Q159	iC1815C0	TR 2SC1815 Y(G)
Q160	iA101521	TR 2SA1015 Y(G)
Q161	iC1815C0	TR 2SC1815 Y
Q162	iC1815C0	TR 2SC1815 Y
Q163	VH257100	TR.DGT DTA124ES
Q164	VD488500	TR.DGT DTC143XS
Q165	VD678700	TR.DGT DTC114ES
Q166	iC224030	TR 2SC2240 GR,BL
Q167	VD678500	TR.DGT DTA114ES
Q168	iA101521	TR 2SA1015 Y
△ Q169	iD127510	TR 2SD1275 P,Q,R
Q170	iC1815C0	TR 2SC1815 Y
Q171	iA101521	TR 2SA1015 Y
△ Q172	iB094910	TR 2SB949 P,Q,R
Q173	iA101521	TR 2SA1015 Y
Q174	iA101521	TR 2SA1015 Y
Q175	iC1815C0	TR 2SC1815 Y
Q176	iC224030	TR 2SC2240 GR,BL
Q177	iC224030	TR 2SC2240 GR,BL
Q178	iC1815C0	TR 2SC1815 Y
Q179	iC1815C0	TR 2SC1815 Y
Q180	iC224030	TR 2SC2240 GR,BL
Q181	iC224030	TR 2SC2240 GR,BL
Q182	iC1815C0	TR 2SC1815 Y
Q183	iA101521	TR 2SA1015 Y
Q184	iA101521	TR 2SA1015 Y
△ Q185A	iX632610	TR 2SA1837 O,Y
△ Q185C	iX632620	TR 2SC4793 O,Y
Q186	iA101521	TR 2SA1015 Y
Q188	iC1815C0	TR 2SC1815 Y
Q189	iC1815C0	TR 2SC1815 Y
Q191	iA101521	TR 2SA1015 Y
△ Q192A	iX632610	TR 2SA1837 O,Y
△ Q192C	iX632620	TR 2SC4793 O,Y
R173	HU573150	R.MTL.FLM 1.5Ω 1/4W
R174	HU573150	R.MTL.FLM 1.5Ω 1/4W

* New Parts

MAIN & TONE CONTROL P. C. B.

Schm Ref.	PART NO.	Description
R213	HV455100	R.CAR.FP 100Ω 1/4W
R214	HV455100	R.CAR.FP 100Ω 1/4W
R220	HU574560	R.MTL.FLM 56Ω 1/4W
R226	HU574560	R.MTL.FLM 56Ω 1/4W
R231	HV455100	R.CAR.FP 100Ω 1/4W
R232	HV455100	R.CAR.FP 100Ω 1/4W
△ R235	HL315100	R.MTL.OXD 100Ω 1W
△ R236	HL315100	R.MTL.OXD 100Ω 1W
△ R241	HL315100	R.MTL.OXD 100Ω 1W
△ R243	HL315100	R.MTL.OXD 100Ω 1W
R282	HL314100	R.MTL.OXD 10Ω 1W
R283	HL314100	R.MTL.OXD 10Ω 1W
R284	HV454220	R.CAR.FP 22Ω 1/4W
R285	HV454220	R.CAR.FP 22Ω 1/4W
R291	VL948600	R.ARRAY 47KΩx9
△ R321	HV454220	R.CAR.FP 22Ω 1/4W
△ R323	HV453100	R.CAR.FP 1Ω 1/4W
△ R345	HL315100	R.MTL.OXD 100Ω 1W
△ R347	HL315100	R.MTL.OXD 100Ω 1W
△ R352	HL315100	R.MTL.OXD 100Ω 1W
△ R354	HL315100	R.MTL.OXD 100Ω 1W
R365	HV453100	R.CAR.FP 1Ω 1/4W
R373	HV453220	R.CAR.FP 2.2Ω1/4W(UCRAB)
RY101	VM640200	RELAY RY12W-OH-K DC12V
RY102	VM640200	RELAY RY12W-OH-K DC12V
RY103	VM640200	RELAY RY12W-OH-K DC12V
SW101	VA983800	SW.PUSH SPUN
SW102	VM627000	SW.SLIDE SSSU1 2-2
SW103	VG392900	SW.TACT SKHVAA
* SW104	VP981000	SW.RT SRBV
TP101	VL448600	JUMPER.TST
U101	VF926500	L.DTCT GP1U501X
* XL101	VB759100	RSNR.CE 4MHz
	VQ114400	HEAT.SINK OSH-7045-SP
	BB071360	SCR.TERM 8.3x13
	VE808500	SCR.TERM Ø4
	EP630280	SCR.BND.HD 3x10 FCRM3-BL
	AA615100	PLATE 20x30

