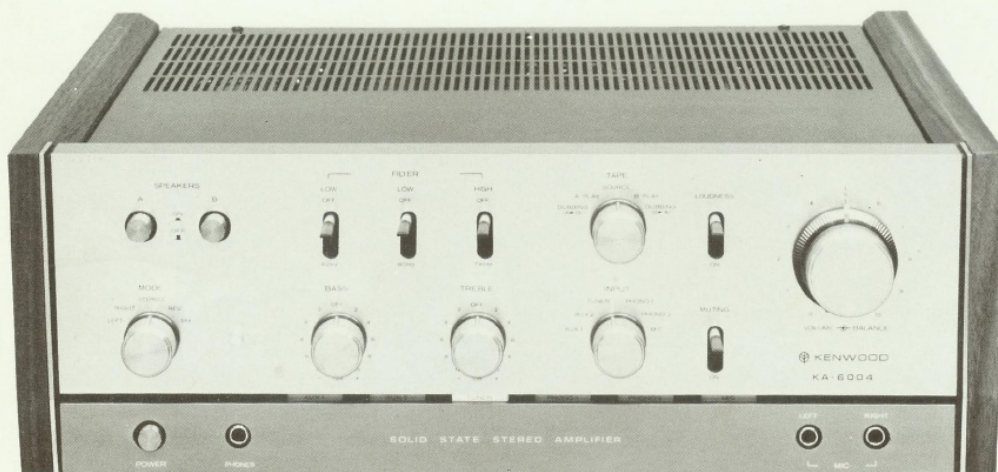




KENWOOD
HI/FI STEREO COMPONENTS

SERVICE MANUAL

KA-6004



STEREO AMPLIFIER

POWER OUTPUT:

80 Watts RMS continuous power stereo, 40 Watts per channel, both channels operating simultaneously into 8 ohm loads at any frequency from 20 Hz to 20,000 Hz.
70/70 Watts:

Each channel operating into 4 ohms at 1,000 Hz.

55/55 Watts:

Each channel operating into 8 ohms at 1,000 Hz.

57 + 57 Watts:

Both channels operating into 4 ohms at 1,000 Hz.

43 + 43 Watts:

Both channels operating into 8 ohms at 1,000 Hz.

220 Watts IHF total Dynamic Power into 4 ohms.

130 Watts IHF total Dynamic Power into 8 ohms.

HARMONIC DISTORTION:

Less than 0.5% at rated output from 20 Hz to 20,000 Hz.

Less than 0.05% at -3 dB rated output.

Intermodulation Distortion (60 Hz & 7,000 Hz 4:1):

Less than 0.3% at rated output.

Less than 0.05% at -3 dB rated output.

Power Bandwidth (IHF):

10 Hz to 50,000 Hz.

Input Sensitivity, Input Impedance (for rated output, at 1,000 Hz):

PHONO 1:	2.5 mV	50 k ohms
PHONO 2:	2.5 mV	50 k ohms
MIC:	3 mV	50 k ohms
TUNER:	200 mV	100 k ohms
AUX 1 & 2:	200 mV	100 k ohms
TAPE PLAY, A & B (Pin):	200 mV	100 k ohms
MAIN AMP INPUT:	1V	50 k ohms

Recording Output (below rated input):

TAPE REC, A & B:	200 mV
DIN CONNECTOR:	40 mV

Signal to Noise Ratio (below rated output):

PHONO 1 & 2:	68 dB
MIC:	70 dB
TUNER:	75 dB
AUX 1 & 2:	75 dB
TAPE PLAY A & B:	75 dB
NOISE AT MINIMUM VOLUME CONTROL:	0.3mV at 8 ohm loads 0.00012 milliwatts.

Damping Factor: 64 at 16 ohms load
32 at 8 ohms load

Speaker Impedance: Accepts 4 to 16 ohms

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.

Low Filter: 40 Hz Cutoff, 12 dB per octave.

80 Hz Cutoff, 12 dB per octave.

High Filter: 7,000 Hz Cutoff, 6 dB per octave.

Loudness Control (-30 dB): +8 dB at 100 Hz
+3 dB at 10,000 Hz

GENERAL:**Switches:**

SPEAKERS: A, B (ON-OFF at push switch).
INPUT SELECTOR: AUX 1, AUX 2, TUNER, PHONO 1, PHONO 2, MIC.

MODE: LEFT, RIGHT, STEREO, REV, MIX.

TAPE MONITOR: DUBBING (A→B), A PLAY, SOURCE, B PLAY, DUBBING (B→A).

OTHRES: LOW & HIGH FILTER
LOUDNESS, MUTING, POWER.

AC Outlets: 3 switched & 1 unswitched

Power Consumption: 270 Watts at full power.
23 Watts at no signal.
103 Watts (Regulation law for electrical appliance and material)

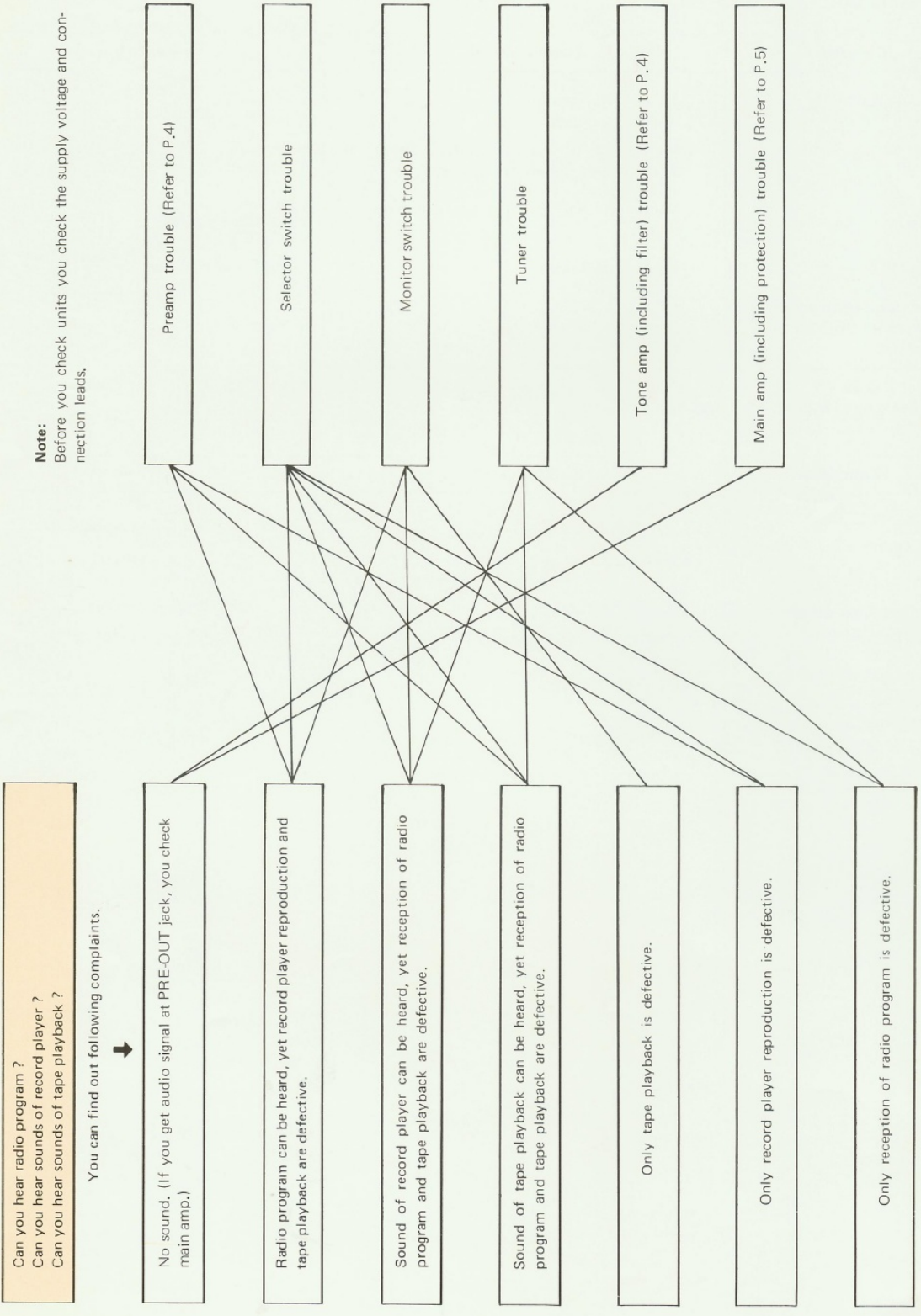
Dimensions: 17-1/8" W, 6-1/32" H, 11-13/16" D.
(435W, 152H, 300D. mm)

Weight: 25.4 lbs. (11.5 kg)

SPECIAL FEATURES:

- * DIRECT Coupling Power Amplifier With Constant Current Driving Circuits.
- * Tape monitor and Dubbing Switch, for 2 tape recorders.
- * 2 sets Stereo Speaker terminals and front panel speaker selector switch.
- * 12 dB per octave cutoff Low Filters and 6 dB per octave cutoff High Filter.
- * 2 dB step type tone controls with tone control switch (150 Hz & 300 Hz, 2,000 Hz & 6,000 Hz).
- * Perfect protection circuit for power transistors and speaker.
- * HIGH QUALITY & RELIABILITY Design.
- * Light up input indicators.

TROUBLESHOOTING



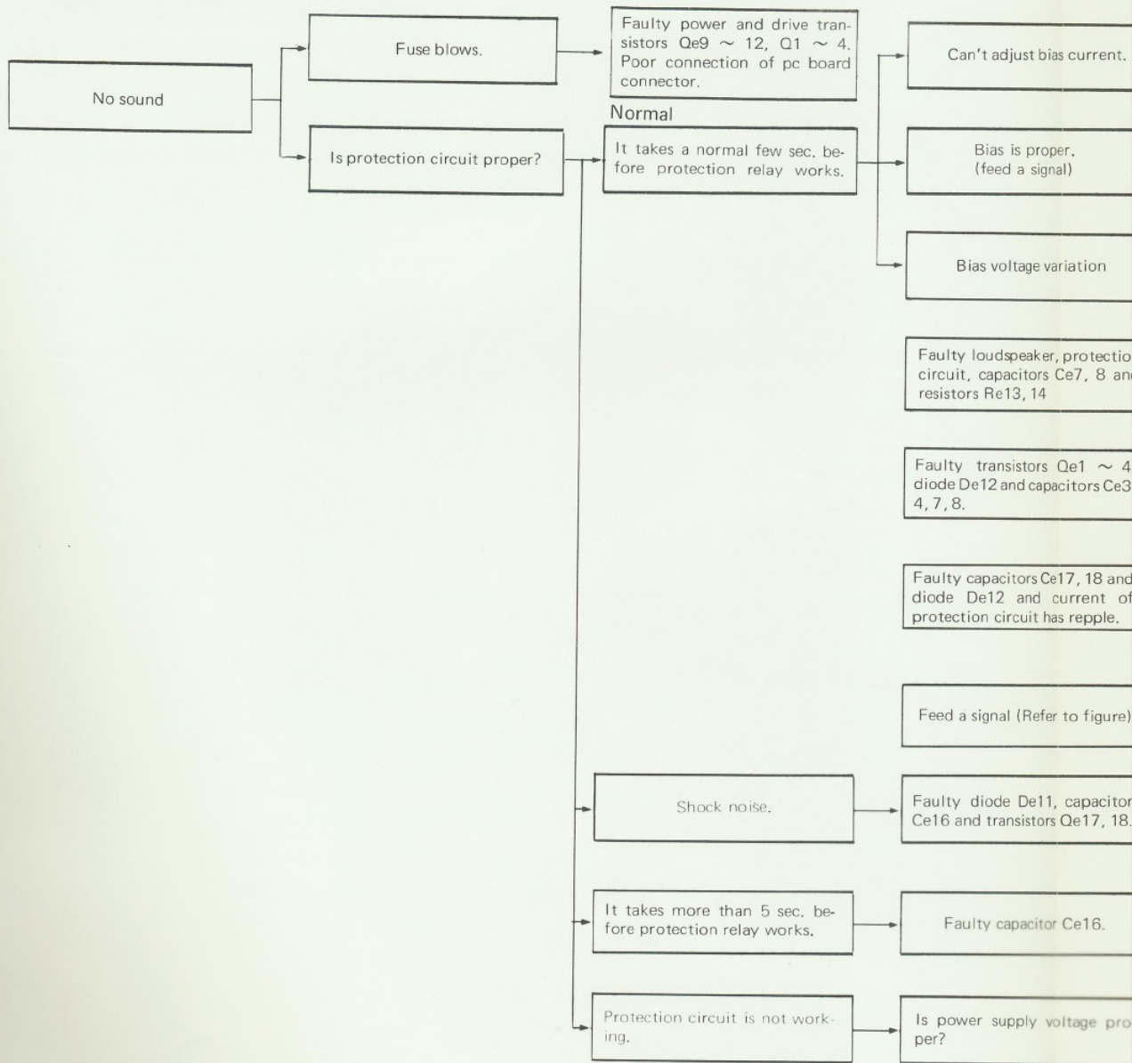
■ Preamp Unit (X08-1015-14)

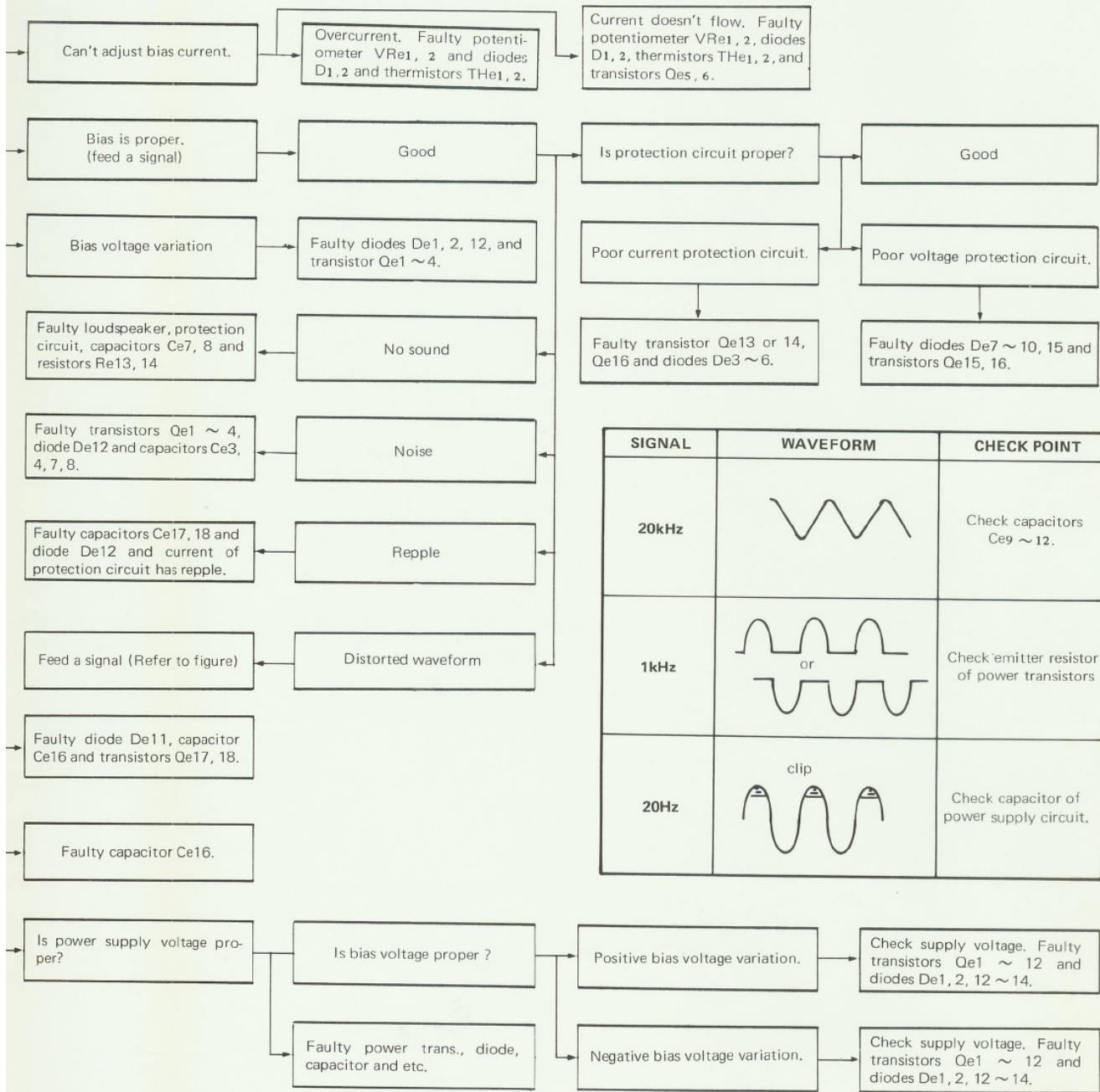
Complaint	Possible cause	Repairs
No sound	Faulty transistors Qd ₁ ~ 6.	Check and replace in order of Qd ₅ , 6, Qd ₃ , 4 and Qd ₁ , 2.
Noise	Faulty transistors Qd ₁ , 2, resistors Rd ₅ , 6, 11, 12, and capacitors Cd ₁ , 2.	Check and replace
Dynamic range	Faulty transistors Qd ₁ , 2, and capacitors Cd ₁ , 2.	Check and replace
Hum	Faulty capacitor Cd ₂₁ .	Check and replace
Poor output at low frequency at PHONO position.	Faulty capacitors Cd ₁₅ ~ 18.	Check and replace

■ Tone amp Unit (X11-1060-10)

Complaint	Possible cause	Repairs
No sound	Faulty transistors Qi ₁ ~ 4.	Check and replace
	Poor connections of pc board	Check and replace
Noise (When switch input at AUX.)	Faulty transistors Qi ₁ ~ 4.	Check and replace
	Faulty resistors Ri ₃ ~ 6 and Ri ₂₃ ~ 26	Check and replace
Noise (When switch INPUT)	Faulty capacitors Ci ₁ ~ 2.	Check and replace
Noise (When switch TONE CONTROL)	Faulty capacitors Ci ₅ ~ 6 and Ci ₁₅ ~ 16.	Check and replace

■ Main amp (X07-1120-00)





AUDIO ADJUSTMENT

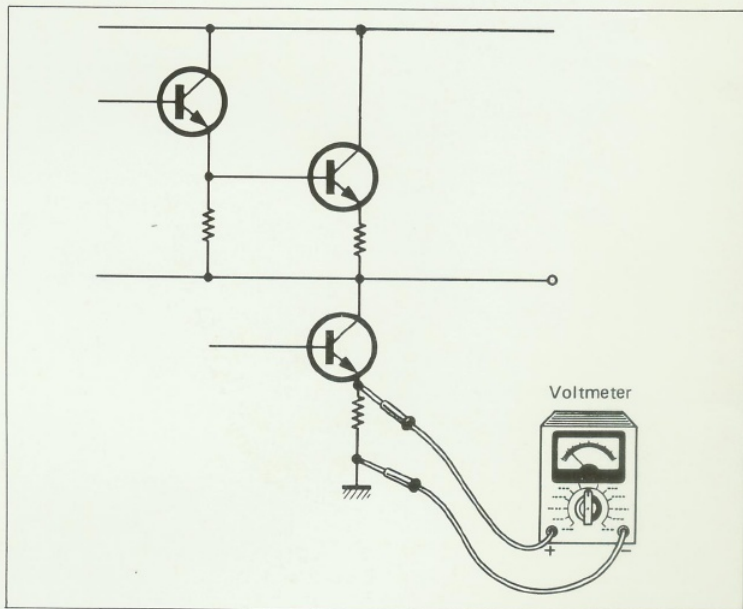
[BIAS ADJUSTMENT]

When using the voltmeter

1. Connect the voltmeter to the emitter resistor of power transistors.
2. Check the voltmeter to point around 15 mV.
3. If not, turn the PC trimmer potentiometer (VRe1, 2) so that the meter has rating value.

When using the audio generator and oscilloscope.

1. Connect the dummy load (8Ω) to loudspeaker terminal and connect the oscilloscope across the dummy.
2. Feed the signal (1 kHz) to the set.
3. Check the waveform to be the best.
4. If not, turn the PC trimmer potentiometer (VRe1, 2) so that the waveform is distortionless.
5. Check the voltmeter to point around 15 mV.

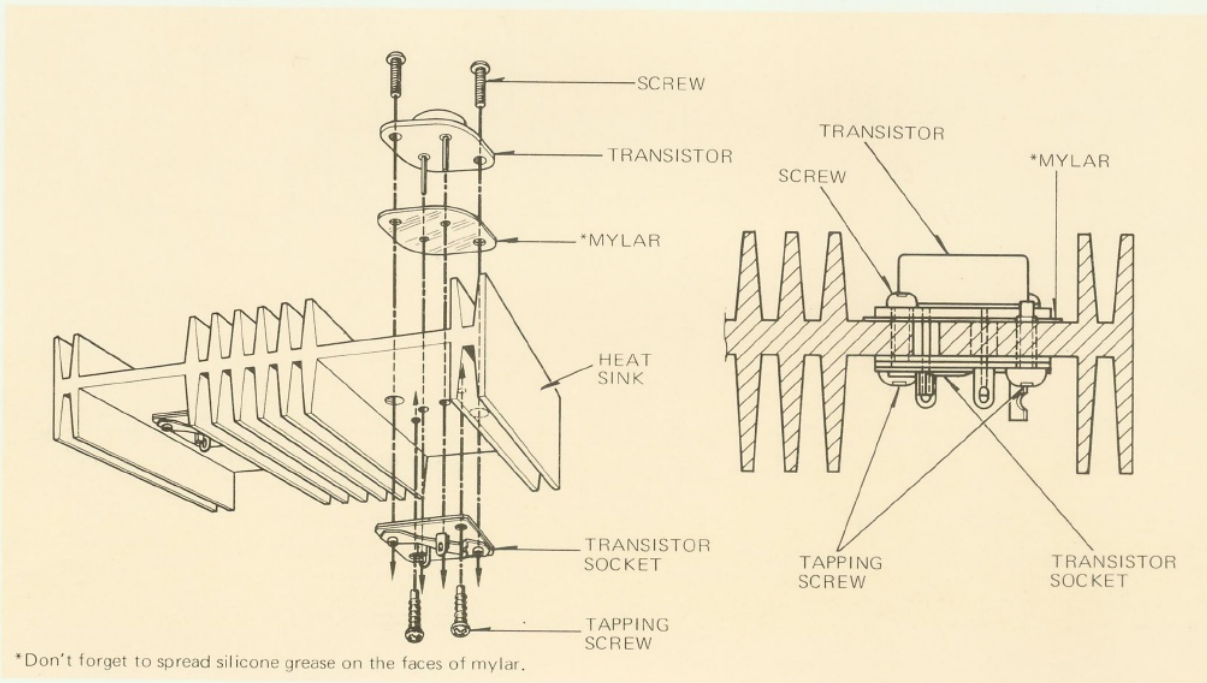


HOW TO REPLACE POWER TRANSISTOR

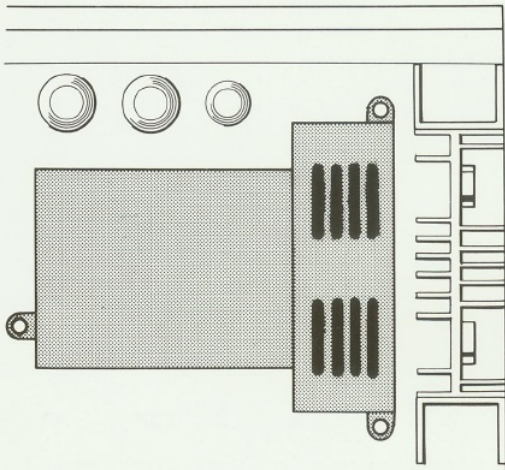
Replacing power transistors

1. Remove screws (not tapping screw).
2. Replace the power transistor with new.
At this time, don't forget to spread silicone grease on faces of mylar.
3. Fix the power transistor with screw on the heat sink.
4. Check the transistor is not in contact with chassis.

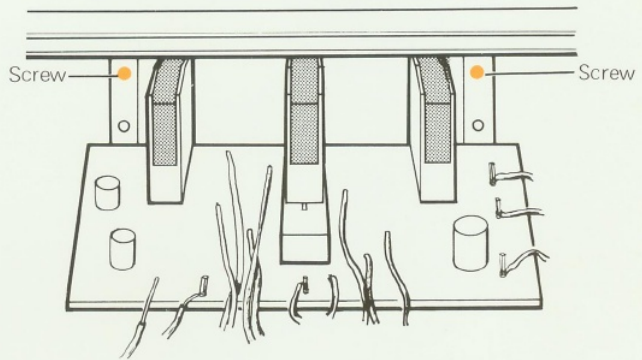
- Note:**
1. Tapping screw holds the transistor socket. Don't remove it without necessity.
 2. Before fixing the transistor, in the case of replacing transistor socket, fix the transistor socket.



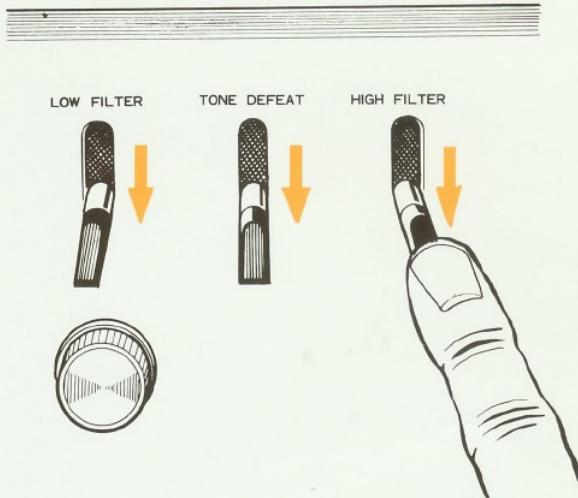
HOW TO REPLACE PUSHBUTTON PC BOARD



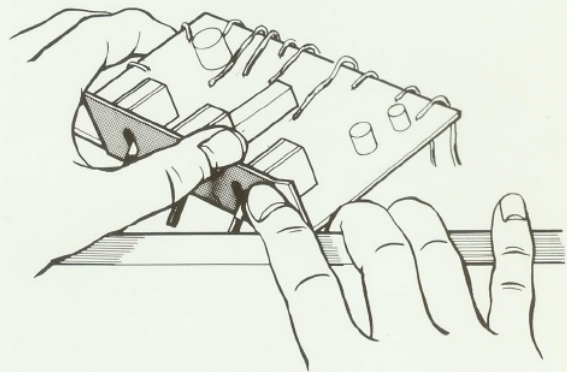
①. Remove case and shield cover.



②. Remove screws fixing PC board.



③. Push down lever switches.

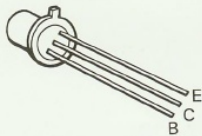


④. While pulling the front panel remove the PC board.

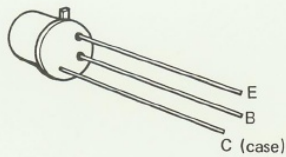
TABLE OF TRANSISTOR ABSOLUTE MAX. RATINGS

Transistor's name	V _{CB0}	V _{CE0}	V _{CB0}	I _C	I _E	P _C	T _J	h _{FE}	Type
2SA497	-80V	-80V	-5V	-800mA	800mA	600mW	150°C	70 ~ 140	Si
2SA620WL	-60V	-50V	-5V	-50mA	50mA	200mW	125°C	90 ~ 500	Si
2SA653	-150V	-120V	-6V	-1A	-	15W	150°C	30 ~ 200	Si
2SA673A	-55V	-55V	-4V	-0.5A	0.5A	0.4W	125°C	60 ~ 200	Si
2SA733	-50V	-40V	-5V	-100mA	-	250mW	125°C	90 ~ 270	Si
2SC458LG	30V	30V	5V	100mA	-	200mW	125°C	100 ~ 500	Si
2SC711A	50V	45V	4V	50mA	-	200mW	125°C	55 ~ 800	Si
2SC871	45V	45V	4V	30mA	-	200mW	125°C	150 ~ 500	Si
2SC983	250V	150V	5V	50mA	-50mA	600mW	150°C	70 ~ 240	Si
2SC1061	55V	55V	4V	3A	-3A	25W	150°C	35 ~ 200	Si
2SC1161	200V	120V	6V	1A	-	15W	150°C	30 ~ 200	Si
2SC1213A	55V	55V	4V	500mA	-500mA	400mW	125°C	60 ~ 200	Si
2SC1345	55V	50V	5V	100mA	-100mA	200mW	125°C	400 ~ 1200	Si
2SC1402	140V	80V	6V	8A	-8A	70W	-	30 ~ 180	Si
2SC1416	55V	50V	5V	50mA	-50mA	200mW	150°C	200 ~ 700	Si

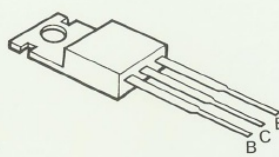
2SA620WL



2SA497



2SC1061

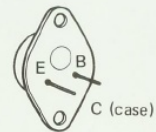


2SA744

2SA653

2SC1161

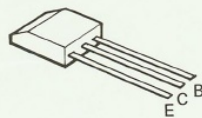
2SC1402



2SA673A

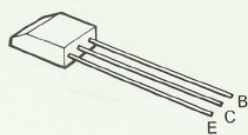
2SC1213A

2SC983



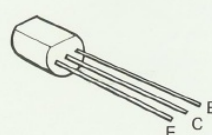
2SC458LG

2SC1345

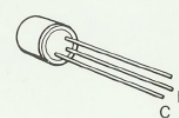


2SC711

2SC871



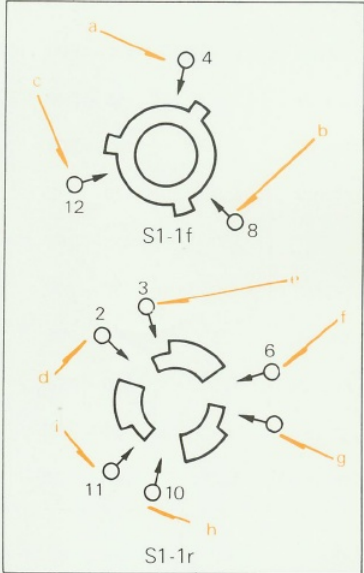
2SC1416



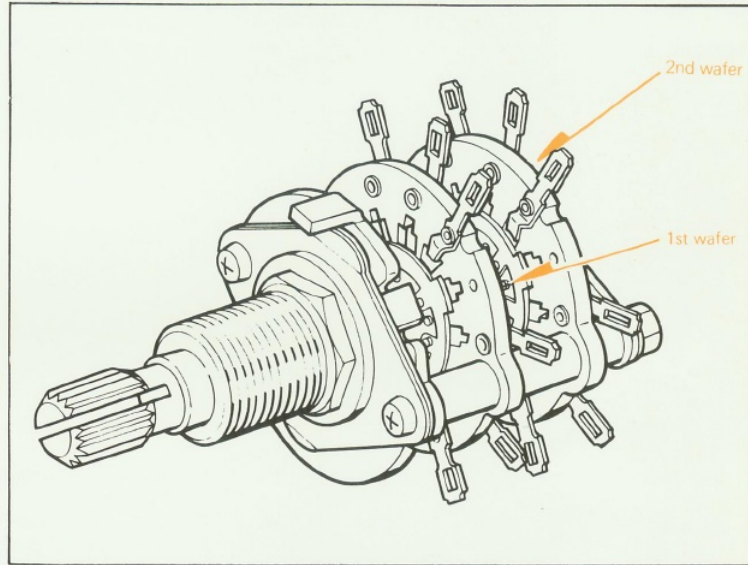
HOW TO UNDERSTAND THE ROTARY SWITCH

- See Fig. 1, for an example.
- S1 means one of rotary switches, number 1 SELECTOR switch.
- Namely, 2 means the 2nd wafer, and 3 means the 3rd wafer. Others are like so. (Fig. 2)
- The numbering of contact points are as shown in Fig. 3.

▼ Fig. 1

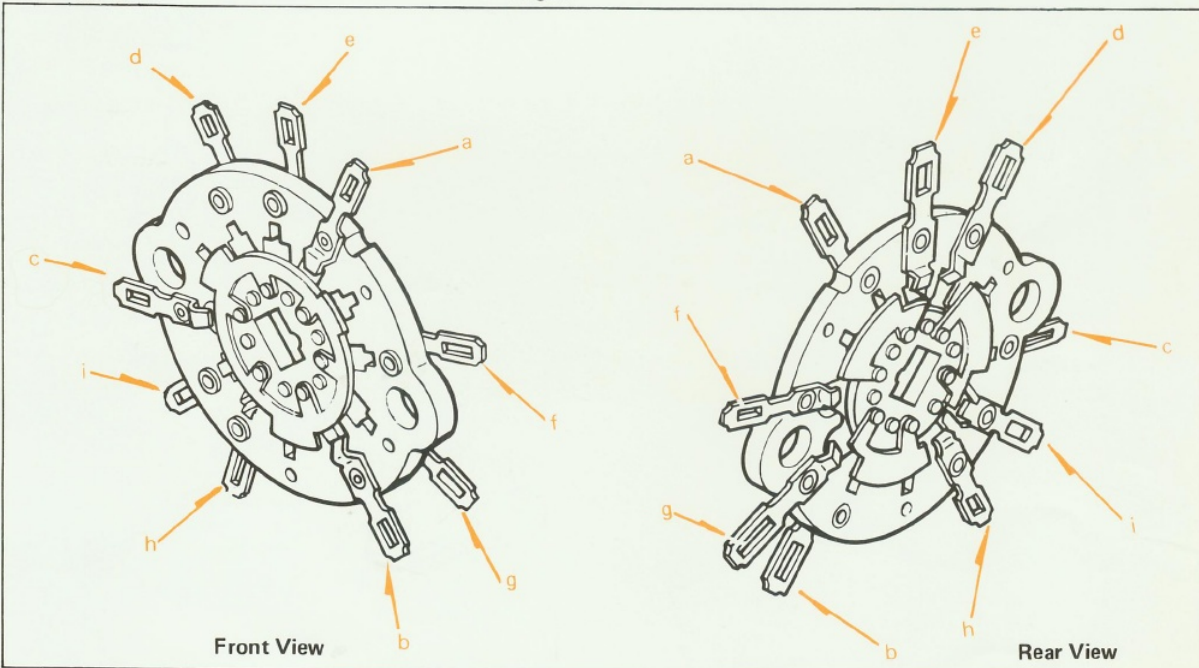


◎ means connection of the same contact point of rear and front wafer.

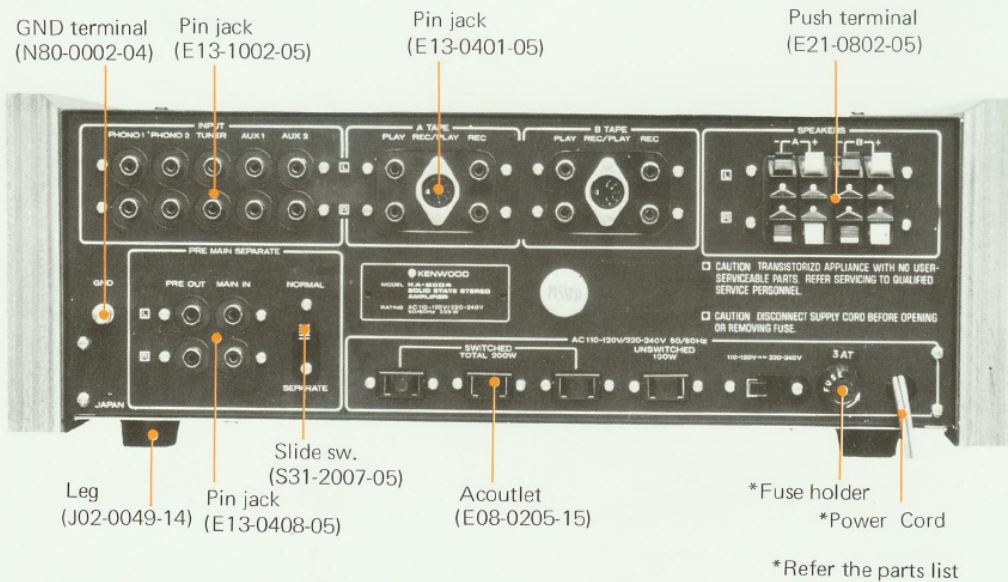
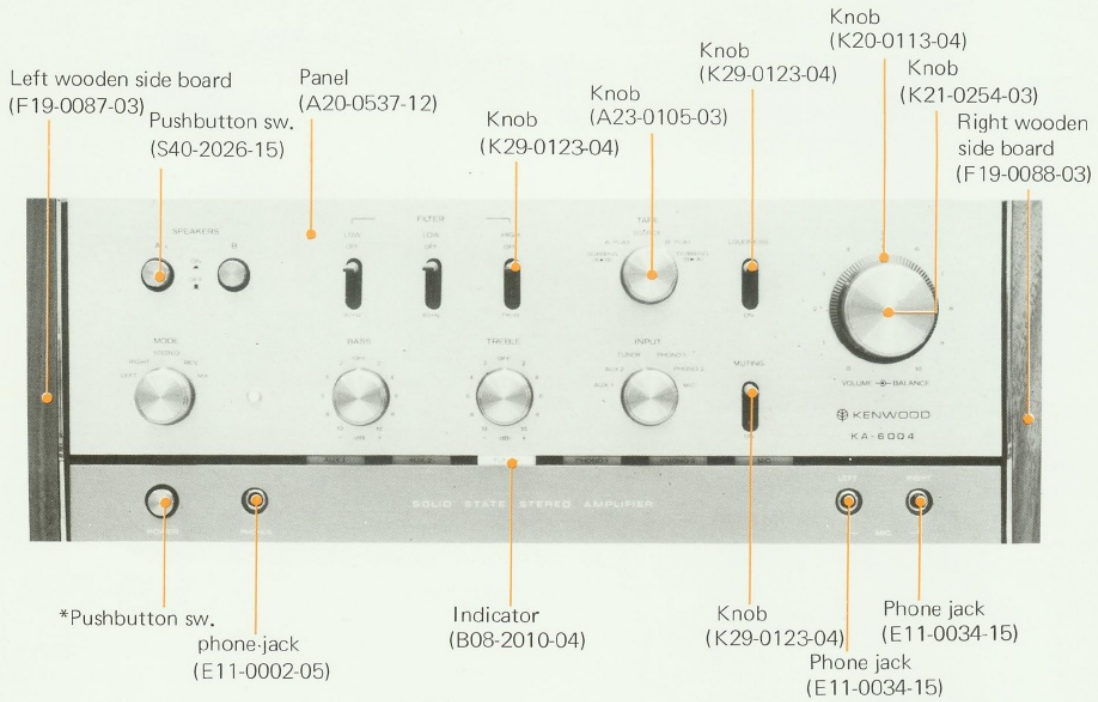


▲ Fig. 2

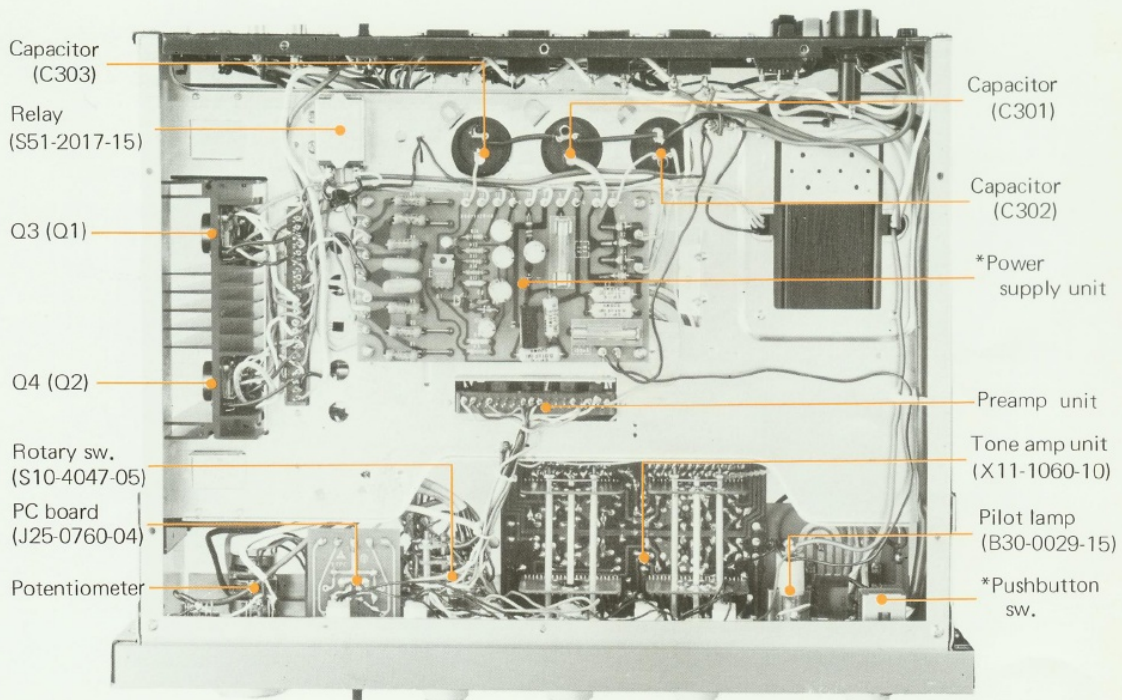
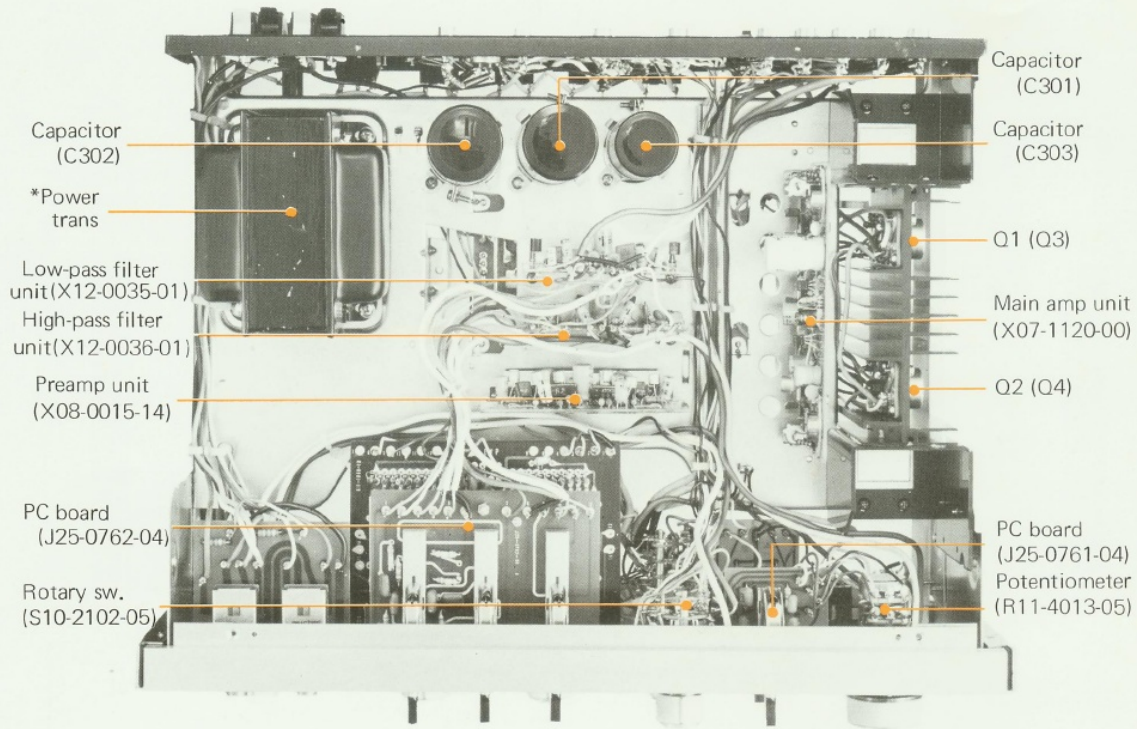
▼ Fig. 3



EXTERNAL VIEW



INTERNAL VIEW



*Refer the parts list

PARTS LIST

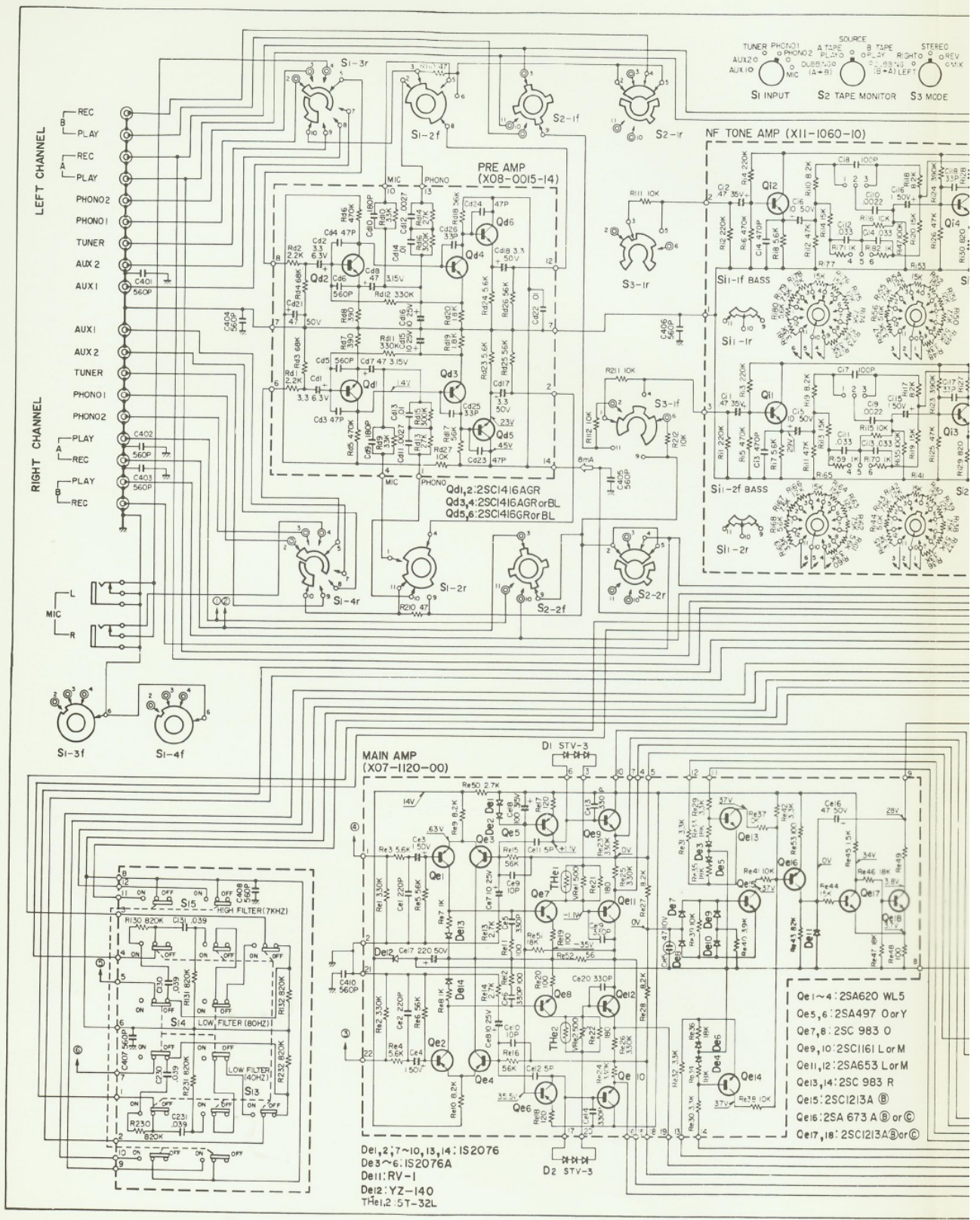
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
C120	CQ93M1H104J	Mylar 0.1 μ F \pm 5%	
C121	CQ93M1H182J	Mylar 0.0018 μ F \pm 5%	
C130, 131	CQ93M1H393K	Mylar 0.039 μ F \pm 10%	
C220	CQ93M1H104J	Mylar 0.1 μ F \pm 5%	
C221	CQ93M1H182J	Mylar 0.0018 μ F \pm 5%	
C230, 231	CQ93M1H393K	Mylar 0.039 μ F \pm 10%	
C301, 302	C90-0129-05	Electrolytic 6800 μ F 50WV	
C303	C90-0135-05	Electrolytic 1000 μ F 50WV	
C304	C90-0029-05	Oil filled 0.01 μ F +100%	
C305	CE02D2A101	Electrolytic 100 μ F 100WV	
C401 ~ 412	CK45D1H561M	Ceramic 560pF \pm 20%	
RESISTOR			
R110	PD14BY2E470J	Carbon 47 Ω \pm 5% 1/4W	
R111, 112	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R113	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R114	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R115	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R116	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R120	PD14BY2E563J	Carbon 56k Ω \pm 5% 1/4W	
R121	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R122	PD14BY2E332J	Carbon 3.3k Ω \pm 5% 1/4W	
R123	PD14BY2E273J	Carbon 27k Ω \pm 5% 1/4W	
R130 ~ 132	PD14BY2E824J	Carbon 820k Ω \pm 5% 1/4W	
R170	RC05GF2H561K	Carbon 560 Ω \pm 10% 1/2W	
R210	PD14BY2E470J	Carbon 47 Ω \pm 5% 1/4W	
R211, 212	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R213	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R214	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R215	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R216	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R220	PD14BY2E563J	Carbon 56k Ω \pm 5% 1/4W	
R221	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R222	PD14BY2E332J	Carbon 3.3k Ω \pm 5% 1/4W	
R223	PD14BY2E273J	Carbon 27k Ω \pm 5% 1/4W	
R230 ~ 232	PD14BY2E824J	Carbon 820k Ω \pm 5% 1/4W	
R270	RC05GF2H561K	Carbon 560 Ω \pm 10% 1/2W	
SEMICONDUCTOR			
Q1, 2		2SA744	
Q3, 4		2SC1402	
D1, 2		STV-3	
D3		FR-2-02	
SWITCH/RELAY			
S1	S10-4047-05	Rotary (INPUT)	
S2	S10-2102-05	Rotary (TAPE MONITOR)	
S3	S01-1013-05	Rotary (MODE)	
S4	S40-2026-15	Pushbutton (SPEAKERS-A)	
S5	S40-2026-15	Pushbutton (SPEAKERS-B)	
S11	S36-2023-05	Lever (MUTING)	
S12	S36-2023-05	Lever (LOUDNESS)	
S13	S36-6005-05	Lever (FILTER-40Hz)	

Ref. No.	Parts No.	Description	Remarks
S14	S36-4012-05	Lever (FILTER-80Hz)	
S15	S36-4012-05	Lever (FILTER-7kHz)	
S16	S31-2007-05	Slide (PRE-OUT MAIN-IN)	
RL1	S51-2017-15	Relay	
POTENTIOMETER			
VR1	R11-4013-05	Potentiometer (BALANCE) 50k Ω (MN) 4 gangs	
VR2	R11-4013-05	Potentiometer (VOLUME) 50k Ω (B) 4 gangs	
MISCELLANEOUS			
-	A01-0179-03	Case	
-	A10-0319-01	Chassis	
-	A20-0535-02	Panel assembly	
-	A20-0537-12	Panel	
-	A21-0102-03	Ornamental plate	
-	A22-0117-02	Sub panel	
-	A40-0099-03	Bottom chassis	
-	A49-0011-03	Left side plate (inside)	
-	A49-0012-03	Right side plate (outside)	
-	A49-0013-03	Left side plate (inside)	
-	A49-0014-03	Right side plate (outside)	
-	B07-0084-04	Black spacer (SPEAKER, INPUT) x 3	
-	B08-2010-04	Red indicator	
-	B30-0029-15	Pilot lamp (8V, 150mA)	
-	B30-0062-05	Pilot lamp (8V, 120mA) x 6	
-	B42-0009-04	Passed sticker	
-	B42-0354-03	Position illumination board	
-	B52-0136-00	Schematic diagram	
-	E02-0207-05	Transistor socket x 4	
-	E08-0205-15	AC outlet x 4	UL
-	E10-1809-05	PC board connector (18P)	
-	E10-2205-05	PC board connector (22P)	
-	E11-0002-05	Phone jack (PHONES)	
-	E11-0034-15	Phone jack (MIC)	
-	E13-0401-05	Pin jack (4P with DIN)	
-	E13-0408-05	Pin jack (4P)	
-	E13-1002-05	Pin jack (10P)	
-	E21-0802-05	Push terminal (8P)	
-	F01-0115-03	Heat sink	
-	F07-0011-04	Pilot lamp cover	
-	F11-0165-03	Shield case	
-	F15-0035-15	Pilot lamp socket	
-	F19-0087-03	Left wooden side board	
-	F19-0088-03	Right wooden side board	
-	G16-0046-04	Rubber sheet	
-	H01-0811-04	Carton case	
-	J02-0049-14	Leg x 4	

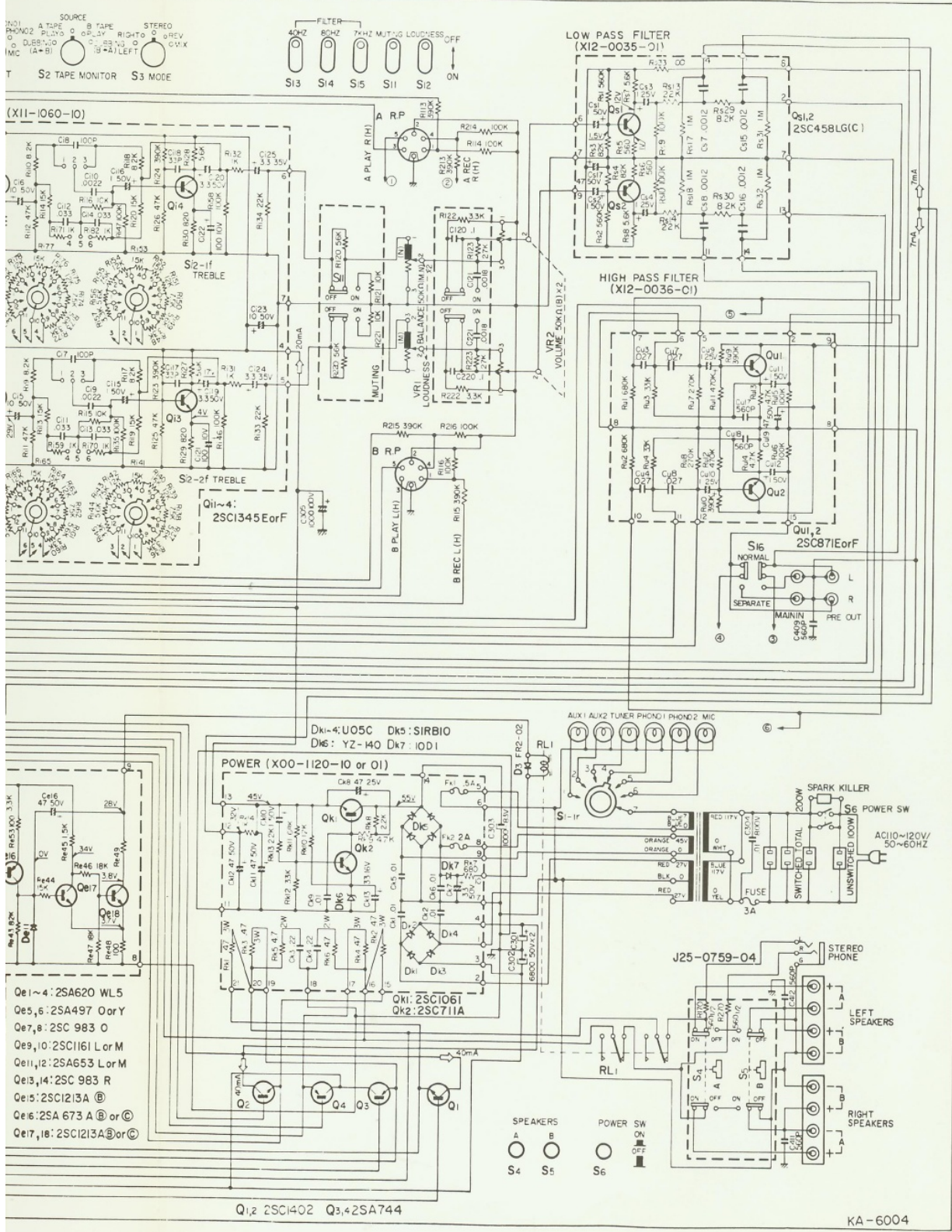
Ref. No.	Parts No.	Description	Remarks
-	J19-0010-04	Varistor stopper x 2	
-	J19-0268-04	Relay stopper	
-	J19-0269-04	PC board stopper	
-	J20-0226-04	Switch mounting plate	
-	J21-0192-04	Amp stopper	
-	J21-0749-04	Pin jack mounting hardware (10P)	
-	J21-0815-04	AC outlet mounting hardware x 4	
-	J21-0817-04	Pin jack mounting hardware (4P)	
-	J21-0993-04	Pin jack mounting hardware (4P with DIN) x 2	
-	J21-0994-04	Left heat sink	
-	J21-0995-04	Right heat sink	
-	J21-0996-04	Indicator mounting hardware	
-	J21-0997-04	Push terminal mounting hardware	
-	J21-1000-04	Preamp mounting hardware	
-	J25-0759-04	PC board (pushbutton)	
-	J25-0760-04	PC board (MUTING)	
-	J25-0761-04	PC board (LOUDNESS)	
-	J25-0762-04	PC board (Lever switch)	
-	K20-0113-04	Knob (BALANCE)	
-	K21-0254-03	Knob (VOLUME)	
-	K23-0105-03	Knob (INPUT, TAPE MONITOR, TREBLE, BASS, MODE)	
-	K29-0115-04	Knob (POWER, SPEAKER-A & B)	
-	K29-0123-04	Knob (lever switch) x 5	
-	X07-1120-00	Main amp. unit	
-	X08-0015-14	Preamp unit	
-	X11-1060-10	Tone amp. unit	
-	X12-0035-01	High filter amp. unit	
-	X12-0036-01	Low pass filter amp. unit	
	In North America add to the following parts list.		
-	A23-0301-02	Rear panel	
-	B40-0651-04	Model name plate only Canada	
-	B42-0359-04	UL caution sticker	
-	B46-0002-00	Warranty card . . . only U.S.A.	
-	B46-0021-00	Warranty card . . . only Canada	
-	B58-0043-00	Carton case caution card	
-	B59-0845-00	Instruction manual	
-	D32-0021-04	Switch stopper	
-	E30-0046-05	Power cord	UL
-	F05-3021-05	Fuse (3A) . . . only U.S.A.	UL
-	F05-3022-05	Fuse (3A) . . . only Canada	
-	H03-0147-04	Carton case	
-	J13-0016-15	Fuse holder	UL
-	L03-0071-05	Power trans. . . . only U.S.A.	
-	L05-0009-05	Power trans. . . . only Canada	

Ref No.	Parts No.	Description	Remarks
CR1	R90-0097-05	Spark killer . . . only U.S.A.	
S6	S39-2002-05	Pushbutton switch (POWER)	
-	X00-1120-10	Power supply unit	
	In other area, do		
-	A23-0302-02	Rear panel	
-	B46-0022-00	Warranty card	
-	B46-0023-00	Warranty card	
-	B50-0846-00	Instruction manual	
-	B58-0139-00	Power supply caution card	
-	B58-0144-00	Power voltage selector caution card	
-	B58-0146-00	Spare fuse caution card	
-	B59-0018-00	KENWOOD service stations' list	
-	D32-0021-04	Switch stopper x 2	
-	E30-0034-05	Power cord	
-	F05-3022-05	Fuse (3A)	
-	F05-1521-05	Fuse (1.5A)	
-	J13-0033-05	Fuse holder	
-	L03-0071-05	Power trans.	
CR1	R90-0097-05	Spark killer	
-	S31-2001-05	Slide switch (power voltage selector)	
S6	S39-2003-05	Pushbutton switch (POWER)	
-	X00-1120-01	Power supply voltage	

SCHEMATIC DIAGR.



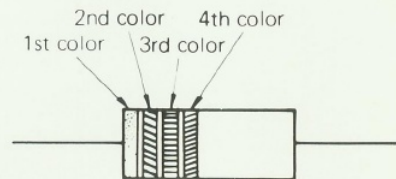
SCHEMATIC DIAGRAM



COLOR CODE

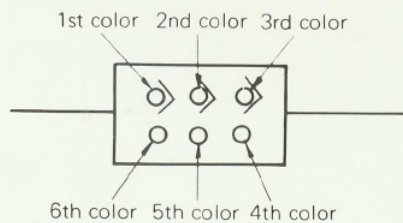
RESISTOR

COLOR (meaning)	1st (value)	2nd (value)	3rd (multiplier)	4th (tolerance)
Black	0	0	10^0	—
Brown	1	1	10^1	±1%
Red	2	2	10^2	±2%
Orange	3	3	10^3	—
Yellow	4	4	10^4	—
Green	5	5	10^5	—
Blue	6	6	10^6	—
Purple	7	7	10^7	—
Grey	8	8	10^8	—
White	9	9	10^9	—
Gold	—	—	10^{-1}	±5%
Silver	—	—	10^{-2}	±10%
Non-color	—	—	—	±20%



CAPACITOR (MICA)

COLOR (meaning)	1st (grade)	2nd (value)	3rd (value)	4th (multiplier)	5th (tolerance)	6th (characteristic)
Black	X	0	0	10^0	±20%	—
Brown	—	1	1	10^1	±1%	B
Red	Z	2	2	10^2	±2%	C
Orange	—	3	3	10^3	—	D
Yellow	—	4	4	10^4	—	E
Green	—	5	5	—	* ±5%	—
Blue	—	6	6	—	—	—
Purple	—	7	7	—	—	—
Grey	Y	8	8	—	—	—
White	—	9	9	0.1	±10%	—



Unit = pF

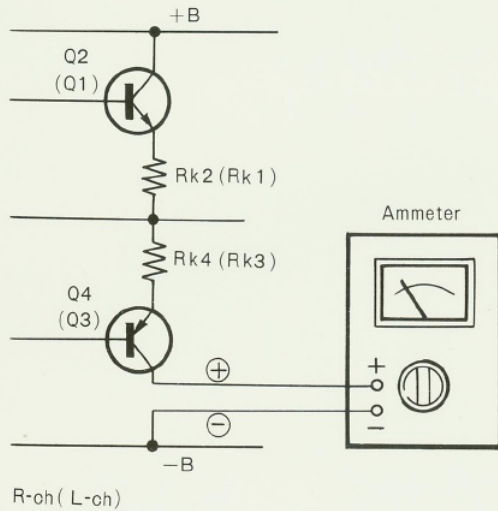
* Capacitance being less than 10pF is ±0.5pF on tolerance.

ADJUSTMENT OF AUDIO SECTION

(KA-6004)

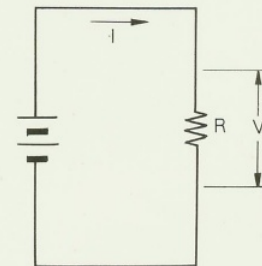
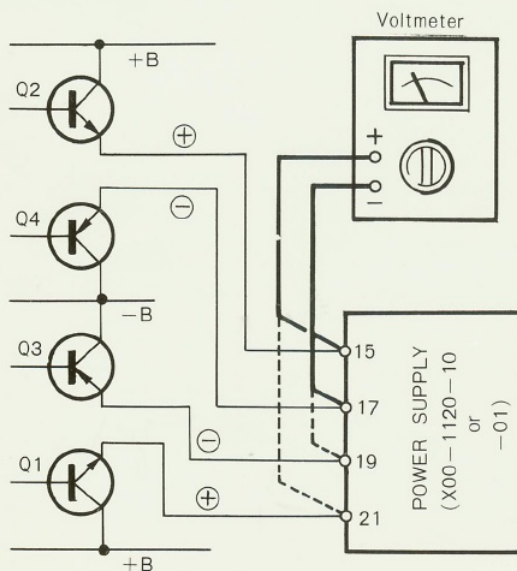
WHEN TESTER AS AMMETER

1. Set pc trimmer potentiometer (VRe1, 2) to its min.
2. Couple tester (as ammeter) to collector of power transistor (Q3, 4) and negative power supply lead. (Refer to figure).
3. Adjust pc trimmer potentiometer so that tester reading is 20mA.



WHEN USING TESTER WITH LOW LEVEL RANGE (Less than .3V range)

1. Connect tester (as voltmeter) to terminal 15 and 17 (or 19 and 21) of power supply unit.
2. Adjust pc trimmer potentiometer VRe1 (or 2) so that tester reading is 20mV.



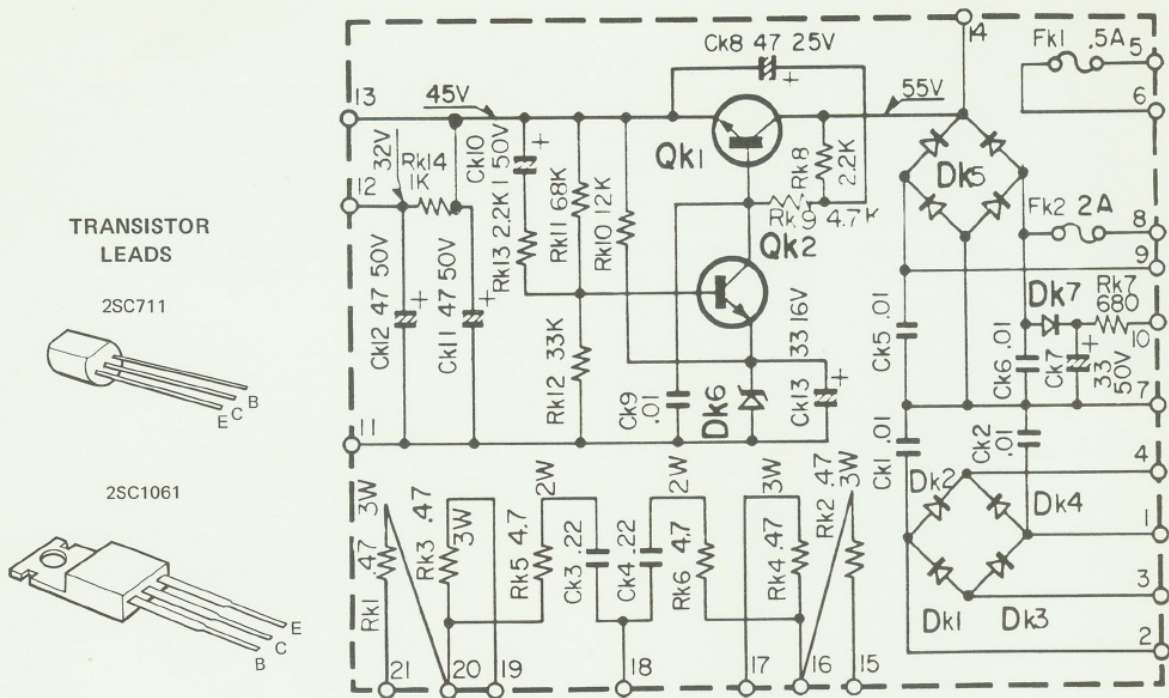
THE SIMPLIFIED CIRCUIT

The total resistance is
 $R = Rk2 + Rk4 \approx 1 \text{ ohm.}$
 Bias current (I) is 20mA.
 The voltage drop can be found from Ohm's Law.
 $V = I \times R = 20\text{mV.}$

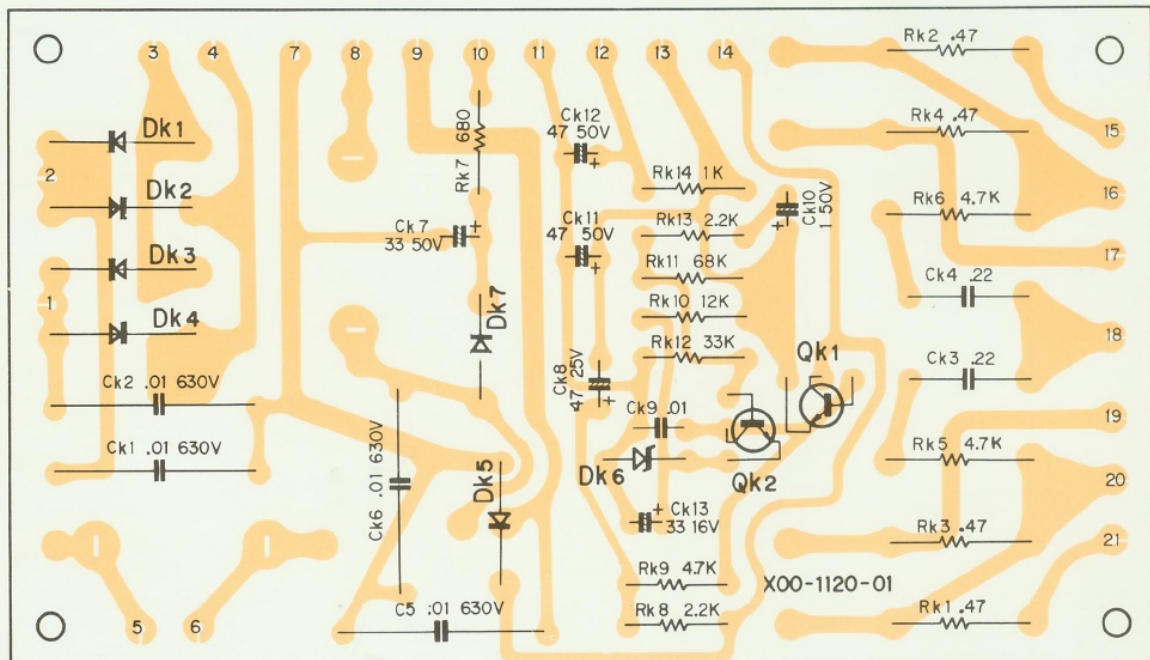
KENWOOD® POWER SUPPLY (X00-1120-10) SECTION

(KA-6004)

SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qk1 : 2SC1061 Qk2 : 2SC711A Dk1 ~ 4 : U05C Dk5 : SIRB10 Dk6 : YZ-140 Dk7 : 10D1



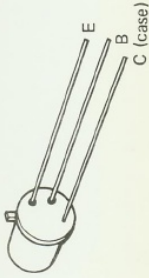
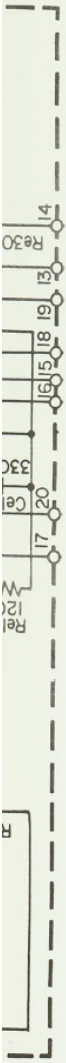
KENWOOD® POWER SUPPLY (X00-1120-10) SECTION

PARTS DESCRIPTION LIST

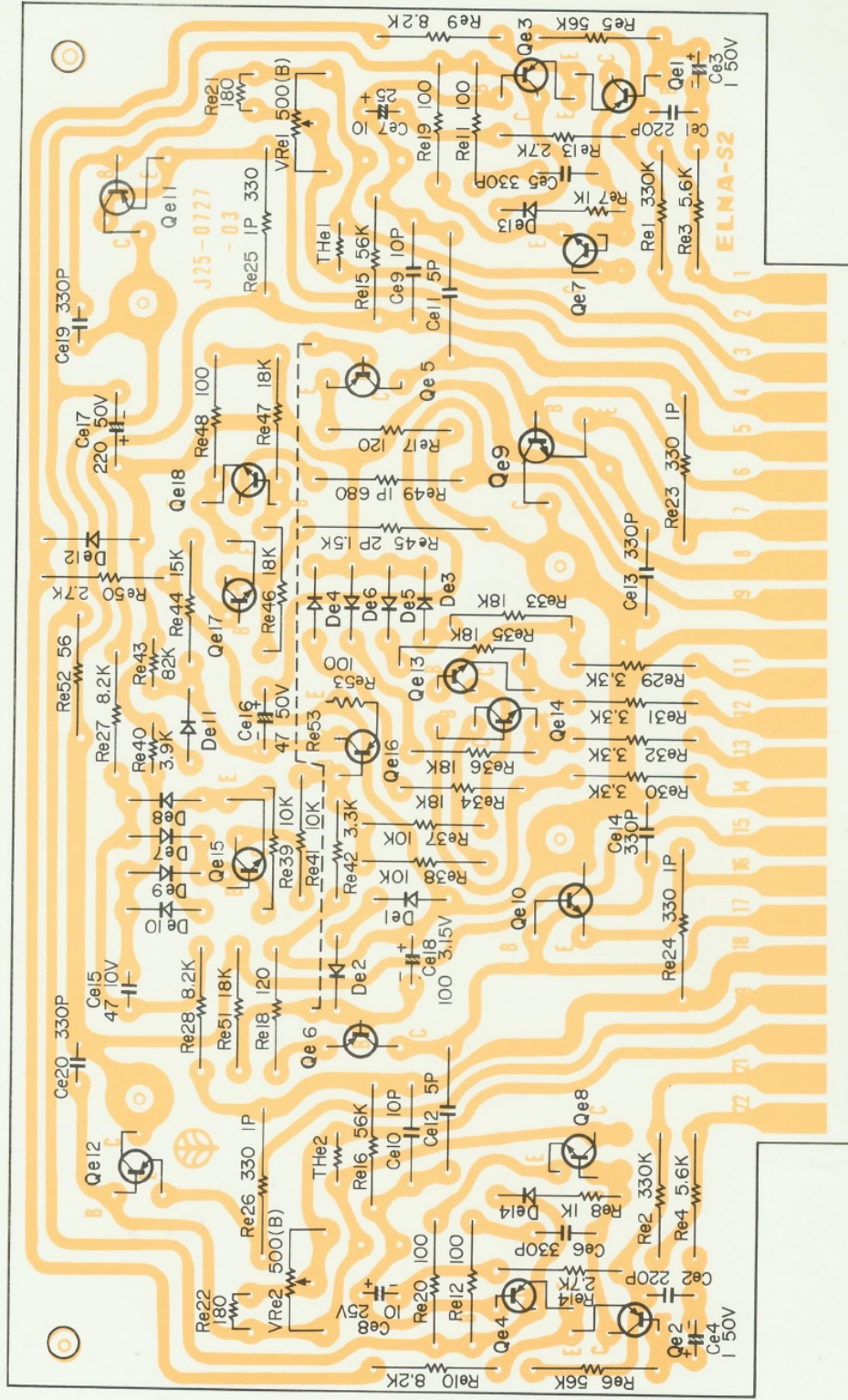
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Ck1, 2	CP02B2J103M	Oil filled 0.01 μ F \pm 20%	
Ck3, 4	CQ93M1H224M	Mylar 0.22 μ F \pm 20%	
Ck5, 6	CP02B2J103M	Oil filled 0.01 μ F \pm 20%	
Ck7	CE04W1H330	Electrolytic 33 μ 50WV	
Ck8	CE04W1E470	Electrolytic 47 μ F 25WV	
Ck9	CK45F1H103Z	Ceramic 0.01 μ F +80% -20%	
Ck10	CE04W1H010	Electrolytic 1 μ F 50WV	
Ck11, 12	CE04W1H470	Electrolytic 47 μ F 50WV	
Ck13	CE04W1C330	Electrolytic 33 μ F 16WV	
RESISTOR			
Rk1 ~ 4	RN14AB3FR47J	Metal film 0.47 Ω \pm 5% 3W	
Rk5, 6	RN14AB3F4R7K	Metal film 4.7 Ω \pm 10% 3W	
Rk7	RC05GF2H681K	Carbon 680 Ω \pm 10% 1/2W	
Rk8	PD14BY2E222J	Carbon 2.2k Ω \pm 5% 1/4W	
Rk9	PD14BY2E472J	Carbon 4.7k Ω \pm 5% 1/4W	
Rk10	PD14BY2E123J	Carbon 12k Ω \pm 5% 1/4W	
Rk11	PD14BY2E683J	Carbon 68k Ω \pm 5% 1/4W	
Rk12	PD14BY2E333J	Carbon 33k Ω \pm 5% 1/4W	
Re13	PD14BY2E222J	Carbon 2.2k Ω \pm 5% 1/4W	
Rk14	PD14BY2E102J	Carbon 1k Ω \pm 5% 1/4W	
SEMICONDUCTOR			
Qk1		2SC1061	
Qk2		2SC711A	
Dk1 ~ 4		U05C	
Dk5		SIRB10	
Dk6		YZ-140	
Dk7		10D1	
MISCELLANEOUS			
F1	F05-5017-05	Fuse (0.5A)	UL
F2	F06-2022-05	Fuse (2A)	UL

2SA653
2SC1161

2SA497



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qe1 ~ 4 : 2SA620WL5 Qe5, 6 : 2SA497(O) or (Y) Qe7, 8 : 2SC983 (O) Qe9, 10 : 2SC1161 (L) or (M) Qe11, 12 : 2SA653(L) or (M)
 Qe13, 14 : 2SC983 (R) Qe15 : 2SC1213A(B) Qe16 2SA673A(B) or (C) Qe17, 18 : 2SC1213A (B) or (C) Qe1, 2 : 1S2076
 De3 ~ 6 : 1S2076A De7 ~ 10 : 1S2076 De11 : RV-1 De12 : YZ-140 De13, 14 : 1S2076 THe1, 2 : 5T-32L

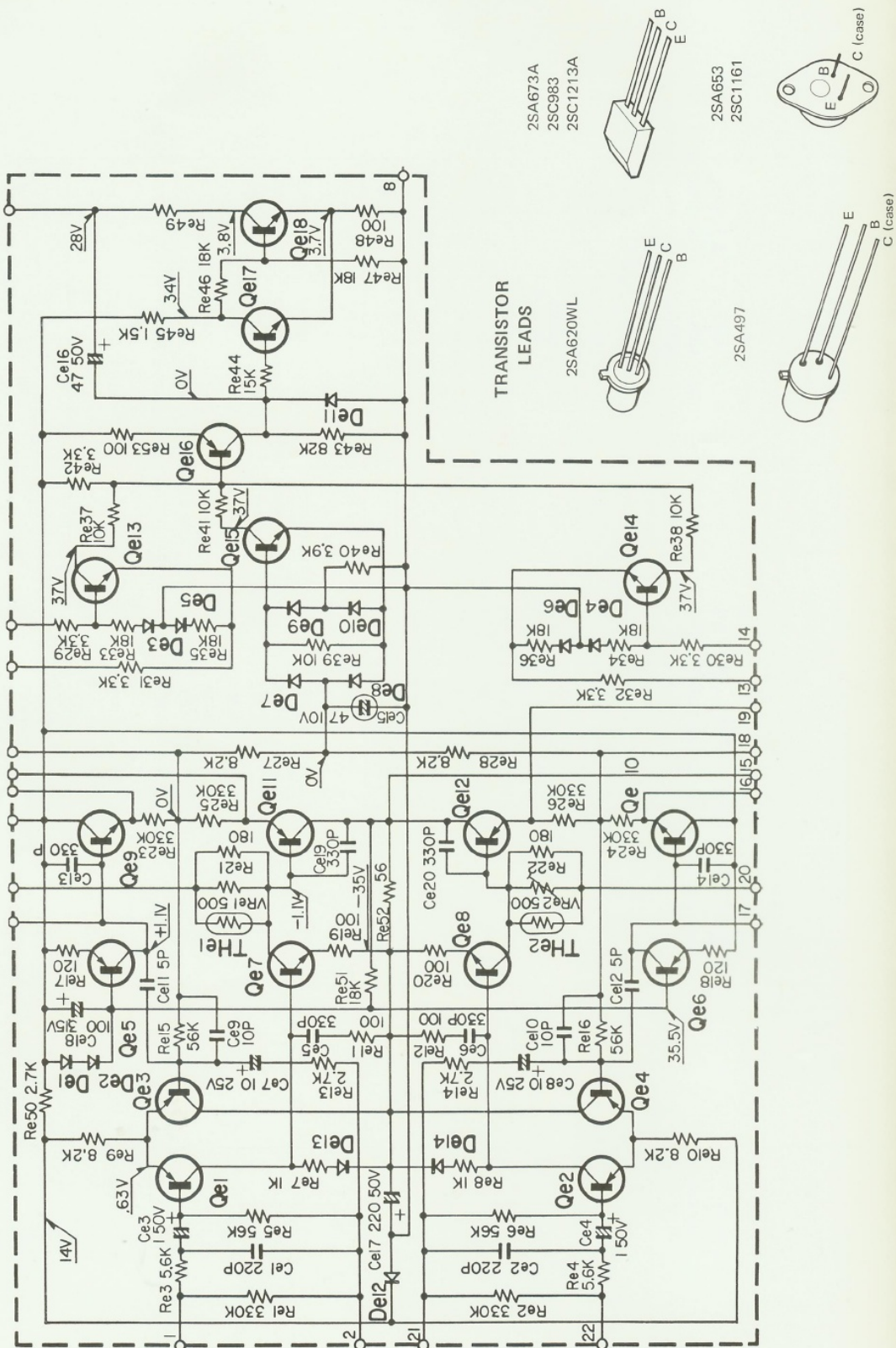


KENWOOD

MAIN AMP (X07-1120-00) SECTION

(KA-6004)

SCHEMATIC DIAGRAM



Re29 ~ 32	PD14BY2E332J	Carbon	3.3k Ω	$\pm 5\%$	1/4W
Re33 ~ 36	PD14BY2E183J	Carbon	18k Ω	$\pm 5\%$	1/4W
Re37 ~ 39	PD14BY2E103J	Carbon	10k Ω	$\pm 5\%$	1/4W
Re40	PD14CY2E392J	Carbon	3.9k Ω	$\pm 5\%$	1/4W
Re41	PD14BY2E103J	Carbon	10k Ω	$\pm 5\%$	1/4W
Re42	PD14CY2E392J	Carbon	3.3k Ω	$\pm 5\%$	1/8W
Re43	PD14CY2E823J	Carbon	82k Ω	$\pm 5\%$	1/4W
Re44	PD14BY2E153J	Carbon	15k Ω	$\pm 5\%$	1/4W
Re45	RN14A83D152K	Metal film	1.5k Ω	$\pm 10\%$	2W
Re46, 47	PD14BY2E183J	Carbon	18k Ω	$\pm 5\%$	1/4W
Re48	PD14BY2E101J	Carbon	100 Ω	$\pm 5\%$	1/4W
Re49	RN14A83A681K	Metal film	680 Ω	$\pm 10\%$	1W
Re50	RC05GF2H272K	Carbon	2.7k Ω	$\pm 10\%$	1/2W
Re51	RC05GF2H183K	Carbon	18k Ω	$\pm 10\%$	1/2W
Re52	PD14BY2E560J	Carbon	56 Ω	$\pm 5\%$	1/4W
Re53	PD14BY2B101J	Carbon	100 Ω	$\pm 5\%$	1/8W

SEMICONDUCTOR

Oe1 ~ 4	2SA620WL5				
Oe5, 6	2SA497(O) or (Y)				
Oe7, 8	2SC983 (O)				
Oe9, 10	2SC1161 (L) or (M)				
Oe11, 12	2SA653(L) or (M)				
Oe13, 14	2SC983(F)				
Oe15	2SC1213A(B)				
Oe16	2SA673A(B) or (C)				
Oe17, 18	2SC1213A(B) or (C)				
De1, 2	1S2076				
De3 ~ 6	1S2076A				
De7 ~ 10	1S2076				
De11	RV-1				
De12	YZ-140				
De13, 14	1S2076				
Tha1, 2	5T-32L				

POTENTIOMETER

VRe1, 2	R12-0026-05	PC trimmer (BIAS) 500 Ω (B)			
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MIAN AMP (X07-1120-00) SECTION

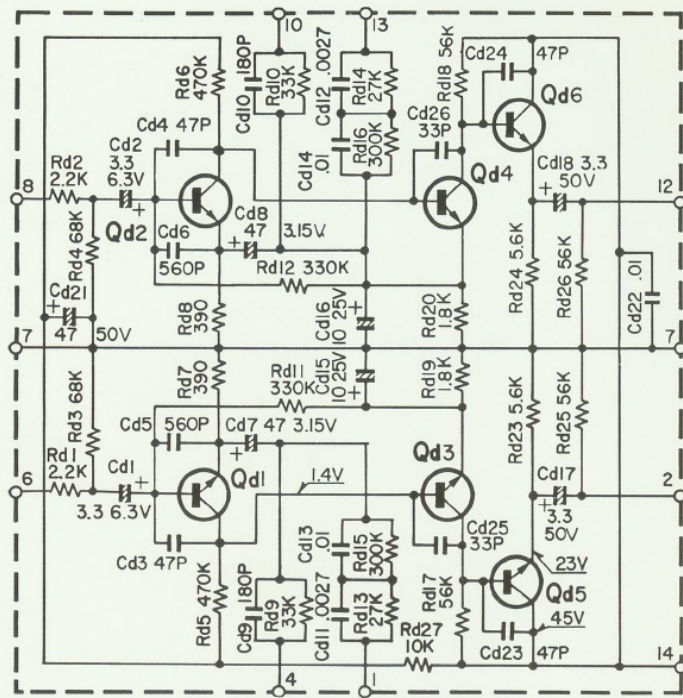
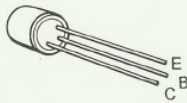
PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Ce1, 2	CC4SSL1H221K	Ceramic 220pF ±10%	
Ce3, 4	CE04W1H010	Electrolytic 1μF 50WV	
Ce5, 6	CK45D1H331M	Ceramic 330pF ±20%	
Ce7, 8	CE04W1E100	Electrolytic 10μF 25WV	
Ce9, 10	CC4SSL1H100D	Ceramic 10pF ±0.5pF	
Ce11, 12	CC4SSL1H050D	Ceramic 5pF ±20%	
Ce13, 14	CK45D2H331M	Ceramic 330pF ±20%	
Ce15	CE04W1A470NP	Electrolytic 47μF 10WV	
Ce16	CE04W1H470	Electrolytic 47μF 50WV	
Ce17	CE04W1H221	Electrolytic 220μF 50WV	
Ce18	CE04W0F101	Electrolytic 100μF 3.15WV	
Ce19, 20	CK45D2H331M	Ceramic 330pF ±20%	
RESISTOR			
Re1, 2	PD14BY2E334J	Carbon 330kΩ ±5%	1/4W
Re3, 4	PD14BY2E562J	Carbon 5.6kΩ ±5%	1/4W
Re5, 6	PD14BY2E563J	Carbon 56kΩ ±5%	1/4W
Re7, 8	PD14BY2E102J	Carbon 1kΩ ±5%	1/4W
Re9, 10	PD14BY2E822J	Carbon 8.2kΩ ±5%	1/4W
Re11, 12	PD14BY2E101J	Carbon 100Ω ±5%	1/4W
Re13, 14	PD14BY2E272J	Carbon 2.7kΩ ±5%	1/4W
Re15, 16	PD14BY2E563J	Carbon 56kΩ ±5%	1/4W
Re17, 18	PD14BY2E121J	Carbon 120Ω ±5%	1/4W
Re19, 20	PD14BY2E101J	Carbon 100Ω ±5%	1/4W
Re21, 22	PD14CY2E181J	Carbon 180Ω ±5%	1/4W
Re23 ~ 26	RN14AB3A331K	Metal film 330Ω ±10%	1W
Re27, 28	PD14BY2E822J	Carbon 8.2kΩ ±5%	1/4W
Re29 ~ 32	PD14BY2E332J	Carbon 3.3kΩ ±5%	1/4W
Re33 ~ 36	PD14BY2E183J	Carbon 18kΩ ±5%	1/4W
Re37 ~ 39	PD14BY2E103J	Carbon 10kΩ ±5%	1/4W
Re40	PD14CY2E392J	Carbon 3.9kΩ ±5%	1/4W
Re41	PD14BY2E103J	Carbon 10kΩ ±5%	1/4W
Re42	PD14CY2E392J	Carbon 3.3kΩ ±5%	1/8W
Re43	PD14CY2E823J	Carbon 82kΩ ±5%	1/4W
Re44	PD14BY2E153J	Carbon 15kΩ ±5%	1/4W
Re45	RN14AB3D152K	Metal film 1.5kΩ ±10%	2W
Re46, 47	PD14BY2E183J	Carbon 18kΩ ±5%	1/4W

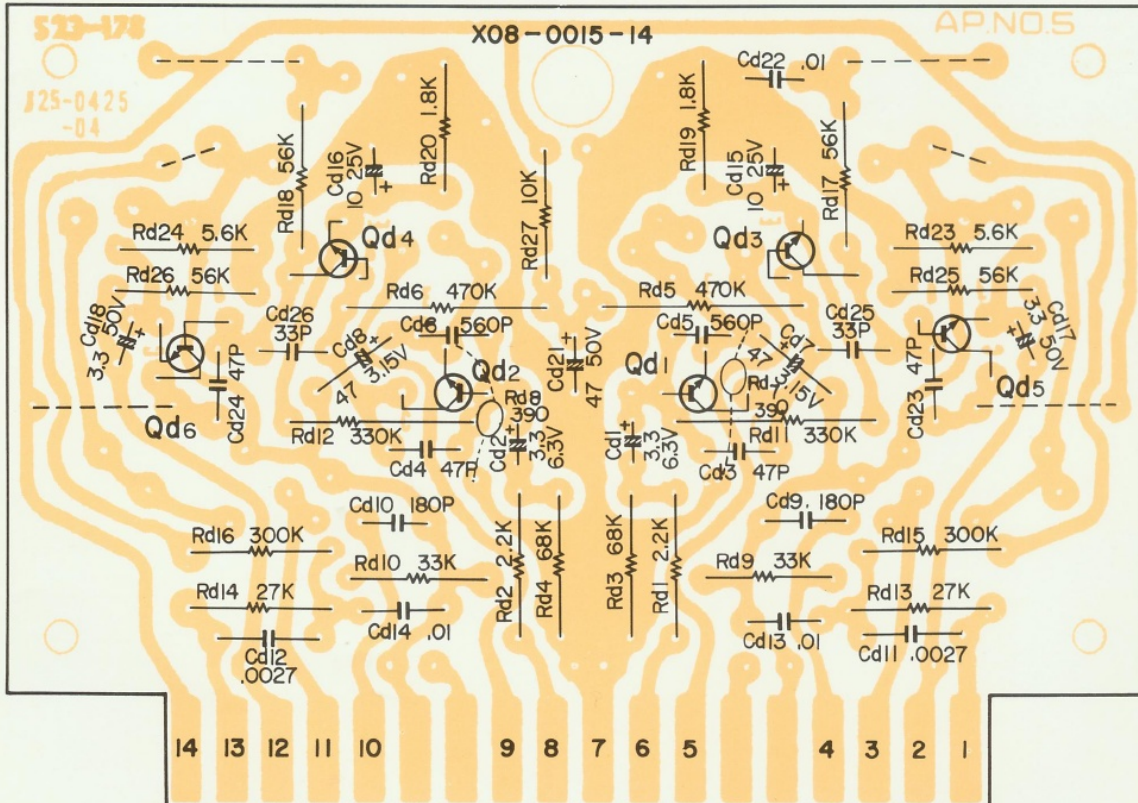
SCHEMATIC DIAGRAM

TRANSISTOR LEADS

2SC1416



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qd1, 2 : 2SC1416AGR, Qd3, 4 : 2SC1416A(GR) or (BL), Qd5, 6 : 2SC1416(GR) or (BL)

**KENWOOD****PREAMP (X08-0015-14) SECTION****PARTS DESCRIPTION LIST**

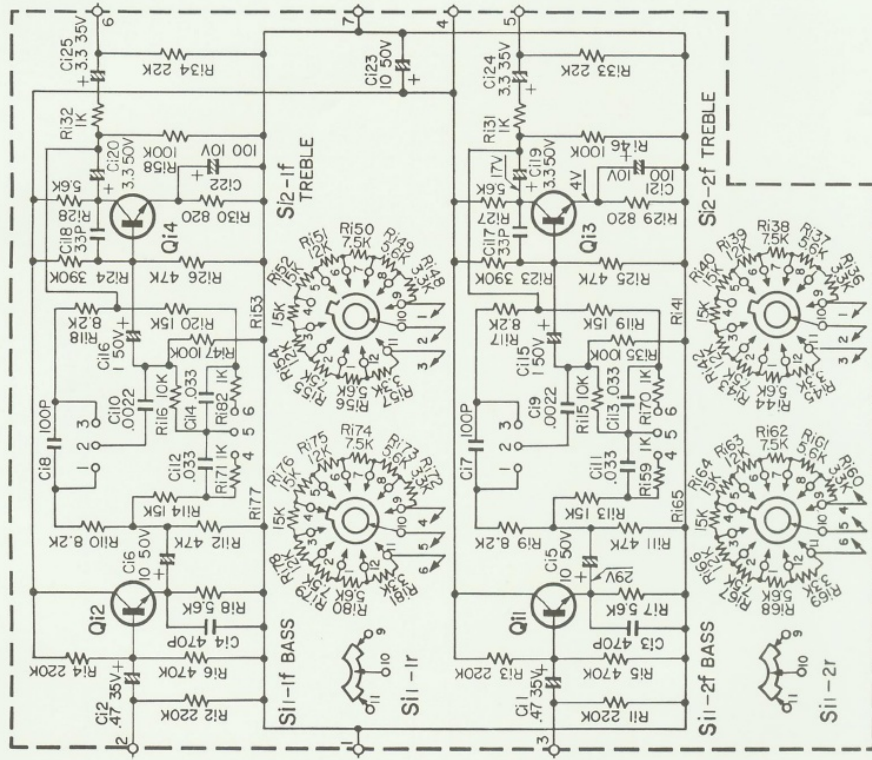
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Cd1, 2	CS04E0J3R3M	Tantalum 3.3 μ F 6.3WV	
Cd3, 4	CC94SL1H470K	Ceramic 47pF \pm 10%	
Cd5, 6	CK94YY1H561M	Ceramic 560pF \pm 20%	
Cd7, 8	CE04W0F470	Electrolytic 47 μ F 3.15WV	
Cd9, 10	CC94SL1H181K	Ceramic 180pF \pm 10%	
Cd11, 12	CQ93M1H272J	Mylar 0.0027 μ F \pm 5%	
Cd13, 14	CQ93M1H103J	Mylar 0.01 μ F \pm 5%	
Cd15, 16	CE04W1E100	Electrolytic 10 μ F 25WV	
Cd17, 18	CE04W1H3R3	Electrolytic 3.3 μ F 50WV	
Cd21	CE04W1H470	Electrolytic 47 μ F 50WV	
Cd22	CK94YY1H103M	Ceramic 0.01 μ F \pm 20%	
Cd23, 24	CC94SL1H470K	Ceramic 47pF \pm 10%	
Cd25, 26	CC94SL1H330K	Ceramic 33pF \pm 10%	
RESISTOR			
Rd1, 2	PD14BY2E222K	Carbon 2.2k Ω \pm 10% 1/4W	
Rd3, 4	PD14BY2E683K	Carbon 68k Ω \pm 10% 1/4W	
Rd5, 6	PN92A2H474J	Metal film 470k Ω \pm 5% 1/2W	
Rd7, 8	PD14BY2E391F	Carbon 390 Ω \pm 1% 1/4W	
Rd9, 10	PD14BY2E333J	Carbon 33k Ω \pm 5% 1/4W	
Rd11, 12	R92-0026-05	Carbon 330k Ω \pm 5% 1/4W	
Rd13, 14	PD14BY2E273F	Carbon 27k Ω \pm 1% 1/4W	
Rd15, 16	PD14BY2E304F	Carbon 300k Ω \pm 1% 1/4W	
Rd17, 18	PD14BY2E563K	Carbon 56k Ω \pm 10% 1/4W	
Rd19, 20	PD14BY2E182J	Carbon 1.8k Ω \pm 5% 1/4W	
Rd23, 24	PD14BY2E562K	Carbon 5.6k Ω \pm 10% 1/4W	
Rd25, 26	PD14BY2E563K	Carbon 56k Ω \pm 10% 1/4W	
Rd27	PD14BY2E103K	Carbon 10k Ω \pm 10% 1/4W	
SEMICONDUCTOR			
Qd1, 2		2SC1416AGR	
Qd3, 4		2SC1416A(GR) or(BL)	
Qd5, 6		2SC1416(GR) or (BL)	



TONE AMP (X111-1060-10) SECTION

(KA-6004)

SCHEMATIC DIAGRAM



TRANSISTORS
LEADS

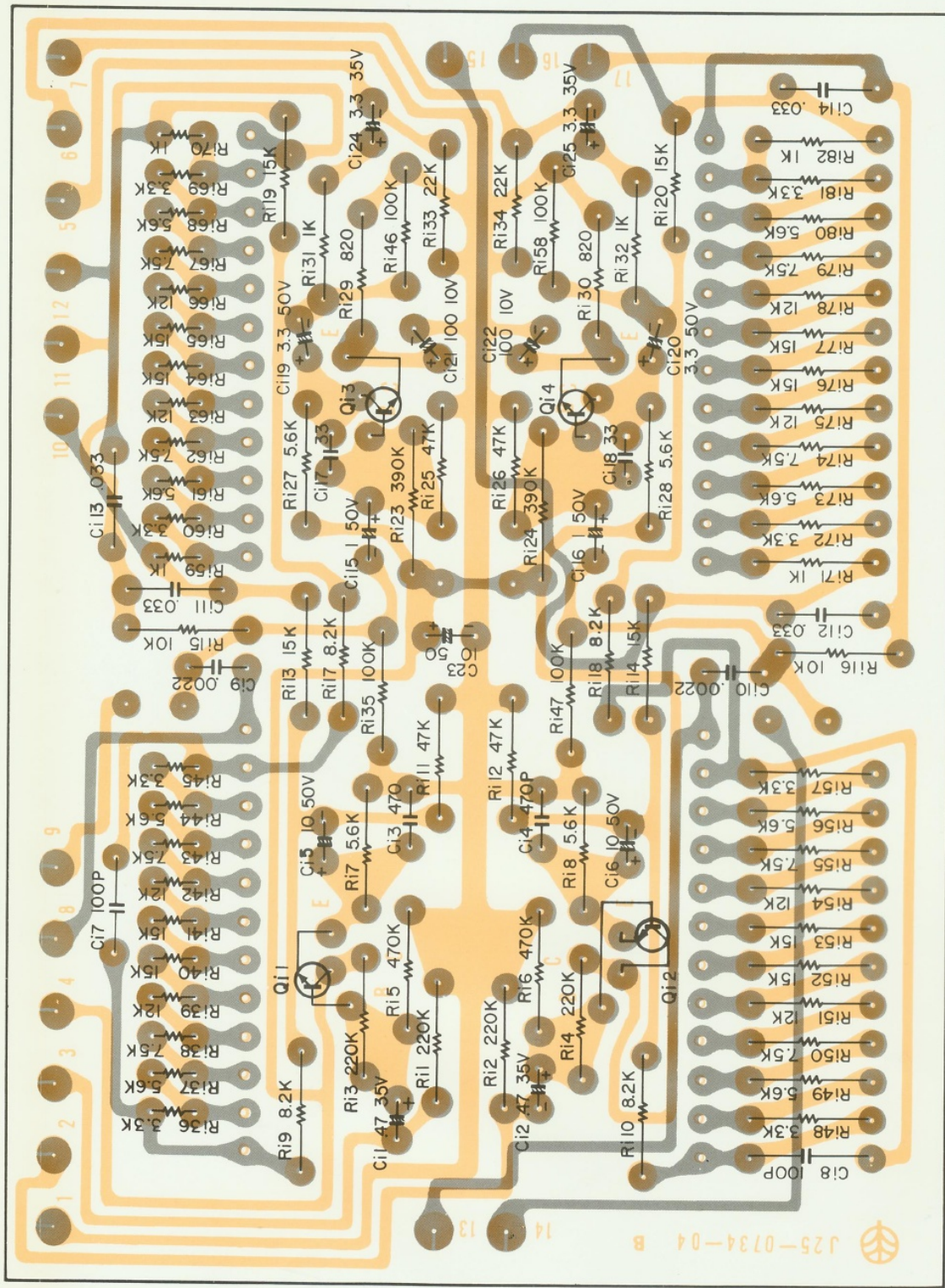
2SC1345



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qi ~ 4 : 2SC1345 (E) or (F)

R136	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R137	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R138	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R139	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R140, 41	PD148Y2E153J	Carbon	15kΩ	±5%	1/4W
R142	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R143	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R144	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R145	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R146, 47	PD148Y2E104J	Carbon	100kΩ	±5%	1/4W
R148	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R149	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R150	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R151	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R152, 53	PD148Y2E153J	Carbon	15kΩ	±5%	1/4W
R154	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R155	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R156	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R157	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R158	PD148Y2E104J	Carbon	100kΩ	±5%	1/4W
R159	PD148Y2E102J	Carbon	1kΩ	±5%	1/4W
R160	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R161	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R162	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R163	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R164, 65	PD148Y2E153J	Carbon	15kΩ	±5%	1/4W
R166	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R167	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R168	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R169	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R170	PD148Y2E102J	Carbon	1kΩ	±5%	1/4W
R171	PD148Y2E102J	Carbon	1kΩ	±5%	1/4W
R172	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R173	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R174	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R175	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R176, 77	PD148Y2E153J	Carbon	15kΩ	±5%	1/4W
R178	PD148Y2E123J	Carbon	12kΩ	±5%	1/4W
R179	PD148Y2E752J	Carbon	7.5kΩ	±5%	1/4W
R180	PD148Y2E562J	Carbon	5.6kΩ	±5%	1/4W
R181	PD148Y2E332J	Carbon	3.3kΩ	±5%	1/4W
R182	PD148Y2E102J	Carbon	1kΩ	±5%	1/4W

SEMICONDUCTOR

O1~4	2SC1345(E) or (F)
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SWITCH

S11	SZ9-2006-05	Rotary (BASS)
S12	SZ9-2007-05	Rotary (TRIBLE)



TONE AMP (X11-1060-10) SECTION

PARTS DESCRIPTION LIST

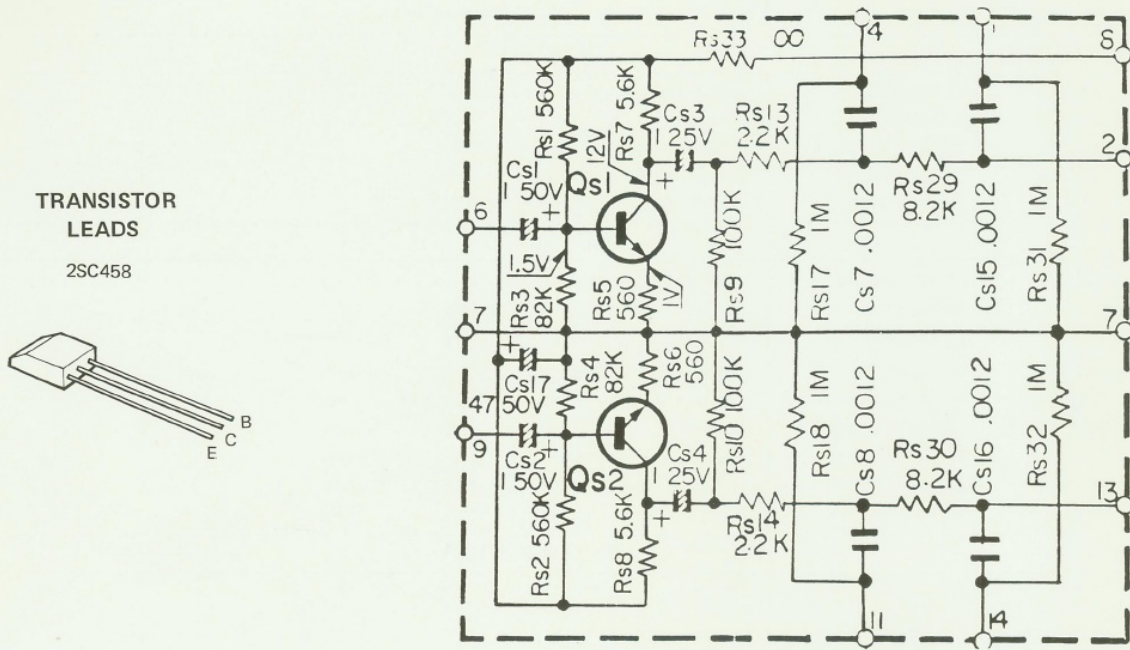
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
C11, 2	CS04E1V3R47M	Tantalum 0.47 μ F 35WV	
C13, 4	CK45D1H471M	Ceramic 470pF \pm 20%	
C15, 6	CE04W1H100	Electrolytic 10 μ F 50WV	
C17, 8	CO08S1H101J	Polystyrene 100pF \pm 5%	
C19, 10	CO93M1H222J	Mylar 0.0022 μ F \pm 5%	
C11 ~ 14	CO93M1H333J	Mylar 0.033 μ F \pm 5%	
C15, 16	CE04W1H010	Electrolytic 1 μ F 50WV	
C17, 18	CC45SL1H330K	Ceramic 33pF \pm 10%	
C19, 20	CE04W1H3R3	Electrolytic 3.3 μ F 50WV	
C21, 22	CE04W1A101	Electrolytic 100 μ F 10WV	
C23	CE04W1H100	Electrolytic 10 μ F 50WV	
C24, 25	CS04E1V3R3M	Tantalum 3.3 μ F 35WV	

RESISTOR			
R11 ~ 4	PD14BY2E224J	Carbon 220K Ω \pm 5%	1/4W
R15, 6	PD14BY3E474J	Carbon 470K Ω \pm 5%	1/4W
R17, 8	PD14BY2E562J	Carbon 5.6K Ω \pm 5%	1/4W
R19, 10	PD14BY2E822J	Carbon 8.2K Ω \pm 5%	1/4W
R111, 12	PD14BY2E473J	Carbon 47K Ω \pm 5%	1/4W
R113, 14	PD14BY2E153J	Carbon 15K Ω \pm 5%	1/4W
R115, 16	PD14BY2E103J	Carbon 10K Ω \pm 5%	1/4W
R117, 18	PD14BY2E822J	Carbon 8.2K Ω \pm 5%	1/4W
R119, 20	PD14BY2E153J	Carbon 15K Ω \pm 5%	1/4W
R123, 24	RN92A2H394J	Metal film 390K Ω \pm 5%	1/4W
R125, 26	PD14BY2E472J	Carbon 4.7K Ω \pm 5%	1/2W
R127, 28	PD14BY2E562J	Carbon 5.6K Ω \pm 5%	1/4W
R129, 30	PD14BY2E821J	Carbon 820 Ω \pm 5%	1/4W
R131, 32	PD14BY2E102J	Carbon 1K Ω \pm 5%	1/4W
R133, 34	PD14BY2E223J	Carbon 22K Ω \pm 5%	1/4W
R135	PD14BY2E104J	Carbon 100K Ω \pm 5%	1/4W
R136	PD14BY2E332J	Carbon 3.3K Ω \pm 5%	1/4W
R137	PD14BY2E562J	Carbon 5.6K Ω \pm 5%	1/4W
R138	PD14BY2E752J	Carbon 7.5K Ω \pm 5%	1/4W
R139	PD14BY2E123J	Carbon 12K Ω \pm 5%	1/4W
R140, 41	PD14BY2E153J	Carbon 15K Ω \pm 5%	1/4W
R142	PD14BY2E123J	Carbon 12K Ω \pm 5%	1/4W
R143	PD14BY2E752J	Carbon 7.5K Ω \pm 5%	1/4W
R144	PD14BY2E562J	Carbon 5.6K Ω \pm 5%	1/4W
R145	PD14BY2E332J	Carbon 3.3K Ω \pm 5%	1/4W
R146, 47	PD14BY2E104J	Carbon 100K Ω \pm 5%	1/4W

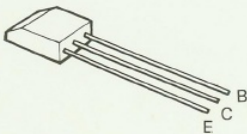
KENWOOD® LOW PASS FIL. (X12-0035-01) SECTION

(KA-6004)(KA-5002)

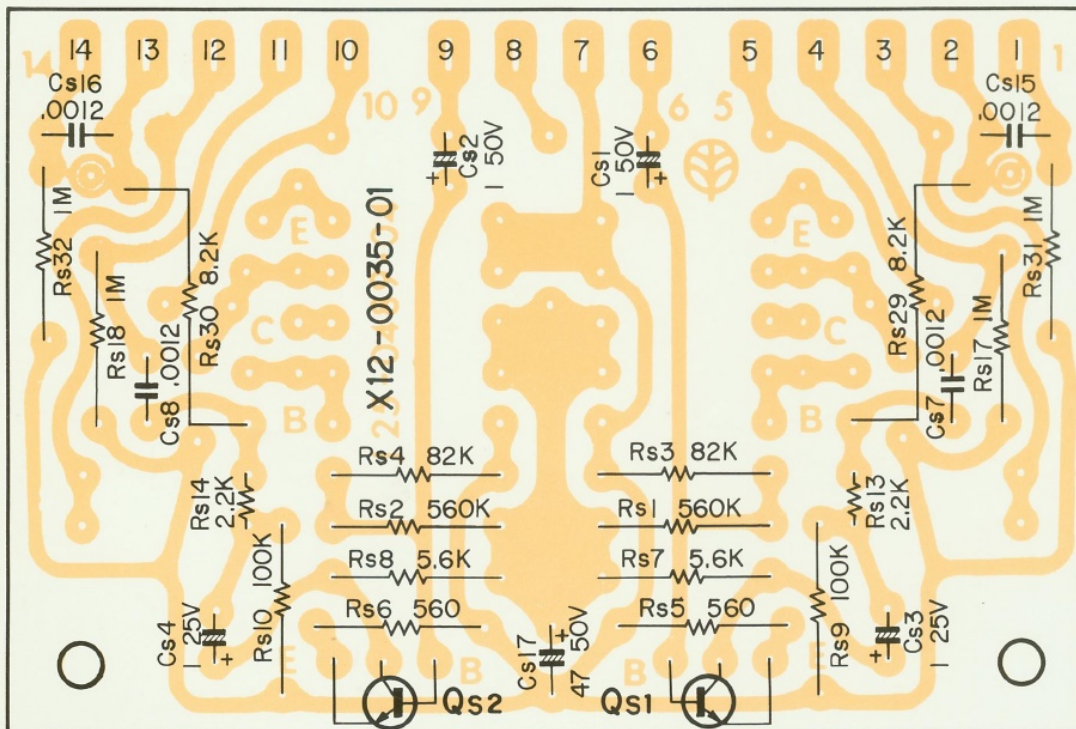
SCHEMATIC DIAGRAM



TRANSISTOR LEADS
2SC458



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qs1, 2 : 2SC458LG (C)

**KENWOOD® LOW PASS FIL. (X12-0035-01) SECTION**

PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description			Remarks
CAPACITOR					
Cs1, 2	CE04W1H010	Electrolytic	1 μ F	50WV	
Cs3, 4	C90-0079-05	Tantalum	1 μ F	25WV	
Cs7, 8	CQ93M1H122K	Mylar	0.0012 μ F	\pm 10%	
Cs15, 16	CQ93M1H122K	Mylar	0.0012 μ F	\pm 10%	
Cs17	CE04W1H470	Electrolytic	47 μ F	50WV	
RESISTOR					
Rs1, 2	PD14BY2E564J	Carbon	560k Ω	\pm 5%	1/4W
Rs3, 4	PD14BY2E823J	Carbon	82k Ω	\pm 5%	1/4W
Rs5, 6	PD14BY2E561J	Carbon	560 Ω	\pm 5%	1/4W
Rs7,8	PD14BY2E562J	Carbon	5.6k Ω	\pm 5%	1/4W
Rs9, 10	PD14BY2E104J	Carbon	100k Ω	\pm 5%	1/4W
Rs13, 14	PD14BY2E222J	Carbon	2.2k Ω	\pm 5%	1/4W
Rs17, 18	PD14BY2E105K	Carbon	1M Ω	\pm 10%	1/4W
Rs29, 30	PD14BY2E822J	Carbon	8.2k Ω	\pm 5%	1/4W
Rs31, 32	PD14BY2E105K	Carbon	1M Ω	\pm 10%	1/4W
SEMICONDUCTOR					
Qs1, 2		2SC458LG (C)			

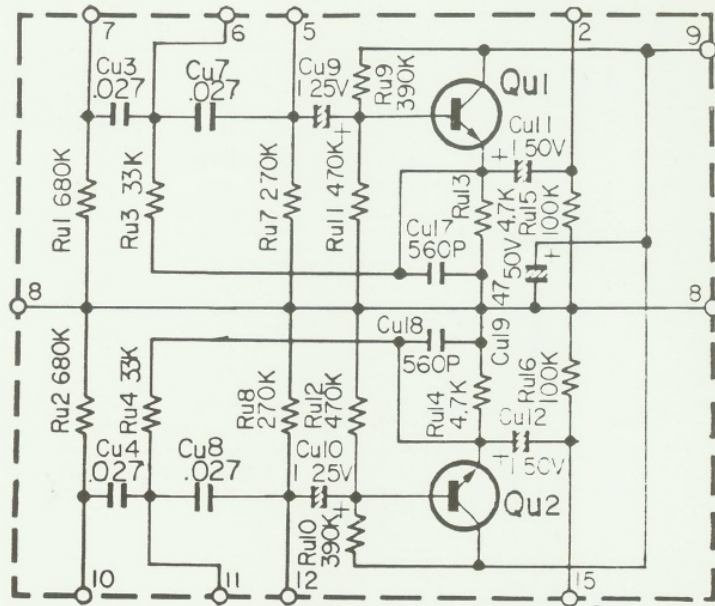
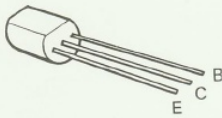
KENWOOD® HIGH PASS FIL. (X12-0036-01) SECTION

(KA-6004)(KA-5002)

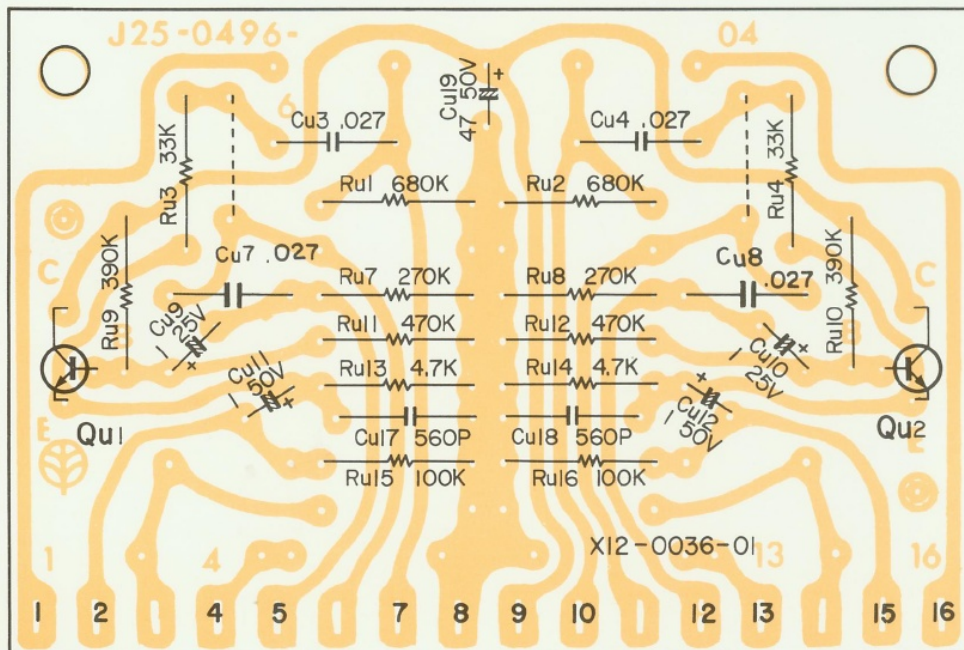
SCHEMATIC DIAGRAM

TRANSISTOR LEADS

2SC871



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qu1, 2 : 2SC871 (E) or (F)



KENWOOD® HIGH PASS FIL. (X12-0036-01) SECTION

PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description			
CAPACITOR					
Cu3, 4	CQ93M1H273K	Mylar	0.027 μ F	\pm 10%	
Cu7, 8	CQ93M1H273K	Mylar	0.027 μ F	\pm 10%	
Cu9, 10	C90-0079-05	Tantalum	1 μ F	25WV	
Cu11, 12	CE04W1H010	Electrolytic	1 μ F	50WV	
Cu17, 18	CK94YY1H561M	Ceramic	560pF	\pm 20%	
Cu19	CE04W1H470	Electrolytic	47 μ F	50WV	
RESISTOR					
Ru1, 2	PD14BY2E684J	Carbon	680k Ω	\pm 5%	1/4W
Ru3, 4	PD14BY2E333J	Carbon	33k Ω	\pm 5%	1/4W
Ru7, 8	PD14BY2E274J	Carbon	270k Ω	\pm 5%	1/4W
Ru9, 10	PD14BY2E394J	Carbon	390k Ω	\pm 5%	1/4W
Ru11, 12	PD14BY2E474J	Carbon	470k Ω	\pm 5%	1/4W
Ru13, 14	PD14BY2E472J	Carbon	4.7k Ω	\pm 5%	1/4W
SEMICONDUCTOR					
Qu1, 2		2SC871(E) or(F)			

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