

 **PIONEER®**
The Art of Entertainment

Service Manual

ORDER NO.
ARP2226

AUDIO/VIDEO STEREO RECEIVER

VSX-3900S

KUC, KUCXJ

VSX-3800

 KUC, KUCXJ

- Refer to the service manual ARP2060, VSX-3700S/KUC type
- This manual is applicable to the VSX-3900S/KUC, KUCXJ, VSX-3800/KUC and KUCXJ types.
- The "S" at the end of the model number indicates that a programmable remote control unit is supplied.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan

PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.

PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada

PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium

PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

© **PIONEER ELECTRONIC CORPORATION, 1991**

YV APR. 1991 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

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

The VSX-3900S/KUC, KUCXJ, VSX-3800/KUC and KUCXJ types are the same as the VSX-3700S/KUC type with the exception of the following sections.

Mark	Symbol & Description	Part No.					Remarks
		VSX-3700S/ KUC type	VSX-3900S/ KUC type	VSX-3900S/ KUCXJ type	VSX-3800/ KUC type	VSX-3800/ KUCXJ type	
⊙	COMPLEX assembly	AWZ2987	AWZ3513	AWZ3513	AWZ3513	AWZ3513	
⊙	CONTROL assembly	AWZ2990	AWZ3514	AWZ3514	AWZ3514	AWZ3514	
	Master VOL assembly	AAB1119	AAB1207	AAB1207	AAB1207	AAB1207	
	Tact knob (HITS)	.....	AAD1398	AAD1398	AAD1398	AAD1398	
	Tuner function knob	AAD1663	.....	.....	.....	.....
	TU function button (PLS)	.....	AAD1983	AAD1983	AAD1983	AAD1983	
	Station knob	AAD1665	AAD1924	AAD1924	AAD1924	AAD1924	
	Acrylic panel	AAK1981	.....	.....	.....	.....
	Acrylic panel (PLS)	.....	AAK2166	AAK2166	AAK2166	AAK2166	
	Front panel	AMB1661	AMB1819	AMB1819	AMB1820	AMB1820	
	Screw	.....	ABA-222	ABA-222	ABA-222	ABA-222	
	Washer	ABF1017	.....	.....	.....	.....
	FM antenna	ADH1004	ADH1008	ADH1008	ADH1008	ADH1008	
	Packing case	AHD1889	AHD2059	AHD2123	AHD2060	AHD2124	
	Operating instructions (English)	ARB1258	ARB1319	ARB1319	ARB1319	ARB1319	
	Remote control unit	AXD1150	AXD1214	AXD1214	AXD1215	AXD1215	
	Battery cover	.....	.....	.....	AZN1970	AZN1970	

⊙ **COMPLEX assembly (AWZ3513)**

The COMPLEX assembly (AWZ3513) is the same as the COMPLEX assembly (AWZ2987) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2987	AWZ3513	
	IC201	NJM4558DXP	RC4558DXP	
	Q102, Q103	RN2201	XDA143ES	
	Q261, Q262, Q605	RN1203	XDC124ES	
	Q606, Q751	RN1201	XDC143ES	
	C118	CKDYF103Z50	CKDYX103M25	
	C751 (0.01/AC400V)	ACG1005	.....
	C751	.....	CKDYF103Z50	

⊙ **CONTROL assembly (AWZ3514)**

The CONTROL assembly (AWZ3514) is the same as the CONTROL assembly (AWZ2990) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2990	AWZ3514	
	Q301, Q401	RN1203	XDC124ES	
	S412, S425, S431	.....	ASG1034	
	R408	RD1/8PM473J	.....
	R414	.....	RD1/8PM222J	

2. REMOTE CONTROL UNIT (For VSX-3900S/KUC and KUCXJ types)

2.1 CONTRAST OF MISCELLANEOUS PARTS

The Remote control unit (AXD1214) is the same as the Remote control unit (AXD1150) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AXD1150	AXD1214	
	Conduction rubber sheet	AZA1269	AZA1316	
	Aluminum plate	AZA1268	AZA1317	

NOTE :

The only difference between the remote control unit (AXD1214) of the VSX-3900S/KUC, KUCXJ and the remote control unit (AXD1150) of the VSX-3700S/KUC is that the AXD1214 is equipped with MUTING, RETURN and HITS keys.

2.3 SCHEMATIC DIAGRAM

NOTE :

- : Indicates a chip resistor.
- : Indicates a chip capacitor.
- : Indicates a chip transistor.
- : Indicates a chip diode.

1. RESISTORS:

Indicated in Ω , 1/4W, 1/8W, $\pm 5\%$ 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 (μ F)/voltage (V) unless otherwise noted: pF
 Indication without voltage is 50V except electrolytic capacitor.

3. OTHERS:

: Signal route.

