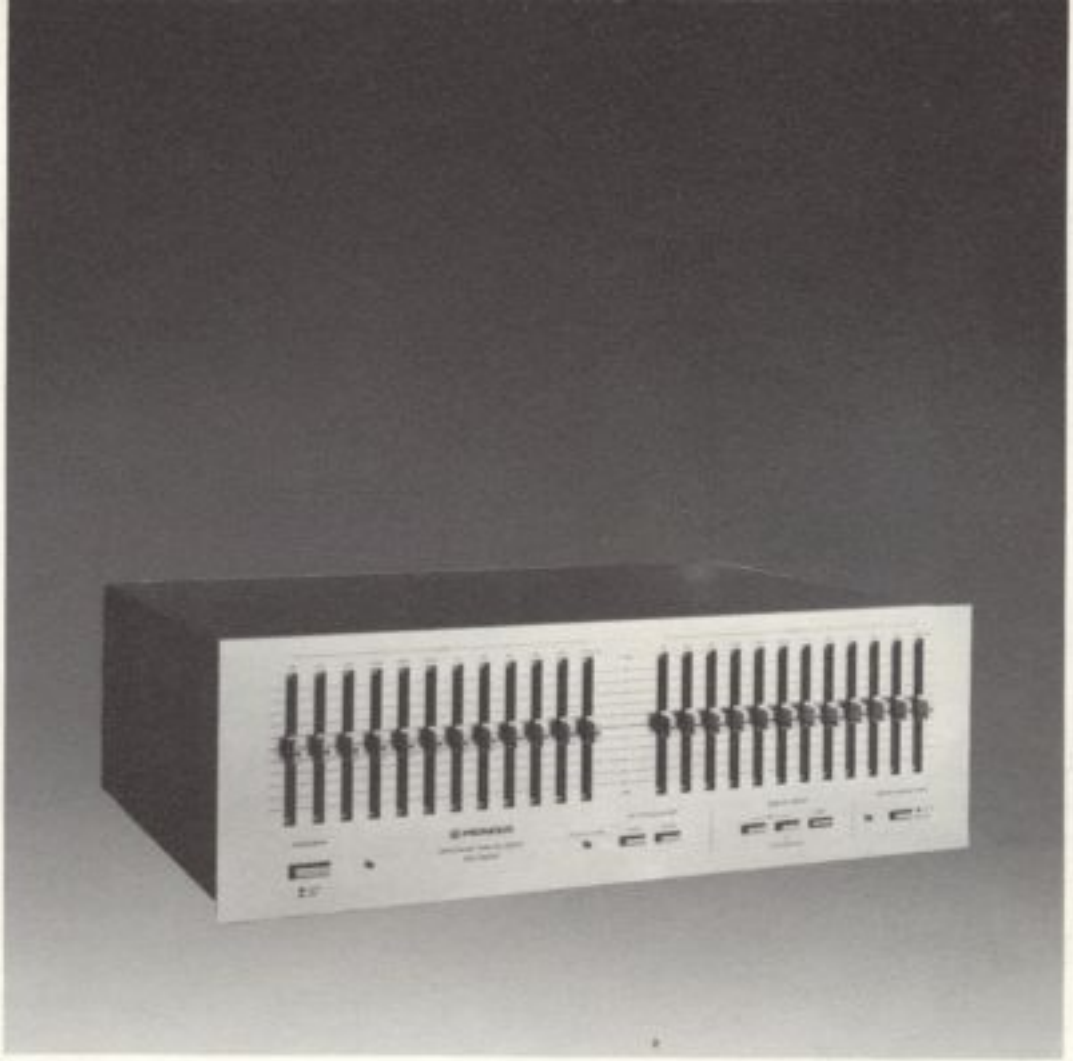


Service Manual

GRAPHIC EQUALIZER

SG-9800

PIONEER

MODEL SG-9800 COMES IN SIX VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
KU	120V	U.S.A. model
KC	120V	Canada model
R	110V-120V and 220V-240V (Switchable)	General export model
R/G	110V-120V and 220V-240V (Switchable)	U.S. Military model
WE	220V and 240V	Europe model
WB	220V and 240V	United Kingdom model

- **This service manual is applicable to the KU type. When repairing the KC, R and R/G types, please see the additional in this service manual (p25-p29). When repairing the WE and WB types, please see the additional service manual (ART-364).**

CONTENTS

1. SPECIFICATIONS

Semiconductors

ICs 27
FETs 2
Transistors 14
Diodes 19

Equalizer Section

Equalizer Range
(Individual channel adjust) . . . . . ±10dB,
16Hz, 32Hz, 64Hz, 125Hz, 250Hz, 500Hz,
1kHz, 2kHz, 4kHz, 8kHz, 16kHz, 32kHz
Total Harmonic Distortion
20Hz – 20kHz, All Control; Flat, Output: 1V 0.006%
10Hz – 30kHz, All Control; Flat, Output: 1V 0.02%
1kHz, All Control; Max., Output: 3V 0.01%
1kHz, All Control; Flat, Output: 2V 0.005%
1kHz, All Control; Min., Output: 1V 0.02%
Insertion Loss . . . . . 0dB (Control; Flat)
Max. Output Voltage
(1kHz, THD.: 0.02%, RL 47kΩ) 7.5V
Frequency Response . . . . . 5Hz – 100kHz $^{+0}_{-3}$dB
Signal to Noise Ratio
(IHF, A Network, short circuited, 1V Output) 92dB
Input Impedance 50kΩ
Output Impedance 600Ω

Miscellaneous

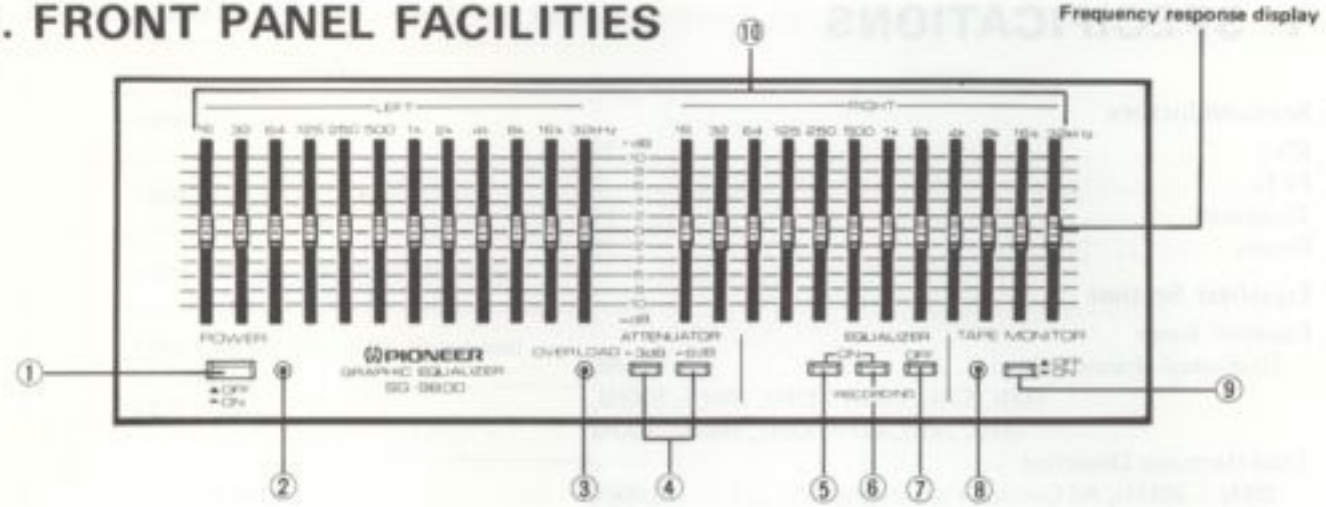
Power Requirements 120V, 60Hz
Power Consumption . . . . . 25W(UL), 30VA (CSA)
Dimensions . . . . . 420(W) x 150(H) x 355(D)mm
16-1/2 x 5-7/8 x 14in
Weight 7.1kg, 15lb 8oz

Furnished Parts

Connection Cord with Pin Plugs 2
Operating Instructions 1

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

2. FRONT PANEL FACILITIES



① POWER SWITCH

Power is supplied to the model SG-9800 when this switch is depressed. The power indicator comes on as soon as the power is supplied.

② POWER INDICATOR

This comes on as soon as the SG-9800's power switch is set to ON to indicate that power is being supplied.

③ OVERLOAD INDICATOR

This indicator comes on when the octave control is set too high and the peaks come in only part of the frequencies, or when a strong input signal is applied directly from the preamplifier. Adjust the attenuator switch and the octave control across a range where this indicator does not light up.

④ ATTENUATOR SWITCHES

These are used to attenuate the input signal before equalization. Under normal conditions, operate the octave control knob with the switches at the 0dB (released) position. When a program has a wide dynamic range or when the overload indicator comes on, depress either the −3dB or −6dB switch.

⑤ EQUALIZER ON SWITCH

Depress this switch to equalize the signals fed from the EQUALIZER INPUT jacks. The frequency response display will come on, and signals featuring an equalization only will be fed out from the model SG-9800's OUTPUT jacks.

⑥ EQUALIZER ON RECORDING SWITCH

Depress this switch when recording a program source whose signals feature an equalization onto a tape in a deck connected to the model SG-9800's TAPE jacks. This will allow signals with the equalizing sound to be made available from both the SG-9800's OUTPUT jacks and the TAPE REC jacks.

⑦ EQUALIZER OFF SWITCH

Depress this switch to cut off the equalization effect. This will allow signals without an equalizing sound to be made available from both the SG-9800's OUTPUT jacks and the TAPE REC jacks.

NOTE:
The equalizer on switch, the equalizer on recording switch and equalizer off switch are all coupled. When you depress one switch, make sure that all the others are released. Do not depress more than one switch at a time.

⑧ TAPE MONITOR INDICATOR

This comes on when the tape monitor switch is depressed.

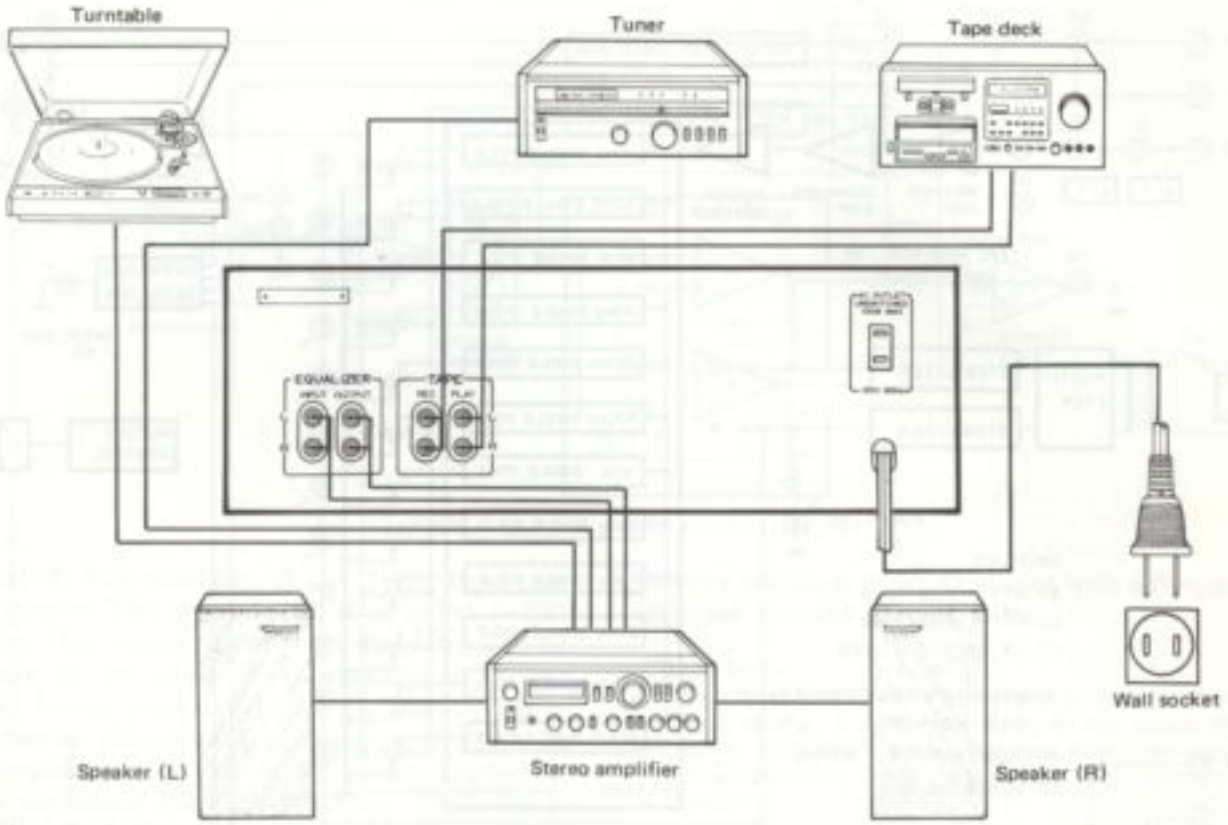
⑨ TAPE MONITOR SWITCH

Depress this switch to monitor the sound on the tape as it is being recorded or when playing back a tape using a tape deck connected to the SG-9800's TAPE jacks. (The tape monitor indicator comes on.)

⑩ OCTAVE CONTROLS

These controls provide continuous level variation of its indicated frequency from −10dB to +10dB. Each frequency segment becomes enhanced when its control is positioned above center (0) and attenuated when positioned below center. With all controls set to 0, the input signal is fed to the OUTPUT jacks unchanged. The frequency response display on the octave controls displays the level variation of the frequency response of the output signals.

