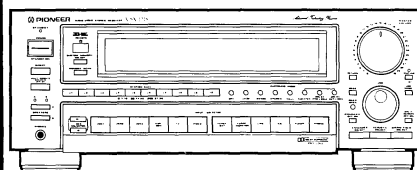


# Service Manual



ORDER NO.  
**ARP2094**

**AUDIO/VIDEO STEREO RECEIVER**

# VSX-D1S

**MODEL VSX – D1S HAS FOLLOWING VERSIONS :**

Type	Power requirement	Export destination
KUC	AC120V only	U.S.A. and Canada
SD	AC110V, 120 – 127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and General market

- This manual is applicable to the **VSX – D1S/KUC and SD** types.

## CONTENTS

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This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

#### WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

## 1. SAFETY INFORMATION

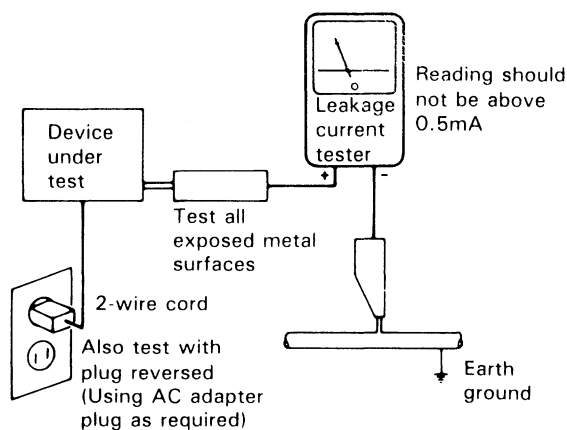
(FOR USA MODEL ONLY)

### 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  $\Delta$  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.



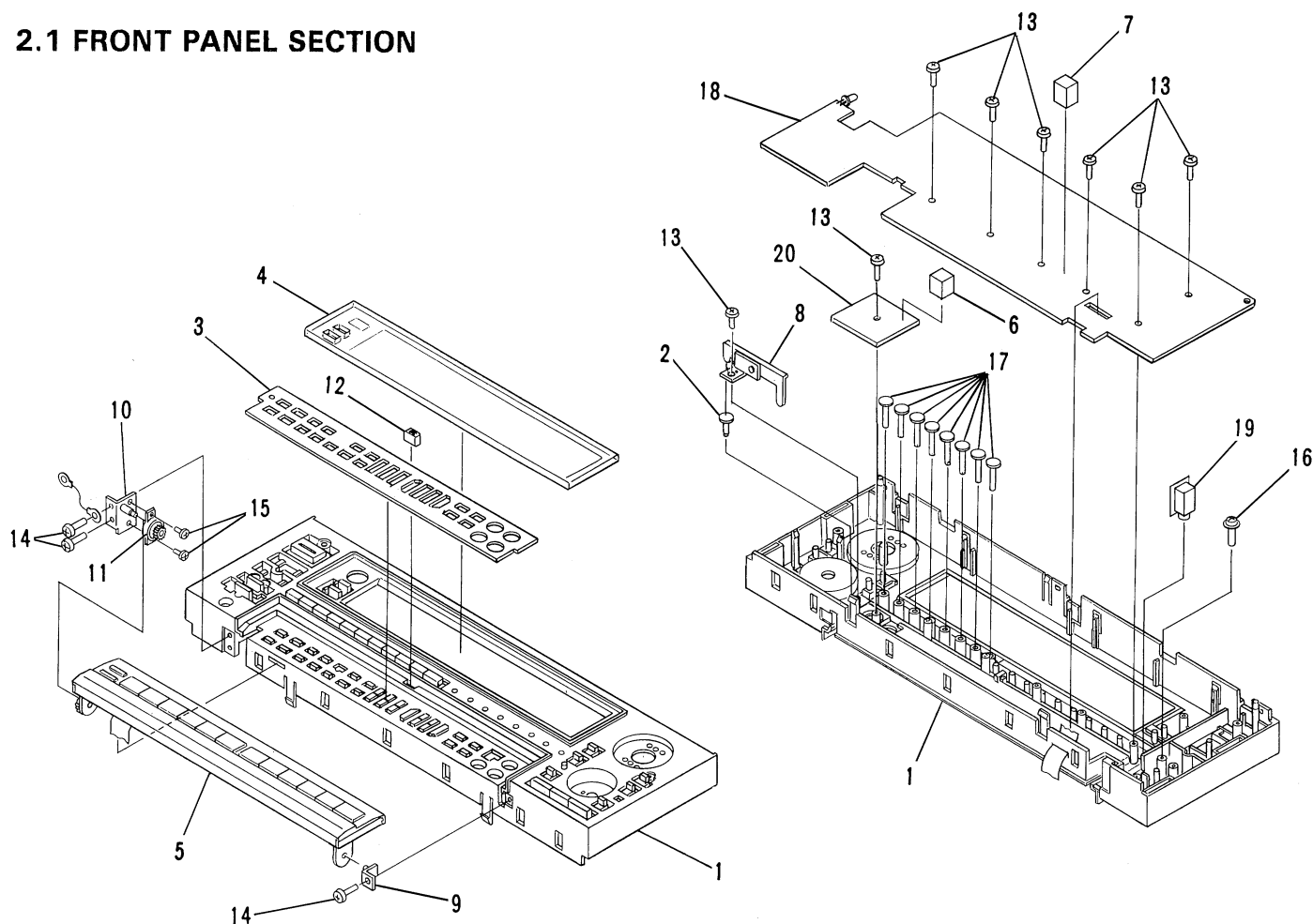
MEMO

## 2. EXPLODED VIEWS, PACKING AND PARTS LIST

### NOTES:

- Parts without part number cannot be supplied.
- The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

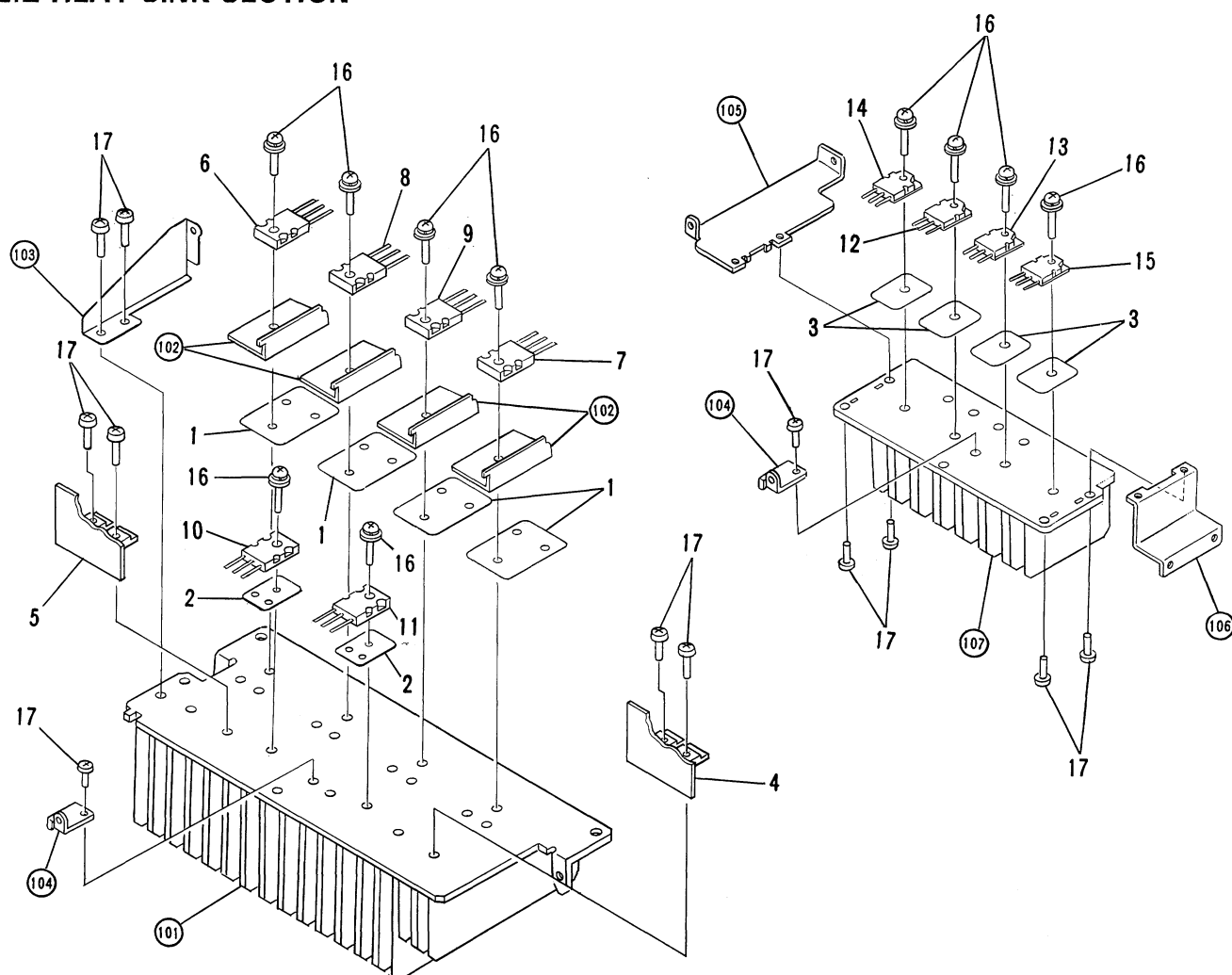
### 2.1 FRONT PANEL SECTION



### Parts list of Front panel section

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	BASE	AMB1701		11	DAMPER	AXA1009
	2	TACT KNOB	AAD1834		12	MAGNET	AXX1016
	3	PANEL (PVC)	AAK1989		13	SCREW	BBZ26P080FMC
	4	FRONT ACRYL	AAK1990		14	SCREW	BBZ30P080FZK
	5	DOOR ASS'Y	AAN1220		15	SCREW	PBZ20P040FZK
	6	CUSHION RUBBER	AEB1141		16	PWB SCREW	ABA1085
	7	CUSHION RUBBER	AEB1142		17	KNOB (GOLD)	AAD1822
	8	EJECT ASS'Y	AWL1050		18	FRONT CONTROL ASS'Y	AWZ2828
	9	BEARING ASSY L	AWL1051		19	HEAD PHONE ASS'Y	AWZ2838
	10	BEARING ASSY R	AWL1052		20	FRONT VIDEO ASS'Y	AWZ2854

## 2.2 HEAT SINK SECTION



### Parts list of Heat sink section

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	MICA SHEET	AEE1033		101	HEAT SINK	
	2	INSULATING SPACER	AEP-313		102	HEAT SINK	
	3	MICA SHEET	AEC1143		103	BRACKET	
	4	POWER SUPPLY 1 ASS'Y	AWZ2853		104	PCB SUPPORT	
	5	POWER SUPPLY 2 ASS'Y	AWZ3052		105	HEAT SINK BRACKET F	
⚠	6	TRANSISTOR (Q1)	2SC3281		106	HEAT SINK BRACKET R	
⚠	7	TRANSISTOR (Q2)	2SC3281		107	SUB HEAT SINK	
⚠	8	TRANSISTOR (Q3)	2SA1302				
⚠	9	TRANSISTOR (Q4)	2SA1302				
⚠	10	TRANSISTOR (Q5)	2SA1302				
⚠	11	TRANSISTOR (Q6)	2SC3281				
⚠	12	TRANSISTOR (Q9)	2SA1264N				
⚠	13	TRANSISTOR (Q8)	2SC3181N				
⚠	14	TRANSISTOR (Q7)	2SC3181N				
⚠	15	TRANSISTOR (Q10)	2SA1264N				
	16	SCREW	ABA-297				
	17	SCREW	ABA-298				

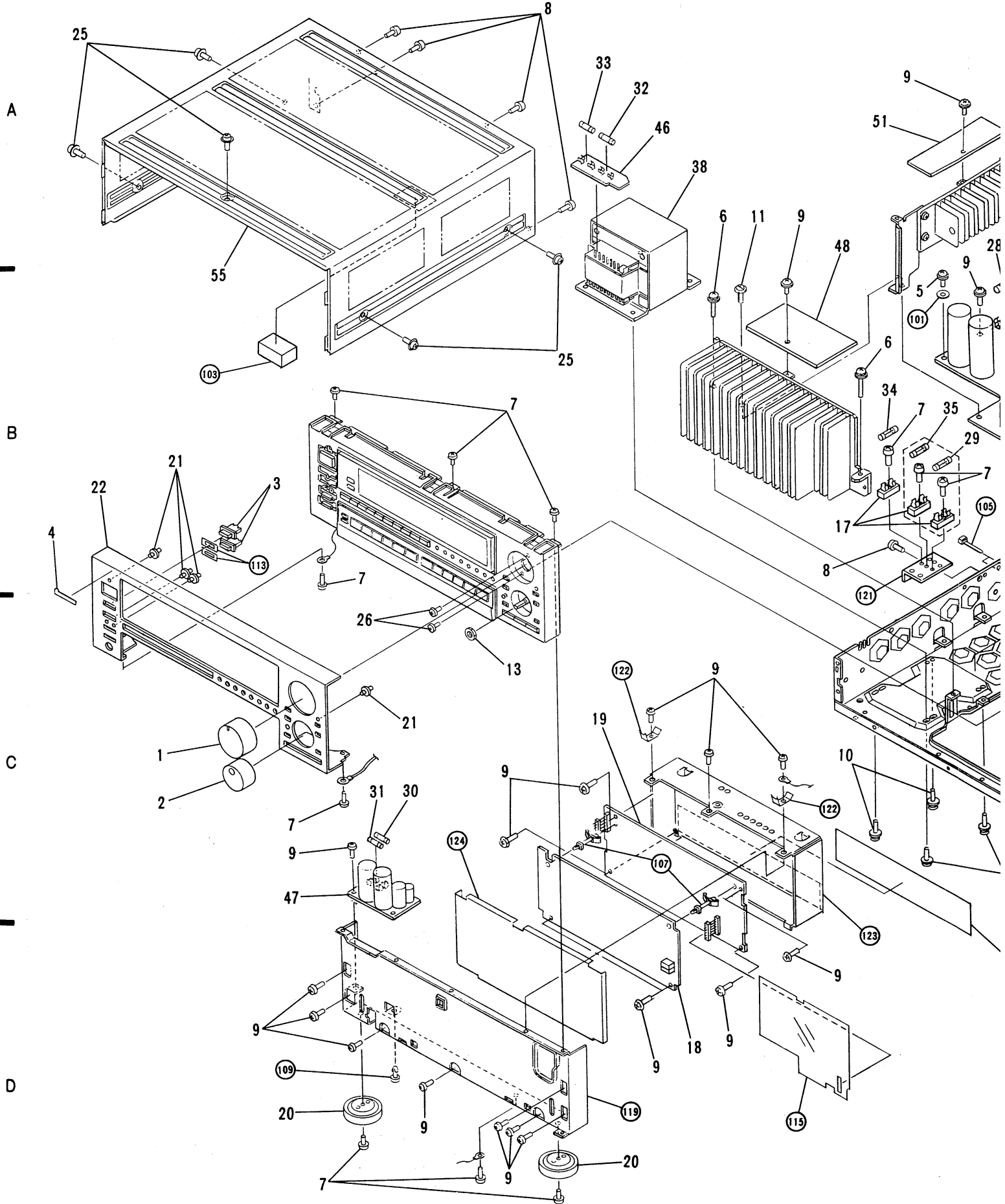
## 2.3 EXTERIOR

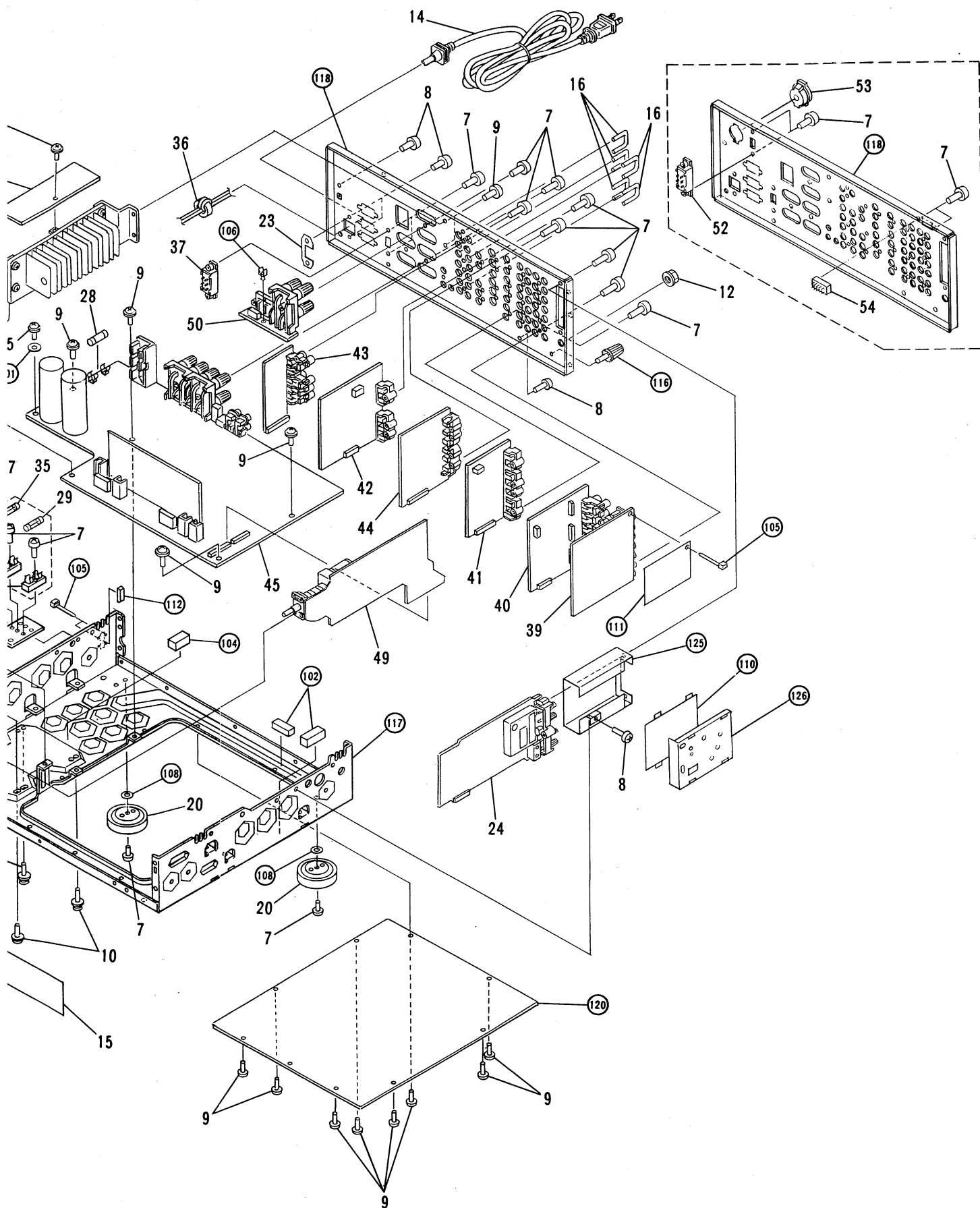
## Parts list of Exterior

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	MASTER VOL ASSY	AAB1119		41	VIDEO FUNCTION ASS'Y	AWZ2832
	2	KNOB (JOG)	AAB1174		42	ENHANCER • ADP ASS'Y	AWZ2833
	3	KNOB	AAD1821		43	TERMINAL ASS'Y	AWZ2835
	4	BADGE	AAM1029		44	S. VIDEO ASS'Y	AWZ2852
	5	SCREW (STEEL)	ABA-283		45	POWER SUPPLY & U-COM ASS'Y	AWZ2827
	6	SCREW (STEEL)	ABA-297		46	TRANS TERMINAL ASS'Y	AWZ2893
	7	SCREW	ABA-298		47	POWER SUPPLY & CAPACITOR ASS'Y	AWZ2894
	8	SCREW (STEEL)	ABA1009		48	CENTER AMP ASS'Y	AWZ2829
	9	SCREW (STEEL)	ABA1011		49	MOTOR VOLUME ASS'Y	AWZ2834
	10	SCREW	ABA1034		50	R. C. SPEAKER ASS'Y	AWZ2836
	11	SCREW (STEEL)	ABA1050		51	REAR AMP ASS'Y	AWZ2837
	12	FLANGE NUT M9	ABN1006		52	VOLTAGE SELECTOR (S2) (SD only)	AKX1004
⚠	13	NUT	ABN1016		53	VOLTAGE SELECTOR (S3) (SD only)	AKX-507
⚠	14	AC POWER CORD (KUC type)	ADG1072		54	SLIDE SWITCH (S4) (SD only)	ASH-004
⚠	14	AC POWER CORD (SD type)	ADG1073		55	BONNET COVER	ANE1261
	15	SEAL	AEH1018				
	16	PLUG	AKM1061				
⚠	17	FUSE HOLDER	AKR-038				
	18	DSP • U-COM ASS'Y	AWZ2978				
	19	DAC ASS'Y	AWZ2979				
	20	FOOT	AMR1159				
	21	LENS	AMR2177		101	SPACER RING	
	22	FRONT PANEL	ANB1410		102	SPACER RUBBER	
	23	AC CORD SPACER	ANG1153		103	CUSHION (RUBBER)	
⚠	24	TUNER ASSY	AWE1160		104	SPACER RUBBER	
	25	SCREW	FBT40P080FZK		105	NYLON BINDER	
	26	SCREW	VMZ30P060FMC		106	MINI CLAMP	
	27	.....	.....		107	PCB SPACER	
⚠	28	FUSE (8A, FU1) (KUC type)	AEK1035		108	LEG SPACER	
⚠	28	FUSE (5A, FU1) (SD type)	AEK-126		109	SPACER	
⚠	29	FUSE (5A, FU2) (SD only)	AEK-126		110	SHEET B	
⚠	30	FUSE (6.3A, FU3) (KUC type)	AEK-309		111	SHEET C	
⚠	30	FUSE (6.3A, FU3) (SD type)	AEK-127		112	LEAD WIRE CUSHION	
⚠	31	FUSE (6.3A, FU4) (KUC type)	AEK-309		113	SHADING SHEET	
⚠	31	FUSE (6.3A, FU4) (SD type)	AEK-127		114	.....	
⚠	32	FUSE (1.25A/125V, FU5)	AEK-120		115	SHEET A	
⚠	33	FUSE (1.25A/125V, FU6)	AEK-120		116	TERMINAL SCREW	
⚠	34	FUSE (1.25A/125V, FU7)	AEK-120		117	CHASSIS	
⚠	35	FUSE (1.25A, FU8) (SD only)	AEK-120		118	REAR PANEL	
	36	FERRITE CORE	ATX1017		119	PANEL STAY	
⚠	37	VOLTAGE SELECTOR (S1)	AKX1004		120	BOTTOM PLATE	
	38	POWER TRANSFORMER (T) (KUC type)	ATS1292		121	FUSE HOLDER BRACKET	
	38	POWER TRANSFORMER (T) (SD type)	ATS1293		122	GROUND PLATE	
	39	MAIN FUNCTION ASS'Y	AWZ2830		123	DSP CASE	
	40	SUB FUNCTION ASS'Y	AWZ2831		124	DSP COVER	
					125	TUNER CASE	
					126	TUNER COVER	



# Exterior





SD type only

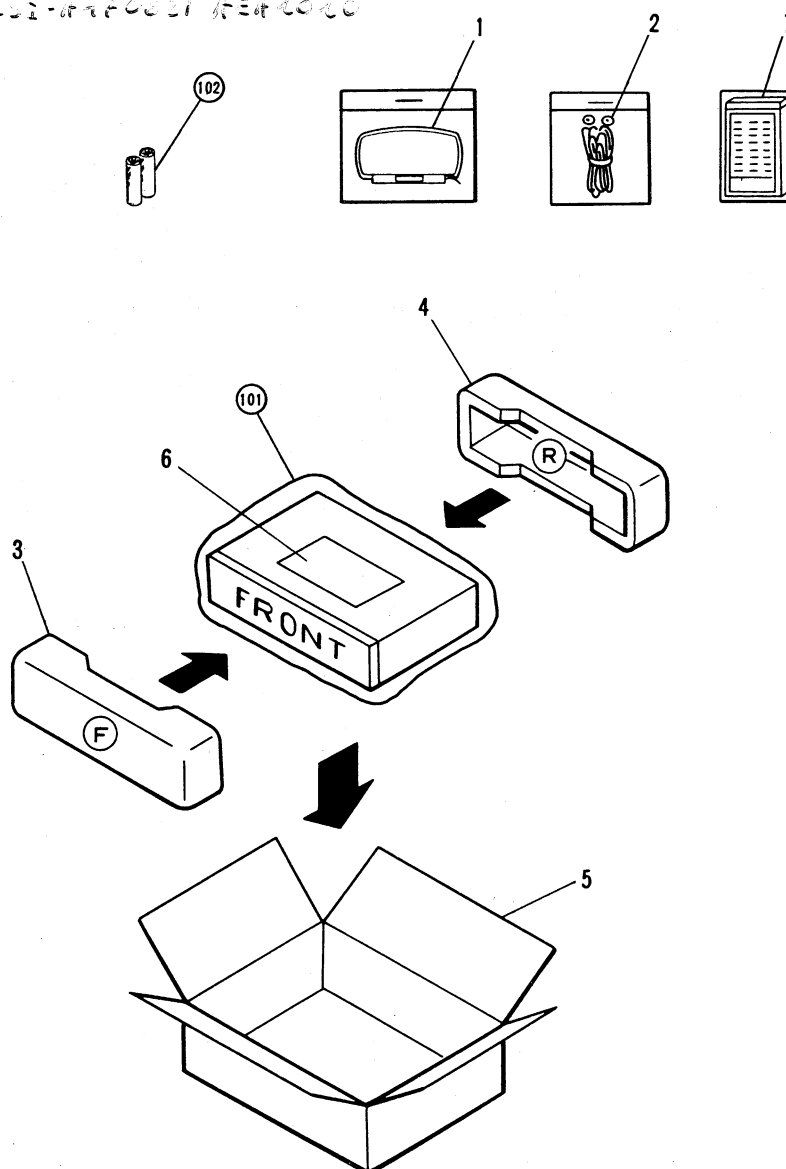
## 2.4 PACKING

### Parts list of packing

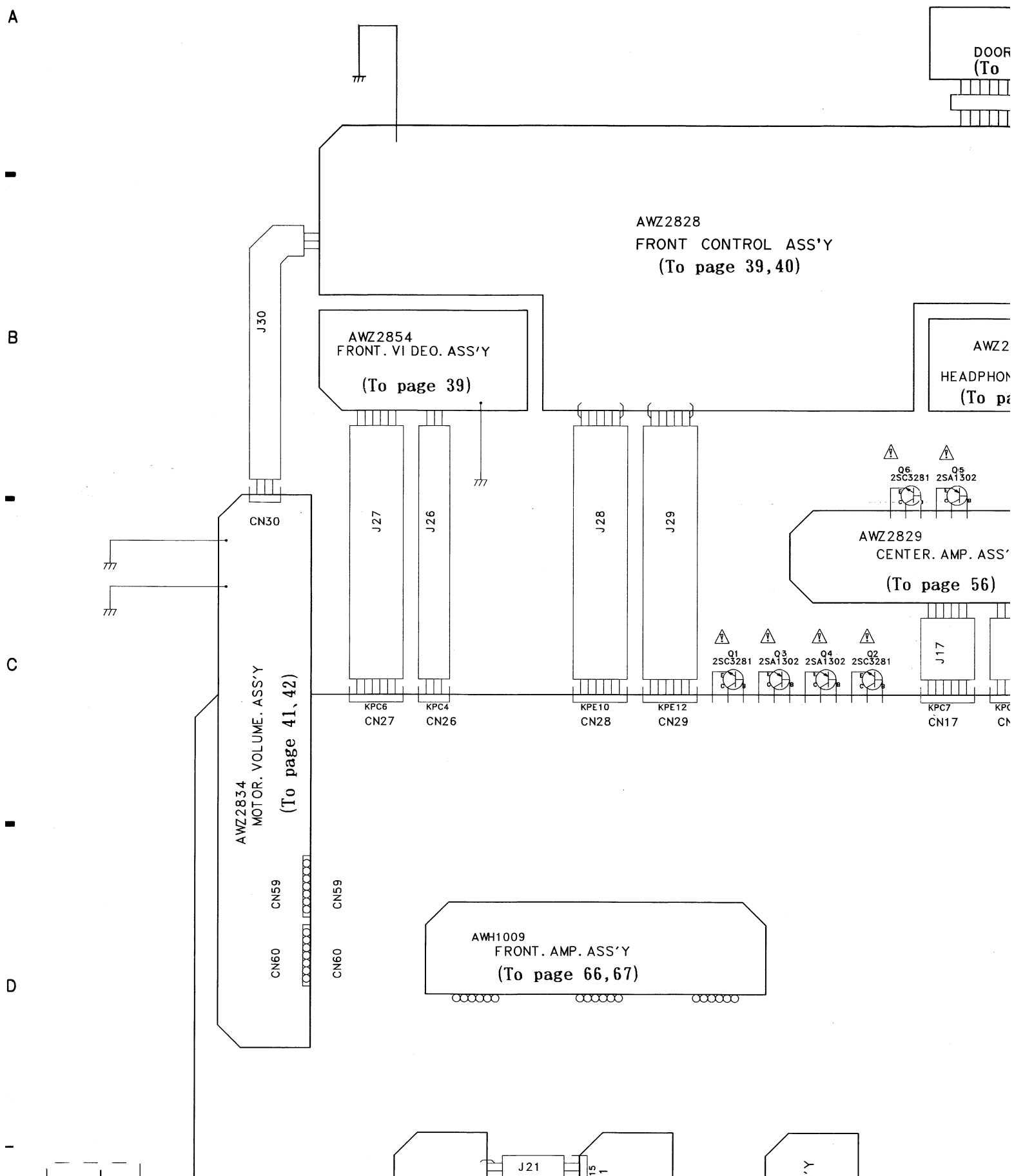
Mark	No.	Description	Parts No.
	1	LOOP ANTENNA	ATB1005
	2	FM ANTENNA	ADH1004
	3	FRONT PAD	AHA1351
	4	REAR PAD	AHA1352
	5	PACKING CASE	AHD1905
	6	INSTRUCTION MANUAL	ARB1272
	7	REMOTE CONTROL UNIT	AXD1167

- 101 PACKING SHEET  
102 AM4 BATTERY(1.5V)

Spacer set (52-11140001) 1EA1000





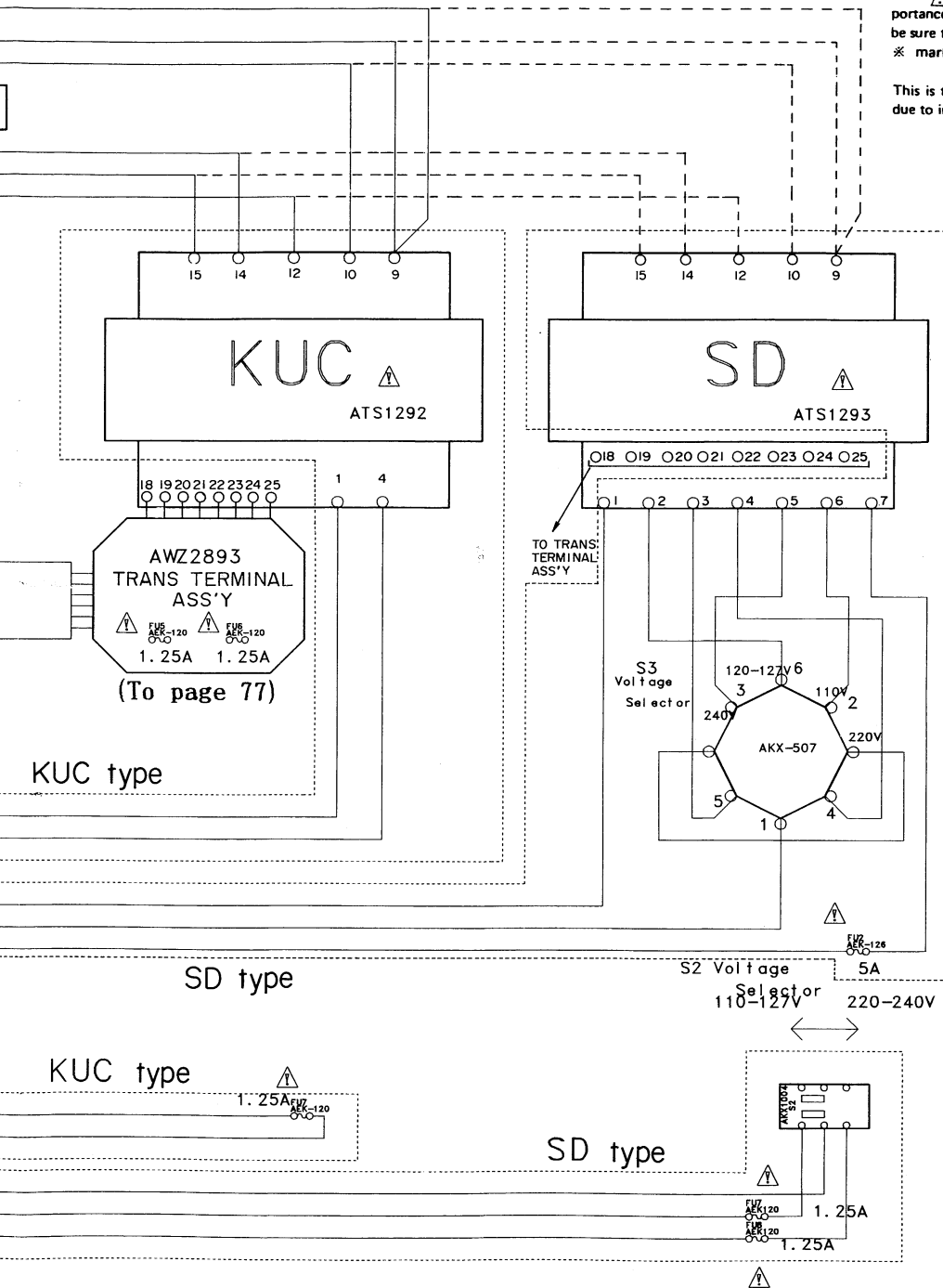


[illegible]

Impedance  
er Power Selector

MODE 2

>



# 1. RESISTORS:

Indicated in  $\Omega$ ,  $\frac{1}{4}W$ ,  $\frac{1}{2}W$ ,  $\pm 5\%$  tolerance unless otherwise noted k: k $\Omega$ , M: M $\Omega$ , (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$  (M):  $\pm 20\%$  tolerance

# 2. CAPACITORS:

Indicated in capacity ( $\mu F$ )/voltage (V) unless otherwise noted p: pF Indication without voltage is 50V except electrolytic capacitor.

# 3. VOLTAGE, CURRENT:

: Signal voltage at ( W + W 4 $\Omega$ ) output (1kHz)  
 : DC voltage (V) at no input signal  
Value in ( ) is DC voltage at rated power.  
 : mA: DC current at no input signal

# 4. 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.

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

# 5. SWITCHES

## FRONT CONTROL Ass'y

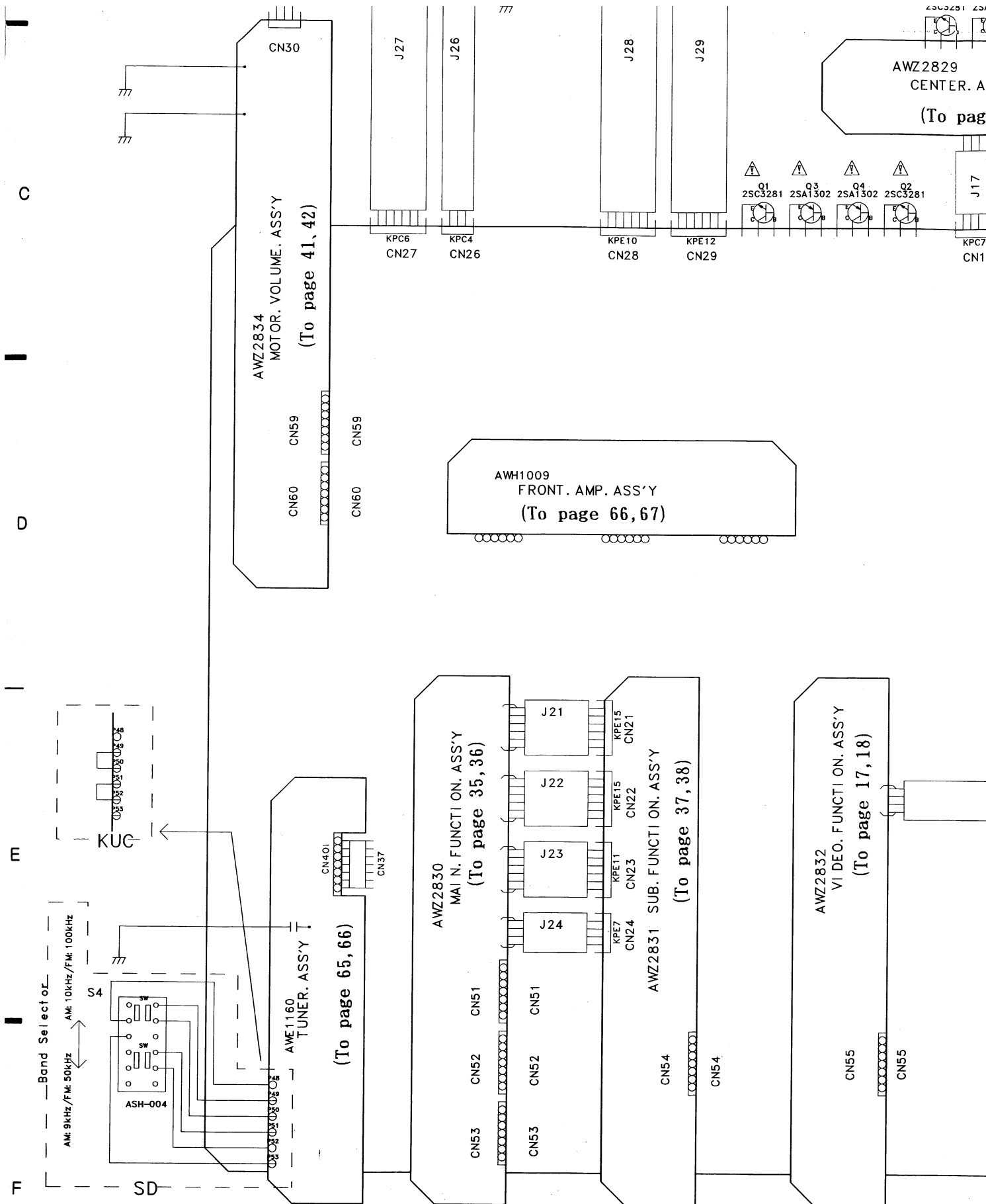
S1901	POWER ON/OFF
S1902	SOURCE DIRECT
S1903	MR.MS
S1904	SP-A
S1905	SP-B
S1906	1
S1907	2
S1908	3
S1909	4
S1910	5
S1911	6
S1912	7
S1913	8
S1914	9
S1915	0
S1916	BAND
S1917	MEMORY
S1918	TONE DOWN
S1919	TONE UP
S1920	AUTO MONO
S1921	DIRECT ACCESS
S1922	NAME
S1923	HITS
S1925	AM FILTER
S1926	SELECTOR
S1927	T.ADP
S1928	FUNC
S1929	TONE
S1930	BASS UP
S1931	BASS DOWN
S1932	MID UP
S1933	MID DOWN
S1934	TRE UP
S1935	TRE DOWN
S1936	BALANCE L
S1937	BALANCE R
S1938	REAR UP
S1939	REAR DOWN
S1940	CENTER UP
S1941	CENTER DOWN
S1942	C MODE
S1943	TEST TONE
S1944	C MONO
S1945	MEMO
S1946	OFF
S1947	JAZZ
S1948	DISCO
S1949	CHURCH
S1950	HALL
S1951	THEATER
S1952	PRO LOGIC
S1953	3CH
S1954	DSSS
S1955	RETURN

AWZ2853  
POWER SUPPLY 1 ASS'Y  
(To page 77)

AWZ3052

## NOTE

	PLUG & SOCKET
	CABLE CONNECTOR
	CABLE HOLDER
	CHASSIS EARTH
	LAPPING TERMINAL



C

D

E

F

Video Input &amp; Output

1VP-P/75Ω

Function Input

150mV/30kΩ

Phono Input

2.5mV/47kΩ

REC Output

150mV/2.2kΩ

Pre Output

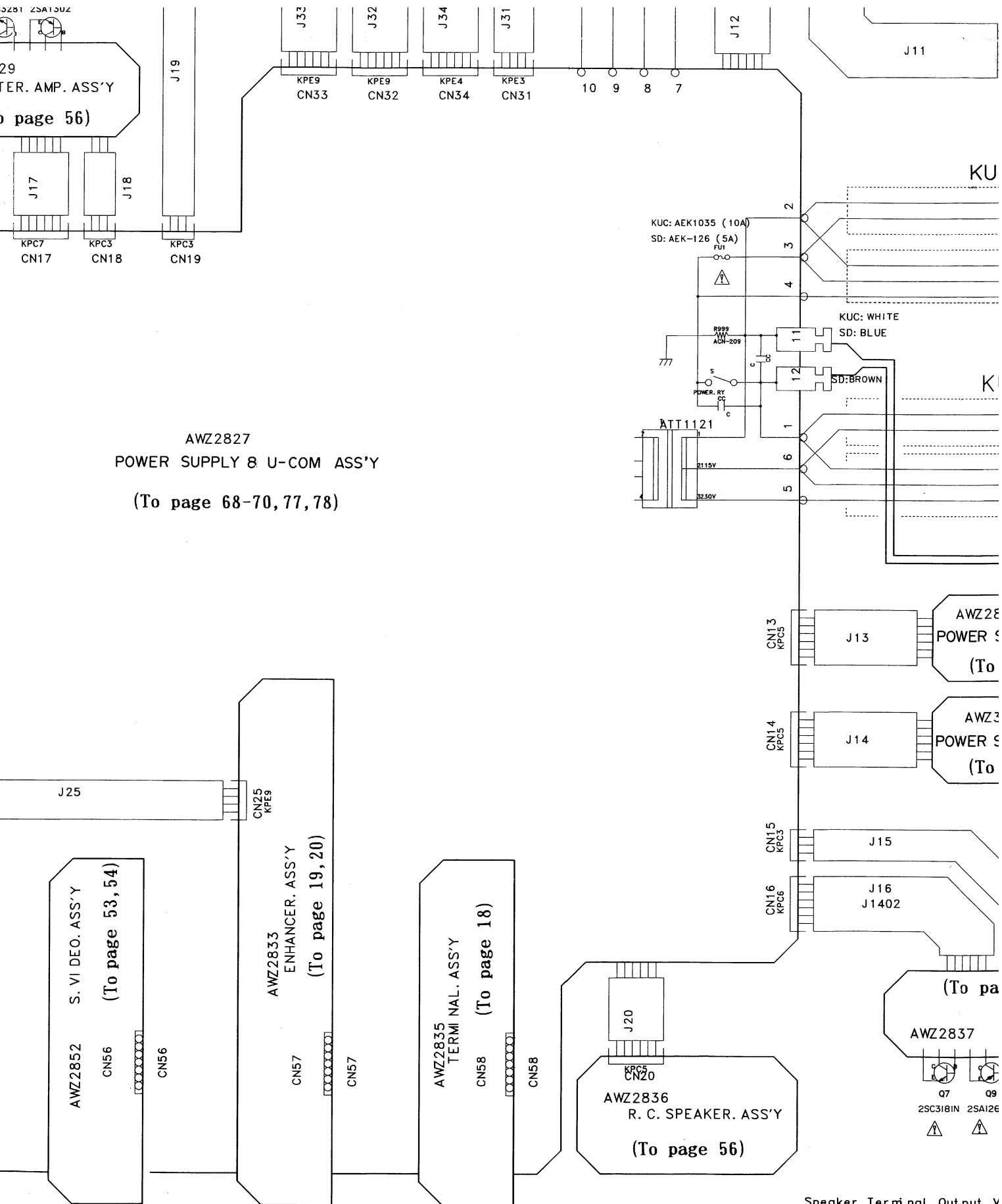
1V/220Ω

Main Input

1V/50kΩ

## NOTE

- 1 : The mark found on some components. Therefore, when replacing, be careful.
- 2 : Signal Voltage at  $V_H$  : 13V  $V_L$  : 70V

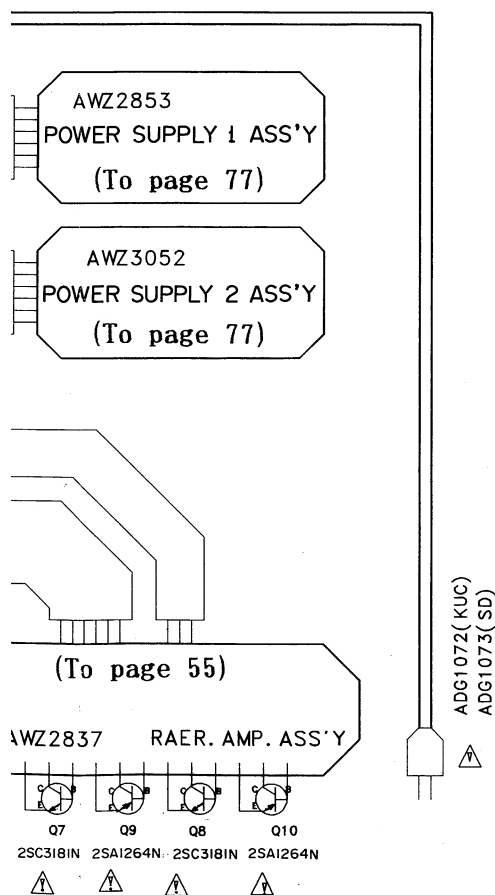
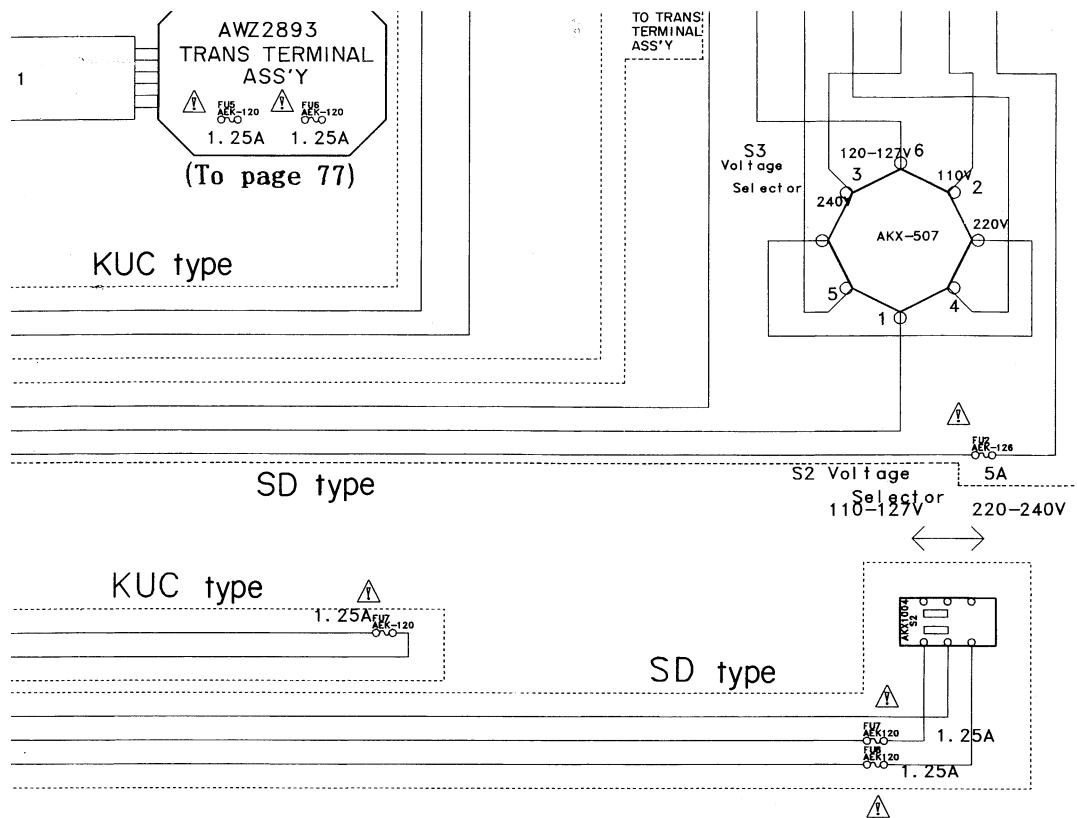


AWZ2827  
POWER SUPPLY & U-COM ASS'Y  
(To page 68-70, 77, 78)

Speaker Terminal Output V

	S1: MODE1	S1: MC
Front	32.2V / 8Ω	23.7
Rear	17.9V / 8Ω	23.7
Center	17.9V / 8Ω	17.9

component parts indicates the importance of the Safety factor of the part.  
ng, be sure to use of identical designation.  
H : 130W+130W (Front), 40W (Center), 40W+40W (Rear) 8ohm Output  
L : 70W+70W (Front), 70W (Center), 40W+40W (Rear) 8ohm Output



# NOTE

- PLUG&SOCKET
- CABLE. CONNECTOR
- CABLE. HOLDER
- CHASSI S. EARTH
- LAPPI NG. TERMI NAL

S1: Speaker Impedance & Center Power Selector  
A. B Bohm Under - 8ohm Over (2ch)  
Center ch Power : 40W or 70W  
S2: Voltage Selector (Only SD model)  
110~127V - 220~240V  
S3: Voltage Selector (Only SD model)  
110, 120~127, 220, 240V  
S4: Band Selector  
KUC (AM: 10kHz/FM: 100kHz) SD (AM: 9kHz/FM: 50kHz)

	KUC model	SD model
	Ref, No	Ref, No
Q	1~10	1
T	1	1
S	1	1, 2, 3, 4,
Fu	1, 3, 4, 5 6, 7	1, 2, 3, 4 5, 6, 7, 8

\* FU3, FU4, --- KUC: AEK-309, SD: AEK-127

S1914 3  
S1915 0  
S1916 BAND  
S1917 MEMORY  
S1918 TONE DOWN  
S1919 TONE UP  
S1920 AUTO MONO  
S1921 DIRECT ACCESS  
S1922 NAME  
S1923 HITS  
S1925 AM FILTER  
S1926 SELECTOR  
S1927 T.ADP  
S1928 FUNC  
S1929 TONE  
S1930 BASS UP  
S1931 BASS DOWN  
S1932 MID UP  
S1933 MID DOWN  
S1934 TRE UP  
S1935 TRE DOWN  
S1936 BALANCE L  
S1937 BALANCE R  
S1938 REAR UP  
S1939 REAR DOWN  
S1940 CENTER UP  
S1941 CENTER DOWN  
S1942 C MODE  
S1943 TEST TONE  
S1944 C MONO  
S1945 MEMO  
S1946 OFF  
S1947 JAZZ  
S1948 DISCO  
S1949 CHURCH  
S1950 HALL  
S1951 THEATER  
S1952 PRO LOGIC  
S1953 3CH  
S1954 DSSS  
S1955 RETURN  
S1956 ENH.ON/OFF  
S1957 ENH.SEL  
S1958 ACO.SEL  
S1959 SFM.SEL  
S1960 SPL.ON/OFF  
S1961 JOG  
S1962 MUTE  
S1963 M.SELECT  
S1964 M.SCAN  
  
S1980 U.RST  
S1990 B-A-COM

## al Output Voltage

DE1	S1: MODE2
V / $\Omega$	23.7V / $\Omega$
V / $\Omega$	23.7V / $\Omega$
V / $\Omega$	17.9V / $\Omega$

A

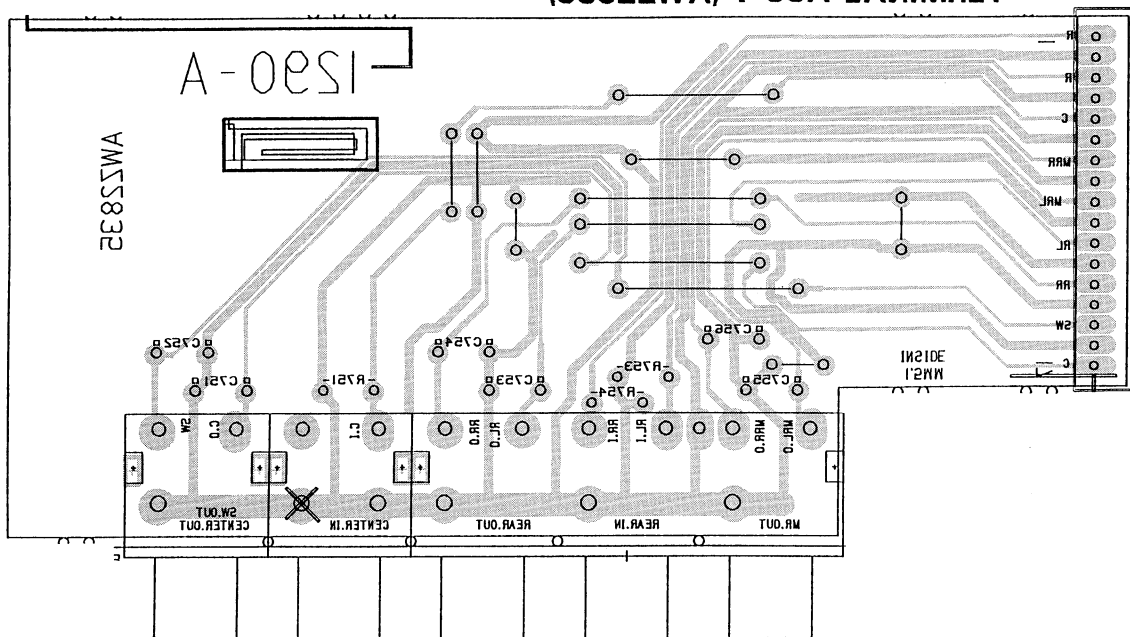


C

C

ENHANCER • ADP A22.Y (AW55833)

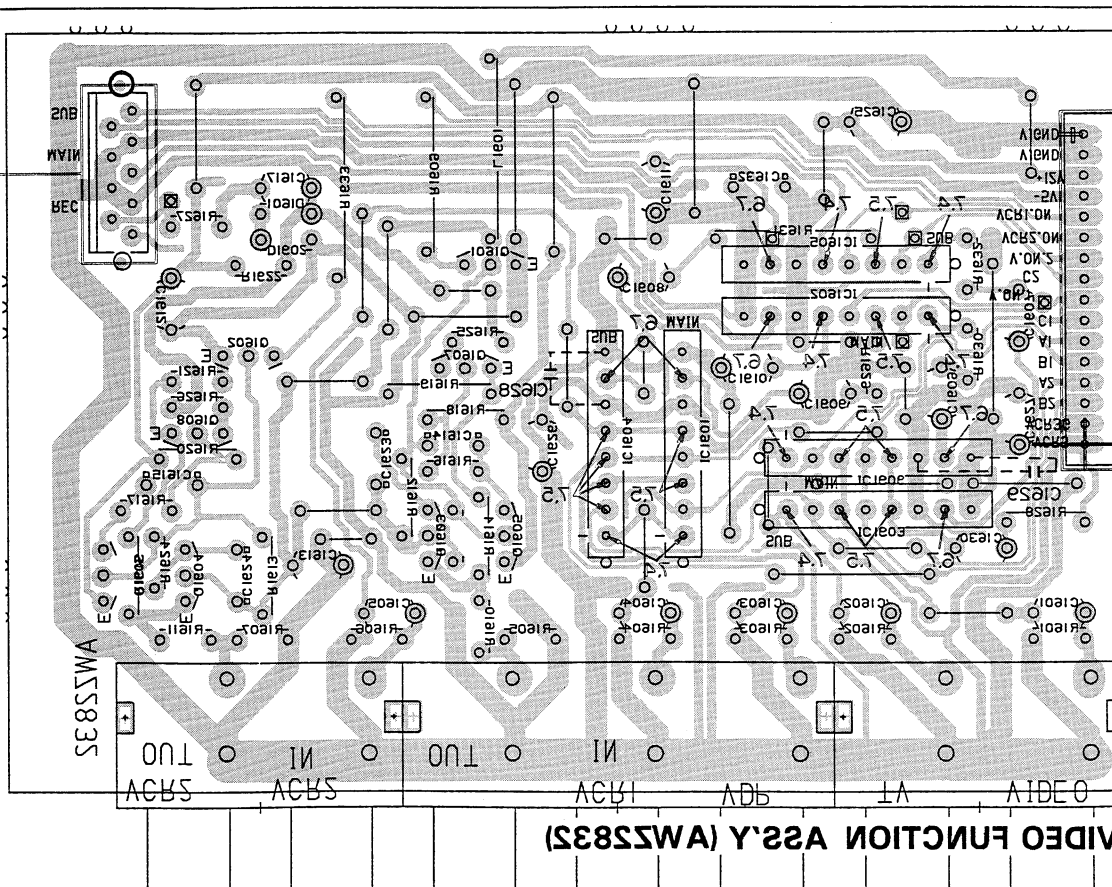
# TERMINAL ASS'Y (AW55832)



To P2-U-COM-Ass'y AW55832 CM58  
(To page 73)

To P2-U-COM-Ass'y AW55832 CM58  
(To page 73)

IC1002 IC1003 IC1004 IC1005  
IC1006 IC1007 IC1008 IC1009



# VIDEO FUNCTION ASS'Y (AW55832)

A

B

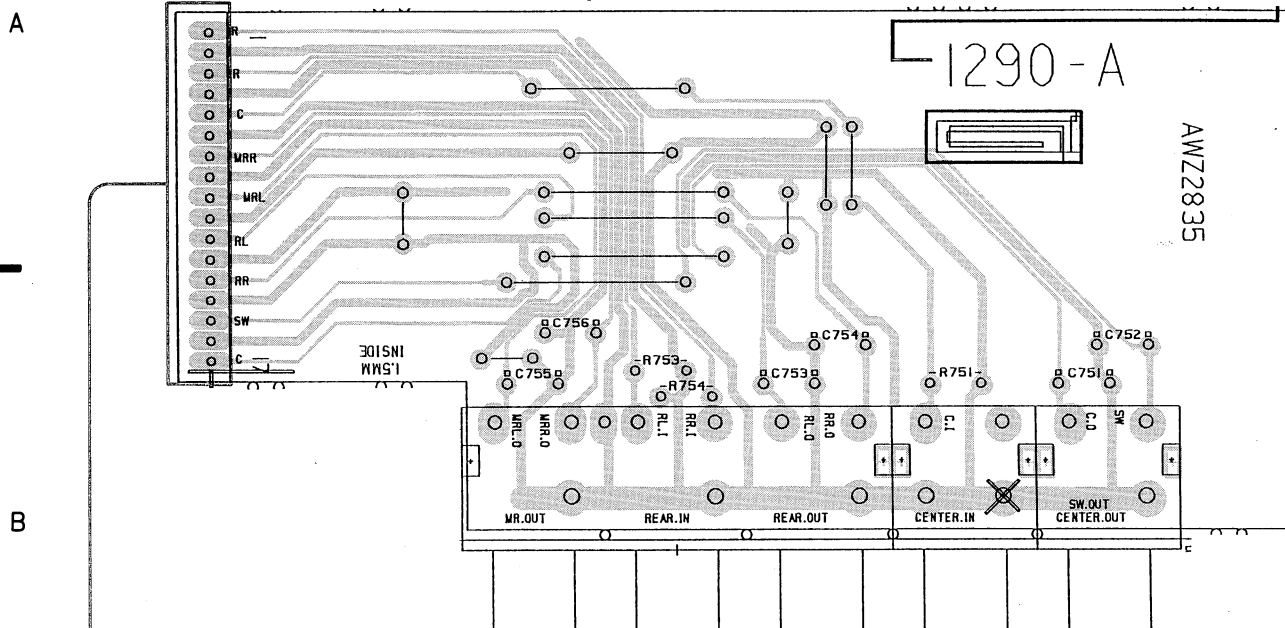
C

D



### 3.2 VIDEO FUNCTION (AWZ2832), TERMINAL (AWZ2835) and ENHANCER • ADP ASS'Y (AWZ2833)

#### TERMINAL ASS'Y (AWZ2835)



To PS.U-COM.Ass'y AWZ2827 CN58  
(To page 72)

To PS.U-COM.Ass'y AWZ2827 CN55  
(To page 72)

IC1605 IC1602

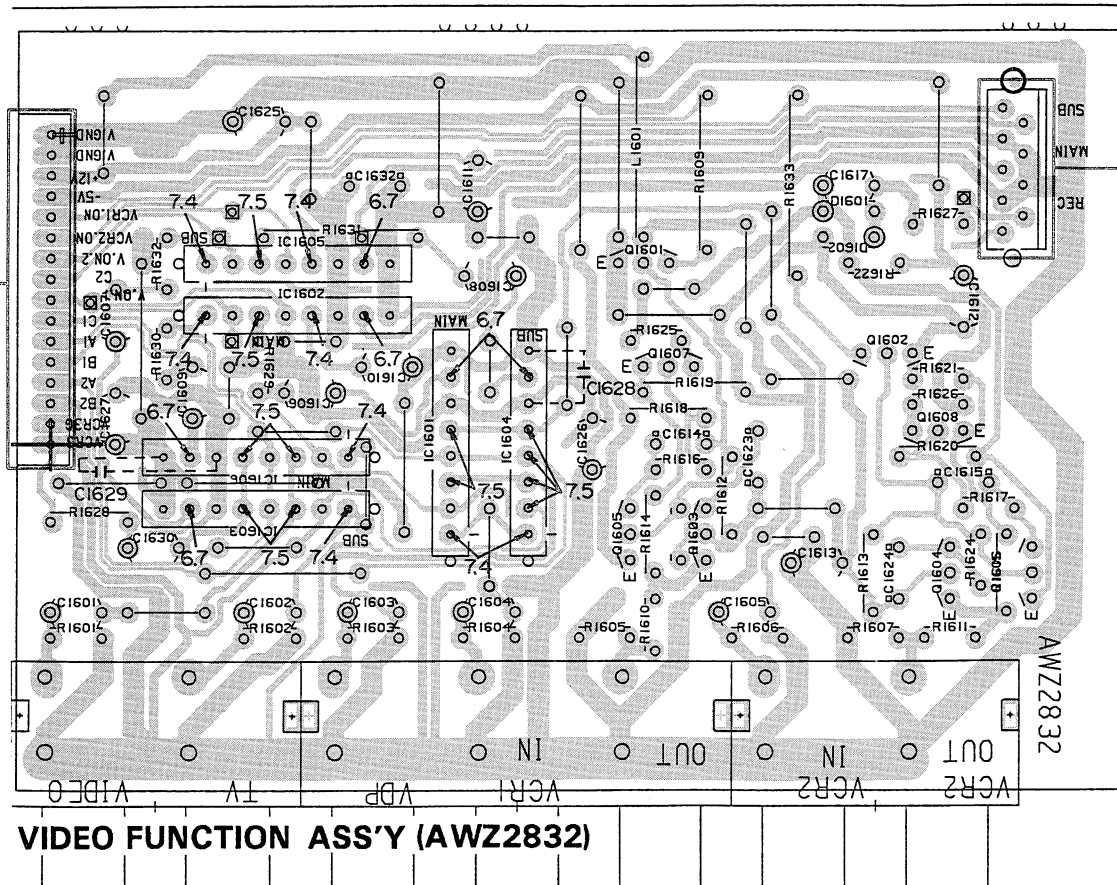
Q1601 Q1607

Q1602 Q1608

IC1606 IC1603

IC1601 IC1604 Q1605 Q1603

Q1604 Q1606



#### VIDEO FUNCTION ASS'Y (AWZ2832)

## 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
Q504 E O		Transistor
Q215 O O		Radiator type transistor
D203 O		Diode
R237 O O		Resistor
C513 O		Capacitor (Polarity)
C518 O O		Capacitor (Non-polarity)

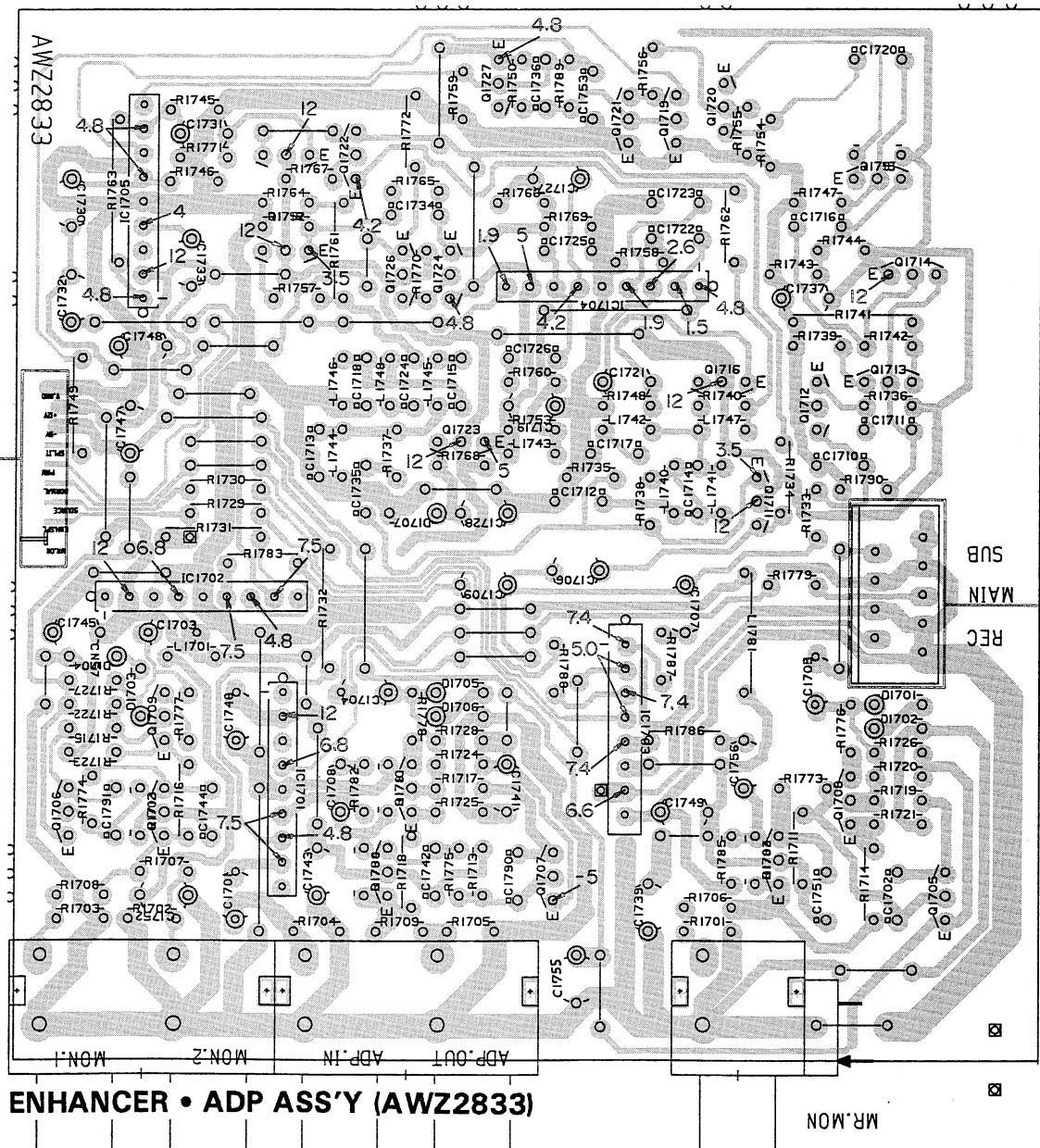
## Others

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.

