

*ADDITIONAL*

 **PIONEER®**

# *Service Manual*

**STEREO AMPLIFIER**

# **SA-420** YP, S

This additional service manual is applicable to the YP type (Australia model), S type (General export model). The basic performance of the YP and S types is the same as the KU type (U.S.A. model), please refer to the KU type service manual (pp. 1 – 17) with the exception of this supplements.

## **SPECIFICATIONS**

The specifications for YP and S types are the same as the KU type except for following sections:

### **Miscellaneous**

#### **Power Requirements**

YP type ..... AC 240V, 50/60HZ  
S type ..... AC 110/120/220/240V (Switchable), 50/60Hz

#### **Power Consumption**

YP type ..... 150W  
S type ..... 60W

ADDITIONAL

PIONEER®

# Service Manual

ORDER NO.  
ART-647-0

STEREO AMPLIFIER

# SA-420

HE, HB

# SA-204 HE

- Both Model SA-420 and SA-204 have the same basic performance, but there are a few minor changes in design.
- The basic performance of the HE and HB types is the same as the KU type, please refer to the KU type service manual (ART-646) with the exception of this supplements.

## SPECIFICATIONS

The specifications for HE and HB types are the same as the KU type except for following sections:

### Amplifier Section

Hum and Noise (DIN, continuous Power/50mW)  
 PHONO . . . . . 67dB/62dB  
 TUNER, AUX, TAPE PLAY . . . . . 85dB/62dB

### Miscellaneous

Power Requirements . . . . . AC 220V/240V (Switchable)  
 50/60Hz  
 Power Consumption . . . . . 150W

### Line Voltage Section

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the Top cover.
3. Take out the fuse (AEK-406) from the fuse assembly.
4. Re-install the fuse in the correct voltage indication (see Fig. 1).
5. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

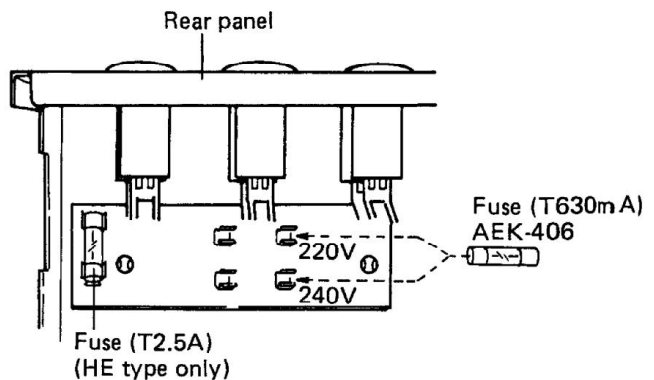


Fig. 1

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan  
 U.S. PIONEER ELECTRONICS CORPORATION 85 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.  
 PIONEER ELECTRONIC (EUROPE) N.V. Luithagen-Haven 9, 2030 Antwerp, Belgium  
 PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 17B-184 Boundary Road, Braeside, Victoria 3195, Australia

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## CONTRAST OF MISCELLANEOUS PARTS

**NOTES:**

- Parts without part number cannot be supplied.
- The  $\triangle$  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.
- For your Parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.  
**★★ GENERALLY MOVES FASTER THAN ★.**  
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

**P.C. BOARD ASSEMBLY**

Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
	AF assembly	GWK-174	GWK-175	GWK-175	GWK-175

**ELECTRICAL PARTS**

Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
$\triangle$ ★	T1 Power transformer (120V)	ATT-793	.....	.....	.....
$\triangle$ ★	T1 Power transformer (220V/240V)	.....	ATT-794	ATT-794	ATT-794
$\triangle$ ★★	FU1 Fuse (2.5A)	AEK-102	.....	.....	.....
$\triangle$ ★★	FU1 Fuse (T630mA/250V)	.....	AEK-406	AEK-406	AEK-406
$\triangle$ ★★	FU2, FU3 Fuse (T2A/250V)	.....	AEK-017	AEK-017	AEK-017
$\triangle$ ★★	FU4 Fuse (T2.5A/250V)	.....	.....	AEK-403	AEK-403
$\triangle$ ★★	S1 Push switch (POWER)	ASG-521	ASG-522	ASG-522	ASG-522
$\triangle$	AC socket (AC OUTLETS)	AKP-041	AKP-044	AKP-026	AKP-026
$\triangle$	AC power cord	ADG-052	ADG-051	ADG-041	ADG-041

