STEREO AMPLIFIER
AVX-20
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 inherant 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 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 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 parts replacement. Recheck all work before you apply power to the unit.

AVX-20

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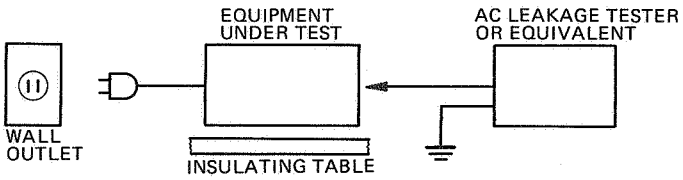
100199

YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
1 4K 903 Printed in Japan '88.6

■ TO SERVICE PERSONNEL

1. Critical Components Information.
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Model Only).
   When service has been completed, it is imperative that you verify that all exposed conductive surfaces are properly insulated from supply circuits.

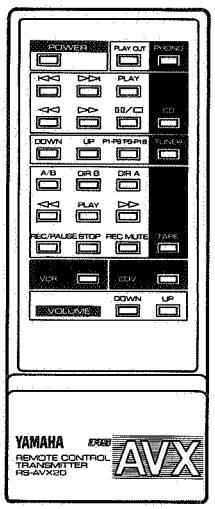
- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 μF.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



• POLARIZATION (C Model only)

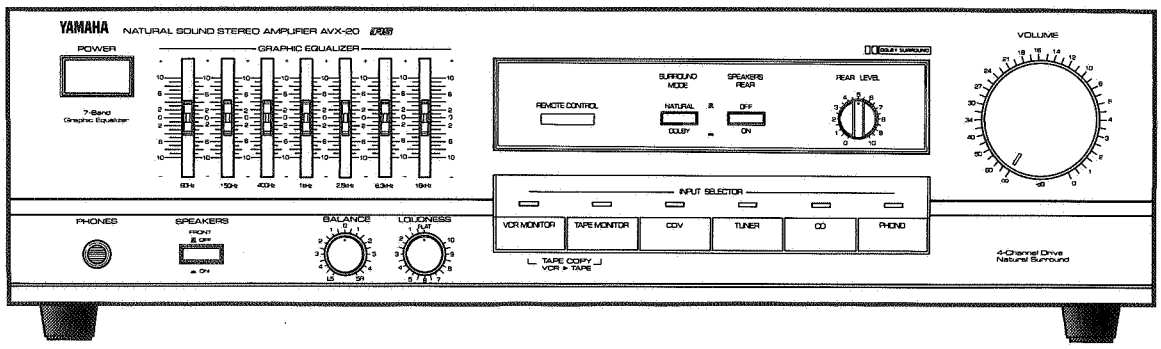
This amplifier product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

● RS-AVX20

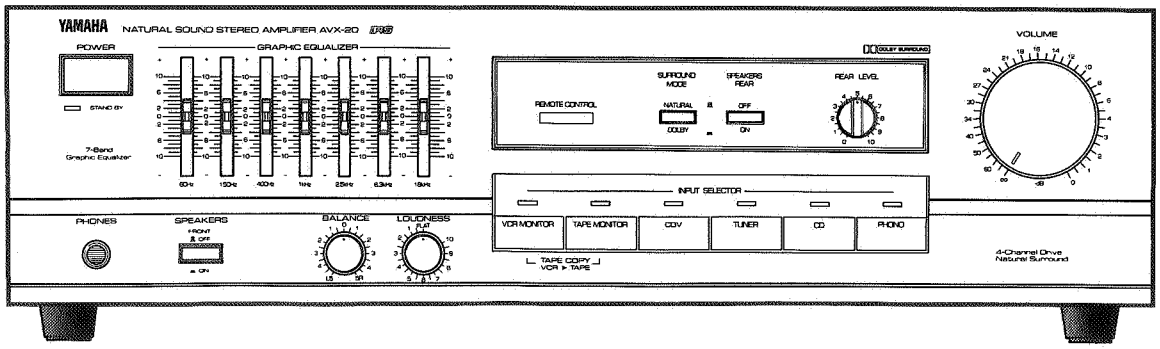


■ FRONT PANELS

● Canadian, Australian and General Model

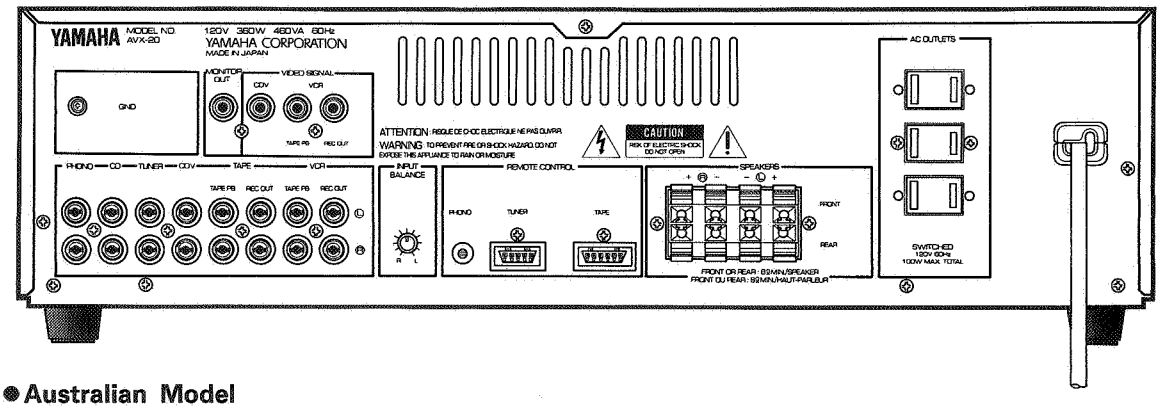


● European Model

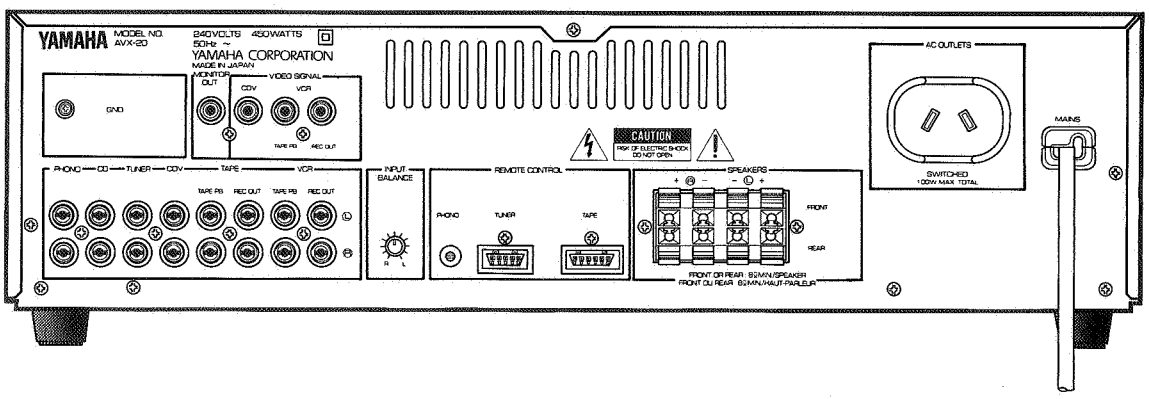


REAR PANELS

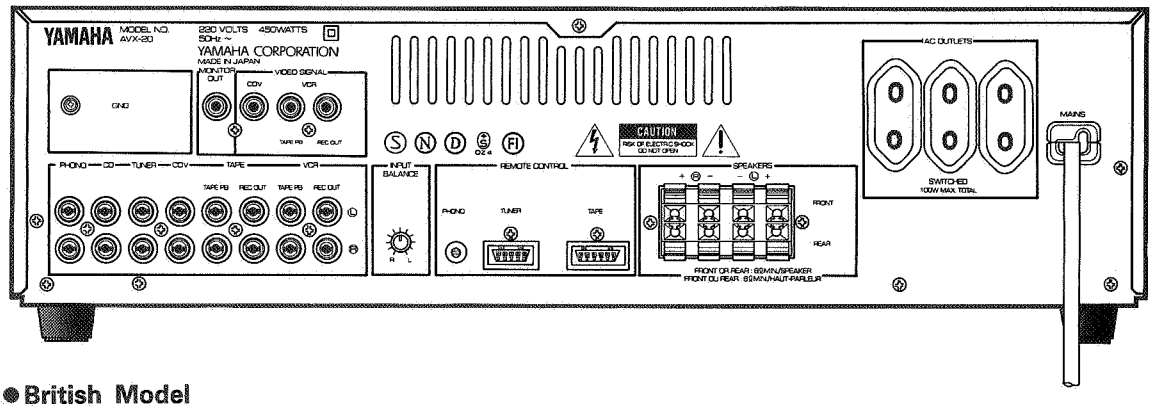
● Canadian Model



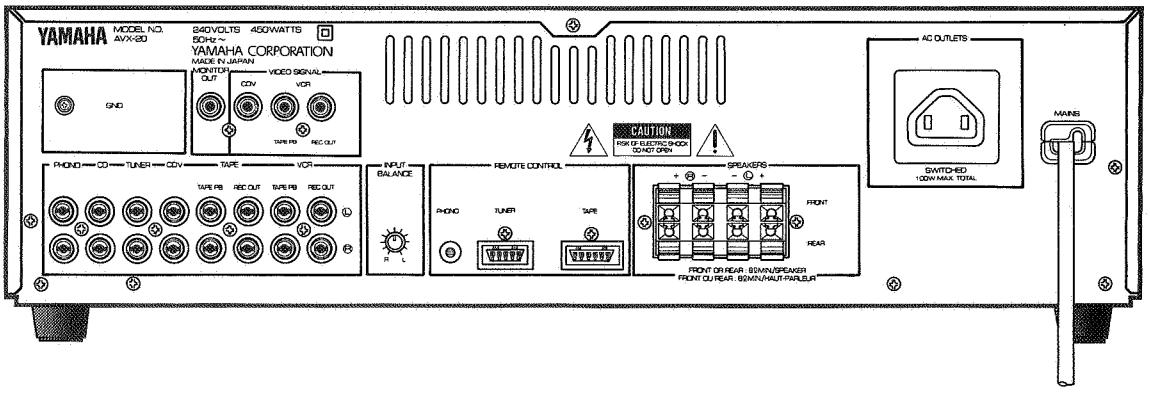
● Australian Model



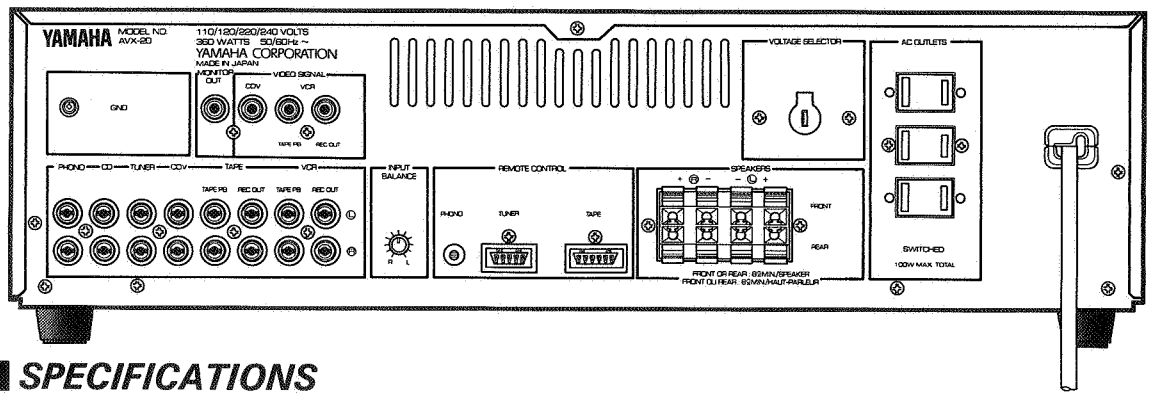
● North European Model



● British Model



● General Model



SPECIFICATIONS

AUDIO SECTION

Minimum RMS Output Power Per Channel
- 20Hz ~ 20kHz, 0.05% THD, 8Ω ····· 100W [for R, C, A, B]
  80W [for H]
- 1kHz, 0.1% THD, 8Ω ····· 115W [for R, C, A, B]
- Rear 1kHz, 0.9% THD, 8Ω
  (Natural Surround) ····· 15W

Dynamic Power Per Channel
- 8Ω ····· 145W [for R, C]
  120W [for A, B, H]
- 6Ω ····· 180W [for R, C]
  150W [for A, B, H]
- 4Ω ····· 240W [for R, C]
  190W [for A, B, H]

DIN Standard Output Power Per Channel
- 1kHz, 1% THD, 4Ω ····· 115W [for H]

Dynamic Headroom
- 8Ω ····· 1.6dB

IEC Power
- 1kHz, 0.01% THD, 8Ω ····· 85W [for H]

Power Band Width
- 0.1% THD, 50W, 8Ω ····· 10Hz ~ 60kHz

Damping Factor
- 1kHz, 8Ω ····· 50

Input Sensitivity/Impedance
- PHONO MM ····· 2.5mV/47kΩ
- Picture ····· 1Vp-p/75Ω
- CD etc. ····· 150mV/47kΩ [for R, C]

Input Sensitivity (New IHF)
- PHONO MM ····· 0.25mV [for R, C]
- CD etc. ····· 15mV [for R, C]

Maximum-Input Signal
- 1kHz, 0.02% THD PHONO MM ····· 80mV

Output Level/Impedance
- Rec Out ····· 150mV/470Ω

Headphone Jack Rated Output/Impedance
- 0.05% THD, RL = 8Ω ····· 0.81V/270Ω [for R, C, A, B]
  0.73V/270Ω [for H]

Frequency Response
- 20Hz ~ 20kHz, CD/etc ····· ±0.5dB

RIAA Equalization Deviation
- PHONO MM ····· ±0.5dB

Total Harmonic Distortion (20Hz ~ 20kHz)
- PHONO MM to Rec Out 3V ····· 0.009%
- CD/etc to Sp Out 50W/8Ω ····· 0.02%

Signal to Noise Ratio (IHF-A-Network)
- PHONO MM (5mV Input Shorted ····· 79dB
- CD/etc (Shorted) ····· 100dB

Signal to Noise Ratio (New IHF)
- PHONO MM ····· 75dB
- CD/etc ····· 80dB

Input Equivalent Noise ····· 125dBV [for A, B, H]

Residual Noise (IHF-A-Network) ····· 250 μV [for R, C]

Channel Separation (Vol. —30dB)
- Phono MC.MM input shorted
- 1kHz/10kHz ····· 70dB/60dB
- CD etc. input 5.1kΩ
- terminated 1kHz/10kHz ····· 70dB/60dB

Graphic Equalizer

Boost/Cut		
	60Hz ·····	±12dB
	150Hz ·····	±12dB
	400Hz ·····	±12dB
	1kHz ·····	±12dB
	2.5kHz ·····	±12dB
	6.3kHz ·····	±12dB
	16kHz ·····	±12dB

Continuous Loudness Control ····· —20dB (1kHz)

Gain tracking error (0 ~ —60dB) ····· 2dB

GENERAL

Power Supply
- Canadian Models ····· AC120V 60Hz
- Australian & British Models ····· AC240V 50Hz
- European Models ····· AC220V 50Hz
- Others Models ····· AC110/120/220/240V 50/60Hz

Power Consumption ····· 360W [for R, C]
450W [for A, H, B]

AC Outlet
- Switched x 3 ····· 100W max. [for R, C, H]
- Switched x 1 ····· 100W max. [for A, B]

Dimensions (W x H x D) ····· 435 x 122.5 x 300.5mm
(17-1/8" x 4-13/16"
x 11-53/64")

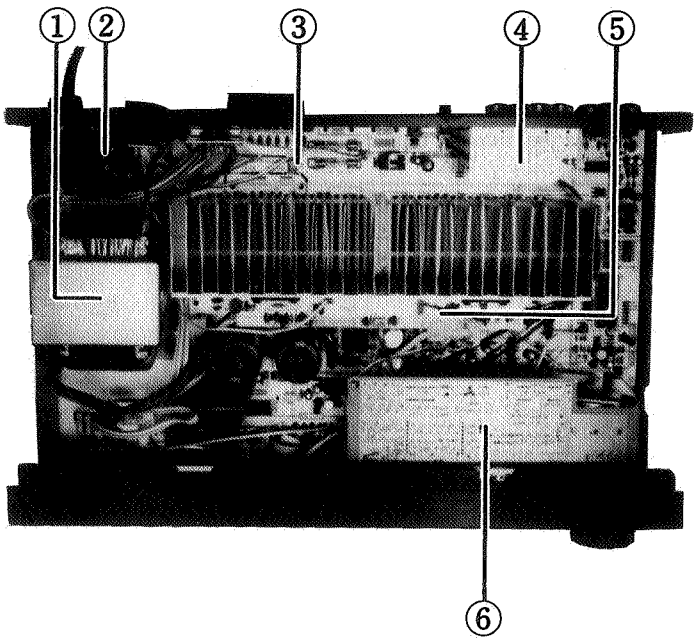
Weight ····· 7.5kg
(16 lbs. 9 oz.)

