

Service Manual


The illustration shows model A-400.

ORDER NO.
ARP2044

STEREO AMPLIFIER

A-400

A-300

MODEL A-400 AND A-300 HAVE FOLLOWING VERSIONS:

Type	Applicable model		Power requirement	Export destination
	A-400	A-300		
HB	<input type="radio"/>	<input type="radio"/>	AC220V, 240V (switchable) *	United Kingdom

* Change the connection of the power transformer lead wire.

- This manual is applicable to the A-400/HB and A-300/HB types.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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1. SPECIFICATIONS

[A-400]**Amplifier Section**

Continuous power output (both channels driven at 20 Hz to 20 kHz)*	
T.H.D. 0.03 %, 8 Ω	50 W + 50 W
T.H.D. 0.05 %, 4 Ω	70 W + 70 W
DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1.0 %, 8 Ω	60 W + 60 W
T.H.D. 1.0 %, 4 Ω	85 W + 85 W

Dynamic power output (on EIA dynamic test signal)	
8 Ω/4 Ω/2 Ω.....	70 W/100 W/135 W

Total harmonic distortion *	
20 Hz to 20 kHz, 50 W, 8 Ω	0.03 %
20 Hz to 20 kHz, 70 W, 8 Ω	0.05 %

Input sensitivity/impedance	
PHONO (MM)	2.5 mV/50 kΩ
PHONO (MC).....	0.2 mV/100 Ω
CD, TUNER, LINE, TAPE	150 mV/50 kΩ

PHONO overload level	
1 kHz, T.H.D. 0.008 % (MM/MC)	150 mV/12 mV

Output level/impedance	
TAPE REC	150 mV/2.2 kΩ

Frequency response	
PHONO (MM)	20 Hz to 20 kHz, ± 0.3 dB
PHONO (MC).....	20 Hz to 20 kHz, ± 0.5 dB
CD, TUNER, LINE, TAPE	5 Hz to 100 kHz, ± 3 dB

Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 2.5 mV input/MC, 0.2 mV input)	87 dB/69 dB
CD, TUNER, LINE, TAPE	108 dB

Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	74 dB/63 dB
CD, TUNER, LINE, TAPE	88 dB/65 dB

Power Supply/Miscellaneous	
Power requirements	a.c. 240 V ~, 50/60 Hz
Power consumption.....	520 W
Dimensions	420 (W) x 352 (D) x 126 (H) mm
Weight (without package)	8.0 kg

Accessories	
Operating instructions	1

• Specifications and design subject to possible modification without notice, due to improvements.	
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* Measured by Audio Spectrum Analyzer.

[A-300]**Amplifier Section**

Continuous power output (both channels driven at 20 Hz to 20 kHz)*	
T.H.D. 0.03 %, 8 Ω	30 W + 30 W
T.H.D. 0.05 %, 4 Ω	40 W + 40 W

DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1.0 %, 8 Ω	40 W + 40 W
T.H.D. 1.0 %, 4 Ω	60 W + 60 W

Dynamic power output (on EIA dynamic test signal)	
8 Ω/4 Ω/2 Ω.....	50 W/75 W/90 W

Total harmonic distortion *	
20 Hz to 20 kHz, 40 W, 8 Ω	0.03 %
20 Hz to 20 kHz, 50 W, 8 Ω	0.05 %

Input sensitivity/impedance	
PHONO (MM)	2.5 mV/50 kΩ
CD, TUNER, LINE, TAPE	150 mV/50 kΩ

PHONO overload level	
1 kHz, T.H.D. 0.02 % (MM)	150 mV

Output level/impedance	
TAPE REC	150 mV/2.2 kΩ

Frequency response	
PHONO (MM)	20 Hz to 20 kHz, ± 0.3 dB
CD, TUNER, LINE, TAPE.....	5 Hz to 100 kHz, ± 3 dB

Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 2.5 mV input/MC, 0.2 mV input)	83 dB
CD, TUNER, LINE, TAPE	108 dB

Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	73 dB/63 dB
CD, TUNER, LINE, TAPE	88 dB/65 dB

Power Supply/Miscellaneous

Power requirements	a.c. 240 V ~, 50/60 Hz
Power consumption.....	410 W

Dimensions	420 (W) x 352 (D) x 126 (H) mm
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Weight (without package)	6.8 kg
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Accessories

Operating instructions	1
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- Specifications and design subject to possible modification without notice, due to improvements.

* Measured by Audio Spectrum Analyzer.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

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.
- Parts marked by “●” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

2.1 PARTS LIST

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>	<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>
	1	ROTARY KNOB L (PLS)	AAB1160		38	C1 CAPACITOR (FOR A-400/HB TYPE)	CQMXA104J100
	2	ROTARY KNOB R (PLS)	AAB1162			C1 CAPACITOR (FOR A-300/HB TYPE)	CQMXA473J100
	3	ROTARY KNOB M (PLS)	AAB1164				
	4	PUSH KNOB C (A-400/HB TYPE ONLY)	AAD1366				
	5	KNOB (POWER)	AAD1535		39	FU1 FUSE(T2.5A) (FOR A-400/HB TYPE)	AEK-512
						FU1 FUSE(T1.6A) (FOR A-300/HB TYPE)	AEK-510
	6	NAME PLATE (METAL)	AAM1029				
	7	SCREW	ABA-298		40	Q1 TRANSISTOR (FOR A-400/HB TYPE)	2SC3281
	8	SCREW (STEEL)	ABA1009			Q1 TRANSISTOR (FOR A-300/HB TYPE)	2SC3181N
	9	SCREW (STEEL)	ABA1011				
	10	SCREW (STEEL)	ABA1016				
	11	SCREW (STEEL)	ABA1048		41	Q2 TRANSISTOR (FOR A-400/HB TYPE)	2SC3281
	12	SCREW (STEEL)	ABA1050			Q2 TRANSISTOR (FOR A-300/HB TYPE)	2SC3181N
	13	SCREW	ABA1082				
	14	SPRING	ABH-052			Q3 TRANSISTOR (FOR A-400/HB TYPE)	2SA1302
	15	NUT	ABN-065		42		
	16	AC POWER CORD	ADG1070			Q3 TRNSISTOR (FOR A-300/HB TYPE)	2SA1264N
	17	RIVET	AEC-441				
	18	SHEET	AEE1014		43	Q4 TRANSISTOR (FOR A-400/HB TYPE)	2SA1302
	19	STYROL PROTECTOR	AHA1335			Q4 TRANSISTOR (FOR A-300/HB TYPE)	2SA1264N
	20	PACKING CASE (FOR A-400/HB TYPE)	AHD1865				
		PACKING CASE (FOR A-300/HB TYPE)	AHD1866		44	Q5 TRANSISTOR	2SC4137
					45	Q6 TRANSISTOR	2SC4137
	21	COVER SHEET	AHG1016		46	S1 SWITCH	ASU1035
	22	TERMINAL SCREW			47	S2 SWITCH	ASU1037
	23	PANEL BASE	AMB1651		48	T1 POWER TRANSFORMER (FOR A-400/HB TYPE)	ATS1279
	24	INDICATING LENS	AMR1160			T1 POWER TRANSFORMER (FOR A-300/HB TYPE)	ATS1278
	25	INSULATOR ASS'Y	AMR2140				
	26	ARM (A-400/HB TYPE ONLY)	AMR2142		49	AF COMPLEX ASS'Y (FOR A-400/HB TYPE)	AWZ2868
	27	CHASSIS				AF COMPLEX ASS'Y (FOR A-300/HB TYPE)	AWZ2870
	28	FRONT PANEL (FOR A-400/HB TYPE)	ANB1399		50	POWER SW ASS'Y	
		FRONT PANEL (FOR A-300/HB TYPE)	ANB1400				
	29	REAR PANEL			51	LED ASS'Y	
	30	METAL BONNET	AZN1799		52	SHIELD ASS'Y (FOR A-400/HB TYPE)	
					53	HEADPHONE ASS'Y	
	31	BOTTOM PLATE			54	-----	
	32	AC CORD SPACER	ANG1153		55	BINDER	
	33	P.C.B HOLDER			56	SHIELD ASS'Y (FOR A-300/HB TYPE)	
	34	HEAT SINK			57	WASHER (A-400/HB TYPE ONLY)	ABE1018
	35	OPERATING INSTRUCTIONS (E)	ARB1247		58	NUTS (A-400/HB TYPE ONLY)	NK90FCU
	36	SCREW	BBT30P060FZK		59	GND SCREW	ABA1047
	37	NUTS (A-300/HB TYPE ONLY)	NK90FZB				

WS, PACKING AND PARTS LIST

2.2 EXPLODED VIEWS

upplied.
ent parts indicates the importance of the safety
lacing, be sure to use parts of identical designa-

cept in stock. Their delivery time may be longer

A

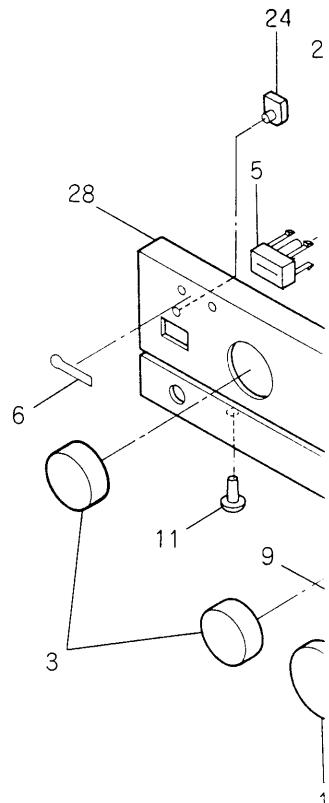
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Parts No.	Mark	No.	Description	Parts No.
AAB1160		38	C1 CAPACITOR (FOR A-400/HB TYPE)	CQMXA104J100
AAB1162			C1 CAPACITOR	CQMXA473J100
AAB1164			(FOR A-300/HB TYPE)	
AAD1366	△	39	FU1 FUSE(T2.5A) (FOR A-400/HB TYPE)	AEK-512
AAD1535	△		FU1 FUSE(T1.6A) (FOR A-300/HB TYPE)	AEK-510
AAM1029				
ABA-298	△	40	Q1 TRANSISTOR (FOR A-400/HB TYPE)	2SC3281
ABA1009			Q1 TRANSISTOR	2SC3181N
ABA1011	△		(FOR A-300/HB TYPE)	
ABA1016				
ABA1048	△	41	Q2 TRANSISTOR (FOR A-400/HB TYPE)	2SC3281
ABA1050	△		Q2 TRANSISTOR	2SC3181N
ABA1082			(FOR A-300/HB TYPE)	
ABH-052	△		Q3 TRANSISTOR	2SA1302
ABN-065	△	42	(FOR A-400/HB TYPE)	
ADG1070	△		Q3 TRNSISTOR	2SA1264N
AEC-441			(FOR A-300/HB TYPE)	
AEE1014	△	43	Q4 TRANSISTOR (FOR A-400/HB TYPE)	2SA1302
AHA1335			Q4 TRANSISTOR	2SA1264N
AHD1865	△		(FOR A-300/HB TYPE)	
AHD1866	△	44	Q5 TRANSISTOR	2SC4137
	△	45	Q6 TRANSISTOR	2SC4137
AHG1016		46	S1 SWITCH	ASU1035
		47	S2 SWITCH	ASU1037
AMB1651	△	48	T1 POWER TRANSFORMER	ATS1279
AMR1160			(FOR A-400/HB TYPE)	
AMR2140	△		T1 POWER TRANSFORMER	ATS1278
			(FOR A-300/HB TYPE)	
AMR2142		49	AF COMPLEX ASS'Y (FOR A-400/HB TYPE)	AWZ2868
			AF COMPLEX ASS'Y	AWZ2870
ANB1399		50	(FOR A-300/HB TYPE)	
ANB1400			POWER SW ASS'Y	
		51	LED ASS'Y	
		52	SHIELD ASS'Y	
AZN1799			(FOR A-400/HB TYPE)	
		53	HEADPHONE ASS'Y	
		54	- - - - -	
ANG1153		55	BINDER	D
		56	SHIELD ASS'Y	
			(FOR A-300/HB TYPE)	
ARB1247		57	WASHER (A-400/HB TYPE ONLY)	ABE1018
		58	NUTS (A-400/HB TYPE ONLY)	NK90FCU
BBT30P060FZK ONLY) NK90FZB		59	GND SCREW	ABA1047

B

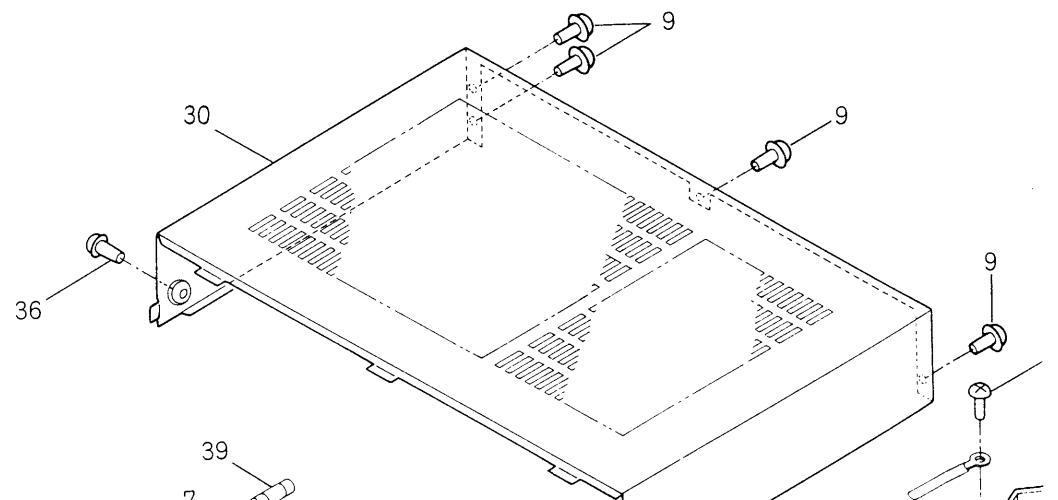
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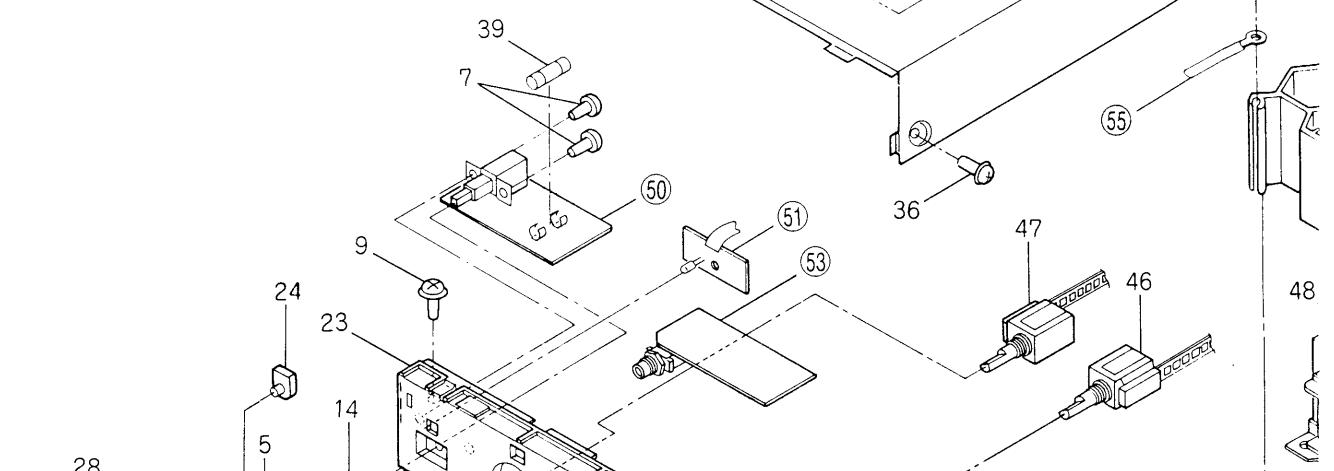


