

Service Manual

**CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS**



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

**ORDER NO.
ARP-298-0**

STEREO AMPLIFIER

SA-940

MODEL SA-940 COMES IN SEVEN VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Voltage	Remarks
KU	AC120V only	U.S.A. model
HE	AC220V, 240V (switchable)	European continent model
HB	AC220V, 240V (switchable)	United Kingdom model
S	AC110V, 120V, 220V, 240V (switchable)	General export model
S/G	AC110V, 120V, 220V, 240V (switchable)	U.S. Military model
YP	AC240V only	Australia model
HEZ	AC220V, 240V (switchable)	West Germany model

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS (USA) INC. 1925 E. Dominguez St., Long Beach, California 90810 U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

1. SPECIFICATIONS

Amplifier Section

Continuous Power Output is 70 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.009% total harmonic distortion.

DIN, Continuous Power Output at 1 kHz (both channels driven)

T.H.D. 1%, 8 ohms 87 watts per channel

Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms, from CD/AUX)

continuous rated power output No more than 0.009%

70 watts per channel power output No more than 0.009%

Damping Factor (1,000 Hertz, 8 ohms) 60

Input (Sensitivity/Impedance)

PHONO 2.5 mV/50 kilohms

TUNER, CD/AUX, TAPE PLAY, ADAPTOR IN 150 mV/50 kilohms

Phono Overload Level (T.H.D. 0.1%, 1,000 Hz)

PHONO 150 mV

Output (Level)

TAPE REC, ADPTOR OUT 150 mV

Speaker 6 – 16 Ω

Frequency Response

PHONO (RIAA Equalization) 20 Hz to 20,000 Hz ± 0.2 dB

TUNER, CD/AUX, TAPE PLAY, ADAPTOR 10 Hz to 70,000 Hz ± 3 dB

Tone Control

BASS ± 10 dB (100 Hz)

TREBLE ± 10 dB (10 kHz)

Loudness Contour (Volume control set at -40 dB position) + 6 dB (100 Hz), + 3 dB (10 kHz)

Hum and Noise (IHF, short circuited A network)

PHONO 86 dB

TUNER, CD/AUX, TAPE PLAY, ADAPTOR IN 102 dB

Hum and Noise (DIN, continuous power/50 mW)

PHONO 75 dB/61 dB

TUNER, CD/AUX, TAPE PLAY, ADAPTOR IN 88dB/62 dB

Miscellaneous

Power Requirements

KU, KC models AC 120 Volts, 60 Hz

S, S/G models ~AC 110V/120 V/220 V/240 V (switchable), 50/60 Hz

HB,YP models a.c. 240 Volts~, 50 Hz

Power Consumption

KU, KC models 190 Watts (max.)

S, S/G models 160 Watts (max.)

HB,YP models 450 Watts (max.)

Dimensions 420 (W) x 98 (H) x 287 (D) mm

16-9/16 (W) x 3-7/8 (H) x 11-5/16 (D) in

Weight (without package) 6.5 kg (14 lb 5 oz)

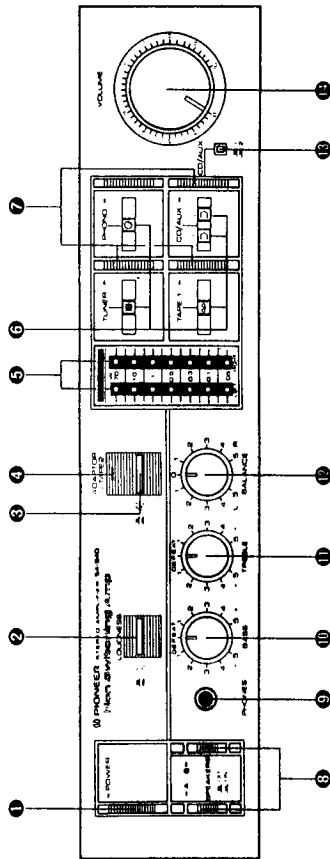
Furnished Parts

Operating Instructions 1

NOTE:
Specifications and design subject to possible modifications without notice.

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

2. FRONT PANEL FACILITIES



1 POWER SWITCH

When this switch is pushed, the power is supplied (the function indicators light). When it is pushed again, the power is switched off.

2 LOUDNESS SWITCH

Push this switch to the "ON" position for low-volume sound listening. The bass and treble are emphasized and you can sit back and listen to a dynamic sound even under low-volume conditions.

3 ADAPTOR/TAPE 2 SWITCH

This is used when operating an adaptor (such as a tape creating amplifier) or when playing back a tape in a tape deck connected to the rear panel ADAPTOR/TAPE 2 terminals.

4 ADAPTOR/TAPE 2 INDICATOR

This lights when the ADAPTOR/TAPE 2 switch is set to ON.

5 OUTPUT POWER INDICATORS

The left and right indicators show the output level (in watts) when a speaker system with an 8-ohm nominal impedance has been connected to the unit. "L" indicates the left channel output level and "R" the right channel.

No sound will be heard when SPEAKERS A and B switches are both released. This is the position at which the sound can be heard through the headphones.

NOTE:

No sound will be heard through the speakers when both the A and B switches are depressed if only one set of speakers has been connected to either the A or B SPEAKERS terminals.

6 PHONES JACK

Plug the headphones into this jack securely for private listening.

NOTE:

Make it a rule to turn down the volume before plugging in the headphones. A loud sound can hurt your ears.

10 BASS CONTROL

This is used to adjust the bass sound. When rotated clockwise from the center DEFEAT position, the bass is emphasized; when rotated counterclockwise, the bass is attenuated.

11 TREBLE CONTROL

This is used to adjust the treble sound. When rotated clockwise from the center DEFEAT position, the treble is emphasized; when rotated counterclockwise, the treble is attenuated.

12 BALANCE CONTROL

This is normally kept at the "0" position. It should be adjusted when the left/right stereo balance has become lopsided. Rotate the control to the left when the right channel sound is too loud; rotate it to the right when the left channel sound is too loud.

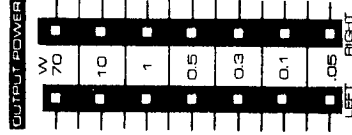
13 CD/AUX 1, 2 SELECTOR SWITCH

Use this to select the component which has been connected to the auxiliary (CD/AUX 1, 2) terminals on the rear panel.

14 VOLUME CONTROL

This is used to adjust the sound volume of the speakers and headphone. No sound will be heard when the control has been set to the "0" position. Rotate the control clockwise to increase the sound level.

OUTPUT POWER INDICATORS

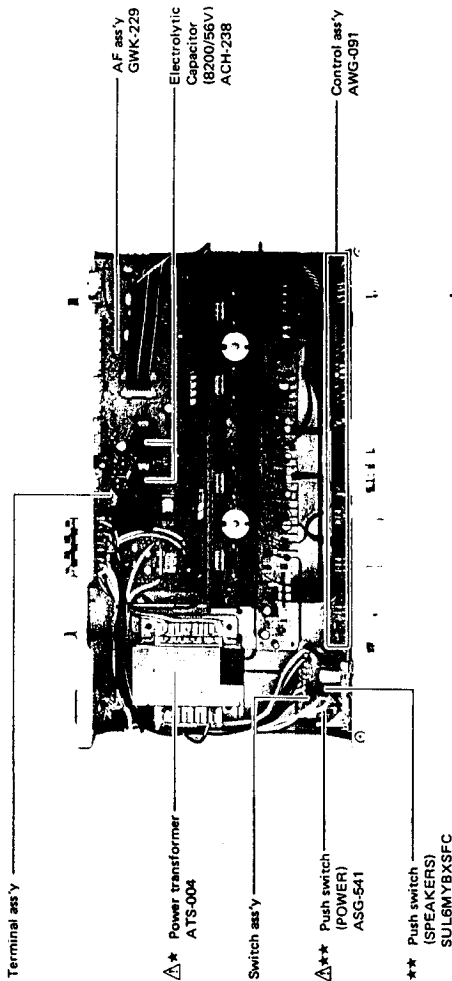


The output power indicators show the output level when speaker systems with a nominal impedance of 8 ohms have been connected to the rear panel speaker terminals. The output level (peak value) is indicated in watts by the scale used, outputs ranging from the weak (0.05 W) to the strong (70 W) can be displayed without selecting the range. During actual play the impedance of the speaker systems changes in accordance with the frequency. For this reason, the value indicated is not an exact representation of the output but only a rough guide.

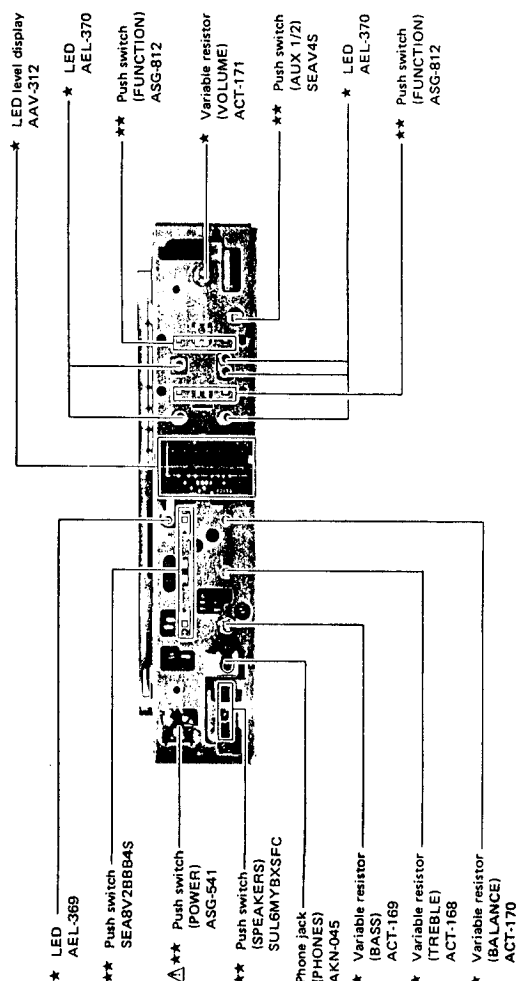
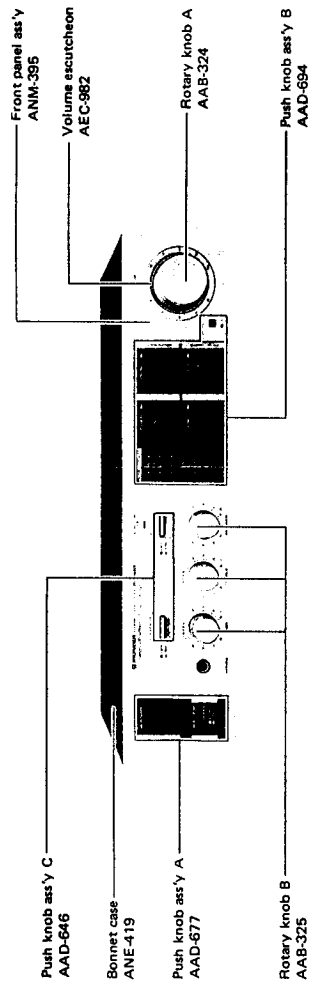
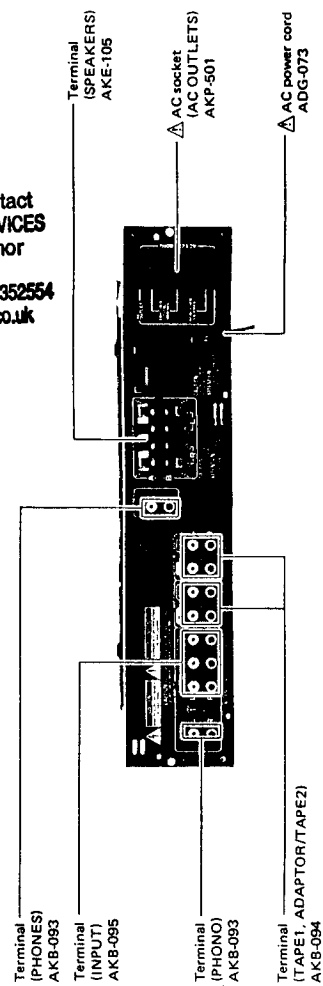
3. PARTS LOCATION

NOTES:

- Parts without part number cannot be supplied.
- The Δ 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.



