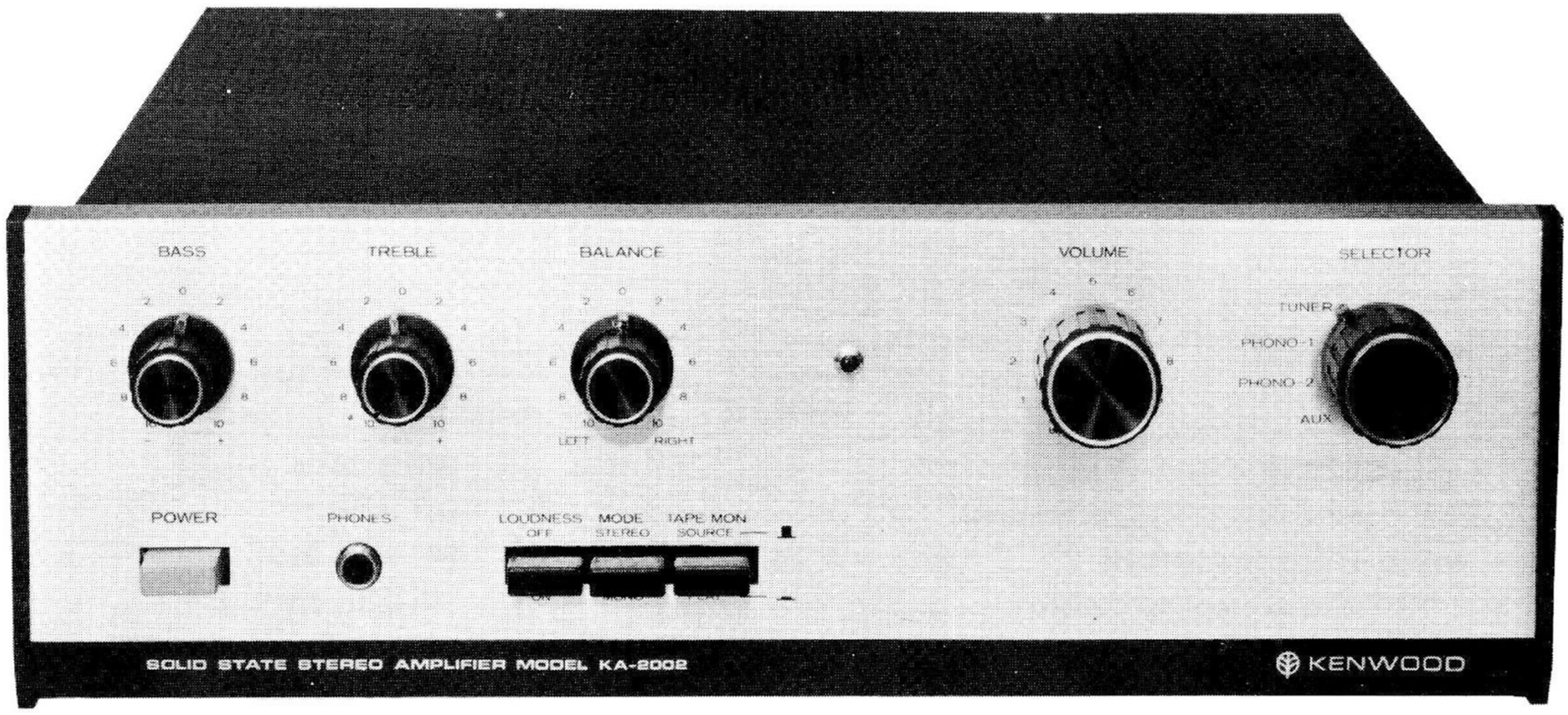
KENWOOD

HI/FI STEREO COMPONENTS

SERVICE MANUAL

KA-2002



SOLID STATE STEREO AMPLIFIER

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PARTS DESCRIPTION LIST

MAIN CHASSIS (Y08-0060-00) SECTION

Symbol No.	Description	Part No.	Remarks
	P C Board		
—	PRE, TONE & MAIN (UA6001J5)	X09-0013-05	Remarks
	CAPACITOR		
C111	Ceramic 0.001μF ±20%	CK94YY102M50V	
C112	Mylar 0.1μF ±20%	CQ93M1H104MZ	
C151	Electrolytic Tubular 1000μF 25WV	CE02W1E102	
C211	Ceramic 0.001μF ±20%	CK94YY102M50V	
C212	Mylar 0.1μF ±20%	CQ93M1H104MZ	
C251	Electrolytic Tubular 1000μF 25WV	CE02W1E102	
C301	Electrolytic Block 2200μF 50WV	CE62A1H222	
C302, 303	Oil Impregnated 0.01μF ±20%	CP2B2J103M	
C304	Oil Impregnated 0.01μF ±20%	C90-0029-05	
	RESISTOR		
R101	Insulated Carbon Film 100kΩ ±10% 1/4W	PD14BY2E104K	
R102	Insulated Carbon Film 390kΩ ±10% 1/4W	PD14BY2E394K	
R111	Insulated Carbon Film 10kΩ ±10% 1/4W	PD14BY2E103K	
R112	Insulated Carbon Film 8.2kΩ ±10% 1/4W	PD14BY2E822K	
R113	Insulated Carbon Film 4.7kΩ ±10% 1/4W	PD14BY2E472K	
R151	Fixed Carbon Composition 330Ω ±10% 1/2W	RC05GF2H331K	
R201	Insulated Carbon Film 100kΩ ±10% 1/4W	PD14BY2E104K	
R202	Insulated Carbon Film 390kΩ ±10% 1/4W	PD14BY2E394K	
R211	Insulated Carbon Film 10kΩ ±10% 1/4W	PD14BY2E103K	
R212	Insulated Carbon Film 8.2kΩ ±10% 1/4W	PD14BY2E822K	
R213	Insulated Carbon Film 4.7kΩ ±10% 1/4W	PD14BY2E472K	
R251	Fixed Carbon Composition 330Ω ±10% 1/2W	RC05GF2H331K	
R301	Fixed Carbon Composition 1MΩ ±10% 1/2W	RC05GF2H105K	
	POTENTIOMETER		
VR1	VOLUME 50kΩ (B) Dual	R08-4043-05	
VR2	BALANCE 50kΩ (W)	R03-4028-05	
VR3	BASS 50kΩ (A) Dual	R08-4044-05	
VR4	TREBLE 50kΩ (A) Dual	R08-4044-05	
	TRANSISTOR/DIODE/THERMISTOR		
Q1 ~ 4	2SC1060		
D1	10DC-1		
TH1, 2	SDT-20		
	SWITCH		
S1	SELECTOR (Rotary) F · 1 · 3 · 4	S04-2038-05	
S2	TAPE MONITOR (Three Pushbutton)	S41-3001-05	
S3	MODE (Three Pushbutton)	S41-3001-05	
S4	LOUDNESS (Three Pushbutton)	S41-3001-05	
S5	PRE-MAIN SEPARATE (Slide)	S10-22D	
S6	AC VOLTAGE SELECT (Slide)	S31-2004-05	
S7	POWER (Pushbutton)	S41-2008-05	
	MISCELLANEOUS		
—	Case	A01-0129-02	
—	Chassis	A10-0224-01	
—	Panel Framework	A20-0348-02	