2.2 EXPLODED VIEWS

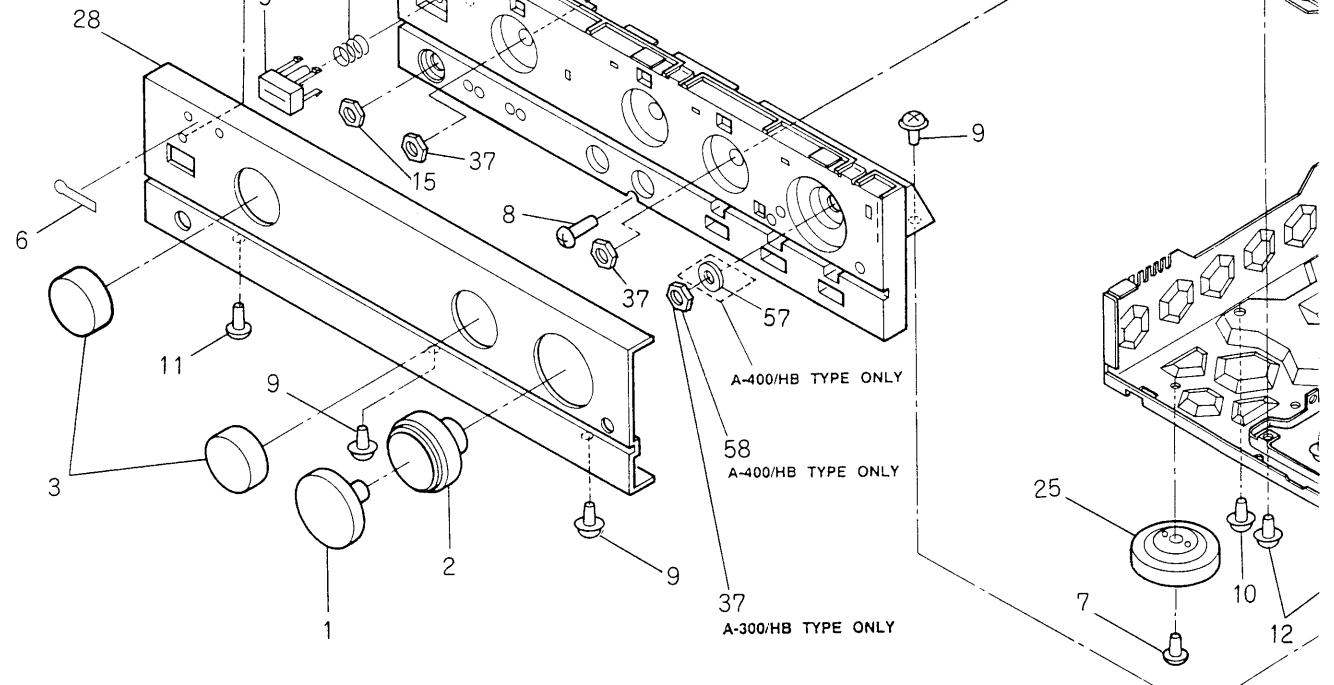
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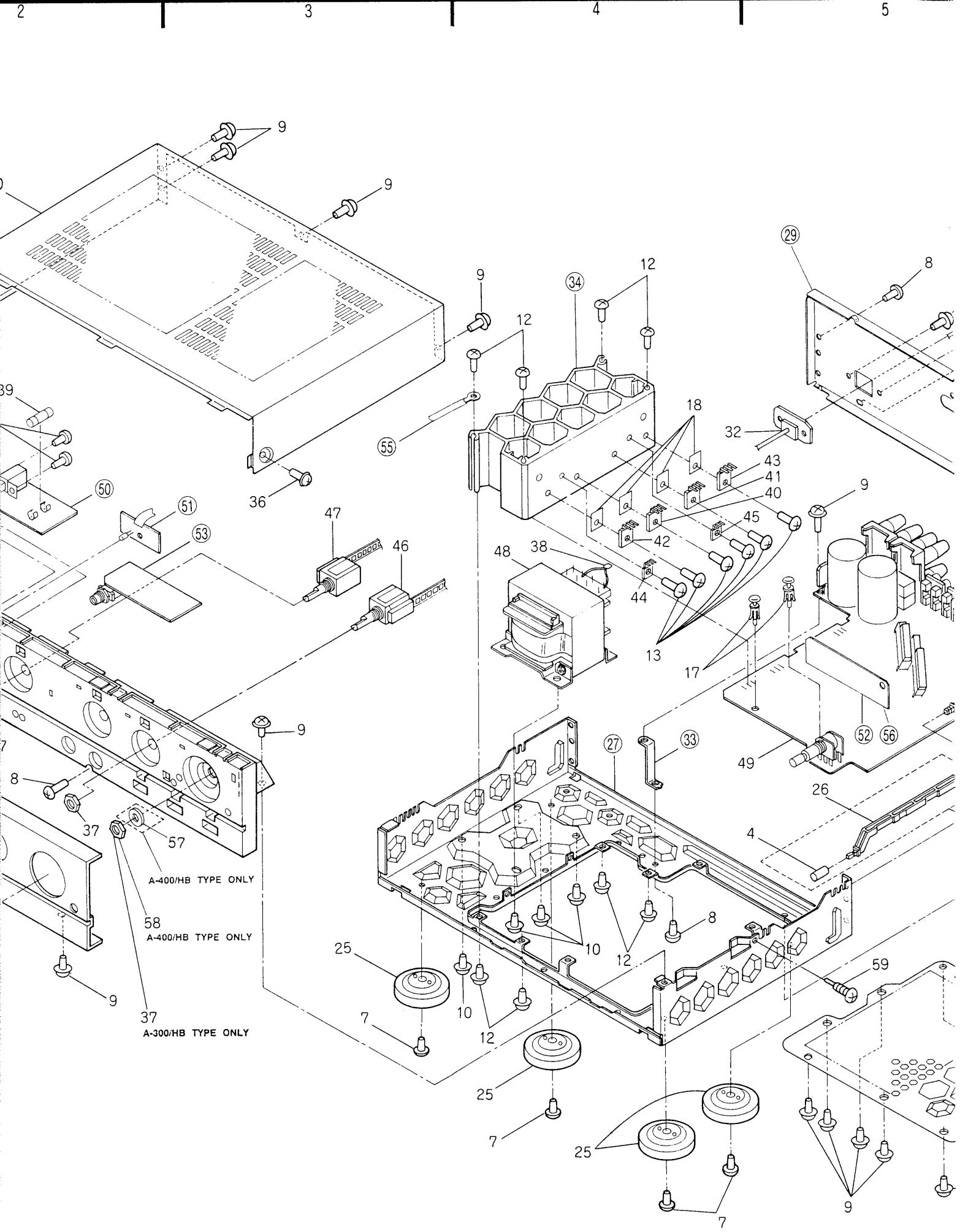
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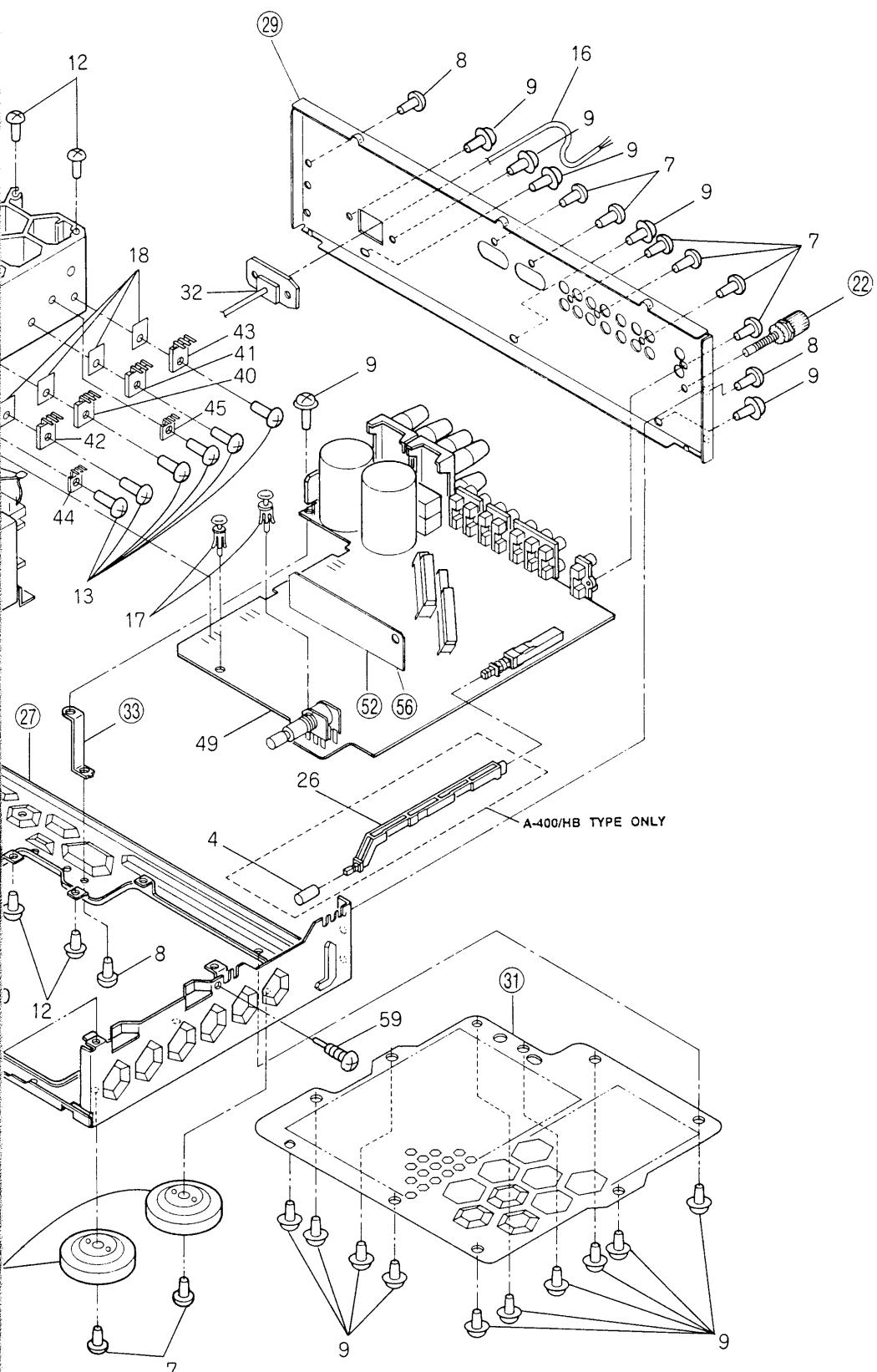
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2.3 PACKING

A



B

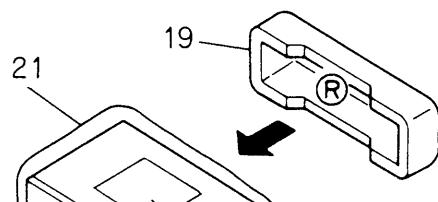
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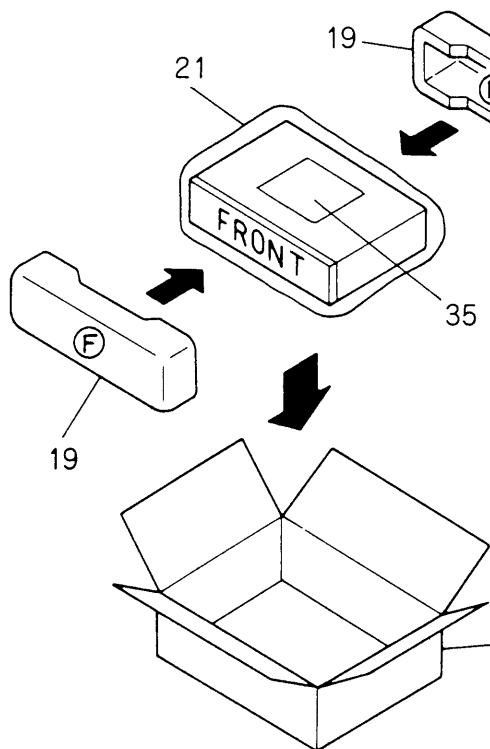
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2.3 PACKING

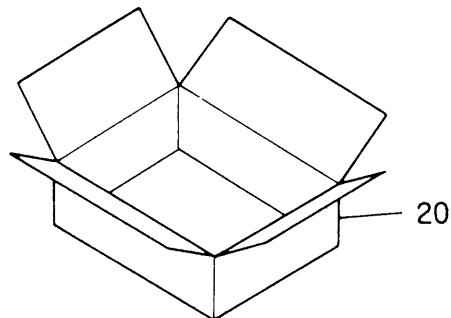
A



B

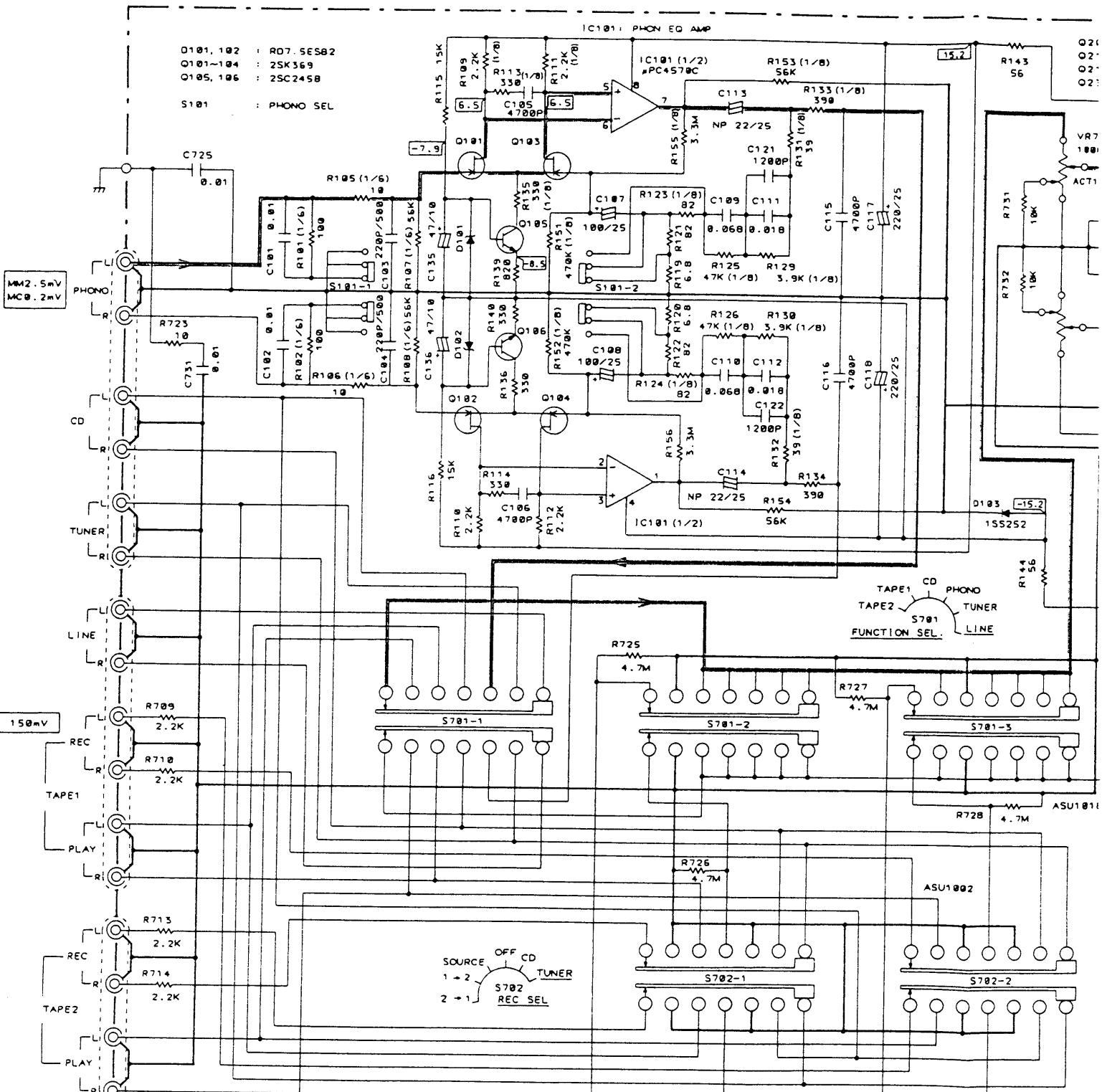


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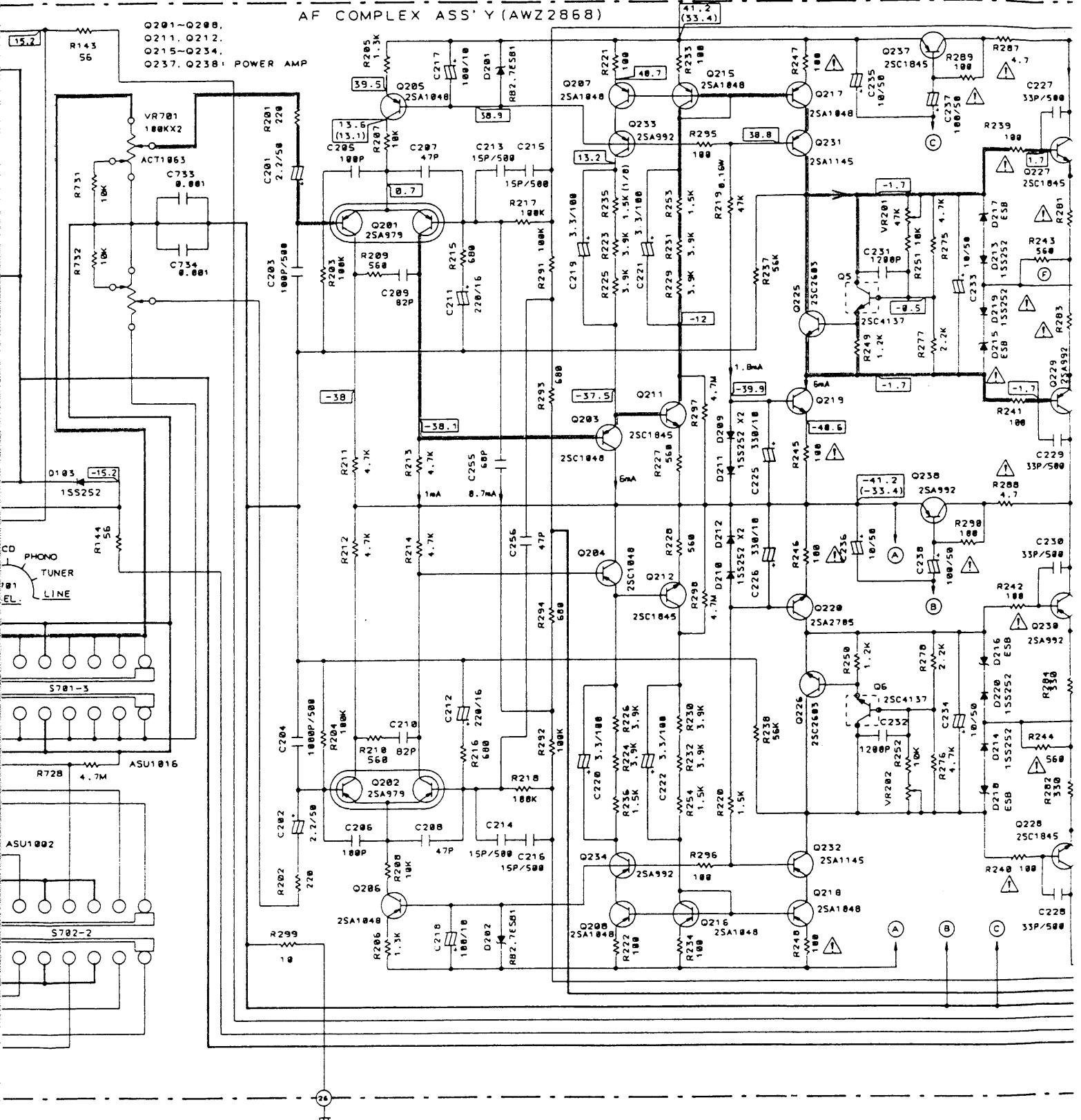


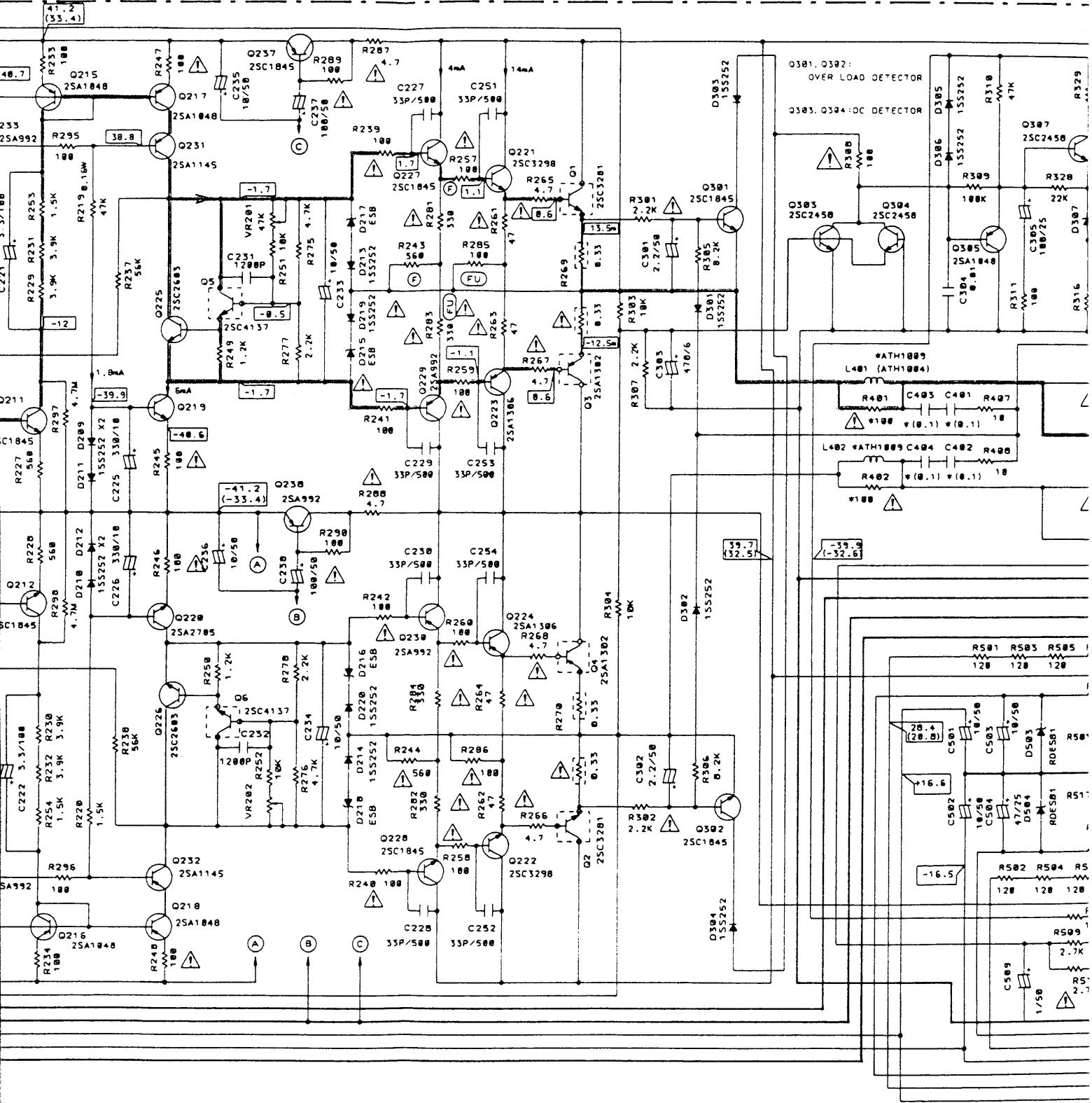
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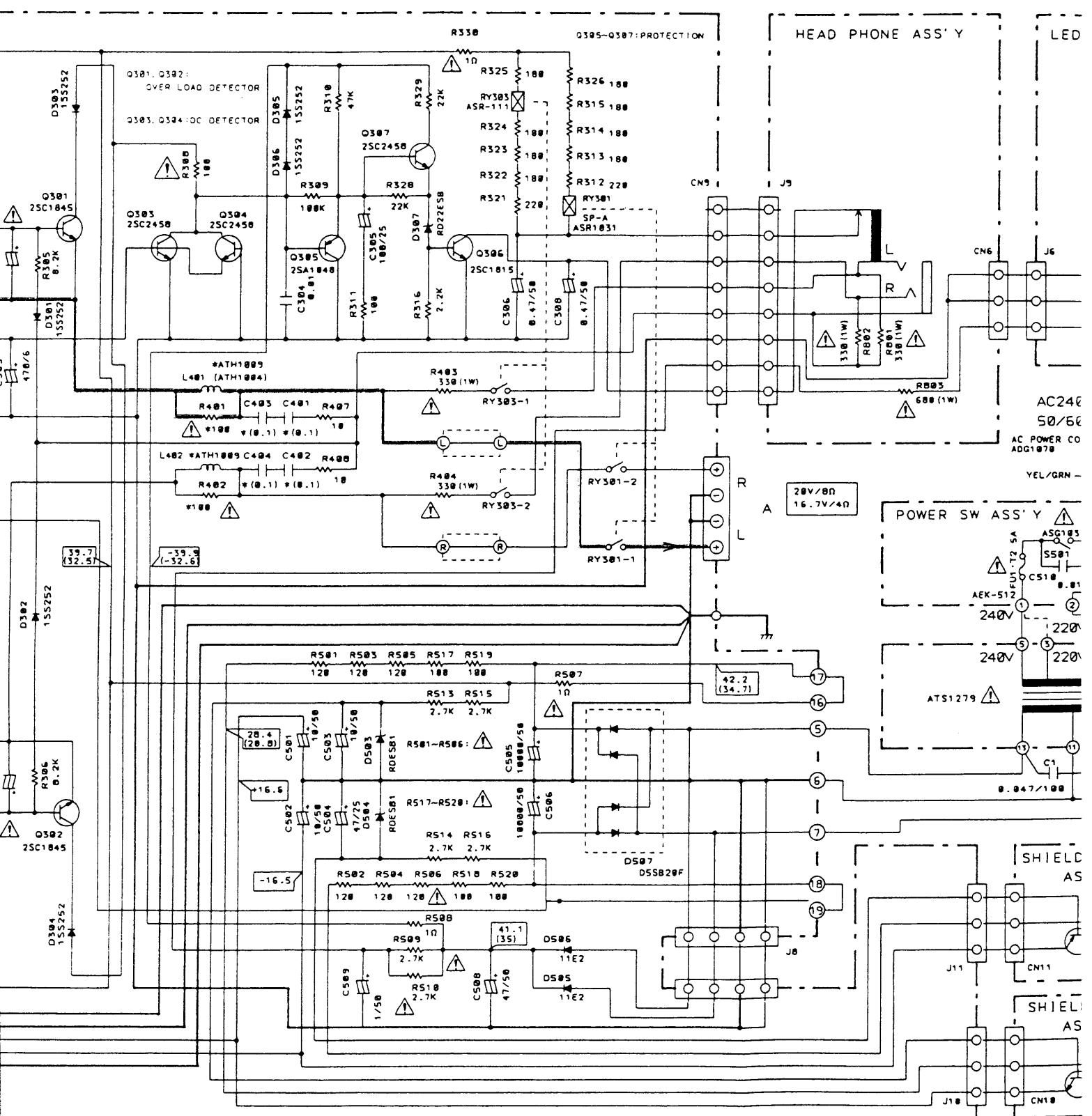
3. SCHEMATIC DIAGRAM (FOR A-400/HB TYPE)