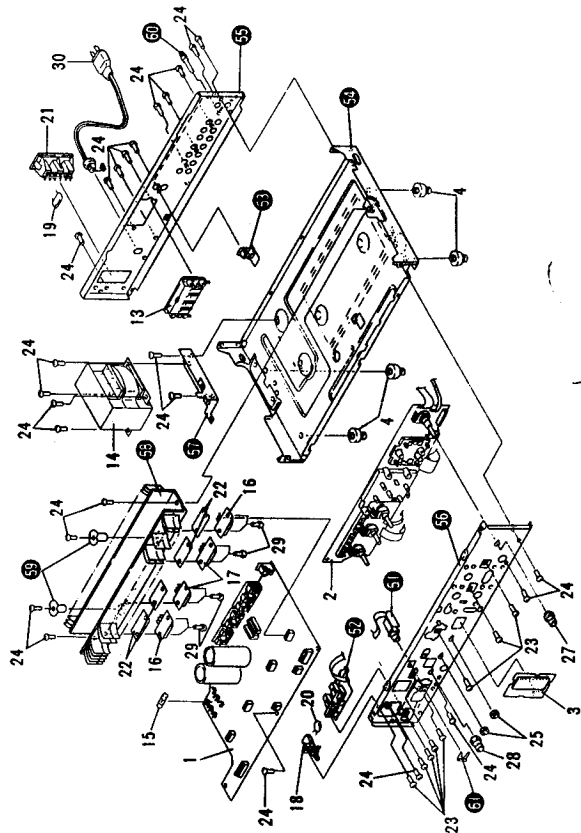
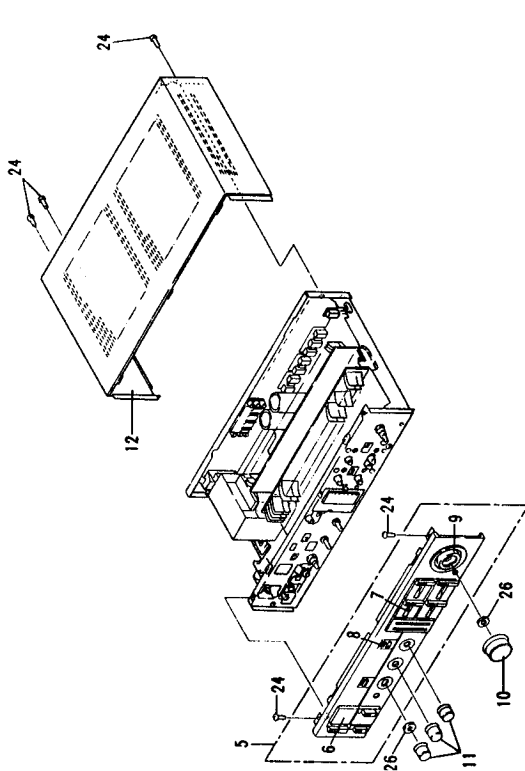
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@maurtron.co.uk



4. EXPLODED VIEWS AND PARTS LIST

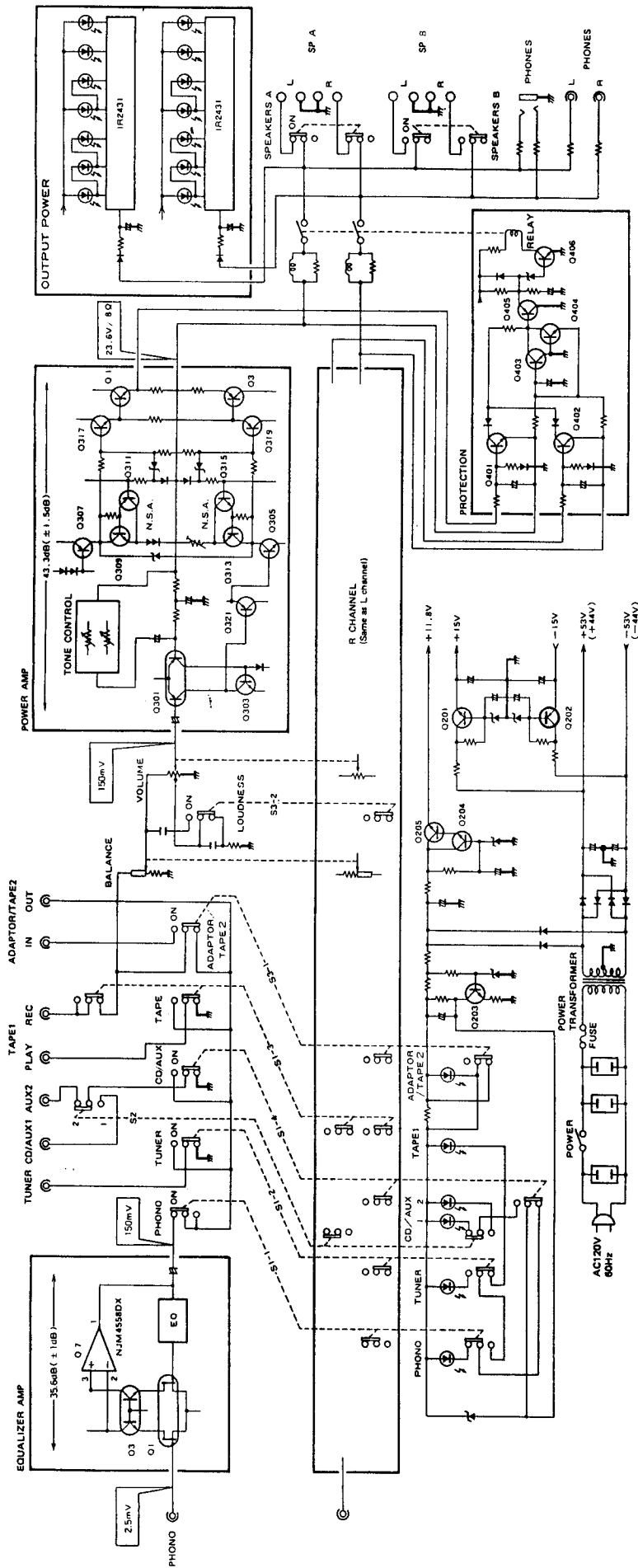
- NOTES:**
- Parts without part number cannot be supplied.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - For your Parts Stock Control, the fast moving items are indicated 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.

Mark	No.	Part No.	Description
	1.	GWK-229	AF ass'y
	2.	AWG-091	Control ass'y
	3.	AAV-312	LED level display
	4.	AEC-784	Foot ass'y
	5.	ANMI-395	Front panel ass'y
	6.	AAD-677	Push knob ass'y A
	7.	AAD-694	Push knob ass'y B
	8.	AAD-646	Push knob ass'y C
	9.	AEC-982	Volume escutchon
	10.	AAB-324	Rotary knob A
	11.	AAB-325	Rotary knob B
	12.	ANE-419	Bonnet case
	13.	AKE-105	Terminal (SPEAKERS)
	14.	ATS-004	Power transformer
Δ	15.	AEK-308	Fuse (5A)
**	16.	2SC2525/A/B*	Transistor
		(2SC2525/A/G)	
**	17.	2SA1075/A/X	Transistor
		(2SA1075/A/B*)	
		(2SA1075/A/G)	
		(2SA1075/A/X)	
		*life should have the same value.	
Δ	18.	ASG-541	Push switch (POWER)
Δ	19.	ACE-214	Ceramic capacitor
Δ	20.	ACG-502	Ceramic capacitor
Δ	21.	AKP-501	AC socket (AC OUTLET)
	22.	AEC-756	Mica wafer
	23.	PMZ30P06DFMC	Screw (3x6)
	24.	BBZ30P080FZK	Screw (3x8)
	25.	NK70FUC	Nut
	26.	NKX1FUC	Nut
	27.	ABN-074	Guide nut A
	28.	ABN-075	Guide nut B
	29.	ABA-258	Screw
	30.	ADG-073	AC power cord
	51.		Headphone jack ass'y
	52.		Switch ass'y
	53.		Terminal ass'y
	54.		Chassis
	55.		Rear panel
	56.		Panel stay
	57.		Frame
	58.		Heat sink
	59.		Heat cap
	60.		Terminal (GND)
	61.		Mount plate



For Service Manuals Contact
 MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

5. BLOCK DIAGRAM

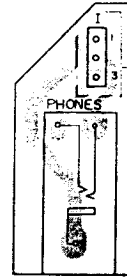


6. P.C. BOARDS CONNECTION DIAGRAM

A

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@maurtron.co.uk

HEADPHONE JACK Ass'y

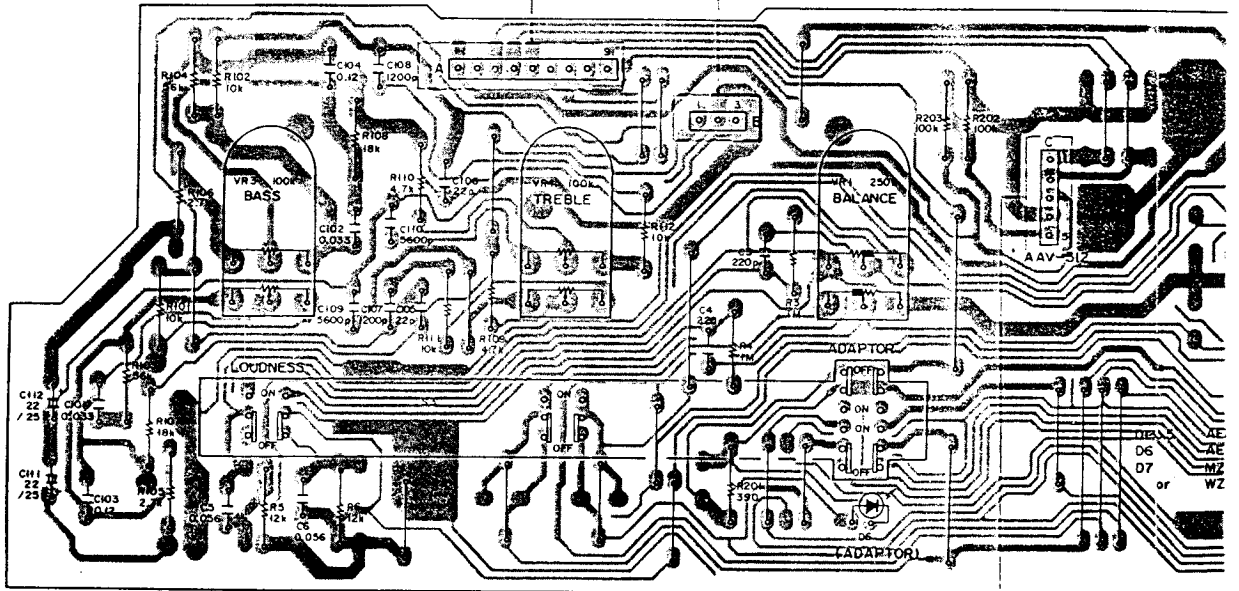


SWITCH A:



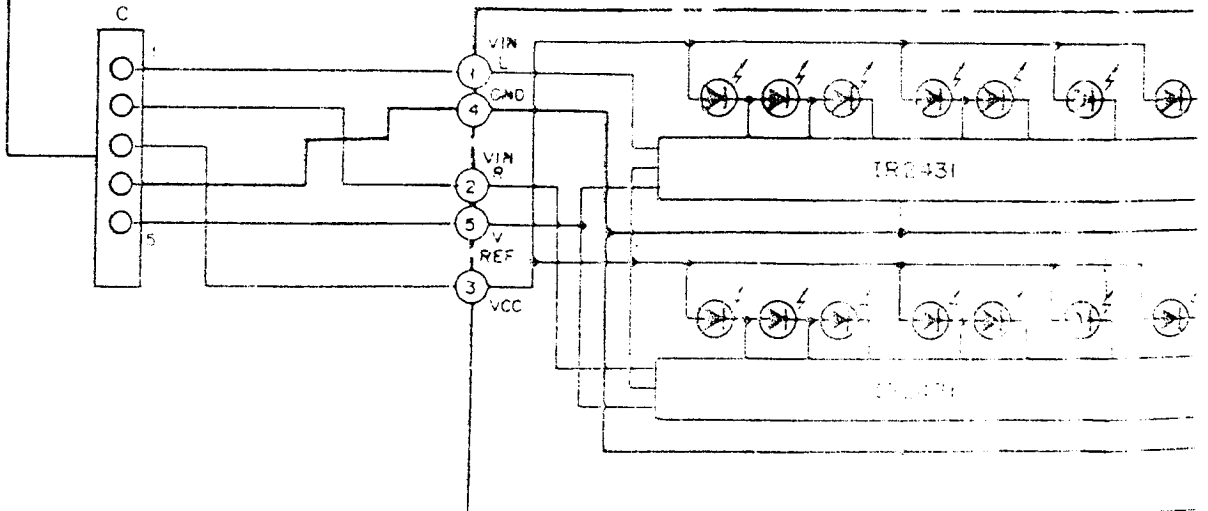
B

CONTROL Ass'y (AWG-091)