3. CONNECTION DIAGRAM



CONNECTIONS TO STEREO AMPLIFIER

Use the accessory connecting cords to connect the EQUALIZER INPUT and OUTPUT jack on the SG-9800 to the TAPE REC and TAPE PLAY jacks on a stereo amplifier (Fig. 1). Take care not to reverse L (left) and R (right) channels, and make sure connection securely.

TAPE DECK CONNECTIONS

SG-9800 is provided with recording output jacks and playback input jacks for adding equalization to the program source to be recorded or the playback signals.

Connections for recording

Connect the recording input jacks (INPUT) on the tape deck to the TAPE REC jacks on the SG-9800.

Connections for playback

Connect the playback output jacks (OUTPUT) on the tape deck to the TAPE PLAY jacks on the SG-9800.

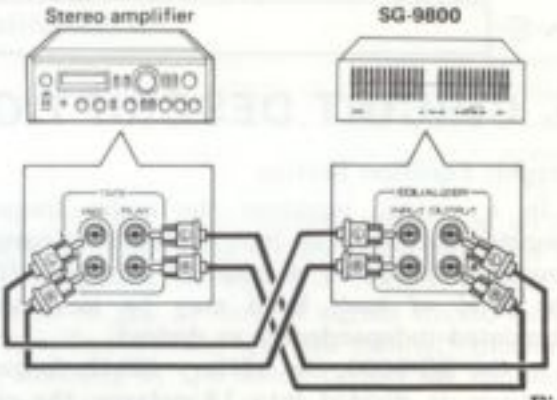


Fig. 1

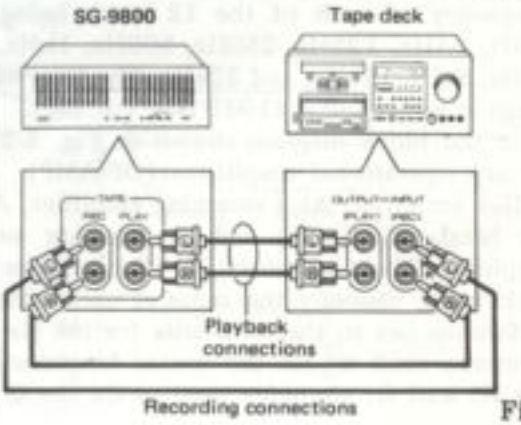
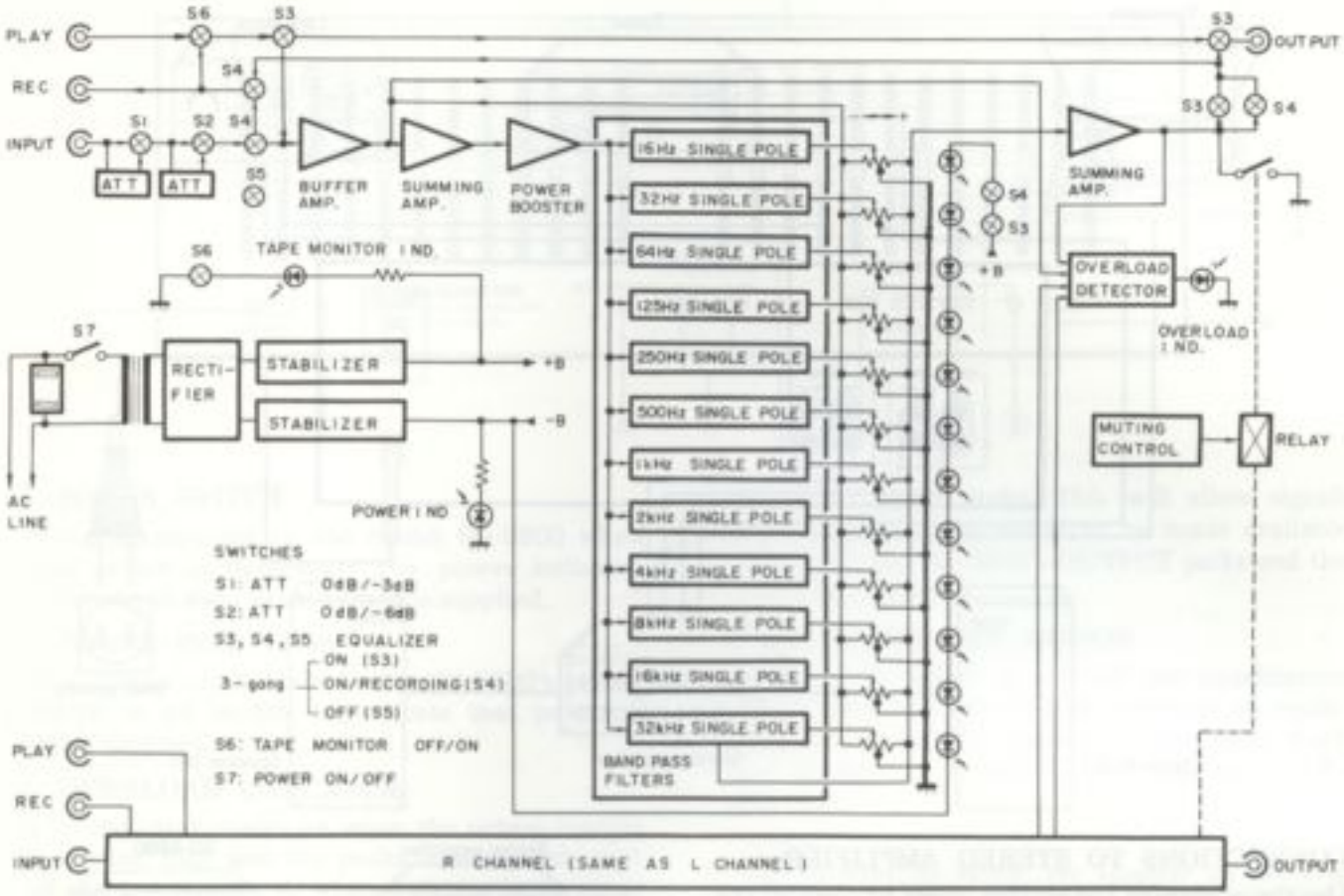


Fig. 2

4. BLOCK DIAGRAM



5. CIRCUIT DESCRIPTIONS

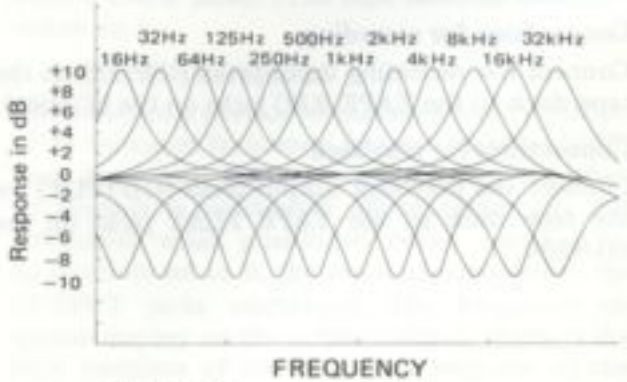
Graphic Equalizer Section

In a graphic equalizer the audio frequency spectrum is divided up into a number of narrower frequency bands by a range of band-pass filters. The level of each band may be increased or attenuated independently as desired.

In the SG-9800, the 16Hz ~ 32kHz frequency spectrum is divided into 12 octaves, the center frequency of each of the 12 bands being 16Hz, 32Hz, 64Hz, 125Hz, 250Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz, 16kHz, and 32kHz. The level variation range in each band is ±10dB (see Fig. 5-1).

In the block diagram shown in Fig. 5-2, A_1 to A_5 are operational amplifiers (OP-AMP). A_1 is a buffer amplifier, A_2 a summing amplifier, A_3 and A_4 band-pass filters, and A_5 another summing amplifier. There is a total of 12 band-pass filters, each being basically the same as each other. The difference lies in the constants for the R_0 and C_0 elements used to fix the center frequencies, and the R_1 and R_2 elements used to fix the Q values.

After passing through A_1, the input signal is inverted by A_2 (see Fig. 5-2), and then applied to the band-pass filters via a power booster stage. The output is then either fed back to the input of A_2 (summing amplifier) or passed on to A_5 (the other summing amplifier) depending on the position of the level control VR, thereby determining whether the level for the relevant band is boosted or



Fir. 5-1 Octave control variation curve

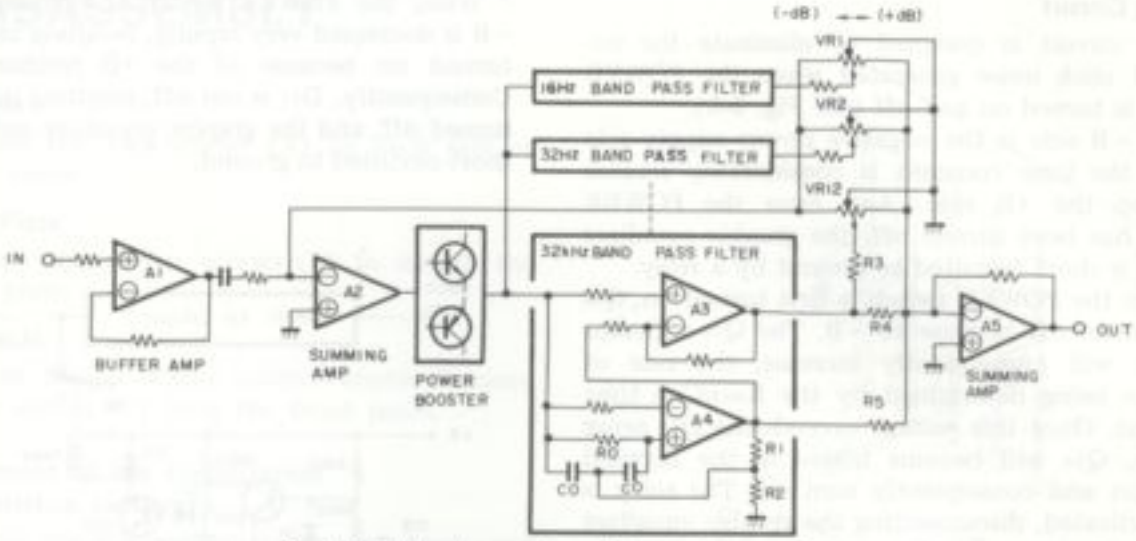


Fig. 5-2 Block diagram of graphic equalizer section

attenuated. For example, if the 16Hz band-pass filter output VR_1 is set in an attenuation (−dB) position, the output signal from this filter will be fed back to the input of A_2, resulting in the A_2 output being attenuated by an amount proportional to the amount of negative feedback at that frequency. The A_2 output is then applied to A_5 via the notch filter (A_4)* of the 32kHz band-pass filter and R_5, and mixed with the outputs from the other band-pass filters. Consequently, the frequency response of the A_5 output will be attenuated in the 16Hz region. If VR_1 is returned to the center position (0dB), the 16Hz band-pass filter output is connected to ground, resulting in the frequency response of the A_2 output signal being made flat in the 16Hz region. The signal is simply passed via the notch filter of the 32kHz band-pass filter and R_5 to A_5.

If VR_1 is set in a booster (+dB) position, the band-pass filter output is applied to A_5 where it is added to the signal output from the notch filter of the 32kHz band-pass filter and R_5 (which has a flat frequency response in the 16Hz region), thereby resulting in an A_5 output with a frequency response boosted around 16Hz.

Notch Filter

The characteristic curve described by notch filters is outlined in Fig. 5-3. For example, in the notch filter employed with the 32kHz band-pass filter, the gain at 32kHz is attenuated, while the gain at all other frequencies is constant.

Overload Detector

This circuit is employed to detect the presence of signal levels in excess of a certain maximum level (approx. 8Vrms) at the left and right channel input and output stages, and subsequently activate the OVERLOAD indicator lamp (see Fig. 5-4).

The left and right channel input and output signals are applied via the D_5 ~ D_8 diodes to the base of Q_{32} of the Q_{32}/Q_{33} Schmitt trigger. If the level of any of these 4 signals should exceed the specified 8Vrms, Q_{32} will turn off (normally on), resulting in Q_{33} being turned on (normally off) and the OVERLOAD indicator lamp (D_{19}) lighting up.

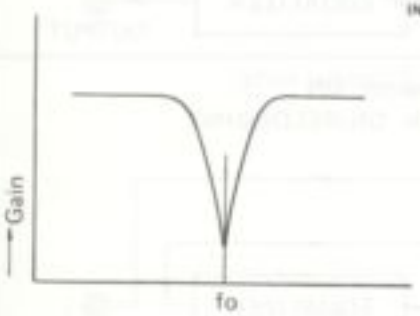


Fig. 5-3

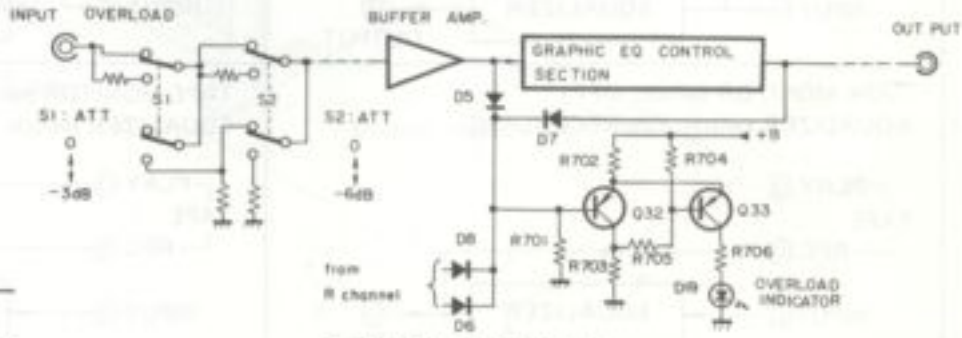


Fig. 5-4 Overload detector

Muting Circuit

This circuit is designed to eliminate the unwanted click noise generated when the POWER switch is turned on and off (see Fig. 5-5).

