



Set using ISO screws

TA-1010
General Export Model



SONY®
SERVICE MANUAL

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1. TECHNICAL DESCRIPTION		
1-1.	Technical Specifications	1
1-2.	Block and Level Diagrams	1
1-3.	Circuit Analysis	1~4
2. DISASSEMBLY AND REPLACEMENT PROCEDURES		
2-1.	Tools Required	5
2-2.	Hardware Identification Guide	5
2-3.	Wooden-Case Removal	5
2-4.	Front-Panel Removal	5~6
2-5.	Front Sub-Panel Removal	7
2-6.	Switch, Control, and Binaural Jack Replacement	7~8
2-7.	Printed Circuit Board Removal	8
2-8.	Pilot Lamp Replacement	8
2-9.	Power Transistor Replacement	8
2-10.	Phono Jack, DIN Connector, Speaker Terminal Strip and Ac Receptacle Replacement	9
2-11.	Chassis Layout	10
3. REPACKING		11
4. TROUBLE SHOOTING		
4-1.	Test Equipment Required	12
4-2.	Trouble Tables	12~13
5. POWER AMPLIFIER ADJUSTMENTS		
5-1.	Dc Bias Adjustment	14
5-2.	Ac Balance Adjustment	15
6. DIAGRAMS		
6-1.	Schematic Diagram	17~18
6-2.	Mounting Diagram, Tone Control ...	19
6-3.	Mounting Diagram, Preamplifier	20~21
6-4.	Mounting Diagram, Power Amplifier	22~23
7. EXPLODED VIEW		24~25
8. ELECTRICAL PARTS LIST		26~27

SECTION 1 TECHNICAL DESCRIPTION

1-1. TECHNICAL SPECIFICATIONS

Technical specifications for the TA-1010 are listed in Table. 1.

TABLE 1. TA-1010 TECHNICAL SPECIFICATIONS

Amplifier Section

Dynamic power output	: 58 watts both channels into 8 ohms 5% THD
Rated output	: 15 watts each channel, 8 ohms
Power bandwidth	: 25 Hz to 40 kHz, 8 ohms (IHF)
Harmonic distortion	: Less than 0.5% at 1 kHz at rated output Less than 0.2% at 1 watt output
IM distortion	: Less than 1% at rated output
Signal-to-noise ratio	: PHONO-1,2: greater than 70 dB TUNER, TAPE, AUX-1,2, REC/PB: greater than 90 dB
Frequency response	: 20 Hz to 60 kHz: ± 0.5 dB
Output voltage	: REC OUT: 250 mV 10k ohms REC/PB: 36 mV 80k ohms
Input sensitivity and impedance	: PHONO-1,2: 1.2 mV 47 k TUNER: 250 mV 100 k AUX-1,2: 250 mV 100 k TAPE: 250 mV 100 k REC/PB: 250 mV 100 k
Tone control	: BASS: ± 10 dB at 100 Hz TREBLE: ± 10 dB at 10 kHz
High filter	: 6 dB/oct above 5 kHz

General

Power consumption	: Approx. 75 W
Power requirements	: 100, 117, 220, or 240V, 60/50 Hz

Dimensions	: 16-9/16"(width) X 4-7/8" (height) X 9-11/16"(depth) 420(width) X 123(height) X 246.5(depth)mm
Net weight	: 10 lb (5.4 kg)
Shipping weight	: 17 lb 8 oz (8 kg)

1-2. BLOCK AND LEVEL DIAGRAMS

The block and level diagrams of the TA-1010 are displayed on page 2, for your better understanding of the circuits operation and for convenience when a signal-level check is required. They will also help you in signal tracing and trouble shooting.

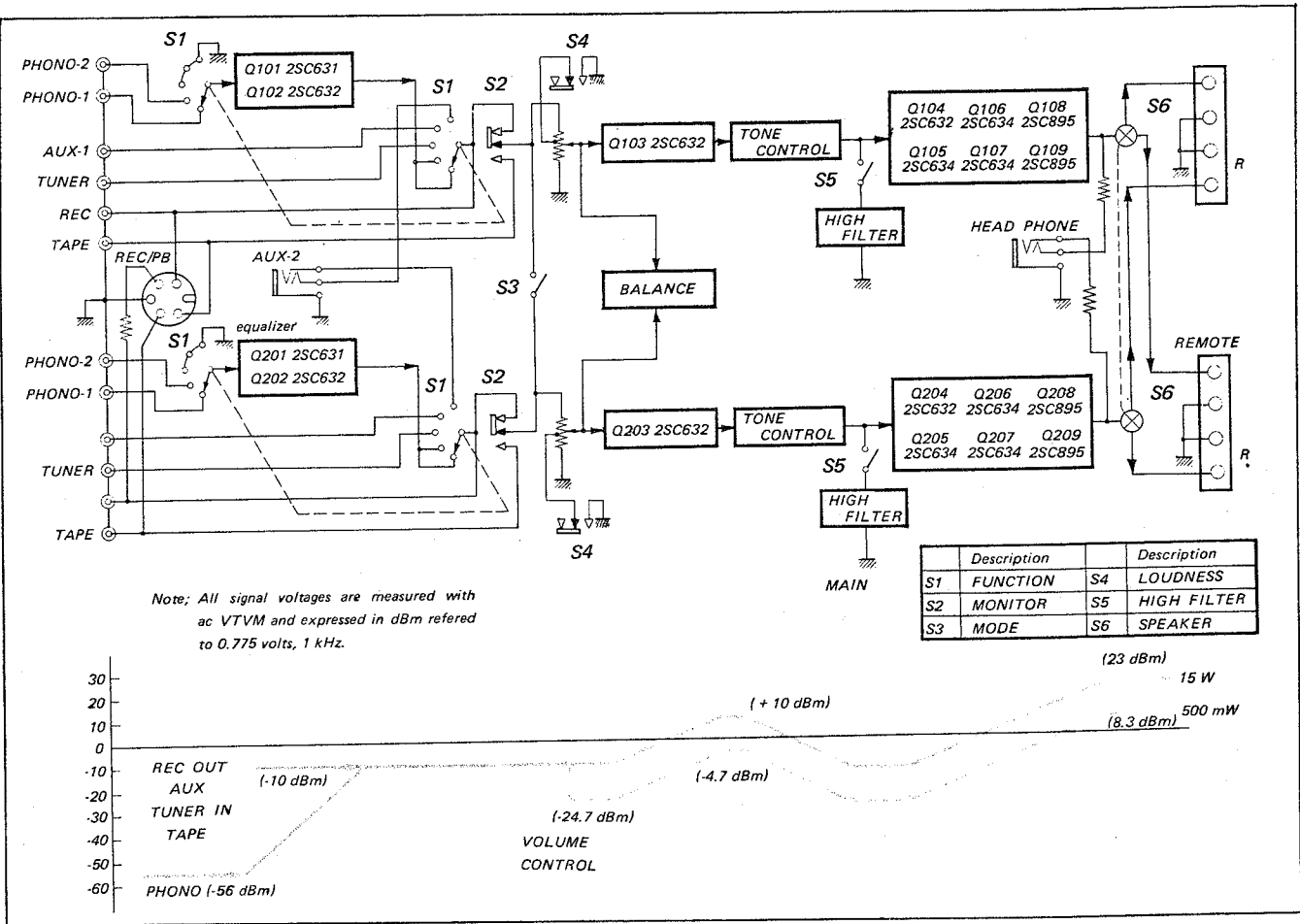
1-3. CIRCUIT ANALYSIS

The following describes the functions of all stages and controls. The text sequence follows signal paths. Stages are listed by transistor reference designation at the left margin: major components are also listed in a similar manner.

Since the TA-1010 contains two identical amplifiers, only the left channel will be described. Right channel component designations are given in parentheses.

<u>Stage/Control</u>	<u>Function</u>
<i>Preamplifier</i>	
Low-level preamp Q101, Q102 (Q201, Q202)	These stages amplify the small signal produced by the phono cartridge to the level required at the input of the flat amplifier (Q103). As the signal-to-noise ratios at PHONO inputs are determined by the noise figure of Q101, a specially-selected low-noise transistor is used. The circuit employs a direct-

BLOCK AND LEVEL DIAGRAM



Stage/Control

Function

coupled two-stage configuration and negative-feedback technique that provides stable operation during temperature changes and good amplification even at low frequencies. It also supplies the audio signal to the REC OUT terminal for recording convenience.

Overall amplifier gain of this amplifier is about 46 dB at 1 kHz.

RIAA equalization is achieved by the negative feedback loop containing these components. Take care when replacing any of them.

R112, R113,
C107 to C110
(R212, R213
C270 to C210)

Stage/Control

Function

FUNCTION switch S1 Selects the desired input signals from the PHONO 1, PHONO 2, TUNER, AUX 1, AUX 2, and REC/PB connectors. Only the signals from PHONO 1 and PHONO 2 are routed to the preamplifier. To avoid clicks or popping noises when switching, a make-before-break type switch mechanism is employed.

MONITOR switch S2 Switch S2 selects the signals from the TAPE jack (TAPE position), or TUNER, AUX 1 and AUX 2 preamplifier outputs (SOURCE position).

MODE switch S3 In the STEREO position of S3, left and right input signals are

<u>Stage/Control</u>	<u>Function</u>										
	routed to their respective amplifiers. In the MONO position of S3, left and right input signals are added and the sum is fed to both amplifier channels.										
VOLUME control Rv101 (Rv201)	The level of signal applied to the power-amplifier section is determined by the setting of Rv101, which has an audio taper.										
SPEAKER switch S6	The power-amplifier output is supplied to the speakers connected to the MAIN or REMOTE speaker terminals through S6 as follows:										
	<table> <tr> <th><u>Position</u></th><th><u>Connection</u></th></tr> <tr> <td>REMOTE . . .</td><td>REMOTE speaker only</td></tr> <tr> <td>OFF</td><td>No connection is made.</td></tr> <tr> <td>MAIN</td><td>MAIN speaker only</td></tr> <tr> <td>BOTH . . .</td><td>MAIN and REMOTE speakers</td></tr> </table>	<u>Position</u>	<u>Connection</u>	REMOTE . . .	REMOTE speaker only	OFF	No connection is made.	MAIN	MAIN speaker only	BOTH . . .	MAIN and REMOTE speakers
<u>Position</u>	<u>Connection</u>										
REMOTE . . .	REMOTE speaker only										
OFF	No connection is made.										
MAIN	MAIN speaker only										
BOTH . . .	MAIN and REMOTE speakers										
	HEADPHONE output can be obtained regardless of the SPEAKER switch position because the amplifier output is directly connected to the HEADPHONE jack.										
LOUDNESS switch S4, C117, C118 R124, R125 (C217, C218 R224, R225)	These components compensate for human hearing characteristics, which vary according to the loudness of the sound. When this switch is set to the "IN" position, high-and low-frequency components are increased with decreasing volume level. In the IN position of S5 the frequency response changes as follows:										

<u>Under 30mW output</u>	<u>Under 300mW output</u>
--------------------------	---------------------------

10 dB up at 50Hz	5 dB up at 50Hz
0 dB at 1 kHz	0 dB at 1 kHz
4.5 dB up at 10kHz	1.5 dB up at 10kHz

<u>Stage/Control</u>	<u>Function</u>
Flat amplifier Q103 (Q203)	This amplifier provides 20 dB voltage gain to compensate for the tone-control insertion loss, and isolates the VOLUME control and TONE controls to eliminate mutual interference.
TONE controls Rv102 (Rv202) Rv103 (Rv203)	Rv102 (Rv202) controls treble response. It has a range of ± 10 dB at 10 kHz. Rv103 (Rv203) controls bass response. It has a range of ± 10 dB at 100 Hz.
HIGH FILTER switch S5	Eliminates unwanted high-frequency components from the input signal (6 dB/octave above 6 kHz) in the ON position.