: Adjusting point.

The Δ mark found on some component parts importance of the safety factor of the part. Therefore, when replacing, be sure of use parts of identical designation.
 * marked capacitors and resistors have parts numbers.

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

The underline indicates the switch position

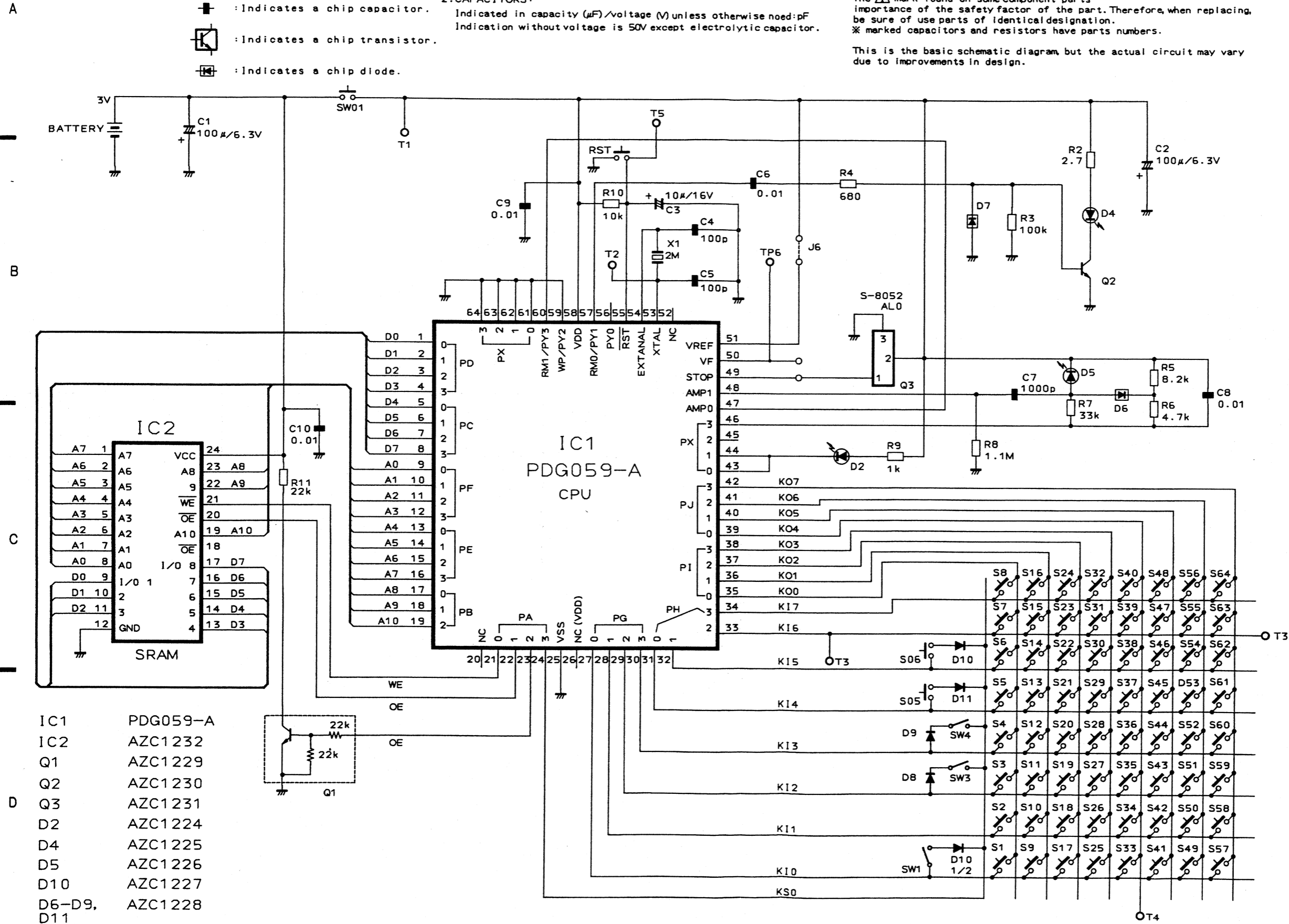
- SW1: AUDIO/VIDEO
- SR: RECALL/USE/LEARN
- SW3: SR RECALL/USE
- SW4: USE/LEARN
- MEMORY CLEAR
- S5: ON/OFF
- CENTER/REAR
- S6: ON/OFF
- RESET
- RST: ON/OFF

- TAPE/VCR
- S2: TAPE SELECT/ANT
- S10:
- S8:
- S6:
- S7:
- S9:
- S15: 1/VCR CH-
- S16: 2/VCR CH+
- S1: VCR POWER
- S12:
- S3:

- CD/VDP
- S13: DISC-SELECT/DISPLAY
- S14:
- S11: SEARCHCH
- S20: CHAP/FR-TIME
- S21:
- S5:
- S22:
- S35:
- S17: CD POWER/VDP POWER
- S18: PGM
- S19: CD+10

- TUNER/TV (CD/VDP)
- S24: 1 (1)
- S25: 2 (2)
- S26: 3 (3)
- S27: 4 (4)
- S23: 5 (5)
- S29: 6 (6)
- S30: 7 (7)
- S31: 8 (8)
- S32: 9 (9)
- S28: 0/10 (0/10)
- S34: 11 (MEMORY)
- S36: 12 (CLR)
- S33: STATION+/TV-CH+
- S37: STATION-/TV-CH-
- S41: BAND/DUAL
- S52: DIRECT ACCESS/TV-FUNC
- S53: FREQUENCY+/TV-VOL+
- S43: FREQUENCY-/TV-VOL-
- S59: SCAN/TV-DISP
- S42: HITS
- S54: CUSTOM MEMORY/CH-RETURN
- S40: TV-POWER

- AMP/AMP
- S50: VOLUME+
- S51: VOLUME-
- S58: VDP
- S63: VCR
- S64: MUTING
- S48: RECEIVER POWER
- S57: TAPE2
- S47: SURROUND MODE
- S56: SURROUND LEVEL+
- S55: SURROUND LEVEL-
- S61: TUNER
- S46: SLEEP
- S60: CD
- S62: PHONO
- S4: TAPE1
- S49: LINE
- S45: VIDEO SIGNAL SELECT
- S38: DELAY TIME
- S39: RETURN
- S44: SIMULATED STEREO


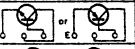

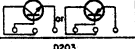

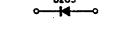

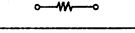

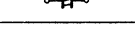




IC1	PDG059-A
IC2	AZC1232
Q1	AZC1229
Q2	AZC1230
Q3	AZC1231
D2	AZC1224
D4	AZC1225
D5	AZC1226
D10	AZC1227
D6-D9,	AZC1228
D11	

**VSX-3900S/KUC, KUCXJ
VSX-3800/KUC, KUCXJ**

NOTE

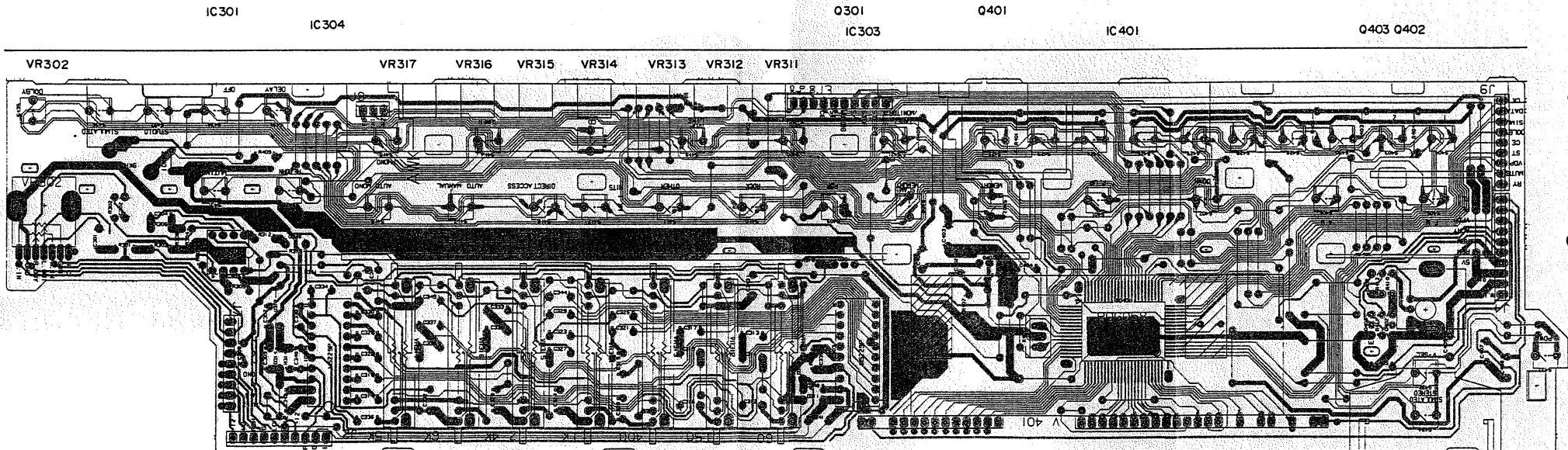
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