**OTHERS**

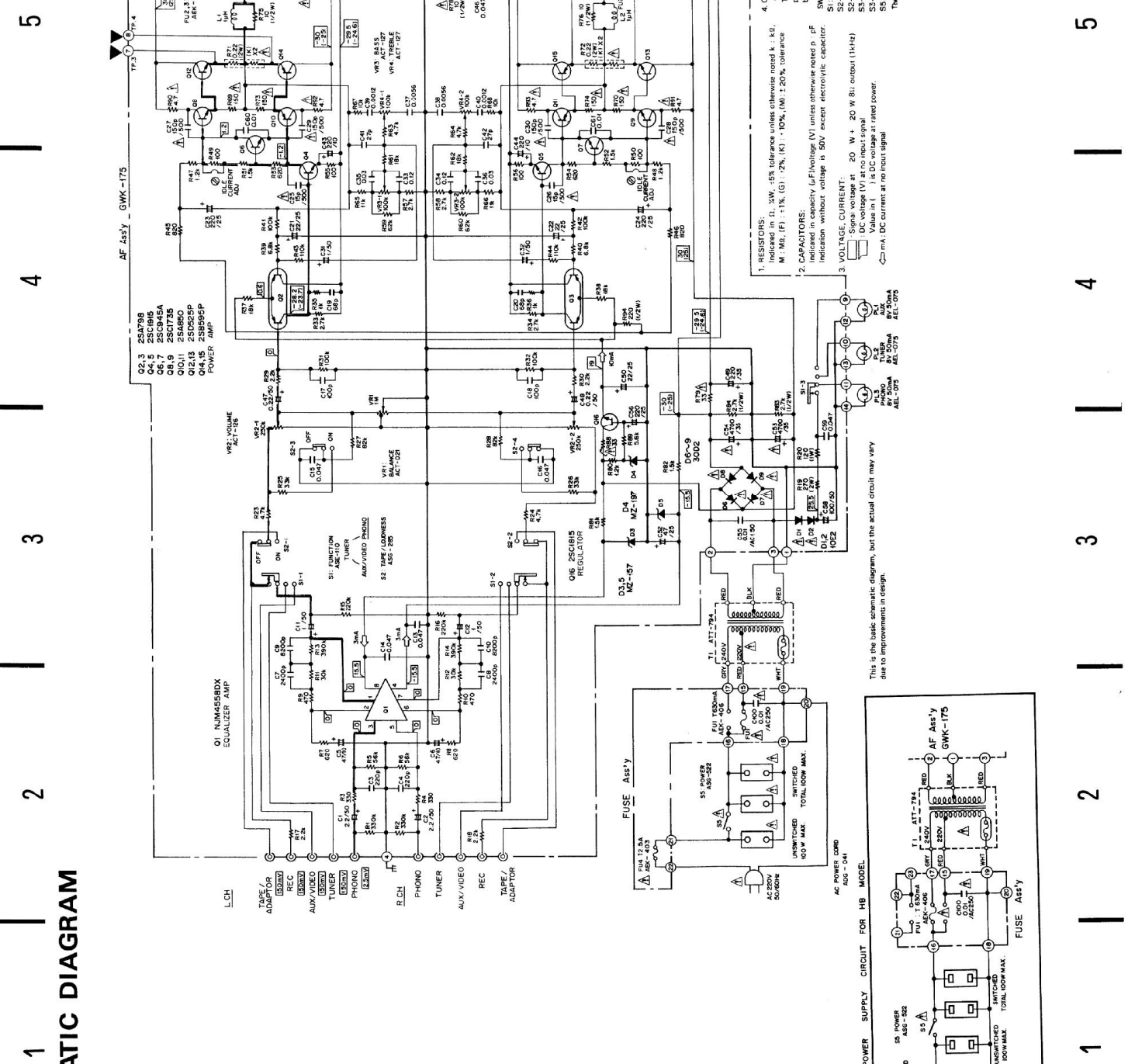
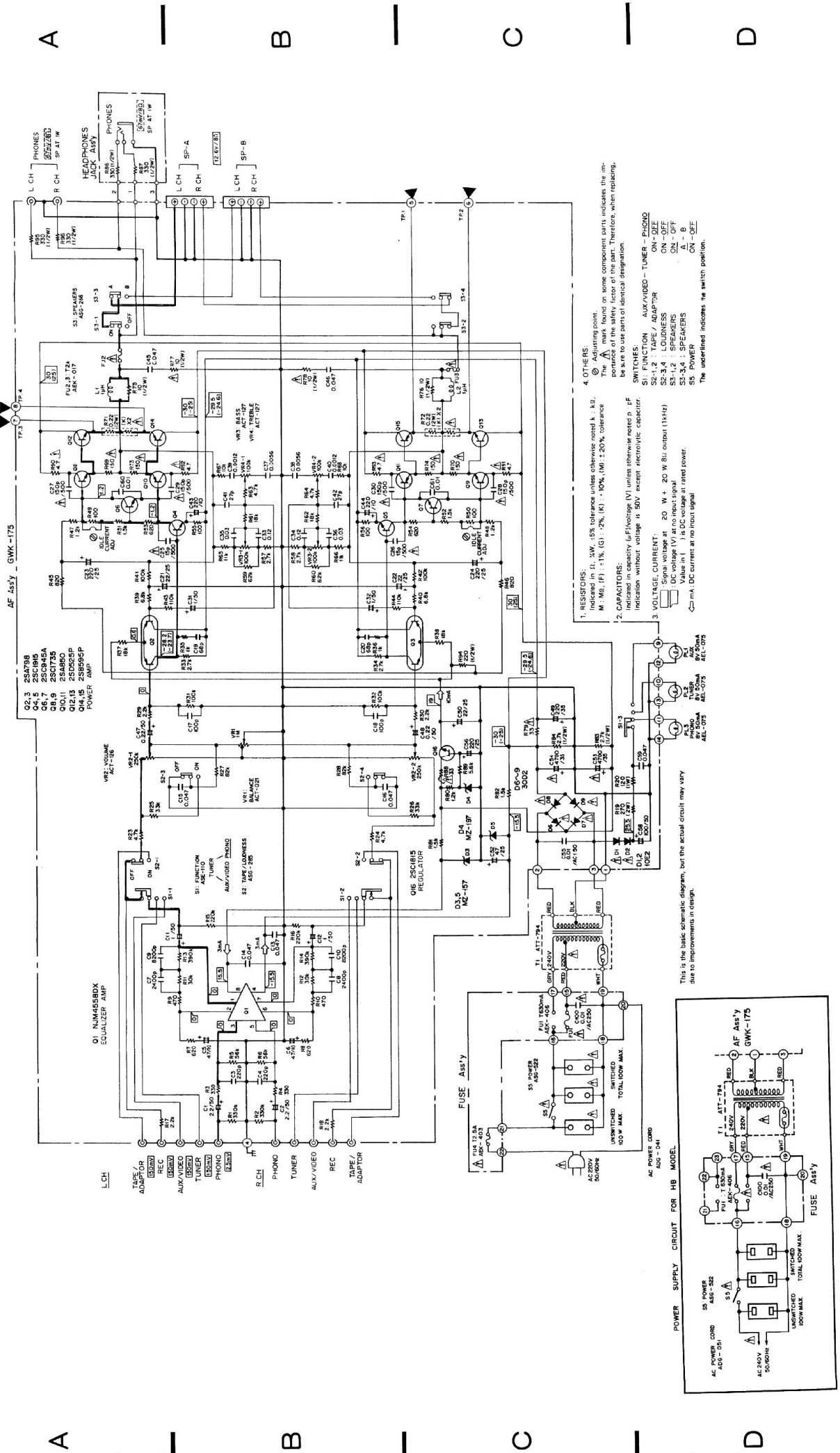
Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
	Front panel assembly	ANM-008	ANM-008	ANM-008	ANM-043
	Knob (VOLUME, FUNCTION)	AAB-251	AAB-251	AAB-251	AAB-276
	Knob (BASS, TREBLE, BALANCE)	AAB-250	AAB-250	AAB-250	AAB-275