Audio Power Amplifier

Flat amplifier Q104 (Q204)	This is a conventional direct-coupled amplifier which drives phase inverter Q105.
Ac balance adj. Rv104 (Rv204)	Sets the bias current of Q104 and Q105 at the point where the positive and negative half cycles are simultaneously clipped with excessive input signal. It also affects the rated power output.
Phase inverter Q105 (Q205)	Stage Q105 has two oppositely-phased outputs to drive the power-output stages in push pull. Equal load resistors are used in the collector and emitter circuits to provide equal but oppositely-phased signals at the base of Q107 and Q108.
Dc bias adj. Rv105 (Rv205)	Controls the bias current in Q107, Q108, Q109 and Q110 to eliminate crossover distortion at small signal levels. The bias voltage is supplied by D103, D104, and D105.
Negative feedback loop R130, C125	These components provide negative voltage feedback from the output of the power amplifier to the emitter of Q104.
Driver/limiter Q106 (Q206)	Q106 limits the amplitude of the positive-going half-cycle drive

Stage/Control

Function

voltage which causes power transistor damage. This limiter can be considered as an electronic protection circuit based on the principle that power transistor damage usually occurs when the power dissipation at the collector exceeds its safety margin. Since the collector voltage and collector current determine the power dissipation at the collector, trigger signal for Q106 is taken from the collector and emitter circuit of Q109. The limiting is performed as follows (refer to Fig.1-1): Under normal conditions, Q106 is cut off. When excessive current flows in power transistor Q109, or the power dissipation at the collector of Q109 exceeds its safety margin, the voltage drop across R145, R146 (emitter resistor of Q109) increases supplying trigger signal to the base of Q106 through trigger circuit. Thus Q106 turns on and limits the input drive voltage to protect the power transistors. Though Q106 seems only to be limiting the positive half cycle, it also works for the negative half cycle. C128 discharges during the initial negative half cycle, reducing the center voltage to nearly zero. Since the positive half cycle will

Stage/Control

Function

not charge C128 due to the limiter's operation, the following negative half cycle cannot drive the power transistors.

Drivers

Q107, Q108

(Q107, Q208)

These transistors operate as emitter followers to provide the current swings demanded of the output stages for full output.

Power amplifier

Q109, Q110

(Q209, Q210)

These SONY silicon transistors have been specially manufactured to drive the speaker system at rated output power from 20 Hz to 60 kHz. Output is coupled to the speakers through C128.

Power Supply

D101, D102

Dc output from rectifier diodes D101 and D102 is filtered by C135 and applied to each amplifier section.

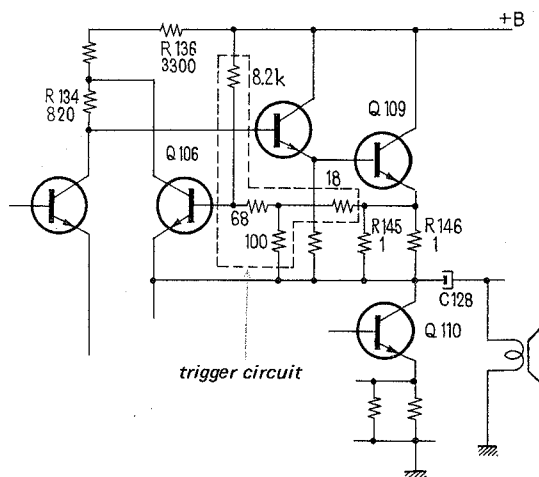


Fig. 1-1 Protection circuit

SECTION 2

DISASSEMBLY AND REPLACEMENT PROCEDURES

WARNING

Unplug the ac line cord before starting any disassembly or replacement procedures.

2-1. TOOLS REQUIRED

The following tools are required for performing disassembly and replacement procedures on the TA-1010.

Screwdriver, Phillips head
Long-nose pliers
Wrench, adjustable
Nut drivers
Soldering iron
Rosin core solder
Cardboard, 3" square

2-2. HARDWARE IDENTIFICATION GUIDE

The following chart will help you to decipher the hardware codes given in this service manual.

Note: Some screws in the TA-1010 are manufactured to the specifications of the International Organization for Standardization (ISO). This means that the new and old screws are not interchangeable because ISO screws have a different number of threads per mm compared to the old ones. ISO screws have an identification mark on their heads as shown in Fig.2-1.

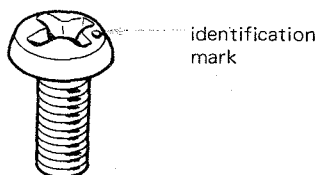


Fig. 2-1 ISO screw

Hardware Nomenclature

P	- Pan Head Screw	
K	- Flat Countersunk Head Screw	
B	- Binding Head Screw	
RK	- Oval Countersunk Head Screw	
T	- Truss Head Screw	
R	- Round Head Screw	
F	- Flat Fillister Head Screw	
SC	- Set Screw	
E	- Retaining Ring (E Washer)	
	W - Washer	
	SW - Spring Washer	
	LW - Lock Washer	
	N - Nut	

— Example —

⊕ P 3 x 10

— Type of Slit

— Length in mm (L)

— Diameter in mm (D)

— Type of Head

2-3. WOODEN-CASE REMOVAL

1. Remove the four corner screws (+P 4 X 16) and one screw (+P 3 X 16) securing the wooden case to the chassis as shown in Fig.2-2.
2. Carefully push the chassis's back panel to permit the wooden case removal.

2-4. FRONT-PANEL REMOVAL

1. Remove the wooden case first as described in Procedure 2-3.
2. Remove all control knobs except the VOLUME and BALANCE control knobs by pulling them off.
3. Remove the two screws (+PS 3 X 6) securing the bottom side of the front panel to the chassis. See Fig.2-3.

Note: The PS screw is a new type of screw which has a spring washer permanently attached to it. This makes it impossible to lose the spring washer.

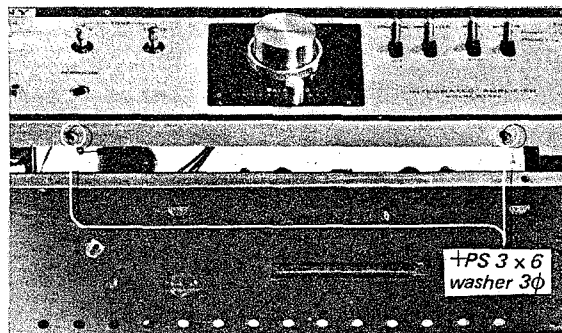
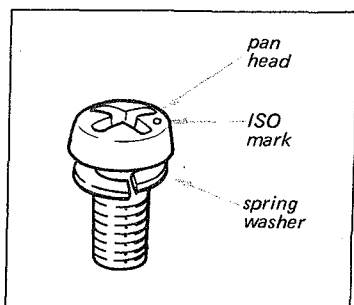


Fig. 2-3 Front panel removal

4. Remove the two hex nuts that secure the front panel to the chassis. Place a piece of cardboard between the wrench and front panel (as shown in Fig. 2-4) to avoid scratching the panel.

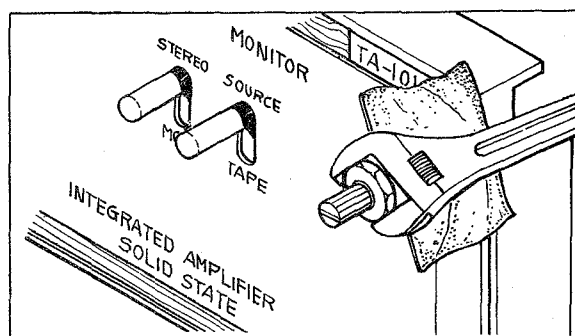


Fig. 2-4 Hex nut removal

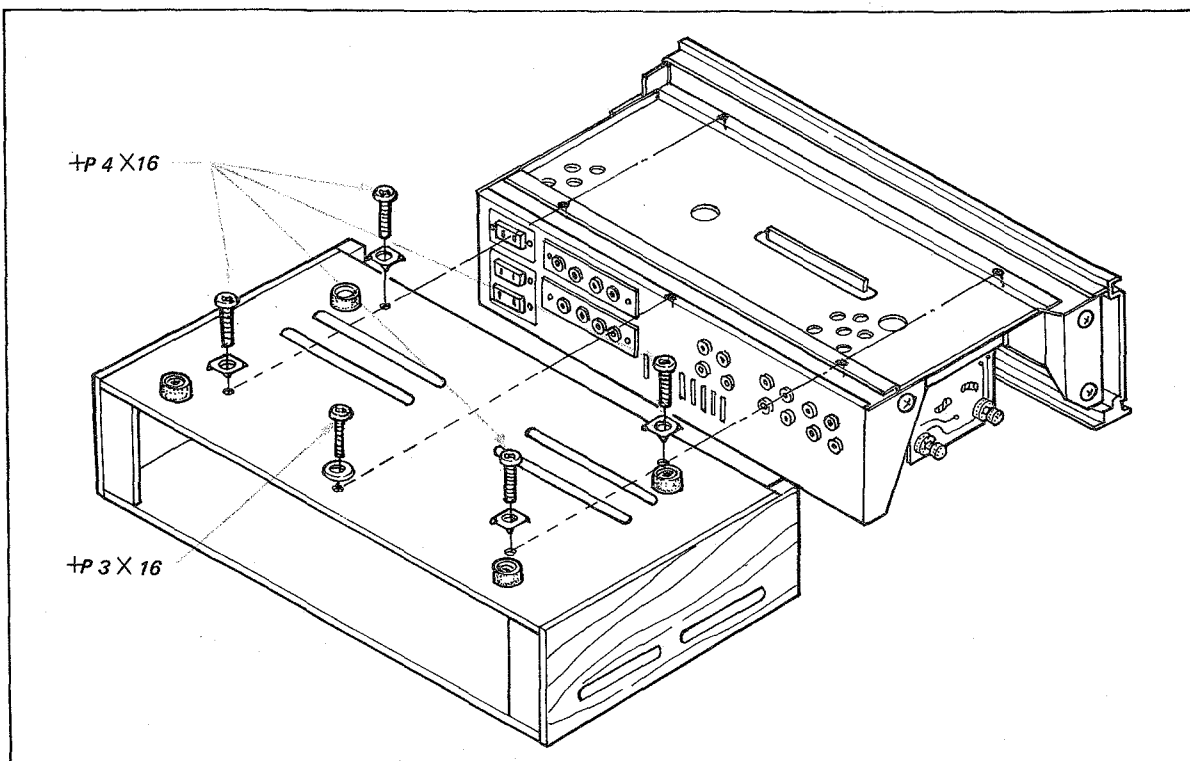


Fig. 2-2 Wooden case removal

2-5. FRONT SUB-PANEL REMOVAL

1. Remove the front panel as described in Procedure 2-4.
2. Remove the VOLUME and BALANCE control knobs by pulling them off.
3. Remove the two self-tapping screws (+R 3 X 6) securing the panel to the chassis. See Fig. 2-5.

