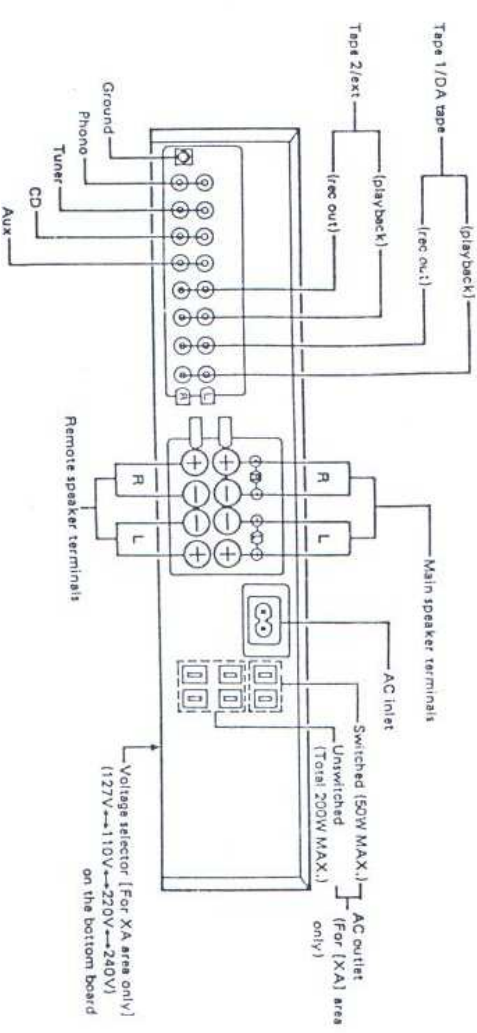
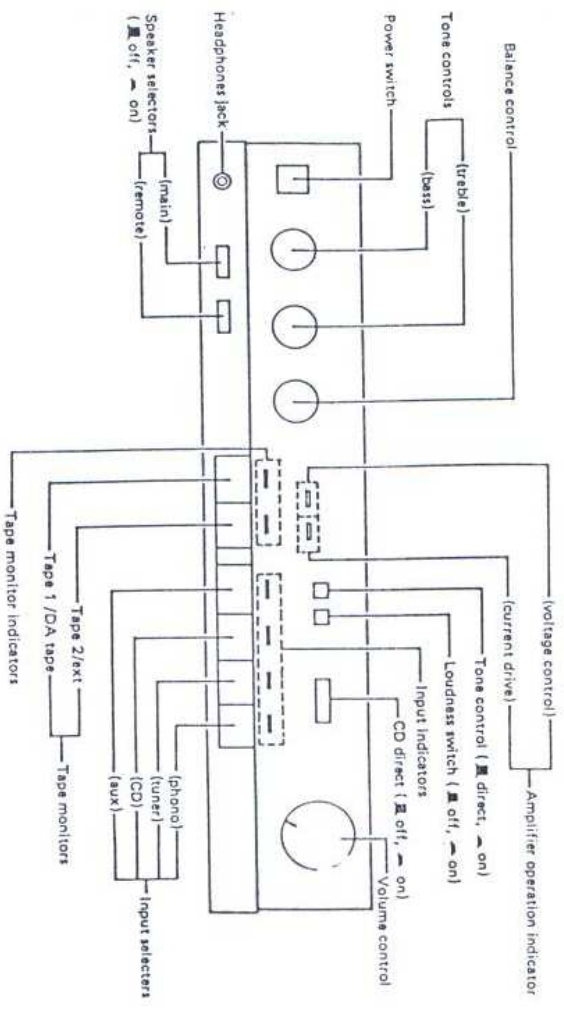


CONTENTS

LOCATION OF CONTROLS	Page	PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM	Page
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BEFORE REPAIR AND ADJUSTMENT	3	BLOCK DIAGRAM	11 ~ 15
DISASSEMBLY INSTRUCTIONS	4, 5	REPLACEMENT PARTS LIST	18 ~ 20
MEASUREMENTS AND ADJUSTMENTS	6	EXPLODED VIEW	21, 22

LOCATION OF CONTROLS



- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.
- [XA] area is provided with voltage selector and AC outlets.
- 240V (50/60Hz) for Australia and United Kingdom.
- 220V (50/60Hz) for Continental Europe.
- 110V/127V/220V/240V (50/60Hz) for other [XA] area.
- Phono input capacitance is about 100pF.

Suggestions

- If noise is very annoying while listening to an FM or AM broadcast, switch OFF the video disc player, compact-disc player and turntable.
- Switch OFF the video disc player power if noise is excessive while listening to an audio tape, compact disc or regular phono disc.

Notes:

- To record sounds from a compact disc, press the input selector marked "CD". The compact-disc-direct switch is for listening only. It cannot be used to select the compact disc as a recording source.
- Do not press the left tape-monitor selector to the "tape 1/DA tape" position while two tape decks are being used for recording or while tape deck 2 is being used for recording. This will cause interruptions in the sound and change the recorded signal.

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

BEFORE REPAIR AND ADJUSTMENT

- (1) Turn off the power supply. Using a 10Ω, 5W resistor, shortcircuit both ends of power supply capacitors (C503, C504, 6800μF) in order to discharge the voltage.
- (2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current	50/60Hz 260 ~ 380mA	230 ~ 350mA	110 ~ 230mA	80 ~ 200mA

DISASSEMBLY INSTRUCTIONS

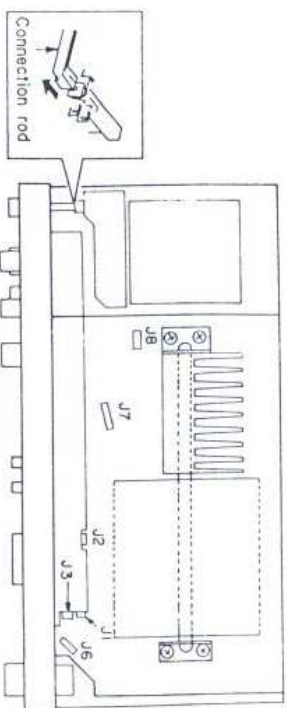
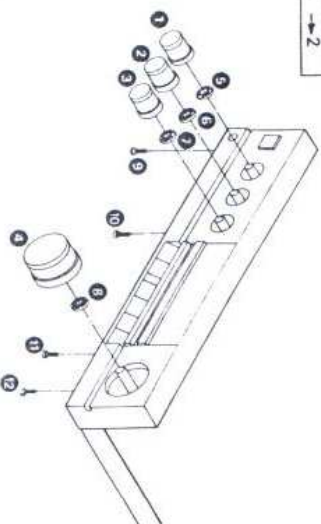
"ATTENTION SERVICER"
SOME CHASSIS COMPONENTS MAY HAVE SHARP EDGES.
BE CAREFUL WHEN DISASSEMBLING AND SERVICING.

Ref. No. 1 How to remove the cabinet

- Procedure 1
• Remove the 5 screws.

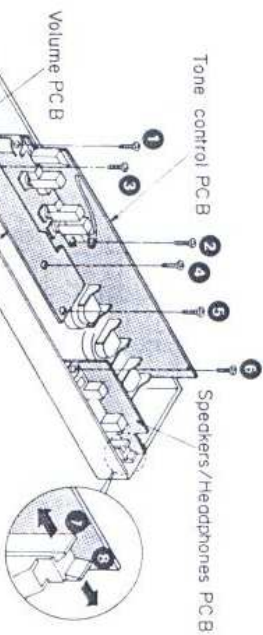
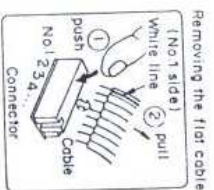
Ref. No. 2 How to remove the front panel

- Procedure 1 → 2
1. Remove the 4 knots (1 ~ 4).
2. Remove the 4 nuts (5 ~ 8).
3. Remove the 4 screws (9 ~ 12).
4. Remove the connection rod.
5. Remove the connector (J1, J2, J3, J8).
6. Remove the flat cable (J6, J7).



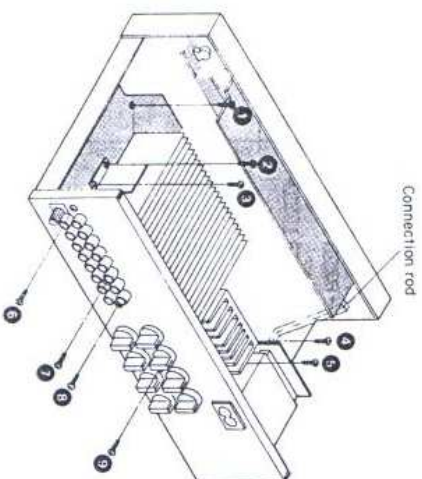
Ref. No. 3 How to remove the P.C.B.

- Procedure 1 → 2 → 3
1. Remove the 2 screws (1, 2).
2. Remove the tone control and volume P.C.B.
3. Remove the 3 screws (3 ~ 5).
4. Remove the LED P.C.B.
5. Remove the 1 screw (6).
6. Push the 2 tabs (7, 8).
7. Remove the speaker/headphones P.C.B.



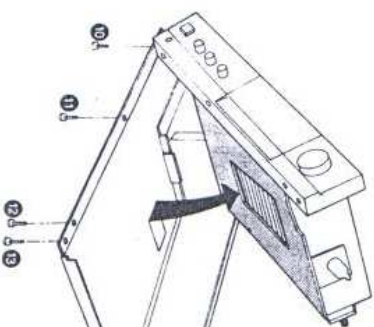
Ref. No. 4 How to remove the main P.C.B.

- Procedure 1 → 4
1. Remove the 13 screws (1 ~ 13).
2. Remove the connection rod.
3. Remove the main P.C.B.



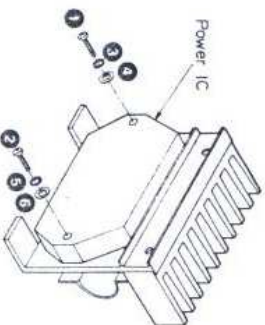
Ref. No. 5 How to remove the power I.C.