The −B side is the negative power supply side where the time constant is considerably smaller than on the +B side. And once the POWER switch has been turned off, the graphic equalizer output is short circuited to ground by a relay.

When the POWER switch is first turned on, Q_{34} will remain off because of −B. The Q_{34} collector voltage will consequently increase, the rate of increase being determined by the R_{803}/C_{802} time constant. Once this voltage exceeds the D_{11} zener voltage, Q_{35} will become biased in the forward direction and consequently turn on. The relay is then activated, disconnecting the graphic equalizer output from ground. This whole operation takes about 5 seconds. /

/ When the POWER switch is turned off again, −B is decreased very rapidly, resulting in Q_{34} being turned on because of the +B residual voltage. Consequently, D_{11} is cut off, resulting in Q_{35} being turned off, and the graphic equalizer output being short-circuited to ground.

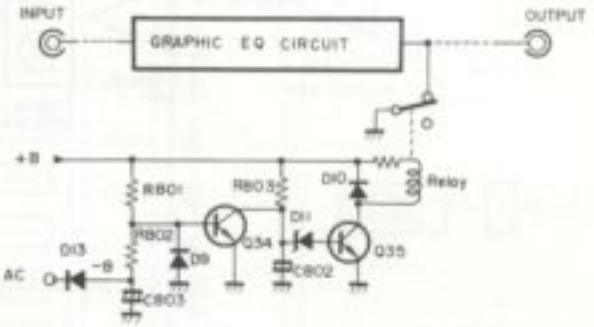


Fig. 5-5 Muting circuit

Signal Path

The input and output terminals, and the graphic equalizer circuit of the SG-9800 are connected by operation of the TAPE MONITOR and EQUALIZER switches as shown in Table 1.

Table 1

TAPE MONITOR switch: OFF EQUALIZER switch: OFF PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT	TAPE MONITOR switch: ON EQUALIZER switch: OFF PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT
TAPE MONITOR switch: OFF EQUALIZER switch: ON PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT	TAPE MONITOR switch: ON EQUALIZER switch: ON PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT
TAPE MONITOR switch: OFF EQUALIZER switch: ON/RECORDING PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT	TAPE MONITOR switch: ON EQUALIZER switch: ON/RECORDING PLAY / TAPE / REC, INPUT → EQUALIZER → OUTPUT

6. DISASSEMBLY

Top Cover

Remove the two screws (A) on each side of the top cover.

Bottom Plate

Remove the eleven screws (B) to detach the bottom plate.

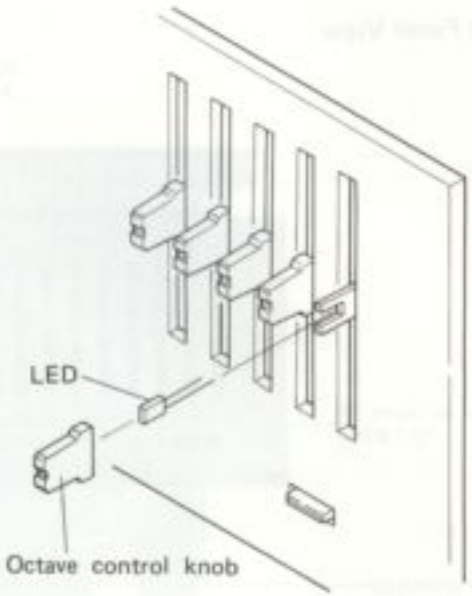
Front Panel

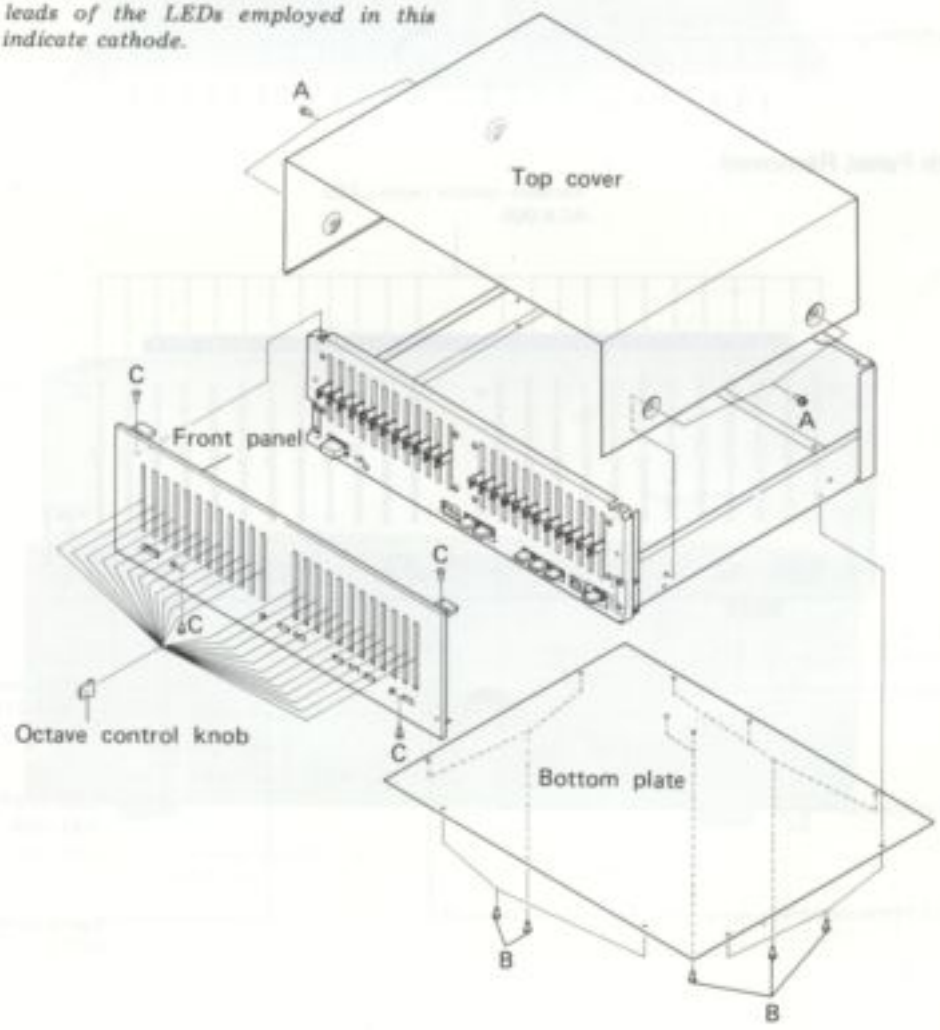
Remove the all octave control knobs. Remove the four screws (C) from the front panel.

Replacement of the Equalization Characteristics Indicators

1. Pull off the relevant octave control knob, and extract the defective LED (Equalization Characteristics Indicator).
2. Insert a new LED into the octave control shaft, checking the short LED lead is face up.

Note: The short leads of the LEDs employed in this equipment indicate cathode.