2-6. SWITCH, CONTROL, and BINAURAL JACK REPLACEMENT

First, remove the wooden case, front panel and front sub-panel as described in Procedures 2-3, 2-4 and 2-5. Then perform the following procedures while referring to Fig. 2-5.

POWER, LOUDNESS, HIGH FILTER, MODE, and MONITOR Switches

1. Unsolder the lead wires from the switch lugs.
2. Remove the two screws (+PS 3 X 6) securing the switch.
3. Remove the old switch and then install a new one.
4. Solder the lead wires to the new switch.

SPEAKER and FUNCTION Switches

1. Remove the hex nut that secures the switch.
2. Remove the switch while exercising care not to damage the lead wires
3. Unsolder the lead wires from the switch terminal lugs one by one. Solder them to a new switch: then install it.

VOLUME Control

1. Remove the hex nut that secures the VOLUME control to the chassis.
2. Remove the VOLUME control.
3. Solder the lead wires to a new control and install it.

TONE Controls

1. Remove the hex nuts securing the TREBLE and BASS controls to the chassis.
2. Carefully remove them along with the tone-control circuit board.
3. Cut each lug of the defective TONE control above the board to remove the part.

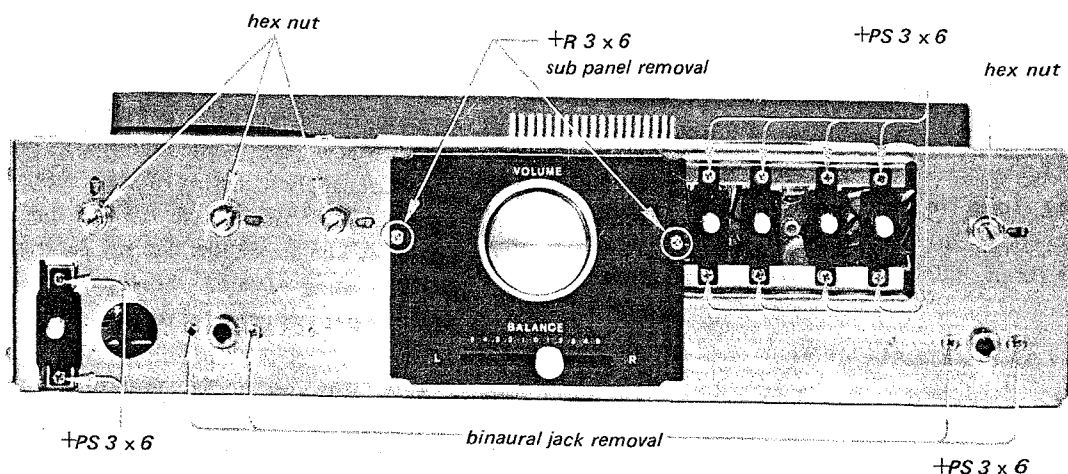


Fig. 2-5 Front sub panel, switch, control and binaural jack replacement

4. Unsolder and remove the terminal lugs individually, and clean out the holes.
5. Install the replacement control.

BALANCE Control

1. Remove the two screws (+P 3 X 4) securing the defective control to the chassis.
2. Remove the defective control.
3. Solder the lead wires to the replacement switch one by one and install it.

BINAURAL JACK

1. Remove the two screws (+R 3 X 6) at each side of the front sub chassis.
2. Tilt it forward and down to permit the removal of the hex nuts that secure the binaural jack from the back.
3. Remove the two screws (+P 3 X 6) and nuts securing the binaural jack to the chassis.
4. Unsolder the lead wires and components from the jack's lugs and remove it.
5. Install the replacement jack then solder the lead wires and components to the new jack.

2-7. PRINTED CIRCUIT BOARD REMOVAL

1. Remove the wooden case as described in Procedure 2-3.
2. All PCB's except the tone control board are extracted by removing the two rubber clamps securing them to the chassis. Stretch the rubber clamp in both direction with your fingers, then pull it out as shown in Fig.2-6.

2-8. PILOT-LAMP REPLACEMENT

1. Remove the wooden case as described in Procedure 2-3.

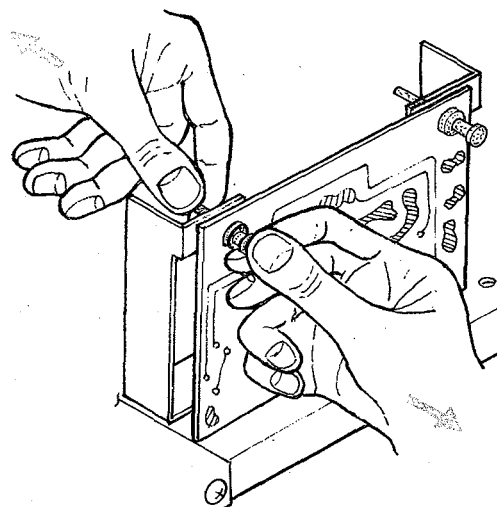


Fig. 2-6 Rubber clamp removal

2. Straighten the tab of the pilot-lamp socket bracket to permit the removal of the pilot lamp socket.
3. Pull out the lamp socket, then unscrew the defective lamp and install a new one.

2-9. POWER-TRANSISTOR REPLACEMENT

1. Remove the wooden case as described in Procedure 2-3.
2. Remove the two self-tapping screws (+R 3 X 6) at each side of the back panel.
3. Tilt it down to permit the removal of the screws (+P 3 X 12) securing the power transistor to the heat sink, as shown in Fig.2-7.
4. Remove the defective power transistor and install a new one. When replacing a power transistor, apply a coating of a heat-conducting silicone grease to both sides of the mica insulator. The grease fills the tiny depressions in the mating surfaces, thereby improving heat transfer to the heat sink.

Note: After performing the power transistor replacement, proceed to the power-amplifier adjustment described in Procedures 5-1 and 5-2 to avoid possible power-transistor damage.

2-10. PHONO JACK, DIN CONNECTOR, SPEAKER TERMINAL STRIP AND AC RECEPTACLE REPLACEMENT.

Note: All electrical parts mounted on the back panel except the GROUND terminal and line-cord strain relief can be replaced by removing the rivets securing them to the chassis.

1. Remove the wooden case as described in Procedure 2-3.
2. Remove the two self-tapping screws (+R 3 X 6) at each side of the back panel.
3. Tilt the back panel forward and down.
4. Unsolder the lead wires from the lugs of the defective part.
5. Break or bore out the end of the rivet, then knock the remaining piece out.
6. Remove the defective part.
7. Install a new part by using nuts and machine screws.

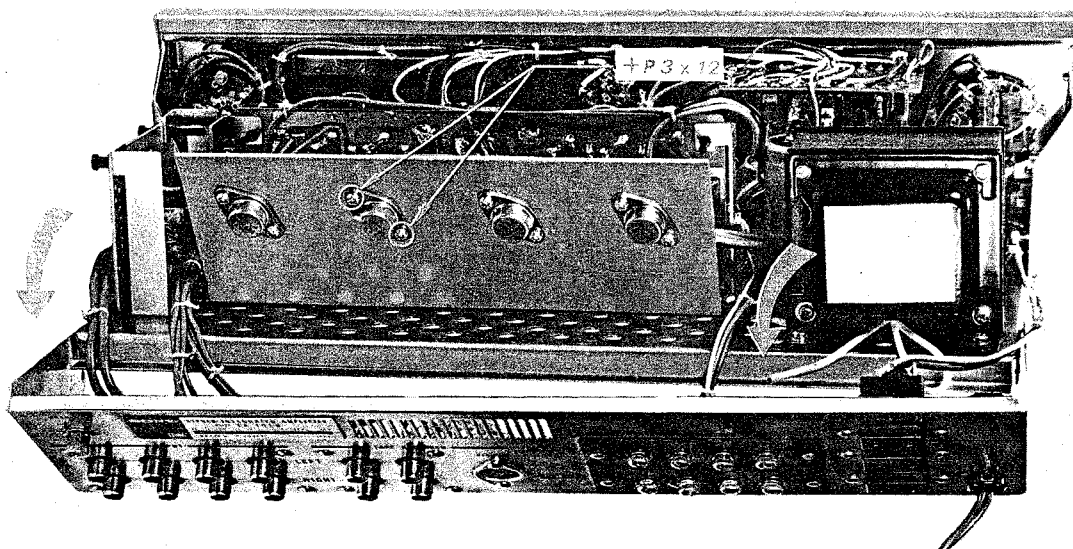
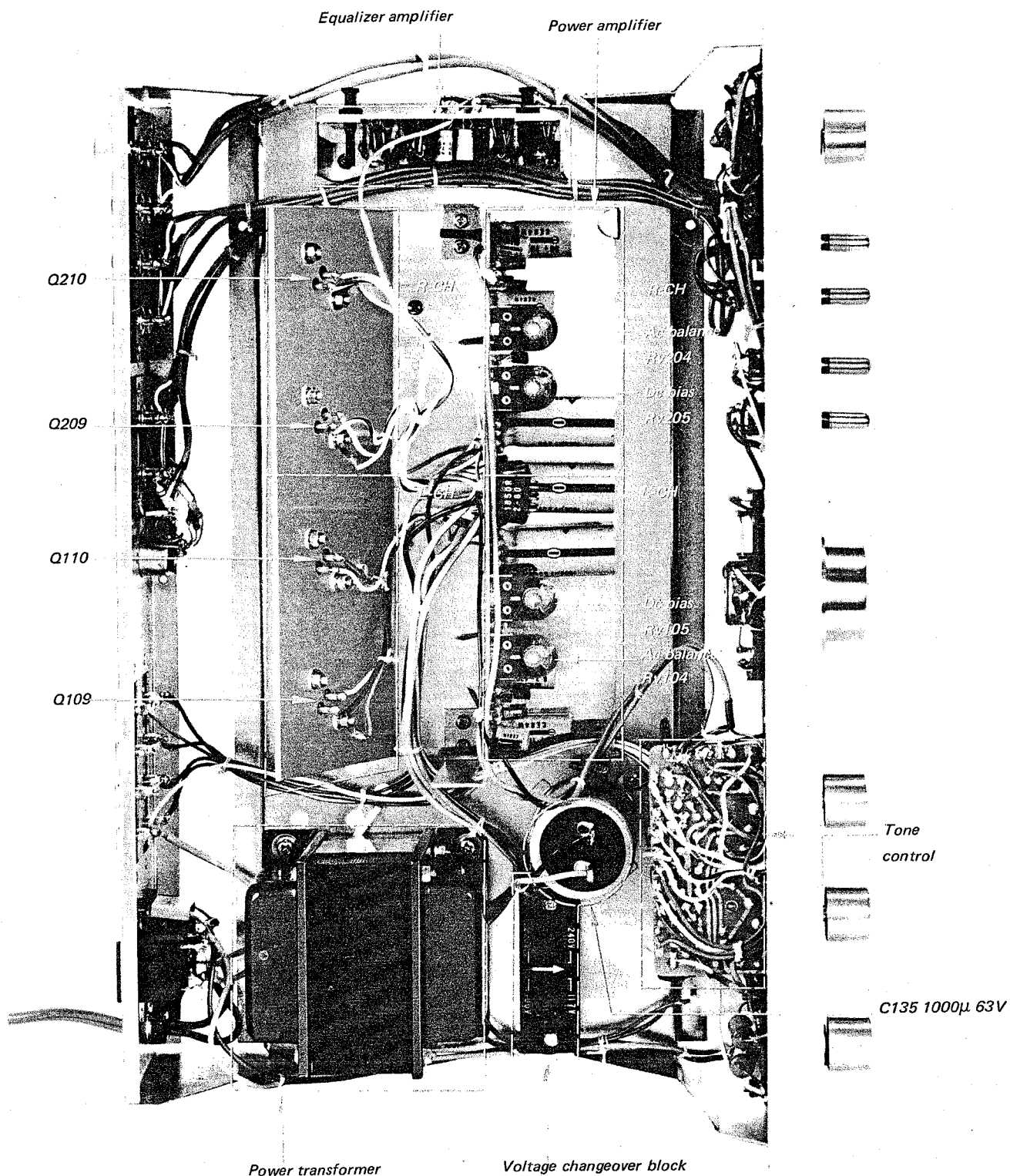


