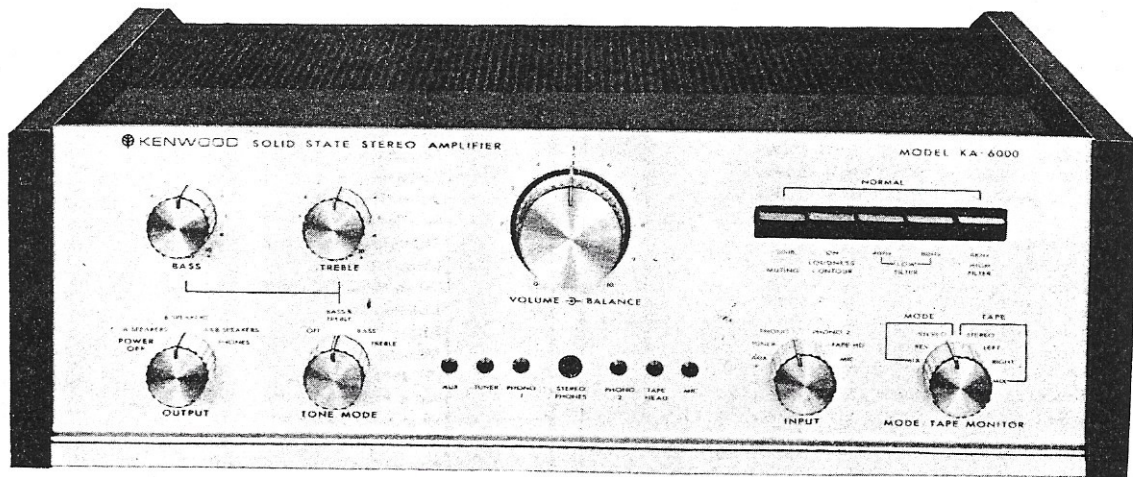


**KENWOOD**  
HI/FI STEREO COMPONENTS

# SERVICE MANUAL

## KA-6000



**SOLID STATE STEREO AMPLIFIER**

# PARTS DESCRIPTION LIST

MAIN CHASSIS (CA7K) SECTION			
PRINTED CIRCUIT			
—	HEAD AMP BLOCK	(UA1361J1)	
—	PRE AMP BLOCK	(UA1342K)	
—	NF TONE AMP BLOCK	(UA13443B)	
—	H.P 40 Hz BLOCK	(UA1350K2)	
—	MAIN AMP	(UA1343K1)	
Symbol No.	Description	Part No.	Re-remarks
RESISTORS			
R111	Insulated Carbon Film	47Ω ±10% 1/4W	
R112~114	Insulated Carbon Film	10kΩ ±10% 1/4W	
R115	Insulated Carbon Film	100kΩ ±10% 1/4W	
R116	Insulated Carbon Film	390kΩ ±10% 1/4W	
R117, 118	Insulated Carbon Film	100kΩ ±10% 1/4W	
R131~134	Insulated Carbon Film	3.3kΩ ±5% 1/4W	
R135~138	Insulated Carbon Film	5.6kΩ ±5% 1/4W	
R139~142	Insulated Carbon Film	7.5kΩ ±5% 1/4W	
R143~146	Insulated Carbon Film	12kΩ ±5% 1/4W	
R147~150	Insulated Carbon Film	15kΩ ±5% 1/4W	
R151~154	Fixed Carbon Composition	3.9kΩ ±5% 1/2W	
R155	Insulated Carbon Film	22kΩ ±10% 1/4W	
R156	Insulated Carbon Film	56kΩ ±10% 1/4W	
R157	Insulated Carbon Film	10kΩ ±10% 1/4W	
R158	Insulated Carbon Film	4.7kΩ ±10% 1/4W	
R159	Insulated Carbon Film	27kΩ ±10% 1/4W	
R160	Insulated Carbon Film	390Ω ±5% 1/4W	
R161	Insulated Carbon Film	39Ω ±5% 1/4W	
R171, 172	Wire Wound	0.47Ω ±10% 2W	
R173	Fixed Carbon Composition	4.7Ω ±10% 2W	
R174	Fixed Carbon Composition	4.7Ω ±10% 1/2W	
R175	Fixed Carbon Composition	1kΩ ±10% 1/2W	
R176	Fixed Carbon Composition	560Ω ±10% 1/2W	
R177	Fixed Carbon Composition	56kΩ ±10% 1/2W	
R178	Fixed Carbon Composition	56Ω ±10% 1/2W	
R211	Insulated Carbon Film	47Ω ±10% 1/4W	
R212~214	Insulated Carbon Film	10kΩ ±10% 1/4W	
R215	Insulated Carbon Film	100kΩ ±10% 1/4W	
R216	Insulated Carbon Film	390kΩ ±10% 1/4W	
R217, 218	Insulated Carbon Film	100kΩ ±10% 1/4W	
R231~234	Insulated Carbon Film	3.3kΩ ±5% 1/4W	
R235~238	Insulated Carbon Film	5.6kΩ ±5% 1/4W	
R239~242	Insulated Carbon Film	7.5kΩ ±5% 1/4W	
R243~246	Insulated Carbon Film	12kΩ ±5% 1/4W	
R247~250	Insulated Carbon Film	15kΩ ±5% 1/4W	
R251~254	Fixed Carbon Composition	3.9kΩ ±5% 1/2W	
R255	Insulated Carbon Film	22kΩ ±10% 1/4W	
R256	Insulated Carbon Film	56kΩ ±10% 1/4W	
R257	Insulated Carbon Film	10kΩ ±10% 1/4W	
R258	Insulated Carbon Film	4.7kΩ ±10% 1/4W	
R259	Insulated Carbon Film	27kΩ ±10% 1/4W	
R260	Insulated Carbon Film	390Ω ±5% 1/4W	
R261	Insulated Carbon Film	39Ω ±5% 1/4W	
R271, 272	Wire Wound	0.47Ω ±10% 2W	
R273	Fixed Carbon Composition	4.7Ω ±10% 2W	
R274	Fixed Carbon Composition	4.7Ω ±10% 1/2W	
R275	Fixed Carbon Composition	1kΩ ±10% 1/2W	
R276	Fixed Carbon Composition	560Ω ±10% 1/2W	
R277	Fixed Carbon Composition	56kΩ ±10% 1/2W	
R301	Cement Coated	680Ω ±10% 8W	
R302	Cement Coated	820Ω ±10% 4W	
R303	Fixed Carbon Composition	330Ω ±10% 1/2W	
R305	Fixed Carbon Composition	220Ω ±10% 1/2W	
R306, 307	Fixed Carbon Composition	1kΩ ±10% 1/2W	
CAPACITORS			
C131	Electrolytic Tubular	3.3μF 16WV	
C132	Mylar	0.15μF ±20%	
C133	Ceramic	1000pF ±20%	
C134, 135	Mylar	0.22μF ±20%	