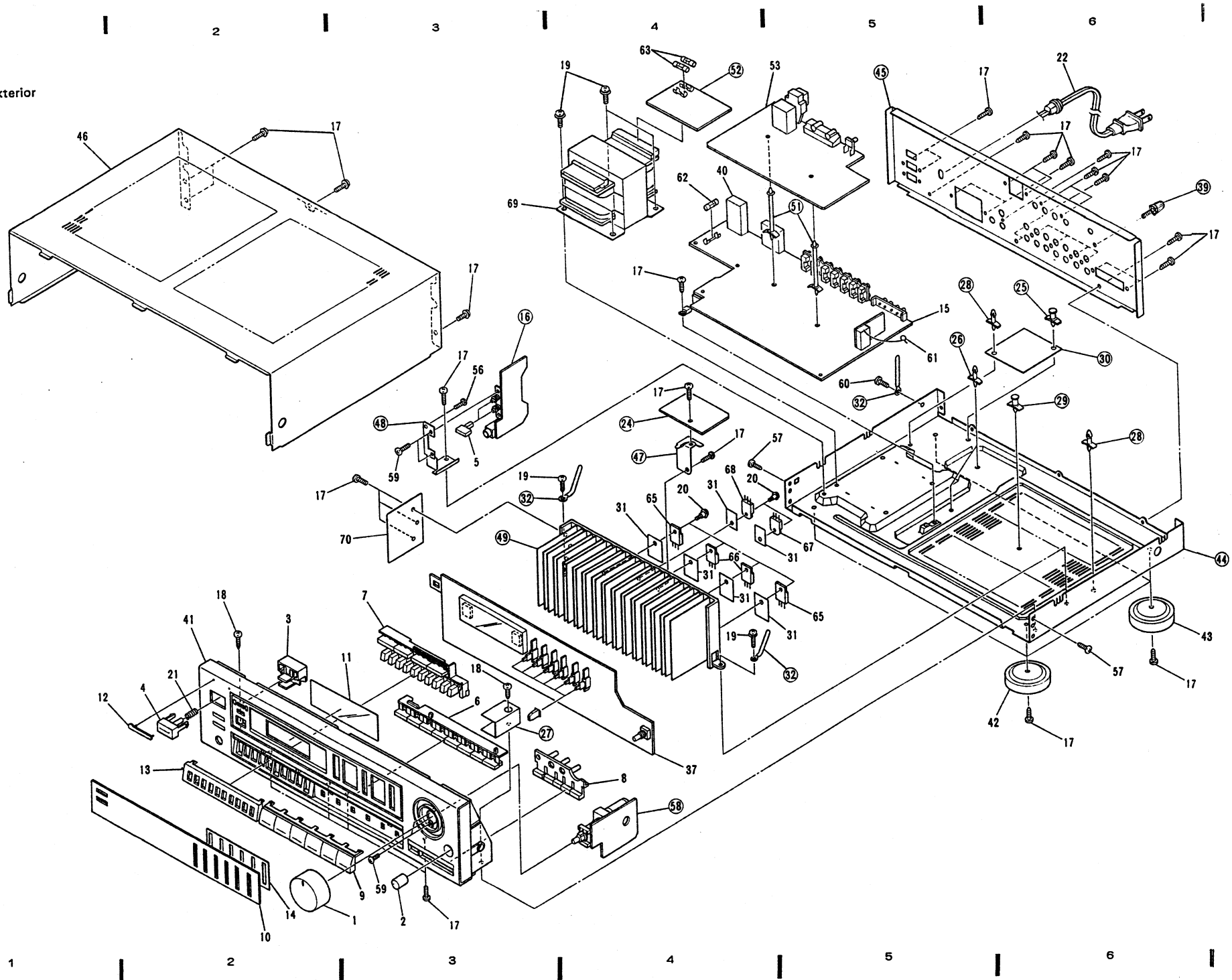
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