CD/etc.: CD/VIDEO/TUNER/AUX/TAPE/VCR

- **(C)** ····· **Canadian Model**
- **(A)** ····· **Australian Model**
- **(H)** ····· **North European Model**
- **(B)** ····· **British Model**
- **(R)** ····· **General Model**

Specifications subject to change without notice.

■ INTERNAL VIEW



① POWER TRANSFORMER
C model : XD619A00
R model : XD620010
A, B model : XD621A00
H model : XD622A00
② SUB CIRCUIT BOARD (3)
③ MAIN CIRCUIT BOARD (1)
④ MAIN CIRCUIT BOARD (3)
⑤ SURROUND CIRCUIT BOARD (2)
⑥ SURROUND CIRCUIT BOARD (1)

■ DISASSEMBLY PROCEDURES

1. Removal of Top Cover

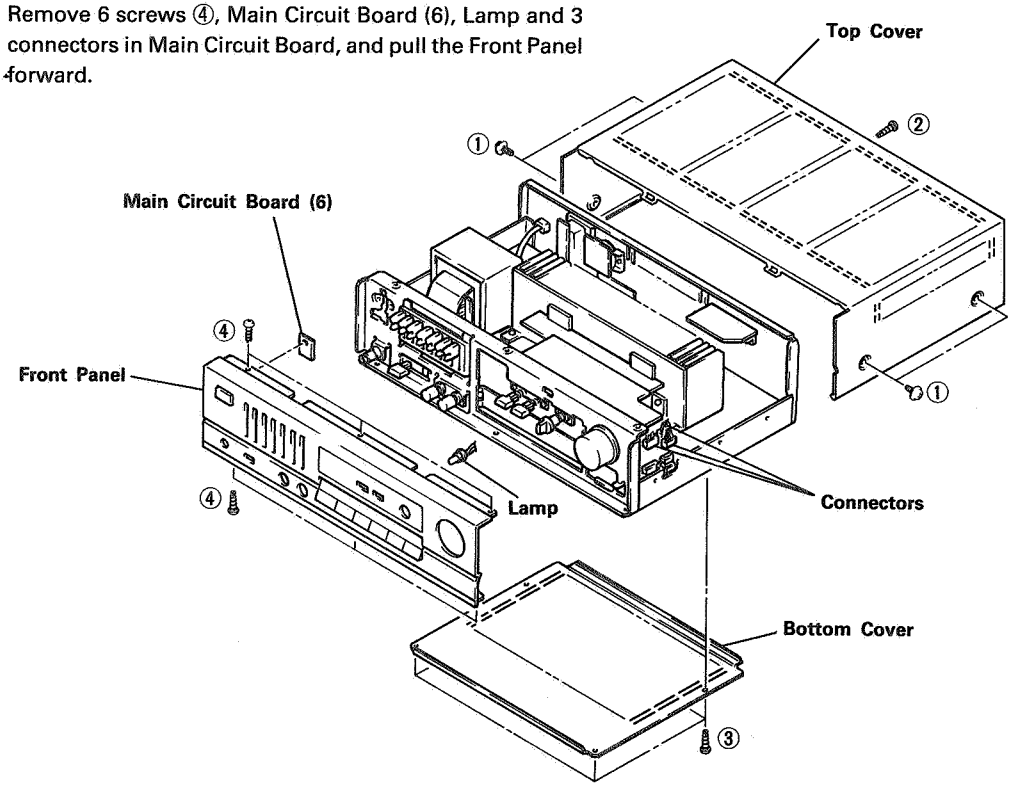
Remove 4 screws ① and 1 screw ② in Fig. 1, and slide the Top Cover back.

2. Removal of Bottom Cover

Remove 4 screws ③ in Fig. 1.

3. Removal of Front Panel

Remove 6 screws ④, Main Circuit Board (6), Lamp and 3 connectors in Main Circuit Board, and pull the Front Panel forward.



■ *ADJUSTMENT*

1. IDLING CURRENT ADJUSTMENT

When replacing the power and drive transistors, adjust idling current. Turn ON the power in the no signal state and wait for two minutes before the adjustment.
Adjust VR103 (Lch) and VR104 (Rch) so that the voltage across the terminal of R253, R254 comes from 4.0mV to 6.0mV DC.

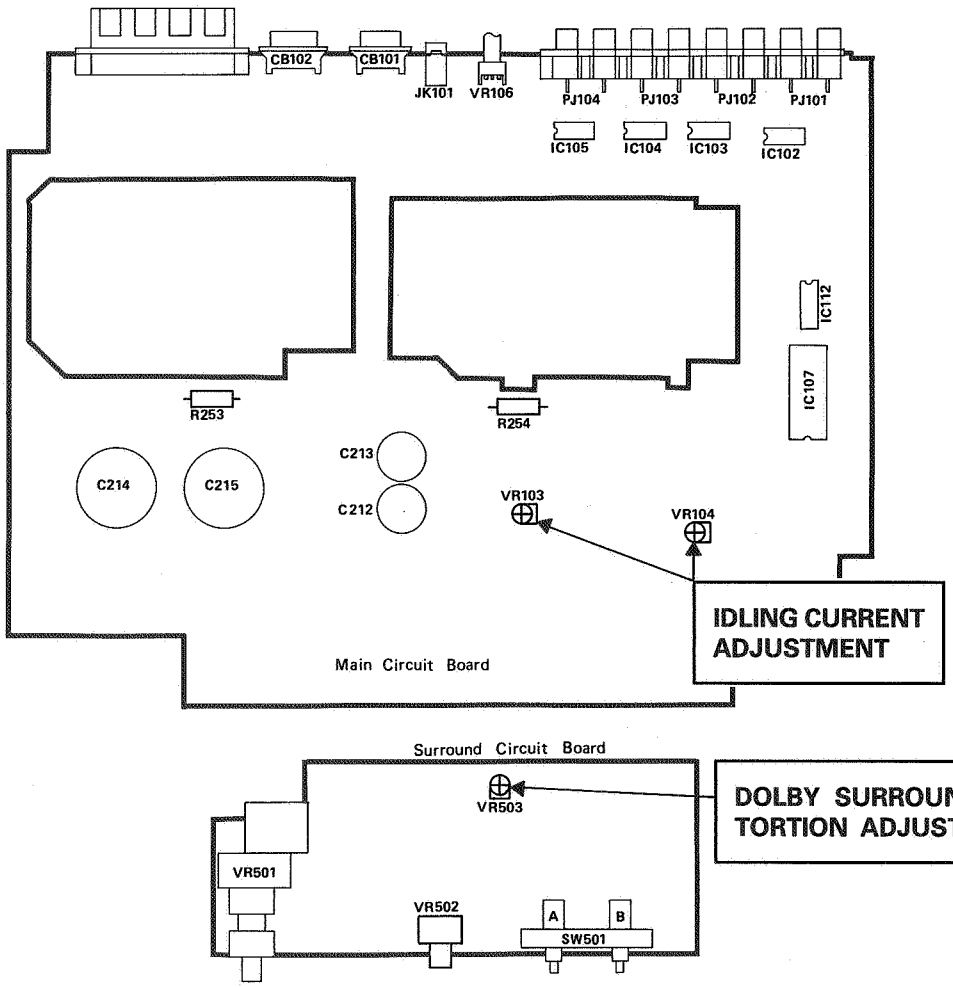
	Test Points	Adjustment points	Rating
Lch	Across the terminals of R253	VR103	4.0mV ~ 6.0mV DC
Rch	Across the terminals of R254	VR104	4.0mV ~ 6.0mV DC

2. DOLBY SURROUND DISTORTION ADJUSTMENT

When replacing the power and drive transistors, adjust dolby surround distortion.
Turn ON the power in the no signal state and wait for two minutes before the adjustment.
Set the Rear level VR so that the output voltage at either channel of 1kHz, 150mV. (Main VR: Maximum) Then adjust VR503 to make the distortion minimum.

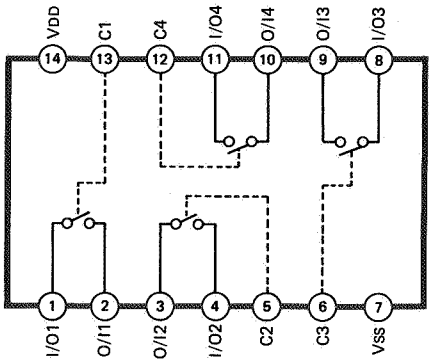
Input	Adjustment point	Test Point	Rating
Input : 1kHz 150mV/Either channel	VR503	Rear Speaker Terminal	Minimum

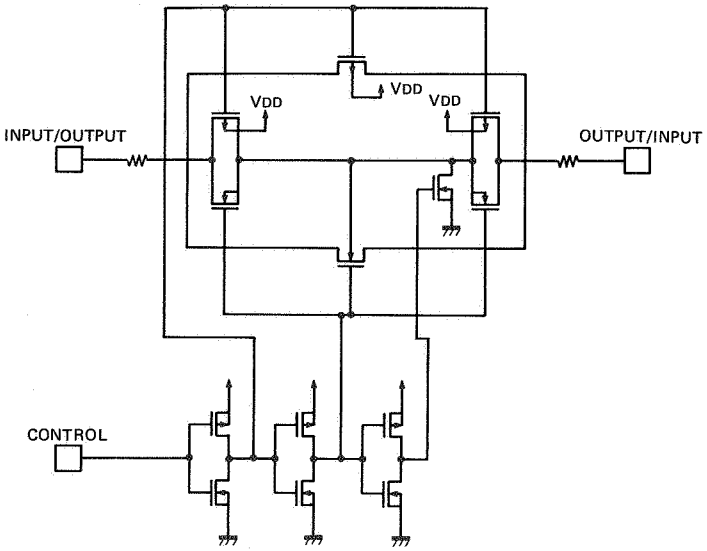
●TEST POINTS



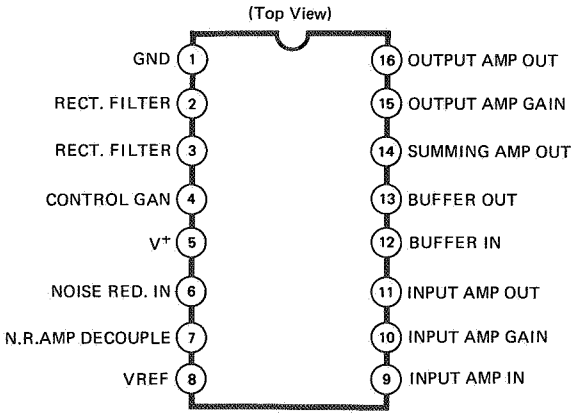
■ IC BLOCK/CIRCUIT DATA

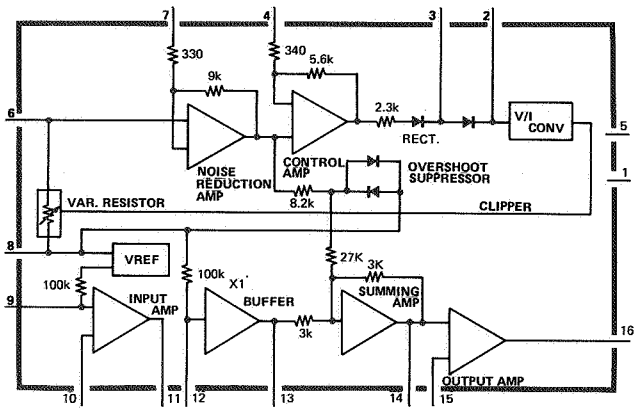
●IC102 ~ 106 : BU4066B, LC4066B, M4066PB, MN4066B (QUADRUPLE BILATERAL SWITCH)



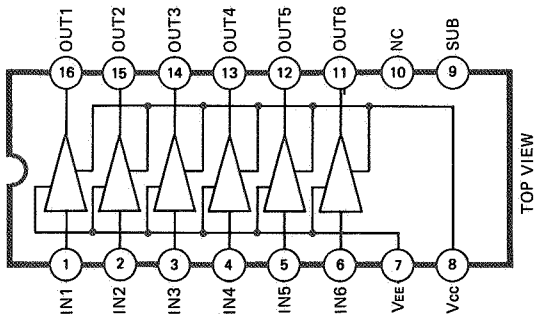


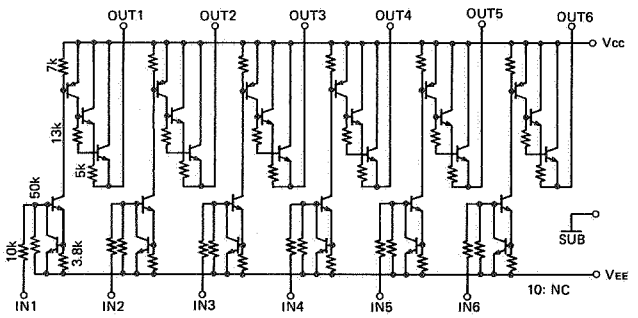
●IC505 : LA2730 (DOLBY IC)



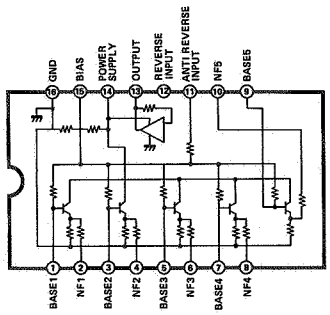


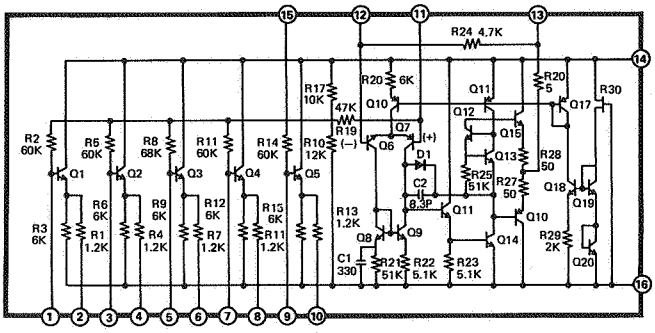
●IC112 : LB1294 (6 CIRCUIT DRIVER ARRAY)



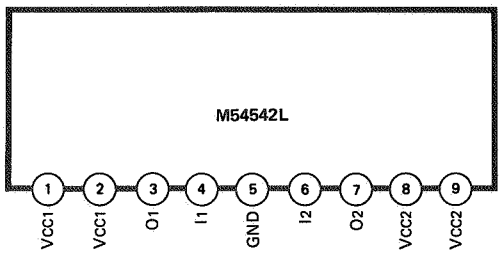


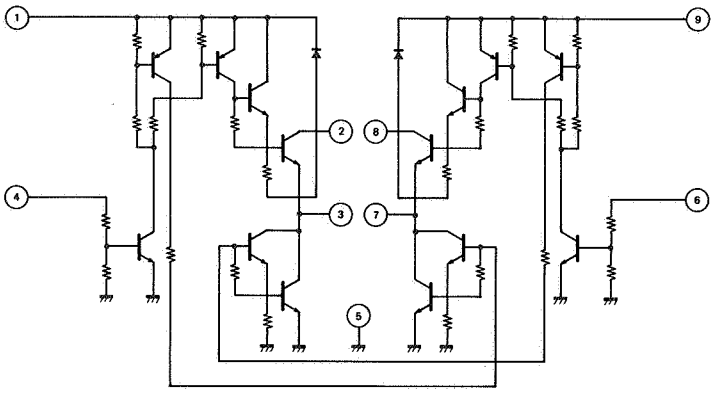
●IC109, IC110 : M5226P (5 ELEMENT GRAPHIC EQUALIZER AMP. 1ch)



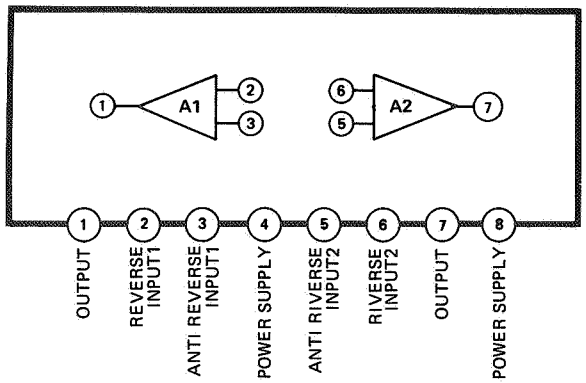


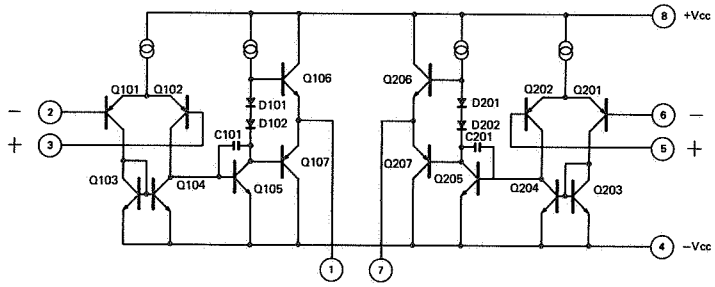
●IC108 : M54542 (REVERSE SMALL MOTOR DRIVER IC)



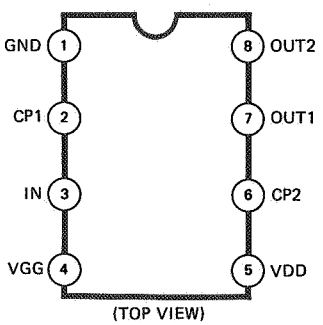


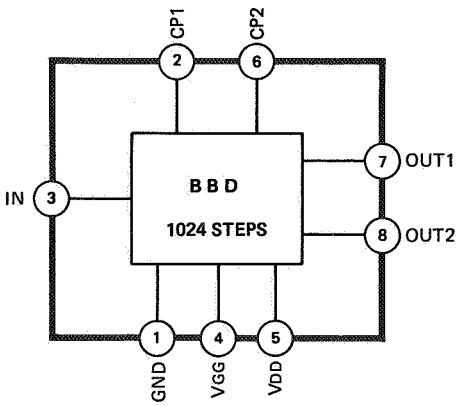
●IC101, 111 : M5218LV (DUAL LOW NOISE OPERATION AMP.)