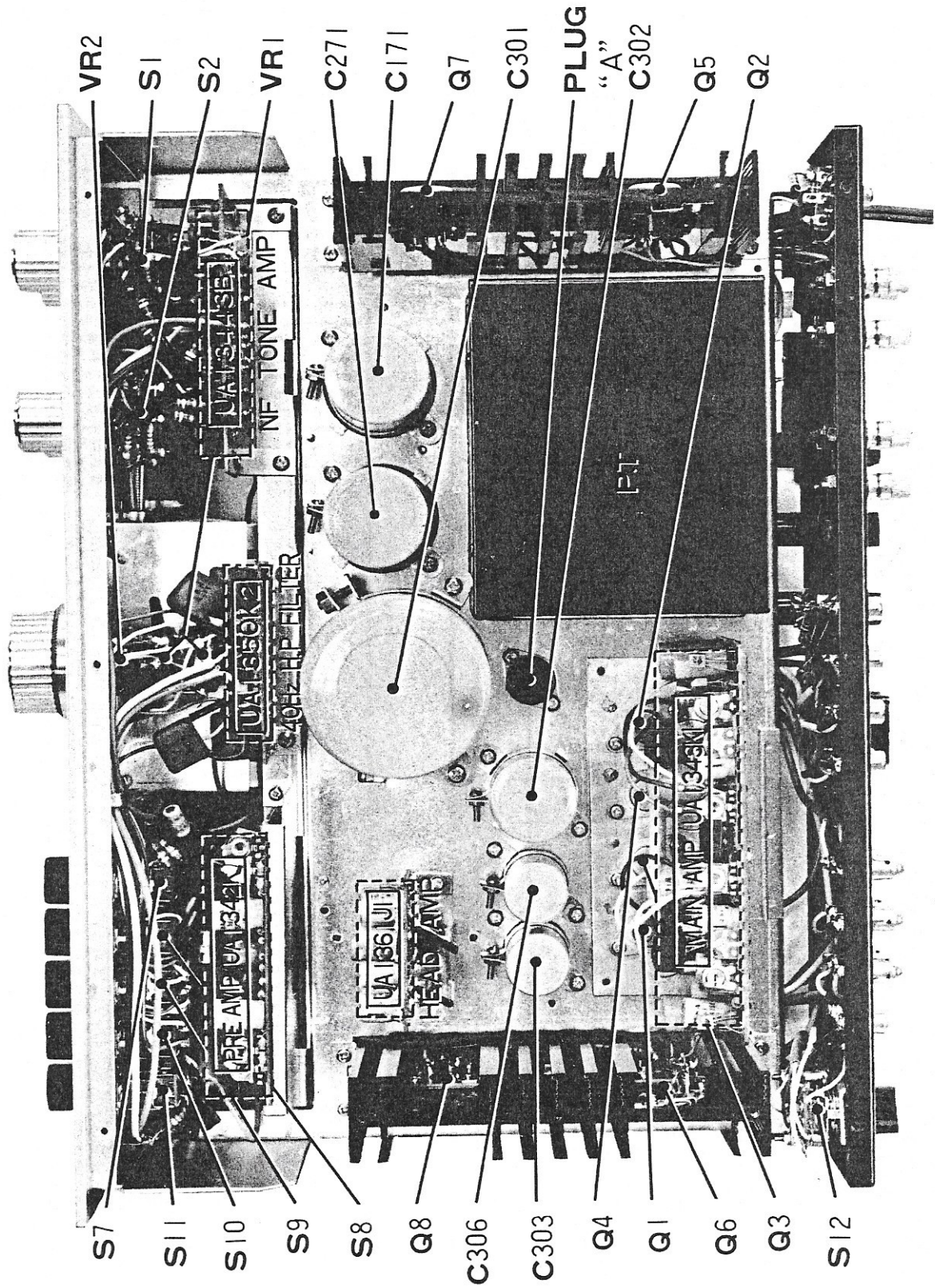
Symbol No.	Description	Part No.	Re-remarks
C136	Mylar 0.15μF ±20%		
C137	Mylar 0.039μF ±10%		
C138	Electrolytic Tubular 1μF 16WV		
C171	Electrolytic Block 3300μF 50WV		
C172	Mylar 0.22μF ±20%		
C231	Electrolytic Tubular 3.3μF 16WV		
C232	Mylar 0.15μF ±20%		
C233	Ceramic 1000pF ±20%		
C234, 235	Mylar 0.22μF ±20%		
C236	Mylar 0.15μF ±20%		
C237	Mylar 0.039μF ±10%		
C238	Electrolytic Tubular 1μF 16WV		
C271	Electrolytic Block 3300μF 50WV		
C272	Mylar 0.22μF ±20%		
C301	Electrolytic Block 4000μF 100WV		
C302	Electrolytic Block 1000μF 50WV		
C303	Electrolytic Block 1000μF 25WV		
C304	Electrolytic Tubular 470μF 25WV		
C305	Paper Tubular 0.01μF ±20%		
C306	Electrolytic Block 1000μF 25WV		
C307	Electrolytic Tubular 470μF 25WV		
C309, 310	Paper Tubular 0.02μF ±20%		
POTENTIOMETERS			
VR1	50kΩ (B) x 2 (VOLUME)	R09-8015	
VR2	50kΩ (G) (BALANCE)	R09-8015	
TRANSISTORS/DIODES			
Q1, 2	2SC-680 (BL)		
Q3, 4	2SA-566		
Q5~8	2SC-898		
D1~4	SA-2Z		
SWITCHES			
S1, 2	Rotary SW F-2-2-11 (BASS, TREBLE)	S07-136	
S3	Rotary SW F-4-11-6 (INPUT)	S07-138	
S4	Rotary SW F-2-4-7 (MODE/TAPE MONITOR)	S07-137	
S5	Rotary SW F-1-4-4 (TONE MODE)	S07-135	
S6	Rotary SW F-1-4-5 (OUTPUT)	S07-139	
S7~11	Lever SW (5 gang)	S10-425	
S12	Rotary SW (PHONO 1 SENSITIVITY)	S07-140	
MISCELLANEOUS			
—	Case	A01-CB1J	
—	Chassis	A03-CA7KJ	
—	Panel	A05-CA7K	
—	Sub Panel	A06-CA7K	
—	Base Plate	A08-CB1J	
—	Back Panel	A09-CA7K	
—	Shield Board (for PRE AMP)	A13-CA7K	
—	Shield Board (for MAIN AMP)	A14-CA7K	
—	Radiator	A26-33	
—	Radiator x 2	A26-34	
—	Jewel (Blue) x 6	A53-604	
—	Sub Panel Cover	A90-CA7K	
—	Thermistor Holder x 2	A90-310B	
—	Lamp Cover x 6	A3799	
—	Fixed Metal Fittings (for Amp) x 2	A3882	
—	Lead Holder	A4880	
—	Angle	A4990	
—	Radiator Angle x 4	A4932	
—	Pin Jack Holder x 2	A4988	
—	Metal Fittings (for Jewel) x 6	A4989	
—	Head Amp Cover	A4995	
—	Name Plate (for Destination)	B07-105	
—	Name Plate (for Test Point)	B09-101	
—	Name Plate (for LA Standard)	B09-192	
—	Name Plate (for Wattage)	B09-225	
—	UL AC Socket (Black) x 2	E02-06	
—	PL Socket x 6	E03-02F	
—	Lug x 3	E04-01	

# PARTS DESCRIPTION LIST

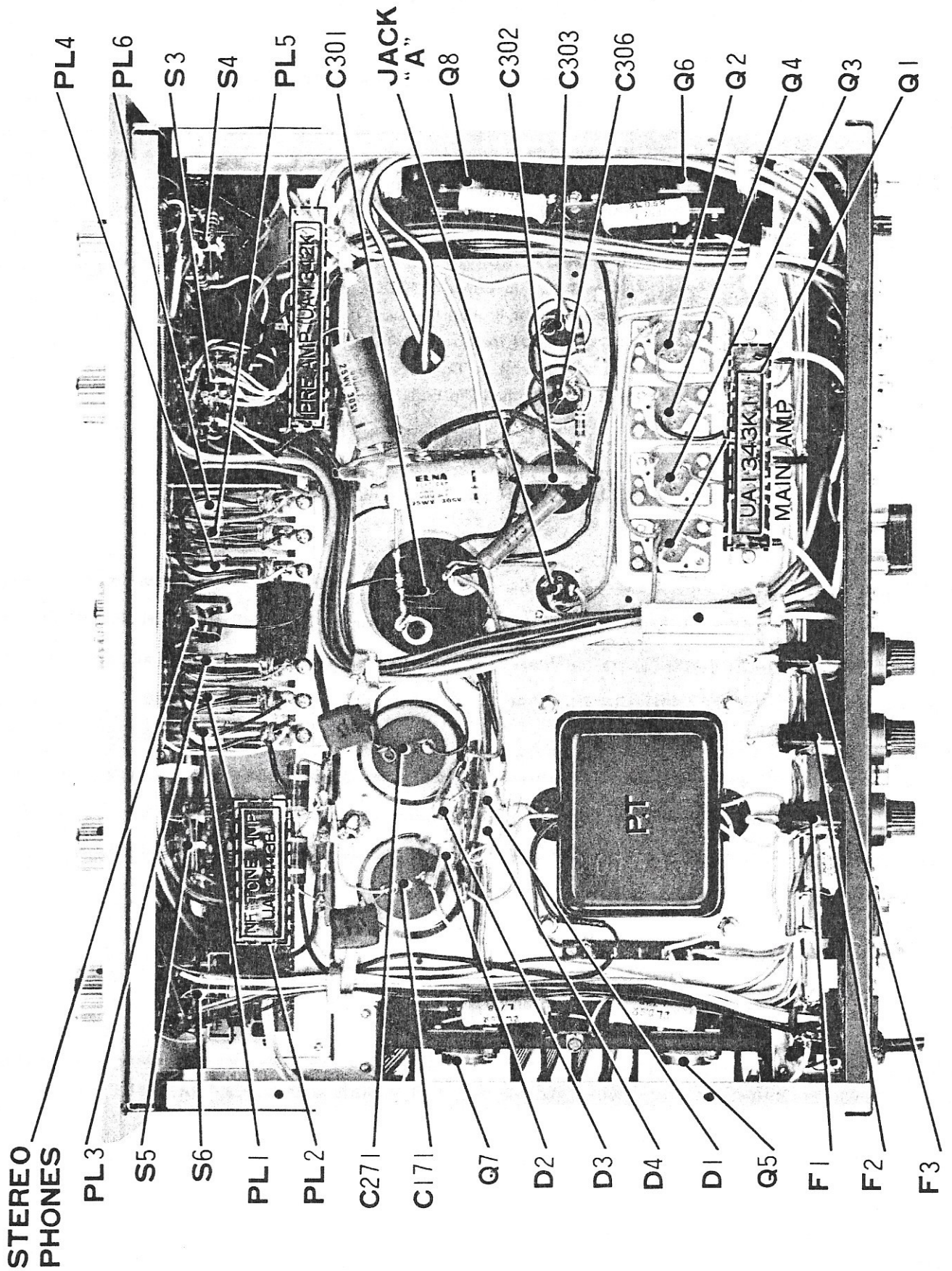
Symbol No.	Description	Part No.	Re- marks
-	Lug	E04-101B	
-	Lug x 5	E04-202	
-	5P Connector Socket	E07-35B	
-	Consent 4P	E07-34D	
-	Connector x 2	E07-418D	
J	Pin Jack 1P	E08-11C	
J	Pin Jack 2P x 2	E08-12J	
J	Pin Jack 4P x 4	E08-14G	
-	Short Pin Plug x 6	E09-41H	
-	Short Plug 4P	E09-340	
-	Pin Plug x 4	E09-410	
-	Terminal Board x 9	E11-18	
J	US Jack	E16-18	
-	Short Pin x 2	E21-04	
-	T Type Terminal Board 5P x 2	E4076	
-	Transistor Socket x 4	E4082	
-	T Type Terminal Board	E4083	
-	Transistor Socket x 4	E4086	
-	Legs x 4	G10-02	
-	AC Cord Bushing	G11-01	
-	Poly-Cover (420 x 140 x 285 0.07t)	H02-115	
-	Corrugated Cardboard Case	H04-CA7K	
-	Corrugated Cardboard Case (Exterior)	H04-CA7KB	
-	Instruction Manual	H05-CA7K	
-	Corrugated Cardboard Case Accessory	H09-CB1JA	
-	Corrugated Cardboard Case Accessory	H09-CB1JB	
-	Poly-Bag	H13-02	
-	Schematic Diagram	H15-CA7K	
-	Warranty Card	H26-02	
-	Instruction	H4068	
-	Patch Board (for Case)	K10-09	
-	Patch Board	K10-10	
-	Soft Tape (8 x 40 x 10) x 3	K11-99	
-	Decorative Screw x 4	N11-54	
-	Decorative Screw x 6	N11-56	
-	Speed Nut x 6	N4001	
-	Boss x 4	N4061	
-	Boss	N4097	
-	Knob (BASS, TREBLE, OUTPUT, TONE MODE, INPUT, MODE/TAPE MONITOR) x 6 23φ	S14-268	
-	Knob (VOLUME) 38φ	S14-514	
-	Knob (BALANCE) 44φ	S14-624	
-	Knob (PHONO 1 SENSITIVITY)	S14-825	
-	Fuse Holder x 3	S15-03B	
-	Pilot Lamp x 6	S16-12	
F	Fuse (3A)	S17-03	
F	Fuse (5A) x 2	S17-05	
-	Spacer	S21-40	
-	Spacer	S21-52	
P.T	Power Transformer	T01-199A	
-	Tinned Wire 0.8φ T.C.W (0.1m)	W03-08	
-	Tinned Wire 1.6φ T.C.W (0.07m)	W03-16	
-	Insulating Sleeve (Black) 1.5φ (0.55m)	W06-150	
-	Vinyl Tube (Transparency) 1φ (0.32m)	W07-01Z	
-	Vinyl Tube (Transparency) 3φ (0.44m)	W07-03Z	
-	Vinyl Tube (Transparency) 6φ (0.67m)	W07-06Z	
-	Vinyl Tube (Transparency) 10φ (0.3m)	W07-10Z	
-	AC Cord (with plug)	W09-15	
-	Vinyl Tube (Black) (0.035m)	W17-17	
-	Lead (with fastener) (Black)	W18-14	
-	Lead (with fastener) (Yellow)	W18-15	
-	Lead (with fastener) (Green)	W18-16	
-	Lead (with fastener) (Blue)	W18-17	
-	Lead (with fastener) (White)	W18-18	
-	Lead (with fastener) (Red)	W18-19	
-	Flexible Wire (4φ x 280mm) x 2	W19-428	
-	Solid Wire (Black) (4.3m)	W32-50	
-	Solid Wire (Red) (4.4m)	W32-52	
-	Solid Wire (Yellow) (3.8m)	W32-54	
-	Solid Wire (Blue) (3.8m)	W32-56	
-	Solid Wire (White) (2.8m)	W32-59	
-	Single-Core Shielded Wire (Black) (0.4m)	W51-010C	
-	Single-Core Shielded Wire (Brown) (1.7m)	W51-011C	