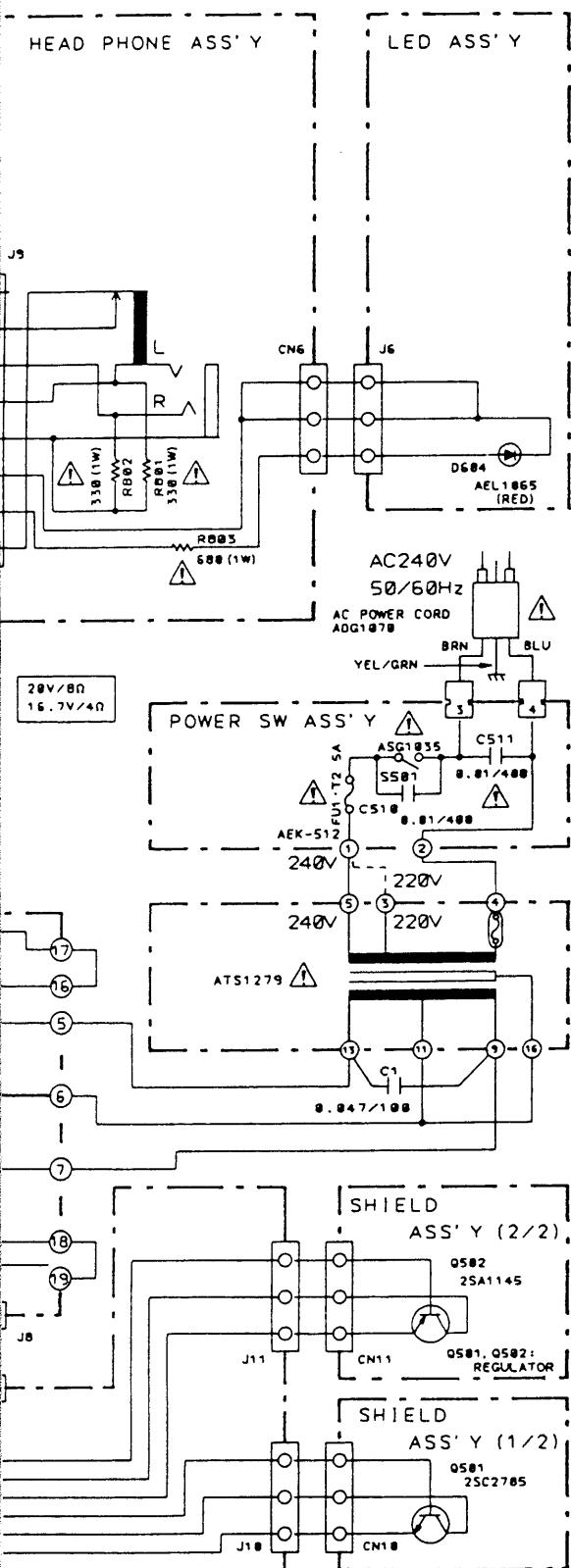


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1. RESISTORS:

Indicated in Ω , 1/8, 1/4W, $\pm 5\%$ tolerance unless otherwise noted
 K ; $k\Omega$, M ; $M\Omega$, (F); $\pm 1\%$, (G); $\pm 2\%$, (K); $\pm 10\%$, (M); $\pm 20\%$ tolerance.

A

2. CAPACITORS:

Indicated in capacity (μF) / voltage (V) unless otherwise noted p; pF . Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT:

<input checked="" type="checkbox"/> V	: Signal voltage at (50W + 50W/8 Ω , 70W + 70W/4 Ω) output (1kHz).
<input type="checkbox"/>	: DC voltage (V) at no input signal. Value in () is DC voltage at rated power.
mA	: DC current (V) at no input signal.
mV	: Signal voltage at FM 400Hz \pm 75Hz DEV.

4. OTHERS

- \leftrightarrow : Signal route.
- \odot : Adjusting point.
- The \times 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.
- \triangle marked capacitor and resistor have parts number.
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

B

5. SWITCHES (The underline indicates the switch position)

S501	: POWER SW (ON-OFF)
S101	: PHONO SEL MM/MC
S701	: FUNCTION SEL (TAPE 2 - TAPE 1 - CD - PHONO - TUNER - <u>LINE</u>)
S702	: REC SEL (2→1 - 1→2 - SOURCE - OFF - CD - TUNER)

Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

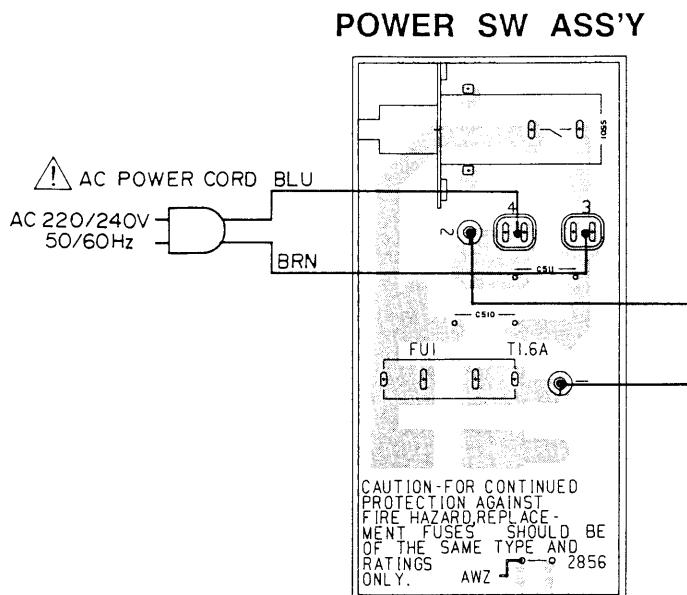
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Part No.	Description	
AAX-193	220V label	----- 220V
AAX-192	240V label	— 240V

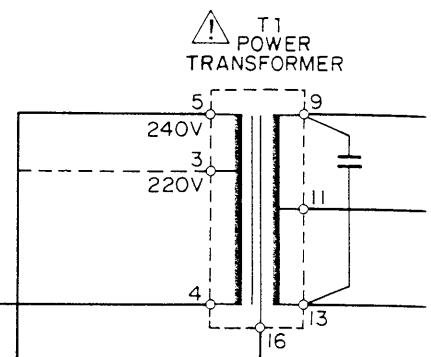
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4. P.C. BOARDS CONNECTION DIAGRAM (FOR A-400/HB TYI)

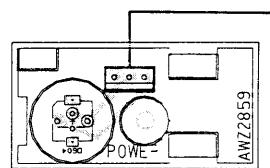
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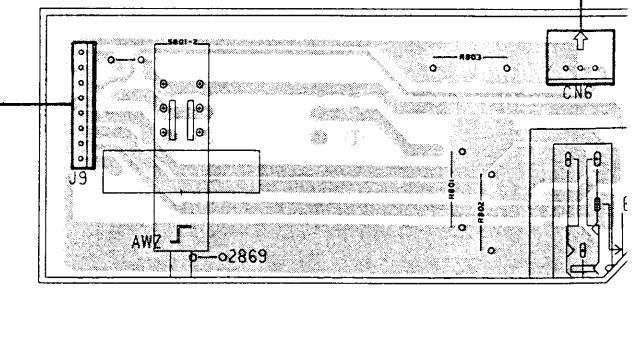


LED ASS'Y



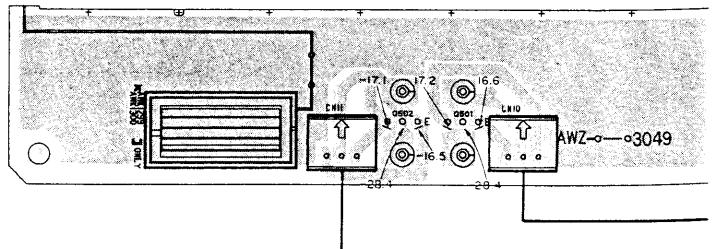
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HEADPHONE ASS'Y



D

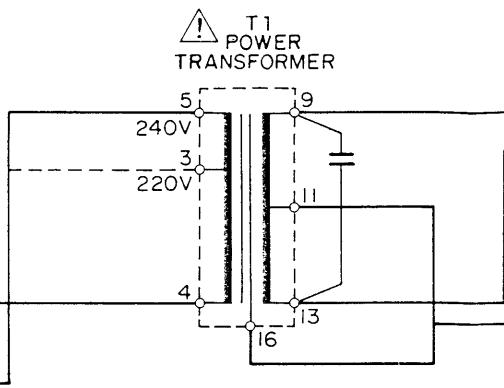
SHIELD ASS'Y



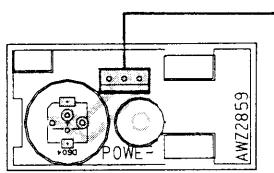
RAM(FOR A-400/HB TYPE)

AF COMPLEX ASS'Y (AWZ2868)

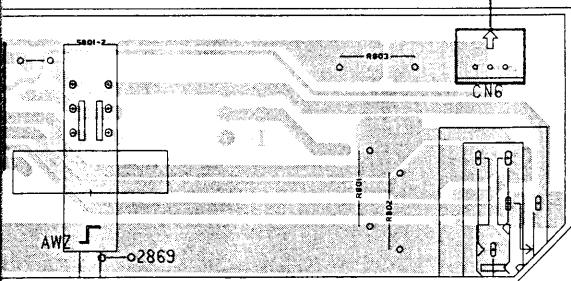
ASS'Y



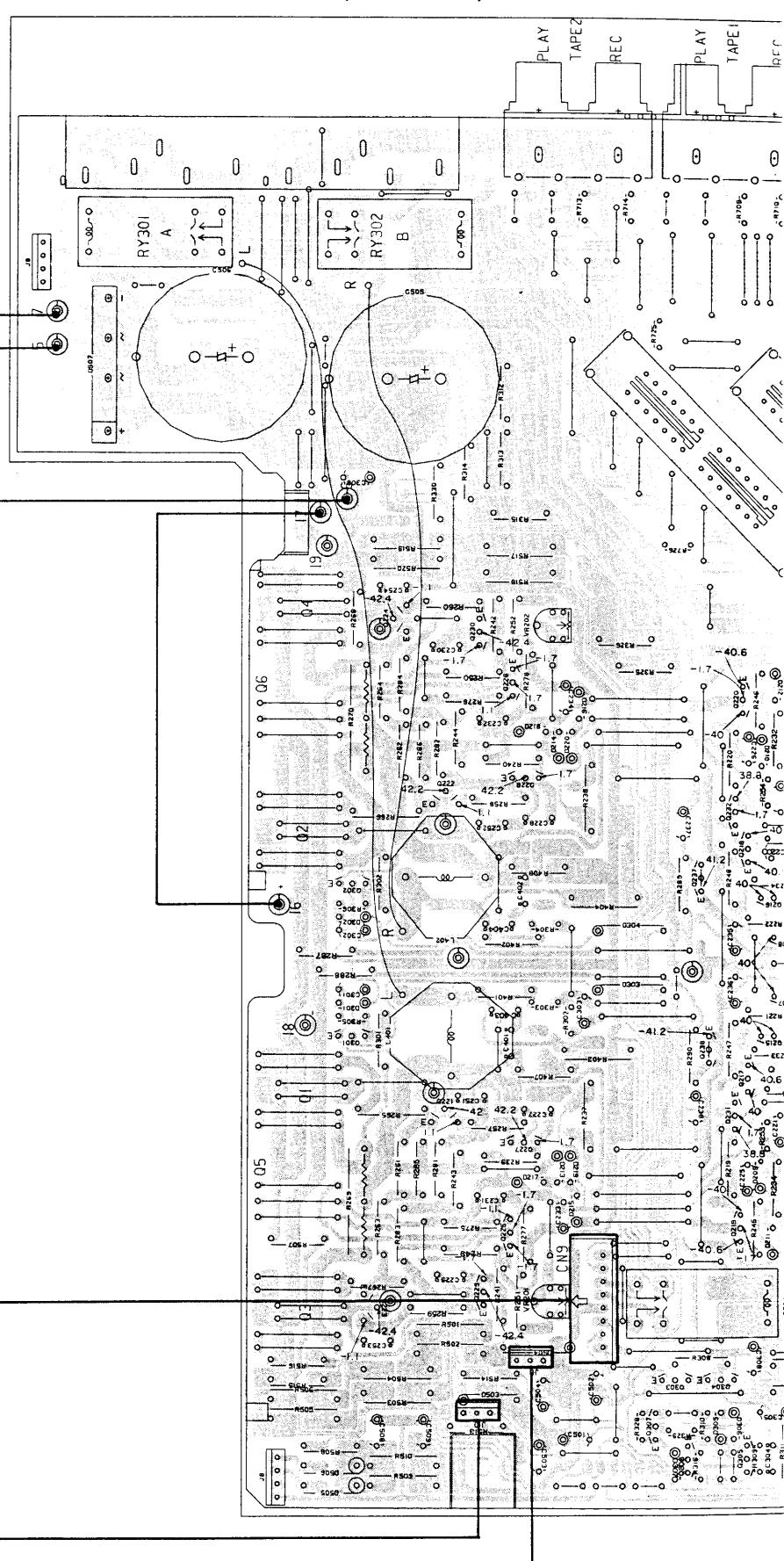
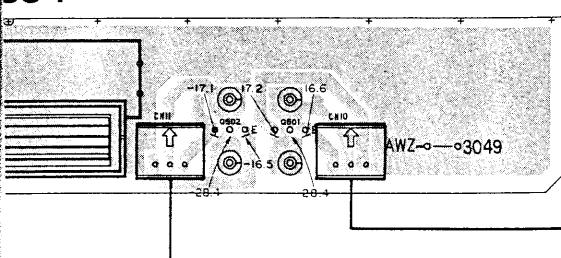
LED ASS'Y

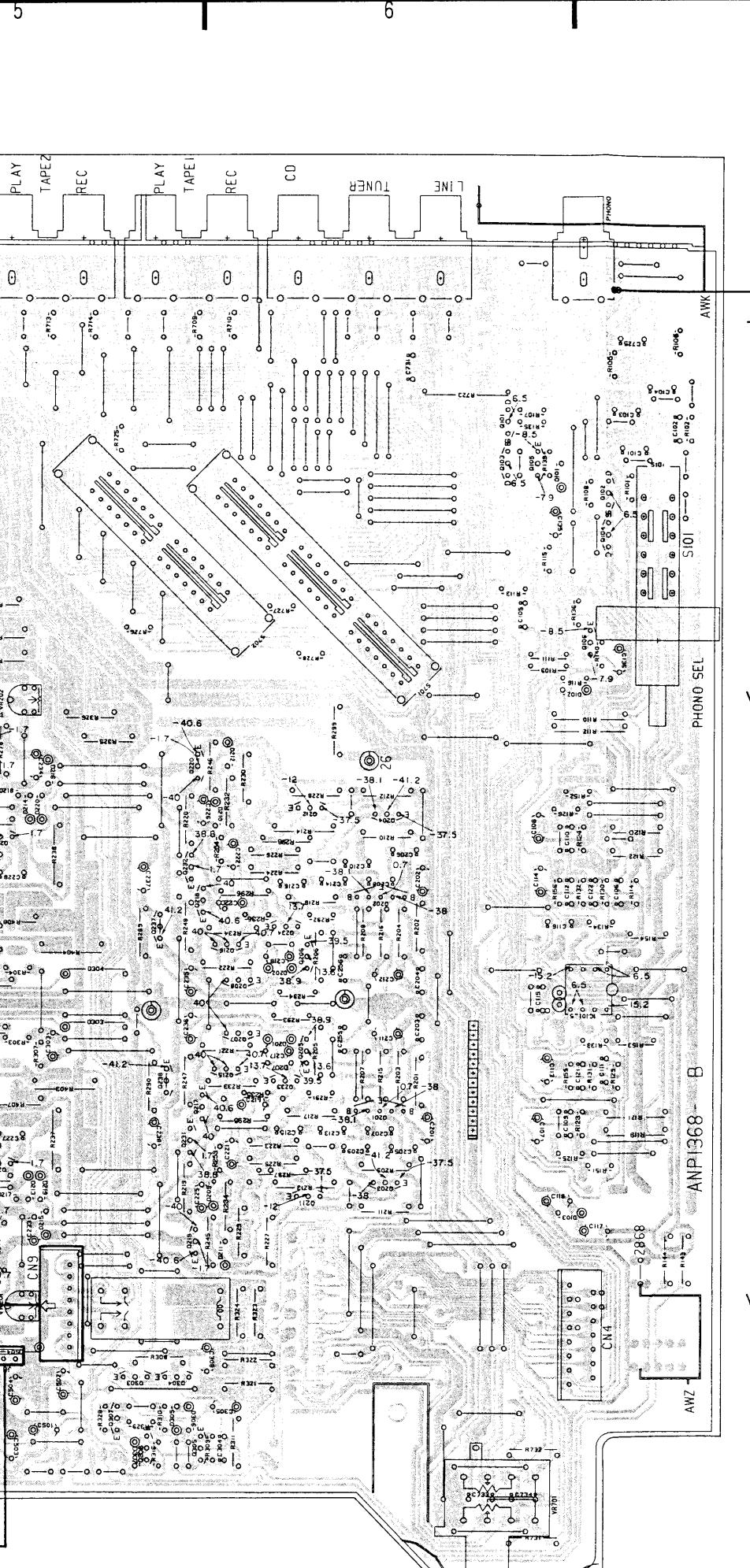


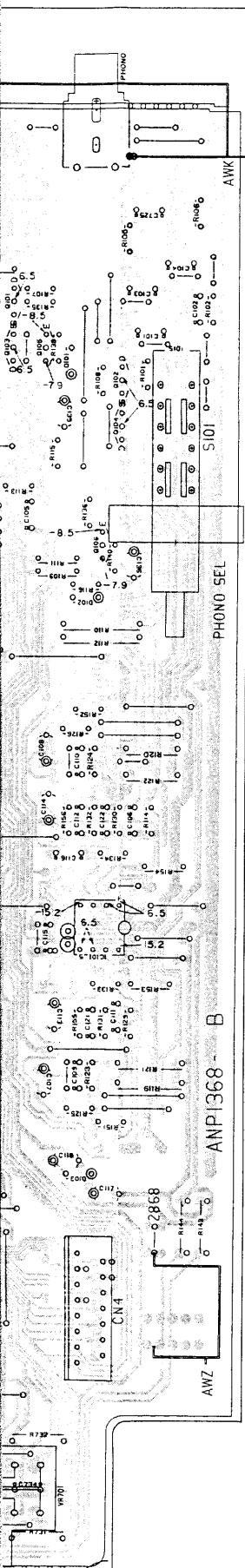
ADPHONE ASS'Y



ASS'Y







Q101
Q103
Q105
Q102
Q104

Q106

VR202

Q224
Q230
Q226
Q222
Q228
Q302

Q220
Q212
Q204

Q232
Q218
Q202
Q237
Q234
Q216
Q206
Q208

IC101

Q207
Q205
Q301
Q238
Q215
Q233

Q221
Q217
Q201
Q227
Q231
Q203
Q211

Q225
Q219

Q229
Q223

Q303
Q304
Q307
Q306
Q305

VR201

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Fax (01844) 352554
email:- sales@mauritron.co.uk

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.