- Procedure 1 → 4 → 5



1. Unsolder the power I.C. (1, 2).
2. Remove the 2 screws (3, 4).
3. Remove the 4 washer (5 ~ 8).

• When mounting the power I.C., apply silicon thermal compound (SZZOL-15 or equivalent) to the rear of the power I.C.



Service Manual

Amplifier

SU-V45A

Supplement

Color

(S) Silver Type
(K) Black Type

Area

Color	Area
(S)(K)	(EG) . . . F.R. Germany

Please file and use this supplement manual together with the service manual for Model No. SU-V45A, Order No. HAD8704084C8.

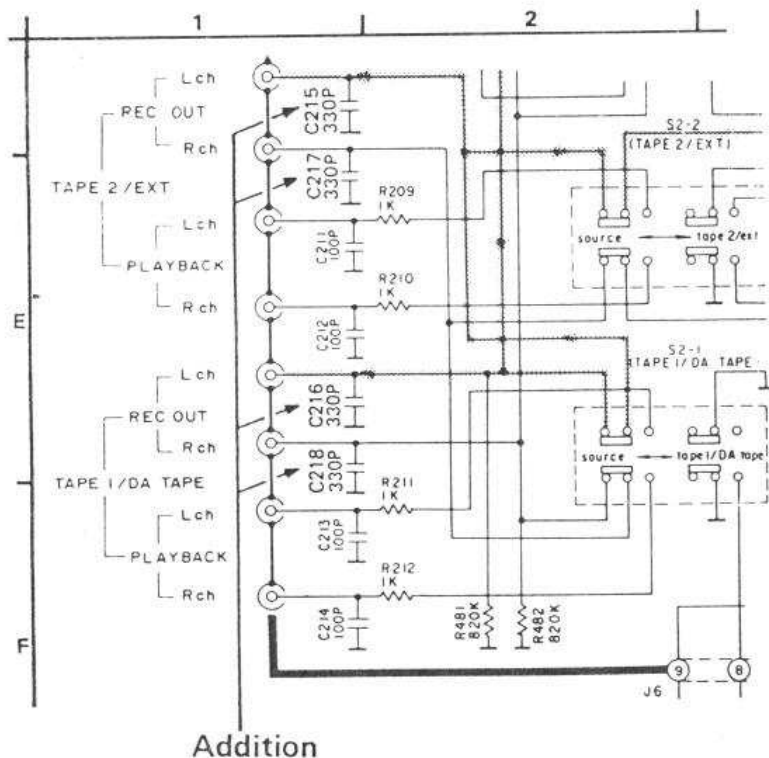
Note: This supplement has been issued to inform you that the rec out and headphones terminal circuits have been changed in units having serial number suffixes "B" or later.

CHANGES

SCHEMATIC DIAGRAM

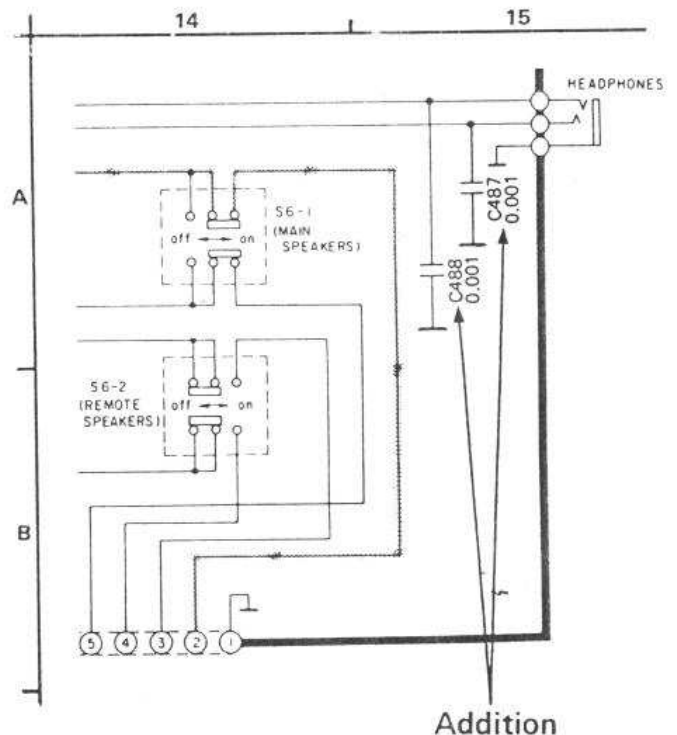
• Rec out terminal circuit

C215 ~ C218 have been added to improve the interference radiation characteristics.



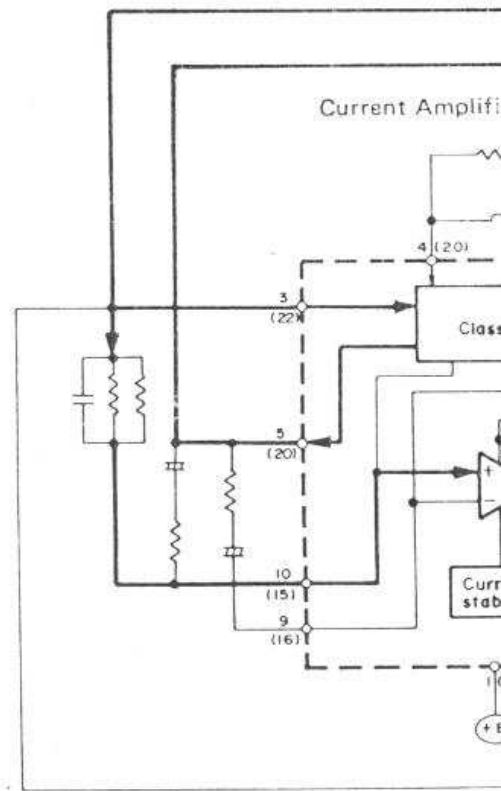
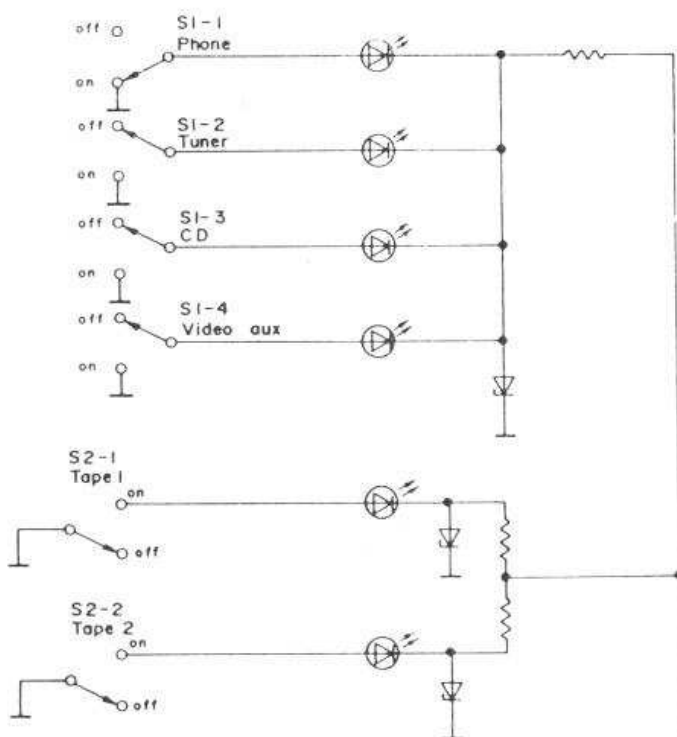
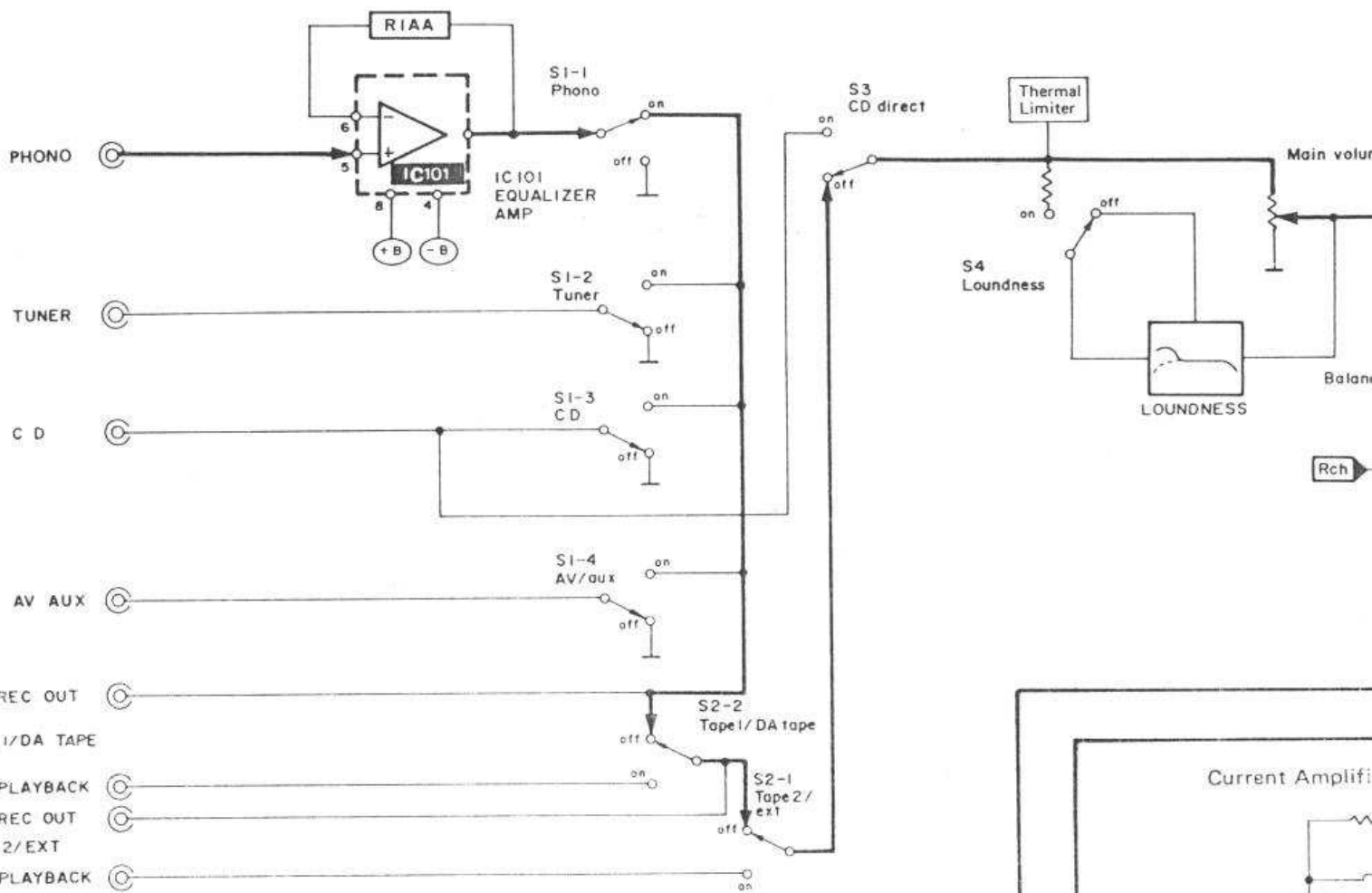
• Headphones terminal circuit

C487 and C488 have been added to improve the interference radiation characteristics.



Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan



Service Manual

Stereo Integrated Amplifier

Amplifier

SU-V45A



Color

(S)Silver Type
(K)Black Type

Area

Color	Area
(S)(K)	(E)Continental Europe.
(S)(K)	(Ei)Italy.
(S)(K)	(EG)F.R.Germany.
(S)(K)	(EB)Belgium.
(S)(K)	(EK)United Kingdom.
(S)(K)	(EF)France.
(S)(K)	(EH)Holland.
(S)(K)	(XL)Australia.
(S)(K)	(XA)Asia, Latin America, Middle Near East, Africa and Oceania.

SPECIFICATIONS (DIN 45 500)

■ **AMPLIFIER SECTION**

1 kHz continuous power output both channels driven	2×85 W (4Ω)
20 Hz~20 kHz continuous power output both channels driven	2×45 W (8Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz:	0.003% (8Ω)
rated power at 1 kHz	0.005% (4Ω)
	0.0009% (8Ω)
half power at 20 Hz~20 kHz	0.003% (8Ω)
half power at 1 kHz	0.002% (4Ω)
	0.0008% (8Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 8Ω	0.007%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.007%
Power bandwidth	
both channels driven, -3 dB	5 Hz~60 kHz (4Ω, 0.08%) 5 Hz~65 kHz (8Ω, 0.05%)
Residual hum and noise	0.8 mV
Damping factor	30 (4Ω), 60 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47 kΩ
TUNER, CD, AUX, TAPE 1/DA TAPE, TAPE 2/EXT	150 mV/22 kΩ
PHONO maximum input voltage (1 kHz, RMS)	160 mV
S/N	
rated power (4Ω)	
PHONO	76 dB (81 dB: IHF, A)
TUNER, CD, AUX, TAPE 1/DA TAPE, TAPE 2/EXT	91 dB (100 dB: IHF, A)
Frequency response	
PHONO	RIAA standard curve, ±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX, TAPE 1/DA TAPE, TAPE 2/EXT	5 Hz~120 kHz (-3 dB) +0, -0.2 dB (20 Hz~20 kHz)

Tone controls

BASS	50 Hz, +10 dB--10 dB
TREBLE	20 kHz, +10 dB--10 dB
Loudness control (volume at -30 dB)	50 Hz, +9 dB
Output voltage	
TAPE 1, 2 REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, 1 kHz	60 dB
Headphones output level and impedance	450 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

■ **GENERAL**

Power consumption	420 W
Power supply	
For United Kingdom and Australia	AC 50 Hz/60 Hz, 240 V
For continental Europe	AC 50 Hz/60 Hz, 220 V
For others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W×H×D)	430 × 104 × 290 mm (16-15/16" × 4-3/32" × 11-7/16")
Weight	6.7 kg (14.8 lb.)

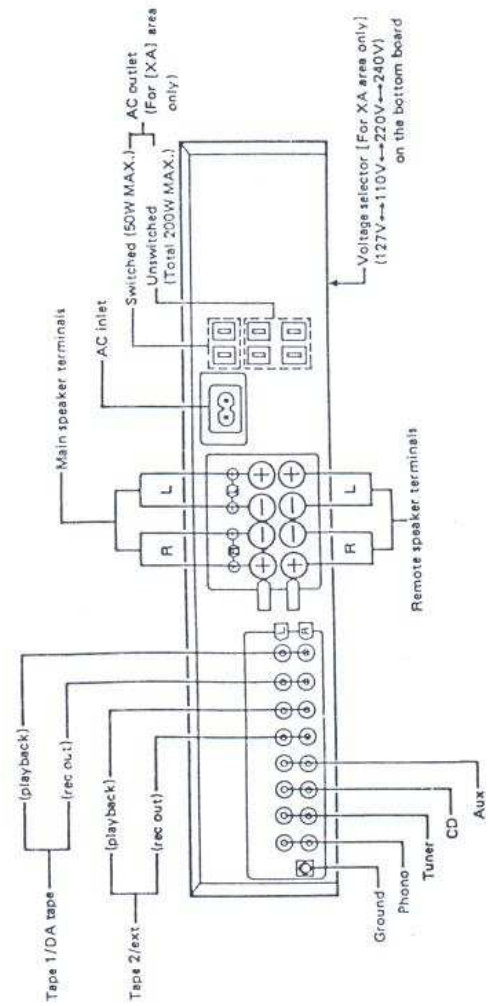
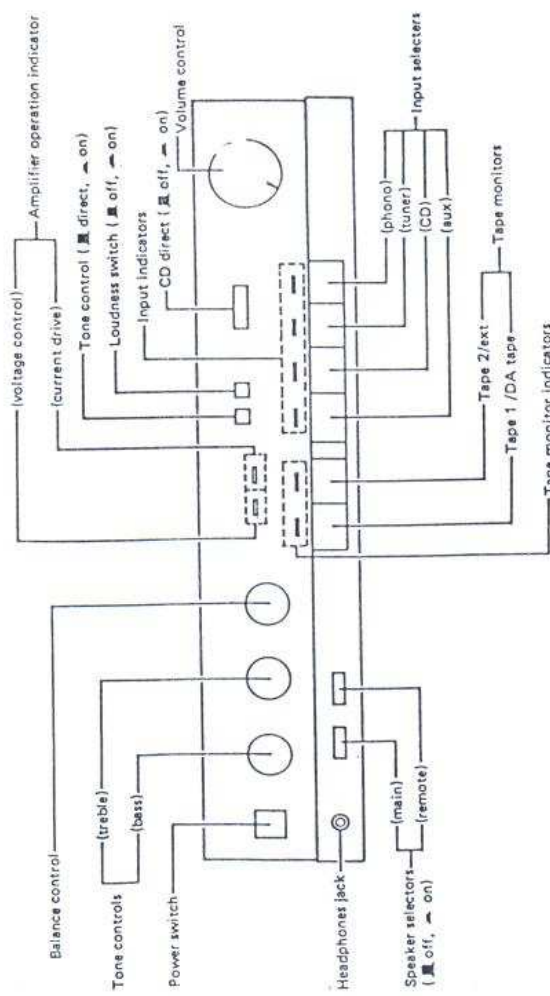
Notes:

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

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LOCATION OF CONTROLS	Page
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DISASSEMBLY INSTRUCTIONS

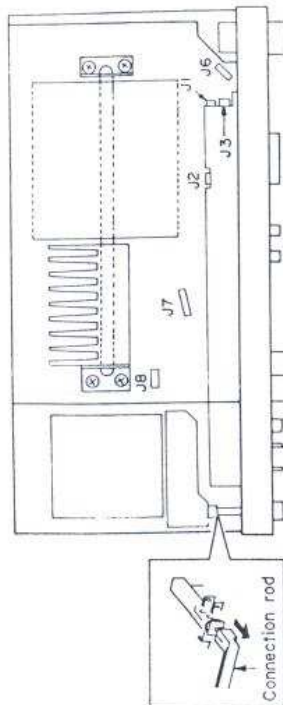
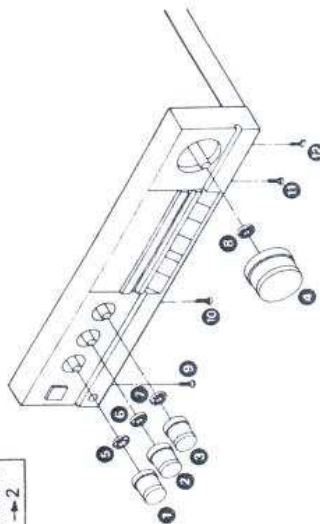
"ATTENTION SERVER"
SOME CHASSIS COMPONENTS MAY HAVE SHARP EDGES.
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Ref. No. 1 Procedure 1 → 2 How to remove the front panel

- Remove the 5 screws.

Ref. No. 2 Procedure 1 → 2 How to remove the front panel

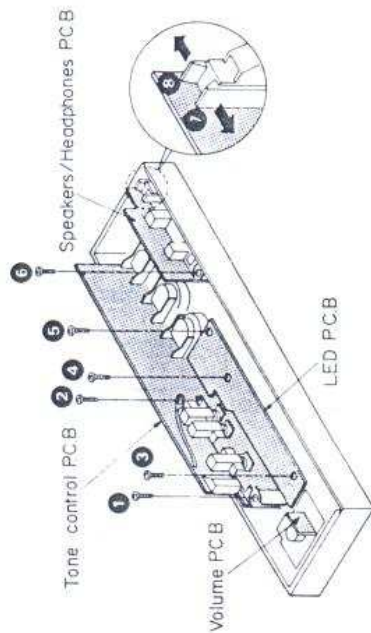
1. Remove the 4 knobs (1 ~ 4).
2. Remove the 4 nuts (5 ~ 8).
3. Remove the 4 screws (9 ~ 12).
4. Remove the connection rod.
5. Remove the connector (J1, J2, J3, J8).
6. Remove the flat cable (J6, J7).