Symbol No.	Description	Part No.	Re- marks
-	Single-Core Shielded Wire (Yellow) (2.1m)	W51-014C	
-	Single-Core Shielded Wire (Blue) (1.8m)	W51-016C	
-	Single-Core Shielded Wire (Gray) (3.2m)	W51-018C	
-	Single-Core Shielded Wire (Red) (0.4m)	W51-018C	
-	Double-Core Shielded Wire (0.1m)	W51-020	
-	Triple-Core Shielded Wire (0.9m)	W51-030	
-	Truss Head Screw (Black) (T3 x 6-B.K) x 6		
-	Lock Washer (KW19-S) x 2		
-	Lock Washer (KW13-S) x 2		
-	Flat Head Screw (S3 x 4-F) x 4		
-	Flat Head Screw (S3 x 6-F) x 13		
-	Nut (N3-F) x 19		
-	Flat Washer (W4-F)		
-	Pan Head Screw (P3 x 6-F) x 36		
-	Pan Head Screw (P3 x 8-F) x 10		
-	Pan Head Screw (P3 x 10-F) x 8		
-	Pan Head Screw (P3 x 12-F) x 8		
-	Pan Head Screw (P4 x 6-F)		
-	Tapping Screw (TM3 x 6) x 39		
-	Tapping Screw (TM3 x 8) x 2		
-	Tapping Screw (TM3 x 10) x 2		
-	Tapping Screw (TM4 x 6) x 10		
-	Tapping Screw (TM4 x 10) x 4		
-	Pan Head Screw (Black) (P3 x 6-F.K) x 4		
-	Pan Head Screw (Black) (P3 x 8-F.K) x 14		
-	Pan Head Screw (Black) (P3 x 10-F.K) x 4		
-	Pan Head Screw (Black) (P3 x 14-F.K) x 2		

# CHASSIS TOP VIEW



# CHASSIS BOTTOM VIEW



# ALIGNMENT PROCEDURE

## TEST EQUIPMENT REQUIRED

The following are needed to completely test and align KA-6000.

- \* Vacuum-Tube Voltohmmeter (100 mV DC scale)
- \* Audio Vacuum-Tube Voltmeter
- \* Oscilloscope (Flat to 100 kHz Minimum)
- \* Audio (Sine-wave) Generator
- \* Intermodulation Distortion Analyzer
- \* Harmonic Distortion Analyzer
- \* Line Voltage Autotransformer or Voltage Regulator
- \* 2-Load Resistors, 4 or 8 ohm, 80 Watt
- \* 2-Full Range Speakers for Listening Tests
- \* Stereo Source-Turntable or Tape Recorder for Listening Tests
- \* Soldering Iron with Small Tip Fully Insulated from Power Line

## ADJUSTING THE EQUALIZERS

### PHONO (RIAA)

### PRE AMP BLOCK (UA1342K)

With the input at PHONO 1 LEFT-CH (RIGHT-CH), set the selector at PHONO 1 and PHONO 1 SENSITIVITY at 2 mV.

With the output at TAPE REC LEFT-CH (RIGHT-CH), set main VR to zero (0).

Adjust input level at input frequency of 1,000 Hz. Then set output at 316 mV. Assuming the value at this point to be 0 dB, switch the input frequency to 30 Hz and set LEFT-CH/VR503 (RIGHT-CH/VR504) to +18.6 dB.

### TAPE HD (NAB)

### PRE AMP BLOCK (UA1342K)

Place input to TAPE HD LEFT-CH (RIGHT-CH) and set selector to TAPE HD. With output at TAPE REC LEFT-CH (RIGHT-CH), set main VR to zero (0).

Adjust input level at input frequency of 1,000 Hz and set output to 316 mV. At this point where the value is 0 dB, switch the input frequency to 10 kHz and set LEFT-CH/VR501 (RIGHT-CH/VR502) to -10.0 dB.

## ADJUSTING THE CENTER VOLTAGE

Connect DC voltmeter to capacitor C171/LEFT-CH (C271/RIGHT-CH), across the positive terminal (3,300 $\mu$  F) and the

grounding. Adjust the VR903/LEFT-CH (VR904/RIGHT-CH) of MAIN AMP BLOCK "UA1343K1" to 43 V.

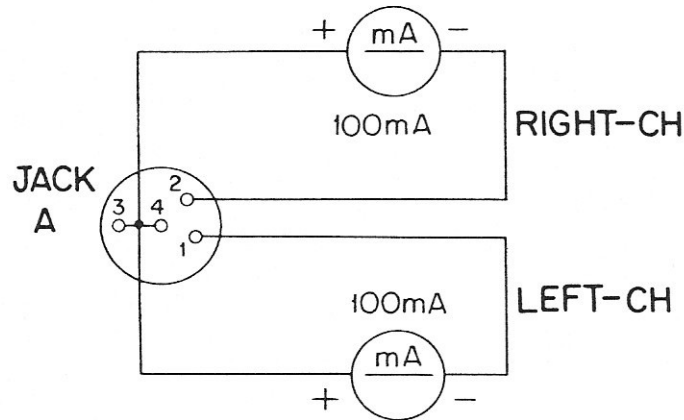
# ALIGNMENT PROCEDURE

## ADJUSTING THE CURRENT WITHOUT SIGNAL

Without input and AC power supply remove Plug A. Then connect 3 and 4 of Jack A and connect a DC ammeter of 100 mA range across these terminals and (1) (LEFT-CH) and (2) (RIGHT-CH).

Increase AC power gradually from 0 V. Making sure that the

needle of the ammeter does not swing fullscale, adjust the VR905/LEFT-CH (VR906/RIGHT-CH) of the MAIN AMP BLOCK "UA1343K1" to set the reading at 50 mA when it is AC117 V. However, in this case be sure to allow 3 minutes aging and to reset to guard against fluctuation in current.



## PROTECTION ADJUSTMENT PROCEDURES

With an input at AUX, selector switch at AUX, mode switch at STEREO VR MAX, TONE at FLAT, each lever switch at normal, and the connected load to be 4 ohms, gradually increase the input of 1 kHz until the waveforms are clipped, while observing the waveform with the oscilloscope. At this point, set VR901 in case of UA1343K1 LEFT-CH and VR902 in case of RIGHT-CH so that the waveforms show

fluctuation.

For the sake of good order, repeat lowering and increasing the input to make sure whether any fluctuation is noted in the waveforms before or after the clipping points with the contact load changed to 8 ohms.

The waveforms on the oscilloscope should show iterative effect in case the terminals of the load are shortcircuited.

# PROCEDURE FOR REPLACING OUTPUT TRANSISTOR

## SYMPTOMS:

- A. When the fuse has blown out on hum at speakers.
- B. When there is no output at all.
- C. When you cannot get rated output.

## REPLACING METHOD:

Replace all the four transistors, 2SC898 (Hitachi) or 2N3442 (3) (RCA).

## ADJUSTING PROCEDURES:

Connect dummy load to output terminals, and connect to the oscilloscope input in parallel. Set audio generator at 200 mV, 1,000 Hz and connect to the AUX terminals. Advance the front panel volume control until the sine-wave just begins to clip on the oscilloscope. Adjust DC balance control VR903 (LEFT) or VR904 (RIGHT) on the print board "UA1343K1" until clipping is symmetrical.