Fig. 2-7 Power transistor replacement

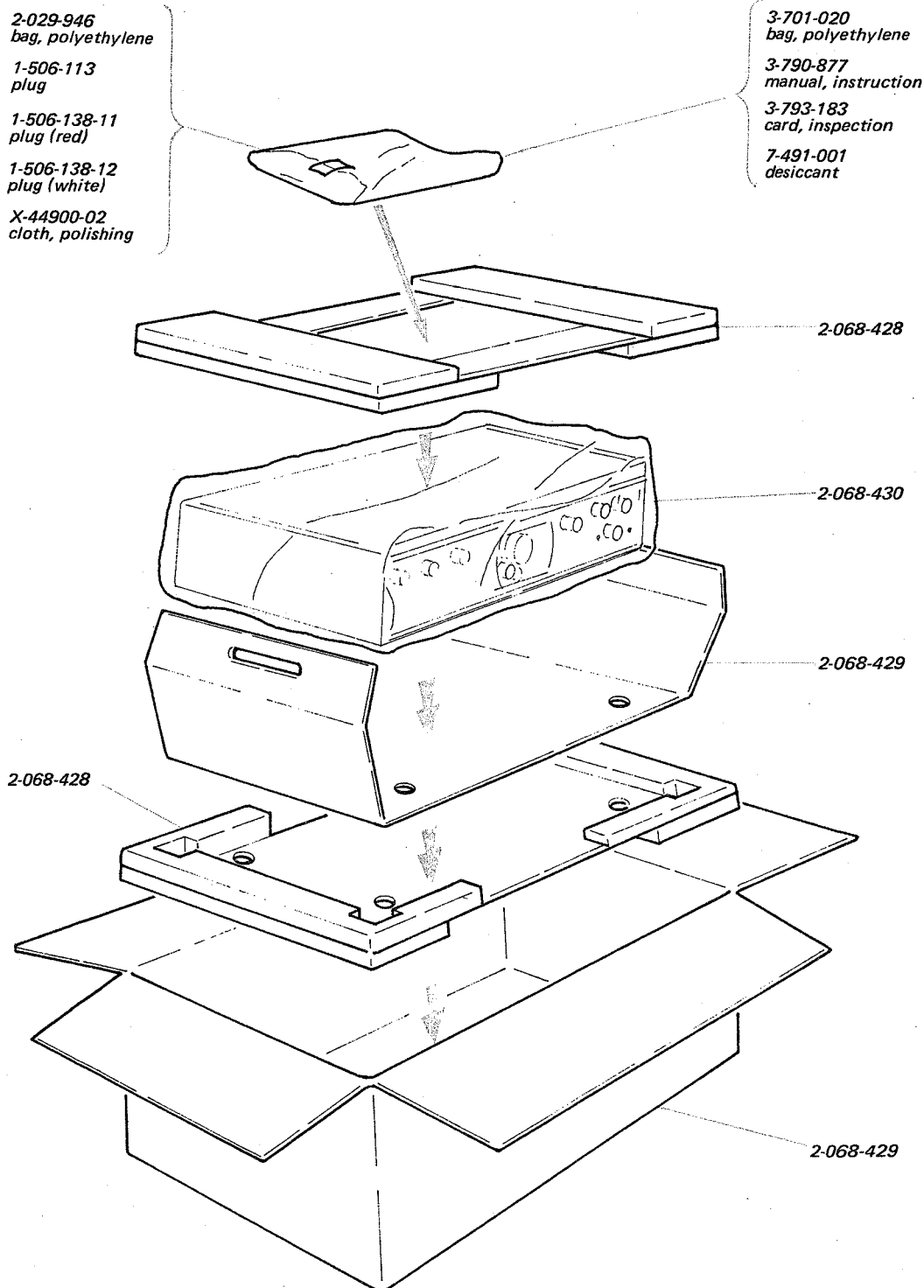
2-11. CHASSIS LAYOUT



SECTION 3 REPACKING

The TA-1010's original shipping carton and packing material is the ideal container for shipping the unit. However to secure the maximum protec-

tion, the TA-1010 must be repacked in this material precisely as before. The proper repacking procedure is shown in Fig.3-1.



SECTION 4 TROUBLE SHOOTING

4-1. TEST EQUIPMENT REQUIRED

The following items are required for troubleshooting the TA-1010.

- | | |
|---------------------|--------------------------------|
| 1. Dc VTVM or VOM | 3. Audio level meter (ac VTVM) |
| 2. Audio oscillator | 4. Transistor tester |

4-2. TROUBLE TABLES

<u>Power Supply</u>		
<u>Symptom</u>	<u>Cause</u>	<u>Correction</u>
Pilot lamp fails to light and no output	No ac line input Defective power transformer S7 defective C135 shorted Two of power transistors Q107 to Q110 shorted	Trace ac line circuit Replace power transformer Check and replace Replace the defective capacitor
Pilot lamp becomes dim and no output	One or two diode rectifiers shorted	Check and replace Replace D101 or D102
Hum in output	C315 open	Check and replace

<u>Power Transistor and Driver Stages</u>		
Pilot lamp fails to light and no output	Two of power transistors Q107 to Q110 shorted	Check and replace defective transistor
Power transistors overheats with no input signal	Too much dc bias current for the power transistors	Check and readjust the dc bias
Hum in output	C121 open	Check and replace
Intermittent noise in output	Q104 defective	Check and replace

<u>Symptom</u>	<u>Cause</u>	<u>Correction</u>
<u>Tone Control Board</u>		
Scratching noise occurs when turning the controls	Defective control	Replace control
No output or noise in output	Defective transistor or C130 shorted	Check and replace
<u>Equalizer Section</u>		
Rushing Noise	Q101 defective	Check and replace
No output	Q101 defective or C102 shorted	Check and replace
Intermittent Noise	R108 defective	Check and replace

Note : Since the TA-1010 contains two identical amplifier chains, only the left channel is described.

SECTION 5

POWER AMPLIFIER ADJUSTMENTS

Note: This adjustment should be done after replacing any of the power-amplifier transistors. To simplify the following procedure, only the left channel is described. The right channel is identical except for component reference numbers (see the schematic diagram on pages 17 and 18).

5-1. DC-BIAS ADJUSTMENT

Serious deficiencies in performance, such as thermal runaway of power transistors, will result if this adjustment is improperly set.

CAUTION

To avoid accidental power transistor damage, increase the ac line voltage gradually, using a variable transformer, while measuring the voltage across emitter resistor R543 or R544. Check to see that the reading does not exceed 15 mV.

Test Equipment Required

1. Dc voltmeter
2. Variable transformer
3. Screwdriver with $\frac{1}{8}$ " blade

Preparation

1. Remove the wooden case as described in Procedure 2-3 on page 5.
2. Connect the dc voltmeter between the emitter of Q110 and ground, as shown in Fig. 5-1.
3. Set the amplifiers controls as follows:

Tone controls - - - - Flat (center position)

MODE switch - - - - STEREO

MONITOR switch - - TAPE

VOLUME control - - Minimum

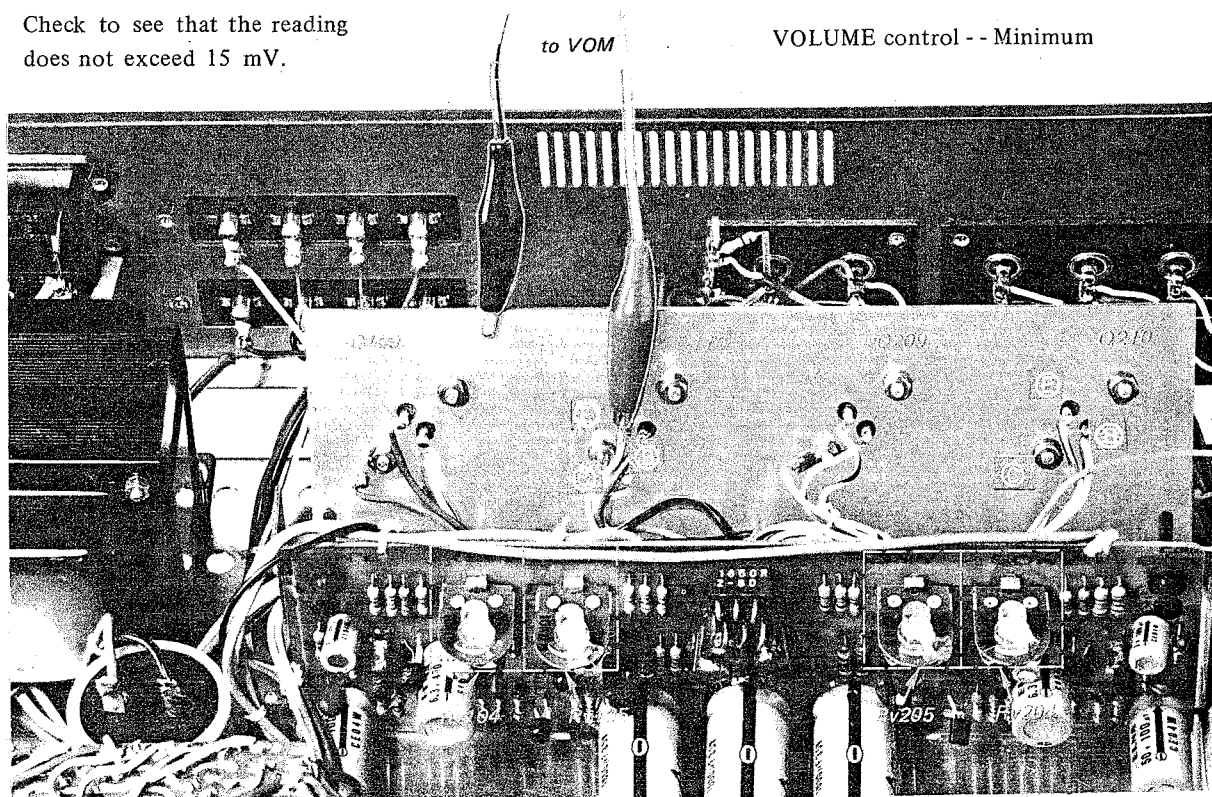


Fig. 5-1 VOM connection point and parts location

Procedure

1. Set the semi-fixed resistors (Fig. 5-1) on the power-amplifier board as follows:

RV105 (L-CH) (dc bias) fully clockwise
RV205 (R-CH) (dc bias) fully clockwise
RV104, RV204 (ac balance) mid-position

2. Set the variable transformer for minimum output.
3. Turn on the POWER switch; then increase the line voltage up to the rated value.
4. Adjust RV105 (RV205) to obtain a 15-mV reading in the meter.
5. After completing the adjustment, apply a drop of lock paint to RV105 (RV205).