Indication of the P.C.B. pattern	Symbol of corresponding parts	Parts name
Q504 E O O O	or E O O O E O O O	Transistor
Q215 O O O	or O O O O O O	Radiator type transistor
Q203 O O O	D203 O O O	Diode
O R237 O	R237 O O O	Resistor
C513 O O O	O + O	Condenser (Polar type)
O C518 O	O O	Condenser (Non-polar type)

Others

Wiring mark on the P.C.B. pattern diagram	Parts list
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or semi-fixed resistor

3. The condenser terminal marked with double circles (◎) represents (-) terminal.
4. The diode terminal marked with double circles (◎) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

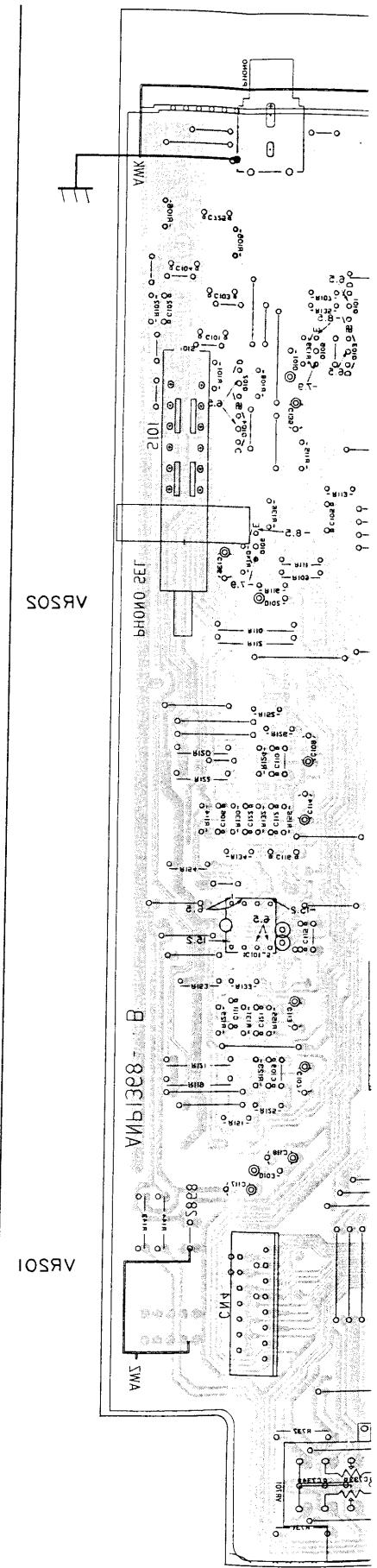
- View from soldering side

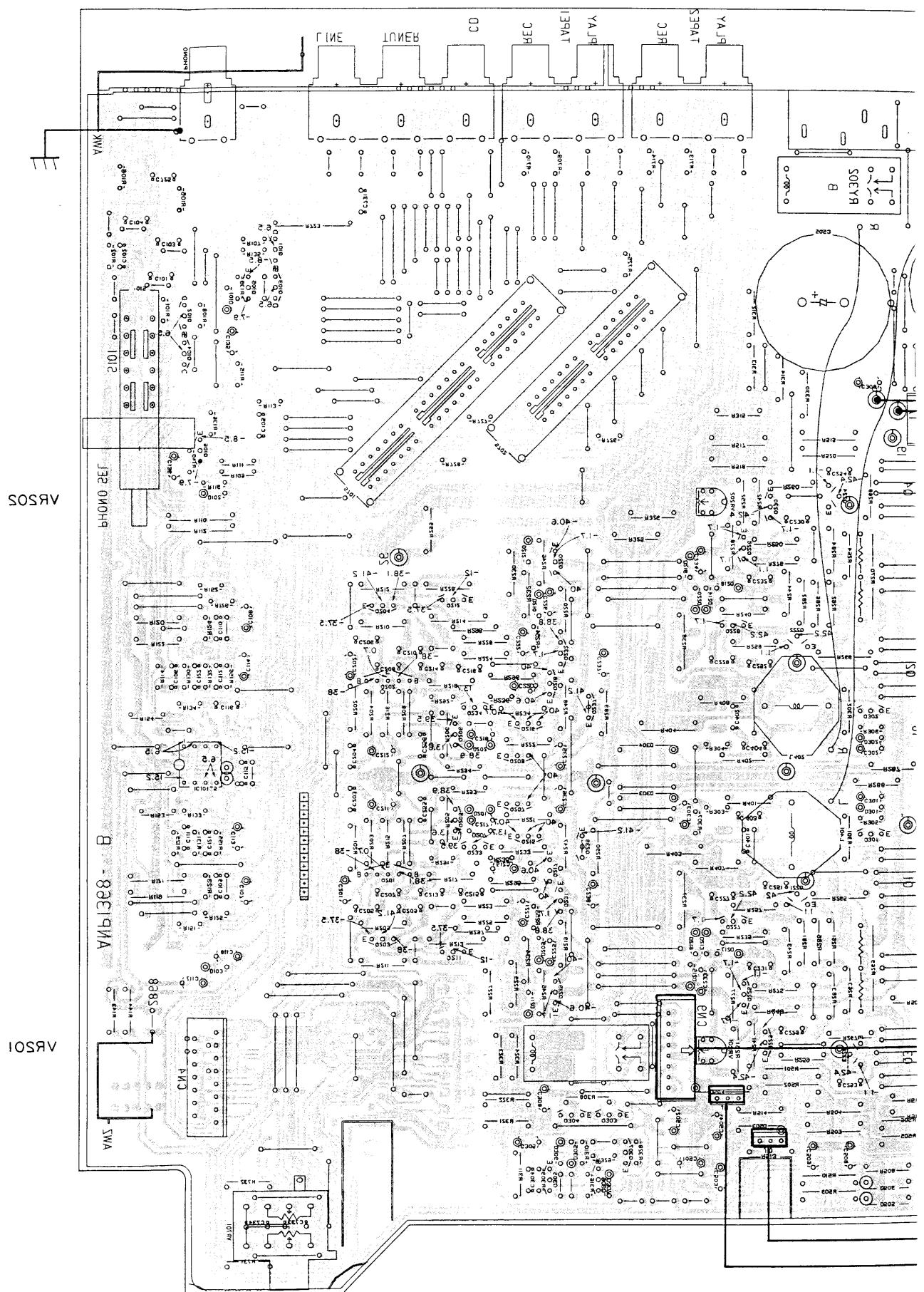
Q101
Q103
Q102
Q105
Q104

Q106

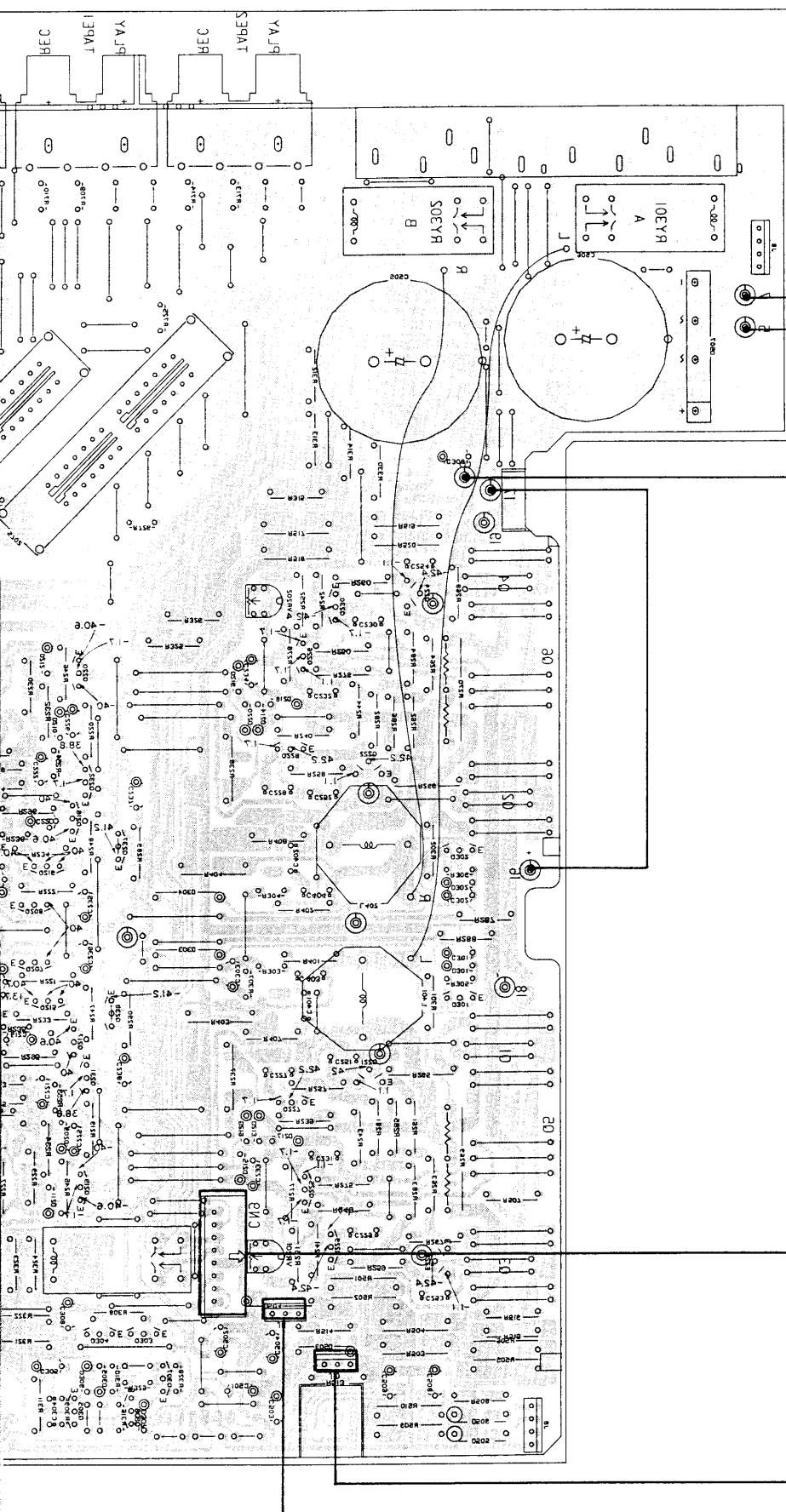
AR202 Q254
Q230
Q256
Q255
Q258
Q255
Q252
Q208
Q206
Q205
Q204
Q215
Q216
Q218
Q205
Q232
Q234
Q216
Q206
Q208
IC101

Q202
Q205
Q238
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Q211
Q225
Q253
Q250
Q303
Q304
Q302
Q306
Q305

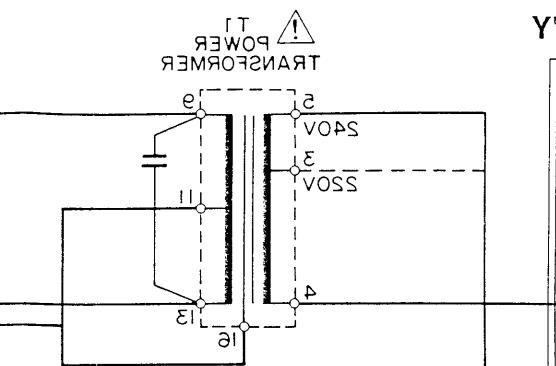




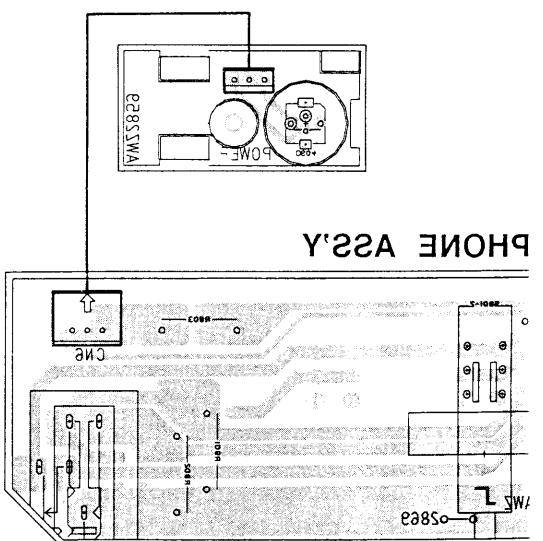
AF COMPLEX ASSY (AM22868)



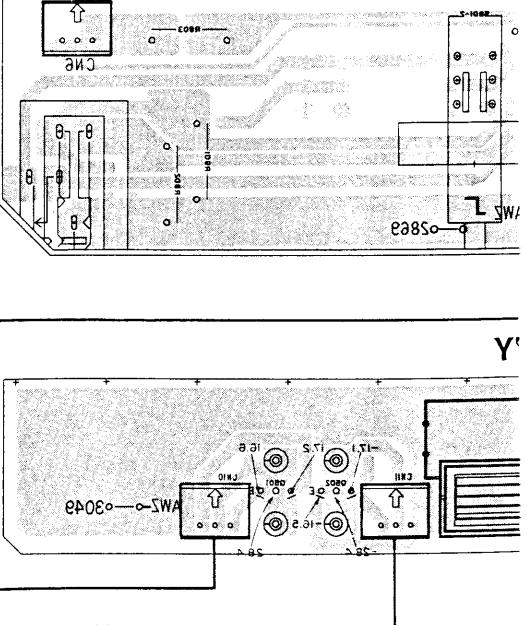
YM (FOR A-400\HB TYPE)



LED ASSY

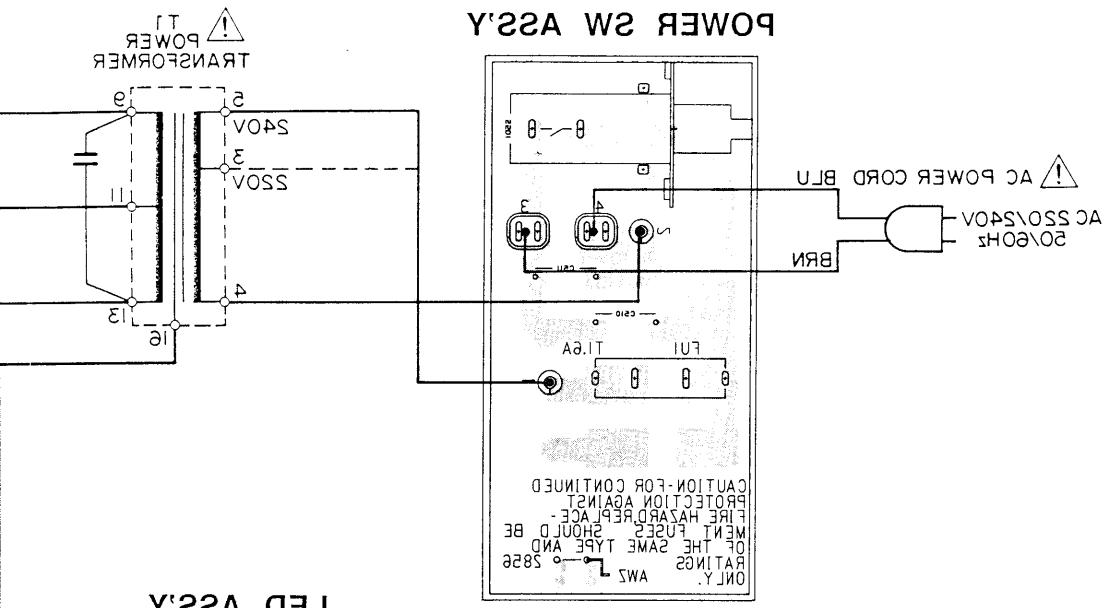


PHONE ASSY

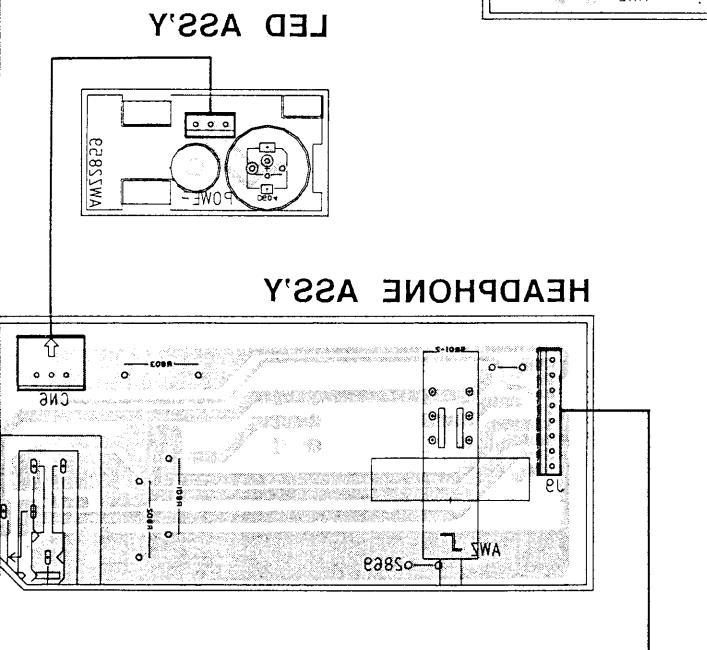


4.P.C. BOARDS CONNECTION DIAGRAM (FOR A-400\HB TYPE)