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PARTS DESCRIPTION LIST

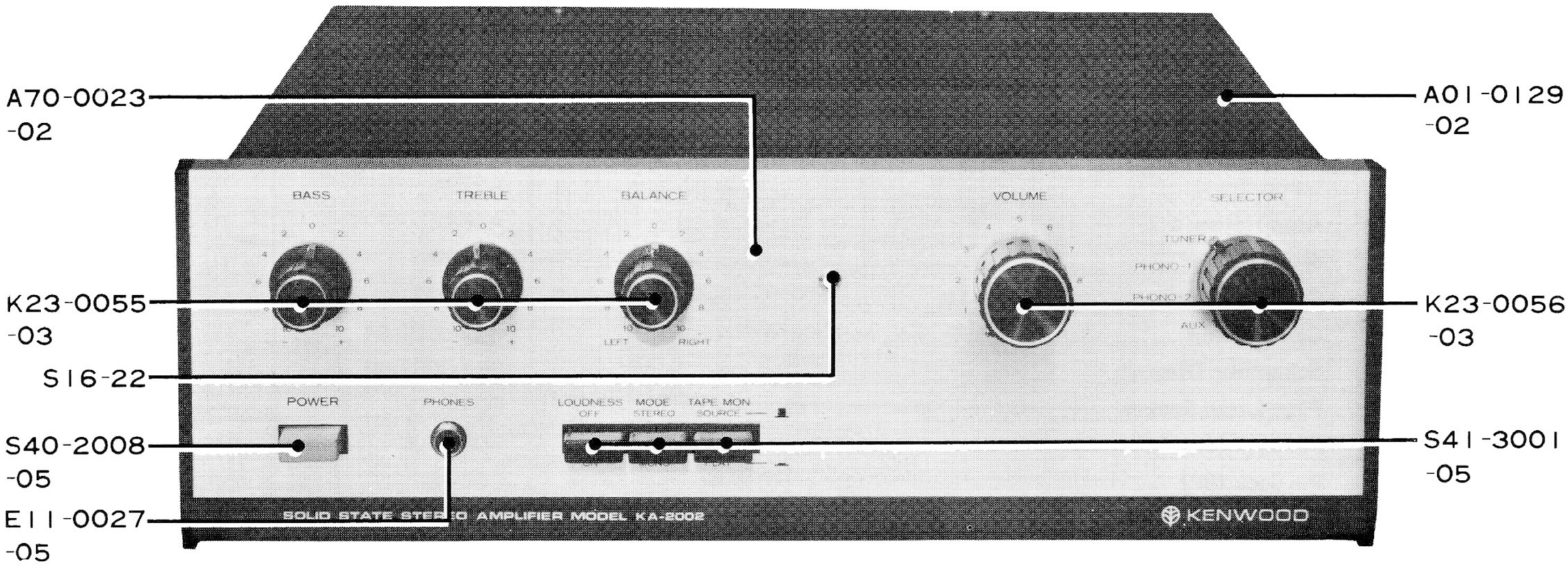
Symbol No.	Description	Part No.	Remarks
—	Rear Panel	A23-0189-02	
—	Sole Plate	A40-0062-04	
—	Side Board (R)	A49-0003-04	
—	Side Board (L)	A49-0004-04	
—	Jewel (Red)	A53-604	
—	Panel Assembly	A70-0023-02	
—	Thermistor Holder x 2	A90-310B	
—	Lamp Cover	A3794	
—	Amp Holder x 2	A3882	
—	Jewel Holder	A4989	
—	Caution Sticker	B09-192	
—	Certification	R42-0008-04	
—	Schematic Diagram	B52-0083-00	
—	Pilot Lamp Socket	E03-02D	
J	Pin Jack (4P)	E08-14G	
J	Pin Jack (8P)	E08-18F	
—	AC Outlet	E08-0205-05	
—	Pin plug x 4	E09-410	
J	Pin Jack (with DIN Connector) 4P	E13-0401-05	
J	Phone Jack	E16-22	
—	Transistor Socket x 4	E4086	
—	Radiator	F01-0076-03	
—	Legs x 4	G10-06	
—	AC Cord Bushing	G11-25	
—	Corrugated Cardboard Case	H01-0537-03	
—	Warranty Card	H26-02	
—	Switch Stopper	J19-0082-04	
—	P C Board	J25-0457-04	
—	Knob (BASS, TREBLE, BALANCE)	K23-0055-03	
—	Knob (VOLUME, SELECTOR)	K23-0056-03	
P T	Power Transformer	L02-0029-03	
—	Decorated Screw x 4	N08-0003-04	
—	Fuse Holder	S15-13	
P. L	Pilot Lamp	S16-22	
F	Fuse	S17-01	
—	P C Board Holder	S21-48	
—	Switch Stopper	S4103	
—	AC Cord with Plug	W09-15	