Removing the flat cable
(No 1 side)
White line (2) pull
push
Cable
Connector
No. 1 2 3 4

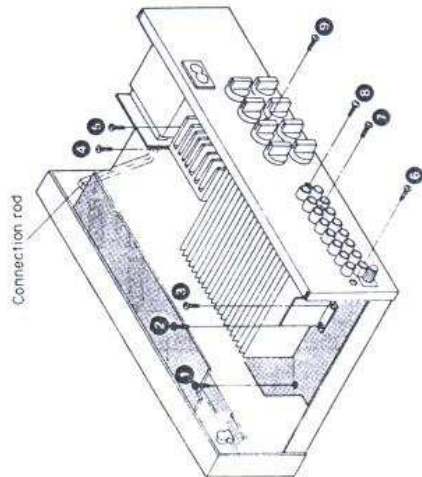
Ref. No. 3 Procedure 1 → 2 → 3 How to remove the P.C.B.

1. Remove the 2 screws (1, 2).
2. Remove the tone control and volume P.C.B.
3. Remove the 3 screws (3 ~ 5).
4. Remove the LED P.C.B.
5. Remove the 1 screw (6).
6. Push the 2 tabs (7, 8).
7. Remove the speakers/headphones P.C.B.



Ref. No. 4 Procedure 1 → 4 How to remove the main P.C.B.

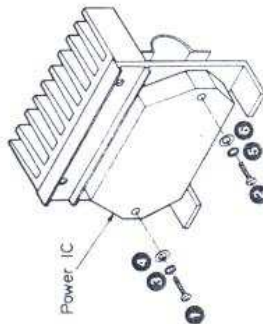
1. Remove the 13 screws (1 ~ 13).
2. Remove the connection rod.
3. Remove the main P.C.B.



Ref. No. 5 Procedure 1 → 4 → 5 How to remove the power IC.

1. Unsolder the power IC.
2. Remove the 2 screws (1, 2).
3. Remove the 4 washer (3 ~ 6).

• When mounting the power IC, apply silicon thermal compound (SZZOL15 or equivalent) to the rear of the power IC.



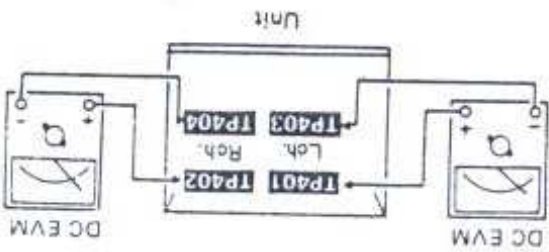
MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

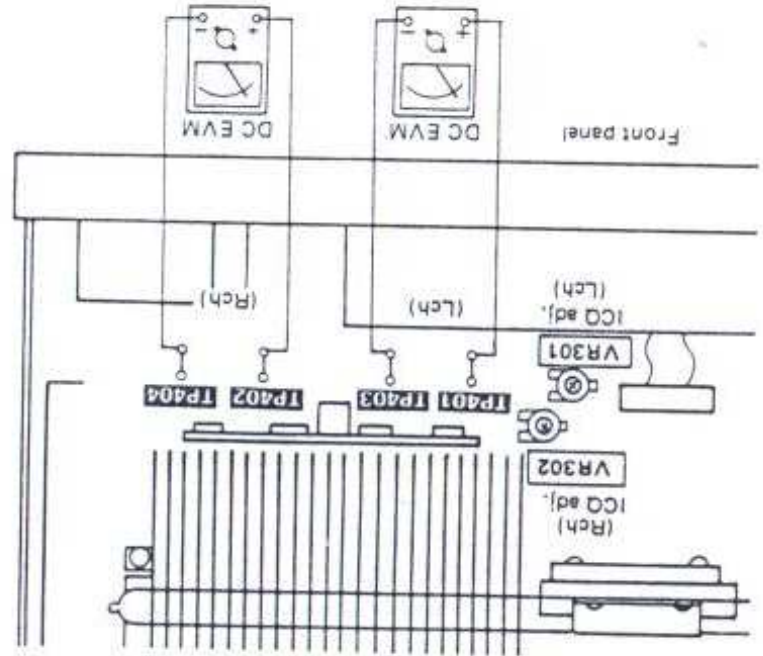
- Volume knob 0 (Minimum)
- Main speaker selector off
- Remote speaker selector off

IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure
2. Turn the ICQ control volume (VR301, VR302) counter-clockwise.
3. Turn ON the set when it is cold, and 15 sec. later, adjust VR301 and VR302 so that the voltage is 30mV. Also, check that the voltage is 18 - 47mV (standard: 44mV) after lapse of 10 - 15 minutes. (Below 50mV after lapse of 60 min.)

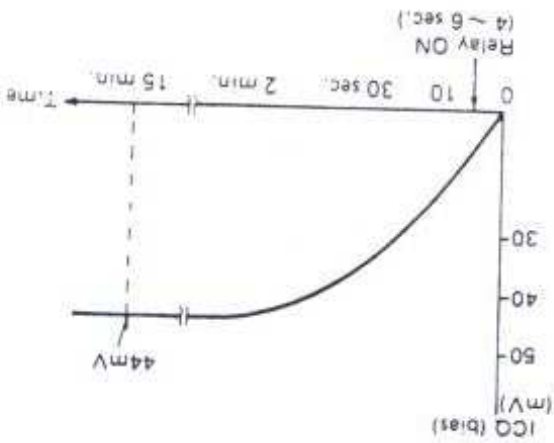


• Adjustment points



• Terminal guide of IC, transistor and diodes

<p>MA165, MA162 MA29WA SVD53V20 SVD5R1K2LF</p>	<p>MA4062M MA2150B</p>	<p>LN021315P LN014314PH1 LN064316P</p>	<p>2SA1306 2SC3298</p>	<p>2SA1309 2SC3311</p>												
<p>AN7073 9pin</p>	<p>SV14004 24pin</p>	<table border="1"> <tr><td>AN7062N</td><td>18pin</td></tr> <tr><td>ICP4570C</td><td>8pin</td></tr> <tr><td>SV1NJM2043DD</td><td>8pin</td></tr> </table>	AN7062N	18pin	ICP4570C	8pin	SV1NJM2043DD	8pin	<p>AN7073 9pin</p>	<table border="1"> <tr><td>AN7062N</td><td>18pin</td></tr> <tr><td>ICP4570C</td><td>8pin</td></tr> <tr><td>SV1NJM2043DD</td><td>8pin</td></tr> </table>	AN7062N	18pin	ICP4570C	8pin	SV1NJM2043DD	8pin
AN7062N	18pin															
ICP4570C	8pin															
SV1NJM2043DD	8pin															
AN7062N	18pin															
ICP4570C	8pin															
SV1NJM2043DD	8pin															



REPLACEMENT PARTS LIST

Notes: * Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area.

Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value
ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value
				47×10^1 (ohm)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50		M	330
Type	Voltage		Peculiarity	Value
				(33×10^0) microfarad

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : $\pm 5\%$
ERG : Metal Oxide	12 : 1/2W	F : $\pm 1\%$
ERX : Metal Film	25 : 1/4W	G : $\pm 2\%$
ERQ : Fuse Type Metal	1A : 1W	K : $\pm 10\%$
ERD [] L : Carbon (chip)	18 : 1/8W	
ERO [] K : Metal Film (chip)	S2 : 1/4W	
ERC : Solid	S1 : 1/2W	
	2F : 1/4W	
	50 : 1/2W	
	2A : 2W	

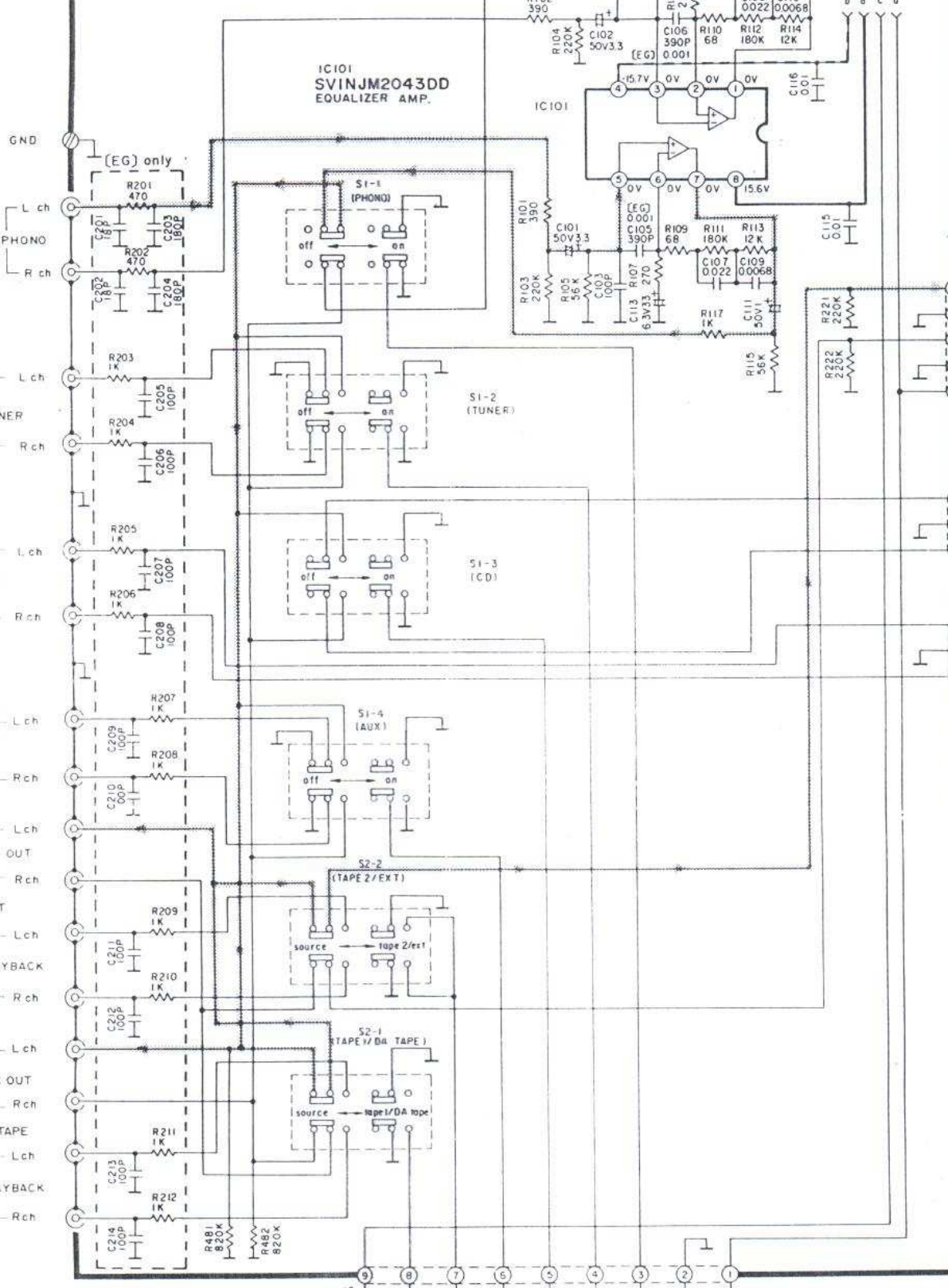
Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V	C : $\pm 0.25\mu\text{F}$
ECCD : Ceramic	1A : 10V	J : $\pm 5\%$
ECKD : Ceramic	1C : 16V	K : $\pm 10\%$
ECQM : Polyester	1E : 25V	Z : $+80\%$
	1H : 50V	-20%
ECQP : Polypropylene	1V : 35V	P : $+100\%$
	50 : 50V	-0%
ECG : Ceramic	05 : 50V	M : $\pm 20\%$
ECEADDN : Non Polar Electrolytic	2H : 500V	
QCU [] : Ceramic (Chip Type)	2A : 100V	D : $\pm 0.5\mu\text{F}$
ECUX : Ceramic (Chip Type)	1 : 100V	G : $\pm 2\%$
ECF : Semiconductor	KC : 400V AC	
	KC : 125VAC (UL)	
EECW : Liquid electrolyte double layer capacitor	1J : 63V	