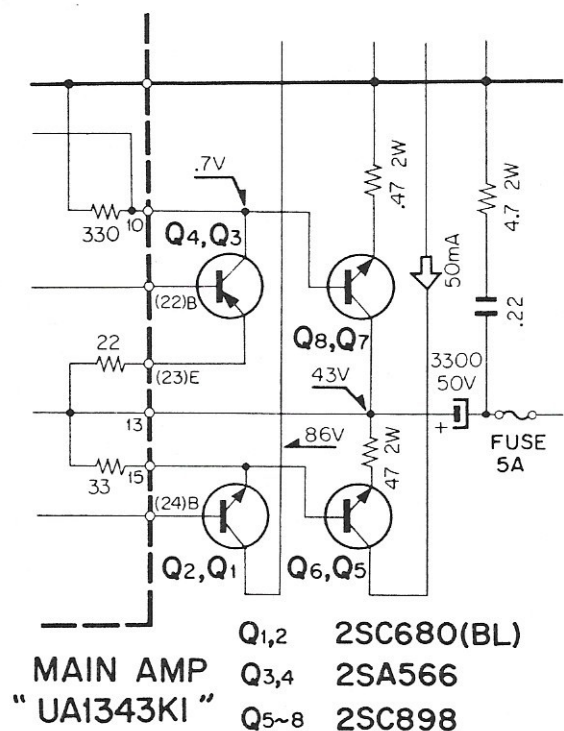
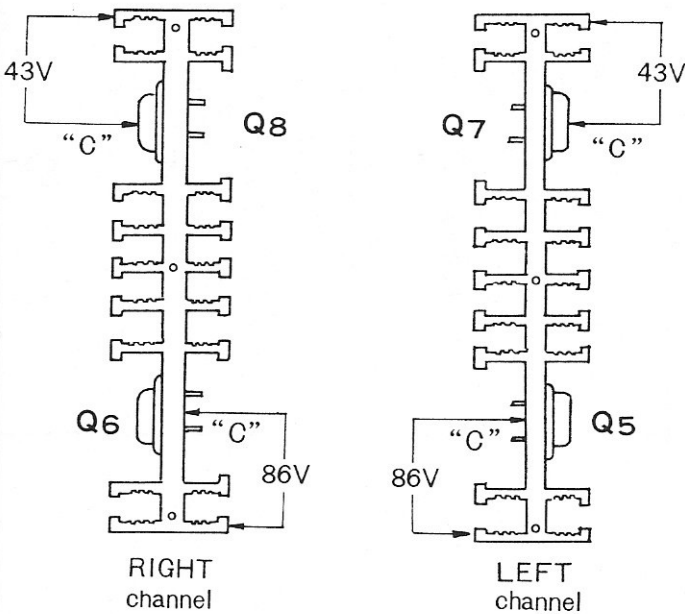
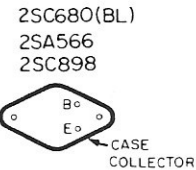
## TESTING PROCEDURES:

Until replacement is completed, do not operate the set the unit without first testing.

Perform the test according to the following procedures.

1. Using variable transformer, lower the AC line voltage to approximately 30 volts.
2. Using a tester, measure the voltage between the chassis and collector of the power transistor Q5 or Q6. If a tester indicates approximately 86 volts, it is normal.
3. Also measure the voltage between the chassis and collector of the power transistor Q7 or Q8. If a tester indicates approximately 43 volts, it is normal.

## BOTTOM VIEW OF TRANSISTORS

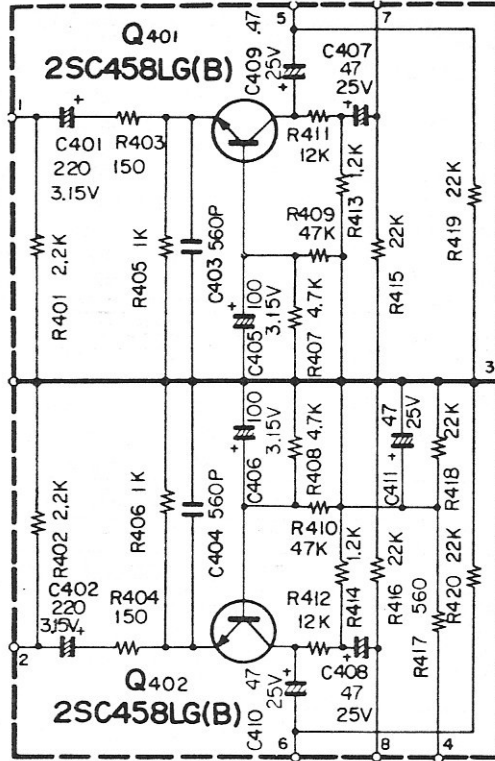
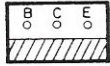




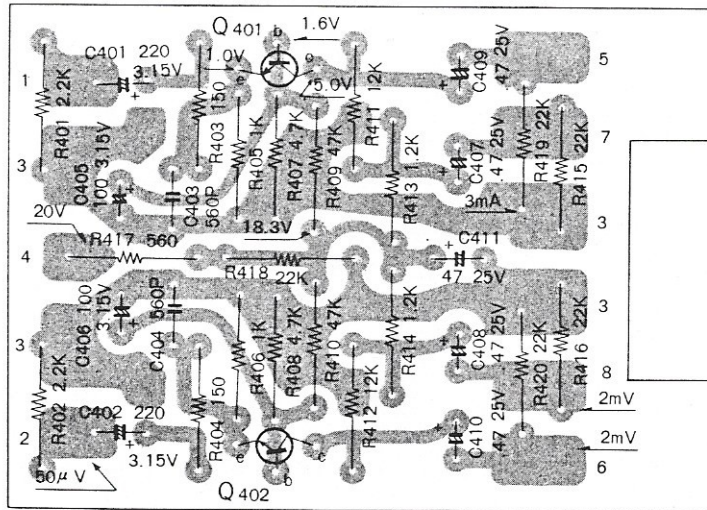
**SCHEMATIC DIAGRAM**

**BOTTOM VIEW OF TRANSISTORS**

2SC458LG(B)



**SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS**



Q 401, 402 2SC458LG(B)

**PARTS DESCRIPTION LIST**

Symbol No.	Description	Part No.	Remarks
<b>RESISTORS</b>			
R401, 402	Insulated Carbon Film 2.2k $\Omega$ $\pm$ 10% 1/4W		
R403, 404	Insulated Carbon Film 150 $\Omega$ $\pm$ 5% 1/4W		
R405, 406	Insulated Carbon Film 1k $\Omega$ $\pm$ 5% 1/4W		
R407, 408	Insulated Carbon Film 4.7k $\Omega$ $\pm$ 5% 1/4W		
R409, 410	Insulated Carbon Film 47k $\Omega$ $\pm$ 5% 1/4W		
R411, 412	Carbon Film Coated 12k $\Omega$ $\pm$ 5% 1/4W (low noise)		
R413, 414	Insulated Carbon Film 1.2k $\Omega$ $\pm$ 5% 1/4W		
R415, 416	Insulated Carbon Film 22k $\Omega$ $\pm$ 10% 1/4W		
R417	Insulated Carbon Film 560 $\Omega$ $\pm$ 5% 1/4W		
R418~420	Insulated Carbon Film 22k $\Omega$ $\pm$ 5% 1/4W		
<b>CAPACITORS</b>			
C401, 402	Electrolytic Tubular 220 $\mu$ F 3.15WV		
C403, 404	Ceramic 560PF $\pm$ 20%		
C405, 406	Electrolytic Tubular 100 $\mu$ F 3.15WV		
C407~410	Aluminum Solid .47 $\mu$ F 25WV		
C411	Electrolytic Tubular 47 $\mu$ F 25WV		
<b>TRANSISTORS</b>			
Q401, 402	2SC 458LG(B)		
<b>MISCELLANEOUS</b>			
—	Printed Circuit Board	S23-238	
—	Vinyl Tube 1 $\phi$ (0.02m)	W07-01Z	
—	Angle Brackets	A4986	
—	Screw (+)p3 x 6 - F		

**SCHEMATIC DIAGRAM**

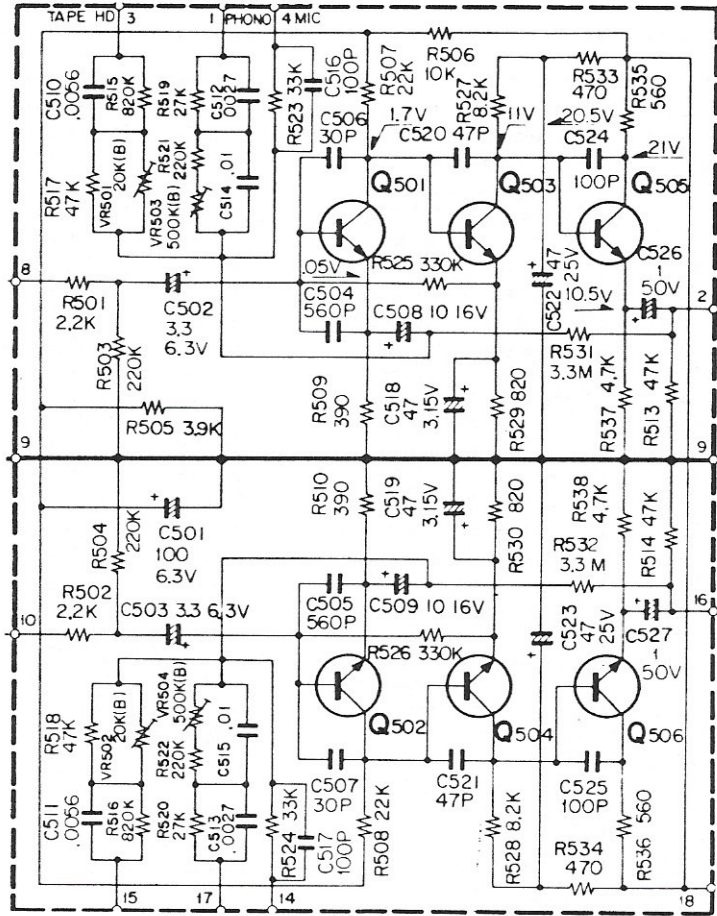
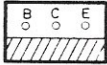
**BOTTOM VIEW OF TRANSISTORS**