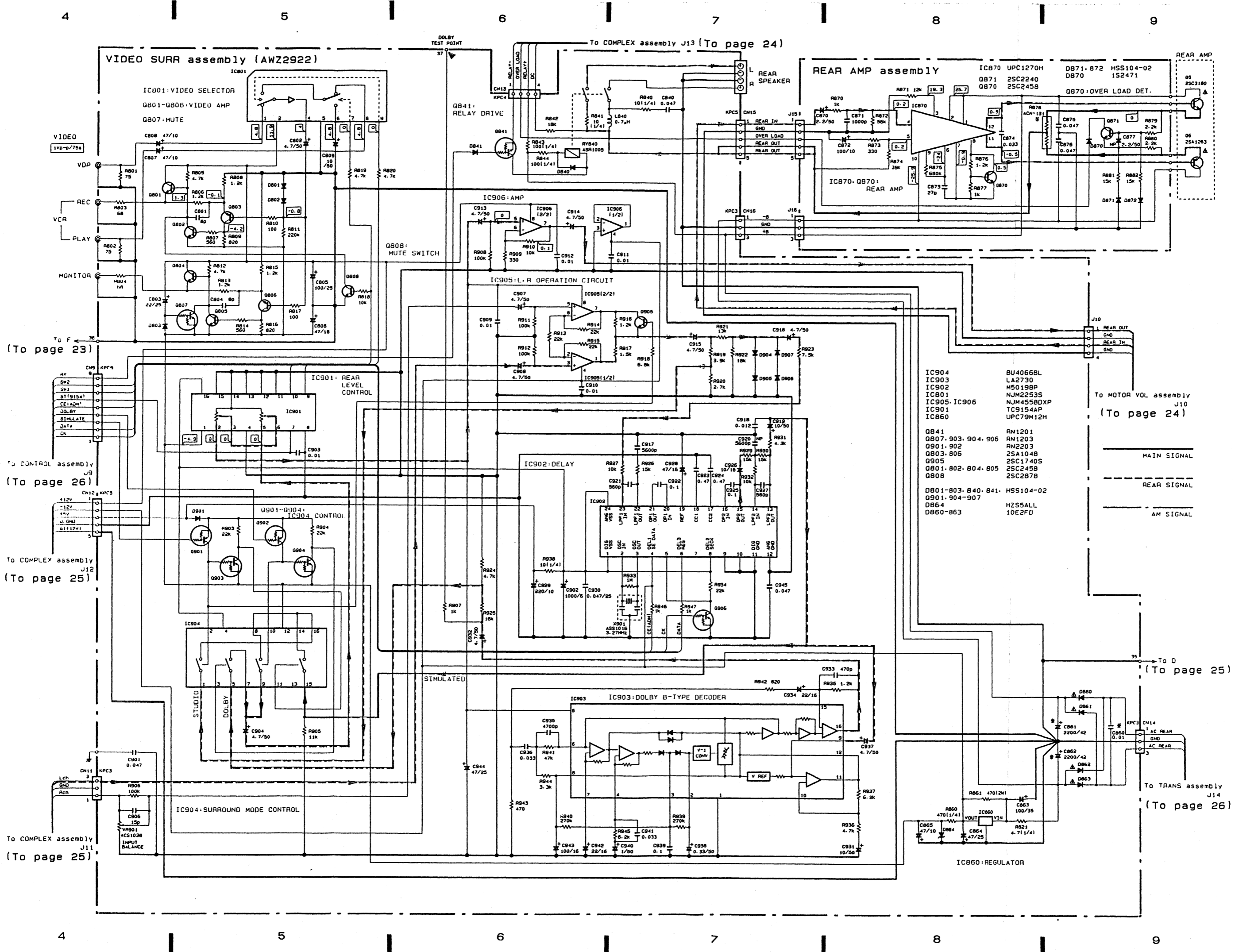
3. The capacitor terminal marked with ⊖ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.



CONTROL assembly (AWZ3514)

Exterior





VIDEO SURR assembly (AWZ2922)

REAR AMP assembly

IC801: VIDEO SELECTOR
 Q801-Q806: VIDEO AMP
 Q807: MUTE

IC870: UPC1270H
 Q871: 2SC2240
 Q870: 2SC2458
 Q870: OVER LOAD DET.

(To page 23)

To CONTROL assembly
 (To page 26)

To COMPLEX assembly
 (To page 25)

To COMPLEX assembly
 (To page 25)

To COMPLEX assembly J13 (To page 24)

To MOTOR VOL assembly
 J10
 (To page 24)

To D
 (To page 25)

To TRANS assembly
 J14
 (To page 26)

- IC904 BU4066BL
- IC903 LA2730
- IC902 M50198P
- IC801 NJM2253S
- IC905, IC906 NJM4558DXP
- IC901 TC9154AP
- IC860 UPC79M12H

- Q841 RN1201
- Q807, 903, 904, 906 RN1203
- Q901, 902 RN2203
- Q803, 806 2SA1048
- Q905 2SC1740S
- Q801, 802, 804, 805 2SC2458
- Q808 2SC2878
- Q801-803, 840, 841, HSS104-02
- Q901, 904-907 HZ55ALL
- Q864 HZ55ALL
- Q860-863 10E2FD