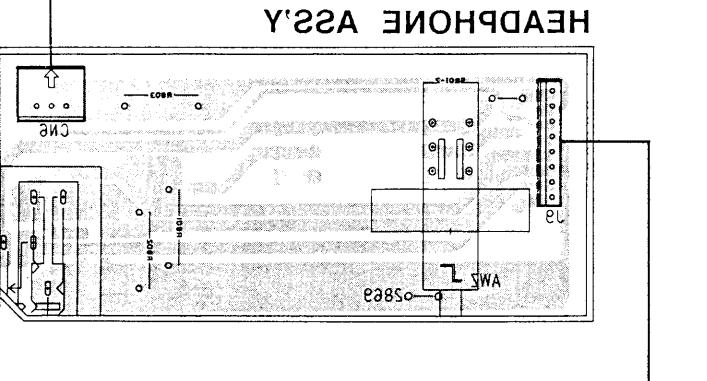
A



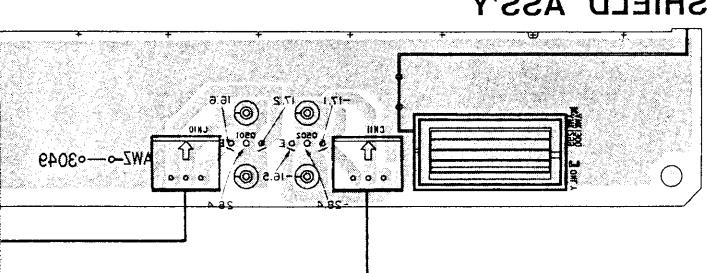
B



C



D



3

5

1

● View from soldering side

A

B

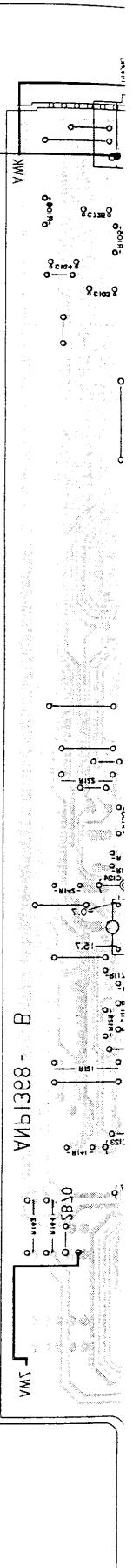
C

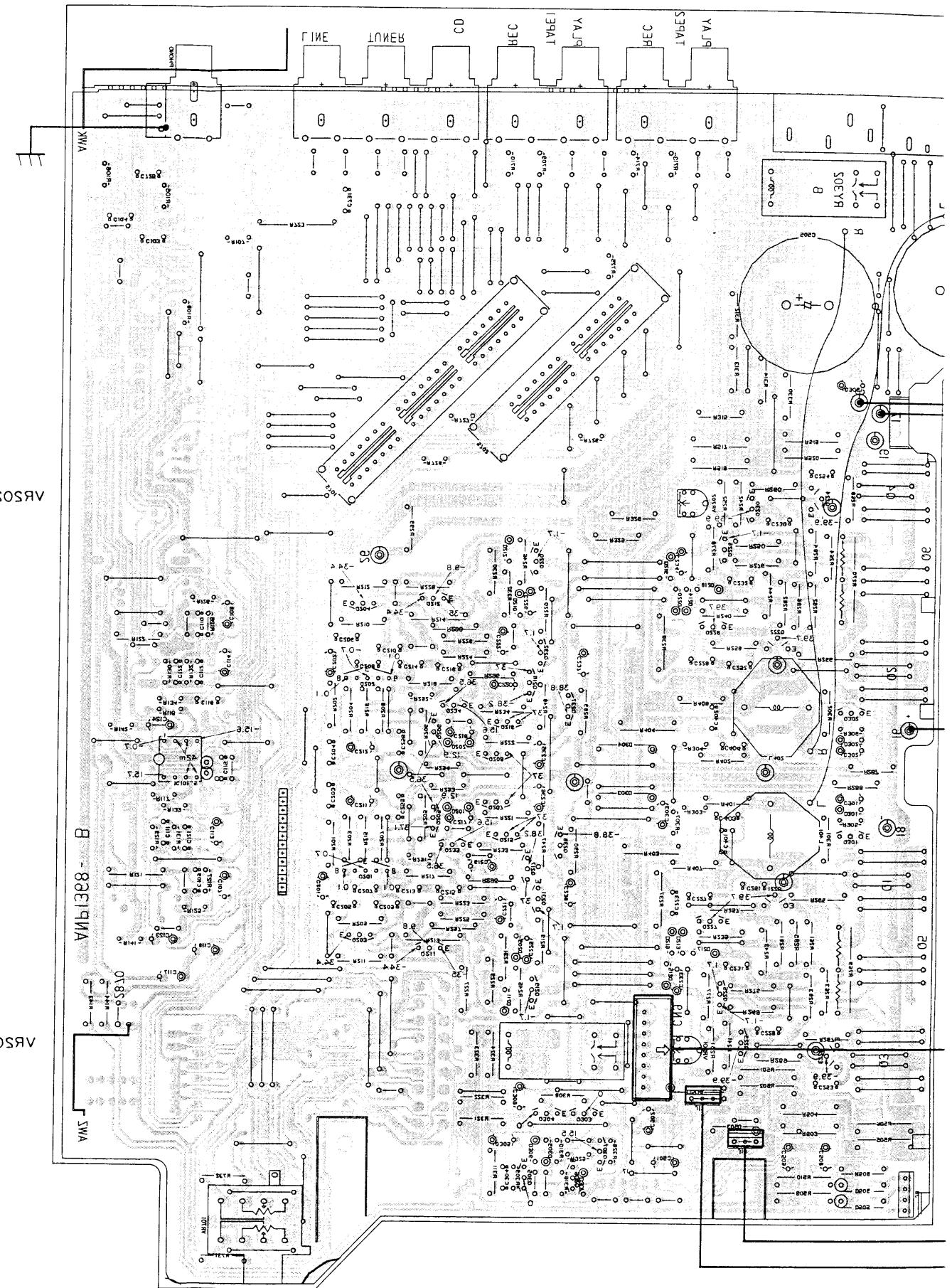
D

ARSO5

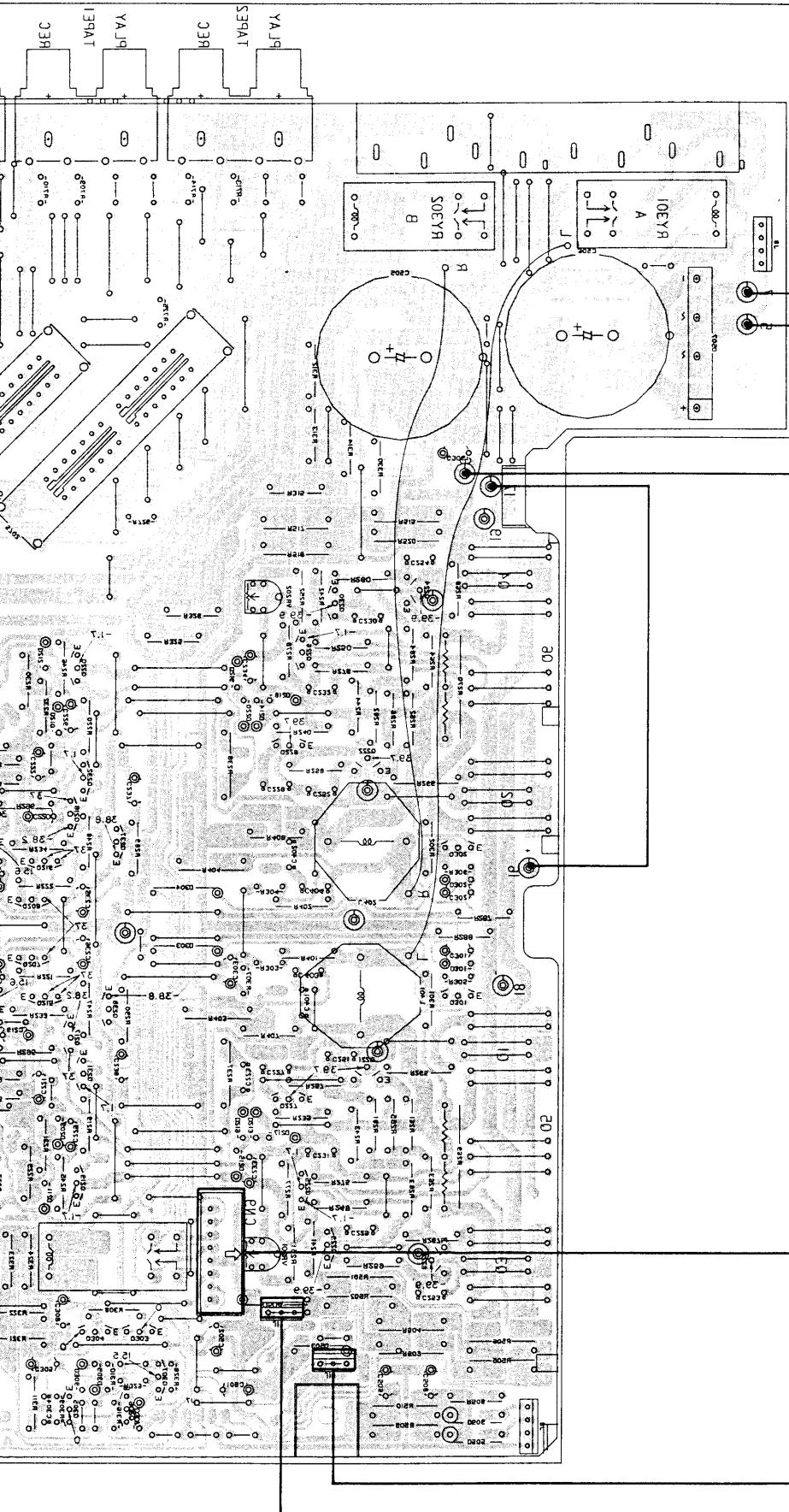
ARSO1

Q224
Q230
Q226
Q220
Q204
Q215
Q204
Q225
Q228
Q232
Q218
Q205
Q231
Q234
Q236
Q238
Q234
Q236
Q208
Q2101
Q202
Q205
Q238
Q215
Q233
Q212
Q201
Q231
Q2303
Q211
Q225
Q213
Q223
Q2303
Q204
Q302
Q206
Q306
Q302

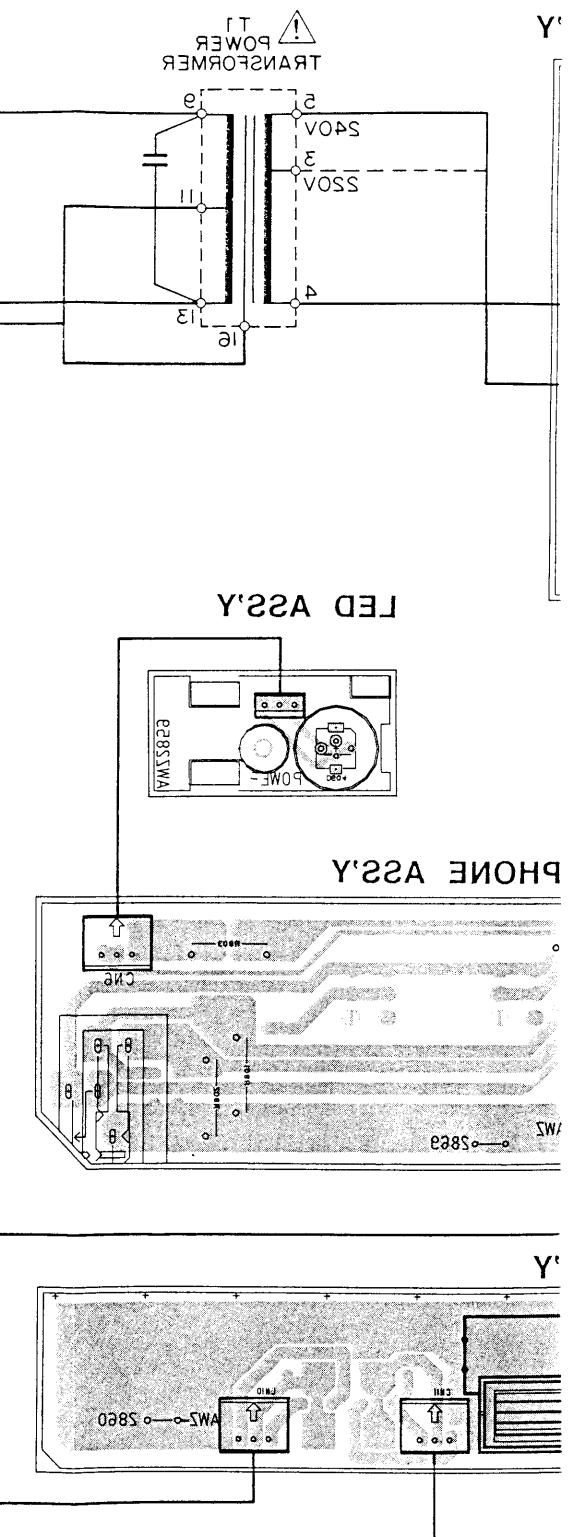




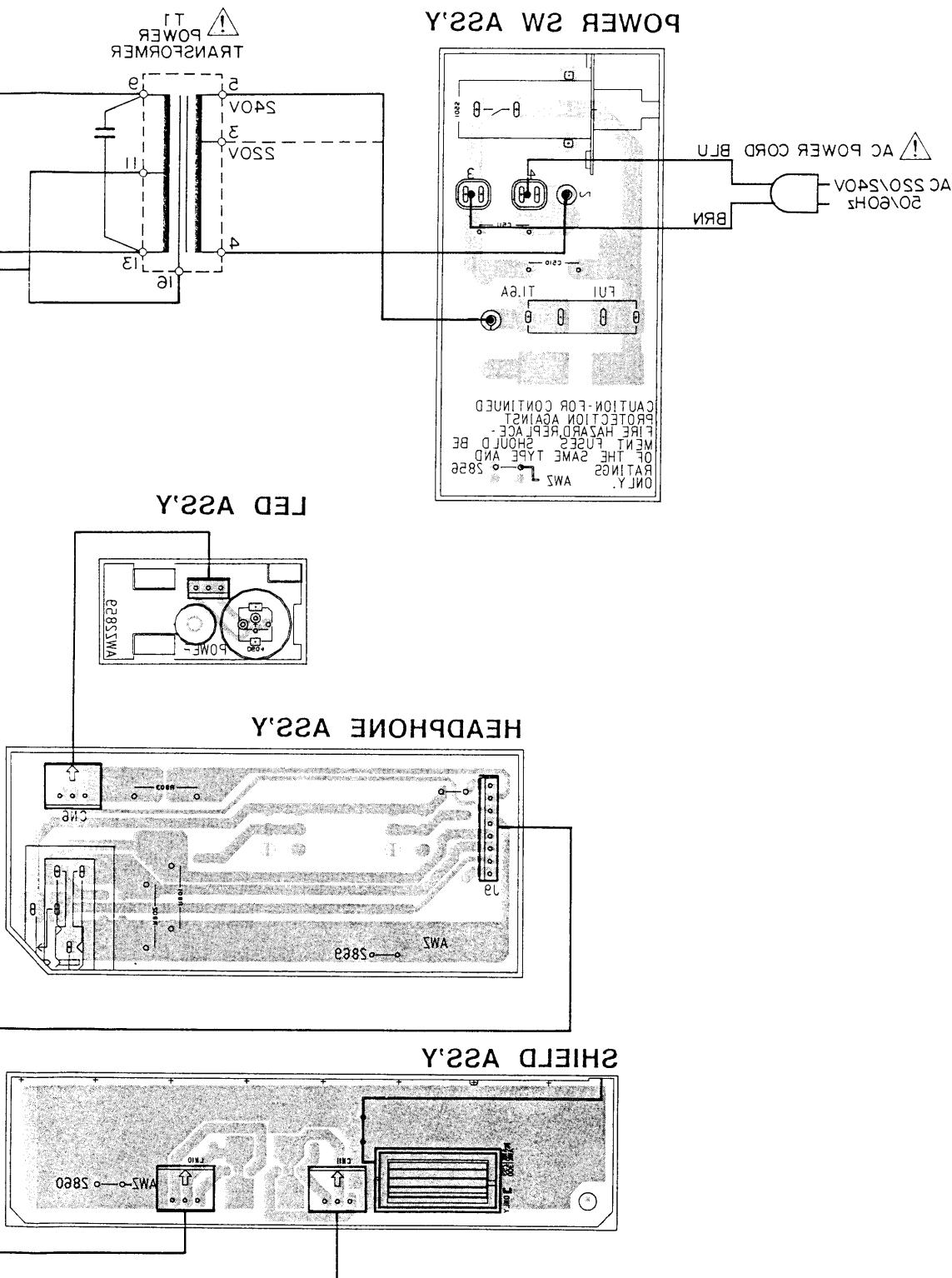
AF COMPLEX ASSY (AM25870)



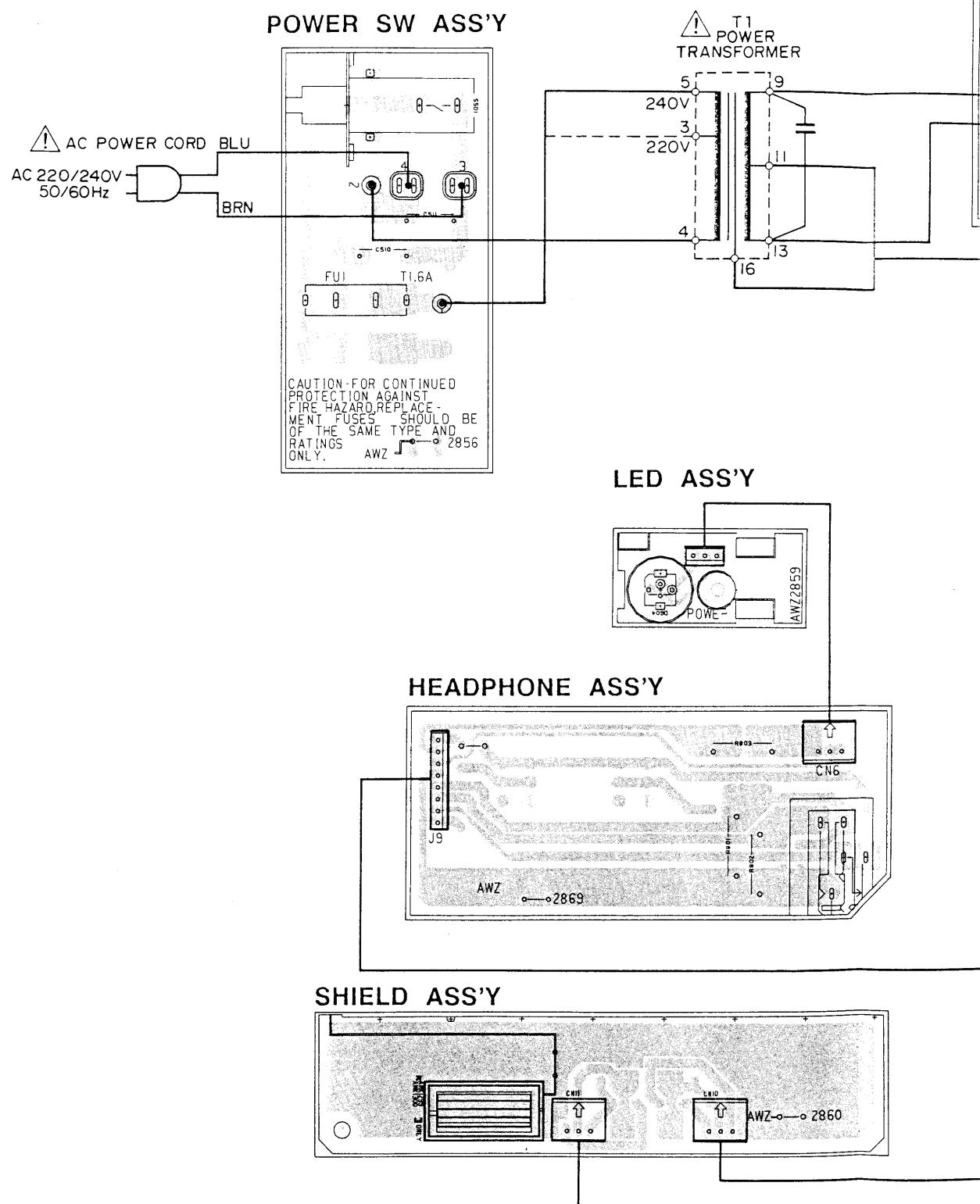
AM (FOR A-300\HB TYPE)



