

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

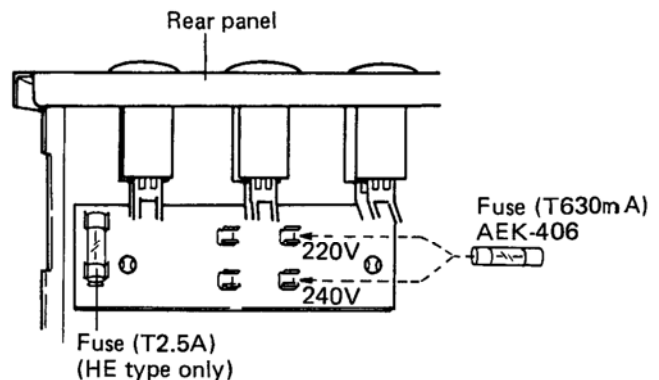


Fig. 1

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. 178-184 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

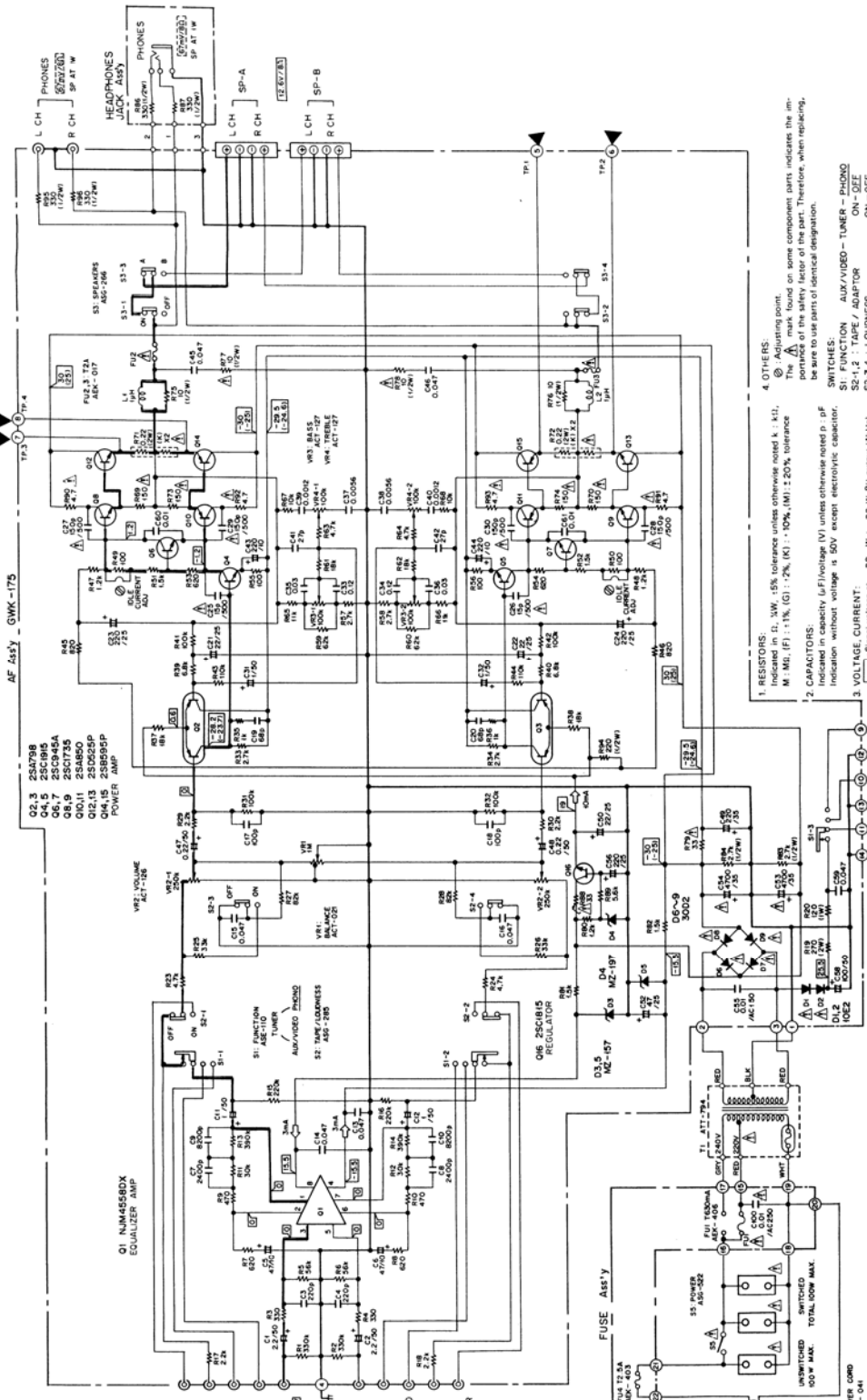
Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
	Front panel assembly	ANM-008	ANM-008	ANM-008	ANM-043
	Knob (VOLUME, FUNCTION)	AAB-251	AAB-251	AAB-251	AAB-276
	Knob (BASS, TREBLE, BALANCE)	AAB-250	AAB-250	AAB-250	AAB-275