2SC350(Y)

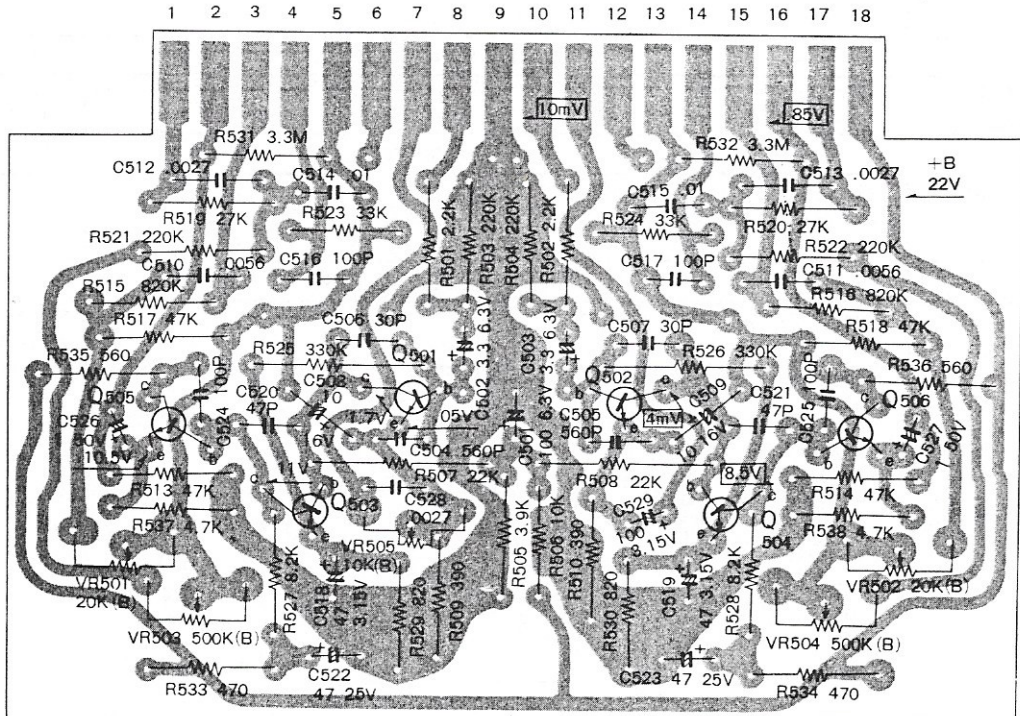


2SC458LG(C)

2SC458LG(D)



**SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS**



Q501, 502 2SC458LG (C) Q503, 504 2SC458LG (D) Q505, 506 2SC350 (Y)

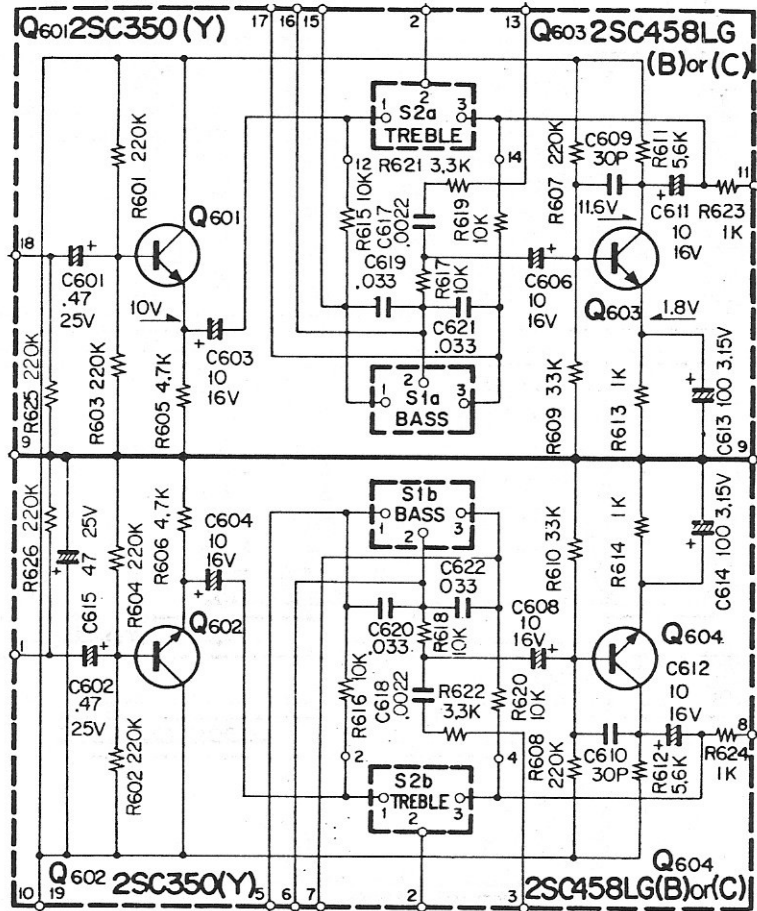
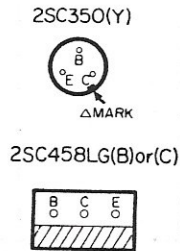
(Note: Voltages as shown in mean signal voltages.)

**PARTS DESCRIPTION LIST**

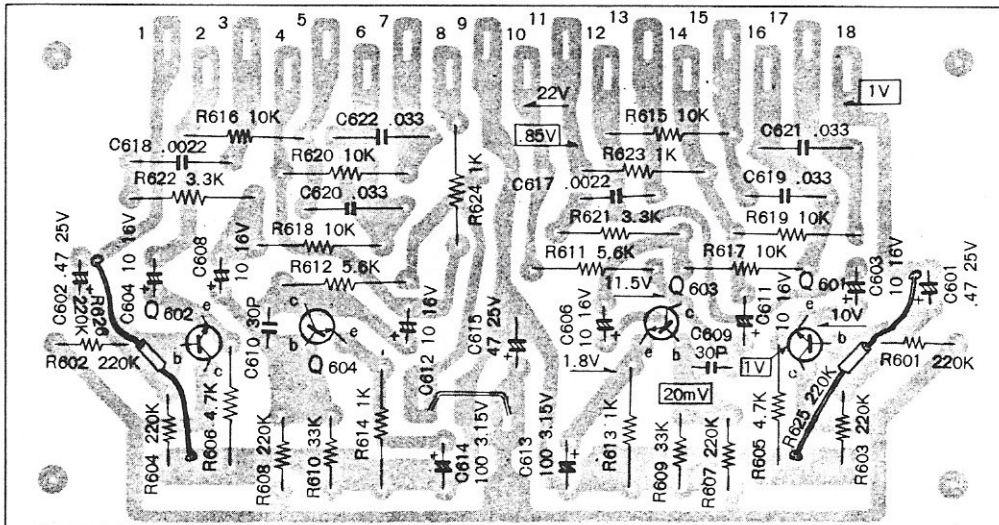
Symbol No.	Description	Part No.	Remarks
<b>RESISTORS</b>			
R501, 502	Insulated Carbon Film	2.2K $\Omega$ $\pm 10\%$ 1/4W	
R503, 504	Insulated Carbon Film	220K $\Omega$ $\pm 10\%$ 1/4W	
R505	Insulated Carbon Film	3.9K $\Omega$ $\pm 10\%$ 1/4W	
R506	Insulated Carbon Film	10K $\Omega$ $\pm 10\%$ 1/4W	
R507, 508	Carbon Film Coated	22K $\Omega$ $\pm 5\%$ 1/4W (low noise)	
R509, 510	Insulated Carbon Film	390 $\Omega$ $\pm 5\%$ 1/4W	
R513, 514	Insulated Carbon Film	47K $\Omega$ $\pm 10\%$ 1/4W	
R515, 516	Fixed Carbon Composition	820K $\Omega$ $\pm 5\%$ 1/2W	
R517, 518	Insulated Carbon Film	47K $\Omega$ $\pm 10\%$ 1/4W	
R519, 520	Insulated Carbon Film	27K $\Omega$ $\pm 5\%$ 1/4W	
R521, 522	Insulated Carbon Film	220K $\Omega$ $\pm 10\%$ 1/4W	
R523, 524	Insulated Carbon Film	33K $\Omega$ $\pm 5\%$ 1/4W	
R525, 526	Carbon Film Coated	330K $\Omega$ $\pm 5\%$ 1/4W (low noise)	
R527, 528	Insulated Carbon Film	8.2K $\Omega$ $\pm 10\%$ 1/4W	
R529, 530	Insulated Carbon Film	820 $\Omega$ $\pm 10\%$ 1/4W	
R531, 532	Fixed Carbon Composition	3.3M $\Omega$ $\pm 5\%$ 1/2W	
R533, 534	Insulated Carbon Film	470 $\Omega$ $\pm 10\%$ 1/4W	
R535, 536	Insulated Carbon Film	560 $\Omega$ $\pm 10\%$ 1/4W	
R537, 538	Insulated Carbon Film	4.7K $\Omega$ $\pm 10\%$ 1/4W	
<b>CAPACITORS</b>			
C501	Electrolytic Tubular	100 $\mu$ F 6.3WV	
C502, 503	Aluminum Solid	3.3 $\mu$ F 6.3WV	
C504, 505	Ceramic	560pF $\pm 20\%$	
C506, 507	Ceramic	30pF $\pm 10\%$	
C508, 509	Electrolytic Tubular	10 $\mu$ F 16WV	
C510, 511	Mylar	0.0056 $\mu$ F $\pm 5\%$	
C512, 513	Mylar	0.0027 $\mu$ F $\pm 5\%$	
C514, 515	Mylar	0.01 $\mu$ F $\pm 5\%$	
C516, 517	Ceramic	100pF $\pm 10\%$	
C518, 519	Electrolytic Tubular	47 $\mu$ F 3.15WV	
C520, 521	Ceramic	47pF $\pm 10\%$	
C522, 523	Electrolytic Tubular	47 $\mu$ F 25WV	
C524, 525	Ceramic	100pF $\pm 10\%$	
C526, 527	Electrolytic Tubular	1 $\mu$ F 50WV	
<b>POTENTIOMETERS</b>			
VR501, 502	20K $\Omega$ (B)	R10-75	
VR503, 504	500K $\Omega$ (B)	R10-78	
<b>TRANSISTORS</b>			
Q501, 502	2SC 458LG (C)		
Q503, 504	2SC 458LG (D)		
Q505, 506	2SC 350 (Y)		
<b>MISCELLANEOUS</b>			
—	Printed Circuit Board	S23-178	
—	Vinyl Tube	1.0 $\phi$ 0.07m	W07-01Z

**SCHEMATIC DIAGRAM**

**BOTTOM VIEW OF TRANSISTORS**



**SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS**



Q 601,602 2SC350(Y) Q 603,604 2SC458LG(B) or (C)

(Note: Voltages as shown in □ mean signal voltages.)