C

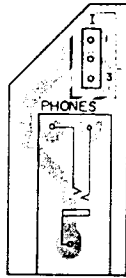
LED LEVEL METER AAV-312



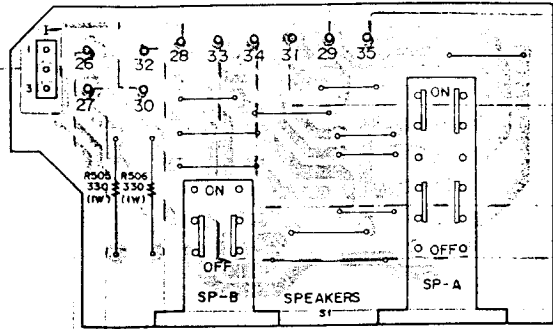
D

CONNECTION DIAGRAM

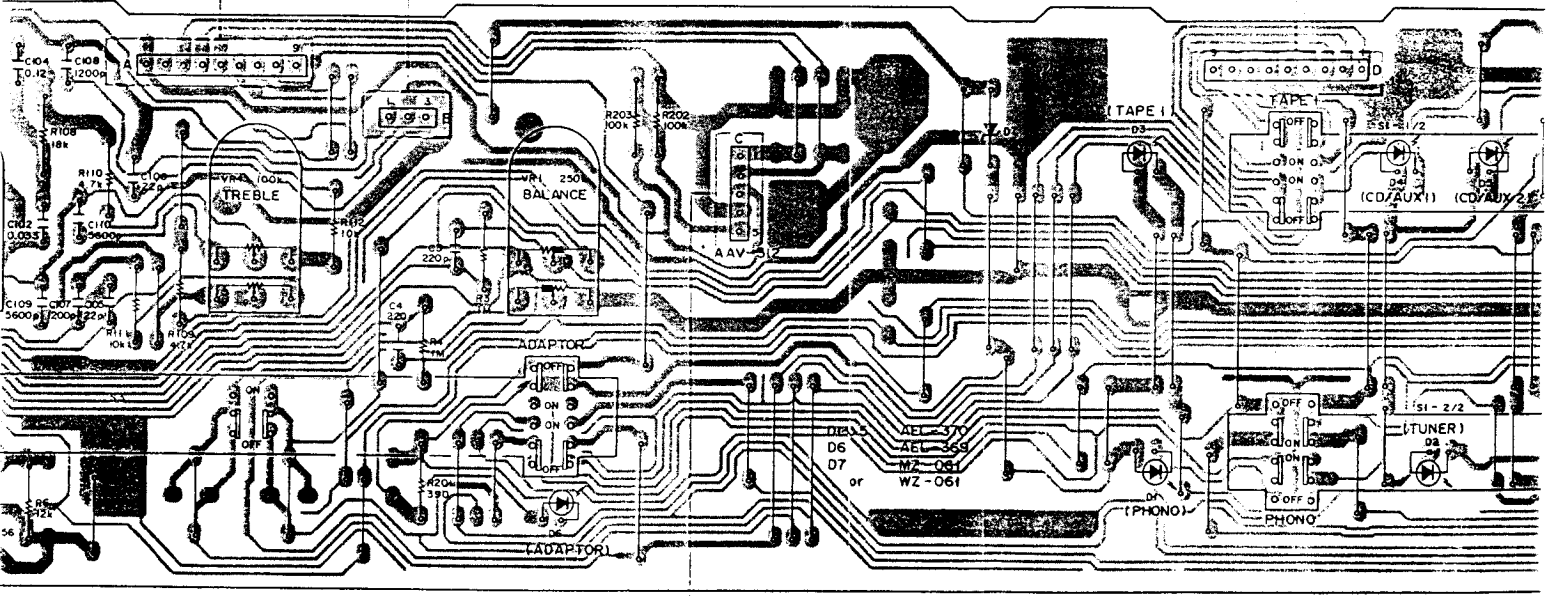
HEADPHONE JACK Ass'y



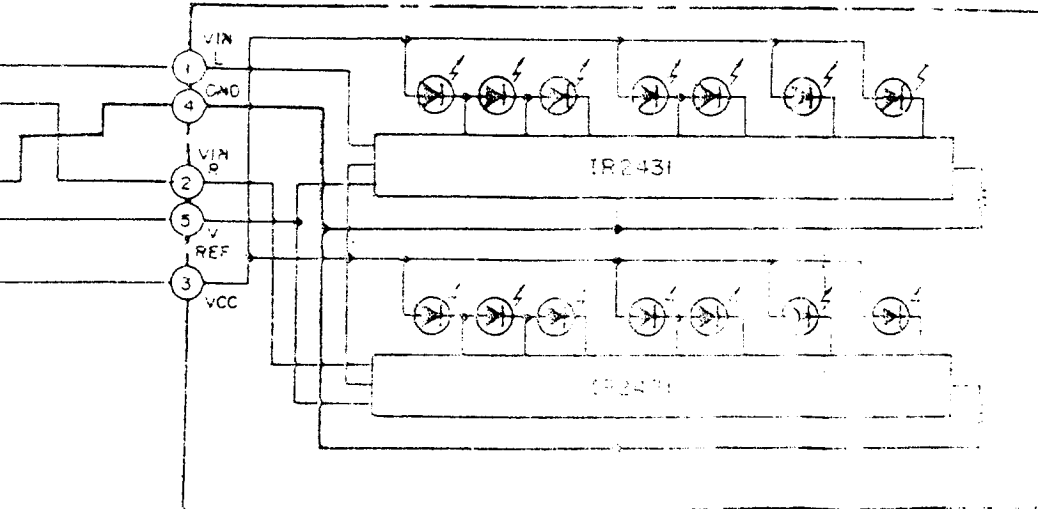
SWITCH Ass'y

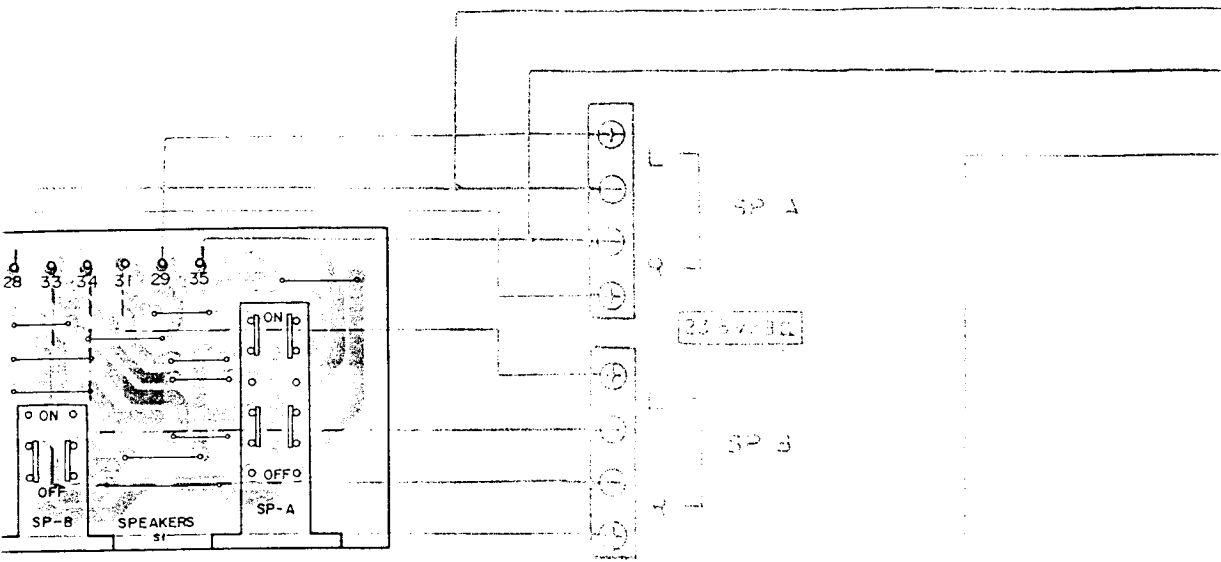


CONTROL Ass'y (AWG-091)

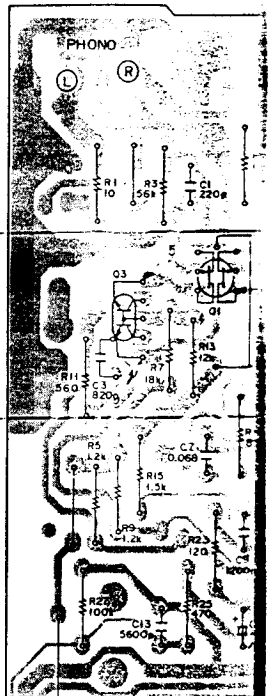
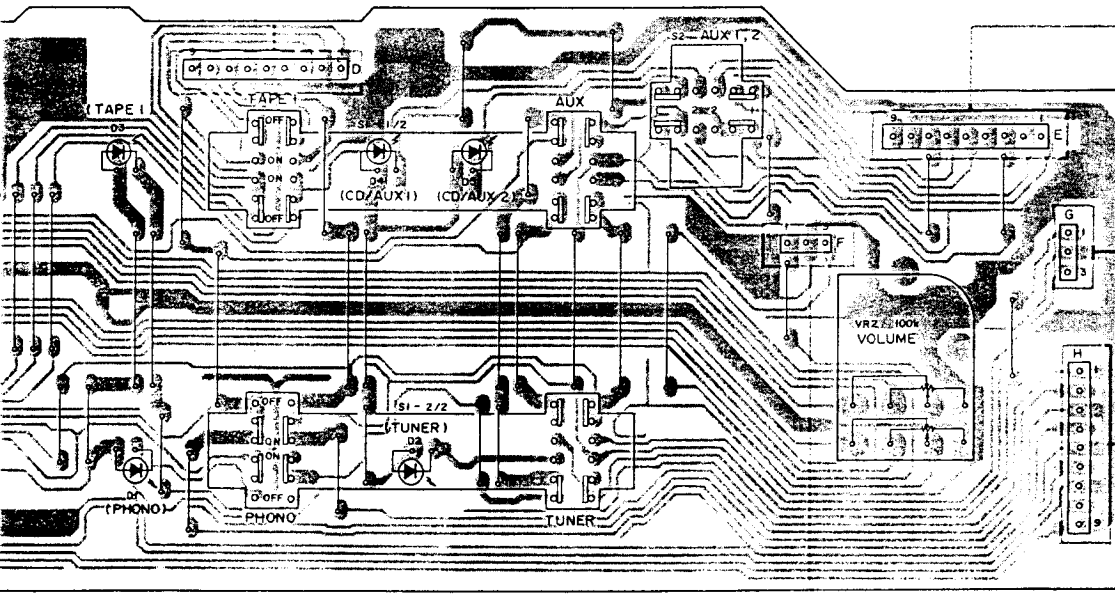


LED LEVEL METER AAV-312





AF Ass'y (GWK-229)



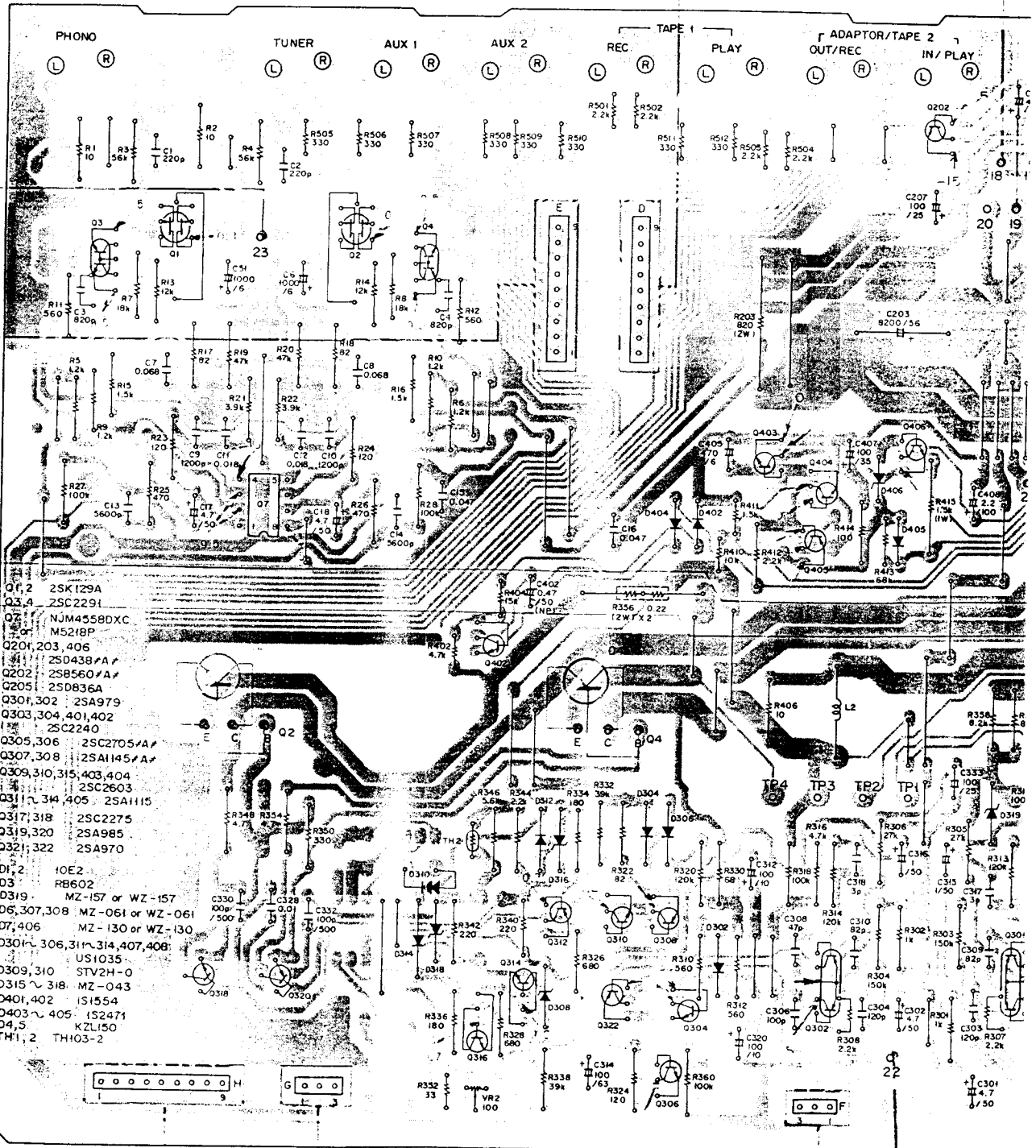
- Q1,2 2SK129A
- Q3,4 2SC229
- Q7 NUM45580X
or M5218P
- Q20, 203, 405 2S04387A
- Q205 2S85607A
- Q205 2SD836A
- Q301, 302 2SA979
- Q303, 304, 401, 402 2SC2240
- Q305, 306 2SC27057A
- Q307, 308 2SA11457A
- Q309, 310, 315, 403, 404 2SC2603
- Q311, 314, 405 2SA11156
- Q317, 318 2SC227
- Q319, 320 2SA985
- Q321, 322 2SA970
- D1, 2 10E2
- D3 RB602
- D319 MZ-157 or WZ-157
- D6, 307, 308 MZ-061 or WZ-061
- D7, 406 MZ-130 or WZ-130
- D301, 306, 311, 314, 407, 408 US1035
- D309, 310 STV2H-0
- D315 ~ 318 MZ-043
- D401, 402 IS1554
- D403 ~ 405 IS2471
- D4, 5 KZL150
- TH1, 2 TH103-2