To PS.U-COM.Ass'y AWZ2827 CN57  
(To page 72)

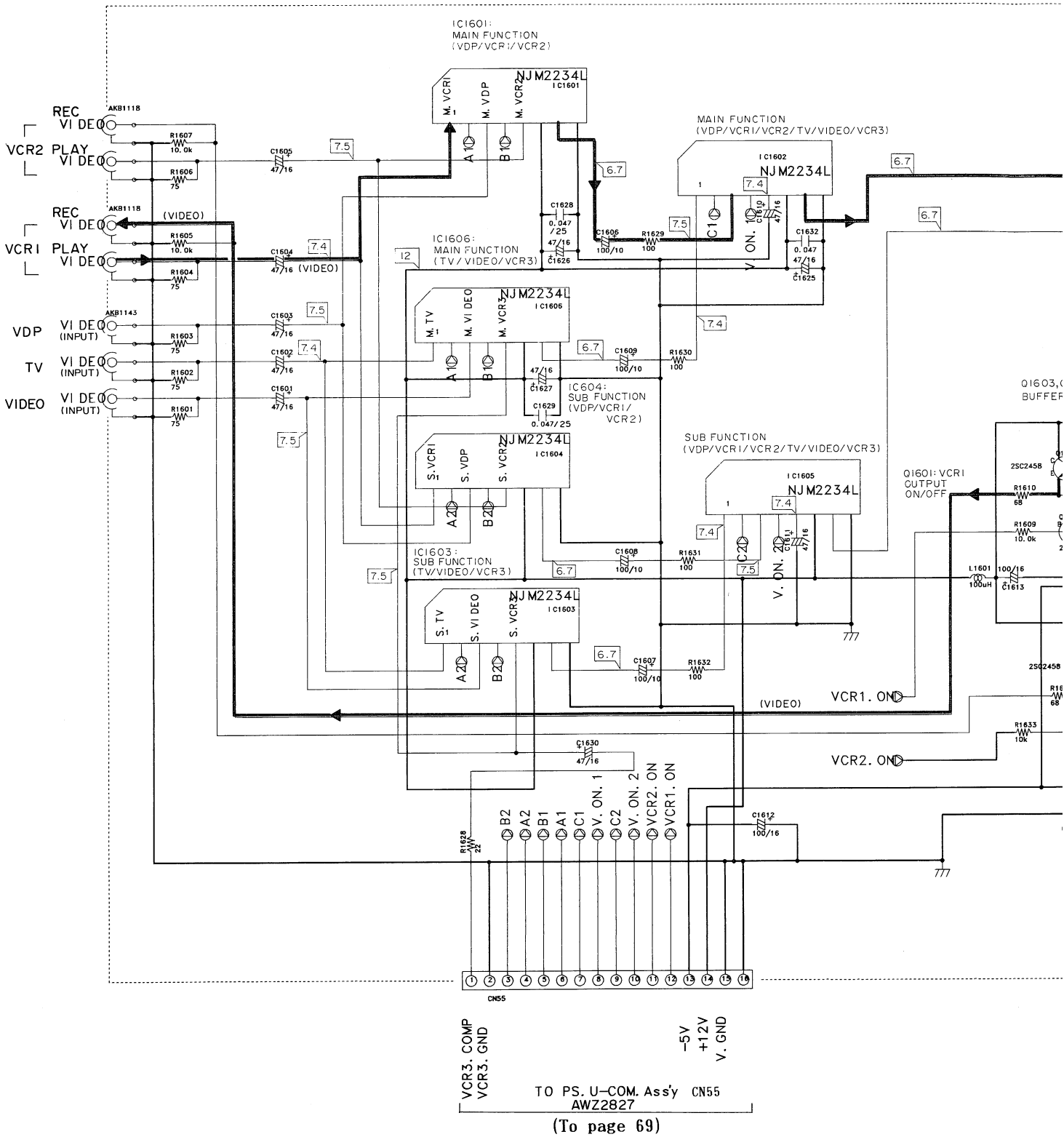
IC1705 Q1718 Q1722 Q1724-Q1724 IC1704 Q1719-Q1721 Q1711-Q1716  
IC1702 Q1723  
Q1706 Q1709 Q1703 IC1701 Q1704 Q1710 Q1704 IC1703 Q1702 Q1708 Q1705

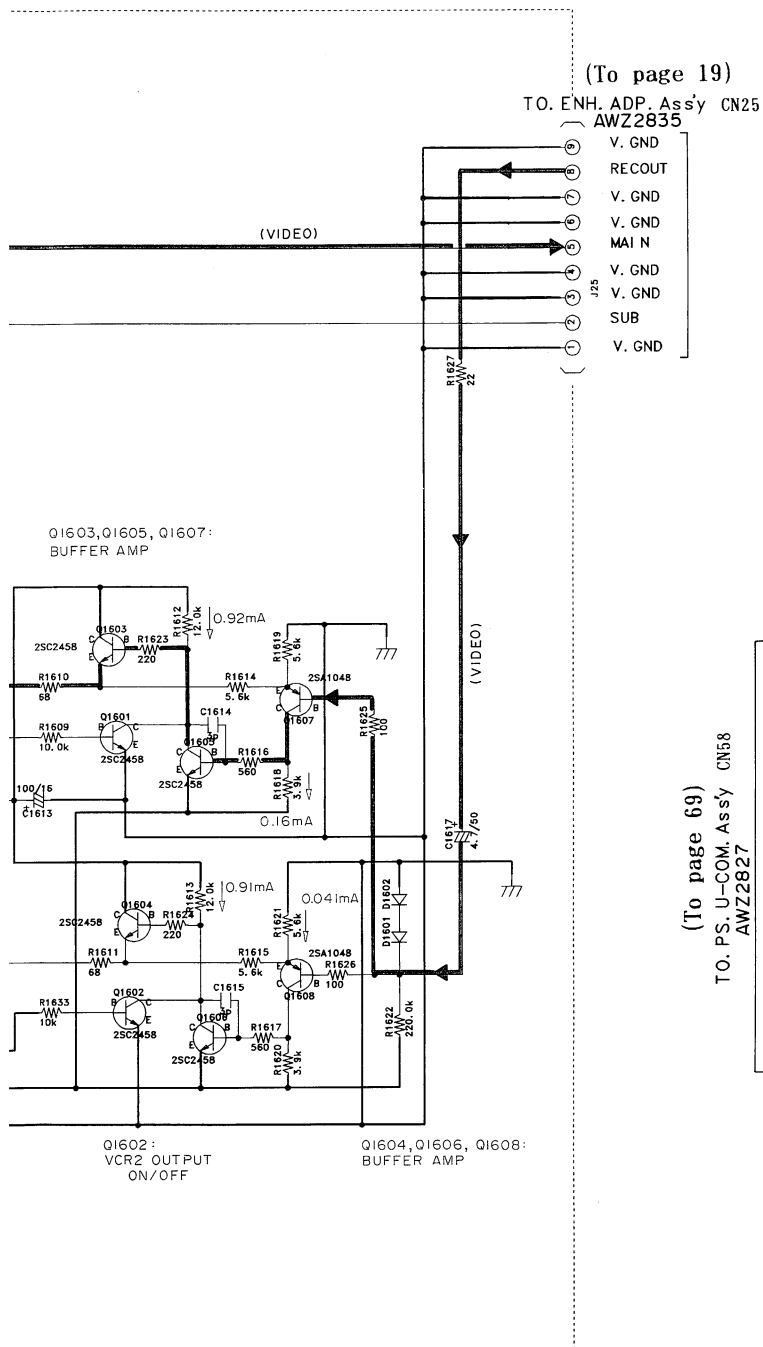


ENHANCER • ADP ASS'Y (AWZ2833)

MR. MON

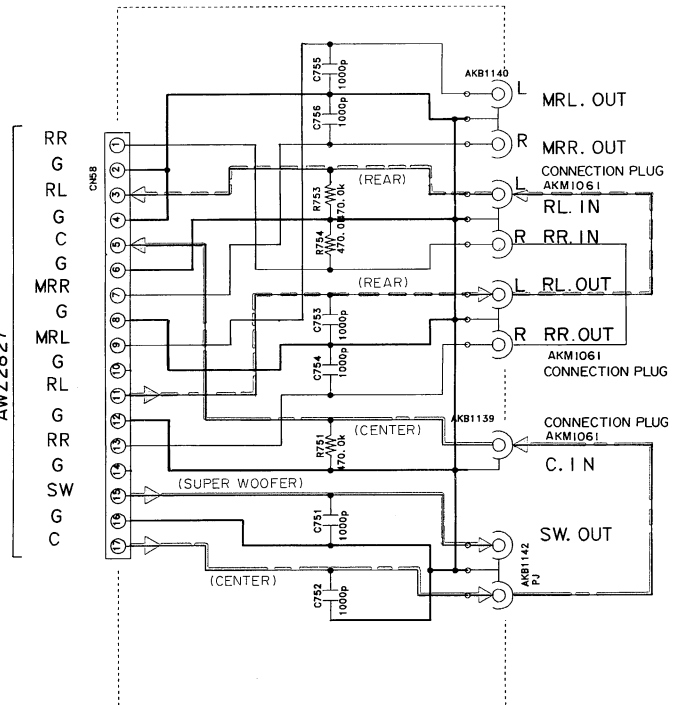
AWZ2832 VIDEO FUNCTI ON. ASS'Y





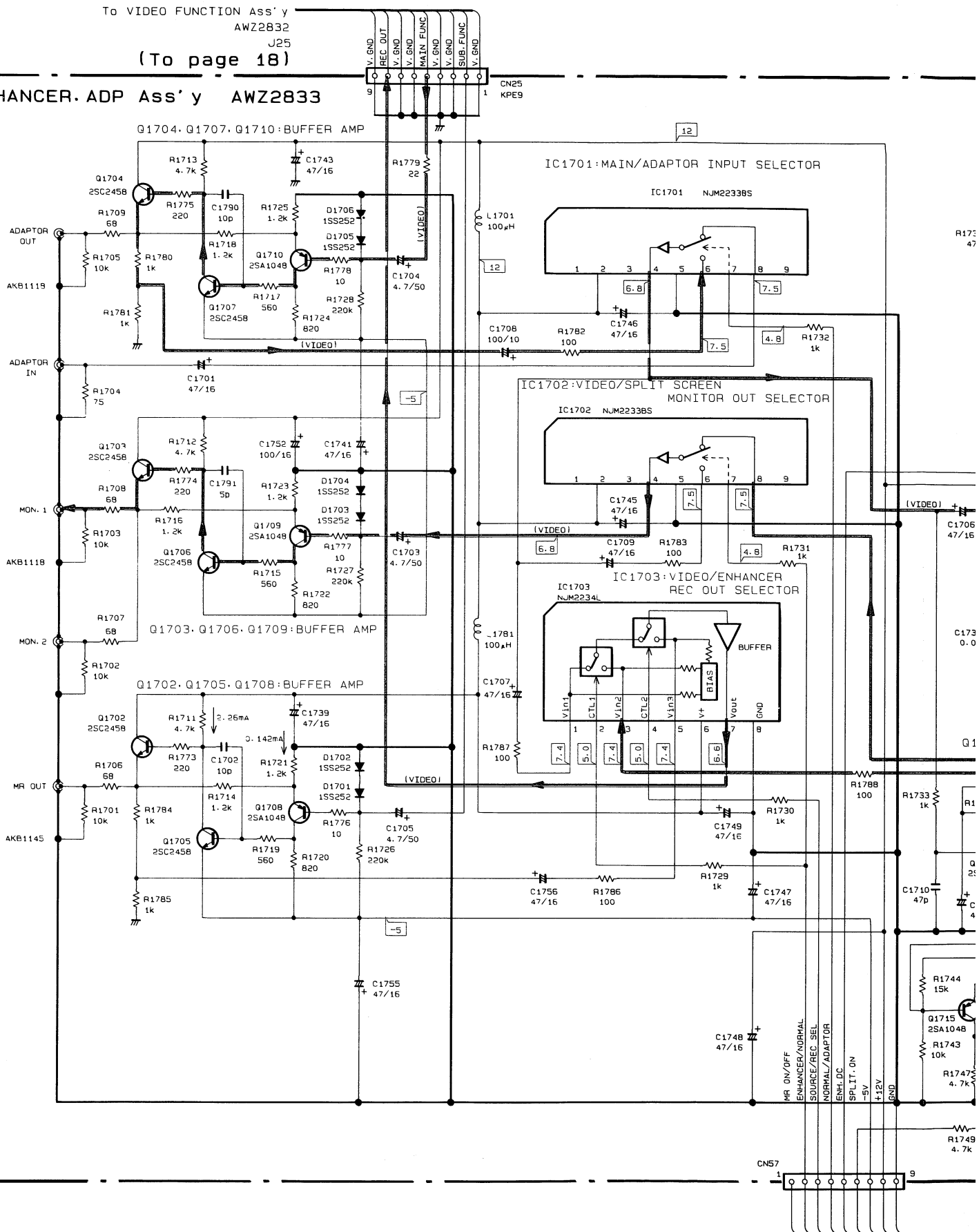
(VIDEO) : VIDEO SIGNAL  
(REAR) : REAR AUDIO SIGNAL  
(CENTER) : CENTER AUDIO SIGNAL  
(SUPER WOOFER) : SUPER WOOFER AUDIO SIGNAL

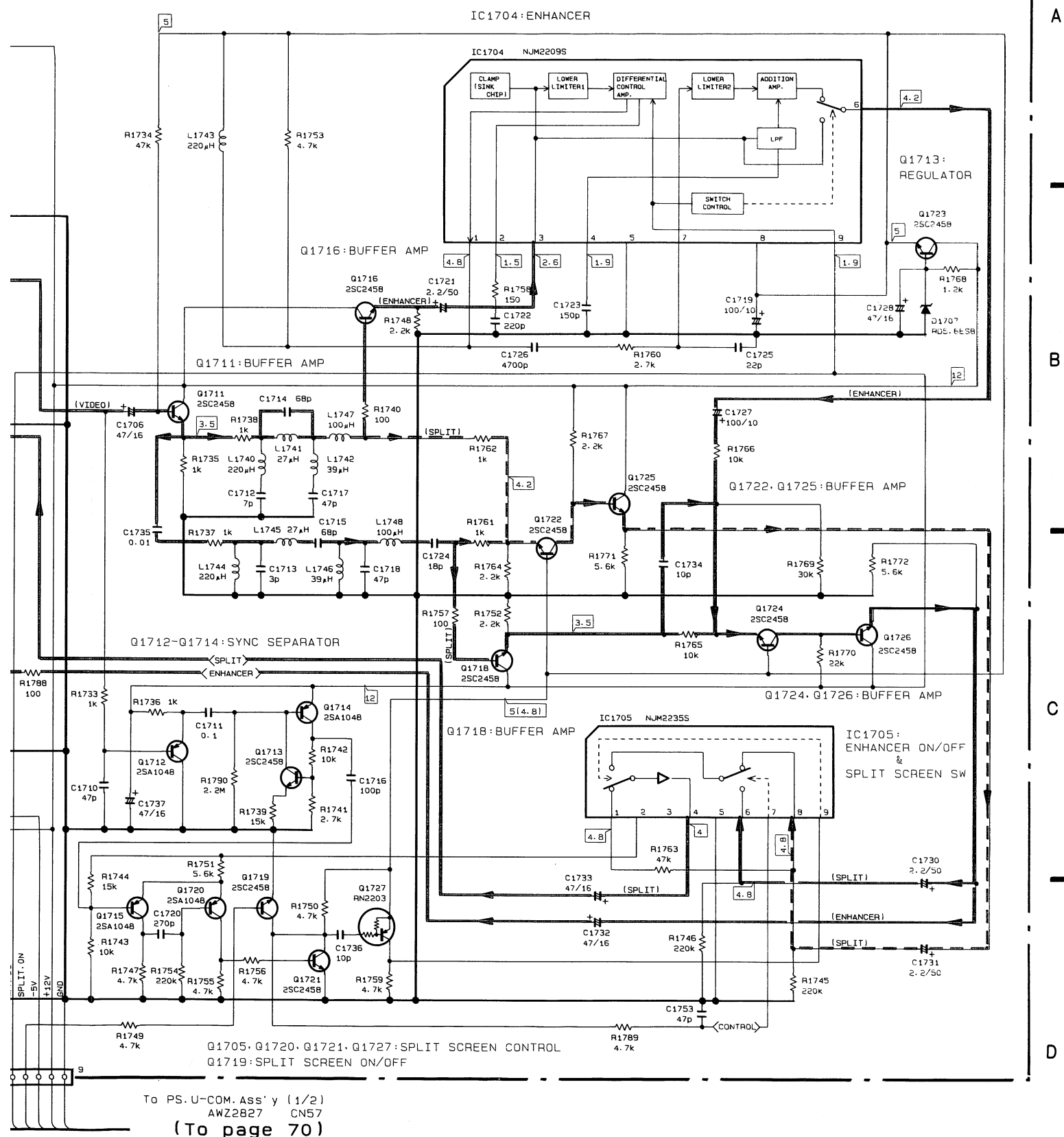
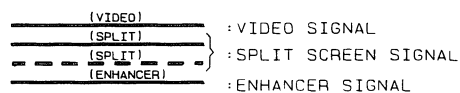
### AWZ2835 TERMINAL ASS'Y



To VIDEO FUNCTION Ass'y  
AWZ2832  
J25  
(To page 18)

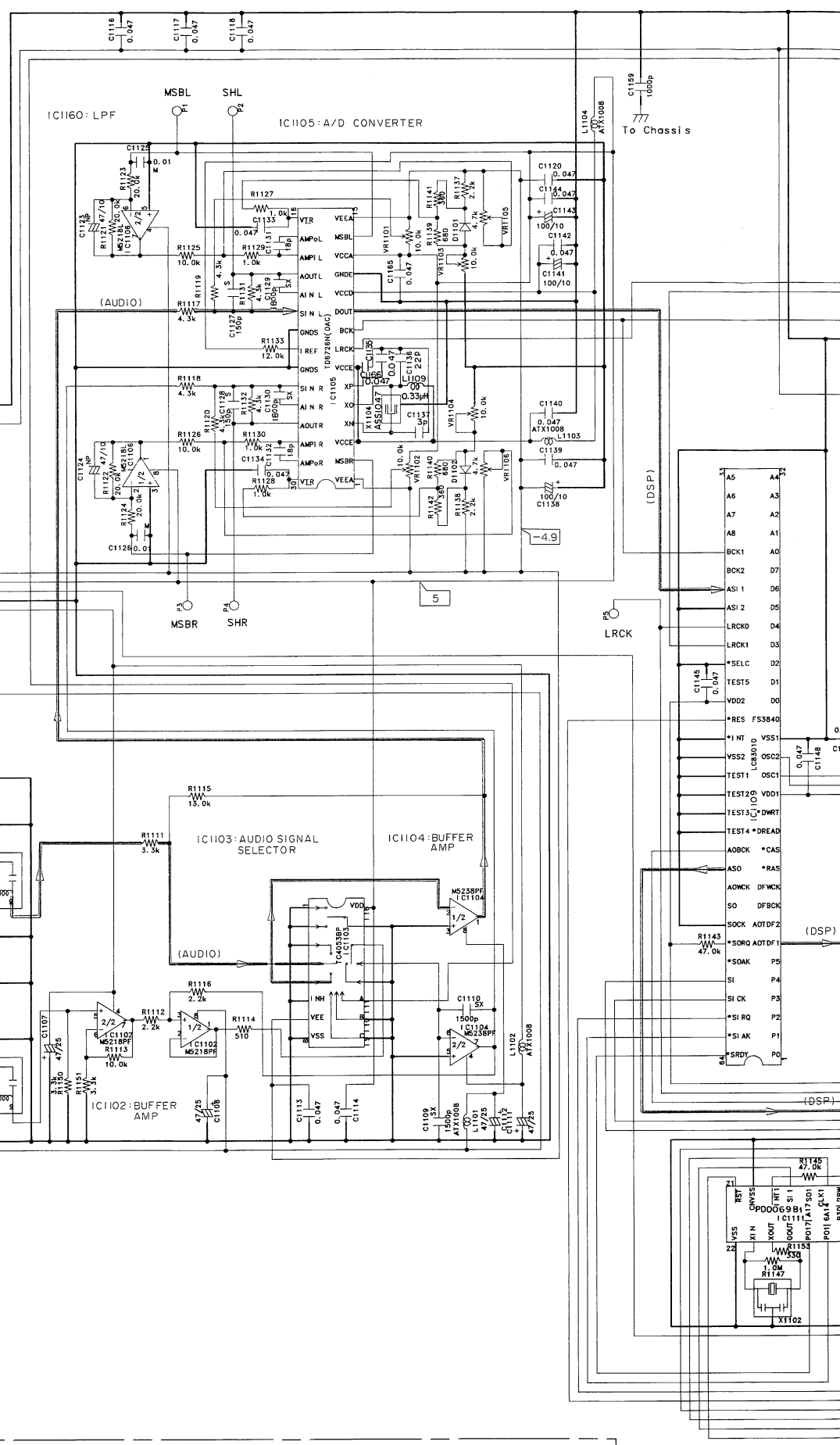
ENHANCER ADP Ass'y AWZ2833





### 3.3 DSP • U – COM (AWZ2978) and DAC ASS'Y (AWZ2979)

DSP U-COM ASS'Y  
AWZ2978



ss' y AWZ2979  
(To page 23)

MUTE<sub>3</sub>  
-5A  
ADGND  
-15  
AGND  
15  
+5A  
DGND  
+5D

To PS. U-COM. Ass'y (1/2)  
AWZ2827 CN31  
(To page 68)

[illegible]





-5.0 L1202  
ATX1008

To PS.U-COM.Ass'y (1/2)  
AWZ2827 CN33  
(To page 68)





To PS.U-COM.Ass'y AWZ2827 CN31  
(To page 71)

To PS.U

U-COM ASS'Y (AWZ2978)

AWX  
AWZ2978

TD6726

VR1101-VR1107

IC1101

IC1102

IC1103

IC1104

IC1105

IC1106

IC1112

IC1107

IC1108





A

To P2-U-COM-Ass'y AW32821 CM32  
(To page 11)

IC1508  
IC1511 IC1514  
IC1512 IC1515  
IC1516 IC1518  
IC1519  
IC1520

B

C

D

To P2-U-COM-Ass'y AW32821 CM32  
(To page 12)

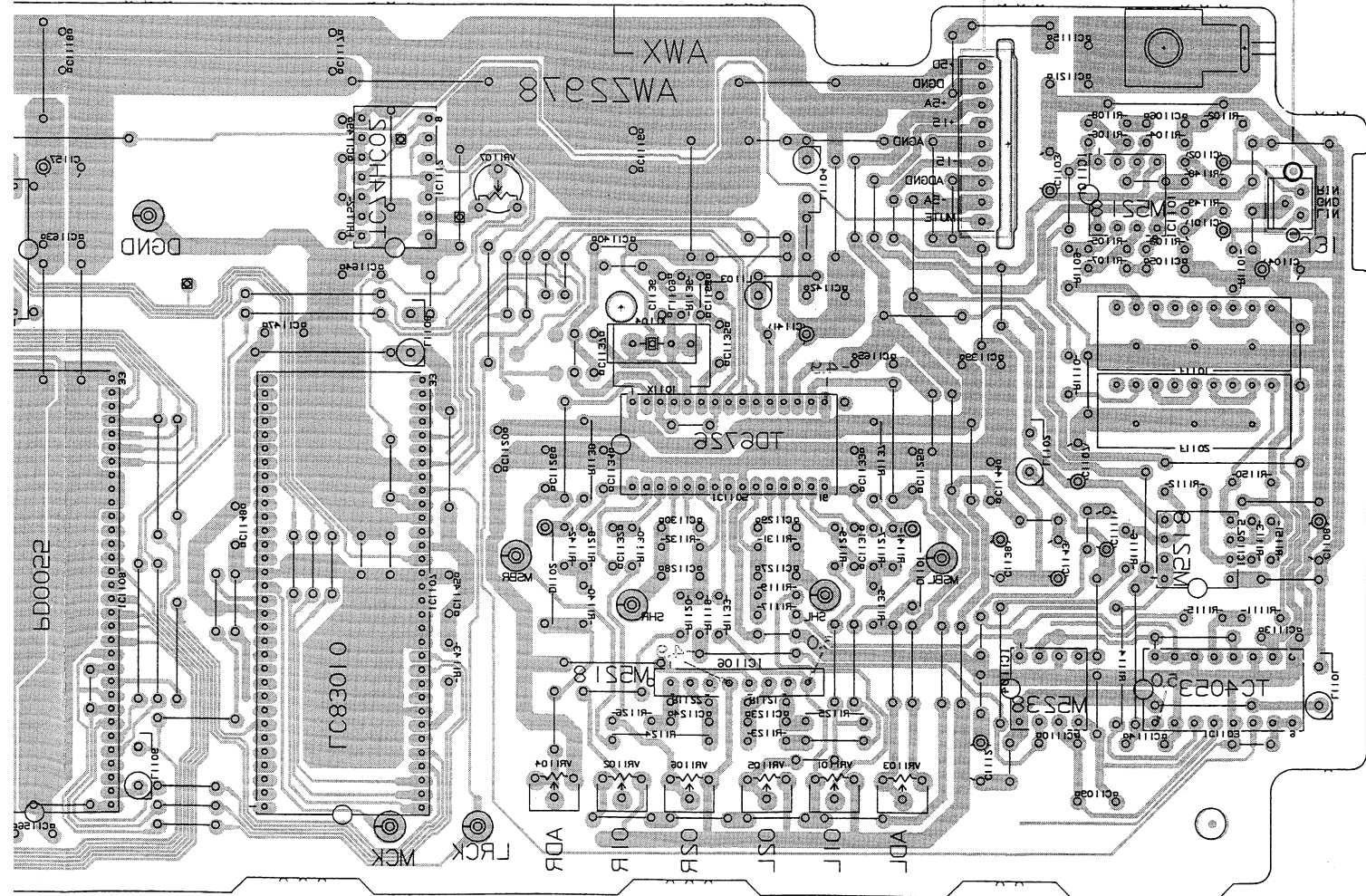


4



IC1503	IC1504	IC1505	IC1501
IC1507	IC1506	IC1502	IC1508

U-COM A22A Y (A W52978)



VR1101-VR1107

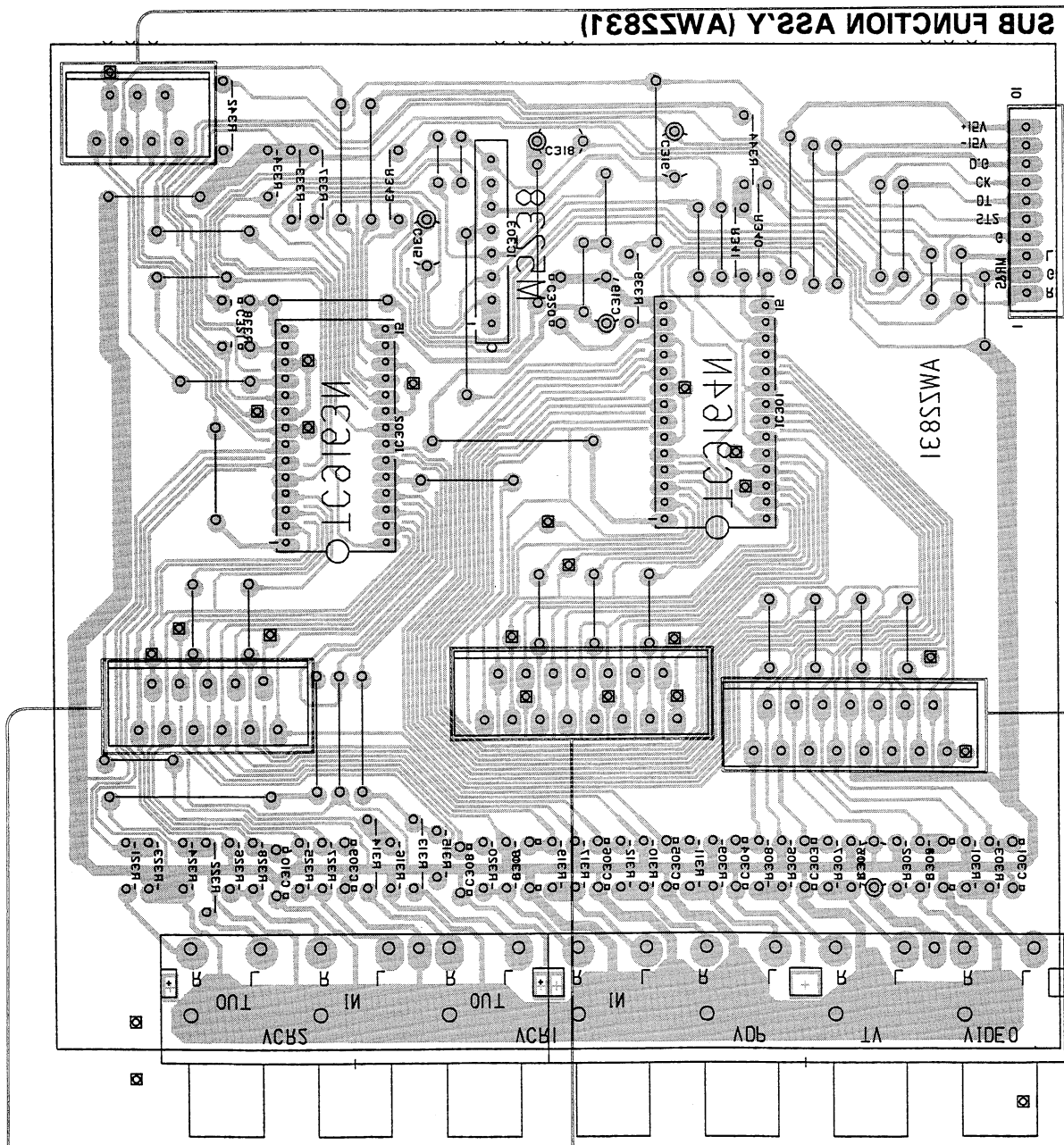
IC1101  
IC1105  
IC1103

IC1105  
IC1106

IC1105  
IC1115

801131





WM55831  
SUB FUNCTION ASSY (WM55831)  
To page 11  
To P2-U-COM-Ass'y WM55831 CMT4

A

B

C

D

1

2

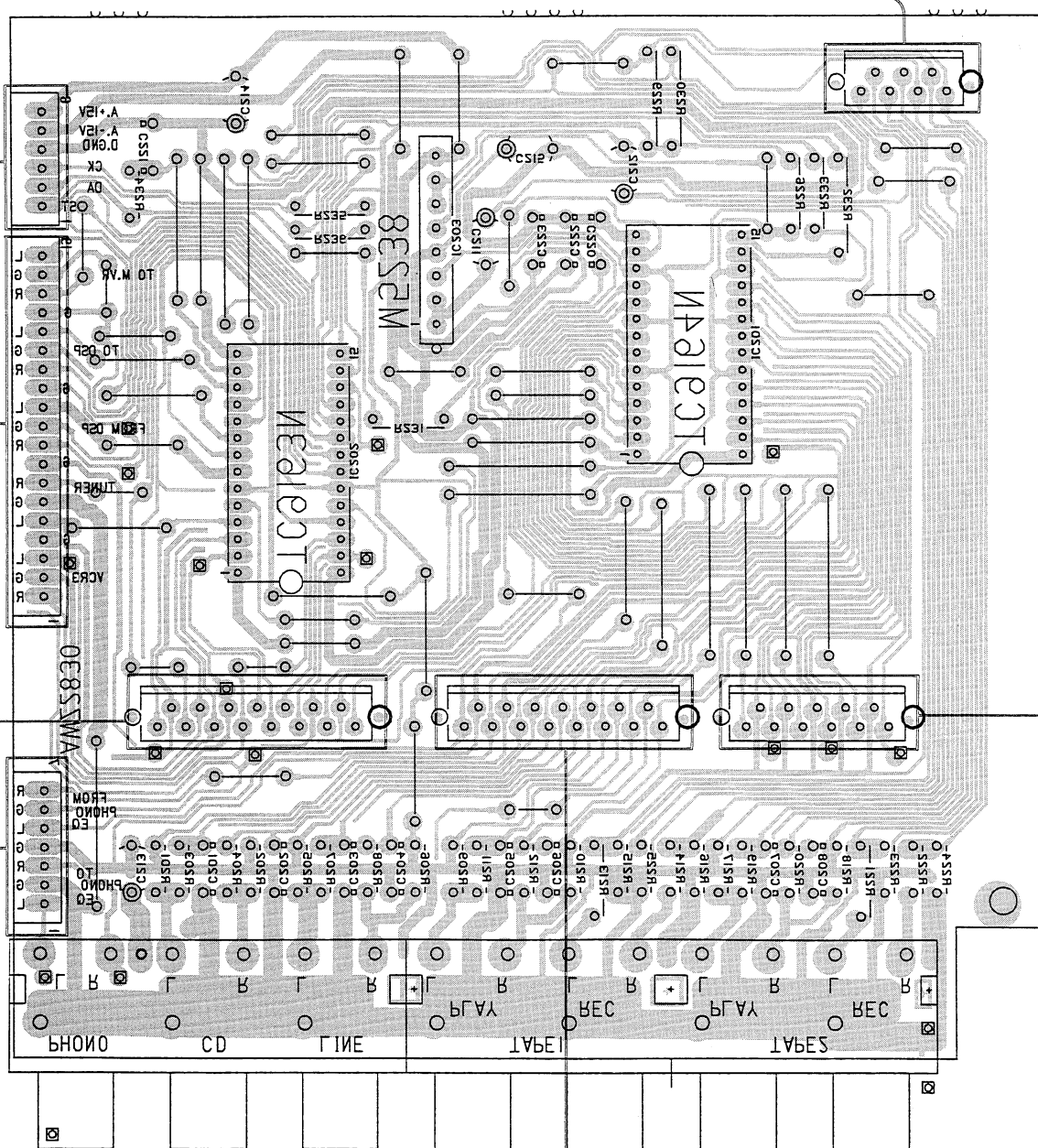
3

1

2

3

MAIN FUNCTION A22A (W52830)



To P2.U-COM.Ass'y  
(To page 71)

AWZ3837 CM25 y'azA.MOC-U.29 oT  
(To page 71)

To PS-U-COM. Ass'y  
(To page 71)

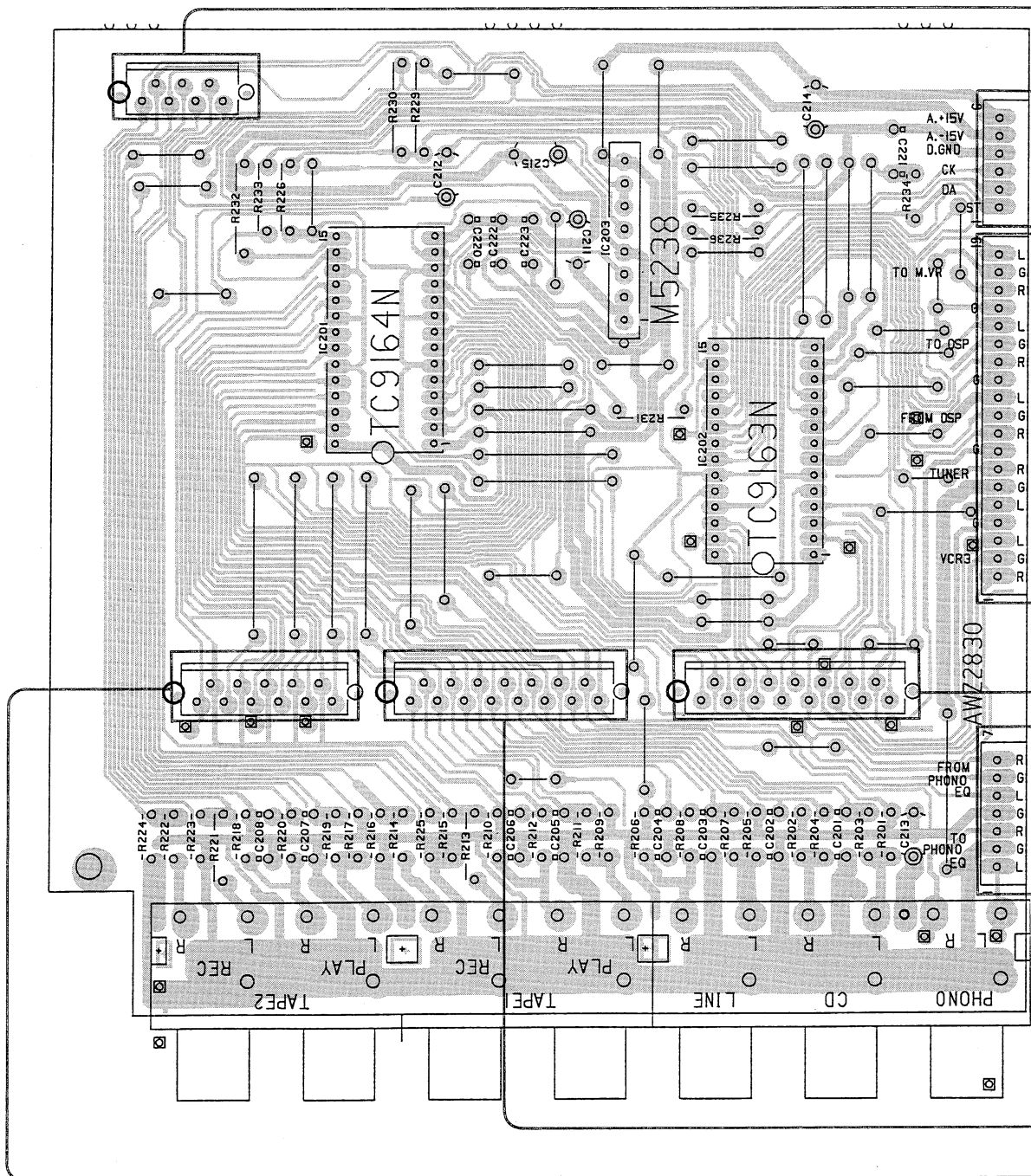
### 3.4 MAIN FUNCTION (AWZ2830) and SUB FUNCTION ASS'Y (AWZ2831)

To PS.U-COM.Ass'y AWZ2827 CN53  
(To page 71)

To PS.U-COM.Ass'y AWZ2827 CN52  
(To page 71)

To PS.U-COM.Ass'y AWZ2827 CN51  
(To page 71)

#### MAIN FUNCTION ASS'Y (AWZ2830)





A

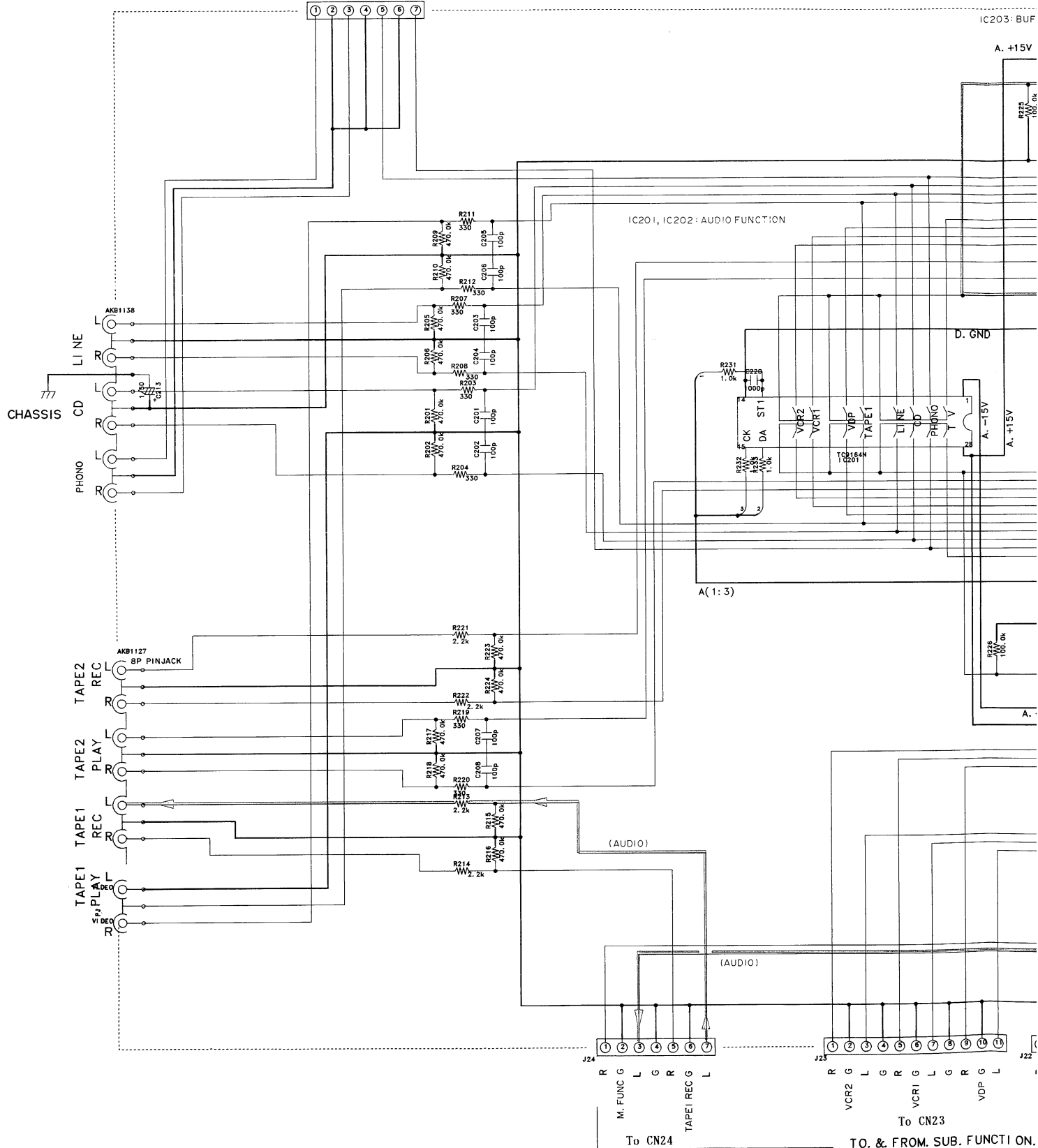
B

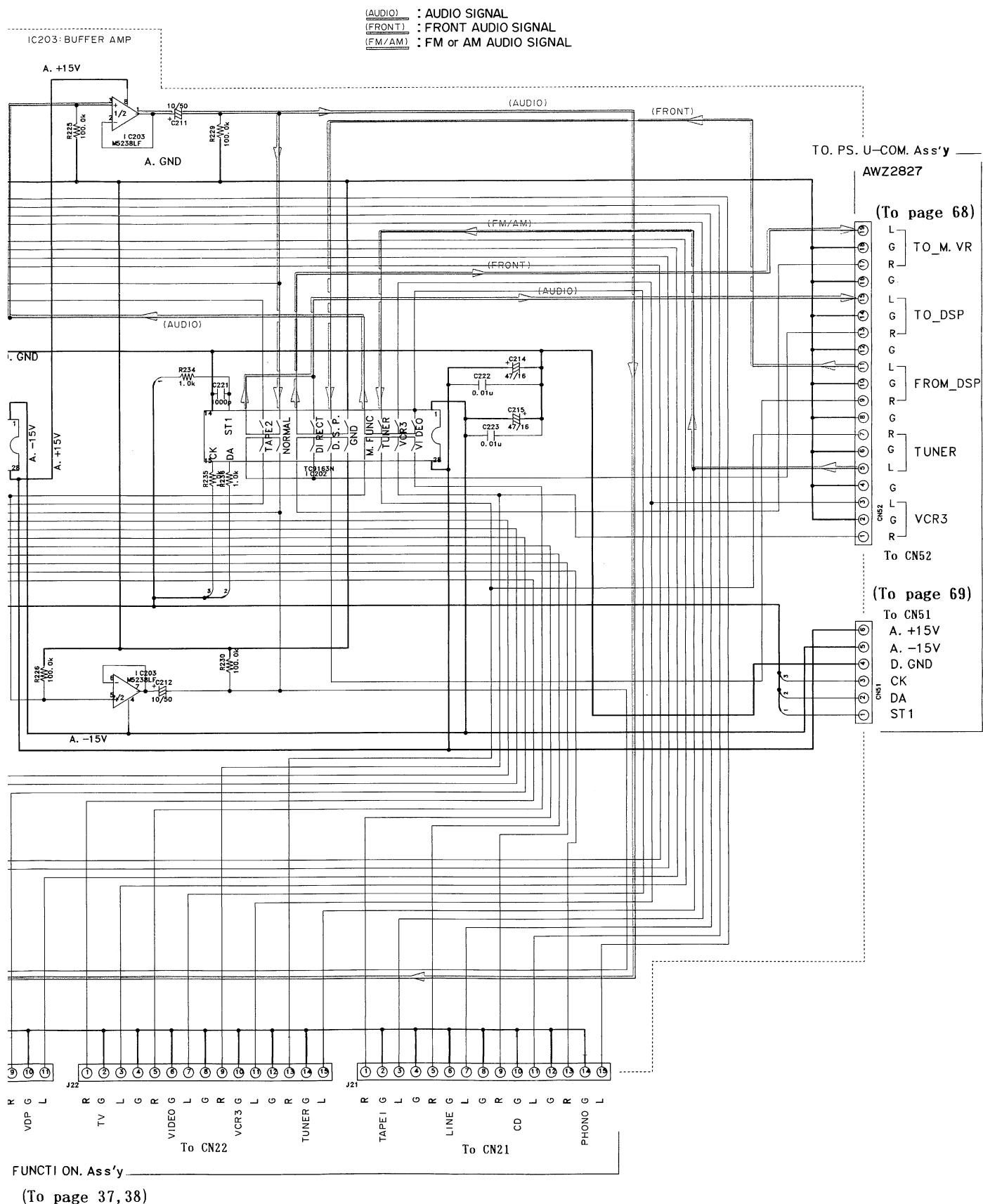
C

D

TO. PS. U-COM. Ass'y  
AWZ2827 CN53 (To page 68)  
TO. PHONO. EQ FROM. PHONO. EQ

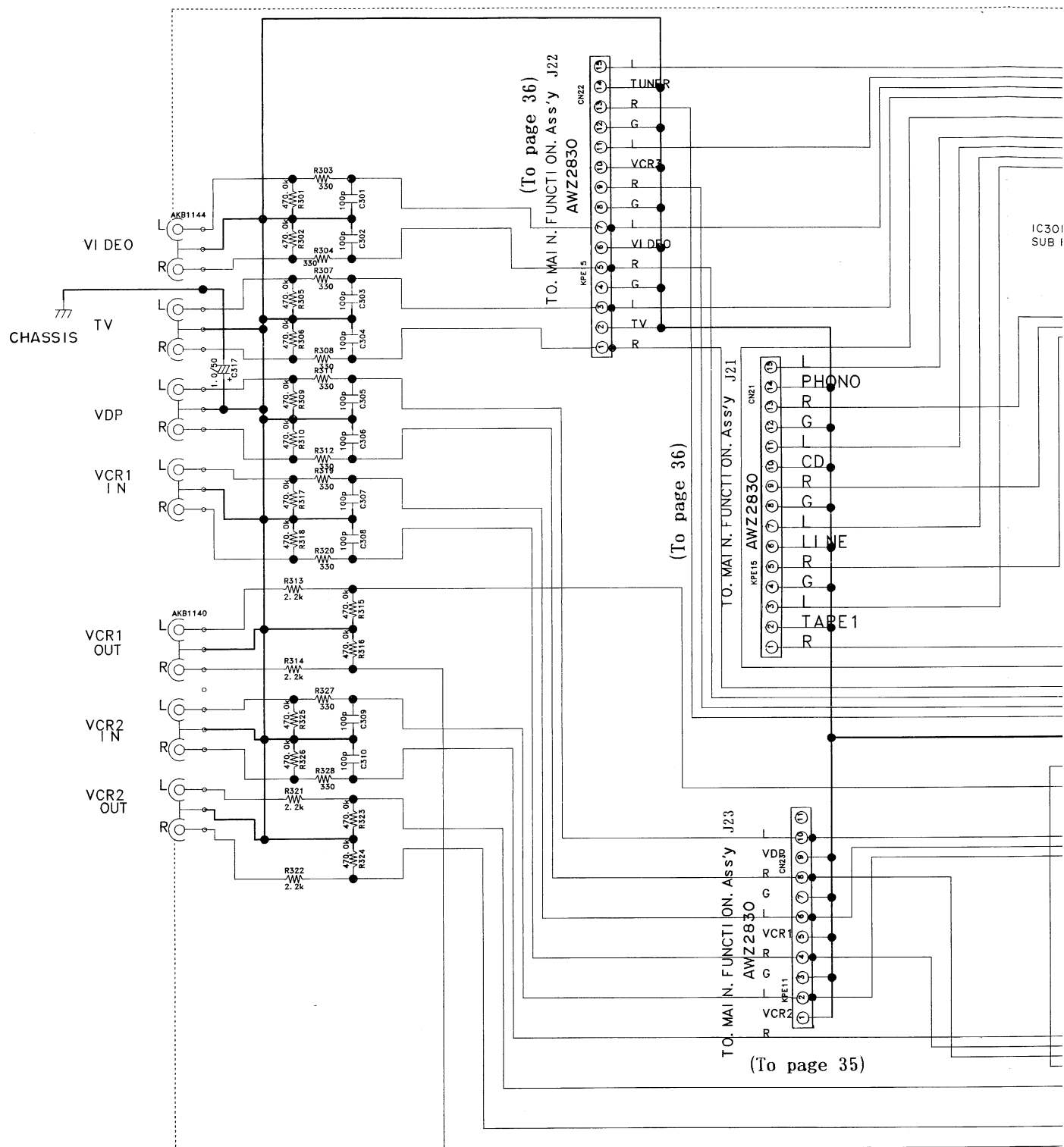
AWZ2830 MAIN FUNCTION ASS'Y





AWZ2831

SUB. FUNCTION. AS



## A

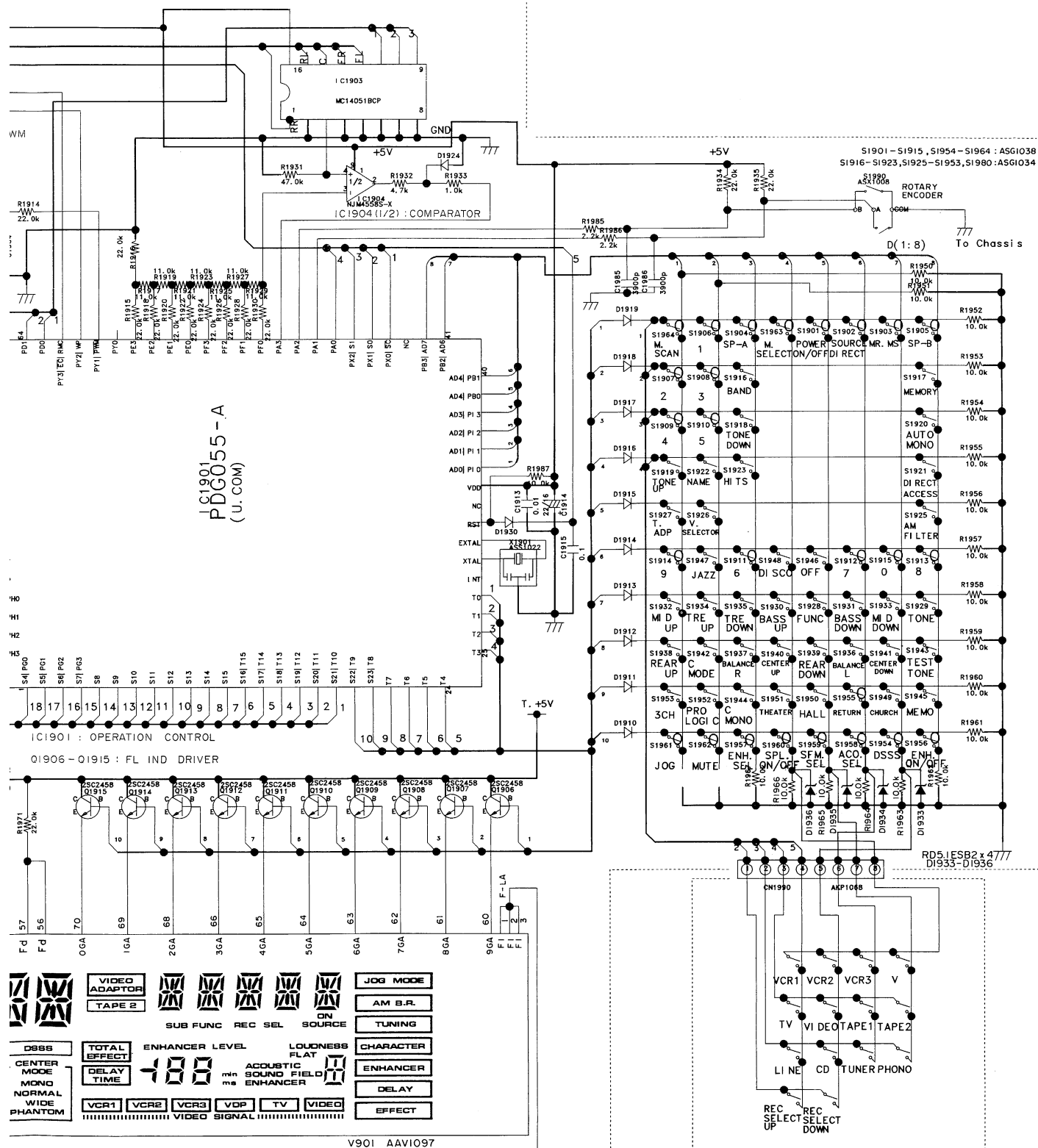






AWZ2828  
FRONT.CONTROL ASS'Y

IC1903 : METER AMP



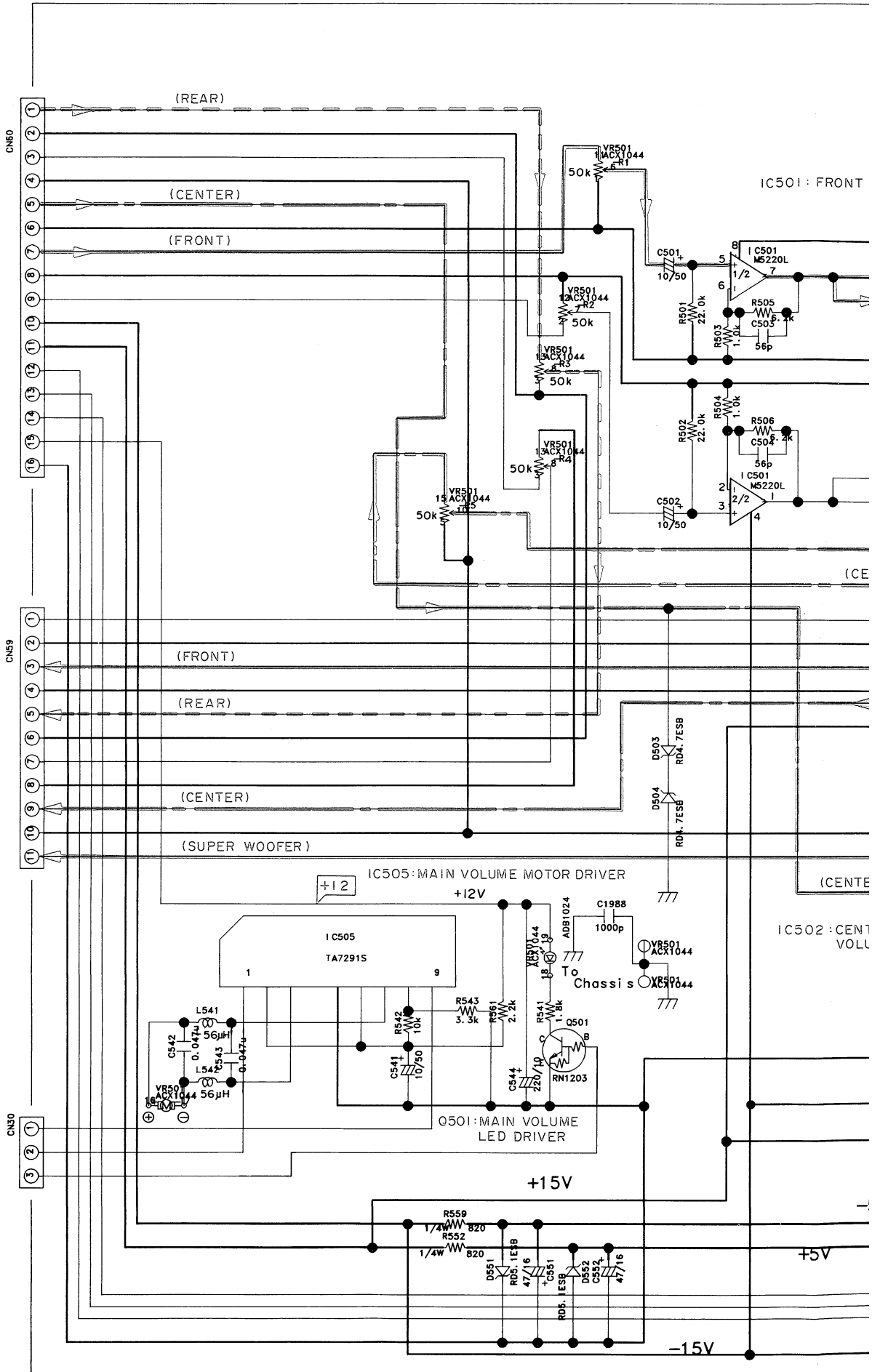
DOOR Ass'y  
AAN 1220

(To page 68)  
TO PS. U-COM Ass'y  
AWZ2827

To CN60  
To CN59

(To page 39)  
TO FRONT U-COM Ass'y J30  
AWZ2828

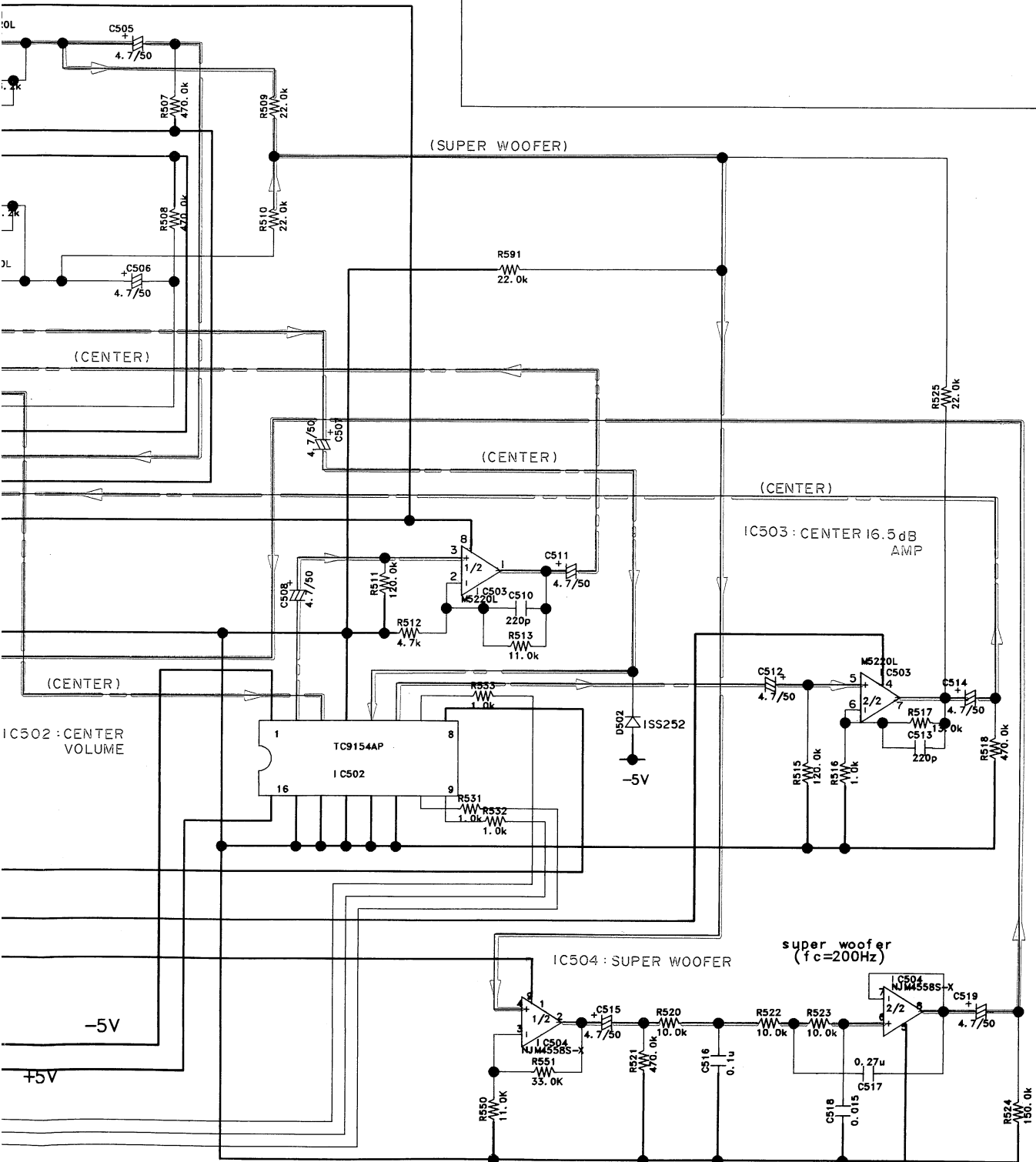
UP  
DOWN  
LED



## DR. VOLUME. ASS'Y

(FRONT) : FRONT AUDIO SIGNAL  
 (REAR) : REAR AUDIO SIGNAL  
 (CENTER) : CENTER AUDIO SIGNAL  
 (SUPER WOOFER) : SUPER WOOFER AUDIO SIGNAL







501 : FRONT 16.5 dB AMP





mounted side.

to be replaced with those shown in the following Table.