5-2. AC-BALANCE ADJUSTMENT

Note: Excessive harmonic distortion at high levels will result if this adjustment is improperly set.

Test Equipment Required

1. Audio oscillator
2. Attenuator
3. Oscilloscope

4. Resistor, 600 ohms $\frac{1}{4}$ W
5. Dummy load, 8 ohms 20W
6. Screwdriver with $\frac{1}{8}$ " blade

Procedure

1. With the equipment connected as shown in Fig. 5-2, set the POWER switch to the ON position and feed a 1-kHz, 0.775-V (0 dBm) signal to the TAPE input terminal through the attenuator.
2. While watching the waveform on the oscilloscope, alternately turn the VOLUME control and adjust RV104. Set RV104 so that the positive and negative peaks of the output waveform are simultaneously clipped (as shown in Fig. 5-3) when increasing the VOLUME control just beyond the point that causes distortion.
3. After completing the adjustment, apply a drop of lock paint to RV104.

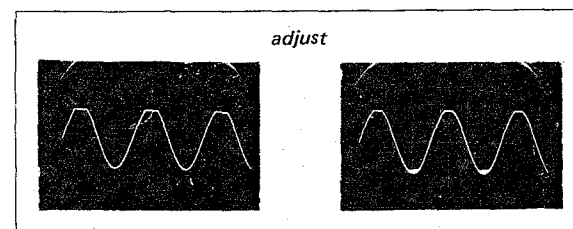


Fig. 5-3 Ac balance adjustment

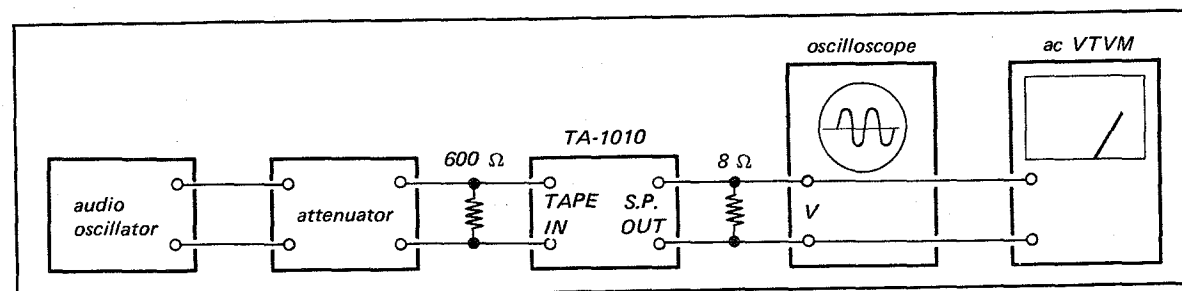
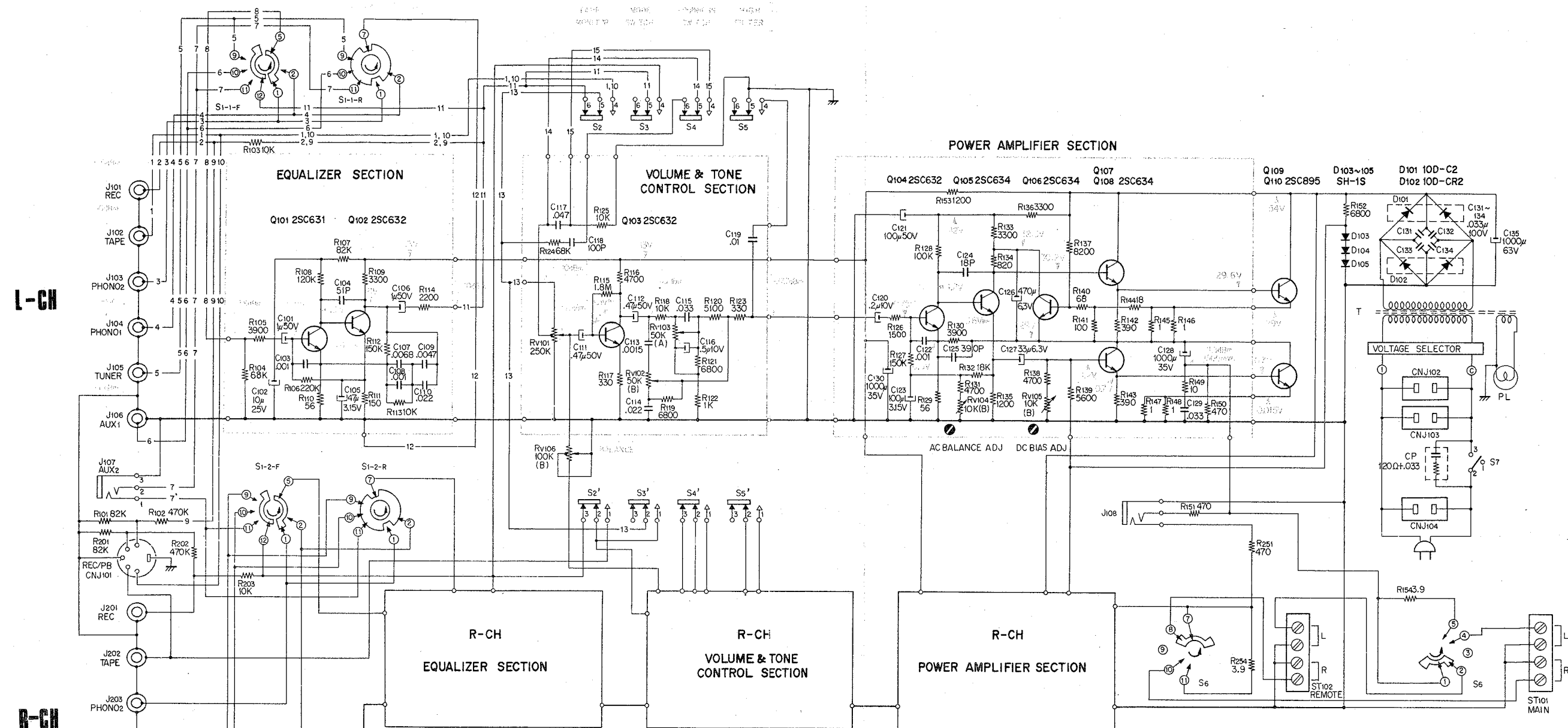


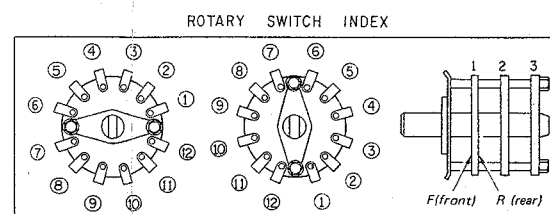
Fig. 5-2 Ac balance adjustment test setup

SECTION 6 DIAGRAMS

6-1. SCHEMATIC DIAGRAM



Symbol	Description	Position
S1	FUNCTION sw	PHONO 2 (PHONO 2-PHONO 1-TUNER-AUX 1-AUX 2)
S2	MONITOR sw	SOURCE
S3	MODE sw	STEREO
S4	LOUDNESS sw	ON
S5	HIGH FILTER	OFF
S6	SPEAKER sw	REMOTE (REMOTE-OFF-MAIN-BOTH)



Note:

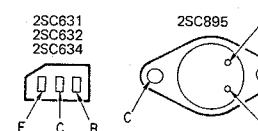
All resistance values are in ohms. K=1000, M=1000K

All capacitance values are in μF except as indicated with p, which means μF .

All voltages represent an average value and should hold within $\pm 20\%$.

All voltages are dc measured with a VOM which has an input impedance of 33.3 k ohms/volt at no signal.

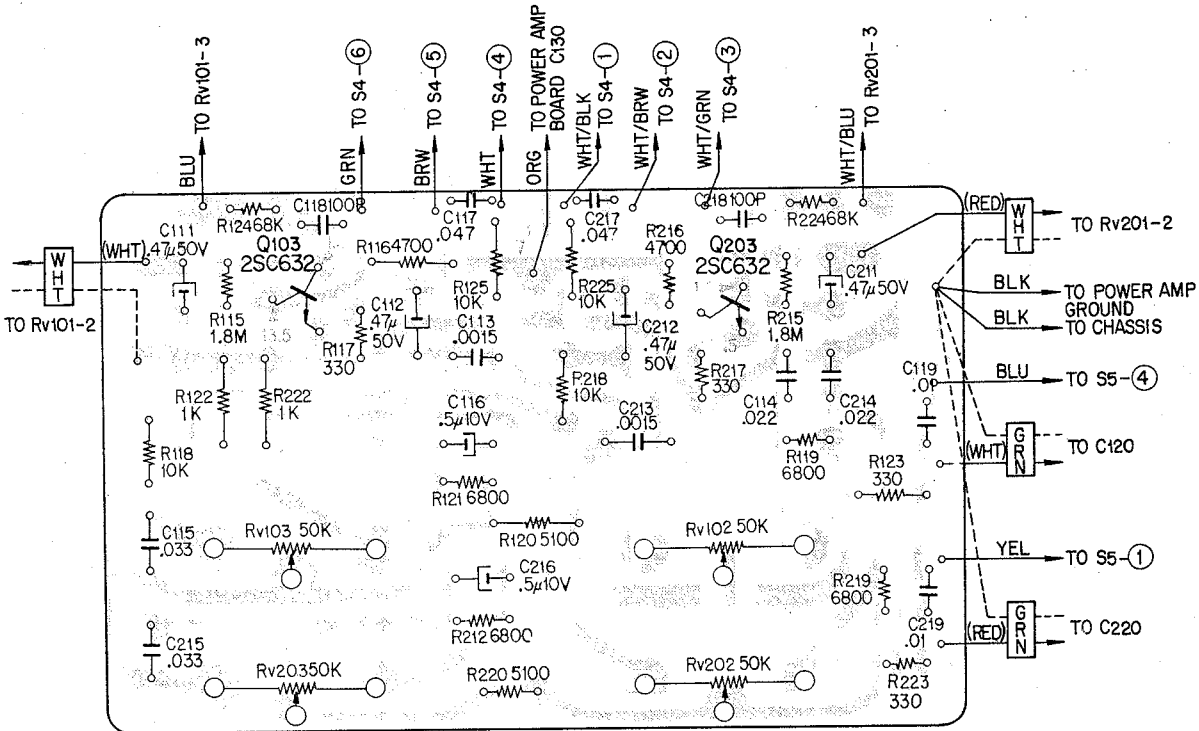
signal voltages are measured with ac VTVM and expressed in dBm referred to 0.775 volts, 1 kHz.