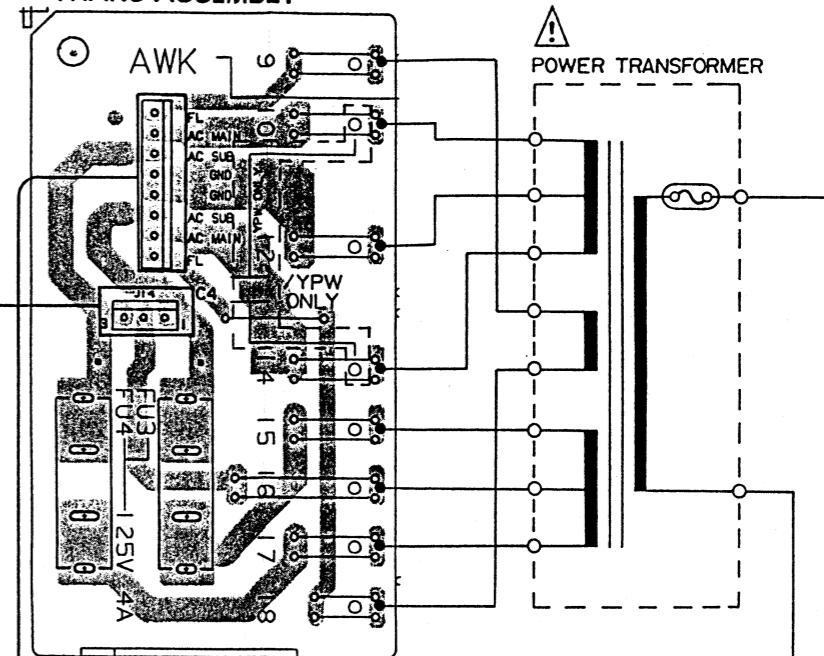
MAIN SIGNAL
 REAR SIGNAL
 AM SIGNAL

A
 B
 C
 D

To VIDEO/SURROUND assembly CN14
(To page 12)

To VIDEO/SURROUND assembly CN13
(To page 11)

TRANS ASSEMBLY



POWER TRANSFORMER

A

B

To VIDEO/SURROUND
assembly 35
(To page 12)

AC POWER CORD
ACI20V/60Hz

C

CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.

PRECAUTIONS
DO NOT REMOVE THE FUSE COVER UNTIL THE FUSE IS IDENTIFIED.
DO NOT REMOVE THE FUSE COVER UNTIL THE FUSE IS IDENTIFIED.
DO NOT REMOVE THE FUSE COVER UNTIL THE FUSE IS IDENTIFIED.
DO NOT REMOVE THE FUSE COVER UNTIL THE FUSE IS IDENTIFIED.