Symbol	Part Name
	Transistor
	Radiator type transistor
	Diode
	Resistor
	Capacitor (Polarity)
	Capacitor (Non-polarity)

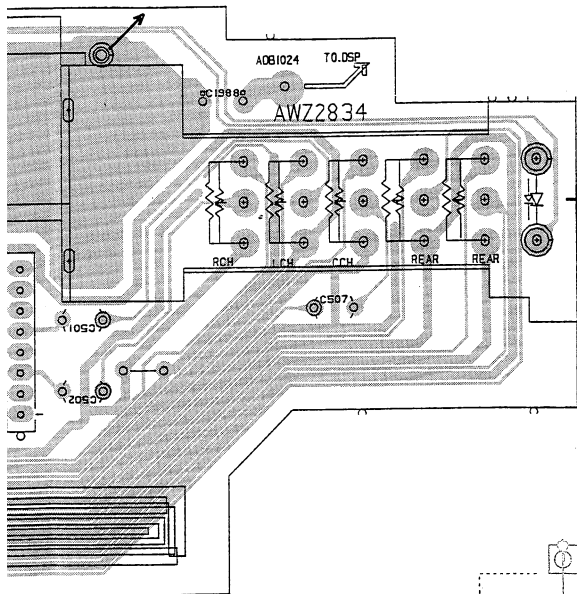
Others

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

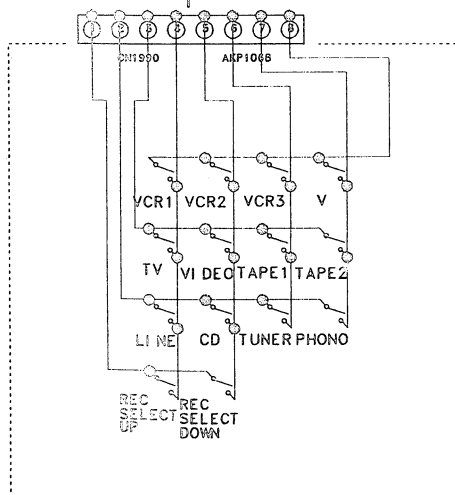
3. The capacitor terminal marked with ⊖ (double circles) shows negative terminal.
4. The diode terminal marked with ⊖ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

501

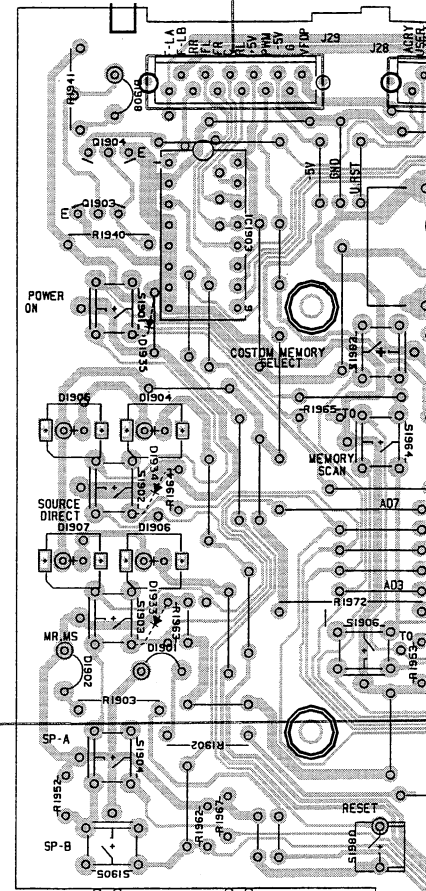
VR501



501Y (AWZ2834)



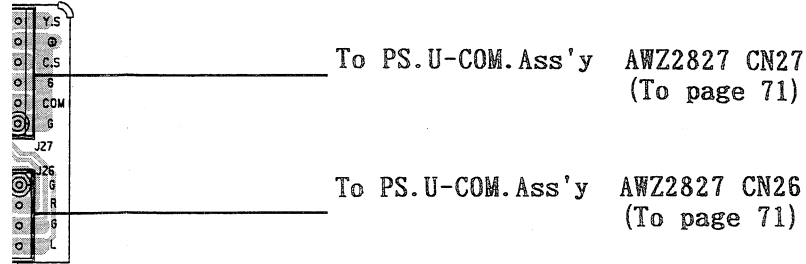
DOOR ASS'Y (AAN1220)



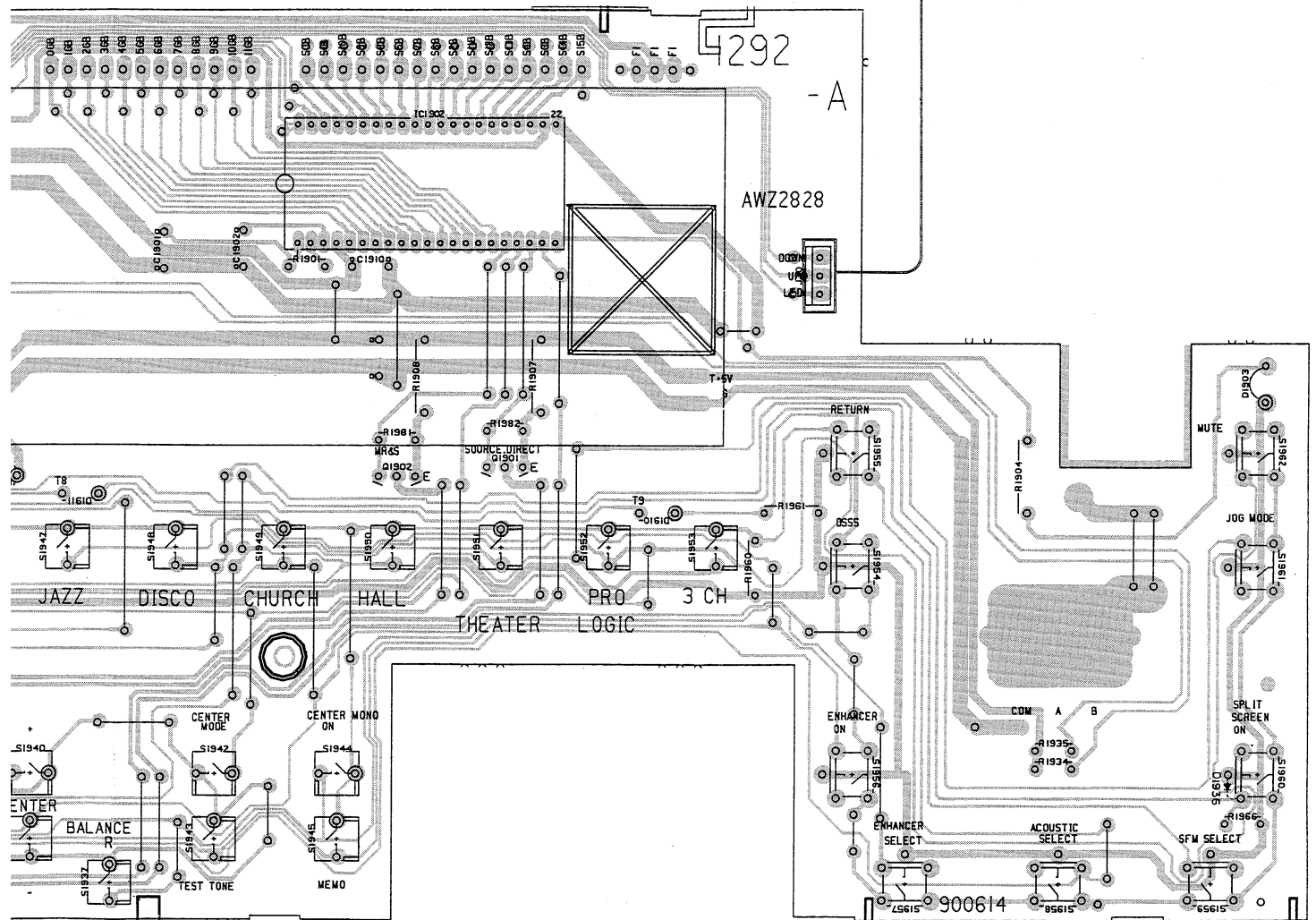
Q1903 Q1904 IC1903



**AWZ2854)**



## FRONT CONTROL ASS'Y (AWZ2828)



IC1902  
Q1902      Q1901

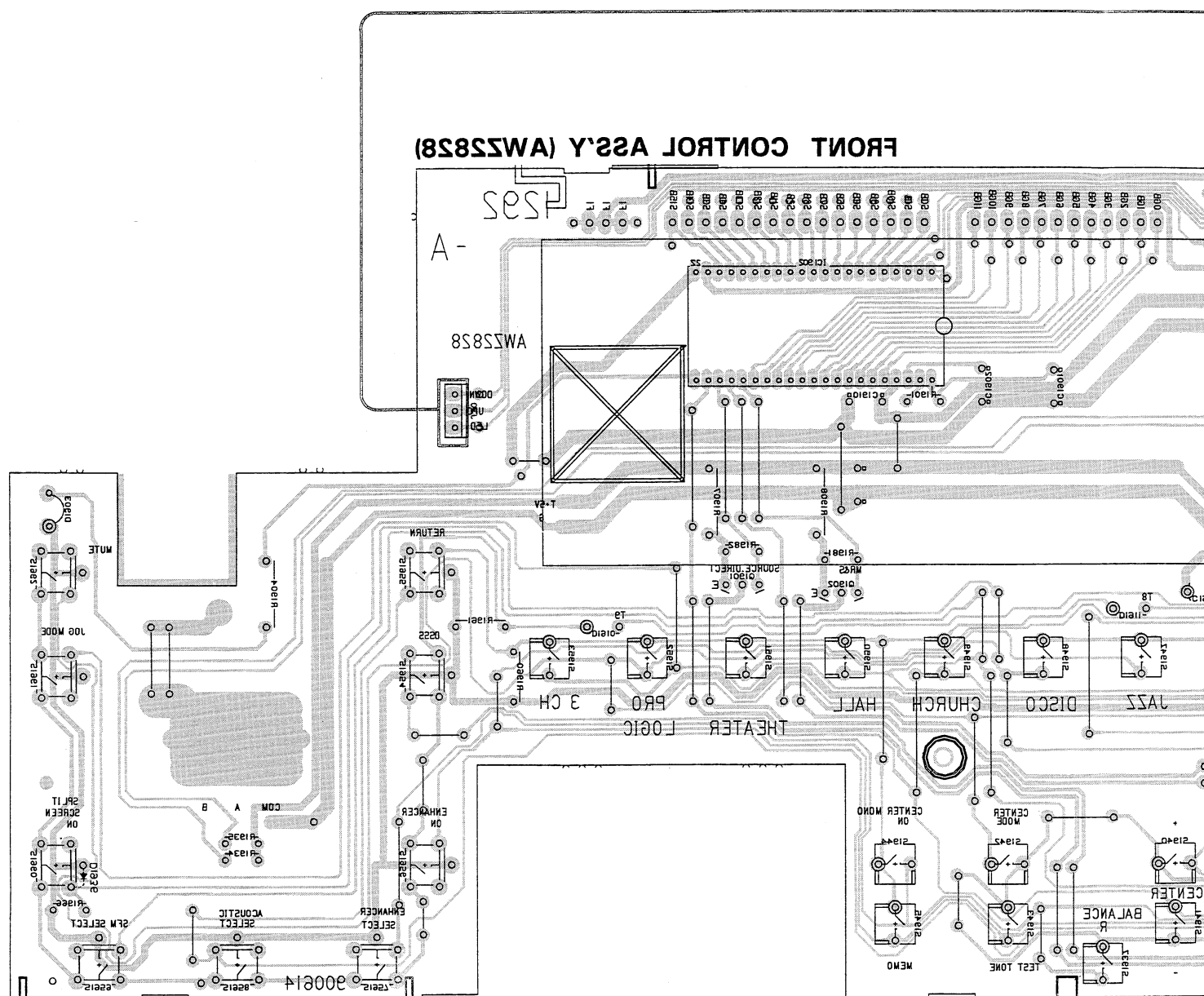


(4285WA)

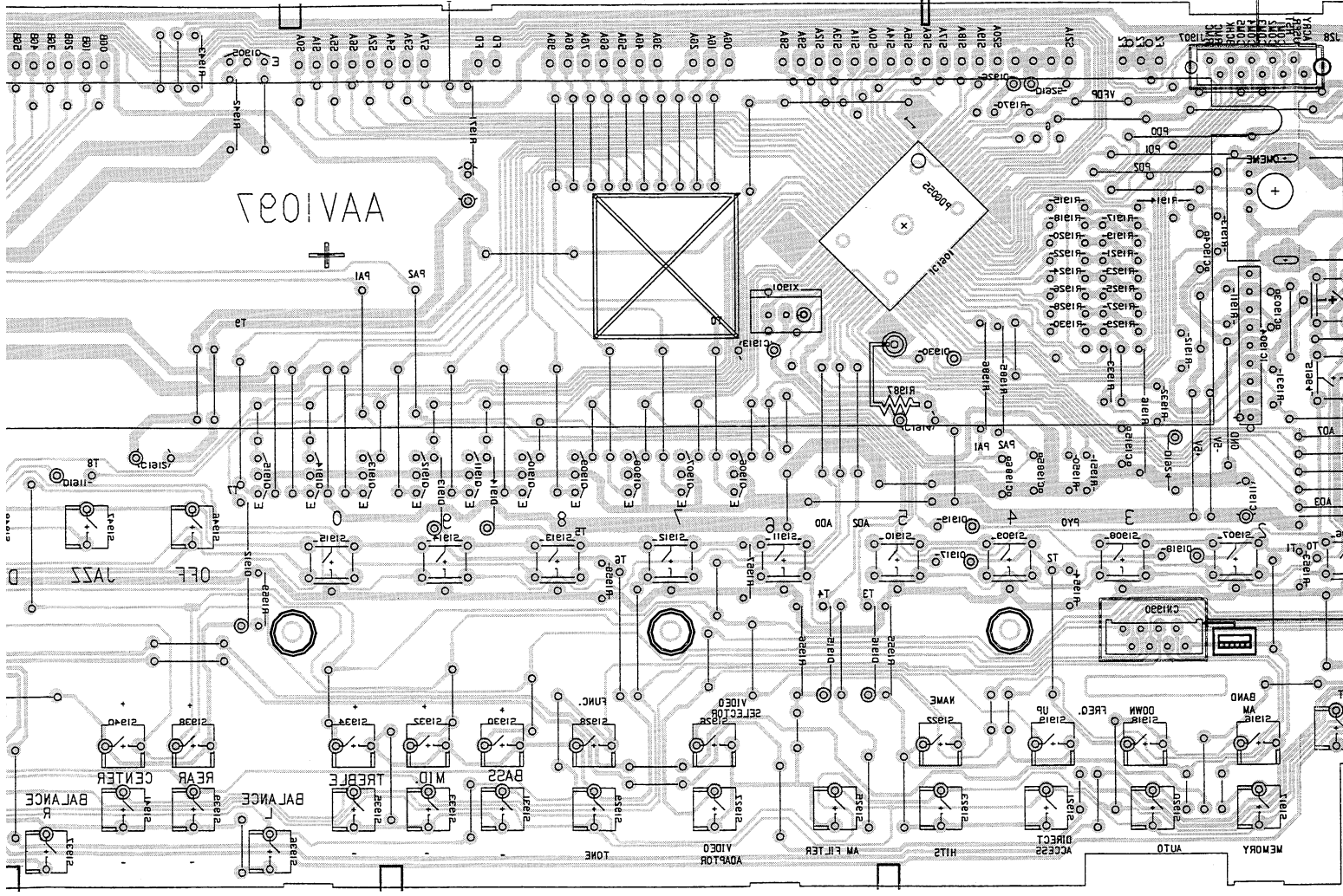
This P.C.B. connection diagram is viewed from the foil side.

To page 11)

To P2-U-COM-Ass'y  
AWZ3821 CNEZ  
(To page 11)



SOCIETY  
OF

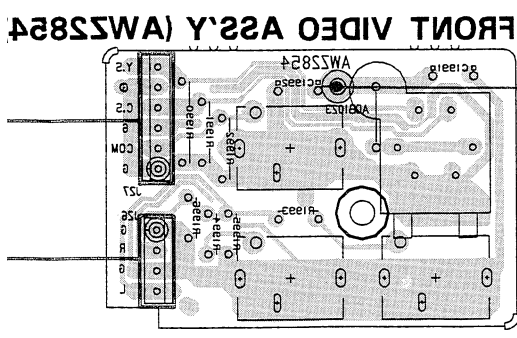


01A02

01A0E - 01A12

IC1A01

IC1A04

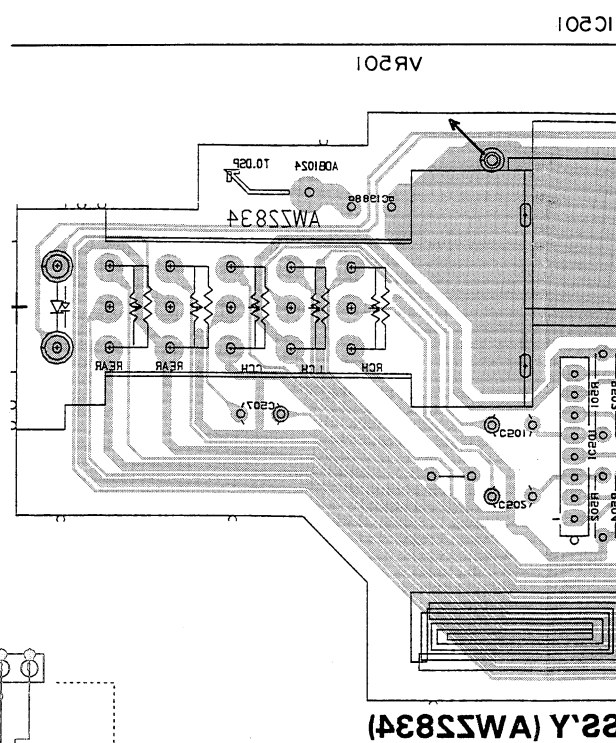
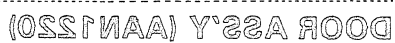
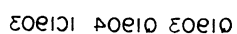


FRONT VIDEO A22 Y (AW35824)

To P2-U-COM-Ass'y AW35821 CN28  
(To page 12)

To P2-U-COM-Ass'y AW35821 CN28  
(To page 12)

To P2-U-COM-Ass'y AW35821 CN28  
(To page 12)



(To page 11)



10201

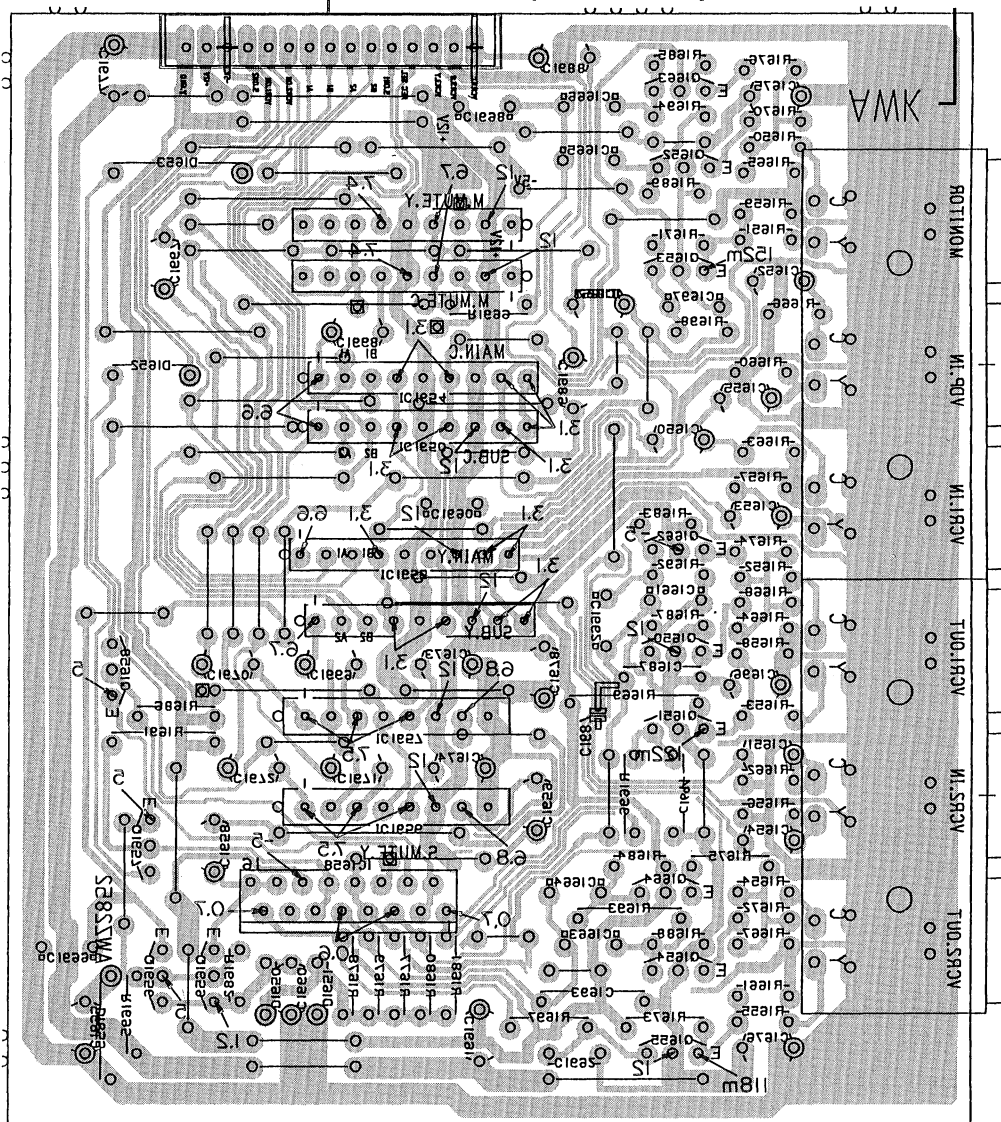
A

B

C

D

## 2. VIDEO ASS'Y (WMS5851)



IC1004 01E24 01E22  
01E20 01E21  
01E25  
IC1003 01E23  
IC1002 01E22  
IC1001 01E21  
IC1000 01E20  
IC999 01E19  
IC998 01E18  
IC997 01E17  
IC996 01E16  
IC995 01E15  
IC994 01E14  
IC993 01E13  
IC992 01E12  
IC991 01E11  
IC990 01E10  
IC989 01E09  
IC988 01E08  
IC987 01E07  
IC986 01E06  
IC985 01E05  
IC984 01E04  
IC983 01E03  
IC982 01E02  
IC981 01E01  
IC980 01E00  
IC979 01D99  
IC978 01D98  
IC977 01D97  
IC976 01D96  
IC975 01D95  
IC974 01D94  
IC973 01D93  
IC972 01D92  
IC971 01D91  
IC970 01D90  
IC969 01D89  
IC968 01D88  
IC967 01D87  
IC966 01D86  
IC965 01D85  
IC964 01D84  
IC963 01D83  
IC962 01D82  
IC961 01D81  
IC960 01D80  
IC959 01D79  
IC958 01D78  
IC957 01D77  
IC956 01D76  
IC955 01D75  
IC954 01D74  
IC953 01D73  
IC952 01D72  
IC951 01D71  
IC950 01D70  
IC949 01D69  
IC948 01D68  
IC947 01D67  
IC946 01D66  
IC945 01D65  
IC944 01D64  
IC943 01D63  
IC942 01D62  
IC941 01D61  
IC940 01D60  
IC939 01D59  
IC938 01D58  
IC937 01D57  
IC936 01D56  
IC935 01D55  
IC934 01D54  
IC933 01D53  
IC932 01D52  
IC931 01D51  
IC930 01D50  
IC929 01D49  
IC928 01D48  
IC927 01D47  
IC926 01D46  
IC925 01D45  
IC924 01D44  
IC923 01D43  
IC922 01D42  
IC921 01D41  
IC920 01D40  
IC919 01D39  
IC918 01D38  
IC917 01D37  
IC916 01D36  
IC915 01D35  
IC914 01D34  
IC913 01D33  
IC912 01D32  
IC911 01D31  
IC910 01D30  
IC909 01D29  
IC908 01D28  
IC907 01D27



### 3.6 S. VIDEO ASS'Y (AWZ2852)

## 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)

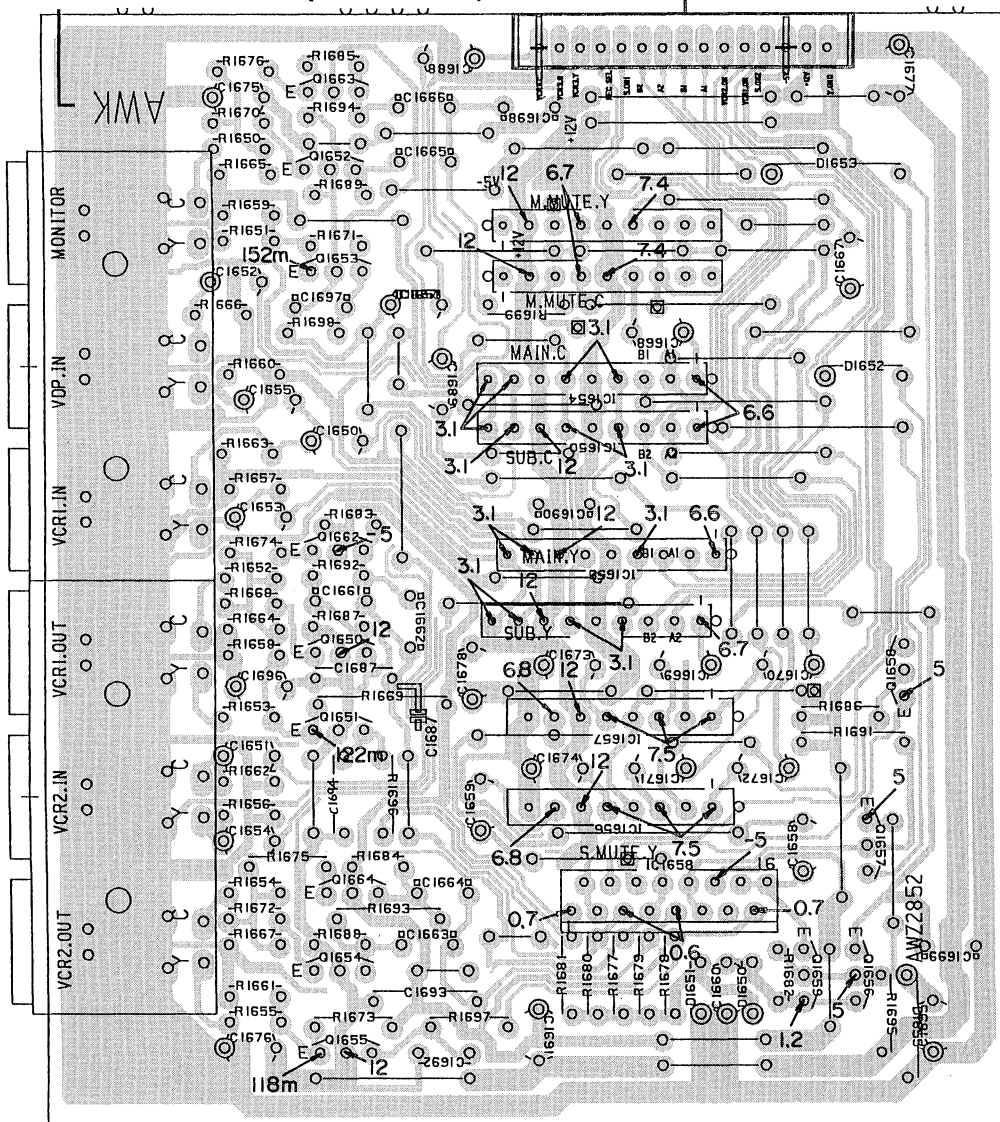
## Others

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.

To PS.U-COM.Ass'y AWZ2827 CN56  
(To page 72)

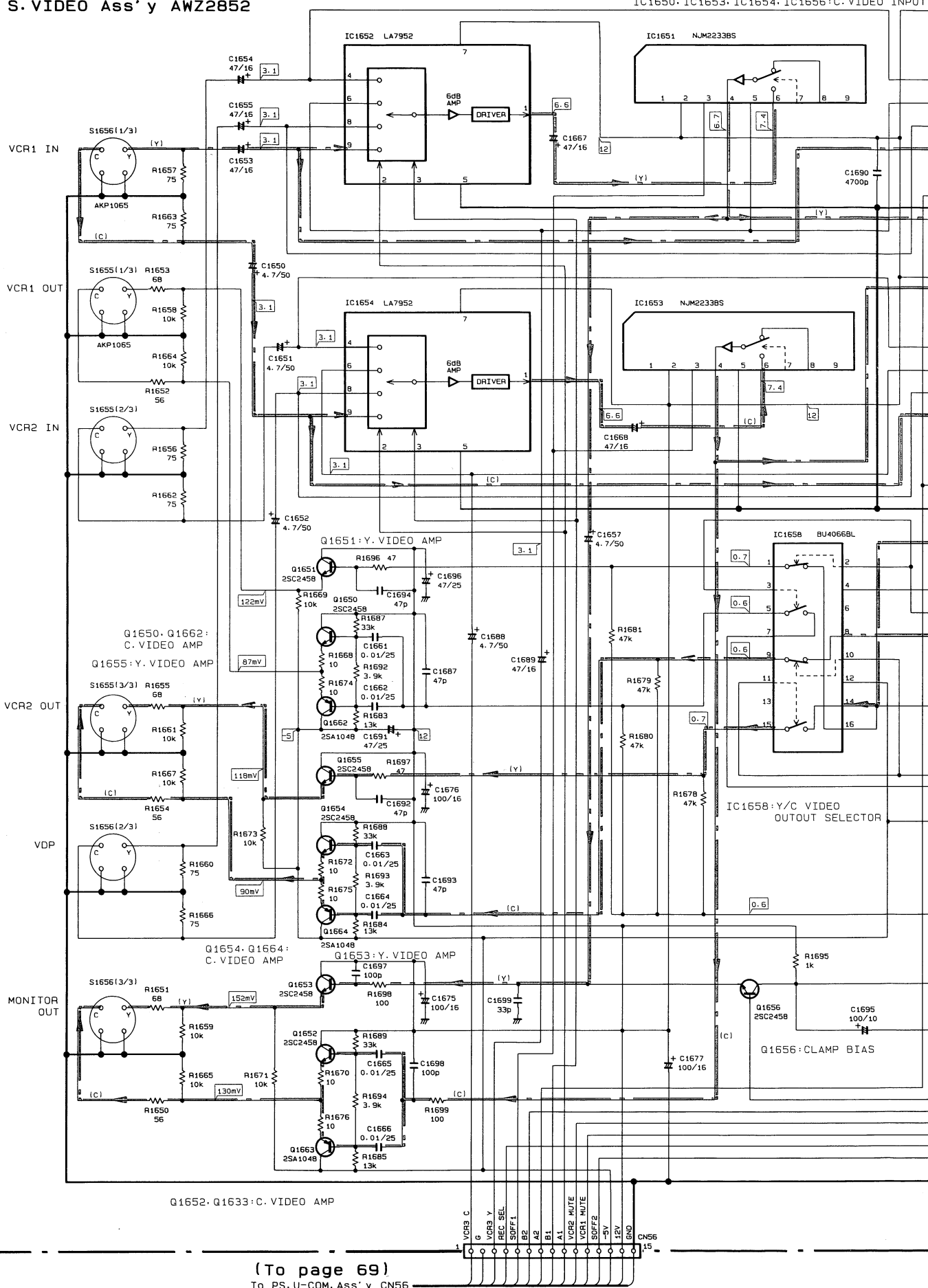
### S. VIDEO ASS'Y (AWZ2852)



Q1663	Q1652	Q1653	IC1651	IC1653	
	Q1662		IC1654	IC1650	IC1652
	Q1650	Q1651	IC1655	IC1657	IC1656
Q1664	Q1654	Q1655	IC1658		Q1658
				Q1659	Q1656
					Q1657

# S. VIDEO Ass'y AWZ2852

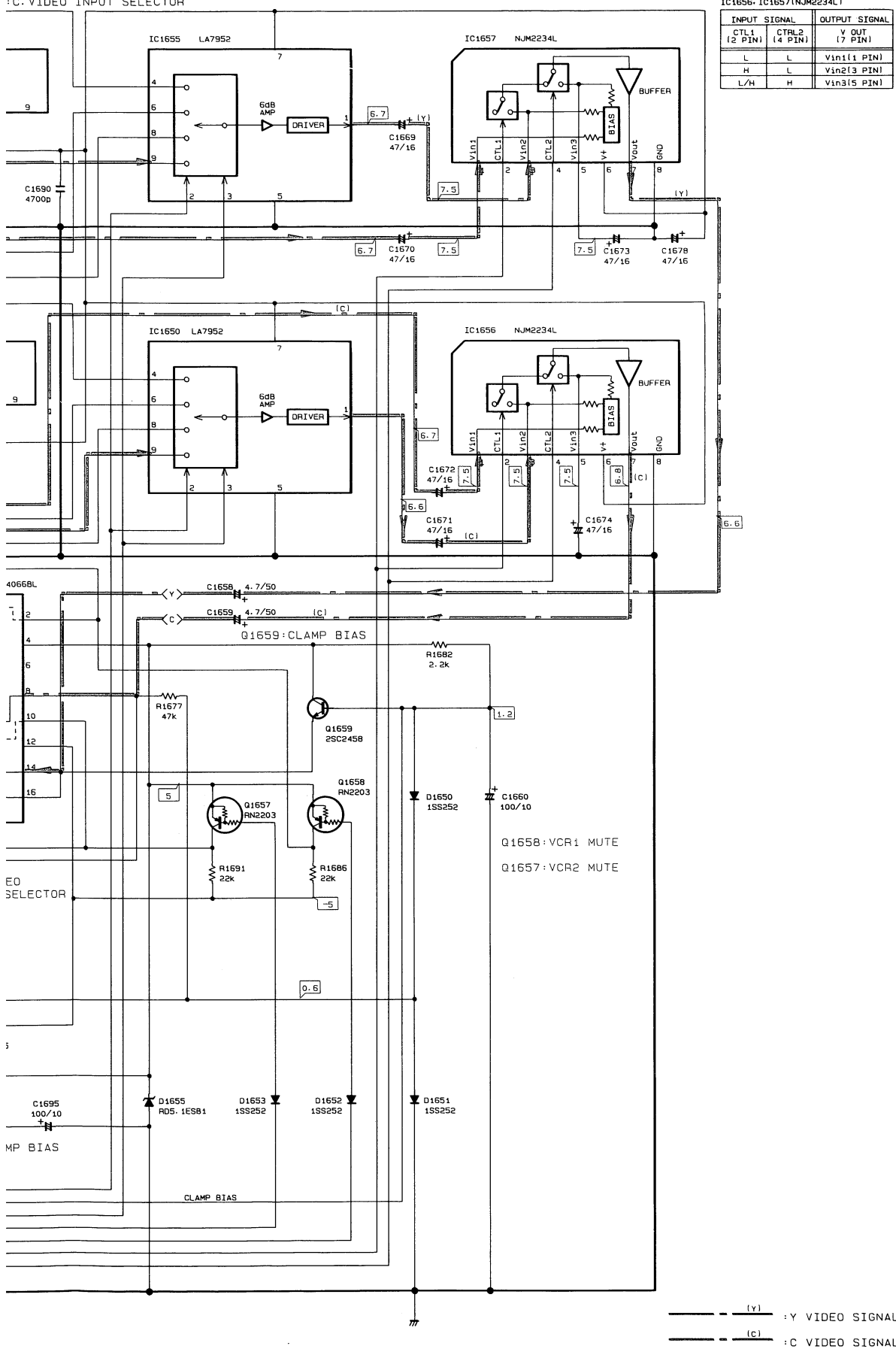
IC1651, IC1652, IC1655, IC1657: Y. VIDEO INPUT  
IC1650, IC1653, IC1654, IC1656: C. VIDEO INPUT



(To page 69)

To PS. U-COM. Ass'y CN56  
AWZ2827

:Y VIDEO INPUT SELECTOR  
:C VIDEO INPUT SELECTOR



IC1656, IC1657 (NJM2234L)

INPUT SIGNAL		OUTPUT SIGNAL
CTL1 (2 PIN)	CTL2 (4 PIN)	V OUT (7 PIN)
L	L	Vin1(1 PIN)
H	L	Vin2(3 PIN)
L/H	H	Vin3(5 PIN)

A

B

C

D



## 3.7 REAR AMP (AWZ2837), R.C.SPEAKER (AWZ2836) and CENTER AMP ASS'Y (AWZ2829)

A

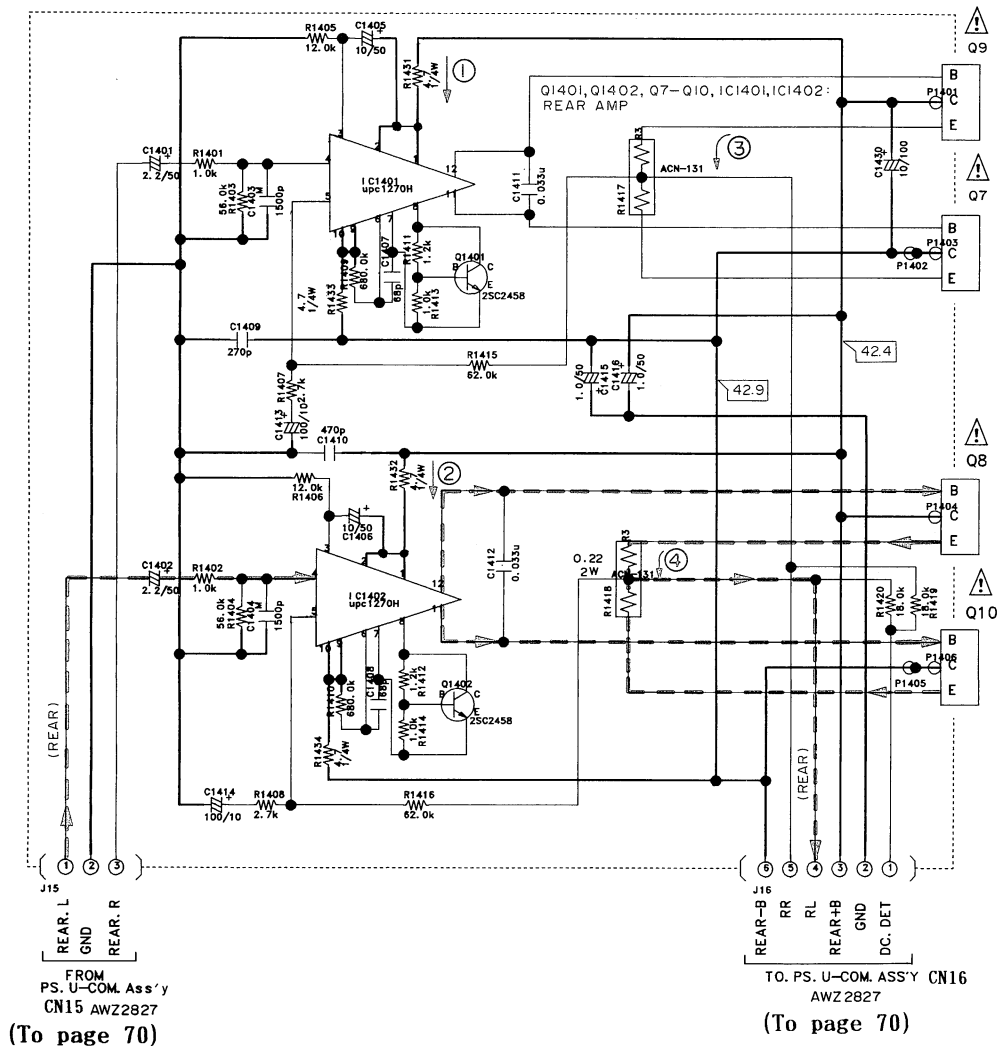
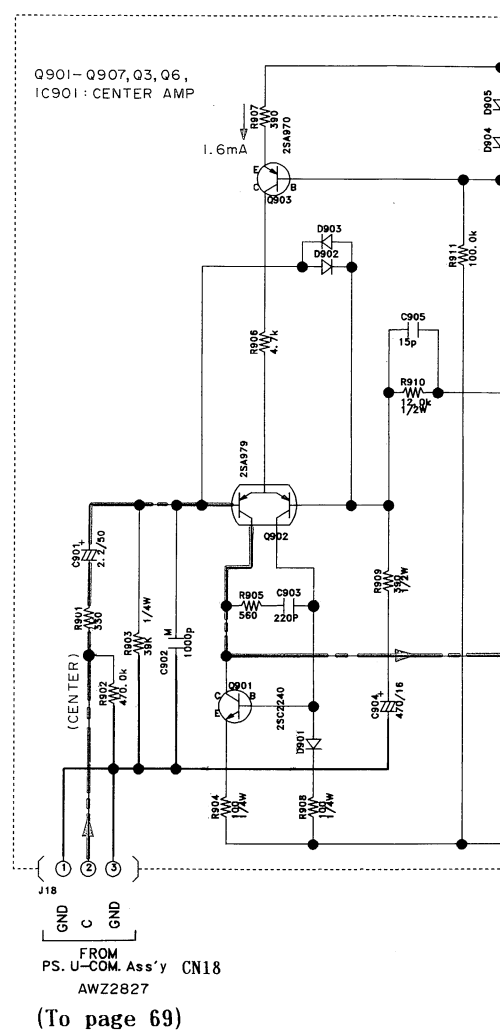
AWZ2837  
R. AMP. ASS'Y

LOAD	CURRENT	
	OPEN	8 $\Omega$
①	17.7 mA	17.6 mA
②	17.5 mA	17.2 mA
③	1.1 mA	0.8 mA
④	0.6 mA	0.2 mA

REAR

B

C

Q901-Q907, Q3, Q6,  
IC901: CENTER AMP

6

A



C

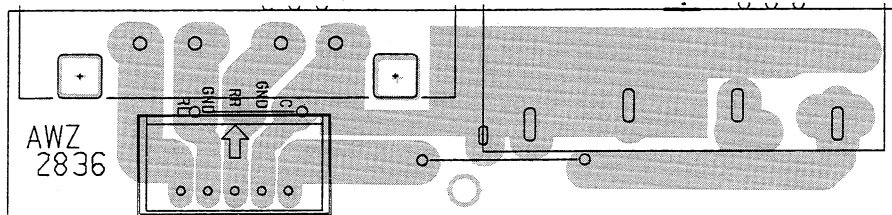


(To page 70)

A

From PS.U-COM.Ass'y AWZ2827 CN18  
(To page 72)

### R.C.SPEAKER ASS'Y (AWZ2836)



B

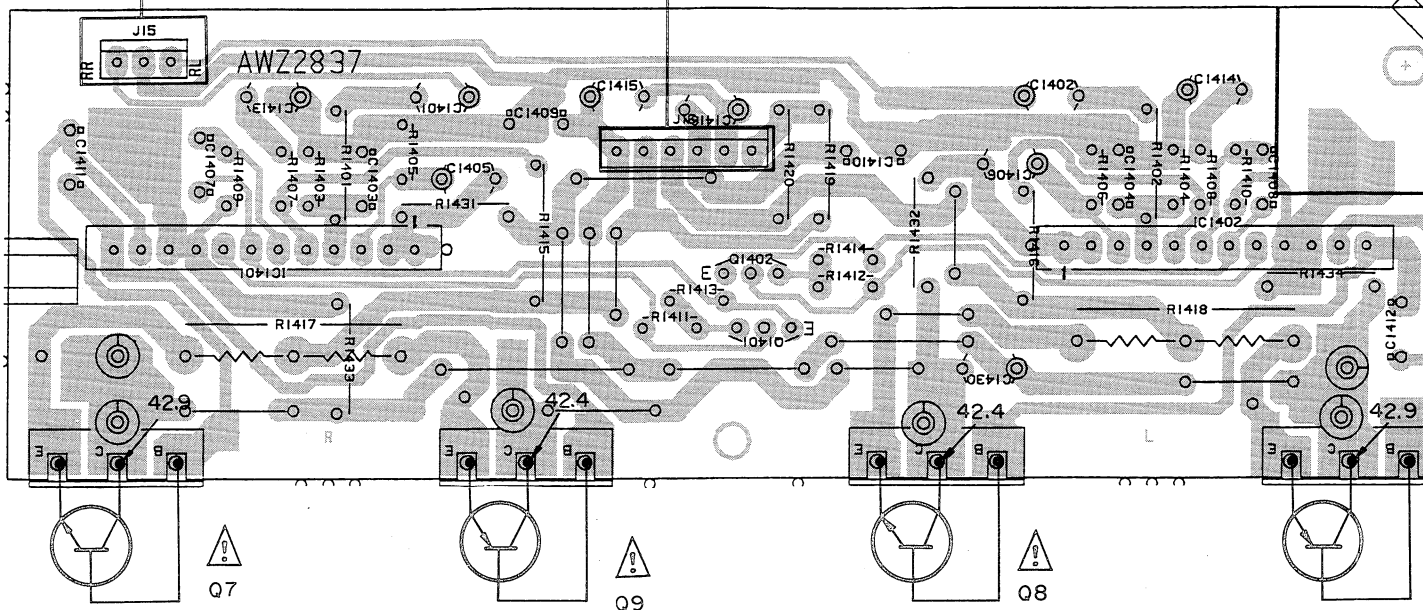
From PS.U-COM.Ass'y AWZ2827 J20  
(To page 73)

From PS.U-COM.Ass'y AWZ2827 CN15  
(To page 72)

From PS.U-COM.Ass'y AWZ2827 CN16  
(To page 72)

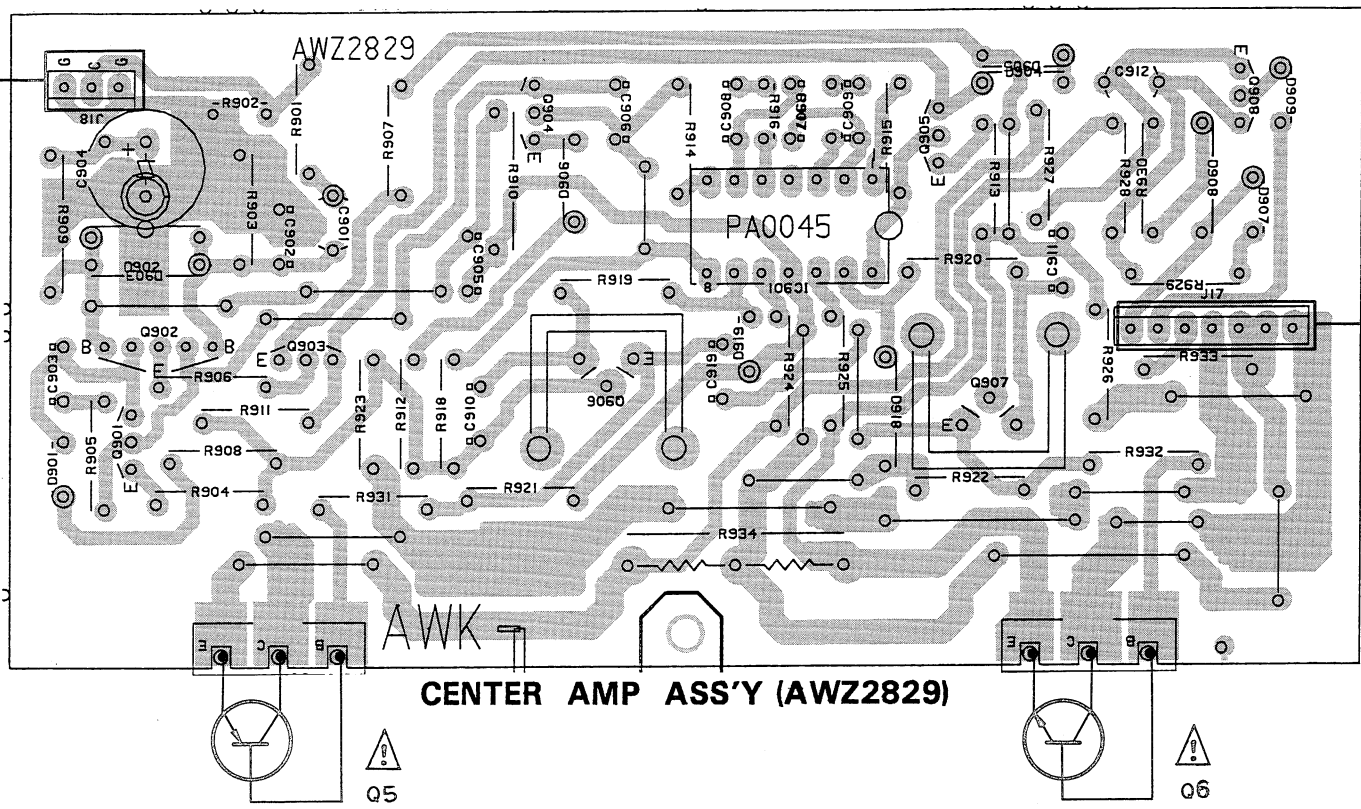
C

### REAR AMP ASS'Y (AWZ2837)



D

Q901-Q903 Q6 Q904 Q906 IC901 Q905 Q907 Q3 Q908

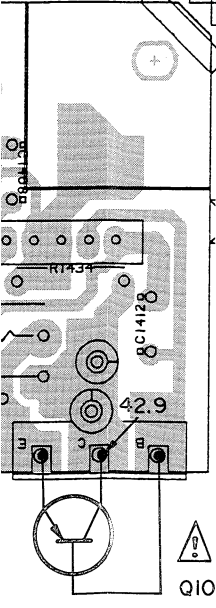


CENTER AMP ASS'Y (AWZ2829)

From PS.U-COM. Ass'y AWZ2827 CN17 (To page 72)

CN16 e 72)

Y (AWZ2837)



- 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)

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

- Others
- 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.

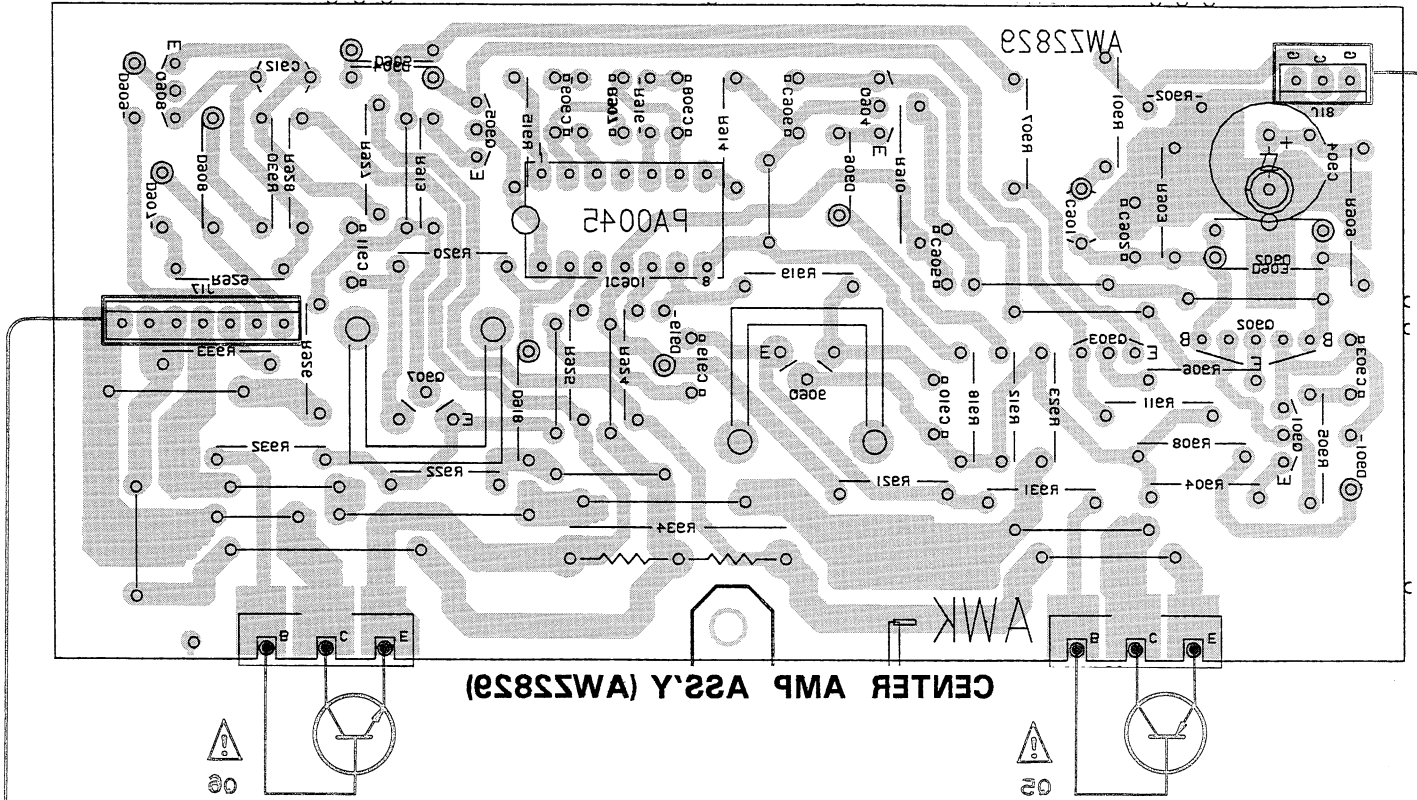
0901-0903 09  
0904  
0905  
0906  
0907  
0908