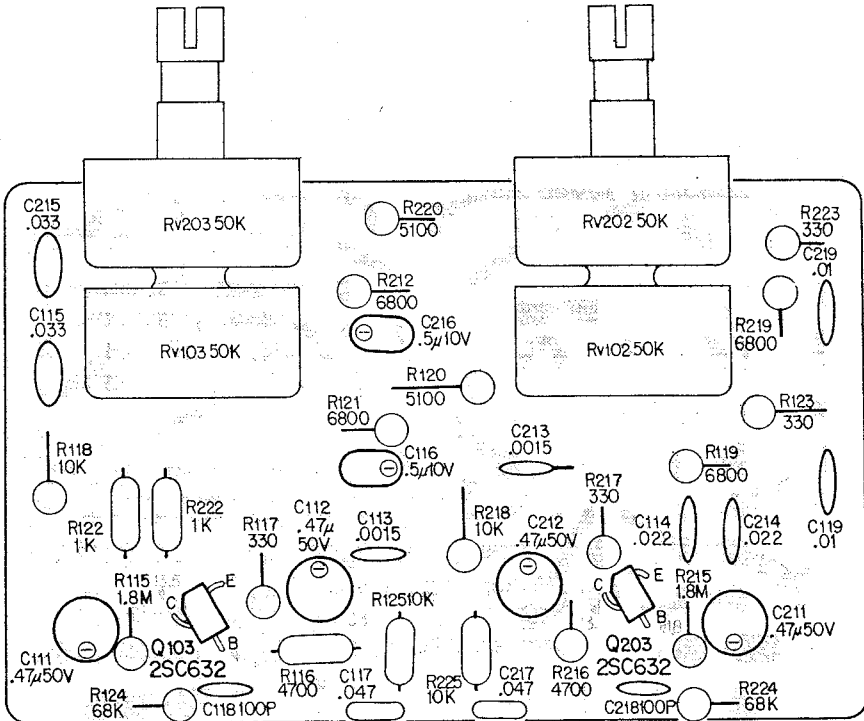
SONY®
TA-1010

6-2. MOUNTING DIAGRAM—Tone Control

—Conductor Side—

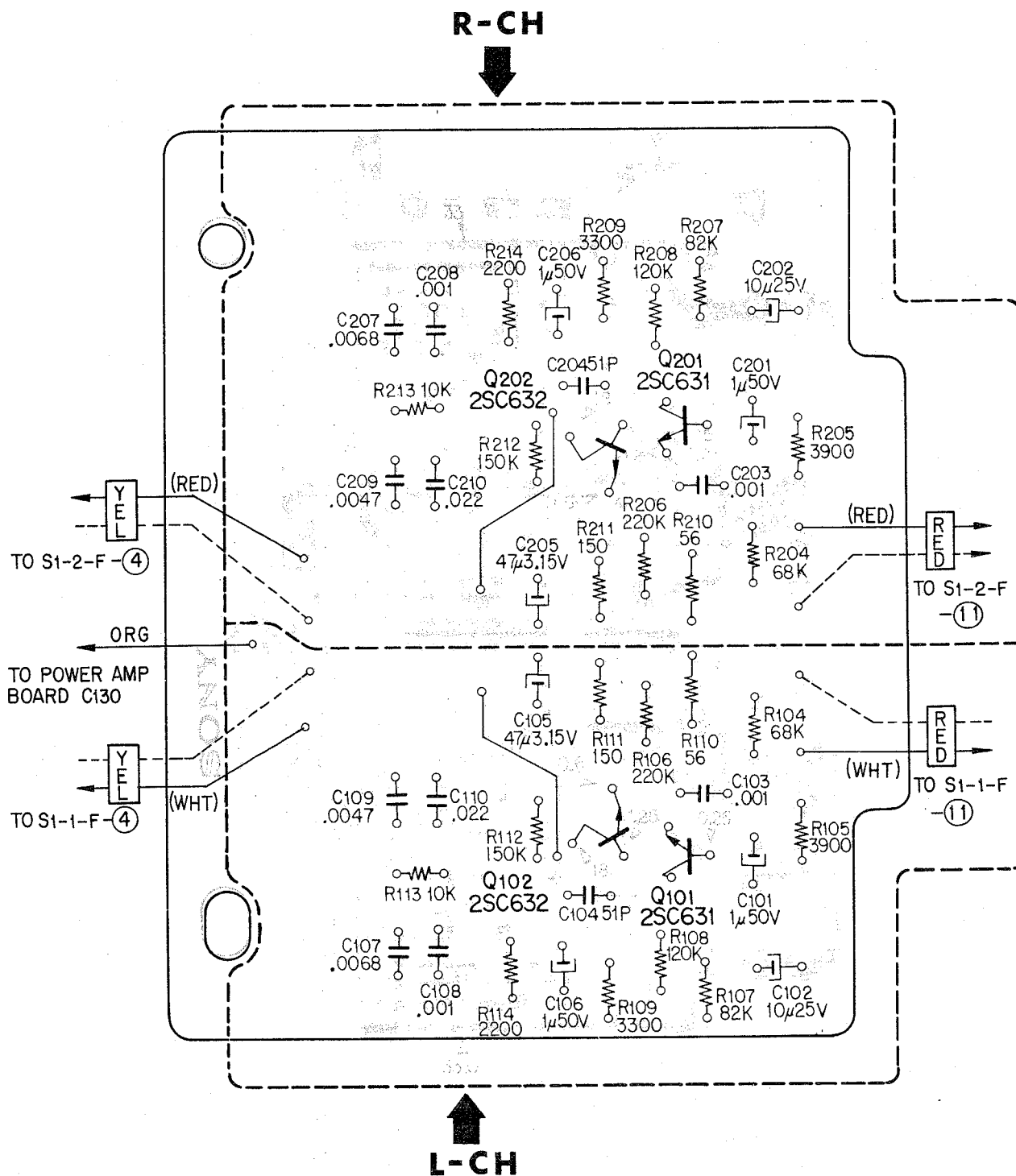


—Component Side—



6-3. MOUNTING DIAGRAM—Preamplifier

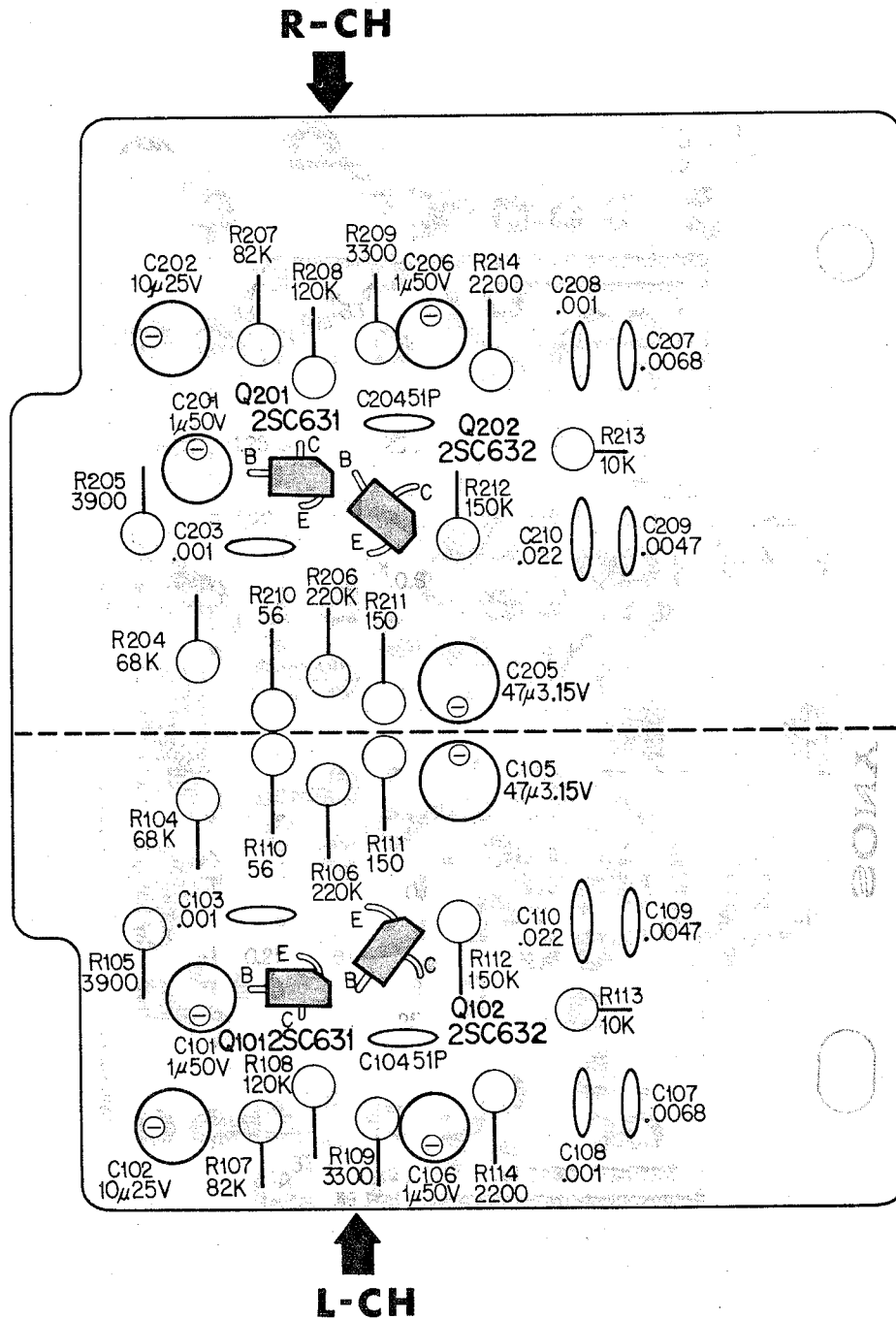
—Conductor Side—



6-3. MOUNTING DIAGRAM

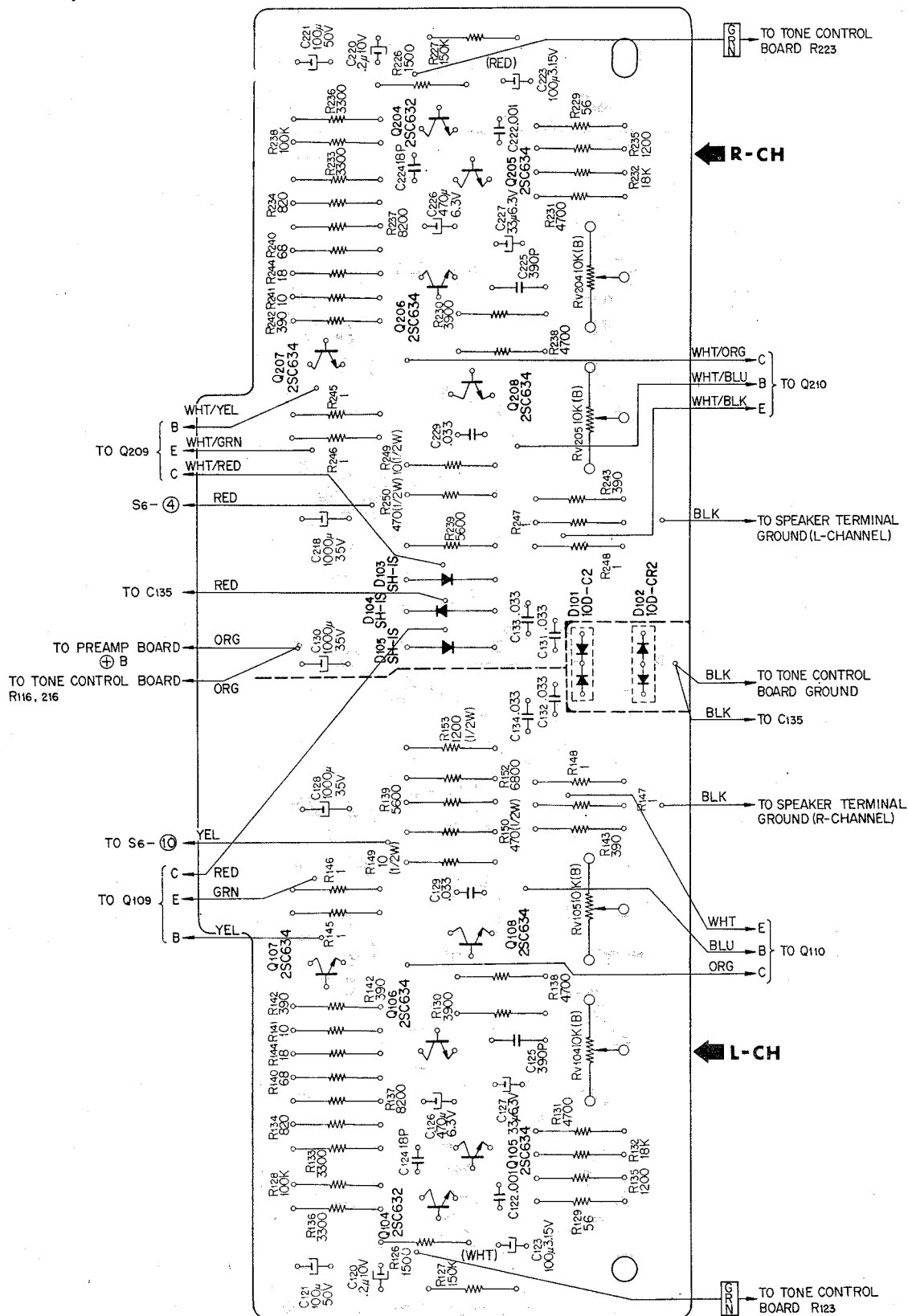
Preamplifier

-Component Side-

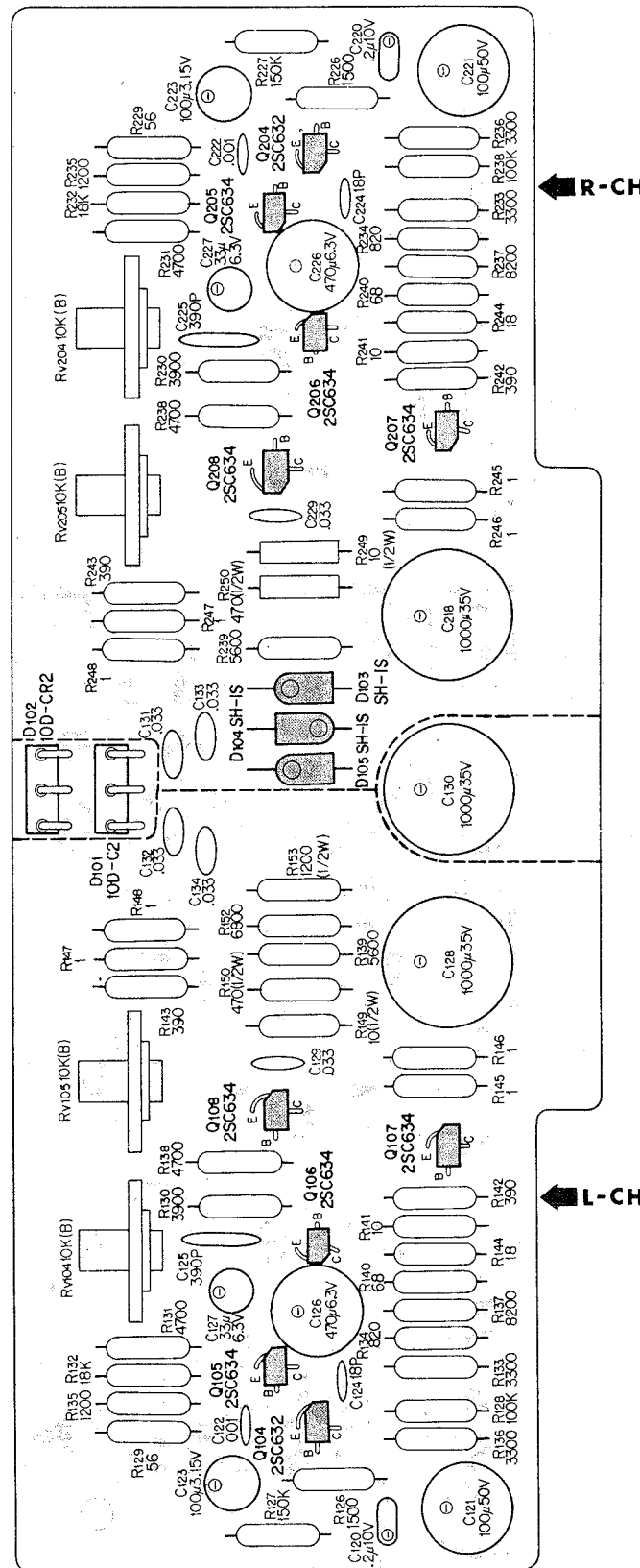


6-4. MOUNTING DIAGRAM—Power Amplifier

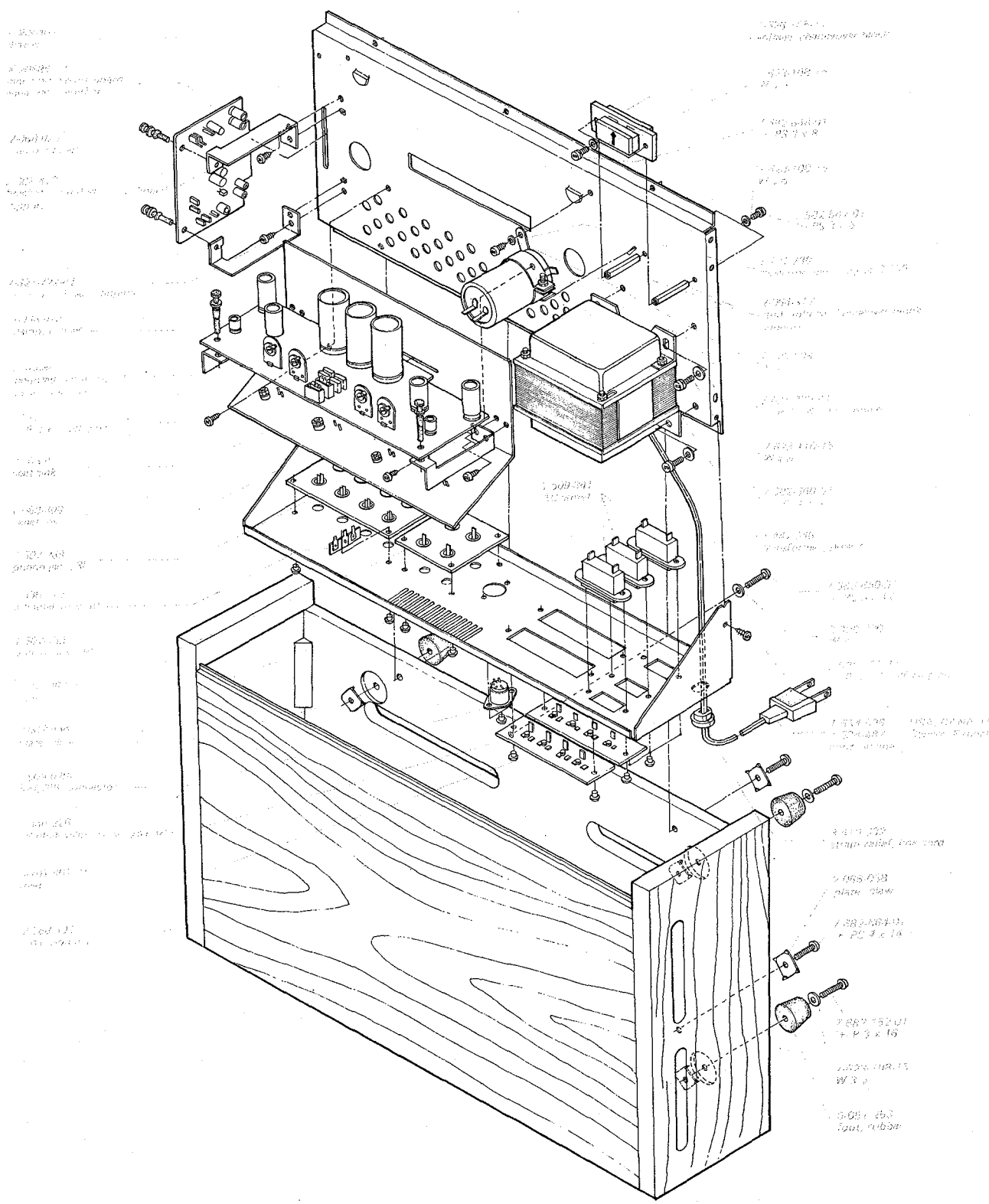
—Component Side—



6-4. MOUNTING DIAGRAM—Power Amplifier —Conductor Side—





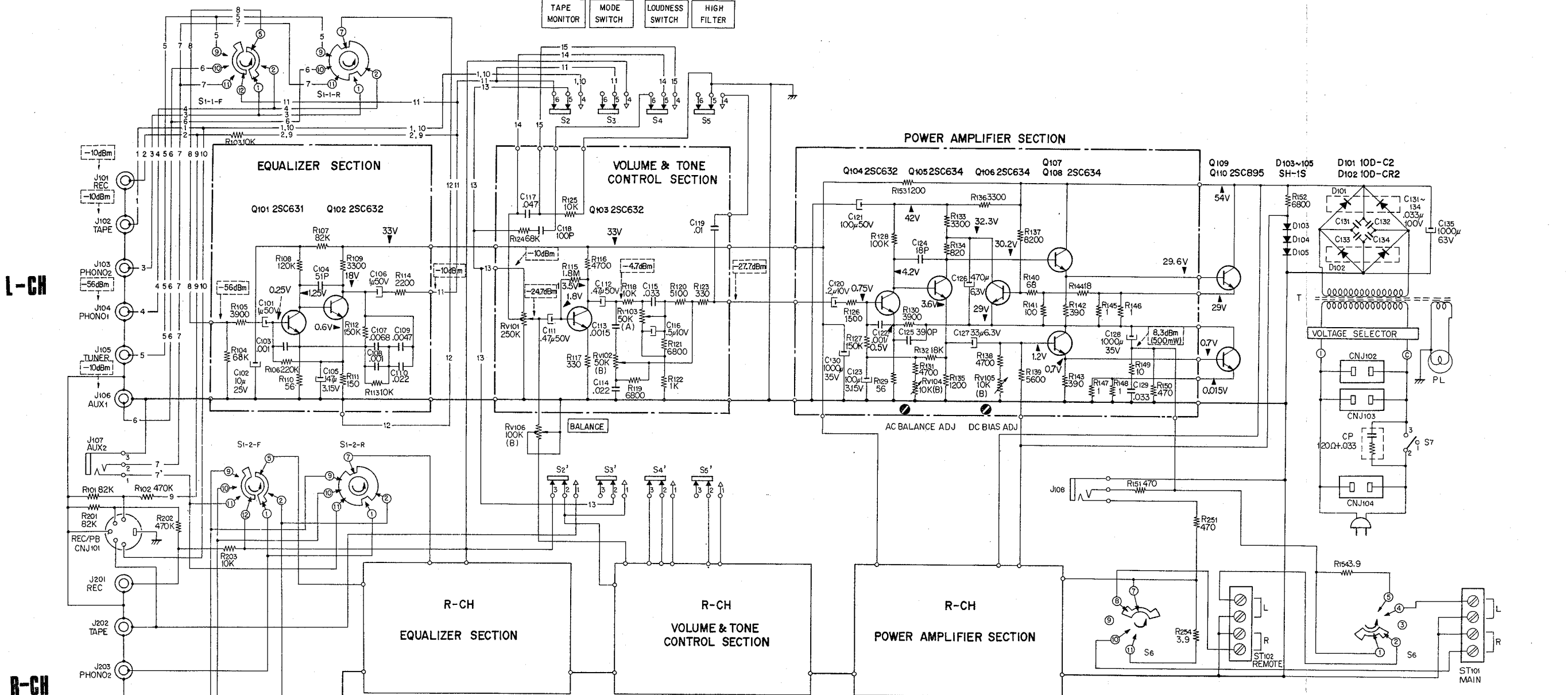


SECTION 8

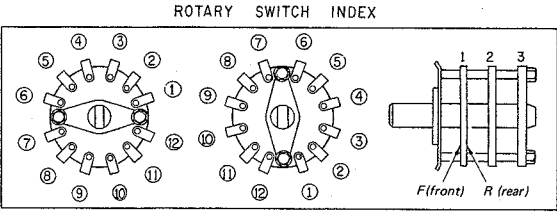
ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
Mounted Circuit Boards			C117(C217)	1-105-681	0.047 ±10% 50V mylar
	X-20684-21	power amplifier circuit board	C118(C218)	1-107-085	100P ±5% 50V silvered mica
	X-20684-22	tone control circuit board	C119(C219)	1-105-673	0.01 ±10% 50V mylar
	X-20684-23	equalizer circuit board	C120(C220)	1-127-072	0.2 ±80% 10V electrolytic (aluminum)
Semiconductors			C121(C221)	1-121-384	100 ±100% 50V electrolytic
Q101 (Q201)		transistor, 2SC631	C122(C222)	1-105-821	0.001 ±20% 50V mylar
Q102 (Q202)		transistor, 2SC632	C123(C223)	1-121-290	100 ±100% 3.15V electrolytic
Q103 (Q203)		transistor, 2SC632	C124(C224)	1-107-113	18P ±10% 50V silvered mica
Q104 (Q204)		transistor, 2SC632	C125(C225)	1-107-242	390P ±10% 50V silvered mica
Q105 (Q205)		transistor, 2SC634	C126(C226)	1-121-359	470 ±100% 6.3V electrolytic
Q106 (Q206)		transistor, 2SC634	C127(C227)	1-121-284	33 ±100% 6.3V electrolytic
Q107 (Q207)		transistor, 2SC634	C128(C228)	1-121-388	1000 ±150% 35V electrolytic
Q108 (Q208)		transistor, 2SC634	C129(C229)	1-105-821	0.001 ±20% 50V mylar
Q109 (Q209)		transistor, 2SC895	C130(C230)	1-121-388	1000 ±100% 35V electrolytic
Q110 (Q210)		transistor, 2SC895	C131	1-105-879	0.033 ±20% 50V mylar
			C132	1-105-879	0.033 ±20% 50V mylar
			C133	1-105-879	0.033 ±20% 50V mylar
			C134	1-105-879	0.033 ±20% 50V mylar
			C135	1-121-788	1000 ±100% 63V electrolytic
D101		diode 10DC-2	Resistors		