**PACKING AND FURNISHED PARTS**

Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
	Operating instructions (English)	ARB-405	ARB-406	.....	.....
	Operating instructions (English/German/French/Italian)	.....	.....	ARD-160	.....
	Operating instructions (French)	.....	.....	.....	ARD-173
	Packing case	AHD-901	AHD-902	AHD-902	AHD-935

**SCHEMATIC DIAGRAM**

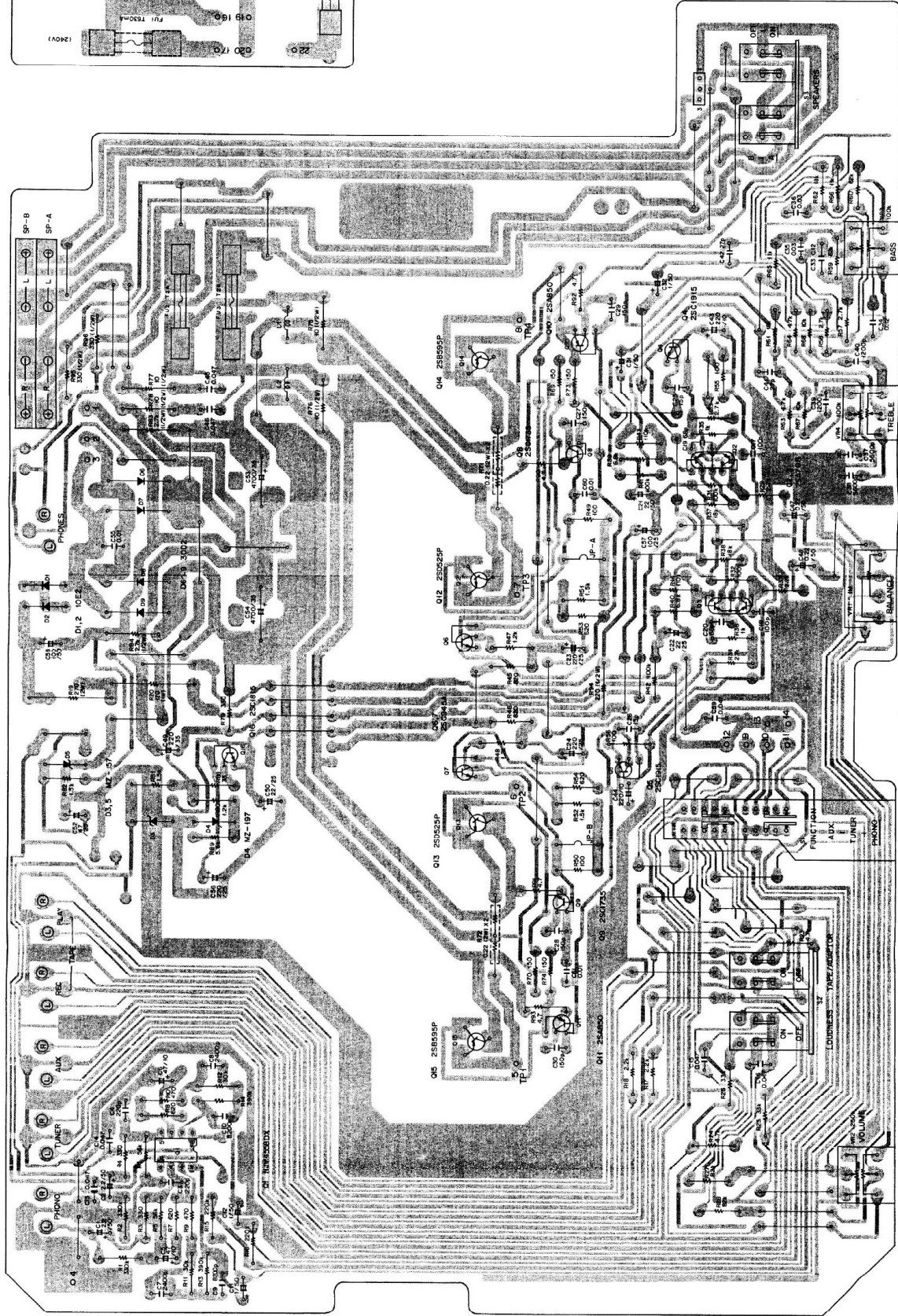
**NOTE:**  
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



P.C. BOARD ASSEMBLIES

AF Assembly (GWK-175)

Fuse Assembly



A

B

C

D

A

B

C

D

01 015 011 TPA VR2  
 02 02 08 VR4  
 03 03 02 TFS VRH  
 04 04 00 C4  
 05 05 01 TPE  
 06 06 03 02  
 07 07 01  
 08 08 01  
 09 09 01  
 10 10 01  
 11 11 01  
 12 12 01  
 13 13 01  
 14 14 01  
 15 15 01  
 16 16 01  
 17 17 01  
 18 18 01  
 19 19 01  
 20 20 01  
 21 21 01  
 22 22 01  
 23 23 01  
 24 24 01  
 25 25 01  
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 27 27 01  
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 83 83 01  
 84 84 01  
 85 85 01  
 86 86 01  
 87 87 01  
 88 88 01  
 89 89 01  
 90 90 01  
 91 91 01  
 92 92 01  
 93 93 01  
 94 94 01  
 95 95 01  
 96 96 01  
 97 97 01  
 98 98 01  
 99 99 01  
 100 100 01

