

ADDITIONAL

 PIONEER®

Service Manual

STEREO AMPLIFIER

SA-510 HE HB

- This additional service manual is applicable to the HE and HB types.
- The basic performance of the SA-510/HE and HB types are the same as the SA-510/KU type. Please refer to the SA-510/KU service manual <ART-479> with exception of this supplement.

Model SA-510/HB For United Kingdom model
Model SA-510/HE For Europe continent model

1. SPECIFICATIONS

Amplifier Section

Continuous Power Output at 1kHz (both channels driven)
T.H.D. 0.03%, 8 ohms 33 watts per channel
Hum and Noise (DIN, continuous Power/50mW)
PHONO. 68dB/58dB
TUNER, AUX, TAPE PLAY 1, 2 85dB/60dB

Miscellaneous

Power Requirements 220V/240V (Selectable)
50/60Hz
Power Consumption 220W

Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the bonnet cover.
3. Take out the fuse 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

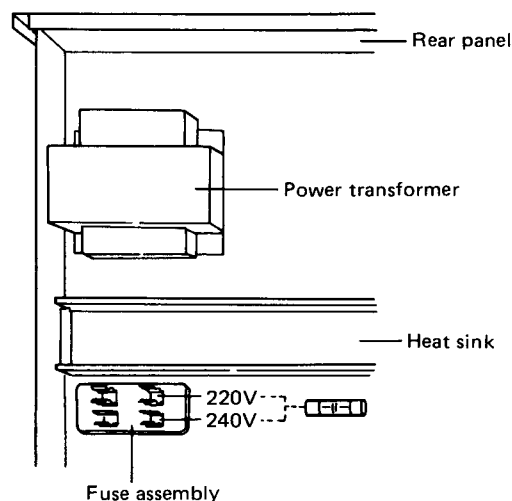



Fig. 1










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.

P.C. BOARD ASSEMBLIES

Symbol	Description	Part No.		
		KU type	HB type	HE type
	AF amplifier assembly	GWK-143	GWK-154	GWK-154
	Tone control assembly	GWG-137	GWG-144	GWG-144
	Switch assembly (A)	GWS-212	GWS-238	GWS-238
	Switch assembly (B)	GWS-213	GWS-239	GWS-239
	Volume assembly	GWX-457	GWX-492	GWX-492
	Headphone assembly	GWX-458	GWX-493	GWX-493
	Fuse assembly	.....	GWX-494	GWX-494

OTHERS

Symbol	Description	Part No.		
		KU type	HB type	HE type
	Front panel assembly	ANB-848	ANB-896	ANB-896
 T1	Power transformer	ATT-666	ATT-705	ATT-705
 FU1	Fuse (3A)	AEK-101	.....	.....
 FU1	Fuse (1A)	.....	AEK-402	AEK-402
 FU2,3	Fuse (2.5A)	.....	AEK-403	AEK-403
 FU4	Fuse (2.5A)	.....	.....	AEK-403
 S6	Lever switch (POWER)	ASK-520	ASK-521	ASK-521
 C1	Ceramic capacitor 0.01/250V	ACG-001	.....	.....
	AC socket	AKP-032	AKP-044	AKP-026
	AC power cord	ADG-023	ADG-051	ADG-041
	Screw	ABA-145	ABA-116	ABA-116

PACKING AND FURNISHED PARTS

Symbol	Description	Part No.		
		KU type	HB type	HE type
	Operating instructions (ENGLISH)	ARB-352	ARB-366	ARB-366
	Operating instructions (GERMAN/FRENCH)	.....	.....	ARD-148
	Packing case	AHD-749	AHD-776	AHD-776