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
RESISTORS								
R101, R102	ERDS2TJ391	001 152 2360 6	R401, R402	FSR25TJ102T2		C101, C102	ECEA1HPS3R3	001 120 6064 3
R103, R104	ERDS2TJ224	001 152 2433 6	R403, R404	ERDS2TJ823	001 152 2456 9	C103, C104	ECCD1H101K	001 103 0341 2
R105, R106	ERDS2TJ563	001 152 2446 1	R405, R406	ERDS2TJ561	001 152 2364 2	C105	ECKD1H102KB	001 103 1414 8
R107, R108	ERDS2TJ271	001 152 2435 4	R407, R408	FSR25TJ272T2		(EG)		
R109, R110	ERDS2TJ680	001 152 2448 9	R409, R410	FSR25TJ823T2		C106	ECKD1H391KB	001 103 1544 9
R111, R112	ERDS2TJ184	001 152 2588 8	R413, R414	ERD25FJ470	001 152 0309 7	(E, EK, EF)		
R113, R114	ERDS2TJ123	001 152 2424 7	R415, R416	ERDS2TJ182	001 152 2352 6	(EH, EB, E1)		
R115, R116	ERDS2TJ563	001 152 2446 1	R417, R418	ERDS2TJ391	001 152 2360 6	(XL, XA)		
R117, R118	ERDS2TJ102	001 152 2346 4	R419, R420	ERD25FJ332	001 152 0287 6	C106	ECKD1H102KB	001 103 1414 8
R201, R202	ERDS2TJ471	001 152 2361 5	R421, R422	ERDS2TJ332	001 152 2357 1	(EG)		
(EG)			R423, R424	ERDS2TJ223	001 152 2432 7	C106	ECKD1H391KB	001 103 1544 9
R203, R204	ERDS2TJ102	001 152 2346 4	R425, R426	ERDS2TJ223	001 152 2432 7	(E, EK, EF)		
(EG)			R427, R428	ERD25FJ101	001 152 0214 3	(EH, EB, E1)		
R205, R206	ERDS2TJ102	001 152 2346 4	R429, R430	ERD25FJ101	001 152 0214 3	(XL, XA)		
(EG)			R431, R432	ERDS2TJ332	001 152 2357 1	C107, C108	ECQM1H223JZ	001 106 0739 9
R207, R208	ERDS2TJ102	001 152 2346 4	R433, R434	ERD25FJ2R2	001 152 0251 8	C109, C110	ECQM1H682JZ	001 106 0832 3
(EG)			R435, R436	ERD25FJ2R2	001 152 0251 8	C111, C112	ECEA1HPS010	001 120 6063 4
R209, R210	ERDS2TJ102	001 152 2346 4	R437, R438	ERDS2TKF4220	001 151 5327 2	C113, C114	ECEA0JU330	001 120 3162 4
(EG)			R441, R442	ERDS2TJ101	001 152 2421 0	C115, C116	ECKD1H103PF	001 103 1449 7
R211, R212	ERDS2TJ102	001 152 2346 4	R443, R444	ERDS2TJ101	001 152 2421 0	C201, C202	ECCD1H180KC	001 103 0448 2
(EG)			R445, R446	ERD2FCG271	001 152 6537 3	(EG)		
R221, R222	ERDS2TJ224	001 152 2433 6	R447, R448	ERDS2TJ271	001 152 2435 4	C203, C204	ECCD1H181K	001 103 0466 0
R230, R231	ERDS2TJ331	001 152 2356 2	R449, R450	ERD25FJ100	001 152 0213 4	(EG)		
R232	ERDS2TJ331	001 152 2356 2	R451, R452	ERDS1FJ100	001 152 2612 5	C205, C206	ECCD1H101K	001 103 0341 2
R233, R234	ERDS2TJ391	001 152 2360 6	R453, R454	ERDS2TJ153	001 152 2351 7	(EG)		
R235	ERDS2TJ331	001 152 2356 2	R455, R456	ERDS2TJ472	001 152 2362 4	C207, C208	ECCD1H101K	001 103 0341 2
R301, R302	FSR25TJ272T2		R457, R458	ERG2SJ331	001 151 3570 9	(EG)		
R303, R304	ERDS2TJ473	001 152 2363 3	R461, R462	ERDS2TJ562	001 152 2445 2	C209, C210	ECCD1H101K	001 103 0341 2
R305, R306	ERDS2TJ183	001 152 2429 2	R470	ERDS2TJ473	001 152 2363 3	(EG)		
R307, R308	FSR25TJ561T2		R481, R482	ERDS2TJ824	001 152 2457 8	C211, C212	ECCD1H101K	001 103 0341 2
R309, R310	ERDS2TJ154	001 152 2427 4	R501 Δ	ERG2SJ681	001 151 3164 9	(EG)		
R311, R312	ERDS2TJ224	001 152 2433 6	R502 Δ	ERG1ANJ471	001 151 0071 5	C213, C214	ECCD1H101K	001 103 0341 2
R313, R314	ERDS2TJ224	001 152 2433 6	R503, R504	ERDS2TJ473	001 152 2363 3	(EG)		
R315, R316	FSR25TJ223T2		R506	ERDS2TJ153	001 152 2351 7	C301, C302	ECQM1H563JZ	001 106 0827 0
R317, R318	FSR25TJ392T2		R507	ERDS2TJ684	001 152 2451 4	C303, C304	ECEA1HPS3R3	001 120 6064 3
R319, R320	ERDS2TJ223	001 152 2432 7	R508	ERDS2TJ822	001 152 2456 0	C305, C306	ECCD1H101K	001 103 0341 2
R321, R322	ERDS2TJ392	001 152 2439 0	R509	ERG2SJ821	001 151 4340 9	C307, C308	ECCD1H820K	001 103 0703 6
R323, R324	ERDS2TJ183	001 152 2429 2	R510	ERD2FCG470	001 152 0197 7	C309, C310	ECEA1VPS4R7	001 120 6006 7
R325, R326	ERDS2TJ562	001 152 2445 2	R521, R522 Δ	ERG2SJ561	001 151 3163 0	C311, C312	ECEA1CPS100	001 103 0597 0
R327, R328	ERDS2TJ102	001 152 2346 4	R523, R524 Δ	ERD25FJ1R0	001 152 0208 1	C313, C314	ECCD1H390K	001 106 0704 0
R329, R330	ERDS2TJ334	001 152 2438 1	R531	ERDS2TJ154	001 152 2427 4	C315, C316	ECQM1H153JZ	001 106 0852 9
CAPACITORS								
						C317, C318	ECQM1H823JZ	001 106 0852 9
						C319, C320	ECQM1H272JZ	001 106 0753 1