* New Parts

Schm Ref.	PART NO.	Description
*	VQ125600	P.C.B. TONE CONTROL (UC)
*	VQ125700	P.C.B. TONE CONTROL (R)
*	VQ125800	P.C.B. TONE CONTROL (AB)
*	VQ125900	P.C.B. TONE CONTROL (G)
CB504	VD005200	CN.BS.PIN PH i-TYPE 9P TE
CB505	VD004600	CN.BS.PIN PH i-TYPE 3P TE
CB506	VL845400	CN XH 10P TE
CB507	VL845200	CN XH 8P TE
CB508	VD004900	CN.BS.PIN PH i-TYPE 6P TE
CB510	Vi377600	CN.BS.PIN MQ 6P TE
CB512	VP768100	CN.BS.PIN FJ 5P TE
CB513	VP206500	HOLDER.FUS EYF-52BC (G)
CB514	VP206500	HOLDER.FUS EYF-52BC (G)
CB521	VP206500	HOLDER.FUS EYF-52BC
CB522	VP206500	HOLDER.FUS EYF-52BC
CB523	VK217300	CN FJ 10P
CB530	VG879900	CN.BS.PIN VH 2P TE
* CB532	VQ183800	TERM.WRAP 2P i-152NB
CB533	VP206500	HOLDER.FUS EYF-52BC (R)
CB534	VP206500	HOLDER.FUS EYF-52BC (R)
C501	VK533900	C.PP 100pF 200V
C502	VK533900	C.PP 100pF 200V
C503	VL883500	C.PP 1500pF 100V
C504	VL883500	C.PP 1500pF 100V
C505	VQ463300	C.PP 22pF 630V
C506	VK534100	C.PP 0.01uF 100V
C507	VL872800	C.PP 1000pF 100V
C508	VK534100	C.PP 0.01uF 100V
* C509	VQ645700	C.PP 0.18uF 100V
C510	VQ463300	C.PP 22pF 630V
C511	VQ463300	C.PP 22pF 630V
C512	VK534100	C.PP 0.01uF 100V
* C513	VQ645700	C.PP 0.18uF 100V
C514	VL872800	C.PP 1000pF 100V
C515	VK534100	C.PP 0.01uF 100V
C516	VQ463300	C.PP 22pF 630V
* C517	VQ562000	C.EL 47uF 25V
C518	VF817200	C.EL 2200uF 25V
C519	VF817200	C.EL 2200uF 25V
* C520	VQ562000	C.EL 47uF 25V
C521	UA654270	C.MYLAR 0.027uF 50V
C522	UA654270	C.MYLAR 0.027uF 50V
C523	VG290500	C.EL 1uF 50V
C524	UT452100	C.PP 100pF 100V
C525	UT452100	C.PP 100pF 100V
C526	VG290100	C.EL 0.22uF 50V
C527	VG290100	C.EL 0.22uF 50V
C528	UT452100	C.PP 100pF 100V
C529	UT452100	C.PP 100pF 100V
C530	VG290500	C.EL 1uF 50V
C531	VG290900	C.EL 10uF 50V
C532	UT452100	C.PP 100pF 100V
C533	VG291200	C.EL 47uF 50V

* New Parts

tone control P. C. B.