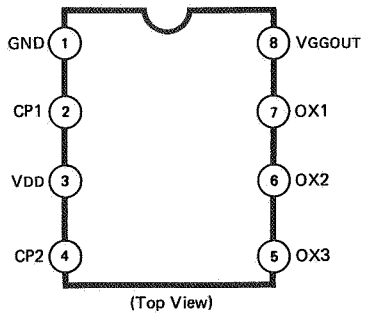


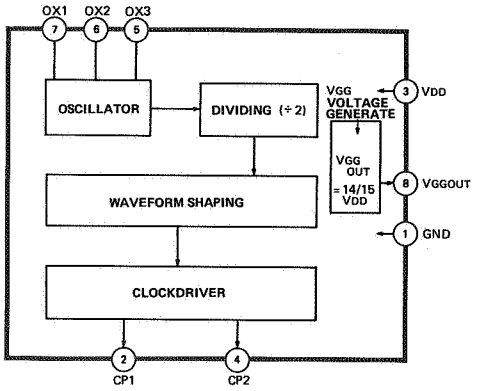
●IC504 : MN3007Y (AUDIO SIGNAL DELAY ELEMENT)



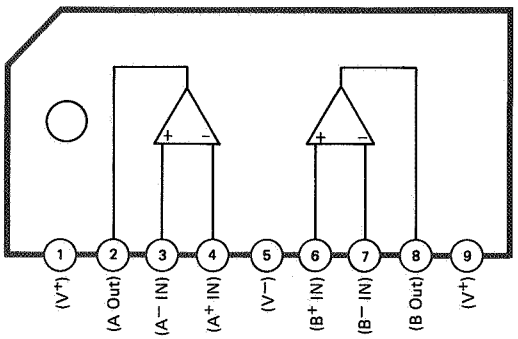


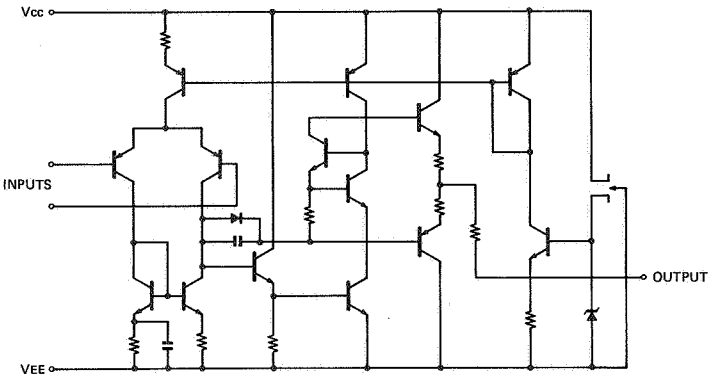
●IC503 : MN3101 (DELAY TIME CONTROLLER)



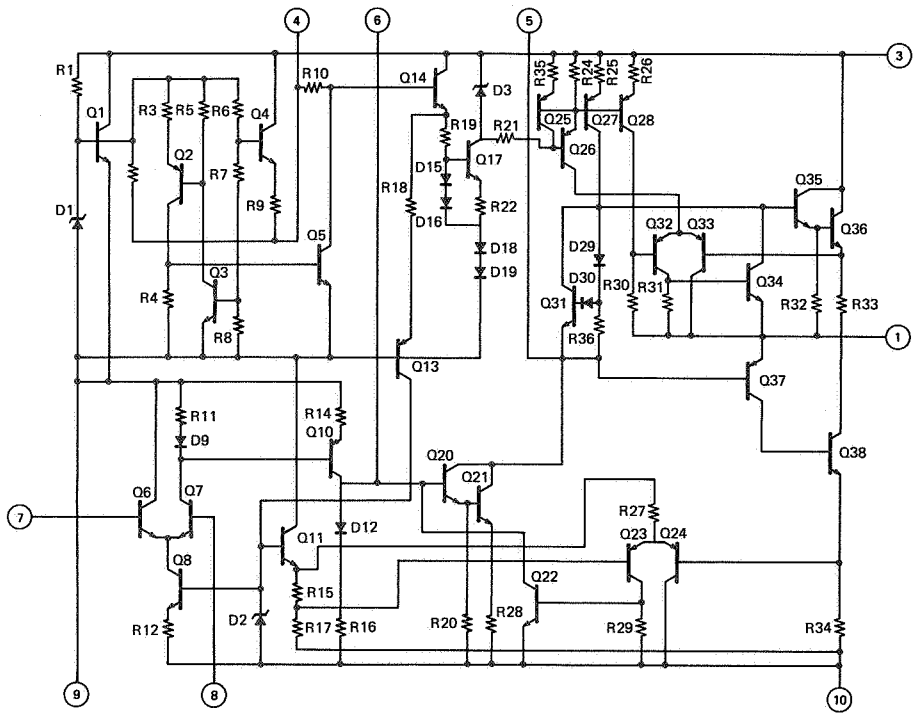


●IC502, 508 : NJM45585 (DUAL OPE-AMP.)

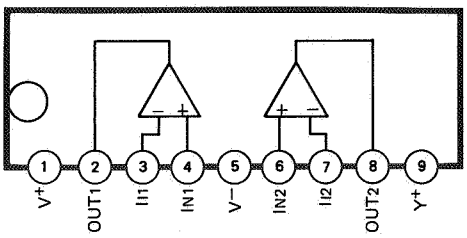


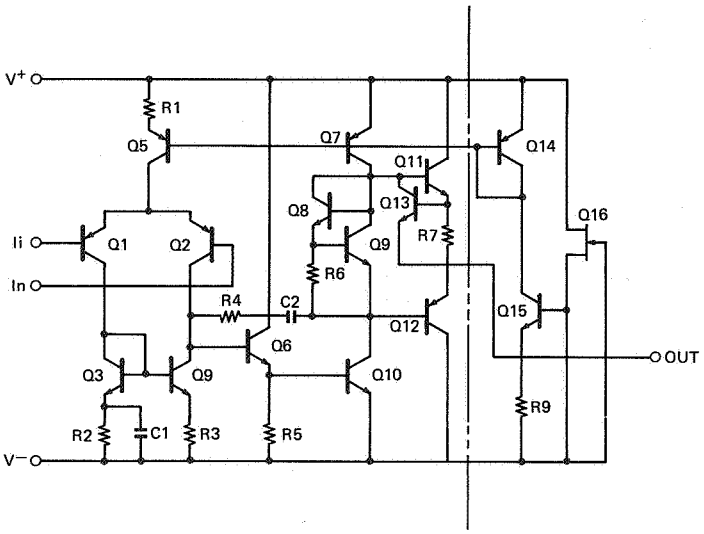


●IC506, 507 : μPC1188H

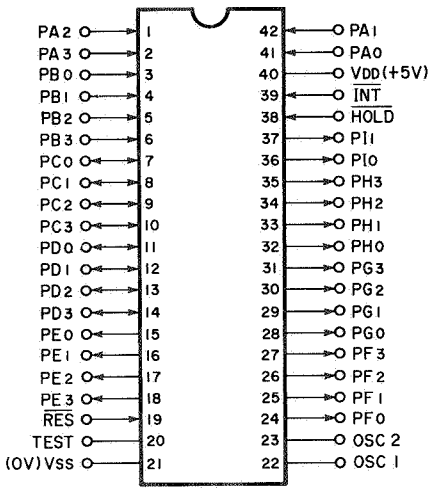


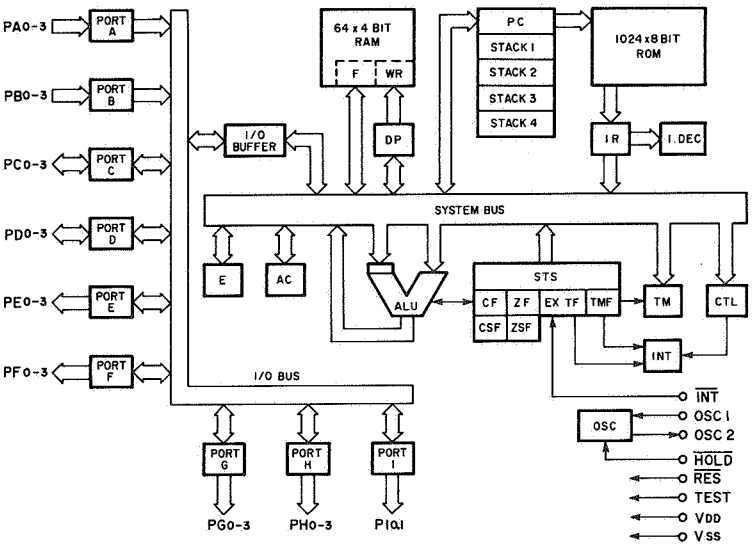
●IC501 : μPC4570HA (DUAL OPE AMP.)





●IC107 : LC6505C—3525 (4 BIT μ-COM)



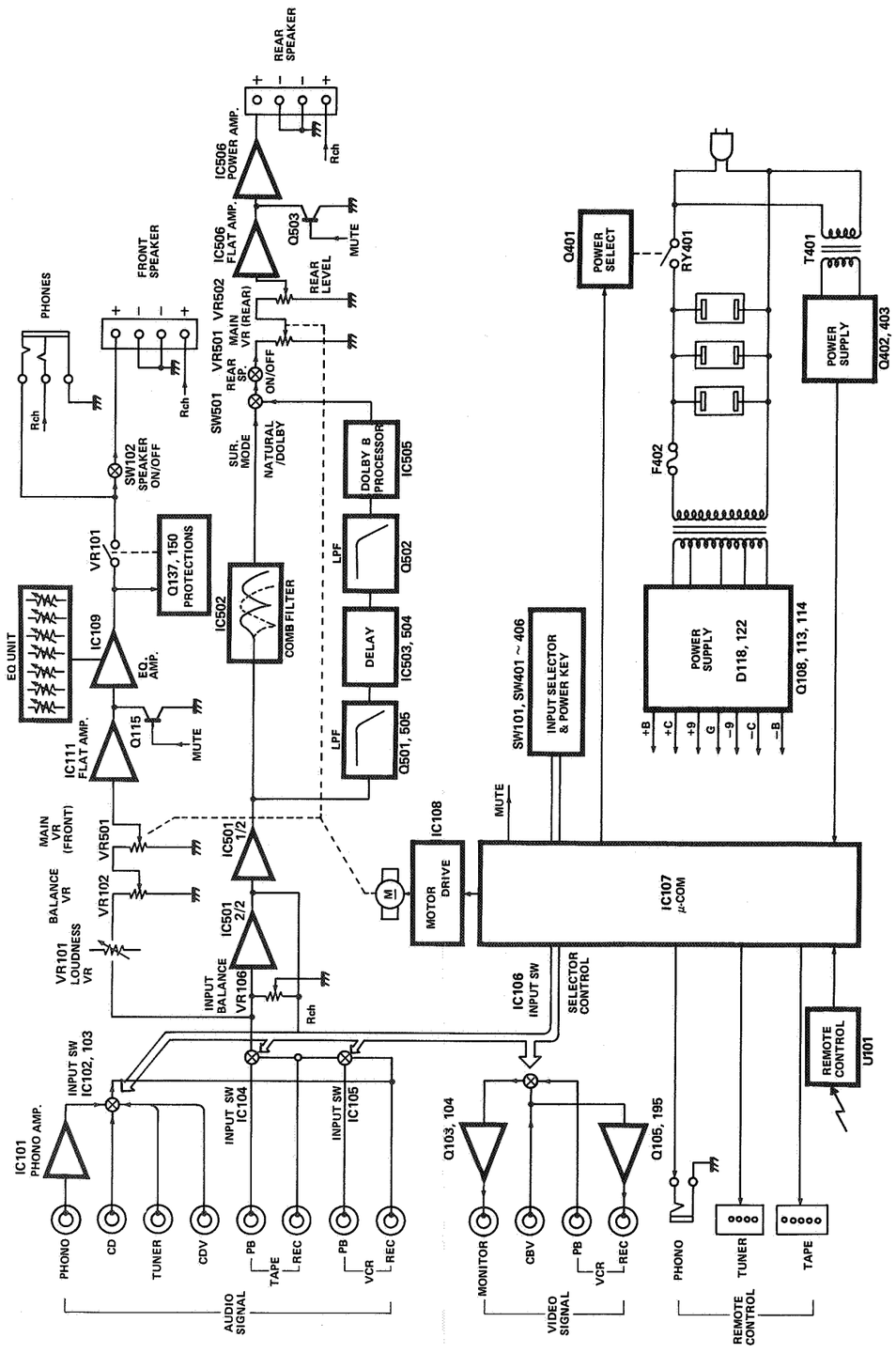


■ μ-COM DATA

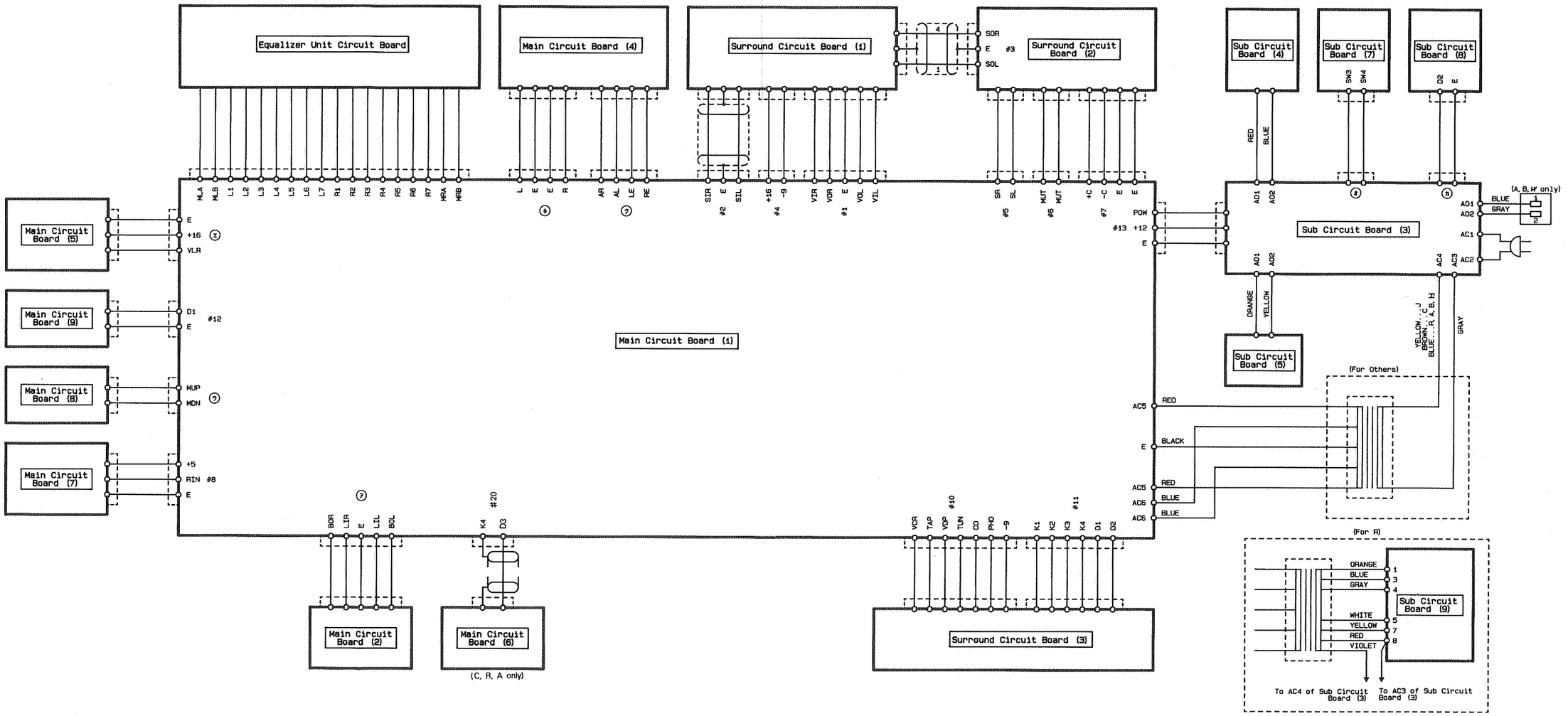
● IC107 : LC6505C-3525

NO.	NAME	I/O	FUNCTION
1	PA2	I	N.C. (L level connect)
2	PA3	I	H Level (TAPE MONITOR)
3	PB0	I	K1 } Key input (Key on : H)
4	PB1	I	K2
5	PB2	I	K3
6	PB3	I	K4
7	PC0	I/O	D1 } Key scan signal (Active H)
8	PC1	I/O	D2
9	PC2	I/O	D3
10	PC3	I/O	PL0 PHONO PLAY/CUT control signal
11	PD0	I/O	N.C.
12	PD1	I/O	CD0 } CD control signal
13	PD2	I/O	CD1
14	PD3	I/O	CD2
15	PE0	O	TP0 } Deck control signal
16	PE1	O	TP1
17	PE2	O	TP2
18	PE3	O	TP3
19	$\overline{RES}$	I	Reset input
20	TEST	—	LSI Test Terminal (GND)
21	Vss	—	GND
22	OSC1	I	} Microcomputer clock circuit 400kHz
23	OSC2	O	
24	PF0	O	PHONO } Function Control H: ON L: OFF
25	PF1	O	CD
26	PF2	O	TUNER
27	PF3	O	VDP
28	PG0	O	TAPE (MONITOR)
29	PG1	O	VCR (MONITOR)
30	PG2	O	(TAPE 2 (MONITOR)) ··· N.C.
31	PG3	O	POWER control signal (ON : H)
32	PH0	O	Volume Up } Control signal
33	PH1	O	Volume Down
34	PH2	O	TU2 } Tuner control signal
35	PH3	O	TU1
36	PI0	O	$\overline{AMUTE}$ Audio Muting control signal (Active L)
37	PI1	O	$\overline{Mute}$ Muting control signal (Active L)
38	$\overline{HOLD}$	I	Microcomputer backup cotrol (Backup : L, Play : H)
39	$\overline{INT}$	I	+5V
40	V_{DD}	—	+5V
41	PA0	I	Remotecontrol data input
42	PA1	I	POWER ON/OFF backup (H : backup, L : Ever ON)

