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TEAC®

AS-100

INTEGRATED AMPLIFIER
SERVICE MANUAL

TEAC CORPORATION

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MA1000E100

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GENERAL INTRODUCTION

The TEAC AS-100 is a newly designed stereo integrated amplifier of the highest quality utilizing the latest circuit theory in its manufacture. It's special features include a differential type power amplifier unit which is direct coupled throughout all stages, and an electronic protective circuit for the purpose of preventing speaker damage from any malfunction.
This Service Manual is intended for reference and assistance to service engineers who maintain and repair the AS-100.
The Model AS-100 amplifier is thoroughly inspected and adjusted, mechanically and electrically, prior to shipment from the factory and is thus guaranteed to give perfect performance on opening the shipping carton. Although this amplifier utilizes unique circuits, quick repair is made possible by refering to this manual. The amplifier is designed for easy servicing.
This manual avoids extensive explanations and instead presents all printed circuit board patterns, circuit diagrams and ample photos for quick comprehension of parts layout. In the PC patterns, external circuits and their connecting points at each board are included for easy circuit tracing. Furthermore, codes and numbers are clearly indicated in the parts list and photos of parts layout for convenience in ordering parts.

INDEX

SPECIFICATIONS

Type	All silicone transistor integrated amplifier (26 silicone transistors, 2 ICs, 2 thyristors, 9 diodes)
Circuit	Differential quasi-complementry SEPP

POWER AMPLIFIER SECTION

Rated power	60W(both channel operate THD 0.2% 8 ohms load) 40W/40W(each channel operate THD 0.2% 8 ohms load)
Harmonic distortion	below 0.2% rated power below 0.1% 0.1W
IM distortion	below 0.2% rated power
Power bandwidth	10 - 40,000Hz -3dB
Frequency response	5 - 200,000Hz+0, -2dB at 1W
Signal to noise ratio	better than 90dB
Residual system noise	below 0.6mV
Input sensitivity	1V for rated power
Input impedance	50,000 ohms
Output load impedance	4 - 16 ohms

PREAMPLIFIER SECTION

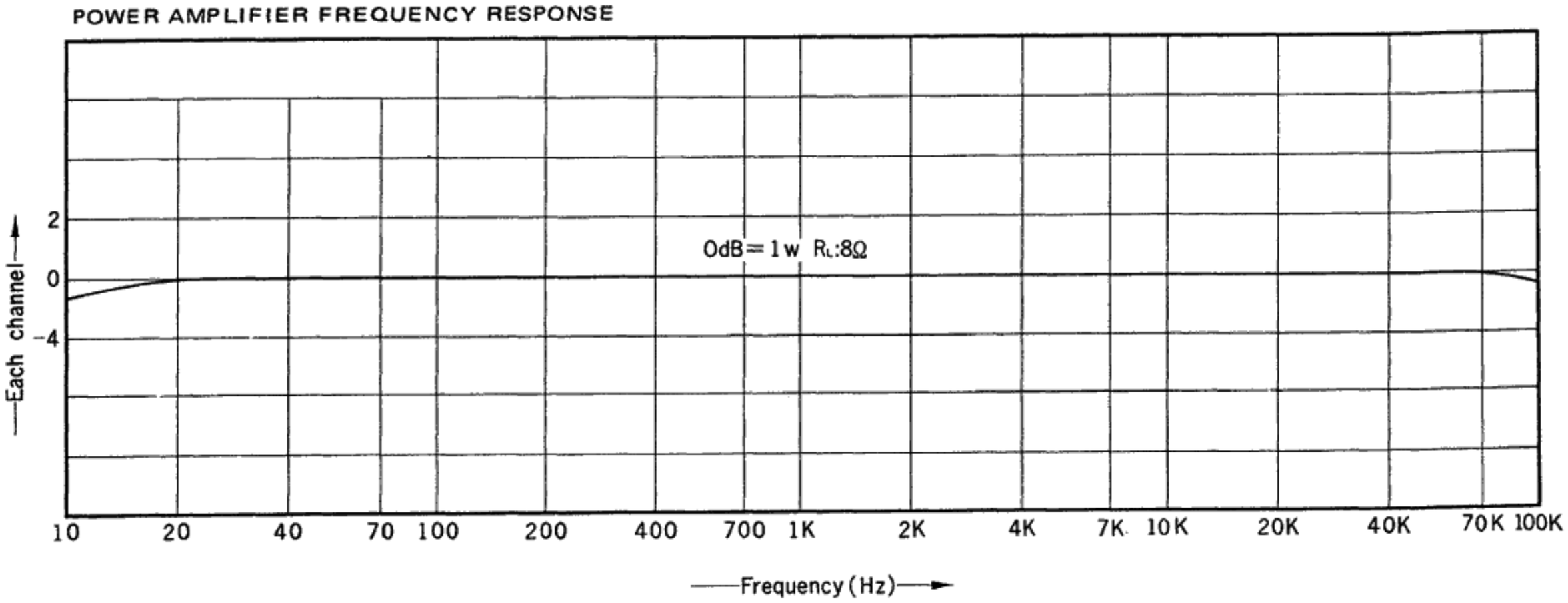
Inputs	Phono-1, 2: 2mV (input impedance 50,000 ohms) Tuner: 150mV (input impedance 50,000 ohms) AUX-1, 2: 150mV (input impedance 50,000 ohms) Tape deck play: 150mV (input impedance 60,000 ohms)
Outputs	Output voltage: 1V at rated input Record out: 150mV at rated input
Frequency response	10 - 50,000Hz 1dB
Signal to noise ratio	Phono inputs: 70dB AUX inputs: 80dB
Tone control	100Hz: 10dB, 10,000Hz: 10dB
Loudness control	50Hz: +7dB, 10,000Hz: +4dB
Filter	Low cut: 100Hz, 6dB/oct High cut: 8,000Hz, 6dB/oct

Power requirements	100/117/220/240V AC 50/60Hz (US Model is 117V only)
Power consumption	15W at no signal 160W at rated power
AC outlet	Switched: 200W max. Unswitched: 200W max.
Dimensions	141(H) x 410(W) x 328(D)mm 5-9/16"(H) x 16-1/8"(W) x 12-15/16"(D)
Weight	10kg, 22 lbs, net

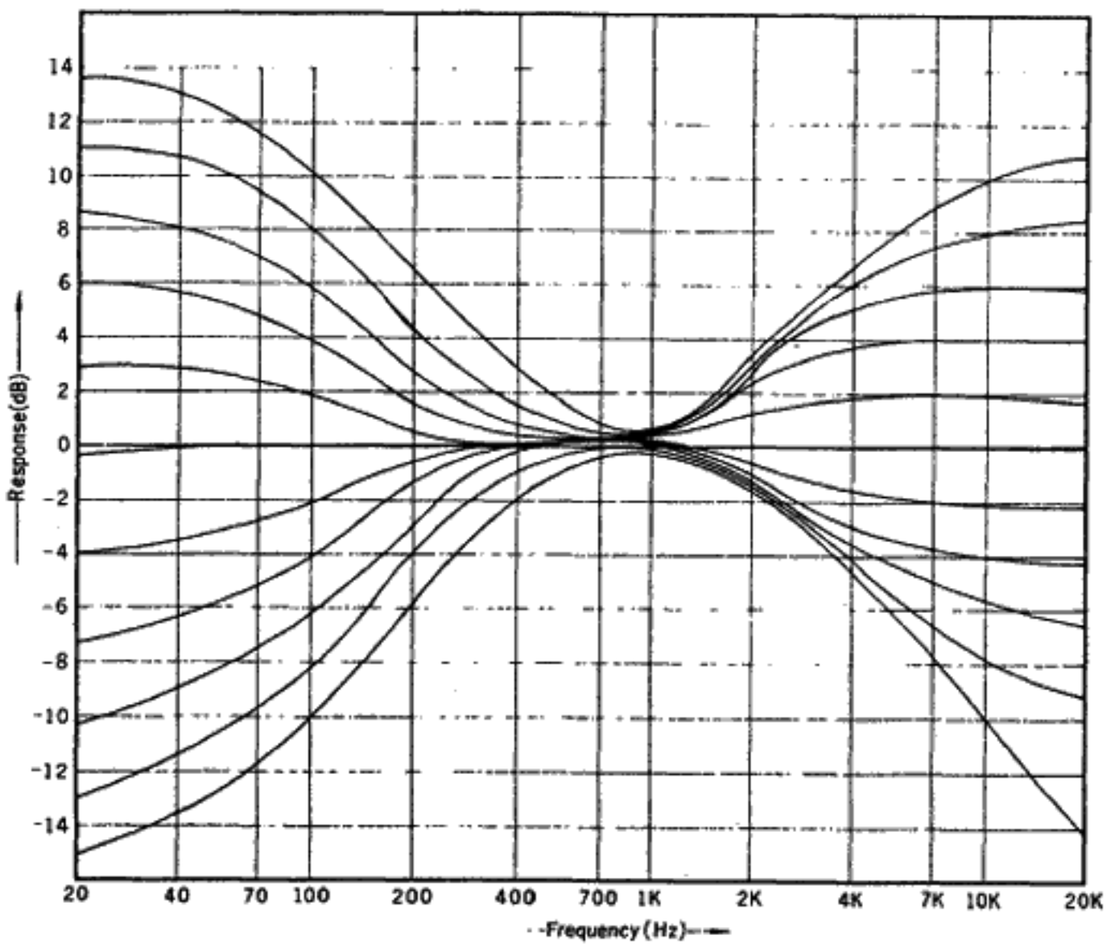
Features and specifications subject to change without notice.