Schm Ref.	PART NO.	Description
C534	VG291200	C.EL 47uF 50V
C535	UT452100	C.PP 100pF 100V
C536	VG290900	C.EL 10uF 50V
C537	UT452100	C.PP 100pF 100V
C538	UT452100	C.PP 100pF 100V
C539	VG287800	C.EL 330uF 16V
C540	UA655150	C.MYLAR 0.15uF 50V
C541	UA655100	C.MYLAR 0.1uF 50V
C542	UA655100	C.MYLAR 0.1uF 50V
C543	UA655150	C.MYLAR 0.15uF 50V
C544	VG287800	C.EL 330uF 16V
C545	UT452100	C.PP 100pF 100V
C546	UT452100	C.PP 100pF 100V
C547	VG290900	C.EL 10uF 50V
C548	VG290900	C.EL 10uF 50V
C549	UA654100	C.MYLAR 0.01uF 50V
C550	VG290500	C.EL 1uF 50V
C551	UA654100	C.MYLAR 0.01uF 50V
C552	VG290500	C.EL 1uF 50V
C553	VG722100	C.EL 1uF 50V
C554	VE742600	C.EL 47uF 25V
C555	VE742600	C.EL 47uF 25V
C556	VG290000	C.EL 0.1uF 50V
C557	VG722100	C.EL 1uF 50V
C558	VG722100	C.EL 1uF 50V
C559	VG722100	C.EL 1uF 50V
C560	UA655100	C.MYLAR 0.1uF 50V
C561	VG290000	C.EL 0.1uF 50V
C562	VG288900	C.EL 100uF 25V
C563	VG722100	C.EL 1uF 50V
C564	VG290200	C.EL 0.33uF 50V
C565	VG287900	C.EL 470uF 16V
△ C567	Fi514100	C.CE.SAFTY 0.01uF VA-1
C568	VQ463000	C.MYLAR 0.047uF 50V(G)
C569	VK533800	C.PP 47pF 200V
C570	VK533800	C.PP 47pF 200V
C571	VG291200	C.EL 47uF 50V
D501	VG437900	DIODE.ZENR MTZJ6.2A 6.2V
D502	VG437900	DIODE.ZENR MTZJ6.2A 6.2V
D503	iF004600	DIODE 1SS133
D504	iF004600	DIODE 1SS133
D505	iF004600	DIODE 1SS133
D506	iF004600	DIODE 1SS133
D507	iF004600	DIODE 1SS133
D508	iF004600	DIODE 1SS133
D509	iF004600	DIODE 1SS133
D510	iF004600	DIODE 1SS133
D512	iF004600	DIODE 1SS133
D513	iF004600	DIODE 1SS133
D515	iF004600	DIODE 1SS133
D516	iF004600	DIODE 1SS133
D517	iF004600	DIODE 1SS133
D518	iF004600	DIODE 1SS133

* New Parts

Schm Ref.	PART NO.	Description
△ D519	VG437300	DIODE.ZENR MTZJ5.1A 5.1V
△ D520	VG437300	DIODE.ZENR MTZJ5.1A 5.1V
△ D521	VG437000	DIODE.ZENR MTZJ4.7A 4.7V
D522	iF004600	DIODE 1SS133
△ D523	VG436800	DIODE.ZENR MTZJ4.3B 4.3V
△ D524	VG438100	DIODE.ZENR MTZJ6.2C 6.2V
△ D525	VH801600	DIODE 1SR139-100
D526	iF004600	DIODE 1SS133
D527	iF004600	DIODE 1SS133
△ F501	KB002980	FUSE T2.5A 250V(G)
△ F502	VL377600	FUSE 400mA 250V(R)
△ F503	KB003570	FUSE T2.0A 250V(UCR)
△ F503	VL377600	FUSE 400mA 250V(ABG)
IC501	XA426001	IC NJM5532S
IC502	XA426001	IC NJM5532S
IC503	iG092100	IC M5219L
IC504	iG077410	IC NJM4556S-A
△ IC505	XF557A00	IC TA7291S
△ IC506	XF557A00	IC TA7291S
△ IC507	XJ602A00	IC NJM78M12FA
Q501	iC1815C0	TR 2SC1815 Y
Q502	iE104500	FET 2SK389 GR,BL
Q503	iE104500	FET 2SK389 GR,BL
Q504	iE104500	FET 2SK389 GR,BL
Q505	iE104500	FET 2SK389 GR,BL
Q506	iC1815C0	TR 2SC1815 Y
Q507	iA101521	TR 2SA1015 Y
Q508	iA101521	TR 2SA1015 Y
Q509	iC1815C0	TR 2SC1815 Y
Q510	iC1815C0	TR 2SC1815 Y
Q511	iC1815C0	TR 2SC1815 Y
Q512	iA101521	TR 2SA1015 Y
Q513	iA101521	TR 2SA1015 Y
Q514	iC1815C0	TR 2SC1815 Y
Q515	iC1815C0	TR 2SC1815 Y
Q516	iA101521	TR 2SA1015 Y
Q517	iA101521	TR 2SA1015 Y
Q518	iC1815C0	TR 2SC1815 Y
Q519	iA101521	TR 2SA1015 Y
△ Q520A	iX632610	TR 2SA1837 O,Y
△ Q520C	iX632620	TR 2SC4793 O,Y
Q521	iC1815C0	TR 2SC1815 Y
△ Q522A	iX632610	TR 2SA1837 O,Y
△ Q522C	iX632620	TR 2SC4793 O,Y
Q524	iC1815C0	TR 2SC1815 Y
Q525	iA101521	TR 2SA1015 Y
Q527	VK432900	TR 2SD1915F S,T
Q528	VK432900	TR 2SD1915F S,T
Q529	VK432900	TR 2SD1915F S,T
Q530	VK432900	TR 2SD1915F S,T
Q531	VK432900	TR 2SD1915F S,T
Q532	VK432900	TR 2SD1915F S,T
△ Q533	iD043820	TR 2SD438 E,F