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquires@mauritron.co.uk

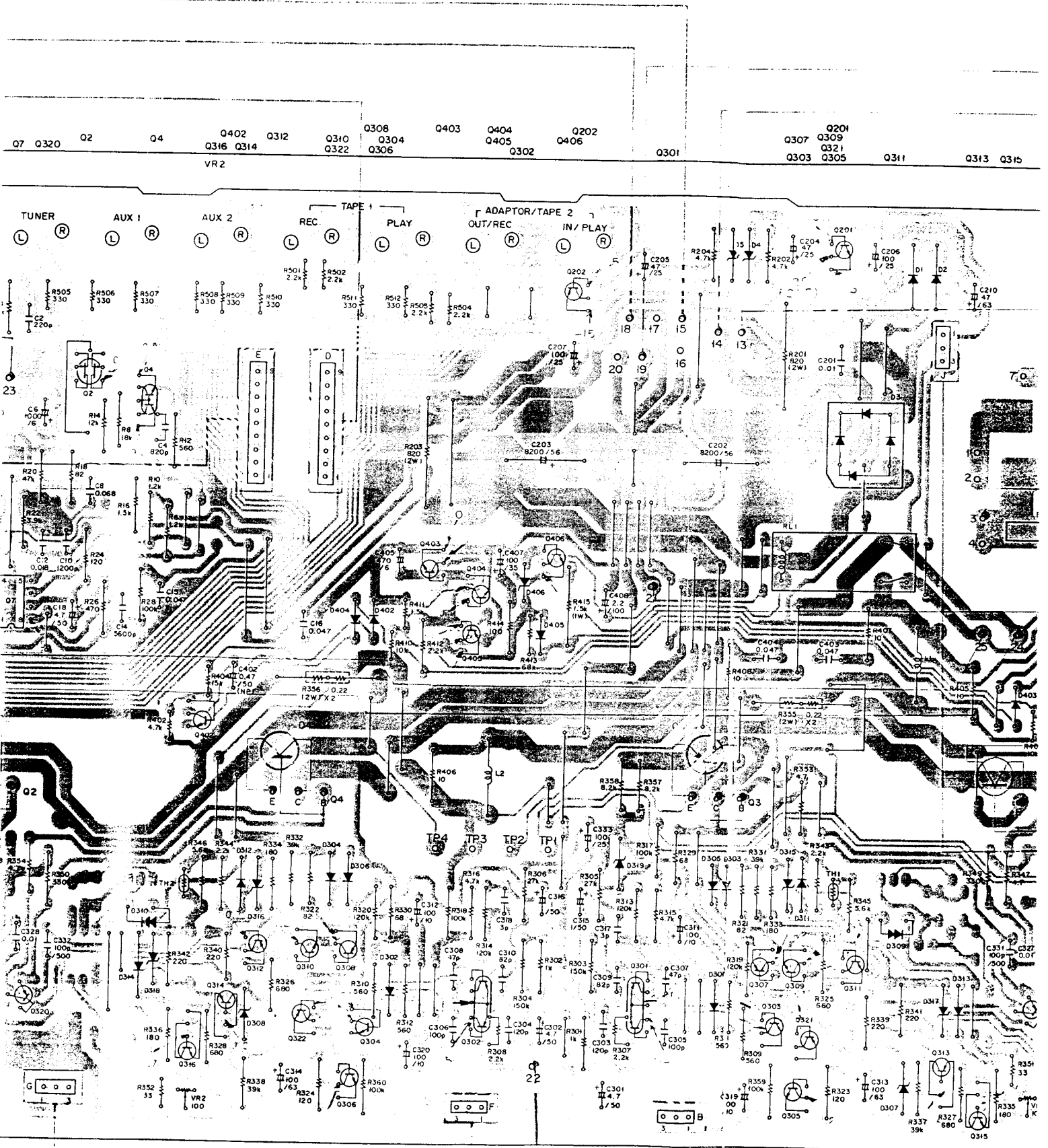
AF Ass'y (GWK-229)

Q3 Q1 Q318 07 Q320 Q2 Q4 Q402 Q316 Q314 Q312 Q310 Q322 Q308 Q304 Q306 Q403 Q404 Q405 Q202 Q406

VR2



- Q1, 2 2SK129A
- Q3, 4 2SC2291
- Q7 NJM4558DXC
- Q8 M5218P
- Q201, 203, 406 2S0438/A
- Q202 2S8560/A
- Q205 2S0836A
- Q301, 302 2SA979
- Q303, 304, 401, 402 2SC2240
- Q305, 306 2SC2705/A
- Q307, 308 2SA1145/A
- Q309, 310, 315, 403, 404 2SC2603
- Q311, 314, 405 2SA1115
- Q317, 318 2SC2275
- Q319, 320 2SA985
- Q321, 322 2SA970
- D1, 2 10E2
- D3 RB602
- D319 MZ-157 or WZ-157
- D6, 307, 308 MZ-061 or WZ-061
- D7, 406 MZ-130 or WZ-130
- D301, 306, 311, 314, 407, 408 US1035
- D309, 310 STV2H-0
- D315, 318 MZ-043
- D401, 402 1S154
- D403, 405 1S2471
- D4, 5 KZL150
- TH1, 2 TH103-2



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd. Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

A

B

C

D

Q201
Q307 Q309
Q321
Q303 Q305

Q311

Q313 Q315

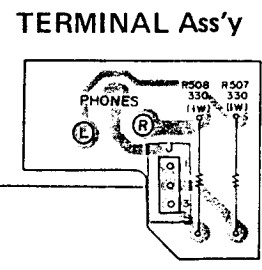
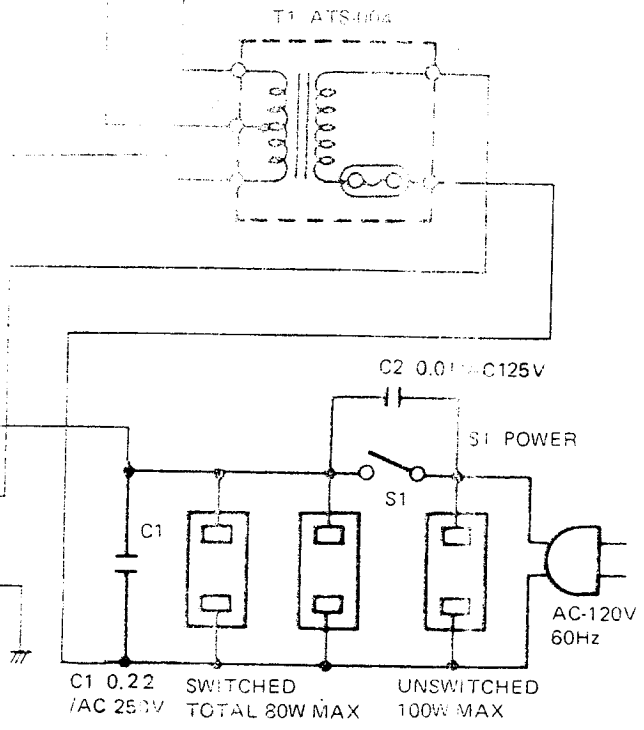
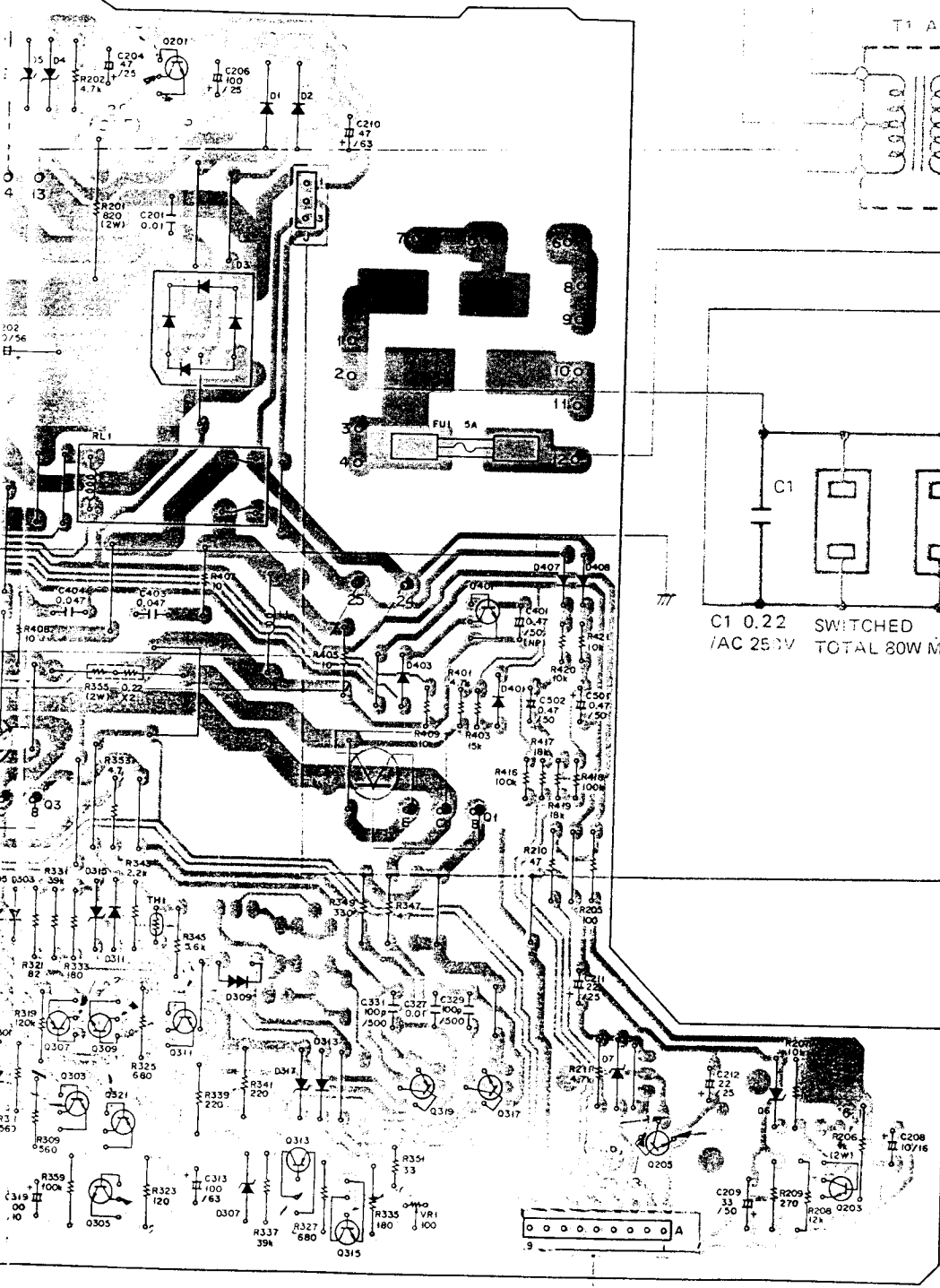
Q319