A

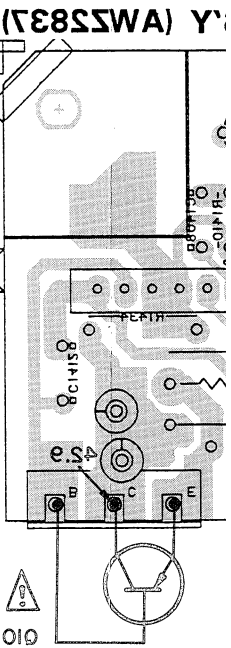
B

C

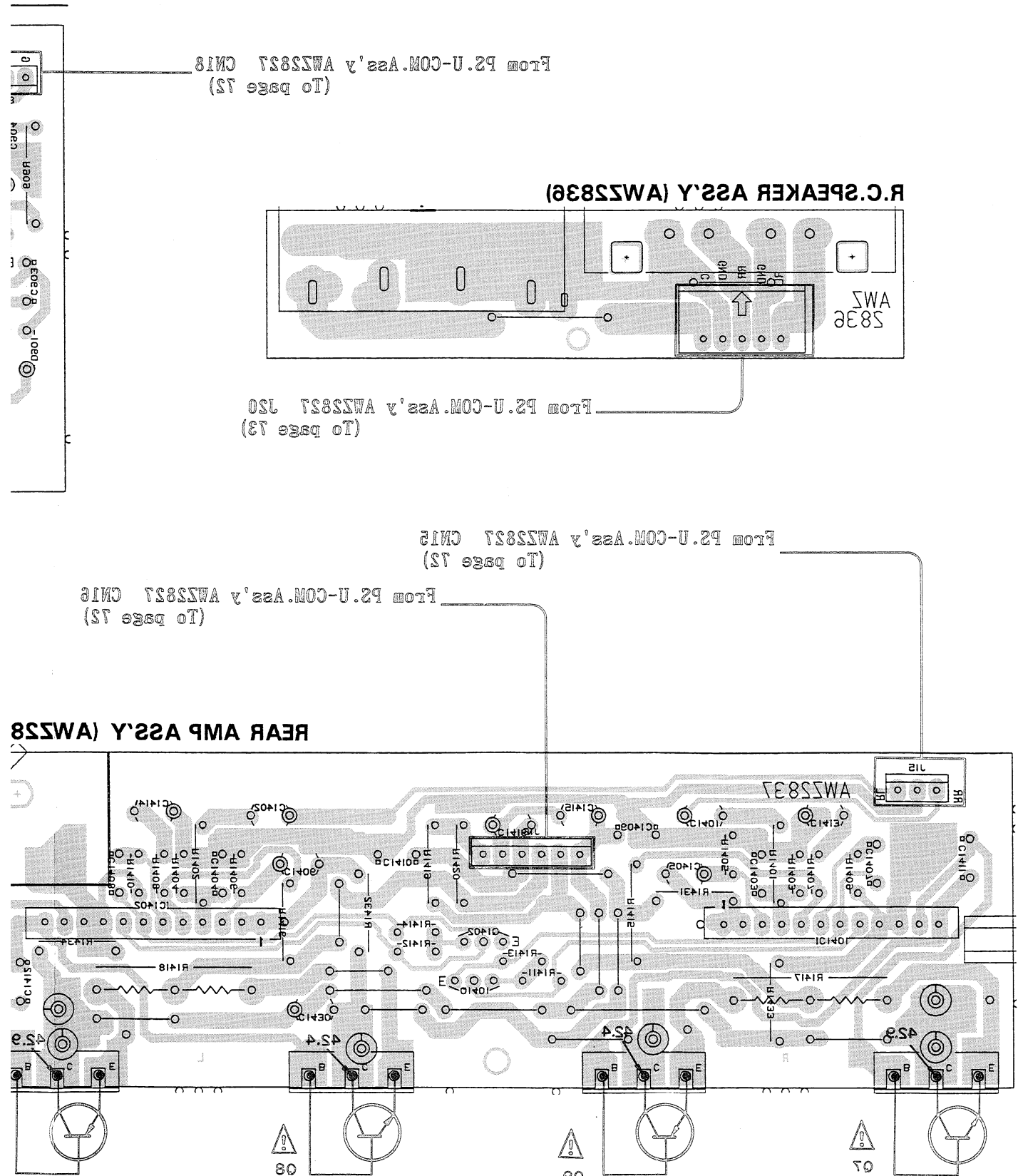
D

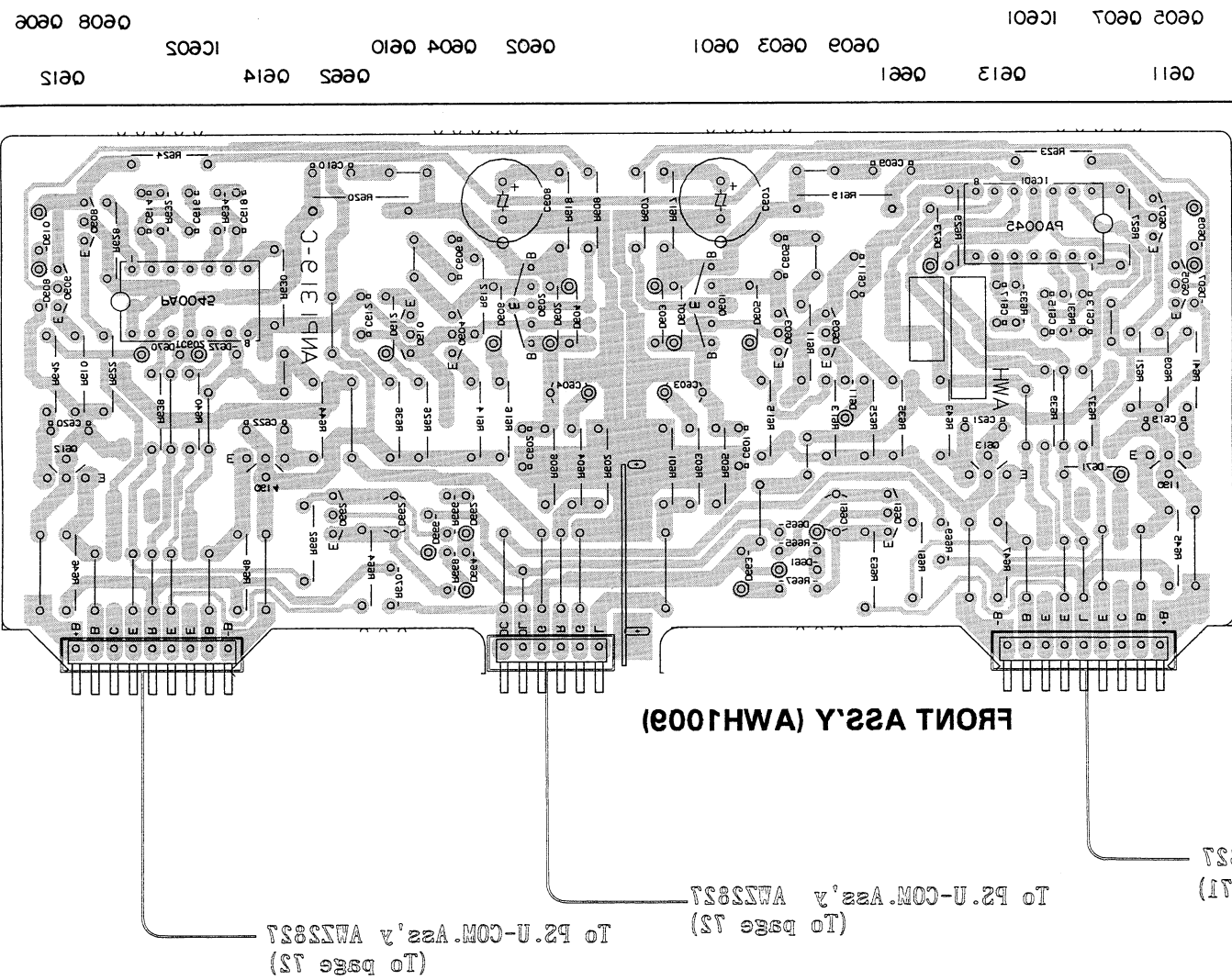
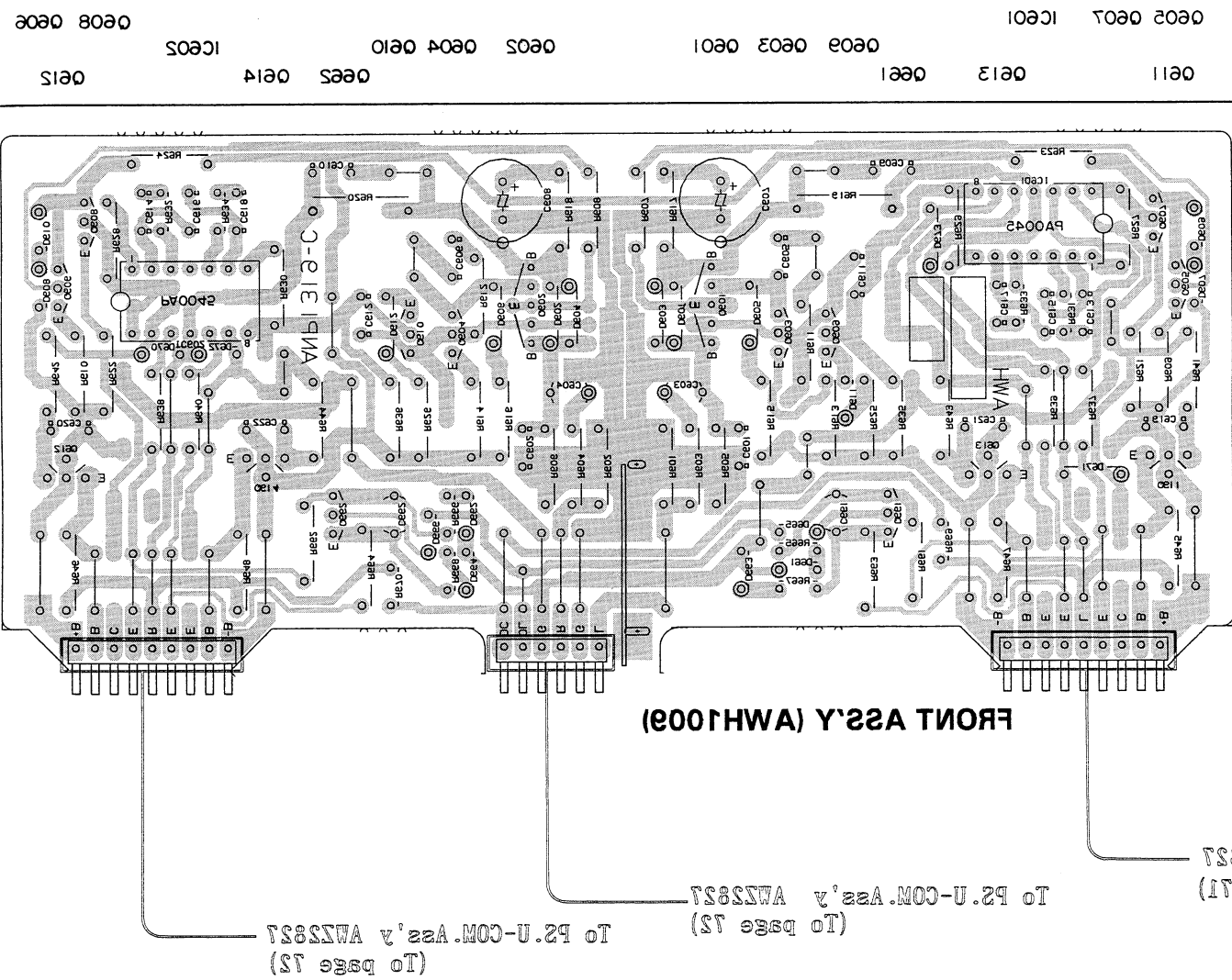
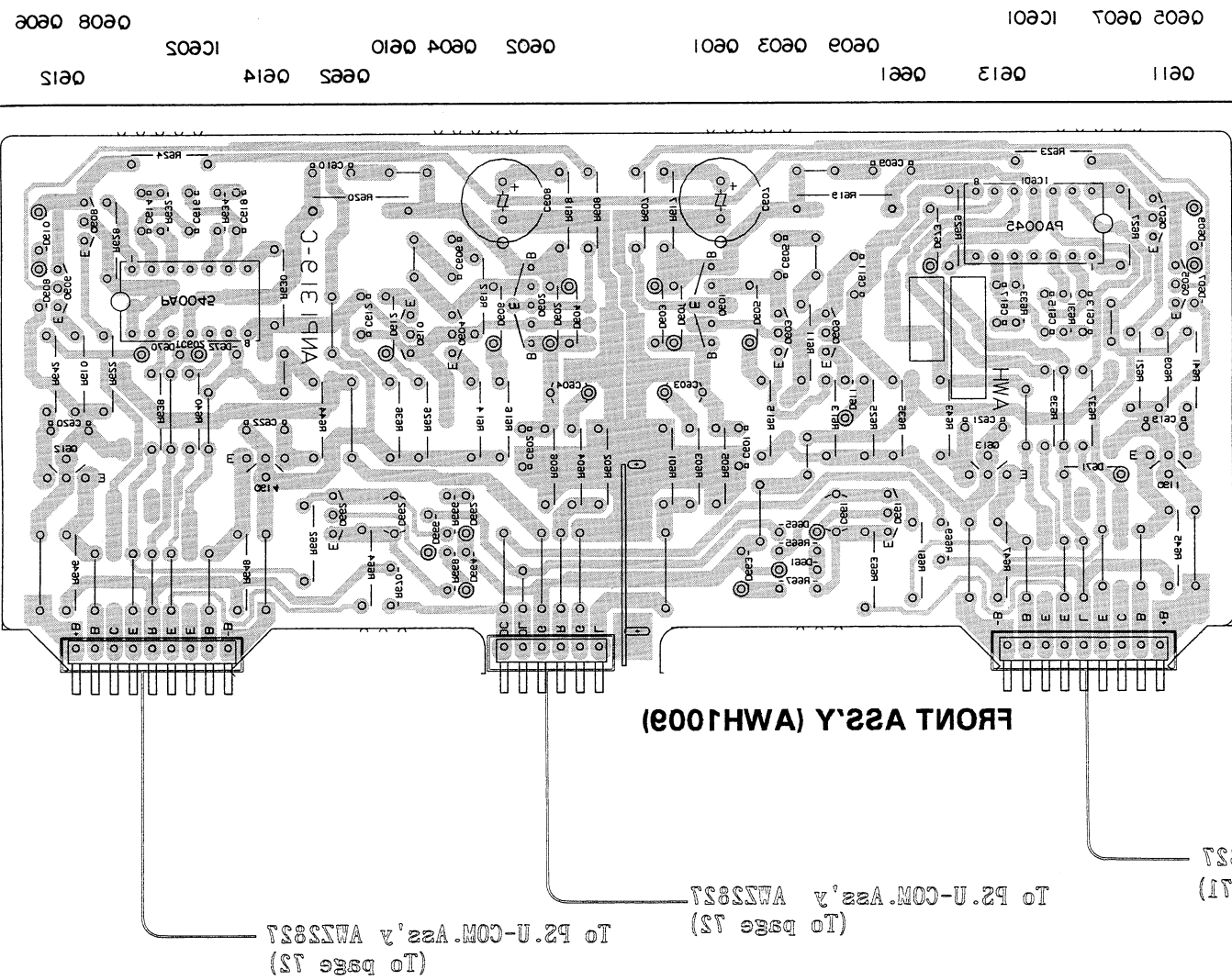
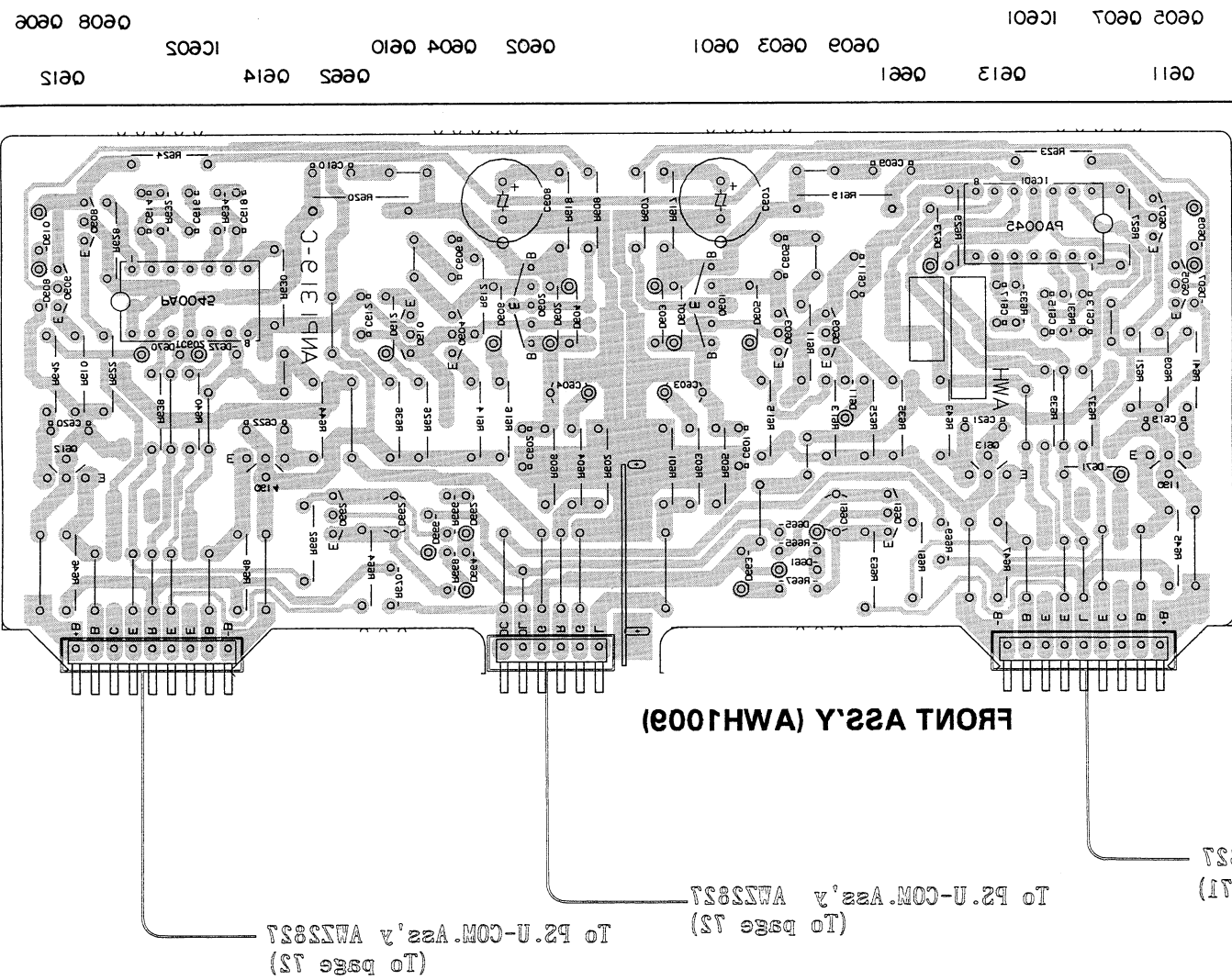
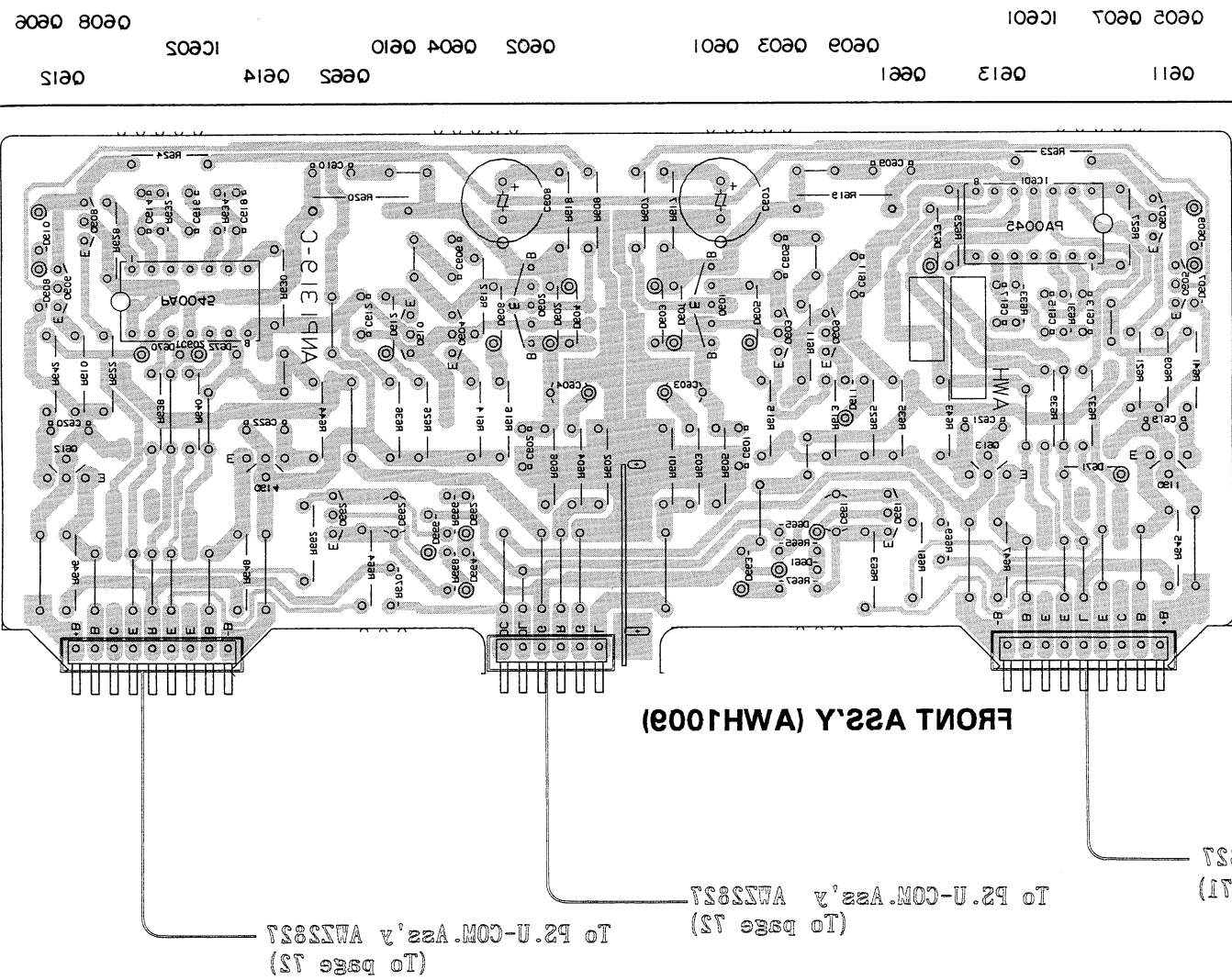
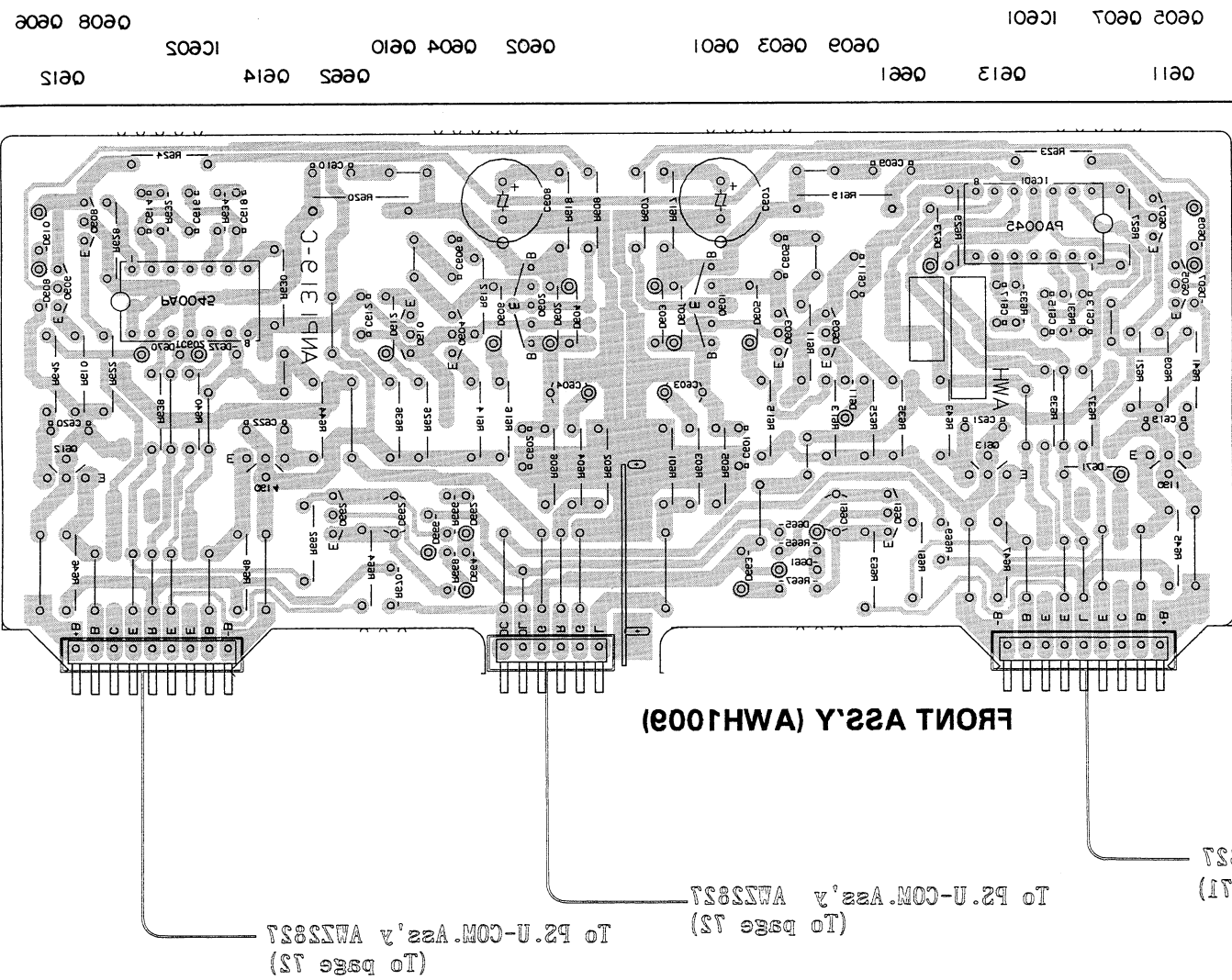
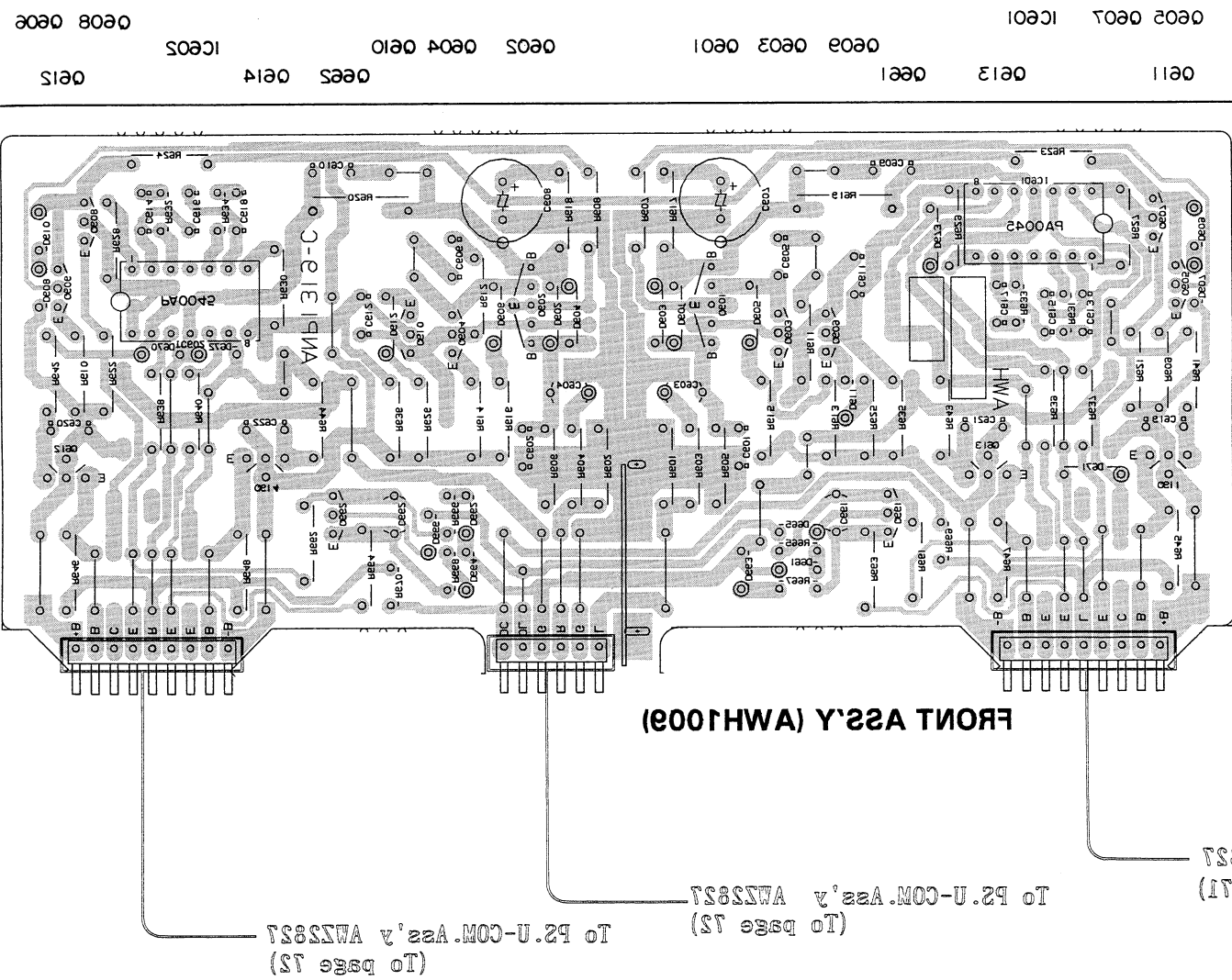
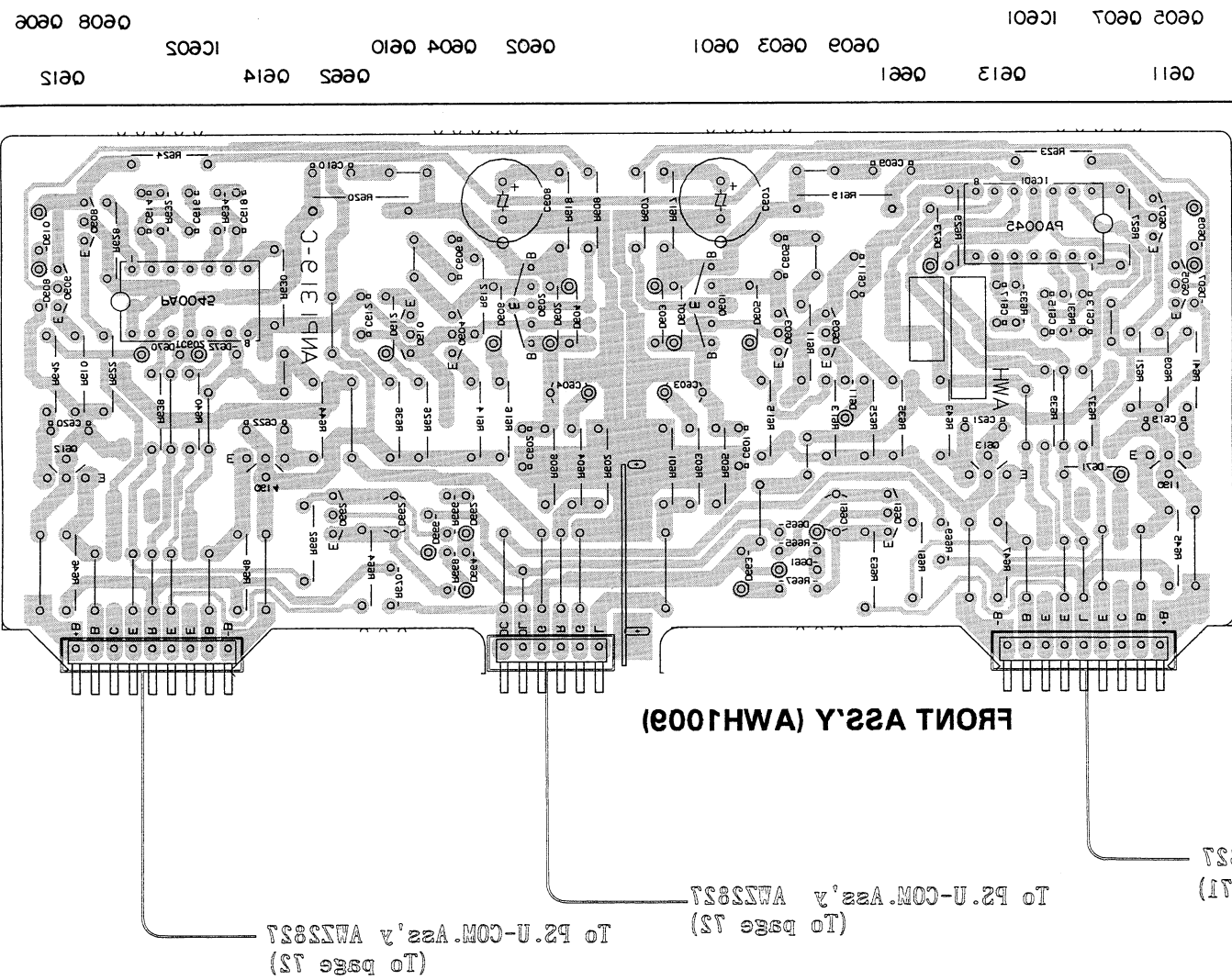
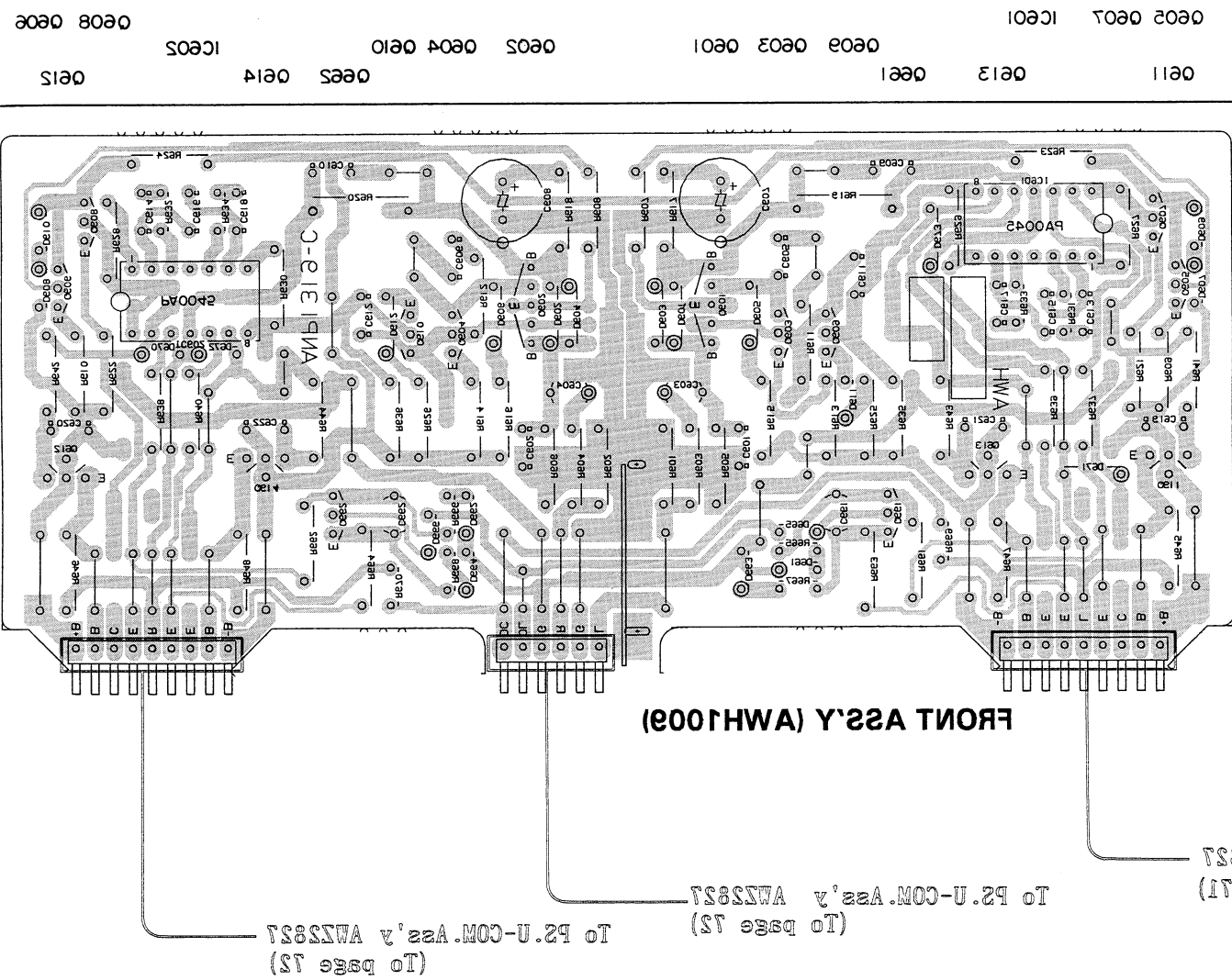
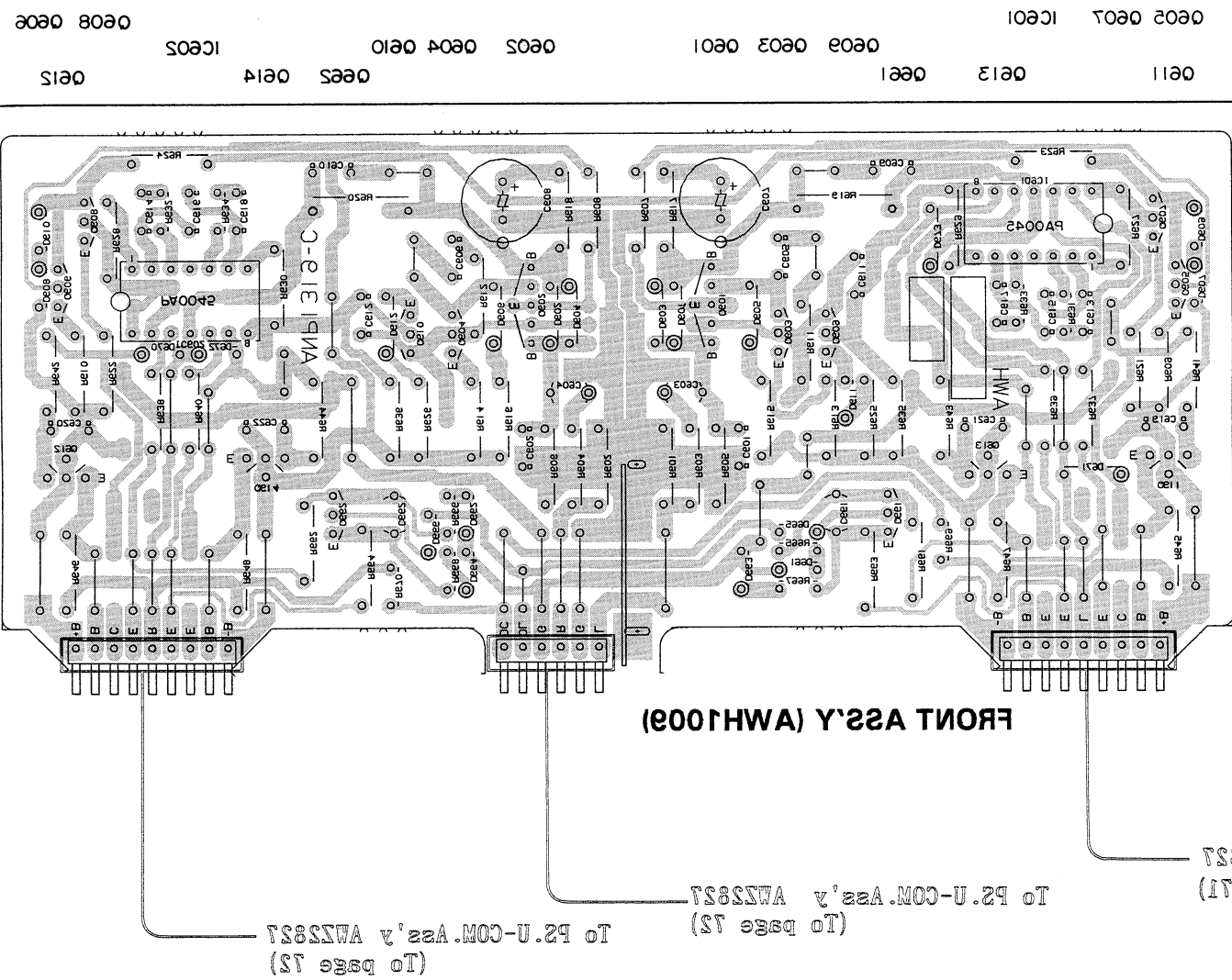
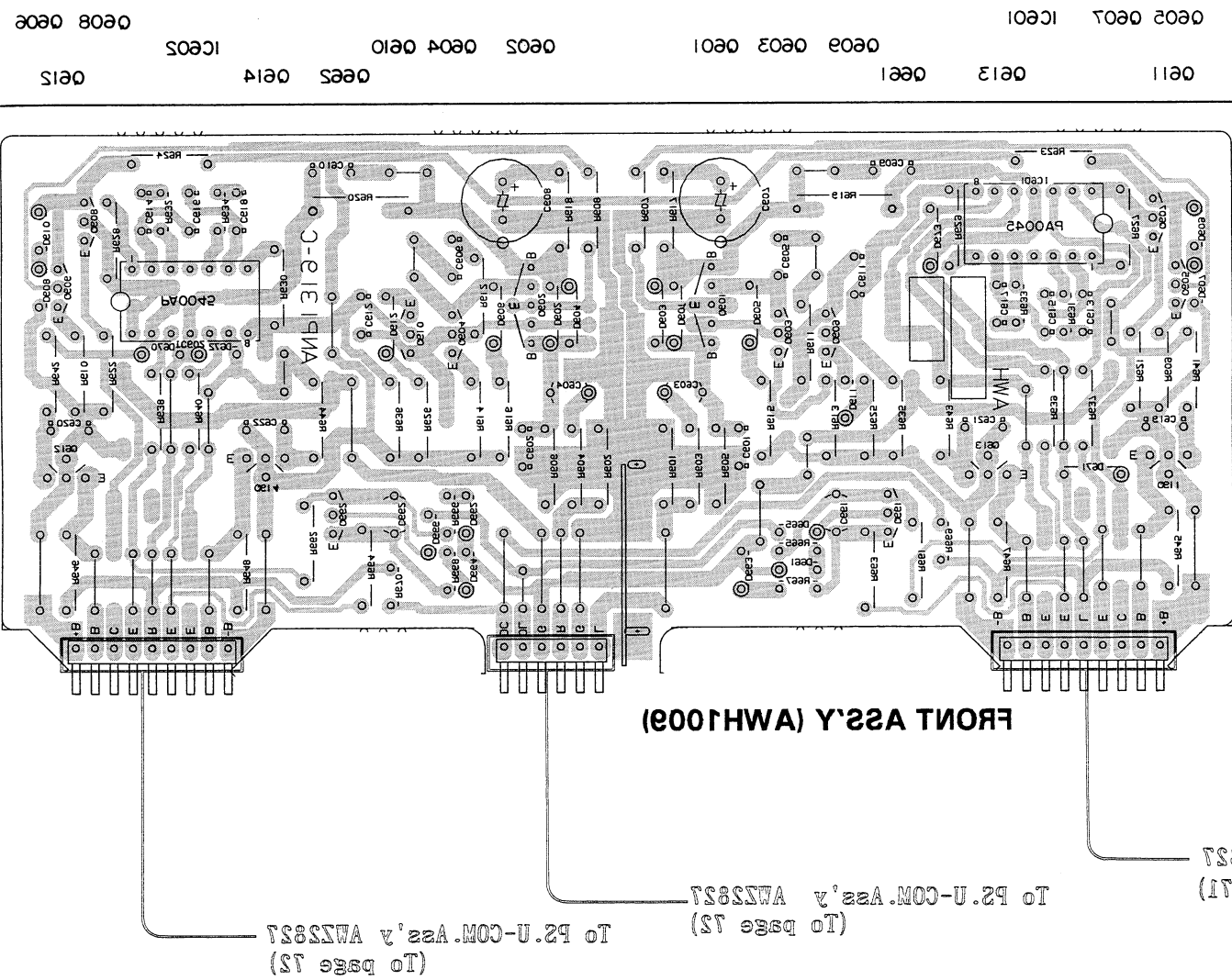
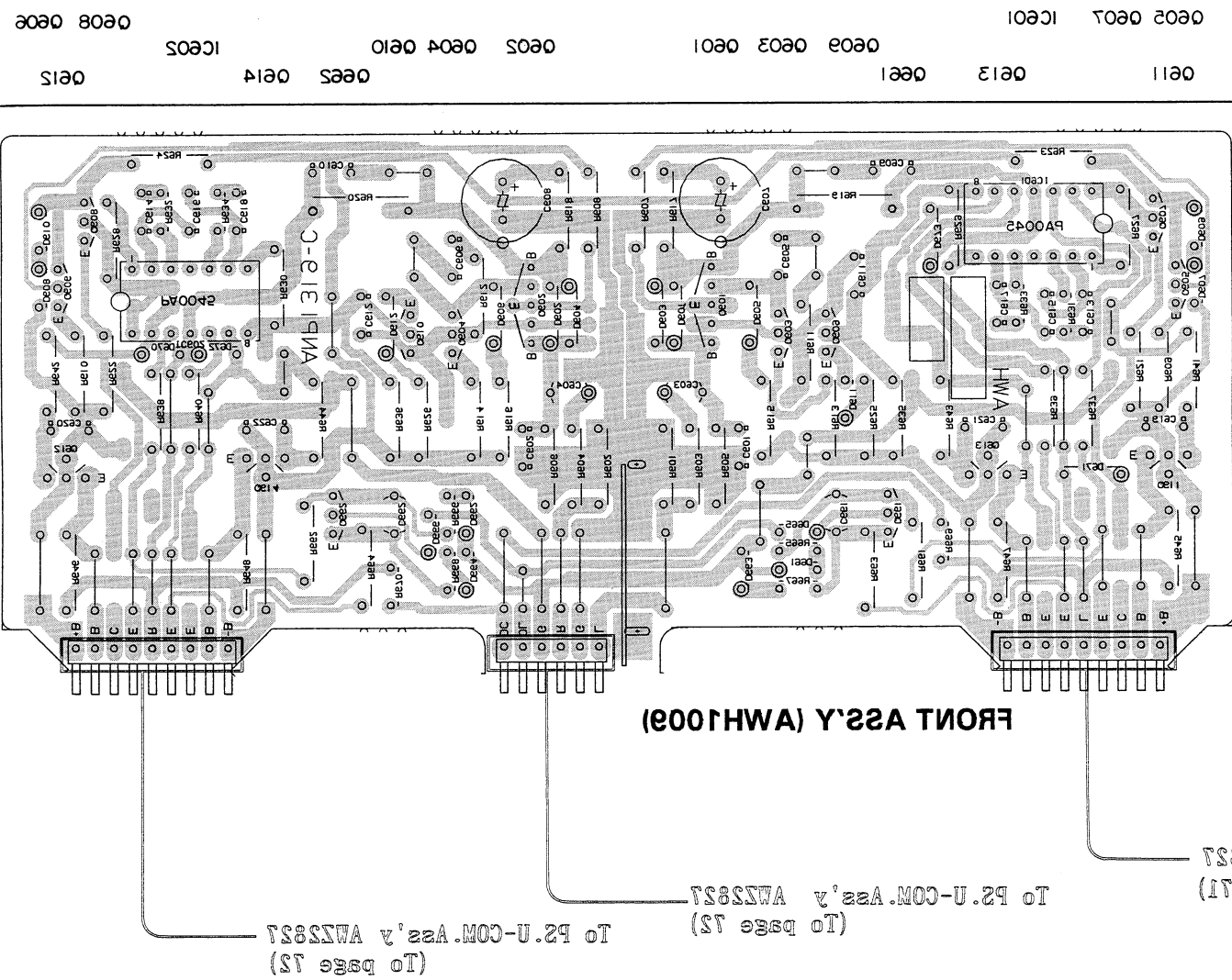
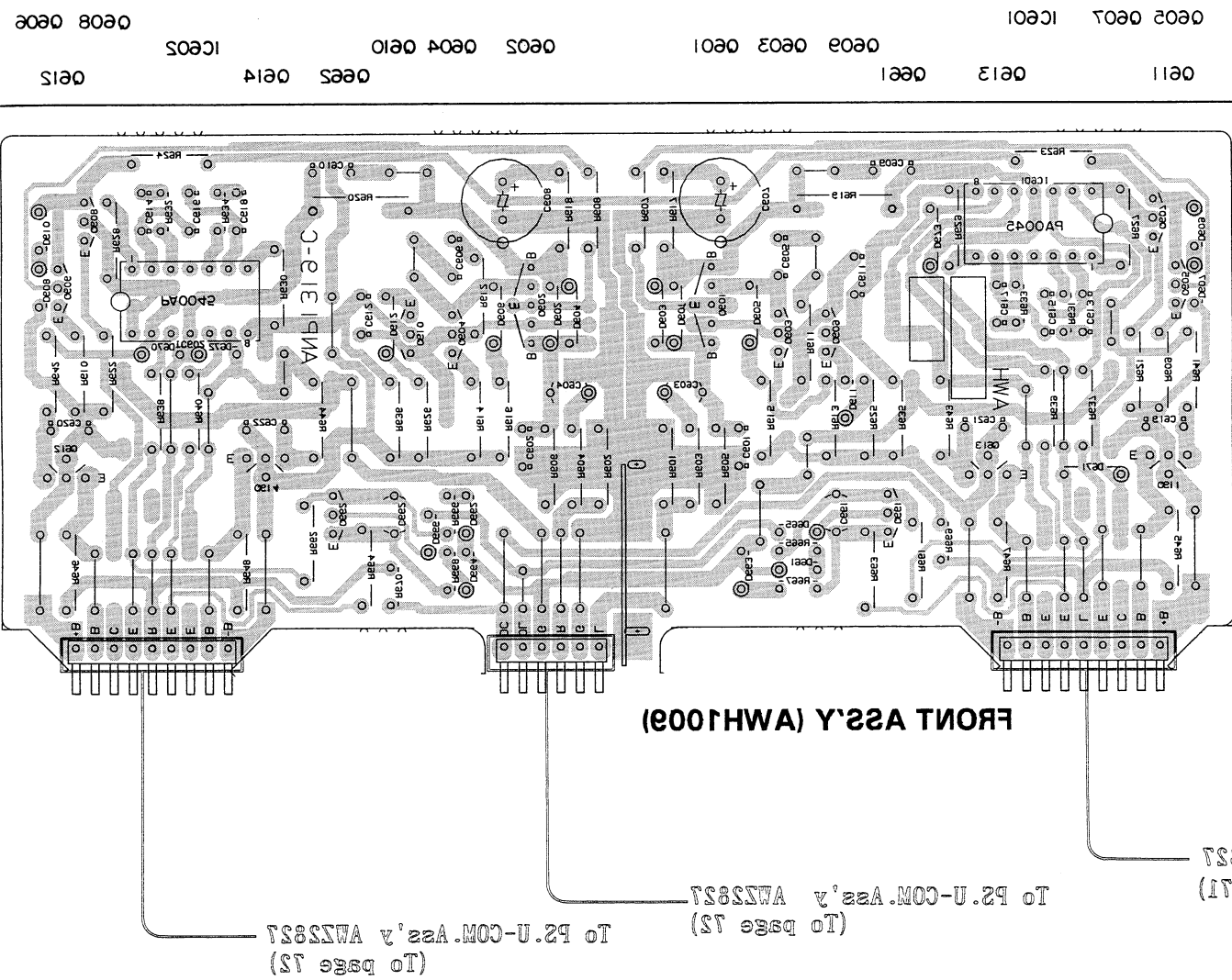
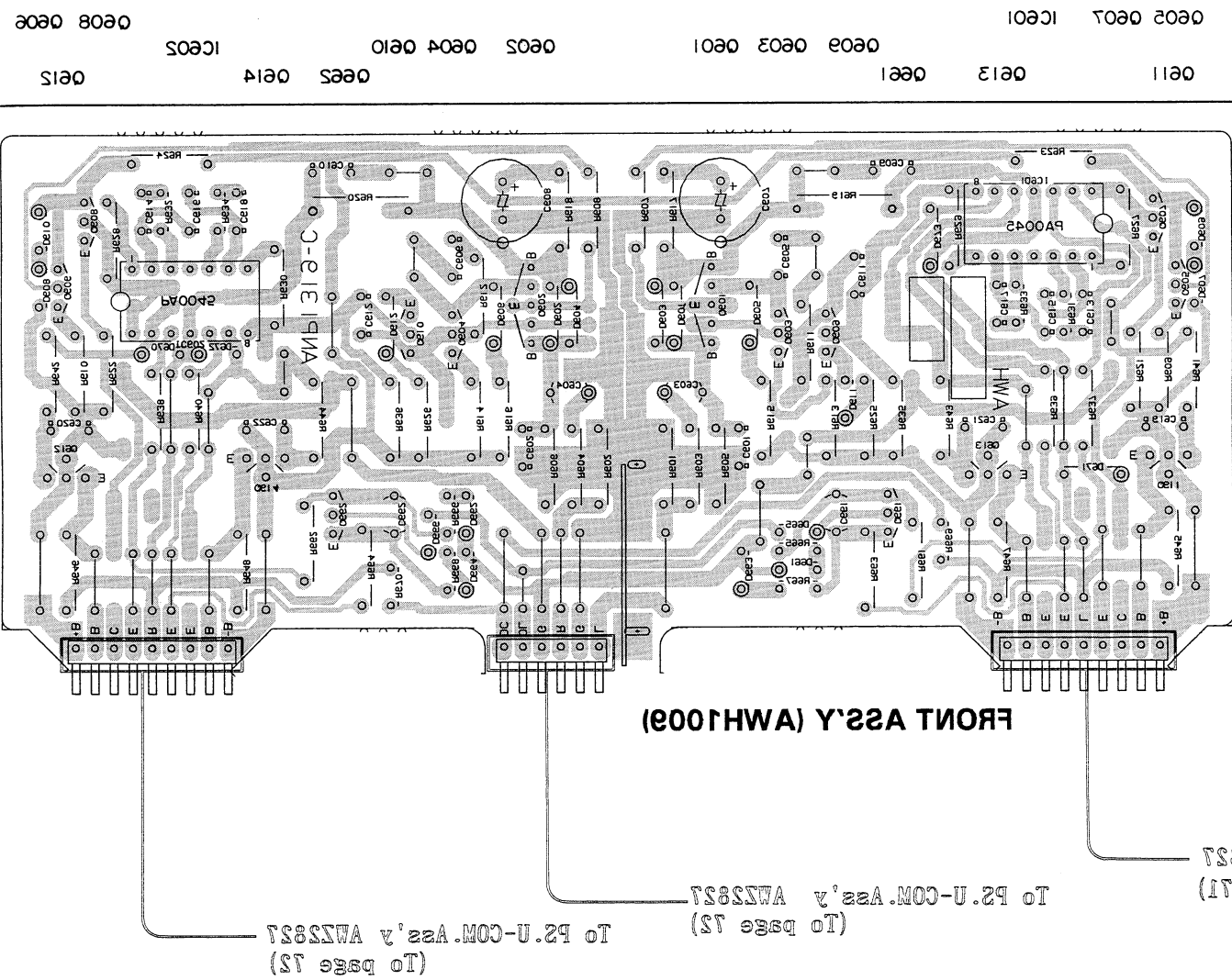
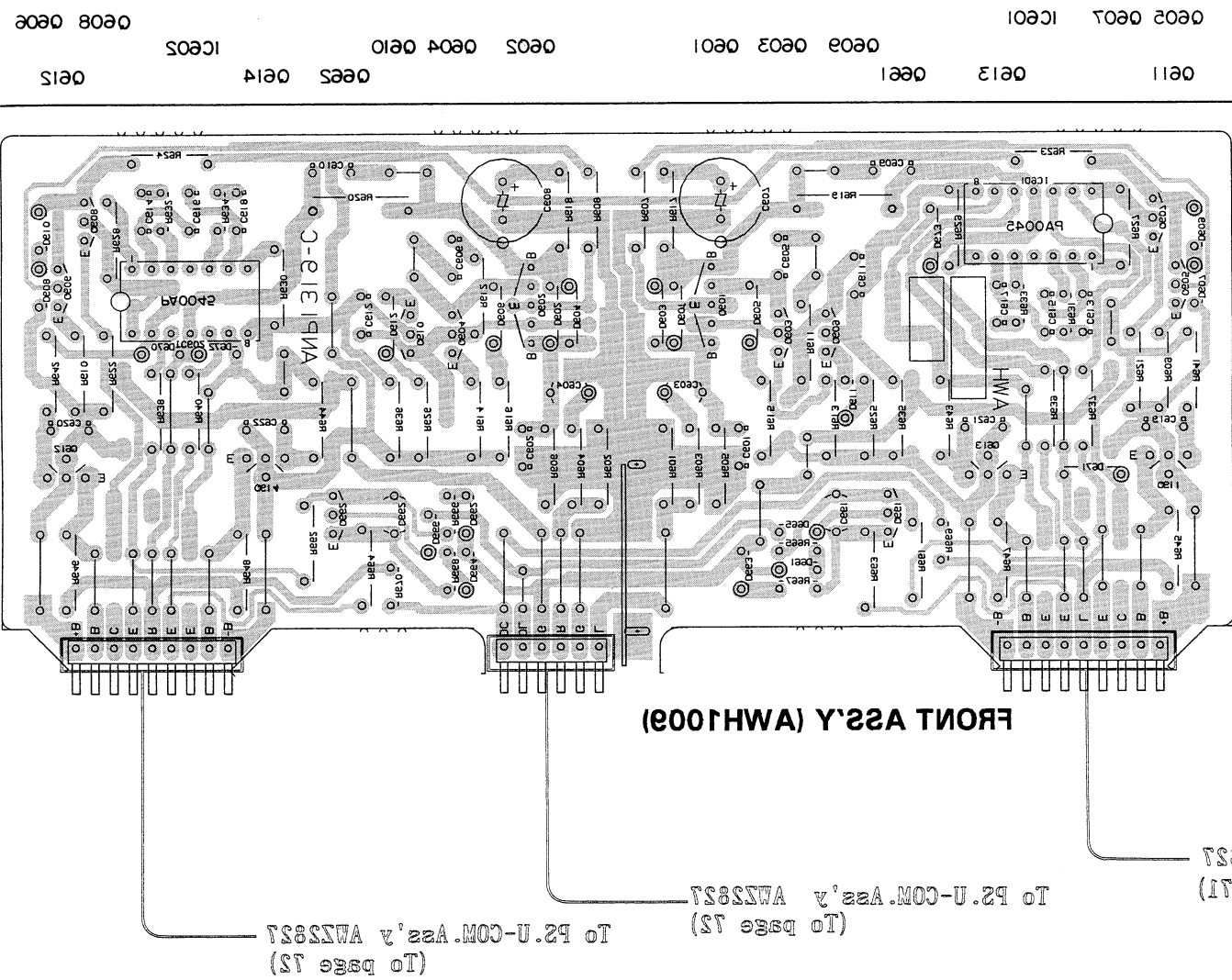
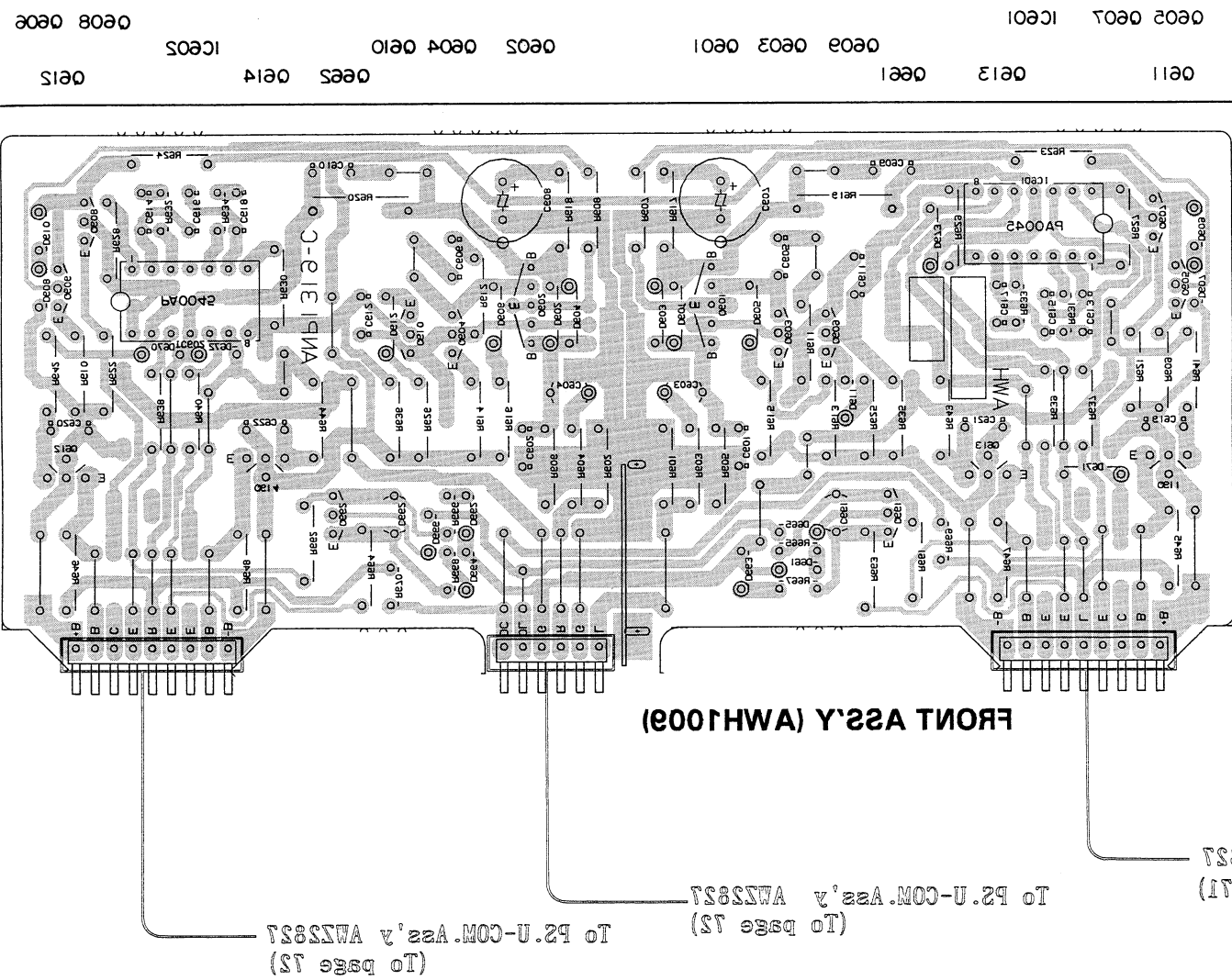
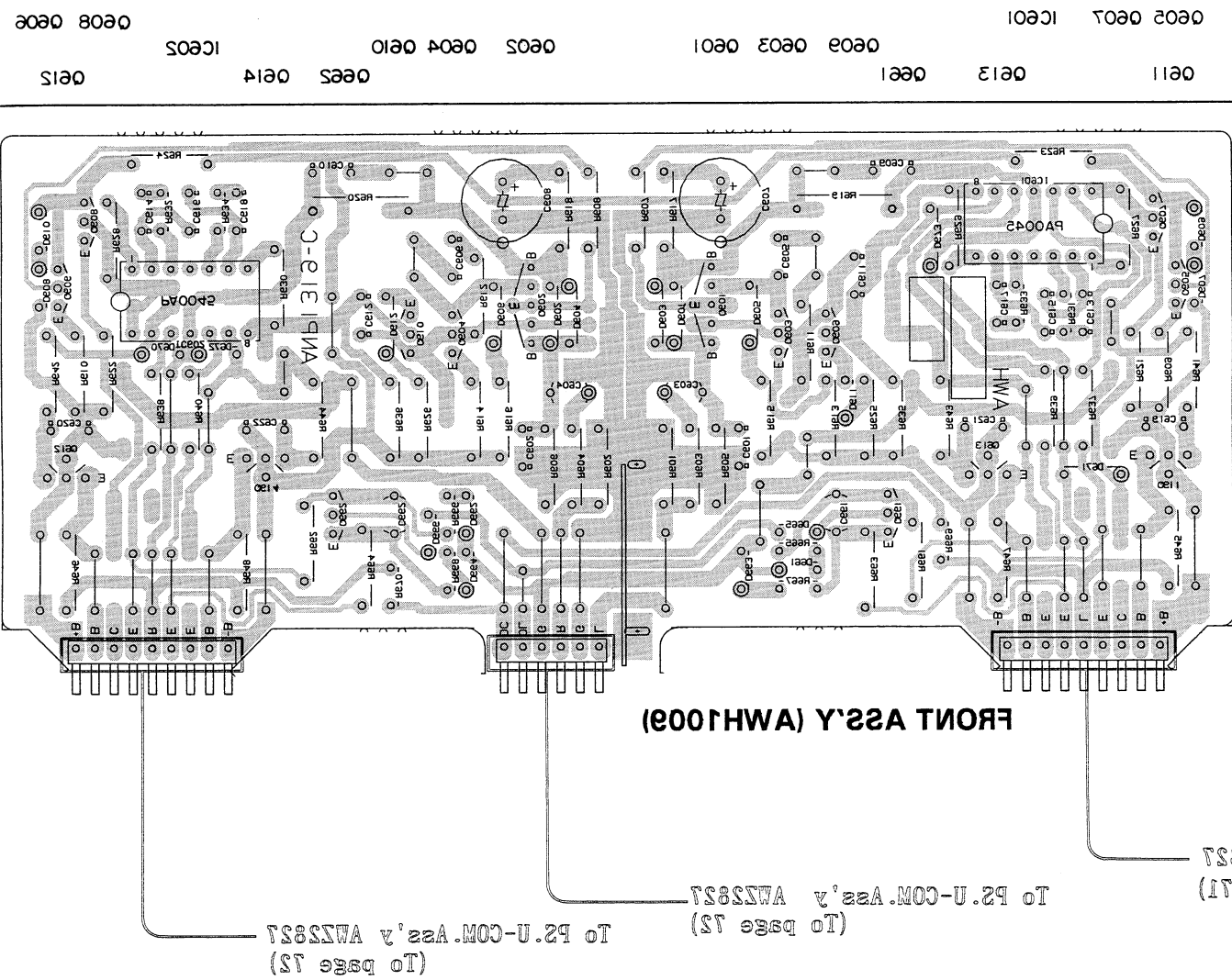
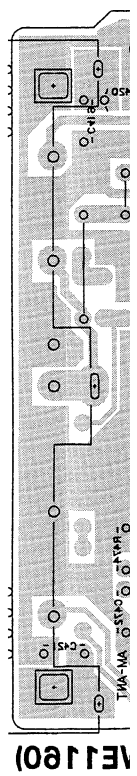


15  
(To page 15)  
CN17



This P.C.B. connection diagram is viewed from the foil side.