* New Parts

TONE CONTROL P. C. B.

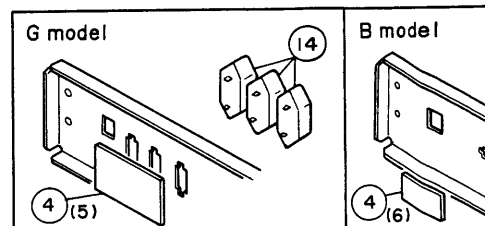
Schm Ref.	PART NO.	Description
Q534	iB056020	TR 2SB560 E,F
Q535	iB056020	TR 2SB560 E,F
Q536	iD043820	TR 2SD438 E,F
Q537	VK432900	TR 2SD1915F S,T
Q538	VK432900	TR 2SD1915F S,T
Q539	VK432900	TR 2SD1915F S,T
Q540	VK432900	TR 2SD1915F S,T
Q541	iA101521	TR 2SA1015 Y
Q542	iB056020	TR 2SB560 E,F
Q543	iB056020	TR 2SB560 E,F
Q544	VK432900	TR 2SD1915F S,T
Q545	VK432900	TR 2SD1915F S,T
Q546	iA101521	TR 2SA1015 Y
Q547	iC1815C0	TR 2SC1815 Y
Q548	iA101521	TR 2SA1015 Y
Q549	iC1815C0	TR 2SC1815 Y
Q550	iA101521	TR 2SA1015 Y
Q551	iC1815C0	TR 2SC1815 Y
Q552	iA101521	TR 2SA1015 Y
Q553	iC1815C0	TR 2SC1815 Y
Q554	iC224030	TR 2SC2240 GR,BL
R522	HL314470	R.MTL.OXD 47Ω 1W
R523	HL314470	R.MTL.OXD 47Ω 1W
R532	HL314470	R.MTL.OXD 47Ω 1W
R533	HL314470	R.MTL.OXD 47Ω 1W
R582	HV453470	R.CAR.FP 4.7Ω 1/4W
R583	HV453470	R.CAR.FP 4.7Ω 1/4W
R588	HV453470	R.CAR.FP 4.7Ω 1/4W
R589	HV453470	R.CAR.FP 4.7Ω 1/4W
R607	HL324680	R.MTL.OXD 68Ω 2W
R608	HL324680	R.MTL.OXD 68Ω 2W
R615	HV454220	R.CAR.FP 22Ω 1/4W
R616	HV454220	R.CAR.FP 22Ω 1/4W
R633	HV454100	R.CAR.FP 10Ω 1/4W
R651	HV453100	R.CAR.FP 1Ω 1/4W
R652	HV453100	R.CAR.FP 1Ω 1/4W
R657	HV453100	R.CAR.FP 1Ω 1/4W(UCR)
R658	HV453100	R.CAR.FP 1Ω 1/4W(UCR)
RY501	VD506000	RELAY AC DG12D1-OM
SW501	VD357300	SW.PUSH SPUN12
* SW502	VQ019100	SW.PUSH SPUL19
* SW503	VP917000	SW.RT
△ * SW504	VQ186600	VOLT.SELCT SDKG(R)
△ * T501	XM366A00	TRANS.PWR (UC)
△ * T501	XM367A00	TRANS.PWR (R)
△ * T501	XM368A00	TRANS.PWR (AB)
△ * T501	XM369A00	TRANS.PWR (G)
△ TE505	VG075400	OUTLET.AC 3P(UCR)
VR501	VQ479800	VR MN9KΩ
VR502	VQ479700	VR MN10KΩ
* VR503	VP917400	VR 16KΩ
* VR504	VQ152300	VR.MTR 10KΩEWCPHAF40350
	VB966900	CN IMSA-6024