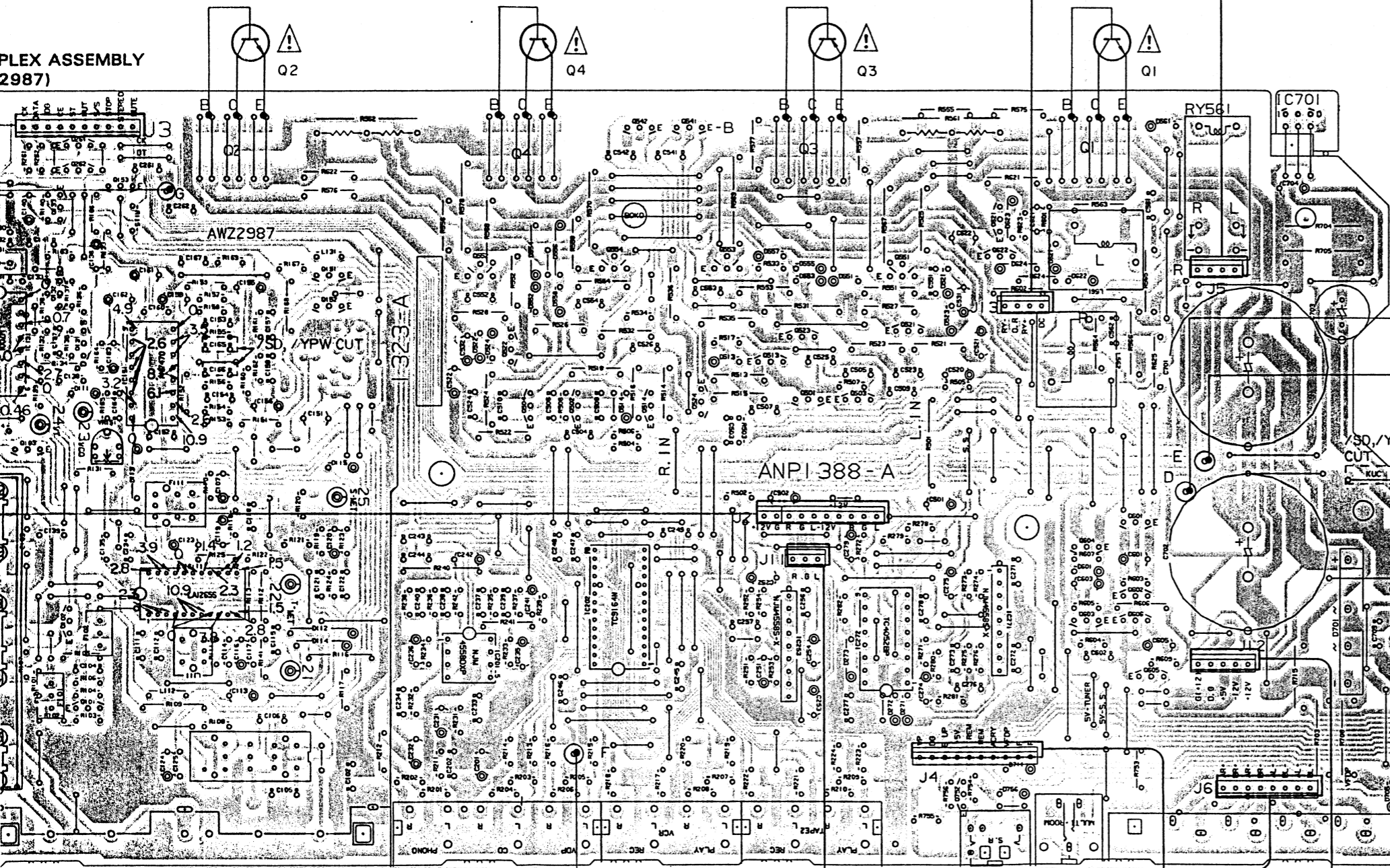
D

To MOTOR VOL assembly 19
(To page 19)

7SD, /YPW ONLY

To VIDEO/SURROUND assembly CN12
(To page 12)

PLEX ASSEMBLY
2987)







Q133	Q261	Q262	Q153	Q2	Q151	Q552	Q4	Q554	Q542	Q541	Q553	Q3	Q551	Q621	Q622	Q1	IC701
31	Q103	Q132	Q131	IC151	Q152	Q522	Q504	Q502	Q514	Q524	Q513	Q523	Q501	Q503	Q521		
Q102			IC111			IC201		IC202			IC253	IC272		IC271	Q601-Q606		
Q101													Q752				

To VIDEO/SURROUND assembly 36
(To page 11)

To VIDEO/SURROUND assembly CN11
(To page 11)

2.3 SCHEMATIC DIAGRAM

NOTE :

-  : Indicates a chip resistor.
-  : Indicates a chip capacitor.
-  : Indicates a chip transistor.
-  : Indicates a chip diode.

1. RESISTORS:

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

2. CAPACITORS:

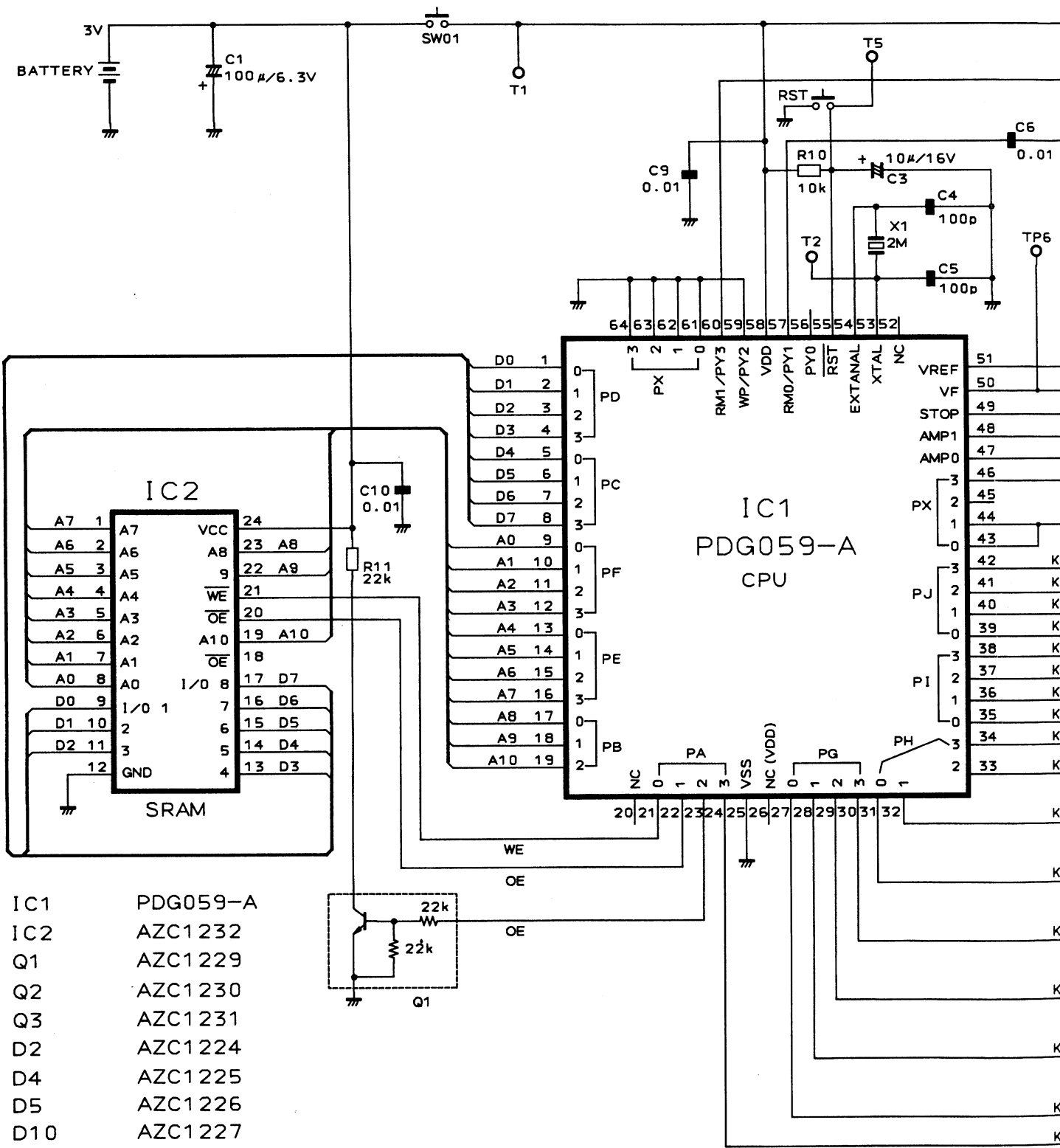
Indicated in capacity (μF)/voltage (V) unless otherwise noted.
Indication without voltage is 50V except electrolytic capacitors.