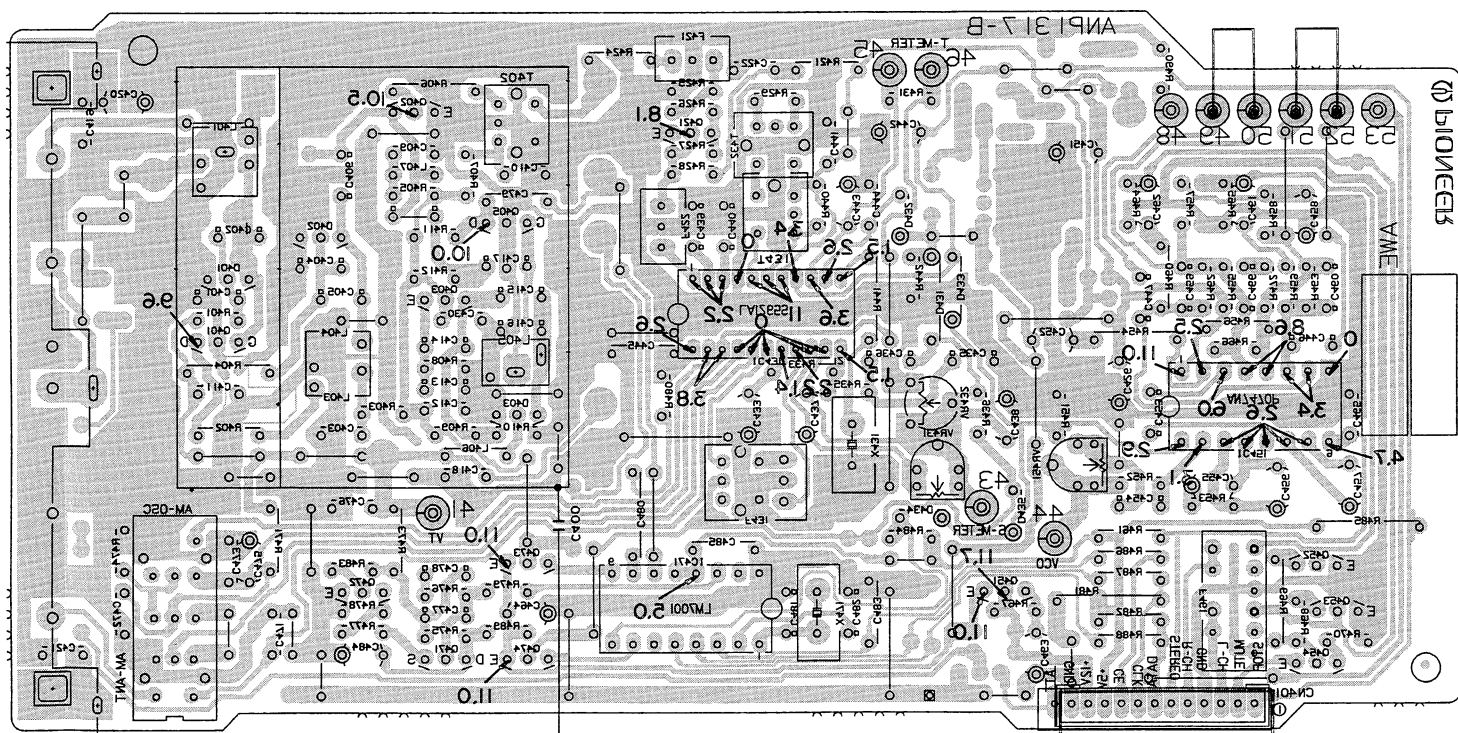






1040

8-71319A



**TUNER ASS'Y (AWE1160)**

To P2-U-CON-Asz'y AWZ3831 CM31  
(To page 11)

(To page 5)



## 3.8 TUNER (AWE1160) and FRONT ASS'Y (AWH1009)

A

B

IC451  
Q452-Q454

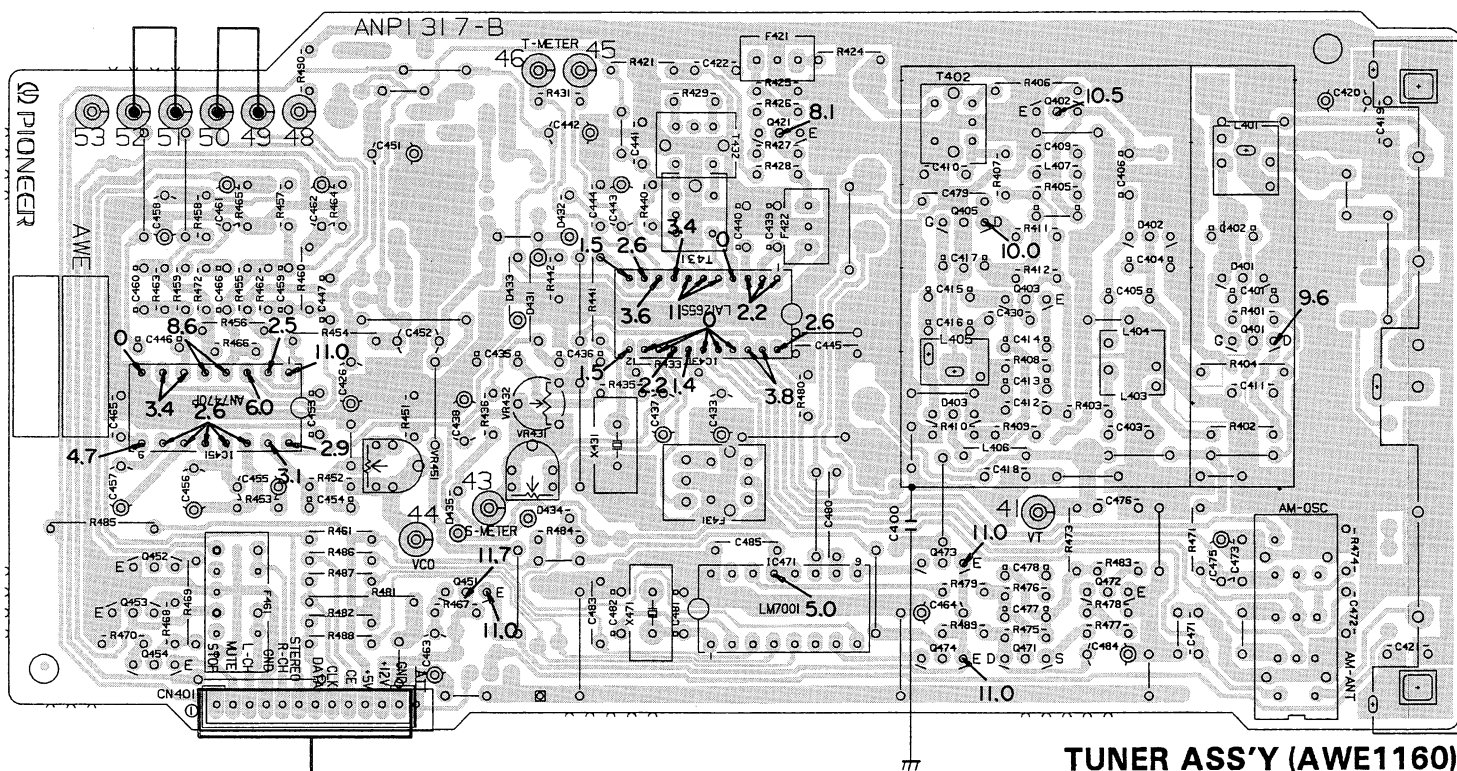
Q451

IC431  
IC471

Q421  
Q405 Q402  
Q403  
Q471-Q474

Q401

VR451 VR431 VR432



TUNER ASS'Y (AWE1160)

To PS.U-COM. Ass'y AWZ282  
(To page 7)

To PS.U-COM. Ass'y AWZ2827 CN37  
(To page 71)

## 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.

Q605 Q607 IC601

Q609 Q603 Q601

Q602 Q604 Q610

IC602

Q608 Q606

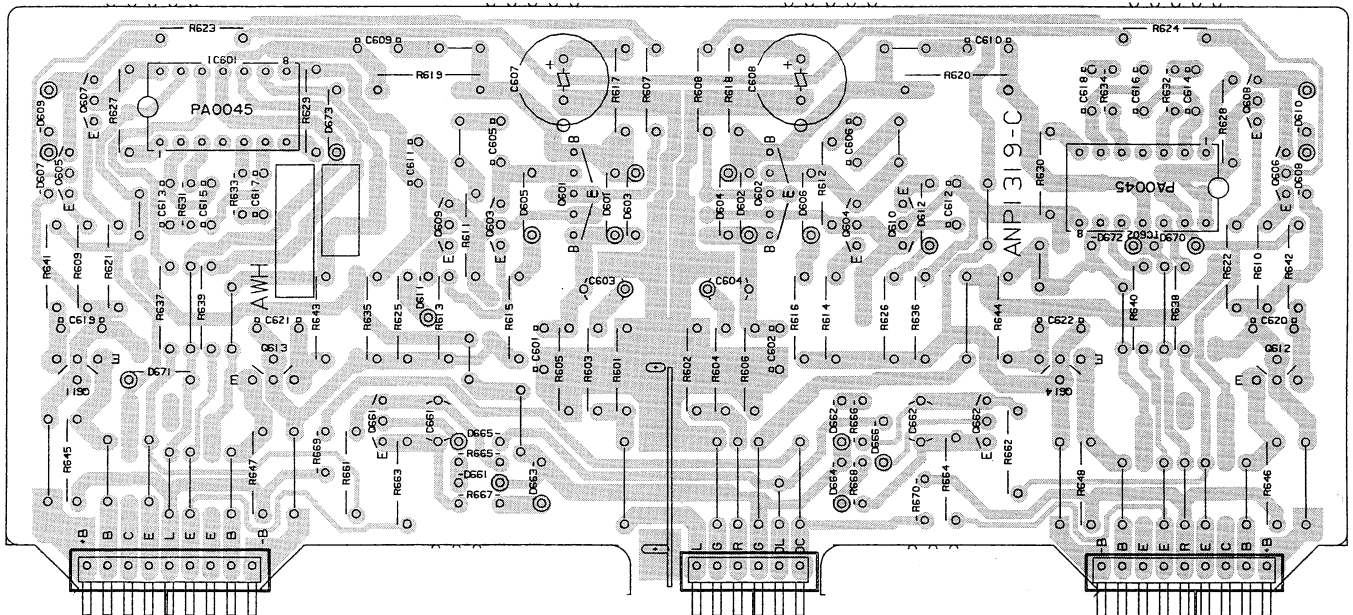
Q611

Q613

Q661

Q662 Q614

Q612



FRONT ASS'Y (AWH1009)

E1160)

ss'y AWZ2827  
(To page 71)

To PS.U-COM.Ass'y AWZ2827  
(To page 72)

To PS.U-COM.Ass'y AWZ2827  
(To page 72)

The diagram illustrates a complex electronic circuit for a radio receiver, featuring various components and functional blocks. Key elements include:

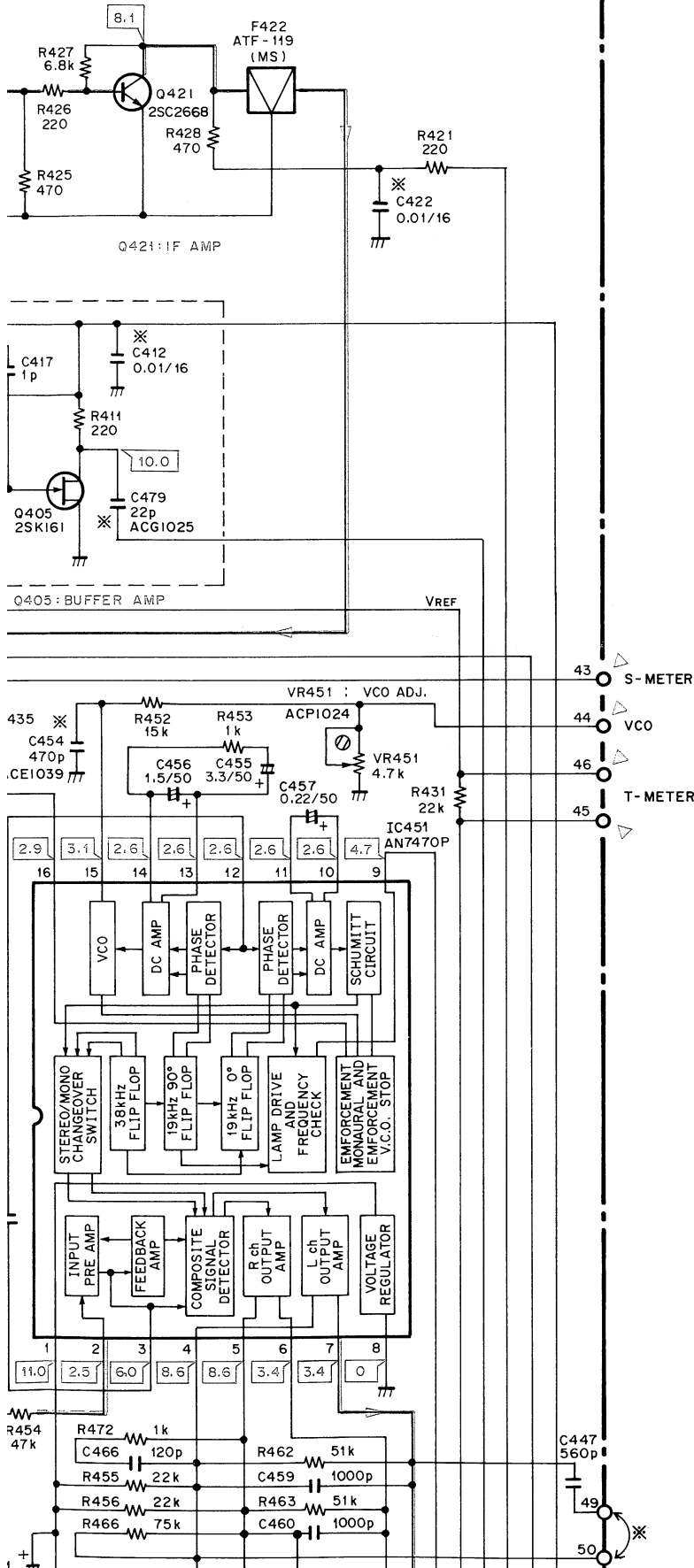
- Shield Case:** A dashed box at the top left containing components C400, C420, C419, and C421.
- Q401: RF AMP:** A 2SK241 transistor stage with associated components L401, L402, C402, C401, D401, R401, R402, L403, L404, C405, C404, C403, R403, and R404.
- Q402: MIX:** A 2SC2786 transistor stage with components R406, T402, R424, F421, R427, R426, R425, R407, C410, R405, C409, L407, C406, C408, R409, L406, C414, C415, R410, C413, R408, C418, C417, and C416.
- AM RF TUNING BLOCK:** A dashed box containing AXX1011, C471, C472, R474, C473, and C475.
- Q403: LOCAL OSC:** A 2SC2668 transistor stage with components C418, R409, L406, C414, C415, R410, C413, R408, C416, and C417.
- Q405: BUFF:** A 2SK161 transistor stage with components C416, C417, and C418.
- IC431: LA1265S:** A multi-pin integrated circuit with pins 1 through 11 labeled with values (e.g., 2.6, 3.8, 3.8, 0, 0, 0, 1.4, 2.2, 0, 0, 1.5).
- IC431: AM/FM IF DET:** A multi-pin integrated circuit with pins 1 through 11 labeled with values (e.g., 2.2, 2.2, 2.2, 0, 11, 11, 11, 3.4, 3.6, 2.6, 1.5).
- IC451: MPX:** A multi-pin integrated circuit with pins 1 through 2 labeled with values (e.g., 11.0, 2.5).
- Other Components:** Various capacitors (C400, C420, C419, C421, C402, C401, C403, C404, C405, C406, C408, C409, C410, C413, C414, C415, C416, C417, C418, C433, C434, C435, C436, C437, C438, C439, C440, C444, C445), resistors (R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R424, R425, R426, R427, R433, R434, R435, R436, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500), diodes (D401, D402, D403, D431, D432, D433, D434, D435, D436, D437, D438, D439, D440, D441, D442, D443, D444, D445, D446, D447, D448, D449, D450, D451, D452, D453, D454, D455, D456, D457, D458, D459, D460, D461, D462, D463, D464, D465, D466, D467, D468, D469, D470, D471, D472, D473, D474, D475, D476, D477, D478, D479, D480, D481, D482, D483, D484, D485, D486, D487, D488, D489, D490, D491, D492, D493, D494, D495, D496, D497, D498, D499, D500), and transistors (Q401, Q402, Q403, Q405).

(FM) : FM SIGNAL

(AM) : AM SIGNAL

(FM/AM) : FM or AM SIGNAL

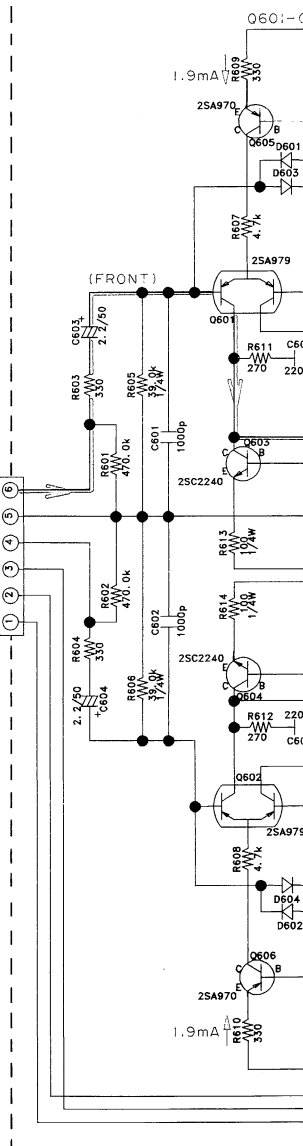
C403, C410~C412, C418, C419, C422,  
C465, C471, C473, C476, C480, C485 : ACG1021

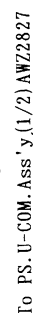


To PS, U-COM. Ass'y  
(1/2) AWZ2827

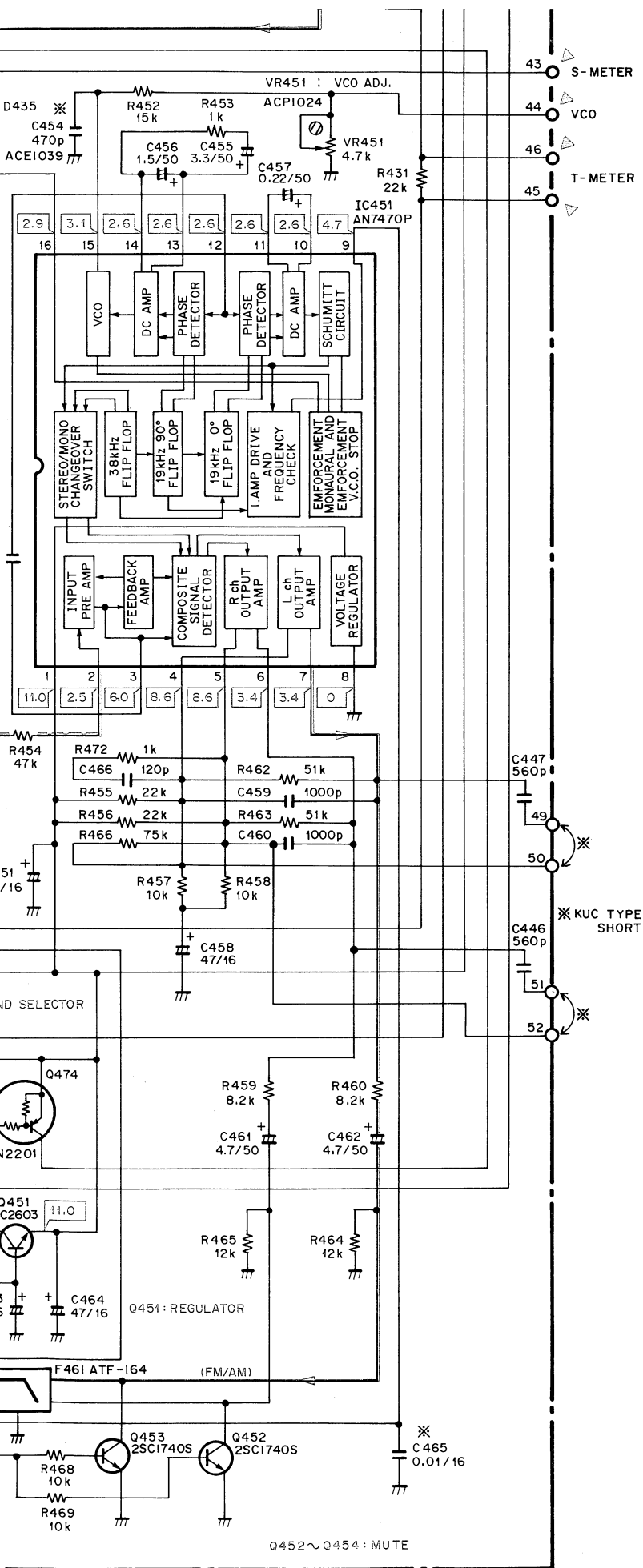
L  
GND R  
GND  
OVER ROAD DET.  
DC. DET.  
(To page 70)

# FRONT AMP ASS'Y



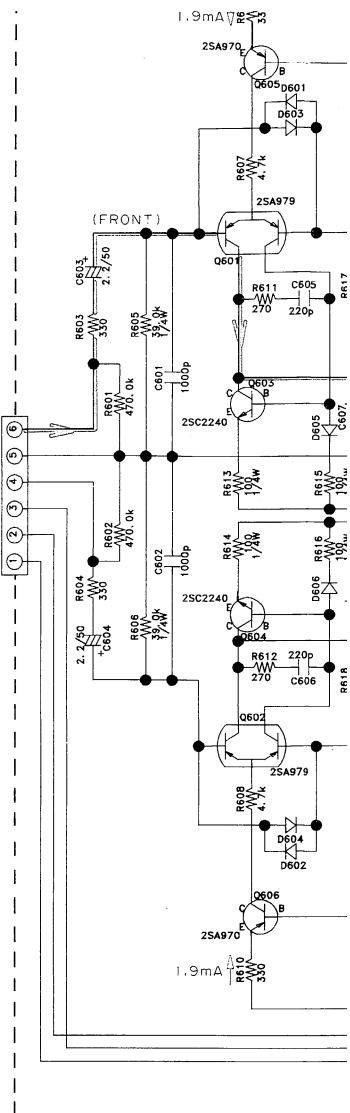






To PS. U-COM. Ass'y  
(1/2)AWZ2827

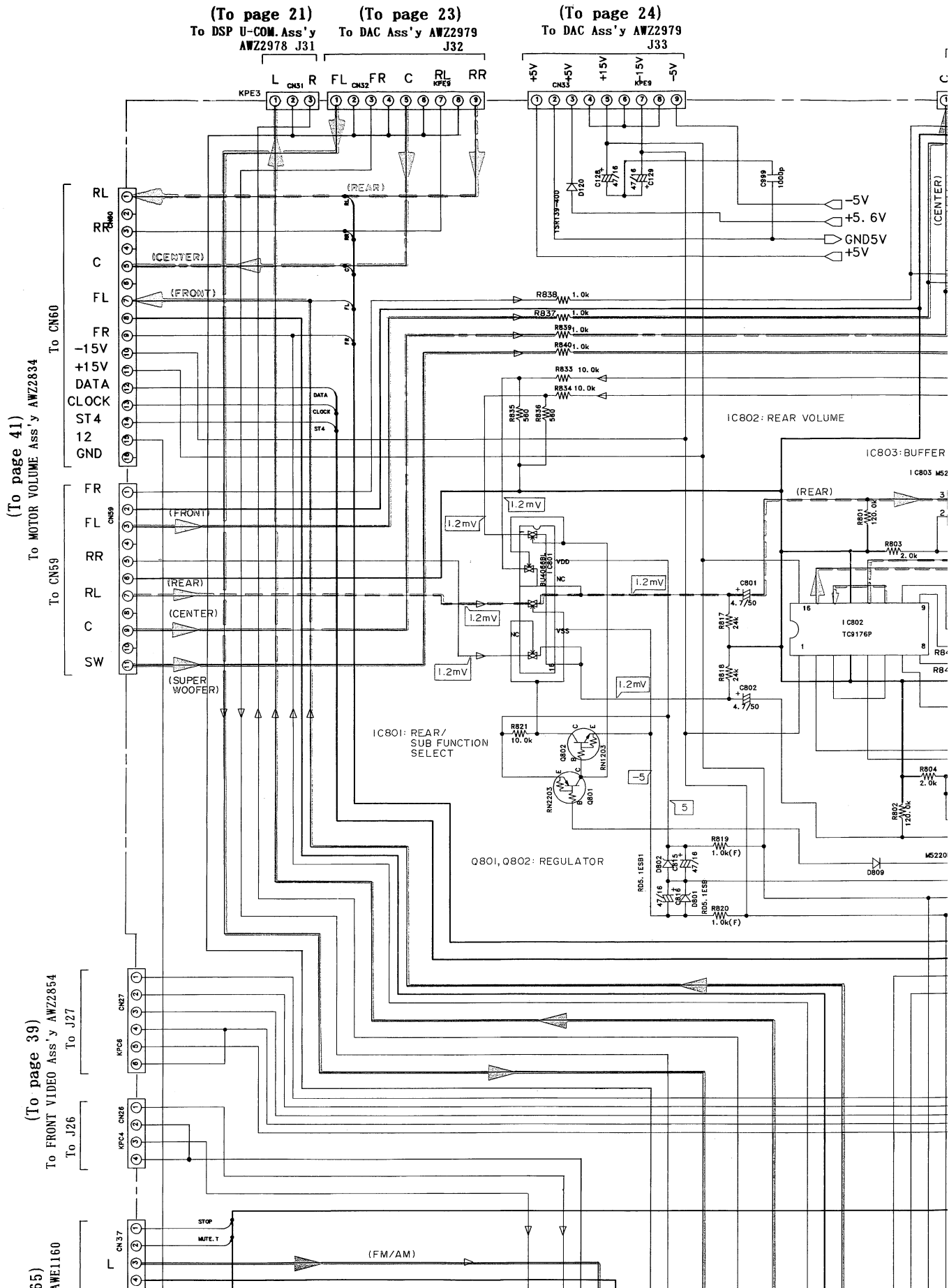
OVER ROAD DET.  
DC. DET.  
(To page 70)



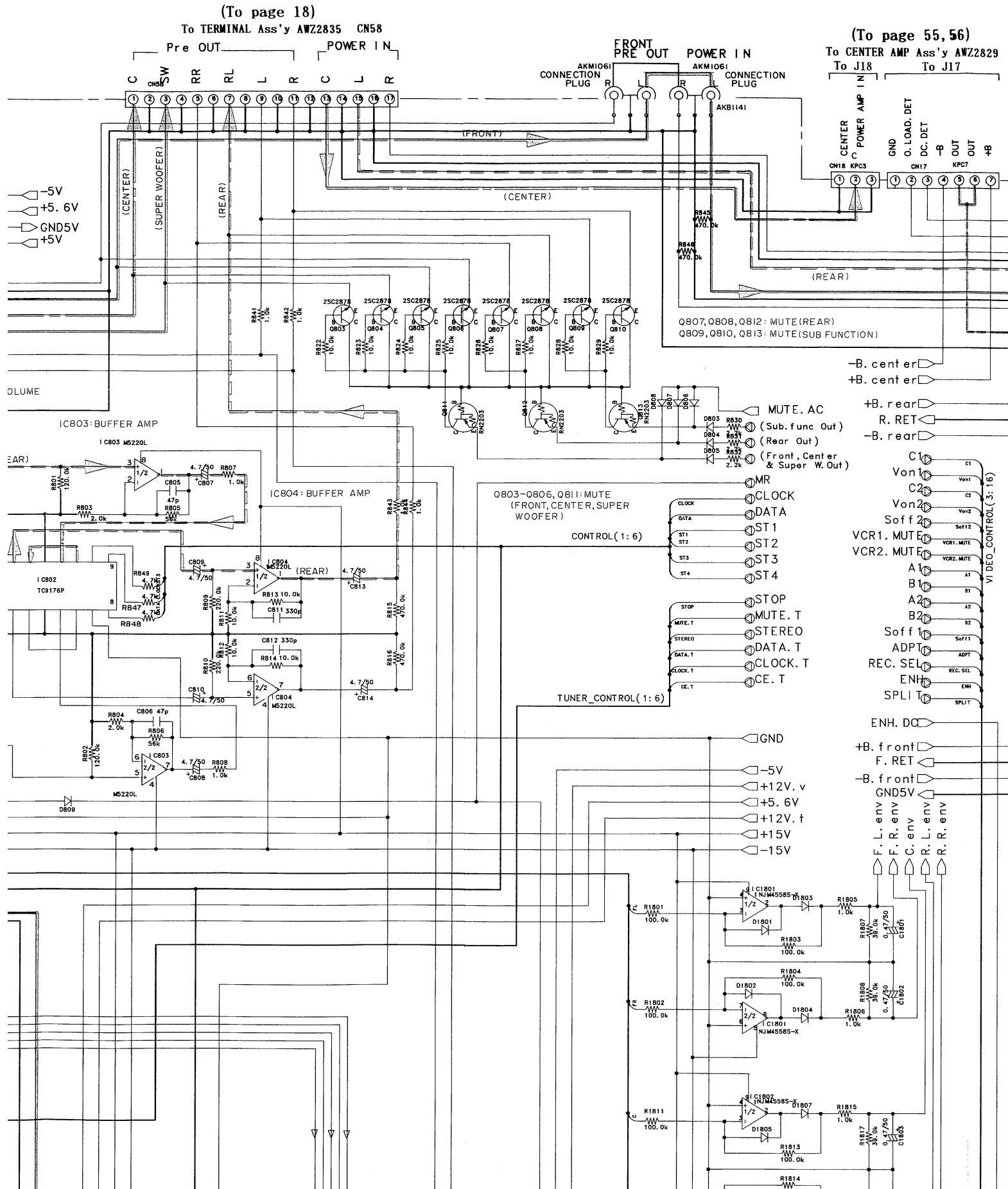




### 3.9 POWER SUPPLY & U-COM (AWZ2827), HEAD PHONE (AWZ2838), POWER SUPPLY & CAPACITOR (AWZ2894), TRANS TERMINAL (AWZ2893), POWER SUPPLY 1 (AWZ2853) and POWER SUPPLY 2 ASS'Y (AWZ3052)



Y &  
2853)

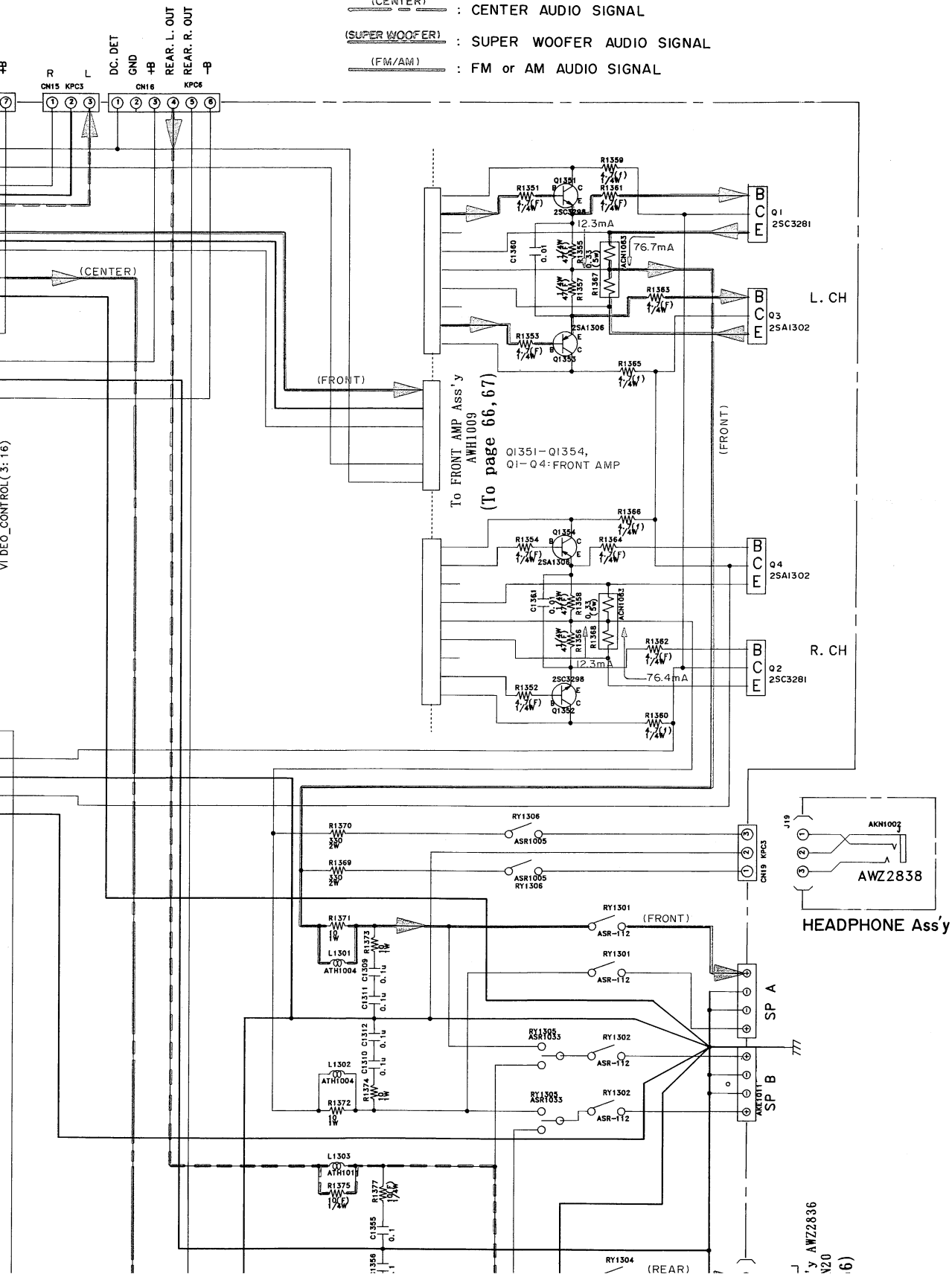


(To page 55)

To REAR AMP Ass'y AWZ2837

To J15 To J16

(AUDIO) : AUDIO SIGNAL  
 (FRONT) : FRONT AUDIO SIGNAL  
 (REAR) : REAR AUDIO SIGNAL  
 (CENTER) : CENTER AUDIO SIGNAL  
 (SUPER WOOFER) : SUPER WOOFER AUDIO SIGNAL  
 (FM/AM) : FM or AM AUDIO SIGNAL

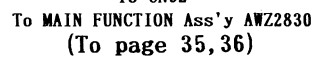


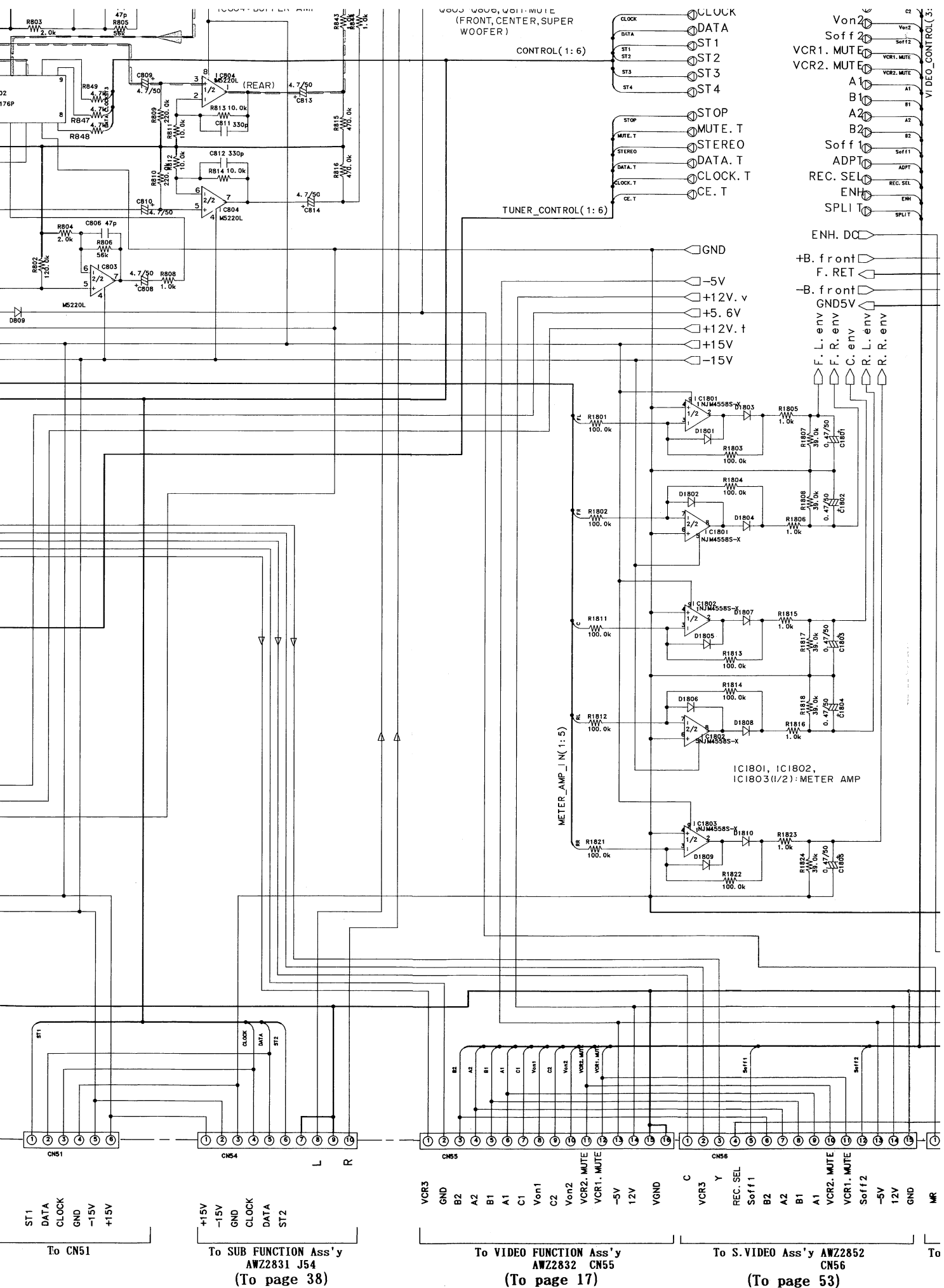
A

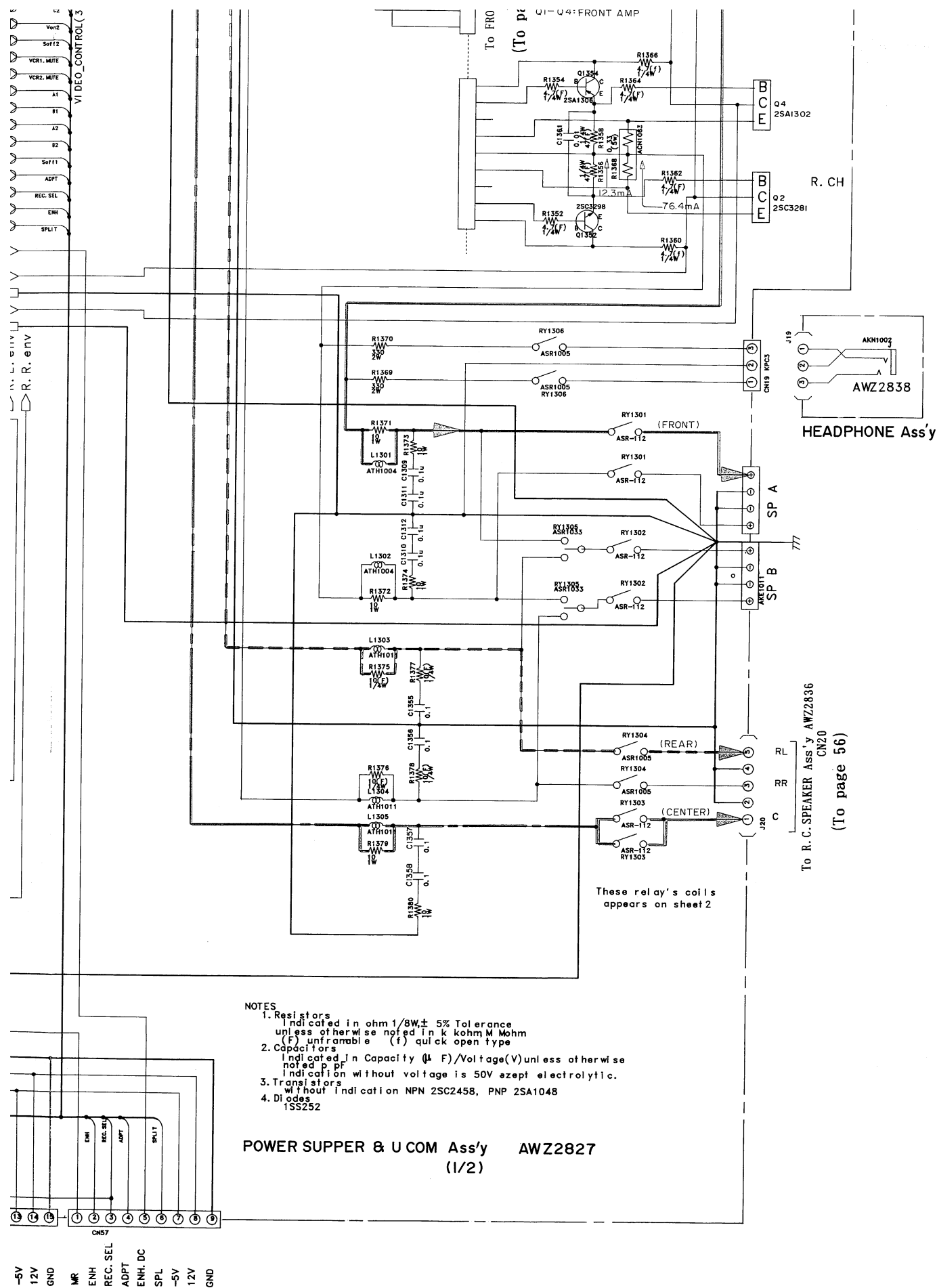
B

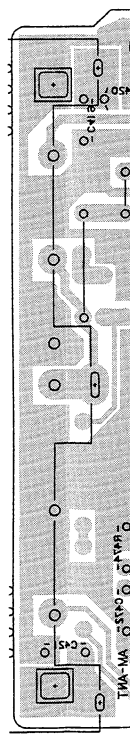
C

D









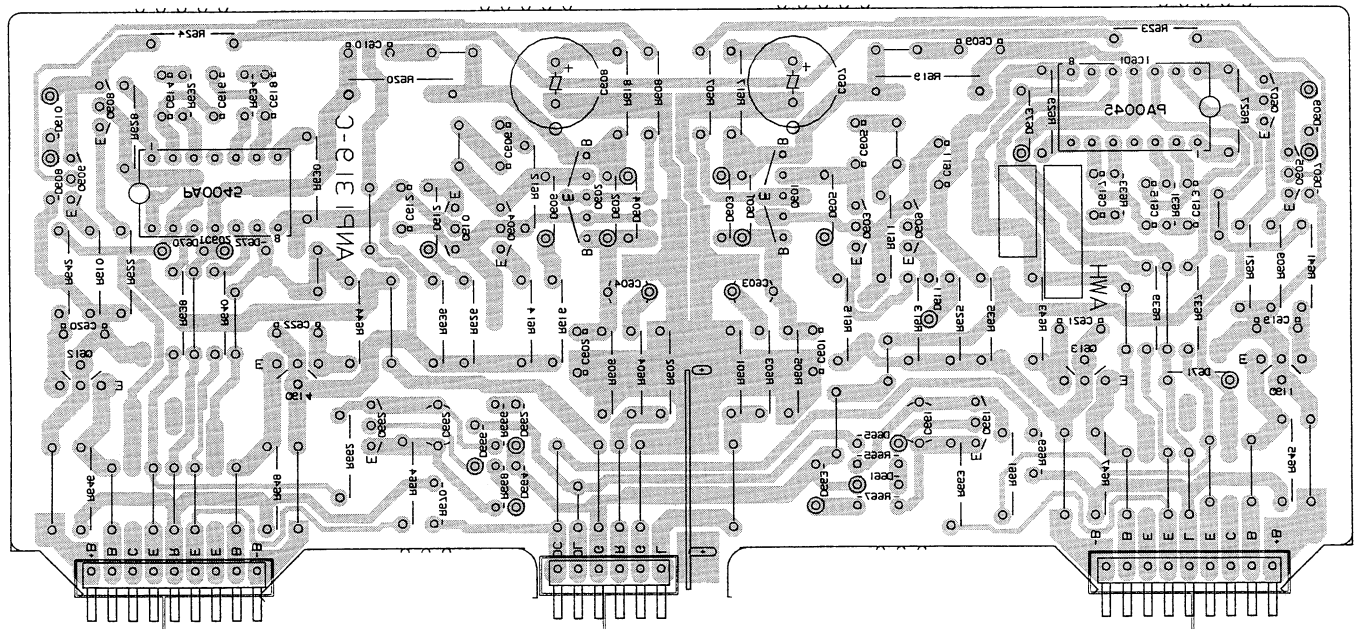
FWH1009

(To page 11)  
Ass'y WMS3821

To P2-U-COM-Ass'y WMS3821  
(To page 12)

To P2-U-COM-Ass'y WMS3821  
(To page 12)

FRONT ASS'Y (FWH1009)



0E11 0E13 0E01 0E03 0E05 0E04 0E10 0E05 0E14 0E08 0E0E

A

B

C

D

A

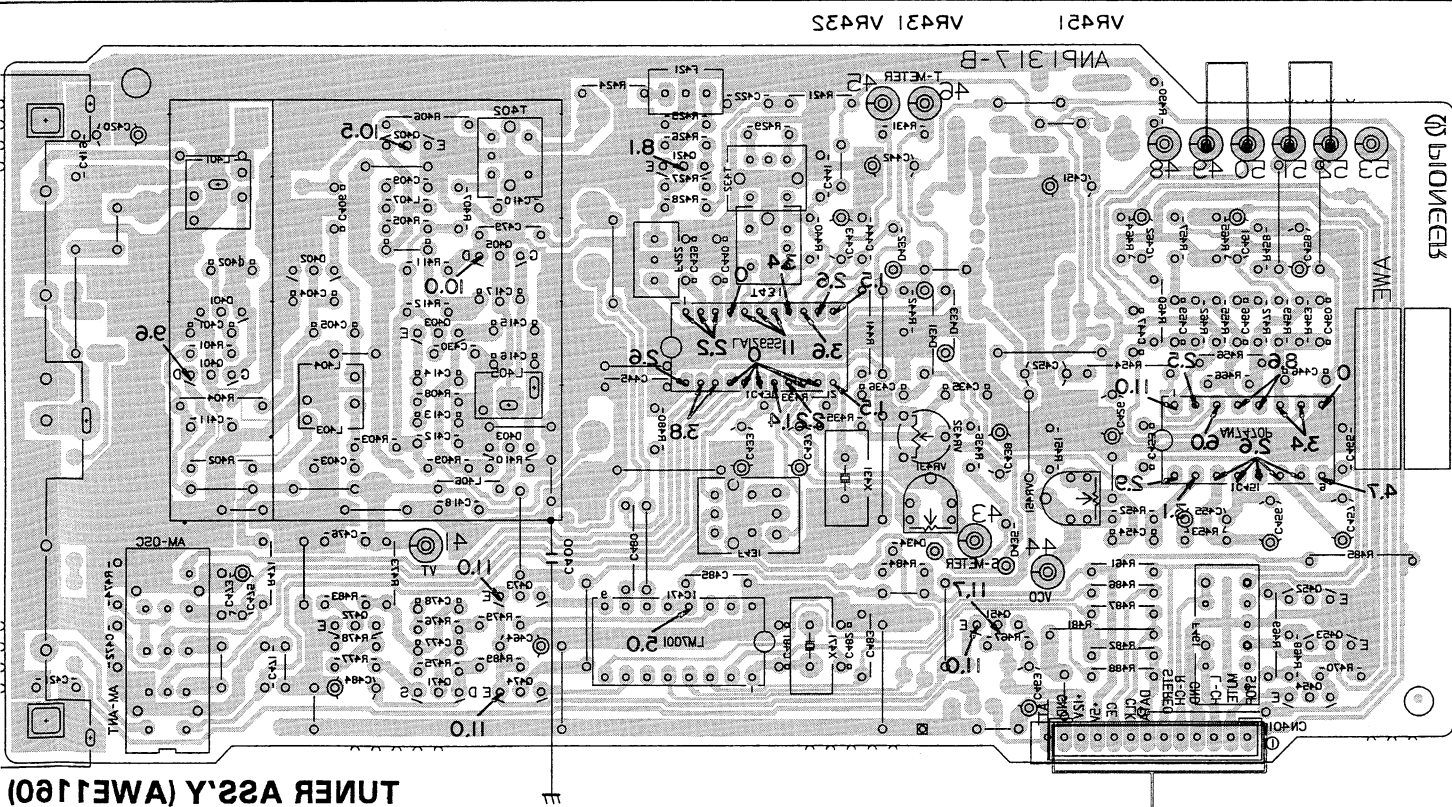
B

C

D

To P2-U-COM. Ass'y AW2827 CM37  
(To page 71)

To P2-U-COM. Ass'y AW2827  
(To page 7)



0425-0424 IC421  
0421 IC421  
0411-0414 0403 0405  
0401



## 3.8 TUNER (AWE1160) and FRONT ASS'Y (AWH1009)

A

B

IC451  
Q452-Q454

Q451

IC431

Q421

IC471

Q405 Q402

Q403

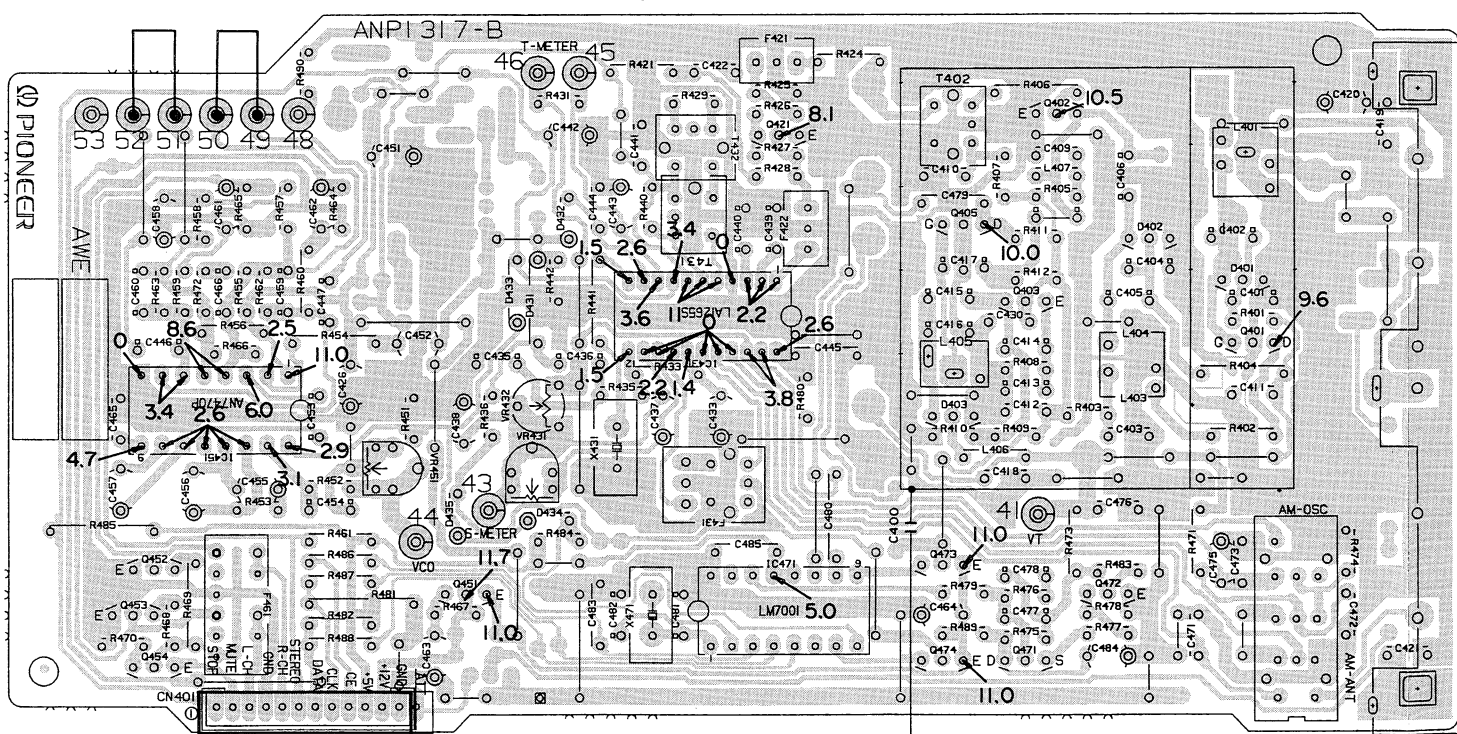
Q471-Q474

Q401

VR451

VR431 VR432

ANP1317-B



TUNER ASS'Y (AWE1160)

D

To PS.U-COM.Ass'y AWZ28;  
(To page 7)To PS.U-COM.Ass'y AWZ2827 CN37  
(To page 71)

## 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
Q504 E O		Transistor
Q215		Radiator type transistor
D203		Diode
R237		Resistor
C513		Capacitor (Polarity)
C518		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.

Q605 Q607 IC601

Q609 Q603 Q601

Q602 Q604 Q610

IC602

Q608 Q606

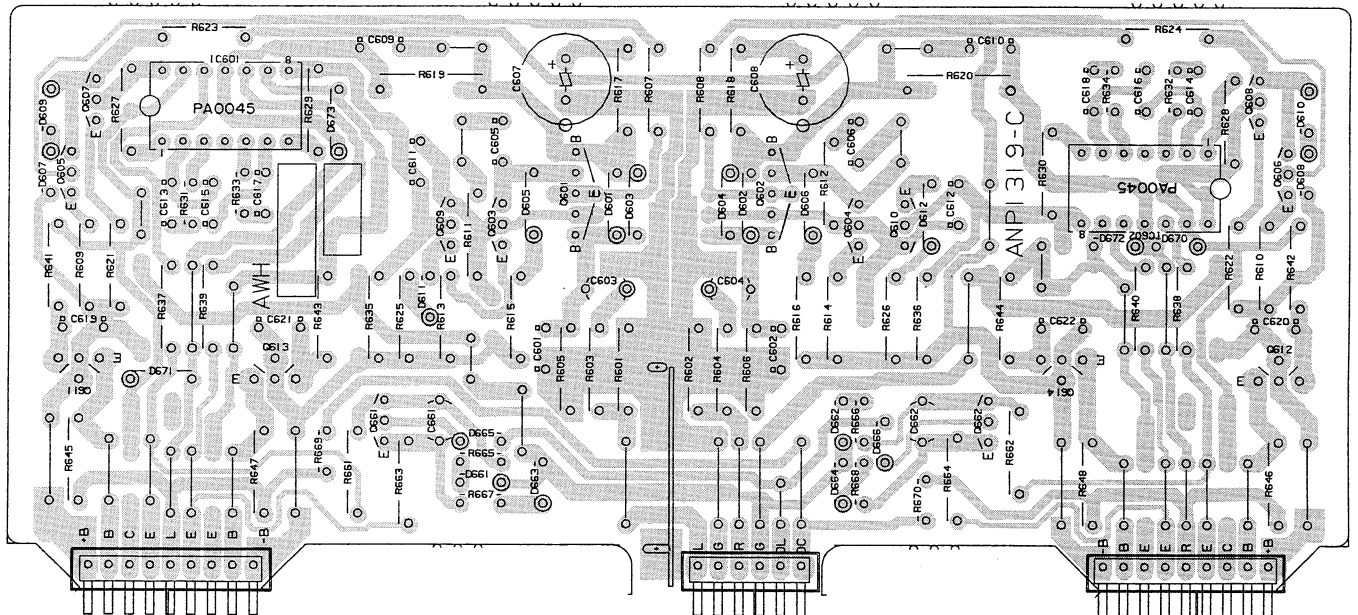
Q611

Q613

Q661

Q662 Q614

Q612



FRONT ASS'Y (AWH1009)

E1160)

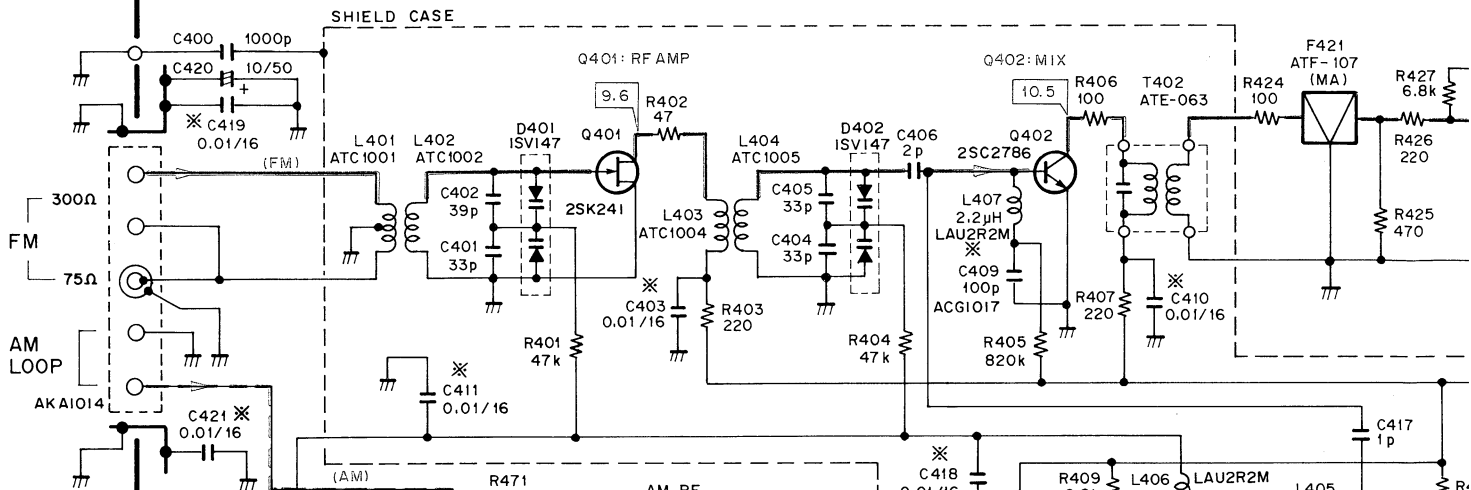
ss'y AWZ2827  
(To page 71)

To PS.U-COM.Ass'y AWZ2827  
(To page 72)

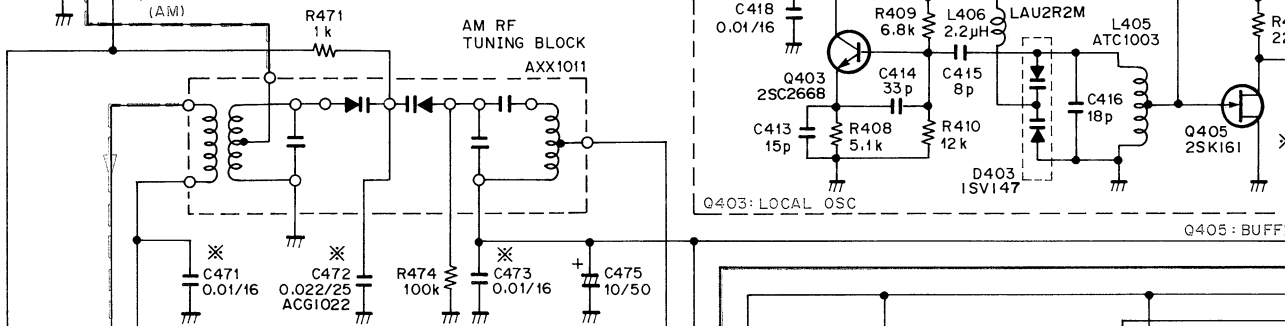
To PS.U-COM.Ass'y AWZ2827  
(To page 72)

## TUNER ASS'Y (AWE1160)

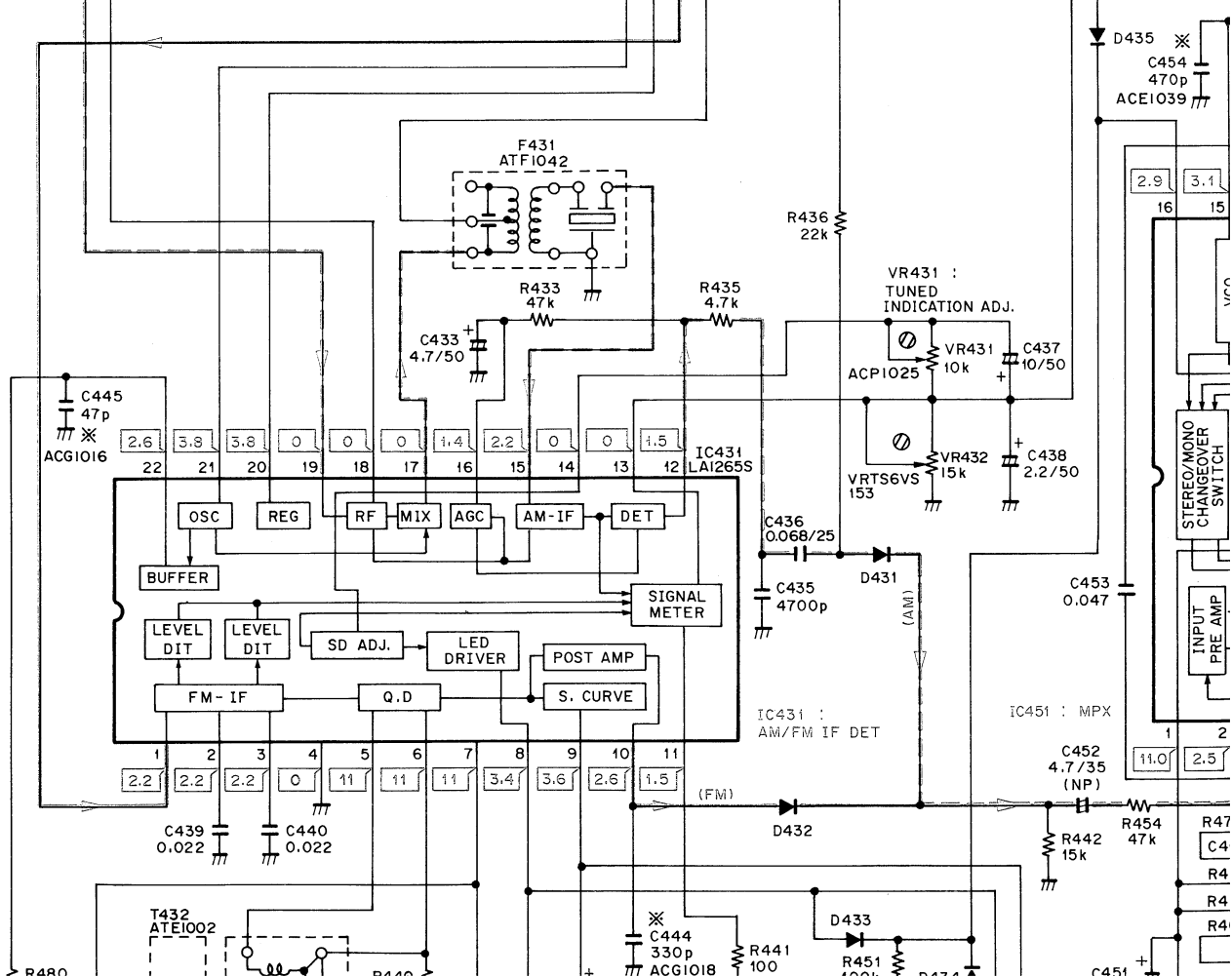
A



B



C

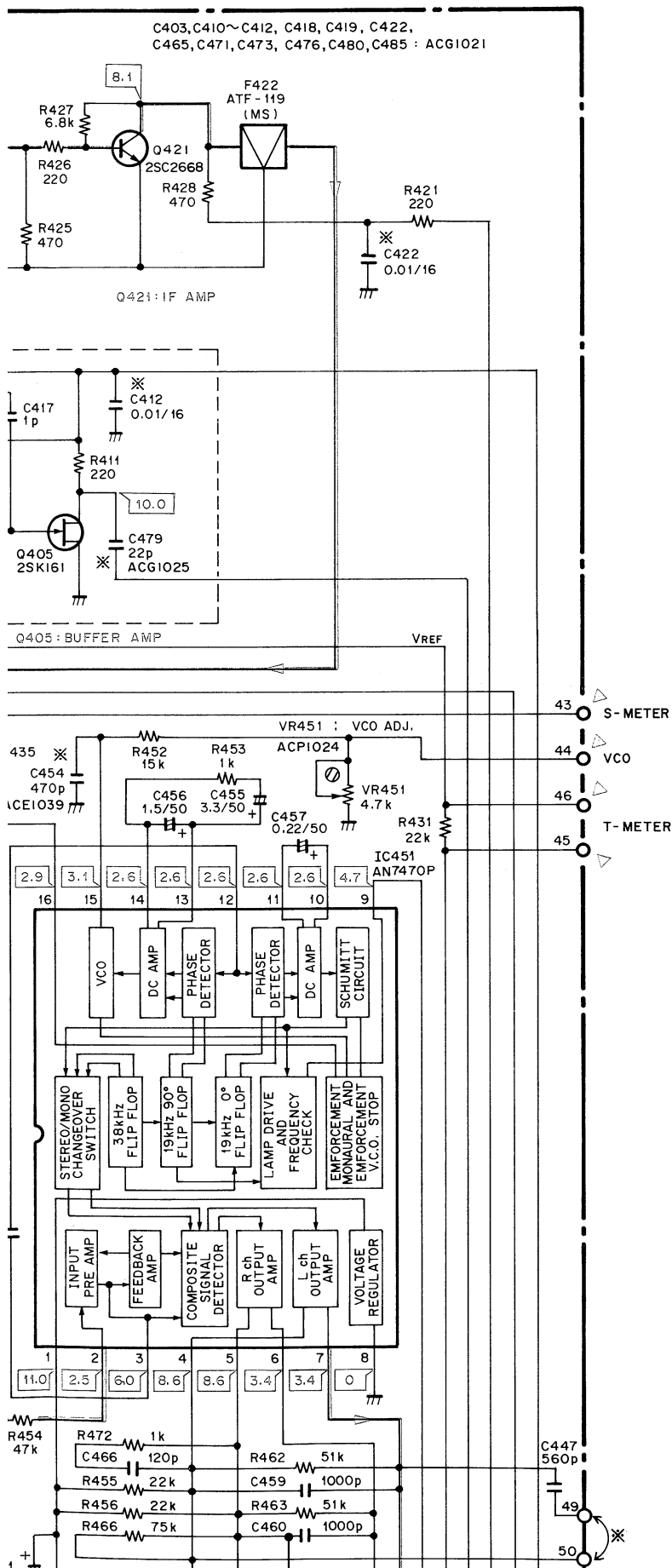


D

(FM) : FM SIGNAL

(AM) : AM SIGNAL

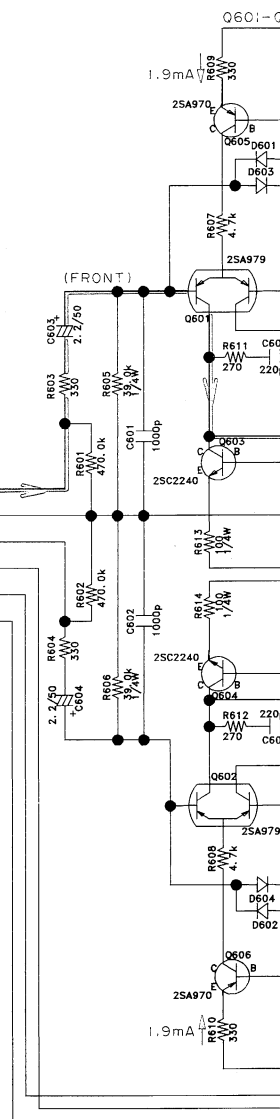
(FM/AM) : FM or AM SIGNAL



To PS.U-COM.Ass'y  
(1/2)AWZ2827

L  
GND R  
GND  
OVER ROAD DET.  
DC. DET.  
(To page 70)