PACKING AND FURNISHED PARTS

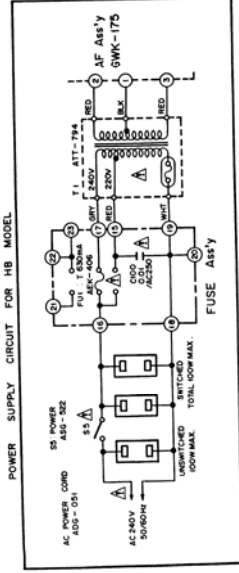
Mark	Symbol & Description	Part No.			
		SA-420/KU	SA-420/HB	SA-420/HE	SA-204/HE
	Operating instructions (English)	ARB-405	ARB-406	.....	.....
	Operating instructions (English/German/French/Italian)	.....	.....	ARD-160	.....
	Operating instructions (French)	.....	.....	.....	ARD-173
	Packing case	AHD-901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



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



A

B

C

D

- 1. RESISTORS: Indicated in Ω, kW, .15% tolerance unless otherwise noted k, K, M, MI, (F) : 1%, (G) : 2%, (K) : 10%, (M) : 20% tolerance
- 2. CAPACITORS: Indicated in pF (Voltage V) unless otherwise noted μ, μF Indication without voltage is 50V except electrolytic capacitor.
- 3. VOLTAGE CURRENT: Signal voltage at 20 W + 20 W B1 output (1kHz) 100 V AC at 60 Hz, 100 V DC Value in 1 is DC voltage at rated power. mA, DC current at no input signal
- 4. OTHERS: Adjusting point. The A 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.