■ BLOCK DIAGRAM

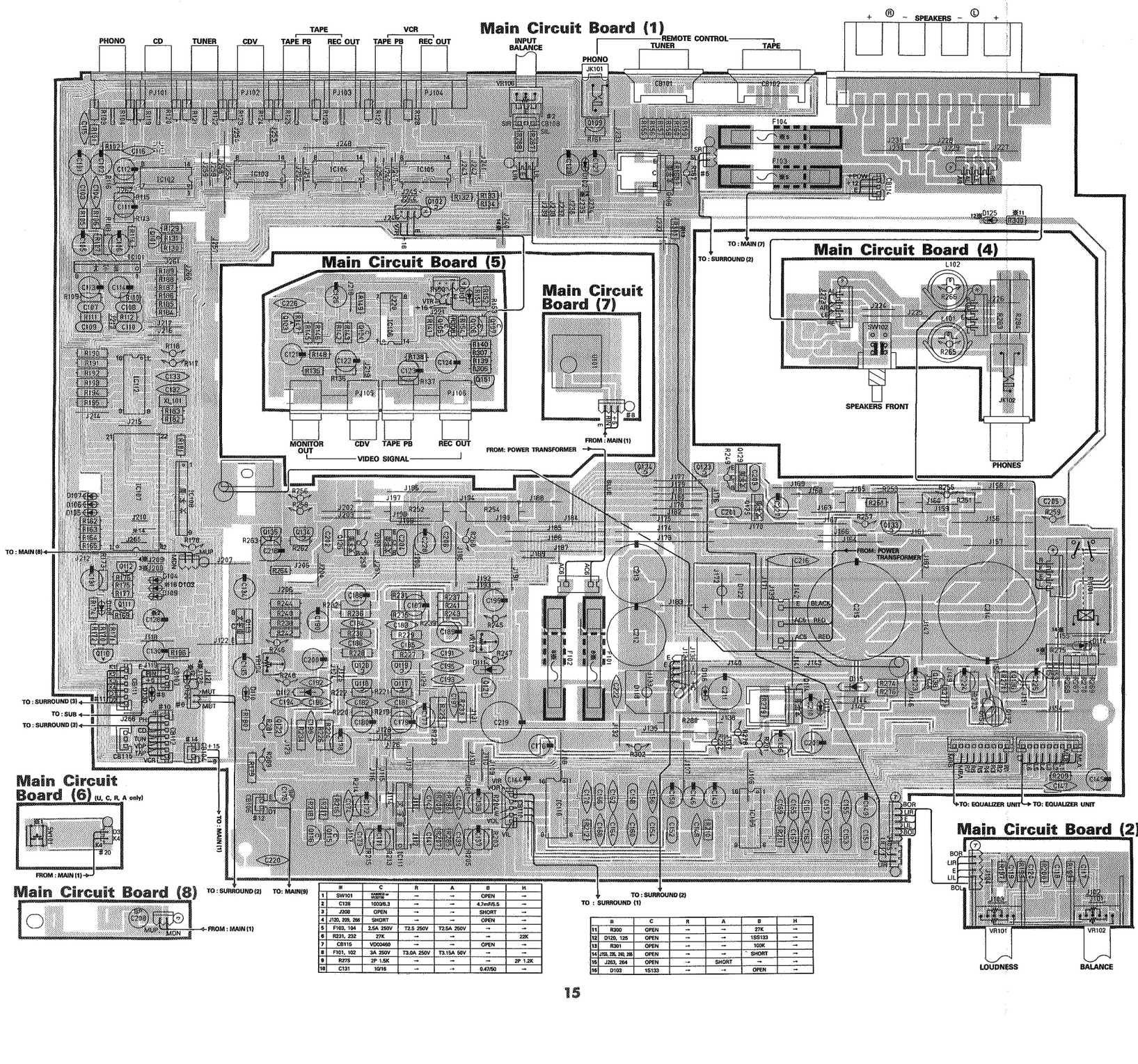


WIRING


Equalizer Unit Circuit Board
Main Circuit Board (4)
Surround Circuit Board (1)
Surround Circuit Board (2)
Sub Circuit Board (4)
Sub Circuit Board (7)
Sub Circuit Board (8)
MLA MLB L1 L2 L3 L4 L5 L6 L7 R1 R2 R3 R4 R5 R6 R7 MRA MRB
L E E R AR AL LE RE
SIR E SIL +16 -9 VIR VOR E VOL VIL
SOR E #3 SOL
SR SL MUT MUT +C -C E E
POW #13 +12 E
RED BLUE
SW3 SW4
D2 E
Main Circuit Board (5)
E +16 VLR
Main Circuit Board (9)
D1 E #12
Main Circuit Board (8)
MUP MDN
Main Circuit Board (7)
+5 RIN #8 E
Main Circuit Board (1)
Sub Circuit Board (3)
AO1 AO2 AC1 AC2 AC3 AC4
(A, B, H only)
BLUE GRAY
ORANGE YELLOW
YELLOW : C, J
BROWN : R, A, B, H
BLUE : G
GRAY
Sub Circuit Board (5)
(For Others)
AC5 RED
E BLACK
AC5 RED
AC6 BLUE
AC6 BLUE
BOR LIR E LIL BOL
K4 D3 #20
Main Circuit Board (2)
Main Circuit Board (6)
(C, R, A only)
VCR TAP VDP TUN CD PHO -9 K1 K2 K3 K4 D1 D2 #10 #11
Surround Circuit Board (3)
(For R)
ORANGE 1
BLUE 3
GRAY 4
WHITE 5
YELLOW 7
RED 8
VIOLET
Sub Circuit Board (9)
To AC4 of Sub Circuit Board (3)
To AC3 of Sub Circuit Board (3)

■ *PRINTED CIRCUIT BOARD (Pattern Side)*

※ 文字面：Component Side



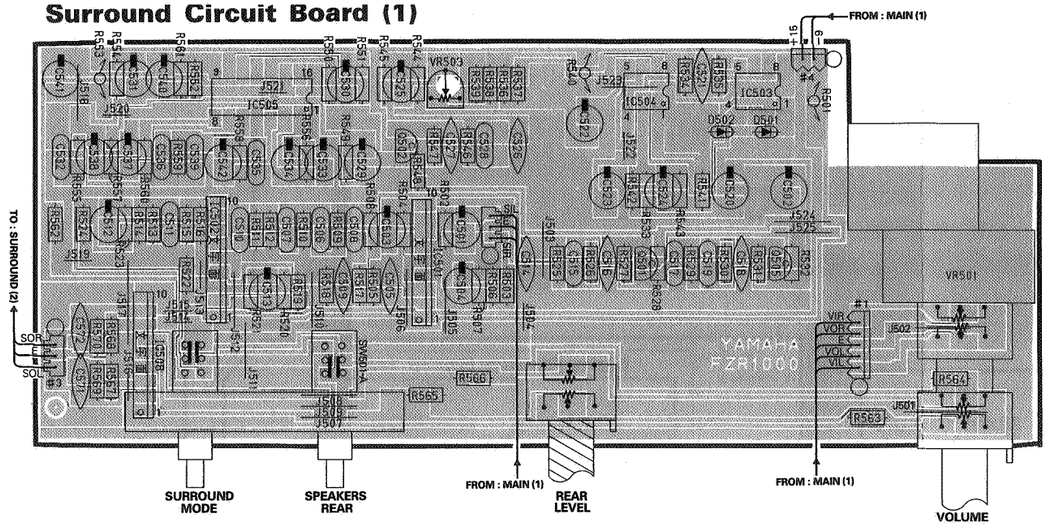
	B	C	R	A	B	H
1	SW101	RADIO/TAPE/VCR/TAPE	→	→	OPEN	→
2	C128	1000/6.3	→	→	4.7mF/6.5	→
3	J208	OPEN	→	→	SHORT	→
4	J120, 209, 266	SHORT	→	→	OPEN	→
5	F103, 104	2.5A 250V	T2.5 250V	T2.5A 250V	→	→
6	R231, 232	27K	→	→	→	22K
7	CB115	VD00460	→	→	OPEN	→
8	F101, 102	3A 250V	T3.0A 250V	T3.15A 50V	→	→
9	R275	2P 1.5K	→	→	→	2P 1.2K
10	C131	10/16	→	→	0.47/50	→

	B	C	R	A	B	H
11	R300	OPEN	→	→	27K	→
12	D120, 125	OPEN	→	→	1SS133	→
13	R301	OPEN	→	→	100K	→
14	J155, 235, 240, 259	OPEN	→	→	SHORT	→
15	J263, 264	OPEN	→	SHORT	→	→
16	D103	1S133	→	→	OPEN	→

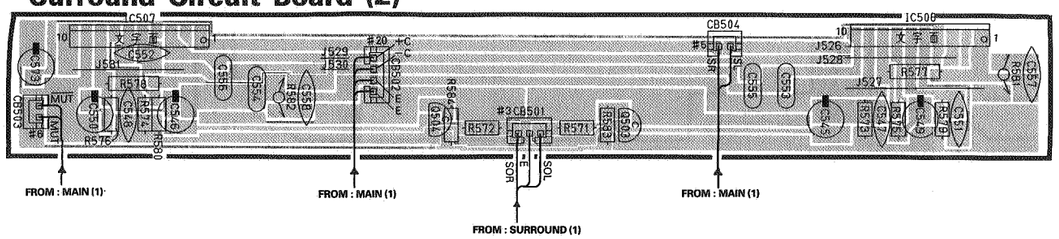
■ *PRINTED CIRCUIT BOARD (Pattern Side)*

※ 文字面：Component Side

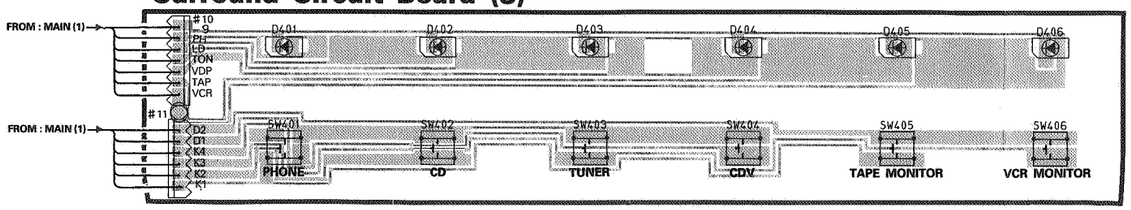
Surround Circuit Board (1)



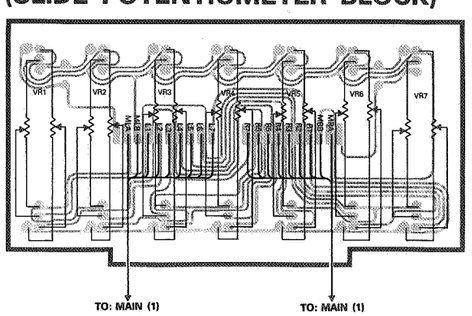
Surround Circuit Board (2)



Surround Circuit Board (3)

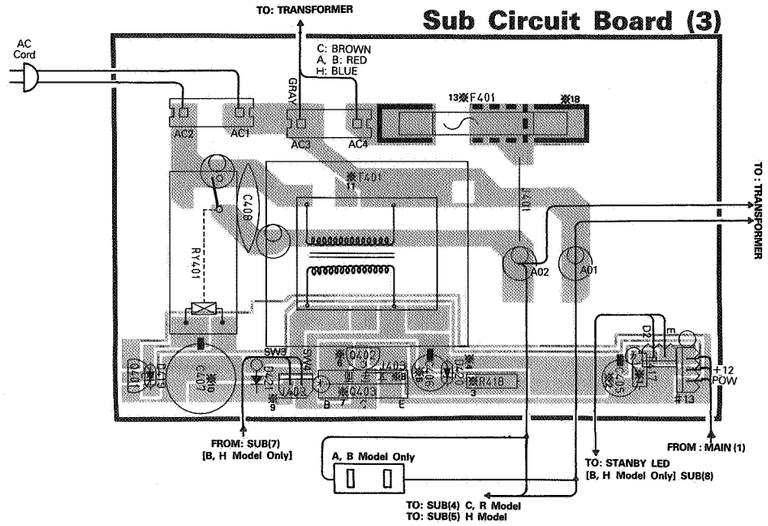


EQ. UNIT (SLIDE POTENTIOMETER BLOCK)

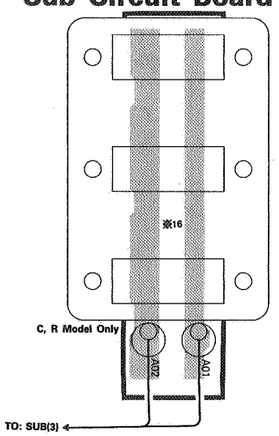


	※	C	R	A	B	H
1	R417	OPEN	→	→	1.2K	→
2	C405	OPEN	10/16	OPEN	→	→
3	R418	OPEN	8.2K	OPEN	→	→
4	D420	OPEN	MTZ12C	OPEN	→	→
5	C406	OPEN	47/16	OPEN	→	→
6	Q402	OPEN	○	OPEN	→	→
7	Q403	OPEN	○	OPEN	→	→
8	J403	○	×	○	→	→
9	J402	○	→	→	×	→
10	C407	470/25	470/63	470/25	→	→
11	T401	XC083	XC082	XC084	→	→
12	C408	FI51410	→	→	→	FI50410
13	F401	7A 125V	T7A 250V	T3.15A 250V	→	T2.5A 250V
16	⑯	○	→	×	→	→
17	⑰	×	→	→	→	○
18	⑱	×	○	×	→	→
19	F402	×	→	→	→	T2.5A 250V
20	⑳	×	→	→	→	○
21	SW407	×	→	→	KAB0332	→
22	C410	OPEN	→	→	0.01	→
23	D422	OPEN	→	→	SLR-34URC3F	→

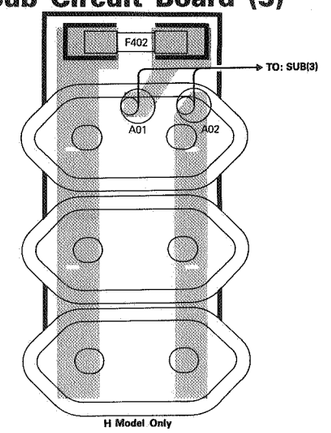
Sub Circuit Board (3)



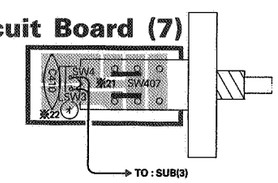
Sub Circuit Board (4)



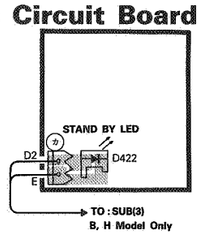
Sub Circuit Board (5)



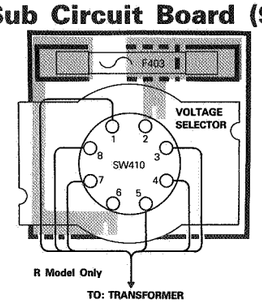
Sub Circuit Board (7)