# FRONT AMP ASS'Y



A

B

C

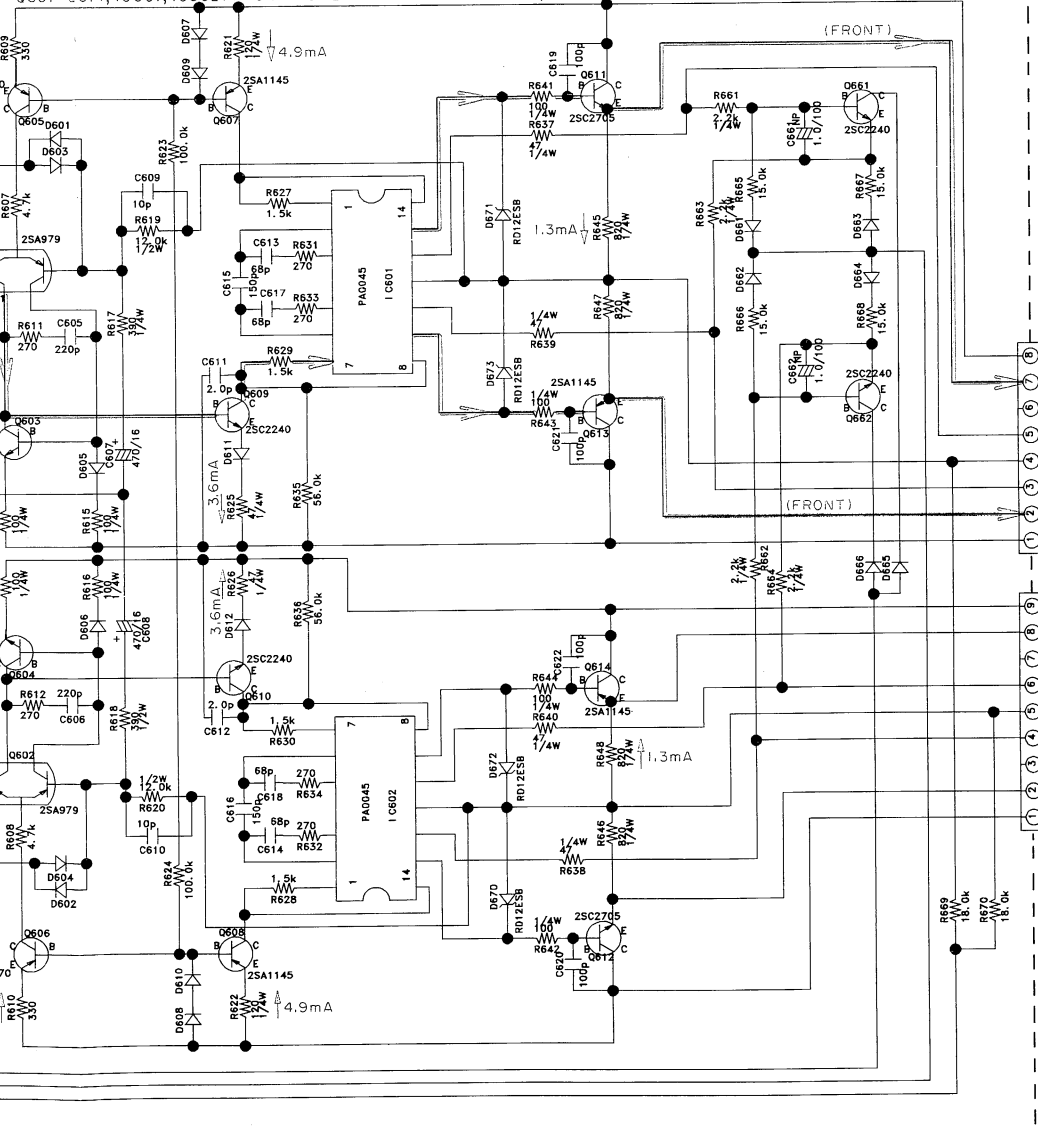
D

S'Y AWH1009

(FRONT) : FRONT AUDIO SIGNAL

Q601-Q614, IC601, IC602: FRONT POWER AMP

Q661, Q662: OVER LOAD DETECTOR



+B  
To DRIVER

NSA F.B.  
L ch  
NSA F.B.  
To DRIVER

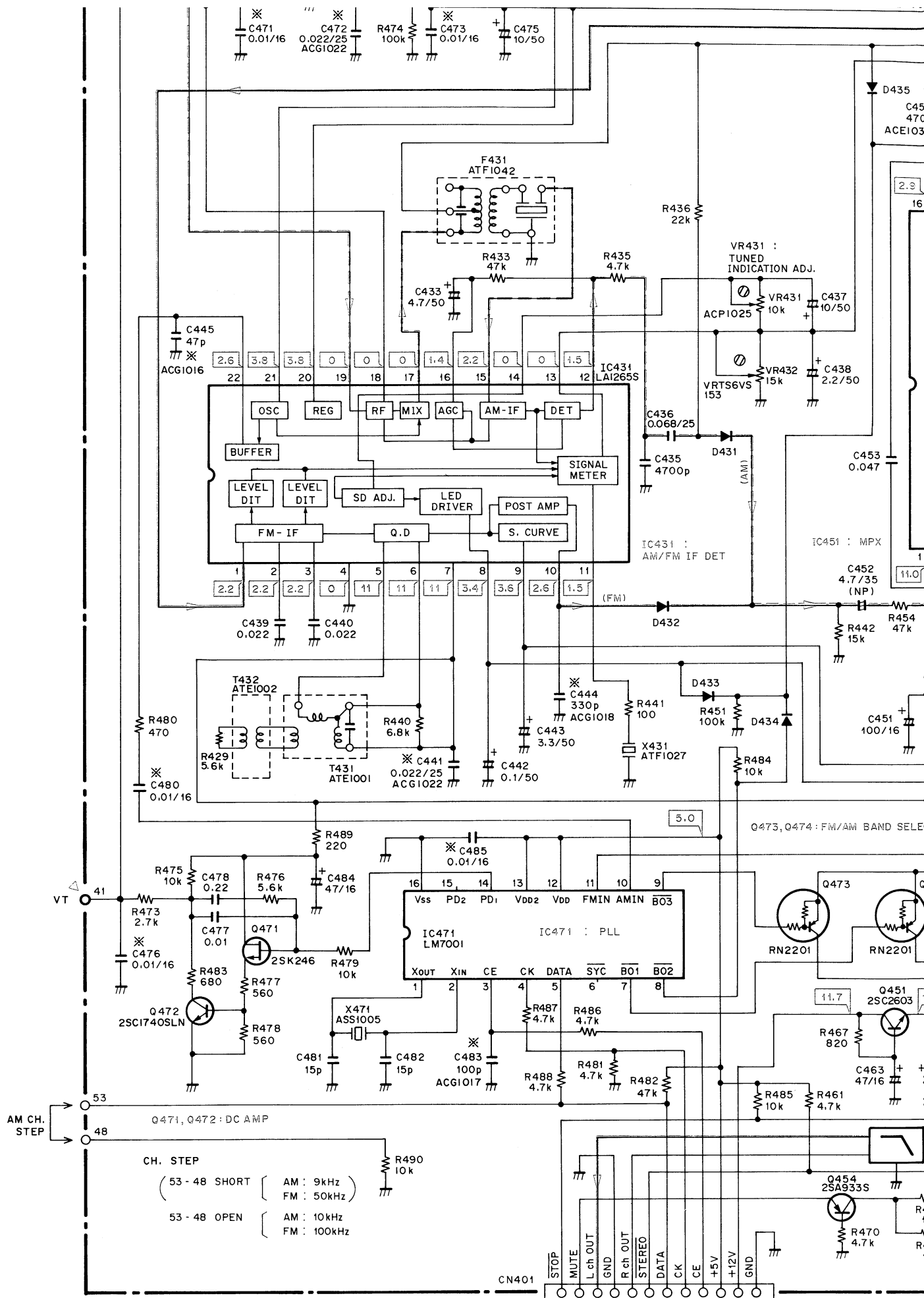
-B  
(To page 70)

-B  
To DRIVER

NSA F.B.  
R ch  
NSA F.B.

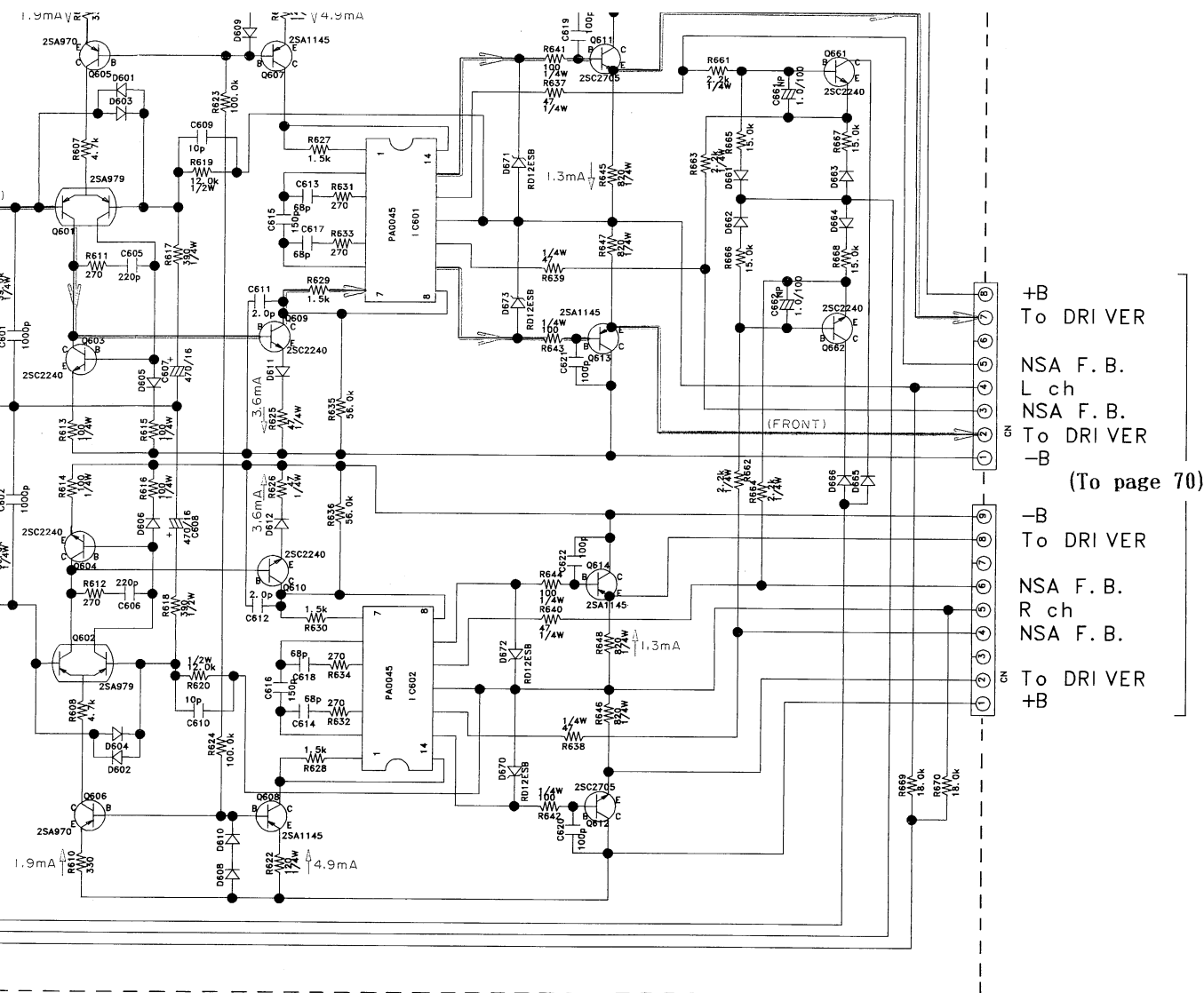
To DRIVER  
+B

To PS-U-COM. Ass'y (1/2) AWZ827



To PS.U-COM.Ass'y (1/2) AWZ2827 CN37 (To page





To PS. U-COM. Ass'y (1/2) AWZ2827



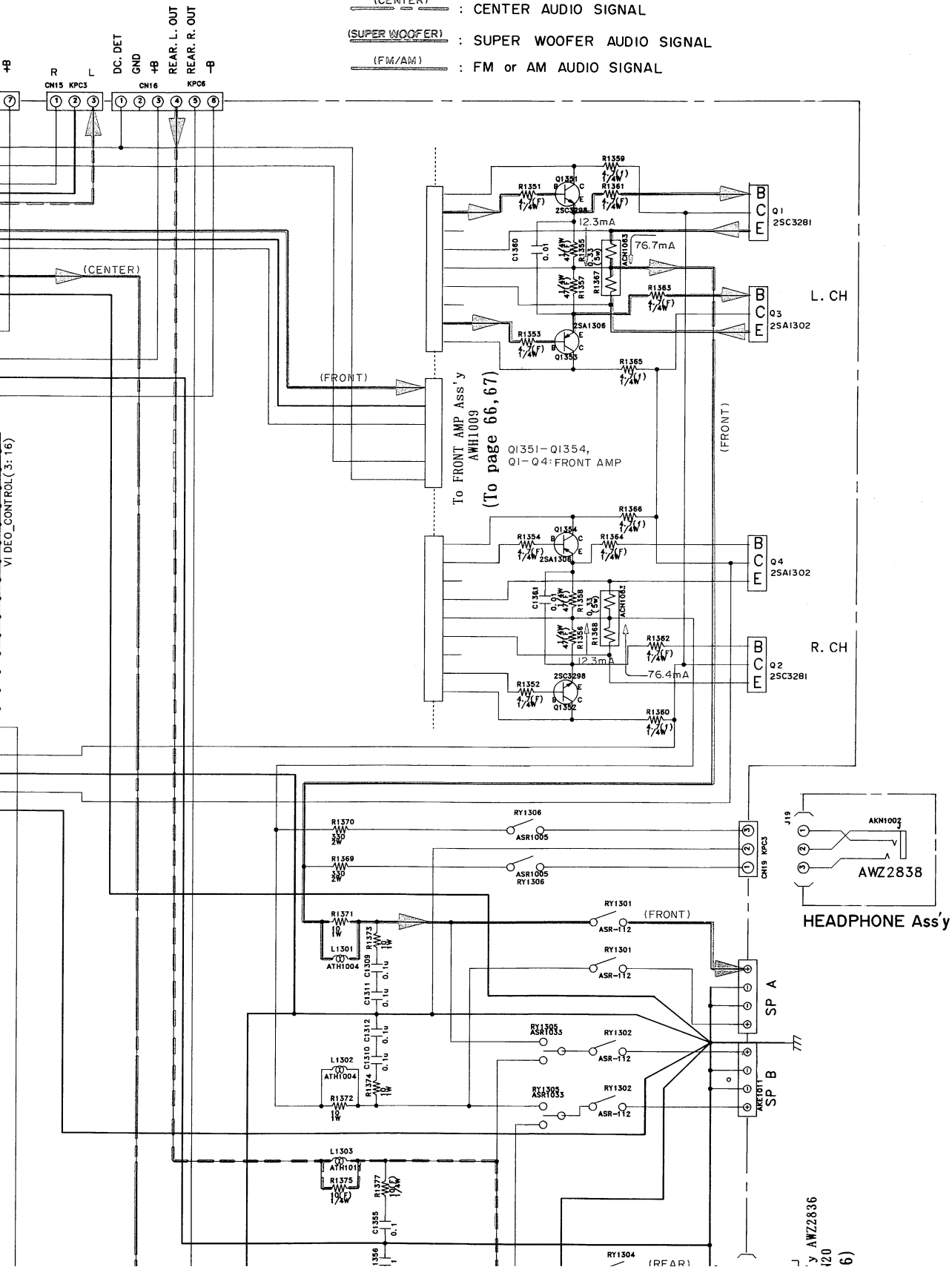




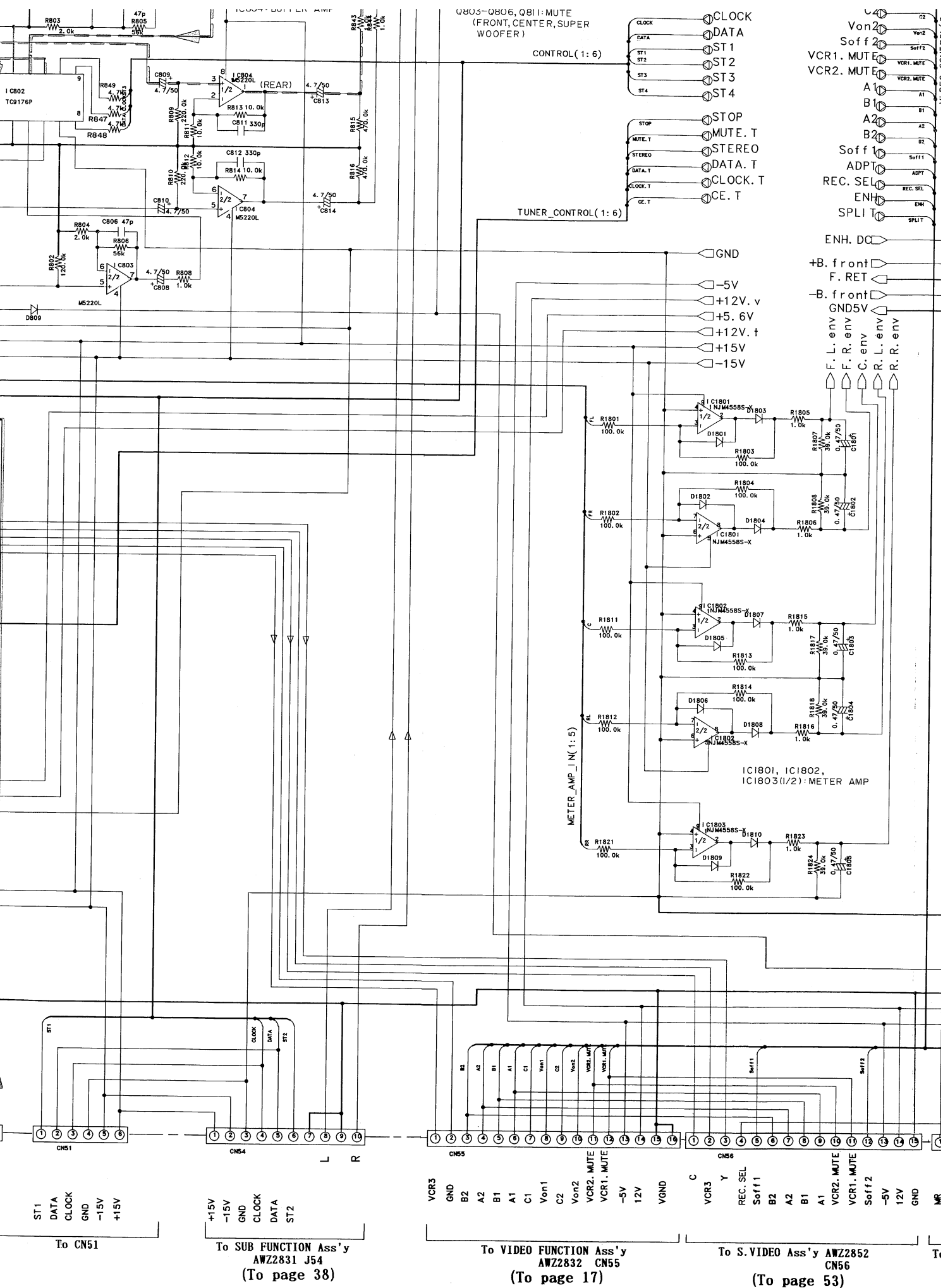
(To page 55)

To REAR AMP Ass'y AWZ2837  
To J15 To J16

(AUDIO) : AUDIO SIGNAL  
 (FRONT) : FRONT AUDIO SIGNAL  
 (REAR) : REAR AUDIO SIGNAL  
 (CENTER) : CENTER AUDIO SIGNAL  
 (SUPER WOOFER) : SUPER WOOFER AUDIO SIGNAL  
 (FM/AM) : FM or AM AUDIO SIGNAL









To FRONT VIDEO Ass'y AWZ2854 J27  
(To page 45)

To FRONT AMP Ass'y AWH1009

(To page 64)

To FRONT AMP Ass'y AWH1009

(To page 64)

To FRONT AMP Ass'y AWH1009

(To page 64)

To MOTOR VOLUME Ass'y AWZ2834 CN60

(To page 43)

To FRONT VIDEO Ass'y AWZ2854 J26

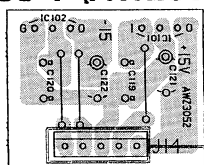
(To page 45)

To MOTOR VOLUME Ass'y

AWZ2834 CN59

(To page 43)

## POWER SUPPLY 2 ASS'Y (AWZ3052)



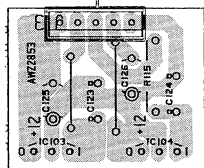
To TUNER Ass'y AWE1160 CN401  
(To page 63)

To DAC Ass'y AWZ2979 J32  
(To page 27)

To U-COM. Ass'y AWZ2978 J31  
(To page 25)

To MAIN FUNCTION Ass'y  
AWZ2830 CN51  
(To page 33)

## POWER SUPPLY 1 ASS'Y (AWZ2853)



To MAIN FUNCTION Ass'y AWZ2830 CN52  
(To page 33)

To MAIN FUNCTION Ass'y AWZ2830 CN53  
(To page 33)

To SUB FUNCTION Ass'y AWZ2831 CN54  
(To page 34)

To VIDEO FUNCTION Ass'y AWZ2832 CN55  
(To page 15)

To S.VIDEO Ass'y AWZ2852 CN56  
(To page 52)

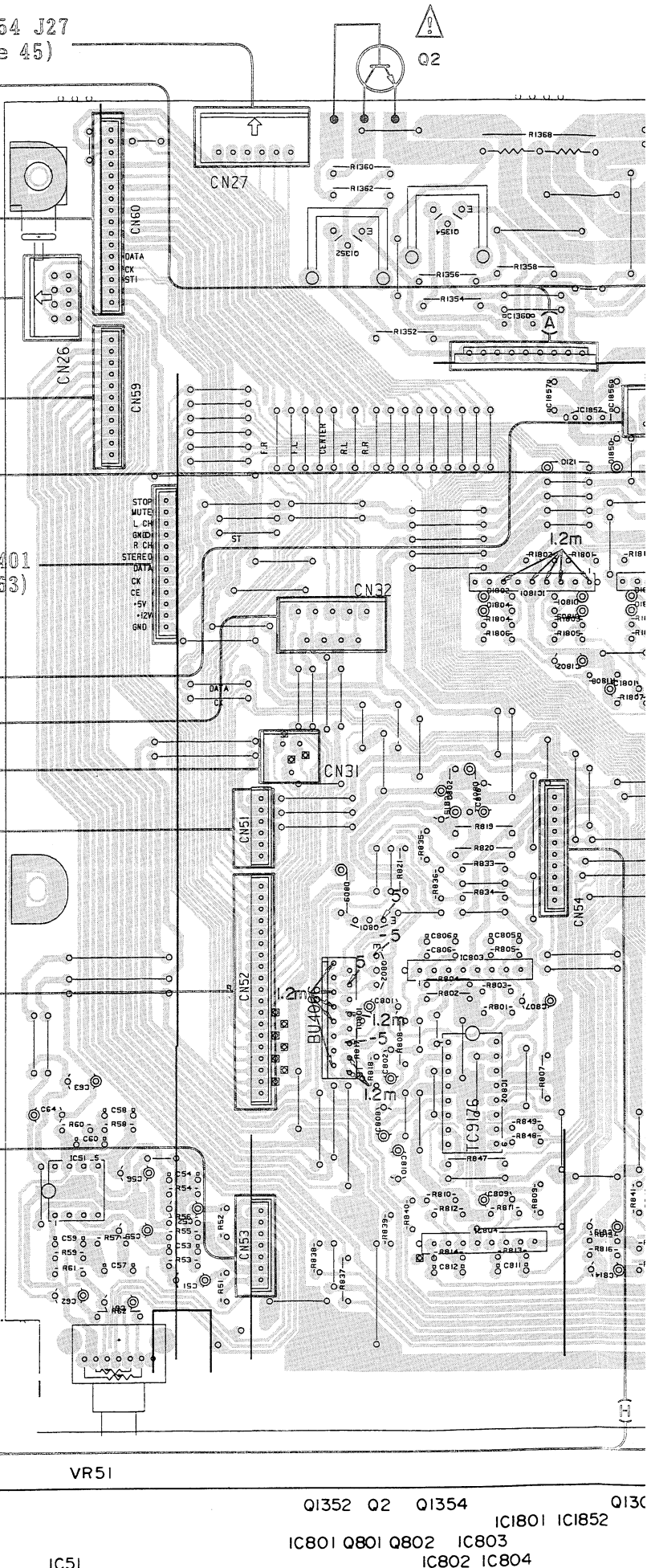
To ENHANCER Ass'y AWZ2833 CN57  
(To page 16)

To TERMINAL Ass'y AWZ2835 CN58  
(To page 15)

To REAR AMP Ass'y AWZ2837 J15  
(To page 57)

To U-COM. Ass'y AWZ2978 J34  
(To page 26)

To DAC Ass'y AWZ2979 J33  
(To page 27)



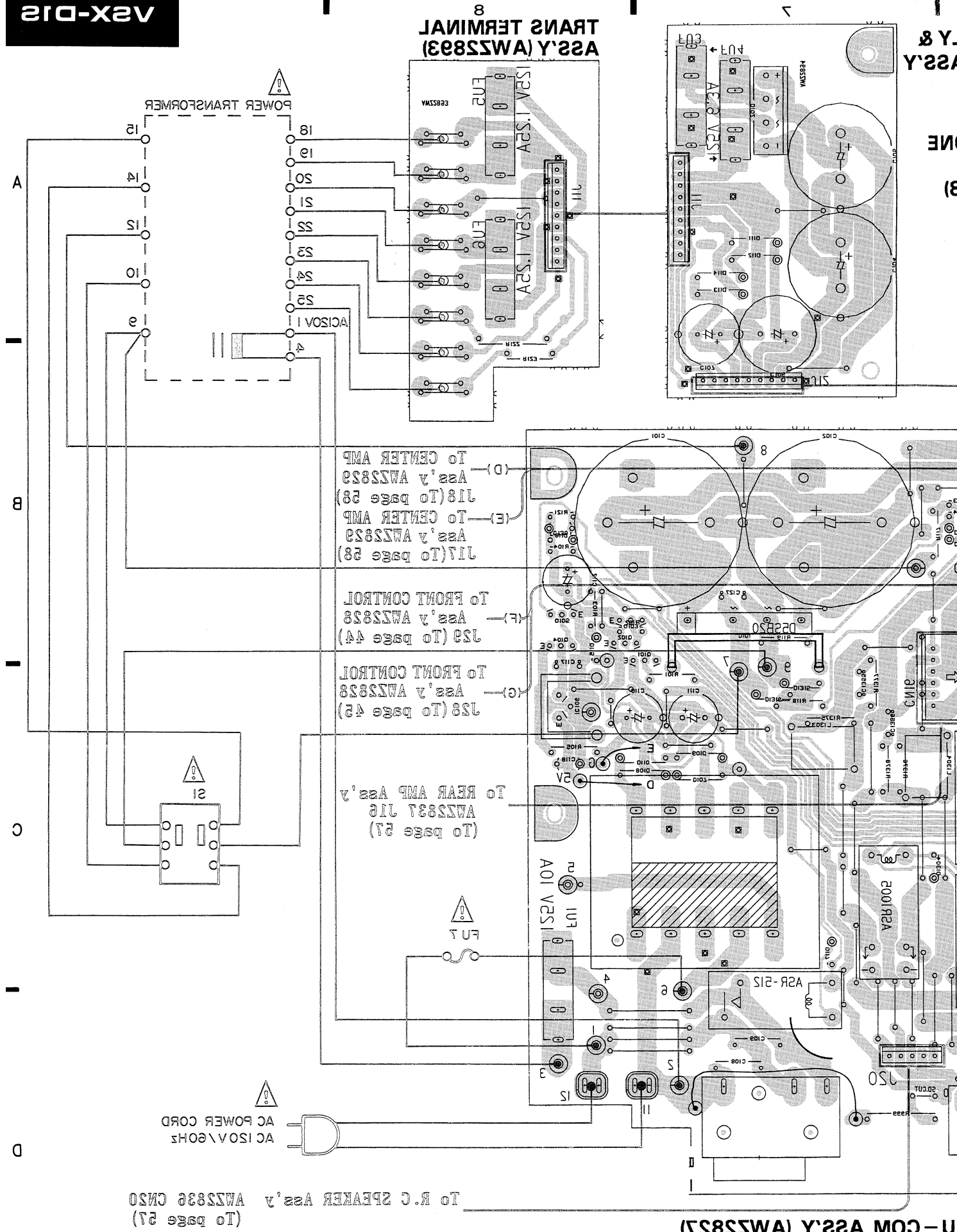








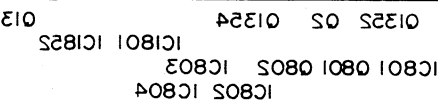
7



a

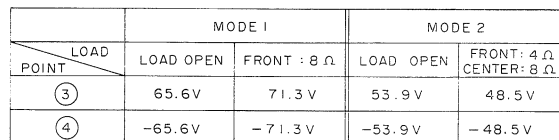
01825	IC1805	IC1803	01301 02 01305	01303-01307	04 01323	01321 01
0803-0813	01861-01864	01821	01821 01308-01315	01808 0107		





0



POWER SUPPLY &amp; U COM Ass'y(2/2) AWZ2827

## 4. PCB 's 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  $\Delta$  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%).

560 $\Omega$	56 $\times 10^1$	561.....	RD1/4PS $\Delta$ $\Delta$ $\Delta$ J
47k $\Omega$	47 $\times 10^3$	473.....	RD1/4PS $\Delta$ $\Delta$ $\Delta$ J
0.5 $\Omega$	0R5.....		RN2H $\Delta$ $\Delta$ $\Delta$ K
1 $\Omega$	010.....		RS1P $\Delta$ $\Delta$ $\Delta$ K

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

5.62k $\Omega$	562 $\times 10^1$	5621.....	RN1/4SR $\Delta$ $\Delta$ $\Delta$ F
----------------	-------------------	-----------	--------------------------------------

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>MAIN FUNCTION ASS'Y (AWZ2830)</b>				<b>OTHERS</b>			
<b>SEMICONDUCTORS</b>						PIN JACK (6P)	AKB1140
	IC201	E-SW IC	TC9164N			PIN JACK (8P)	AKB1144
	IC202	E-SW IC	TC9163N				
	IC203	OP AMP	M5238LF				
<b>CAPACITORS</b>					CN21,22	CONNECTOR (15P)	KPE15
	C201-208	CERAMIC CAPACITOR	CCCSL101J50		CN23	CONNECTOR (11P)	KPE11
	C211,212	ELECTR.CAPACITOR	CEAS100M50		CN24	CONNECTOR (7P)	KPE7
	C213	ELECTR.CAPACITOR	CEAS010M50				
	C214,215	ELECTR.CAPACITOR	CEAS470M16	<b>VIDEO • FUNCTION ASS'Y (AWZ2832)</b>			
	C220,221	CERAMIC CAPACITOR	CKCYB102K50	<b>SEMICONDUCTORS</b>			
	C222,223	CERAMIC CAPACITOR	CKCYB103K50		IC1601-1606	E-SW IC	NJM2234L
<b>RESISTORS</b>					Q1601-1606	TRANSISTOR	2SC2458
		All resistors	RD1/8PM $\Delta$ $\Delta$ $\Delta$ J		Q1607,1608	TRANSISTOR	2SA1048
<b>OTHERS</b>					D1601,1602	DIODE	1SS252
		PIN JACK (8P)	AKB1127	<b>COIL</b>			
		PIN JACK (6P)	AKB1138		L1601	AXIAL INDUCTOR	LAU101K
<b>SUB FUUNCTION ASS'Y (AWZ2831)</b>				<b>CAPACITORS</b>			
<b>SEMICONDUCTORS</b>					C1601-1605	ELECTR.CAPACITOR	CEAS470M16
	IC301	E-SW IC	TC9164N		C1606-1609	ELECTR.CAPACITOR	CEAS101M10
	IC302	E-SW IC	TC9163N		C1610,1611	ELECTR.CAPACITOR	CEAS470M16
	IC303	OP AMP	M5238LF		C1612,1613	ELECTR.CAPACITOR	CEAS101M16
<b>CAPACITORS</b>					C1614,1615	CERAMIC CAPACITOR	CCCSL030C50
	C301-310	CERAMIC CAPACITOR	CCCSL101J50		C1617	ELECTR.CAPACITOR	CEAS4R7M50
	C315,316	ELECTR.CAPACITOR	CEAS220M50		C1625-1627	ELECTR.CAPACITOR	CEAS470M16
	C317	ELECTR.CAPACITOR	CEAS010M50		C1628,1629	CERAMIC CAPACITOR	CKDYX473M25
	C318,319	ELECTR.CAPACITOR	CEAS470M16		C1630	ELECTR.CAPACITOR	CEAS470M16
	C320,321	CERAMIC CAPACITOR	CKCYB102K50		C1632	CERAMIC CAPACITOR	CKDYF473Z50
<b>RESISTORS</b>				<b>RESISTORS</b>			
		All resistors	RD1/8PM $\Delta$ $\Delta$ $\Delta$ J			All resistors	RD1/8PM $\Delta$ $\Delta$ $\Delta$ J

Mark	No.	Description	Parts No.
OTHERS			
		PIN JACK (2P)	AKB1118
		PIN JACK (3P)	AKB1143
ENHANCER•ADP ASS'Y (AWZ2833)			
SEMICONDUCTORS			
	IC1701,1702	E-SW IC	NJM2233BS
	IC1703	E-SW IC	NJM2234L
	IC1704		NJM2209S
	IC1705	E-SW IC	NJM2235S
	Q1702-1707	TRANSISTOR	2SC2458
	Q1708-1710	TRANSISTOR	2SA1048
	Q1711	TRANSISTOR	2SC2458
	Q1712	TRANSISTOR	2SA1048
	Q1713	TRANSISTOR	2SC2458
	Q1714,1715	TRANSISTOR	2SA1048
	Q1716	TRANSISTOR	2SC2458
	Q1718,1719	TRANSISTOR	2SC2458
	Q1720	TRANSISTOR	2SA1048
	Q1721-1726	TRANSISTOR	2SC2458
	Q1727	TRANSISTOR	RN2203
	D1701-1706	DIODE	1SS252
	D1707	ZENER DIODE	RD5.6ESB
COILS			
	L1701	AXIAL INDUCTOR	LAU101K
	L1740	AXIAL INDUCTOR	LAU221K
	L1741	AXIAL INDUCTOR	LAU270K
	L1742	AXIAL INDUCTOR	LAU390K
	L1743,1744	AXIAL INDUCTOR	LAU221K
	L1745	AXIAL INDUCTOR	LAU270K
	L1746	AXIAL INDUCTOR	LAU390K
	L1747,1748	AXIAL INDUCTOR	LAU101K
	L1781	AXIAL INDUCTOR	LAU101K
CAPACITORS			
	C1701	ELECTR.CAPACITOR	CEAS470M16
	C1702	CERAMIC CAPACITOR	CCCSL100D50
	C1703-1705	ELECTR.CAPACITOR	CEAS4R7M50
	C1706,1707	ELECTR.CAPACITOR	CEAS470M16
	C1708	ELECTR.CAPACITOR	CEAS101M10
	C1709	ELECTR.CAPACITOR	CEAS470M16
	C1710	CERAMIC CAPACITOR	CCCSL470J50
	C1711	AUDIO FILM CAPACITOR	CFTXA104J50
	C1712	CERAMIC CAPACITOR	CCCCH070D50
	C1713	CERAMIC CAPACITOR	CCCCH030C50
	C1714,1715	CERAMIC CAPACITOR	CCCCH680J50
	C1716	CERAMIC CAPACITOR	CCCSL101J50
	C1717,1718	CERAMIC CAPACITOR	CCCCH470J50
	C1719	ELECTR.CAPACITOR	CEAS101M10

Mark	No.	Description	Parts No.
	C1720	PL.STYRENE CAPACITOR	CQSA271J50
	C1721	ELECTR.CAPACITOR	CEAS2R2M50
	C1722	CERAMIC CAPACITOR	CCCSL221J50
	C1723	CERAMIC CAPACITOR	CCCSL151J50
	C1724	CERAMIC CAPACITOR	CCCSL180J50
	C1725	CERAMIC CAPACITOR	CCCSL220J50
	C1726	CERAMIC CAPACITOR	CKCYB472K50
	C1727	ELECTR.CAPACITOR	CEAS101M10
	C1728	ELECTR.CAPACITOR	CEAS470M16
	C1730,1731	ELECTR.CAPACITOR	CEAS2R2M50
	C1732,1733	ELECTR.CAPACITOR	CEAS470M16
	C1734	CERAMIC CAPACITOR	CCCSL100D50
	C1735	CERAMIC CAPACITOR	CKDYF103Z50
	C1736	CERAMIC CAPACITOR	CCCSL100D50
	C1737,1739,1741,1743,1745-1749	ELECTR.CAPACITOR	CEAS470M16
	C1752	ELECTR.CAPACITOR	CEAS101M16
	C1753	CERAMIC CAPACITOR	CCCSL470J50
	C1755,1756	ELECTR.CAPACITOR	CEAS470M16
	C1790	CERAMIC CAPACITOR	CCCSL100D50
	C1791	CERAMIC CAPACITOR	CCCSL050C50
RESISTORS			
		All resistors	RD1/8PM□□□J
OTHERS			
		PIN JACK (2P)	AKB1118
		PIN JACK (1P)	AKB1145
	CN25	CONNECTOR(9P)	KPE9
TERMINAL ASS'Y (AWZ2835)			
CAPACITORS			
	C751-756	CERAMIC CAPACITOR	CKCYB102K50
RESISTORS			
		All resistors	RD1/8PM□□□J
OTHERS			
		PIN JACK (1P)	AKB1139
		PIN JACK (6P)	AKB1140
		PIN JACK (2P)	AKB1142
S. VIDEO ASS'Y (AWZ2852)			
SEMICONDUCTORS			
	IC1650	VIDEO SEITCH	LA7952
	IC1651	E-SW IC	NJM2233BS
	IC1652	VIDEO SEITCH	LA7952



Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	IC1653	E-SW IC	NJM2233BS		Q101	TRANSISTOR	RN1201
	IC1654,1655	VIDEO SEITCH	LA7952		Q102	TRANSISTOR	RN2201
	IC1656,1657	E-SW IC	NJM2234L		Q103	TRANSISTOR	RN1201
	IC1658	LOGIC IC	BU4066BL		Q104	TRANSISTOR	2SB560
					Q105	TRANSISTOR	RN1201
	Q1650-1656	TRANSISTOR	2SC2458		Q1301,1302	TRANSISTOR	2SC2458
	Q1657,1658	TRANSISTOR	RN2203		Q1303	TRANSISTOR	2SA1048
	Q1659	TRANSISTOR	2SC2458		Q1304-1306	TRANSISTOR	2SC2458
	Q1662-1664	TRANSISTOR	2SA1048		Q1307	TRANSISTOR	2SC3377
					Q1308-1312	TRANSISTOR	RN1201
	D1650-1653	DIODE	1SS252		Q1351,1352	TRANSISTOR	2SC3298
	D1655	ZENER DIODE	RD5.1ESB1		Q1353,1354	TRANSISTOR	2SA1306
CAPACITORS					Q1851	TRANSISTOR	RN1203
	C1650-1652	ELECTR.CAPACITOR	CEAS4R7M50		Q1861-1864	TRANSISTOR	2SC2458
	C1653-1655	ELECTR.CAPACITOR	CEAS470M16		Q801	TRANSISTOR	RN2203
	C1657-1659	ELECTR.CAPACITOR	CEAS4R7M50		Q802	TRANSISTOR	RN1203
	C1660	ELECTR.CAPACITOR	CEAS101M10		Q803-810	TRANSISTOR	2SC3327
	C1661-1666	CERAMIC CAPACITOR	CKCYX103M25		Q811-813	TRANSISTOR	RN2203
	C1667-1674	ELECTR.CAPACITOR	CEAS470M16		D101	DIODE	D5SB20
	C1675-1677	ELECTR.CAPACITOR	CEAS101M16		D103-106	DIODE	1SS252
	C1678	ELECTR.CAPACITOR	CEAS470M16		D107-110	DIODE	1SR139-400
	C1687	CERAMIC CAPACITOR	CCPUSL470J50		D115	DIODE	1SS252
	C1688	ELECTR.CAPACITOR	CEAS4R7M50		D116	ZENER DIODE	RD5.6ESB
	C1689	ELECTR.CAPACITOR	CEAS470M16		D117	DIODE	1SS252
	C1690	CERAMIC CAPACITOR	CKCYF473Z50		D119	ZENER DIODE	RD9.1ESB
	C1691	ELECTR.CAPACITOR	CEAS470M25		D120	DIODE	1SR139-400
	C1692-1694		CCPUSL470J50		D121	DIODE	1SS252
	C1695	ELECTR.CAPACITOR	CEAS101M10		D1301-1311	DIODE	1SS252
	C1696	ELECTR.CAPACITOR	CEAS470M25		D1312	ZENER DIODE	RD4.7ESB
	C1697,1698	CERAMIC CAPACITOR	CCCSL101J50		D1313,1314	DIODE	1SS252
	C1699	CERAMIC CAPACITOR	CCCSL330J50		D1315,1316	DIODE	1SR139-400
RESISTORS					D1801-1810,DIODE		1SS252
					1850-1852		
	All resistors		RD1/8PM□□□J		D1853,1854	DIODE	1SR139-400
OTHER					D1855-1858	DIODE	1SS252
	SOCKET		AKP1065		D1859	DIODE	1SR139-400
					D1860-0862	DIODE	1SS252
					D801	ZENER DIODE	RD5.1ESB
					D802	ZENER DIODE	RD5.1ESB1
					D803-809	DIODE	1SS252
POWER SUPPLY & U-COM ASS'Y (AWZ2827)				RELAIIES			
SEMICONDUCTORS					RY101	RELAY	ASR1032
	IC105	REGULATOR IC	NJM78M05FD		RY102	RELAY	ASR-512
	IC107	REGULATOR IC	NJM78M56FA		RY1301-	RELAY	ASR-112
	IC108	REGULATOR IC	NJM79M05FA		1303		
	IC1801-1803	OP-AMP IC	NJM4558S-X		RY1304	RELAY	ASR1005
	IC1851	U-COM	PDG056-A		RY1305	RELAY	ASR1034
	IC1852	REGULATOR IC	M5278L56		RY1306	RELAY	ASR1005
	IC51	OP-AMP-IC	M5220P				
	IC801	LOGIC IC	BU4066BL				
	IC802	E-VR IC	TC9176P				
	IC803,804	OP-AMP IC	M5220L				

Mark	No.	Description	Parts No.
<b>COILS &amp; TRANSFORMER</b>			
	L1301,1302	COIL	ATH1004
	L1303-1305	COIL	ATH1011
	L1851	AXIAL INDUCTOR	LAU100K
	T101	POWER TRANSFORMER	ATT1121
<b>CAPACITORS</b>			
	C101	CAPACITOR	ACH1162
	C102	CAPACITOR	ACH1163
	C103	ELECTR.CAPACITOR	CEAS101M25
	C108,109	CKA (0.01/AC400V)	ACG1003
	C110	ELECTR.CAPACITOR	CEAS222M16
	C111	ELECTR.CAPACITOR	CEAS471M16
	C112	ELECTR.CAPACITOR	CEAS102M16
	C113,114	CERAMIC CAPACITOR	CKCYF473Z50
	C115,116	ELECTR.CAPACITOR	CEAS101M10
	C117	CERAMIC CAPACITOR	CKDYF473Z50
	C118	ELECTR.CAPACITOR	CEAS101M10
	C127	CKA (0.01/AC250V)	ACG1005-A
	C128,129	ELECTR.CAPACITOR	CEAS470M16
	C130	ELECTR.CAPACITOR	CEAS220M16
	C1301	ELECTROLYTIC CAPACIT	CEAS471M6
	C1302	CERAMIC CAPACITOR	CKCYF103Z50
	C1303	CERAMIC CAPACITOR	CKCYF473Z50
	C1304	ELECTR.CAPACITOR	CEAS221M10
	C1305	ELECTR.CAPACITOR	CEAS010M50
	C1309-1312	AUDIO FILM CAPACITOR	CFTXA104J50
	C1355-1358	AUDIO FILM CAPACITOR	CFTXA104J50
	C1360,1361	POLYESTER CAPACITOR	CQMXA103J100
	C1801-1805	ELECTR.CAPACITOR	CEASR47M50
	C1851	ELECTR.CAPACITOR	CEAS4R7M50
	C1852	ELECTR.CAPACITOR	CEAS0R1M50
	C1853	ELECTROLYTIC CAPACIT	ACH1011
	C1854	ELECTR.CAPACITOR	CEAS101M16
	C1855	ELECTR.CAPACITOR	CEAS101M50
	C1856,1857	CERAMIC CAPACITOR	CKCYF103Z50
	C51,52	ELECTR.CAPACITOR	CEAS100M25
	C53,54	CERAMIC CAPACITOR	CKCYB331K50
	C55,56	ELECTROLYTIC CAPACIT	CEAS471M6
	C57,58	AUDIO FILM CAPACITOR	CFTXA243J50
	C59,60	AUDIO FILM CAPACITOR	CFTXA823J50
	C61,62	ELECTR.CAPACITOR	CEAS2R2M50

Mark	No.	Description	Parts No.
	C63,64	ELECTR.CAPACITOR	CEAS101M16
	C801,802	ELECTR.CAPACITOR	CEAS4R7M50
	C805,806	CERAMIC CAPACITOR	CCCSL470J50
	C807-810	ELECTR.CAPACITOR	CEAS4R7M50
	C811,812	CERAMIC CAPACITOR	CKCYB331K50
	C813,814	ELECTR.CAPACITOR	CEAS4R7M50
	C815,816	ELECTR.CAPACITOR	CEAS470M16
	C999	CERAMIC CAPACITOR	CKCYB102K50
<b>RESISTORS</b>			
	R101,105	CARBON FILM RESISTOR	RD1/4PMF4R7J
	R107,110	CARBON FILM RESISTOR	RD1/4PMF100J
	R111	CARBON FILM RESISTOR	RD1/4PMF122J
	R112-114	METAL OXIDE RESISTOR	RS2LMF100J
	R116	CARBON FILM RESISTOR	RD1/4PMF101J
	R117-119	FUSIBLE RESISTOR	RFA1/4PS4R7J
	R1351-1354	CARBON FILM RESISTOR	RD1/4PMF4R7J
	R1355-1358	CARBON FILM RESISTOR	RD1/4PMF470J
	R1359,1360	FUSIBLE RESISTOR	RFA1/4PS4R7J
	R1361-1364	CARBON FILM RESISTOR	RD1/4PMF4R7J
	R1365,1366	FUSIBLE RESISTOR	RFA1/4PS4R7J
	R1367,1368	RESISTOR (0.33, 5W)	ACN1063
	R1369,1370	METAL OXIDE RESISTOR	RS2LMF331J
	R1371-1374	METAL OXIDE RESISTOR	RS1LMF100J
	R1375-1378	CARBON FILM RESISTOR	RD1/4PMF100J
	R1379,1380	METAL OXIDE RESISTOR	RS1LMF100J
	R819,820	CARBON FILM RESISTOR	RD1/4PMF102J
	R999	RESISTOR(2.2M, 1/2W)	ACN-209
	VR51	VR	ACS1060
		Other resistors	RD1/8PM□□□J
<b>OTHERS</b>			
	CN13,14	CONNECTOR (5P)	KPC5
	CN15	JUMPER CONNECTOR (3P)	KPC3
	CN16	JUMPER CONNECTOR (6P)	KPC6
	CN17	CONNECTOR (7P)	KPC7
	CN18,19	JUMPER CONNECTOR (3P)	KPC3

Mark	No.	Description	Parts No.
	CN26	CONNECTOR (4P)	KPC4
	CN27	JUMPER CONNECTOR (6P)	KPC6
	CN28	CONNECTOR (10P)	KPE10
	CN29	CONNECTOR (12P)	KPE12
	CN31	CONNECTOR (3P)	KPE3
	CN32,33	CONNECTOR (9P)	KPE9
	CN34	CONNECTOR (4P)	KPE4
		PIN JACK (4P)	AKB1141
		SPEAKER TERMINAL 8-P	AKE1011
		JACK	AKN1006
		JACK	AKN1020
		AC OUTLET(3P)	AKP1053
		AMP ASSY	AWH1009
	X1851	CRYSTAL RESONATOR	ASS1015

## HEAD PHONE ASS'Y (AWZ2838)

## OTHER

JACK	AKN1002
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## POWER SUPPLY 1 ASS'Y (AWZ2853)

## SEMICONDUCTORS

IC103,104	REGULATOR IC	M5F78M12L
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## CAPACITORS

C123,124	CERAMIC CAPACITOR	CKCYF103Z50
C125,126	ELECTR.CAPACITOR	CEAS470M16

## RESISTOR

R115	CARBON FILM RESISTOR	RD1/4PMF100J
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## TRANS TERMINAL ASS'Y (AWZ2893)

## RESISTORS

R122,123	CARBON FILM RESISTOR	RD1/4PMF010J
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## POWER SUPPLY &amp; CAPACITOR ASS'Y (AWZ2894)

## SEMICONDUCTORS

D102	DIODE	4D4B44
D111-114	DIODE	1SR139-400

Mark	No.	Description	Parts No.
		CAPACITORS	
	C104,105	ELECTROLYTIC CAPACIT	ACH1110
	C106	ELECTR.CAPACITOR	CEAS222M35
	C107	ELECTROLYTIC CAPACIT	CEAS102M35

## POWER SUPPLY 2 ASS'Y (AWZ3052)

## SEMICONDUCTORS

IC101	REGULATOR IC	M5F78M15L
IC102	REGURATOR IC	M5F79M15L

## CAPACITORS

C119,120	CERAMIC CAPACITOR	CKCYF103Z50
C121,122	ELECTR.CAPACITOR	CEAS470M16

## FRONT CONTROL ASS'Y (AWZ2828)

## SEMICONDUCTORS

IC1901	DISPLAY U-COM	PDG055-A
IC1902	FL DRIVER IC	MSC7112-01SS
IC1903	LOGIC IC	MC14051BCP
IC1904	OP-AMP IC	NJM4558S-X

Q1901,1902	TRANSISTOR	2SA1048
Q1903	TRANSISTOR	RN1203
Q1904	TRANSISTOR	RN1201
Q1905	TRANSISTOR	RN2201
Q1906-1915	TRANSISTOR	2SC2458

D1901-1903	LED(RED)	AEL1108
D1904-1907	LED	AEL1113
D1908	LED(RED)	AEL1108
D1910-1919,	DIODE	1SS252
1924-1926,		
1930		
D1933-1936		RD5. 1ESB2

## SWITCHES

S1901-1915	SWITCH	ASG1038
S1916-1923	SWITCH	ASG1034
S1925-1953	SWITCH	ASG1034
S1954-1964	SWITCH	ASG1038
S1980	SWITCH	ASG1034
S1990	ROTARY ENCODER	ASX1008

## CAPACITORS

C1901	CERAMIC CAPACITOR	CCCSL101J50
C1902	ELECTROLYTIC CAPACIT	CEASR22M50
C1903	CERAMIC CAPACITOR	CKCYF223Z50
C1904	CERAMIC CAPACITOR	CKCYX823M25
C1910	CERAMIC CAPACITOR	CKCYB103K50

Mark	No.	Description	Parts No.
	C1911	ELECTR.CAPACITOR	CEAS101M16
	C1912	ELECTR.CAPACITOR	CEAS010M50
	C1913	CERAMIC CAPACITOR	CKCYB103K50
	C1914	ELECTR.CAPACITOR	CEAS220M16
	C1915	CERAMIC CAPACITOR	CKCYX104M25
	C1985,1986	CERAMIC CAPACITOR	CKCYB392K50

**RESISTORS**

R1902-1904	CARBON FILM RESISTOR	RD1/4PM331J
R1907,1908	CARBON FILM RESISTOR	RD1/4PM221J
R1941	CARBON FILM RESISTOR	RD1/4PM271J
R1972	CARBON FILM RESISTOR	RD1/4PM100J
	Other resistors	RD1/8PM□□□J

**OTHERS**

	FILTER(FL)	AAK1991
	REMOTE RECEIVER UNIT	AXX1010
CN1990	SOCKET	AKP1068
V1901	FL TUBE	AAV1097
X1901	CERAMIC OSCILLATOR	ASS1022

**CENTER AMP ASS'Y (AWZ2829)**
**SEMICONDUCTORS**

IC901	AUDIO IC	PA0045
Q901	TRANSISTOR	2SC2240
Q902	TRANSISTOR	2SA979
Q903	TRANSISTOR	2SA970
Q904	TRANSISTOR	2SC2705
Q905	TRANSISTOR	2SA1145
Q906	TRANSISTOR	2SA1306
Q907	TRANSISTOR	2SC3298
Q908	TRANSISTOR	2SC2240
D901-909	DIODE	1SS252
D918,919	ZENER DIODE	RD12ESB

**CAPACITORS**

C901	ELECTR.CAPACITOR	CEAS2R2M50
C902	MYLOR FILM CAPACITOR	CQMA102J50
C903	CERAMIC CAPACITOR	CCCSL221K500
C904	ELECTROLYTIC CAPACIT	CEXA471M16
C905	MICA CAPACITOR	CMA150J500

Mark	No.	Description	Parts No.
	C906	CERAMIC CAPACITOR	CCCSL020C500
	C907	CERAMIC CAPACITOR	CCCSL151K500
	C908,909	CERAMIC CAPACITOR	CCCSL680K500
	C910,911	CERAMIC CAPACITOR	CCCSL101K500
	C912	ELECTROLYTIC CAPACIT	CEANP010M100
	C919	POLYESTER CAPACITOR	CQMXA103J100

**RESISTORS**

R901	CARBON FILM RESISTOR	RDR1/4PM331J
R903	CARBON FILM RESISTOR	RD1/4PM393J
R904	FUSIBLE RESISTOR	RFA1/4PS101J
R905,907	CARBON FILM RESISTOR	RD1/4PM□□□J
R908	FUSIBLE RESISTOR	RFA1/4PS101J
R909,910	CARBON FILM RESISTOR	RDR1/2PM□□□J
R911	CARBON FILM RESISTOR	RD1/4PM104J
R912,913	FUSIBLE RESISTOR	RFA1/4PS□□□J
R914,915, 918	CARBON FILM RESISTOR	RD1/4PM□□□J
R919-922	CARBON FILM RESISTOR	RD1/4PMF□□□J
R923	FUSIBLE RESISTOR	RFA1/4PS4R7J
R924,925	CARBON FILM RESISTOR	RD1/4PMF470J
R926	FUSIBLE RESISTOR	RFA1/4PS4R7J
R927,928, 931,932	CARBON FILM RESISTOR	RD1/4PMF□□□J
R934	RESISTOR (0.33, 5W)	ACN1063

**MOTOR VOLUME ASS'Y (AWZ2834)**
**SEMICONDUCTORS**

IC501	OP-AMP IC	M5220L
IC502	E-VR IC	TC9154AP
IC503	OP-AMP IC	M5220L
IC504	OP-AMP IC	NJM4558S-X
IC505	MECHANISM DRIVER IC	TA7291S
Q501	TRANSISTOR	RN1203

D502	DIODE	1SS252
D503,504	ZENER DIODE	RD4.7ESB
D551,552	ZENER DIODE	RD5.1ESB

**COILS**

L541,542	AXIAL INDUCTOR	LAU560K
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Mark	No.	Description	Parts No.
<b>CAPACITORS</b>			
	C1988	CERAMIC CAPACITOR	CKCYB102K50
	C501,502	ELECTR.CAPACITOR	CEAS100M50
	C503,504	CERAMIC CAPACITOR	CCCSL560J50
	C505-508	ELECTR.CAPACITOR	CEAS4R7M50
	C510	CERAMIC CAPACITOR	CCCSL221J50
	C511,512	ELECTR.CAPACITOR	CEAS4R7M50
	C513	CERAMIC CAPACITOR	CCCSL221J50
	C514,515	ELECTR.CAPACITOR	CEAS4R7M50
	C516	AUDIO FILM CAPACITOR	CFTXA104J50
	C517	AUDIO FILM CAPACITOR	CFTXA274J50
	C518	AUDIO FILM CAPACITOR	CFTXA153J50
	C519	ELECTR.CAPACITOR	CEAS4R7M50
	C541	ELECTR.CAPACITOR	CEAS100M50
	C542,543	CERAMIC CAPACITOR	CKCYF473Z50
	C544	ELECTR.CAPACITOR	CEAS221M10
	C551,552	ELECTR.CAPACITOR	CEAS470M16
<b>RESISTORS</b>			
	R552,559	CARBON FILM RESISTOR	RD1/4PM821J
	VR501	VR	ACX1044
		Other resistors	RD1/8PM□□□J
<b>R. C. SPEAKER ASS'Y (AWZ2836)</b>			
<b>OTHERS</b>			
		SPEAKER TERMINAL (4P)	AKE1007
		SPEAKER TERMINAL (4P)	AKE1022
	CN20	CONNECTOR (5P)	KPC5
<b>REAR AMP ASS'Y (AWZ2837)</b>			
<b>SEMICONDUCTORS</b>			
	IC1401,1402	PREDRIVER-IC	UPC1270H
	Q1401,1402	TRANSISTOR	2SC2458
<b>CAPACITORS</b>			
	C1401,1402	ELECTR.CAPACITOR	CEAS2R2M50
	C1403,1404	MYLOR FILM CAPACITOR	CQMA152J50
	C1405,1406	ELECTR.CAPACITOR	CEAS100M50
	C1407,1408	CERAMIC CAPACITOR	CCCSL680J50
	C1409	CERAMIC CAPACITOR	CCCSL271J50
	C1410	CERAMIC CAPACITOR	CKCYB471K50

Mark	No.	Description	Parts No.
	C1411,1412	AUDIO FILM CAPACITOR	CFTXA333J50
	C1413,1414	ELECTR.CAPACITOR	CEAS101M10
	C1415,1416	ELECTR.CAPACITOR	CEAS010M50
	C1430	ELECTROLYTIC CAPACIT	CEAS100M100
<b>RESISTORS</b>			
	R1417,1418	RESISTOR (0.22, 2W)	ACN-131
	R1431-1434	FUSIBLE RESISTOR	RFA1/4PS4R7J
		Other resistors	RD1/8PM□□□J
<b>FRONT VIDEO ASS'Y (AWZ2854)</b>			
<b>CAPACITORS</b>			
	C1991,1992	CERAMIC CAPACITOR	CKCYX473M25
<b>RESISTORS</b>			
		All resistors	RD1/8PM□□□J
<b>OTHERS</b>			
		PIN JACK(1P) SOCKET	AKB1082 AKP1067
<b>DSP • U - COM ASS'Y (AWZ2978)</b>			
<b>SEMICONDUCTORS</b>			
	IC1101,1102	OP-AMP IC	M5218PF
	IC1103	LOGIC IC	TC4053BP
	IC1104	OP AMP	M5238PF
	IC1105	AD CONVERTER IC	TD6726N
	IC1106	OP-AMP IC	M5218L
	IC1107	DSP IC	LC83010P
	IC1108	DSP IC	PD0055
	IC1109,1110	MEMORY IC	MB81464-12
	IC1111	DSP U - COM	PD0069B1
	IC1112	LOGIC IC	TC74HC02AP
	D1101,1102	DIODE	1SS252
<b>COILS</b>			
	F1101,1102	FILTER	ATF1071
	L1101-1108	FERRITE BEAD	ATX1008-A
	L1109	AXIAL INDUCTOR	LAUR33M
<b>CAPACITORS</b>			
	C1101-1104	ELECTR.CAPACITOR	CEAS470M25
	C1105,1106	MYLOR FILM CAPACITOR	CQMA272J50
	C1107,1108	ELECTR.CAPACITOR	CEAS470M25
	C1109,1110	PL.STYRENE CAPACITOR	CQSXA152J160
	C1111,1112	ELECTR.CAPACITOR	CEAS470M25

Mark	No.	Description	Parts No.
	C1113,1114	CERAMIC CAPACITOR	CKDYX473M25
	C1115	CERAMIC CAPACITOR	CKDYB102K50
	C1116-1118	CERAMIC CAPACITOR	CKDYX473M25
	C1120	CERAMIC CAPACITOR	CKDYX473M25
	C1121	CERAMIC CAPACITOR	CKDYB102K50
	C1123,1124	ELECTROLYTIC CAPACIT	CEANP470M10
	C1125,1126	MYLOR FILM CAPACITOR	CQMA103J50
	C1127,1128	PL.STYRENE CAPACITOR	CQSA151J50
	C1129,1130	PL.STYRENE CAPACITOR	CQSXA182J160
	C1131,1132	CERAMIC CAPACITOR	CCDCH180J50
	C1133,1134	CERAMIC CAPACITOR	CKDYX473M25
	C1135	CERAMIC CAPACITOR	CKDYX473M25
	C1136	CERAMIC CAPACITOR	CCDCH220J50
	C1138	ELECTR.CAPACITOR	CEAS101M10
	C1139,1140	CERAMIC CAPACITOR	CKDYX473M25
	C1137		CCDCH030C50
	C1141	ELECTR.CAPACITOR	CEAS101M10
	C1142	CERAMIC CAPACITOR	CKDYX473M25
	C1143	ELECTR.CAPACITOR	CEAS101M10
	C1144,1145	CERAMIC CAPACITOR	CKDYX473M25
	C1147,1148	CERAMIC CAPACITOR	CKDYX473M25
	C1149	CERAMIC CAPACITOR	CCCCH101J50
	C1150	CERAMIC CAPACITOR	CKDYX473M25
	C1151,1152	CERAMIC CAPACITOR	CCDCH100D50
	C1154	ELECTR.CAPACITOR	CEAS101M10
	C1155,1156	CERAMIC CAPACITOR	CKDYX473M25
	C1157	ELECTR.CAPACITOR	CEAS101M10
	C1158	CERAMIC CAPACITOR	CKDYB103K50
	C1159	CERAMIC CAPACITOR	CKDYB102K50
	C1160	CERAMIC CAPACITOR	CKDYX473M25
	C1161-1163	CERAMIC CAPACITOR	CKDYB102K50
	C1164	CERAMIC CAPACITOR	CCDCH270J50
	C1165,1166	CERAMIC CAPACITOR	CKDYX473M25