CHARACTERISTICS CURVES

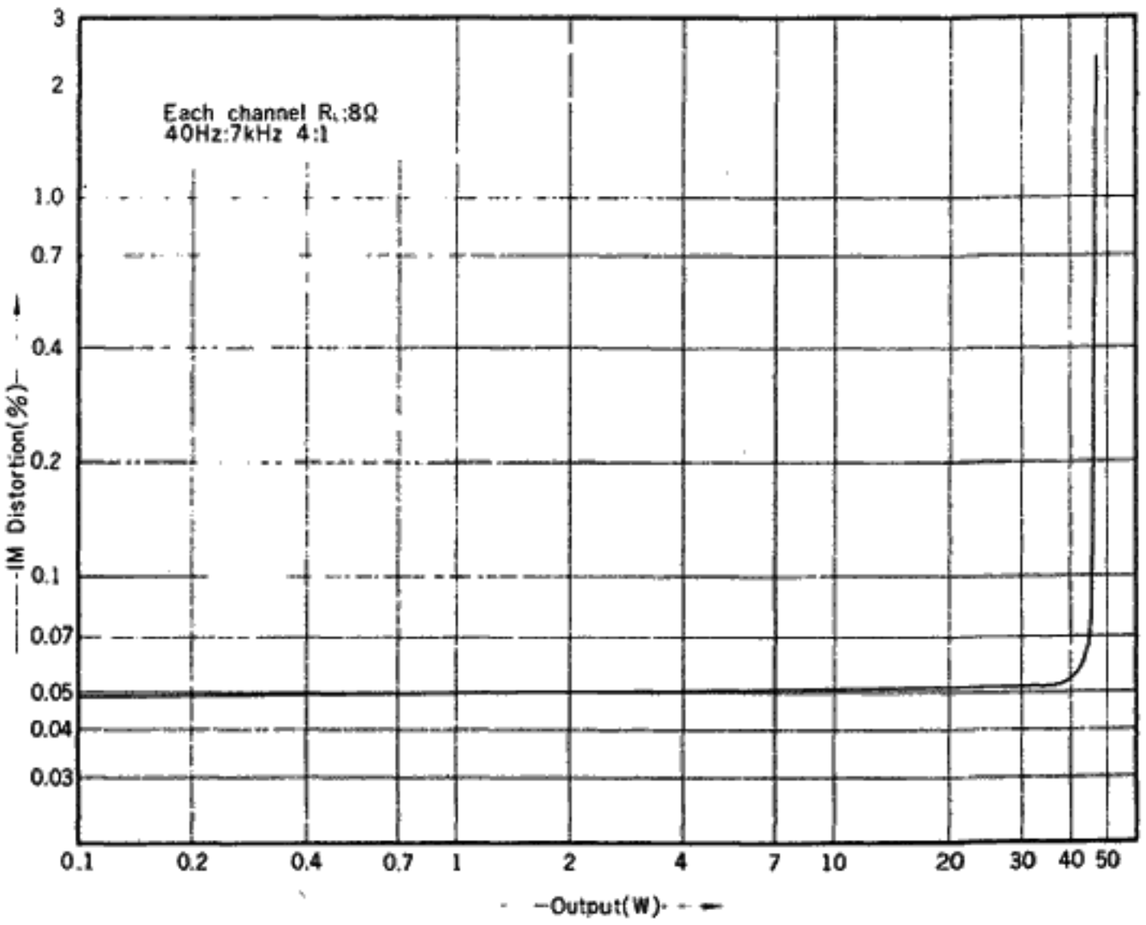
POWER AMPLIFIER FREQUENCY RESPONSE



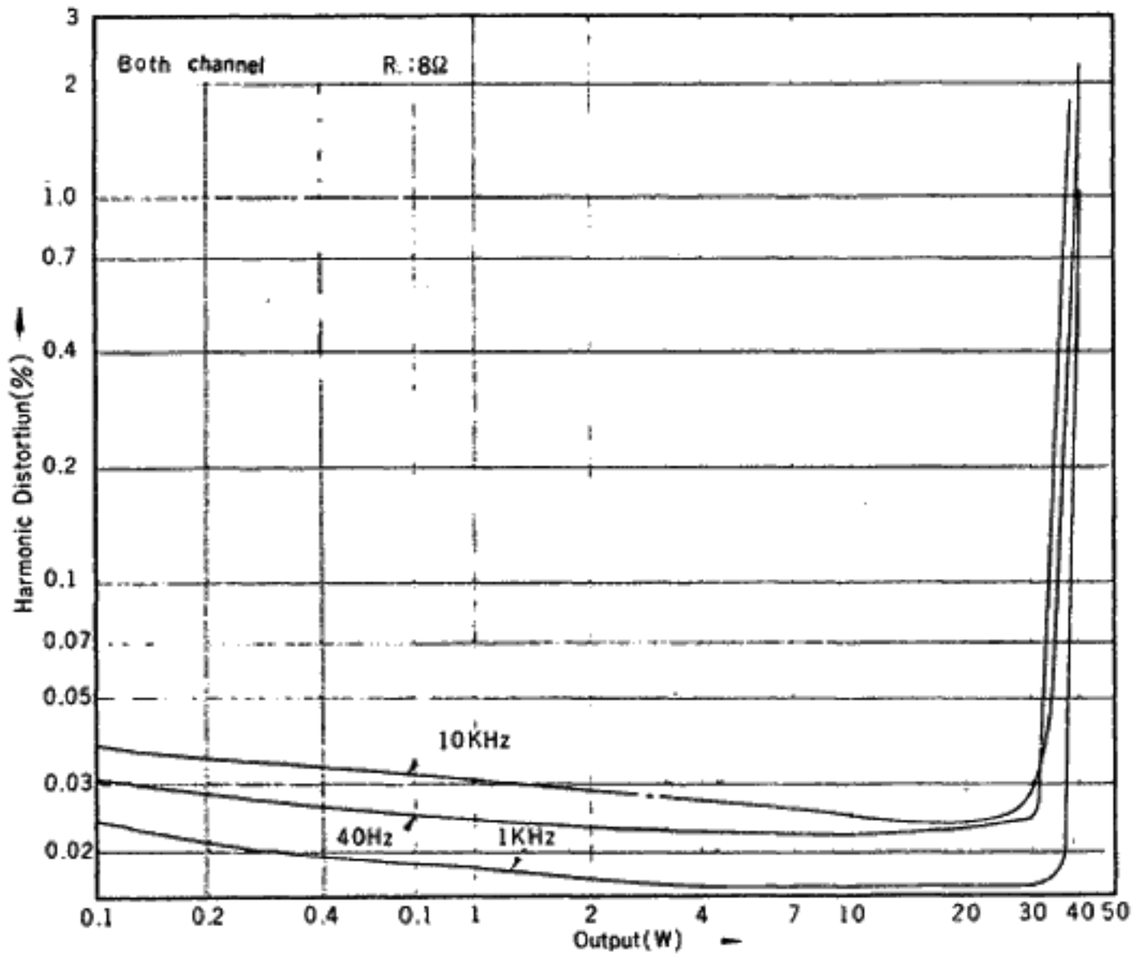
TONE CONTROL CHARACTERISTTICS



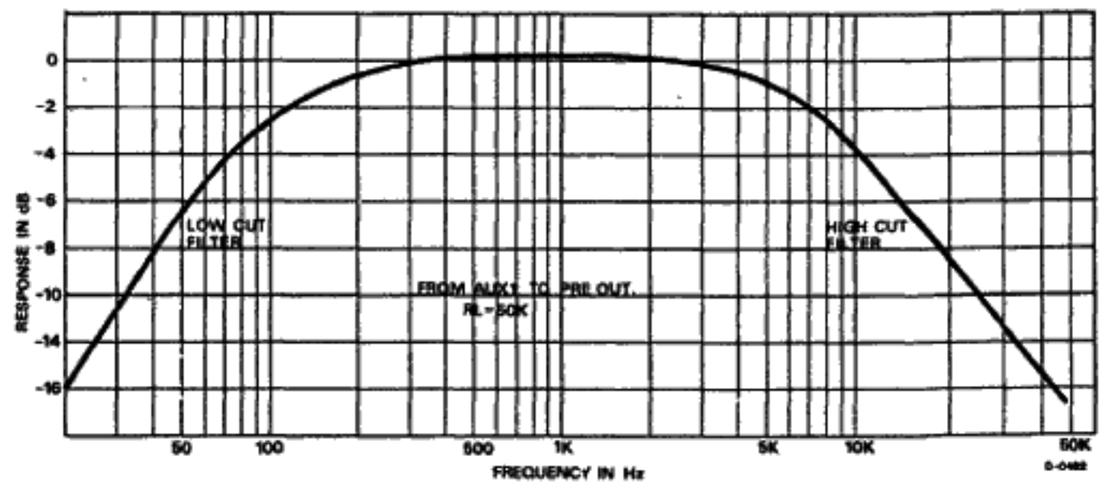
IM DISTORTION CHARACTERISTICS OF POWER AMPLIFIER SECTION



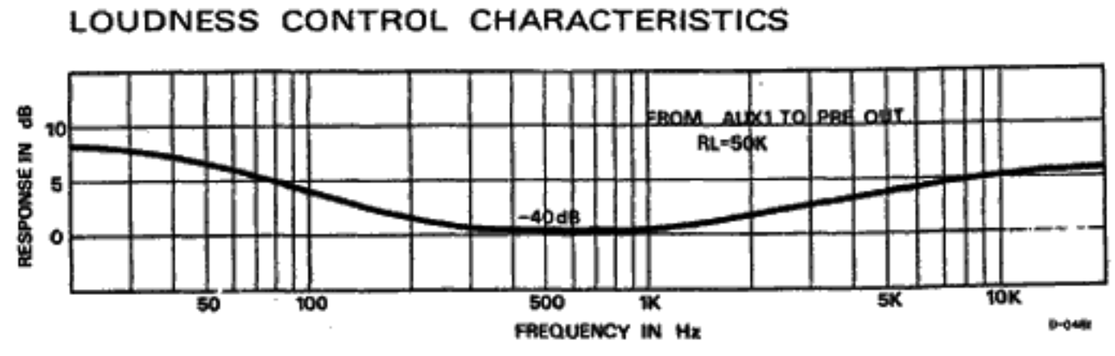
HARMONIC DISTORTION OF POWER AMPLIFIER SECTION



FILTER CHARACTERISTICS



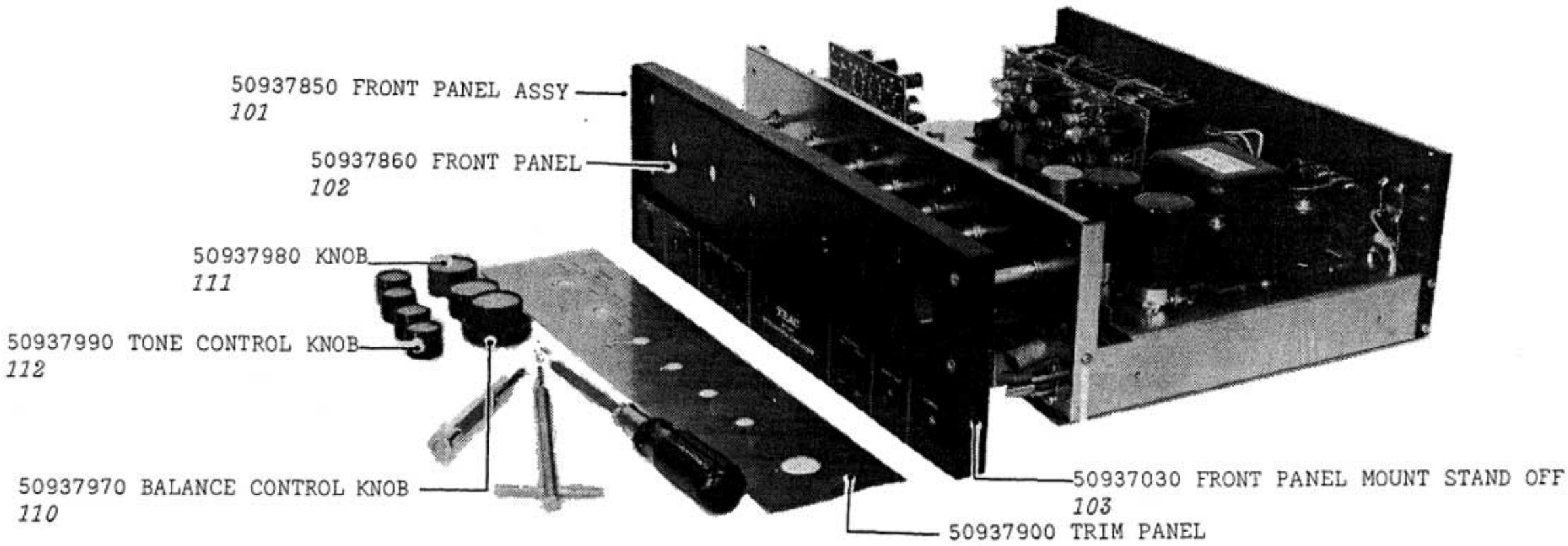
LOUDNESS CONTROL CHARACTERISTICS



PARTS LAYOUT AND PARTS LIST

T334

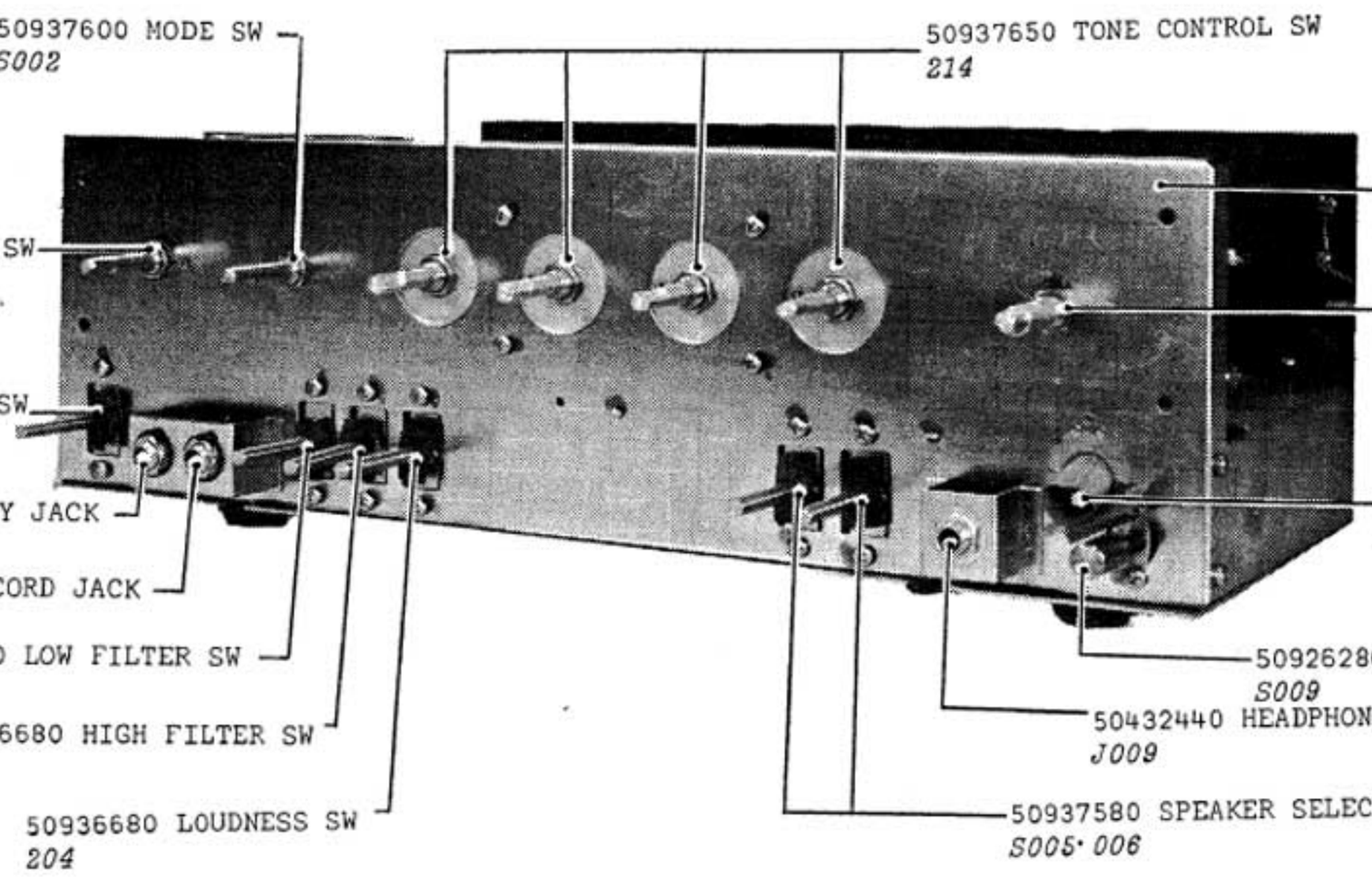
FRONT PANEL ASSY



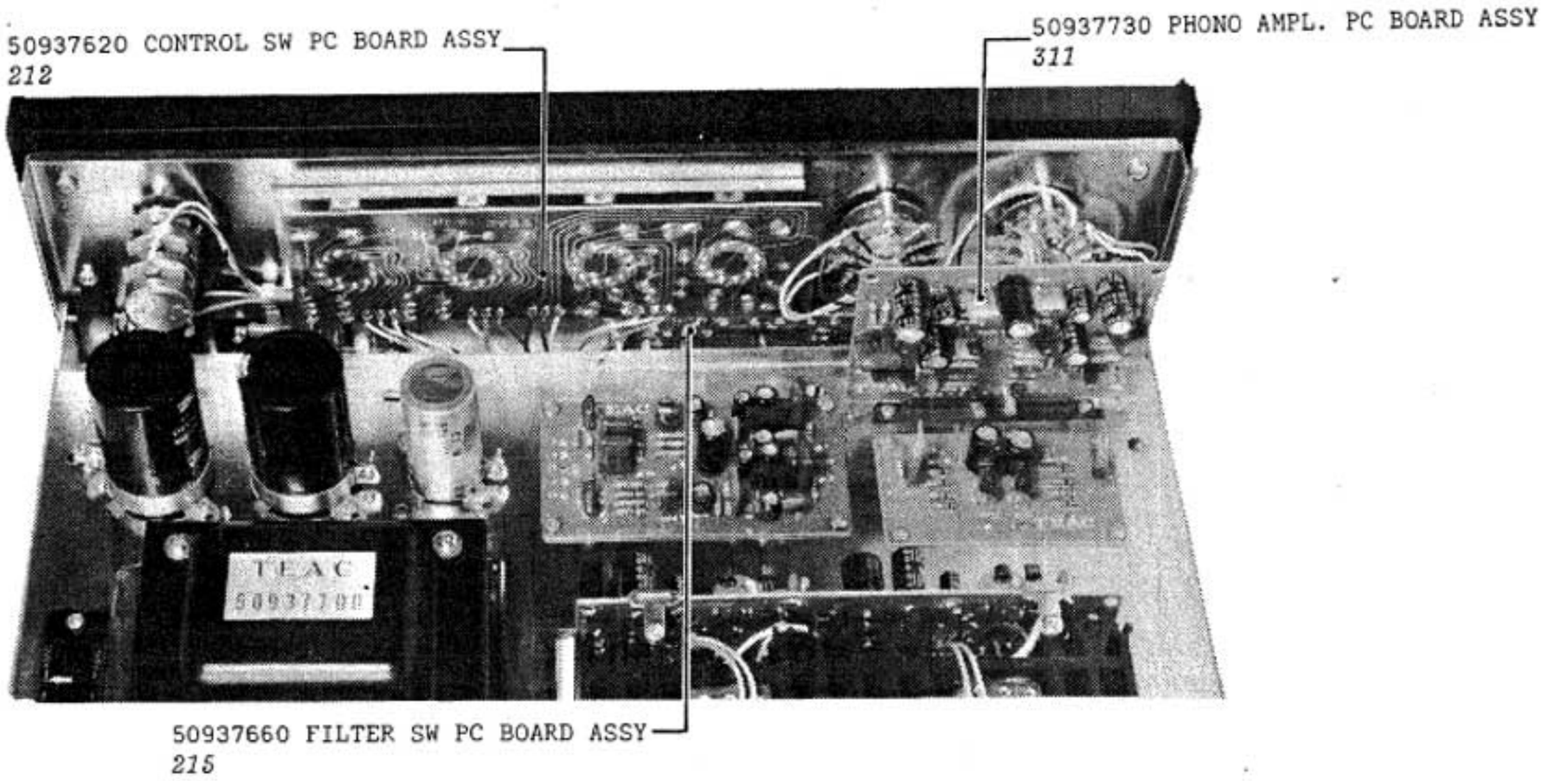
FRONT PANEL REMOVAL

REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
101	50937850	Panel Assy, Front		
102	50937860	Panel, Front		
103	50937030	Stand Off, Front Panel Mount, x 4		
104	50937900	Panel, Trim		
105	50937260	Trim Sash, x 2		
106	50928730	Escutcheon, Power Push Button		
107	50937940	Escutcheon, Phone Jack, x 3		
108	50937070	Escutcheon, Lever SW Knob, x 6		
109	50937960	Lens, Lamp, Small		
110	50937970	Knob, Balance Control		
111	50937980	Knob, Volume, x 3		
112	50937990	Knob, Tone Control, x 4		