Q401
Q317

Q205

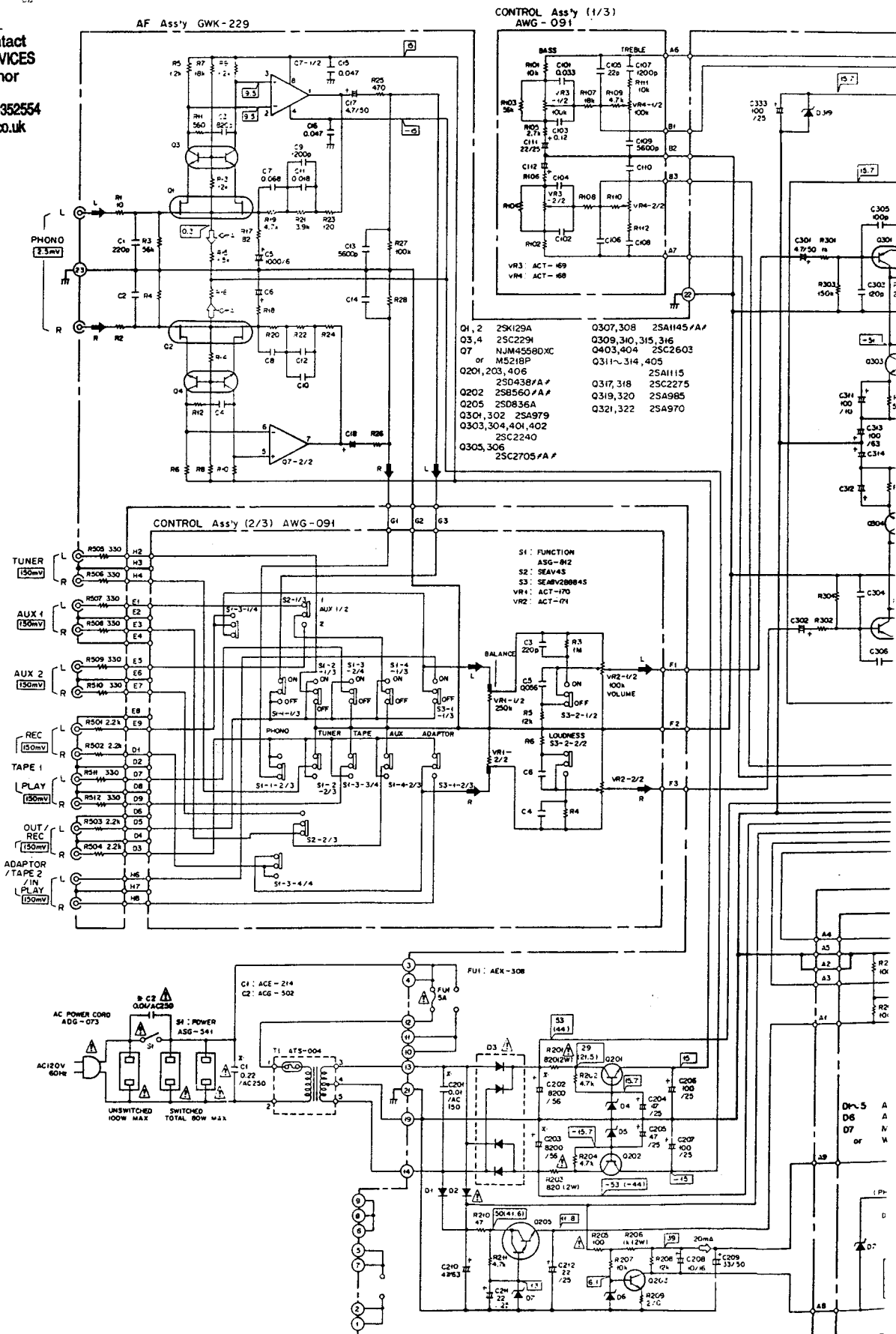
Q203

VR1



7. SCHEMATIC DIAGRAM

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk



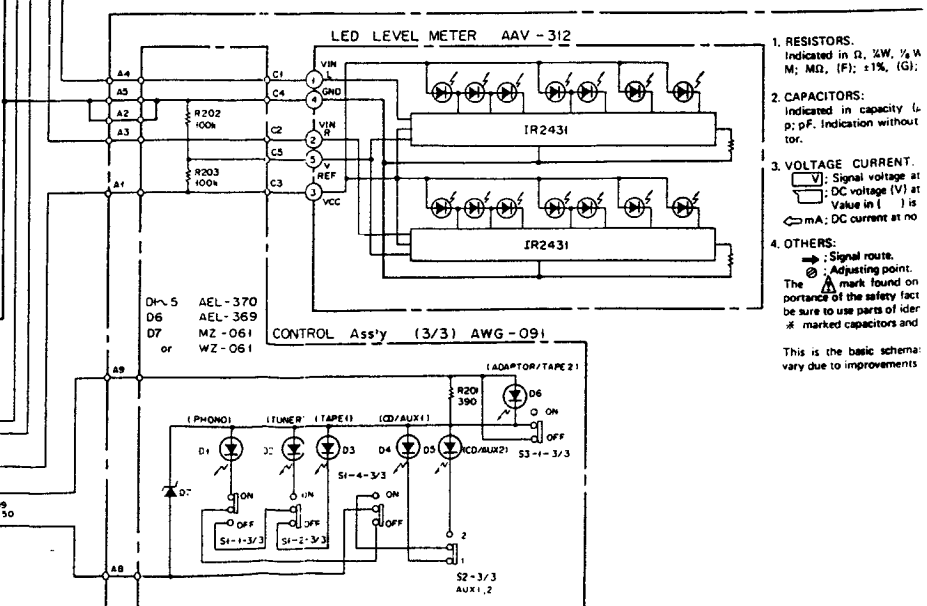
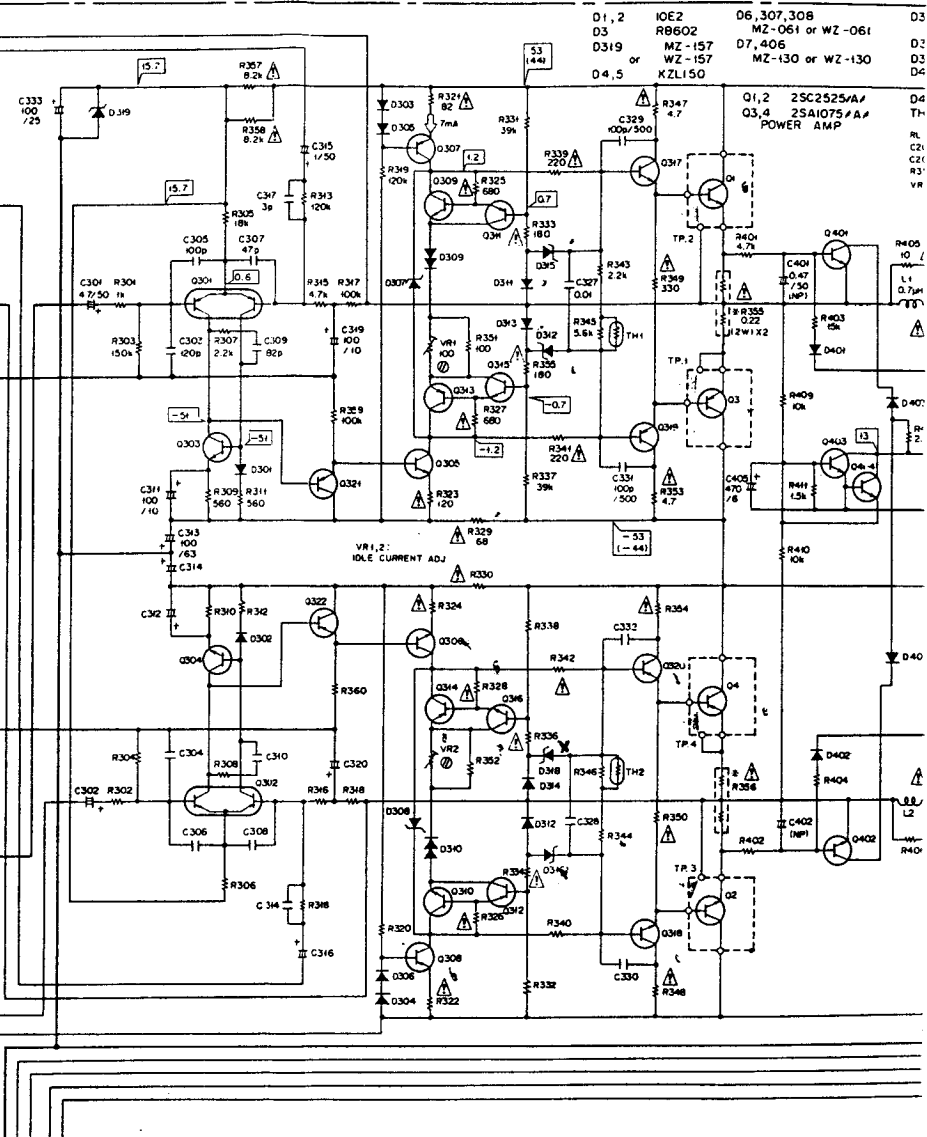
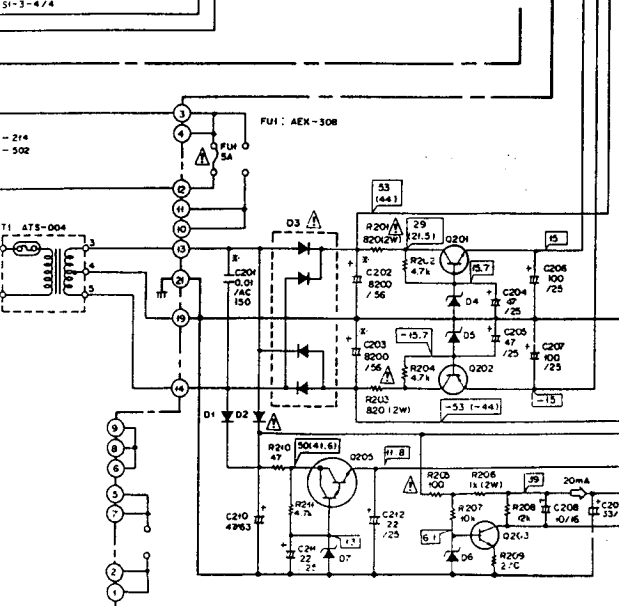
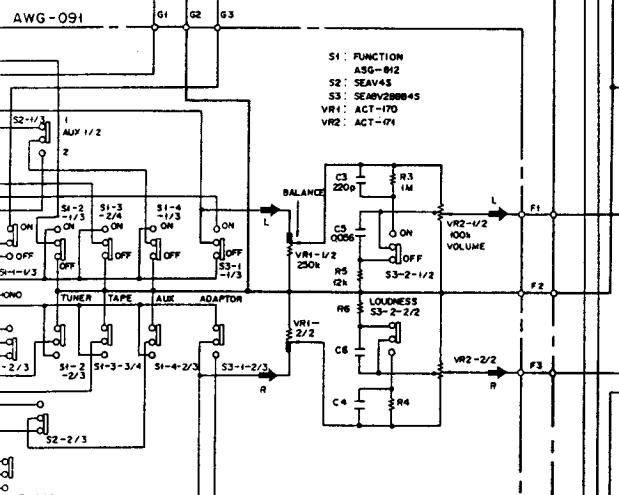
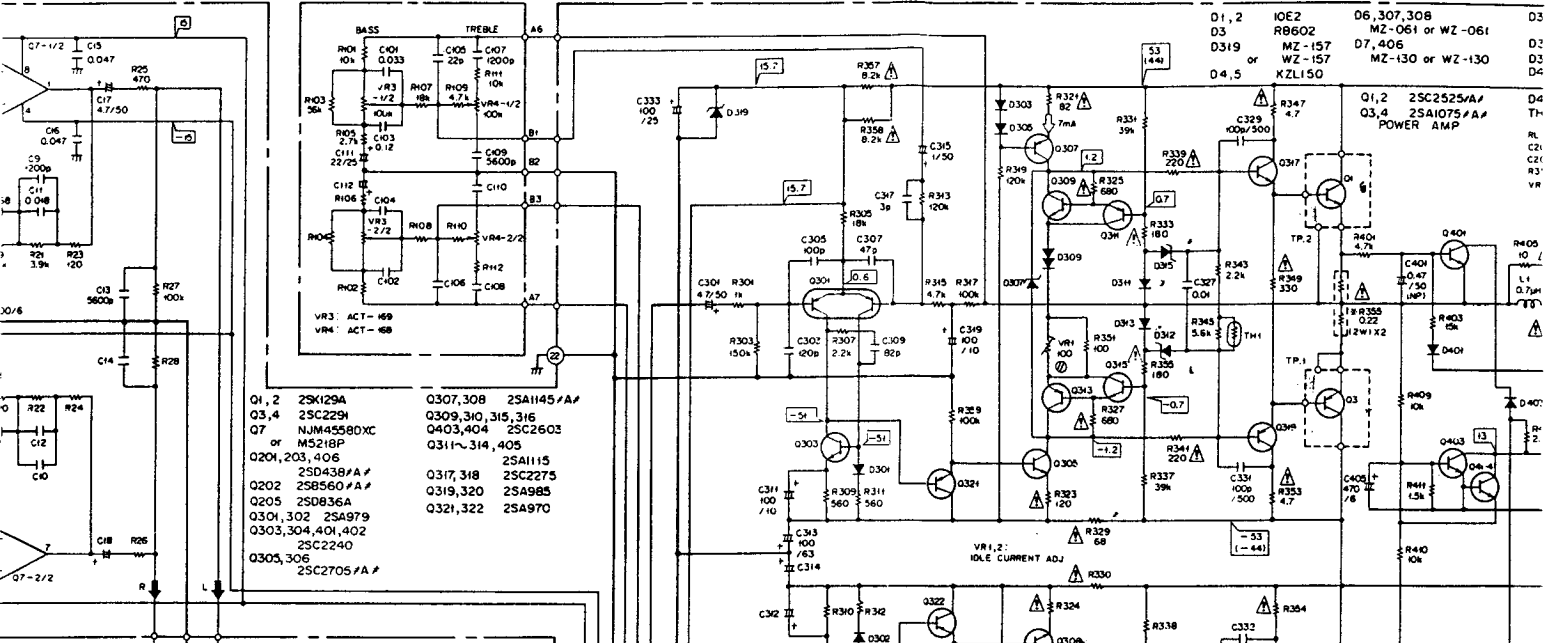
B

C

D

GRAM

CONTROL Ass'y (1/3) AWG - 091



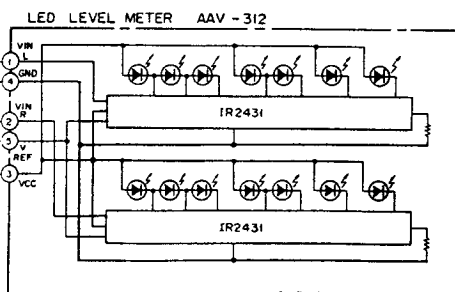
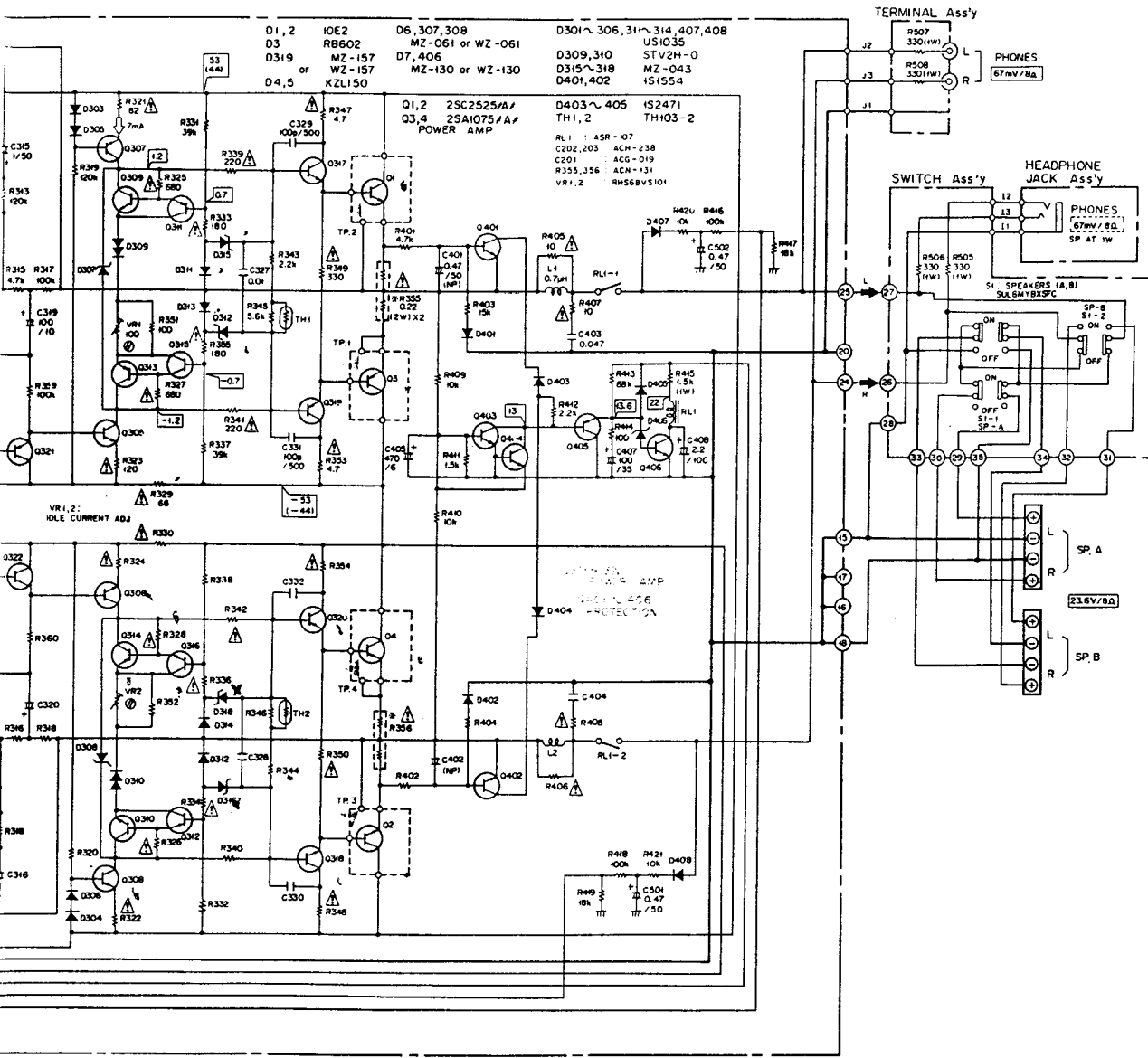
D1, 2	10E2	06, 307, 308	D3
D3	RB602	MZ-061 or WZ-061	D3
D319	MZ-157	D7, 406	D3
D4, 5	or KZL150	MZ-130 or WZ-130	D4
		01, 2 25C2525/A #	D4
		03, 4 25A1075/A #	TH
		POWER AMP	AL
			C21
			C21
			R3
			VR

- RESISTORS.
Indicated in Ω , $\frac{1}{2}W$, $\frac{1}{4}W$
M; $M\Omega$, (F); $\pm 1\%$, (G);
- CAPACITORS:
Indicated in capacity (L,
p; pF; Indication without
tor.
- VOLTAGE CURRENT.
[V] : Signal voltage at
[DC] : DC voltage (V) at
[] : Value in () is
[mA] : DC current at no
- OTHERS:
[] : Signal route.
[] : Adjusting point.
The Δ mark found on
portance of the safety fact
be sure to use parts of ider
* marked capacitors and

This is the basic schema:
vary due to improvements

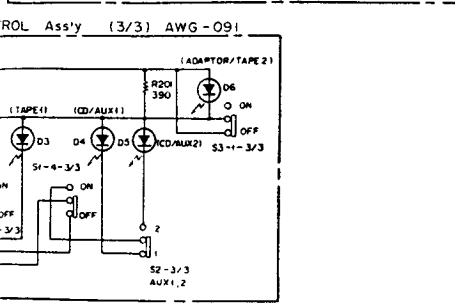
NOTE:

The indicated semiconductors are r only. Other alternative semiconductor are listed in the parts list.