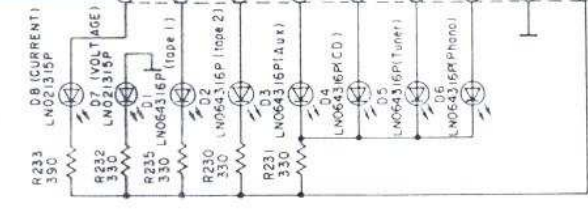
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C321, C322	ECQM1H183JZ	001 106 0723 7	C449	ECKD1H331KB	001 103 1523 4	C471, C472	ECKD1H333PF	001 103 1539 6
C323, C324	ECKD1H333PF	001 103 1539 6	(E, EK, EF)			C481, C482	ECKD1H331KB	001 103 1523 4
C351	ECEAJU101	001 120 2829 8	(EH, EB, E1)			C483, C484	ECEATHU010	001 120 2842 1
C401, C402	ECEA1HPS3R3	001 120 6064 3	(XL, XA)			C485, C486	ECEATHU010	001 120 2842 1
C403, C404	ECKD1H271KB	001 103 1515 4	C450	ECKD1H223PF	001 103 1510 9	C501	ECKD2H103PE	001 103 1626 8
C405, C406	ECCD1H220K	001 103 0703 6	(EG)			(E, EK, EF)		
C407, C408	ECKD1H681K	001 103 1590 5	C450	ECKD1H331KB	001 103 1523 4	(EH, EB, E1)		
C409, C410	ECEA1CPS220	001 120 6060 7	(E, EK, EF)			(XL, XA)		
C411, C412	ECCD1H070CC	001 103 0271 9	(EH, EB, E1)			C501	EGQE2104MS	001 106 2217 2
C413, C414	ECKD1H102KB	001 103 1414 8	(XL, XA)			(EG)		
C415, C416	ECCD1H120KC	001 103 0370 7	C451	ECKD1H223PF	001 103 1510 9	C502	ECEA16V1000	001 120 2545 7
C419, C420	ECEA1VU330	001 120 3273 8	(EG)			C503, C504	EGES1HV682UM	
C421, C422	ECKD1H333PF	001 103 1539 6	C451	ECKD1H331KB	001 103 1523 4	C505, C506	ECEA1CU100	001 120 2905 3
C423, C424	ECCD1H680K	001 103 0682 4	(E, EK, EF)			C507	ECEAJUS331	001 120 2975 9
C425, C426	ECCD1H680K	001 103 0682 4	(EH, EB, E1)			C508	EGFTD223KXL	001 108 0342 6
C427, C428	ECCD1H330K	001 103 0567 6	(XL, XA)			C509	ECEAJUS330	001 120 3162 4
C429, C430	ECCD1H560K	001 103 0660 0	C452	ECKD1H223PF	001 103 1510 9	C510	ECEA1CU100	001 120 2905 3
C431, C432	ECQM1H382JZ	001 106 0790 6	(EG)			C511	ECEA1JU220	001 120 3779 7
C433, C434	ECEA1AU101	001 120 2830 5	C452	ECKD1H331KB	001 103 1523 4	C513, C514	ECKD1H223PF	001 103 1510 9
C435, C436	ECEA1AU101	001 120 2830 5	(E, EK, EF)			C601	ECKD1H223PF	001 103 1510 9
C437, C438	ECCD1H330K	001 103 0567 6	(EH, EB, E1)			C1001	ECKD1H223PF	001 103 6921 4
C439, C440	ECKD1H333PF	001 103 1539 6	(XL, XA)			(EK)		
C441, C442	ECQM1H473JZ	001 106 0810 9	C453, C455	ECEA1HU010	001 120 2842 1	C1001	ECKD1H223PF	001 103 6921 4
C443, C444	ECQM1H473JZ	001 106 0810 9	C456	ECEA1HU010	001 120 2842 1	(E, EK, EF)		
C449	ECKD1H223PF	001 103 1510 9	C457	ECKD1H333PF	001 103 1539 6	(EH, EB, E1)		
(EG)			C461, C462	ECKD1H561KB	001 103 1576 1	(XL, XA)		

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS				L403, L404	SLQY18G-10	001 211 2185 5	CHOCK COIL
IC101	SV1JNM204300	001 060 4244 2	I.C., EQUALIZER	L405, L406	SLQY07G-40	001 211 2149 9	CHOKE COIL
IC301	SV1UPC4570C	001 060 8992 7	I.C., EQUALIZER, TONE AMP	(EG)			
IC401	AN7062N	001 060 8240 0	I.C., AMP	L407, L408	SLQY07G-40	001 211 2149 9	CHOKE COIL
IC402	SV14003	001 061 0687 4	I.C., POWER AMP	(EG)			
IC501	AN7073	001 060 8241 9	I.C., PROTECTION	L501	SLQ2650M-49	001 210 7126 1	COIL
TRANSISTORS				(EG)			
Q401, Q402	2SA1123-R	001 030 0242 8	TRANSISTOR	T1	SLT5N464	001 202 9075 3	POWER TRANSFORMER
Q403, Q404	2SC1686-QNC	001 030 2729 2	TRANSISTOR	(E, EG, EF)			
Q405, Q406	2SC3311A-Q	001 030 5279 5	TRANSISTOR	(EH, EB, E1)			
Q407, Q408	2SA1309Q	001 030 4058 0	TRANSISTOR	T1	SLT5N465	001 202 9076 2	POWER TRANSFORMER
Q409, Q410	2SC2631-Q	001 030 2505 6	TRANSISTOR	(EK, XL)			
Q411, Q412	2SA1123R	001 030 0242 8	TRANSISTOR	T1	SLT5N466	001 202 9101 8	POWER TRANSFORMER
Q413, Q414	2SC2984Y	001 030 4986 9	TRANSISTOR	(XA)			
Q415, Q416	2SA1306AY	001 030 4845 1	TRANSISTOR	FUSES			
Q417, Q418	2SC2631-Q	001 030 2505 6	TRANSISTOR	F1	XBA2C16T80	002 380 1377 1	FUSE, T1.6A250V
Q419, Q420	2SA1123R	001 030 0242 8	TRANSISTOR	(EK)			
Q421, Q422	2SA992E	001 030 0513 4	TRANSISTOR	F1	XBA2C16TR0	002 380 0408 5	FUSE, T1.6A250V
Q501	2SA992E	001 030 0513 4	TRANSISTOR	(E, EG, EF)			
DIODES				(EH, EB, E1)			
D12	MA4033M	001 032 5623 9	DIODE	(XL, XA)			
D401, D402	MA162A	001 032 0493 1	DIODE	F2	XBA2C31TR0	002 380 0415 6	FUSE 250V, T3.15A
D403, D404	MA165	001 032 0494 0	DIODE*	(XA)			
D405, D406	MA165	001 032 0494 0	DIODE	SWITCHES			
D407, D408	MA4062-M	001 032 7211 7	DIODE	S1	ESE37263	003 430 2327 2	SWITCH
D409, D410	MA165	001 032 0494 0	DIODE	S1	SSH4102	003 435 5648 1	SWITCH, INPUT
D411, D413	MA29WA	001 032 7250 0	DIODE	S2	SSH2111	003 435 5644 5	SWITCH, INPUT
D414	MA29WA	001 032 7250 0	DIODE	S3, S4	SSH3703	003 435 5647 2	SWITCH, CD
D501, D502	SVDS3V40	001 032 1347 6	RECTIFIER	S5	SSH3703	003 435 5647 2	SWITCH, TONE
D503, D504	SVDS3V40	001 032 1347 6	RECTIFIER	S6-1, S6-2	SSH2112	003 435 5645 4	SWITCH, SPEAKER
D505	SVDSR1K2	001 032 1343 0	DIODE	S8	ESB8215V	003 435 4368 4	PUSH SWITCH
(E, EG, EF)				S701	ESE37263	003 430 2327 2	SWITCH, AC VOLT
(EH, EB, E1)				(XA)			
(XL, XA)				RELAYS			
D505	SVDS2V20	001 032 1343 0	RECTIFIER	LY501	SSY126	003 450 2686 0	RELAY
(EK)				CABINET AND CHASSIS			
D507, D508	MA2150B	001 032 0499 5	DIODE	1	SBC666	016 702 5545 6	BUTTON, POWER
D509, D510	MA165	001 032 0494 0	DIODE	1	SBC666-5	016 702 6679 9	BUTTON, POWER
D513	MA165	001 032 0494 0	DIODE	2	SBN1206	016 700 1846 2	KNOB
VARIABLE RESISTORS				2	SBN1207-1	016 700 1845 3	KNOB
VR201	EWJXKA090B15	001 174 8555 1	VARIABLE RESISTOR, MAIN	3	SBN1227	016 700 2002 4	KNOB
VR202	EWJXAA008G15	001 174 8553 3	VARIABLE RESISTOR, BALANCE	3	SBN1227-1	016 700 2003 3	KNOB
VR203, VR204	EWCSA020C15	001 174 8552 4	VARIABLE RESISTOR, BASS	4	SGWUV45A-KE	016 840 7885 0	FRONT PANEL
VR301, VR302	EYVNG6AA00852	001 180 0496 1	VARIABLE RESISTOR, CONTROL	4	SGWUV45A-SE	016 840 7884 1	FRONT PANEL
THERMISTORS AND VARISTORS				4	SGX7913	016 846 3858 9	ORNAMENT
TH201, TH202	ERTD2MHL104S		THERMISTOR	5	SGL246	016 846 3894 5	ORNAMENT
TH401, TH402	ERTD2MHL104S		THERMISTOR	6	SGXUV45A-KE	016 846 3306 9	ORNAMENT
COILS AND TRANSFORMERS				7	SGXUV45A-SE		ORNAMENT
L401, L402	SLQY07G-40	001 211 2149 9	CHOKE COIL	8	SMC6407-1	016 601 0639 9	SHIELD COVER