FRONT CHASSIS



SWITCHES AND POTENTIOMETERS

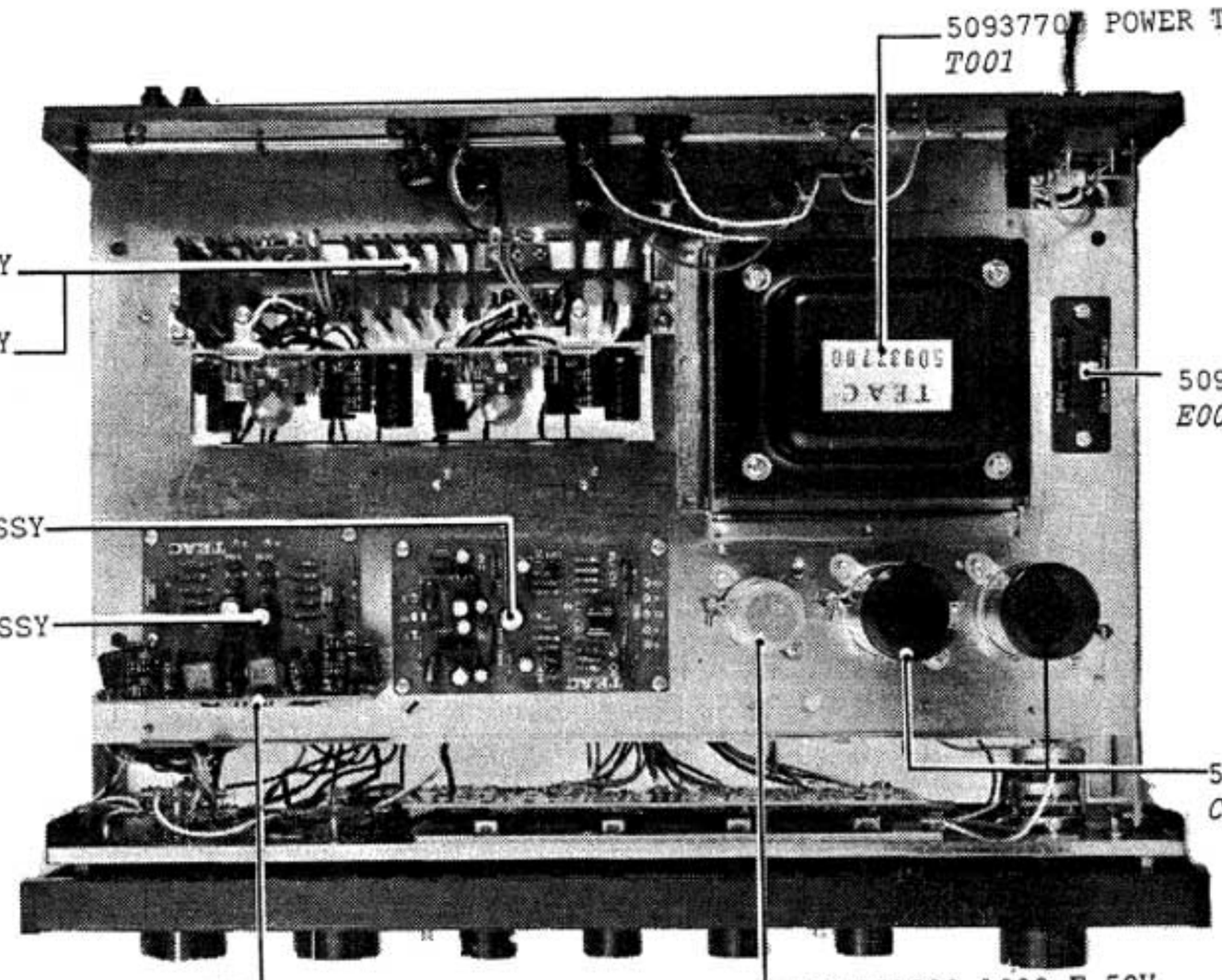


VIEW FROM ABOVE REAR

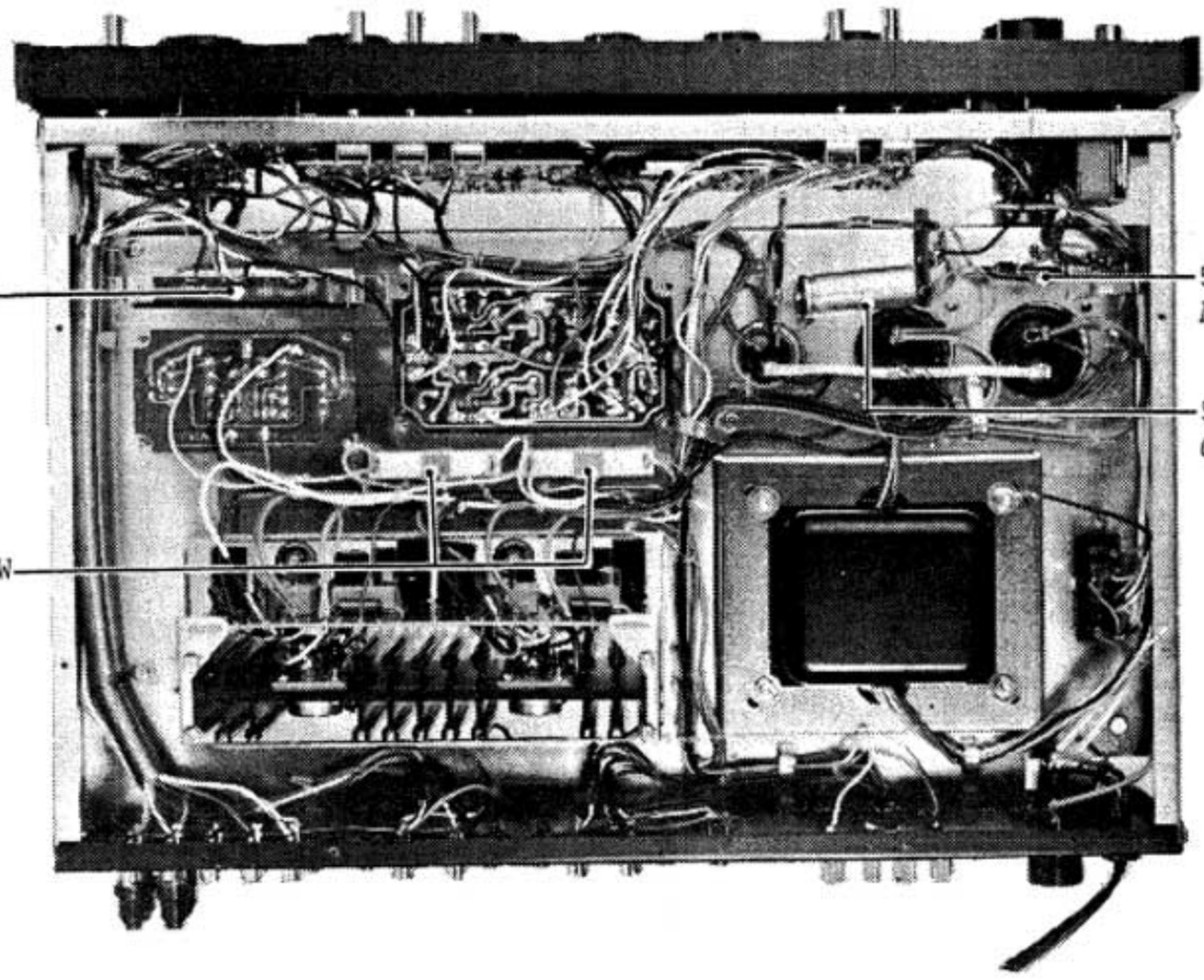
FRONT CHASSIS

REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
201	50937572	Chassis, Front		
202	50936680	SW, Low Filter, Lever		
203	50936680	SW, High Filter, Lever		
204	50936680	SW, Loudness, Lever		
205	50921152	Tube, Lamp		
206	50415030	Socket, Lamp		
207	50938190	Pipe, B, Shield		
208	50937240	Clamp, Cable		
209	50937220	Lever Knob Sheet, x 6		
210	50937110	Knob, Lever SW, x 6		
211	50937270	Button, Power SW		
212	50937620	PC Board Assy, Control SW		
213	50937630	Bracket, Control SW Mount		
214	50937650	SW, Tone Control, x 4		
215	50937660	PC Board Assy, Filter SW		
E001	50414131	Lamp, Power ON Indicator		
E004	50529060	CR Unit, Spark-Killer 0.033uF+120 ohm		
J004	50432440	Jack, Record 3 cond		
J005	50938000	Jack, Play 3 cond, with SW		
J009	50432440	Jack, Headphone 3 cond		
R009-012	50513970	Resistor, Carbon 4.7k 1/4W 10%		
R011·012	50527050	Resistor, Metal Oxide Film 470 ohm 1W 10%		
S001	50937590	SW, Sourse		
S002	50937600	SW, Mode		
S004	50936690	SW, Tape Monitor Lever		
S005·006	50937580	SW, Speaker Selector, Lever		
S009	50926280	SW, Power, Push Button		
VR001	50937610	Potentiometer, Dual, Volume & Balance		

MAIN CHASSIS



TOP VIEW

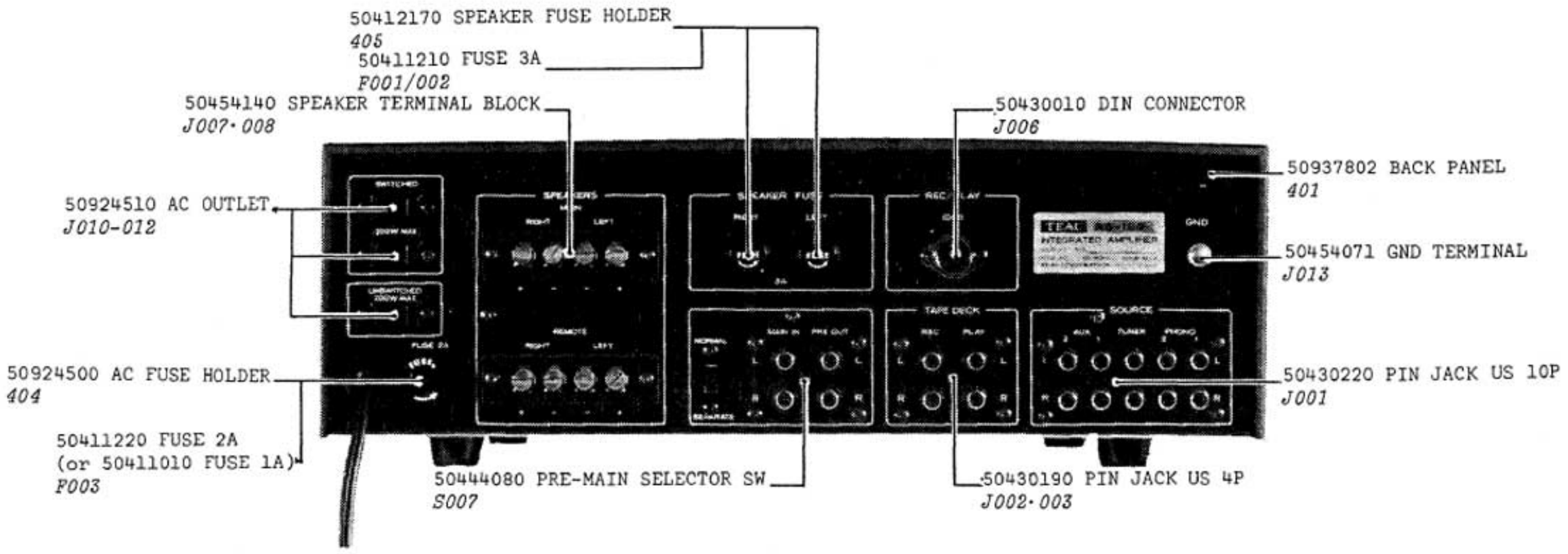


BOTTOM VIEW

MAIN CHASSIS

REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
301	50937680	Chassis, Main		
302	50937690	Pipe, A, Shield		
303	50452060	Terminal Strip, 1L2P, x 2		
304	50452090	Terminal Strip, 1L4P, x 2		
305	50923780	Grommet, Cable, x 2		
306	50937710	Cover, Bottom		
307	50283830	Mount Foot, x 4		
308	50938200	Cushion, Phono Amplifier		
309	50937720	Cover, Top		
310	50937240	Clamp, Cable, x 7		
311	50937730	PC Board Assy, Phono Ampl.		
312	50937750	PC Board Assy, Control Ampl.		
313	50937770	Power Amplifier Assy		
314	50937780	PC Board Assy, Power Ampl.		
315	50938160	PC Board Assy, Protective Circuit		
C001/002	50551220	Cap., Electrolytic 3300/50V	50551320	
C003	50555290	Cap., Electrolytic 330/35V		
C004	50551230	Cap., Electrolytic 1000/50V	50551310	
D001-004	50422420	Diode, Silicone IS-1072		
D005	50422430	Diode, Silicone V06C		
E003	50927610	Voltage Selector, AC Power		
J013	50938300	Connector, Edge 14P Phono Ampl. Receptacle		
R015/016	50520060	Resistor, Cement 0.33/10W 20%		
R017	50527060	Resistor, Metal Oxide Film 1k/1W 10%		
T001	50937700	Transformer, Power		