D102		diode 10DCR-2	All resistance values are in ohms, ±5%, 1/4w, fixed, carbon type unless otherwise indicated.		
D103		diode SH-1S	R101(R201)	1-244-719	82k
D104		diode SH-1S	R102(R202)	1-244-737	470k
D105		diode SH-1S	R103(R203)	1-244-697	10k
Transformer			R104(R204)	1-242-717	68k
T	1-441-546-12	transformer, power	R105(R205)	1-242-687	39k
Capacitors			R106(R206)	1-242-729	220k
All capacitance values are in microfarads unless otherwise indicated.			R107(R207)	1-242-719	82k
C101(C201)	1-121-343	1 ±150% 50V electrolytic	R108(R208)	1-242-732	120k
C102(C202)	1-121-283	10 ±100% 25V electrolytic	R109(R209)	1-242-685	3.3k
C103(C203)	1-105-821	0.001 ±20% 50V mylar	R110(R210)	1-242-643	56
C104(C204)	1-101-883	51P ±5% 50V ceramic	R111(R211)	1-242-653	150
C105(C205)	1-121-742	47 ±30% 3.15V electrolytic	R112(R212)	1-242-725	150k
C106(C206)	1-121-343	1 ±150% 50V electrolytic	R113(R213)	1-242-697	10k
C107(C207)	1-106-021	0.0068 ±5% 50V mylar	R114(R214)	1-242-681	2.2k
C108(C208)	1-105-661	0.001 ±10% 50V mylar	R115(R215)	1-242-751	1.8M
C109(C209)	1-105-667	0.0047 ±10% 50V mylar	R116(R216)	1-242-689	4.7k
C110(C210)	1-106-033	0.022 ±5% 50V mylar	R117(R217)	1-242-661	330
C111(C211)	1-121-726	0.47 ±150% 50V electrolytic	R118(R218)	1-242-697	10k
C112(C212)	1-121-726	0.47 ±150% 50V electrolytic	R119(R219)	1-242-693	6.8k
C113(C213)	1-105-663	0.0015 ±10% 50V mylar	R120(R220)	1-242-690	5.1k
C114(C214)	1-105-677	0.022 ±10% 50V mylar	R121(R221)	1-242-693	6.8k
C115(C215)	1-105-679	0.033 ±10% 50V mylar			
C116(C216)	1-127-911	0.5 ±50% 10V electrolytic			

SCHEMATIC DIAGRAM



Symbol	Description	Position
S1	FUNCTION sw (PHONO 2-PHONO 1-TUNER-AUX 1-AUX 2)	PHONO 2
S2	MONITOR sw	SOURCE
S3	MODE sw	STEREO
S4	LOUDNESS sw	ON
S5	HIGH FILTER	OFF
S6	SPEAKER sw (REMOTE-OFF-MAIN-BOTH)	REMOTE



Note:
All resistance values are in ohms. K=1000, M=1000K
All capacitance values are in μF except as indicated with p, which means μF .
All voltages represent an average value and should hold within $\pm 20\%$.
All voltages are dc measured with a VOM which has an input impedance of 33.3 k ohms/volt at no signal.
signal voltages are measured with ac VTVM and expressed in dBm referred to 0.775 volts, 1 kHz.

SONY
TA-1010

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
R122(R222)	1-242-673	1k		
R123(R223)	1-242-661	330		
R124(R224)	1-242-717	68k		
R125(R225)	1-242-697	10k		
R126(R226)	1-244-677	1.5k		
R127(R227)	1-244-725	150k		
R128(R228)	1-244-721	100k		
R129(R229)	1-244-643	56		
R130(R230)	1-244-687	3.9k		
R131(R231)	1-244-689	4.7k		
R132(R231)	1-244-703	18k		
R133(R233)	1-244-685	3.3k		
R134(R234)	1-244-671	820		
R135(R235)	1-244-675	1.2k		
R136(R236)	1-244-685	3.3k		
R137(R237)	1-244-695	8.2k		
R138(R238)	1-244-689	4.7k		
R136(R239)	1-244-691	5.6k		
R140(R240)	1-244-645	68		
R141(R241)	1-244-625	10		
R142(R242)	1-244-663	390		
R143(R243)	1-244-663	390		
R144(R144)	1-244-631	18		
R145(R245)	1-244-601	1		
R146(R246)	1-244-601	1		
R147(R247)	1-244-601	1		
R148(R248)	1-244-601	1		
R149(R249)	1-202-525	10	±20%	1/2W composition
R150(R250)	1-202-565	470	±20%	1/2W composition
R151(R251)	1-202-565	470	±20%	1/2W composition
R152	1-244-693	6.8k		
R153	1-202-575	1.2k	±10%	1/2W composition
R154(R254)	1-207-310	3.9	±10%	3W wire-wound
RV101 } RV201 }	1-222-274	250k/250k		variable
RV102 } RV202 }	1-222-203	50k/50k		variable
RV103 } RV203 }	1-222-203	50k/50k		variable
RV104(RV204)	1-221-967	10k		somifixed
RV105(RV205)	1-221-967	10k		somifixed
RV106(RV206)	1-222-281	100k		variable

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
Switches		
S1	1-514-613	switch, rotary (FUNCTION)
S2	1-514-625	switch, lever slide (TAPE MONITOR)
S3	1-514-625	switch, lever slide (MODE)
S4	1-514-625	switch, lever slide (LOUDNESS)
S5	1-514-625	switch, lever slide (HIGH FILTER)
S6	1-514-555	switch, rotary (SPEAKER SELECTOR)
S7	1-514-626	switch, lever seesaw (AC POWER)

Miscellaneous		
1-231-057		encapsulated component, 0.033μF + 120Ω
1-507-163		phono jack, 4-P
1-507-265		jack, headphone
1-507-268		phono jack, 8-p
1-509-029		din connector
1-509-341		ac outlet
1-517-021		socket, pilot lamp
1-518-052		lamp, pilot
1-536-146		terminal strip, 1L1 (A)
1-536-179		terminal strip, 1L1 (C)
1-536-226		terminal strip, 4-P
1-526-165		selector, voltage
1-534-487-22		ac cord