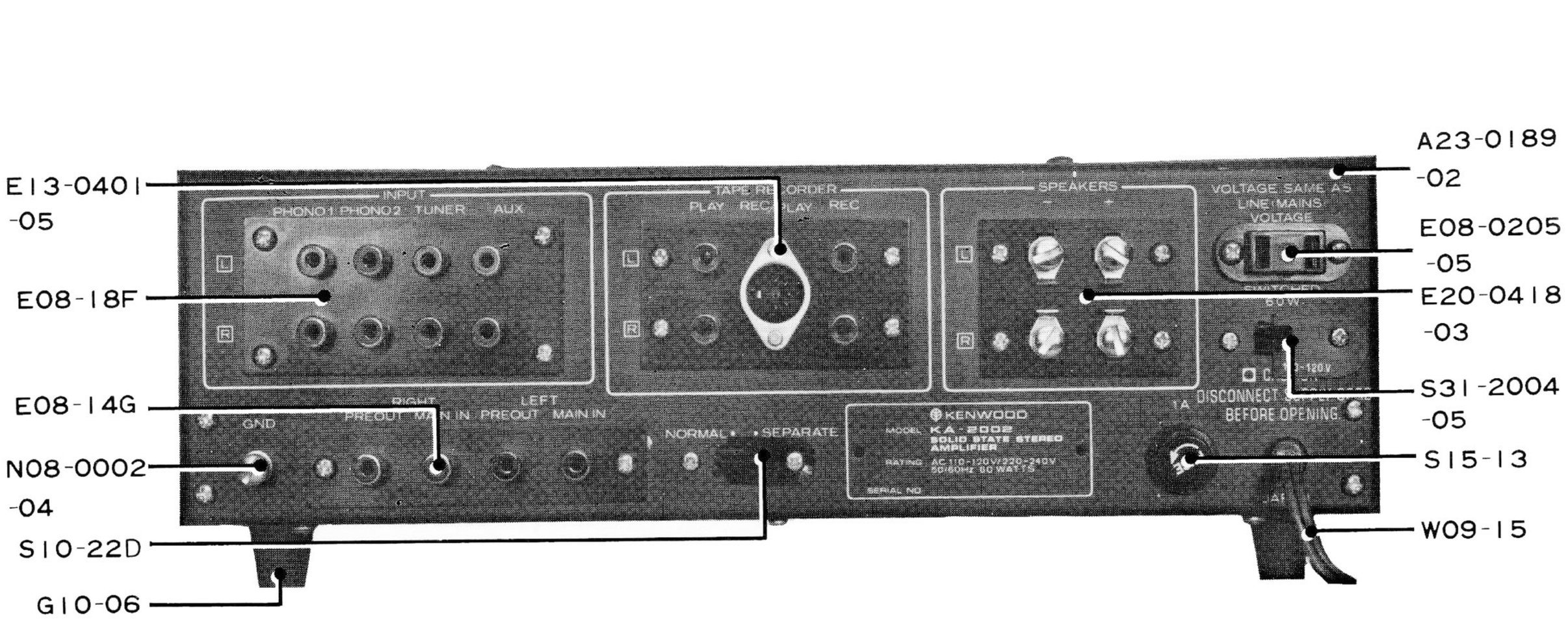
In USA add to the parts of (K), in PX add to the parts of (U)

—	Instruction Manual	(K)	B50-0531-00
—	Instruction Manual	(U)	B50-0532-00
—	Caution Card (for Power Supply)	(U)	B58-0003-00
—	Warranty Card	(U)	H26-17
—	Caution Card (for Case)	(K)	H4068
—	Address	(U)	H4156
—	Caution Card (for AC VOLTAGE SELECT)	(U)	H4190