1. RESISTORS.
Indicated in Ω , $\text{k}\Omega$, $\text{M}\Omega$, $\frac{1}{2}\text{W}$, $\frac{1}{4}\text{W}$, $\frac{1}{8}\text{W}$, $\pm 5\%$ tolerance unless otherwise noted k; k Ω ; M; M Ω , (F); $\pm 1\%$, (G); $\pm 2\%$, (K); $\pm 10\%$, (M); $\pm 20\%$ 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.
[Symbol] Signal voltage at (70 W+ 70 W, 81) output (1kHz)
[Symbol] DC voltage (V) at no input signal
[Symbol] Value in () is DC voltage at rated power.
[Symbol] mA; DC current at no input signal
4. OTHERS:
[Symbol] Signal route.
[Symbol] Adjusting point.
The Δ 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.
* marked capacitors and resistors have parts numbers.

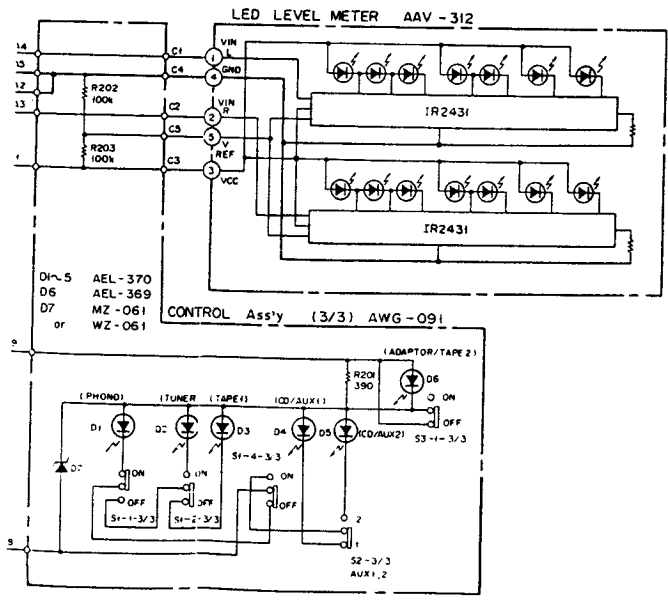
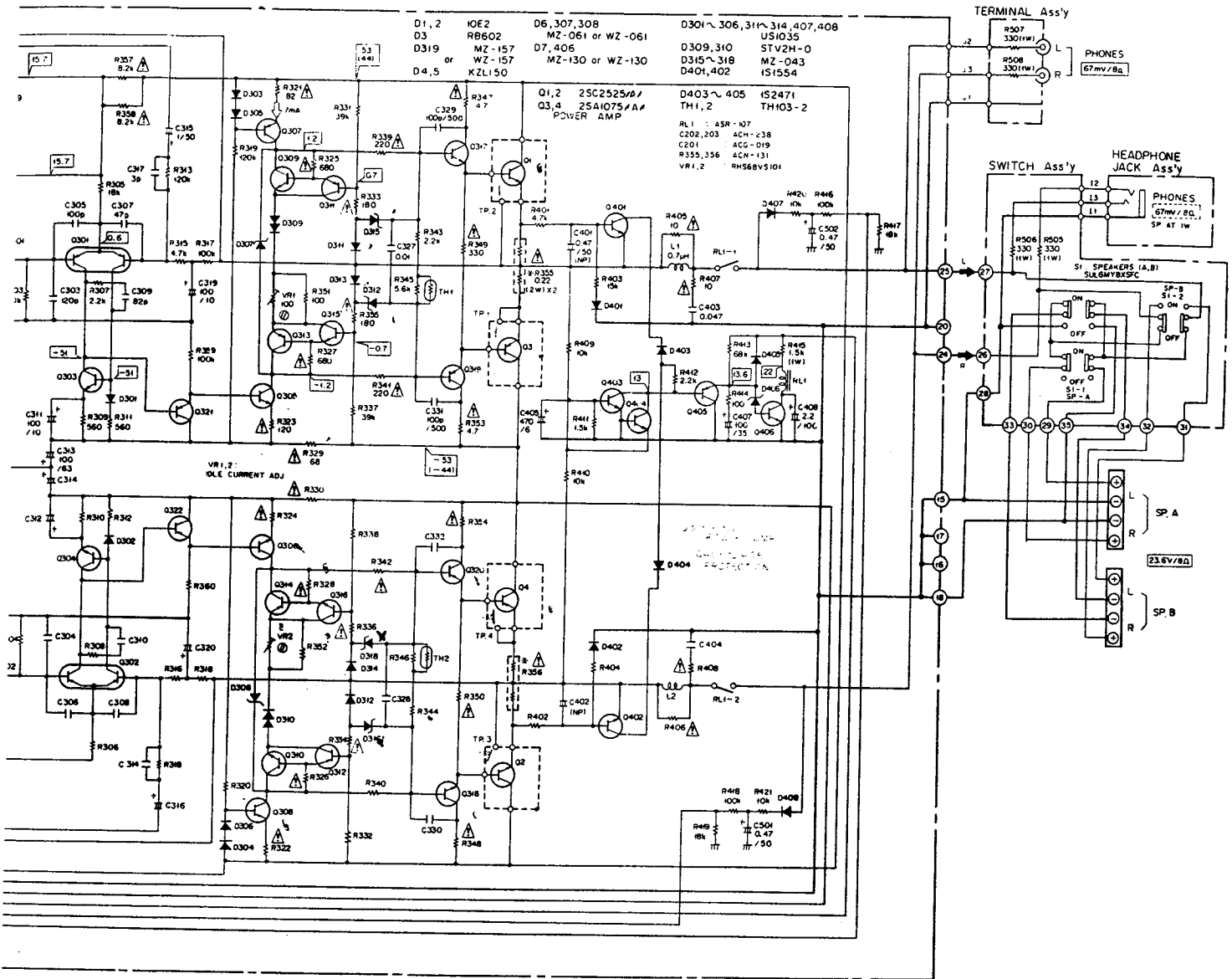
- SWITCHES:
- CONTROL Ass'y
S1-1 : FUNCTION (PHONE) ON - OFF
S1-2 : FUNCTION (TUNER) ON - OFF
S1-3 : FUNCTION (TAPE 1) ON - OFF
S1-4 : FUNCTION (CD/AUX1) ON - OFF
S2 : AUX 1, 2 AUX1 - AUX 2
S3-1 : ADAPTOR / TAPE 2 ON - OFF
S3-2 : LOUDNESS ON - OFF
- SWITCH Ass'y
S1-1 : SPEAKER A ON - OFF
S1-2 : SPEAKER B ON - OFF
- OTHERS
S1 : POWER ON - OFF
- The underlined indicates the switch position.



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

For Service Manuals Contact MAURITRON TECHNICAL SERVICES 8 Cherry Tree Rd, Chinnor Oxon OX9 4QY Tel: 01844-351694 Fax: 01844-352554 Email: enquiries@mauritron.co.uk

NOTE:
The indicated se
only. Other altern
are listed in the pa.



- RESISTORS.**
Indicated in Ω, ¼W, ½W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1% (G); ±2% (K); ±10% (M); ±20% tolerance
- CAPACITORS:**
Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE CURRENT.**
[V]: Signal voltage at (70 W+ 70 W, 8Ω) output (1kHz)
[V]: DC voltage (V) at no input signal
Value in [] is DC voltage at rated power
[mA]: DC current at no input signal
- OTHERS:**
[→]: Signal route.
[⊕]: Adjusting point.
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.
[✱] marked capacitors and resistors have parts numbers.

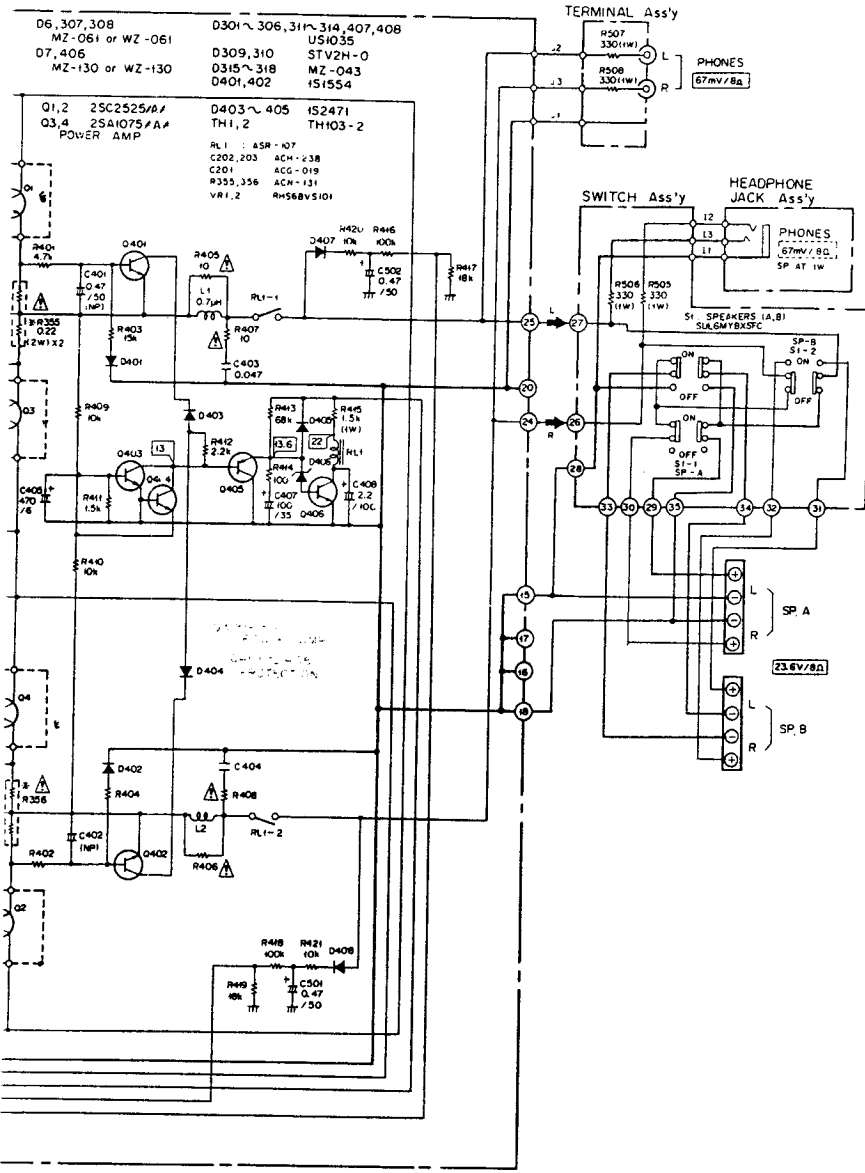
- SWITCHES:**
- CONTROL Ass'y**
 S1-1: FUNCTION (PHONO) ON - OFF
 S1-2: FUNCTION (TUNER) ON - OFF
 S1-3: FUNCTION (TAPE 1) ON - OFF
 S1-4: FUNCTION (CD/AUX1) ON - OFF
 S2: AUX 1, 2 AUX1 - AUX2
 S3-1: ADAPTOR/TAPE 2 ON - OFF
 S3-2: LOUDNESS ON - OFF
- SWITCH Ass'y**
 S1-1: SPEAKER A ON - OFF
 S1-2: SPEAKER B ON - OFF
- OTHERS**
 S1: POWER ON - OFF

The underlined indicates the switch position.

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

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

External



2SA979

2SA1145/A
2SC2705/A

2SA985
2SC2275

2SA970
2SC2240

2SA1115
2SC2603

- 1. RESISTORS.**
 Indicated in Ω, ¼W, ½W, ±5% tolerance unless otherwise noted k; kΩ.
 M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% 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.**
 [V]: Signal voltage at (70 W+ 70 W, 8Ω) output (1kHz)
 [V]: DC voltage (V) at no input signal
 [mA]: DC current at no input signal

- SWITCHES:**
- CONTROL Ass'y**
 S1-1 : FUNCTION (PHONO) ON - OFF
 S1-2 : FUNCTION (TUNER) ON - OFF
 S1-3 : FUNCTION (TAPE 1) ON - OFF
 S1-4 : FUNCTION (CD/AUX1) ON - OFF
 S2 : AUX 1, 2 AUX1 - AUX 2
 S3-1 : ADAPTOR/TAPE 2 ON - OFF
 S3-2 : LOUDNESS ON - OFF
- SWITCH Ass'y**
 S1-1 : SPEAKER A ON - OFF
 S1-2 : SPEAKER B ON - OFF
- OTHERS**
 S1 : POWER ON - OFF

The underlined indicates the switch position.