BACK PANEL



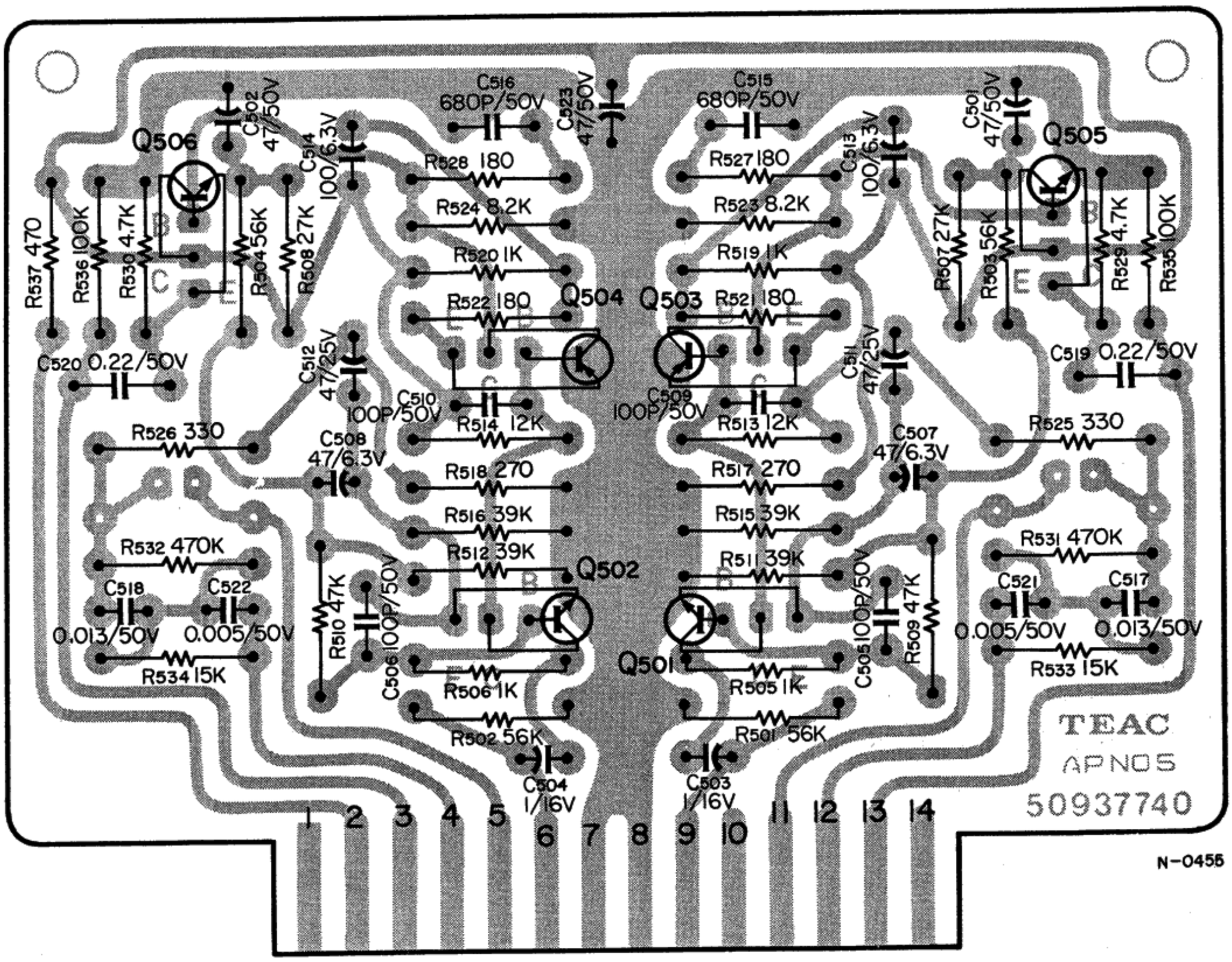
REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
401	50937802	Panel, Back		
402	50271670	Grommet, AC Cord		
403	50471651	Cord, AC		
404	50924500	Fuse Holder, AC		
405	50412170	Fuse Holder, Speaker, x 2		
406	50452500	Terminal Strip, 1L4P Small		
407	50430171	Short Pin Plug, x 4		
C005	50541110	Cap., Oil-Filled 0.0047/450V		
F001/002	50411210	Fuse, 3A, x 2		
F003	50411220	Fuse, 2A (AC 100, 117V only)		
F003	50411010	Fuse, 1A (AC 220, 240V only)		
J001	50430220	Pin Jack, US 10P		
J002·003	50430190	Pin Jack, US 4P, x 2		
J006	50430010	Connector, DIN		
J007·008	50454140	Terminal Block, Speaker 4P		
J010-012	50924510	Receptacle, AC Outlet		
J013	50454071	GND Terminal		
R001/002	50513570	Resistor, Carbon 10k 1/4W 10%		
R003/004	50518910	Resistor, Carbon 390k 1/4W 10%		
R005/006	50513700	Resistor, Carbon 100k 1/4W 10%		
S007	50444080	SW, Slide, Pre-Main Selector		

PRINTED CIRCUIT BORD AND PARTS LIST
AS-100

T334

PC BOARD
AS-100

PHONO AMPLIFIER

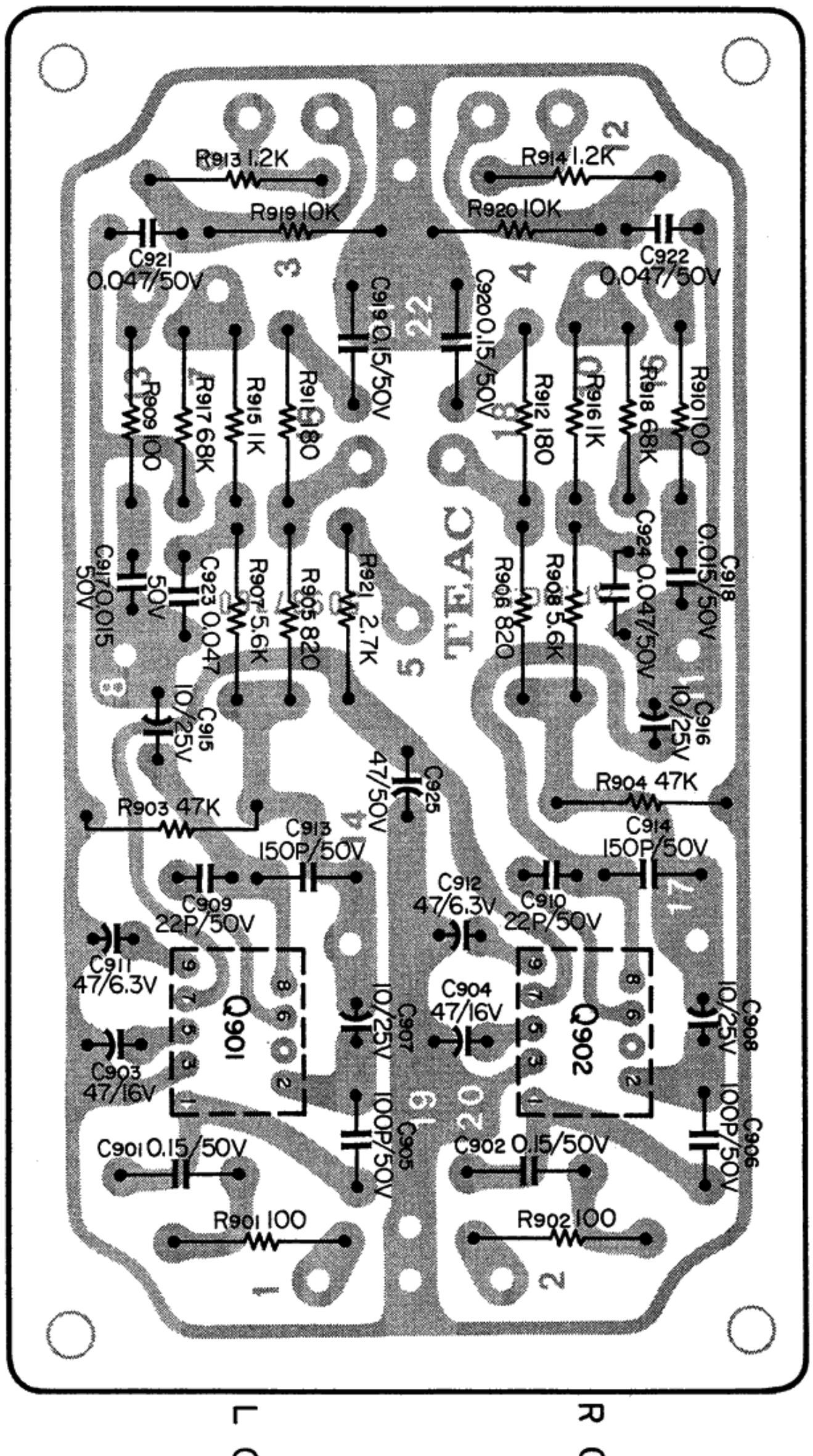


PHONO AMPLIFIER

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
	50937730	PC Board Assy, Phono		
	50937740	PC Board, Phono Amplifier		
	TRANSISTORS			
Q501/502	50424100	2SC 1000-GR		
Q503/504	50424110	2SA 493-GR		
Q505/506	50423500	2SC 734-Y		
	CARBON RESISTORS			
	ALL RESISTORS IN OHM, 10% TOLERANCE, 1/4 WATT UNLESS OTHERWISE NOTED.			
R501/502	50513990	56k		
R503/504	50513990	56k		
R505/506	50513430	1k		
R507/508	50513860	27k		
R509/510	50513870	47k		
R511/512	50519440	39k		
R513/514	50513580	12k		
R515/516	50519440	39k		
R517/518	50519280	270		
R519/520	50513430	1k		
R521/522	50518770	180		
R523/524	50518830	8.2k		
R525/526	50519290	330		
R527/528	50518770	180		
R529/530	50513970	4.7k		
R531/532	50518370	470k		
R533/534	50513590	15k		
R535/536	50513700	100k		
R537	50519600	470		
	CAPACITORS			
	ALL CAPACITORS IN MICRO FARADS UNLESS OTHERWISE NOTED.			
C501/502	50554580	Electrolytic 47/150V		
C503/504	50546180	Tantalum 1 1/16V		
C505/506	50543400	Dipped Mica 100p/50V/10%		
C507/508	50554030	Electrolytic 47/6.3V		
C509/510	50543400	Dipped Mica 100p/50V/10%		
C511/512	50554020	Electrolytic 47/25V		
C513/514	50554230	Electrolytic 100/6.3V		
C515/516	50543430	Dipped Mica 680p/50V/10%		
C517/518	50547990	Mylar 0.013/50V/5%		
C519/520	50548660	Mylar 0.022/50V/10%		
C521/522	50548050	Mylar 0.005/50V/10%		
C523	50554580	Electrolytic 47/50V		

PC BOARD
AS-100

CONTROL AMPLIFIER



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L CH

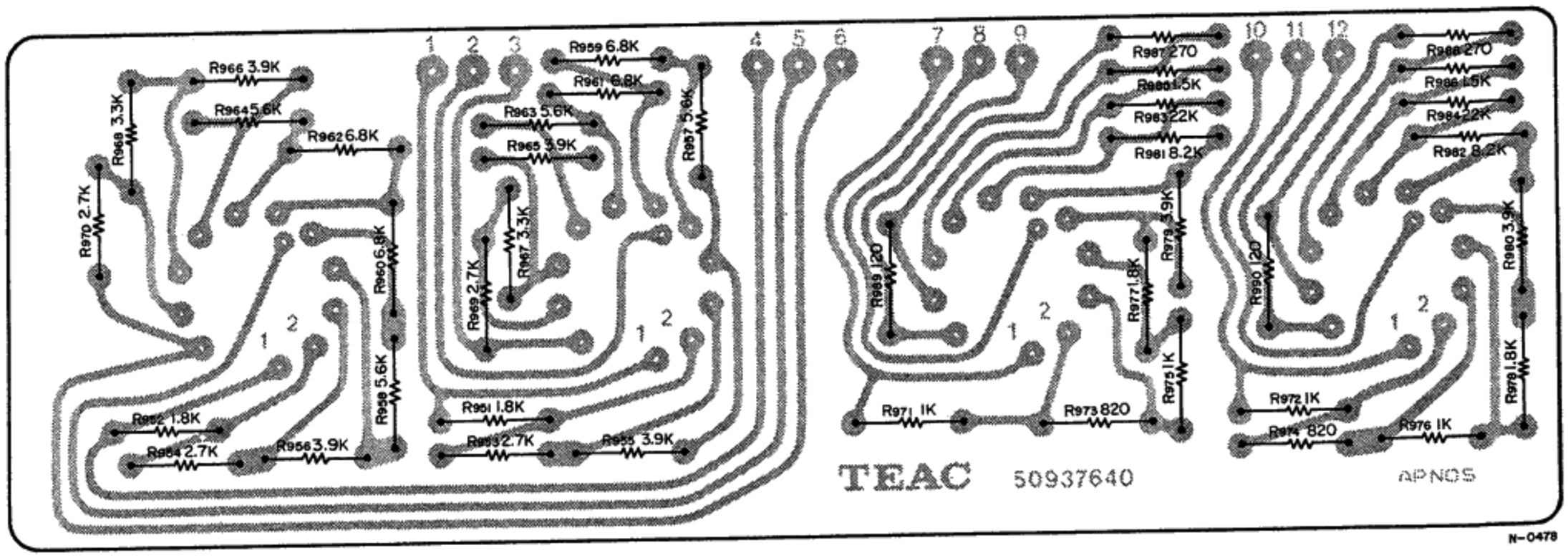
R CH

CONTROL AMPLIFIER

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION		1ST	2ND
	50937750	PC Board Assy, Control			
	50937760	PC Board, Control Amplifier			
		INTEGRATED CIRCUIT			
Q901/902	50427080	IC, 42708			
		CARBON RESISTORS			
		ALL RESISTORS IN OHM, 10% TOLERANCE, 1/4 WATT UNLESS OTHERWISE NOTED.			
R901/902	50513300	100k			
R903/904	50513870	47k			
R905/906	50518800	820			
R907/908	50513880	5.6k			
R909/910	50513300	100			
R911/912	50518770	180			
R913/914	50513440	1.2k			
R915/916	50513430	1k			
R917/918	50519190	68k			
R919/920	50513570	10k			
R921	50518050	2.7k			
		CAPACITORS			
		ALL CAPACITORS IN MICRO FARADS UNLESS OTHERWISE NOTED.			
C901/902	50548312	Mylar	0.015/50V/10%		
C903/904	50554430	Electrolytic	47/16V		
C905/906	50543400	Dipped Mica	100p/50V/10%		
C907/908	50554040	Electrolytic	10/25V		
C909/910	50543330	Dipped Mica	22p/50V		
C911/912	50554030	Electrolytic	47/6.3V		
C913/914	50543300	Dipped Mica	150p/50V/10%		
C915/916	50554040	Electrolytic	10/25V		
C917/918	50548420	Mylar	0.015/50V/10%		
C919/920	50548310	Mylar	0.15/50V/10%		
C921/922	50548270	Mylar	0.047/50V/10%		
C923/924	50548270	Mylar	0.047/50V/10%		