A PHONO EQUALIZER/POWER AMP/
CURRENT DRIVE AMP/MUTING/
PROTECTION CIRCUIT

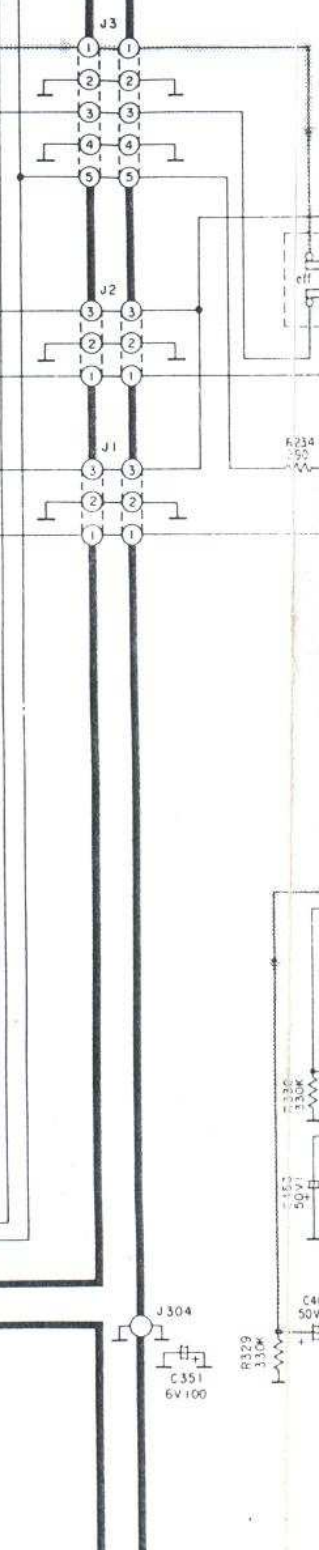


B LED INDICATOR
CIRCUIT

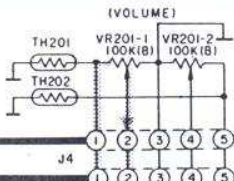


C VOLUME CONTROL

D TONE CONTROL
VOLTAGE CONTROL
AMP CIRCUIT

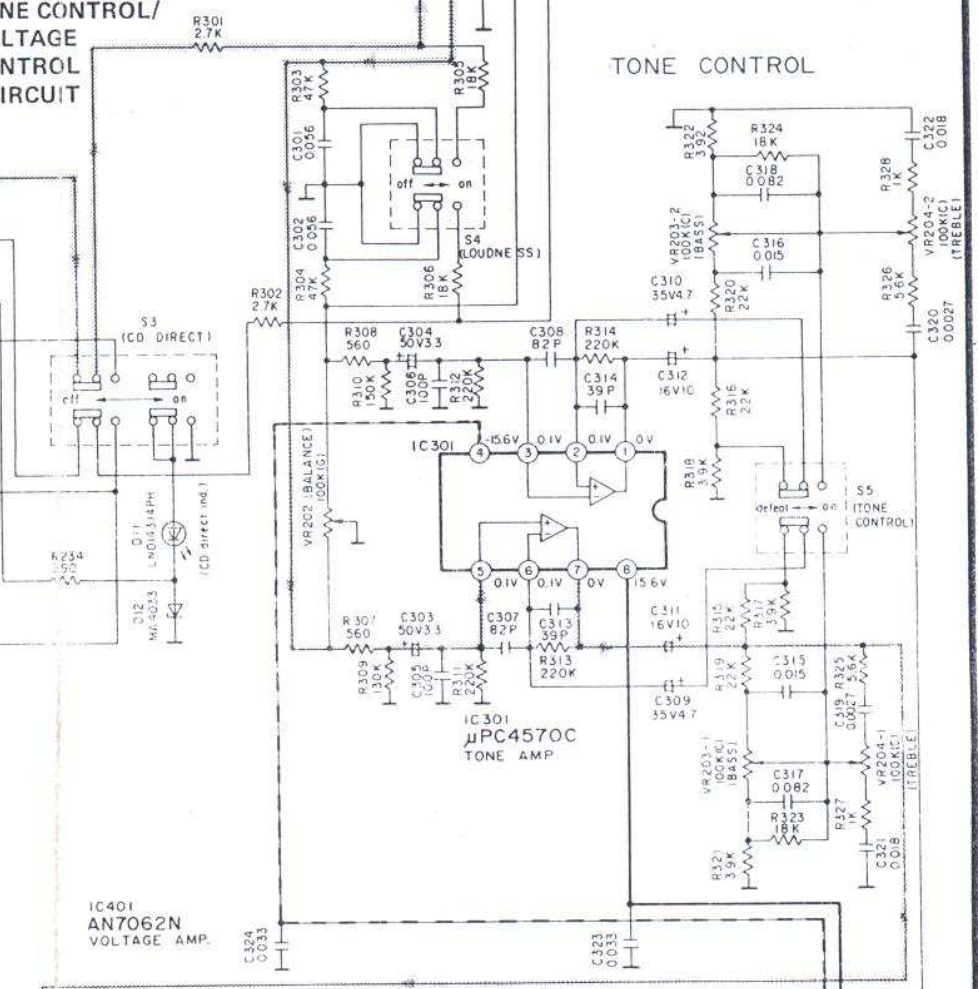


VOLUME CIRCUIT

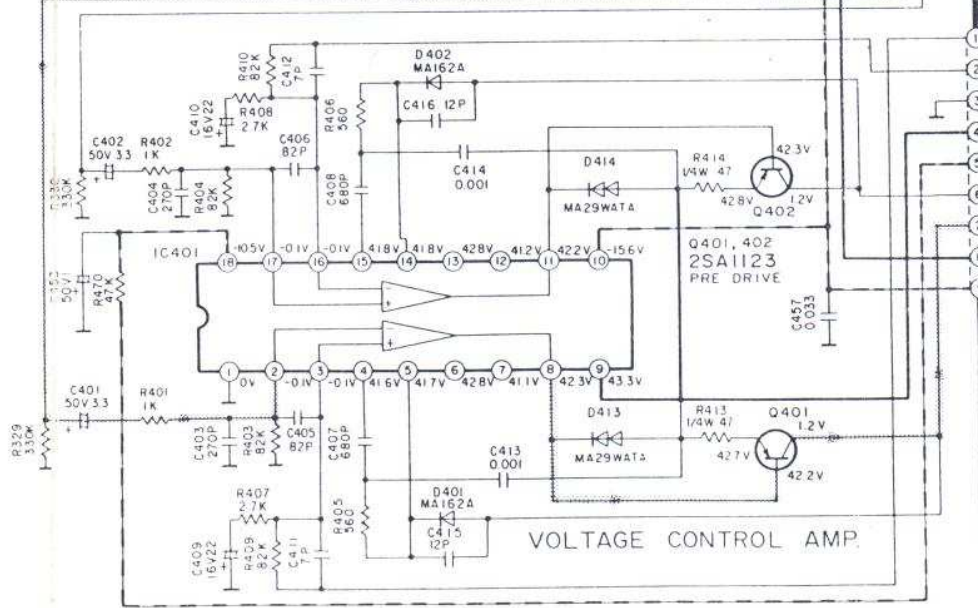


TONE CONTROL/ VOLTAGE CONTROL CIRCUIT

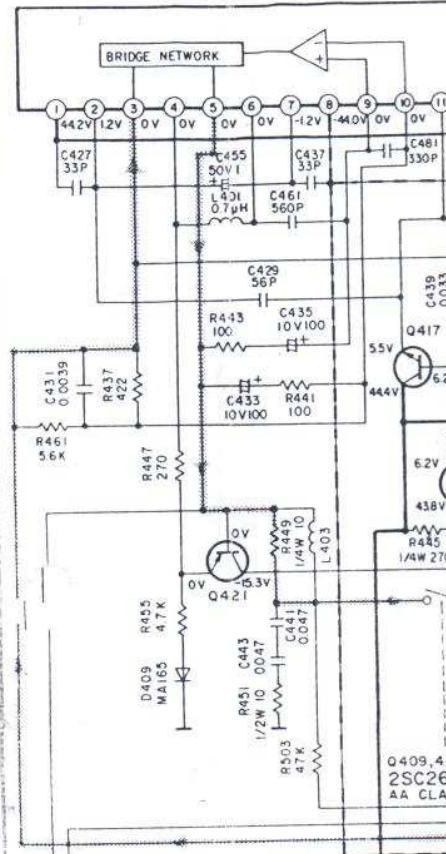
TONE CONTROL



IC401 AN7062N VOLTAGE AMP.

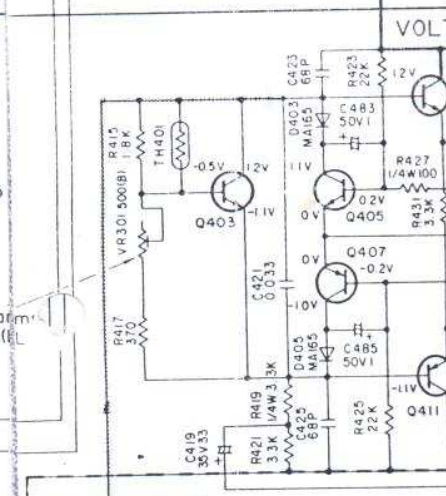


VOLTAGE CONTROL AMP.



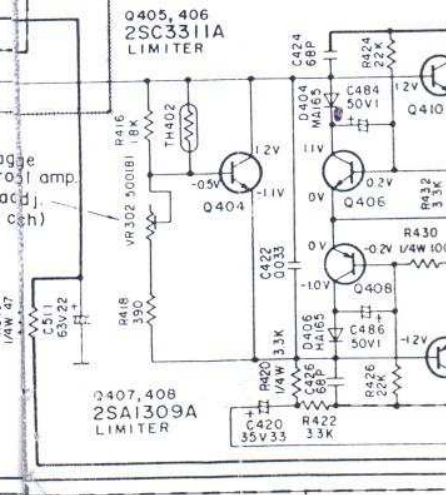
Q403, 404 2SC1685 ICQ ADJ.