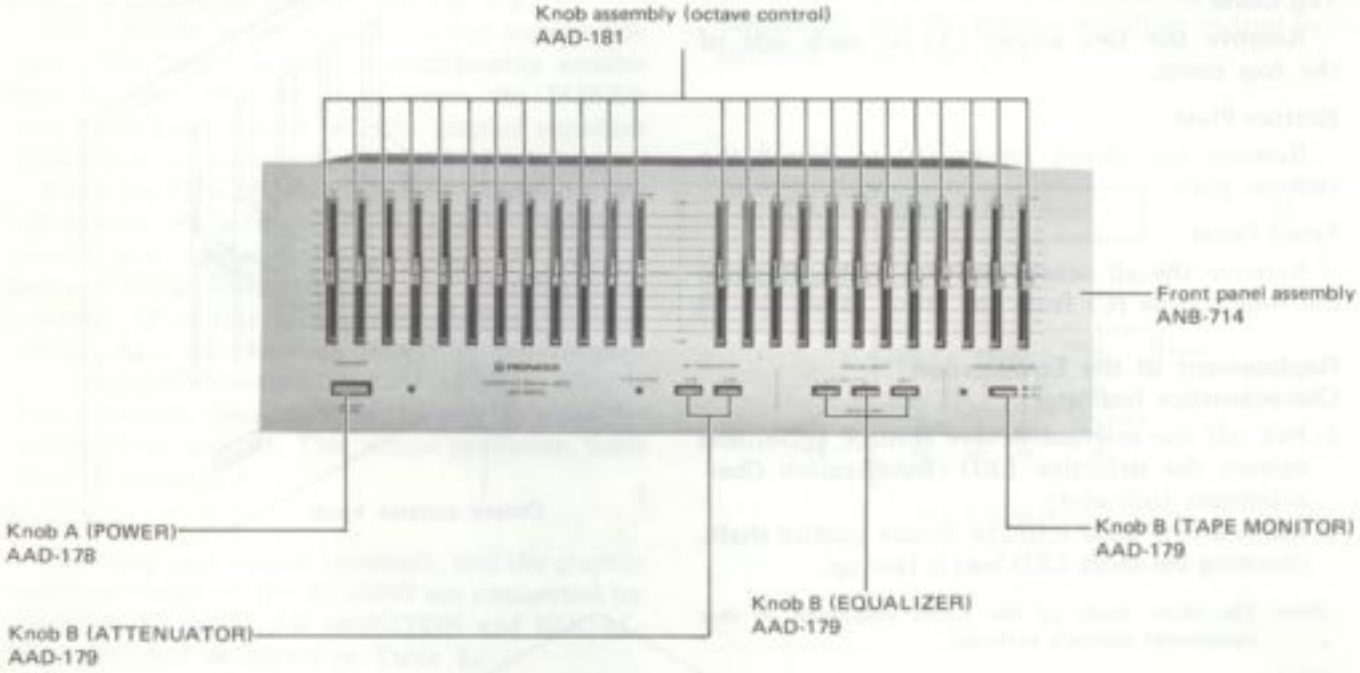




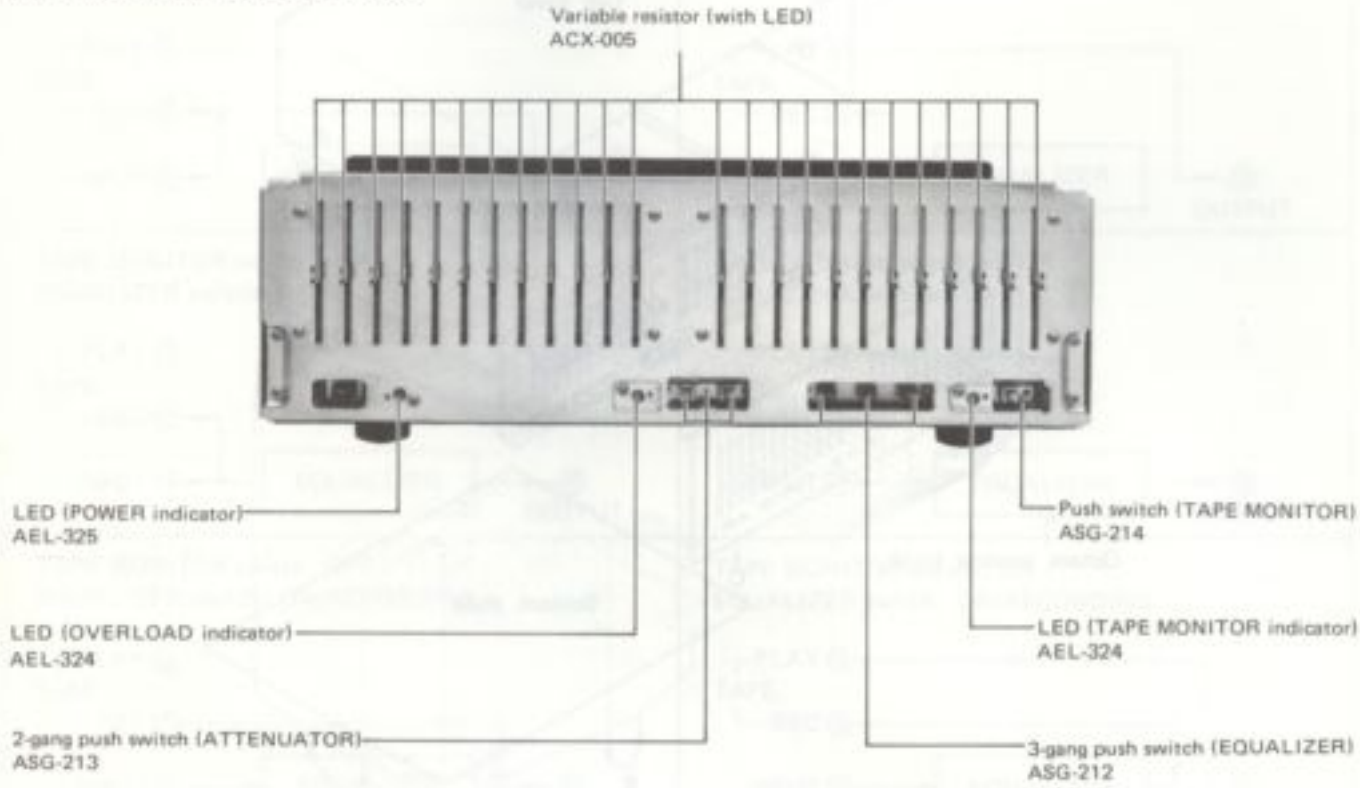
7. PARTS LOCATION

- *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.*

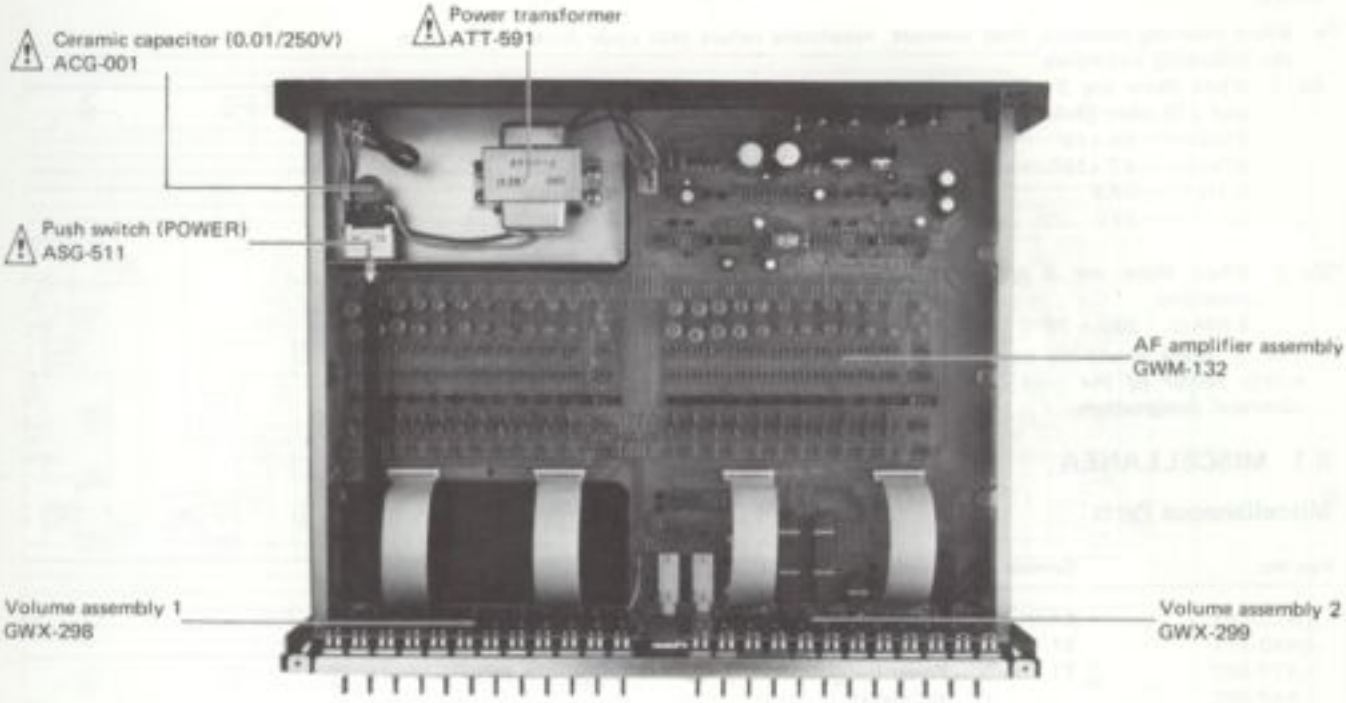
Front Panel View



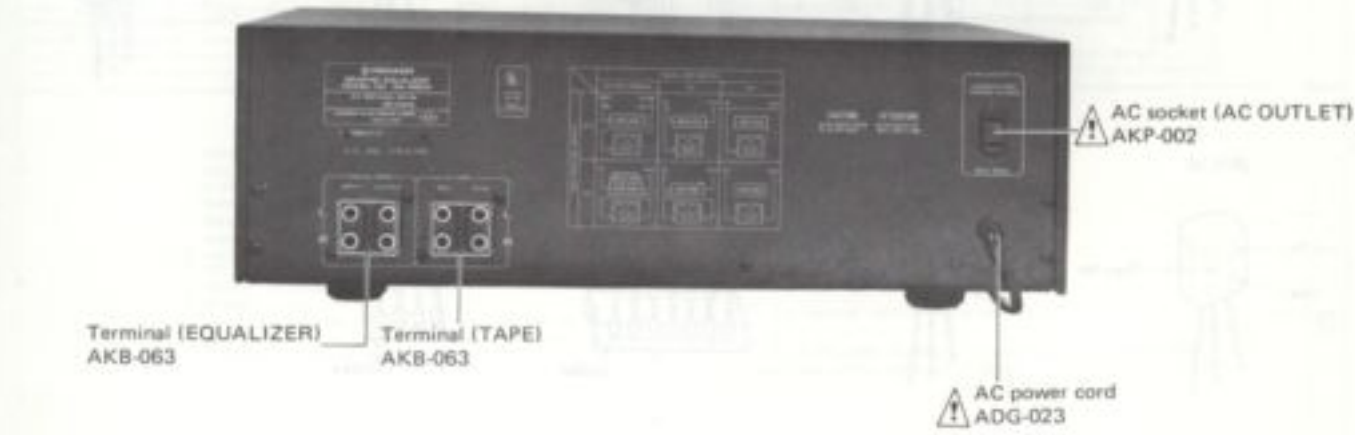
Front View with Panel Removed



Top View with Top Cover Removed



Rear Panel View



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

NOTE:

- *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 x 10¹*	*561*	*RD¼PS [2][B][1] J*
47kΩ	*47 x 10³*	*473*	*RD¼PS [4][7][3] J*
0.5Ω	*0R5*		*RN2H [0][R][5] K*
1Ω	*010*		*RS1P [0][1][0] K*

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

5.62kΩ *562 x 10¹* *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.*

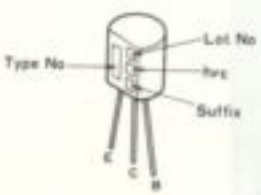
8.1 MISCELLANEA

Miscellaneous Parts

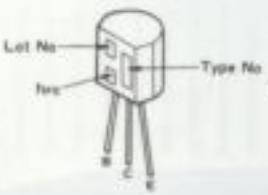
Part No.	Symbol & Description	
⚠ACG-001	C1	Ceramic capacitor
⚠ASG-511	S7	Push switch (POWER)
⚠ATT-591	T1	Power transformer
⚠AKP-002		AC socket
⚠ADG-023		AC power cord