* New Parts

Schm Ref.	PART NO.	Description
	BB071360	SCR.TERM 8.3x13
	VK509500	HEAT.SINK OSH-1025 CDI-P11X
	EG330290	SCR.BND.HD 3x8 SP ZMC2-Y

* New Parts

■ EXPLODED VIEW





MECHANICAL PARTS

Note) Ø : Diameter

Ref. No.	PART NO.	Description	Remarks	Markets
* 1-1-1	VP945300	FRONT PANEL		
1-1-2	VH897500	LENS		
* 1-1-3	VQ100100	HOLDER, LED		
1-1-4	VH897700	LENS		
* 1-1-5	VQ321900	CUSHION		
* 1-2-a	VP972100	SUB PANEL CASE		
* 1-2-b	VP947700	PLATE, LID	B	
* 1-2-c	VP966300	SPRING		
* 1-2-d	VP948400	STAY		
* 1-2-e	VP966200	HINGE, STOPPER	B	
* 1-2-f	VP967100	SUB PANEL, LID		
* 1-2-g	VQ457700	DAMPER		
* 1-2-h	VQ193100	DAMPER	SUB P	
1-2-i	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
1-2-j	EP600730	BIND HEAD P-TITE SCREW	3x8 FCRM3-BL	
* 1-3	VP966600	COVER, POWER SWITCH	B	
1-4	EX602700	BIND HEAD S-TITE SCREW	3x4 FCRM3-BL	
1-5	CB068880	PLASTIC RIVET	No.1027	
* 3	VQ125400	P.C.B. ASS'y, MAIN		(UCRAB)
* 3	VQ125500	P.C.B. ASS'y, MAIN		(G)
* 4	VQ125600	P.C.B. ASS'y, TONE CONTROL		(UC)
* 4	VQ125700	P.C.B. ASS'y, TONE CONTROL		(R)
* 4	VQ125800	P.C.B. ASS'y, TONE CONTROL		(AB)
* 4	VQ125900	P.C.B. ASS'y, TONE CONTROL		(G)
△ * 11	XM230A00	POWER TRANSFORMER		(UC)
△ * 11	XM231A00	POWER TRANSFORMER		(R)
△ * 11	XM232A00	POWER TRANSFORMER		(AB)
△ * 11	XM233A00	POWER TRANSFORMER		(G)
△ 12	VL012900	POWER CORD ASS'y		(UC)
△ 12	VL238100	POWER CORD ASS'y		(R)
△ 12	VL238900	POWER CORD ASS'y		(G)
△ 12	VN804500	POWER CORD ASS'y		(B)
△ 12	VP418300	POWER CORD ASS'y		(A)
13	VN158600	CORD STOPPER	No.2104	
△ 14	Vi783900	AC OUTLET	2P	(G)
△ 14	VJ775000	AC OUTLET	2P	(B)
△ 14	VP418700	AC OUTLET	2P	(A)
20	CB069250	BINDING TIE	BK-1	
21	LBI00180	SHORT PLUG	P2144	
101	VK233300	CHASSIS		
* 102	VP948300	FRAME	PCB	
* 103	VP948200	FRAME	SIDE	
* 104	VP948100	SUB CHASSIS		
* 105	VP948500	REAR PANEL		(UC)
* 105	VP948600	REAR PANEL		(R)
* 105	VP948700	REAR PANEL		(AB)
* 105	VP948900	REAR PANEL		(G)
* 106	VP966100	BOTTOM COVER		
* 107	VP947900	TOP COVER		
* 108	VQ354100	GUIDE	SHAFT	
* 121	VQ162500	SIDE COVER L		
* 122	VQ162600	SIDE COVER R		
* 123	VQ059400	KNOB	Ø31	VOLUME