A

B

C

D



IC1	PDG059-A
IC2	AZC1232
Q1	AZC1229
Q2	AZC1230
Q3	AZC1231
D2	AZC1224
D4	AZC1225
D5	AZC1226
D10	AZC1227
D6-D9, D11	AZC1228

VSX-3900S/KUC, KUCXJ VSX-3800/KUC, KUCXJ

3. OTHERS:

otherwise noted k: kΩ, % tolerance.

→ : Signal route.

⊗ : Adjusting point.

otherwise noted: pF electrolytic capacitor.

The Δ mark found on some component parts importance of the safety factor of the part. Therefore, when replacing, be sure of use parts of identical designation. * marked capacitors and resistors have parts numbers.

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

The underline indicates the switch position

- SW1: AUDIO/VIDEO
- SR: RECALL/USE/LEARN
- SW3: SR RECALL/USE
- SW4: USE/LEARN
- MEMORY CLEAR
- S5: ON/OFF
- CENTER/REAR
- S6: ON/OFF
- RESET
- RST: ON/OFF

- TAPE/VCR
- S2: TAPE SELECT/ANT
- S10: ■/■
- S8: ▶/▶
- S6: ◀/◀
- S7: ▶/▶
- S9: ◀
- S15: 1/VCR CH-
- S16: 2/VCR CH+
- S1: VCR POWER
- S12: ●/●
- S3: ||/||

- CD/VDP
- S13: DISC-SELECT/DISPLAY
- S14: ■/■
- S11: ▶▶/SEARCHCH
- S20: ◀◀/CHAP/FR-TIME
- S21: ▶▶/▶▶
- S5: ◀/◀
- S22: ▶/▶
- S35: ||/||
- S17: CD POWER/VDP POWER
- S18: PGM
- S19: CD+10

- TUNER/TV (CD/VDP)
- S24: 1 (1)
- S25: 2 (2)
- S26: 3 (3)
- S27: 4 (4)
- S23: 5 (5)
- S29: 6 (6)
- S30: 7 (7)
- S31: 8 (8)
- S32: 9 (9)
- S28: 0/10 (0/10)
- S34: 11 (MEMORY)
- S36: 12 (CLR)
- S33: STATION+/TV-CH+
- S37: STATION-/TV-CH-
- S41: BAND/DUAL
- S52: DIRECT ACCESS/TV-FUNC
- S53: FREQUENCY+/TV-VOL+
- S43: FREQUENCY-/TV-VOL-
- S59: SCAN/TV-DISP
- S42: HITS
- S54: CUSTOM MEMORY/CH-RETURN
- S40: TV-POWER

- AMP/AMP
- S50: VOLUME+
- S51: VOLUME-
- S58: VDP
- S63: VCR
- S64: MUTING
- S48: RECEIVER POWER
- S57: TAPE2
- S47: SURROUND MODE
- S56: SURROUND LEVEL+
- S55: SURROUND LEVEL-
- S61: TUNER
- S46: SLEEP
- S60: CD
- S62: PHONO
- S4: TAPE1
- S49: LINE
- S45: VIDEO SIGNAL SELECT
- S38: DELAY TIME
- S39: RETURN
- S44: SIMULATED STEREO