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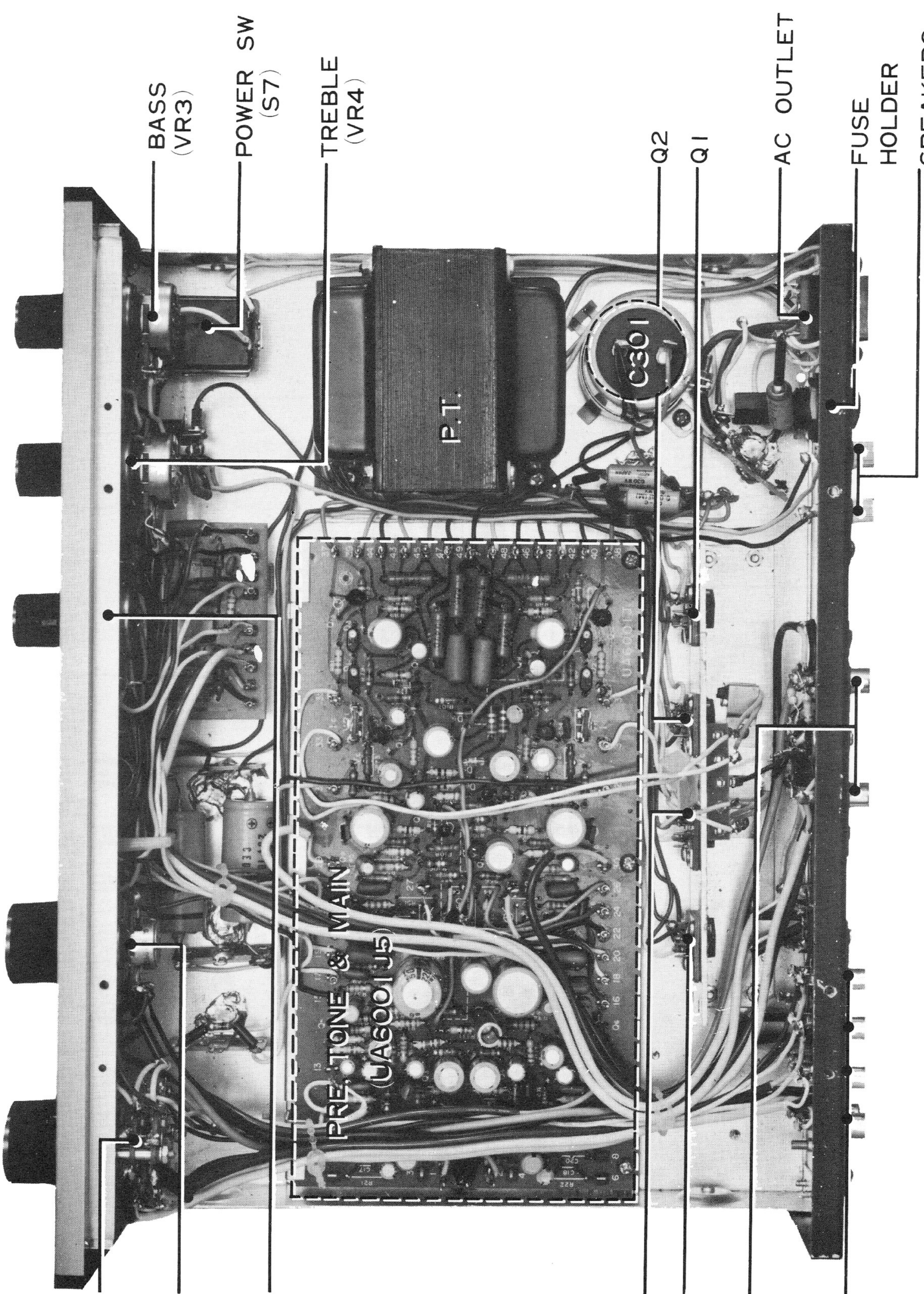
EXTERNAL VIEW





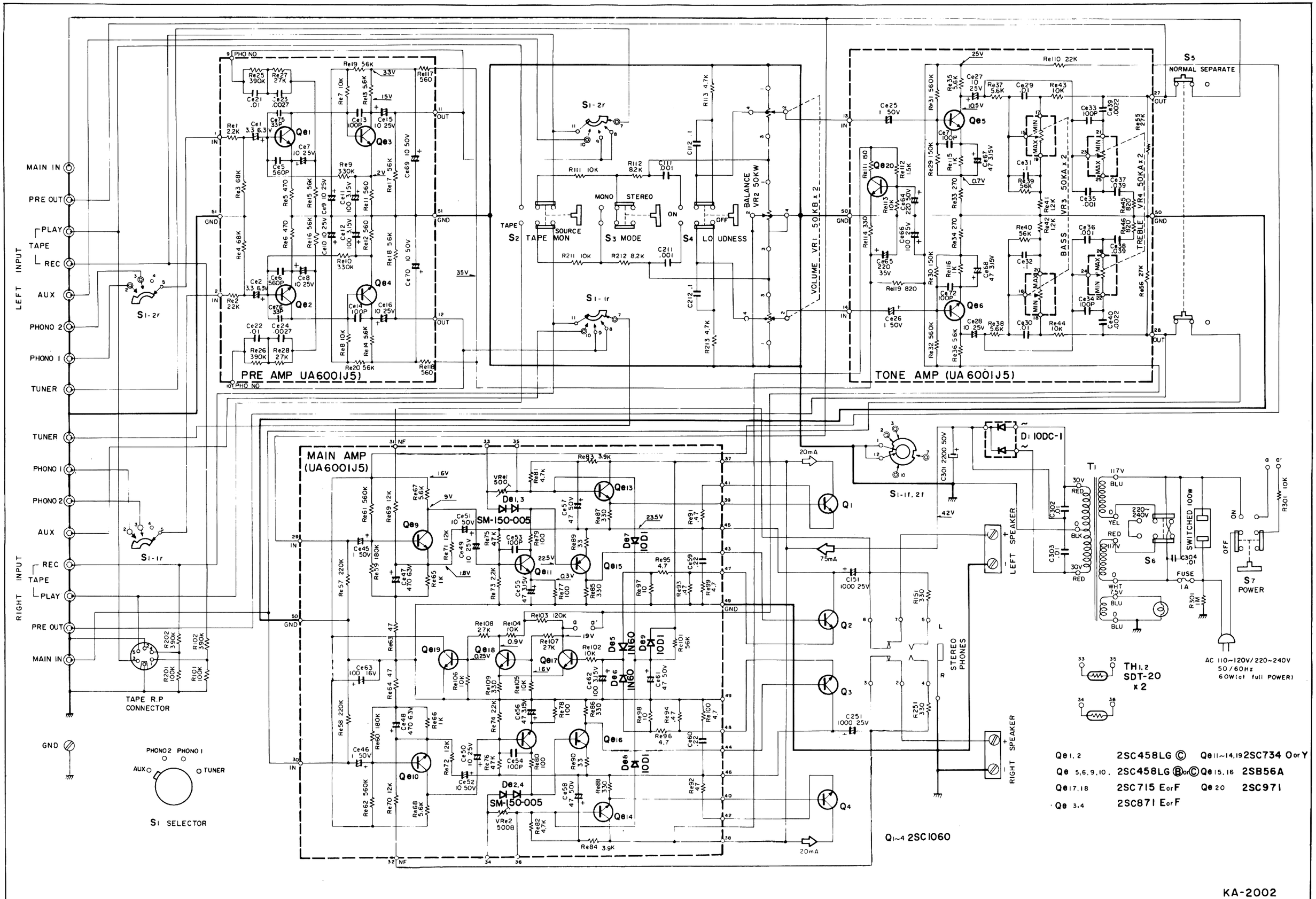
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CHASSIS TOP VIEW



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SCHEMATIC DIAGRAM



KA-2002

PROCEDURE FOR REPLACING OUTPUT TRANSISTOR

Symptoms:

A. When there is load hum at the speakers.
B. When there is no output at all.
C. When you cannot get rated output.

Replacing Method:

Replace all the four transistors 2SC1060.