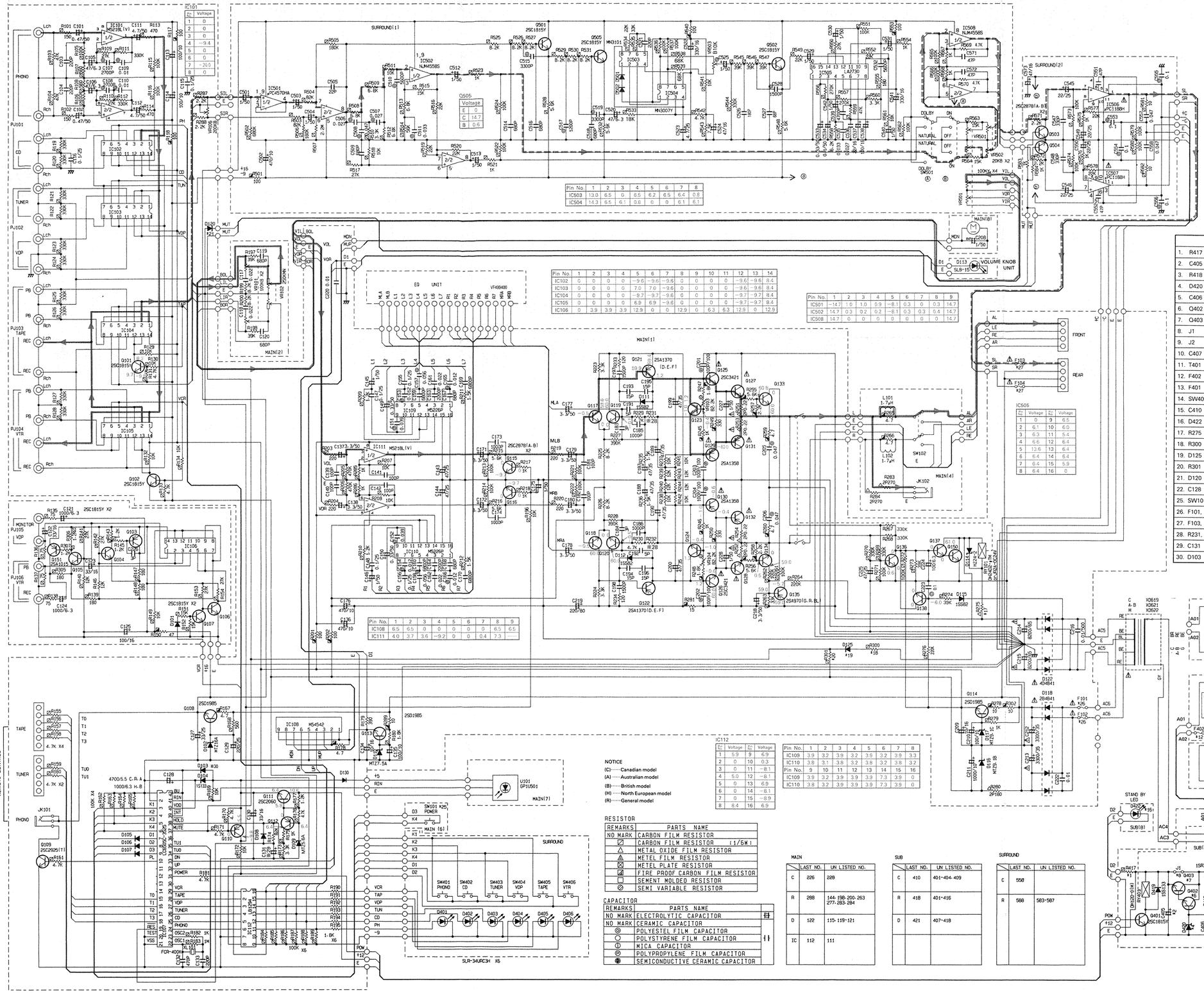
Sub Circuit Board (8)



Sub Circuit Board (9)



■ SCHEMATIC DIAGRAM



Pin No.	1	2	3	4	5	6	7	8
IC503	13.0	6.5	0	6.5	6.2	6.5	6.4	0.8
IC504	14.3	6.5	6.1	0.8	6	0	6.1	6.1

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC102	0	0	0	0	−9.6	−9.6	−9.6	0	0	0	0	−9.6	−9.6	8.4
IC103	0	0	0	0	7.0	7.0	−9.6	0	0	0	0	−9.6	−9.6	8.4
IC104	0	0	0	0	−9.7	−9.7	−9.6	0	0	0	0	−9.7	−9.7	8.4
IC105	0	0	0	0	6.9	6.9	−9.6	0	0	0	0	−9.7	−9.7	8.4
IC106	0	3.9	3.9	3.9	12.9	0	0	12.9	0	6.3	6.3	12.9	0	12.9

Pin No.	1	2	3	4	5	6	7	8	9
IC501	−14.7	1.0	1.0	0.9	−8.1	0.3	0	0.3	14.7
IC502	14.7	0.3	0.2	0.2	−8.1	0.3	0.3	0.4	14.7
IC508	14.7	0	0	0	0	0	0	0	14.7

Pin No.	1	2	3	4	5	6	7	8
IC111	4.0	3.7	3.6	−9.2	0	0	0.4	7.3

Pin No.	1	2	3	4	5	6	7	8
IC108	6.5	6.5	0	0	0	0	6.5	6.5

IC505			
Pin No.	Voltage	Pin No.	Voltage
1	0	9	6.5
2	6.1	10	6.0
3	6.3	11	5.4
4	6.6	12	6.4
5	13.6	13	6.4
6	6.4	14	6.4
7	6.4	15	5.9
8	6.4	16	0

IC112			
Pin No.	Voltage	Pin No.	Voltage
1	5.9	9	6.9
2	0	10	0.3
3	0	11	−8.1
4	5.0	12	−8.1
5	0	13	6.9
6	0	14	−8.1
7	0	15	−8.9
8	8.4	16	6.9

Pin No.	1	2	3	4	5	6	7	8
IC109	3.9	3.2	3.9	3.9	3.2	3.9	3.3	
IC110	3.8	3.1	3.8	3.2	3.8	3.2	3.8	3.2
Pin No.	9	10	11	12	13	14	15	16
IC109	3.9	3.2	3.9	3.9	3.9	7.3	3.9	0
IC110	3.8	3.2	3.9	3.9	3.9	7.3	3.9	0

IC107			
Pin No.	Voltage	Pin No.	Voltage
1	0	22	2.0
2	5.6	23	2.6
3	−1.5	24	0
4	−1.5	25	0
5	−1.5	26	5.0
6	−1.5	27	0
7	1.2	28	0
8	1.0	29	5.0
9	2.9	30	0
10	0	31	4.9
11	0	32	0
12	0	33	0
13	0	34	0
14	0	35	0
15	0	36	0
16	0	37	5.2
17	0	38	4.9
18	0	39	5.4
19	4.9	40	5.1
20	0	41	5.4
21	0	42	5.4

Q505	
	Voltage
E	0
C	14.7
B	0.6

IC101	
Pin No.	Voltage
1	0
2	0
3	0
4	−9.4
5	0
6	0
7	−20.0
8	0

unless otherwise specified			
PNP TRANSISTOR	2SA1015Y		
NPN TRANSISTOR	2SC2240(GR,BL)		
DIODE	1SS133		
IC	LC4066B or μPD4066BC	or M4066BP	
	or MN4066B	or BU4066B	

	C	R	A	B	H
1. R417	OPEN	→	→	1.2K	→
2. C405	OPEN	10/16	OPEN	→	→
3. R418	OPEN	8.2K	OPEN	→	→
4. D420	OPEN	MTZ12C	OPEN	→	→
5. C406	OPEN	47/16	OPEN	→	→
6. Q402	OPEN	2SC2240 (GR, BL)	OPEN	→	→
7. Q403	OPEN	2SD1485	OPEN	→	→
8. J1	SHORT	OPEN	SHORT	→	→
9. J2	SHORT	→	SHORT	OPEN	→
10. C407	470/25	470/63	470/25	→	→
11. T401	XC083	XC082	XC084	→	→
12. F402	OPEN	→	→	→	T2.5A 250V
13. F401	7A125V	T7A250V	T3.15A 250V	→	T2.5A 250V
14. SW407	OPEN	→	→	KA80332	→
15. C410	OPEN	→	→	0.01	→
16. D422	OPEN	→	→	SLR-34URC3F	→
17. R275	2P1.5K	→	→	→	2P1.2K
18. R300	OPEN	→	→	27K	27K
19. D125	OPEN	→	→	1SS133	1SS133
20. R301	OPEN	→	→	100K	100K
21. D120	SHORT	→	→	1SS133	1SS133
22. C128	1000/6.3	→	→	4.7mF/5.5	→
25. SW101	KA80938 or VE32730	→	→	OPEN	→
26. F101, 102	3A250V	T3.0A250V	T3.15A250V	→	→
27. F103, 104	2.5A250V	T2.5A250V	T2.5A250V	→	→
28. R231, 232	27K	→	→	→	22K
29. C131	10/16	→	→	0.47/50	→
30. D103	1SS133	→	→	OPEN	→

REMARKS	RESISTOR PARTS NAME
NO MARK	CARBON FILM RESISTOR
☑	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR

REMARKS	CAPACITOR PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	‖
○	POLYSTYRENE FILM CAPACITOR	
①	MICA CAPACITOR	
◎	POLYPROPYLENE FILM CAPACITOR	
◉	SEMICONDUCTIVE CERAMIC CAPACITOR	

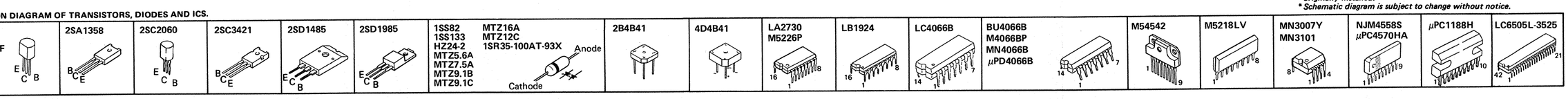
MAIN	LAST NO.	UN LISTED NO.
C	226	228
R	288	144-198-200-263 277-283-284
D	122	115-119-121
IC	112	111

SUB	LAST NO.	UN LISTED NO.
C	410	401-404-409
R	418	401-416
D	421	407-418

SURROUND	LAST NO.	UN LISTED NO.
C	558	
R	588	583-587

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

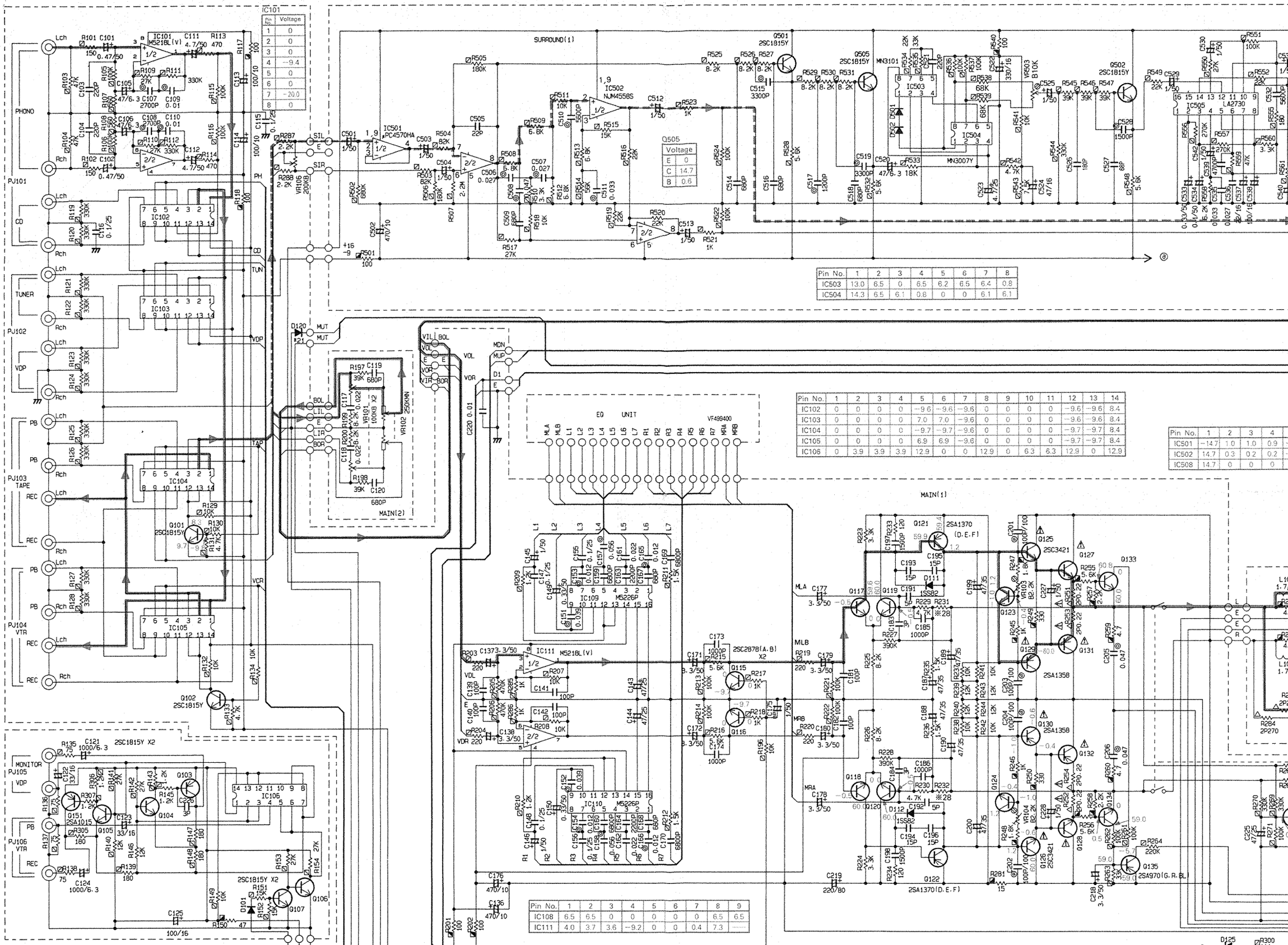
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

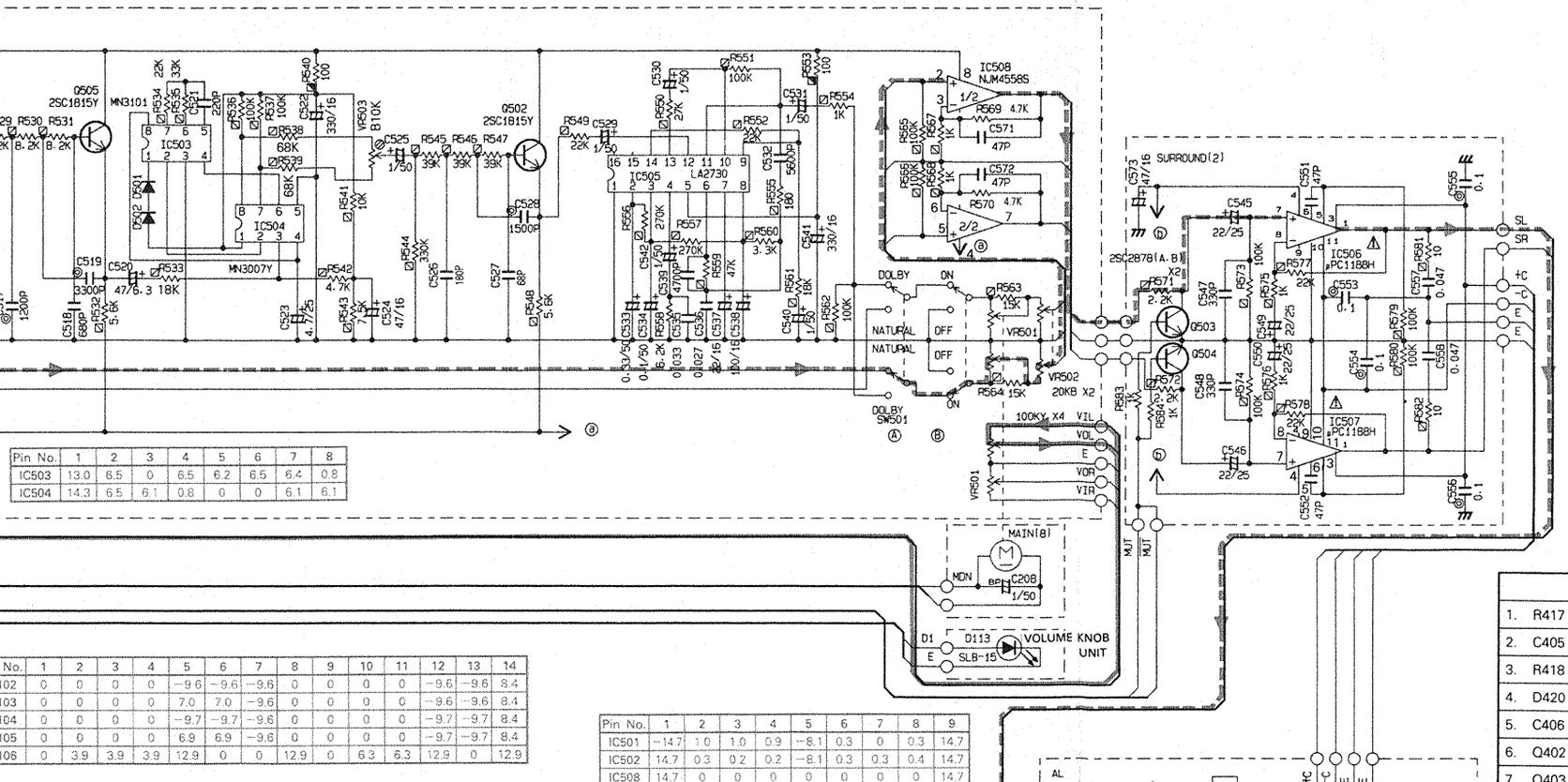


The previous page is reprinted in exploded form over the following 4 pages

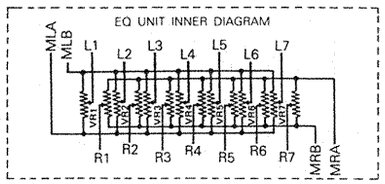
TOP	1 OF 4	2 OF 4
BOTTOM	3 OF 4	4 OF 4

■ SCHEMATIC DIAGRAM





EQ UNIT INNER DIAGRAM



Unless otherwise specified

PNP TRANSISTOR	2SA1015Y		
NPN TRANSISTOR	2SC2240(GR.BL)		
DIODE	1SS133		
IC	LC40668 or MN40668	or μPD40668C or BU40668	or M4066BP