PC BOARD
PARTS LIST
AS-100

CONTROL SWITCH



CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
	50937620	PC Board Assy, Control SW		
	50937640	PC Board, Control SW		
	50937630	Bracket, Control SW Mount		
	50937650	SW, Tone Control, x 4		

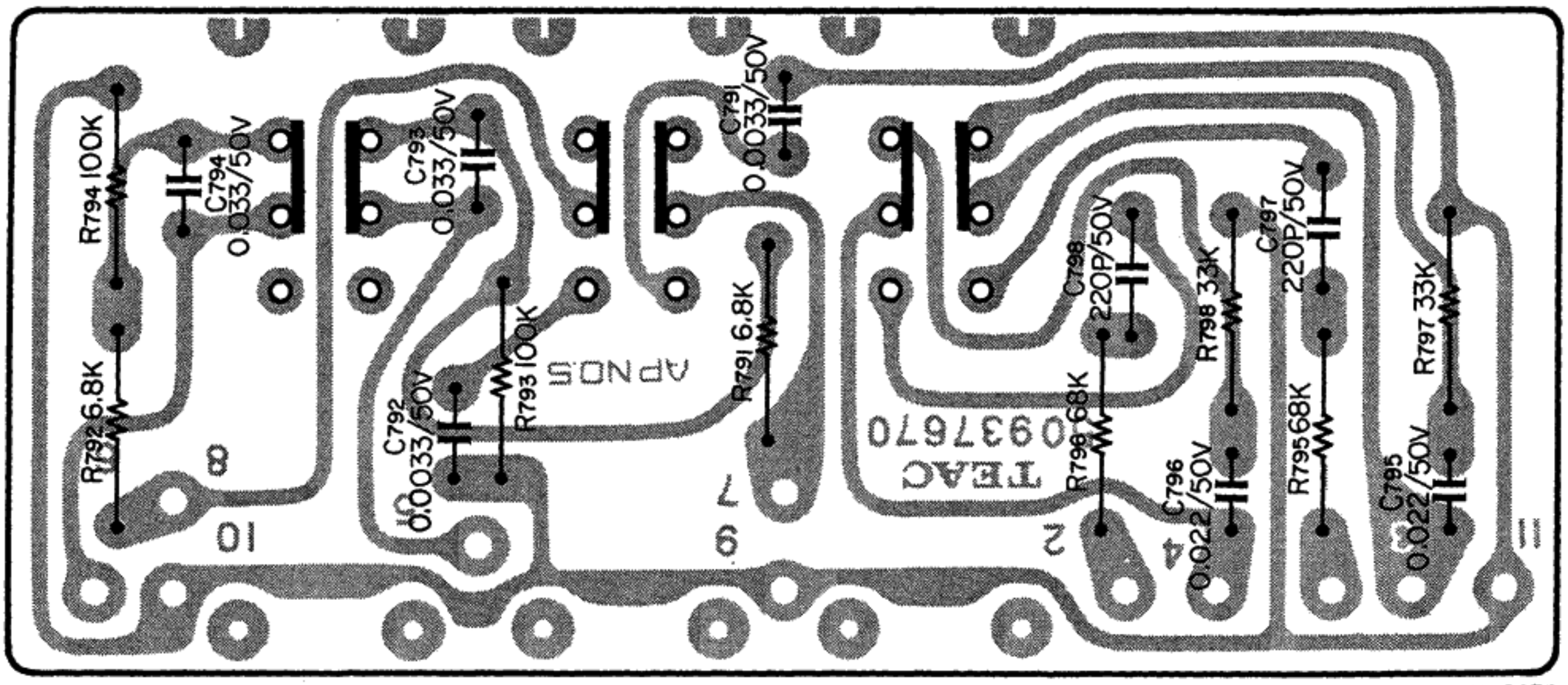
CARBON RESISTORS

ALL RESISTORS IN OHM, 10% TOLERANCE,
1/4 WATT UNLESS OTHERWISE NOTED.

R951/952	50519590	1.8k
R953/954	50518050	2.7k
R955/956	50513940	3.9k
R957/958	50513880	5.6k
R959/960	50519230	6.8k
R961/962	50519230	6.8k
R963/964	50513880	5.6k
R965/966	50513940	3.9k
R967/968	50513960	3.3k
R969/970	50518050	2.7k
R971/972	50513430	1k
R973/974	50518800	820
R975/976	50513430	1k
R977/978	50519590	1.8k
R979/980	50513940	3.9k
R981/982	50518830	8.2k
R983/984	50513610	22k
R985/986	50513450	1.5k
R987/988	50519280	270
R989/990	50513310	120

FILTER SWITCH

PC BOARD
PARTS LIST
AS-100

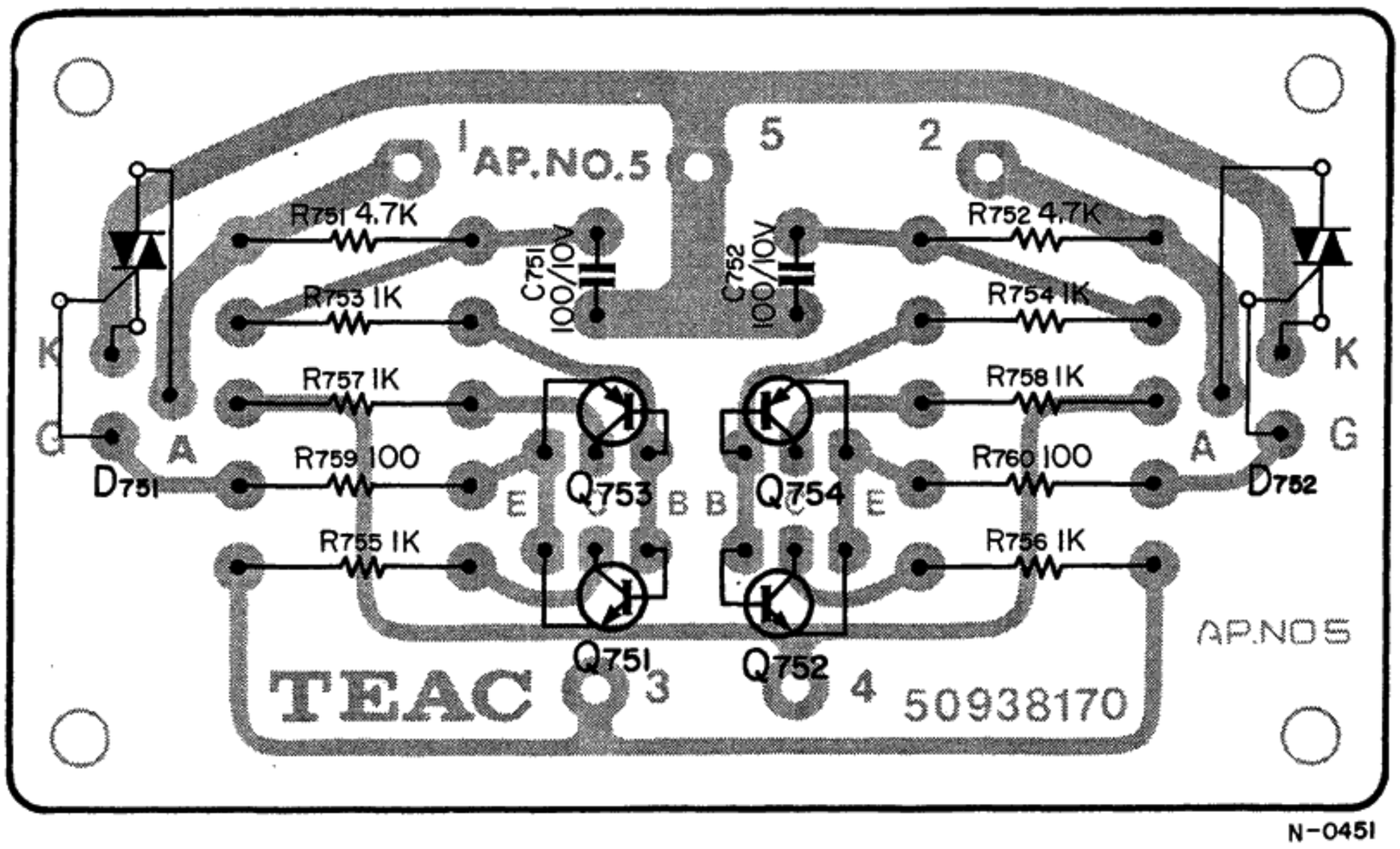


N-0454

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
	50937660	PC Board Assy, Filter SW		
	50937670	PC Board, Filter SW		
	CARBON RESISTORS			
R791/792	50519230	6.8k ohm 1/4W 10%		
R793/794	50513700	100k ohm 1/4W 10%		
R795/796	50519190	68k ohm 1/4W 10%		
R797/798	50519170	33k ohm 1/4W 10%		
	CAPACITORS			
C791/792	50548300	Mylar 0.0033uF 50V 10%		
C793/794	50548240	Mylar 0.033uF 50V 10%		
C795/796	50548290	Mylar 0.022uF 50V 10%		
C797/798	50543420	Dipped Mica 220pF 50V 10%		

PC BOARD
PARTS LIST
AS-100

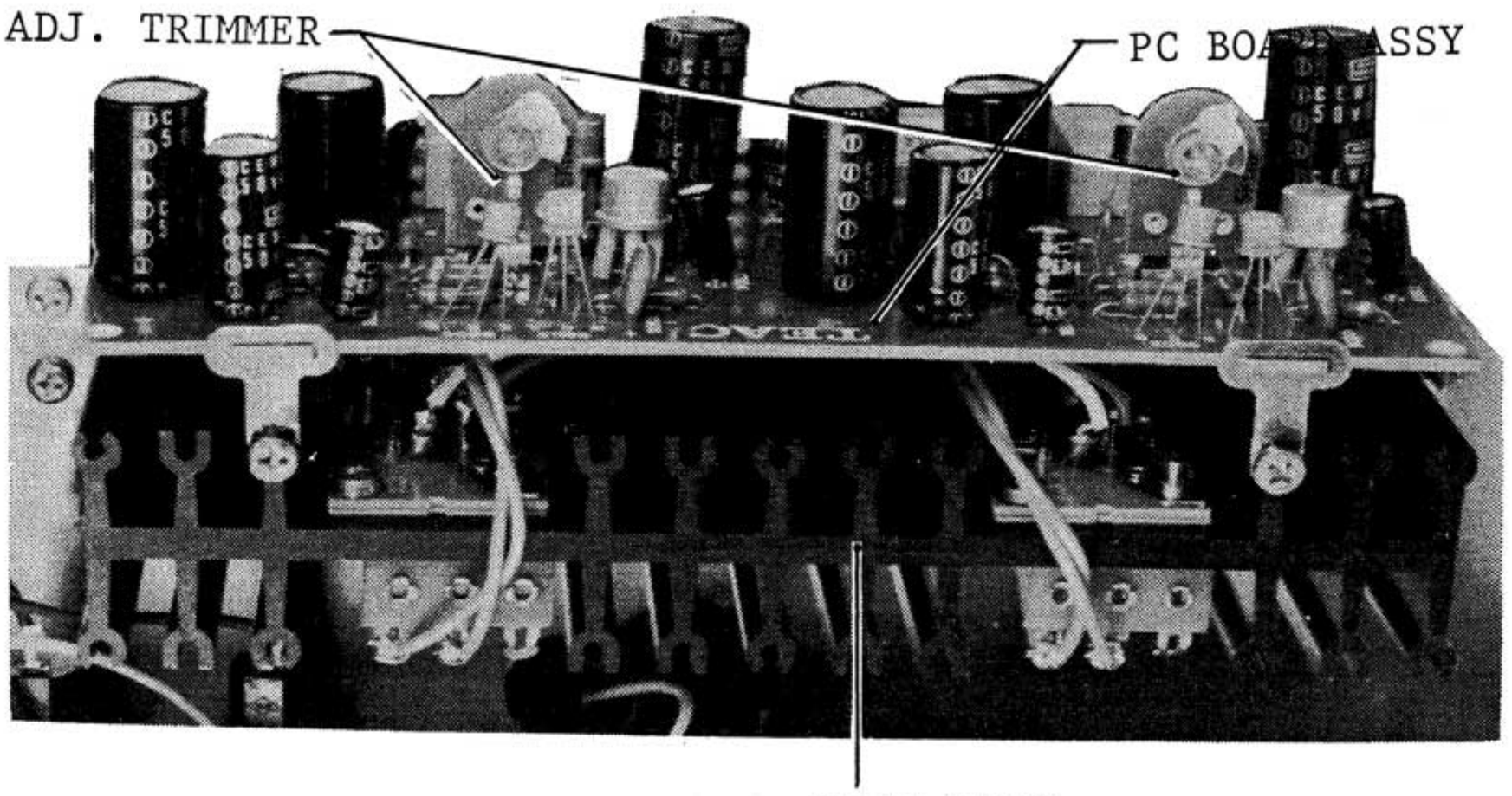
PROTECTIVE CIRCUIT



N-0451

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
	50938160	PC Board Assy, Protective Circuit		
	50938170	PC Board, Protective Circuit		
		SILICONE TRANSISTORS		
Q751/752	50423500	2SC 734-Y		
Q753/754	50423531	2SA 561-Y		
		THYRISTOR		
D751/752	50428020	Triac SM2D41		
		CARBON RESISTORS		
R751/752	50513970	4.7k ohm 1/4W 10%		
R753/754	50513430	1k ohm 1/4W 10%		
R755/756	50513430	1k ohm 1/4W 10%		
R757/758	50513430	1k ohm 1/4W 10%		
R759/760	50513300	100 ohm 1/4W 10%		
		BIPOLAR CAPACITORS		
C751/752	50549230	100uF 10V		