Testing Procedures:

Until replacement is completed do not operate the set the unit without first testing.
Perform the test according to the following procedures.

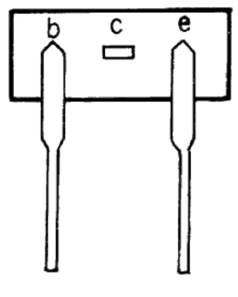
1. Using variable transformer, lower the AC line voltage to approximately 30 volts.
2. Using a tester, measure the voltage between the chassis and "collector" of the power transistor Q1 or Q4.
   If a tester indicates approximately 42V, it is normal.
3. Also measure the voltage between the chassis and "collector" of the power transistor Q2 or Q3.
   If a tester indicates approximately 21V, it is normal.

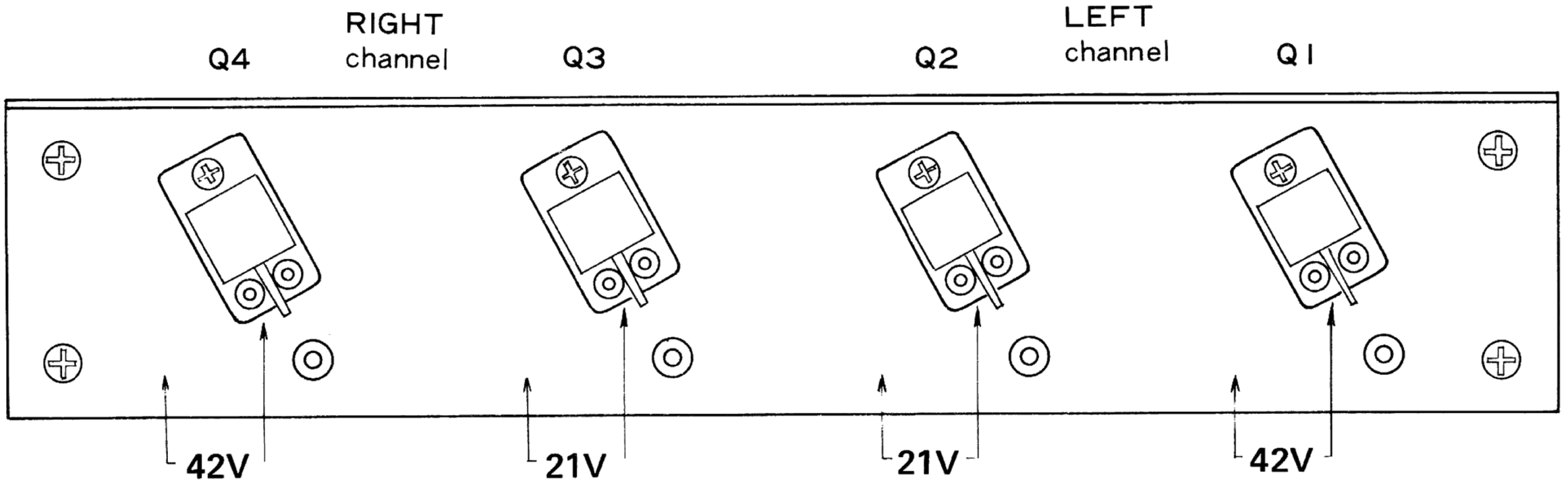
Protection Adjustment Procedures:

The protection circuit in "UA6001J5" is a non-adjustment circuit. But, check the circuit for normal operation as follows for cautions sake;
With a 8 ohms dummy load and an oscilloscope connected in parallel to the output terminal, place the controls on "KA-2002" in their normal positions. Apply a signal of 1,000 Hz to the input and adjustment the volume control until "UA6001J5" provides an output of 10 W as measured across the dummy load. Try to short across the dummy and then restore it to the normal connection under the above conditions and check to see that the scope sweeps with no waveform once and then with the waveform represented, thereby showing that the protection circuit is operated normally. If the protection circuit fails to operate, turn off the power switch immediately, otherwise the final stage transistors may be damaged. And then check transistors, Qe17 ~ 19 and Diodes, De5, 6 whether they are good or not.