**Parts List of AF Assembly (GWK-175)**

**CAPACITORS**

Mark	Part No.	Symbol & Description
	CEANL 2R2M 50	C1, C2
⚠	ACH-217	C53, C54 Electrolytic (4700/35V)
	ACG-019	C55 Ceramic (0.01/AC150V)
	CEANL 2R2M 50	C47, C48
	CEANL 010M 50	C31, C32
	CEA 010M 50L	C11, C12
	CEA 220M 25L	C21, C22, C50
	CEA 470M 10L	C5, C6
	CEA 101M 25L	C57
	CEA 101M 50L	C58
	CEA 221M 10L	C43, C44
	CEA 470M 25L	C52
	CEA 221M 25L	C23, C24, C56
	CEA 221M 35L	C49
	CQMA 122K 50	C39, C40
	CQMA 562K 50	C37, C38
	CQMA 124K 50	C33, C34
	CQMA 242J 50	C7, C8
	CQMA 822J 50	C9, C10
	CQMA 303J 50	C35, C36
⚠	CCDSL 150K 500	C25, C26
⚠	CCDSL 151K 500	C27-C30
	CCDSL 270J 50	C41, C42
	CCDSL 680J 50	C19, C20
	CCDSL 101J 50	C17, C18
	CCDSL 221J 50	C3, C4
	CKDYF 473Z 50	C13-C16, C45, C46, C59
	CKDYF 103Z 50	C60, C61

**RESISTORS**

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

Mark	Part No.	Symbol & Description
★	ACT-021	VR1 Variable (BALANCE)
★	ACT-126	VR2 Variable (VOLUME)
★	ACT-127	VR3 Variable (BASS)
★	ACT-127	VR4 Variable (TREBLE)
⚠	ACN-070	R71, R72 Wire wound (0.22 + 0.22/2W)
	RD¼PM□□□J	R1-R18, R23-R68, R80-R82, R89
	RS2PL271J	R19
	RD¼PS□□□J	R75, R76, R83, R84, R94-R96
⚠	RD¼PMFL□□□J	R69, R70, R73, R74, R79, R88, R90-R93
	RS1PL121J	R20
	RD¼PSF100J	R77, R78

**SEMICONDUCTORS**

Mark	Part No.	Symbol & Description
★★	NJM4558DX	Q1
★★	2SA798	Q2, Q3
★★	2SC1915	Q4, Q5
★★	2SC945A	Q6, Q7
★★	2SC1735-D* (2SC1735-E*)	Q8, Q9
★★	2SA850-D* (2SA850-E*)	Q10, Q11
		*hfe of Q8-Q11 should have the same value.
★★	2SD525P-O* (2SD525P-Y*)	Q12, Q13
★★	2SB595P-O* (2SB595P-Y*)	Q14, Q15
★★	2SC1815-GR	Q16
		*hfe of Q12-Q15 should have the same value.
⚠	★ 10E2 (SIB01-02)	D1, D2
	★ MZ-157 (WZ-157)	D3, D5
	MZ-197 (WZ-197)	D4
⚠	★ 30D2	D6-D9

**SWITCHES**

Mark	Part No.	Symbol & Description
★★	ASE-110	S1 Rotary slide switch (FUNCTION)
★★	ASG-285	S2 Push switch (TAPE/ ADAPTOR, LOUDNESS)
★★	ASG-266	S3 Push switch (SPEAKERS)

**OTHERS**

Mark	Part No.	Symbol & Description
	VBZ30P080FMC	Screw 3x8
	AKB-077	Terminal (PHONES)
	AKB-078	Terminal (TAPE/ADAPTOR)
	AKB-079	Terminal (INPUT)
	AKE-047	Terminal (SPEAKERS)
	AEC-078	Insulator wafer
	AKH-005	Insulator spacer
	ABA-257	Screw 2.5x16

**Parts List of Fuse Assembly**

Mark	Part No.	Symbol & Description
⚠	ACG-001	C100 Electrolytic (0.01/AC250V)