## RESISTORS

VR1101-1104	VR	VRTS6HS103
VR1105,1106	VR	VRTS6HS472
VR1107	VR	VRTB6VS472
	Other resistors	RD1/8PM□□□J

## OTHERS

	SOCKET 9-P	AKP-076
X1102	CERAMIC RESONATOR	ASS1045
X1103	CRYSTAL RESONATOR	ASS1035
X1104	CRYSTAL RESONATOR	ASS1047

Mark	No.	Description	Parts No.
DAC ASS'Y (AWZ2979)			
SEMICONDUCTOR			
	IC1201-1203	IC	PD0029
	IC1204	D/A CONVERTER	UPD6376CX
	IC1205,1206	IC	PCM56P
	IC1207	D/A CONVERTER	UPD6376CX
	IC1208	OP-AMP IC	M5218PF
	IC1209	LOGIC IC	TC4052BP
	IC1210,1211	OP-AMP IC	M5218PF
	IC1212	LOGIC IC	TC4052BP
	IC1213,1214	OP-AMP IC	M5218PF
	IC1215	LOGIC IC	TC4052BP
	IC1216	OP-AMP IC	M5218PF
	IC1217	REGULATOR IC	NJM79L05A
	IC1218	REGULATOR IC	NJM7805FA
	IC1219	DOLBY-B IC	LA2730
	IC1220	OP-AMP IC	M5218L

## COILS

L1201,1202	FERRITE BEAD	ATX1008-A
L1203-1208	AXIAL INDUCTOR	LAU330K
L1209-1213	FERRITE BEAD	ATX1008-A
L1215,1216	FERRITE BEAD	ATX1008-A

## CAPACITORS

C1201	ELECTR.CAPACITOR	CEAS101M10
C1202	CERAMIC CAPACITOR	CKDYB102K50
C1203-1205	CERAMIC CAPACITOR	CKDYX473M25
C1206	CERAMIC CAPACITOR	CKDYB102K50
C1207-1214	CERAMIC CAPACITOR	CKDYX473M25
C1215,1216	ELECTR.CAPACITOR	CEAS470M10
C1217,1218	CERAMIC CAPACITOR	CKDYX473M25
C1219	ELECTR.CAPACITOR	CEAS101M10
C1220,1221	ELECTR.CAPACITOR	CEAS470M10
C1222,1223	CERAMIC CAPACITOR	CKDYX473M25
C1224	ELECTR.CAPACITOR	CEAS101M10
C1225,1226	ELECTR.CAPACITOR	CEAS470M25
C1227,1228	MYLOR FILM CAPACITOR	CQMA102J50
C1229,1230	MYLOR FILM CAPACITOR	CQMA272J50
C1231,1232	CERAMIC CAPACITOR	CCCCH101J50
C1233,1234	ELECTR.CAPACITOR	CEAS470M25
C1235,1236	MYLOR FILM CAPACITOR	CQMA272J50
C1237,1238	ELECTR.CAPACITOR	CEAS470M25
C1239,1240	PL.STYRENE CAPACITOR	CQSXA152J160
C1241,1242	MYLOR FILM CAPACITOR	CQMA102J50
C1243,1244	MYLOR FILM CAPACITOR	CQMA272J50
C1245,1246	CERAMIC CAPACITOR	CCCCH101J50
C1247,1248	ELECTR.CAPACITOR	CEAS470M25

Mark	No.	Description	Parts No.
	C1249,1250	MYLOR FILM CAPACITOR	CQMA102J50
	C1251,1252	ELECTR.CAPACITOR	CEAS470M25
	C1253,1254	PL.STYRENE CAPACITOR	CQSXA152J160
	C1255-1258	ELECTR.CAPACITOR	CEAS470M25
	C1259,1260	MYLOR FILM CAPACITOR	CQMA102J50
	C1261,1262	MYLOR FILM CAPACITOR	CQMA272J50
	C1263,1264	CERAMIC CAPACITOR	CCCCH101J50
	C1265,1266	ELECTR.CAPACITOR	CEAS470M25
	C1267	MYLOR FILM CAPACITOR	CQMA102J50
	C1268	MYLOR FILM CAPACITOR	CQMA392J50
	C1269	ELECTR.CAPACITOR	CEAS470M25
	C1270	ELECTROLYTIC CAPACIT	CEAS010M50
	C1271	PL.STYRENE CAPACITOR	CQSXA152J160
	C1272	MYLOR FILM CAPACITOR	CQMA471J50
	C1273	ELECTR.CAPACITOR	CEAS101M10
	C1274	ELECTR.CAPACITOR	CEAS100M50
	C1275	ELECTR.CAPACITOR	CEAS470M25
	C1276	ELECTR.CAPACITOR	CEAS100M50
	C1277	ELECTR.CAPACITOR	CEAS470M25
	C1278	ELECTR.CAPACITOR	CEAS220M16
	C1279	ELECTR.CAPACITOR	CEAS470M25
	C1280	ELECTR.CAPACITOR	CEAS100M25
	C1281	ELECTR.CAPACITOR	CEASR33M50
	C1282	AUDIO FILM CAPACITOR	CFTXA104J50
	C1283	MYLOR FILM CAPACITOR	CQMA333J50
	C1284	ELECTR.CAPACITOR	CEAS010M50
	C1285	ELECTR.CAPACITOR	CEAS220M16
	C1286	ELECTR.CAPACITOR	CEAS101M16
	C1287	MYLOR FILM CAPACITOR	CQMA472J50
	C1288	MYLOR FILM CAPACITOR	CQMA333J50
	C1289	ELECTR.CAPACITOR	CEAS470M25
	C1290-1295	CERAMIC CAPACITOR	CKDYX473M25
	C1296	CERAMIC CAPACITOR	CKDYB102K50
<b>RESISTORS</b>			
	R1286	METAL OXIDE RESISTOR	RS2LMF151J
	R1287,1288	METAL OXIDE RESISTOR	RS3LMF101J

Mark	No.	Description	Parts No.
	VR1201,1202	VR	VRTS6HS104
	VR1203	VR	VRTS6VS103
		Other resistors	RD1/8PM□□□J
<b>TUNER ASS'Y (AWE1160)</b>			
<b>SEMICONDUCTORS</b>			
	IC431	AM/FM IC	LA1265S
	IC451	MPX IC	AN7470P
	IC471	PLL IC	LM7001
	Q401	MOS-FET	2SK241
	Q402	TRANSISTOR	2SC2786
	Q403	TRANSISTOR	2SC2668
	Q405	N-FET	2SK161
	Q421	TRANSISTOR	2SC2668
	Q451	TRANSISTOR	2SC2603
	Q452,453	TRANSISTOR	2SC1740S
	Q454	TRANSISTOR	2SA933S
	Q471	N-FET	2SK246
	Q472	TRANSISTOR	2SC1740SLN
	Q473,474	TRANSISTOR	RN2201
	D401-403	VARI-CAP DIODE	1SV147
	D431-435	DIODE	1SS252
<b>COILS &amp; TRANSFORMERS</b>			
	F421	CERAMIC FILTER	ATF-107
	F422	CERAMIC FILTER	ATF-119
	F431	CERAMIC FILTER	ATF1042
	F461	FILTER	ATF-164
	L401	COIL	ATC1001
	L402	COIL	ATC1002
	L403	COIL	ATC1004
	L404	COIL	ATC1005
	L405	COIL	ATC1003
	L406,407	AXIAL INDUCTOR	LAU2R2M
	T402	IF TRANSFORMER	ATE-063
	T431	IF TRANSFORMER	ATE1001
	T432	IF TRANSFORMER	ATE1002
<b>CAPACITORS</b>			
	C400	CERAMIC CAPACITOR	CKDYF102Z50
	C401	CERAMIC CAPACITOR	CCDRH330J50
	C402	CERAMIC CAPACITOR	CCDRH390J50
	C403	CERAMIC CAPACITOR	ACG1021
	C404,405	CERAMIC CAPACITOR	CCDRH330J50
	C406	CERAMIC CAPACITOR	CCDCH020C50
	C409	CERAMIC CAPACITOR	ACG1017
	C410-412	CERAMIC CAPACITOR	ACG1021
	C413	CERAMIC CAPACITOR	CCDCH150J50
	C414	CERAMIC CAPACITOR	CCDCH330J50

Mark	No.	Description	Parts No.
	C415	CERAMIC CAPACITOR	CCDCH080D50
	C416	CERAMIC CAPACITOR	CCDTH180J50
	C417	CERAMIC CAPACITOR	CCDCH010C50
	C418,419	CERAMIC CAPACITOR	ACG1021
	C420	ELECTR.CAPACITOR	CEAS100M50
	C421,422	CERAMIC CAPACITOR	ACG1021
	C433	ELECTR.CAPACITOR	CEAS4R7M50
	C435	CERAMIC CAPACITOR	CKCYF472Z50
	C436	CERAMIC CAPACITOR	CKCYX683M25
	C437	ELECTR.CAPACITOR	CEAS100M50
	C438	ELECTR.CAPACITOR	CEAS2R2M50
	C439,440	CERAMIC CAPACITOR	CKCYF223Z50
	C441	CERAMIC CAPACITOR	ACG1022
	C442	ELECTR.CAPACITOR	CEAS0R1M50
	C443	ELECTR.CAPACITOR	CEAS3R3M50
	C444	CERAMIC CAPACITOR	ACG1018
	C445	CERAMIC CAPACITOR	ACG1016
	C446,447	MYLOR FILM CAPACITOR	CQMA561J50
	C451	ELECTR.CAPACITOR	CEAS101M16
	C452	ELECTR.CAPACITOR	CEANP4R7M35
	C453	CERAMIC CAPACITOR	CKCYF473Z50
	C454	CAPACITOR	ACE1039
	C455	ELECTR.CAPACITOR	CEAS3R3M50
	C456	ELECTROLYTIC CAPACIT	CEAS1R5M50
	C457	ELECTR.CAPACITOR	CEASR22M50
	C458	ELECTR.CAPACITOR	CEAS470M16
	C459,460	MYLOR FILM CAPACITOR	CQMA102J50
	C461,462	ELECTR.CAPACITOR	CEAS4R7M50
	C463,464	ELECTR.CAPACITOR	CEAS470M16
	C465	CERAMIC CAPACITOR	ACG1021
	C466	CERAMIC CAPACITOR	CCCSL121J50
	C471	CERAMIC CAPACITOR	ACG1021
	C472	CERAMIC CAPACITOR	ACG1022
	C473	CERAMIC CAPACITOR	ACG1021
	C475	ELECTR.CAPACITOR	CEAS100M50
	C476	CERAMIC CAPACITOR	ACG1021
	C477	CERAMIC CAPACITOR	CKCYF103Z50
	C478	AUDIO FILM CAPACITOR	CFTXA224J50
	C479	CERAMIC CAPACITOR	ACG1025
	C480	CERAMIC CAPACITOR	ACG1021
	C481,482	CERAMIC CAPACITOR	CCDCH150J50
	C483	CERAMIC CAPACITOR	ACG1017
	C484	ELECTR.CAPACITOR	CEAS470M16
	C485	CERAMIC CAPACITOR	ACG1021

## RESISTORS

VR431	VR(10K)	ACP1025-A
VR432	VR	VRTS6VS153
VR451	VR(4.7K)	ACP1024-A
	Other resistors	RD1/8PM□□□J

Mark	No.	Description	Parts No.
OTHERS			
		ANTENNA TERMINAL	AKA1014
		4-P	
		AM RF TUNING BLOCK	AXX1011
	X431'	CERAMIC RESONATOR	ATF1027
	X471	CRYSTAL	ASS1005
		RESONATOR	

## AMP ASS'Y (AWH1009)

AMP ASS'Y (AWH1009) is a part of POWER SUPPLY & U-COM ASS'Y (AWZ2827).

## SEMICONDUCTORS

IC601,602	AUDIO IC	PA0045
Q601,602	TRANSISTOR	2SA979
Q603,604	TRANSISTOR	2SC2240
Q605,606	TRANSISTOR	2SA970
Q607,608	TRANSISTOR	2SA1145
Q609-612	TRANSISTOR	2SC2705
Q613,614	TRANSISTOR	2SA1145
Q661,662	TRANSISTOR	2SC2240
D601-612	DIODE	1SS252
D661-666	DIODE	1SS252
D670-673	ZENER DIODE	RD12ESB

## CAPACITORS

C601,602	MYLOR FILM CAPACITOR	CQMA102J50
C603,604	ELECTR.CAPACITOR	CEAS2R2M50
C605,606	CERAMIC CAPACITOR	CCCSL221K500
C607,608	ELECTROLYTIC CAPACIT	CEXA471M16
C609,610	MICA CAPACITOR	CMA100D500
C611,612	CERAMIC CAPACITOR	CCCSL020C500
C613,614	CERAMIC CAPACITOR	CCCSL680K500
C615,616	CERAMIC CAPACITOR	CCCSL151K500
C617,618	CERAMIC CAPACITOR	CCCSL680K500
C619-621	CERAMIC CAPACITOR	CCCSL101K500
C622	CERAMIC CAPACITOR	CCDSL101K500
C661,662	ELECTROLYTIC CAPACIT	CEANP010M100

## RESISTORS

R601,602	CARBON FILM RESISTOR	RD1/4PM474J
R603,604	CARBONFILM RESISTOR	RD1/4PM331J
R605,606	CARBON FILM RESISTOR	RDR1/4PM393J
R607,608	CARBON FILM RESISTOR	RD1/4PM472J
R609,610	CARBONFILM RESISTOR	RD1/4PM331J

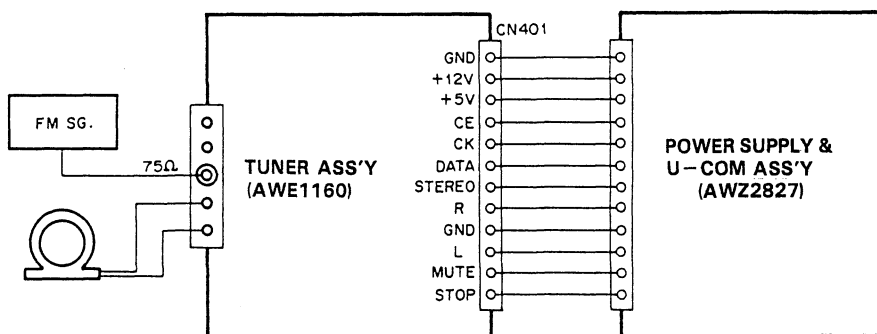


Mark	No.	Description	Parts No.
	R611,612	CARBON FILM RESISTOR	RD1/4PM271J
	R613-616	FUSLIBLE RESISTOR	RFA1/4PS101J
	R617,618	CARBON FILM RESISTOR	RDR1/4PM391J
	R619,620	CARBON FILM RESISTOR	RDR1/2PM123J
	R621,622	FUSLIBLE RESISTOR	RFA1/4PS121J
	R623,624	CARBON FILM RESISTOR	RD1/4PM104J
	R625,626	FUSLIBLE RESISTOR	RFA1/4PS470J
	R637-640	CARBON FILM RESISTOR	RD1/4PMF470J
	R641-644	CARBON FILM RESISTOR	RD1/4PMF151J
	R645-648	CARBON FILM RESISTOR	RD1/4PMF821J
	R661-664	CARBON FILM RESISTOR	RD1/4PMF222J
		Other resistors	RD1/8PM□□□J

## 5. ADJUSTMENTS

### 5.1 TUNER SECTION

1. Wiring ..... Connect the wires as shown in Fig.1 (FM ANT. terminal: 75Ω).
2. Preset ..... Set the VR451 to center position.
3. When the SD model is used, set the band select switch to AM:10kHz/FM:100kHz.



#### FM Section

Note: Stereo modulation: Main 1kHz L+R  $\pm 68.25$ kHz  
Pilot 19 kHz  $\pm 6.75$ kHz

Order	Item	SSG			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Remarks
1	Checking front end VT	No signal			108MHz	—	Check that the voltage between terminal 41 and ground is $8.7 \pm 2.0$ V.
2	Checking front end VT				87.5MHz	—	Check that the voltage between terminal 41 and ground is $3.4 \pm 1.5$ V.
3	Increasing front end sensitivity	98MHz		Weak input	98MHz	L402, L404, T402	Set the voltage between terminal 43 and ground to maximum, and check that the practical sensitivity is as specified.
4	Center adjustment	98MHz		60dB $\mu$ V	98MHz	L431	Adjust the voltage between terminals 45 and 46 to $0 \pm 50$ mV.
5	Checking monophonic distortion	98MHz	1kHz $\pm 75$ kHz dev.	60dB $\mu$ V	98MHz	—	Check that the monophonic distortion is as specified.
6	Adjusting VCO		OFF	60dB $\mu$ V		VR451	Adjust the output of terminal 44 to $76.0\text{kHz} \pm 1.0\text{kHz}$ .
7	Adjusting stereo distortion	98MHz	L-ONLY R-ONLY	60dB $\mu$ V	98MHz	T402	Minimize the distortion within 1/4 rotation of the core, and check conformity to the specification.
8	Checking separation	98MHz	L-ONLY R-ONLY	60dB $\mu$ V	98MHz	—	Check that the separation of L $\rightarrow$ R and R $\rightarrow$ L is as specified.
9	Checking lighting levels of TUNED and STEREO IND.	98MHz	STEREO		98MHz	—	Check that the lighting levels of TUNED and STEREO IND. are as Specified.

## AM Section

Order	Item	SSG			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Remarks
1	Checking front end VT	No signal			1700kHz	—	Check that the voltage between terminal 41 and ground is $7.5 \pm 1.0V$ .
2	Checking front end VT				530kHz	—	Check that the voltage between terminal 41 and ground is $1.5 \pm 0.5V$ .
3	Checking front end sensitivity	1000kHz	400kHz 30% MOD.	Practical sensitivity level	1000kHz	—	Check that the practical sensitivity (maximum sensitivity) is as specified.
4	Adjusting lighting level of TUNED IND.	1000kHz			1000kHz	VR431	Adjust the lighting level of TUNED IND. to $55dB\mu V/m \pm 3dB$ .

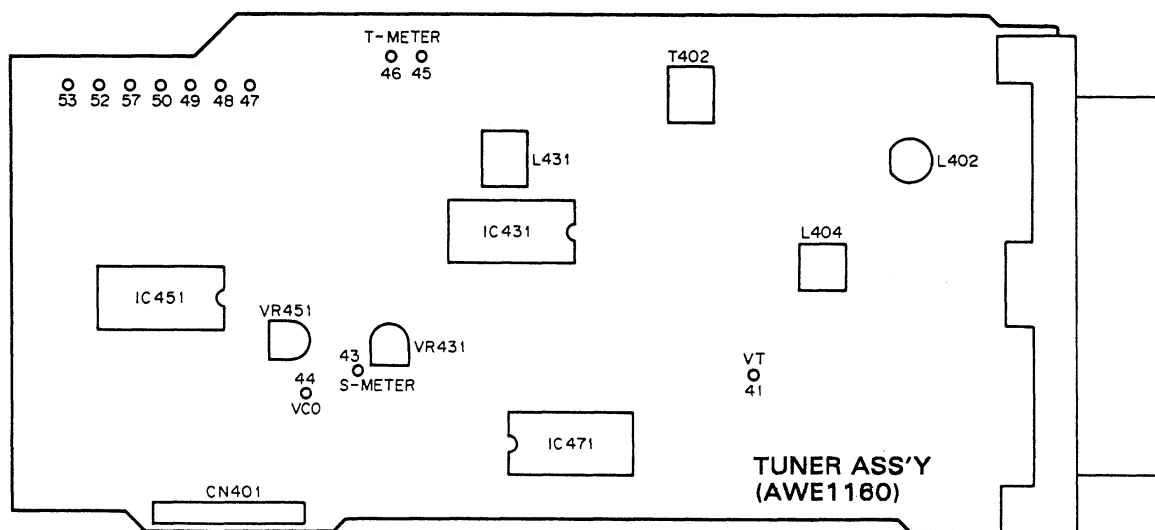


Fig. 5-1 adjustment point

## 5.2 DSP SECTION

Note :

The following instruments are required to conduct precise adjustments. If these instruments are not available, do not turn the semifixed VRs for adjustments.

The required instruments are :

1. Oscilloscope (100MHz)
2. FET probe for oscilloscope
3. Low frequency generators with polarity switching (2 units)
4. Noise meter

### • DSP microcomputer assembly

1. Input the non-signal, turn off the direct switch on the front panel of the main unit, and press the theater key of the surround mode switch.
2. Connect the oscilloscope to TP (LRCK) and TP (MCK).
3. First turn VR1107 all the way left (counter-clockwise). Turn VR1107 slowly to the right until the time interval between the 0.5V point on the rising TP (MCK) signal and the 4.5V point on the falling TP (LRCK) signal becomes  $50 \pm 5$  nsec for the first time (see figure 5-2).

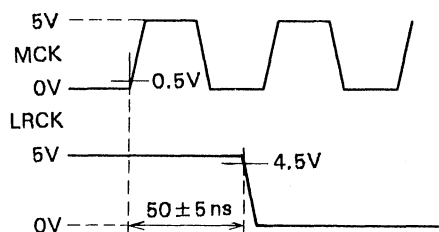


Fig. 5-2

\* Use an oscilloscope specified for 100MHz operations with FET probes.

#### 4. L channel offset adjustment 1

Connect the oscilloscope to TP (SHL), and check that the waveform looks like the one in figure 5-3. Next adjust VR1101 so that the lower level of the waveform becomes  $-0.8V \pm 0.05V$ .

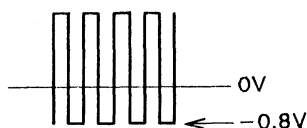


Fig. 5-3

#### 5. R channel offset adjustment 1

As conducted in step 4, adjust VR1102 so that the lower level of the waveform becomes  $-0.8V \pm 0.05V$  while observing the TP (SHR) waveform.

#### 6. L channel offset adjustment 2

Apply the 2.5Vrms/400Hz sinusoidal wave to the input terminal of the CD, and connect the oscilloscope to the front amplifier pre-out terminal (Lch). Adjust VR1105 so that the sinusoidal wave is truncated at the top and bottom by the same amount. After that, input the non-signal and make sure whether noise waveforms with amplitudes about 1Vp-p can be seen at TP (MSBL) using the oscilloscope. If the noise cannot be seen, adjust VR1105 carefully until noise waveforms with amplitudes of about 1Vp-p appear.

#### 7. R channel offset adjustment 2

Apply the same signal as in step 6. to the input terminal of the CD. Adjust VR1106 so that the waveform at the pre-out terminal (Rch) is truncated at the top and bottom by the same amount, and then input the non-signal. Adjust VR1106 carefully until noise waveforms with amplitudes of about 1Vp-p appear at TP (MSBR), as done for Lch.

#### 8. Apply the 2Vrms/400Hz sinusoidal wave to the input terminal of the CD, and connect the distortion meter to the front amplifier pre-out terminal (Lch). Adjust VR1103 so that the distortion ratio becomes minimized (about 0.015%).

#### 9. Apply the same signal as in step 8. to the input terminal of the CD, and adjust VR1104 so that the distortion ratio at the pre-out terminal (Rch) is minimized (about 0.015%).

#### 10. Press the dolby pro logic key of the surround mode switch, and input the non-signal. Connect the noise meter to the front amplifier pre-out (Lch), and adjust VR1201 so that the noise level becomes minimized.

#### 11. As done in step 10., adjust VR1202 so that the noise level at the pre-out terminal (Rch) becomes minimized.

#### 12. Apply the sinusoidal wave with 212mVrms/1kHz in the normal phase to the Lch input terminal of the CD and that in the inverted phase to Rch, and adjust VR1203 so that the signal level at TP (dolby) becomes $212mV \pm 10mV$ .

## 6. IC INFORMATION

### 6.1 PD0069B1 : DSP CONTROL

#### • Terminal function

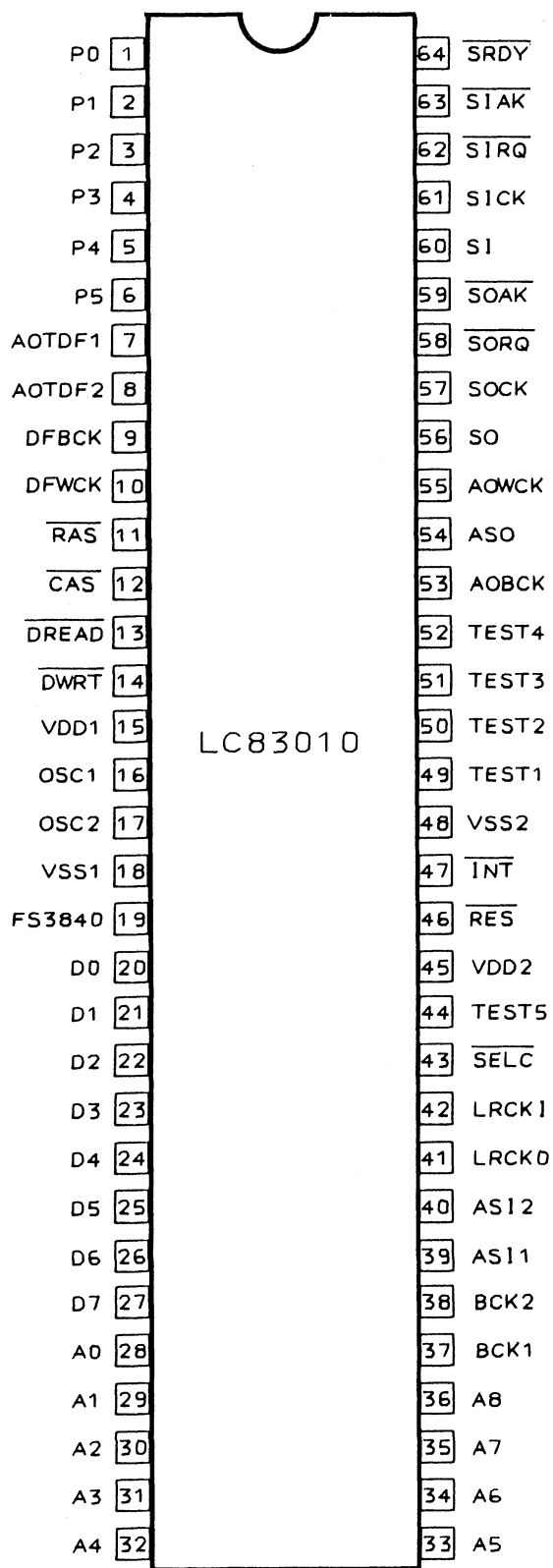
Pin No.	Pin name	I/O	Description	Active
1	VDD	—	5V	
2	P26	I/O	N.C.	
3	P25		N.C.	
4	P24		ATTB for REAR/CENTER	* 1
5	P23		ATTA for FRONT	
6	P22		ATTA for FRONT	
7	P21		Chip Select (PD0051)	L
8	P20		DATA/ADDRESS (PD0051)	
9	CLK2		CLOCK (PD0051/LA8301)	
10	SO2	O	DATA (PD0051/LA8301)	
11	SI2	I	N.C.	
12	P33	I/O	DRDY (PD0051)	
13	P32		RESET (PD0051)	L
14	P31		N.C.	
15	P30		RQ (CXP80316: PDG0056)	
16	CLK1		CLOCK (CXP80316: PDG0056)	
17	SO1	O	N.C.	
18	SI1	I	DATA (CXP80316: PDG0056)	
19	$\overline{\text{INT1}}$		N.C.	
20	CN V <sub>SS</sub>		N.C.	
21	$\overline{\text{RST}}$		RESET input	L
22	V <sub>SS</sub>	—	GND	
23	XIN	I	Connected to oscilator (10MHz).	
24	XOUT	O		
25	$\phi$ OUT	O	N.C.	

Pin No.	Pin name	I/O	Description	Active
26	P17	I/O	SRDY (LA8301)	
27	P16		SITK (LA8301)	
28	P15		STRQ (LA8301)	
29	P14		RESET (LA8301)	
30	P13	I/O	N.C.	
31	P12			
32	P11			
33	P10			
34	P07			
35	P06			
36	P05			
37	P04			
38	P03			
39	P02			
40	P01			
41	P00		ATTB for REAR/CENTER	* 1
42	P27		MUTE	H

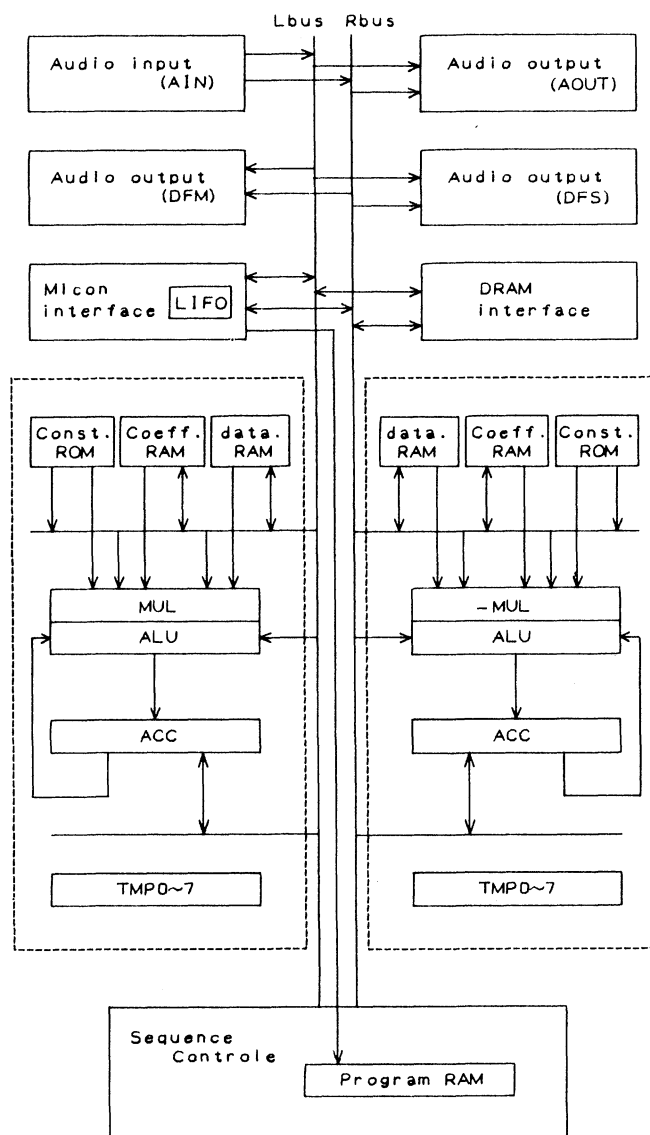
#### \* 1 : Gain control

	ATTA	ATTB
0dB	LOW	LOW
4dB	HIGH	LOW
8dB	LOW	HIGH
10dB	HIGH	HIGH

## 6.2 LC83010P : DSP



• PIN POSITION



• BLOCK DIAGRAM

• Terminal function

Pin No.	Pin name	I/O	Description
1   6	P0   P5	I/O	General purpose input/output port
7	AOTDF1	O	Serial output pin for audio data (For high presence 1 )
8	AOTDF2		Serial output pin for audio data (For high presence 2 )
9	DFBCK		Bit clock output pin for AOTDF 1 and 2 (32 fs and 48 fs clocks)
10	DFWCK		Word clock output pin for AOTDF 1 and 2
11	$\overline{\text{RAS}}$		Output pin for RAS signals when accessing the external DRAM
12	$\overline{\text{CAS}}$		Output pin for CAS signals when accessing the external DRAM
13	$\overline{\text{DREAD}}$	O	Output pin for data read signals when accessing the external DRAM
14	$\overline{\text{DWRT}}$		Output pin for data write signals when accessing the external DRAM
15	VDD1		+5V power line pin
16	OSC1	I	Pin for the crystal oscillator
17	OSC2	O	
18	Vss1	I	Ground pin
19	FS3840	O	Output pin for 384 fs
20   27	D0   D7	I/O	Data input/output pin for an external DRAM
28   36	A0   A8	O	Address input/output pin for an external DRAM
37	BCK1	I	Bit clock pin for ASI 1 input
38	BCK2	I/O	Bit clock pin for ASI 2 input
39	ASI1	I	Pin for serial audio data input 1
40	ASI2		Pin for serial audio data input 2
41	LRCKO	O	Output pin for L/R channel identifier signal (" H " for L channel and " L " for R channel)

Pin No.	Pin name	I/O	Description
42	LRCKI	I	Input pin for L/R channel identifier signal (" H " for L channel and " L " for R channel)
43	$\overline{\text{SELC}}$		Pin for selecting whether L/R channel identifier signal input is taken from the external (LRCKI) or the internal (internal demultiplier)
44	TEST5	O	Test output pin
45	VDD2	I	+5V power line pin
46	$\overline{\text{RES}}$		Reset pin
47	$\overline{\text{INT}}$		Interruption request input pin
48	Vss2		Ground pin
49   52	TEST1   TEST4	O	Test pin
53	AOBCK		Output pin for ASO bit clock (32fs and 48fs clocks)
54	ASO		Output pin for serial audio data
55	AOWCK	O	Output pin for ASO word clock
56	SO		Output pin for (8-bit) serial data to the controller microcomputer
57	SOCK	I	Input pin for the serial SO clock
58	$\overline{\text{SORQ}}$		Input pin for serial output request signals
59	$\overline{\text{SOAK}}$	O	Output pin indicating serial data being output
60	SI	I	Input pin for (8 bit) serial data from the control microcomputer
61	SICK		Input pin for the serial SI clock
62	$\overline{\text{SIRQ}}$		Input pin for serial input request signals
63	$\overline{\text{SIACK}}$	O	Output pin indicating serial input being executed
64	$\overline{\text{SRDY}}$	I	Input pin for ready signals indicating completion of serial data input from the controller microcomputer.

## 6.3 PDG055 – A : OPERATION CONTROL

## • Terminal function

Pin No.	Pin name	I/O	Description	Active
1	S4/PG0	O	Segment output	
2	S5/PG1			
3	S6/PG2			
4	S7/PG3			
5	S8			
6	S9			
7	S10			
8	S11			
9	S12			
10	S13			
11	S14			
12	S15			
13	S16/T15			
14	S17/T14			
15	S18/T13			
16	S19/T12			
17	S20/T11			
18	S21/T10			
19	S22/T9		Grid output Key scan output	
20	S23/T8			
21	T7			
22	T6			
23	T5			
24	T4			
25	T3			
26	T2			
27	T1			
28	T0			
29	INT	I		

Pin No.	Pin name	I/O	Description	Active
30	XTAL	—	Connected to ceramic oscillator (4.19MHz)	
31	EXTAL	I		
32	$\overline{\text{RST}}$		Reset input (PDG056)	L
33	NC	—		
34	VDD		5V	
35	P10/AD0	I/O	Key scan input	
36	P11/AD1			
37	P12/AD2			
38	P13/AD3			
39	P14/AD4			
40	P15/AD5			
41	P16/AD6			
42	P17/AD7			
43	NC	—		
44	PX0/ $\overline{\text{SC}}$	I/O	Serial Clock (PDG056, MSC7112)	
45	PX1/SO		Serial Data Out (PDG056, MSC7112)	
46	PX2/SI		Serial Data In (PDG056, MSC7112)	
47	PA0		Main Control IC IRQ (PDG056)	L
48	PA1		Rotary Pulse Encoder input	H
49	PA2		Rotary Pulse Encoder input	H
50	PA3		Input of comparison result	
51	PF0		D/A Rudder R7 MSB Bit	
52	PF1		D/A Rudder R6	
53	PF2		D/A Rudder R5	
54	PF3		D/A Rudder R4	



Pin No.	Pin name	I/O	Description	Active
55	PE0		D/A Rudder R3	
56	PE1		D/A Rudder R2	
57	PE2		D/A Rudder R1	
58	PE3		D/A Rudder R0 LSB Bit	
59	PY0	O		
60	PY1/PWM		PWM output (DC for Enhancer)	
61	PY2/WP	I	Remote Control Unit B Check	L
62	PY3/RMC		Remote Control Unit input	L
63	PD0	I/O	Level Meter Mode SW0 (TC4051 A)	
64	PD1		Level Meter Mode SW1 (TC4051 B)	
65	PD2		Level Meter Mode SW2 (TC4051 C)	
66	PD3		FL Driver IC (MSC7112 LOAD)	
67	PC0		Motor Drive IC (TA7291S IN1)	
68	PC1		Motor Drive IC (TA7291S IN2)	
69	PC2		LED for Volume	
70	PC3		Sleep output	L
71	Vss	—	GND	
72	TX		Not used	
73	NC			
74	TEX	I	Not used	
75	VREF	—	5V Pull Up	
76	VFDP		FL Power Supply	
77	S0/PH0	I/O	Segment output	
78	S1/PH1			
79	S2/PH2			
80	S3/PH3			

## 6.7 PA0045 : NSA

### • Terminal function

Pin No.	Pin name	Description
1	PNPE	Common current to the negative input of the differential amplifier
2	PC1	Phase compensation
3	PC2	Phase compensation
4	V IN	Input from a signal voltage source
5	PC3	Phase compensation
6	PC4	Phase compensation
7	NPN E	Common current to the positive input of the differential amplifier
8	NICC	Input from a negative current source (substrate)
9	N OUT	Negative current output
10	N REF	Negative voltage compare input
11	C REF	Intermediate voltage compare input
12	P REF	Positive voltage compare input
13	P OUT	Positive current output
14	P ICC	Positive current source input

## 6.4 PD0055 : DSP

## • Terminal function

Pin No.	Pin name	I/O	Description
1	VSS 2	—	GND
2	DRSEL	I	Selector pin for logic at DRDY (pin 35). When I/F of the microcomputer can receive data with the " H " level, the logic of DRDY (35 pin) is " H ". When I/F of the microcomputer can receive data with the " L " level, the logic of DRDY (35 pin) is " L ".
3	XIN	O	Pin for crystal oscillator
4	XOUT		
5	EXCK	I	External clock input
6	TEST 1		Test mode pin. Normally open.
7	TEST 2		
8	$\overline{\text{RAS}}$	O	Row address strobe pin for an external DRAM
9	$\overline{\text{WE}}$		Write enable pin for an external DRAM
10	$\overline{\text{OE}}$		Output enable pin for an external DRAM
11	$\overline{\text{CAS}}$		Column address strobe pin for an external DRAM
12   15	RAM3IO3   RAM3IO0	I/O	Data I/O pin for an external DRAM
16   19	RAM2IO3   RAM2IO0		
20   23	RAM2IO3   RAM1IO0		
24   31	A0   A7		
32	VSS1	—	GND
33	VDD2	—	Power supply terminal
34	$\overline{\text{RESET}}$	I	Reset signal input terminal

Pin No.	Pin name	I/O	Description
35	$\overline{\text{DRDY}}$	O	Output pin indicating whether I/F data from the microcomputer can be received. When DRSEL (pin 2) is at the " L " level, this pin indicates receive enable with " L " and receive disable with " H ". When DRSEL (pin 2) is at the " H " level, this pin indicates receive enable with " H " and receive disable with " L ". When CS (pin 39) is at the " H " level, this pin shows high impedance.
36	RDATA	I	Input pin for I/F data from the microcomputer
37	$\overline{\text{RCK}}$		Input pin for I/F clock from the microcomputer
38	A/D		Input pin for address/data identifier signals from the interface. " H " for address and " L " for data.
39	$\overline{\text{CS}}$	I	DASP chip selector input pin. Selected with the " L " level.
40	CK SEL2		Selector pin for the clocks from CKOUT (pin 62)
41	CK SEL1		Selector pin for the master clock frequencies
42	XSEL		Oscillator/external clock selector pin
43	WCK	O	Word clock output terminal
44	64FSOUT2		64 FS bit clock output terminal
45	64FSOUT1		
46	32FSOUT2		32 FS bit clock output pin
47	32FSOUT1		
48	LRCK OUT2		LR clock output pin. Lch when LR CKOUT1 is " H ", and Rch when
49	LRCK OUT1		" L ". Rch when LR CKOUT2 is " H ", and Lch when " L ".
50   52	AOUT 3   AOUT 1	O	Output pin for Lch/Rch serial audio data

Pin No.	Pin name	I/O	Description
53	LRCKIN2	I	LR clock input pin 2 to receive serial audio data
54	BCKIN2		Bit clock input pin 2 to receive serial audio data
55	AIN 2		Input pin 2 for serial Lch/Rch audio data
56	LRCKIN 1		LR clock input pin 1 to receive serial audio data
57	BCKIN		Bit clock input pin 1 to receive serial audio data
58	AIN1	I	Input pin 1 for serial Lch/Rch audio data
59	ADCLRCK	O	LR clock output pin to A/D converter
60	ADCBCK		Bit clock output pin to A/D converter
61	TEST 3	I	Test mode pin. Normally open.
62	CKOUT	O	Output pin for 3/2 demultiplied frequency of the internal system clock or master clock
63	MOUT		Master clock output pin
64	VDD 1	—	Power supply pin

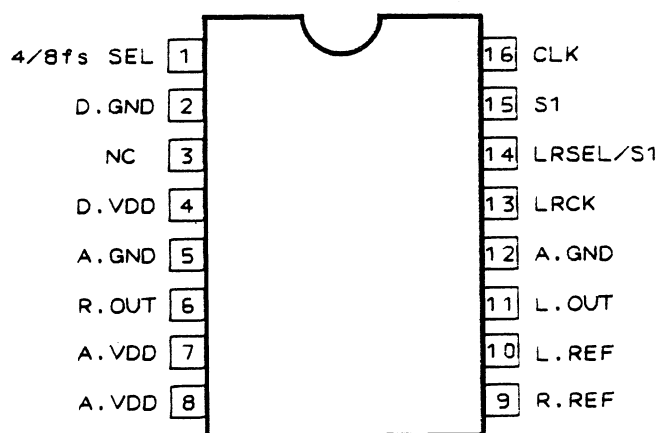
### Selection of the master clocks

XSEL (pin 42)	Mout output (pin 63)
L	EXCK output
H	Crystal oscillator output

### Selection of internal system clocks

CKSEL 1 (pin 41)	CKSEL 2 (pin 40)	Internal system clock	CKOUT output (pin 62)
L	L	2 frequency demultiplied master clock	3/2 frequency demultiplied master clock
H	L	3 frequency demultiplied master clock	3/2 frequency demultiplied master clock
L	H	2 frequency demultiplied master clock	2 frequency demultiplied master clock
H	H	3 frequency demultiplied master clock	3 frequency demultiplied master clock

## 6.5 UPD6376CX : D/A CONVERTER






















## • Terminal function


Pin No.	Pin name	I/O	Description
1	4/8fs SEL	I	Lch and Rch data are input from pin 15 in the time-sharing mode when this pin is "low" or "open". When this pin is "high", Lch data are input from the pin 15 and Rch data are input from 14. (It is pulled down by the 100kΩ resistor inside the IC).
2	D. GND	—	Ground pin in the logic section.
3	NC		-----
4	D. VDD		Power supply pin to the logic section.
5	A. GND		External clock input
6	R. OUT	O	Output pin of analog signals at the right side.
7	A. VDD	—	Power supply pin to the analog section.
8	A. VDD		
9	R. REF		Reference voltage pin. This is normally connected to A. GND through a capacitor to reduce the impedance at high frequencies.
10	L. REF		
11	L. OUT	O	Output pin of analog signals at the left side.
12	A. GND	—	Ground pin in the analog section.
13	LRCK/ WDCK	I	When pin 1 is "low", it becomes the input pin for signals used to make the right/left judgment on input data. When pin 1 is "high", it becomes the input pin for signals used to make the word judgment.
14	LRSEL/RSI		When pin 1 is "low" or "open", it selects the left/right polarity for LRCK signals. When the LRCK signal is "high", the LRSEL pin is set to "low" in inputting Lch data. When the LRCK signal is "low", the LRSEL pin is set to "high" in inputting Lch data.
15	SI/LSI		When pin 1 is "low" or "open", this input pin alternately receives serial data in Lch and Rch. When pin 1 is "high", it serves as the input pin of serial Lch data.
16	CLK		Input pin of the read clock for serial input data.

## 6.8 PDG056 – A : SYSTEM CONTROL

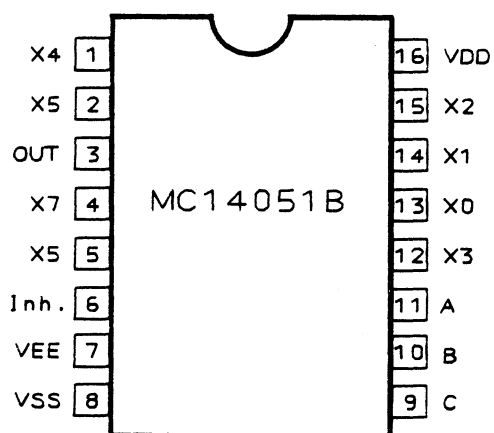
### • Terminal function

Pin No.	Pin name	I/O	Description	Active
1	PA7 P–TTUNE	I	TUNED input	
2	PA6 P–TMUTE	O	MUTING for TUNER	
3	PA5 P–STIN	I	STEREO input	
4	PA4	P–LMDT	O LM7001 Control DATA	
		P–PART1	I Destination input	
5	PA3	P–LMCK	O LM7001 Control DATA	
		P–PART2	I Destination input	
6	PA2 P–LMCE	O	LM7001 Control CE	
7	PA1 P–STVC	O	CENTER VOLUME IC (TC9154) Control STROB	
8	PA0 P–STVR	O	REAR VOLUME IC (TC9154) Control STROB	
9	PB7 P–MUTE1	O	FRONT/CENTER MUTE	
10	PB6 P–MS	O	MRS ON/OFF (MRS PRE OUT ON/OFF)	
11	PB5 P–TCS2	O	SUB SWITCH IC (TC9164/TC9163) Control STROB	
12	PB4 P–TCS1	O	MAIN SWITCH IC (TC9164/TC9163) Control STROB	
13	PB3 P–TCD	O	DATA for TC9164/TC9163/TC9154	
14	PB2 P–TCC	O	CLOCK for TC9164/TC9163/TC9154	
15	PB1 P–MUTEM	O	MUTING (PRE OUT output MUTING) for MR	
16	PB0 P–C1	O	MAIN VIDUAL SW Control	M.FUNC VCR1, 2 : H Other : L
17	PC7 P–VON1	O	MAIN VIDUAL SW Control	M.FUNC V.FUNC : L A.FUNC : L
18	PC6 P–C2	O	SUB VIDUAL SW Control	S.FUNC VCR1, 2, VDP : H Other : L
19	PC5 P–VON2	O	SUB VIDUAL SW Control	S.FUNC A.FUNC : H V.FUNC : L
20	PC4 P–SON2	O	SUB VIDUAL SW Control	S.FUNC VCR1, 2, VDP : L Other : H
21	PC3 P–VCR3	O	SUB VIDUAL SW Control (REC output control)	FUNCTION VCR1 : L Other : H
22	PC2 P–VCR2	O	SUB VIDUAL SW Control (REC output control)	FUNCTION VCR2 : L Other : H

Pin No.	Pin name	I/O	Description	Active
23	PC1 P-A1	O	MAIN VIDUAL SW Control	M.FUNC VCR1, 3 TV : L Other : H
24	PC0 P-B1	O	MAIN VIDUAL SW Control	M.FUNC VCR2, 3 TV : H Other : L
25	PD7 P-A2	O	SUB VIDUAL SW Control	S.FUNC VCR1, 3 TV : L Other : H
26	PD6 P-B2	O	SUB VIDUAL SW Control	S.FUNC VCR2, 3 TV : H Other : L
27	PD5 P-SOFF1	O	MAIN VIDUAL SW Control	M.FUNC VCR1, 2, 3 VDP : L Other : H
28	PD4 P-ADPT	O	ADPTOR ON/OFF Switching (Input control)	
29	PD3 P-SOUR	O	REC Output Control (SOURCE)	
30	PD2 P-ENH	O	ENHANCER ON/OFF Switching	
31	PD1 P-SPLIT	O	SPLIT SCREEN ON/OFF Switching	
32	Vss GND			
33	PD0	I	N.C.	
34	XTAL		Connected to cramic oscilator (8.00MHz)	
35	EXTAL			
36	RESET	I	RESET Input	
37	PE7	I	N.C.	
38	PE6 P-FLR	O	Display U-COM (PDG055 (CXP5058)) RESET Control	
39	PE5	I	N.C.	
40	PE4 SO	O	Display U-COM (PDG055 (CXP5058)) SERIAL DATA OUT Control	
41	PE3 SI	I	Display U-COM (PDG055 (CXP5058)) SERIAL DATA IN Control	
42	PE2 SCK	O	Display U-COM (PDG055 (CXP5058)) SERIAL CLOCK OUT Control	
43	PE1	I	N.C.	
44	PE0	I	N.C.	
45	PF7 P-FLRQ	O	Display U-COM (PDG055 (CXP5058)) REQUEST Control	
46	PF6 P-5V	O	5V ON/OFF SW (DSP BLOCK 5V)	
47	PF5 P-MUTER	O	REAR Output MUTING	
48	PF4	I	N.C.	

Pin No.	Pin name	I/O	Description	Active
49	PF3	I	N.C.	
50	PF2 P-PDRQ	O	DSP U-COM (PD0069A1) REQUEST Control	
51	PF1 P-PDCK	O	DSP U-COM (PD0069A1) CLOCK OUT Control	
52	PF0 P-PDDT	O	DSP U-COM (PD0069A1) DATA OUT Control	
53	PG7 P-PDRES	O	DSP U-COM (PD0069A1) DATA OUT Control	
54	PG6 P-PRY	O	POWER RELAY ON/OFF	
55	PG5 P-AC	I	POWER RELAY ON/OFF	
56	PG4 P-MRRY	O	MR POWER RELAY ON/OFF	
57	PG3 P-SPC	O	CENTER SPEAKER ON/OFF	
58	PG2 P-SPB	O	SPEAKER B ON/OFF	
59	PG1 P-SPA	O	SPEAKER A ON/OFF	
60	PG0 P-SPR	O	REAR SPEAKER ON/OFF	
61	MP GND			
62	Vss GND			
63				
64	Vdd		5V	

## 6.6 MC14051B



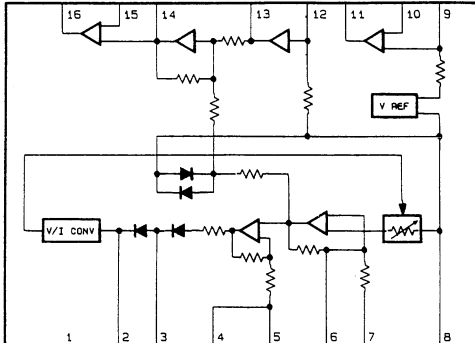
### • Terminal function

Control inputs				ON Switches
Inhibit	Select			
	C	B	A	
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	*	*	*	None

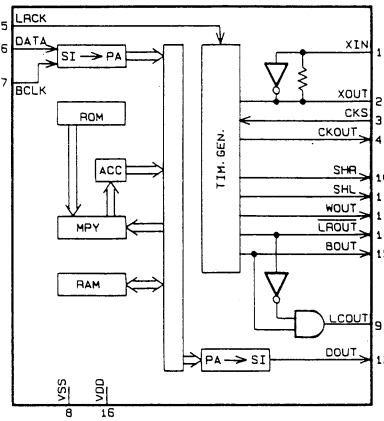
\* Don't Care

• BLOCK DIAGRAM of each IC

LA2730 DAC Ass'y (Page 24)

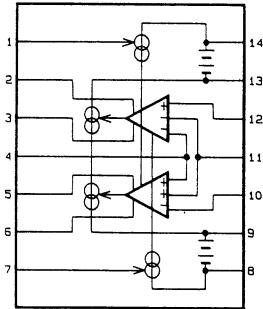


PD0029 DAC Ass'y (Page 23)

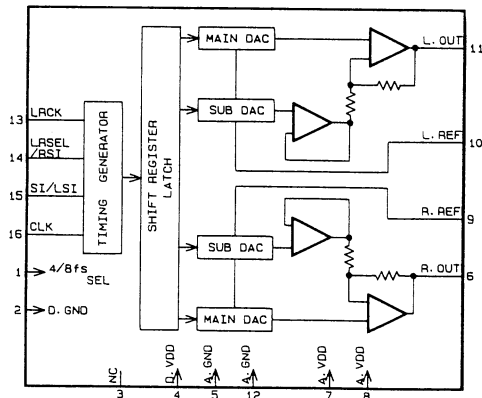


FRONT AMP Ass'y (Page 66)  
CENTER AMP Ass'y (Page 56)

PA0045

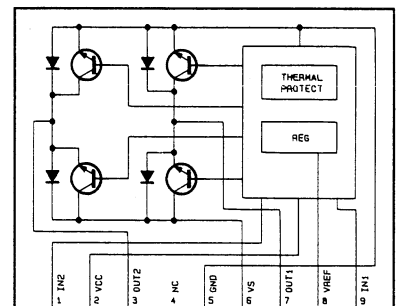


UPD6376CX DAC Ass'y (Page 23)



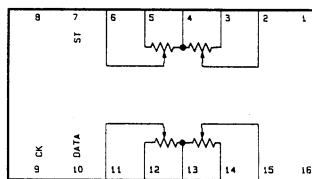
MOTOR VOLUME Ass'y (Page 41)

TA7291S



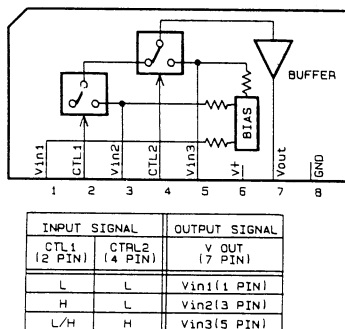
MOTOR VOLUME Ass'y (Page 42)

TC9154AP



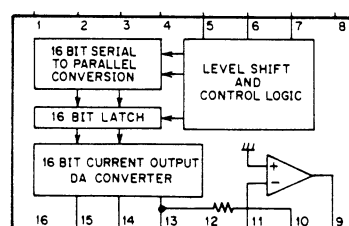
VIDEO FUNCTION Ass'y (Page 17)

NJM2234L



DAC Ass'y (Page 23)

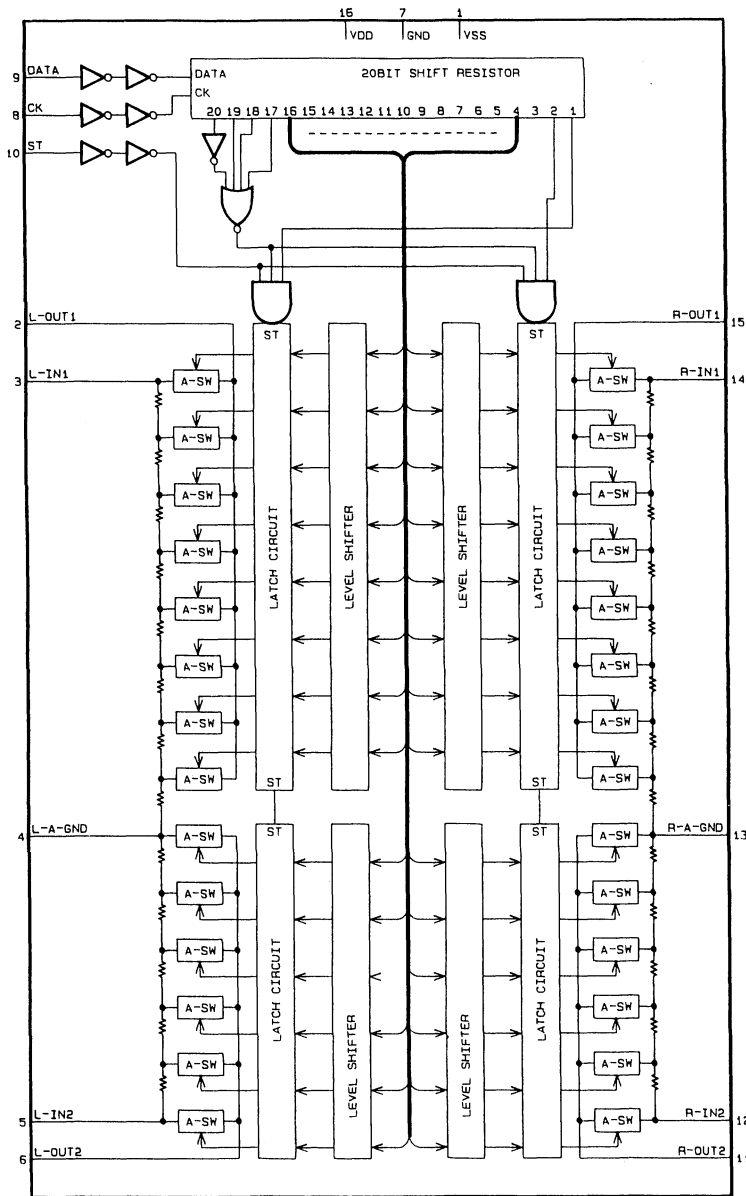
PCM56P



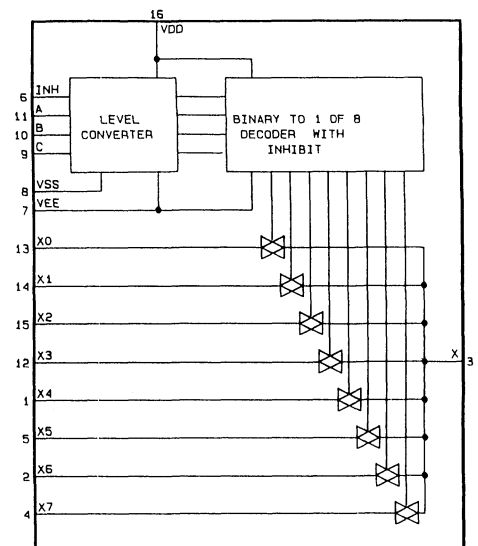


TC9176P

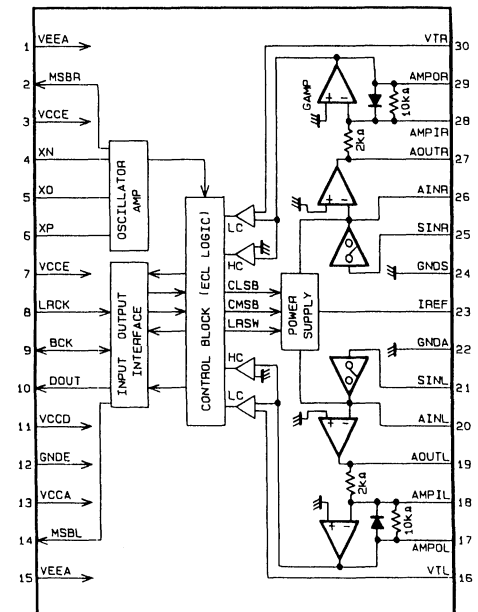
PS. U-COM. Ass'y (Page 69)



MC14051B FRONT CONTROL Ass'y (Page 40)







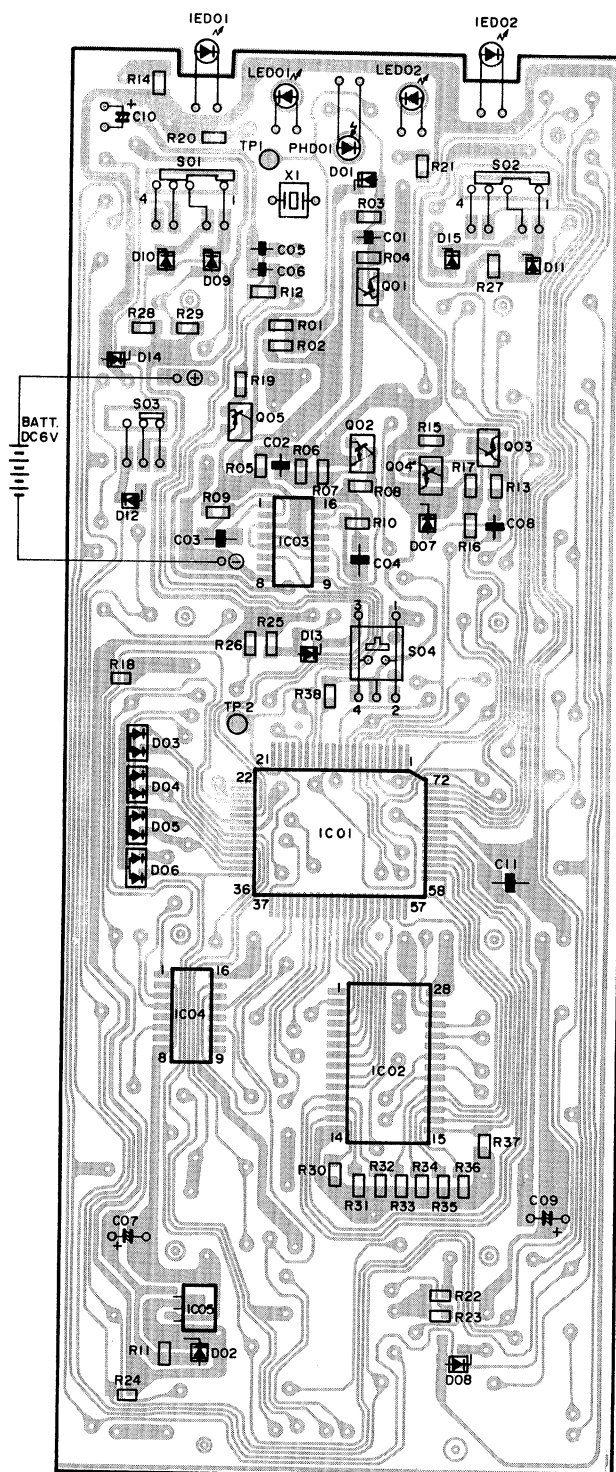
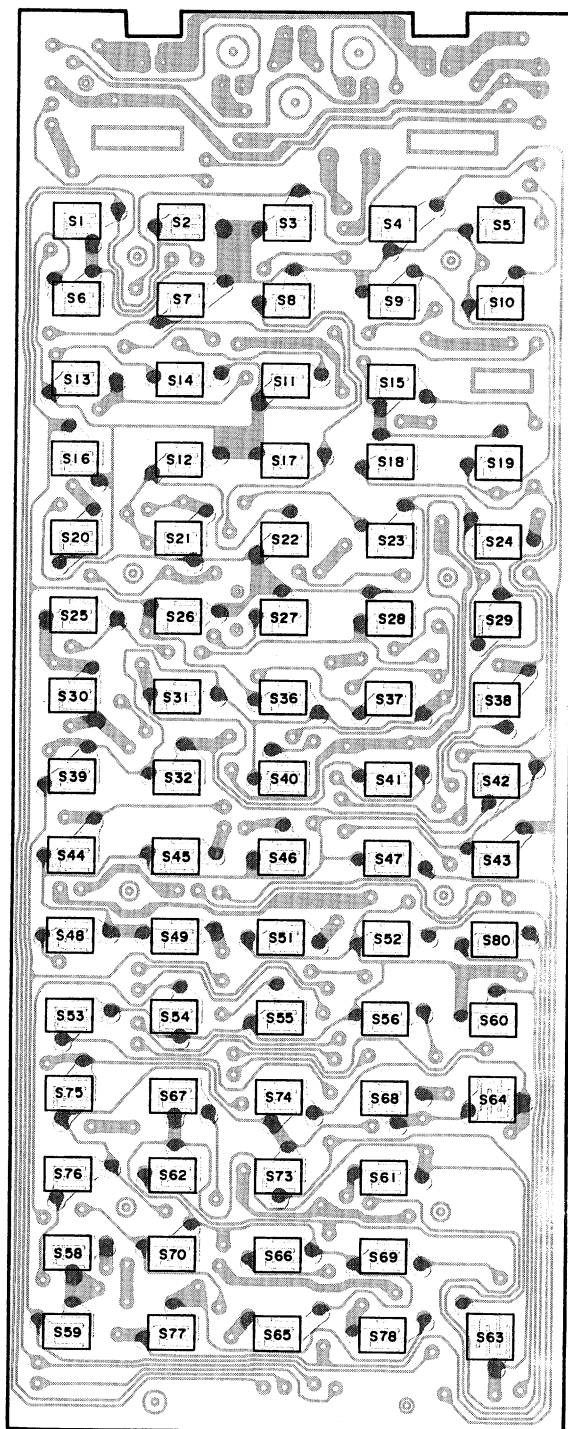
TD6726N DSP. U-COM. Ass'y (Page 21)



# 7. REMOTE CONTROL UNIT (CU-VSX014 : AXD1167)

## 7.1 P.C.BOARD PATTERN

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







RESISTORS:  
 Indicated in  $\Omega$ ,  $\frac{1}{4}W$ ,  $\frac{1}{2}W$ ,  $\pm 5\%$  tolerance unless otherwise noted k: k $\Omega$ ,  
 M: M $\Omega$ , (F):  $\pm 1\%$ , (G):  $\pm 2\%$ , (K):  $\pm 10\%$  (M):  $\pm 20\%$  tolerance

CAPACITORS:  
 Indicated in capacity ( $\mu F$ )/voltage (V) unless otherwise noted p: pF  
 Indicated without voltage is 50V except electrolytic capacitor.