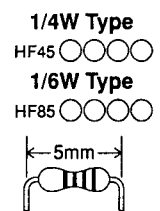
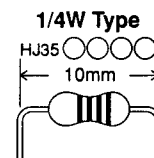
* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
* 124	VQ059200	KNOB	Ø28	INPUT
* 125	VQ154500	KNOB	Ø14	BAS.TRE.BALANCE
* 126	VQ154400	KNOB	Ø14	BAS.TRE.BALANCE
* 127	VP975600	BUTTON	4x10	P-DIRECT.S-FLTR
128	VM806700	BUTTON	Ø6	MM/MC
129	VK016800	LEG		
* 141	VQ189500	SHEILD PLATE	SW	R
* 142	VN906900	DAMPER	F	
* 143	VQ188900	DAMPER	SIDE COVER	
144	VK706800	DAMPER	TOP	
* 145	VQ321800	DAMPER	PCB	
146	VF201500	DAMPER	10x10x20	
147	VH088000	SPACER		
148	VG869500	DAMPER		
* 149	VQ411100	SHEILD PLATE	PCB	
150	VJ314400	CUSHION		
201	AA627310	GROUND TERMINAL		
202	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
203	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
204	EN301010	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL	
205	VB770200	BW HEAD P-TITE SCREW	3x10-8 FCM3	
206	EX602610	BW HEAD B-TITE SCREW	3x6-8 FCM3	
207	EZ000670	CUP B-TITE SCREW	3x24-8 FCRM3-BL	
208	VL184400	BIND HEAD B-TITE SCREW	4x22 FCRM3-BL	
209	EL300470	BW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	
210	EX601850	SPECIAL SCREW S-TITE	4x8-10 FCRM3-BL	
211	VF617600	PAN HEAD P-TITE SCREW	2.6x8 FCRM3-BL	R
221	CB605620	PLASTIC RIVET	No.1781	
ACCESSORIES				
* 700	VQ086200	REMOTE CONTROL TRANSMITTER		
700-1	CX673000	LID	56x33KURON	K-PM2-385-1
*	VQ139100	CORD WITH MINI-PLUG	1P	
	VF664700	PIN-PLUG CORD	2P OFC 1.2m	
		BATTERY, MANGANESE	SUM-3,AA,R06	

* New Parts

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 k Ω	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	*	11 k Ω	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 k Ω	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 k Ω	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 k Ω	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 k Ω	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 k Ω	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 k Ω	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 k Ω	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 k Ω	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 k Ω	HF45 7330	HF45 7330
39 Ω	HJ35 4470	HF85 4390	36 k Ω	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 k Ω	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 k Ω	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 k Ω	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 k Ω	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 k Ω	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 k Ω	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 k Ω	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 k Ω	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 k Ω	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 k Ω	HF45 8110	HF45 8110
160 Ω	HJ35 5160	*	120 k Ω	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 k Ω	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 k Ω	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 k Ω	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 k Ω	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 k Ω	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 k Ω	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 k Ω	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 k Ω	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 k Ω	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 k Ω	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 k Ω	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 M Ω	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 M Ω	HJ35 9120	*
1.0 k Ω	HF45 6100	HF45 6100	1.5 M Ω	HJ35 9150	HF85 9150
1.2 k Ω	HF45 6120	HF45 6120	1.8 M Ω	HJ35 9180	HF85 9180
1.5 k Ω	HF45 6150	HF45 6150	2.2 M Ω	HJ35 9220	HF85 9220
1.8 k Ω	HF45 6180	HF45 6180	3.3 M Ω	HJ35 9330	HF85 9330
2.0 k Ω	HJ35 6200	HF85 6200	3.9 M Ω	HJ35 9390	*
2.2 k Ω	HF45 6220	HF45 6220	4.7 M Ω	HJ35 9470	HF85 9470
2.4 k Ω	HJ35 6240	HF85 6240			
2.7 k Ω	HF45 6270	HF45 6270			
3.0 k Ω	HF45 6300	HF45 6300			
3.3 k Ω	HF45 6330	HF45 6330			
3.6 k Ω	HJ35 6360	HF85 6360			
3.9 k Ω	HF45 6390	HF45 6390			
4.7 k Ω	HF45 6470	HF45 6470			
5.1 k Ω	HF45 6510	HF45 6510			
5.6 k Ω	HF45 6560	HF45 6560			
6.8 k Ω	HF45 6680	HF45 6680			
8.2 k Ω	HF45 6820	HF45 6820			
9.1 k Ω	HF45 6910	HF45 6910			



CX-1

CX-1

YAMAHA

CX-1