2. P.C. BOARDS CONNECTION DIAGRAM (FOR A-300\HB TYPE)

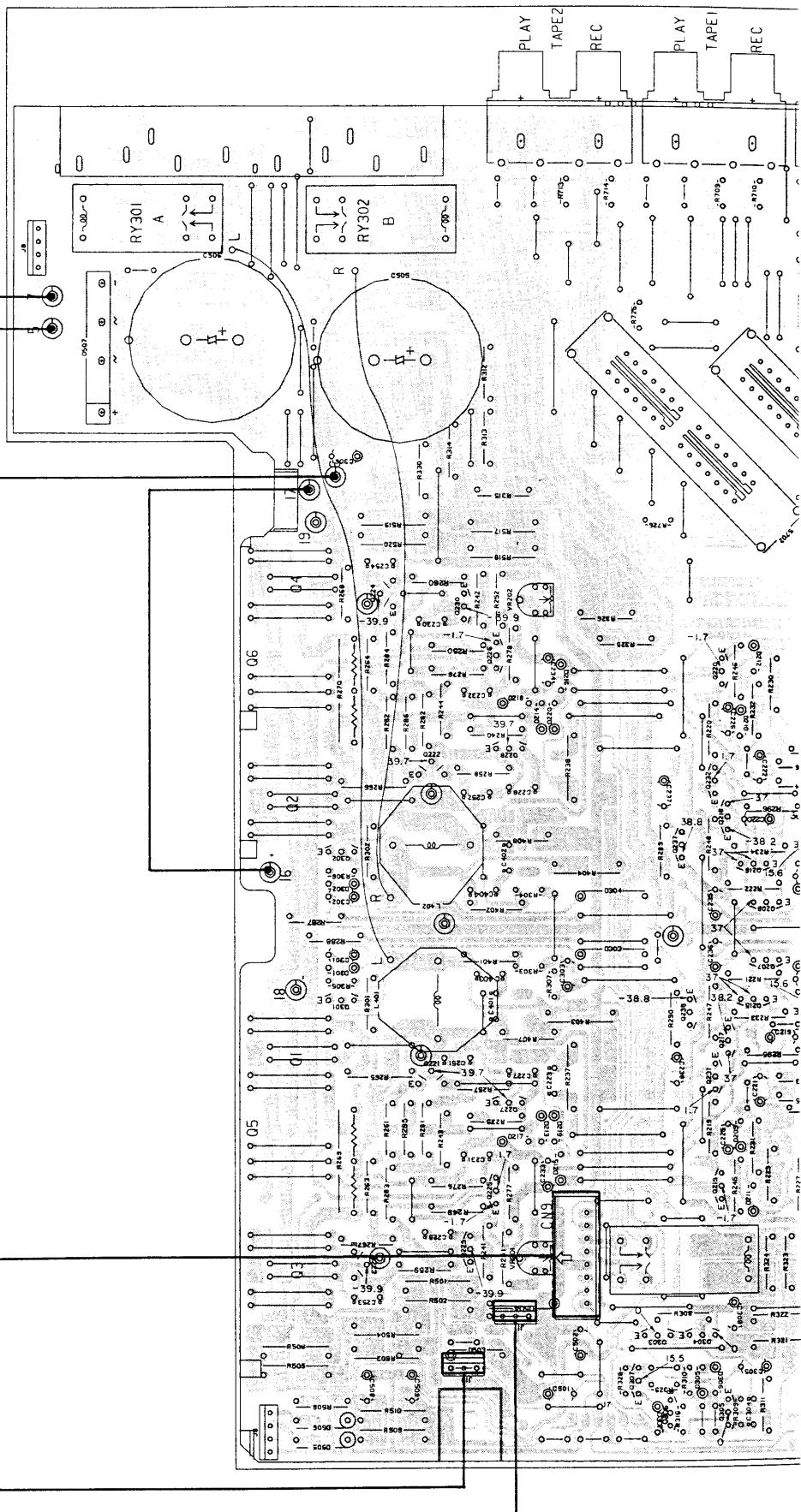


5. P.C. BOARDS CONNECTION DIAGRAM (FOR A-300/HB TYPE)

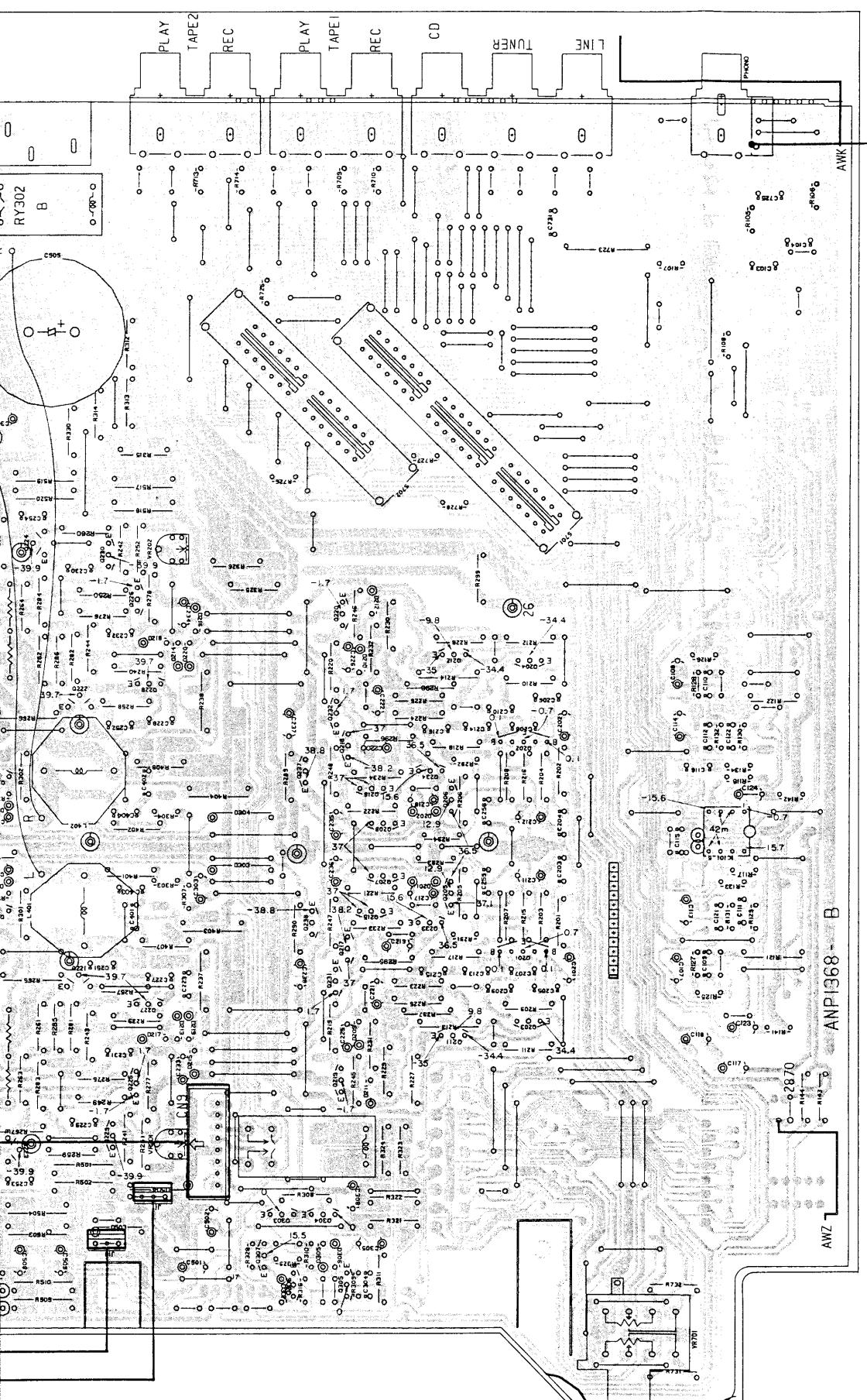


AM (FOR A-300/HB TYPE)

AF COMPLEX ASS'Y (AWZ2870)



AWZ2870)



VR202

Q224

Q230

Q226

Q220
Q212
Q204

Q222

Q232
Q218

Q228

Q202
Q237

Q302

Q234
Q216

Q206
Q208

IC101

VR201

Q207
Q205

Q301

Q238
Q215

Q221

Q217
Q201

Q227

Q231
Q203

Q211

Q225

Q219

Q229

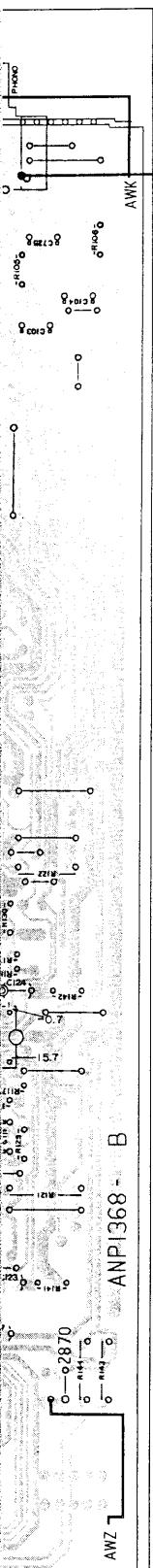
Q223

Q303
Q304

Q307

Q306

Q305



VR202

Q224

Q230

Q226

Q220

Q212

Q204

Q222

Q228

Q232

Q218

Q202

Q237

Q302

Q234

Q216

Q206

Q208

IC101

Q207

Q205

Q301

Q238

Q215

Q233

Q221

Q217

Q201

Q227

Q231

Q203

Q211

Q225 Q219

Q229

Q223

Q303

Q304

Q307

Q306

Q305

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.

Indication of the P.C.B. pattern	Symbol of corresponding parts	Parts name
Q504 EO O O	or E O O E O O	Transistor
Q215 O O O	or O O O O O	Radiator type transistor
O D203 O	D203	Diode
O R237 O	R237	Resistor
C513	+ -	Condenser (Polar type)
O C518 O	- +	Condenser (Non-polar type)

Others

Wiring mark on the P.C.B. pattern diagram	Parts list
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or semi-fixed resistor

3. The condenser terminal marked with double circles (◎) represents (-) terminal.
4. The diode terminal marked with double circles (◎) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

A

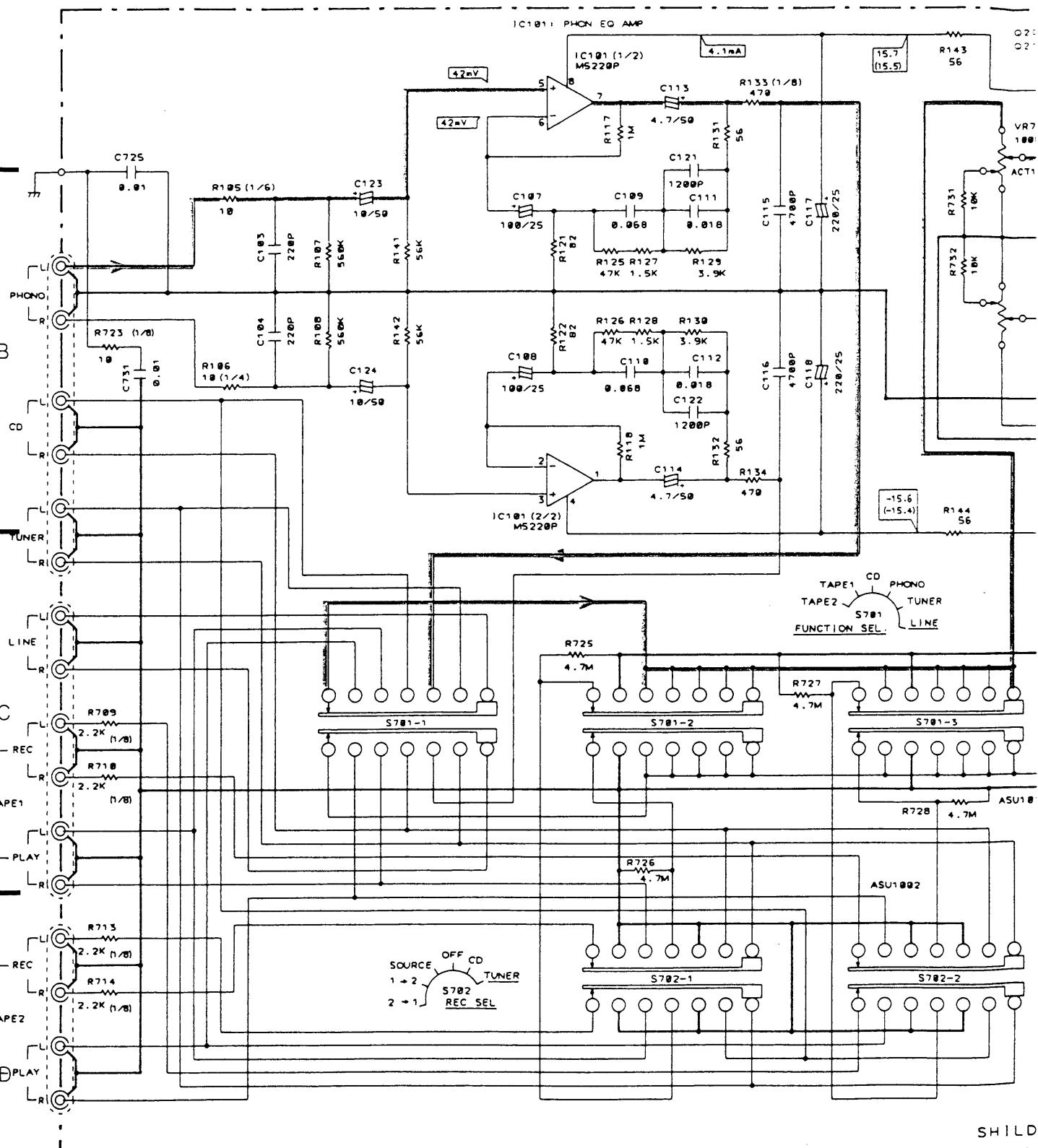
B

C

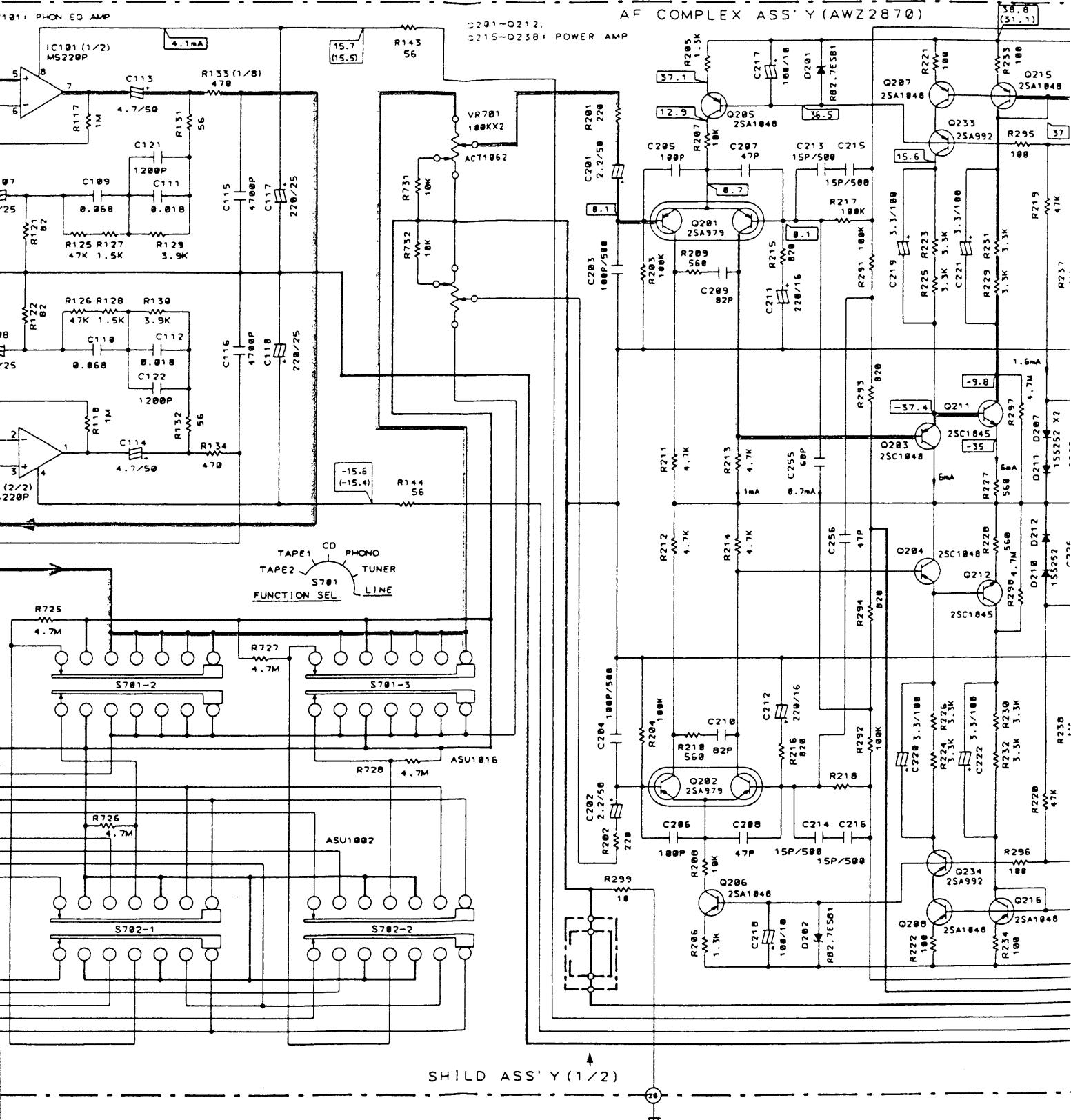
D

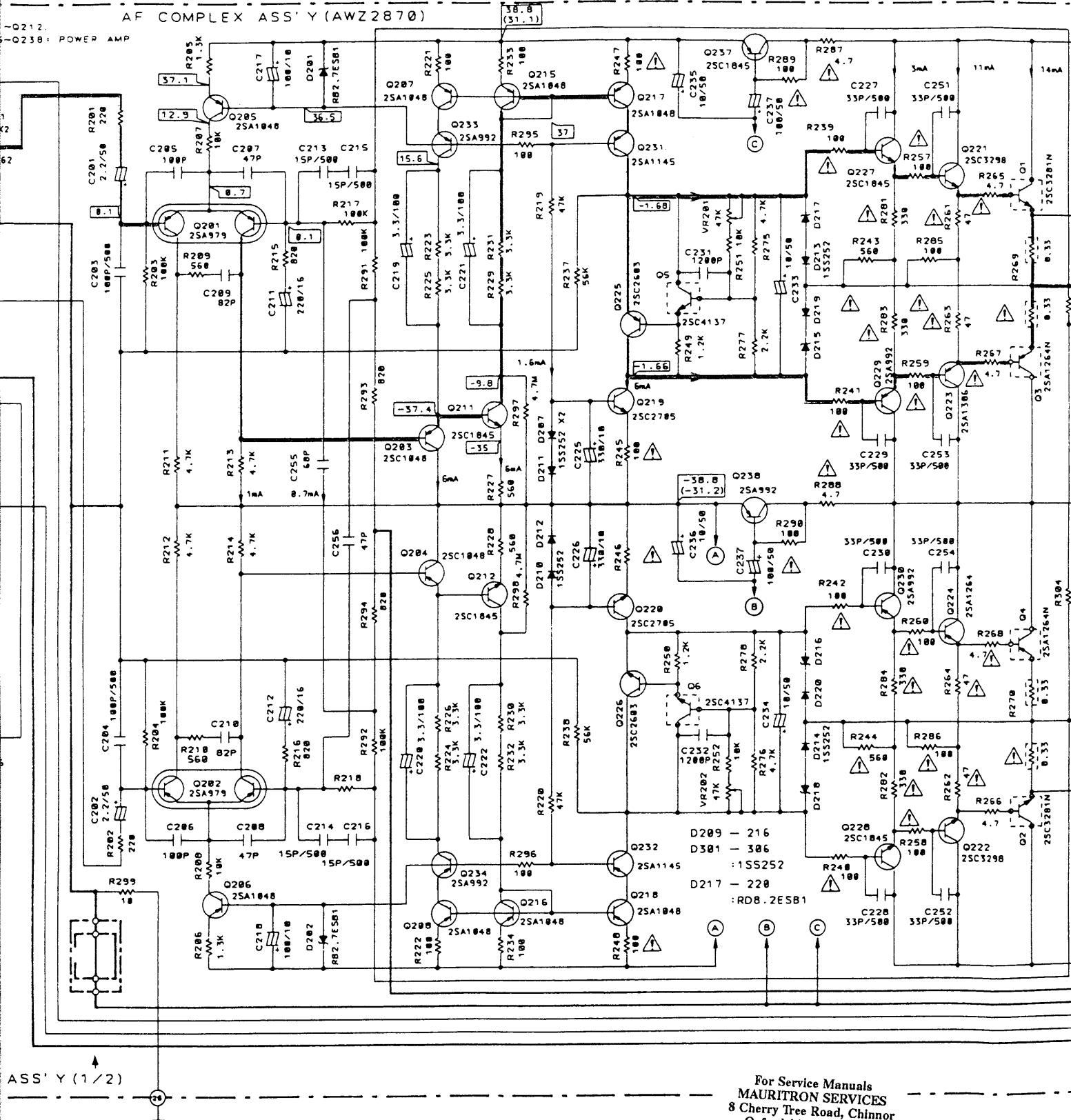
6. SCHEMATIC DIAGRAM (FOR A-300/HB TYPE)

A

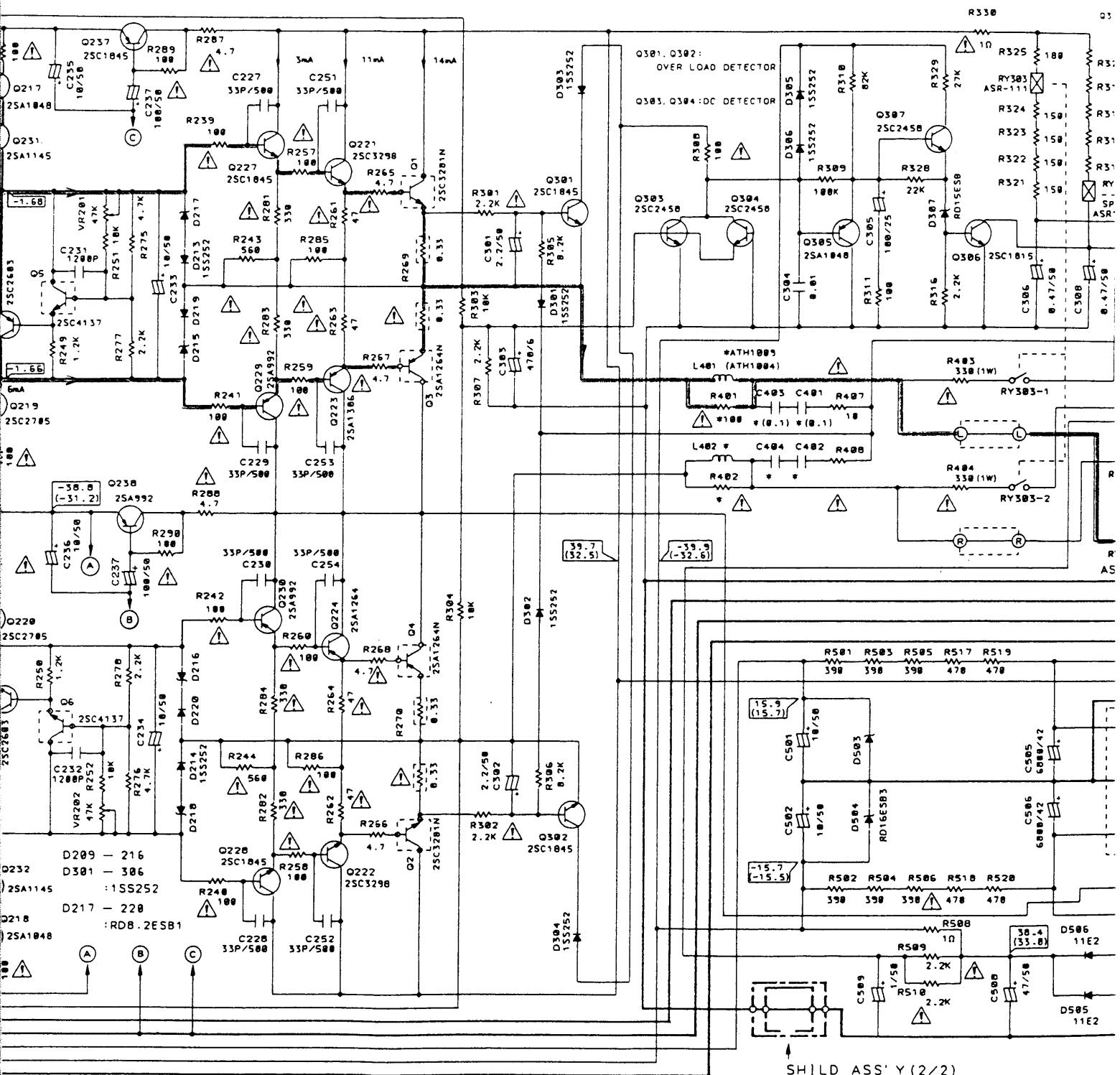


R A-300/HB TYPE)

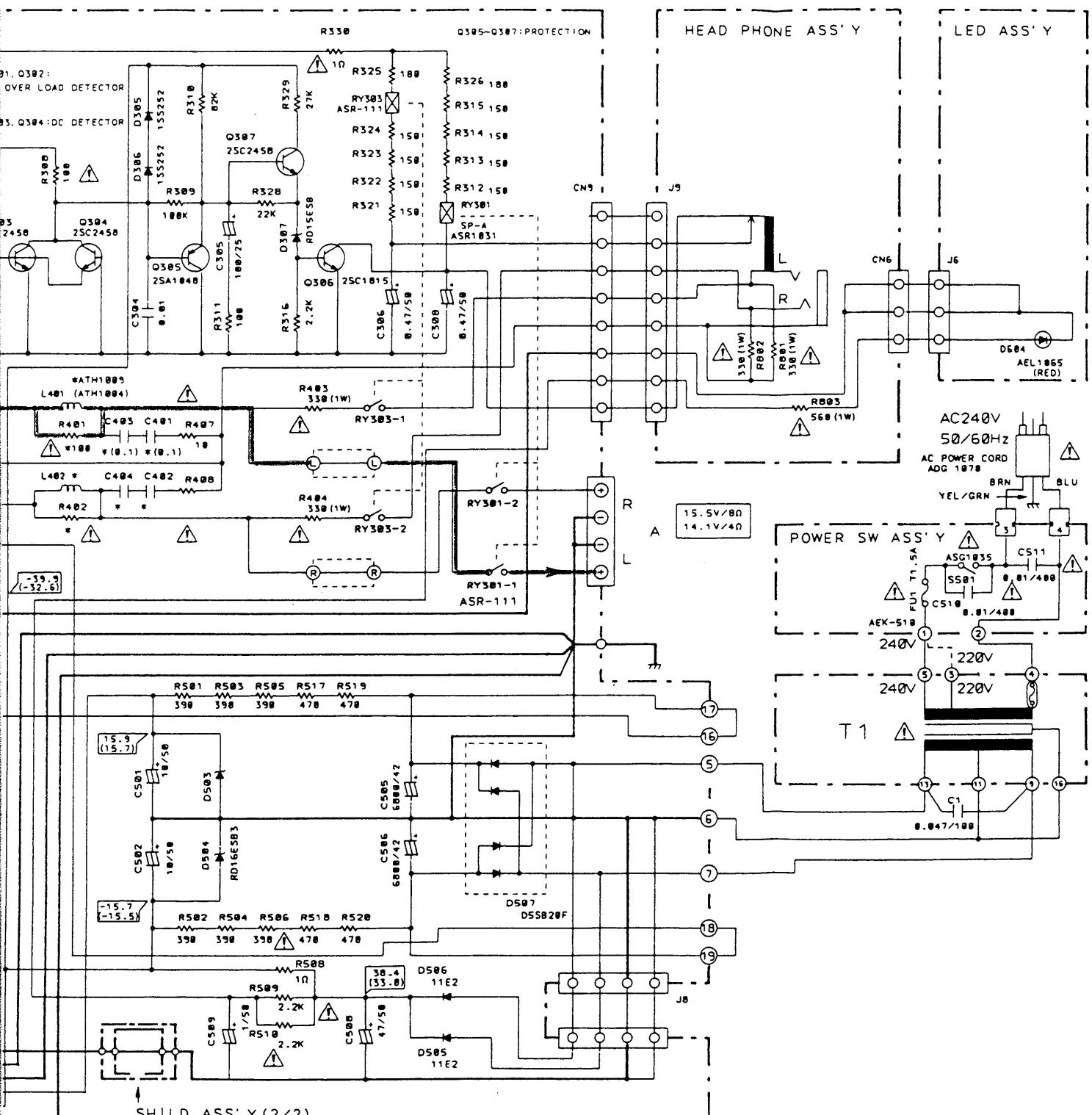


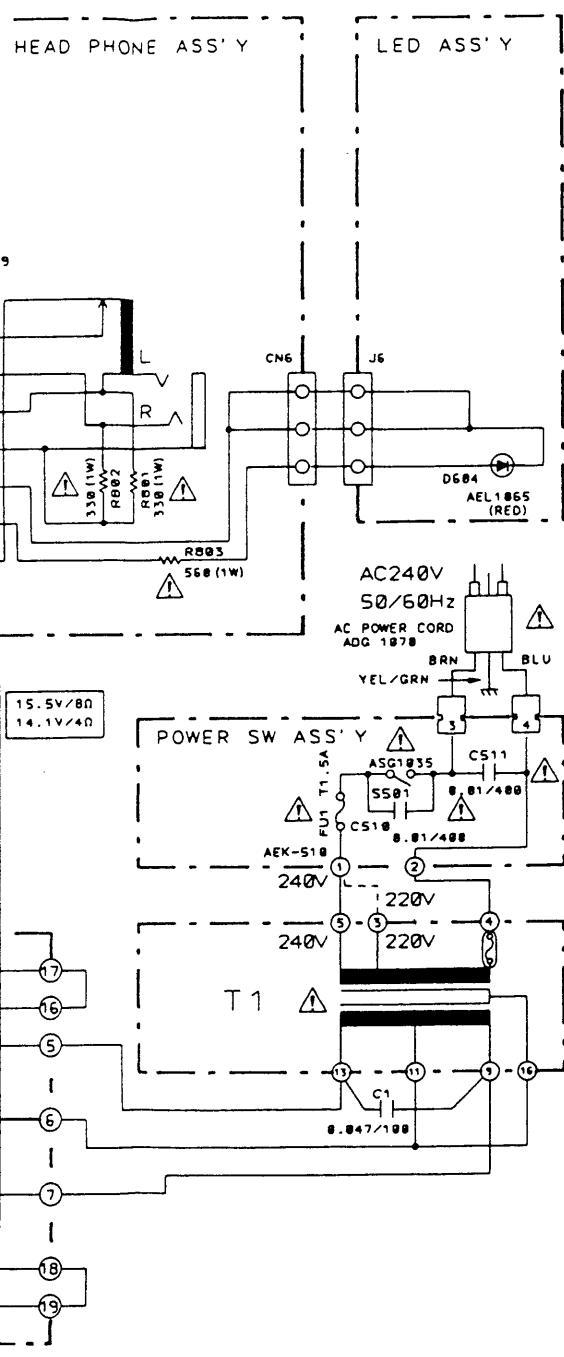


For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- sales@mauritron.co.uk



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1. RESISTORS:

Indicated in Ω , 1/8, 1/4W, $\pm 5\%$ tolerance unless otherwise noted
 K ; $k\Omega$, M ; $M\Omega$, (F); $\pm 1\%$, (G); $\pm 2\%$, (K); $\pm 10\%$, (M); $\pm 20\%$ tolerance.

A

2. CAPACITORS:

Indicated in capacity (μF) / voltage (V) unless otherwise noted p; pF . Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT:

<input type="checkbox"/> V	: Signal voltage at (30W + 30W/8Ω, 50W + 50W/4Ω) output (1kHz).
<input type="checkbox"/>	: DC voltage (V) at no input signal.
mA	: Value in () is DC voltage at rated power.
mV	: DC current (V) at no input signal.
	: Signal voltage at FM 400Hz ± 75Hz DEV.

4. OTHERS

- \leftarrow : Signal route.
- \odot : Adjusting point.
- The \times 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.
- \triangle marked capacitor and resistor have parts number.
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

S501	: POWER SW (ON-OFF)
S701	: FUNCTION SEL (TAPE 2 - TAPE 1 - CD - PHONO - TUNER - <u>LINE</u>)
S702	: REC SEL (2→1 - 1→2 - SOURCE - OFF - CO - <u>TUNER</u>)

B

C

7. ELECTRICAL PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by “●” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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.
- 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.....	RD1/4PS □ □ J
47kΩ	47×10^3	473.....	RD1/4PS □ □ J
0.5Ω	0R5.....	RN2H □ □ K	
1Ω	010.....	RS1P □ □ K	

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

5.62kΩ	562×10^1	5621.....	RNI/4SR □ □ F
--------	-------------------	-----------	---------------

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
POWER SW ASS'Y							
CAPACITORS							
▲	C510,C511	CKA (0.01/AC400V)	ACG1002	Q219,Q220	TRANSISTOR	2SC2705	
Q221,Q222	TRANSISTOR	2SC3298					
Q223,Q224	TRANSISTOR	2SA1306					
SWITCH							
▲	S501	PUSH SWITCH	ASG1035	Q225,Q226	TRANSISTOR	2SC2603	
Q227,Q228	TRANSISTOR	2SC1845					
Q229,Q230	TRANSISTOR	2SA992					
Q231,Q232	TRANSISTOR	2SA1145					
Q233,Q234	TRANSISTOR	2SA992					
LED ASS'Y							
SEMICONDUCTOR							
D604	LED (RED)	AEL1065	Q237 TRANSISTOR	2SC1845			
Q238 TRANSISTOR	2SA992						
Q301,Q302 TRANSISTOR	2SC1845						
Q303,Q304 TRANSISTOR	2SC2458						
Q305 TRANSISTOR	2SA1048						
SHIELD ASS'Y							
(FOR A-400/HB TYPE)							
SEMICONDUCTORS							
Q501	TRANSISTOR	2SC2705	Q306 TRANSISTOR	2SC1815			
Q502	TRANSISTOR	2SA1145	Q307 TRANSISTOR	2SC2458			
D101,D102	ZENER DIODE	RD7.5ESB2					
D103	DIODE	ISS252					
D201,D202	ZENER DIODE	RD2.7ESB1					
OTHERS							
CN10,CN11	JUMPER CONNECTOR	KPC3	D209-D216	DIODE	1SS252		
3-P			D217-D220	ZENER DIODE	RD15ESB		
			D301-D306	DIODE	1SS252		
			D307	ZENER DIODE	RD22ESB		
			D503,D504	ZENER DIODE	RD18ESB1		
			D505,D506	DIODE	11E2		
			D507	DIODE	D5SB20F		
HEADPHONE ASS'Y							
RESISTORS							
▲ R801,R802	METAL OXIDE RESISTOR	RS1PMF331J	C0109,D0108	DIODE	1SS252		
▲ R803	METAL OXIDE RESISTOR	RS1LMF681J	D0109,D0110	ZENER DIODE	RD15ESB		
OTHERS							
JACK	AKN1022	COILS & FILTERS	L401,L402 COIL	1SS252			
CN6 JUMPER CONNECTOR	3-P	KPC3	ATH1004	RD22ESB			
AF COMPLEX ASS'Y (AWZ2868)							
FOR A-400/HB TYPE							
SEMICONDUCTORS							
IC101	IC	UPC4570C	C101,C102	AUDIO FILM CAPACITOR	CFTXA103J50		
Q101-Q104	N-FET	2SK369	C103,C104	CERAMIC CAPACITOR	CCCSL221K500		
Q105,Q106	TRANSISTOR	2SC2458	C105,C106	POLYESTER CAPACITOR	CQMXA472J100		
Q201,Q202	TRANSISTOR	2SA979	C107,C108	ELECTR. CAPACITOR	CEXA101M25		
Q203-Q208	TRANSISTOR	2SA1048	C109,C110	AUDIO FILM CAPACITOR	CFTXA683J50		
Q211,Q212	TRANSISTOR	2SC1845	C111,C112	AUDIO FILM CAPACITOR	CFTXA183J50		
Q215-Q218	TRANSISTOR	2SA1048	C113,C114	ELECTR. CAPACITOR	CEXANP220M25		
			C115,C116	POLYESTER CAPACITOR	CQMXA472J100		

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>	<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>
C117,C118	ELECTR. CAPACITOR	CEXA221M25		R249-R252	CARBON FILM RESISTOR	RD1/4PM□□□J	
C121,C122	POLYESTER CAPACITOR	CQMXA122J100		△ R257-R260	FUSIBLE RESISTOR	RFA1/4PS101J	
C135,C136	ELECTR. CAPACITOR	CEAS470M10		△ R261-R264	FUSIBLE RESISTOR	RFA1/4PS470J	
C201,C202	ELECTR. CAPACITOR	CEEAA2R2M50		△ R265-R268	FUSIBLE RESISTOR	RFA1/4PS4R7J	
C203,C204	MICA CAPACITOR	CMA101J500		△ R269,R270	RESISTOR (0.33, 5W)	ACN1063	
C205,C206	CERAMIC CAPACITOR	CCCSL101J50		R275-R278	CARBON FILM RESISTOR	RD1/4PM□□□J	
C207,C208	CERAMIC CAPACITOR	CCCSL470J50		△ R281-R284	FUSIBLE RESISTOR	RFA1/4PS331J	
C209,C210	CERAMIC CAPACITOR	CCCSL820J50		△ R285,R286	FUSIBLE RESISTOR	RFA1/4PS101J	
C211,C212	ELECTR. CAPACITOR	CEEAA221M16		△ R287,R288	CARBON FILM RESISTOR	RD1/4PMF4R7J	
C213-C216	CERAMIC CAPACITOR	CCCSL150K500		△ R289,R290	FUSIBLE RESISTOR	RFA1/4PS101J	
C217,C218	ELECTR. CAPACITOR	CEAS101M10		R299	CARBON FILM RESISTOR	RD1/4PM100J	
C219-C222	ELECTR. CAPACITOR	CEAS3R3M100		△ R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J	
C225,C226	ELECTR. CAPACITOR	CEAS331M10		△ R308	CARBON FILM RESISTOR	RD1/4PMF101J	
C227-C230	CERAMIC CAPACITOR	CCCSL330K500		R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J	
C231,C232	CERAMIC CAPACITOR	CKCYB122K50		R321-R326	CARBON FILM RESISTOR	RD1/4PM□□□J	
C233-C236	ELECTR. CAPACITOR	CEAS100M50		△ R330	CARBON FILM RESISTOR	RD1/4PMF010J	
C237,C238	ELECTR. CAPACITOR	CEAS101M50		△ R401,R402	CARBON FILM RESISTOR	RD1/4PMFL100J	
C251-C254	CERAMIC CAPACITOR	CCCSL330K500		△ R403,R404	METAL OXIDE RESISTOR	RS1LMF331J	
C255	CERAMIC CAPACITOR	CCCSL680J50		△ R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J	
C256	CERAMIC CAPACITOR	CCDSL470J50		△ R501-R506	METAL OXIDE RESISTOR	RS1PMF121J	
C301,C302	ELECTR. CAPACITOR	CEAS2R2M50		△ R507,R508	CARBON FILM RESISTOR	RD1/4PMF010J	
C303	ELECTR. CAPACITOR	CEAS471M6		△ R509,R510	METAL OXIDE RESISTOR	RS1LMF272J	
C304	CERAMIC CAPACITOR	CKCYF103Z50		R513-R516	CARBON FILM RESISTOR	RD1/4PM272J	
C305	ELECTR. CAPACITOR	CEAS101M25		△ R517-R520	METAL OXIDE RESISTOR	RS1PMF101J	
C306,C308	ELECTR. CAPACITOR	CEASR47M50		R731,R732	CARBON FILM RESISTOR	RD1/4PM103J	
C401-C404	AUDIO FILM CAPACITOR	CFTXA104J50		OTHER RESISTORS		RD1/8PM□□□J	
C501,C502	ELECTR. CAPACITOR	CEAS100M50		SWITCHES			
C503,C504	ELECTR. CAPACITOR	CEAS470M25		S101	PUSH SWITCH	ASG1012	
C505	ELECTR. CAPACITOR (10000/5V)	ACH1152		S701	SWITCH	ASU1016	
C506	ELECTR. CAPACITOR (10000/5V)	ACH1153		S702	SWITCH	ASU1002	
C508	ELECTR. CAPACITOR	CEAS470M50		OTHERS			
C509	ELECTR. CAPACITOR	CEAS010M50		CN9	JUMPER CONNECTOR	KPC8	
C725	CERAMIC CAPACITOR	CKCYF103Z50		RY301	RELAY	ASR1031	
C731	CERAMIC CAPACITOR	CKCYF103Z50		RY303	RELAY	ASR-111	
C733,C734	CERAMIC CAPACITOR	CKDYF102Z50		PHONO JACK 6-P	AKB1007		
RESISTORS				PHONO JACK 6-P	AKB1008		
VR201,VR202	SEMI-FIXED(47K)	ACP1045		PHONO JACK 2-P	AKB1059		
VR701	VARIABLE(100K-20AX2)	ACT1063		SPEAKER TERMINAL 4-P	AKE1020		
R101,R102	CARBON FILM RESISTOR	RDR1/6PU101J		SEMICONDUCTORS			
R105-R108	CARBON FILM RESISTOR	RDR1/6PU□□□J		IC101	IC	M5220P	
R119-R122	CARBON FILM RESISTOR	RDR1/4PM□□□J		Q201,Q202	TRANSISTOR	2SA979	
R133,R134	CARBON FILM RESISTOR	RDR1/6PU391J		Q203-Q208	TRANSISTOR	2SA1048	
R143,R144	CARBON FILM RESISTOR	RD1/4PM560J		Q211,Q212	TRANSISTOR	2SC1845	
R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□J		Q215-Q218	TRANSISTOR	2SA1048	
R205-R214	CARBON FILM RESISTOR	RD1/4PM□□□J		Q219,Q220	TRANSISTOR	2SC2705	
R215-R218	CARBON FILM RESISTOR	RDR1/4PM□□□J		Q221,Q222	TRANSISTOR	2SC3298	
R219-R234	CARBON FILM RESISTOR	RD1/4PM□□□J		Q223,Q224	TRANSISTOR	2SA1306	
R237,R238	CARBON FILM RESISTOR	RDR1/4PM563J		Q225,Q226	TRANSISTOR	2SC2603	
△ R239-R242	FUSIBLE RESISTOR	RFA1/4PS101J		Q227,Q228	TRANSISTOR	2SC1845	
△ R243,R244	CARBON FILM RESISTOR	RD1/4PMF561J					
△ R245-R248	FUSIBLE RESISTOR	RFA1/4PS101J					

AF COMPLEX ASS'Y (AWZ2870)

FOR A-300/HB TYPE

SEMICONDUCTORS

IC101	IC	M5220P
Q201,Q202	TRANSISTOR	2SA979
Q203-Q208	TRANSISTOR	2SA1048
Q211,Q212	TRANSISTOR	2SC1845
Q215-Q218	TRANSISTOR	2SA1048
Q219,Q220	TRANSISTOR	2SC2705
Q221,Q222	TRANSISTOR	2SC3298
Q223,Q224	TRANSISTOR	2SA1306
Q225,Q226	TRANSISTOR	2SC2603
Q227,Q228	TRANSISTOR	2SC1845