External Appearance of Transistors and ICs

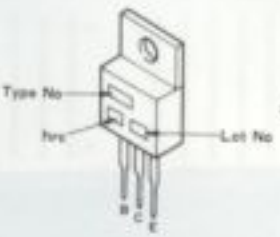
2SA872A
2SA733A
2SC1775A
2SC945A



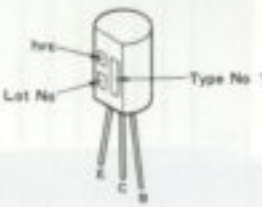
2SA1100
2SC2575



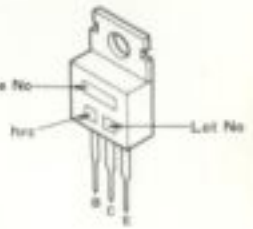
2SB507



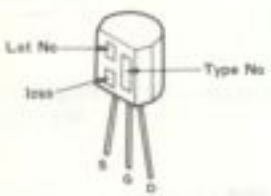
2SC1384



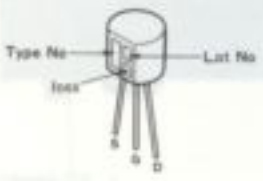
2SD313



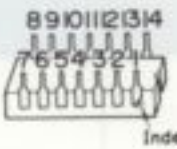
2SK34



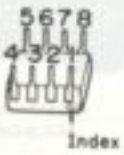
2SK30A



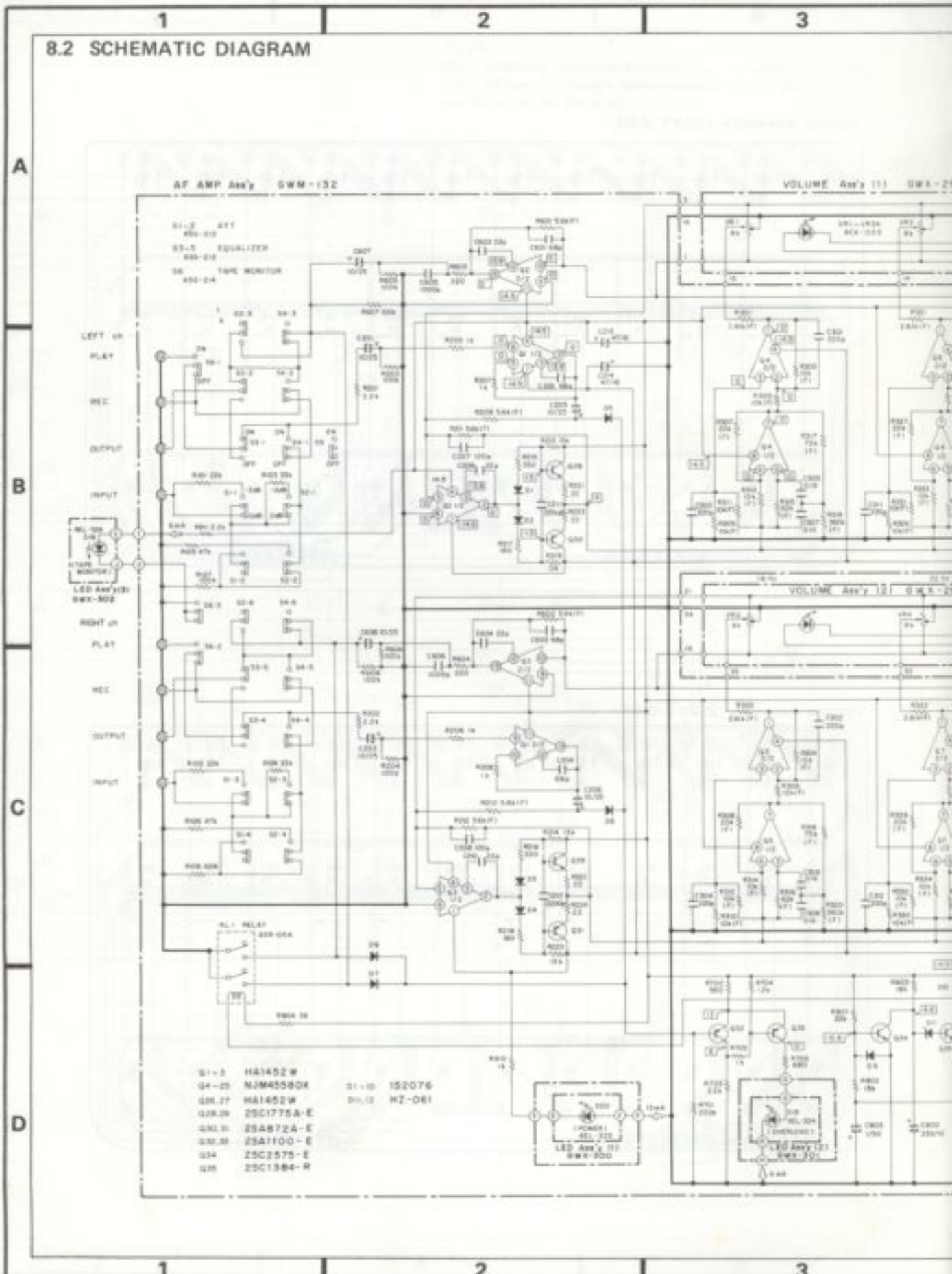
HA1452W

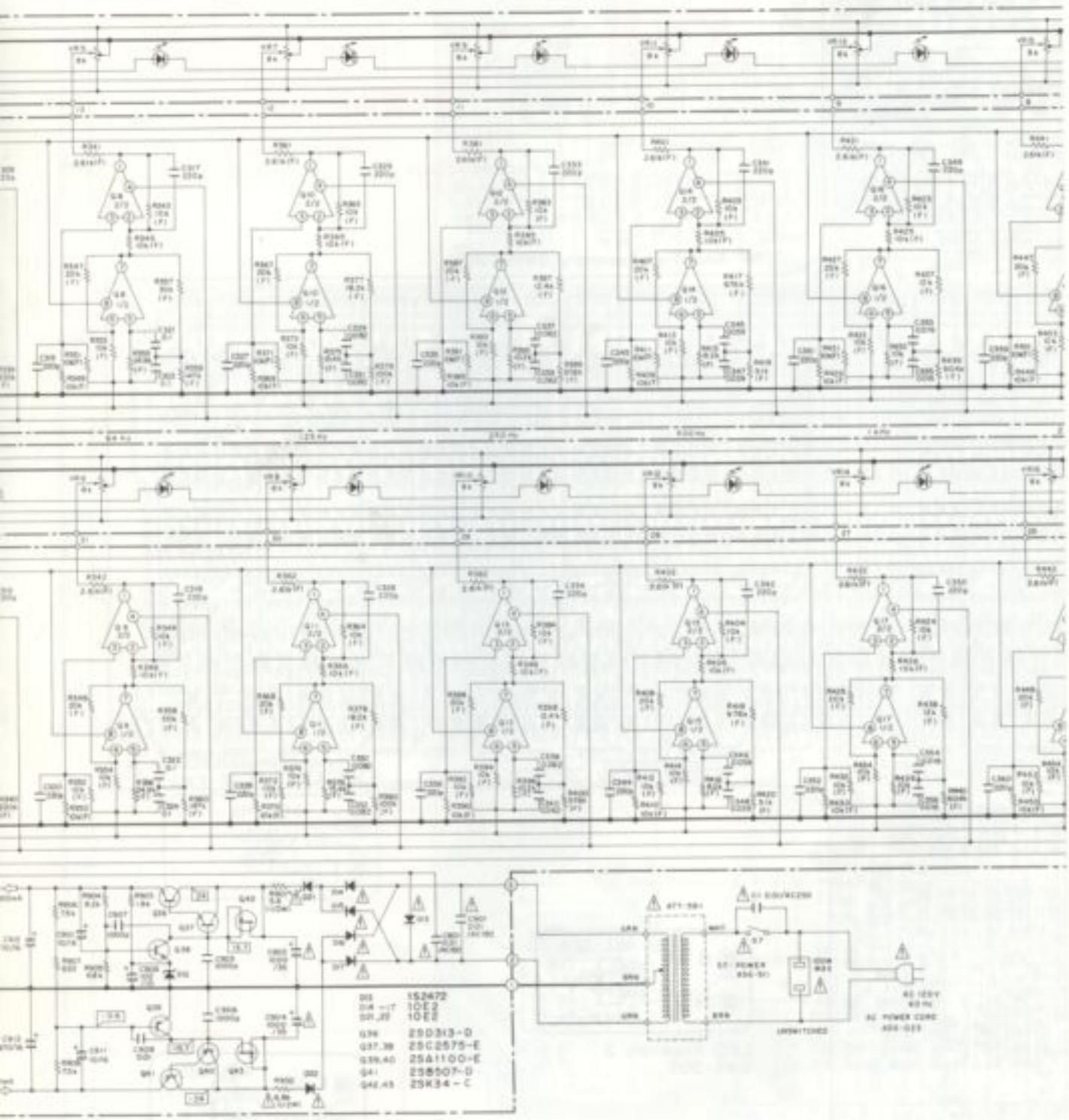


NJM4558DX



8.2 SCHEMATIC DIAGRAM





7	8	9

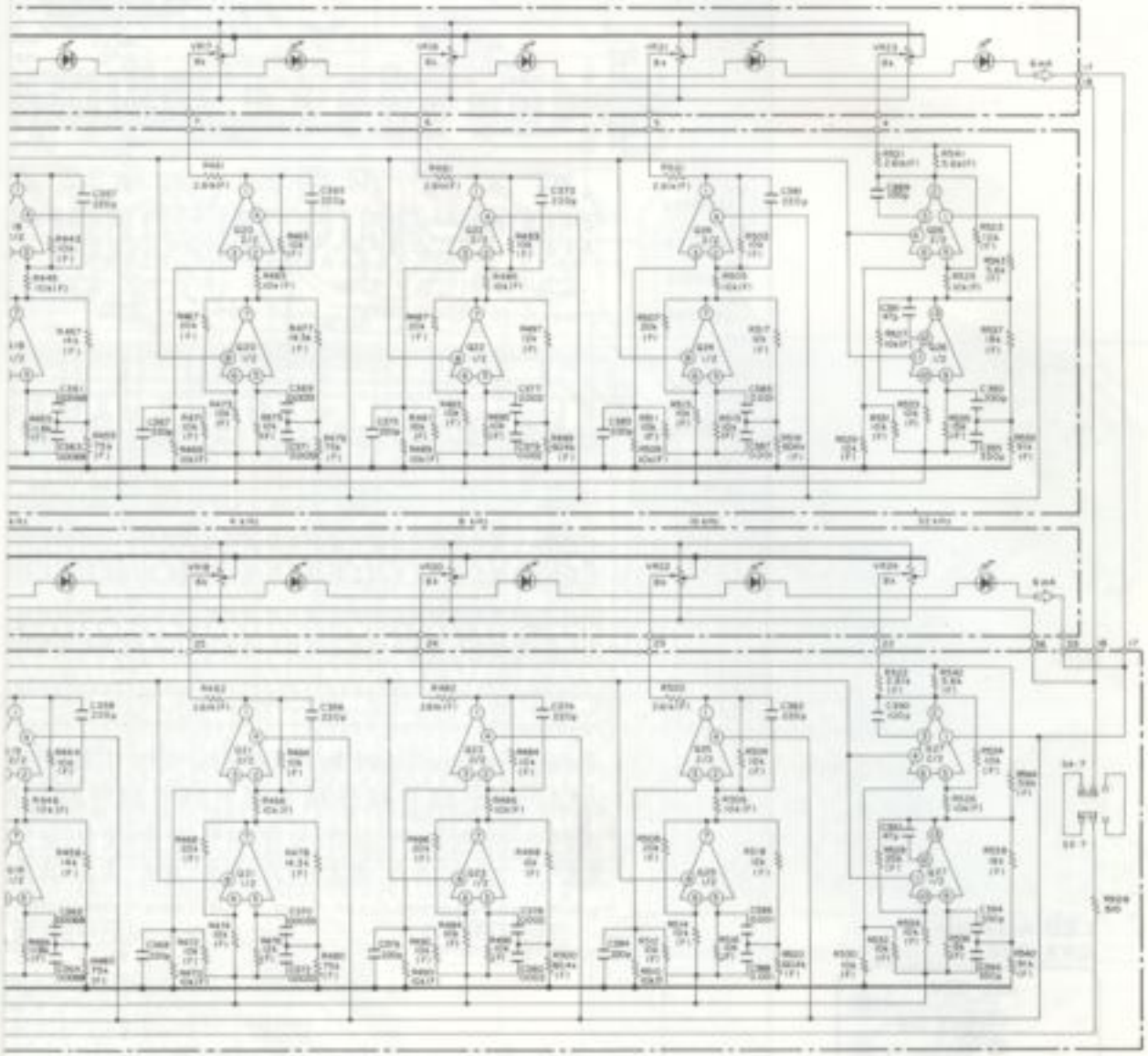
NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

A

B

C

D



1. RESISTORS:
   Indicated in Ω, (1/4W, ±5% tolerance unless otherwise noted
   e.g. kΩ, M MΩ, (F): ±1%, tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p: pF
   Indication without voltage is 50V except electrolytic capacitor
3. VOLTAGE, CURRENT:
   □ : DC voltage (V) at no input signal
   ◇ 0mA : DC current at no input signal
4. OTHERS:
   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.

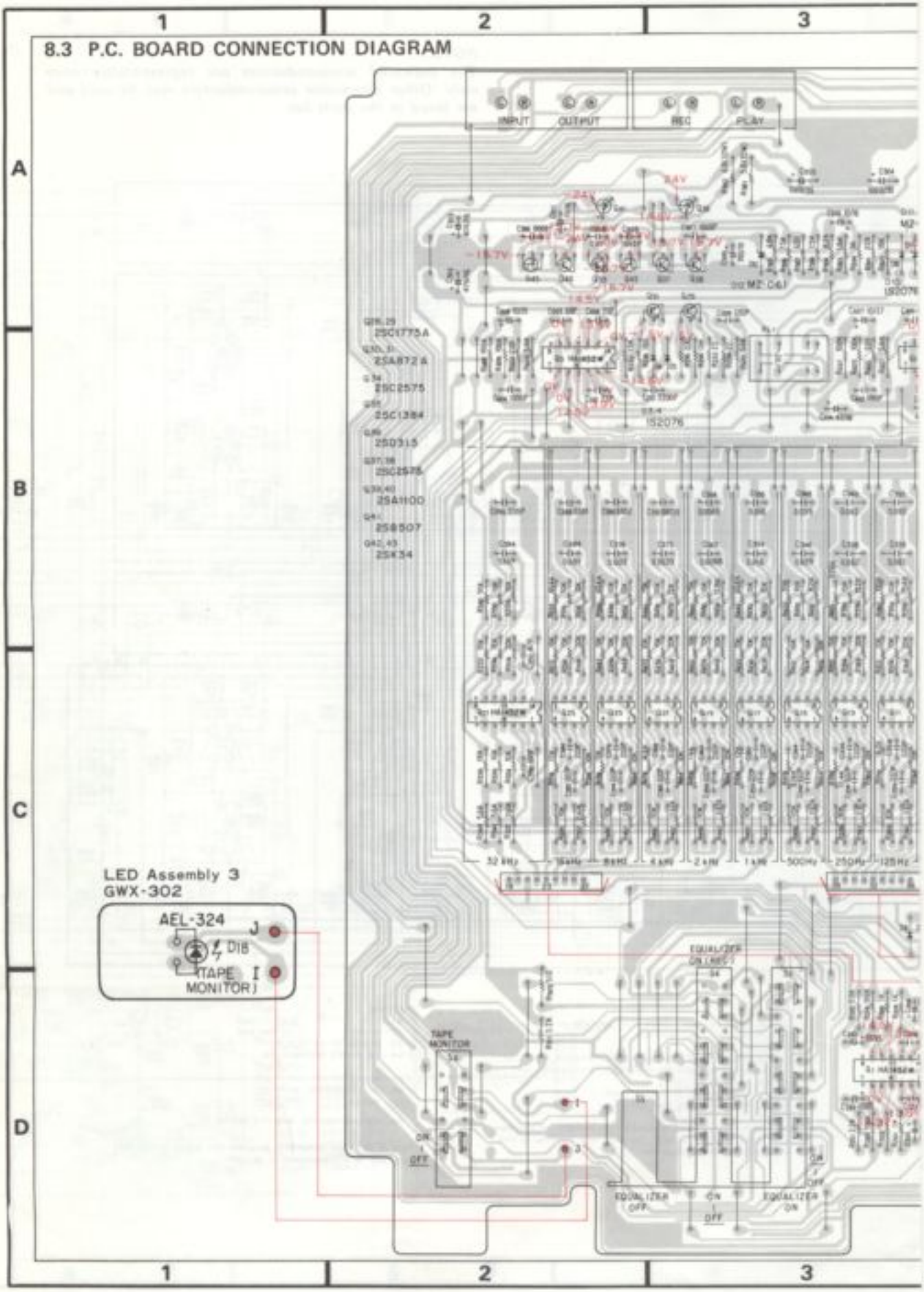
SWITCHES

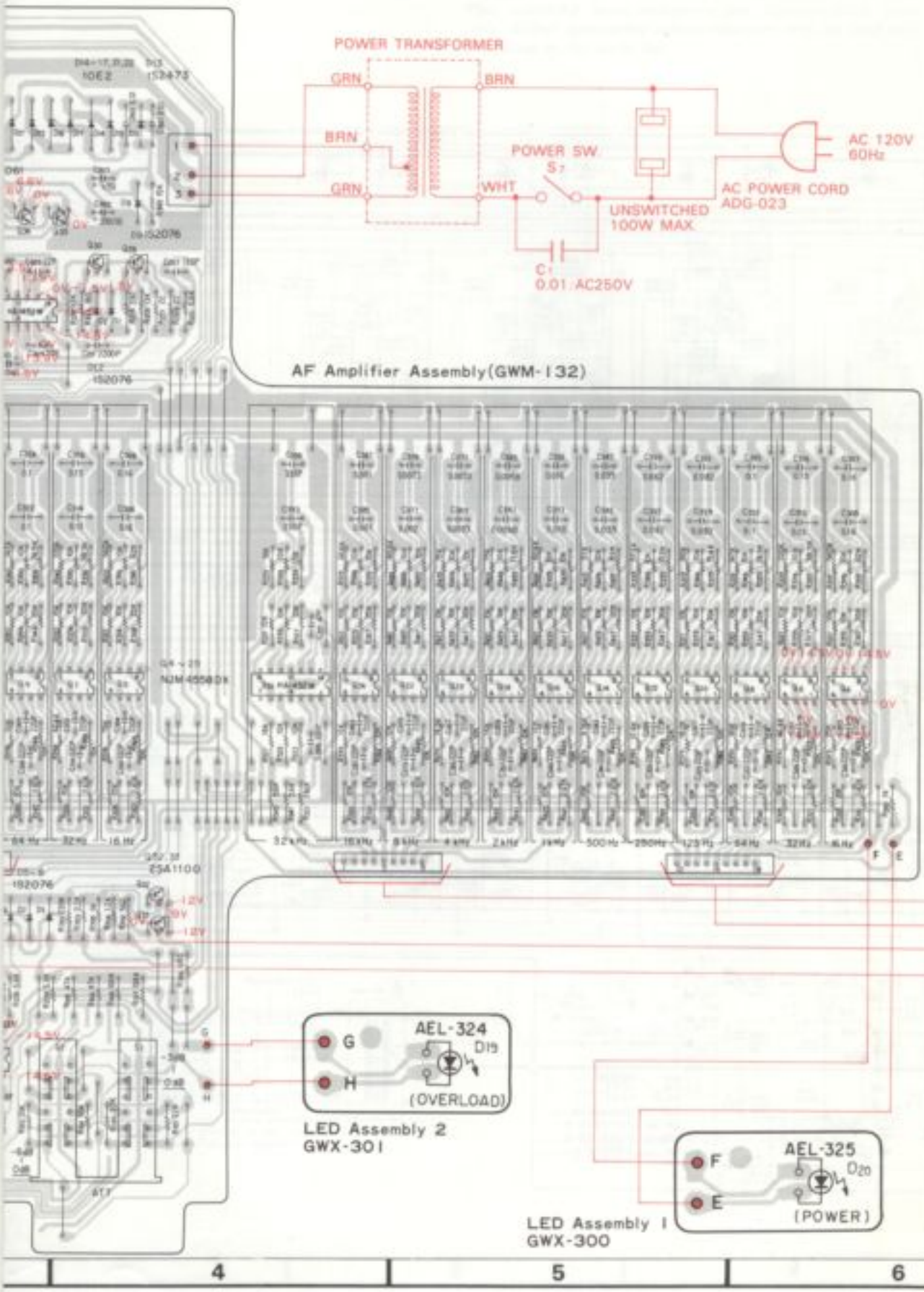
S1	ATT	0dB	—-3dB
S2	ATT	0dB	—-6dB
S3	EQUALIZER ON	ON	—OFF
S4	EQUALIZER ON (REC)	ON	—OFF
S5	EQUALIZER OFF	ON	—OFF
S6	TAPE MONITER	ON	—OFF
S7	POWER	ON	—OFF

The underlined indicates the switch position

This is the basic schematic diagram, but actual circuit may vary due to improvements in design.