POWER AMPLIFIER ASSEMBLY

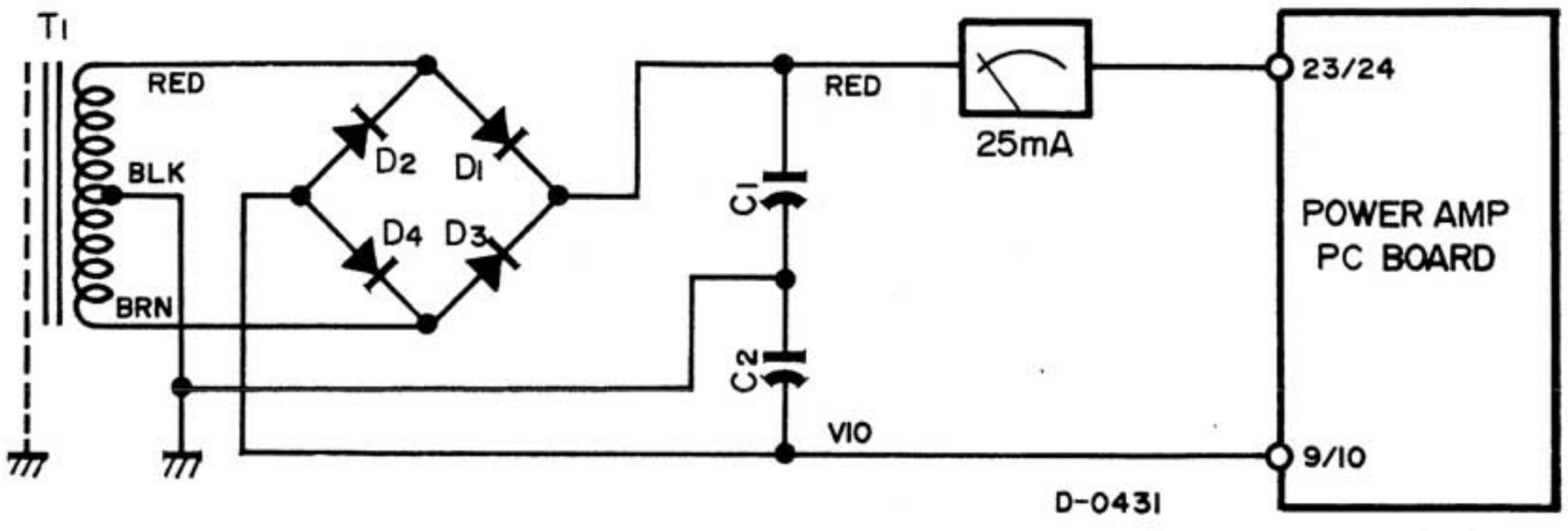


IDLE CURRENT ADJUSTMENT PROCEDURE

CURRENT ADJUSTING

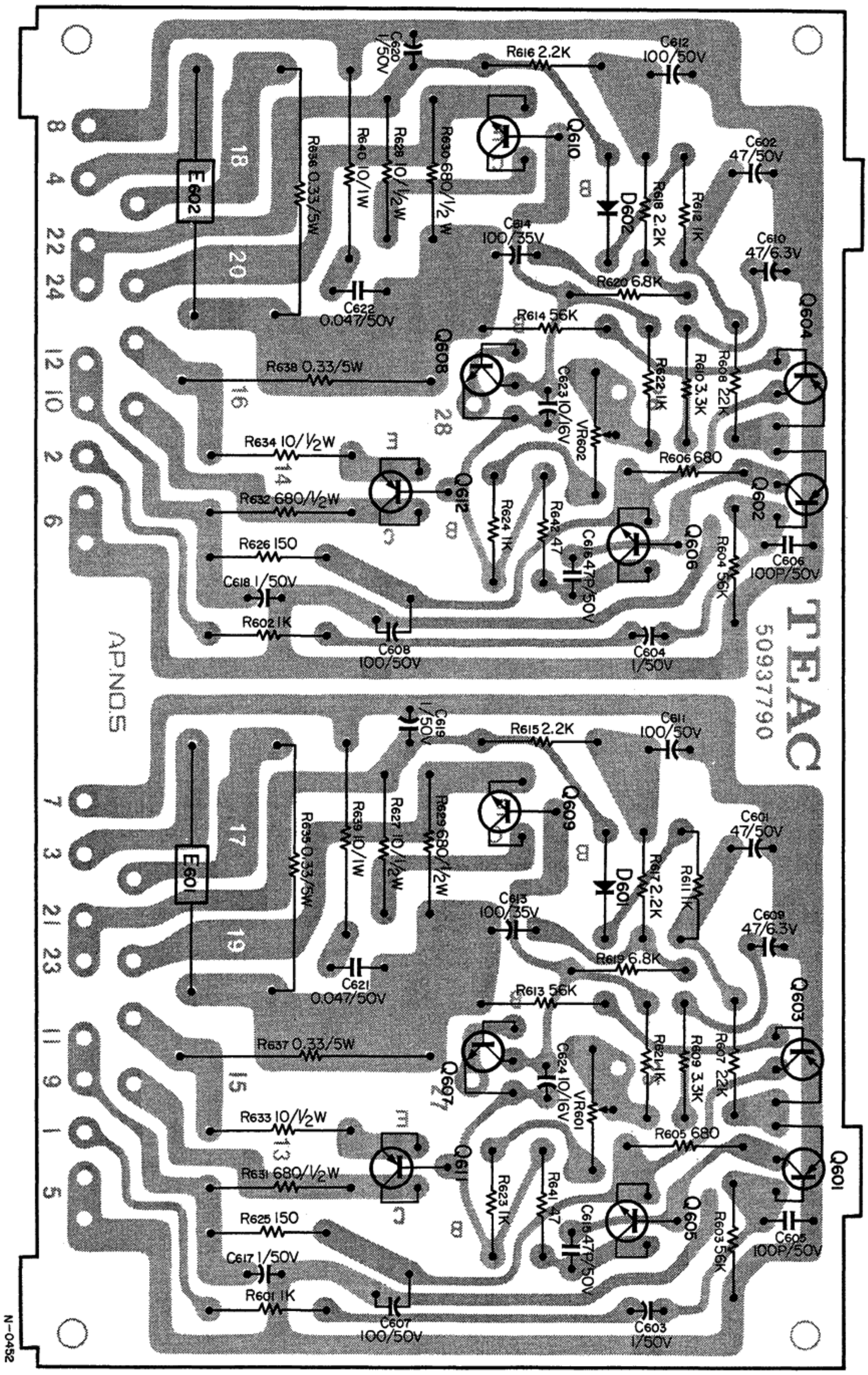
The following procedure must be carried out on each channel with the speaker terminals open, and with no signal applied to the input.
A 100mA or higher meter is inserted between the power amplifier PC board and DC power supply line, and the trimmer resistor (VR601/602) on the PC board adjusted to obtain a 25mA reading. First set the trimmer fully counterclockwise and turn this until the meter indicates 25mA.
After adjusting one channel, turn off the AC power, connect the meter to other channel, apply the AC power and adjust as above.
Special attention is required as follows.

1. Remove AC power to the amplifier before connecting or removing the meter from the circuit. Failure to do so may result in damage to transistors.
2. Make small adjustments to the trimmer resistor, do not move in large increments.



PC BOARD
AS-100

POWER AMPLIFIER



POWER AMPLIFIER

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
	50937770	Power Amplifier Assy		
	50937780	PC Board Assy, Power Amplifier		
	50937790	PC Board, Power Amplifier		
E601/602	50920930	RL Unit		
	50928680	Heat Sink, C, Power Amplifier		
	50938070	Bracket, L, Heat Sink Mount		
	50938080	Bracket, R, Heat Sink Mount		
	50928320	Bracket, Power Ampl. PC Board Assy Mount		
	50434720	Socket, Transistor		
	50452550	Terminal Strip, 1L2P Small		
		SILICONE TRANSISTORS		
Q601/602	50423531	2SA 561(Y)		*2SA493GR
Q603/604	50423531	2SA 561(Y)		*2SA493GR
Q605/606	50423570	2SC 497(Y)		
Q607/608	50423380	2SC 373		
Q609/610	50423570	2SC 497(Y)		
Q611/612	50423650	2SA 497(Y)		
Q613/614	50426040	Power, 2SC 1030 (B)		
Q615/616	50426040	Power, 2SC 1030 (B)		
		SILICONE DIODES		
D601/602	50422430	V06C		
D603/604	50422440	S3016(R)		

NOTE
*SERIAL NO. 0271 AND AFTER

red, 50424310
orange, 50424320
green, 50424330

See Power Amplifier Repairs, step 1 on page 21.

CONTINUE

POWER AMPLIFIER (CONTINUED)

CIRCUIT REF NO.	PARTS NO.	DESCRIPTION	1ST	2ND
		RESISTORS		
ALL RESISTORS IN OHM, 10% TOLERANCE AND 1/4 WATT UNLESS OTHERWISE NOTED.				
R601/602	50513430	Carbon, 1k	*50519590 1.8k	
R603/604	50513990	Carbon, 56k	*50513990 56k	
R605/606	50513920	Carbon, 680		
R607/608	50513610	Carbon, 22k		
R609/610	50513960	Carbon, 3.3k		
R611/612	50513430	Carbon, 1k		
R613/614	50513990	Carbon, 56k		
R615/616	50513960	Carbon, 2.2k		
R617/618	50513960	Carbon, 2.2k		
R619/620	50519230	Carbon, 6.8k		
R621/622	50513430	Carbon, 1k		
R623/624	50513430	Carbon, 1k		
R625/626	50513320	Carbon, 150		
R627/628	50514100	Carbon, 10 1/2W		
R629/630	50514400	Carbon, 680 1/2W		
R631/632	50514400	Carbon, 680 1/2W		
R633/634	50514100	Carbon, 10 1/2W		
R635/636	50520050	Cement 0.33 5W		
R637/638	50520050	Cement 0.33 5W		
R639/640	50525460	Metal Oxide Film 10 1W		
R641/642	50519610	Carbon, 47		
		TRIMMER RESISTORS		
VR601/602	50533690	Idle Current Adjustable, 5k ohm B		
		CAPACITORS		
ALL CAPACITORS IN MICRO FARADS UNLESS OTHERWISE NOTED.				
C601/602	50554580	Electrolytic 47/50V		
C603/604	50554540	Electrolytic 1/50V		
C605/606	50543400	Dipped Mica 100p/50V		
C607/608	50554070	Electrolytic 100/50V		
C609/610	50554030	Electrolytic 47/6.3V		
C611/612	50554070	Electrolytic 100/50V		
C613/614	50554630	Electrolytic 100/35V		
C615/616	50543480	Dipped Mica 47p/50V		
C617/618	50554540	Electrolytic 1/50V		
C619/620	50554540	Electrolytic 1/50V		
C621/622	50548270	Mylar 0.047/50V		
C623/624	50554050	Electrolytic 10/16V		

*SERIAL NO. 0271 AND AFTER

POWER AMPLIFIER REPAIRS

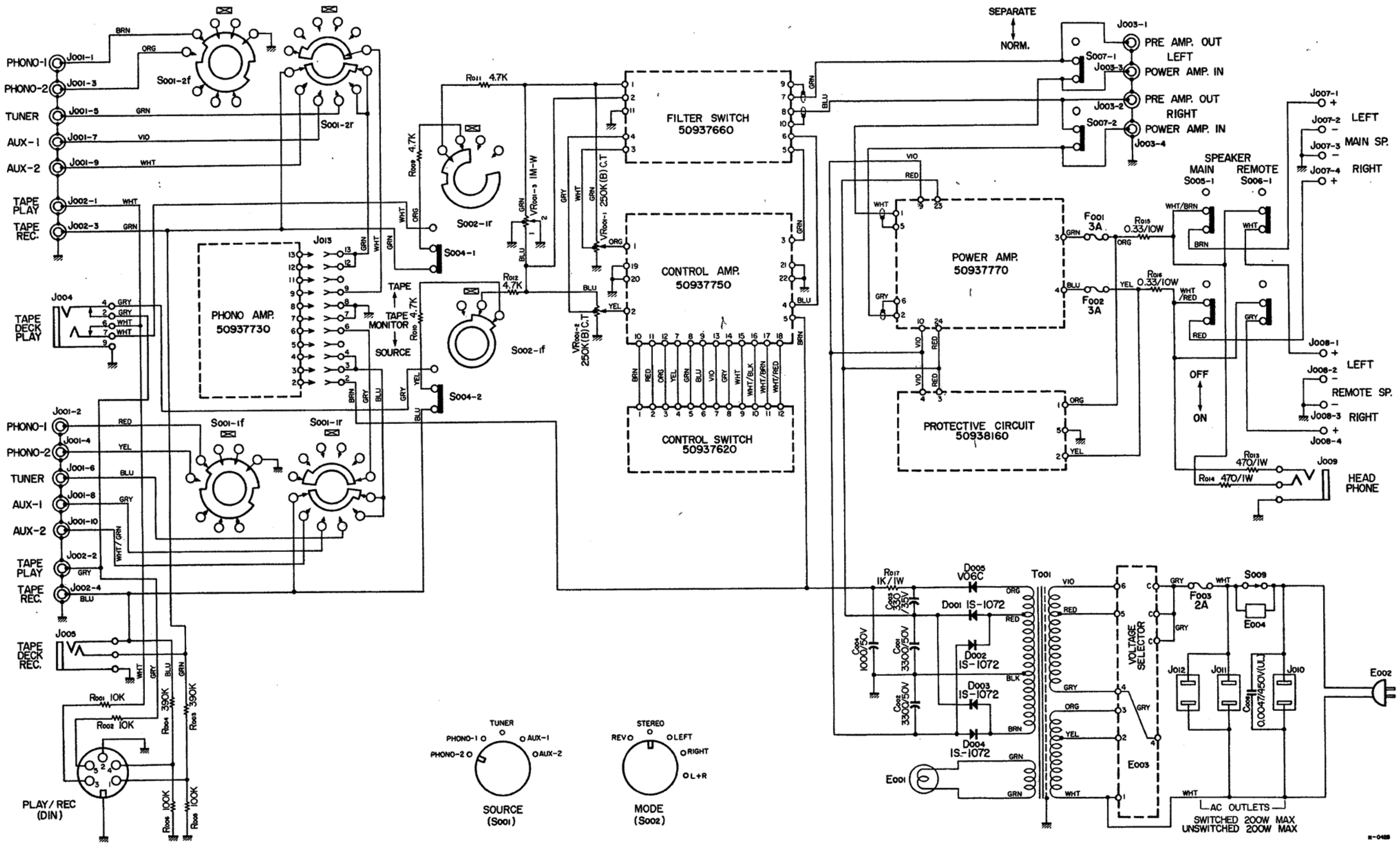
A random DC voltage will appear at the speaker terminals if the power amplifier breaks down. Any load connected here, such as a speaker, may be burned out or output stage transistors damaged by the excess current which will flow. Ideally, or when the output stage is perfectly balanced, there should be no DC voltage across the speaker terminals, but permissible DC voltage is between 0 and ±100mV. If the voltage is beyond this limit, the DC balance must be restored to normal. In most cases, DC unbalance is due to transistor breakdown. This is because the power amplifying stage is a direct coupled amplifier. In the following description, the practical transistors repairs are described in order of susceptibility to breakdown. Thus, the transistors must be checked in this order and defective ones replaced, after which the no-load voltage at the speaker terminal is checked and the above procedure repeated until this voltage is reduced below the specified range. When conducting these tests, it is advisable not to connect any load to the speaker terminals so as to avoid over-loading and subsequent breakdown of transistors should the final stage still be imbalanced.
After completing the repairs, adjust idle current as shown on page 17.