BOTTOM VIEW OF TRANSISTORS

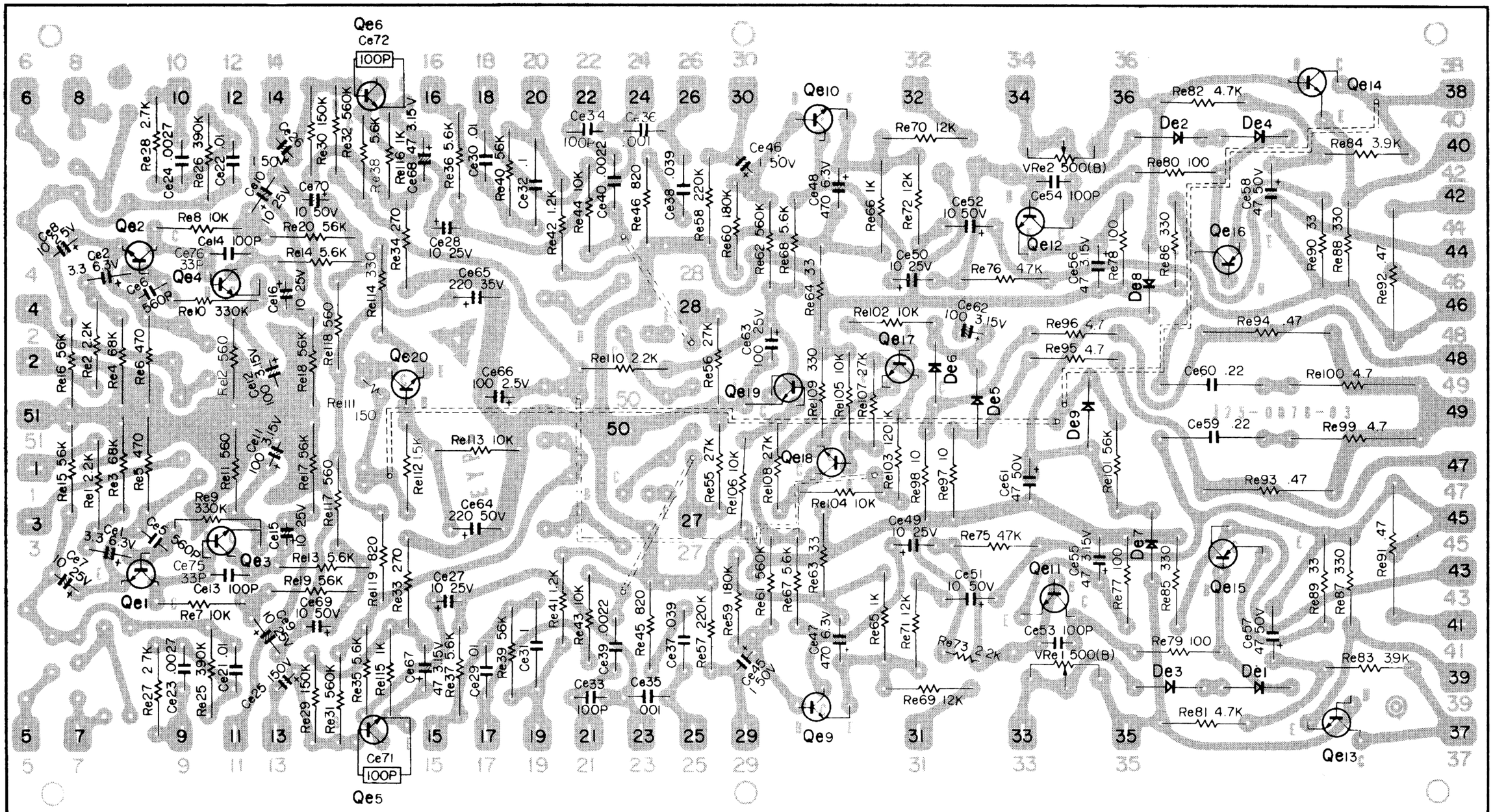
2SC1060





SIDE VIEW

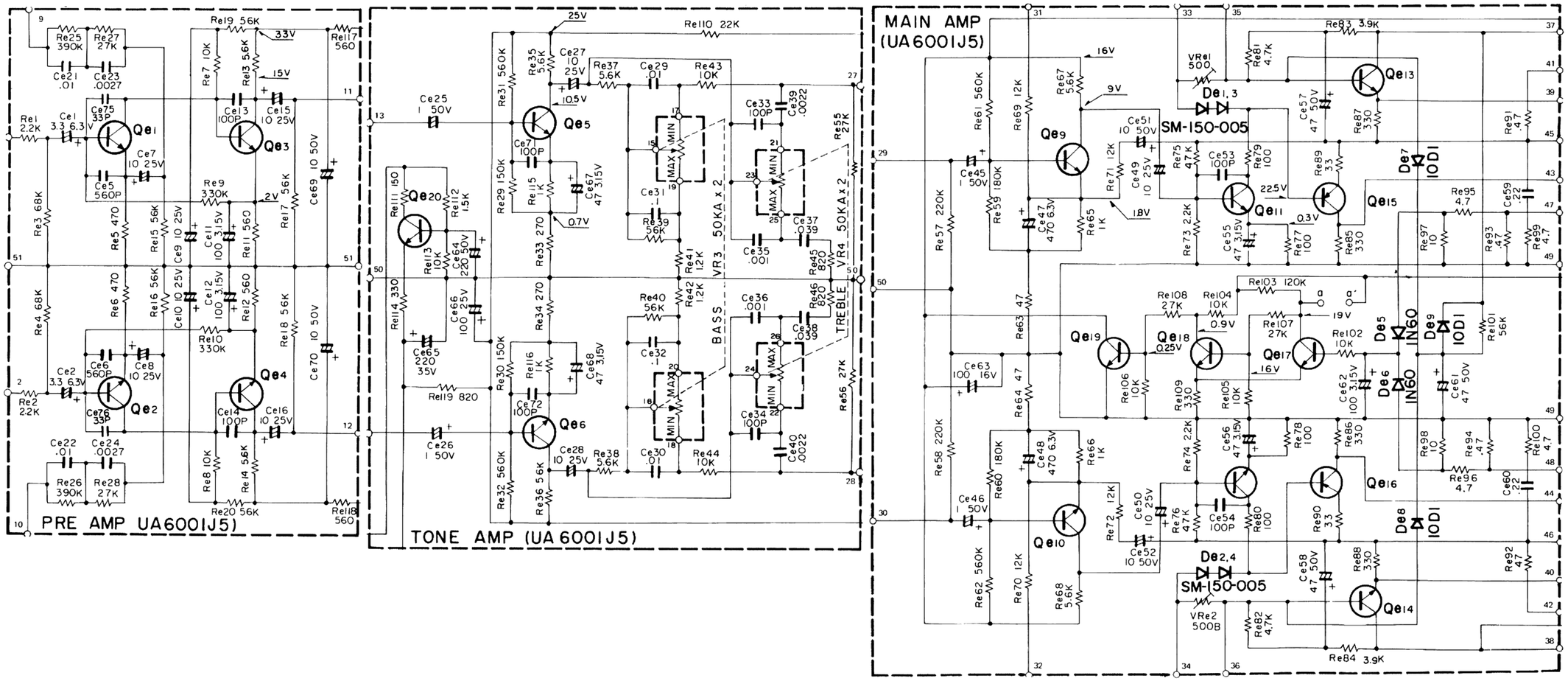
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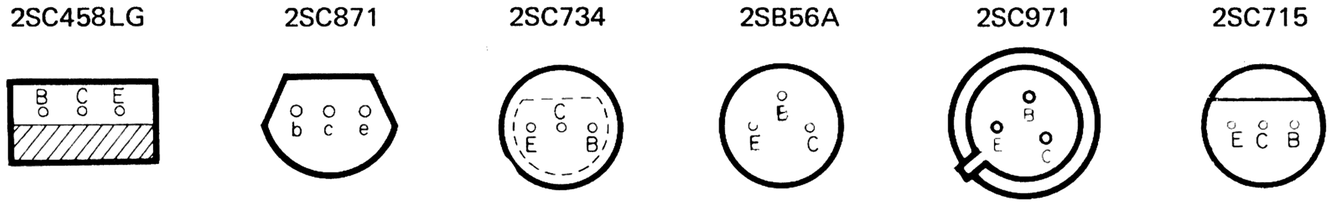
Qe1,2 2SC458LG(C). Qe3,4 2SC871(E) or(F). Qe5,6,9,10 2SC458LG(B)or(C). Qe11~14,19 2SC734(O)or(Y). Qe15,16 2SB56A
Qe17,18 2SC715(E)or(F). Qe20 2SC971. De1~4 SM-150-005. De5,6 1N60. De7~9 10D1.

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SCHEMATIC DIAGRAM



BOTTOM VIEW OF TRANSISTORS



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS

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PARTS DESCRIPTION LIST

Symbol No.	Description				Part No.	Remarks
	CAPACITOR					
Ce1, 2	Solid Aluminum	3.3μF	6.3WV		CA04E0J3R3 x T	
Ce5, 6	Ceramic	560pF	±20%		CK94YY1H561M	
Ce7 ~ 10	Electrolytic Tubular	10μF	25WV		CE04W1E100	
Ce11, 12	Electrolytic Tubular	100μF	3.15WV		CE04W0F101	
Ce13, 14	Ceramic	100pF	±10%		CC94SL1H101K	
Ce15, 16	Electrolytic Tubular	10μF	25WV		CE04W1E100	
Ce21, 22	Mylar	0.01μF	±10%		CQ93M1H103K	
Ce23, 24	Mylar	0.0027μF	±10%		CQ93M1H272K	
Ce25, 26	Electrolytic Tubular	1μF	50WV		CE04W1H010	
Ce27, 28	Electrolytic Tubular	10μF	25WV		CE04W1E100	
Ce29, 30	Mylar	0.01μF	±10%		CQ93M1H103K	
Ce31, 32	Mylar	0.1μF	±10%		CQ93M1H104K	
Ce33, 34	Ceramic	100pF	±10%		CC94SL1H101K	
Ce35, 36	Mylar	0.001μF	±10%		CQ93M1H102K	
Ce37, 38	Mylar	0.039μF	±10%		CQ93M1H393K	
Ce39, 40	Mylar	0.0022μF	±10%		CQ93M1H222K	
Ce45, 46	Electrolytic Tubular	1μF	50WV		CE04W1H010	
Ce47, 48	Electrolytic Tubular	470μF	6.3WV		CE04W0J471	
Ce49, 50	Electrolytic Tubular	10μF	25WV		CE04W1E100	
Ce51, 52	Electrolytic Tubular	10μF	50WV		CE04W1H100	
Ce53, 54	Ceramic	100pF	±10%		CC94SL1H101K	
Ce55, 56	Electrolytic Tubular	47μF	3.15WV		CE04W0F470	
Ce57, 58	Electrolytic Tubular	47μF	50WV		CE04W1H470	
Ce59, 60	Mylar	0.22μF	±20%		CQ93M1H224M	
Ce61	Electrolytic Tubular	47μF	50WV		CE04W1H470	
Ce62	Electrolytic Tubular	100μF	3.15WV		CE04W0F101	
Ce63	Electrolytic Tubular	100μF	25WV		CE04W1E101	
Ce64	Electrolytic Tubular	220μF	50WV		CE04W1H221	
Ce65	Electrolytic Tubular	220μF	35WV		CE04W1V221	
Ce66	Electrolytic Tubular	100μF	25WV		CE04W1E101	
Ce67, 68	Electrolytic Tubular	47μF	3.15WV		CE04W0F470	
Ce69, 70	Electrolytic Tubular	10μF	50WV		CE04W1H100	
Ce71, 72	Ceramic	100pF	±10%		CC94SL1H101K	
Ce75, 76	Ceramic	33pF	±10%		CC94SL1H330K	
	RESISTOR					
Re1, 2	Insulated Carbon Film	2.2kΩ	±5%	1/4W	PD14BY2E222J	
Re3, 4	Insulated Carbon Film	68kΩ	±5%	1/4W	PD14BY2E683J	
Re5, 6	Insulated Carbon Film	470Ω	±5%	1/4W	PD14BY2E471J	
Re7, 8	Insulated Carbon Film	10kΩ	±5%	1/4W	PD14BY2E103J	
Re9, 10	Insulated Carbon Film	330kΩ	±5%	1/4W	PD14BY2E334J	
Re11, 12	Insulated Carbon Film	560Ω	±5%	1/4W	PD14BY2E561J	
Re13, 14	Insulated Carbon Film	5.6kΩ	±5%	1/4W	PD14BY2E562J	
Re15 ~ 20	Insulated Carbon Film	56kΩ	±5%	1/4W	PD14BY2E563J	
Re23, 24	Insulated Carbon Film	47kΩ	±5%	1/4W	PD14BY2E473J	
Re25, 26	Insulated Carbon Film	390kΩ	±5%	1/4W	PD14BY2E394J	
Re27, 28	Insulated Carbon Film	27kΩ	±5%	1/4W	PD14BY2E273J	
Re29, 30	Insulated Carbon Film	150kΩ	±5%	1/4W	PD14BY2E154J	
Re31, 32	Insulated Carbon Film	560kΩ	±5%	1/4W	PD14BY2E564J	
Re33, 34	Insulated Carbon Film	270Ω	±5%	1/4W	PD14BY2E271J	
Re35 ~ 38	Insulated Carbon Film	5.6kΩ	±5%	1/4W	PD14BY2E562J	
Re39, 40	Insulated Carbon Film	56kΩ	±5%	1/4W	PD14BY2E563J	
Re41, 42	Insulated Carbon Film	1.2kΩ	±5%	1/4W	PD14BY2E122J	
Re43, 44	Insulated Carbon Film	10kΩ	±5%	1/4W	PD14BY2E103J	
Re45, 46	Insulated Carbon Film	820Ω	±5%	1/4W	PD14BY2E821J	
Re55, 56	Insulated Carbon Film	27kΩ	±5%	1/4W	PD14BY2E273J	
Re57, 58	Insulated Carbon Film	220kΩ	±5%	1/4W	PD14BY2E224J	
Re59, 60	Insulated Carbon Film	180kΩ	±5%	1/4W	PD14BY2E184J	
Re61, 62	Insulated Carbon Film	560kΩ	±5%	1/4W	PD14BY2E564J	
Re63, 64	Insulated Carbon Film	47Ω	±5%	1/4W	PD14BY2E470J	
Re65, 66	Insulated Carbon Film	1kΩ	±5%	1/4W	PD14BY2E102J	
Re67, 68	Insulated Carbon Film	5.6kΩ	±5%	1/4W	PD14BY2E562J	
Re69 ~ 72	Insulated Carbon Film	12kΩ	±5%	1/4W	PD14BY2E123J	
Re73, 74	Insulated Carbon Film	2.2kΩ	±5%	1/4W	PD14BY2E222J	
Re75, 76	Insulated Carbon Film	47kΩ	±5%	1/4W	PD14BY2E473J	
Re77 ~ 80	Insulated Carbon Film	100Ω	±5%	1/4W	PD14BY2E101J	
Re81, 82	Insulated Carbon Film	4.7kΩ	±5%	1/4W	PD14BY2E472J	
Re83, 84	Insulated Carbon Film	3.9kΩ	±5%	1/4W	PD14BY2E392J	
Re85 ~ 88	Insulated Carbon Film	330Ω	±5%	1/4W	PD14BY2E331J	
Re89, 90	Insulated Carbon Film	33Ω	±5%	1/4W	PD14BY2E330J	
Re91 ~ 94	Metal Film	0.47Ω	±10%	2W	RN14AB3DR47K	
Re95, 96	Fixed Carbon Composition	4.7Ω	±10%	1/2W	RC05GF2H4R7K	
Re97, 98	Insulated Carbon Film	10Ω	±5%	1/4W	PD14BY2E100J	
Re99, 100	Metal Film	4.7Ω	±10%	2W	RN14AB3D4R7K	
Re101	Insulated Carbon Film	56kΩ	±5%	1/4W	PD14BY2E563J	
Re102	Insulated Carbon Film	10kΩ	±5%	1/4W	PD14BY2E103J	
Re103	Insulated Carbon Film	120kΩ	±5%	1/4W	PD14BY2E124J	
Re104~106	Insulated Carbon Film	10kΩ	±5%	1/4W	PD14BY2E103J	
Re107, 108	Insulated Carbon Film	27kΩ	±5%	1/4W	PD14BY2E273J	
Re109	Insulated Carbon Film	330Ω	±5%	1/4W	PD14BY2E331J	
Re110	Insulated Carbon Film	2.2kΩ	±5%	1/4W	PD14BY2E222J	
Re111	Fixed Carbon Composition	150Ω	±10%	1/2W	RC05GF2H151K	
Re112	Insulated Carbon Film	1.5kΩ	±5%	1/4W	PD14BY2E152J	
Re113	Insulated Carbon Film	10kΩ	±5%	1/4W	PD14BY2E103J	
Re114	Fixed Carbon Composition	330Ω	±10%	1/2W	RC05GF2H331K	
Re115, 116	Insulated Carbon Film	1kΩ	±5%	1/4W	PD14BY2E102J	
Re117, 118	Insulated Carbon Film	560Ω	±5%	1/4W	PD14BY2E561J	
Re119	Insulated Carbon Film	820Ω	±5%	1/4W	PD14BY2E821J	
	TRANSISTOR/DIODE					
Qe1, 2	2SC458LG (C)					
Qe3, 4	2SC871 (E) or (F)					
Qe5, 6	2SC458LG (B) or (C)					
Qe9, 10	2SC458LG (B) or (C)					
Qe11 ~ 14	2SC734 (O) or (Y)					
Qe15, 16	2SB56A					
Qe17, 18	2SC715 (E) or (F)					
Qe19	2SC734 (O) or (Y)					
Qe20	2SC971					
De1 ~ 4	SM-150-005					
De5, 6	1N60					
De7 ~ 9	10DA					
	POTENTIOMETER/P C BOARD					
VRe1, 2	500Ω	(B)	DC BALANCE		R10-69	
–	P C Board				J25-0078-03	

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