# KENWOOD NF TONE AMP (UA 13443 B) SECTION

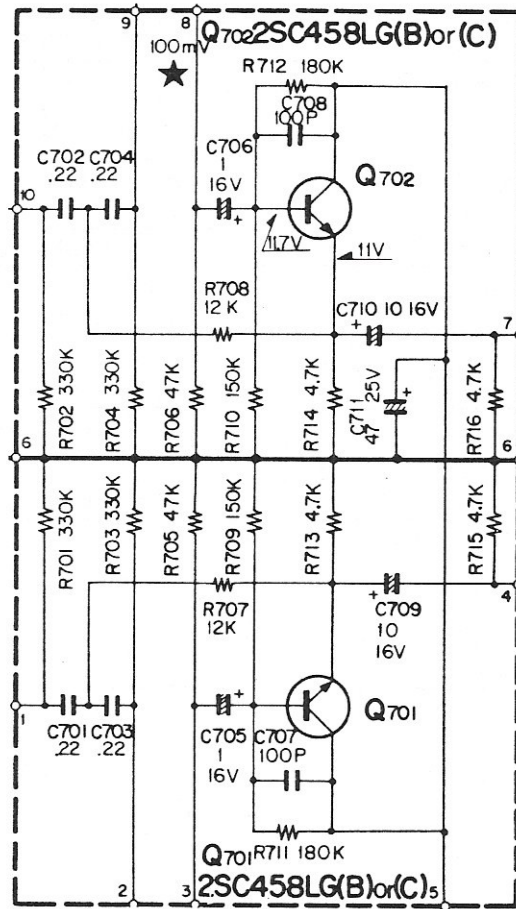
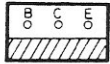
## PARTS DESCRIPTION LIST

Symbol No.	Description	Part No.	Remarks
<b>RESISTORS</b>			
R601~604	Carbon Film Coated	220K $\Omega$ $\pm 10\%$ 1/4W (low noise)	
R605, 606	Insulated Carbon Film	4.7K $\Omega$ $\pm 10\%$ 1/4W	
R607, 608	Carbon Film Coated	220K $\Omega$ $\pm 10\%$ 1/4W (low noise)	
R609, 610	Carbon Film Coated	33K $\Omega$ $\pm 10\%$ 1/4W (low noise)	
R611, 612	Insulated Carbon Film	5.6K $\Omega$ $\pm 10\%$ 1/4W	
R613, 614	Insulated Carbon Film	1K $\Omega$ $\pm 10\%$ 1/4W	
R615~620	Insulated Carbon Film	10K $\Omega$ $\pm 10\%$ 1/4W	
R621, 622	Insulated Carbon Film	3.3K $\Omega$ $\pm 10\%$ 1/4W	
R623, 624	Insulated Carbon Film	1K $\Omega$ $\pm 10\%$ 1/4W	
R625, 626	Insulated Carbon Film	220K $\Omega$ $\pm 10\%$ 1/4W	
<b>CAPACITORS</b>			
C601, 602	Aluminum Solid	0.47 $\mu$ F 25WV	
C603, 604 606, 608	Electrolytic Tubular	10 $\mu$ F 16WV	
C609, 610	Ceramic	30pF $\pm 10\%$	
C611, 612	Electrolytic Tubular	10 $\mu$ F 16WV	
C613, 614	Electrolytic Tubular	100 $\mu$ F 3.15WV	
C615	Electrolytic Tubular	47 $\mu$ F 25WV	
C617, 618	Mylar	0.0022 $\mu$ F $\pm 10\%$	
C619~622	Mylar	0.033 $\mu$ F $\pm 10\%$	
<b>TRANSISTORS</b>			
Q601, 602	2SC 350 (Y)		
Q603, 604	2SC 458LG (B) or (C)		
<b>MISCELLANEOUS</b>			
-	Printed Circuit Board		S23-182
-	Terminal		N4085
-	Vinyl Tube	1 $\phi$ (0.05m)	W07-01Z
-	Angle Brackets		A4985
-	Screw	$\oplus$ P3 x 6 - F	

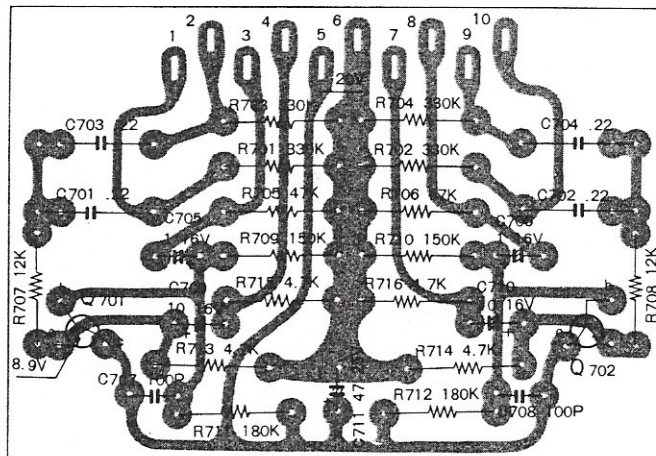
**SCHEMATIC DIAGRAM**

**BOTTOM VIEW OF TRANSISTORS**

2SC458LG(B)or(C)



**SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS**



Q 701,702 2SC458LG(B) or (C)

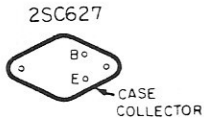
**PARTS DESCRIPTION LIST**

Symbol No.	Description	Part No.	Remarks
<b>RESISTORS</b>			
R701~704	Insulated Carbon Film	330k $\Omega$ $\pm$ 10% 1/4W	
R705, 706	Insulated Carbon Film	47k $\Omega$ $\pm$ 10% 1/4W	
R707, 708	Insulated Carbon Film	12k $\Omega$ $\pm$ 10% 1/4W	
R709, 710	Insulated Carbon Film	150k $\Omega$ $\pm$ 10% 1/4W	
R711, 712	Insulated Carbon Film	180k $\Omega$ $\pm$ 10% 1/4W	
R713~716	Insulated Carbon Film	4.7k $\Omega$ $\pm$ 10% 1/4W	
<b>CAPACITORS</b>			
C701~704	Mylar	0.22 $\mu$ F $\pm$ 10%	
C705, 706	Electrolytic Tubular	1 $\mu$ F 16WV	
C707, 708	Ceramic	100pF $\pm$ 10%	
C709, 710	Electrolytic Tubular	10 $\mu$ F 16WV	
C711	Electrolytic Tubular	47 $\mu$ F 25WV	
<b>TRANSISTORS</b>			
Q701, 702	2SC 458 LG (B) or (C)		
<b>MISCELLANEOUS</b>			
—	Printed Circuit Board	S23 - 205	
—	Terminal	N4085	
—	Terminal	N4086	
—	Vinyl Tube 1 $\phi$ (0.02m)	W07-01 Z	
—	Angle Brackets	A4986	
—	Screw (+)P3 x 6 - F		



**SCHEMATIC DIAGRAM**

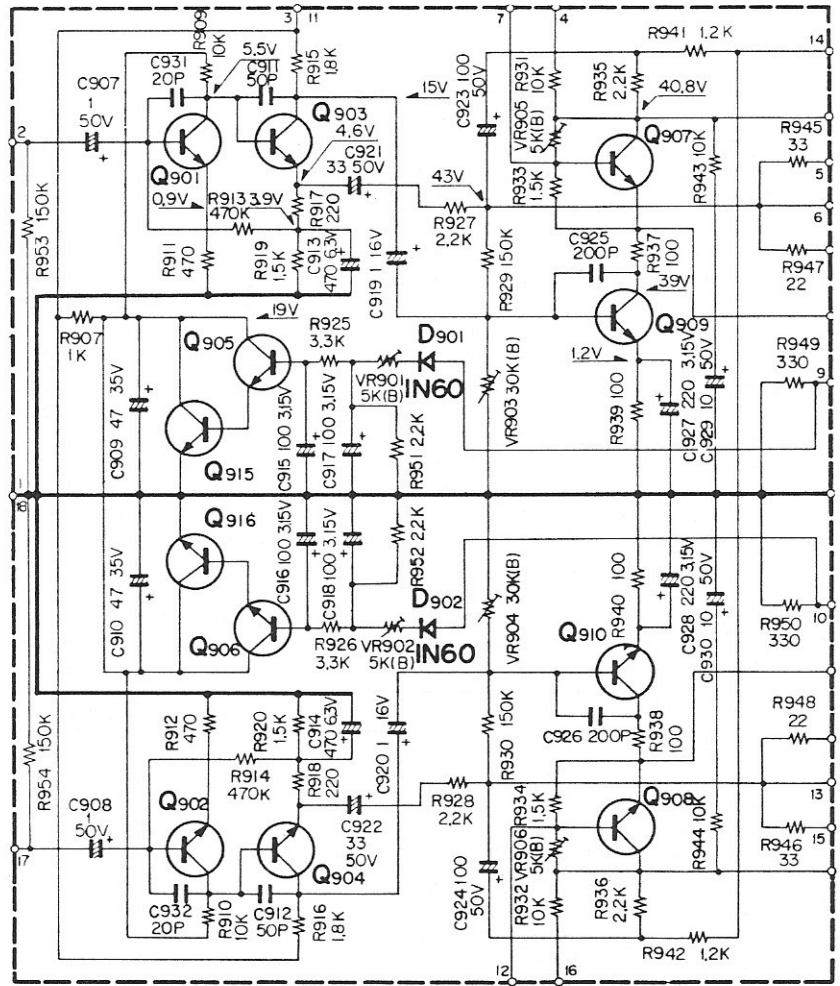
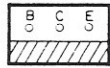
**BOTTOM VIEW OF TRANSISTORS**