### 3. OTHERS:

➡: Signal route.

⊗: Adjusting point.

The  $\Delta$  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.

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

The underline indicates the switch position

S01 : AUDIO/VIDEO/AUX  
 S02 : SR RECALL/USE/LEARN  
 S05 : DECK I/DECK II  
 S04 : RESET

#### TAPE/VCR

S-1 : VCR POWER  
 S-2 :  $\bullet$  TAPE/VCR  
 S-3 :  $\square$  TAPE/VCR  
 S-4 :  $\circ$  VCR CH-  
 S-5 : VCR CH+  
 S-6 :  $\blacktriangleleft$   
 S-7 :  $\blacktriangleleft$  ANT/TV/VCR  
 S-8 :  $\blacksquare$   
 S-9 :  $\blacktriangleright$   
 S-10 :  $\blacktriangleright$

#### CD/VDP

S-11 : DISC SEL /DISPLAY CALL  
 S-12 :  $\square$   
 S-13 :  $\blacktriangleleft$  CHP/FR-TM  
 S-14 :  $\blacktriangleleft$  /SEARCH  
 S-15 : PROG  
 S-16 :  $\blacktriangleleft$   
 S-17 :  $\blacksquare$   
 S-18 :  $\blacktriangleright$   
 S-19 :  $\blacktriangleright$

#### TUNER/CD/TV/VDP

S-20 : 1/13  
 S-21 : 2/14  
 S-22 : 3/15  
 S-23 : 4/16  
 S-24 : 5/17  
 S-25 : 6/18  
 S-26 : 7/19  
 S-27 : 8/20  
 S-28 : 9/21  
 S-29 : 0, 10/22  
 S-30 : 11/MEMORY/23  
 S-31 : 12/CLEAR/24  
 TUNER/CD/PHONO/AMP/TV  
 S-32 : BAND/DUAL

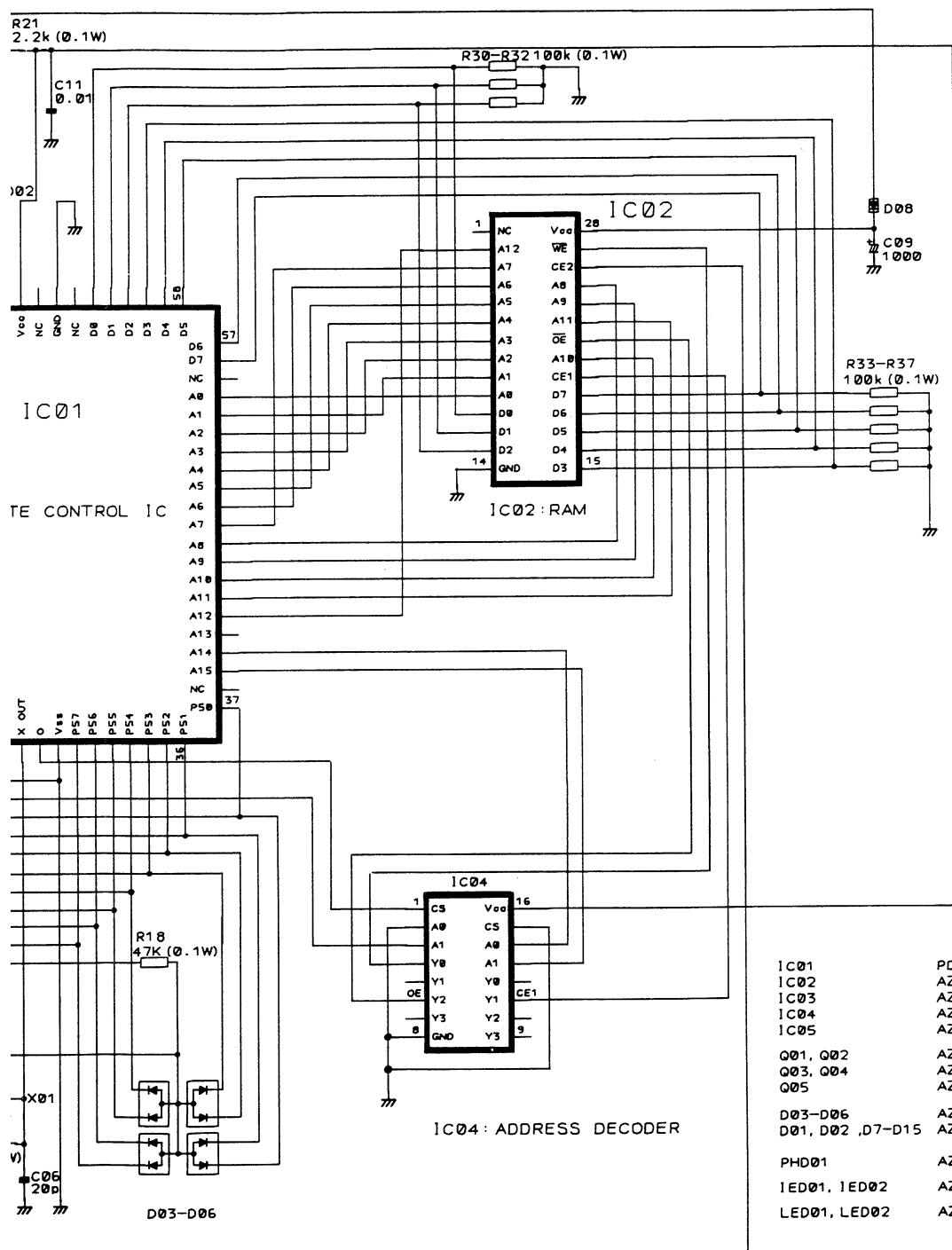
S-36 : 1:12/13:24/CH-RETURN  
 S-37 : FREQUENCY-/TV CHANNEL-  
 S-38 : FREQUENCY+/TV CHANNEL+  
 S-39 : TV POWER  
 S-40 : CD+10/TV FUNC CYCLIC  
 S-41 : PHONO  $\blacksquare$  /TV VOL-  
 S-42 : PHONO  $\blacktriangleright$  /TV VOL+  
 S-43 : AMP DISPLAY/TV DISPLAY  
 S-44 : VCR 1  
 S-45 : VCR 2  
 S-46 : VCR 3  
 S-47 : VDP  
 S-48 : TV  
 S-49 : VIDEO

S-51 : TAPE 1/DAT  
 S-52 : TAPE 2  
 S-53 : LINE  
 S-54 : CD  
 S-55 : TUNER  
 S-56 : PHONO

S-58 : SLEEP  
 S-59 : RECEIVER POWER  
 S-60 : MUTING  
 S-61 : FRONT BAL.R  
 S-62 : FRONT BAL.L  
 S-63 : MASTER VOLUME-  
 S-64 : MASTER VOLUME+  
 S-65 : REAR LEVEL-  
 S-66 : REAR LEVEL+  
 S-67 : SURROUND MODE  
 S-68 : SURROUND DELAY TIME  
 S-69 : REAR BAL.R  
 S-70 : REAR BAL.L

S-73 : CENTER LEVEL-  
 S-74 : CENTER LEVEL+  
 S-75 : SOUND FIELD  
 S-76 : ACOUSTIC  
 S-77 : SP-A  
 S-78 : SP-B

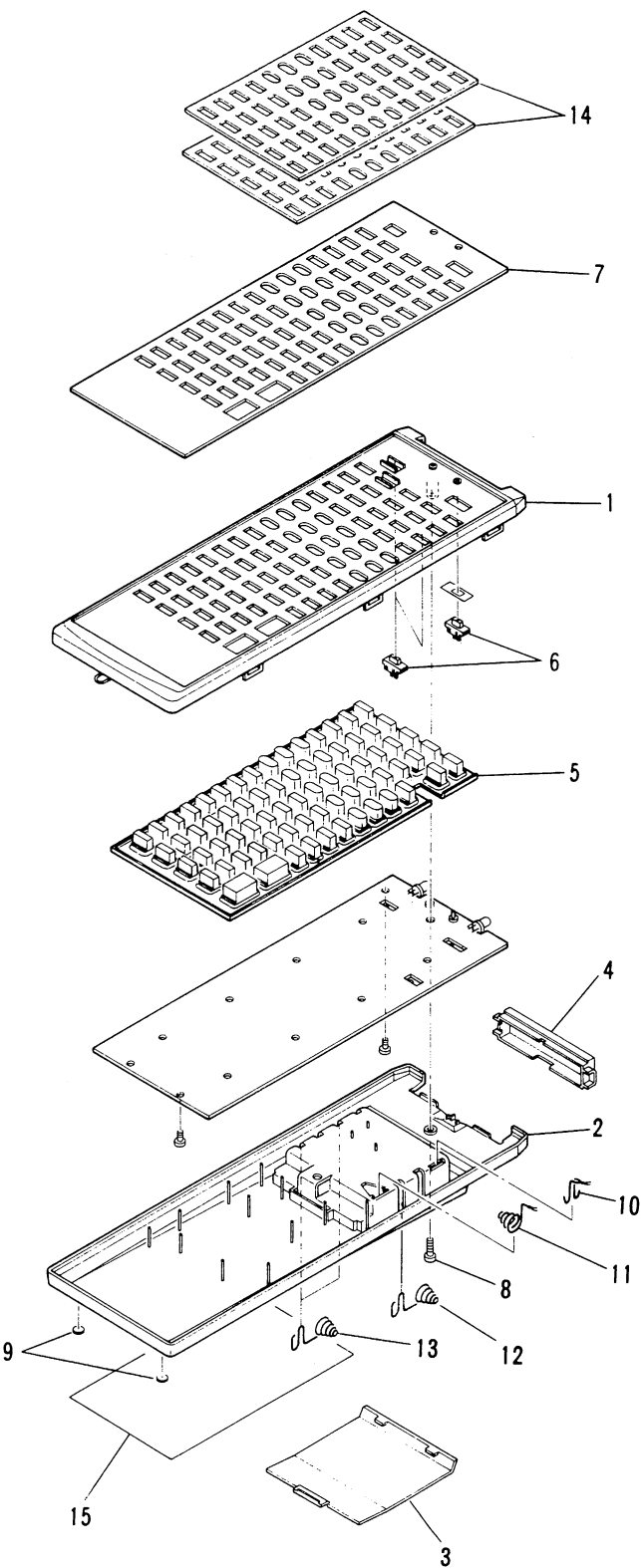
S-80 : RETURN



7.3 EXPLODED VIEWS AND PARTS LIST

Parts list of remote control unit

Mark	No.	Parts No.	Description
	1	AZH1033	Case(A)
	2	AZH1034	Case(B)
	3	AZH1035	Case(C)
	4	AZN1400	Filter
	5	AZA1271	Rubber sheet
	6	AZS1042	Knob
	7	AZA1270	Name plate
	8	AZB1124	Screw
	9	AZN1401	Leg
	10	AZB1274	Electrode spring
	11	AZB1275	Electrode spring
	12	AZB1276	Electrode spring
	13	AZB1277	Electrode spring
	14	AAK1439	Sheet
	15	AZA1273	Label



## 7.4 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  $\Delta$  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%).

560 $\Omega$      $56 \times 10^1$     561.....RD1/4PS  $\begin{smallmatrix} 5 & 6 & 1 \end{smallmatrix}$  J  
 47k $\Omega$      $47 \times 10^3$     473.....RD1/4PS  $\begin{smallmatrix} 4 & 7 & 3 \end{smallmatrix}$  J  
 0.5 $\Omega$     0R5.....RN2H  $\begin{smallmatrix} 0 & 5 & 0 \end{smallmatrix}$  K  
 1 $\Omega$     010.....RS1P  $\begin{smallmatrix} 0 & 1 & 0 \end{smallmatrix}$  K

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

5.62k $\Omega$      $562 \times 10^1$     5621.....RN1/4SR  $\begin{smallmatrix} 5 & 6 & 2 & 1 \end{smallmatrix}$  F

### SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC01	PD5148A
	IC02	AZC1045
	IC03	AZC1046
	IC04	AZC1047
	IC05	AZC1048
	Q1,Q2	AZC1050
	Q3,Q4	AZC1051
	Q5	AZC1052
	D01,D02,D07 – D15	AZC1233
	D03 – D06	AZC1049
	PHD01	AZC1055
	LED01,LED02	AZC1054
	IED01,IED02	AZC1053

### SWITCHES

Mark	Symbol & Description	Part No.
	S01,S02 Slide switch	AZC1079
	S04 Slide switch	AZC1081
	S05 Slide switch	AZC1080

### CAPACITORS

Mark	Symbol & Description	Part No.
	C01 (220p)	AZC1058
	C02 (33p)	AZC1059
	C05,C06 (20p)	AZC1060
	C08 (0.01 $\mu$ F)	AZC1061
	C03,C04 (0.001 $\mu$ F)	AZC1062
	C11 (0.01 $\mu$ F)	AZC1063
	C10 (100 $\mu$ F)	AZC1251
	C07 (4.7 $\mu$ F)	AZC1252
	C09 (1000 $\mu$ F)	AZC1255

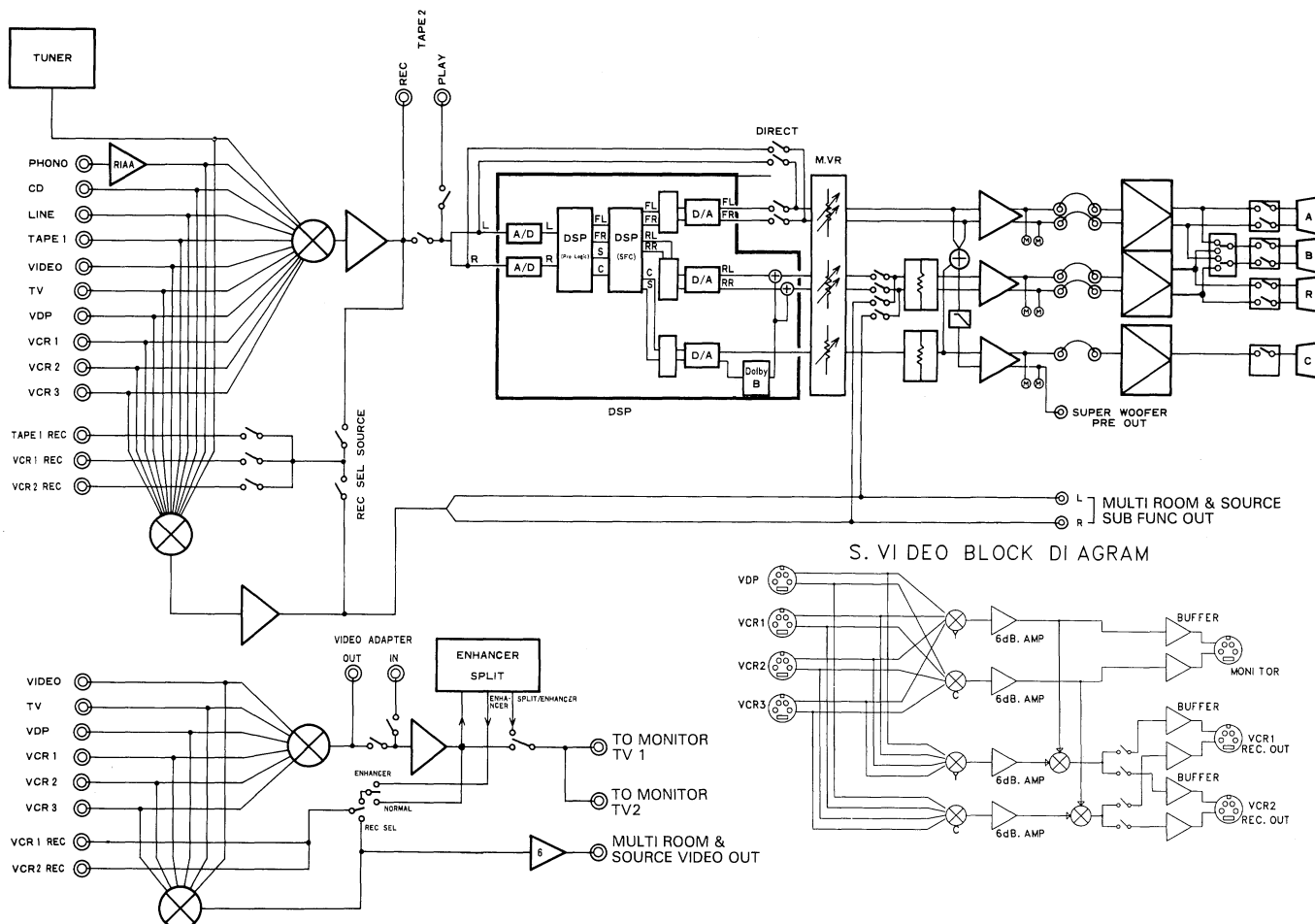
### RESISTORS

Mark	Symbol & Description	Part No.
	R01 (8.2k)	AZC1064
	R02 (4.7k)	AZC1065
	R03,R08 (33k)	AZC1066
	R05,R17 (10k)	AZC1068
	R06 (82k)	AZC1069
	R09 (6.8k)	AZC1070
	R10 (56k)	AZC1071
	R12 (1M)	AZC1072
	R07,R11,R30 – R38 (100k)	AZC1073
	R19 – R21 (2.2k)	AZC1074
	R13,R16 (680 $\Omega$ )	AZC1075
	R15 (10 $\Omega$ )	AZC1076
	R18,R22 – R29 (47k)	AZC1077
	R14 (3.9 $\Omega$ )	AZC1078
	R04 (560k)	AZC1256

### OTHERS

Mark	Symbol & Description	Part No.
	X01 Resonator	AZC1057

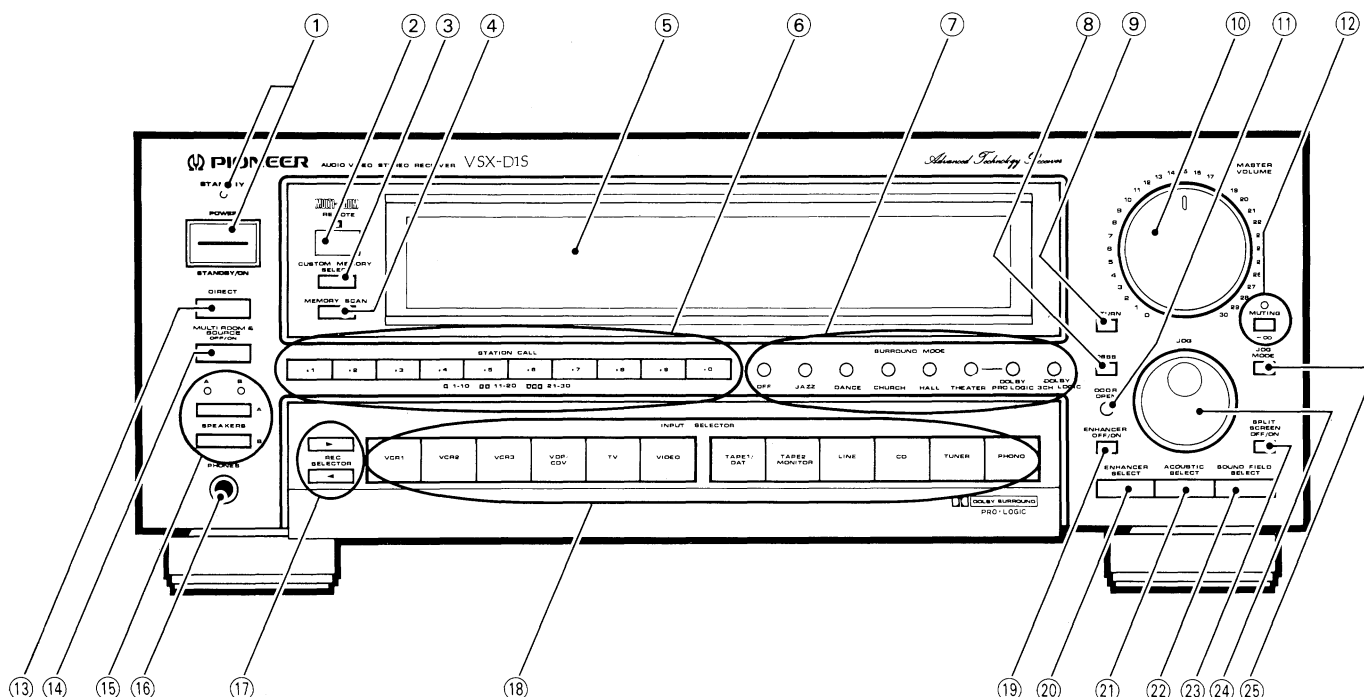
## 8. BLOCK DIAGRAM





## 9. PANEL FACILITIES

### FRONT PANEL FACILITIES



#### ① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

**ON** ..... When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY** .. When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

#### ② Remote sensor window

#### ③ CUSTOM MEMORY SELECT switch

Recall a genre name with this switch.

#### ④ MEMORY SCAN switch

Operates when the INPUT SELECTOR is set to TUNER. Station frequencies assigned to the STATION CALL switches are tuned in, one after another, beginning with the current station no., for approximately 5 seconds each. The display section SCAN indicator will light. Press the switch again and the tuner remains tuned in to the station playing when the switch was pressed the second time.

Station frequencies not assigned station numbers in the memory are skipped.

When you have selected a CUSTOM MEMORY genre, memory scan is performed on the stations in that genre.

#### ⑤ Display section

#### ⑥ STATION CALL (RANDOM 30 CH) switches

- These switches are used to preset and recall desired broadcasting stations, "AUTO/MONO" switch setting.

**Station call operation example:**

**If you press the [2] key:**

- One time — station 2 is selected.
- Two times — station 12 is selected.
- Three times — station 22 is selected.

**NOTE:**

Pressing the STATION CALL switches when a component other than TUNER is selected causes the INPUT SELECTOR setting to switch to TUNER.

- They are also used when performing direct access tuning.

#### ⑦ SURROUND MODE switches

#### ⑧ DSSS (Digital Simulated Stereo System) switch

Operate this when inputting a monaural signal to enjoy a simulated stereo sound. You can use it when a monaural signal is input into both the left and right channels or when a monaural signal is input into only one of the channels.

#### ⑨ RETURN switch

Pressing this switch returns the receiver to the following settings, the sound level being controlled by MASTER VOLUME control knob.

- |                  |        |
|------------------|--------|
| • TAPE 2 MONITOR | OFF    |
| • SURROUND MODE  | OFF    |
| • SPEAKERS A     | ON     |
| • MUTING         | OFF    |
| • BALANCE        | CENTER |
| • INPUT SELECTOR | TUNER  |
| • STATION CALL   | 1 CH * |
| • VIDEO ADAPTOR  | OFF    |

\* When a station is not memorized in 1 CH, station search will automatically proceed from the frequency displayed.

#### ⑩ MASTER VOLUME control

Use to adjust the sound volume from the front, center and rear speakers. When you adjust volume by remote control, the indicator above the knob flashes.

When the MULTI ROOM & SOURCE switch is ON, volume level in room B cannot be adjusted with this knob. Adjust the volume by remote control.

**⑪ DOOR OPEN switch**

Use to open the hinged panel door.

**⑫ MUTING switch/indicator**

Press to temporarily cut off the sound volume. The indicator will flash. When pressed again, the sound will return to its previous level.

**⑬ DIRECT switch**

Press this to listen to source sound without passing the audio signal through sound quality or balance adjusting circuitry. The surround mode, center mono, and rear and center speakers are automatically switched off.

**⑭ MULTI ROOM & SOURCE switch**

Use in combination with the separately sold MR-100 Multi-Room remote control unit.

When this switch is on, the REC SELECTOR switch operates as a sub-function selector. The selected sub-function's sound is output through SPEAKERS B, and the video signal is output through the MULTI-ROOM & SOURCE VIDEO OUT jack. If you install speaker systems connected to the SPEAKERS B terminals in a different room, you can enjoy different sources in two different rooms with a single main unit.

**⑮ SPEAKERS A, B switches/indicators**

These are ON/OFF switches for the speaker systems. Indicators light when the speakers are ON.

**⑯ PHONES jack**

Connect the plug on your headphones to this jack. To only hear through the headphones, set all SPEAKERS A and B switches to the OFF position.

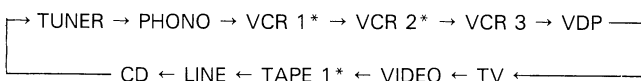
**NOTE:**

*There are no ON/OFF switches for the rear and center speakers, so when you want to listen only on headphones, switch surround OFF. If you want to listen with surround ON, reduce rear and center volume levels.*

**⑰ REC SELECTOR switches**

You can select the component to be recorded on TAPE 1, VCR 1, VCR 2 without using with the INPUT SELECTOR. Press a REC SELECTOR switch and REC SEL lights in the display section, showing the same component selected with the INPUT SELECTOR.

Each time you press the "▶" switch, the components change in the following order.



Press the "◀" switch and they change in the opposite order. When the REC SELECTOR has been through all the components once, REC SELECTOR switches off. REC SELECTOR also switches off if the "◀" and "▶" switches are pressed at the same time.

\* You can record audio and video in the following ways.

From TAPE 1 on VCR 1 and 2, from VCR 1 on VCR 2 and TAPE 1, and from VCR 2 on VCR 1 and TAPE 1.

Do not select the component you wish to record on (for example, VCR 1), with the REC SELECTOR.

**⑱ INPUT SELECTOR switches****• Video input selector**

**VCR 1:** Press when performing playback on a first VCR unit.

**VCR 2:** Press when performing playback on a second VCR unit.

**VCR 3:** Press when performing playback on a third VCR unit.

**VDP/CDV:** Press when performing playback on a video disc player (VDP) or Compatible Laserdisc player.

**TV:** Press to watch TV broadcasts from the TV tuner connected to the rear panel TV IN jacks.

**VIDEO:** Press when performing playback on a VCR connected to VIDEO IN jack.

**• Audio input selector**

**TAPE 1/DAT:** Press when performing playback on a DAT or cassette deck.

**TAPE 2 MONITOR:** Press when performing playback on a second cassette deck.

**LINE:** Press when performing playback on an audio component connected to the LINE IN jacks.

**CD:** Press when playing compact discs on a CD player.

**TUNER:** Press when listening to radio broadcasts.

**PHONO:** Press when playing records on a turntable.

**NOTE:**

*You cannot use these switches when the hinged panel door is open, so use the FUNCTION switch ⑥ to change the input selector selection.*

*Because of the digital processing performed by this unit's Digital Signal Processor, high level input may result in distortion. This is particularly true when using a turntable with a high output cartridge. In this case, adjust the volume level with the PHONO LEVEL control on the rear panel so that it is the same as other inputs.*

**⑲ ENHANCER OFF/ON**

Use to switch the video enhancer effect ON/OFF during playback or recording of a video.

When it is switched ON, adjust the degree of effect with the JOG dial ⑳. If you turn ON the SPLIT SCREEN OFF/ON switch ㉓, the right half of the screen shows a picture with the enhancer ON, and the left half of the screen shows a picture with the enhancer OFF.

The enhancer has no effect on S jack video signals.

**㉑ ENHANCER SELECT switch**

Use this to store a desired enhancer effect in memory, and to recall a desired enhancer effect. For further details concerning memory operation.

When the enhancer has been memorized, then the enhancer will be automatically switched ON when this switch is pressed.

**㉒ ACOUSTIC SELECT switch**

Use this to store desired sound quality settings in memory. Also use it to recall memorized sound quality settings from memory. For further details concerning memory operation.

**㉓ SOUND FIELD SELECT switch**

Use to store a desired sound field in memory. Also use to recall a desired sound field from memory. For further details concerning memory operation.

**㉔ SPLIT SCREEN OFF/ON switch**

If you turn the ENHANCER OFF/ON switch ON to add the video enhancer effect, and then turn this switch on, the right side of the picture will have the enhancer effect added, and the left side will be without the enhancer effect. A split screen picture can not be output through the VCR REC jacks. A picture with the enhancer ON is output.

The split screen has no effect on S jack video signals.

## ②④ JOG dial

This lets you control the following six functions.

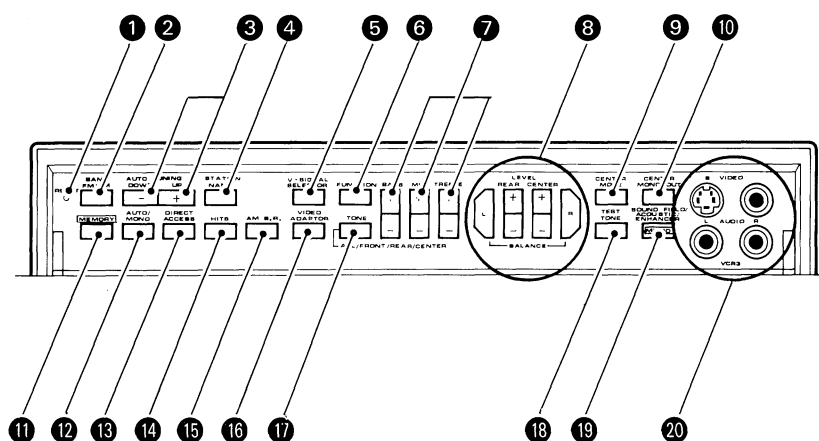
- (1) AM B.R. (AM beat reduction) adjustment.
- (2) Tuner frequency (manual tuning)
- (3) Selection of letters for station naming.
- (4) Video enhancer effect level adjustment.
- (5) Surround's delay time selection.
- (6) Surround's total effect level adjustment.

You can select which function you want to control with the JOG MODE switch ②⑤, but the mode automatically switches when a function changes. For example, if the AM B.R. switch is ON, the JOG MODE automatically switches to enable control of AM B.R.

## ②⑤ JOG MODE switch

Use this to select the mode you want to control with the JOG dial ②④. The selected mode is indicated by the box in the display section. The lit line under the mode display indicates which mode can be selected.

## [INSIDE OF THE HINGED PANEL]



### ① RESET switch

Use this when normal operation becomes impossible because of external influences such as static electricity or lightning, or when operation is impossible even when operation switches are pressed. Press this switch to return to normal operating conditions.

If you press this switch when the power is ON, the unit switches to POWER STANDBY, and the entire contents of the memory are erased.

### ② BAND switch (FM/AM)

Use this to switch between FM and AM frequency band reception.

### ③ AUTO TUNING switches (DOWN (-), UP (+))

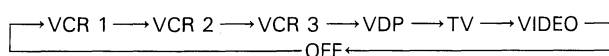
- +: Performs tuning in ascending frequency order.
- : Performs tuning in descending frequency order.

### ④ STATION NAME switch

This switch is used when inputting station names.

### ⑤ V (Video) SIGNAL SELECTOR switch

Press this to switch VIDEO OUT (TO MONITOR TV) and VCR VIDEO OUT in the following sequence: (Audio doesn't change)  
The recording selector has priority for VCR video recording.



☐ Indications light in the display section.  
There is no picture when it is OFF.

### ⑥ FUNCTION switch

This changes the INPUT SELECTOR selection in sequence. When the hinged panel door is open, the INPUT SELECTOR switches can not be used, so use this switch instead.

### ⑦ Tone control switches

#### BASS:

Use to adjust the low-frequency level. Press the + switch to increase low-frequency level, and the - switch to decrease it.

When both sides (+, -) of the BASS control are pressed simultaneously, the base response will be set to the flat (normal) condition.

#### MID:

Use to adjust the middle-frequency level. Press the + switch to increase middle-frequency level, and the - switch to decrease it.

When both sides (+, -) of the MID control are pressed simultaneously, the middle response will be set to the flat (normal) condition.

#### TREBLE:

Use to adjust the high-frequency level. Press the + switch to increase low-frequency level, and the - switch to decrease it.

When both sides (+, -) of the TREBLE control are pressed simultaneously, the treble response will be set to the flat (normal) condition.

Adjust TONE CONTROL settings are indicated in the display section (in several seconds).

## ⑧ BALANCE and LEVEL switches

### BALANCE:

Use to adjust the sound volume balance between left and right speakers.

**L:** Press to decrease the sound on the right side.

**R:** Press to decrease the sound on the left side.

Press L and R together to bring the volume balance back to standard (Left = Right).

### REAR:

Operate only when the surround mode is on.

Use these switches to adjust the sound level between the front and rear speakers.

After adjustment, use the MASTER VOLUME control to adjust the overall sound to a suitable level.

– : Surround rear speaker volume is reduced.

+ : Surround rear speaker volume is increased.

Pressing + and – together will restore front and rear to the standard balance setting.

### CENTER:

Use these switches to adjust the center speaker sound level to the level of the front speakers.

Operate only when DOLBY PRO LOGIC SURROUND or DOLBY 3CH LOGIC mode is on.

After adjustment, use the MASTER VOLUME control to adjust the overall sound to a suitable level.

– : Lowers the center speaker sound level.

+ : Raises the center speaker sound level.

Pressing – and + at the same time returns you to the standard.

Adjusted BALANCE and LEVEL settings are indicated in the display section (in several seconds).

## ⑨ CENTER MODE switch

Use this to switch between DOLBY PRO LOGIC SURROUND and the DOLBY 3CH LOGIC center modes (NORMAL, WIDE, PHANTOM). The selected mode is indicated by the CENTER MODE indicators in the display section.

## ⑩ CENTER MONO OUT switch

When the Surround is off, this switches the output from the center speakers ON/OFF.

If MONO is lit in the CENTER MODE indicators in the display section, front left and right monaural sound is output through the center speakers.

## ⑪ MEMORY switch

Pressing this switch will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

This switch is also used to input station names, and custom memory operation.

## ⑫ AUTO/MONO switch

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator in the display section is lit.

### Auto stereo mode:

Normally, leave in this mode for reception. When a stereo broadcast is received, it will be automatically reproduced in stereo.

During stereo broadcast reception, the STEREO indicator in the display section lights.

### Monaural mode:

When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

### NOTE:

*This switch has no effect on reception of AM broadcasts.*

## ⑬ DIRECT ACCESS switch

When this switch is pressed, the STATION CALL switches function as ten-key number switches for direct input of the desired reception frequency.

When frequencies that cannot be received are entered, the entered frequency value flashes, before reception of the previous frequency resumes.

## ⑭ HITS (Hyper Intelligent Tuning System) switch

- If the HITS switch is pressed at the currently displayed station frequency, the receiver searches up and down the frequency for the next station (The SEARCH indicator in the display section lights at this time.) and stops at the first one it finds.

- If the HITS switch is pressed during STATION NAME input (see page 30), the receiver performs a memory search in order of ascending station number for memorized stations whose names begin with the same letter as the station just input.

- If the HITS switch is pressed during input of numbers for DIRECT ACCESS tuning, the receiver sets the remaining digits which have not yet been input to "0", searches for the corresponding frequencies, and stops on the first station it finds.

### NOTE:

- *The system searches for stations within successive 1MHz ranges for FM and 100 kHz ranges for AM. During DIRECT ACCESS tuning, it searches up and down for a station until it reaches the edges of the band. If no receivable station is found within the band range, the receiver returns to the state it was in before the HITS switch was pressed.*

- *If the upper (or lower) frequency limit of the receiver is encountered during HITS operation, the receiver stops searching in that direction but continues to search in the other.*

## ⑮ AM B.R. (Beat Reduction) switch

This switches AM beat reduction ON/OFF.

You can switch it ON during AM broadcast reception.

Switch it ON and the AM B.R. indicator lights in the display section. Adjust the level of beat reduction with the JOG dial (24). (Turn the JOG dial until you reach the frequency you want to remove).

## ⑯ VIDEO ADAPTOR switch

Press when using a video adaptor component connected to the rear panel VIDEO ADAPTOR jacks. An indicator on the display section lights up when this switch is set to ON. This has no effect on an S output jack signal.

## ⑰ TONE switch

Use this to switch between the channels (ALL/Front/REAR/CENTER) you want to control with the tone control switches.

## ⑱ TEST TONE switch

You can use this when surround mode is ON.

**[When using DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC]**

This switches the TEST TONE passes from the front left → center → front right → rear (L, R) (DOLBY PRO LOGIC) in that order, and can be heard for approximately 2 seconds from each speaker.

**[When using other surround modes]**

This switches the TEST TONE passes from the front left → center → front right → rear right → rear left in that order, and can be heard for approximately 2 seconds from each speaker.

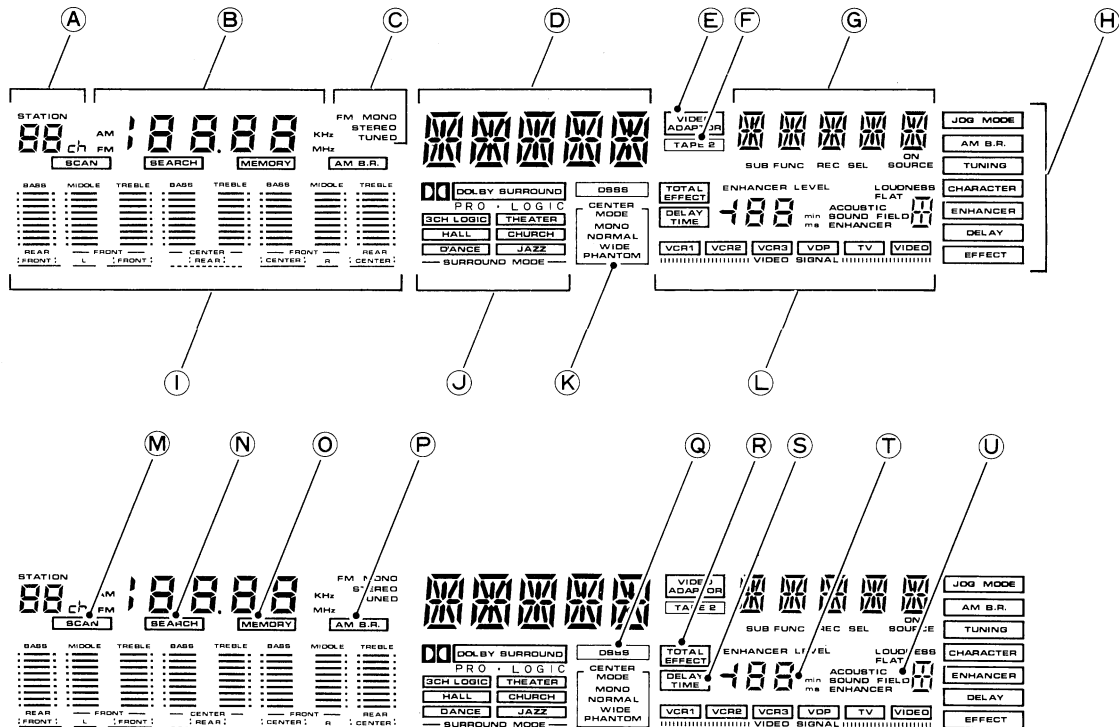
## 19 MEMO switch (SOUND FIELD/ACOUSTIC/ENHANCER)

Use to operate sound field memory, acoustic memory, and enhancer memory.

## 20 VCR 3 INPUT jacks

Video components such as a VCR or TV camera, etc. can be connected here.

### [DISPLAY SECTION]



#### A STATION display

Shows the channel selected with the STATION CALL switch.

#### B Frequency display

#### C Tuning indicators

**FM MONO:** This lights when you select MONO with the AUTO/MONO switch. When this indicator is lit, reception of FM stereo broadcasts is also monaural.

**STEREO:** When the FM MONO indicator is out (auto stereo mode), this lights when receiving an FM stereo broadcast.

**TUNED:** Lights when a station is tuned.

#### D Function & Station name display

#### E VIDEO ADAPTOR indicator

Lights when the VIDEO ADAPTOR switch is in the ON position.

#### F TAPE 2 indicator

Lights when the TAPE 2 MONITOR switch is in the ON position.

#### G SUB FUNC & REC SEL display

- When you aren't using the REC SELECTOR, "SOURCE" lights, and the function output from the REC OUT jacks is displayed. Switch REC SELECTOR ON and the function selected with the REC SELECTOR switch is displayed.

- When the MULTI ROOM & SOURCE OFF/ON switch is ON, the component selected as the sub function is displayed (SUB FUNC indicator lights).

- CUSTOM MEMORY name is displayed.

#### H JOG MODE indicators

The lit mode indicates the function that can be operated with the JOG dial at present.

□ indicates the present selected mode.

Modes that can be selected are displayed underlined.

#### I Tone/Level/Balance meters

#### J SURROUND MODE indicators

These display the selected surround mode. When all indicators are out, surround is OFF.

#### K CENTER MODE indicators

These display the center mode (NORMAL, WIDE, PHANTOM) during DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC operation. When surround is OFF, they indicate when monaural sound is output from the center channel (MONO).

#### L VIDEO SIGNAL indicators

Shows the video components selected.

#### M SCAN indicator

Lights during memory scan operation.

#### N SEARCH indicator

Lights during HITS operation.

#### O MEMORY indicator

Lights during station call switch memory operation.

#### P AM B.R. indicator

Lights when the AM B.R. switch is ON.

# ① DSSS indicator

Lights when the DSSS switch is ON.

# ② TOTAL EFFECT indicator

After selecting the THEATER (including when DOLBY PRO LOGIC SURROUND and THEATER are used together), HALL, CHURCH, DANCE, or JAZZ surround mode, this lights during effect level adjustment with the JOG dial.

# ③ DELAY TIME indicator

This lights during DOLBY PRO LOGIC SURROUND delay time adjustment.

# ④ Effect level/Delay time/Sleep time display

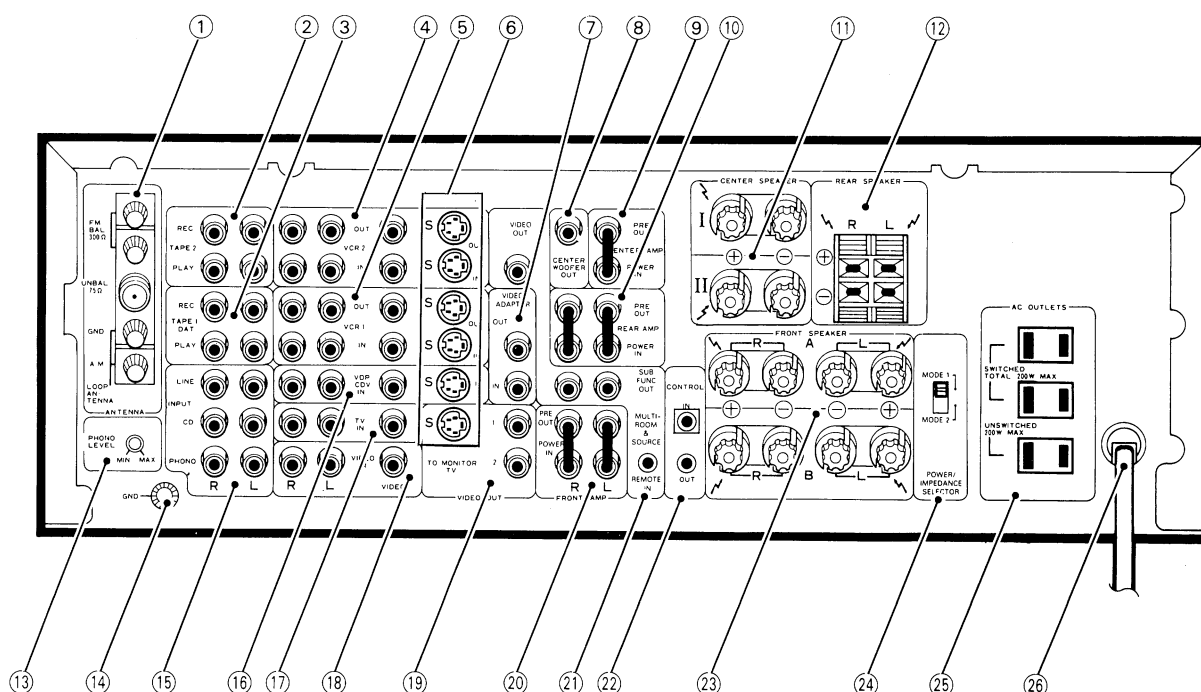
Displays enhancer effect level, surround effect level, surround delay time, and sleep timer.

# ⑤ Acoustic/Sound field/Enhancer memory display

Displays A to E memory letters.

During acoustic memory display, LOUDNESS or FLAT are also displayed.

## REAR PANEL FACILITIES



# ① FM/AM ANTENNA terminals

Use these antenna terminals for reception of normal FM and AM broadcasts.

Attach the accessory AM Loop and FM T-type antennas, here.

- For details regarding antenna connection, see the section "HINTS FOR BETTER RECEPTION"

# ② TAPE 2 jacks

Connect a second cassette deck to these jacks.

## Connection for Recording

The tape recording jack (TAPE REC) on the cassette deck should be connected to the REC side of the TAPE 2 jack on the receiver with a pin plug connecting cord.

## Connection for Playback

Connect the TAPE PLAY jack on the cassette deck to the PLAY side of the TAPE 2 jack on the receiver with a pin plug connecting cord.

# ③ TAPE 1/DAT jacks

Connect a DAT (digital audio tape deck) or your primary analog cassette deck to these jacks.

## Connection for Recording

The tape recording jack (TAPE REC) on the cassette deck or DAT should be connected to the REC side of the TAPE 1/DAT jack on the receiver with a pin plug connecting cord.

Audio recording from TAPE 2 is not possible.

## Connection for Playback

Connect the TAPE PLAY jack on the cassette deck or DAT to the PLAY side of the TAPE 1/DAT jack on the receiver with a pin plug connecting cord.

# ④ VCR 2 jacks

## [VIDEO IN]

Connect to the VCR 2 VIDEO OUTPUT jacks.

## [AUDIO IN (L, R)]

Connect to the VCR 2 AUDIO OUTPUT jacks.

## [VIDEO OUT]

Connect to the VCR 2 VIDEO INPUT jacks.

## [AUDIO OUT (L, R)]

Connect to the VCR 2 AUDIO INPUT jacks.

## ⑤ VCR 1 jacks

### [VIDEO IN]

Connect to the VCR 1 VIDEO OUTPUT jacks.

### [AUDIO IN (L, R)]

Connect to the VCR 1 AUDIO OUTPUT jacks.

### [VIDEO OUT]

Connect to the VCR 1 VIDEO INPUT jacks.

### [AUDIO OUT (L, R)]

Connect to the VCR 1 AUDIO INPUT jacks.

## ⑥ S (connector) video jacks

When used in conjunction with a VCR, Video disc player (Laserdisc player) or monitor TV equipped with S video jacks, connect to these jacks.

## ⑦ VIDEO ADAPTOR jacks

Use to connect a video adaptor component such as a video enhancer or color corrector.

## ⑧ CENTER WOOFER OUT jack

If you want to boost the surround center channel low frequencies, or you want to use the unit in a 3D system, connect to a center woofer power amplifier.

Frequencies above about 200 Hz are cut at 18 dB/oct.

## ⑨ CENTER AMP jacks

### [POWER IN]

When a separate pre-amplifier is used for center speaker and this unit is used as a power amplifier, connect the pre-amplifier to this jack.

### [PRE-OUT]

When a separate power amplifier is used to drive the center speaker, connect the power amplifier to this jack.

## ⑩ REAR AMP jacks

### [PRE OUT]

When a separate power amplifier is used to drive the rear speakers, connect the power amplifier to these jacks.

### [POWER IN]

When a separate pre-amplifier is used for rear speakers and this unit is used as a power amplifier, connect the pre-amplifier to these jacks.

## ⑪ CENTER SPEAKERS terminals

Connecting the surround center channel speaker system(s).

You can connect two speakers for dual center, so you can locate speakers on both sides of the TV.

### Speaker impedance:

Refer to ②④ POWER/IMPEDANCE SELECTOR switch on page 26.

### NOTE:

*Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdown may occur when conductors come into contact with each other.*

## ⑫ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.

### Speaker impedance

Connect speaker systems with a nominal impedance of between 8 and 16  $\Omega$ .

### NOTE:

*Do not allow any of the cord's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdowns may occur when conductors come into contact with each other.*

## ⑬ PHONO LEVEL control

Use to adjust turntable input level. If distortion occurs when you are using a high-output cartridge, adjust the volume level until it's the same as another input, such as TUNER.

## ⑭ GND terminal

Connect the turntable ground lead to this terminal.

## ⑮ Audio INPUT jacks

PHONO ..... Connect to turntable.

CD ..... Connect to compact disc player.

LINE ..... Connect to the audio output jacks of an additional audio component.

## ⑯ VDP/CDV jacks (input)

### [VIDEO IN]

When watching the video image from a LD player (Compatible Laserdisc player) or a VCR used for playback, connect its VIDEO OUTPUT jack here.

### [AUDIO IN (L,R)]

When playing back the audio channel from a LD player (Compatible Laserdisc player) or a VCR for playback, connect its AUDIO OUTPUT jacks here.

## ⑰ TV jacks (input)

Use these jacks if wish to connect a TV tuner having both video and audio outputs.

### [VIDEO IN]

Connect the TV tuner's VIDEO OUTPUT to this jack.

### [AUDIO IN (L, R)]

Connect the TV tuner's AUDIO OUTPUT to these jacks.

## ⑱ VIDEO jacks (input)

Connect the output jacks of video components.

For example, connect a playback-only VCR or a video camera.

## ⑲ VIDEO OUT TO MONITOR TV jacks (output)

Use to connect a monitor TV or a TV set with video input terminals for watching program materials from a VCR or Video disc player (Laser Disc player) connected to this unit.

## ⑳ FRONT AMP jacks

### [PRE-OUT]

When a separate power amplifier is used to drive the front speakers, connect the power amplifier to these jacks.

### [POWER IN]

When a separate pre-amplifier is connected and this unit is used as power amplifier, connect the pre-amplifier to these jacks.

## ②① MULTI-ROOM & SOURCE jacks

Connect here to enjoy a sub function during Multi-Room and Source operation.

### [VIDEO OUT]

Connect the monitor TV for use in room B.

### [SUB FUNC OUT]


When operating MULTI ROOM & SOURCE with surround in room A, use this jack for sound in room B.

Refer to Room B example 2 for details concerning connections.

### [REMOTE IN]

Connect to the separately sold MR-100 Multi-Room remote control unit.

## ②② CONTROL IN, OUT jacks

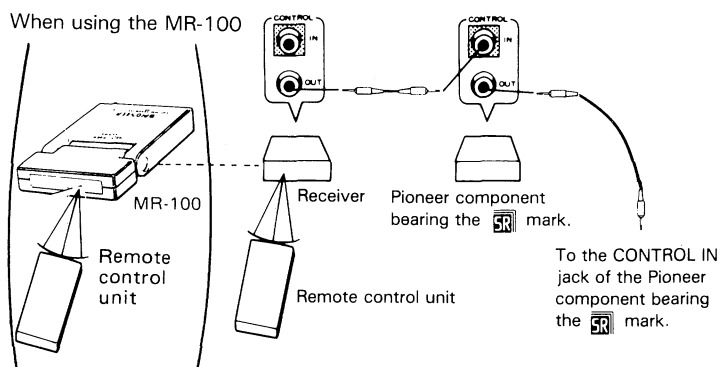
Used for system control with other Pioneer components bearing the  mark.

**IN:** For connection from the CONTROL OUT jack of another component (TV, etc.).

**OUT:** For connection to the CONTROL IN jack of another component.

### NOTE:

The receiver's remote sensor does not function when a plug is inserted in the IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.



## ②③ FRONT SPEAKERS terminals

**A:** Connect to the first set of speakers.

**B:** Connect to a second set of speakers or speakers for a Multi-Room Source.

### Speaker impedance:

Refer to ②④ POWER/IMPEDANCE SELECTOR switch.

### NOTE:

Do not allow any of the code's conductors to protrude from the terminals or touch any other conductors. Malfunctioning or breakdown may occur when conductors come into contact with each other.

## ②④ POWER/IMPEDANCE SELECTOR switch

This selects power and speaker impedance.

### [POWER]

**MODE 1:** Front 130W + 130W (20Hz to 20kHz, 0.005%, 8  $\Omega$ )  
Center 40W (1kHz, 0.08%, 8  $\Omega$ )

Rear speakers are 40 W + 40 W (1kHz, 0.08%, 8  $\Omega$ )

**MODE 2:** Front 70W + 70W (20Hz to 20kHz, 0.005%, 8  $\Omega$ )

Center 70 W (20Hz to 20kHz, 0.05 % 8  $\Omega$ )

Rear speakers are 50W + 50W (1kHz, 0.08%, 8  $\Omega$ )

### [SPEAKERS IMPEDANCE]

#### MODE 1:

	FRONT: A	FRONT: A + B
FRONT	8 ~ 16 $\Omega$	16 $\Omega$
REAR	8 ~ 16 $\Omega$	8 ~ 16 $\Omega$
CENTER	I	I + II
	8 ~ 16 $\Omega$	16 $\Omega$

#### MODE 2:

- If using 4  $\Omega$  or more for Front

	FRONT: A	FRONT: A + B
FRONT	4 ~ 16 $\Omega$	8 ~ 16 $\Omega$
REAR	8 ~ 16 $\Omega$	8 ~ 16 $\Omega$
CENTER	I	I + II
	8 ~ 16 $\Omega$	16 $\Omega$

- If using 4  $\Omega$  or more for Center

	FRONT: A	FRONT: A + B
FRONT	8 ~ 16 $\Omega$	16 $\Omega$
REAR	8 ~ 16 $\Omega$	8 ~ 16 $\Omega$
CENTER	I	I + II
	4 ~ 16 $\Omega$	8 ~ 16 $\Omega$

### NOTE:

Turn off the receiver's power before changing the switch setting.

## ②⑤ AC OUTLETS

### [U.S. and Canadian models]

#### SWITCHED TOTAL 200 W MAX

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 200 W.

#### UNSWITCHED 200 W MAX

Power flows continually to this outlet, regardless of whether the receiver is switched ON or OFF. Electrical power consumption of the connected equipment should not exceed 200 W.

### [Multi-voltage model]

#### SWITCHED TOTAL 100 W MAX

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

#### UNSWITCHED 100 W MAX

Power flows continually to this outlet, regardless of whether the receiver is switched ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W.

### NOTE:

- This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.
- Do not connect appliances with high power consumption such as heaters, irons, or television sets to these AC OUTLETS in order to avoid overheating and fire risk.  
This can cause the receiver to malfunction.

### CAUTION:

DO NOT CONNECT MONITOR OR TV SET.

## ②⑥ AC Power cord

Connect to AC wall socket.



# 10. SPECIFICATIONS

## Amplifier section

### OUTPUT POWER (POWER AMP IN)

#### MODE A

#### (Front)

**Continuous average power output of 130 watts\* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.005 %\*\* total harmonic distortion.**

Rear, center ..... 40 W + 40 W, 40 W (1 kHz, 0.08%, 8Ω)

#### MODE B

Front, center ... 70 W + 70 W, 70 W (20 Hz to 20 kHz, 0.005%, 8Ω)

Rear ..... 50 W + 50 W (1 kHz, 0.08%, 8Ω)

Dynamic power (2 Ω/4 Ω) ..... 280 W/260 W

## Audio section

### Damping Factor

1 kHz, 8 Ω ..... 100

### Input (Sensitivity/Impedance)

PHONO MM ..... 2.5 mV/47 kΩ

CD, LINE, TAPE 1/DAT, TAPE 2, VIDEO, TV,

VDP/CDV, VCR 1, VCR 2, VCR 3 ..... 150 mV/47 kΩ

POWER AMP IN ..... 1 V/47 kΩ

Phono Overload Level (T.H.D. 0.08 %, 1000 Hz)

PHONO MM ..... 150 mV

### Output (Level/Impedance)

TAPE 1/DAT REC, TAPE 2 REC, VCR 1 OUT, VCR 2 OUT

..... 150 mV/2.2 kΩ

PRE AMP OUT ..... 1 V/220 Ω

### Frequency Response

PHONO MM ..... 20 Hz to 20,000 Hz ± 0.3 dB

CD, LINE, TAPE 1/DAT, TAPE 2, VIDEO, TV,

VDP/CDV, VCR 1, VCR 2, VCR 3 .... 5 Hz to 100,000 Hz ± 3 dB

### Tone Control

BASS ..... ± 8 dB (100 Hz)

MIDDLE ..... ± 8 dB (1 kHz)

TREBLE ..... ± 8 dB (10 kHz)

Loudness Contour ..... + 6 dB (100 Hz)

..... + 3 dB (10 kHz)

### Signal-to-Noise Ratio (IHF, short circuited, A network)

PHONO MM ..... 82 dB

CD, LINE, TAPE 1/DAT, TAPE 2, VIDEO, TV,

VDP/CDV, VCR 1, VCR 2, VCR 3 ..... 98 dB

### Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]

PHONO MM ..... 77 dB

CD, LINE, TAPE 1/DAT, TAPE 2, VIDEO, TV,

VDP/CDV, VCR 1, VCR 2, VCR 3 ..... 80 dB

## VIDEO Section

### Input (Sensitivity/Impedance)

VCR 1, VCR 2, VCR 3, VDP/CDV, TV, VIDEO,

ADAPTOR ..... 1 Vp-p/75 Ω

### Output (Level/Impedance)

VCR 1, VCR 2, ADAPTOR, MONITOR ..... 1 Vp-p/75 Ω

### Frequency Response

VCR 1, VCR 2, VCR 3, VDP/CDV, TV, VIDEO,

ADAPTOR→MONITOR ..... 5 Hz — 10 MHz ±<sub>3</sub><sup>0</sup> dB

Signal-to-Noise Ratio ..... 55 dB

Cross Talk ..... 55 dB (3.58 MHz)

Enhancer ..... ± 3 dB (2 MHz)

## [S terminals]

### Input (Sensitivity/impedance)

VCR 1, VCR 2, VDP/CDV ..... Luminance signal: 1 Vp-p/75 Ω

Color difference signal: 0.286 Vp-p/75 Ω

### Output (Level/impedance)

VCR 1, VCR 2, TO MONITOR TV. Luminance signal: 1 Vp-p/75 Ω

Color difference signal: 0.286 Vp-p/75 Ω

### Frequency response

Luminance signal ..... 5 Hz to 10 MHz, ±<sub>3</sub><sup>0</sup> dB

### Signal-to-Noise Ratio

Luminance signal ..... 55 dB

Cross talk ..... 55 dB (3.58 MHz)

## Surround section

### Input (Sensitivity/Impedance)

REAR POWER AMP IN ..... 1 V/47 kΩ

CENTER POWER AMP IN ..... 1 V/47 kΩ

### Output (Level/Impedance)

REAR PRE AMP OUT ..... 1 V/470 Ω

CENTER PRE AMP OUT ..... 1 V/470 Ω

## FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz

Usable Sensitivity ..... Mono; 10.8 dBf, IHF (0.95 μV/75 Ω)

50 dB Quieting Sensitivity ..... Mono; 15.3 dBf, (1.6 μV/75 Ω)

Stereo; 37.0 dBf, (19.5 μV/75 Ω)

Signal-to-Noise Ratio ..... Mono; 80 dB (at 65 dBf)

Stereo; 76 dB (at 85 dBf)

Distortion ..... Mono; 0.08 % (100 Hz)

0.08 % (1 kHz)

0.2 % (6 kHz)

Stereo; 0.2 % (100 Hz)

0.15 % (1 kHz)

0.3 % (6 kHz)

Capture Ratio ..... 1.0 dB

Alternate Channel Selectivity ..... 65 dB (400 kHz)

Stereo Separation ..... 50 dB (1 kHz)

Frequency Response ..... 30 Hz to 15 kHz ±<sub>2</sub><sup>0</sup> dB

Image Interference Ratio ..... 50 dB

IF Interference Ratio ..... 80 dB

AM Suppression Ratio ..... 55 dB

Spurious Interference Ratio ..... 70 dB

Antenna Input ..... 300 Ω balanced

75 Ω unbalanced

## AM Tuner Section

Frequency range ..... When 10 kHz step: 530 kHz — 1,700 kHz

When 9 kHz step: 531 kHz — 1,602 kHz

Sensitivity (IHF, Loop antenna) ..... 300 μV/m

Selectivity ..... 30 dB

Signal-to-Noise Ratio ..... 50 dB

Image Interference Ratio ..... 40 dB

Antenna ..... Loop antenna

**Miscellaneous**

Power requirements	
U.S., Canadian models	AC 120V, 60 Hz
Other destination models	AC 110/120–127/220/240V (switchable), 50/60 Hz
Power consumption	
U.S., Canadian models	680 W, 840 VA
Other destination models	1100 W
In stand by condition	3 W
AC Outlets	
U.S. and Canadian models	SWITCHED x 2: TOTAL 200 W MAX UNSWITCHED x 1: 200 W MAX
Other destination model	SWITCHED x 2: TOTAL 100 W MAX UNSWITCHED x 1: TOTAL 100 W MAX
Dimensions	420 (W) x 162 (H) x 457 (D) mm 16-9/16 (W) x 6-3/8 (H) x 18 (D) in
Weight (without package)	15.0 kg (33 lb)

**Furnished Parts**

FM T-type antenna	1
AM Loop antenna	1
Dry cell battery (LR03/AM-4)	4
Remote control unit	1
Operating Instructions	1
Templates added	2

**NOTE:**

*Specifications and the design subject to possible modifications without notice due to improvements.*

\* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.

\*\* Measured by Audio Spectrum Analyzer.

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