8.3 P.C. BOARD CONNECTION DIAGRAM

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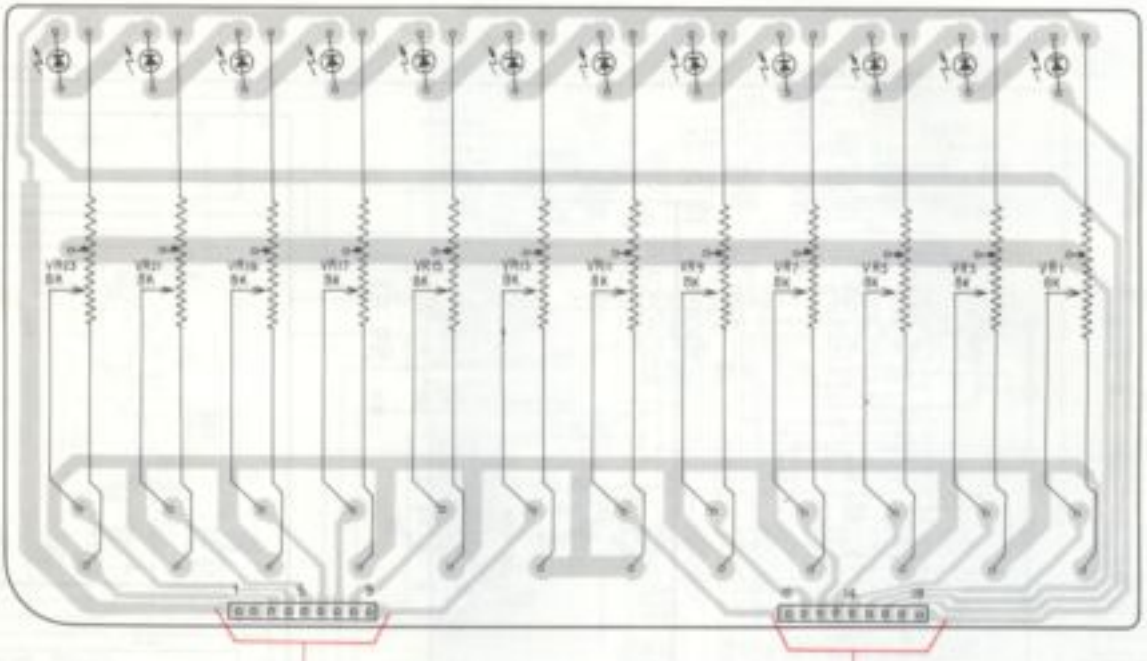
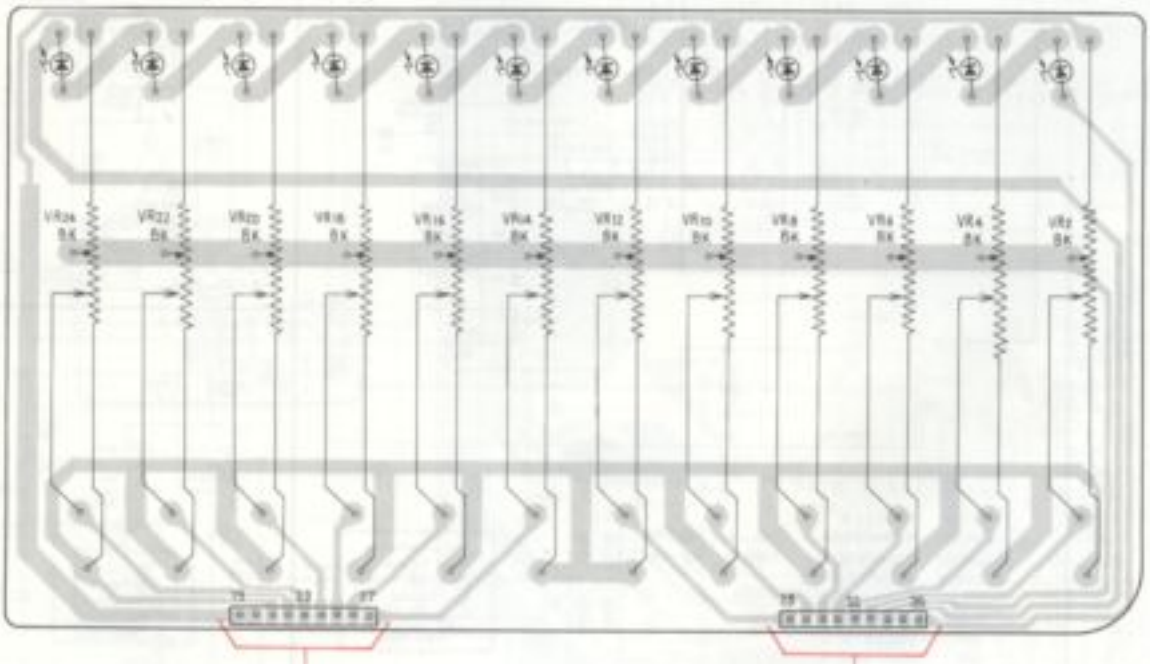
POWER TRANSFORMER
GRN
BRN
BRN
GRN
WHT
POWER SW
S7
UNSWITCHED
100W MAX
AC POWER CORD
ADG-023
AC 120V
60Hz
C1
0.01 AC250V
AF Amplifier Assembly(GWM-132)
AEL-324
D19
(OVERLOAD)
G
H
LED Assembly 2
GWX-301
AEL-325
D20
(POWER)
F
E
LED Assembly 1
GWX-300
4
5
6

Volume Assembly 1 (GWX-298)



Volume Assembly 2(GWX-299)



8.4 PARTS LIST OF P.C. BOARD ASSEMBLIES

AF Amplifier Assembly (GWM-132)

CAPACITORS

Part No.	Symbol & Description
CEANL 100M 25	C201, C202, C205, C206, C607, C608
CEA 470P 16	C213, C214
CEA 331P 10	C802
⚠CEA 102P 35	C903, C904
CEA 101P 10	C909
CEA 100P 16	C910, C911
CEA 471P 16	C912, C913
CEA 010P 50	C803
CCDSL 220K 50	C209, C210, C603, C604
CCDSL 470K 50	C391, C392
CCS SL 680K 50	C203, C204, C601, C602
CCDSL 101K 50	C389, C390
CCDSL 121K 50	C207, C208
CCDSL 221K 50	C301–C304, C309–C312, C317–C320, C325–C328, C333–C336
CCDSL 221K 50	C341–C344, C349–C352, C357–C360, C365–C368, C373–C376
CCDSL 221K 50	C381–C384
CKDYF 102Z 50	C905–C907
CKDYF 103Z 50	C908
⚠ACG-004	C801, C901,
CQMA 102J 50	C605, C606
CQMA 222J 50	C211, C212
CQPA 164G 50	C305–C308
CQPA 134G 50	C313–C316
CQPA 104G 50	C321–C324
CQPA 823G 50	C329–C332
CQPA 623G 50	C337–C340
CQPA 393G 50	C345–C348
CQPA 163G 50	C353–C356
CQSH 682G 50	C361–C364
CQSH 332G 50	C369–C372
CQSH 202G 50	C377–C380
CQSH 102G 50	C385–C388
CQSH 331G 50	C393–C396

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, R201–R208, R213–R228, R603–R608
RD¼PM □□□J	R701–R706, R801–R804, R903–R911
RN¼PQ □□□□F	R209–R212, R301–R544, R601, R602
⚠RD½PSF □□□J	R901, R902

SEMICONDUCTORS

Part No.	Symbol & Description
HA1452W	Q1–Q3, Q26, Q27
NJM 4558DX	Q4–Q25
2SC1775A	Q28, Q29
2SA872A	Q30, Q31
2SA1100-F (2SA733A-P)	Q32, Q33
2SC2575-E (2SC945A)	Q34, Q37, Q38
2SC1384	Q35
2SD313	Q36
2SA1100 (2SA733A)	Q39, Q40
2SB507	Q41
2SK34 (2SK30A)	Q42, Q43
1S2076 (1S1555)	D1–D10
MZ-061 (WZ-061)	D11, D12
⚠10E2 (SIB01-02)	D14–D17, D21, D22
1S2472	D13

SWITCHES

Part No.	Symbol & Description	
ASG-213	S1, S2	Dual push (ATTENUATOR)
ASG-212	S3, S4, S5	3-gang push (EQUALIZER)
ASG-214	S6	Push (TAPE MONITOR)

OTHERS

Part No.	Symbol & Description	
AKB-063		Terminal (TAPE, OUTPUT, INPUT)
ABA-026		Screw 3 x 6
ASR-056	RL1	Relay

Volume Assembly 1 (GWX-298)

Part No.	Symbol & Description
ACX-005	VR1, VR3, VR5, VR7, VR9, VR11, VR13, VR15, VR17, VR19, VR21, VR23 Variable resistor (with LED)
ABA-025	Screw 3 x 4

Volume Assembly 2 (GWX-299)

Part No.	Symbol & Description
ACX-005	VR2, VR4, VR6, VR8, VR10, VR12, VR14, VR16, VR18, VR20, VR22, VR24 Variable resistor (with LED)
ABA-025	Screw 3 x 4

LED Assembly 1 (GWX-300)

Part No.	Symbol & Description
AEL-325	D20 LED
ABA-065	Screw 3 x 6

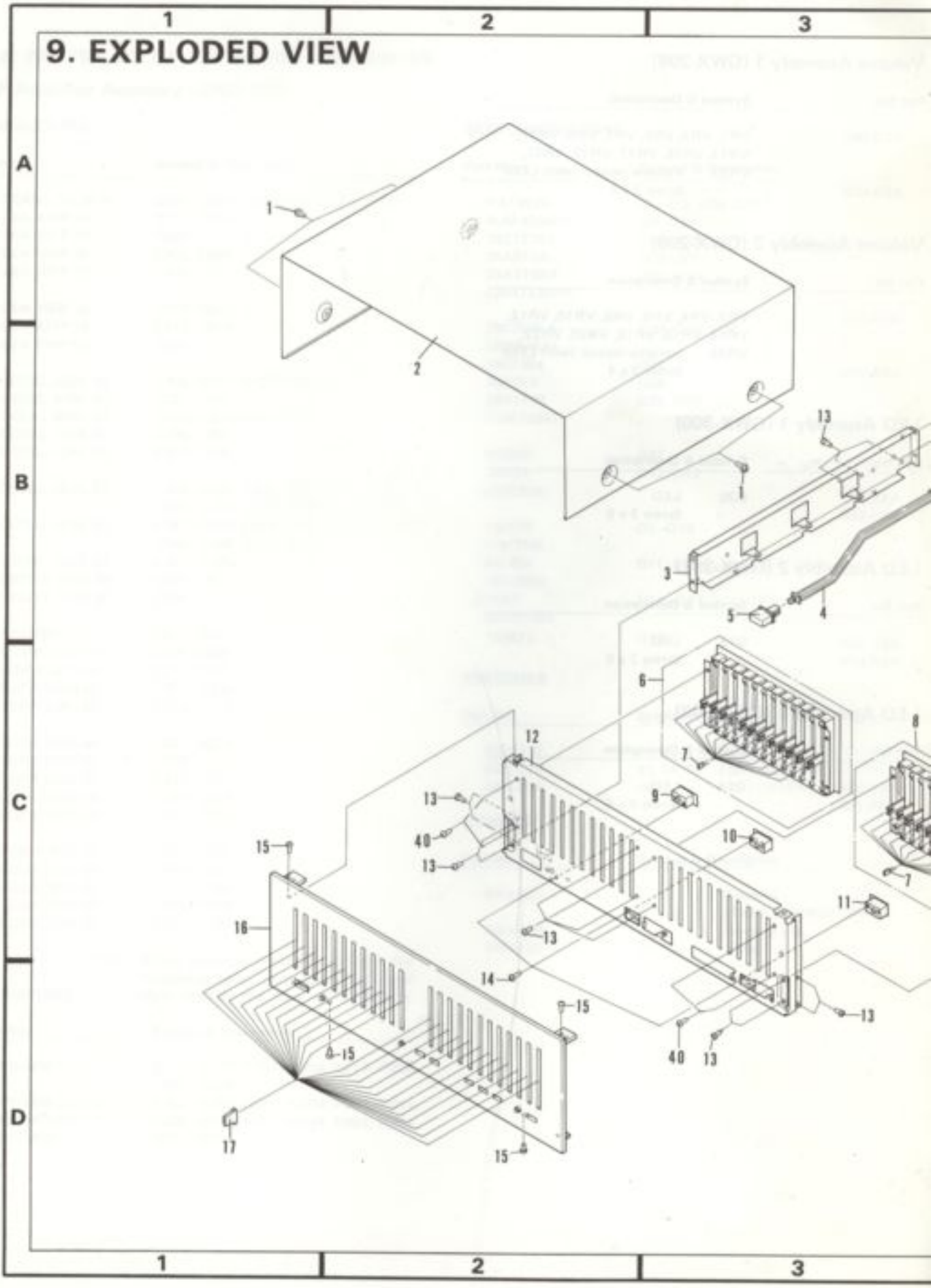
LED Assembly 2 (GWX-301)

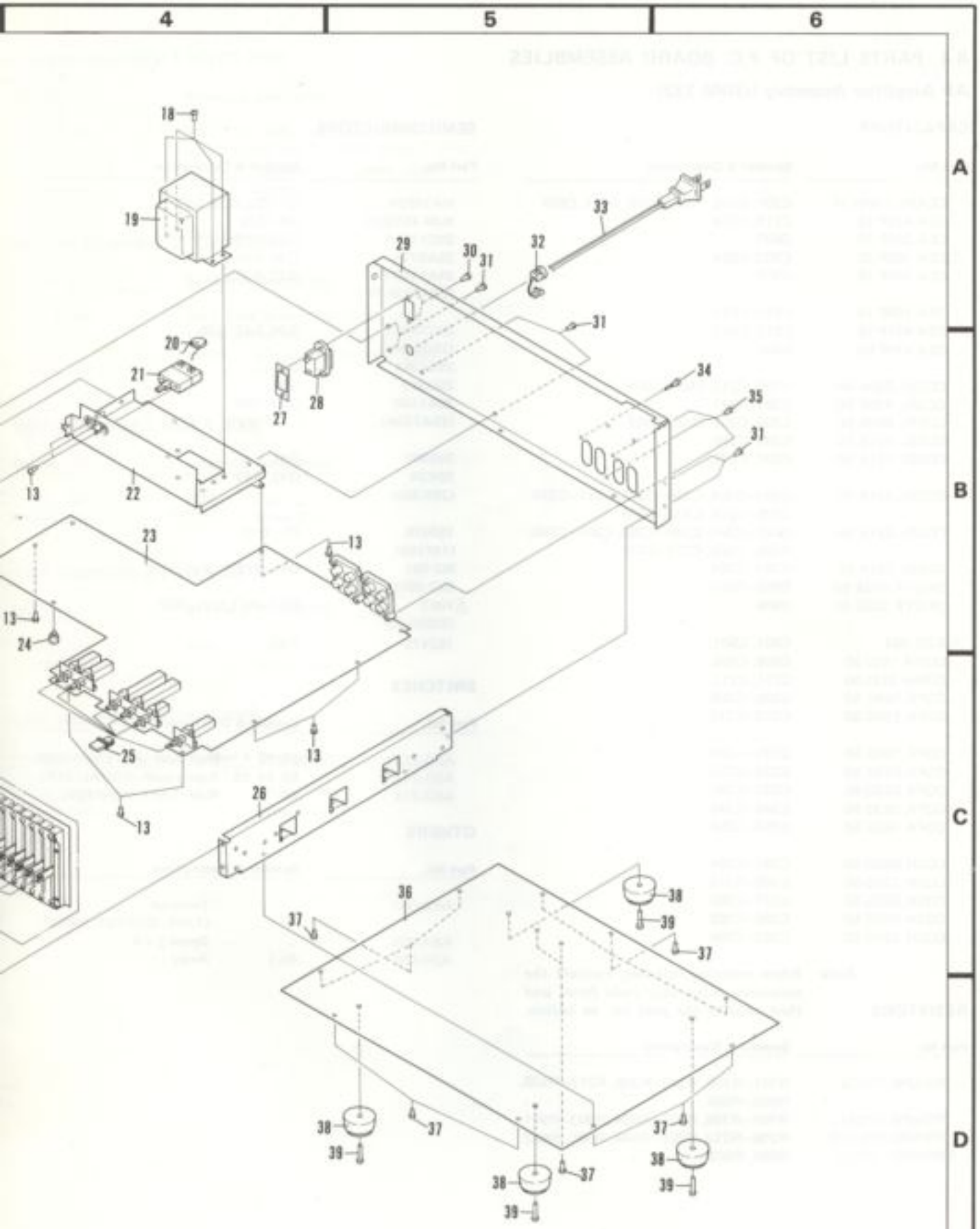
Part No.	Symbol & Description
AEL-324	D19 LED
ABA-065	Screw 3 x 6

LED Assembly 3 (GWX-302)

Part No.	Symbol & Description
AEL-324	D18 LED
ABA-065	Screw 3 x 6

9. EXPLODED VIEW

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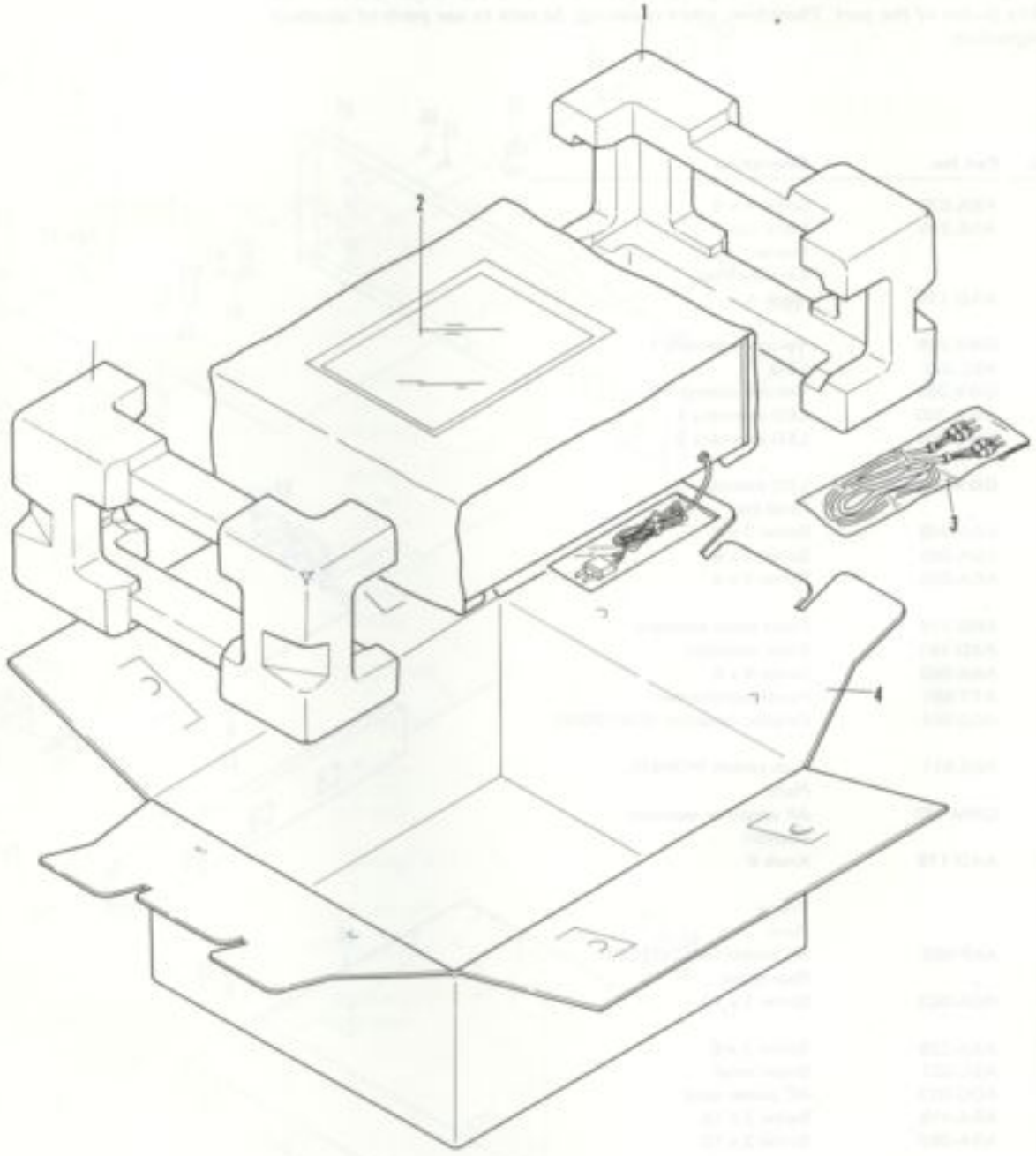
Parts List of Exploded View

NOTES:

- *Parts without part number cannot be supplied.*
- *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-079	Screw 4 x 8
2.	ANE-245	Metal cover
3.		Frame
4.		Extension bar
5.	AAD-178	Knob A
6.	GWX-298	Volume assembly 1
7.	AEL-322	LED
8.	GWX-299	Volume assembly 2
9.	GWX-300	LED assembly 1
10.	GWX-301	LED assembly 2
11.	GWX-302	LED assembly 3
12.		Panel stay
13.	ABA-048	Screw 3 x 6
14.	ABA-065	Screw 3 x 6
15.	ABA-026	Screw 3 x 6
16.	ANB-714	Front panel assembly
17.	AAD-181	Knob assembly
18.	ABA-069	Screw 4 x 8
⚠19.	ATT-591	Power transformer
⚠20.	ACG-001	Ceramic capacitor (0.01/250V)
21.	ASG-511	Push switch (POWER)
22.		Plate
23.	GWM-132	AF amplifier assembly
24.		Cushion
25.	AAD-179	Knob B
26.		Frame
27.		Plate
⚠28.	AKP-002	AC socket (AC OUTLET)
29.		Rear panel
30.	ABA-003	Screw 3 x 10
31.	ABA-228	Screw 3 x 6
32.	AEC-327	Strain relief
⚠33.	ADG-023	AC power cord
34.	ABA-115	Screw 3 x 10
35.	ABA-082	Screw 3 x 10
36.		Bottom plate
37.	ABA-140	Screw 3 x 6
38.	AEC-178	Foot assembly
39.	ABA-071	Screw 4 x 16
40.	ABA-064	Screw 3 x 6

10. PACKING



Key No.	Part No.	Description
1.	AHA-110	Side pad
2.	ARB-315	Operating instructions
3.	ADE-005	Connection cord
4.	AHD-678	Packing case

ADDITIONAL

Service Manual

PIONEER

GRAPHIC EQUALIZER

SG-9800

KC
R
R/G

- For detailed instructions on circuit descriptions, exploded view, etc., please refer to KU type.

1. SPECIFICATIONS

The specifications for KC, R, and R/G types are the same as the KU type except for following sections;

Miscellaneous

Power Requirements

KC type	120V, 60Hz
R type	110V-120V and 220V-240V (switchable) 50/60Hz
R/G type	110V-120V and 220V-240V (switchable) 50/60Hz

Power Consumption

KC type	30VA (CSA)
R type	25W
R/G type	25W

2. CONTRAST OF MISCELLANEOUS PARTS

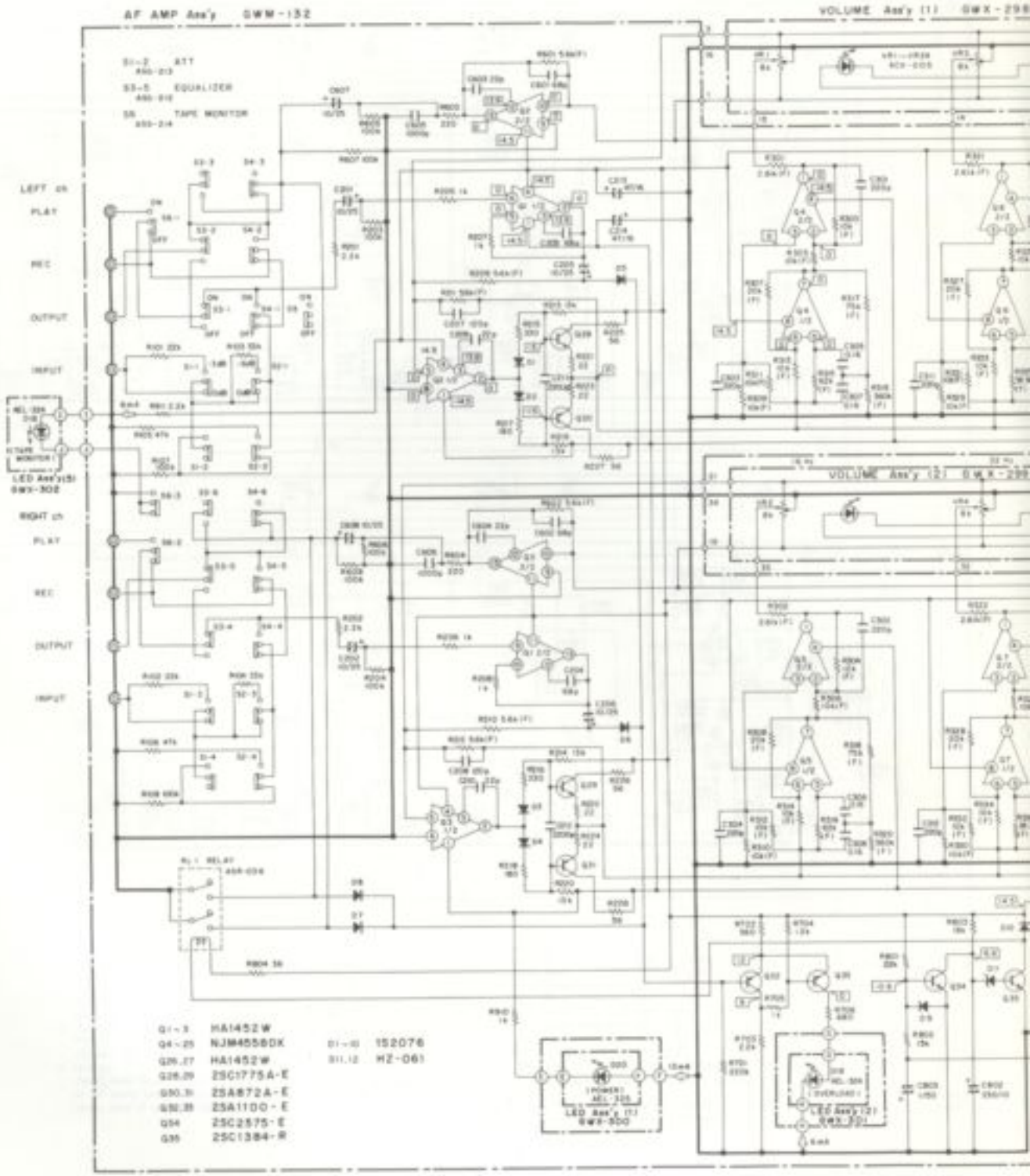
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