2SC281(B) or (C)



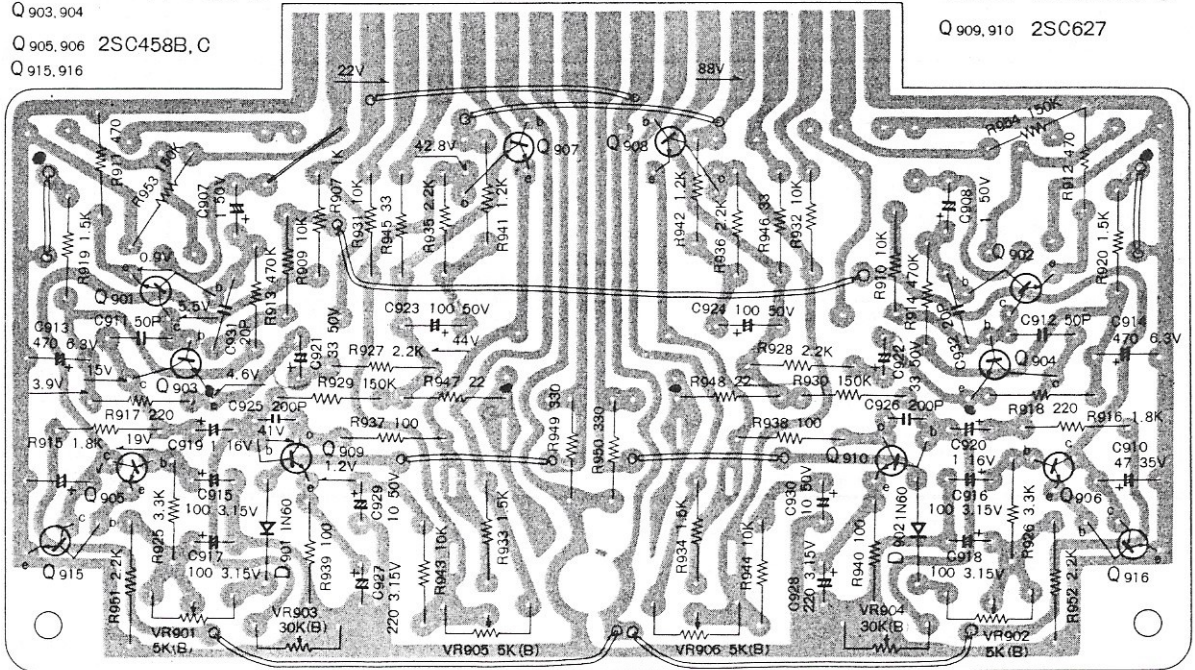
2SC458B, C  
2SC458LG(B) or (C)



**SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS**

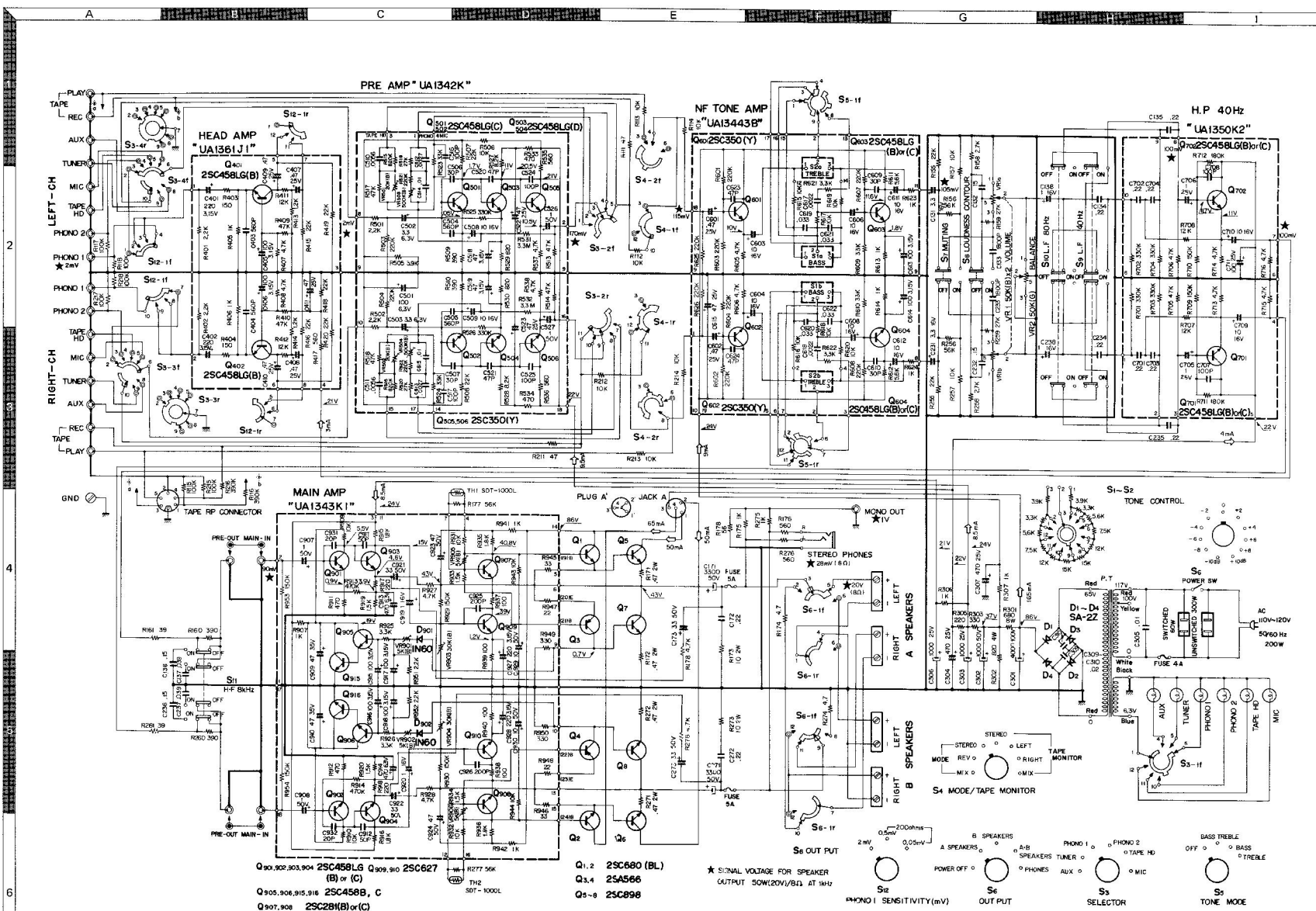
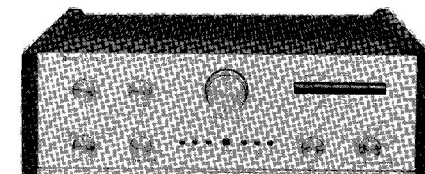
Q 901, 902 2SC458LG (B) or (C)  
Q 903, 904  
Q 905, 906 2SC458B, C  
Q 915, 916

Q 907, 908 2SC281 (B) or (C)  
Q 909, 910 2SC627



**PARTS DESCRIPTION LIST**

Symbol No.	Description	Part No.	Remarks
<b>RESISTORS</b>			
R907	Fixed Carbon Composition	1k $\Omega$ $\pm$ 10% 1/2W	
R909, 910	Insulated Carbon Film	10k $\Omega$ $\pm$ 5% 1/4W	
R911, 912	Insulated Carbon Film	470 $\Omega$ $\pm$ 5% 1/4W	
R913, 914	Insulated Carbon Film	470k $\Omega$ $\pm$ 5% 1/4W	
R915, 916	Insulated Carbon Film	1.8k $\Omega$ $\pm$ 10% 1/4W	
R917, 918	Insulated Carbon Film	220 $\Omega$ $\pm$ 5% 1/4W	
R919, 920	Insulated Carbon Film	1.5k $\Omega$ $\pm$ 10% 1/4W	
R925, 926	Fixed Carbon Composition	3.3k $\Omega$ $\pm$ 10% 1/2W	
R927, 928	Insulated Carbon Film	2.2k $\Omega$ $\pm$ 5% 1/4W	
R929, 930	Insulated Carbon Film	150k $\Omega$ $\pm$ 10% 1/4W	
R931, 932	Fixed Carbon Composition	10k $\Omega$ $\pm$ 10% 1/2W	
R933, 934	Fixed Carbon Composition	1.5k $\Omega$ $\pm$ 10% 1/2W	
R935, 936	Fixed Carbon Composition	2.2k $\Omega$ $\pm$ 10% 1/2W	
R937~940	Fixed Carbon Composition	100 $\Omega$ $\pm$ 10% 1/2W	
R941, 942	Fixed Carbon Composition	1.2k $\Omega$ $\pm$ 10% 1/2W	
R943, 944	Fixed Carbon Composition	10k $\Omega$ $\pm$ 10% 1/2W	
R945, 946	Fixed Carbon Composition	33 $\Omega$ $\pm$ 10% 1/2W	
R947, 948	Fixed Carbon Composition	22 $\Omega$ $\pm$ 10% 1/2W	
R949, 950	Fixed Carbon Composition	330 $\Omega$ $\pm$ 10% 1/2W	
R951, 952	Fixed Carbon Composition	2.2k $\Omega$ $\pm$ 10% 1/2W	
R953, 954	Insulated Carbon Film	150k $\Omega$ $\pm$ 10% 1/4W	
<b>CAPACITORS</b>			
C907, 908	Electrolytic Tubular	1 $\mu$ F 50WV	
C909, 910	Electrolytic Tubular	47 $\mu$ F 35WV	
C911, 912	Ceramic	50pF $\pm$ 10%	
C913, 914	Electrolytic Tubular	470 $\mu$ F 6.3WV	
C915~918	Electrolytic Tubular	100 $\mu$ F 3.15WV	
C919, 920	Electrolytic Tubular	1 $\mu$ F 16WV	
C921, 922	Electrolytic Tubular	33 $\mu$ F 50WV	
C923, 924	Electrolytic Tubular	100 $\mu$ F 50WV	
C925, 926	Ceramic	200pF $\pm$ 10%	
C927, 928	Electrolytic Tubular	220 $\mu$ F 3.15WV	
C929, 930	Electrolytic Tubular	10 $\mu$ F 50WV	
C931, 932	Ceramic	20pF $\pm$ 10%	
<b>POTENTIOMETERS</b>			
VR 901, 902 905, 906	5 k $\Omega$ (B)	R10 - 70	
VR 903, 904	30k $\Omega$ (B)	R10 - 76	
<b>TRANSISTORS/DIODES</b>			
Q901~904	2SC458LG (B) or (C)		
Q905, 906 915, 916	2SC458B, C		
Q907, 908	2SC281 (B) or (C)		
Q909, 910	2SC627		
D901, 902	1N60		
<b>MISCELLANEOUS</b>			
-	Printed Circuit Board	S23 - 188	
-	Radiator	A27 - 02	
-	Vinyl Tube 1 $\phi$ (0.2m)	W07 - 01Z	
-	Solid wire (Red) (0.3m)	W32 - 52	
-	Tinned wire 0.8 $\phi$ (0.05m)	W03 - 08	
-	Holder (for Electrolytic Tubular Capacitor)	S4121	
-	Tab (for printed Circuit Board)	N4092	



### SPECIFICATIONS

**Power Output:**  
 Output Power: 210 watts ±1 dB at 4 ohms  
 210 watts ±1.5 dB at 8 ohms  
 Dynamic Power (IEB): 180 watts at 4 ohm load  
 170 watts at 8 ohm load  
 Continuous Power: (at any frequency from 20—20,000 Hz)  
 Both channels driven  
 180 watts at 4 ohm load  
 165 watts at 8 ohm load  
 Single channel driven  
 180 watts at 4 ohm load  
 165 watts at 8 ohm load

**Harmonic Distortion:**  
 Less than 3% at rated output from 20 Hz to 20,000 Hz

**Intermodulation Distortion:** 100 Hz & 7,000 Hz, 4:1  
 Less than 3% at rated output at any level of less than rated output  
 Less than 1% at 3-dB rated output

**Frequency Response:**  
 Main Amp Only: 10 Hz to 20,000 Hz ±1 dB  
 High Level Input: 30 Hz to 20,000 Hz ±1 dB  
 Sensitivity: (for rated output at 8 ohm load)  
 Phono 1: 2 mV, 5 mV, 35 mV (Switchable)  
 Phono 2: 2 mV  
 Tape Head: 2.5 mV  
 MIC: 2 mV  
 AUX: 200 mV  
 Tuner: 200 mV  
 Main Amp Input: 100 mV

**Input Impedance:** (at 1,000 Hz)  
 Phono 1: 20 K ohms  
 Phono 2: 5 K ohms  
 Tape Head: 100 K ohms  
 MIC: 100 K ohms  
 AUX: 100 K ohms  
 ATX: 100 K ohms  
 Main Amp Input: 50 K ohms

**Signal to Noise Ratio:** (below rated output)  
 Phono 1: 27 dB, 66 dB  
 Phono 2: 15 dB, 50 dB  
 Phono 3: 18 dB, 45 dB  
 Phono 4: 85 dB  
 Tape Head: 64 dB  
 MIC: 67 dB  
 ATX: 70 dB  
 Noise at minimum volume control: 1 mV at 8 ohms or .0125 rms

**Output Impedance:** (at Speaker Terminal)  
 275 ohms at 1,000 Hz  
 50 ohms at 50 Hz  
 275 ohms at 10,000 Hz

**Damping Factor:** (at 1,000 Hz)  
 50 at 16 ohm load  
 25 at 8 ohm load

**Loadable Controls:**  
 100 Hz ±10 dB  
 10 Hz ±6 dB

**Low Filter:** (for rumble)  
 40 Hz Cutoff, 12 dB per octave  
 50 Hz Cutoff, 12 dB per octave

**High Filter:** (for scratch)  
 8,000 Hz Cutoff, 12 dB per octave

**Bass Control:**  
 -10 dB at 100 Hz with 2 dB step switch

**Treble Control:**  
 -10 dB at 10,000 Hz with 2 dB step switch

**Inputs:**  
 Pair of Phono 1, Phono 2, Tape Head, AUX, Tuner, Tape Play, MIC and Main Amp Inputs

**Outputs:**  
 4 pairs of stereo speaker outputs (4 to 16 ohms), pre-amp outputs, Headphone Jack, Low Level MONO output, Tape Recording output, IEC Standard Type Reel-To-Reel connector, Standard and Unswitched AG outputs

**Controls:**  
 Phono 1 Level Switch, Input Selector Switch, Mode/Tape Monitor Switch, Tone Mode Switch, Output Selector Switch, Volume Control, Balance Control, Bass Control Switch, Treble Control Switch, Muting Switch (-20 dB), Loudness Control Switch, Low Filter Switch, and High Filter Switch

**Special Features:**  
 \* T. R. Pat. power transistor protection circuit  
 \* 2 sets of stereo Speaker terminals and front panel selector switch  
 \* 2 dB step tone control with tone mode switch (Control, Bass & Treble, Bass only, Treble only)  
 \* -20 dB muting switch  
 \* Low level phone input (0.5 mV, 5 mV) for Moving coil type or low level output meters  
 \* Light-up input indicators  
 \* Phono output  
 \* Main amp inputs  
 \* Stereo phone jack  
 \* Tape selector switch

**Power Consumption:**  
 18 watts quiescent, 180 watts at full power

**Dimensions:** (not including control knobs)  
 Width 16-5/16", Height 8-3/8", Depth 11-1/4"

**Weight:**  
 21.5 lbs.

2  
4  
6



**KENWOOD**

May 20, 1971

KENWOOD SERVICE BULLETIN Nbr. 5

TO: Kenwood Authorized Service Centers

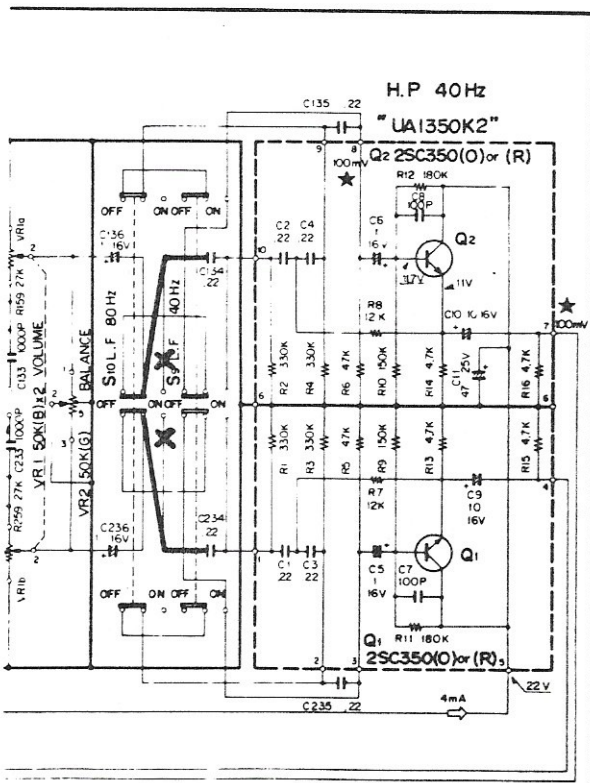
SUBJECT: KA-6000

Reason: In the earlier KA-6000 STEREO AMPLIFIER, immediately after actuating the Low Filter Switch from "OFF" to "ON", caused a "popping" noise.

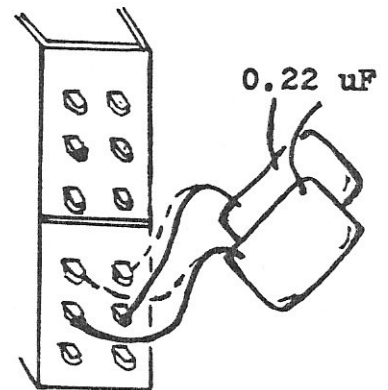
To correct this problem, change the wiring of the capacitors as follows:

Remove 0.22 uF capacitors (part number C134/C234) from 80 Hz Low Filter Switch and connect to terminal of this switch located directly below the terminal from which the wiring was removed.

Schematic Diagram



Sketch  
(after change)



80 Hz Low filter

**KENWOOD ELECTRONICS, INC.**  
National Service Dept.

## KENWOOD ELECTRONICS, INC.

- 15777 SOUTH BROADWAY, GARDENA, CALIFORNIA 90247
- 72-02 51<sup>ST</sup> AVENUE, WOODSIDE, N.Y. 11377

CANADIAN EXCLUSIVE DISTRIBUTOR

### MAGNASONIC CANADA LTD.

- 4980 BUCHAN ST. MONTREAL P.Q. CANADA
- 14 BANIGAN DRIVE THORNCLIFFE PARK TORONTO CANADA