Pin No.	1	2	3	4	5	6	7	8
IC503	13.0	6.5	0	6.5	6.2	6.5	6.4	0.8
IC504	14.3	6.5	6.1	0.8	0	0	6.1	6.1

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q102	0	0	0	0	−9.6	−9.6	−9.6	0	0	0	0	−9.6	−9.6	8.4
Q103	0	0	0	0	7.0	7.0	−9.6	0	0	0	0	−9.6	−9.6	8.4
Q104	0	0	0	0	−9.7	−9.7	−9.6	0	0	0	0	−9.7	−9.7	8.4
Q105	0	0	0	0	6.9	6.9	−9.6	0	0	0	0	−9.7	−9.7	8.4
Q106	0	3.9	3.9	3.9	12.9	0	0	12.9	0	6.3	6.3	12.9	0	12.9

Pin No.	1	2	3	4	5	6	7	8	9
IC501	−14.7	1.0	1.0	0.9	−8.1	0.3	0	0.3	14.7
IC502	14.7	0.3	0.2	0.2	−8.1	0.3	0.3	0.4	14.7
IC508	14.7	0	0	0	0	0	0	0	14.7

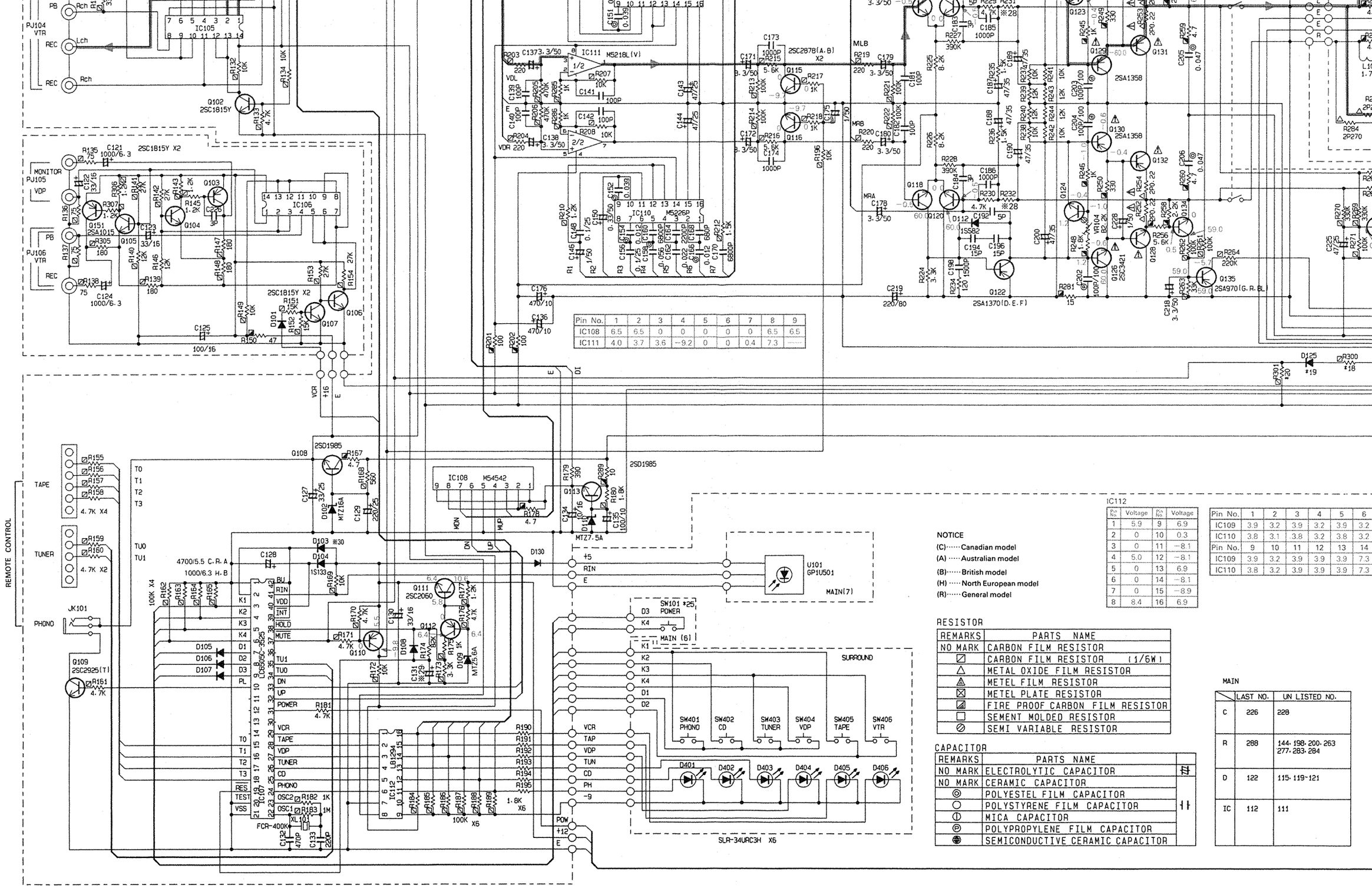
	C	R	A	B	H
1. R417	OPEN	→	→	1.2K	→
2. C405	OPEN	10/16	OPEN	→	→
3. R418	OPEN	8.2K	OPEN	→	→
4. D420	OPEN	MTZ12C	OPEN	→	→
5. C406	OPEN	47/16	OPEN	→	→
6. Q402	OPEN	2SC2240 (GR, BL)	OPEN	→	→
7. Q403	OPEN	2SD1485	OPEN	→	→
8. J1	SHORT	OPEN	SHORT	→	→
9. J2	SHORT	→	SHORT	OPEN	→
10. C407	470/25	470/63	470/25	→	→
11. T401	XC083	XC082	XC084	→	→
12. F402	OPEN	→	→	→	T2.5A 250V
13. F401	7A125V	T7A250V	T3.15A 250V	→	T2.5A 250V
14. SW407	OPEN	→	→	KA80332	→
15. C410	OPEN	→	→	0.01	→
16. D422	OPEN	→	→	SLR-34URC3F	→
17. R275	2P1.5K	→	→	→	2P1.2K
18. R300	OPEN	→	→	27K	27K
19. D125	OPEN	→	→	1SS133	1SS133
20. R301	OPEN	→	→	100K	100K
21. D120	SHORT	→	→	1SS133	1SS133
22. C128	1000/6.3	→	→	4.7mF/5.5	→
25. SW101	KA90638 or VE32730	→	→	OPEN	→
26. F101, 102	3A250V	T3.0A250V	T3.15A250V	→	→
27. F103, 104	2.5A250V	T2.5A250V	T2.5A250V	→	→
28. R231, 232	27K	→	→	→	22K
29. C131	10/16	→	→	0.47/50	→
30. D103	1SS133	→	→	OPEN	→

IC505

Pin No.	Voltage	Pin No.	Voltage
1	0	9	6.5
2	6.1	10	6.0
3	6.3	11	5.4
4	6.6	12	6.4
5	13.6	13	6.4
6	6.4	14	6.4
7	6.4	15	5.9
8	6.4	16	0

IC107

Pin No.	Voltage	Pin No.	Voltage
1	0	22	2.0
2	5.6	23	2.6
3	−1.5	24	0
4	−1.5	25	0
5	−1.5	26	5.0
6	−1.5	27	0
7	1.2	28	0



Pin No.	1	2	3	4	5	6	7	8	9
IC108	6.5	6.5	0	0	0	0	0	6.5	6.5
IC111	4.0	3.7	3.6	−9.2	0	0	0.4	7.3	———

IC112

Pin No.	Voltage	Pin No.	Voltage
1	5.9	9	6.9
2	0	10	0.3
3	0	11	−8.1
4	5.0	12	−8.1
5	0	13	6.9
6	0	14	−8.1
7	0	15	−8.9
8	8.4	16	6.9

Pin No.	1	2	3	4	5	6
IC109	3.9	3.2	3.9	3.2	3.9	3.2
IC110	3.8	3.1	3.8	3.2	3.8	3.2
Pin No.	9	10	11	12	13	14
IC109	3.9	3.2	3.9	3.9	3.9	7.3
IC110	3.8	3.2	3.9	3.9	3.9	7.3

NOTICE

(C)·····Canadian model
(A)·····Australian model
(B)·····British model
(H)·····North European model
(R)·····General model

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
☑	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
◬	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	##
○	POLYSTYRENE FILM CAPACITOR	
ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
ⓢ	SEMICONDUCTIVE CERAMIC CAPACITOR	

MAIN

	LAST NO.	UN LISTED NO.
C	226	228
R	268	144·198·200·263 277·283·284
D	122	115·119·121
IC	112	111

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA970 2SA1015Y 2SA1370D, E, F 2SC1815Y 2SC2240 2SC2878A, B 2SC2925T	2SA1358	2SC2060	2SC3421	2SD1485	2SD1985	1SS82 1SS133 HZ24-2 MTZ5.6A MTZ7.5A MTZ9.1B MTZ9.1C	MTZ16A MTZ12C 1SR35-100AT-93X	2B4B41	4D4B41	LA2730 M5226P	LB1924	LC40

No.	Voltage	No.	Voltage
1	0	9	6.5
2	6.1	10	6.0
3	6.3	11	5.4
4	6.6	12	6.4
5	13.6	13	6.4
6	6.4	14	6.4
7	6.4	15	5.9
8	6.4	16	0

16. D422	OPEN	→	→	SLR-34URC3F	→
17. R275	2P1.5K	→	→	→	2P1.2K
18. R300	OPEN	→	→	27K	27K
19. D125	OPEN	→	→	1SS133	1SS133
20. R301	OPEN	→	→	100K	100K
21. D120	SHORT	→	→	1SS133	1SS133
22. C128	1000/6.3	→	→	4.7mF/5.5	→
25. SW101	KA90638 or VE92730	→	→	OPEN	→
26. F101, 102	3A250V	T3.0A250V	T3.15A250V	→	→
27. F103, 104	2.5A250V	T2.5A250V	T2.5A250V	→	→
28. R231, 232	27K	→	→	→	22K
29. C131	10/16	→	→	0.47/50	→
30. D103	1SS133	→	→	OPEN	→

IC107

Pin No.	Voltage	Pin No.	Voltage
1	0	22	2.0
2	5.6	23	2.6
3	−1.5	24	0
4	−1.5	25	0
5	−1.5	26	5.0
6	−1.5	27	0
7	1.2	28	0
8	1.0	29	5.0
9	2.9	30	0
10	0	31	4.9
11	0	32	0
12	0	33	0
13	0	34	0
14	0	35	0
15	0	36	0
16	0	37	5.2
17	0	38	4.9
18	0	39	5.4
19	4.9	40	5.1
20	0	41	5.4
21	0	42	5.4

NOTICE
(C)·····Canadian model
(A)·····Australian model
(B)·····British model
(H)·····North European model
(R)·····General model

IC112

No.	Voltage	No.	Voltage
1	5.9	9	6.9
2	0	10	0.3
3	0	11	−8.1
4	5.0	12	−8.1
5	0	13	6.9
6	0	14	−8.1
7	0	15	−8.9
8	8.4	16	6.9

Pin No.	1	2	3	4	5	6	7	8
IC109	3.9	3.2	3.9	3.2	3.9	3.2	3.9	3.3
IC110	3.8	3.1	3.8	3.2	3.8	3.2	3.8	3.2
Pin No.	9	10	11	12	13	14	15	16
IC109	3.9	3.2	3.9	3.9	3.9	7.3	3.9	0
IC110	3.8	3.2	3.9	3.9	3.9	7.3	3.9	0

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
▨	CARBON FILM RESISTOR (1/6W)
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⧺
NO MARK	CERAMIC CAPACITOR	⫫
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
⊛	SEMICONDUCTIVE CERAMIC CAPACITOR	

MAIN

	LAST NO.	UN LISTED NO.
C	226	228
R	288	144, 198, 200, 263, 277, 283, 284
D	122	115, 119-121
IC	112	111

SUB

	LAST NO.	UN LISTED NO.
C	410	401-404, 409
R	418	401-416
D	421	407-418

SURROUND

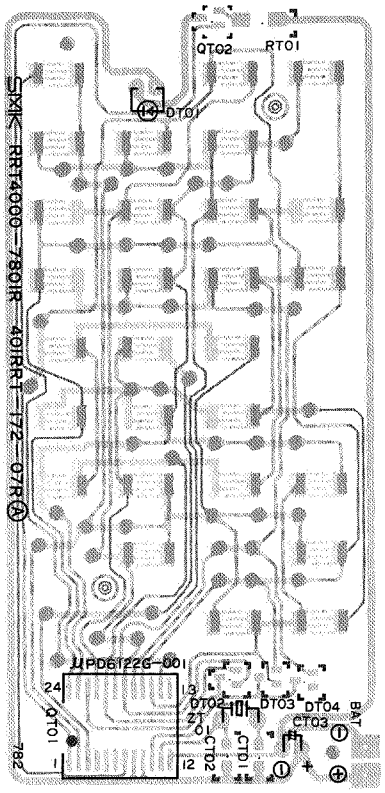
	LAST NO.	UN LISTED NO.
C	558	
R	588	583-587

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

node	2B4B41	4D4B41	LA2730 M5226P	LB1924	LC4066B	BU4066B M4066BP MN4066B μPD4066B	M54542	M5218LV	MN3007Y MN3101	NJM4558S μPC4570HA	μPC1188H	LC6505L-3525

RS-AVX20 REMOTE CONTROL TRANSMITTER

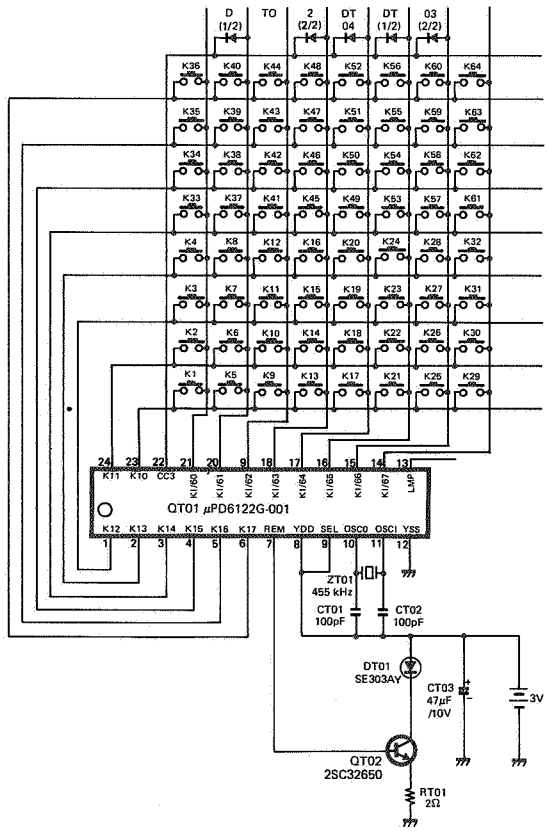
●PRINTED CIRCUIT BOARD (Pattern Side)



●KEY FUNCTION

KEY No.	FUNCTION	CORD	KEY No.	FUNCTION	CORD
K1	TAPE PLAY	00	K33	TAPE DIR B	40
K2	TAPE ◁◁	01	K34	———	41
K3	TAPE ▷▷	02	K35	———	42
K4	TAPE STOP	03	K36	———	43
K5	TAPE REC/MUTE	04	K37	———	44
K6	TAPE REC/MUTE	05	K38	———	45
K7	TAPE A/B	06	K39	———	46
K8	TAPE DIR A	07	K40	———	47
K9	CD PLAY	08	K41	———	48
K10	CD ⏸/□	09	K42	———	49
K11	CD ▷▷|	0A	K43	———	4A
K12	CD |◁◁	0B	K44	———	4B
K13	CD ▷▷	0C	K45	———	4C
K14	CD ◁◁	0D	K46	———	4D
K15	PLAY/CUT	0E	K47	———	4E
K16	VCR	0F	K48	———	4F
K17	TUNER UP	10	K49	———	50
K18	TUNER DOWN	11	K50	———	51
K19	TUNER P1-P8/P9-P16	12	K51	———	52
K20	———	13	K52	———	53
K21	PHONO	14	K53	———	54
K22	CD	15	K54	———	55
K23	TUNER	16	K55	———	56
K24	CDV	17	K56	———	57
K25	TAPE	18	K57	———	58
K26	———	19	K58	———	59
K27	VOLUME UP	1A	K59	———	5A
K28	VOLUME DOWN	1B	K60	———	5B
K29	———	1C	K61	———	5C
K30	———	1D	K62	———	5D
K31	———	1E	K63	———	5E
K32	POWER	1F	K64	———	5F

●SCHEMATIC DIAGRAM



PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
• Carbon resistors 1/4 W are not included in the ELECTRICAL PARTS list. For the parts No. of the carbon resistor, refer to P. 29.