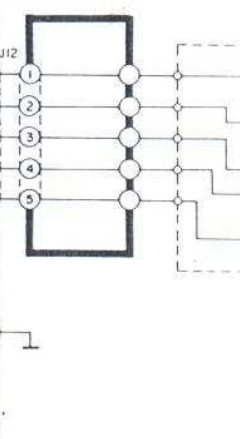
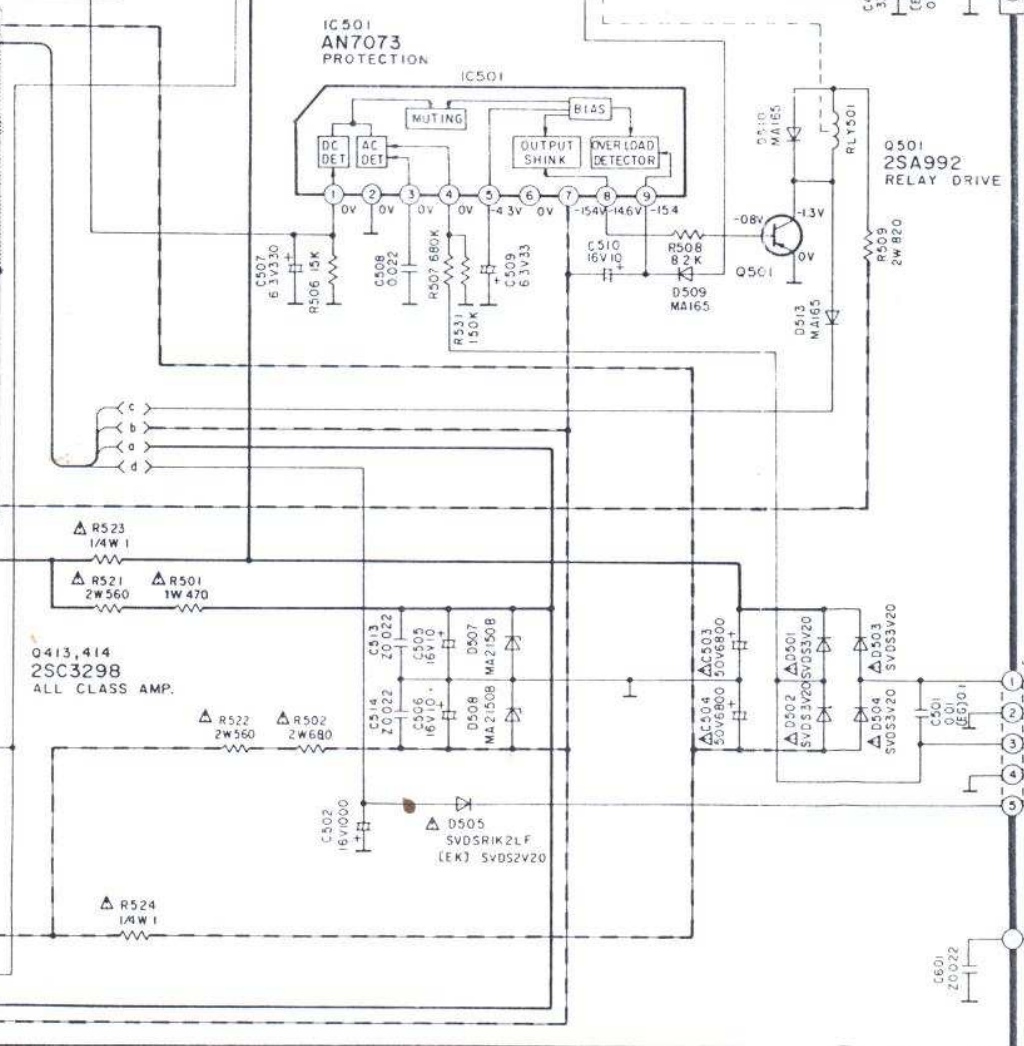
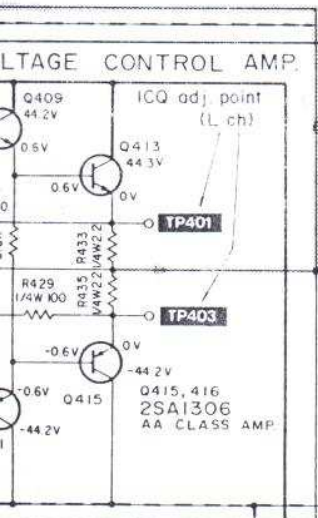
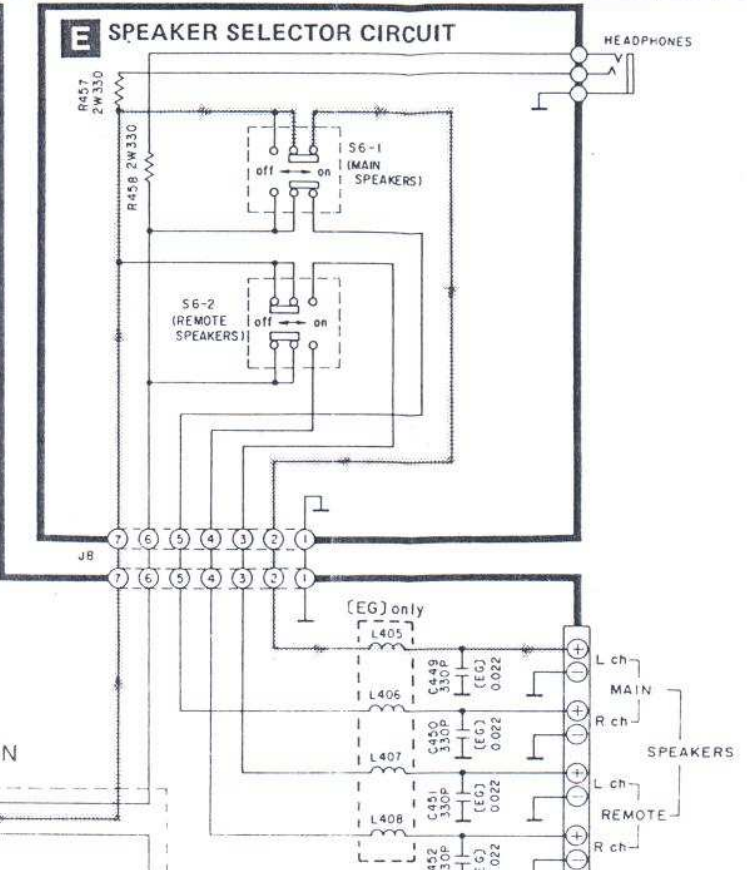
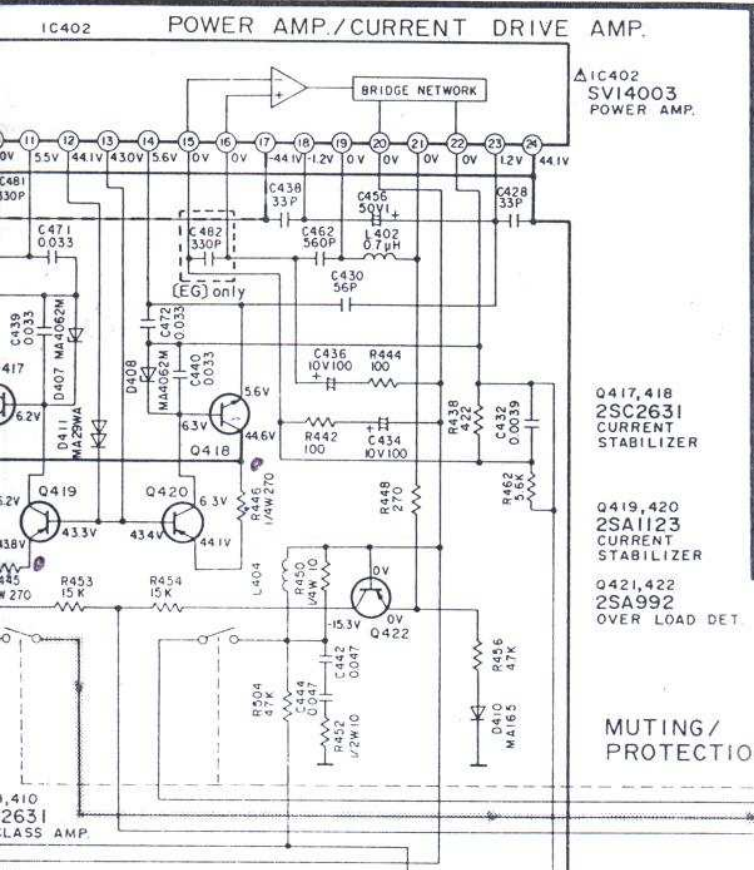
Voltage control amp. ICQ adj.



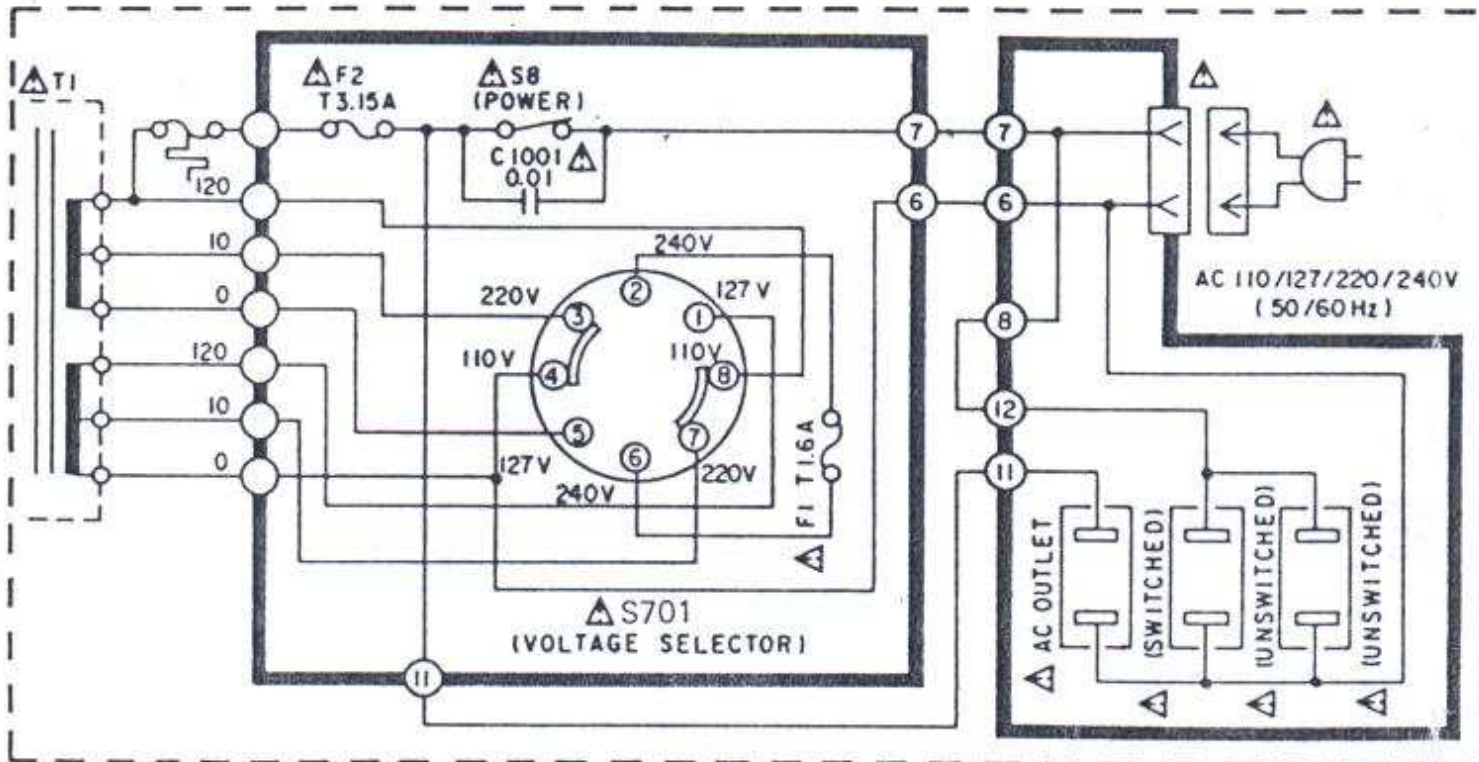
Q405, 406 2SC3311A LIMITER

Voltage control amp. ICQ adj. (R csh)





For other areas [XA]



For F.R Germany [EG]