1. Q601·603 or Q602·604
   If a random voltage at the speaker terminals exceeds the permissible range (0 to ±100mV) for either channel, transistors Q601·603 or Q602·604 must be changed.
   These transistors must be replaced with matched pairs of transistors having the same hFE value.
   Transistors are paired and color coded by gain factor(red, orange, green). Replace transistor pairs with a pair bearing the same color code as the originals. Color code will be found on top of the transistor case.
2. Q605 or Q606
3. Q609 or Q610
4. If after performing steps 1, 2 and 3 the voltage at speaker terminals is still excessive, replace all remaining transistors at the same time.
5. If speaker fuse blows, the most common causes are speaker leads shorted or DC voltage imbalance in power amplifier stages. Check speaker leads thoroughly before performing the above procedures.
6. Low output and increased distortion when volume is increased may be caused by thyristor(D751/752) failure in the electronic protective circuit. In this case, setting volume control to maximum will cause speaker fuse to blow.

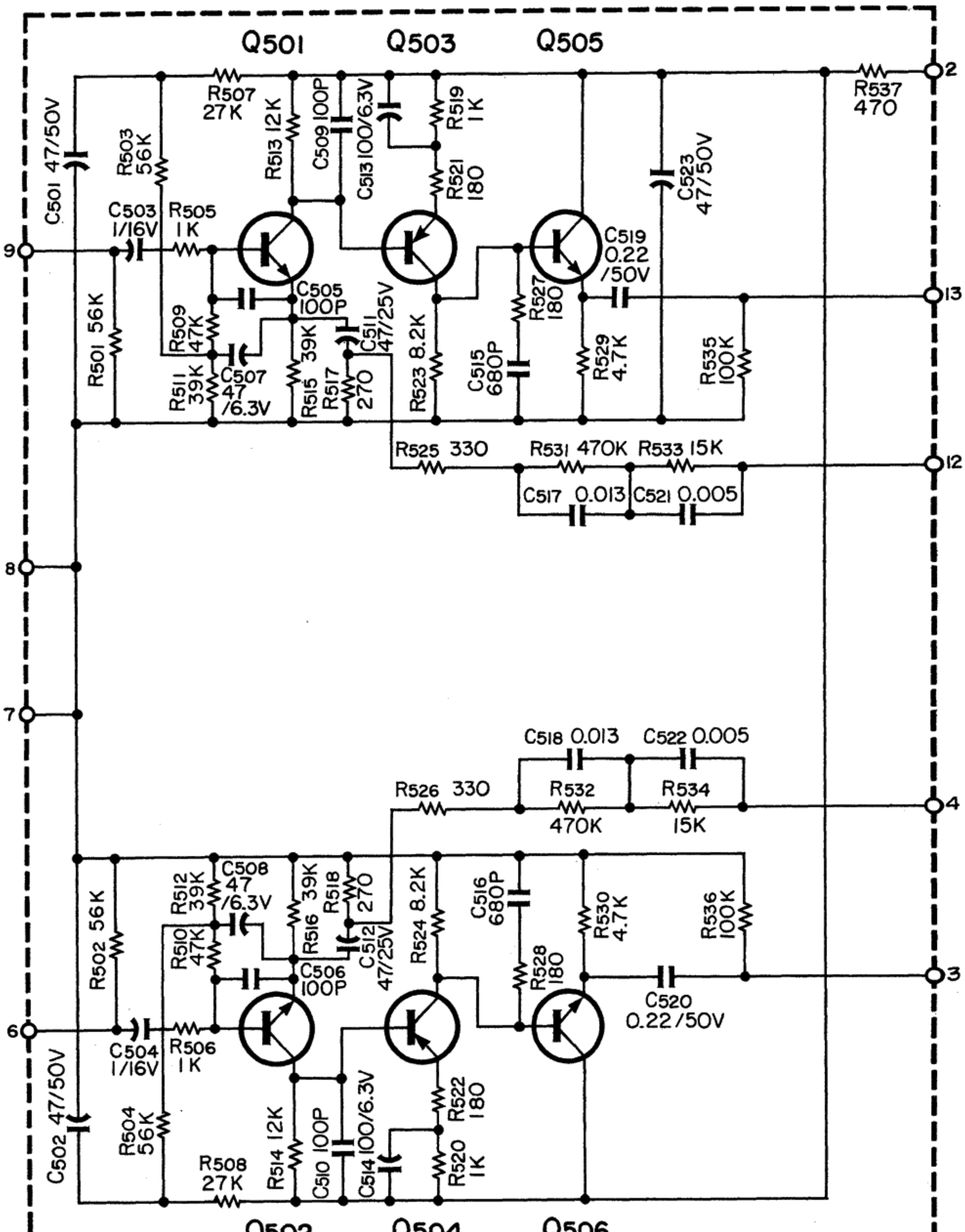
SCHEMATIC DIAGRAM
AS-100

Specifications and components subject to change without notice.