3. SCHEMATIC DIAGRAMS FOR HE AND HB TYPES

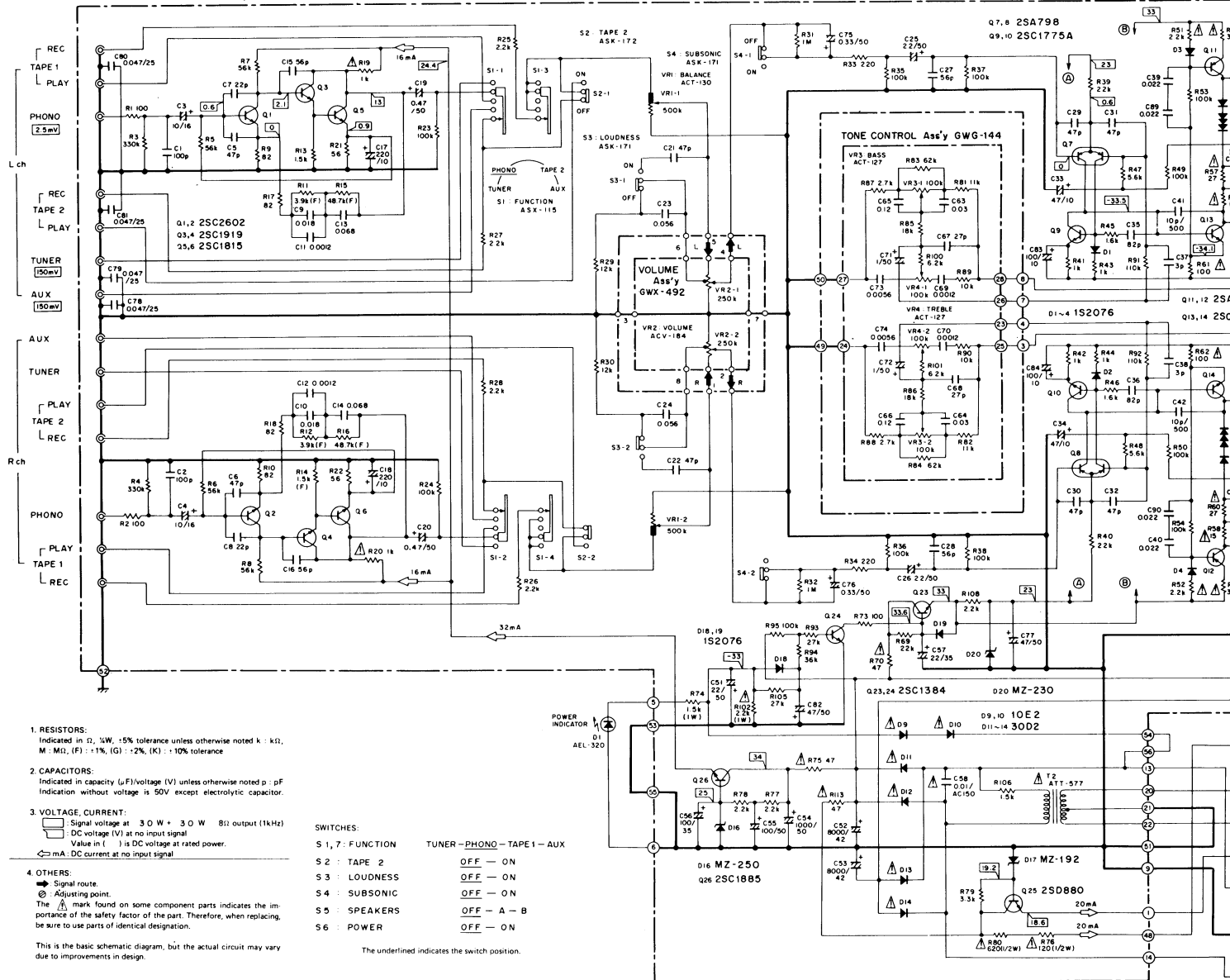
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B

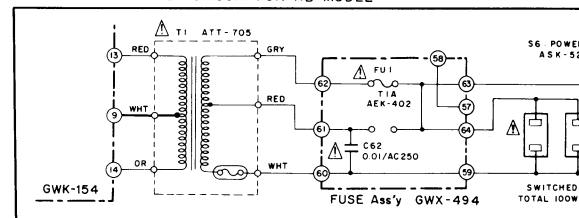
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D