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
※		***NA 09 63 60***	***Main Circuit Board***		メインシート			C	
※		***NA 09 92 90***	〃		〃			R	
※		***NA 09 93 00***	〃		〃			A	
※		***NA 09 93 10***	〃		〃			B	
※		***NA 09 93 20***	〃		〃			H	
		FG 20 03 00	Ceramic Cap.	3pF 50V	セラコン	C183, 184, 226			
		FG 21 11 50	〃	15pF 50V	〃	C193 ~ 196			
		FG 21 05 00	〃	5pF 50V	〃	C191, 192			
		FG 21 21 00	〃	100pF 50V	〃	C139 ~ 142, 181, 182			
		FG 21 22 20	〃	220pF 50V	〃	C103, 104, 133			
		FG 21 24 70	〃	470pF 50V	〃	C132			
		FG 21 26 80	〃	680pF 50V	〃	C119, 120, 167, 168			
		FG 21 31 00	〃	1000pF 50V	〃	C173, 174, 185, 186			
		FG 21 31 50	〃	1500pF 50V	〃	C197, 198			
		FG 41 32 20	〃	2200pF 50V	〃	C163, 164			
		FG 24 36 80	〃	6800pF 50V	〃	C159, 160, 169, 170			
		FG 24 41 00	〃	0.01 μF 50V	〃	C220, 222			
		FG 24 42 20	〃	0.022 μF 50V	〃	C117, 118, 161, 162			
		FZ 00 41 30	Semiconductive Ceramic Cap.	0.1 μF 25V	半導体セラコン	C115, 116, 147, 148, 155, 156			
		FA 15 32 70	Mylar Cap.	2700pF 50V	マイラーコン	C107, 108			
		FA 15 41 00	〃	0.01 μF 50V	〃	C109, 110			
		FA 15 41 20	〃	0.012 μF 50V	〃	C153, 154, 165, 166			
		FA 15 43 90	〃	0.039 μF 50V	〃	C151, 152			
		FA 15 44 70	〃	0.047 μF 50V	〃	C205, 206			
		FA 15 45 60	〃	0.056 μF 50V	〃	C157, 158			
		FA 15 51 00	〃	0.1 μF 50V	〃	C223			
		Ui 91 74 70	Electrolytic Cap.	47 μF 6.3V	ケミコン	C105, 106			
		UJ 11 81 00	〃	100 μF 6.3V	〃	C224			
		UJ 12 81 00	〃	100 μF 10V	〃	C113, 114 135, 210			
		UJ 13 71 00	〃	470 μF 10V	〃	C136, 176			
		Ui 33 71 00	〃	10 μF 16V	〃	C134, 209			
		UJ 13 73 30	〃	33 μF 16V	〃	C122, 123, 130			
		UJ 13 81 00	〃	100 μF 16V	〃	C125			
		UJ 14 73 30	〃	33 μF 25V	〃	C127			
		FZ 00 70 90	〃	47 μF 25V	〃	C143, 144, 225			
		FZ 00 64 70	〃	220 μF 25V	〃	C129			
※		VE 01 92 00	〃	47 μF 35V	〃	C187 ~ 190, 199, 200			
		Ui 36 53 30	〃	0.33 μF 50V	〃	C149, 150			
		Ui 36 54 70	〃	0.47 μF 50V	〃	C101, 102			
		Ui 36 31 00	〃	1 μF 50V	〃	C145, 146, 227, 228			
		UJ 46 63 30	〃	3.3 μF 50V	〃	C137, 138, 171, 172, 177 ~ 180, 218			
		UJ 16 64 70	〃	4.7 μF 50V	〃	C111, 112			
		Ui 91 91 00	〃	1000 μF 6.3V	〃	C121, 124			
		Ui 91 91 00	〃	1000 μF 6.3V	〃	C128		C, R, A	
		VB 17 01 00	〃	4700 μF 5.5V	〃	〃		B, H	
		UM 09 93 30	〃	3300 μF 35V	〃	C212, 213			
		FM 11 61 00	〃	1 μF 50V	BP ケミコン	C175, 208			
		UJ 12 91 00	〃	1000 μF 10V	ケミコン	C211			
		FZ 00 72 00	〃	220 μF 80V	オーディオケミコン	C219			
		VE 33 98 00	〃	8200 μF 65V	ブロックケミコン	C214, 215			
		Ui 33 71 00	〃	10 μF 16V	ケミコン	C131		C, R, A	
		Ui 36 54 70	〃	0.47 μF 50V	〃	〃		B, H	

※New Parts（新規部品）

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	FH 23 41 00	Ceramic Cap.	0.01μF 500V	セラコン	C216			
	UT 45 21 00	Polypropylene Film Cap.	100pF 100V	ポリプロコン	C201 ～ 204			
	HJ 35 83 90	Carbon Resistor	390kΩ 1/4W	カーボン抵抗	R227, 228			
	HL 32 22 20	Metal Oxide Film Resistor	0.22Ω 2W	酸金抵抗	R251 ～ 254			
	HL 32 51 80	〃	180Ω 2W	〃	R280			
	HL 32 52 70	〃	270Ω 2W	〃	R283, 284			
	HL 32 61 20	〃	1.2KΩ 2W	〃	R275		H	
	HL 32 61 50	〃	1.5KΩ 2W	〃	〃		C, R, A, B	
	HV 45 34 70	Flame Proof Carbon Resistor	4.7Ω 1/4W	不燃化カーボン抵抗	R167, 178, 259, 260, 265, 266			
	HV 45 41 00	〃	10Ω 1/4W	〃	R278, 289, 302			
	HV 45 41 50	〃	15Ω 1/4W	〃	R281			
	HV 45 44 70	〃	47Ω 1/4W	〃	R150			
	HV 45 51 00	〃	100Ω 1/4W	〃	R117, 118, 201, 202			
	HV 45 53 30	〃	330Ω 1/4W	〃	R249, 250			
	HV 45 61 00	〃	1KΩ 1/4W	〃	R245, 246			
	HV 45 61 80	〃	1.8KΩ 1/4W	〃	R247, 248			
	HV 45 62 20	〃	2.2KΩ 1/4W	〃	R257, 258			
	HV 45 65 60	〃	5.6KΩ 1/4W	〃	R255, 256			
	VB 86 12 00	Pre-Set Potentiometer	B2.2KΩ	半固定抵抗器	VR103, 104	Inter-changeable		
	VB 86 29 00	〃	B2.2KΩ	〃	〃			
	VE 29 93 00	Potentiometer	250KΩMN	可変抵抗器	VR102			
	VE 29 94 00	〃	100KΩB x 2	〃	VR101			
	VE 29 91 00	〃	200KΩB	〃	VR106			
	iA 09 70 00	Transistor	2SA970 (GR, BL)	トランジスター	Q135			
	iA 10 15 21	〃	2SA1015 (Y)	〃	Q103, 110, 112, 151			
	iC 18 15 20	〃	2SC1815 (Y)	〃	Q101, 102, 104 ～ 107			
	iC 22 40 00	〃	2SC2240 (GR, BL)	〃	Q117 ～ 120, 123, 124, 133, 134, 136 ～ 138, 150			
	iC 28 78 20	〃	2SC2878 (A, B)	〃	Q115, 116			
	iC 20 60 00	〃	2SC2060	〃	Q111			
	VA 85 47 00	〃	2SA1370 (D, E, F)	〃	Q121, 122			
	VE 91 96 00	〃	2SC2925T	〃	Q109			
	VE 02 92 00	〃	2SD1985	〃	Q108, 113, 114			
	iF 00 55 60	Diode	1SS82	ダイオード	D111, 112, 115			
	iF 00 34 50	〃	1SS133	〃	D120, 125		B, H	
	iF 00 34 50	〃	1SS133	〃	D101, 104 ～ 108, 130			
	iF 00 34 50	〃	1SS133	〃	D103		C, R, A	
	iH 00 11 60	Diode Bridge	4D4B41	ダイオードブリッジ	D122			
	iH 00 09 90	〃	2B4B41	〃	D118			
	iF 01 07 10	Zener Diode	MTZ5.6A	ツェナーダイオード	D109			
	iF 01 07 90	〃	MTZ7.5A	〃	D110			
	iF 01 08 70	〃	MTZ9.1C	〃	D117			
	iF 00 89 30	〃	MTZ16A	〃	D102			
	iF 01 08 60	〃	MTZ9.1B	〃	D116			
	iF 00 19 40	〃	HZ24-2	〃	D114			
	iG 05 49 00	IC	M54542	IC	IC108			
	iG 05 82 10	〃	M5218LV	〃	IC101, 111			

※New Parts（新規部品）

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
		iG 15 14 00	IC	M5226P	I C	IC109, 110			
		iG 08 92 00	〃	LC4066B	〃	IC102 ～ 106	Inter-changeable		
		iG 06 16 00	〃	μPD4066BC	〃	〃			
		iG 11 05 00	〃	M4066BP	〃	〃			
		XD 08 40 01	〃	MN4066B	〃	〃			
		XD 14 80 01	〃	BU4066B	〃	〃			
		XA 54 90 01	〃	LB1294	〃	IC112			
		XD 62 70 01	〃	LC6505C-3525	〃	IC107			
		iX 60 35 80	Transistor	2SA1358	トランジスター	Q129, 130	Inter-changeable		
		iX 60 35 90	〃	2SC3421	〃	Q125, 126			
		KA 90 63 80	Switch	5MEVQ-QRB-04M	ライトタッチスイッチ	SW101	Inter-changeable	C, R, A	
		VE 32 73 00	Tact Switch	KHH-MA901	タクトスイッチ	〃		〃	
※		VF 39 98 00	Push Switch	2-2	プッシュスイッチ	SW102			
		GD 90 04 70	Output coil	1.7μH	アウトプットコイル	L101, 102			
		GG 00 07 00	Ceramic Resonator	FCR-400K	セラミック振動子	XL101			
		KC 00 19 40	Relay	DH24D2-OTM	リレー	RY101	Inter-changeable		
		KC 00 20 00	〃	JR2a-DC24V	〃	〃			
		VD 85 31 00	Remote Control Receiver Unit	GP1U501	リモコン受光ユニット	U101			
		VC 36 44 00	Pin Jack	2P	ピンジャック	PJ105, 106			
		LB 40 10 30	〃	4P	〃	PJ102 ～ 104			
		LB 40 10 50	〃	4P	〃	PJ101			
		LB 30 17 60	Jack, Head Phone		ヘッドホンジャック	JK102			
		LB 10 07 30	Mini Jack		ミニジャック	JK101			
		LB 50 07 10	ST Connector Socket	5P	ST コネクターソケット	CB101			
		LB 60 83 90	〃	6P	〃	CB102			
		KB 00 03 60	Fuse	T3.0A 250V	ヒューズ	F101, 102		R	
		KB 00 07 60	〃	T3.15A 250V	〃	〃		A, B, H	
		KB 00 26 50	〃	3A 250V	〃	〃		C	
		VF 21 63 00	〃	2.5A 250V	〃	F103, 104		C	
		KB 00 04 20	〃	T2.5A 250V	〃	〃		R	
		KB 00 06 90	〃	T2.5A 250V	〃	〃		A, B, H	
		LA 00 20 00	Lapping Terminal	P=7.5 2P i-Type	ラッピング端子板				
		LA 00 21 20	〃	P=5 2P i-Type	〃				
		VB 84 59 00	Speaker Terminal	8P	スピーカー端子				
		VA 82 15 00	Radiator		ラジエター				
		LB 20 18 80	Holder Pin		ホルダーピン				
		BB 06 95 10	Ground Metal		ランド金具				
		BA 08 40 00	Heat Sink		放熱器				
※		VF 45 32 00	Radiator/D		ラジエター			H	
		Ei 33 00 86	Bind Tapping Screw	3 x 8 FCM3-Bℓ	バインドタッピングネジ		PACK		
		EZ 00 13 50	Cup Screw	3 x 14 FCM3-Bℓ	カップスクリュー(Bタイト)			C	

※New Parts（新規部品）

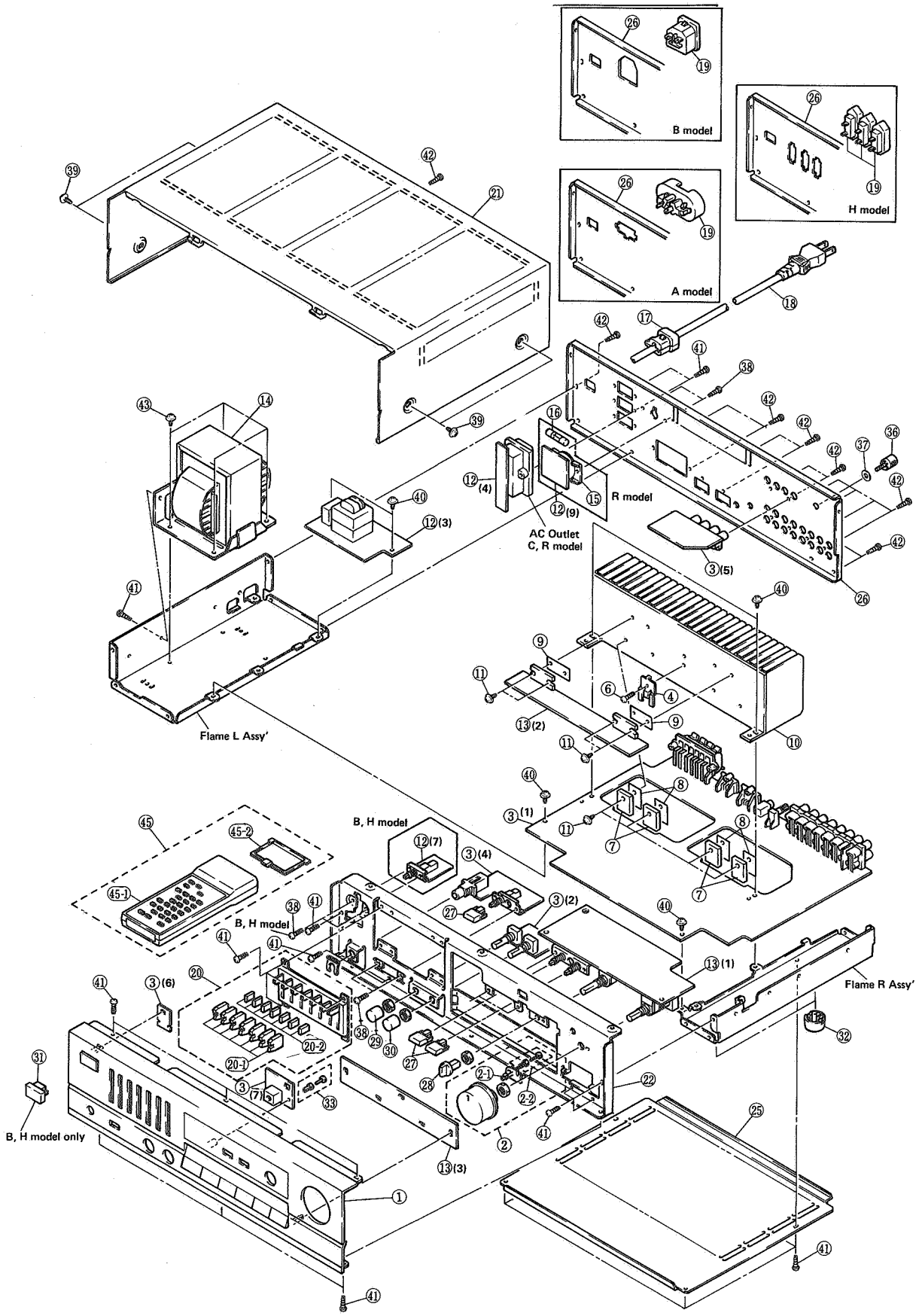
Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	NA 09 63 70	***Sub Circuit Board***		サブシート		AV-33	C	
	NA 09 63 80	〃		〃		〃	R	
	NA 09 63 90	〃		〃		〃	A	
	NA 09 64 00	〃		〃		〃	B	
	NA 09 64 10	〃		〃		〃	H	
	Fi 51 41 00	Ceramic Cap.	0.01 μF	セラコン	C408			
	Fi 55 41 00	〃	0.01 μF 50V	〃	C410		B, H	
	Ui 33 71 00	Electrolytic Cap.	10 μF 16V	ケミコン	C405		R	
	Ui 33 74 70	〃	47 μF 16V	〃	C406		R	
	UJ 14 84 70	〃	470 μF 25V	〃	C407		C, R, A, B	
	UW 67 84 70	〃	470 μF 63V	〃	〃		R	
	iF 00 34 50	Diode	1SS133	ダイオード	D419			
	iH 00 14 30	〃	1SR35-100AT-93X	〃	D421			
	iF 00 88 70	Zener Diode	MTZ12C	ツェナーダイオード	D420		R	
	VD 95 26 00	LED	SLR-34URC3F	LED	D422		B, H	
	iC 18 15 20	Transistor	2SC1815 (Y)	トランジスター	Q401			
	iC 22 40 00		2SC2240 (GR, BL)		Q402		R	
	VB 22 27 00		2SD1485		Q403		R	
	KA 80 33 20	Push Switch	2-2NS	プッシュスイッチ	SW407		B, H	
	VE 56 89 00	Relay	DH12D1-O(M)	リレー	RY401			
	KB 00 07 60	Fuse	T3.15A 250V	ヒューズ	F401		A, B	
	KB 00 13 00	〃	T7A 250V	〃	〃		R	
	KB 00 15 20	〃	7A 125V	〃	〃		C	
	KB 00 06 90	〃	T2.5A 250V	〃	F401, 402		H	
	XC 08 20 01	Power Transformer		電源トランス	T401		R	
	XC 08 30 01	〃			〃		C	
	XC 08 40 01	〃		〃	〃		A, B, H	
	LB 20 18 80	Holder Pin	PC-FHI	ヒューズホルダーピン				
	LA 00 21 40	Lapping Terminal	2P, P=10, i-Type	ラッピング端子				
	LA 00 38 70	〃	2P, P=10, WTM-Type	〃				
	LB 60 81 70	AC Outlet		ACアウトレット			C, R	
	CB 64 46 70	Cover, capacitor		コンデンサーカバー			H	
	NA 09 64 20	***Surround Circuit Board***		サラウンドシート		AV-33		
	FG 21 12 20	Ceramic Cap.	22pF 50V	セラコン	C505			
	FG 21 14 70	〃	47pF 50V	〃	C551, 552, 571, 572			
	FG 21 16 80	〃	68pF 50V	〃	C527			
	FG 21 22 20	〃	220pF 50V	〃	C521			
	FG 21 23 30	〃	330pF 50V	〃	C547, 548			
	FG 21 21 80	〃	180pF 50V	〃	C526			
	FG 21 26 80	〃	680pF 50V	〃	C509, 514, 516, 518			
	FG 24 44 70	〃	0.047 μF 50V	〃	C557, 558			
	FA 15 31 20	Mylar Cap.	1200pF 50V	マイラーコン	C517			