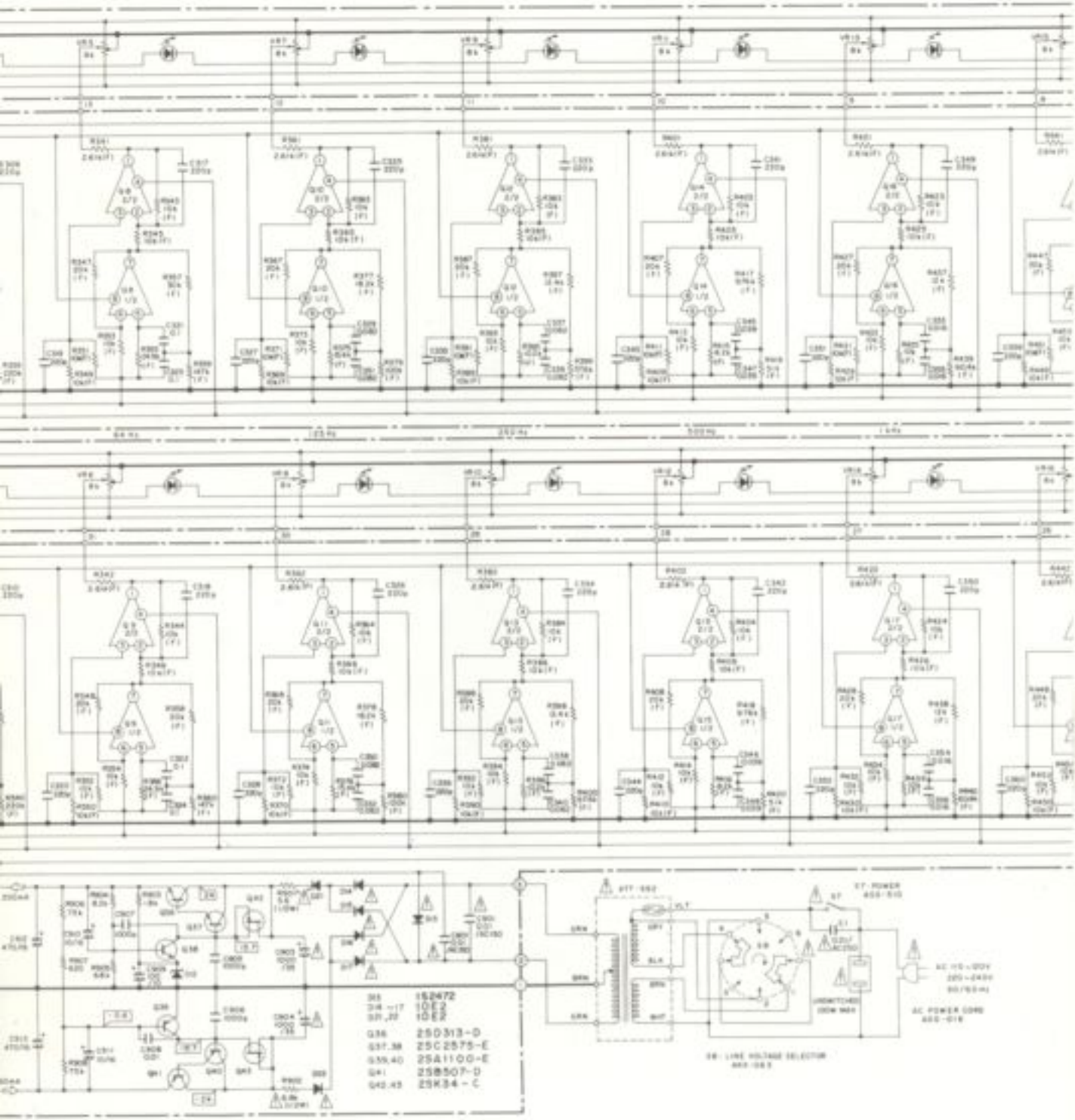
Symbol	Description	Part No.			
		KU type	KC type	R type	R/G type
⚠T1	Power transformer	ATT-591	ATT-597	ATT-592	ATT-592
⚠C1	Ceramic capacitor	ACG-001	ACG-017	ACG-001	ACG-001
⚠S7	Push switch (POWER)	ASG-511	ASG-503	ASG-510	ASG-510
⚠S8	Voltage selector	.....	.....	AKX-063	AKX-063
⚠	AC socket (AC OUTLETS)	AKP-002	AKP-002	AKP-018	AKP-018
⚠	AC power cord	ADG-023	ADG-023	ADG-016	ADG-016

PACKING AND FURNISHED PARTS

Symbol	Description	Part No.			
		KU type	KC type	R type	R/G type
	Packing case	AHD-678	AHD-697	AHD-678	AHD-696
	Spacer	.....	.....	.....	AHB-103
	Operating instructions	ARB-315	ARB-315	ARB-322	ARB-322

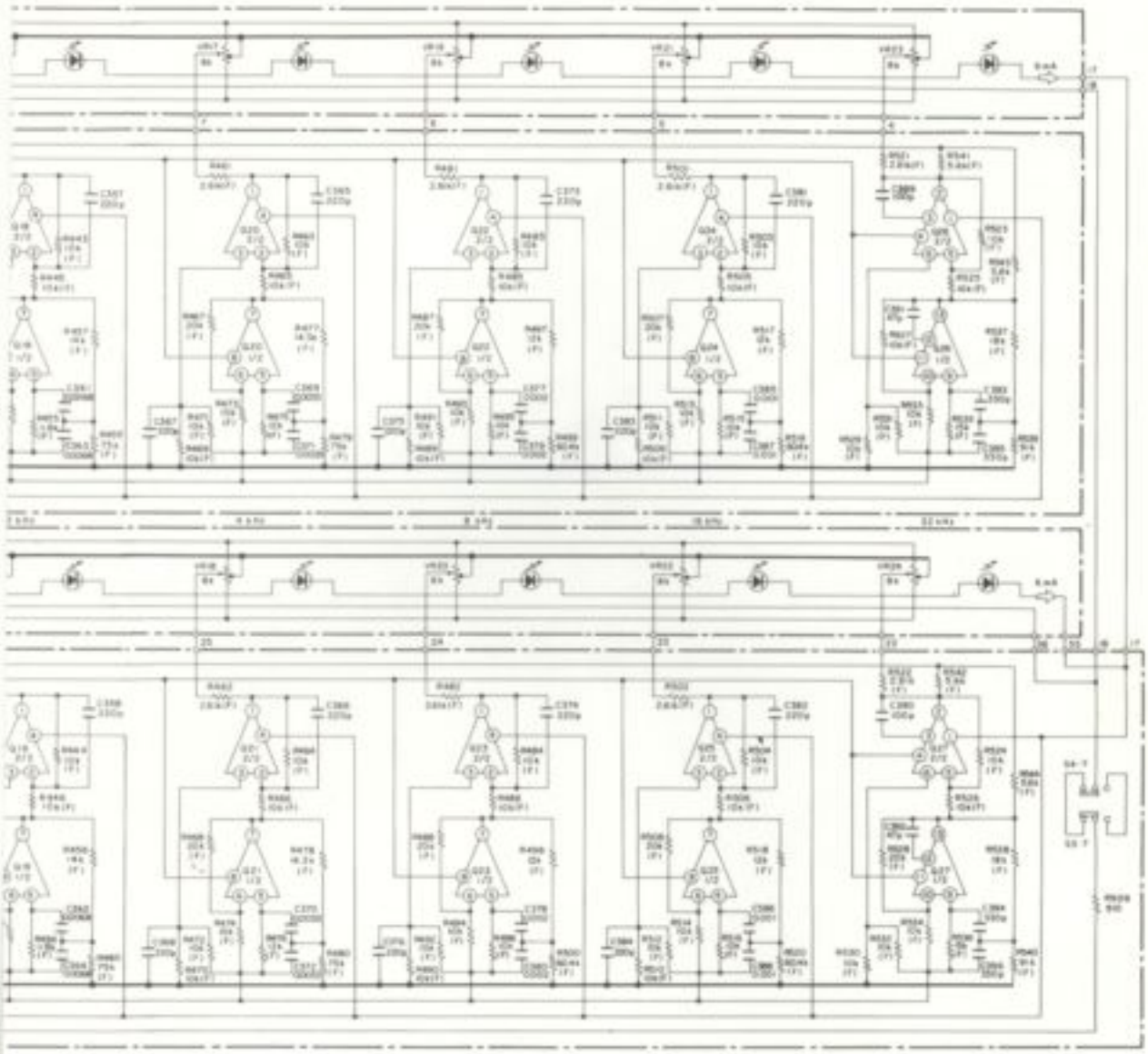
3. SCHEMATIC DIAGRAM FOR R AND R/G TYPES





7	8	9

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



1. RESISTORS :
   Indicated in Ω, (4W, ±5% tolerance unless otherwise noted
   k: kΩ, M: MΩ, (F): ±1%, tolerance
2. CAPACITORS :
   Indicated in capacity (μF) / voltage (V) unless otherwise noted p: pF
   Indication without voltage is 50V except electrolytic capacitor
3. VOLTAGE, CURRENT
   ▭ : DC voltage (V) at no input signal
   ◯ 0 mA : DC current at no input signal
4. OTHERS :
   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.

SWITCHES

S1	ATT	0dB	— -3dB
S2	ATT	0dB	— -6dB
S3	EQUALIZER ON	ON	— OFF
S4	EQUALIZER ON (REC)	ON	— OFF
S5	EQUALIZER OFF	ON	— OFF
S6	TAPE MONITOR	ON	— OFF
S7	POWER	ON	— OFF
S8	LINE VOLTAGE SELECTOR	220~240V	— 110~120V

The underlined indicates the switch position.

This is the basic schematic diagram, but actual circuit may vary due to improvements in design.

7	8	9

A B C D

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PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

(ART-383-C)

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U.S. PIONEER ELECTRONICS CORP.
85 OXFORD DRIVE, MOONACHIE, NEW JERSEY 07074 (201) 440-8100

NO.: SB-A1B-02

DATE: Jan 27, 1981

SERVICE BULLETIN

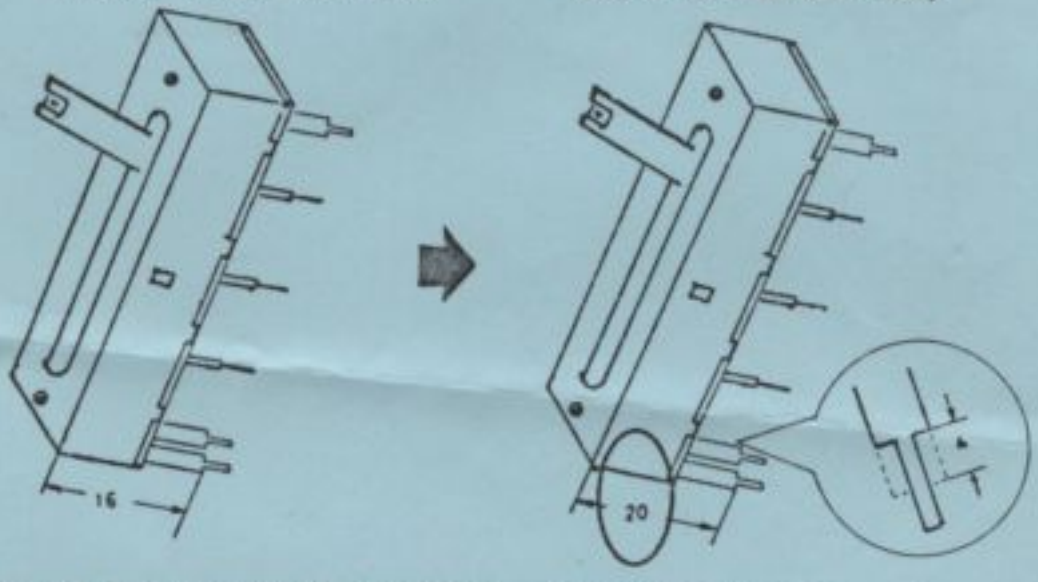
MODEL: SG-9800

SUBJECT: Change of Slide Volume with LED.
(Length of Terminal: 16mm ----------→ 20 mm)

REASON: Production line improvement

OLD
ACX-005
(Slide Volume with LED)

NEW
ACX-005
(Slide Volume with LED)



NOTICE: Only the new control is available. When using the new part to replace an old one, please trim the terminal 4mm.

SERVICE MANUAL PAGE:

SG-9800 (ART-363) ---------- 10

APPLICABLE SERIAL NO. AND MONTH:

SG-9800/R/G	4820101~	June 1980
" /KC	3401201~	"
" /KU	3610601~	"
" /WB	9900501~	"
" /WE	9803801~	"
" /R	4711401~	"