OVERALL CIRCUIT DIAGRAM



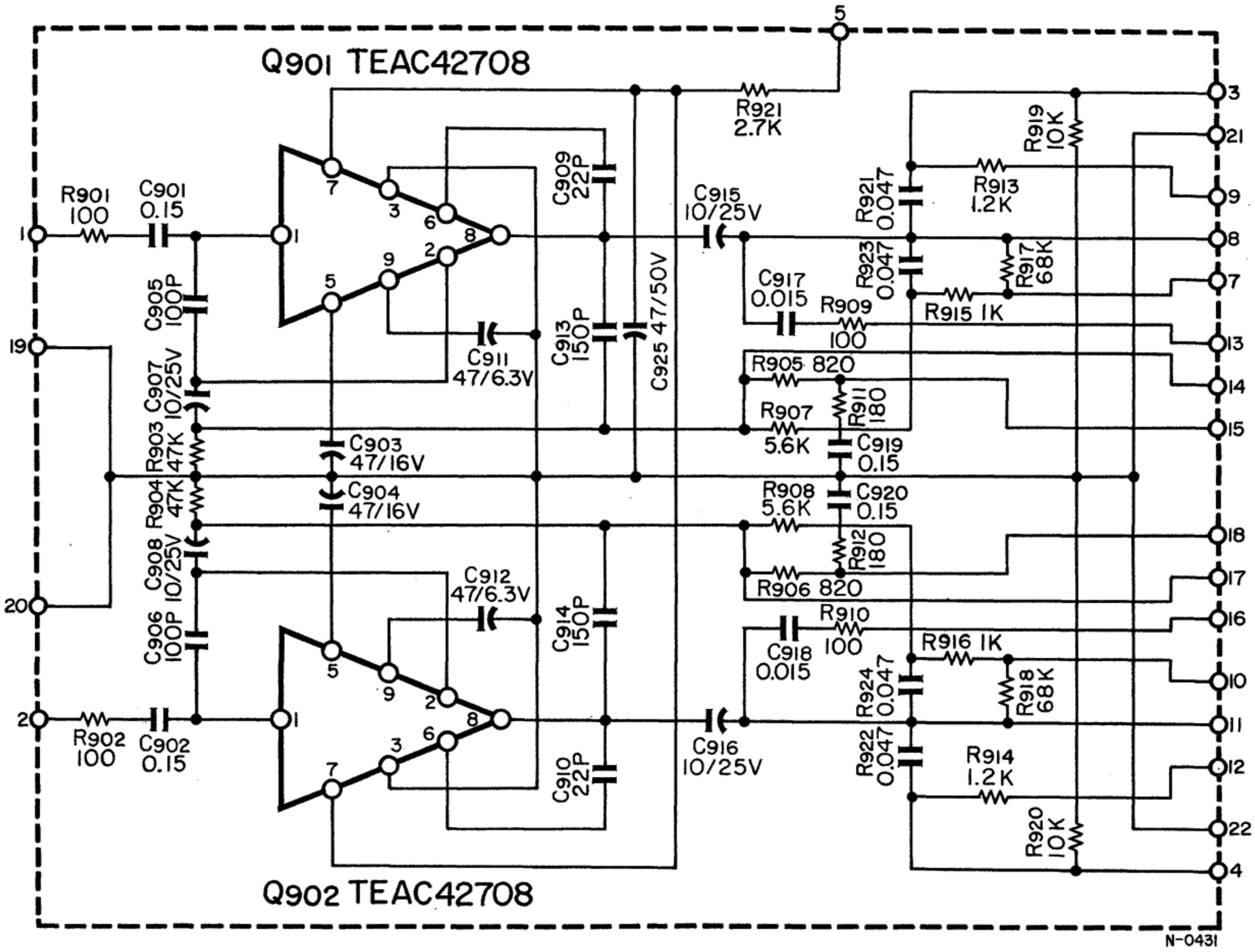
PHONO AMPLIFIER



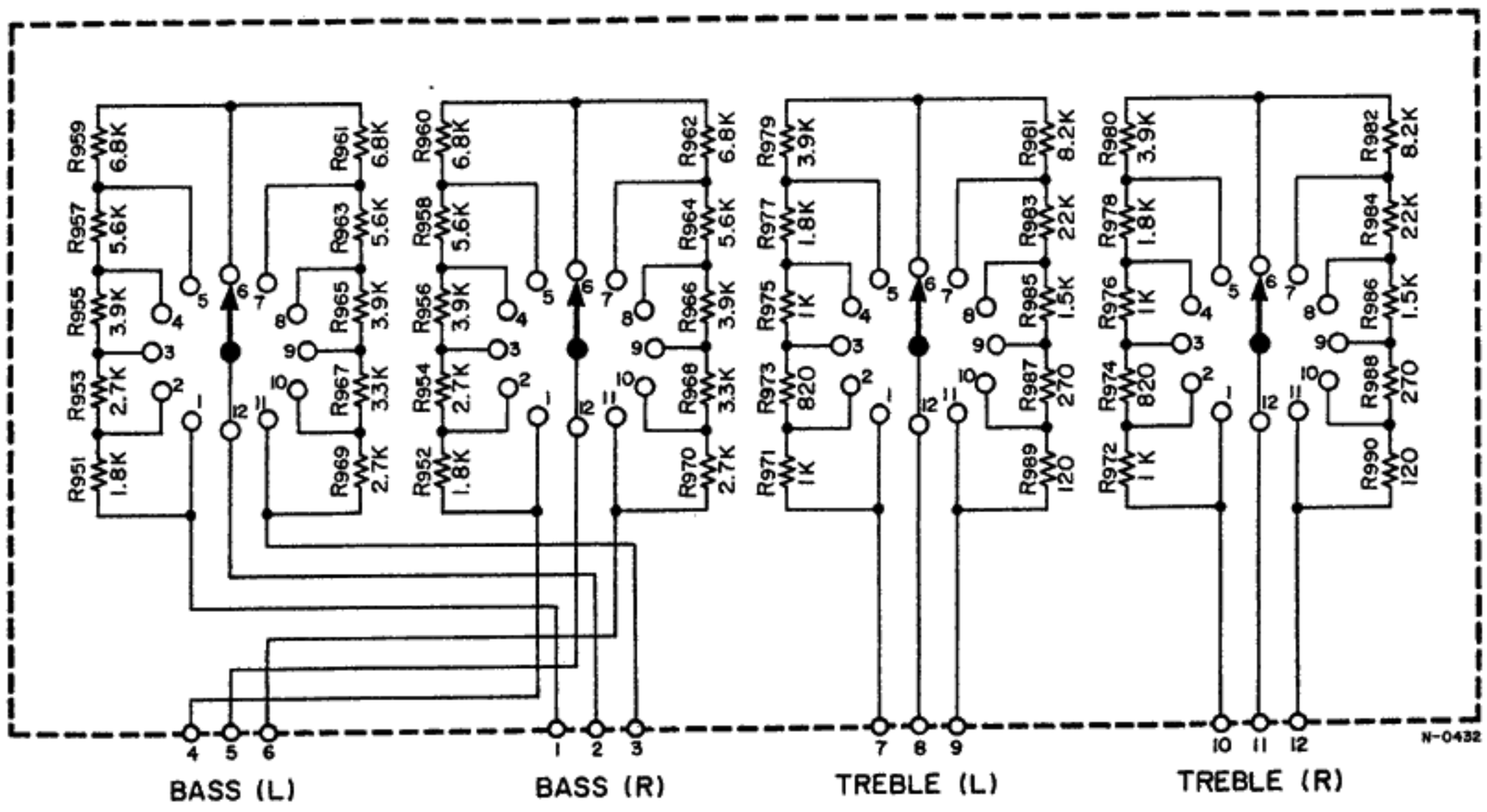
N-0429

CIRCUIT REF NO.	DESCRIPTION
Q501/502	2SC1000-GR
Q503/504	2SA493-GR
Q505/506	2SC734-Y

CONTROL AMPLIFIER

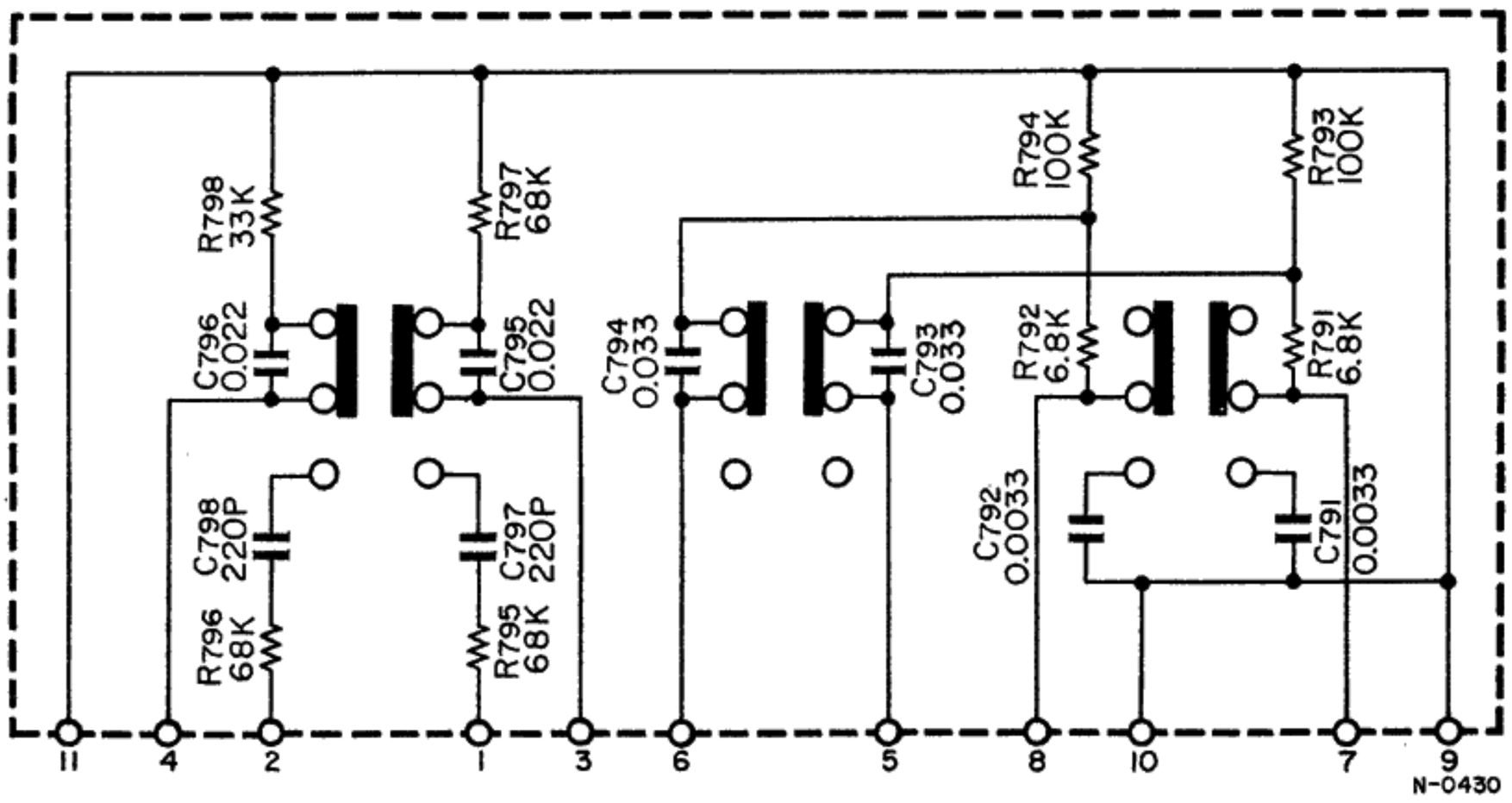


CONTROL SWITCH

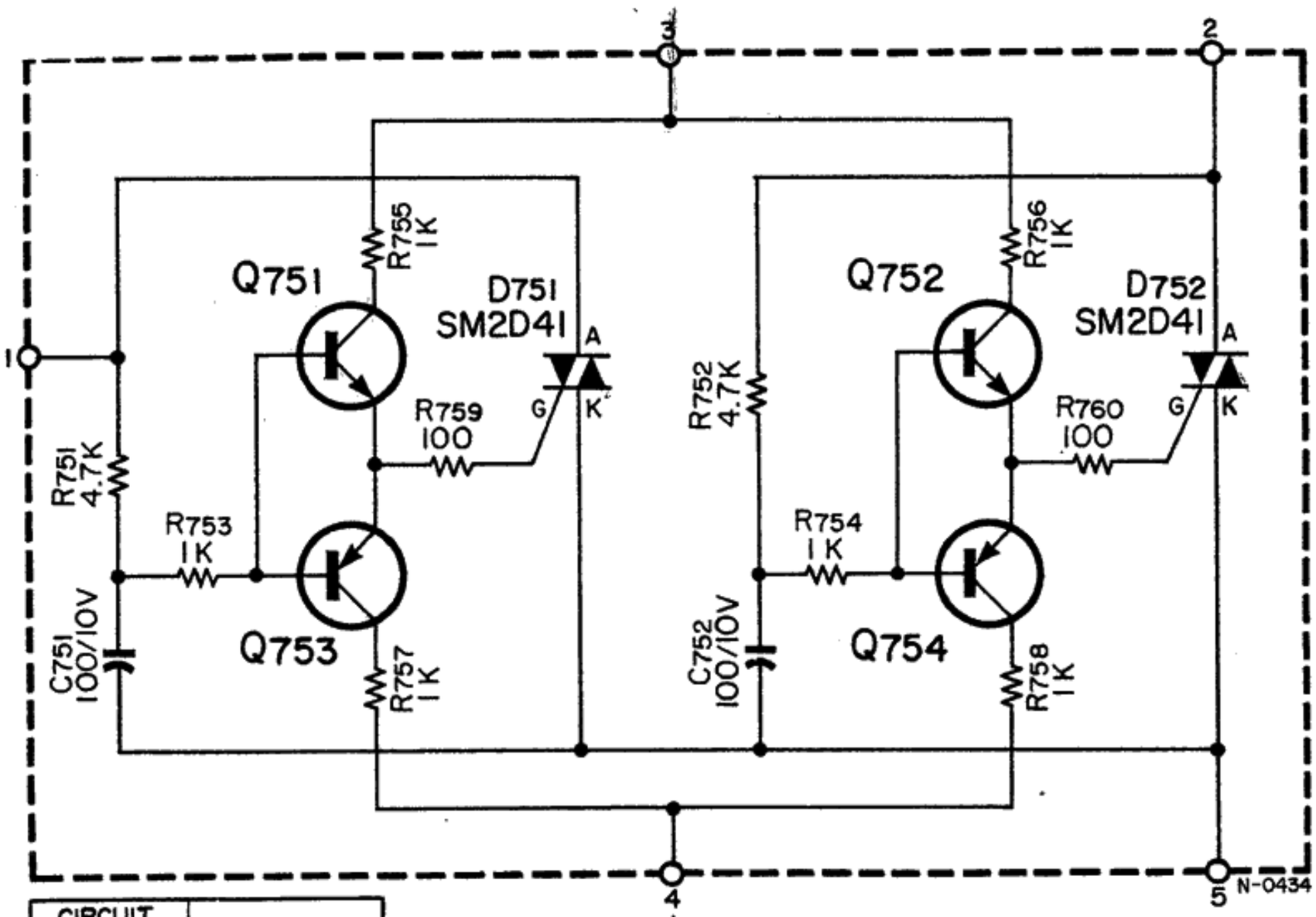


FILTER SWITCH

LOUDNESS R L LOW R L HIGH R L



PROTECTIVE CIRCUIT

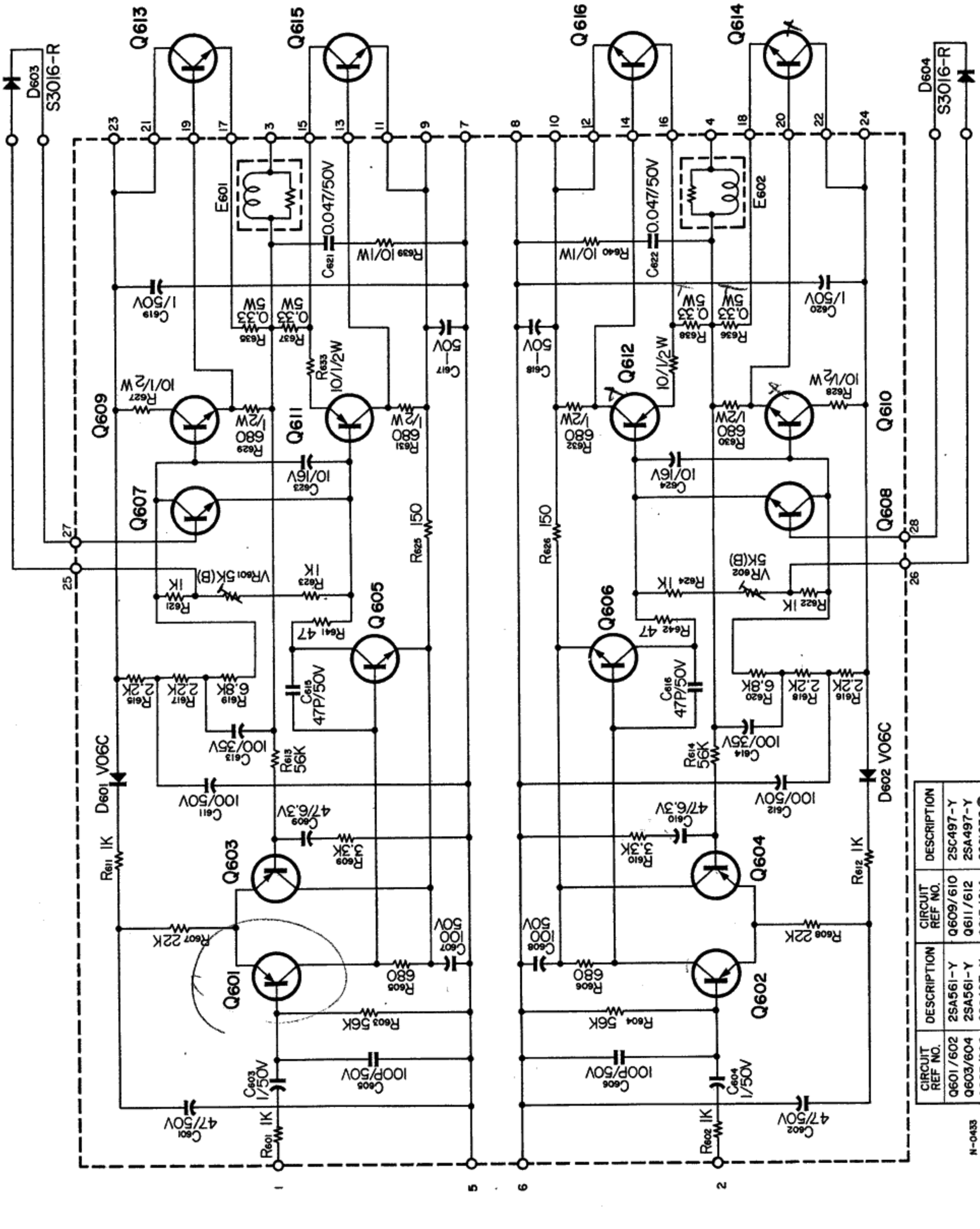


CIRCUIT REF NO.	DESCRIPTION
Q751/752	2SC734
Q753/754	2SA561

SCHEMATIC DIAGRAM

AT-100

POWER AMPLIFIER



CIRCUIT REF NO.	DESCRIPTION
Q601/602	2SA561-Y
Q603/604	2SA561-Y
Q605/606	2SC497-Y
Q607/608	2SC373

CIRCUIT REF NO.	DESCRIPTION
Q609/610	2SC497-Y
Q611/612	2SA497-Y
Q613/614	2SC1030 Ⓖ
Q615/616	2SC1030 Ⓡ

N-0433

DC TEST VOLTAGES CHART

TRANSISTORS

TRANSISTOR	EMITTER	BASE	COLLECTOR
Q501/502 (2SC 1000-GR)	+11.3	+11.8	+33.8
Q503/504 (2SA 493-GR)	+34.6	+33.8	+19.2
Q505/506 (2SC 734-Y)	+18.6	+19.2	+37.4
Q751/752 (2SC 734-Y)	0	0	+38.2
Q753/754 (2SA 561-Y)	0	0	-38.3
Q601/602 (2SA 561-Y)*	+0.82	+0.219	-37.0
Q603/604 (2SA 561-Y)*	+0.82	+0.235	-37.6
Q605/606 (2SC 497-Y)*	-37.6	-37.0	-0.719
Q607/608 (2SC 373)*	-0.569	+0.091	+1.08
Q609/610 (2SC 497-Y)*	+0.570	+1.08	+38.2
Q611/612 (2SC 497-Y)*	-0.03	-0.569	-37.7
Q613/614 (2SC 1030-B)*	-0.007	+0.570	+38.2
Q615/616 (2SC 1030-B)*	-38.2	-37.7	-0.002

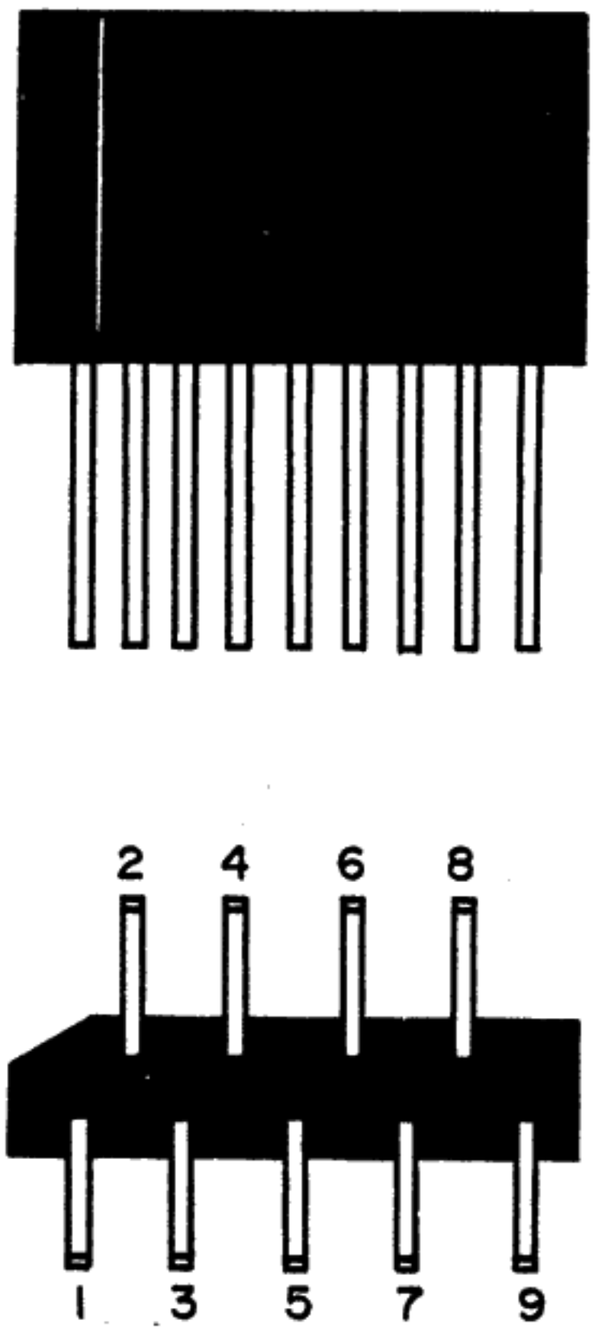
* Power amplifier transistor

INTEGRATED CIRCUIT (Q901/902)

TERMINAL NO.	VOLTAGE
1	+0.56
2	+0.057
3	0
4	
5	+8.28
6	+3.41
7	+30.4
8	+18.3
9	+2.87

NOTE

- All voltages measured with a VTVM (vacuum tube voltmeter) at no signal.
- Power amplifier transistors measured at no signal and 8 ohm load at speaker terminals.
- Test voltages are average values.



IC APPEARANCE

MANUAL CHANGES

Change notices, recommended modifications etc. will be issued for the models in this manual, when appropriate.
This sheet is in loose leaf form and should be filed behind this page for convenient reference.

PARTS ORDERING INFORMATION

Replacement parts are available through your nearest TEAC dealer or directly from the TEAC office.
Changes are constantly being made to make TEAC products better and more reliable.
Therefore, when ordering parts, always include the following information:

MODEL	*REF.NO.*	*PARTS NO.*	*DESCRIPTION*