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>	<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>
Q229,Q230	TRANSISTOR		2SA992	C306,C308	ELECTR. CAPACITOR	CEASR47M50	
Q231,Q232	TRANSISTOR		2SA1145	C401-C404	AUDIO FILM CAPACITOR	CFTXA104J50	
Q233,Q234	TRANSISTOR		2SA992	C501,C502	ELECTR. CAPACITOR	CEAS470M25	
Q237	TRANSISTOR		2SC1845	C505,C506	ELECTR. CAPACITOR (6800/42V)	ACH1077	
Q238	TRANSISTOR		2SA992	C508	ELECTR. CAPACITOR	CEAS470M50	
Q301,Q302	TRANSISTOR		2SC1845				
Q303,Q304	TRANSISTOR		2SC2458	C509	ELECTR. CAPACITOR	CEAS010M50	
Q305	TRANSISTOR		2SA1048	C725	CERAMIC CAPACITOR	CKCYF103Z50	
Q306	TRANSISTOR		2SC1815	C731	CERAMIC CAPACITOR	CKCYF103Z50	
Q307	TRANSISTOR		2SC2458				
D201,D202	ZENER DIODE		RD2.7ESB1				
D209-D216	DIODE		1SS252	VR201,VR202	SEMI-FIXED (47K)	ACP1045	
D217-D220	ZENER DIODE		RD8.2ESB1	VR701	VARIABLE(100K-20AX2)	ACT1062	
D301-D306	DIODE		1SS252	R105,R106	CARBON FILM RESISTOR	RDR1/6PU100J	
D307	ZENER DIODE		RD15ESB	R121,R122	CARBON FILM RESISTOR	RDR1/4PM820J	
D503,D504	ZENER DIODE		RD16ESB3	R133,R134	CARBON FILM RESISTOR	RDR1/6PU471J	
D505,D506	DIODE		11E2				
D507	DIODE		D5SB20F	R141,R142	CARBON FILM RESISTOR	RDR1/6PU563J	
				R143,R144	CARBON FILM RESISTOR	RD1/4PM560J	
				R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□	
				R205-R214	CARBON FILM RESISTOR	RD1/4PM□□□J	
				R215-R218	CARBON FILM RESISTOR	RDR1/4PM□□□J	
COILS & FILTERS				R219-R234	CARBON FILM RESISTOR	RD1/4PM□□□J	
L401,L402	COIL		ATH1004	R237,R238	CARBON FILM RESISTOR	RDR1/4PM563J	
CAPACITORS				△ R239-R242	FUSIBLE RESISTOR	RFA1/4PS101J	
C103,C104	CERAMIC CAPACITOR		CCCSL221J50	△ R243,R244	CARBON FILM RESISTOR	RD1/4PMF561J	
C107,C108	ELECTR. CAPACITOR		CEXA101M25	△ R245-R248	FUSIBLE RESISTOR	RFA1/4PS101J	
C109,C110	AUDIO FILM CAPACITOR		CFTXA683J50				
C111,C112	AUDIO FILM CAPACITOR		CFTXA183J50	R249-R252	CARBON FILM RESISTOR	RD1/4PM□□□J	
C113,C114	ELECTR. CAPACITOR		CEXA4R7M50	△ R257-R260	FUSIBLE RESISTOR	RFA1/4PS101J	
C115,C116	MYLOR FILM CAPACITOR		CQMA472K50	△ R261-R264	FUSIBLE RESISTOR	RFA1/4PS470J	
C117,C118	ELECTR. CAPACITOR		CEAS221M25	△ R265-R268	FUSIBLE RESISTOR	RFA1/4PS4R7J	
C121,C122	MYLOR FILM CAPACITOR		CQMA122J50	△ R269,R270	RESISTOR (0.33, 5W)	ACN1063	
C123,C124	ELECTR. CAPACITOR		CEXA100M50				
C201,C202	ELECTR. CAPACITOR		CEEAA2R2M50	R275-R278	CARBON FILM RESISTOR	RD1/4PM□□□J	
C203,C204	CERAMIC CAPACITOR		CCCSL101K500	△ R281-R284	FUSIBLE RESISTOR	RFA1/4PS331J	
C205,C206	CERAMIC CAPACITOR		CCCSL101J50	△ R285,R286	FUSIBLE RESISTOR	RFA1/4PS101J	
C207,C208	CERAMIC CAPACITOR		CCCSL470J50	△ R287,R288	CARBON FILM RESISTOR	RD1/4PMF4R7J	
C209,C210	CERAMIC CAPACITOR		CCCSL101J50	△ R289,R290	FUSIBLE RESISTOR	RFA1/4PS101J	
C211,C212	ELECTR. CAPACITOR		CEEAA221M16				
C213-C216	CERAMIC CAPACITOR		CCCSL150K500	R299	CARBON FILM RESISTOR	RD1/4PM100J	
C217,C218	ELECTR. CAPACITOR		CEAS101M10	R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J	
C219-C222	ELECTR. CAPACITOR		CEAS3R3M100	R308	CARBON FILM RESISTOR	RD1/4PMF101J	
C225,C226	ELECTR. CAPACITOR		CEAS331M10	R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J	
C227-C230	CERAMIC CAPACITOR		CCCSL330K500	R321-R326	CARBON FILM RESISTOR	RD1/4PM□□□J	
C231,C232	CERAMIC CAPACITOR		CKCYB122K50				
C233-C236	ELECTR. CAPACITOR		CEAS100M50	R330	CARBON FILM RESISTOR	RD1/4PMF010J	
C237,C238	ELECTR. CAPACITOR		CEAS101M50	R401,R402	CARBON FILM RESISTOR	RD1/4PMFL100J	
C251-C254	CERAMIC CAPACITOR		CCCSL330K500	R403,R404	METAL OXIDE RESISTOR	RS1LMF331J	
C255	CERAMIC CAPACITOR		CCCSL680J50	R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J	
C256	CERAMIC CAPACITOR		CCDSL470J50	R501-R506	CARBON FILM RESISTOR	RD1/2PM□□□J	
C301,C302	ELECTR. CAPACITOR		CEAS2R2M50				
C303	ELECTR. CAPACITOR		CEAS471M6	R508	CARBON FILM RESISTOR	RD1/4PMF010J	
C304	CERAMIC CAPACITOR		CKCYF103Z50	R509,R510	METAL OXIDE RESISTOR	RS1LMF222J	
C305	ELECTR. CAPACITOR		CEAS101M25	R517-R520	CARBON FILM RESISTOR	RD1/2PM471J	
				R731,R732	CARBON FILM RESISTOR	RD1/4PM103J	
					OTHER RESISTORS	RD1/8PM□□□J	

<u>Mark</u>	<u>No.</u>	<u>Description</u>	<u>Parts No.</u>
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SWITCHES

S701	SWITCH	ASU1016
S702	SWITCH	ASU1002

OTHERS

CN9	JUMPER CONNECTOR	KPC8
RY301	RELAY	ASR-111
RY303	RELAY	ASR-111
	PHONO JACK 4-P	AKB1007
	PHONO JACK 6-P	AKB1008
	PHONO JACK 2-P	AKB1059
	SPEAKER TERMINAL 4-P	AKE1020

**SHIELD ASS'Y
(FOR A-300/HB TYPE)**

No parts supplied with the SHIELD Ass'y.

8. ADJUSTMENT

ADJUSTMENT OF IDLE CURRENT

1. Connect wire as shown in Fig. 8-1.
2. After power ON, aging lasts for 5 mins with no-load.
3. In the Lch VR201 should be adjusted so that both terminal voltages of R269 may attain to 20 mV (± 3 mV).
4. In the Rch VR202 should be adjusted so that both terminal voltages may attain to 20 mV (± 3 mV).

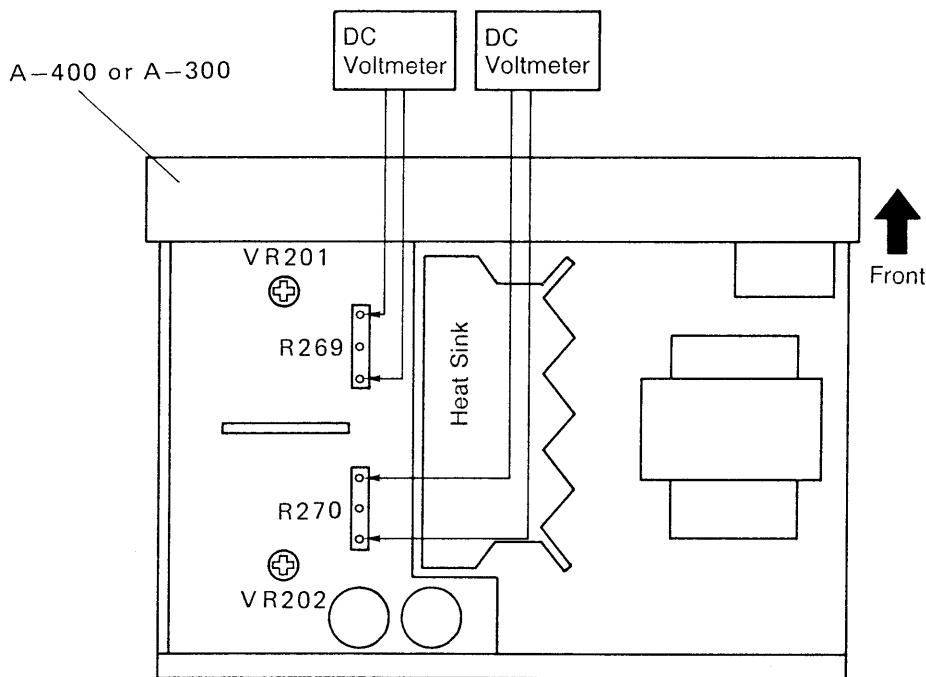


Fig. 8-1 Adjustment Drawing

For Service Manuals
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 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- sales@mauritron.co.uk

8. RÉGLAGE

RÉGLAGE DU COURANT DÉWATTÉ

1. Brancher les fils comme indiqué dans la fig. 8-1.
2. Après la mise sous tension, le moteur dure 5 minutes et n'introduire charge.
3. VR 201 sera réglé dans le canal gauche de manière que les deux tensions de bornes de R269 atteignent 20 mV (± 3 mV).
4. VR 202 sera réglé dans le canal droit de manière que les deux tensions de bornes atteignent 20 mV (± 3 mV).

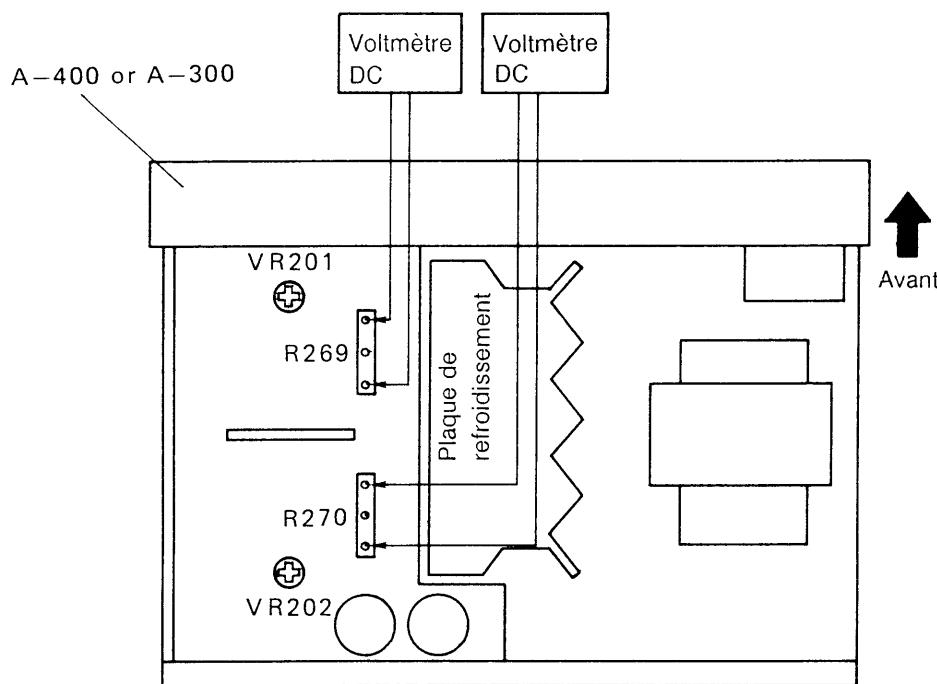


Fig. 8-1 Schéma du réglage

8. AJUSTE

AJUSTE DE LA CORRIENTE DEVATIADA

1. Conecte el cable como lo ilustra la Fig. 8-1.
2. El motor funciona por 5 mintos después de encender la unidad, sin introduzca.
3. El VR201 del canal izquierdo debe ajustarse de modo que la tensión entre ambos bornes de R269 llegue a 20 mV (± 3 mV).
4. El VR202 del canal derecho debe ajustarse de modo que la tensión entre ambos bornes llegue a 20 mV (± 3 mV).

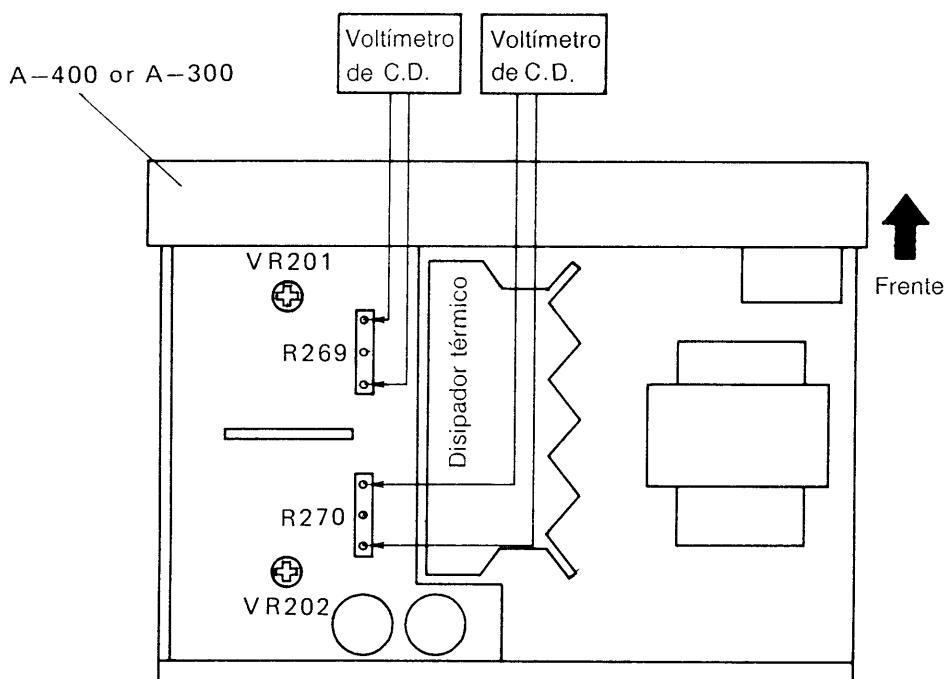


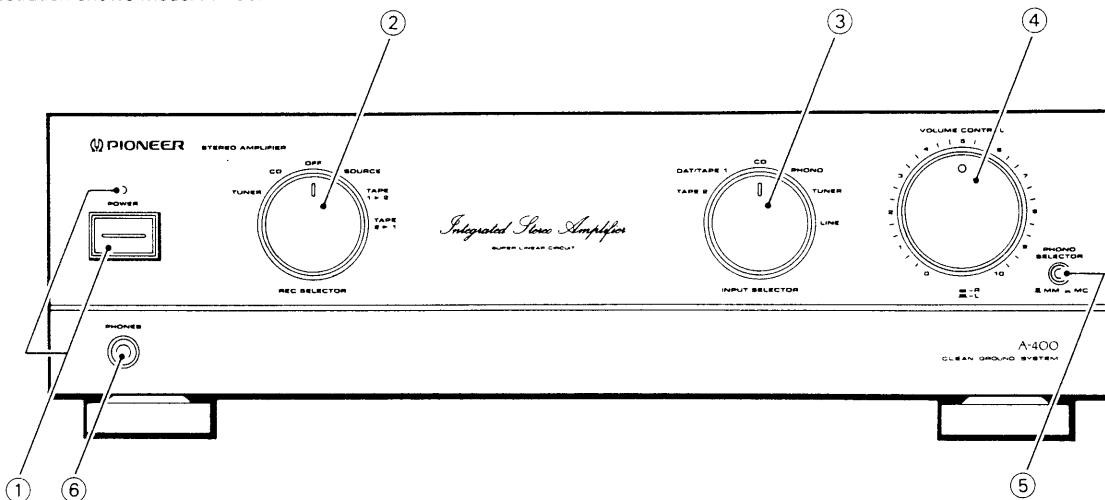
Fig. 8-1 Diagrama de ajuste

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 Fax (01844) 352554
 email:- sales@mauritron.co.uk

9. FRONT PANEL FACILITIES

[FRONT PANEL]

The illustration shows model A-400.



① POWER switch/indicator

Press to turn power to the unit on and off.
When the power is on, the indicator lights.

② REC SELECTOR switch

When this switch is set to a position other than SOURCE or OFF, the equipment selected by REC SELECTOR switch can be recorded from, irrespective of the settings of INPUT SELECTOR and DIRECT switches.

TUNER:

To record from the equipment connected to TUNER terminals.

CD:

To record from the equipment connected to CD terminals.

OFF:

In this position, nothing from the REC terminals of DAT/TAPE 1 and TAPE 2 is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.

SOURCE:

To record from the equipment selected by INPUT SELECTOR switch.

TAPE 1 ▶ 2:

To record (copy) from the cassette deck of DAT/TAPE 1 terminals, to the cassette deck of TAPE 2 terminals.

TAPE 2 ▶ 1:

To record (copy) from the cassette deck of TAPE 2 terminals, to the cassette deck of DAT/TAPE 1 terminals.

③ INPUT SELECTOR switch

Use to select the playback source.

LINE:

For playback with a component connected to LINE terminal.

TUNER:

For AM or FM broadcast reception with a tuner.

PHONO:

For record playback with a turntable.

NOTE:

- With the A-300, you can use an MM cartridge or a high-output MC cartridge (over 1 mV).
- According to the type of cartridge used with the A-400, you can select MM or MC with the PHONO SELECTOR switch.

CD:

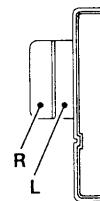
For compact disc playback with a CD player.

④ VOLUME CONTROL

Use to adjust the volume level.
This volume knob consists of two volume controls. Because you can adjust L (left) and R (right) channel volume levels independently, it also functions as a balance control.

[Example]

To raise R (right) channel volume level, prevent the L knob from turning with one hand, and turn the R knob with the other hand.



⑤ PHONO SELECTOR switch (A-400 only)

Set in accordance with the type of cartridge used with your turntable.
MM (■):

Set to this position when using a moving magnet cartridge, or a moving coil cartridge with a high output of 1 mV or more.

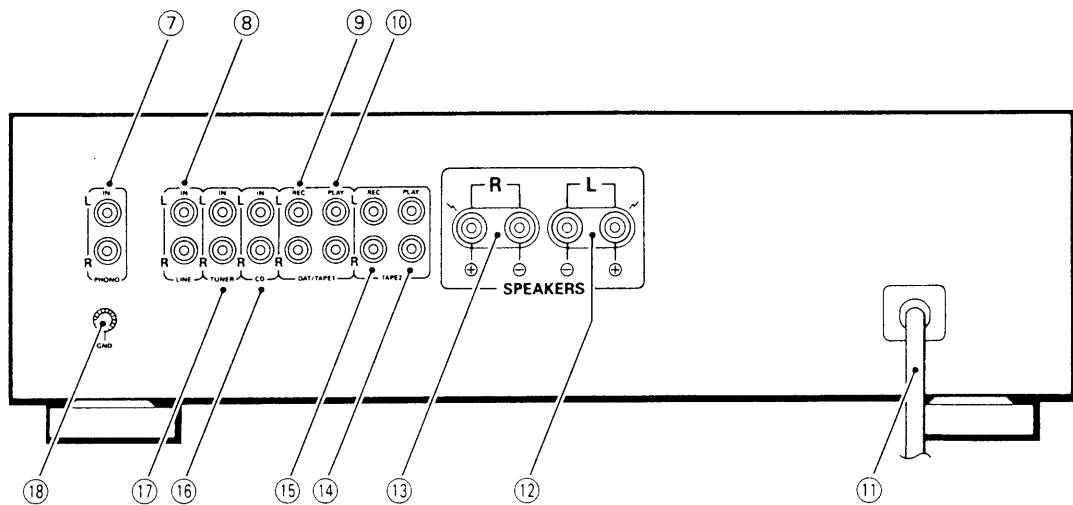
MC (■):

Set to this position when using a moving coil cartridge.

⑥ PHONES jack

When using headphones, insert the plug into this jack. The output to the speakers is cut automatically when connecting headphones.

[REAR PANEL]



(7) PHONO terminals

(14) TAPE 2 PLAY terminals

(8) LINE terminals

(15) TAPE 2 REC terminals

(9) DAT/TAPE 1 REC terminals

(16) CD terminals

(10) DAT/TAPE 1 PLAY terminals

(17) TUNER terminals

(11) Power cord

(18) Turntable ground terminal (GND)

Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

(12) SPEAKERS terminals L (left channel)

(13) SPEAKERS terminals R (right channel)