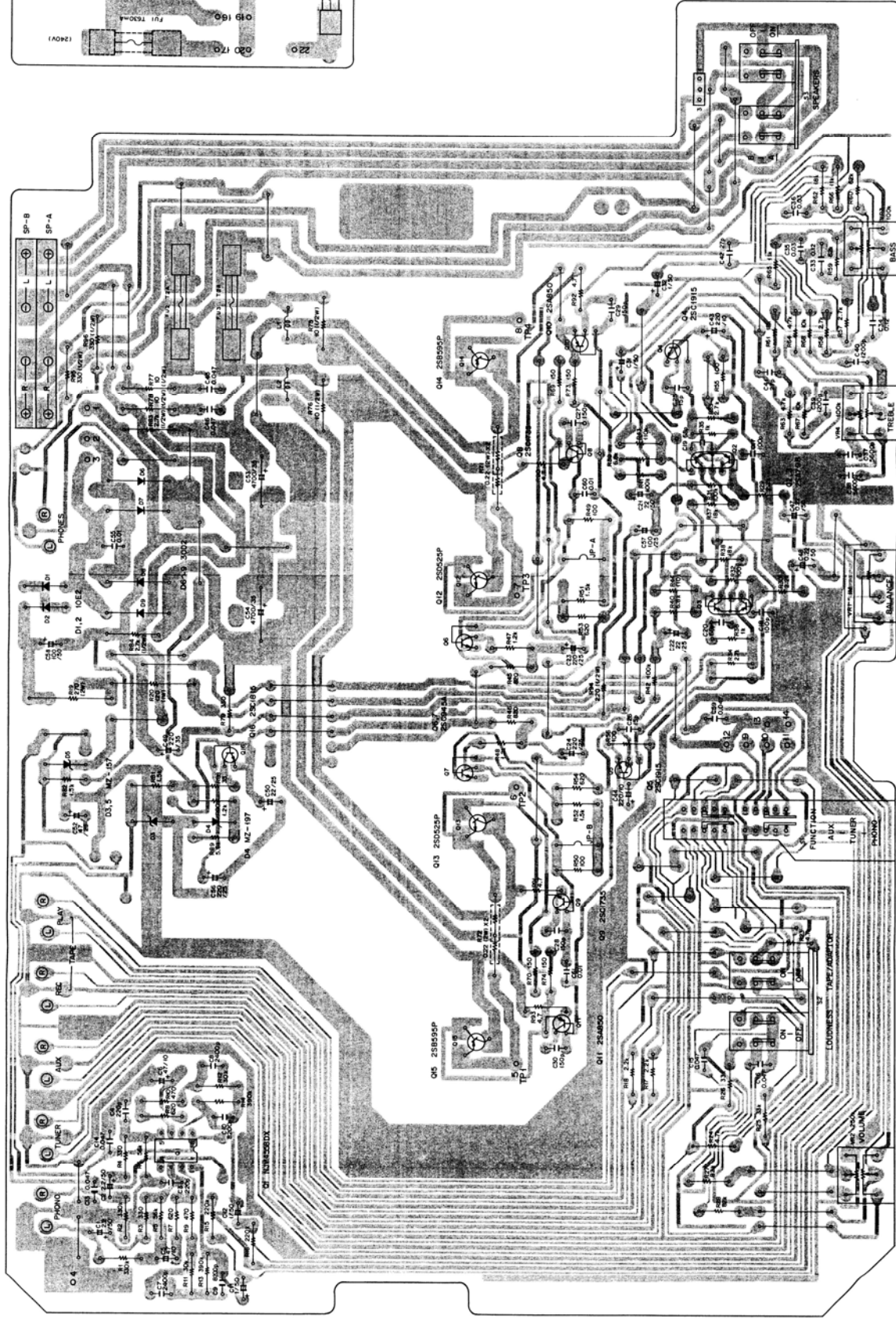
- SWITCHES: S1: FUNCTION AUX/VIDEO - TUNER - PHONO S2-1, 2: TAPE / ADAPTOR ON - OFF S3-1, 2: CROSS ON - OFF S3-3, 4: SPEAKERS A - B S3-3, 4: SPEAKERS ON - OFF S5: POWER ON - OFF

The underlined indicates the switch position.

P.C. BOARD ASSEMBLIES

AF Assembly (GWK-175)

Fuse Assembly



01 VR2
 02 011 TP1
 03 013 TP2
 04 015 TP3
 05 012 VR1
 06 02 08 VR4
 07 010 TP4
 08 010 VR3
 09 010 TP4
 10 010 VR3

2
 3
 4
 5
 6

A
 B
 C
 D

1
 2
 3
 4
 5
 6

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	

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)

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)
	RD%PM□□□J	R1-R18, R23-R68, R80-R82, R89
	RS2PL271J	R19
⚠	RD%PS□□□J	R75, R76, R83, R84, R94-R96
	RD%PMFL□□□J	R69, R70, R73, R74, R79, R88, R90-R93
	RS1PL121J	R20
	RD%PSF100J	R77, R78

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)