AF AMP Ass'y (1/2) GWK-154



POWER SUPPLY CIRCUIT FOR HB MODEL



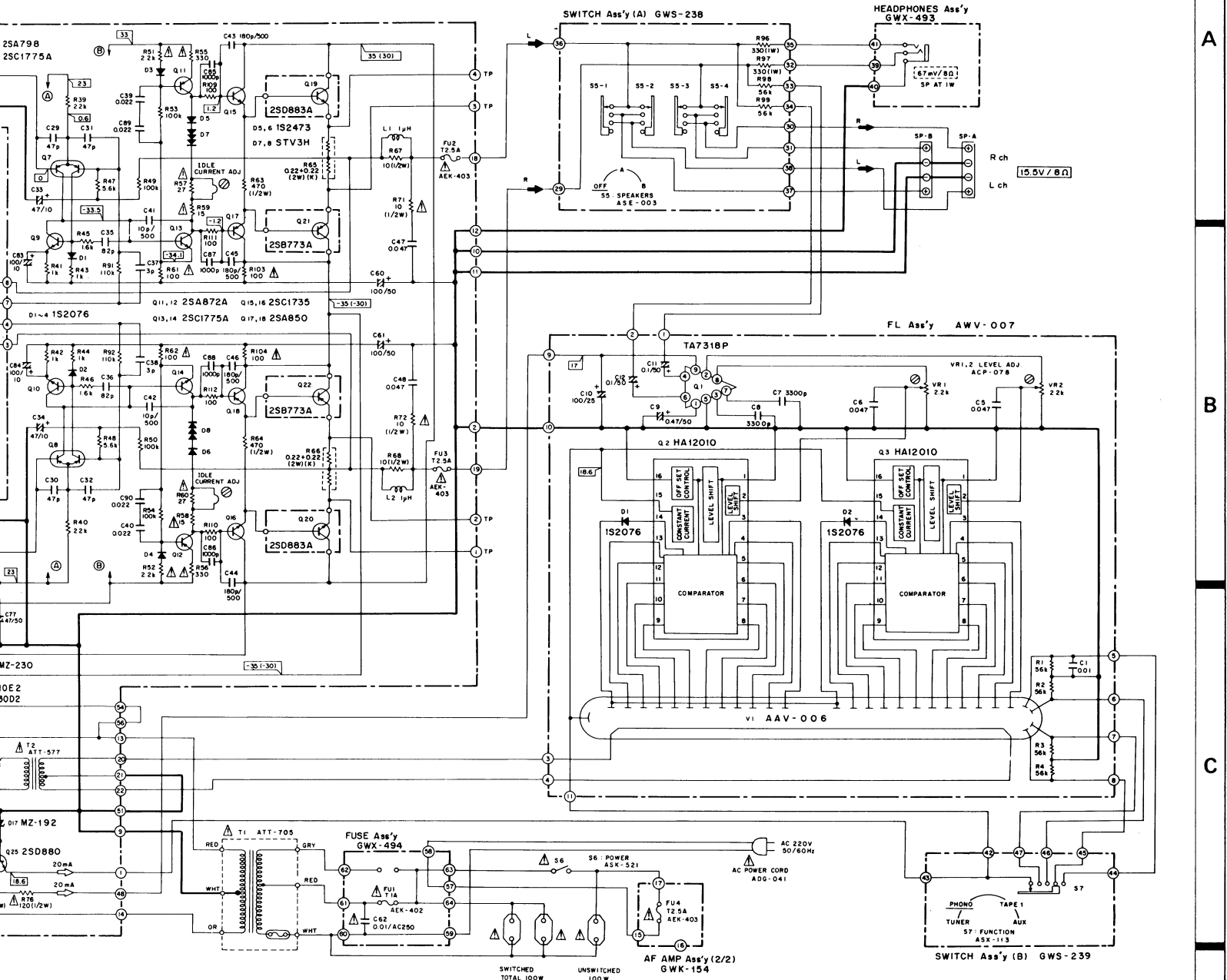
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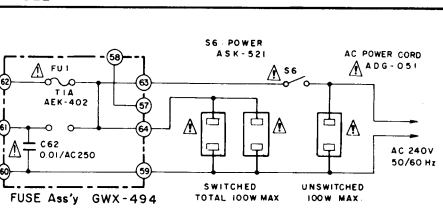
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NOTE:

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



MODEL

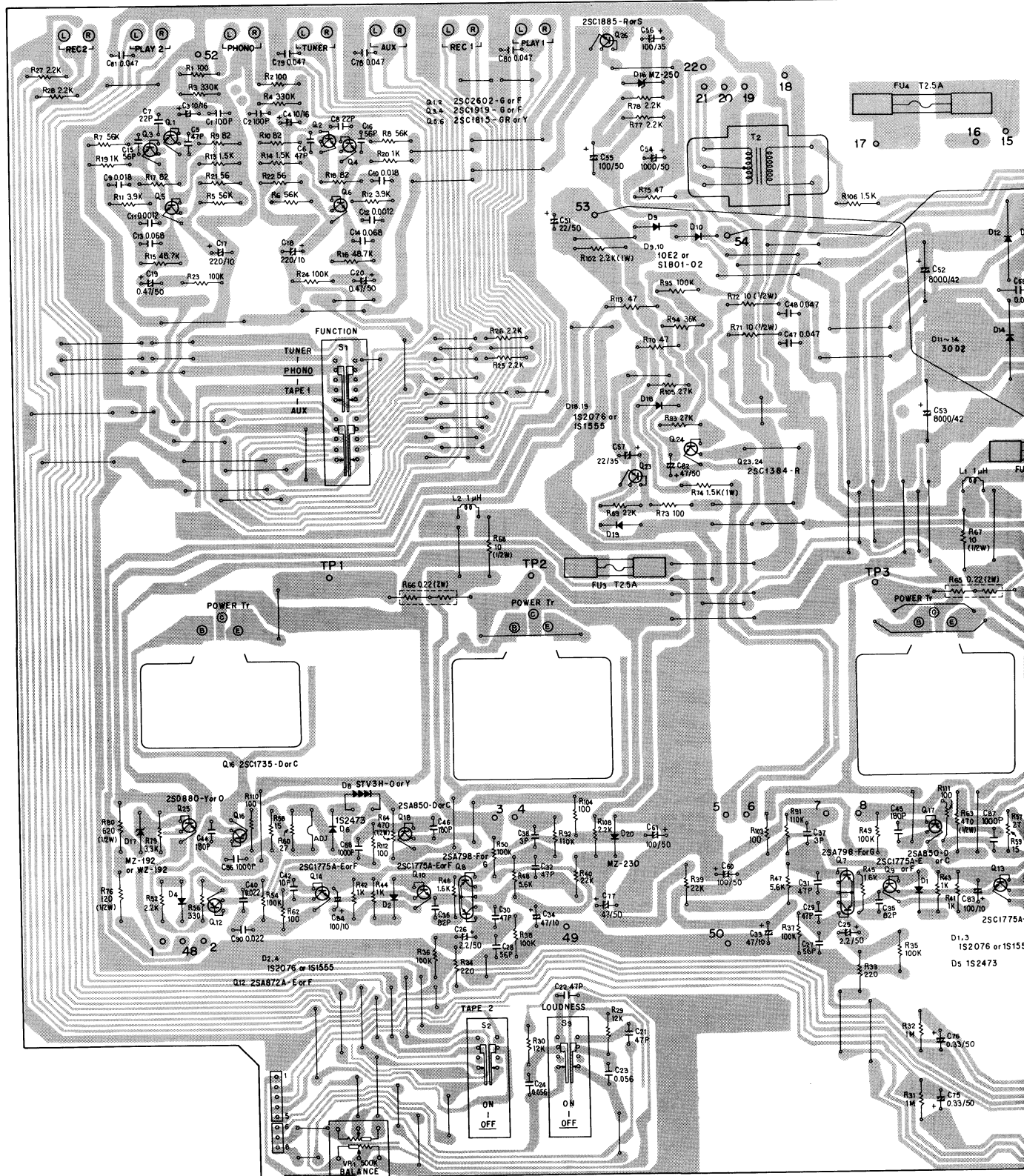


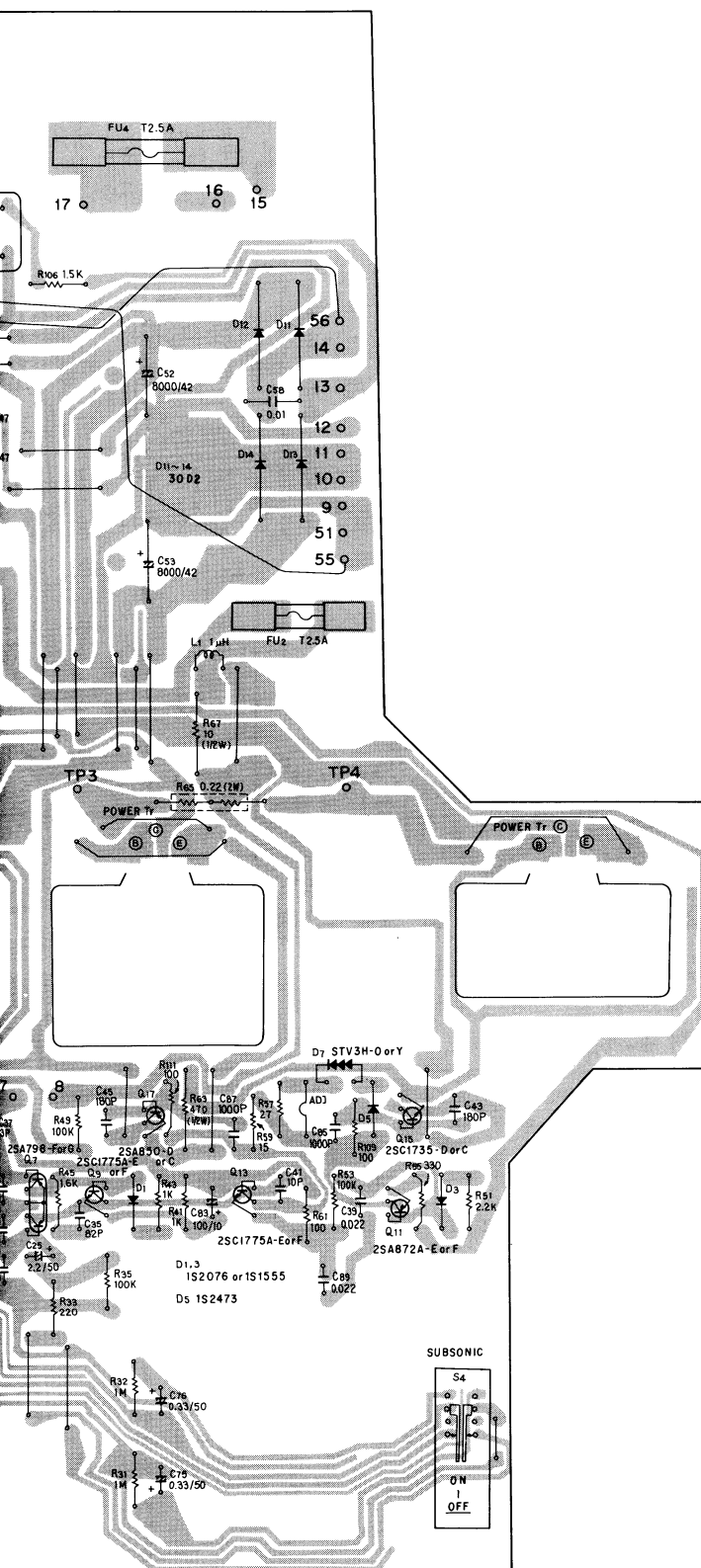
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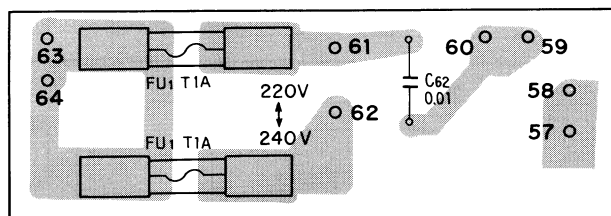
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AF AMP Assembly (GWK-154)





Fuse Assembly (GWX-494)



NOTE:

The only difference between following assemblies in models SA-510/KU, HE and HB types lies in the assembly parts numbers. All circuit and parts are exactly the same. For P.C. board patterns refer to the service manual for SA-510/KU type.

Description	Part No.	
	KU type	HE and HB types
Tone control assembly	GWG-137	GWG-144
Switch assembly (A)	GWS-212	GWS-238
Switch assembly (B)	GWS-213	GWS-239
Volume assembly	GWX-457	GWX-492
Headphones assembly	GWX-458	GWX-493

5. PARTS LIST OF P.C. BOARD ASSEMBLIES

AF AMP Assembly (GWK-154)

SWITCHES AND TRANSFORMER

Part No.	Symbol & Description
ASX-115	S1 Remote slide-switch (FUNCTION)
ASK-172	S2 Lever switch (TAPE 2)
ASK-171	S3, S4 Lever switch (SUBSONIC, LOUDNESS)
ATT-577	T2 Heater transformer

CAPACITORS

Part No.	Symbol & Description
CCDSL 101J 50	C1, C2
ACH-224	C52, C53 Electrolytic 8000/42V
CEA 220M 50L	C51
CEA 220M 35L	C57
CEA 470M 10L	C33, C34
CEA 101M 10L	C83, C84
CEA 102M 50L	C54
CEA 101M 50L	C55, C60, C61
CEA 101M 35L	C56
CEANL 2R2M 50	C25, C26
CEANL 100M 16	C3, C4
CEANL R33M 50	C75, C76
CEA 470M 50L	C77, C82
CCDSL 030C 50	C37, C38
CCDSL 100K 500	C41, C42
CCDSL 220J 50	C7, C8
CCDSL 470J 50	C5, C6, C21, C22, C29-C32
CCDSL 560J 50	C15, C16, C27, C28
CCDSL 820J 50	C35, C36
CCDSL 181K 500	C43-C46
CEA 221M 10L	C17, C18
CKDYF 223Z 50	C39, C40, C89, C90
CKDYX 473M 25	C78-C81
CKDYA 102J 50	C85-C88
CQMA 473K 50	C47, C48
CKDYA 122J 50	C11, C12
CQMA 183J 50	C9, C10
CQMA 563J 50	C23, C24
CQMA 683J 50	C13, C14
CEANL R47M 50	C19, C20
△ ACG-004	C58 Ceramic 0.01/150V

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

RESISTOR

Part No.	Symbol & Description
ACT-130	VR1 Variable 500k (BALANCE)
ACN-070	R65, R66 Wire wound 0.22/2Wx2
RS1P □□□ J	R74
△ RS1P □□□ J	R102
RD½PS □□□ J	R63, R64, R67, R68
△ RD½PSF □□□ J	R71, R72, R76, R80
RN½PQ □□□ F	R11, R12, R15, R16
△ RD½PMF □□□ J	R19, R20, R51, R52, R55-R62, R70, R75, R103, R104, R113
RD½PM □□□ J	R1-R10, R13, R14, R17, R18, R21-R50, R53, R54, R69, R73, R77-R79, R91-R95, R105, R106, R108-R112

SEMICONDUCTORS

Part No.	Symbol & Description
2SC2602	Q1, Q2
2SA872A	Q11, Q12
2SA798	Q7, Q8
2SA850-D* (2SA850-C*)	Q17, Q18
2SC1735-D* (2SC1735-C*)	Q15, Q16
* hfe of Q15-Q18 should have the same rank	
2SC1919	Q3, Q4
2SC1815	Q5, Q6
2SC1775A	Q9, Q10, Q13, Q14
2SC1384	Q23, Q24
2SD880	Q25
2SC1885	Q26
1S2076 (1S1555)	D1-D4, D18, D19
△ 30D2	D11-D14
△ 10E2 (SIB01-02)	D9, D10
1S2473	D5, D6
MZ-230	D20
MZ-192 (WZ-192)	D17
MZ-250	D16
STV3H	D7, D8

OTHERS

Part No.	Symbol & Description
AKB-063	Terminal (TAPE)
AKB-064	Terminal (INPUT)

TONE CONTROL Assembly (GWG-144)

CAPACITORS

Part No.	Symbol & Description
CQMA 303J 50	C63, C64
CCDSL 270J 50	C67, C68
CQMA 122K 50	C69, C70
CQMA 562K 50	C73, C74
CQMA 124K 50	C65, C66
CEANL 010M 50	C71, C72

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

RESISTORS

Part No.	Symbol & Description
ACT-127	VR3, VR4 Variable
RD¼PM □□□ J	R81—R90, R100, R101

VOLUME Assembly (GWX-492)

Part No.	Symbol & Description
ACV-184	VR2 Variable (VOLUME)

HEADPHONE Assembly (GWX-493)

Part No.	Symbol & Description
AKN-023	Phone jack (PHONES)

SWITCH Assembly (A) (GWS-238)

Part No.	Symbol & Description
ASE-003	S5 Slide rotary switch (SPEAKER)
RS1P □□□ J	R96, R97
RD¼PM □□□ J	R98, R99

SWITCH Assembly (B) (GWS-239)

Part No.	Symbol & Description
ASX-113	S6 Slide rotary switch (FUNCTION)

FUSE Assembly (GWX-494)

Part No.	Symbol & Description
△ ACG-001	C62 Ceramic 0.01/250V