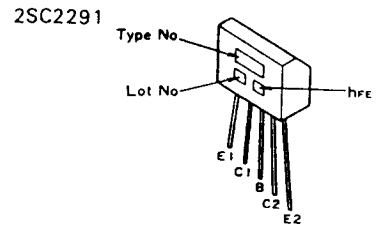
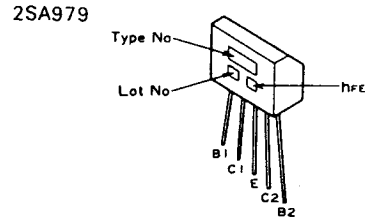
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

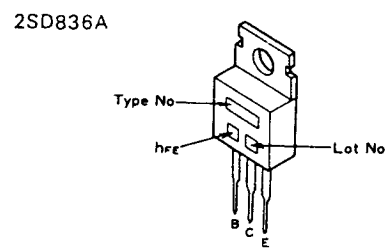
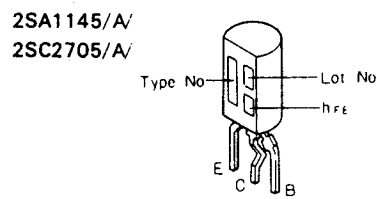
2SB560/A/
2SD438/A/

External Appearance of Transistors and IC's

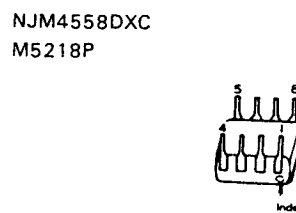
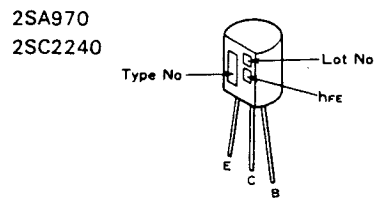
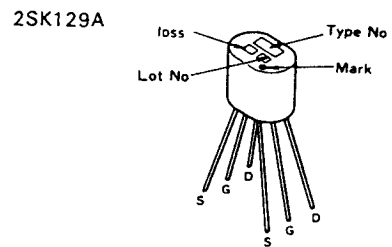
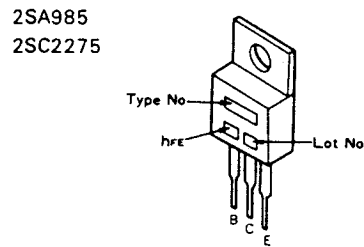
ductors are representative ones
semiconductors may be used and



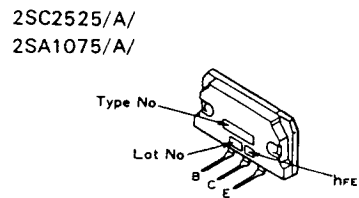
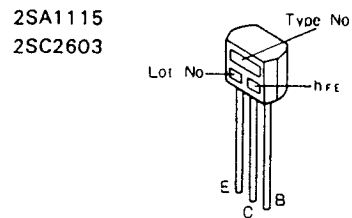
A



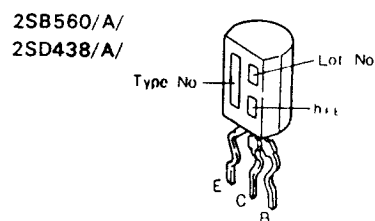
B



C



D



CAPACITORS

Mark	Part No.	Symbol & Description
	ACH-238	C202, C203
	CEA 101M 63L	Electrolytic (8200/56V)
	CEA 102M 6L	C313, C314
	ACG-019	C5, C6
	CEANP R47M 50	C201 Ceramic (0.01/AC150V)
	CEA R47M 50L	C401, C402
	CEA 100M 16L	C501, C502
	CEA 101M 10L	C208
	CEA 101M 35L	C311, C312, C319, C320
	CEA 101M 25L	C407
	CEA 2R2M 100L	C206, C207, C333
	CEA 220M 25L	C408
	CEA 330M 50L	C211, C212
	CEA 470M 25L	C209
	CEA 470M 63L	C204, C205
	CEA 471M 6L	C210
	CEANL 010M 50	C405
	CEANL 4R7M 50	C315, C316
	COMA 562K 50	C17, C18, C301, C302
	COMA 103K 50	C13, C14
	COMA 473K 50	C327, C328
	COMA 122J 50	C403, C404
	COMA 183J 50	C9, C10
	COMA 683J 50	C11, C12
	CCDSL 101K 500	C7, C8
	CCDSL 030C 50	C329, C330, C331, C332
	CCDSL 470J 50	C317, C318
	CCDSL 121J 50	C307, C308
	CCDSL 820J 50	C303, C304
	CCDSL 221J 50	C309, C310
	CCDSL 101J 50	C1, C2
	CKDYB 821K 50	C305, C306
	CKDYF 473Z 50	C3, C4
		C15, C16

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
	AGN-131	R365, R356 Wire wound (0.22/2WX2)
	R4S6BV5101	VR1, VR2 Semifixed (100)
	RS1L 000 J	R415
	RD1/8 PM 000 J	R201, R203, R206
		R307, R308, R351, R352, R401
		-R404, R409-R411, R413, R416-R421, R501-R512
	RD% PMF 000 J	R210, R333-R336
	RD% PMFL 000 J	R321-R328, R347, R348, R353, R354, R357, R358, R405-R408
	RFA% PS 000 J	R205, R329, R330, R339-R342, R349, R350
	RD%PM 000 J	Other resistors

OTHERS

Mark	Part No.	Symbol & Description
	AKB-093	Terminal
	AKB-094	Terminal
	AKB-095	Terminal
	AKH-017	TR socket
	ASR-107	RL1 Relay
	PBZ30P060PMC	Screw (3x6)

Headphone Jack Assembly

Mark	Part No.	Symbol & Description
	AKN-045	Phone jack

Switch Assembly

Mark	Part No.	Symbol & Description
	SUL6MY8XSFC	S1 Push switch
	RS1L331J	RS05, RS06

Terminal Assembly

Mark	Part No.	Symbol & Description
	AKB-093	Terminal
	RS1L331J	RS07, RS08

Control Assembly (AWG-091)

Mark	Part No.	Symbol & Description
	* AEL-370	D1-D5 LED (Green)
	* AEL-369	D6 LED (Orange)
	* MZ-061 (WZ-061)	D7

SEMICONDUCTORS

Mark	Part No.	Symbol & Description
	** ASC-912	S1 Push switch (FUNCTION)
	** SEABV2BBB4S	S3 Push switch (LOUDNESS, ADAPTOR/TAPEZ)
	** SEAV4S	S2 Push switch (AUX1/2)

SWITCHES

Mark	Part No.	Symbol & Description
	C3, C4	
	C103, C104	
	C105, D106	
	C107, C108	
	C109, C110	
	C101, C102	
	C5, C6	
	C111, C112	

CAPACITORS

Mark	Part No.	Symbol & Description
	CCDSL 221J 50	C3, C4
	COMLA 124K 50	C103, C104
	COMA 220J 50	C105, D106
	COMA 122K 50	C107, C108
	COMA 562K 50	C109, C110
	COMA 333K 50	C101, C102
	COMA 563K 50	C5, C6
	CEA 220M 25L	C111, C112

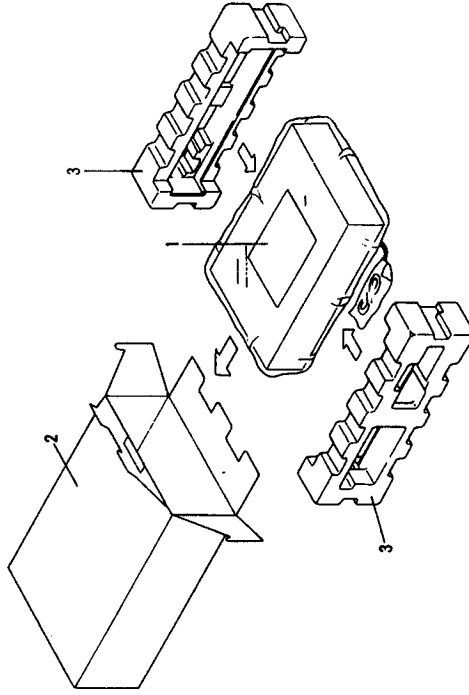
RESISTOR

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

Mark	Part No.	Symbol & Description
	RD% PM 000 J	R3-R6, R101-R112, R201-R203
	ACT-170	VR1 Variable (BALANCE, 250k)
	ACT-171	VR2 Variable (VOLUME, 100k)
	ACT-169	VR3 Variable (BASS, 100k)
	ACT-168	VR4 Variable (TREBLE, 100k)

9. PACKING

Mark	No.	Part No.	Description
	1.	ARB-544	Operating instructions
	2.	AHE-217	Packing case
	3.	AHA-340	Front rear pad



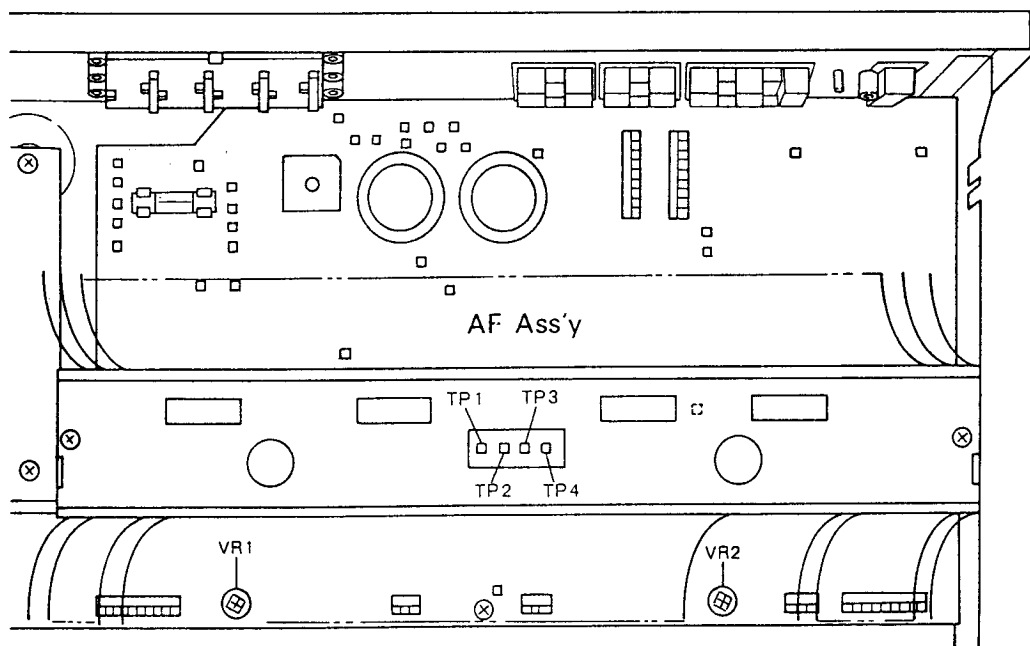
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

10. ADJUSTMENTS

Idle Current Adjustment

- Turn VR1 (L) and VR2 (R) fully around in the counter-clockwise direction.
- Without any load or input signal, turn POWER switch ON and let stand for 10 minutes.

Adjustment point	Prescribed value	Measuring terminal
VR1 (L)	8.6mV~21.8mV	TP2 (+) and TP1 (-)
VR2 (R)	8.6mV~21.8mV	TP3 (+) and TP4 (-)



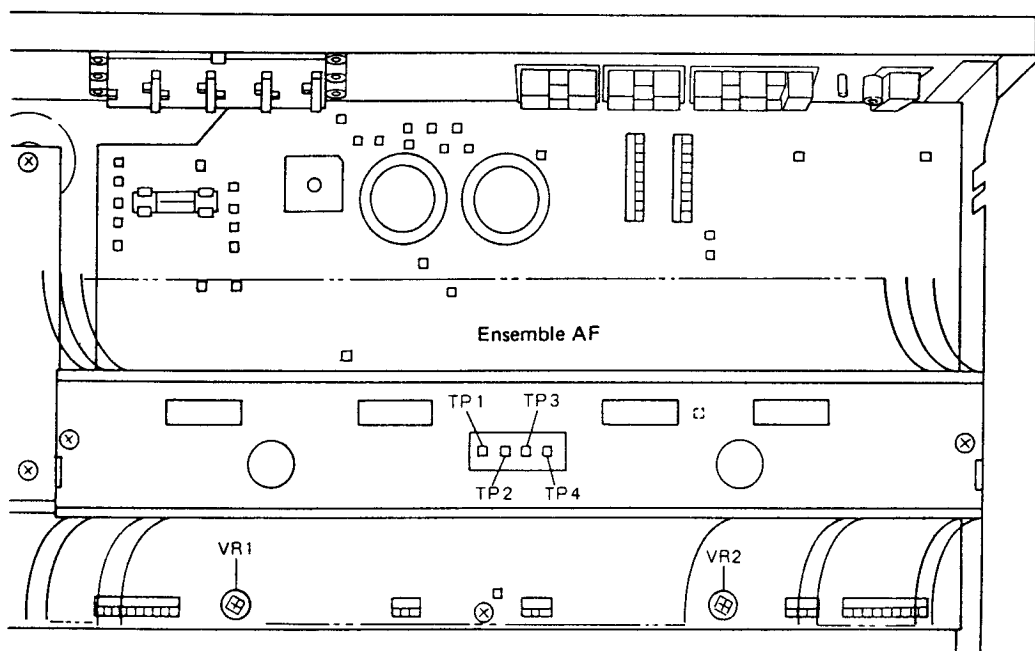
For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauritron.co.uk

10. RÉGLAGE

Réglage du courant déwatté

- Tourner à fond VR1 (L, gauche) et VR2 (R, droite) en sens inverse des aiguilles d'une montre.
- Sans charge ni signal d'entrée, allumer l'interrupteur POWER et le maintenir 10 minutes.

