3408

In this photo you can see Model SA-6800

Service Manual

STEREO AMPLIFIER

SA-6800
SA-608

SA6800/608

PIONEER

Both Model SA-6800 and Model SA-608 have the same basic performance. The major difference is in appearance, Model SA-6800 being fitted with wooden side cover and top cover, while Model SA-608 employs metal cover. The following table is displayed on the SA-6800 and SA-608.

MODEL SA-6800

Type	Voltage	Remarks
KU	120V only	U.S.A. model
KC	120V only	Canada model

MODEL SA-608

Type	Voltage	Remarks
KU	120V only	U.S.A. model
S	110V, 120V, 220V, and 240V (Switchable)	General export model
S/G	110V, 120V, 220V, and 240V (Switchable)	U.S. Military model
HE	220V and 240V	Europe model
HB	220V and 240V	United Kingdom model
HP	220V and 240V	Oceania model

- **This service manual is applicable to the KU type of the Model SA-6800 and the Model SA-608. When repairing the KC type of the Model SA-6800 and the S, S/G types of the Model SA-608, please see the additional service manual (ART-370), and for HE, HB, HP types of the SA-608, please see the additional service manual (ART-371).**

CONTENTS

1. SPECIFICATIONS

Semiconductors

ICs 7
Transistors 23
Diodes 17

Amplifier Section

Continuous Power Output of 45 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.02 % total harmonic distortion or 45 watts per channel at 4 ohms from 20 Hertz to 20,000 Hertz with no more than 0.03 % total harmonic distortion.

Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms from AUX)
- continuous rated power output . . No more than 0.02%
- 22.5 watts per channel power output . . . . . No more than 0.02%
- 1 watt per channel power output . . . . . No more than 0.02%

Intermodulation Distortion (50 Hertz: 7,000 Hertz = 4:1, 8 ohms, from AUX)
- continuous rated power output . . No more than 0.02%
- 22.5 watts per channel power output . . . . . No more than 0.02%
- 1 watt per channel power output . . . . . No more than 0.02%

Output
- Speaker . . . . . A, B, A+B 4~16 ohms
- Headphones . . . . . Low impedance

Damping Factor
(20 Hertz to 20,000 Hertz, 8 ohms) 30

Input (Sensitivity/Impedance)
- PHONO 2.5mV/50kilohms
- TUNER 150mV/50kilohms
- AUX 150mV/50kilohms
- TAPE PLAY 1 . . . . . 150mV/50kilohms
- TAPE PLAY 2 . . . . . 150mV/50kilohms

Phono Overload Level (T.H.D. 0.03%, 1,000Hz)
- PHONO 180mV

Output
- TAPE REC 1 . . . . . 150mV
- TAPE REC 2 . . . . . 150mV

Frequency Response
- PHONO (RIAA Equalization) . . . . . 30Hz to 15,000Hz ±0.3dB
- TUNER, AUX, TAPE PLAY . . 10Hz to 50,000Hz $^{+0}_{-1.5}$ dB

Tone Control
- BASS . . . . . +7.5dB, −7.5dB (100Hz)
- TREBLE . . . . . +7.5dB, −7.5dB (10kHz)

Subsonic Filter . . . . . 15Hz (−6dB/oct)

Loudness Contour (Volume control set at −40dB position) . . . . . +6dB (100Hz), +3dB (10kHz)

Hum and Noise (IHF, short-circuited, A network)
- PHONO 78dB
- TUNER, AUX, TAPE PLAY 100dB

Miscellaneous

Power Requirements 120V, 60Hz
Power Consumption . . . . . 160W (UL), 350VA (CSA)
Dimensions . . . . . 451(W) x 151(H) x 271(D) mm
17-3/4(W) x 5-15/16(H) x 10-11/16(D) in
Weight (without package) . . . . . 8.3kg (18 lb 5oz)

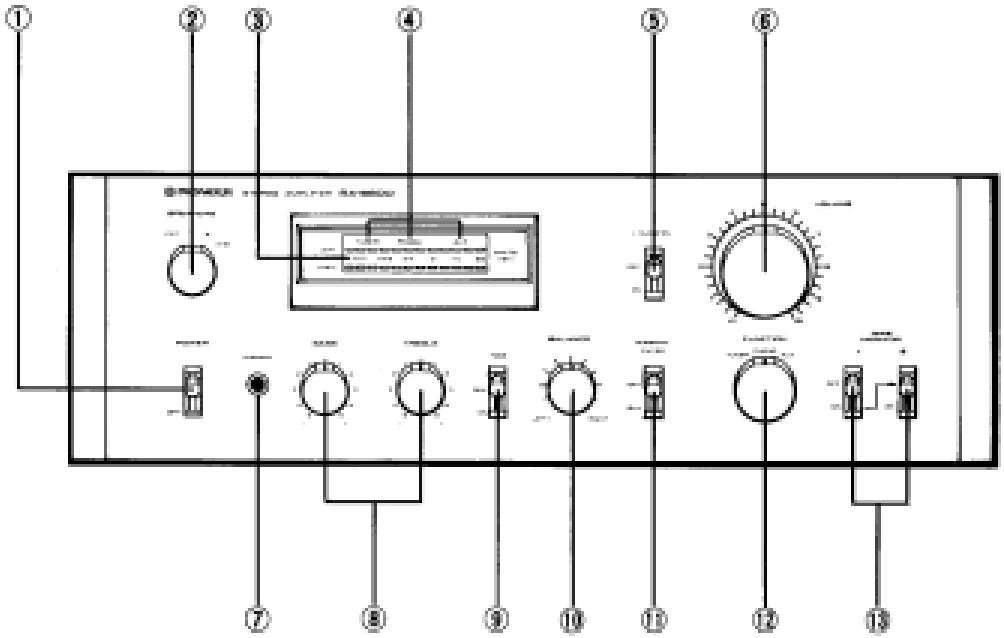
Furnished parts

Operating instructions 1

* *Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*

NOTE:
Specifications and the design subject to possible modification without notice due to improvements.

2. FRONT PANEL FACILITIES



① POWER SWITCH

Set this switch to ON to supply power to the amplifier.

② SPEAKER SELECTOR

Use this selector to select the speaker systems.

OFF: Sound not obtained from speakers.

A: Sound obtained from speakers connected to the A speaker terminals.

B: Sound obtained from speakers connected to the B speaker terminals.

A+B: Sound obtained from speakers connected to both A and B speaker terminals.

③ POWER METER

This meter allows you to read out the rated power level on the fluorescent display tube when speakers with a nominal impedance of 8 ohms are connected to the amplifier's speaker terminals.

④ FUNCTION INDICATORS

The TUNER, PHONO, AUX function indicators light up in accordance with the position of the function selector.

NOTE:
The function indicator will not go off even when the tape monitor switch 1 or 2 is set to ON.

⑤ LOUDNESS SWITCH

When listening to a performance with the volume control turned down, set this switch to ON and the bass and treble will be accentuated.

When the volume is low, the human ear finds it harder to hear the bass and treble than when the volume is high. The loudness switch is thus designed to compensate for this deficiency. By setting it to ON, the bass and treble come through much more strongly and the sound takes on a punch even when the volume control is turned down.

⑥ VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level. No sound will be heard if you set it to "0".

⑦ HEADPHONE JACK

Plug the headphones into this jack when you want to listen through your stereo headphones.

NOTE:
Set the speaker selector to OFF when listening only with headphones.

⑧ BASS AND TREBLE CONTROLS

Use these controls to adjust the bass and the treble. If you set the tone switch to ON and turn the bass control to right from its center position, you will be able to emphasize the sound in the low-frequency range. Conversely, turning the bass control to the left from the center position, you will attenuate the sound.
You can use the treble control to adjust the sound in the high-frequency range.

⑨ TONE SWITCH

Set this switch to ON when adjusting the bass and treble controls. When set to OFF, the tone control circuits are disengaged and frequency response is flat. This function is convenient for checking phono cartridge and speaker tone quality and listening room acoustics.

⑩ BALANCE CONTROL

Use this control to balance the volume of the left and right channels. If the sound appears to be louder on the right, it means that the volume of the right channel is higher. Turn the balance control to the left and adjust.
Conversely, if the sound appears to be louder on the left, it means that the volume of the left channel is higher. Therefore, turn the balance control to the right and adjust.

⑪ SUBSONIC FILTER SWITCH

When this switch is set to the 15Hz position, the subsonic filter with a cut-off frequency of 15Hz is actuated. The subsonic filter serves to attenuate frequencies lower than 15Hz in a 6dB/oct slope. It is therefore effective in suppressing ultra-low-frequency noise which is generated by record warp and other causes. You cannot actually hear this noise but it is a factor in the generation of intermodulation distortion and it may damage your speaker system. Set this switch to the 15Hz position during record play for the best effect.

⑫ FUNCTION SELECTOR

Use this selector to select the program source. When set, the function indicator above the meter panel corresponding to the position of the function selector will light up.

TUNER: Set here when listening to broadcasts on a tuner connected to the TUNER jacks. (The TUNER function indicator lights up.)

PHONO: Set here when playing records on a turntable connected to the PHONO jacks. (The PHONO function indicator lights up.)

AUX: Set here when listening to a program source which is connected to the AUX jacks.
(The AUX function indicator lights up.)

⑬ TAPE MONITOR SWITCHES (1, 2)

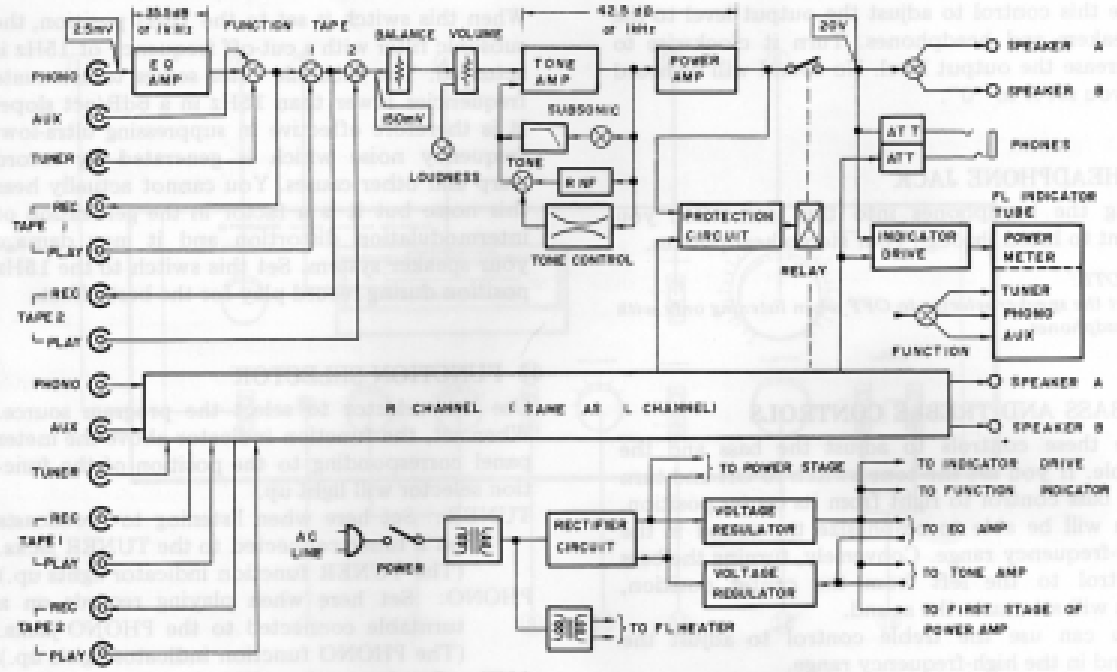
Use these switches to monitor recording or a tape being played back on a tape deck.

1: Set this switch to ON when you want to monitor a recording or a tape being played back on a tape deck which is connected to the TAPE 1 jacks.

2: Set this switch to ON when you want to monitor a recording or a tape being played back on a tape deck which is connected to the TAPE 2 jacks.

NOTE:
Set these switches to the upper (OFF) position when playing records or listening to broadcasts.

3. BLOCK DIAGRAM



4. CIRCUIT DESCRIPTIONS

Equalizer Amplifier

This circuit is an NFB type equalizer amplifier, with one high-performance IC (TA7136P1) in both L and R channels. The circuit diagram is shown in Fig. 4-1.

The input signal is applied to pin no. 2 of the IC, and the output signal is taken from pin no. 6. Pin no. 3 is the NFB in terminal. NFB is applied from pin no. 6. An equalization deviation of ±0.3dB (30Hz-15kHz) has been achieved by using 1%-tolerance metal film resistors at R1, R2, and R3. The IC supply voltage are +19.9V and −18.9V. Allowable input is 180mVrms (at 1kHz, THD 0.02%).

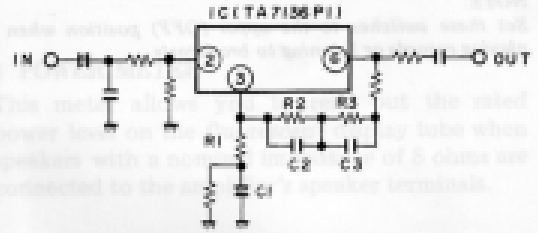


Fig. 4-1 Equalizer amplifier

Tone Control Circuit

Fig. 4-2 shows the basic tone control circuit. This circuit is an NFB type tone control, with IC (TA7136P1), and incorporates the subsonic filter.

Tone control (BASS, TREBLE) is accomplished by providing the tone amplifier NFB circuit with a frequency selectivity characteristic. The NFB circuit is changed to a flat frequency characteristic when the TONE switch is in the OFF position.

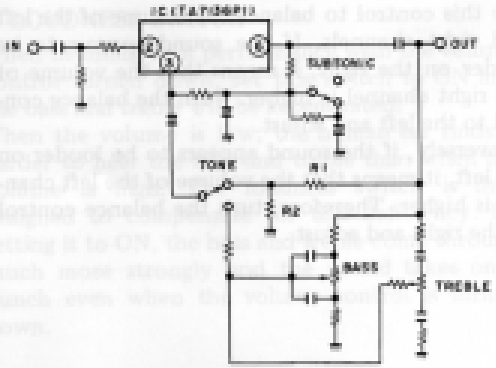


Fig. 4-2 Tone control circuit

When the SUBSONIC switch is turned ON position, the tone amplifier constitutes a high pass filter with a cutoff frequency (−3dB point) of 15Hz.

Power Amplifier

The basic circuit arrangement of power amplifier is shown in Fig. 4-3. The first stage is a differential amplifier (Q_1), the load circuit of which is a current mirror employing an NPN twin transistor (Q_2). The current mirror provides push-pull operation in this stage, which serves to cancel even numbered harmonics and further increase gain.

The pre-driver stage (Q_3, Q_4) is a differential amplifier with a current mirror circuit (D_3, Q_5), which enables stable operation and provides high voltage gain.

The power stage is a Darlington connection pure complementary SEPP circuit, and has an output of 45W (8Ω load, at both channels driven, THD 0.02%, 20Hz-20kHz).

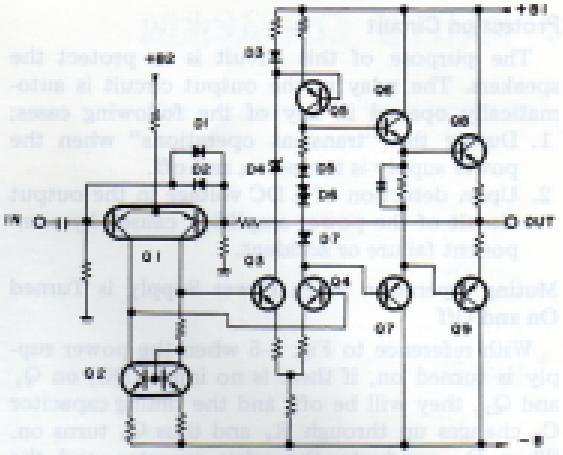


Fig. 4-3 Power amplifier

Indicator Circuit

The SA-6800 output power and function indicators feature fluorescent indicator tube (FL tube). In this tube, thermionic emissions from the cathode are accelerated into the fluorescent substance of the segmental anodes, resulting in the emission of light. This tube is used to indicate numerals, letters, and other symbols.

An outline of the FL tube drive circuit is shown in Fig. 4-4. The output circuit signal is applied to pin no. 6 (4) of the IC (TA7318P-A). The IC contains a detector circuit, compressor (40dB), and peak hold circuit for both left and right channels. The dynamic range of the signal is thus contracted by 40dB to obtain a "peak held" DC voltage.

The output power indicator segments of the FL tube are driven by the HA12010 ICs (one for each channel) equipped with 12 pairs of differential amplifiers. These amplifiers are biased at increasing levels, so each amplifier will commence to operate separately as the input level increases. And since these amplifiers apply the voltages to the output power indicator segments, each successive segment will light up in turn as the input level rises.

The function indicators are lit up as a result of a voltage being applied to the corresponding function indicator segment according to the selected positions of the FUNCTION switch.

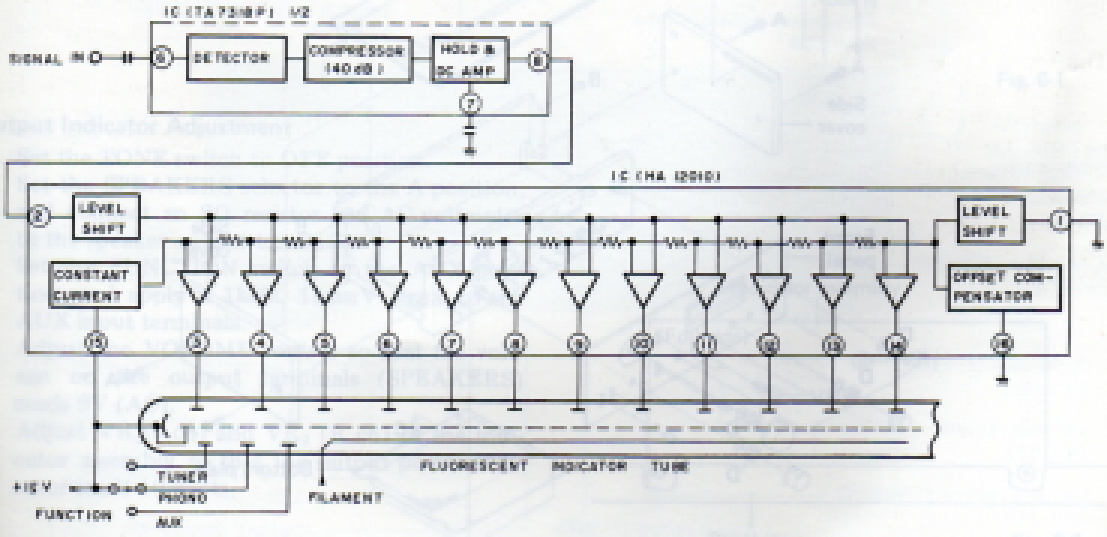


Fig. 4-4 Indicator circuit

Protection Circuit

The purpose of this circuit is to protect the speakers. The relay in the output circuit is automatically opened in any of the following cases;

1. During the "transient operations" when the power supply is turned on and off.
2. Upon detection of a DC voltage in the output circuit of the power amplifier, caused by component failure or accident.

Muting Operation when Power Supply is Turned On and Off

With reference to Fig. 4-5 when the power supply is turned on, if there is no input (DC) on Q_1 and Q_2, they will be off, and the timing capacitor C_2 changes up through R_2 and thus Q_3 turns on. When Q_3 conducts, the relay operates, and the output muting on the power amplifier will be removed.

When the power supply is turned off, $+B_1$ will abruptly decay, C_2 will discharge through D_1. Q_3 will cease to conduct, whereupon the relay will become de-energized and restore muting.

DC Voltage Detector

The output circuit is connected to the Q_2 emitter and Q_1 base via a low-pass filter (R_1, C_1). Any DC voltages appearing the output circuit of the power amplifier, it will be applied to the Q_2 emitter and the Q_1 base. If the voltage is negative, Q_2 turns on. C_2 will rapidly discharge. If the voltage is positive, Q_1 turns on. C_2 will rapidly discharge. As consequence, Q_3 will turn on and the relay will become de-energized, thus causing the output circuit to open.

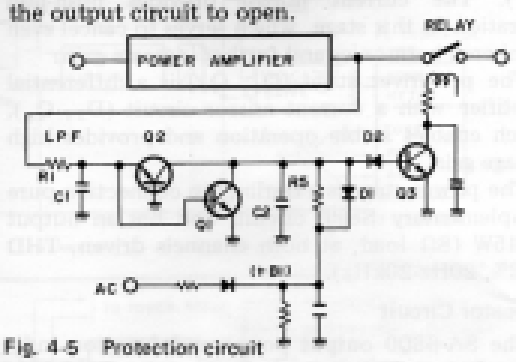


Fig. 4-5 Protection circuit

5. DISASSEMBLY

Side Covers and Top Cover

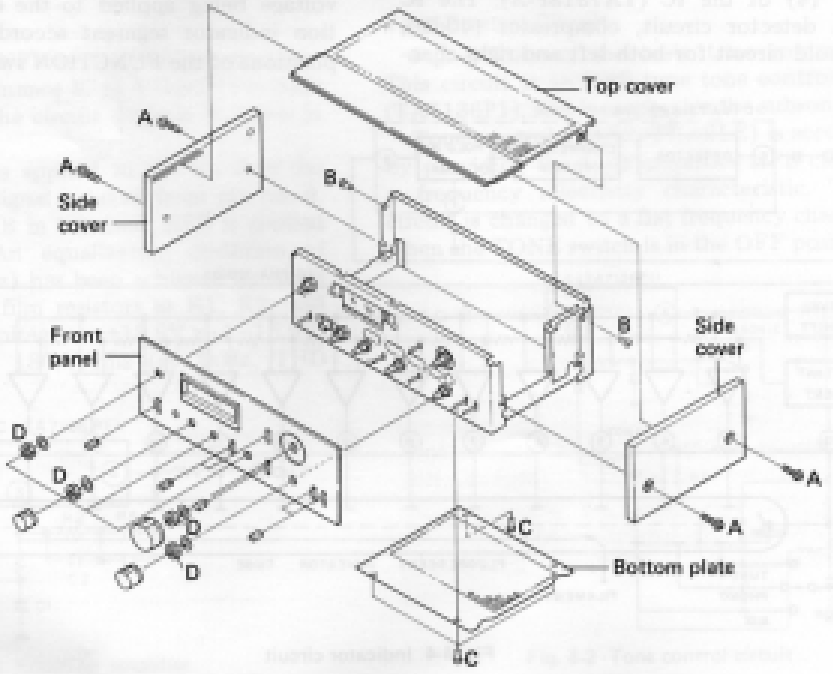
1. Remove the four screws (A), and remove the left and right-hand side covers.
2. Remove the two screws (B), and remove the top cover.

Bottom Plate

Remove the four screws (C).

Front Panel

Pull off all the knobs, and remove the four nuts (D).



6. ADJUSTMENTS

Idle Current Adjustment

1. Turn the VOLUME control down to minimum level, turn the power on, and wait about 10 minutes.
2. Connect a DC voltmeter to the TP terminals (L ch; TP_2 ⊕ and TP_1 ⊖, R ch; TP_3 ⊕ and TP_4 ⊖) of the GWK-127.
3. Check that the voltage between TP_1 and TP_2 (L ch) lies within the DC 4.4mV-35mV range. Then make a similar check for the R ch (between TP_3 and TP_4). If the voltage is less than 4.4mV, cut jumper A (L ch), and jumper B (R ch). If the voltage exceeds 35mV, check for circuit failure.

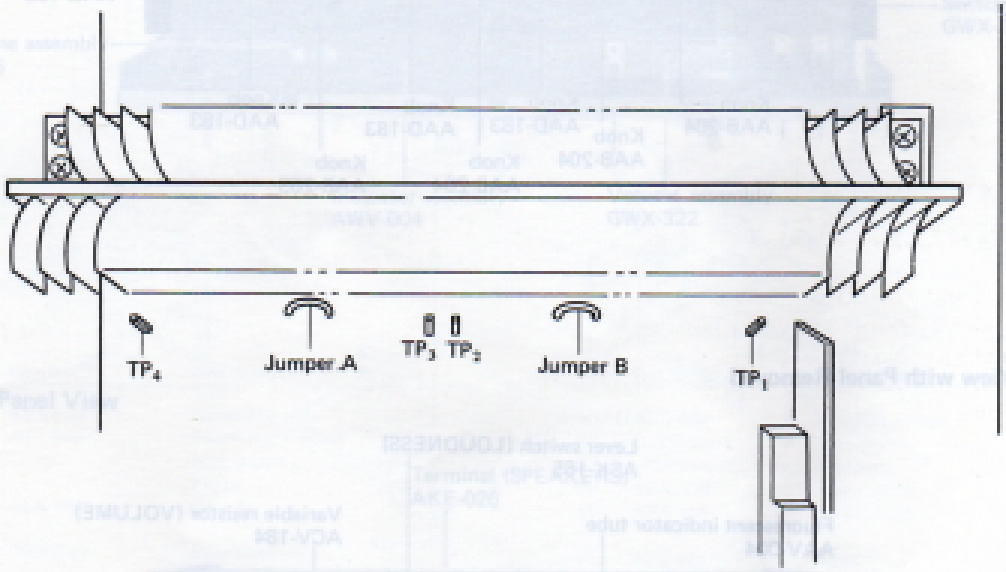


Fig. 6-1

Output Indicator Adjustment

1. Set the TONE switch to OFF position.
2. Set the SPEAKERS selector to the A position, and connect an 8Ω resistor and AC voltmeter to the speaker output terminals.
3. Set the FUNCTION switch to the AUX position, and apply a 1kHz, 150mV signal to the AUX input terminals.
4. Adjust the VOLUME control so that the voltage on the output terminals (SPEAKERS) reads 9V (AC).
5. Adjust VR_1 (L ch) and VR_2 (R ch) of the indicator assembly so that the output power indicator reads 10 watts.

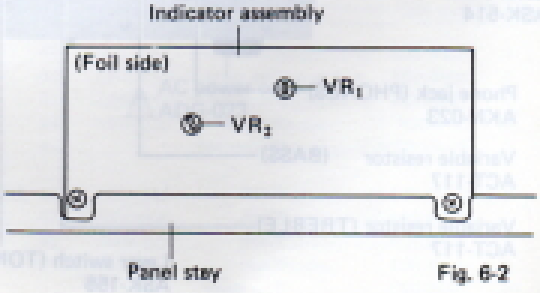
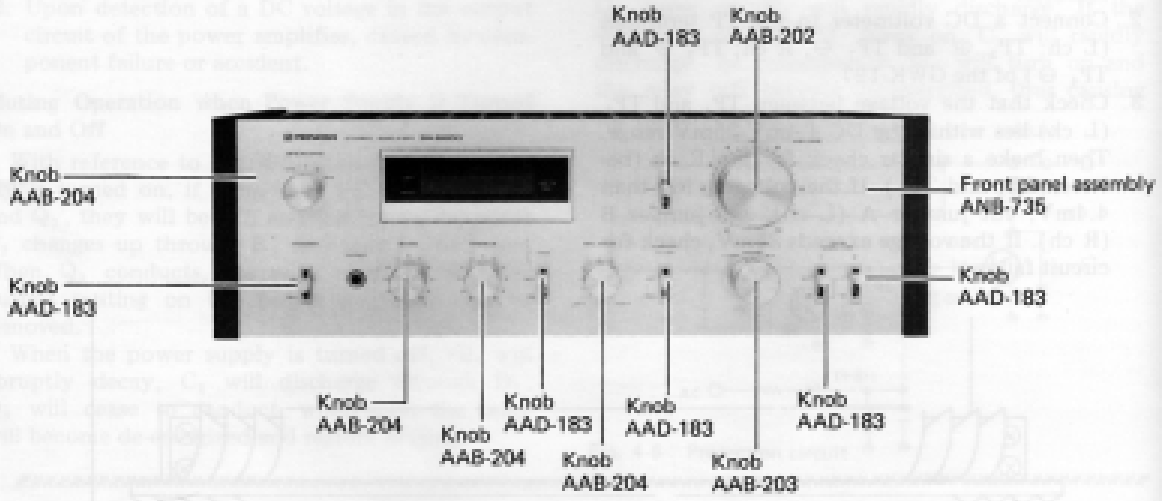


Fig. 6-2

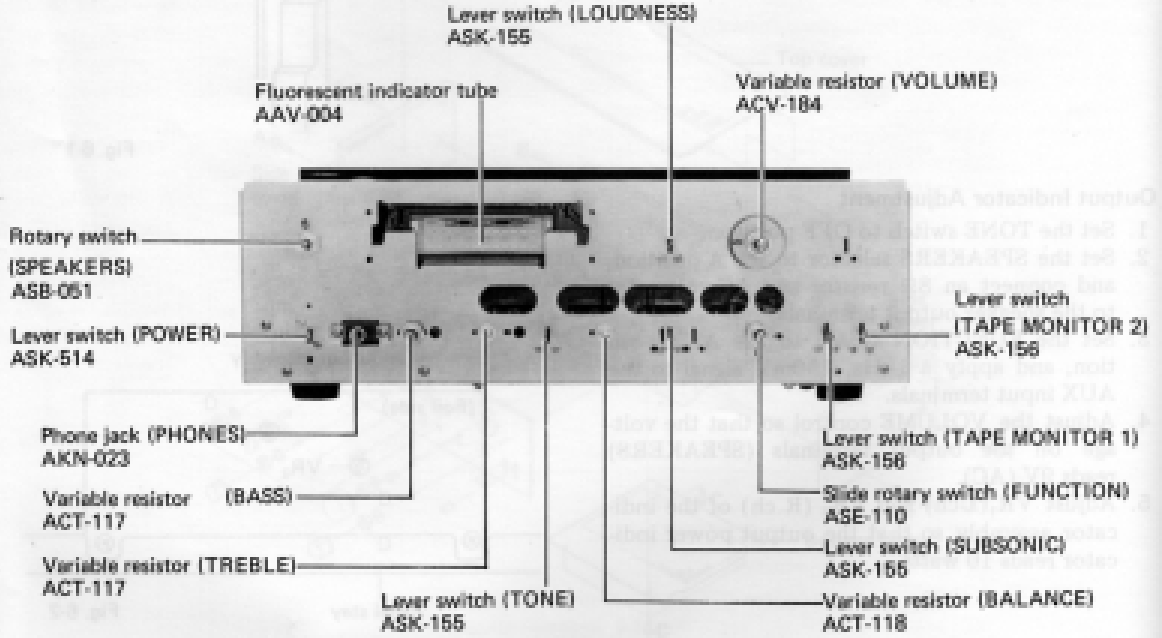
7. PARTS LOCATION

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

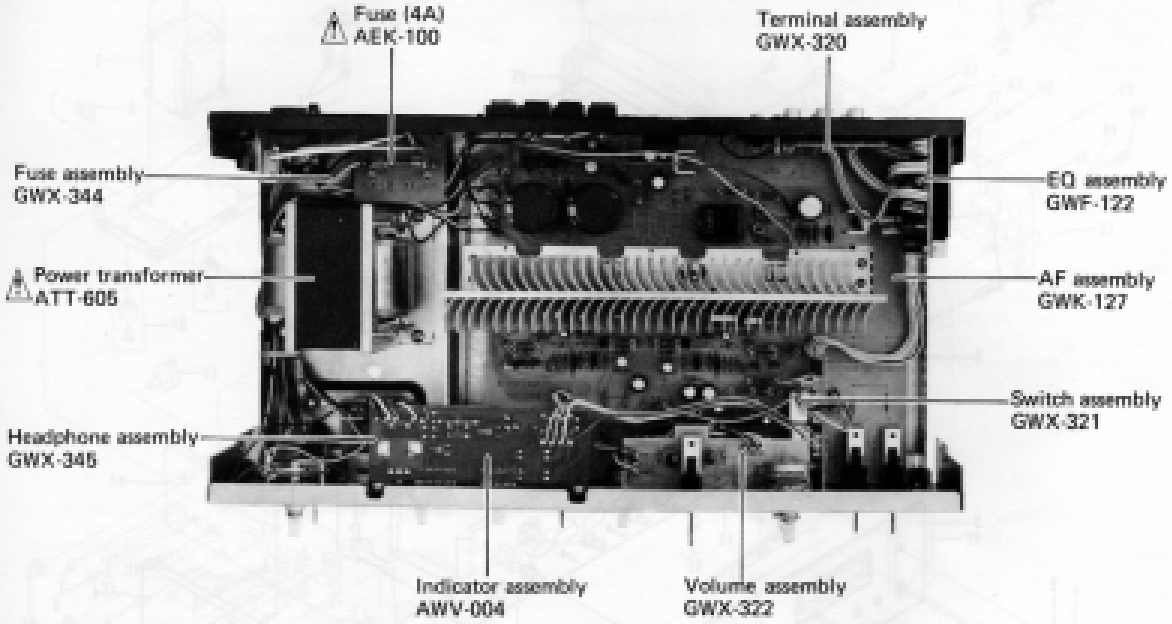
Front Panel View



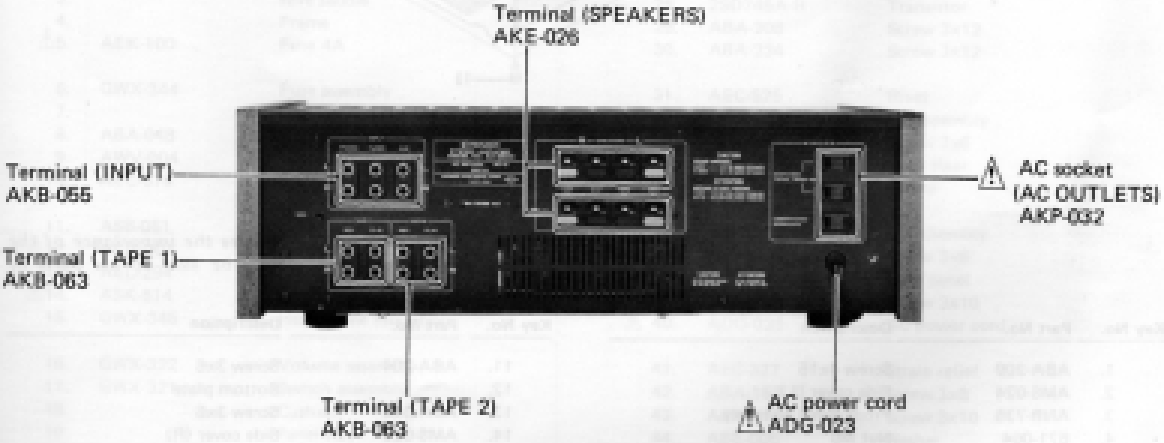
Front View with Panel Removed



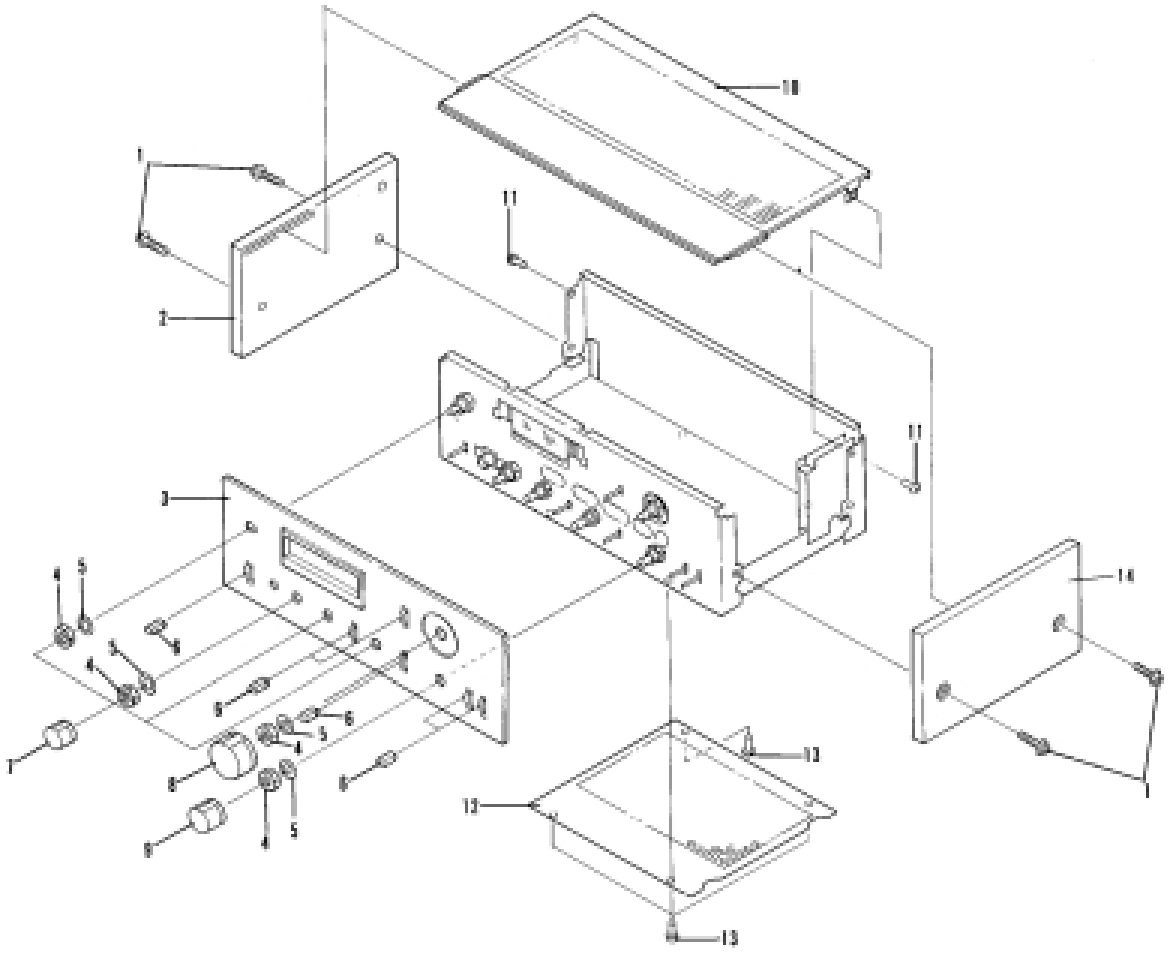
Top View



Rear Panel View

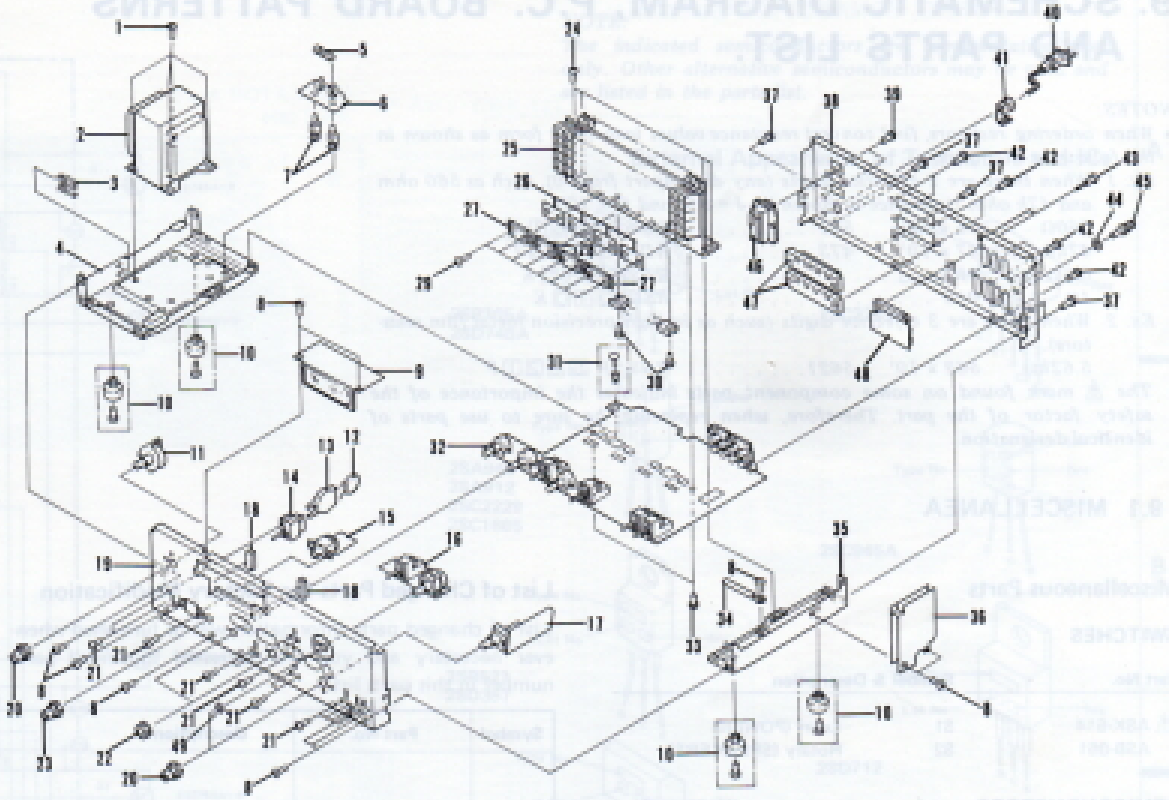


8. EXPLODED VIEW



* *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

Key No.	Part No.	Description
1.	ABA-209	Screw 4x15
2.	AMS-024	Side cover (L)
3.	ANB-735	Front panel assembly
4.	B71-004	Nut M9
5.	M45-086	Washer M9
6.	AAD-183	Knob
7.	AAB-204	Knob
8.	AAB-202	Knob
9.	AAB-203	Knob
10.	AMS-023	Top cover
11.	ABA-204	Screw 3x6
12.		Bottom plate
13.	ABA-048	Screw 3x6
14.	AMS-025	Side cover (R)



Key No.	Part No.	Description
1.	ABA-069	Screw 4x8
⚠2.	ATT-605	Power transformer
3.		Wire saddle
4.		Frame
⚠5.	AEK-100	Fuse 4A
6.	GWX-344	Fuse assembly
7.		P.C. Board holder
8.	ABA-048	Screw 3x6
9.	AWV-004	Indicator assembly
10.	AEC-570	Foot assembly
11.	ASB-051	Rotary switch (SPEAKERS)
⚠12.	ACG-001	Ceramic capacitor (0.01/250V)
13.	AEC-294	Capacitor cover
⚠14.	ASK-514	Lever switch (POWER)
15.	GWX-345	Headphone assembly
16.	GWX-322	Volume assembly
17.	GWX-321	Switch assembly
18.		Cushion
19.		Panel stay
20.	ABN-050	Union nut
21.	ABA-025	Screw 3x4
22.	ABN-031	Nut M7
23.	ABN-049	Union nut
24.	ABA-049	Screw 3x8
25.		Heat sink

Key No.	Part No.	Description
26.	AEC-488	Insulator spacer
27.	2SB705A-R	Transistor
28.	2SD745A-R	Transistor
29.	ABA-208	Screw 3x12
30.	ABA-234	Screw 3x12
31.	AEC-525	Rivet
32.	GWK-127	AF assembly
33.	ABA-065	Screw 3x8
34.		Cord fixer
35.		Frame
36.	GWF-122	EQ assembly
37.	ABA-228	Screw 3x6
38.		Rear panel
39.	ABA-240	Screw 3x10
⚠ 40.	ADG-023	AC power cord
41.	AEC-327	Strain relief
42.	ABA-157	Screw 3x8
43.	ABA-115	Screw 3x10
44.	ABE-005	Washer
45.		Terminal (GND)
⚠ 46.	AKP-032	AC socket (AC OUTLETS)
47.	AKB-026	Terminal (SPEAKERS)
48.	GWX-320	Terminal assembly
49.	B22-017	Washer

9. SCHEMATIC DIAGRAM, P.C. BOARD PATTERNS AND PARTS LIST.

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56×10^1	561	RD¼PS 5 6 1 J
47kΩ	47×10^3	473	RD¼PS 4 7 3 J
0.5Ω	0R5		RN2H 0 R 5 K
1Ω	010		RSIP 0 1 0 K

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	562×10^1	5621	RN¼SR 5 6 2 1 F

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

9.1 MISCELLANEA

Miscellaneous Parts

SWITCHES

Part No.	Symbol & Description	
⚠ ASK-514	S1	Lever (POWER)
ASB-051	S2	Rotary (SPEAKERS)

SEMICONDUCTORS

Part No.	Symbol & Description
2SD745A-R	Q1, Q2
2SB705A-R	Q3, Q4

P.C. BOARD ASSEMBLIES

Part No.	Description
GWK-127	AF assembly
GWF-132	EQ assembly
GWX-322	Volume assembly
GWX-321	Switch assembly
GWX-320	Terminal assembly
AWV-004	Indicator assembly
GWX-344	Fuse assembly
GWX-345	Headphone assembly

OTHERS

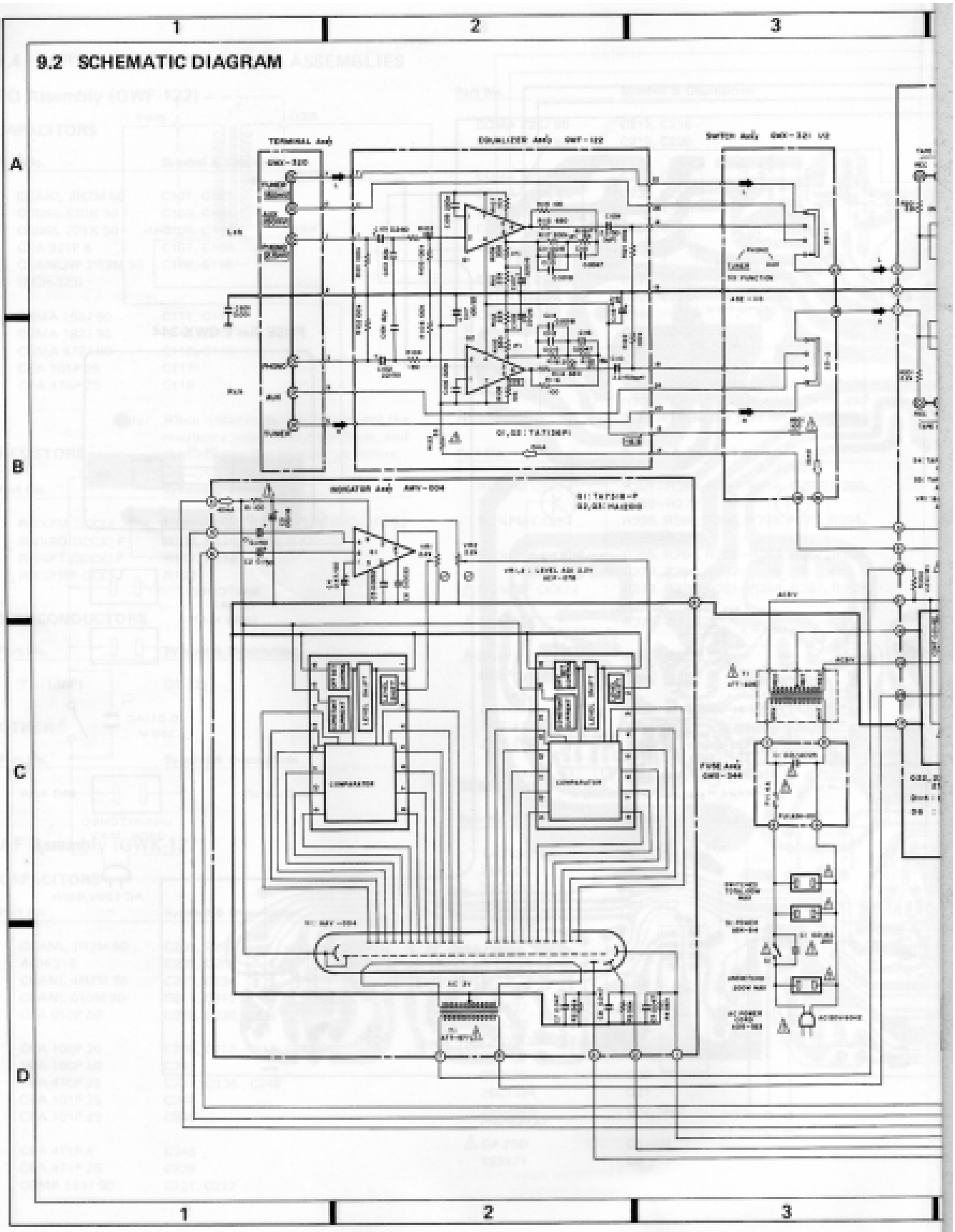
Part No.	Symbol & Description	
⚠ ATT-605	T1	Power transformer
⚠ AEK-100	FU1	Fuse 4A
⚠ ACG-001	C1	Ceramic capacitor
⚠ AKP-032		AC socket (AC OUTLETS)
⚠ ADG-023		AC power cord
AKE-026		Terminal (SPEAKERS)

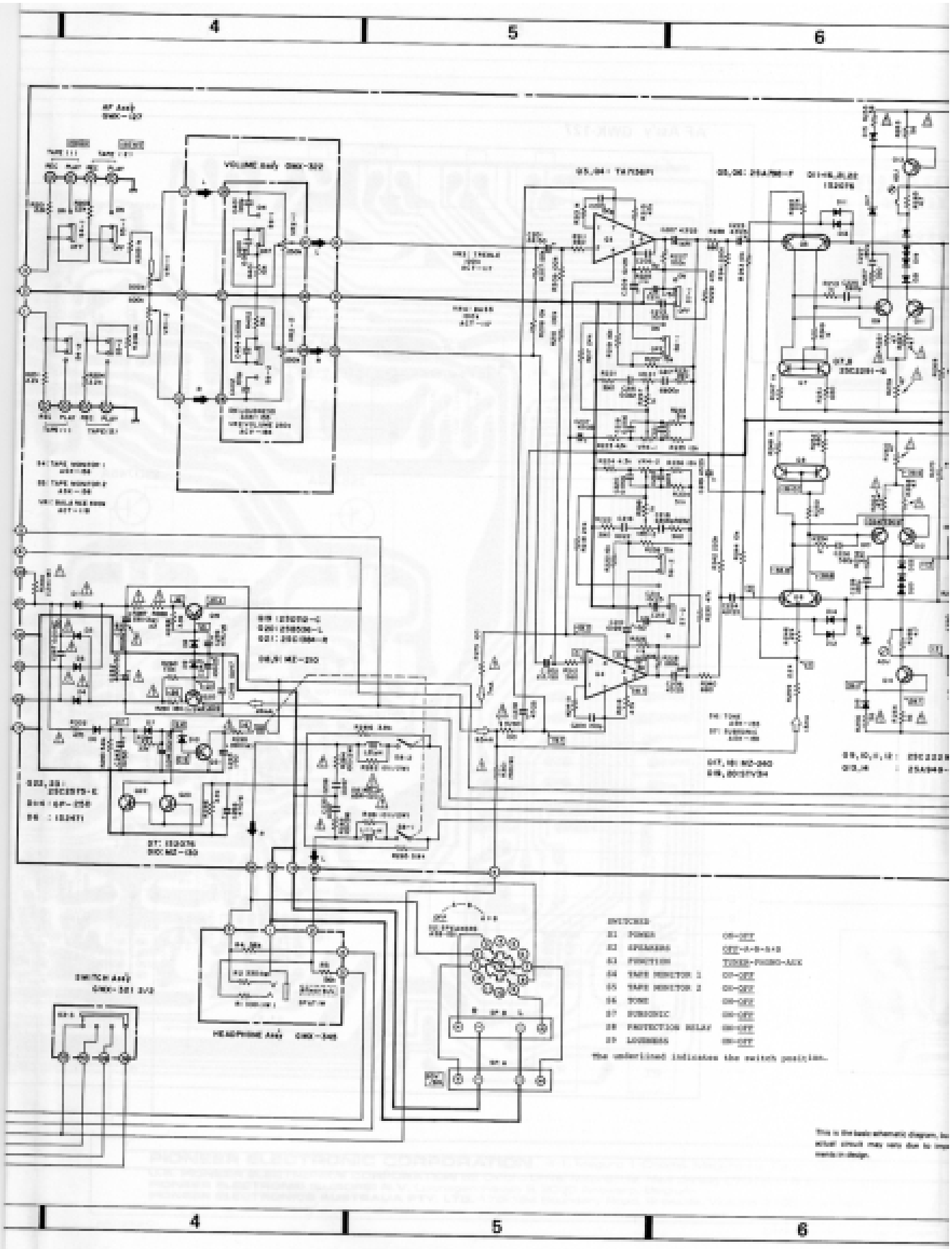
List of Changed Parts for Factory Modification

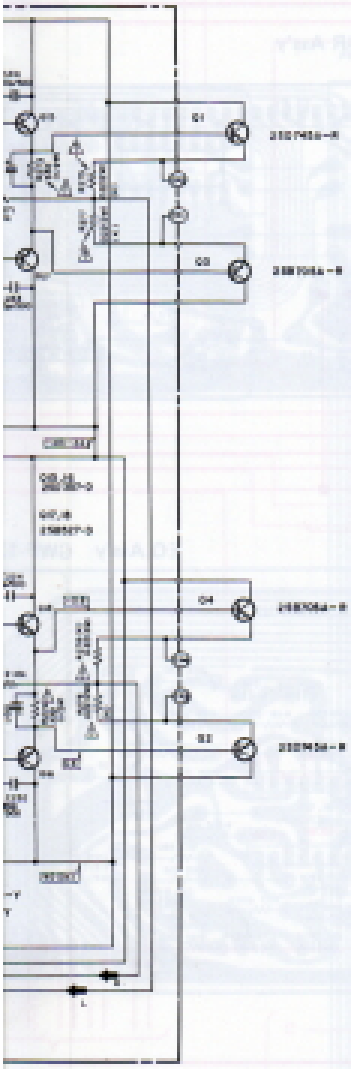
List of changed parts information will be furnished whenever necessary and you are requested to amend parts number in this parts list.

Symbol	Part No.	Description

9.2 SCHEMATIC DIAGRAM

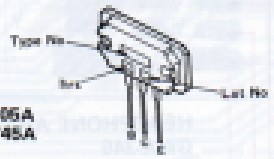



4
5
6
VOLUME Assy
SWITCH Assy
HEADPHONE Assy
SWITCHES
01 POWER ON-OFF
02 SPEAKERS OFF-A-B-A+B
03 FUNCTION TUNER-PHONO-AUX
04 TAPE MONITOR 1 OFF-OFF
05 TAPE MONITOR 2 OFF-OFF
06 TONE ON-OFF
07 SUBSONIC ON-OFF
08 PROTECTION RELAY ON-OFF
09 LOUDNESS ON-OFF
The underlined indicates the switch position.
4
5
6

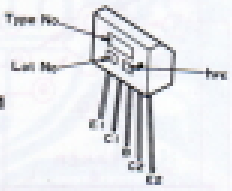


NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

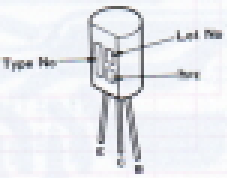
External Appearance of Transistors and ICs



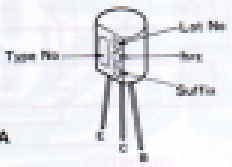
2SB705A
2SD745A



2SC2291

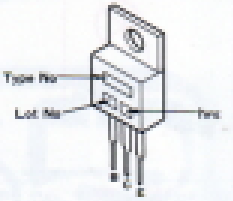


2SA949
2SA912
2SC2229
2SC1885

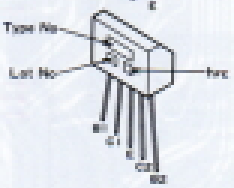


2SC945A

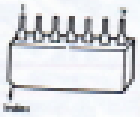
2SB527
2SD357



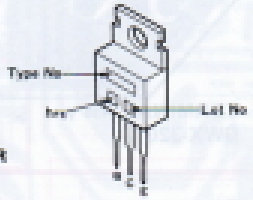
2SD712



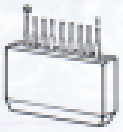
2SA798



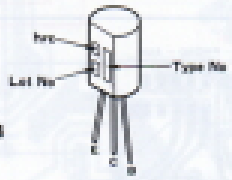
TA7138P1



2SB536
2SD313R



TA7318P



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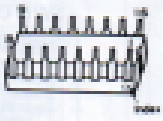
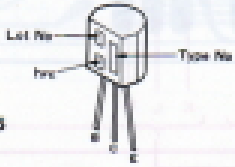
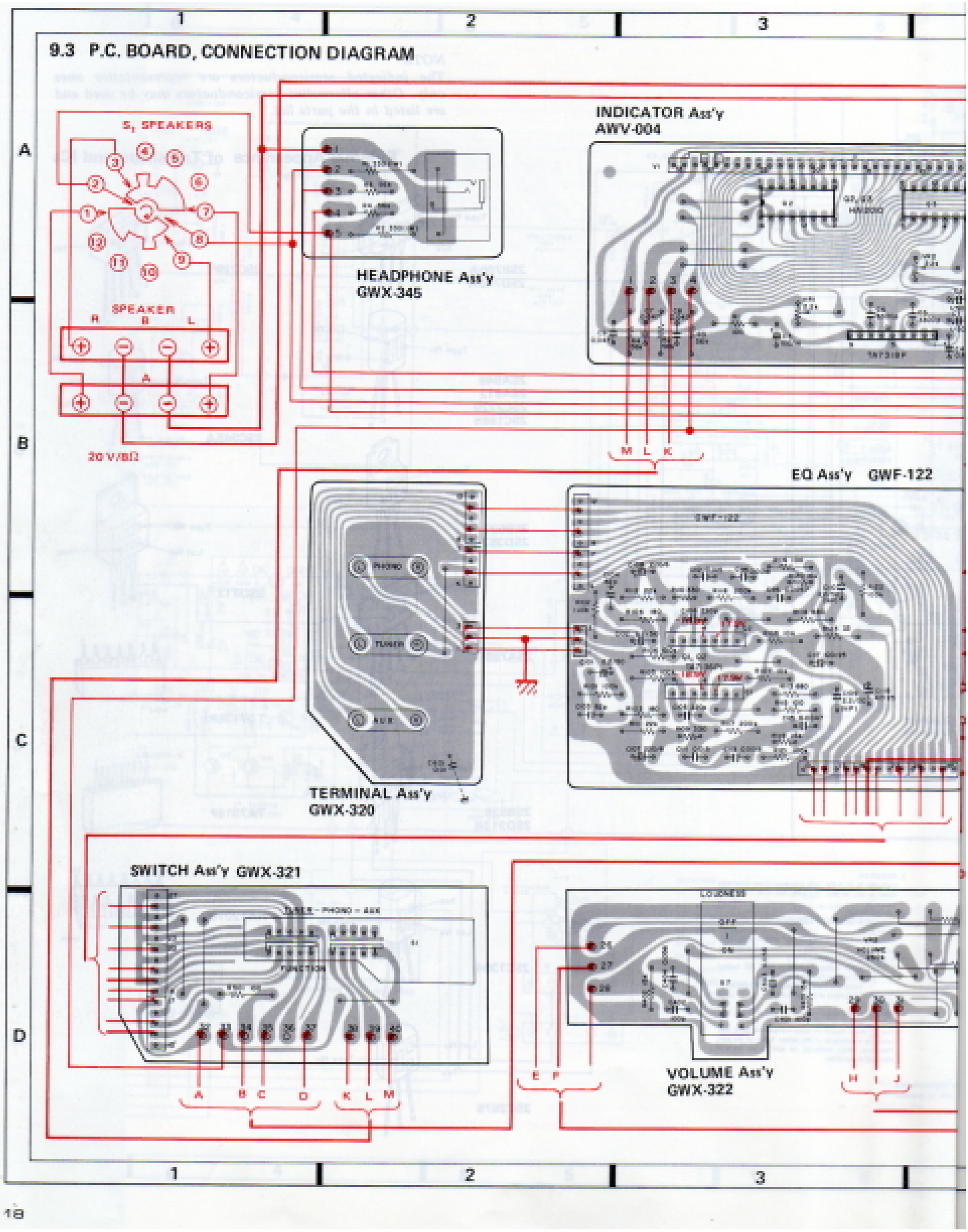


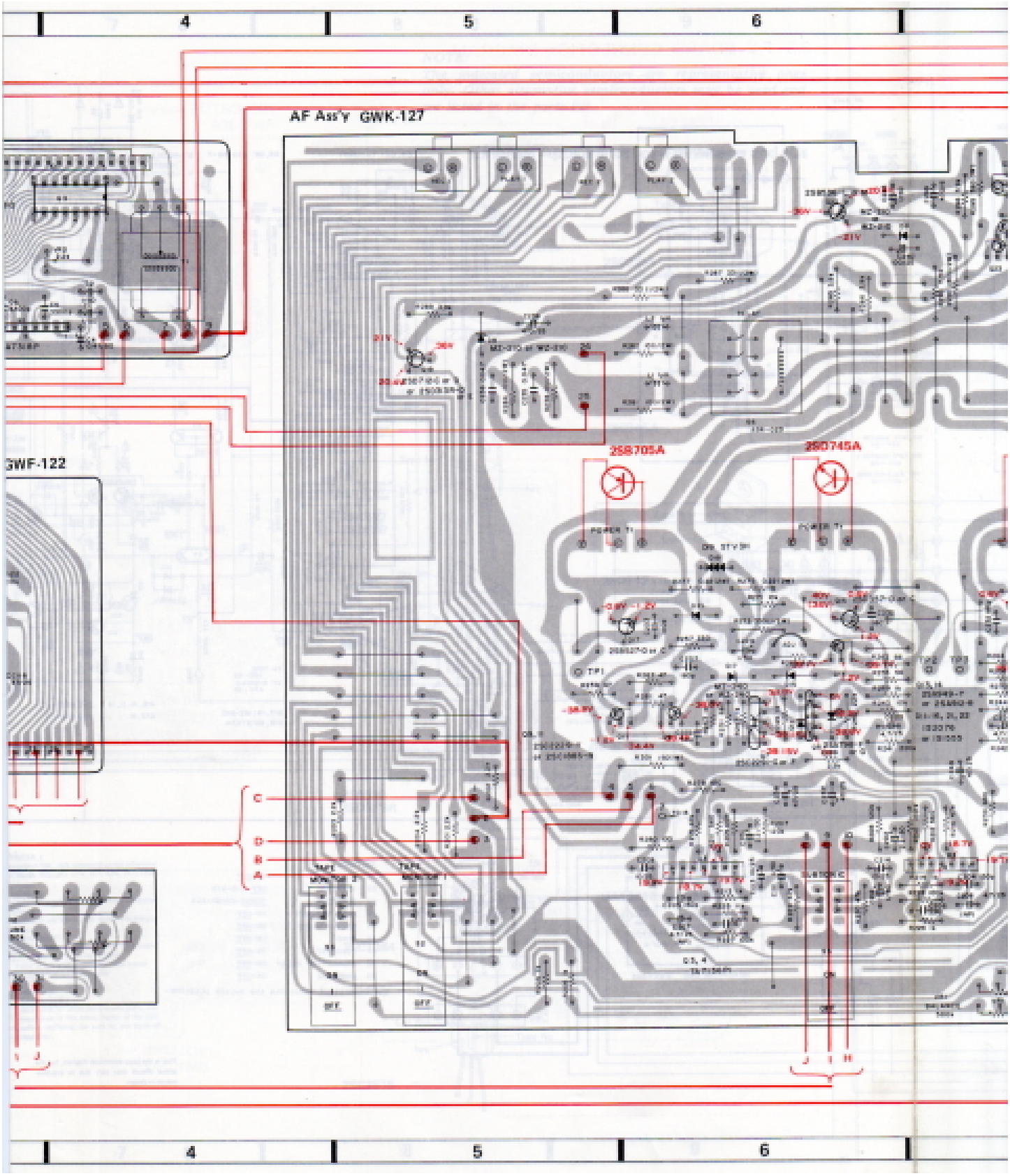
HA12010

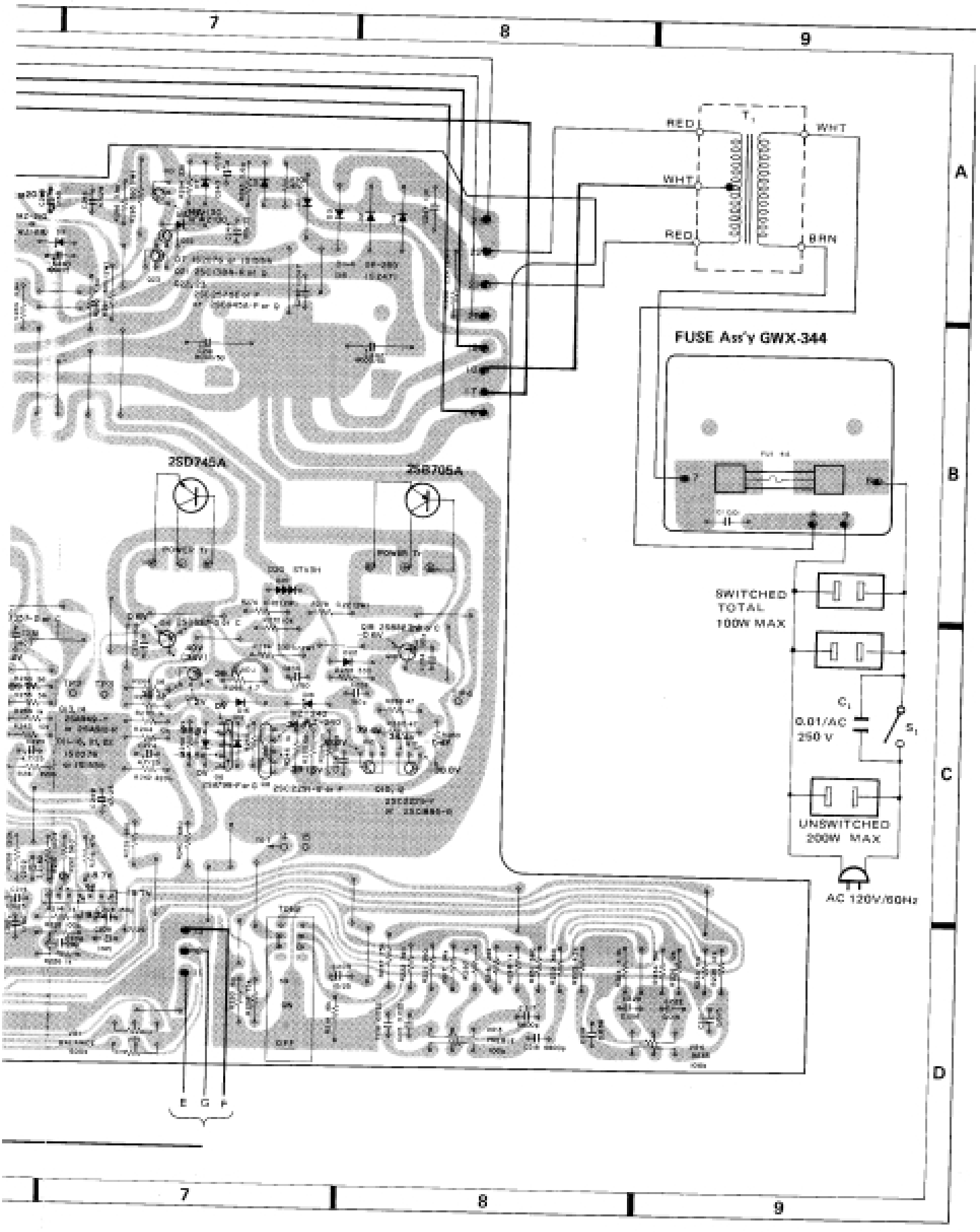


2SC2575

9.3 P.C. BOARD, CONNECTION DIAGRAM




4
5
6
AF Ass'y GWK-127
GWF-122
2SB705A
2SD745A
C
D
B
A
J
I
H
4
5
6


7
8
9
A
B
C
D
RED
WHT
WHT
RED
BRN
T1
FUSE Ass'y GWX-344
2SD745A
2SB705A
SWITCHED
TOTAL
100W MAX
C1
0.01/AC
250 V
S1
UNSWITCHED
200W MAX
AC 120V/60Hz
E
G
F

9.4 PARTS LIST OF P.C. BOARD ASSEMBLIES

EQ Assembly (GWF-122)

CAPACITORS

Part No.	Symbol & Description
CEANL 2R2M 50	C101, C102
CCDSL 820K 50	C103, C104
CCDSL 221K 50	C105, C106
CEA 221P 6	C107, C108
CEANLNP 2R2M 50 (ACH-323)	C109, C110
CQMA 153J 50	C111, C112
CQMA 182J 50	C113, C114
CQMA 472J 50	C115, C116
CEA 101P 25	C117
CEA 470P 25	C118

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD¼PM □□□J	R101–R108, R111–R116, R121, R122
RN¼SQ □□□□F	R109, R110, R119, R120
RN¼PT □□□□F	R117, R118
⚠ RD¼PMF □□□J	R123

SEMICONDUCTORS

Part No.	Symbol & Description
TA7136P1	Q1, Q2

OTHER

Part No.	Symbol & Description
ABA-048	Screw 3x8

AF Assembly (GWK-127)

CAPACITORS

Part No.	Symbol & Description
CEANL 2R2M 50	C201, C202
ACH-318	C207, C208
CEANL 4R7M 25	C223, C224
CEANL 010M 50	C211, C212
CEA 010P 50	C229, C230, C245
CEA 100P 25	C209, C210, C213, C214
CEA 100P 50	C243
CEA 470P 25	C237, C238 , C249
CEA 101P 35	C244
CEA 101P 25	C240
CEA 471P 6	C246
CEA 471P 25	C239
CQMA 153J 50	C221, C222
CQMA 223J 50	C215, C216
CQMA 563J 50	C219, C220
CQMA 682J 50	C217, C218
CQMA 473K 50	C235, C236
CCDSL 181K 500	C231–C234
CCDSL 080F 50	C205, C206
CCDSL 151K 50	C203, C204
CCDSL 181K 50	C227, C228
CKDYB 561K 50	C225, C226
CKDYF 473Z 50	C248
⚠ ACH-082	C241, C242
⚠ ACG-004	C247

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD¼PM □□□J	R201–R254, R257, R258, R265, R266, R269–R272
RD¼PM □□□J	R255, R256, R259–R264, R267, R268, R279, R280, R302
⚠ RD¼PMF □□□J	R273, R274, R281–R284, R287, R288, R291
⚠ RD¼PSF □□□J	R275–R278
⚠ ACN-039	R295, R301
⚠ RS1P □□□J	R300
RS2P □□□J	VR1 Variable (BALANCE)
ACT-118	VR3 Variable (TREBLE)
ACT-117	VR4 Variable (BASS)
ACT-117	

SEMICONDUCTORS

Part No.	Symbol & Description
TA7136P1	Q3, Q4
2SA798	Q5, Q6
2SC2291	Q7, Q8
2SC2229 (2SC1885)	Q9–Q12
2SA949 (2SA912)	Q13, Q14
2SD357	Q15, Q16
2SB527	Q17, Q18
2SD712 (2SD313R)	Q19
2SB536	Q20
2SC1384	Q21
2SC2575 (2SC945AI	Q22, Q23
⚠ GP-25D	D1–D4
1S2471	D6

Part No.	Symbol & Description
1S2076 (1S1555)	D7, D11–D16, D21, D22
MZ-210 (MZ-210)	D8, D9
MZ-130 (MZ-130)	D10
MZ-240 (MZ-240)	D17, D18
STV3H-Y	D19, D20

SWITCHES

Part No.	Symbol & Description	
ASK-156	S2	Lever (TAPE MONITOR 1)
ASK-156	S3	Lever (TAPE MONITOR 2)
ASK-155	S4	Lever (TONE)
ASK-155	S5	Lever (SUBSONIC)
ASR-023	S6	Relay

OTHER

Part No.	Symbol & Description	
AKB-083		Terminal (TAPE)
ABA-139		Screw 3x8

Indicator Assembly (AWV-004)

CAPACITORS

Part No.	Symbol & Description
CEANL 0R1M 50	C1, C2
CEA 101P 16	C3
CEA R47P 50	C4
CQMA 332K 50	C5, C6
CKDYF 473Z 50	C7–C9

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD¼PMF □□□J	R1
RD¼PM □□□J	R2–R4
ACP-078	VR1, VR2

SEMICONDUCTORS

Part No.	Symbol & Description
TA7318P-A	Q1
HA12010	Q2, Q3

OTHERS

Part No.	Symbol & Description	
AAV-004	V1	Fluorescent indicator tube
⚠ ATT-577	T1	Heater transformer

Volume Assembly (GWX-322)

CAPACITORS

Part No.	Symbol & Description
CQMA 563K 50	C403, C404
CCDSL 101K 50	C401, C402

OTHERS

Part No.	Symbol & Description	
ASK-155	S7	Lever switch (LOUDNESS)
ACV-184	VR2	Variable (VOLUME)
RD¼PM 153J	R401, R402	

Switch Assembly (GWX-321)

Part No.	Symbol & Description	
ASE-110 (ASE-101)	S1	Slide rotary switch (FUNCTION)
⚠ RD¼PSF 101J	R501	

Terminal Assembly (GWX-320)

Part No.	Symbol & Description	
AKB-055		Terminal (INPUT)
CKDYB 103K 50	C601	

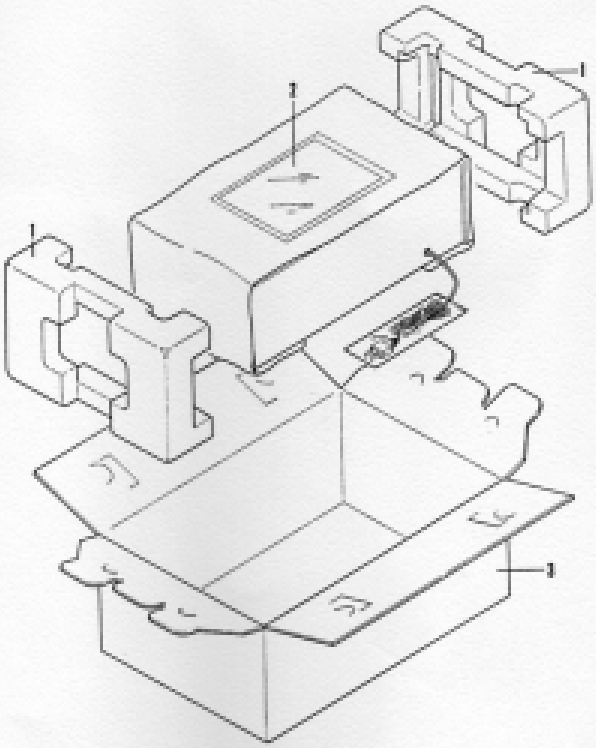
Fuse Assembly (GWX-344)

Part No.	Symbol & Description	
⚠ ACG-017	C1	Ceramic capacitor

Headphone Assembly (GWX-345)

Part No.	Symbol & Description	
RS1P □□□J	R1, R2	
RD¼PM □□□J	R3, R4	
AKN-023		Phone jack (PHONES)

10. PACKING



Key No.	Part No.	Description
1.	AHA-188	Side pad
2.	ARB-324	Operating instructions
3.	AHD-691	Packing case

11. SUPPLEMENS FOR MODEL SA-608/KU.

Model SA-608/KU is the same as SA-6800/KU with exception of description in this supplements.

Contrast of Miscellaneous Parts

Symbol	Description	Part No.		
		SA-608/KU	SA-6800/KU	
	Front panel assembly	ANB-758	ANB-735	
	Bonnet cover	ANE-250	.....	
	Top cover	.....	AMS-023	
	Side cover (L)	.....	AMS-024	
	Side cover (R)	.....	AMS-025	
	Packing case	AHD-707	AHD-691	
	Side pad	AHA-189	AHA-188	
	Operating instructions	ARB-333	ARB-324	K. MOORLAG

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(ART-389-0)

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