※New Parts（新規部品）

Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	FA 15 31 60	Mylar Cap.	1600pF 50V	マイラーコン	C528			
	FA 15 33 30	〃	3300pF 50V	〃	C515, 519			
	FA 15 34 70	〃	4700pF 50V	〃	C539			
	FA 15 35 60	〃	5600pF 50V	〃	C510, 532			
	FA 15 42 70	〃	0.027μF 50V	〃	C506, 507, 536			
	FA 15 43 30	〃	0.033μF 50V	〃	C511, 535			
	FA 15 44 70	〃	0.047μF 50V	〃	C508			
	FA 15 51 00	〃	0.1μF 50V	〃	C553 ~ 556			
	Ui 91 74 70	Electrolytic Cap.	47μF 6.3V	ケミコン	C520			
	UJ 12 84 70	〃	470μF 10V	〃	C502			
	Ui 83 72 20	〃	22μF 16V	〃	C537			
	Ui 93 74 70	〃	47μF 16V	〃	C524, 573			
	Ui 93 81 00	〃	100μF 16V	〃	C538			
	Ui 93 83 30	〃	330μF 16V	〃	C522, 541			
	Ui 24 64 70	〃	4.7μF 25V	〃	C523			
	UJ 14 72 20	〃	22μF 25V	〃	C545, 546, 549, 550			
	Ui 36 51 00	〃	0.1μF 50V	〃	C534			
	Ui 36 53 30	〃	0.33μF 50V	〃	C533			
	Ui 36 61 00	〃	1μF 50V	〃	C501, 503, 504, 512, 513, 525, 529, 530, 531, 540, 542			
	HV 45 41 00	Flame Proof Carbon Resistor	10Ω 1/4W	不燃化カーボン	R581, 582			
	HV 45 51 00	〃	100Ω 1/4W	〃	R501, 540, 553			
	VB 86 15 00	Pre-Set Potentiometer	B10kΩ	半固定抵抗	VR503			
	VF 39 99 00	Push Switch	2-2NS	プッシュスイッチ	SW501			
	VE 29 92 00	Potentiometer	20kB x 2	可変抵抗	VR502			
	VE 29 96 00	Potentiometer with Motor	100kY x 4	モーター付可変抵抗	VR501			
	iC 18 15 20	Transistor	2SC1815 (Y)	トランジスター	Q501, 502, 505			
	iX 60 42 00	〃	2SC2878 (A, B)	〃	Q503, 504			
	iF 00 34 50	Diode	1SS133	ダイオード	D501, 502			
	iF 00 87 30	LED RED	SLR-34URC3H3	LED	D401 ~ 406			
	iG 03 75 00	IC	MN3101	IC	IC503			
	XC 10 30 01	〃	MN3007Y	〃	IC504			
	XD 38 60 01	〃	LA2730	〃	IC505			
	iG 07 68 00	〃	NJM4558S	〃	IC502, 508			
	XB 24 70 01	〃	μPC4570HA	〃	IC501			
	iG 10 27 00	〃	μPC1188H	〃	IC506, 507			
	VD 00 45 00	Base Pin	2P i-Type	PH ベースピン	CB503, 504			
	VD 00 46 00	〃	3P i-Type	〃	CB501			
	VD 00 47 00	〃	4P i-Type	〃	CB502			
	KA 90 63 80	Switch	5M, EVQ-QRB-04M	ライトタッチスイッチ	SW401 ~ 406	Inter-changeable		
	VE 32 73 00	Tact Switch	KHH-MA901	タクトスイッチ	〃			

※New Parts（新規部品）

EXPLODED VIEW



	Ref. No.	Part No.	Description	部品名	Remarks	Common Model	Markets	ランク
※	1	VF 49 71 00	Panel Unit	パネルユニット			C, R, A	
※	〃	VF 49 72 00	〃	〃			B, H	
	2	VE 29 83 00	Knob Unit	VR ツマミユニット				
	2-1	VD 27 06 00	LED RED SLB-15	LED	D113			
	2-2	VB 66 92 00	Plastic Rivet	プラスチックリベット				
※	3	NA 09 92 80	Main Circuit Board	メインシート			C	
※	〃	NA 09 92 90	〃	〃			R	
※	〃	NA 09 93 00	〃	〃			A	
※	〃	NA 09 93 10	〃	〃			B	
※	〃	NA 09 93 20	〃	〃			H	
	4	AA 62 87 90	Support TR	サポート TR				
	5	VF 29 86 00	Shield Plate	シールドプレート				
	6	EX 60 00 90	Cup Screw 3 x 8 FCM3B ℓ	カップスクリュー(Bタイト)				
	7	iX 61 10 20	Transistor 2SB1347 (P, S, Q)	トランジスター	Q131, 132		C, R, A, B	
	〃	iX 61 10 30	〃 2SD2029 (P, S, Q)	〃	Q127, 128		〃	
	〃	iX 61 10 40	〃 2SB1362 (P, S, Q)	〃	Q131, 132		H	
	〃	iX 61 10 50	〃 2SD2053 (P, S, Q)	〃	Q127, 128		〃	
	8	VB 43 50 00	Sheet 19 x 24	放熱シート			B	
	〃	VC 39 72 00	〃 22 x 29	デリカシートジャンボ			C, R, A, B	
	9	iL 00 05 00	Insulation Base AC243	マイカベース				
	10	VE 24 65 00	Heat Sink	ラジエター				
	11	EZ 00 13 50	Cup Screw 3 x 14 FCM3-B ℓ	カップスクリュー(Bタイト)				
	12	NA 09 63 70	Sub Circuit Board	サブシート			C	
	〃	NA 09 63 80	〃	〃			R	
	〃	NA 09 63 90	〃	〃			A	
	〃	NA 09 64 00	〃	〃			B	
	〃	NA 09 64 10	〃	〃			H	
	13	NA 09 64 20	Surround Circuit Board	サラウンドシート				
	14	XD 61 80 01	Power Transformer	電源トランス			R	
	〃	XD 61 90 01	〃	〃			C	
	〃	XD 62 10 01	〃	〃			A, B	
	〃	XD 62 20 01	〃	〃			H	
	15	VA 93 29 00	Voltage Selector ESE-37226	電圧切換器			R	
	16	KB 00 03 70	Fuse T3.5A 250V	ヒューズ			〃	
	17	VD 77 82 00	Cord Stopper	コードストッパー			C	
	〃	VD 37 59 00	〃 222Y2271-10	〃			R, A, B, H	
	18	MG 00 22 20	Power Cord 10A 125V	電源コード			C	
	〃	MG 00 16 30	〃 6A 250V	〃			R	
	〃	MG 00 23 10	〃 7.5A 250V	〃			A	
	〃	MG 00 23 30	〃 300/300V	〃			B	
	〃	MG 00 23 20	〃 2.5A 250V	〃			H	
	19	VC 62 61 00	AC Outlet 2P	AC アウトレット			A	
	〃	VC 62 68 00	〃 2P	〃			H	
	〃	VC 62 70 00	〃 2P	〃			B	
	20	VF 49 94 00	Slide Potentiometer Block 250KBΩ x 2	スライド VR ブロック				
	20-1	CX 60 35 80	Knob	ノブ				
	20-2	CX 60 39 20	Marker	マーカー				
	21	VE 24 67 00	Top Cover	トップカバー				
	22	VE 24 68 00	Sub Chassis	サブシャシー				

※New Parts（新規部品）

	Ref. No.	Part No.	Description		部品名	Remarks	Common Model	Markets	ランク
	25	AA 62 88 20	Bottom Cover		ボトムカバー				
※	26	VF 49 84 00	Rear Panel		リヤパネル			R	
※	〃	VF 49 83 00	〃		〃			C	
※	〃	VF 49 86 00	〃		〃			B	
※	〃	VF 49 85 00	〃		〃			A	
※	〃	VF 49 87 00	〃		〃			H	
	27	CB 63 42 30	Push Button		プッシュボタン				
	28	CB 62 08 40	Switch Knob		スイッチツマミ				
	29	CB 62 60 40	Knob (B)		ツマミ (B)	BALANCE			
	30	VE 37 37 00	Knob L		ノブ L	LOUDNESS			
	31	CB 66 08 10	Button		ボタン	POWER		B, H	
	32	CB 61 03 90	Leg		レッグ				
	33	VB 66 92 00	Plastic Rivet		プラスチックリベット				
	34	CB 65 34 00	Cushion		クッション				
	35	VF 20 15 00	Damper		ダンパー			R, A, B, H	
	36	AA 62 73 10	GND Terminal	STG3 x 13	GND ターミナル				
	37	EW 40 36 50	Sems Washer	φ10-φ3.6 t=0.8 FNM 3-3g	鉄セムス座金				
	38	ED 33 00 66	Binding Head Screw	M3 x 6 FCM3B ℓ	バインド小ネジ	PACK			
	39	EZ 00 13 20	Cup Screw	4 x 8 FCM3B ℓ	カップスクリュー(Sタイト)				
	40	EK 03 00 60	BW Head Tapping Screw	3 x 8 φ10ZMC2-Y	BW タッピングネジ				
	41	Ei 33 00 86	Binding Head Tapping Screw	3 x 8 FCM3B ℓ	バインドヘッドBタイトネジ	PACK			
	42	EZ 00 04 60	Bind Head Bonding Screw	3 x 8 FCM3B ℓ	ボンディングBタイトネジ				
	43	EX 60 08 50	Cup Screw	4 x 10 FCM3B ℓ	カップスクリュー(Sタイト)				
	44	CB 06 92 50	Binding Tie	BK-1	インシュロックタイ				
※	45	VE 42 74 00	Remote Control Transmitter	RS-AVX20	リモートコントローラートランスミッター				
※	45-1	CX 60 35 50	Case Ass'y		ケース Ass'y				
	45-2	CX 60 30 80	Lid		電池蓋				
			Accessories		付属品				
※		VE 42 74 00	Remote Control Transmitter	RS-AVX20	リモートコントローラートランスミッター				
			Battery	AA (R06)	電池				

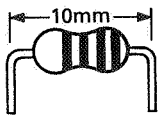
※New Parts（新規部品）

Part 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.
1.0Ω	HJ35 3100	※	12KΩ	HJ35 7120	HF85 7120
1.8 〃	HJ35 3180	※	15 〃	HJ35 7150	HF85 7150
2.2 〃	HJ35 3220	HF85 3220	18 〃	HJ35 7180	HF85 7180
3.3 〃	HJ35 3330	HF85 3330	22 〃	HJ35 7220	HF85 7220
4.7 〃	HJ35 3470	HF85 3470	27 〃	HJ35 7270	HF85 7270
5.6 〃	HJ35 3560	HF85 3560	33 〃	HJ35 7330	HF85 7330
10 〃	HJ35 4100	HF85 4100	39 〃	HJ35 7390	HF85 7390
15 〃	HJ35 4150	HF85 4150	47 〃	HJ35 7470	HF85 7470
22 〃	HJ35 4220	HF85 4220	56 〃	HJ35 7560	HF85 7560
27 〃	HJ35 4270	HF85 4270	68 〃	HJ35 7680	HF85 7680
33 〃	HJ35 4330	HF85 4330	82 〃	HJ35 7820	HF85 7820
39 〃	HJ35 4390	HF85 4390	91 〃	HJ35 7910	HF85 7910
47 〃	HJ35 4470	HF85 4470	100 〃	HJ35 8100	HF85 8100
56 〃	HJ35 4560	HF85 4560	120 〃	HJ35 8120	HF85 8120
68 〃	HJ35 4680	HF85 4680	150 〃	HJ35 8150	HF85 8150
82 〃	HJ35 4820	HF85 4820	180 〃	HJ35 8180	HF85 8180
100 〃	HJ35 5100	HF85 5100	220 〃	HJ35 8220	HF85 8220
110 〃	HJ35 5110	HF85 5100	270 〃	HJ35 8270	HF85 8270
120 〃	HJ35 5120	HF85 5120	330 〃	HJ35 8330	HF85 8330
150 〃	HJ35 5150	HF85 5150	390 〃	HJ35 8390	HF85 8390
160 〃	HJ35 5160	※	470 〃	HJ35 8470	HF85 8470
180 〃	HJ35 5180	HF85 5180	560 〃	HJ35 8560	HF85 8560
220 〃	HJ35 5220	HF85 5220	680 〃	HJ35 8680	HF85 8680
270 〃	HJ35 5270	HF85 5270	820 〃	HJ35 8820	HF85 8820
330 〃	HJ35 5330	HF85 5330	1.0MΩ	HJ35 9100	HF85 9100
390 〃	HJ35 5390	HF85 5390	1.2 〃	HJ35 9120	※
470 〃	HJ35 5470	HF85 5470	1.5 〃	HJ35 9150	HF85 9150
510 〃	※	HF85 5510	1.8 〃	HJ35 9180	HF85 9180
560 〃	HJ35 5560	HF85 5560	2.2 〃	HJ35 9220	HF85 9220
680 〃	HJ35 5680	HF85 5680	3.3 〃	HJ35 9330	HF85 9330
820 〃	HJ35 5820	HF85 5820	3.9 〃	HJ35 9390	※
910 〃	HJ35 5910	HF85 5910	4.7 〃	HJ35 9470	※
1.0KΩ	HJ35 6100	HF85 6100			
1.2 〃	HJ35 6120	HF85 6120			
1.5 〃	HJ35 6150	HF85 6150			
1.8 〃	HJ35 6180	HF85 6180			
2.0 〃	HJ35 6200	HF85 6200			
2.2 〃	HJ35 6220	HF85 6220			
2.4 〃	HJ35 6240	HF85 6240			
2.7 〃	HJ35 6270	HF85 6270			
3.0 〃	HJ35 6300	HF85 6300			
3.3 〃	HJ35 6330	HF85 6330			
3.6 〃	HJ35 6360	HF85 6360			
3.9 〃	HJ35 6390	HF85 6390			
4.7 〃	HJ35 6470	HF85 6470			
5.1 〃	HJ35 6510	HF85 6510			
5.6 〃	HJ35 6560	HF85 6560			
6.8 〃	HJ35 6680	HF85 6680			
8.2 〃	HJ35 6820	HF85 6820			
9.1 〃	HJ35 6910	HF85 6910			
10 〃	HJ35 7100	HF85 7100			

1/4W Type

HJ35 ○○○○



1/6W Type

HF85 ○○○○