Point de réglage	Valeur prescrite	Terminal de mesure
VR 1 (L)	8,6mV~21.8mV	TP2 (+) et TP2 (-)
VR2 (R)	8,6mV~21,8mV	TP3 (+) et TP4 (-)



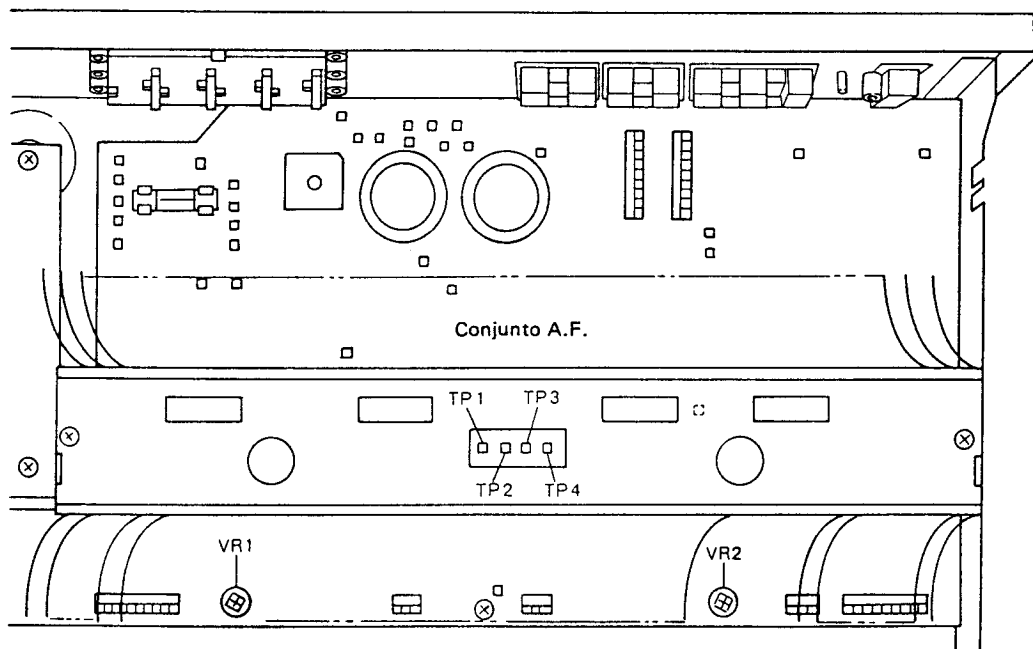
10. AJUSTE

Ajuste de la corriente la corriente devatiada

- Girar la VR1 (L, izquierda) VR2 (R, derecha) totalmente en la dirección hacia la izquierda.
- Sin ninguna carga o señal de entrada, girar el interruptor de la alimentación (POWER) a ON y manténgalo por 10 minutos.

Punto de ajuste	Valor determinado	Terminal de medida
VR1 (L)	8,6mV~21,8mV	TP12 (+) y TP1 (-)
VR2 (R)	8,6mV~21,8mV	TP3 (+) y TP4 (-)

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351894 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk



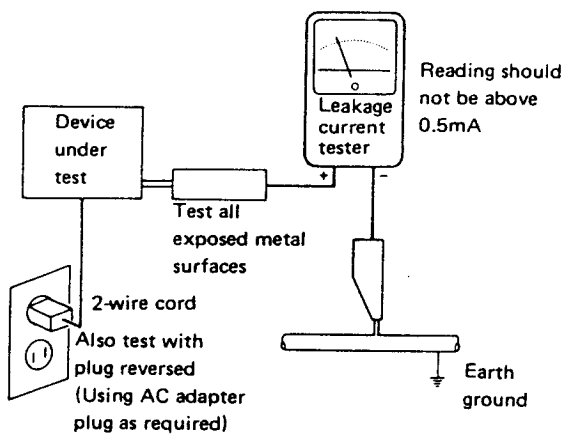
11. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauritron.co.uk

12. FOR HE TYPE

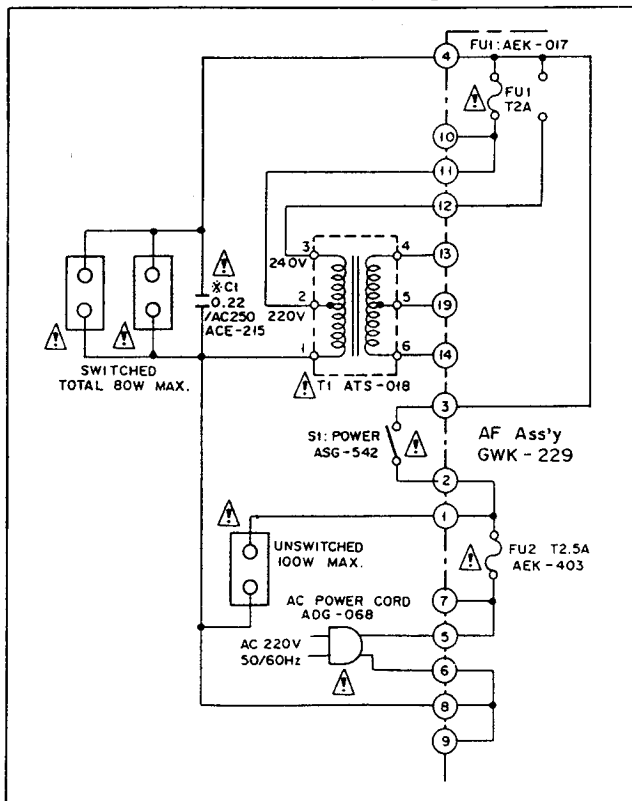
The HE type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	HE type	
⚠ ★	T1 Power transformer (120V) (220V/240V)	ATS-004	<p>For Service Manuals Contact MAURITRON TECHNICAL SERVICES 8 Cherry Tree Rd, Chinnor Oxon OX9 4QY Tel:- 01844-351694 Fax:- 01844-352554 Email:- enquiries@mauritron.co.uk</p>
		.....	ATS-018
⚠ ★★	FU1 Fuse (5A) (T2A)	AEK-308	.....
⚠ ★★	FU2 Fuse (T2.5A)	.....	AEK-017
⚠ ★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1 (0.22/AC125V)	ACE-214	.....
⚠	(0.22/AC250V)	.....	ACE-215
⚠	C2 (0.01/AC125V)	ACG-502	.....
⚠	AC socket (AC OUTLETS)	AKP-501	AKP-502	
⚠	AC power cord	ADG-073	ADG-068	
	Operating instructions (English)	ARB-544	.....
	(English/French/German/Italian)	.....	ARE-066
	Packing case	AHE-217	AHE-192	

Schematic Diagram

POWER SUPPLY CIRCUIT FOR HE TYPE



Line Voltage Selection

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-017) 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

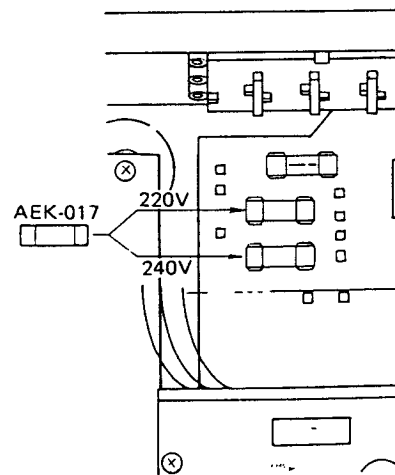


Fig. 1

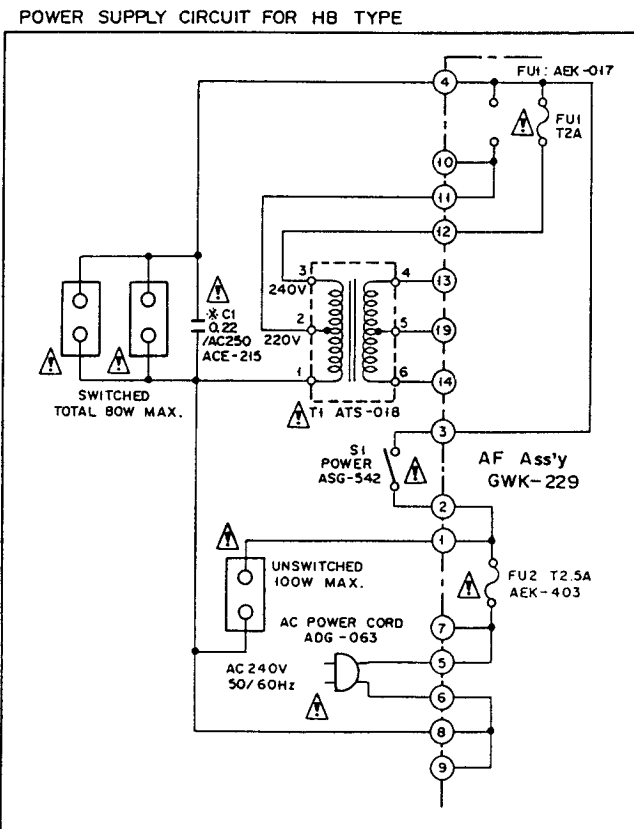
13. FOR HB TYPE

The HB type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	HB type	
⚠ ★	T1 Power transformer (120V) (220V/240V)	ATS-004	.....
⚠ ★★	FU1 Fuse (5A) (T2A)	AEK-308	.....
⚠ ★★	FU2 Fuse (T2.5A)	.....	AEK-403	
⚠ ★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1 (0.22/AC125V)	ACE-214	.....
⚠	(0.22/AC250V)	.....	ACE-215	
⚠	C2 (0.01/AC125V)	ACG-502	.....
⚠	AC socket (AC OUTLETS)	AKP-501	AKP-505	
	AC power cord	ADG-073	ADG-063	
	Operating instructions (English)	ARB-544	ARB-544	
	Packing case	AHE-217	AHE-192	

Schematic Diagram



Line Voltage Selection

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-017) 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

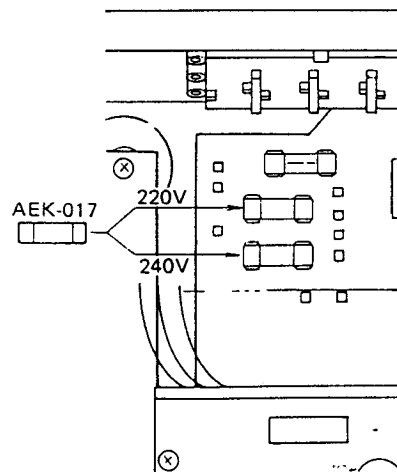


Fig. 1

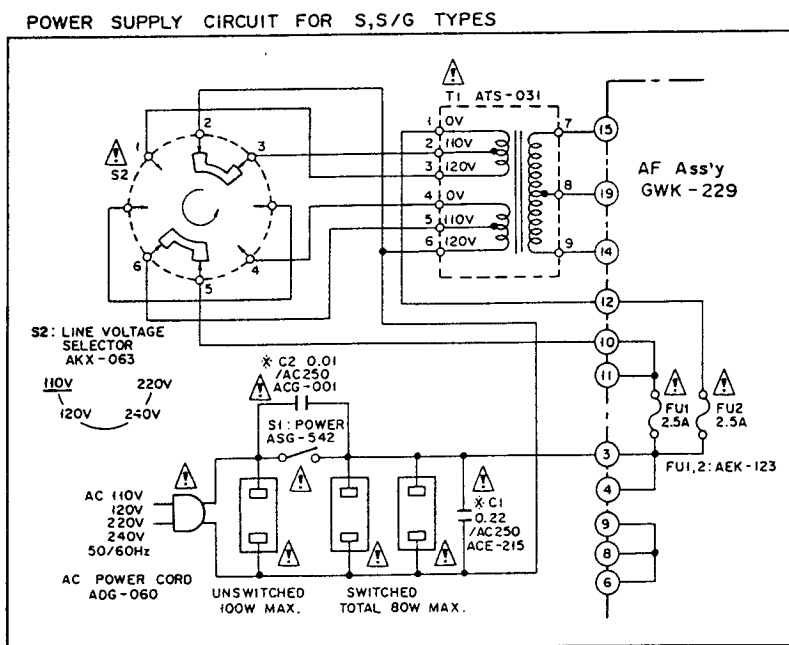
14. FOR S AND S/G TYPES

The S and S/G types are the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.			Remarks
		KU type	S type	S/G type	
⚠ ★	T1 Power transformer (120V) (110V, 120V, 220V, 240V)	ATS-004	..... ATS-031	..... ATS-031	
⚠ ★★	FU1 Fuse (5A) (2.5A)	AEK-308	..... AEK-123	..... AEK-123	
⚠ ★★	FU2 Fuse (2.5A)	.....	..... AEK-123	..... AEK-123	
⚠	S2 Line voltage selector	.....	..... AKX-063	..... AKX-063	
⚠	C1 (0.22/AC125V)	ACE-214	.....	.....
⚠	(0.22/AC250V)	.....	..... ACE-215	..... ACE-215	
⚠	C2 (0.01/AC125V)	ACG-502	.....	.....
⚠	(0.01/AC250V)	.....	..... ACG-001	..... ACG-001	
⚠	AC power cord	ADG-073	ADG-060	ADG-060	
	Screw (3x10)	.....	MTZ30P100FZK	MTZ30P100FZK	for line voltage selector
	Operating instructions (English)	ARB-544	ARB-544	ARB-544	
	(Spanish)	.....	ARC-049	.....
	Packing case	AHE-217	AHE-192	AHE-192	

Schematic Diagram



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351894 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

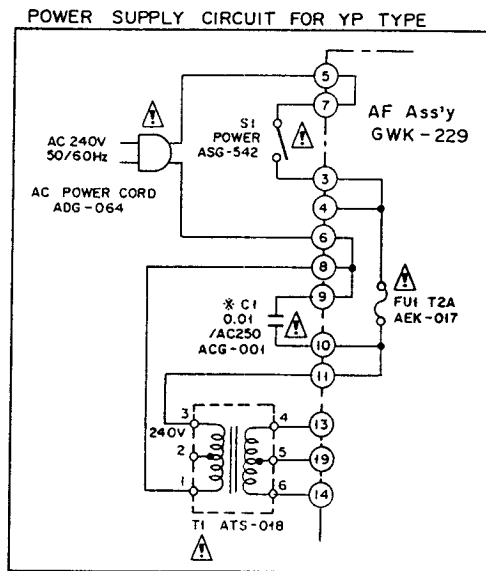
15. FOR YP TYPE

The YP type is the same as the KU type with the exception of the following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.		Remarks
		KU type	YP type	
⚠ ★	T1 Power transformer (120V) (240V)	ATS-004	..... ATS-018	
⚠ ★★	FU1 Fuse (5A) (2A)	AEK-308	..... AEK-017	
⚠ ★★	S1 Push switch (POWER)	ASG-541	ASG-542	
⚠	C1 (0.22/AC250V)	ACE-214	.....
⚠	C2 (0.01/AC125V)	ACG-502	.....
⚠	AC socket (AC OUTLETS)	AKP-501	.....
⚠	AC power cord	ADG-073	ADG-064	
	Packing case	AHE-217	AHE-192	

Schematic Diagram



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk