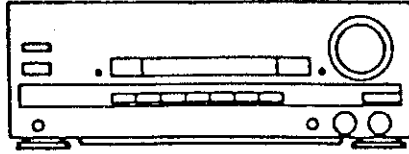


# Service Manual

**PIONEER**  
The future of sound and vision.



ORDER NO.  
**ARP1908**

STEREO AMPLIFIER

# A-Z460

## A-Z360

A-Z460 AND A-Z360 HAVE FOLLOWING VERSIONS:

Type	Applicable model		Power requirement	Export destination
	A-Z460	A-Z360		
HB	○	○	AC220V, 240V (switchable)*	United Kingdom
HE	○	○	AC220V, 240V (switchable)*	European continent
HEZ	○	○	AC220V, 240V (switchable)*	West Germany

\* Change the primary wiring.

- This manual is applicable To A-Z460/HB,HE, A-Z360/HB and HE types.
- As to the A-Z460/HE and A-Z360/HE types, refer to page 45.
- As to the other types, refer to applicable service manuals.
- Type A-Z460/HB and A-Z360/HB are two different models, having different power output values.
- GR-Z460 must be connected to A-Z460 or A-Z360.(GR-Z460 connect be connected to A-Z560. Connecting GR-Z460 to A-Z560 may cause a malfunction.) SP-Z560 Cannot be connected to A-Z460 or A-Z360. Connecting SP-Z560 to A-460 or A-Z360 may cause a malfunction.
- As to the system composition, refer to the S-777D/S-555D service manual (ARP1930).

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**1. SPECIFICATIONS**

**Stereo Amplifier: A-Z460**

Amplifier Section	
Continuous Power Output (DIN)	70 W + 70 W (1 kHz, T.H.D. 1%, 8Ω)
Music power (DIN)	110 W + 110 W (1 kHz, T.H.D. 1%, 8Ω)
D/A converter section	
Signal-to-Noise Ratio	More than 96 dB (EIAJ)
Dynamic range	More than 94 dB (EIAJ)
Frequency range	25 Hz to 20 kHz
Total Harmonic Distortion (1 kHz, 35 W, 8Ω)	No more than 0.06% **
Input sensitivity	
PHONO (MM)	2.5 mV
VCR, DIGITAL IN	150 mV
LD	250 mV
Output level	
DAT, VCR	150 mV
Tone control	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
MUTING	-∞

**Power Supply/Miscellaneous**

Power requirements	a.c. 240 Volts - 50/60 Hz
Power consumption	360 W
AC outlets switched (x 1)	50 W
Dimensions	360 (W) x 315 (D) x 135.5 (H) mm
Weight (without package)	8.2 kg

**Accessories**

Operating instructions	1
Remote control unit	1
Dry cell batteries "AAA" (IEC R03/UM-4)	1

\*\* Measured By Audio Spectrum Analyzer.

**Stereo Amplifier: A-Z360**

Continuous Power Output (DIN)	60 W + 60 W (1 kHz, T.H.D. 1%, 8Ω)
Music power (DIN)	100 W + 100 W (1 kHz, T.H.D. 1%, 8Ω)
D/A converter section	
Signal-to-Noise Ratio	More than 96 dB (EIAJ)
Dynamic range	More than 94 dB (EIAJ)
Frequency range	25 Hz to 20 kHz
Total Harmonic Distortion (1 kHz, 30 W, 8Ω)	No more than 0.06% **
Input sensitivity	
PHONO (MM)	2.5 mV
VCR, DIGITAL IN	150 mV
LD	250 mV
Output level	
DAT, VCR	150 mV
Tone control	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
MUTING	-∞

**Power Supply/Miscellaneous**

Power requirements	a.c. 240 Volts - 50/60 Hz
Power consumption	300 W
AC outlets switched (x 1)	50 W
Dimensions	360 (W) x 315 (D) x 135.5 (H) mm
Weight (without package)	7.8 kg

**Accessories**

Operating instructions	1
Remote control unit	1
Dry cell batteries "AAA" (IEC R03/UM-4)	1

\*\* Measured By Audio Spectrum Analyzer.

• Specifications and design subject to possible modification without notice due to improvement.

**2. EXPLODED VIEWS, PACKING AND PARTS LIST**

**NOTES:**

- Parts without part number cannot be supplied.
- 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.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	KNOB (VOLUME)	AAB1135		45	P.C.B MOLD	
	2	KNOB	AAB1136		46	LEG ASSEMBLY (S)	
	3	BUTTON S	AAD1670		47	CHASSIS	
	4	BUTTON L	AAD1672		48	REAR PANEL	
	5	BUTTON L	AAD1673		49	BOTTOM PLATE	
	6	BUTTON (POWER)	AAD1674		50	BONNET CASE	ANE1208
	7	BUTTON (FUNCTION)	AAD1675		51	TRANS PLATE	
	8	BUTTON	AAD1682		52	HEAT SINK PLATE	
	9	ACRYLIC LENS L	AAK1757		53	PLATE	
	10	ACRYLIC LENS S	AAK1758		54	VOLUME PLATE	
	11	ACRYLIC LENS	AAK1759		55	HEAT SINK	
	12	PVC SHEET			56	SUB HEAT SINK	
	13	SHEET A			57	EARTH PLATE	
	14	SHEET B			58	OPERATING INSTRUCTIONS	ARB1219
	15	ACRYLIC PANEL	AAK1891		59	STANDBY ASSEMBLY	AWZ2735
	16	NAME PLATE			60	AF ASSEMBLY (A-Z460)	AWZ2736
	17	SCREW (STEEL)	ABA-283			AF ASSEMBLY (A-Z360)	AWZ2733
	18	SCREW	ABA-298		61	POWER ASSEMBLY (A-Z460)	AWZ2737
	19	SCREW (STEEL)	ABA1009			POWER ASSEMBLY (A-Z360)	AWZ2734
	20	SCREW (STEEL)	ABA1011		62	SP TERMINAL ASSEMBLY	
	21	SCREW	ABA1018		63	FUSE ASSEMBLY	
	22	SCREW (STEEL)	ABA1047		64	DISPLAY ASSEMBLY	AWZ2738
	23	SCREW (STEEL)	ABA1050		65	DAC ASSEMBLY	AWK1273
	24	SCREW (STEEL)	ABA1072		66	REMOTE CONTROL UNIT (CU-AX013)	AXD1129
	25	SCREW	ABA1098		67	SCREW	BBZ26P060FMC
$\Delta$	26	AC POWER CORD	ADG-051		68	SCREW	BBZ26P080FMC
	27	BATTERY COVER	AZN1990		69	NUT	NK90FZB
	28	FRONT PANEL			70	HEAD PHONE KNOB	RAC1366
	29	NYLON RIVET	AEC-510		71	LEG ASSEMBLY	RXA1276
$\Delta$	30	STRAIN RELIEF	AEC-882		72	FU1 FUSE (T2.5A)	AEK-512
	31	.....	.....		73	FU2 FUSE (T2A)	AEK-511
	32	"AAA" DRY CELL			74	FU3 FUSE (T1.6A)	AEK-510
	33	FRONT PAD	AHA1272	$\Delta$	75	FU4 FUSE (T1.6A)	AEK-510
	34	REAR PAD	AHA1273	$\Delta$	76	FU5 FUSE (T2A)	AEK-511
	35	PACKING CASE (A-Z460)	AHD1775	$\Delta$	77	T1 POWER TRANSFORMER (A-Z460)	ATS1225
		PACKING CASE (A-Z360)	AHD1774			T1 POWER TRANSFORMER (A-Z360)	ATS1223
	36	LITERATURE BAG			78	ONE ASSEMBLY	AWZ2740
	37	SHEET	AHG1016		79	HEAD PHONE ASSEMBLY	
	38	TERMINAL SCREW			80	SUB TRANS ASSEMBLY	
	39	FRONT PANEL ASSEMBLY (A-Z460)	AMB1568		81	POWER VR ASSEMBLY	
		FRONT PANEL ASSEMBLY (A-Z360)	AMB1566				
	40	P.C.B SUPPORT					
	41	SENSOR ACRYLIC	AAK1760				
	42	SASH R	AMR2083				
	43	SASH L	AMR2132				
	44	PLATE	AMR2133				

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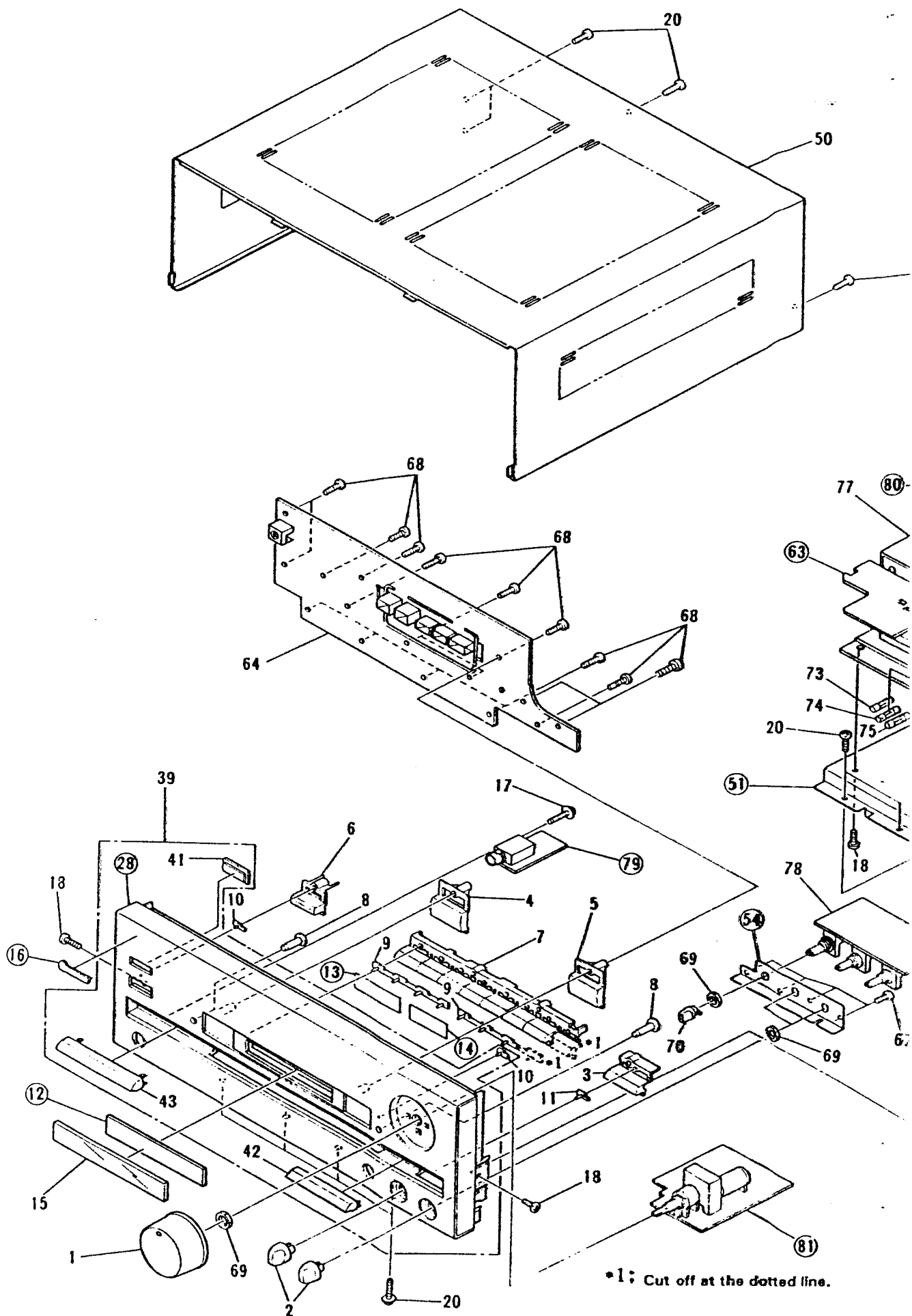
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A

B

C

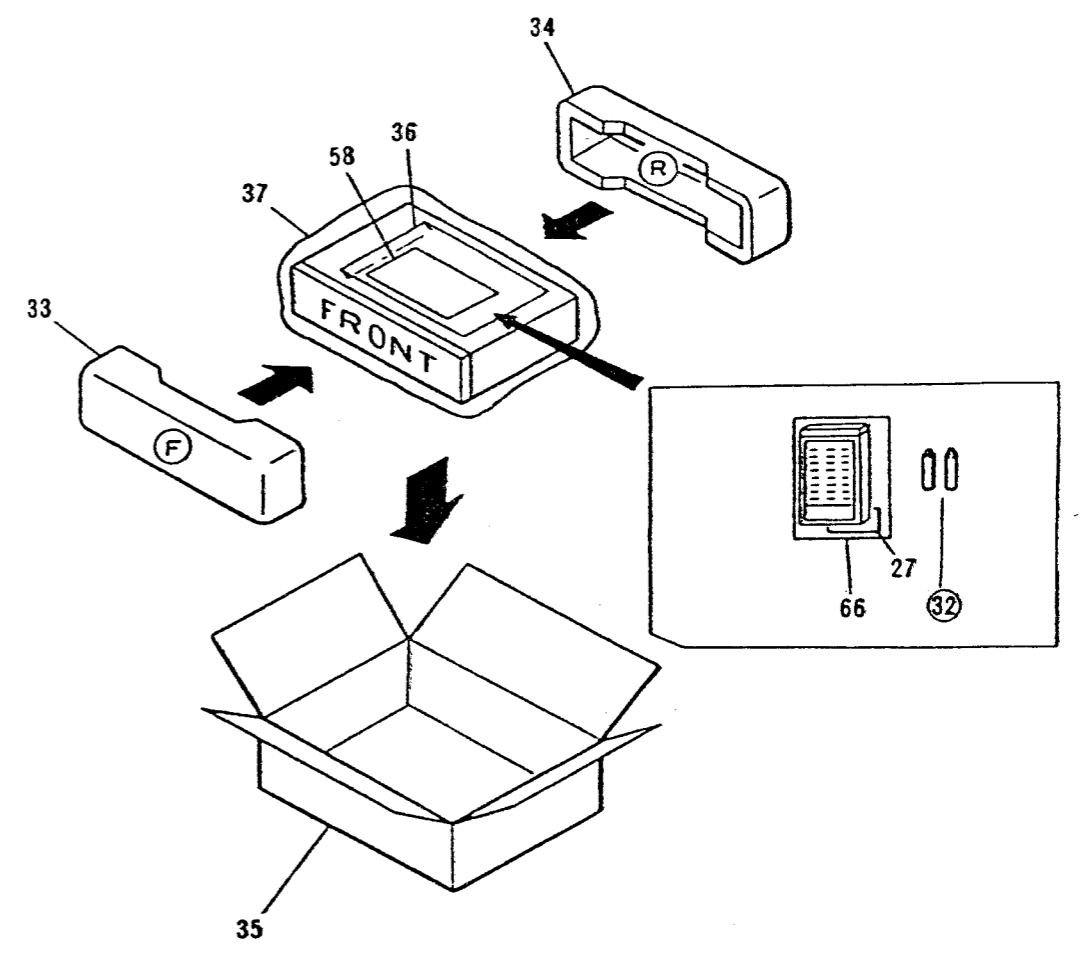
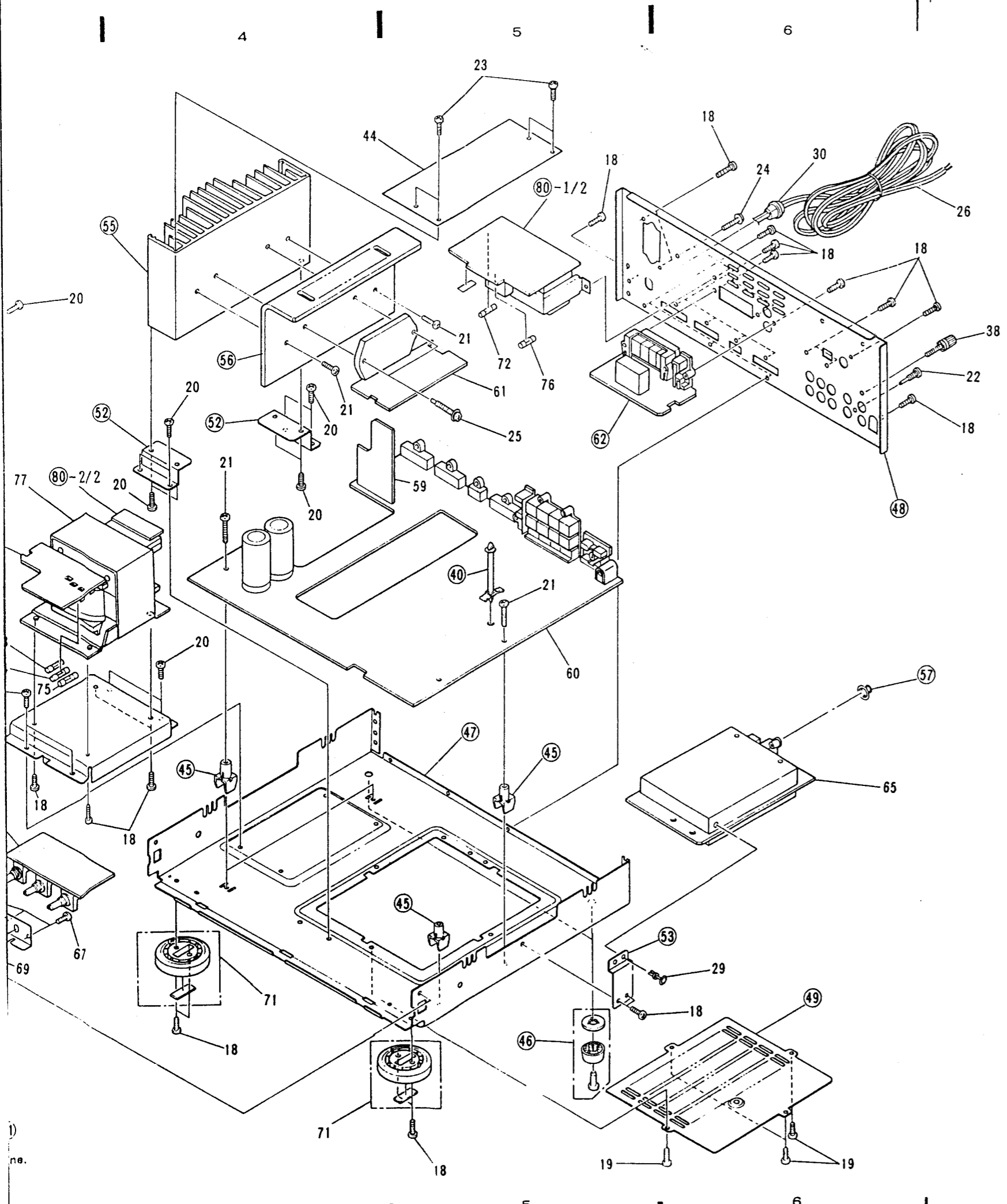
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1

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3



3. PARTS LIST OF ASSEMBLIES

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 Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.  
 Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).  
 560Ω 56 × 10<sup>1</sup> 561..... RD1/4PS □ □ □ J  
 47kΩ 47 × 10<sup>3</sup> 473..... RD1/4PS □ □ □ J  
 0.5Ω 0R5..... RN2H □ □ □ K  
 1Ω 010..... RS1P □ □ □ K
- Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).  
 5.62kΩ 562 × 10<sup>1</sup> 5621..... RN1/4SR □ □ □ □ F

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
STANDBY ASSEMBLY (AWZ2735)			AF ASSEMBLY (AWZ2736) A-2460, (AWZ2733) A-2360		
SEMICONDUCTOR			SEMICONDUCTOR		
IC151		NJM78M56FA	IC101		UPC78M05H
Q152	TRANSISTOR	2SB560	IC102		NJM78M56FA
Q554	TRANSISTOR	2SD438	IC103	REGULATOR IC	NJM79M05FA
D151-154	DIODE	S5566	IC104		UPC78M12H
D156	ZENER DIODE	RD33ESB2	IC105		TA7291S
D157	ZENER DIODE	RD6,2ESB	IC201		M5218P
CAPACITORS			IC202		TC4066BP
C151	ELECTROLYTIC CAPACIT	CEHAQ222M16	IC203		TC4052BP
C152	ELECTROLYTIC CAPACIT	CEHAQ471M16	IC204		M5218L
C153,156	ELECTROLYTIC CAPACIT	CEHAQ221M50	IC205		TC4066BP
C157	ELECTROLYTIC CAPACIT	CEHAQ220M50	IC206		TC4052BP
C158	ELECTROLYTIC CAPACIT	CEHAQ470M50	IC207		M5218P
C159	ELECTROLYTIC CAPACIT	CEHAQ221M10	IC301,302		LA3607
RESISTOR			IC303		LC7522
Δ R151	METAL OXIDE RESISTOR	RS3LMF561J	Q101	TRANSISTOR	2SB560
Δ R153	METAL OXIDE RESISTOR	RS2LMF222J	Q102	TRANSISTOR	2SA970
Δ R154,155	CARBON FILM RESISTOR	RD1/4PMF470J	Q103-105	TRANSISTOR	2SC2458
R156	CARBON FILM RESISTOR	RD1/8PM153J	Q106	TRANSISTOR	2SD438
Δ R157	CARBON FILM RESISTOR	RD1/4PMFL4R7J	Q107,108	TRANSISTOR	DTC124ES
	OTHER RESISTORS	RD1/8PM□□□J	Q551	TRANSISTOR	2SA1048
			Q552	TRANSISTOR	2SC2603
			Q553	TRANSISTOR	2SA1048
			D101	DIODE (A-2460 ONLY)	RBV602
			D101	DIODE (A-2360 ONLY)	RBV402
			D102-107	DIODE	S5566
			D108	DIODE	RB152
			D109	DIODE	HSS104-02
			D110	ZENER DIODE	RD33ESB2
			D111	ZENER DIODE	RD6,2ESB
			D112,113	DIODE	HSS104-02
			D114	ZENER DIODE	RD3,0ESB1
			D115	DIODE	HSS104-02

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Mark No.	Description	Parts No.
D116	ZENER DIODE	RD4,7ESB
D117	DIODE	HSS104-02
CAPACITORS		
C101	CKA (0.01/AC250V)	ACG1005
C102,103	CERAMIC CAPACITOR	CKDYF103Z50
C104,105	ELECTROLYTIC CAPACIT	ACH1031
C106,107	ELECTR. CAPACITOR	CEAS222M16
C108	ELECTR. CAPACITOR	CEAS471M50
C109	ELECTR. CAPACITOR	CEAS332M25
C110	ELECTR. CAPACITOR	CEHAQ101M50
C111,112	ELECTR. CAPACITOR	CEAS101M50
C113	ELECTROLYTIC CAPACIT	CEHAQ220M50
C114	ELECTROLYTIC CAPACIT	CEHAQ470M50
C115	ELECTROLYTIC CAPACIT	CEHAQ470M16
C116	ELECTROLYTIC CAPACIT	CEHAQ221M10
C117	ELECTR. CAPACITOR	CEAS100M25
C118	CERAMIC CAPACITOR	CKCYX103M25
C119	ELECTR. CAPACITOR	CEAS221M10
C120	ELECTR. CAPACITOR	CEAS010M50
C121	CERAMIC CAPACITOR	ACG1021
C209,210	CERAMIC CAPACITOR	CKCYB152K50
C211,212	CERAMIC CAPACITOR	CKCYB562K50
C213,214	ELECTR. CAPACITOR	CEAS010M50
C215,216	ELECTR. CAPACITOR	CEAS470M10
C217,218	ELECTR. CAPACITOR	CEAS4R7M50
C219,220	ELECTR. CAPACITOR	CEAS100M25
C221,222	ELECTROLYTIC CAPACIT	CEYA470M50
C223,224	ELECTR. CAPACITOR	CEAS100M25
C225,226	CERAMIC CAPACITOR	ACG1018
C227,228	CERAMIC CAPACITOR	ACG1019
C229,230	CERAMIC CAPACITOR	ACG1017
C231-234	ELECTR. CAPACITOR	CEAS100M25
C237	CERAMIC CAPACITOR	CKDYX104M25
C238	CERAMIC CAPACITOR	CKDYF473Z50
C239,240	ELECTR. CAPACITOR	CEAS2R2M50
C241,242	ELECTR. CAPACITOR	CEAS100M25
C247,248	ELECTROLYTIC CAPACIT	CEYA470M50
C301,302	ELECTROLYTIC CAPACIT	CEASR15M50
C303,304	ELECTR. CAPACITOR	CEASR47M50
C305,306	CERAMIC CAPACITOR	CKCYX683M25
C307,308	ELECTROLYTIC CAPACIT	CEASR15M50

Mark No.	Description	Parts No.
C309,310	CERAMIC CAPACITOR	CKCYX103M25
C311,312	CERAMIC CAPACITOR	CKCYX103M25
C313,314	CERAMIC CAPACITOR	CKCYX103M25
C315,316	CERAMIC CAPACITOR	CKCYX273M25
C317,318	CERAMIC CAPACITOR	CKCYB472K50
C319,320	CERAMIC CAPACITOR	CKCYX103M25
C321,322	CERAMIC CAPACITOR	CKCYB331K50
C323,324	ELECTR. CAPACITOR	CEAS220M16
C325,326	CERAMIC CAPACITOR	CKCYB472K50
C327-330	CERAMIC CAPACITOR	CKCYB182K50
C331,332	CERAMIC CAPACITOR	CKCYB881K50
C333,334	ELECTR. CAPACITOR	CEAS220M16
C335-340	ELECTR. CAPACITOR	CEAS221M10
RESISTOR		
Δ R101,102	METAL OXIDE RESISTOR	RS2LMFR22J
Δ R103	METAL OXIDE RESISTOR	RS2LMF222J
Δ R104	CARBON FILM RESISTOR	RD1/8PM153J
Δ R105,106	CARBON FILM RESISTOR	RD1/4PMF470J
Δ R120	METAL OXIDE RESISTOR (A-2460 ONLY)	RS2LMF102J
Δ R120	METAL OXIDE RESISTOR (A-2360 ONLY)	RS2LMF821J
Δ R129	CARBON FILM RESISTOR	RD1/2PMFL2R2J
R132-135	CARBON FILM RESISTOR	RD1/4PM100J
Δ R136	METAL OXIDE RESISTOR	RS2LMF2R2J
R217,218	CARBON FILM RESISTOR	RD1/4PM390J
R257,258	CARBON FILM RESISTOR	RD1/4PM390J
R321-324	CARBON FILM RESISTOR	RD1/4PM390J
R327,328	CARBON FILM RESISTOR	RD1/4PM390J
	OTHER RESISTORS	RD1/8PM□□□J
OTHERS		
	PHONO JACK 4-P	AKB-115
	PHONO JAC 6-P	AKB1123
	PLUG 10-P	AKM1037
	JACK	AKN-203
	SOCKET 4-P	AKP1046
	SOCKET 13-P	AKP1047
	SOCKET 14-P	AKP1048
	SOCKET 15-P	AKP1049

Mark No.	Description	Parts No.
POWER ASSEMBLY (AWZ2737) A-2460, (AWZ2734) A-2360		
SEMICONDUCTOR		
IC401	AUDIO IC (A-2460 ONLY)	STK4211-5P
IC401	AUDIO IC (A-2360 ONLY)	STK4192-2GP
CAPACITORS		
C401,402	CERAMIC CAPACITOR	CKDYF472Z50 (A-2460 ONLY)
C401,402	POLYESTER CAPACITOR (A-2360 ONLY)	CQMXA472J100
C403	ELECTR. CAPACITOR	CEAS4R7M50
C404	ELECTROLYTIC CAPACIT	CEHAQ4R7M50
C405,406	CERAMIC CAPACITOR	CCDSL470J50
C407	ELECTROLYTIC CAPACIT	CEYA101M50
C408	ELECTROLYTIC CAPACIT	CEYA101M50
C409,410	CERAMIC CAPACITOR	CKDYB102K50 (A-2460 ONLY)
C411,412	ELECTR. CAPACITOR	CEAS010M50 (A-2460 ONLY)
C413,414	ELECTR. CAPACITOR	CEAS220M50
C415,416	ELECTR. CAPACITOR	CEAS470M50
C417,418	ELECTR. CAPACITOR	CEAS101M25
C423	ELECTR. CAPACITOR	CEAS470M50
C425,426	CERAMIC CAPACITOR	CCDSL030C50 (A-2460 ONLY)
C427-430	ELECTROLYTIC CAPACIT	CEYA220M50
RESISTOR		
R405,406	CARBON FILM RESISTOR	RD1/4PM563J
R409,410	CARBON FILM RESISTOR (A-2460 ONLY)	RD1/8PM471J
R411-414	CARBON FILM RESISTOR (A-2460 ONLY)	RD1/2PM472J
R411-414	CARBON FILM RESISTOR (A-2360 ONLY)	RD1/2PM332J
Δ R417,418	CARBON FILM RESISTOR	RD1/4PMFL222J
R419	CARBON FILM RESISTOR	RD1/2PM102J
Δ R420-422	CARBON FILM RESISTOR	RD1/4PMFL□□□J
	OTHER RESISTORS	RD1/8PM□□□J
SP TERMINAL ASSEMBLY		
SEMICONDUCTOR		
D451,452	ZENER DIODE	RD12ESR3

Mark No.	Description	Parts No.
RELAY		
RY451	RELAY	ASR-112
COILS		
L451,452	COIL	ATH1004
CAPACITORS		
C461-464	MYLAR FILM CAPACITOR	CQMA104J50
C465	ELECTROLYTIC CAPACIT	CEANP4R7M100
RESISTORS		
Δ R461-464	CARBON FILM RESISTOR	RD1/4PMFL100J
OTHERS		
	PHONO JACK 2-P	AKB1039
	SPEAKER TERMINAL 4-P	AKE-109
CN3	JUMPER CONNECTOR	KPC5 5-P
FUSE ASSEMBLY		
No parts are supplied with the fuse assembly.		
DISPLAY ASSEMBLY (AWZ2738)		
SEMICONDUCTOR		
IC701		PD5118
Q701-704	TRANSISTOR	DTA124ES
Q705	TRANSISTOR	DTA143ES
Q711	TRANSISTOR	DTC124ES
Q712,713	TRANSISTOR	2SC2458
Q716	TRANSISTOR	DTC124ES
Q717,718	TRANSISTOR	2SC2458
Q719	TRANSISTOR	2SA1048
Q720	TRANSISTOR	2SC2458
Q721-723	TRANSISTOR	2SA1048
D701,702	DIODE	HSS104-02
D703	DIODE	AEL1100
D704-706	DIODE	HSS104-02
D707,708	LED (RED)	AEL1099
D710-715	LED (RED)	AEL1099
D719-721	DIODE	HSS104-02
D722	LED (RED)	AEL1099
D723	DIODE	HSS104-02
D725,726	LED	AEL1013
D727	LED	AEL1071

Mark No.	Description	Parts No.
D728	LED (RED)	AEL1038
D729	LED	AEL1013
<b>SWITCH</b>		
S701-710	SWITCH	ASG1029
S712-714	SWITCH	ASG1029
<b>COILS</b>		
L701	AXIAL INDUCTOR	LAU101K
<b>CAPACITORS</b>		
C701	CERAMIC CAPACITOR CKCYX473M25	
C702	ELECTR. CAPACITOR CEAS221M10	
C703,704	CERAMIC CAPACITOR CKCYX103M25	
C705	CERAMIC CAPACITOR CKCYB102K50	
C706	ELECTR. CAPACITOR CEAS010M50	
C707	CEA (47000/5.5V)	ACH1070
C708	ELECTR. CAPACITOR CEAS4R7M50	
C709,710	CERAMIC CAPACITOR ACG1021	
C711	CERAMIC CAPACITOR CKCYX473M25	
<b>RESISTORS</b>		
R742	RESISTOR ARRAY 100K	RA5T104J
R744	RESISTOR ARRAY (100K)	RA6T104J
R761	RESISTOR ARRAY (10K)	RA4T104J
	OTHER RESISTORS	RD1/8PM□□□J
<b>OTHERS</b>		
	SOCKET 10-P REMOTE RECEIVER UNIT	AKP1044 AXX1010
X701	CERAMIC RESONATOR	ASS1025
<b>TONE ASSEMBLY (AWZ2740)</b>		
<b>SEMICONDUCTOR</b>		
IC671,672		M5220P
IC673		TC4052BP
<b>CAPACITORS</b>		
C671,672	ELECTROLYTIC CAPACIT	CEJA100M25
C673,674	CERAMIC CAPACITOR	ACG1016
C675,676	ELECTROLYTIC CAPACIT	CEJA4R7M50
C677,678	ELECTROLYTIC CAPACIT	CEJA220M16
C679,680	CERAMIC CAPACITOR	CKDYB392K50

Mark No.	Description	Parts No.
C681,682		CFTXA183J50
C683,684		CFTXA273J50
C685,686	AUDIO FILM CAPACITOR	CFTXA154J50
C689,690	ELECTR. CAPACITOR	CEJA470M10
C691,692	CERAMIC CAPACITOR	ACG1025
C695,696	ELECTROLYTIC CAPACIT	CEJA4R7M50
C697,698	ELECTROLYTIC CAPACIT	CEJA100M50
<b>RESI</b>		
.672		ACS1044
VR673	VARIABLE (100K-X1)	ACS1047
R689,690		RD1/4PM390J
	OTHER RESISTORS	RD1/8PM□□□J
<b>HEAD PHONE ASSEMBLY</b>		
<b>CAPACITORS</b>		
C451	CERAMIC CAPACITOR CKDYX104M25	
<b>RESISTOR</b>		
△ R453-456	METAL OXIDE RESISTOR	RS2LMF331J
<b>OTHERS</b>		
	JACK (HED PHONE)	AKN1010
<b>SUB TRANS ASSEMBLY</b>		
<b>SEMICONDUCTOR</b>		
D191,192	ZENER DIODE	RD6,2ESB3
<b>RELAY</b>		
△ RY191	RELAY	ASR1024
<b>TRANSFORMER</b>		
△ T191	POWER TRANSFORMER	ATT1111
<b>CAPACITORS</b>		
△ C191,192	CKA (0.01/AC400V)	ACG1003
<b>OTHERS</b>		
	AC SOCKET 1-P	AKP1035
	SOCKET 8-P	AKP1045

Mark No.	Description	Parts No.
<b>POWER VR ASSEMBLY</b>		
<b>SEMICONDUCTOR</b>		
IC651	OP-AMP IC	M5218P
<b>CAPACITORS</b>		
C651,652	ELECTR. CAPACITOR	CEAS100M25
C653,654	ELECTR. CAPACITOR	CEAS470M10
C655	CERAMIC CAPACITOR CKCYX103M25	
C656	ELECTR. CAPACITOR	CEAS470M10
C659,660	ELECTR. CAPACITOR	CEAS4R7M50
<b>OTHERS</b>		
CN2	JUMPER CONNECTOR 15-P	KPE15
<b>RESISTOR</b>		
VR651		ACX1027
R659-661	CARBON FILM RESISTOR	RD1/4PM390J
	OTHER RESISTORS	RD1/8PM□□□J
<b>DAC ASSEMBLY</b>		
<b>SEMICONDUCTORS</b>		
IC801	LOGIC IC	TC74HCU04AP
IC802	DIGITAL I.F. IC	PD0037
IC803		PD0036
IC804	LOGIC IC	TC74HC32AP
IC805	D/A CONVERTER	LC78820-B
IC806	IC	NJM072D-E
IC807	OP-AMP IC	M5218P
Q801,802	TRANSISTOR	2SA1048
Q803	TRANSISTOR	2SC3377
Q804,805	TRANSISTOR	2SC2458
Q806,807	TRANSISTOR	2SC2878
Q808	TRANSISTOR	DTC124ES
D801	DIODE	HSS104-02
D804	DIODE	HSS104-02
D806	DIODE	HSS104-02
<b>COILS</b>		
L801,802	AXIAL INDUCTOR	LAU330K
<b>CAPCITORS</b>		
C805	CERAMIC CAPACITOR CKCYX473M25	
C806	CERAMIC CAPACITOR	ACG1021
C807	ELECTR. CAPACITOR	CEAS010M50

Mark No.	Description	Parts No.
C808	CERAMIC CAPACITOR	ACG1021
C809	ELECTR. CAPACITOR	CEAS101M10
C810	ELECTR. CAPACITOR	CEAS010M50
C811	AUDIO FILM CAPACITOR	CFTXA224J50
C812	ELECTR. CAPACITOR	CEAS470M10
C813	CERAMIC CAPACITOR	ACG1021
C814	CERAMIC CAPACITOR	CCDCH220J50
C815	ELECTR. CAPACITOR	CEAS101M10
C816	CERAMIC CAPACITOR	ACG1022
C818	ELECTROLYTIC CAPACIT	CEYA101M16
C819	MICA CAPACITOR	CMA220J500
C820	ELECTR. CAPACITOR	CEAS470M10
C821,822	CERAMIC CAPACITOR	CKCYX473M25
C823,826	ELECTROLYTIC CAPACIT	CEYA101M16
C827	ELECTROLYTIC CAPACIT	CEYA221M16
C828,829	ELECTROLYTIC CAPACIT	CEYA220M50
C830,831	MYLOR FILM CAPACITOR	CQMA683J50
C832,833		CQMXA472J100
C834,835	PL,STYRENE CAPACITOR	CQSA471J50
C836,837	MYLOR FILM CAPACITOR	CQMA821J50
C838,839	ELECTR. CAPACITOR	CEAS220M16
C840,841		CQMXA102J100
C842,843	ELECTR. CAPACITOR	CEAS470M10
C844,845	CERAMIC CAPACITOR	CKCYB222K50
C847	ELECTR. CAPACITOR	CEASR47M50
<b>RESISTOR</b>		
R849,850	CARBON FILM RESISTOR	RD1/4PM390J
	OTHER RESISTORS	RD1/8PM□□□J
<b>OTHERS</b>		
CN1	DIGITAL JACK 1-P 11-P OPTICAL CONNECTOR	AKB1073 KPE11 AKX1015

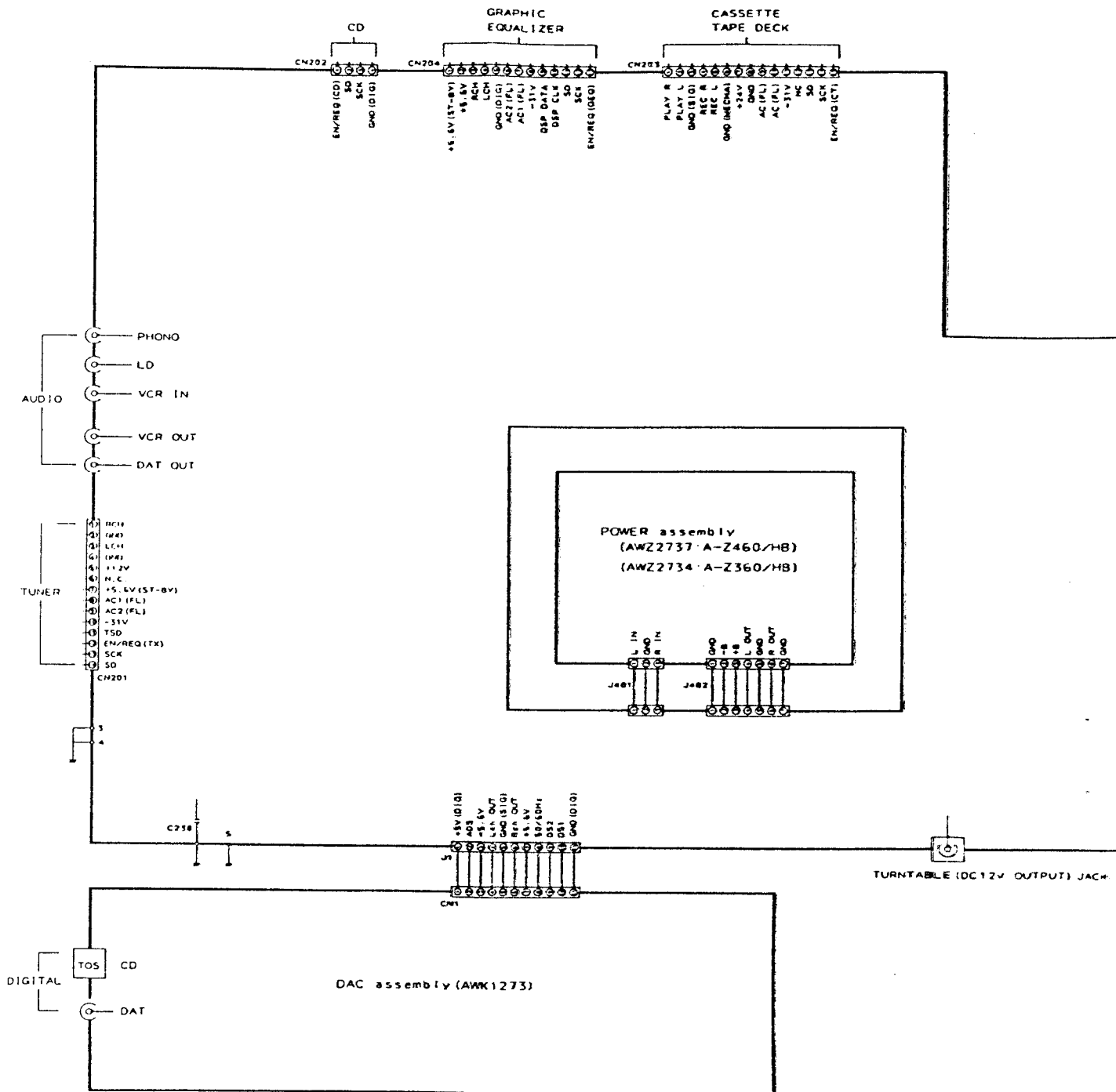
# 4. SCHEMATIC DIAGRAMS AND P.C. BOARD CONNECTION DIAGRAM

A

B

C

D



AGRAMS

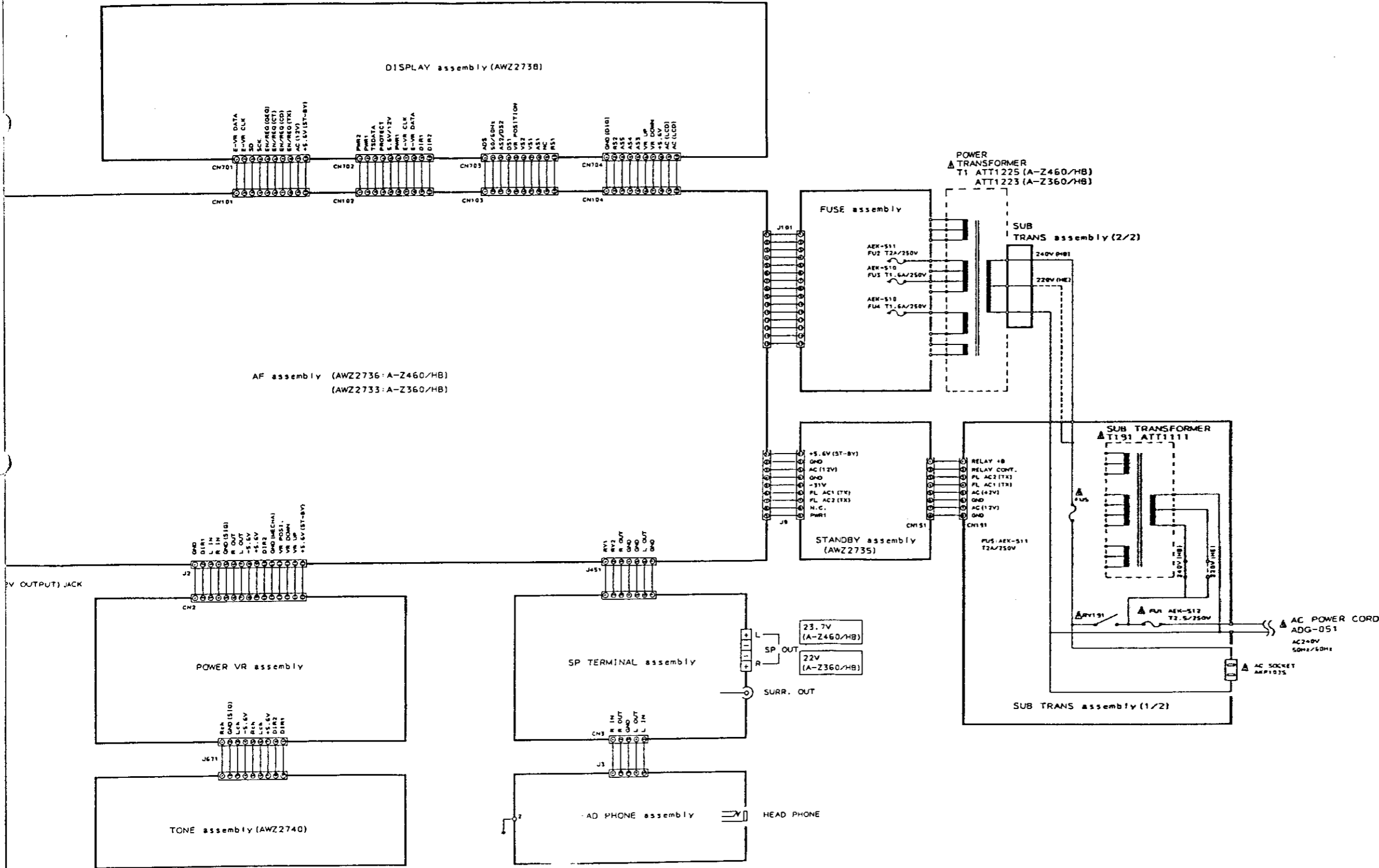
4

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1. RESISTORS  
Indicated in Ω, 1/8W, 1/4W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F): ±1%, (G): ±2%, (N): ±20% tolerance.
2. CAPACITORS  
Indicated in capacity (μF)/voltage (V) unless otherwise noted p: pF.  
Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE CURRENT  
  - ⏏ V: Signal voltage at 70W + 70W (A-Z460), 60W + 60W (A-Z360) 8Ω output (1kHz).
  - ⏏ DC: 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 Δ mark found on some components parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.  
\* marked capacitor and resistor have parts number. This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES

DISPLAY assembly			
S701	POWER	S707	DAT
S702	LSS SET	S708	CD
S703	LSS MODE	S709	LD
S704	PHONO	S710	VCR
S705	TUNER	S712	DIRECT
S706	TAPE	S713	MUTE
		S714	SURR.

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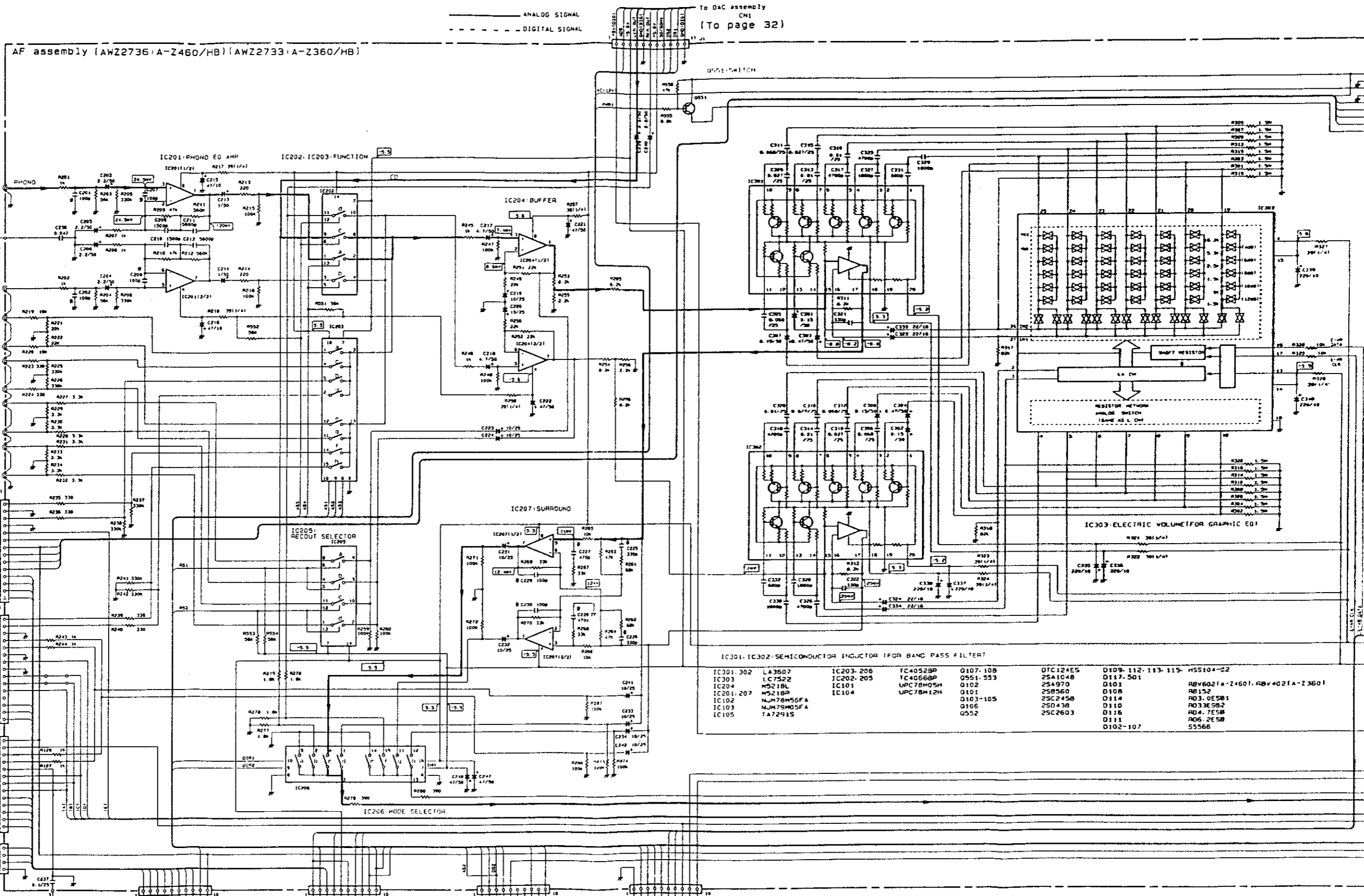


A

B

C

D



(To page 29)  
To DISPLAY assembly  
CN701

(To page 30)  
To DISPLAY assembly  
CN702

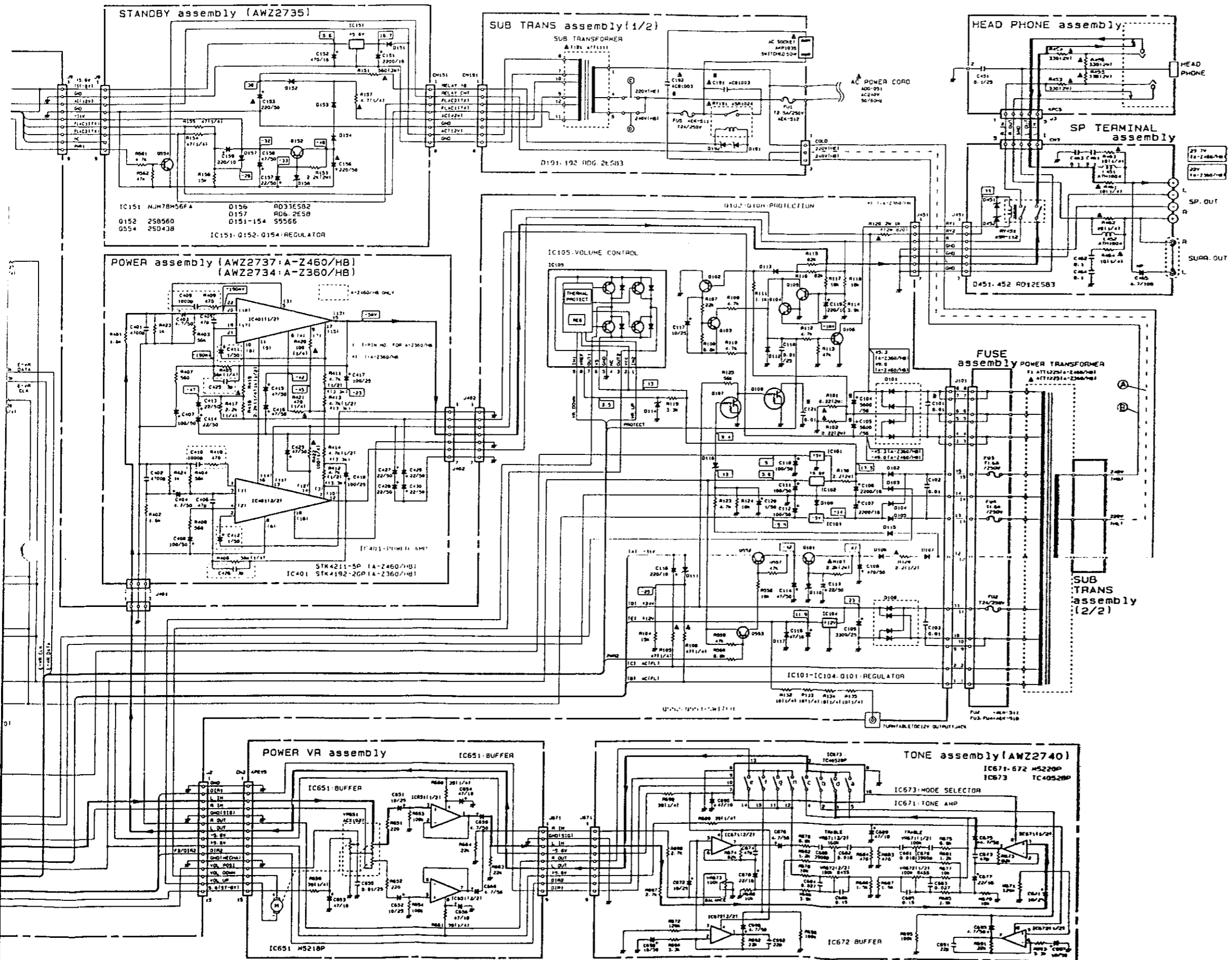
(To page 30)  
To DISPLAY assembly  
CN703

(To page 30)  
To DISPLAY assembly  
CN704

IC301, IC302: SEMICONDUCTOR INDUCTOR (FOR BAND PASS FILTER)

IC301, 302	LA3507	IC203, 205	TC4052BP	Q107, 108	DTC124ES	D109, 112, 113, 115, 155, 104-C2
IC303	LC7522	IC202, 205	TC4066BP	Q551, 553	2SA1048	D117, 501
IC204	M521BL	IC101	UPC78M05H	Q102	2SA970	D101
IC201, 207	M521BP	IC104	UPC78M12H	Q101	2S8560	D108
IC102	LM78M05FA			Q103-105	2SC245B	D114
IC103	LM78M05FA			Q106	2SD438	D110
IC105	TA7291S			Q552	2SC2603	D116
						D111
						D102-107

RBV602/A-Z460, RBV402/A-Z360



**Line Voltage Selection.(HE AND HB TYPES)**  
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the connection wires to SUB TRANS ASSEMBLY (1/2) from SUB TRANS ASSEMBLY (2/2) as follows.

Voltage	Connection Wire ②	Connection Wires ③
220V	○	×
240V	×	○

○: Be needed  
×: Be needless

4. Change the position of the jumper wires ④ and ⑤ as follows.(SUB TRANS ASSEMBLY(1/2))

Voltage	jumper wire ④	jumper wire ⑤
220V	○	×
240V	×	○

○: Be needed  
×: Be needless

5. Stick the line voltage label on the rear panel.

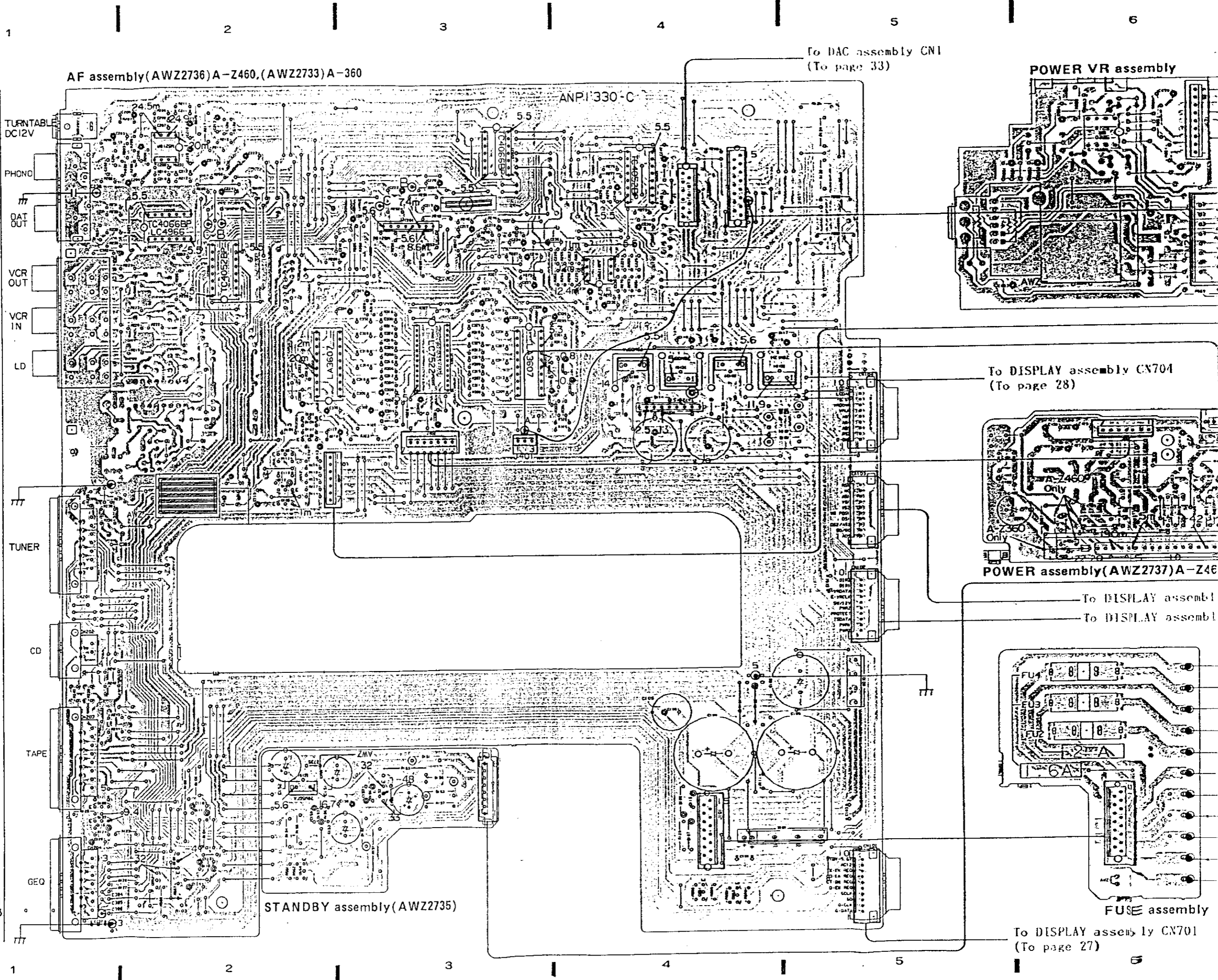
Part NO.	Description
AAx-193	220V label
AAx-192	240V label

A

B

C

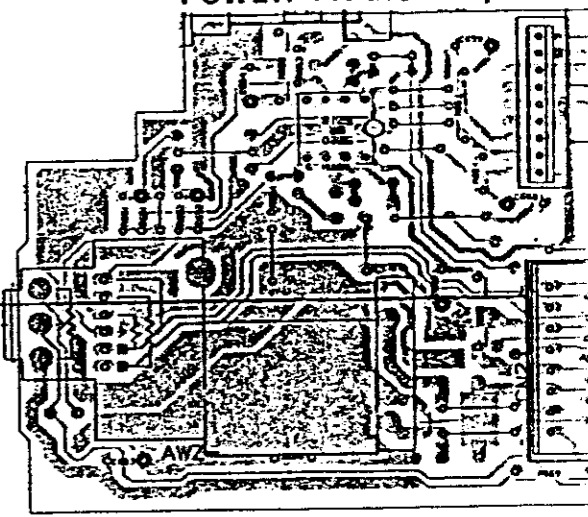
D



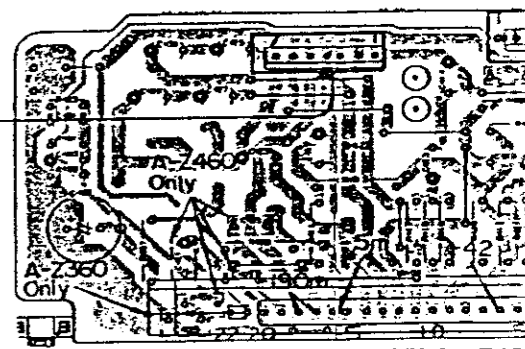
AF assembly(AWZ2736) A-Z460, (AWZ2733) A-360

To DAC assembly CN1  
(To page 33)

POWER VR assembly

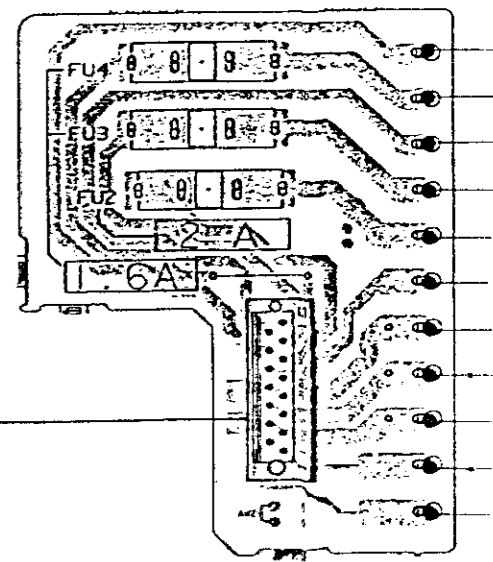


To DISPLAY assembly CN704  
(To page 28)



POWER assembly(AWZ2737) A-Z460

To DISPLAY assembly  
To DISPLAY assembly

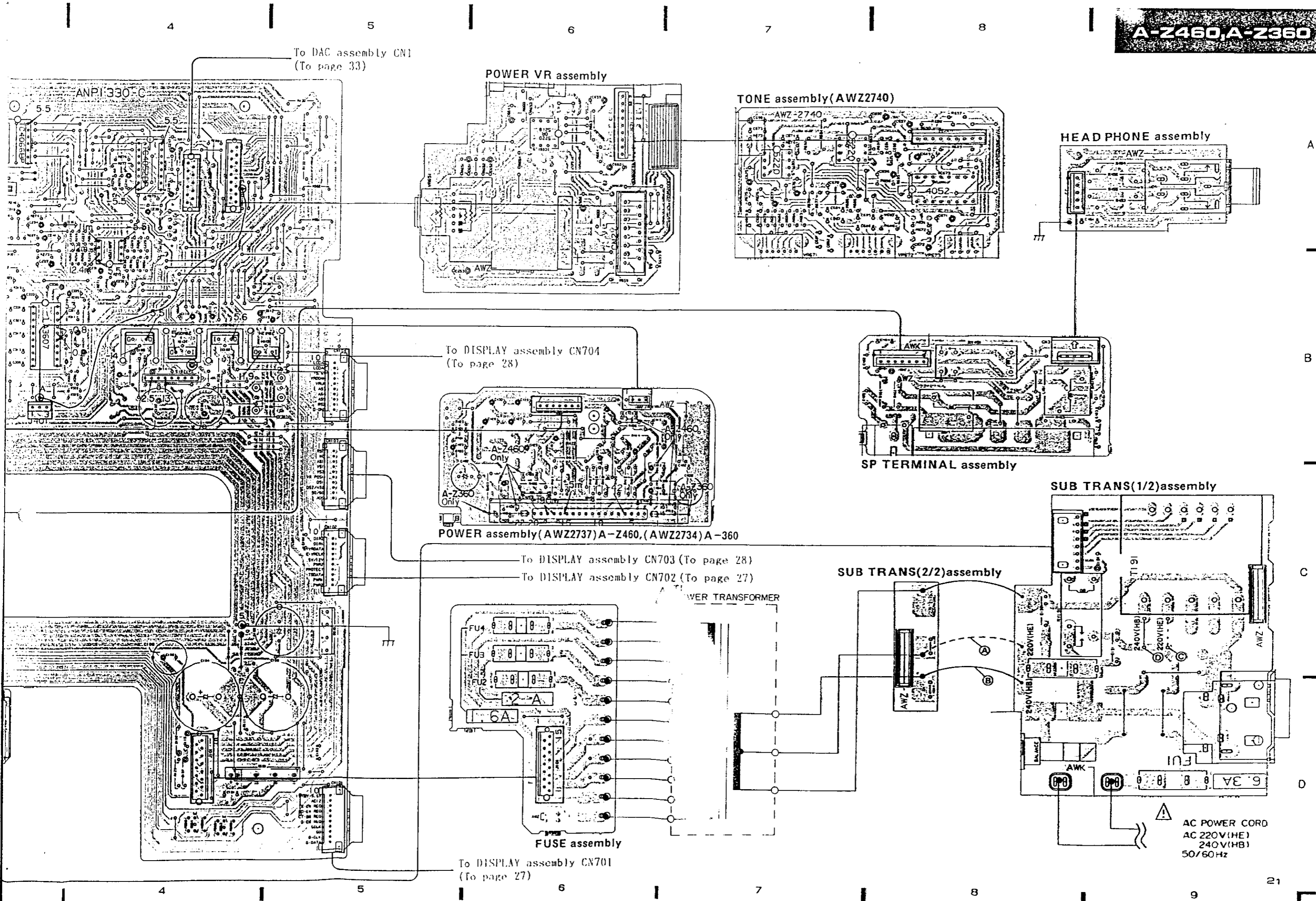


FUSE assembly

To DISPLAY assembly CN701  
(To page 27)

STANDBY assembly(AWZ2735)

- IC201
- IC202
- IC206
- IC205
- IC204
- IC203
- IC207
- IC301
- IC302
- IC303
- IC103
- IC101
- IC102
- IC104
- IC105
- Q103
- Q102
- Q106
- Q104
- Q105
- Q108
- Q107
- Q101
- Q552
- Q551
- Q553



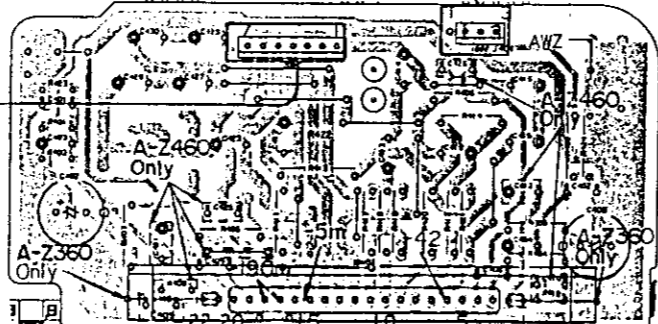
To DAC assembly CN1  
(To page 33)

POWER VR assembly

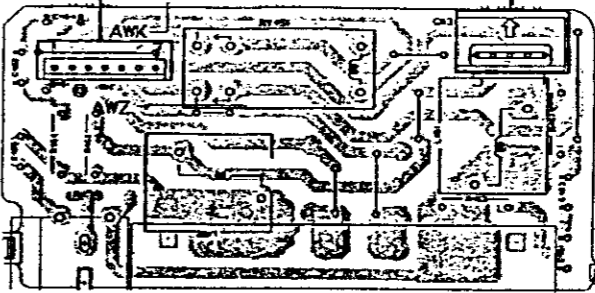
TONE assembly (AWZ2740)

HEAD PHONE assembly

To DISPLAY assembly CN704  
(To page 28)



POWER assembly (AWZ2737) A-Z460, (AWZ2734) A-360



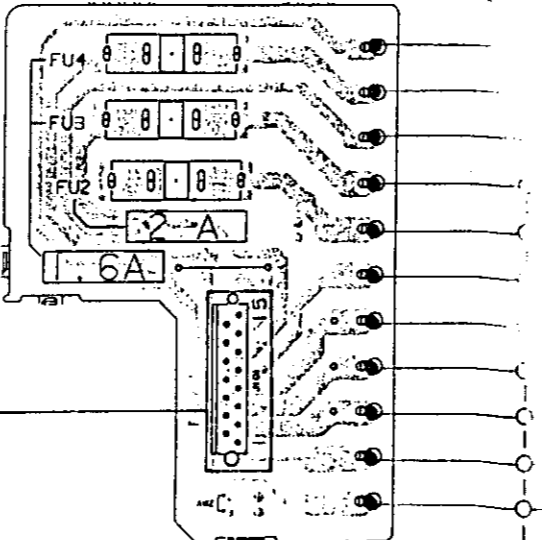
SP TERMINAL assembly

SUB TRANS(1/2) assembly

To DISPLAY assembly CN703 (To page 28)

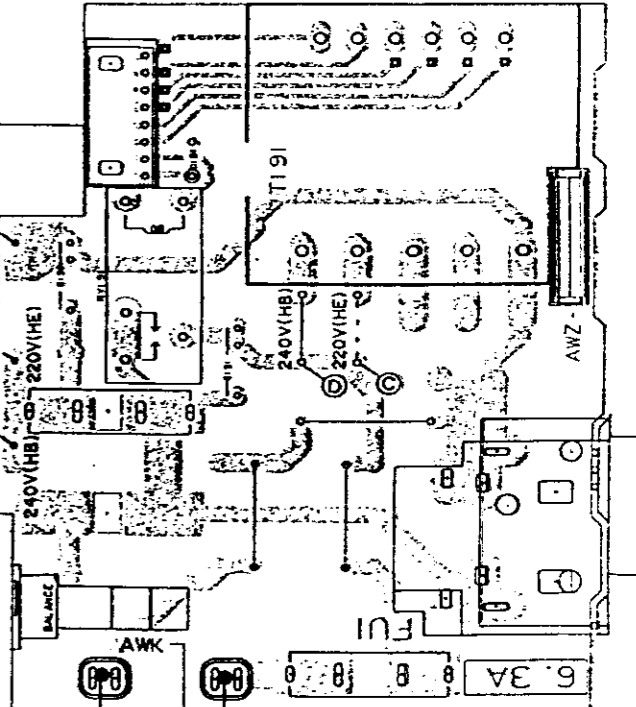
To DISPLAY assembly CN702 (To page 27)

POWER TRANSFORMER



FUSE assembly

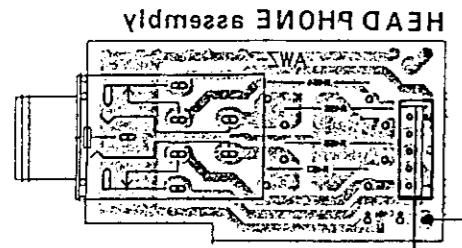
SUB TRANS(2/2) assembly



To DISPLAY assembly CN701  
(To page 27)

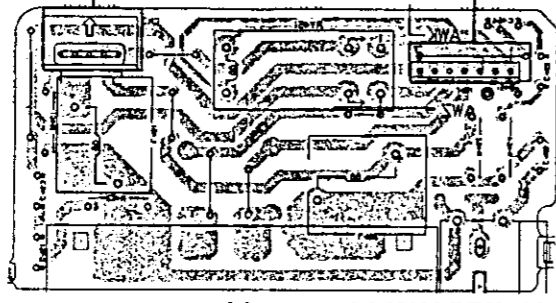
AC POWER CORD  
AC 220V(HE)  
240V(HB)  
50/60Hz

A



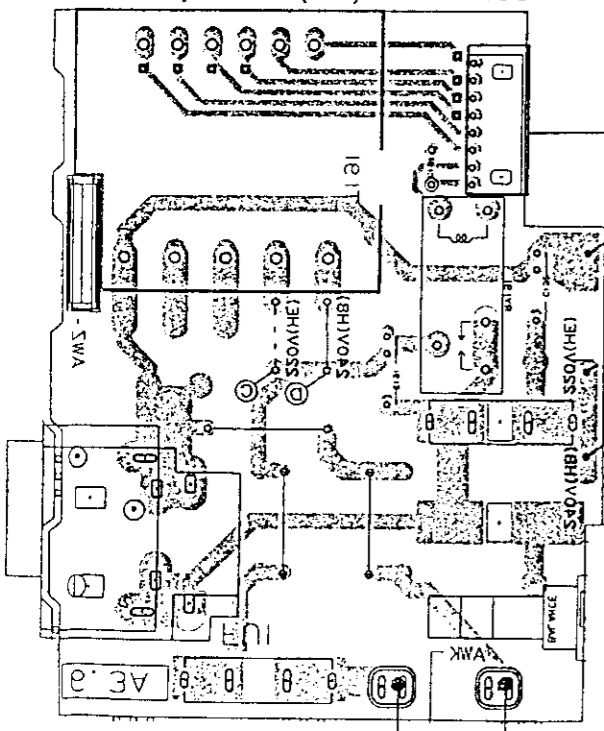
HEAD PHONE assembly

B



SP TERMINAL assembly

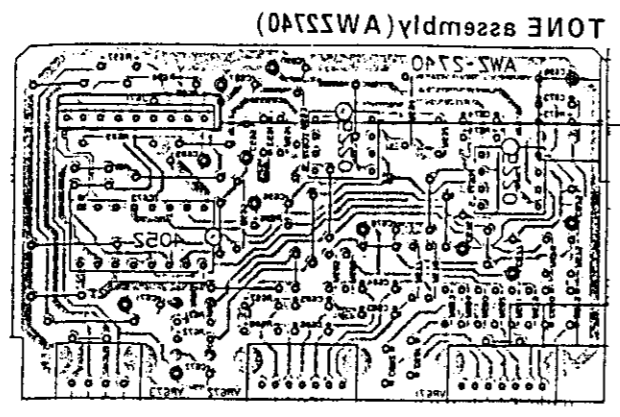
C



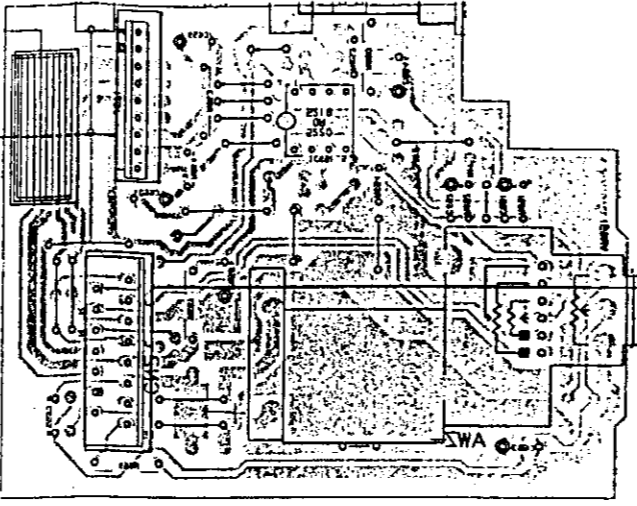
SUB TRANS (1) assembly

D

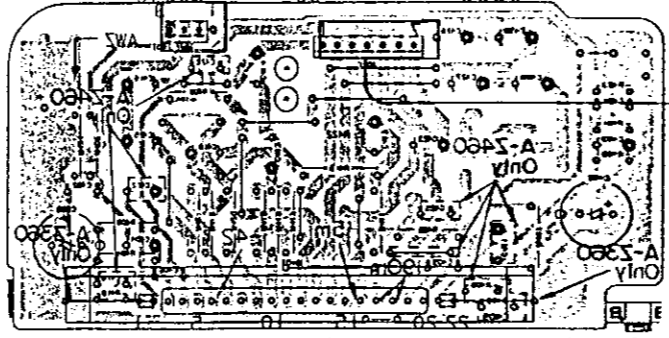
AC POWER CORD  
AC 250V (HE)  
S40V (HB)



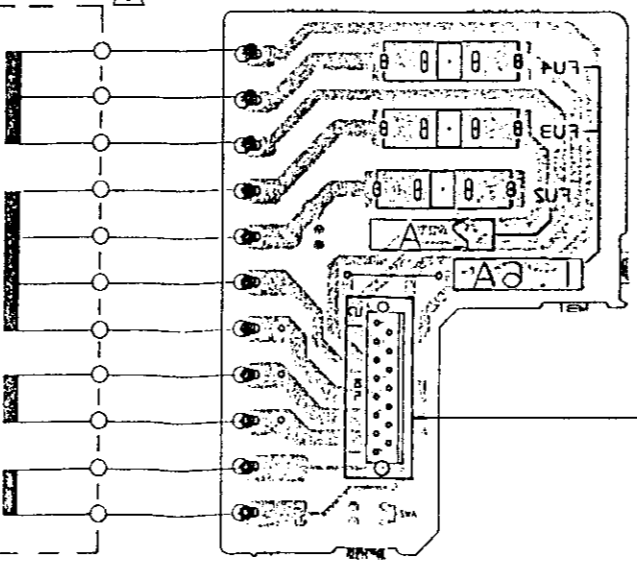
TONE assembly (AW2240)



POWER VR assembly



POWER assembly (AW2237) (A-2480) (AW2234) (A-380)



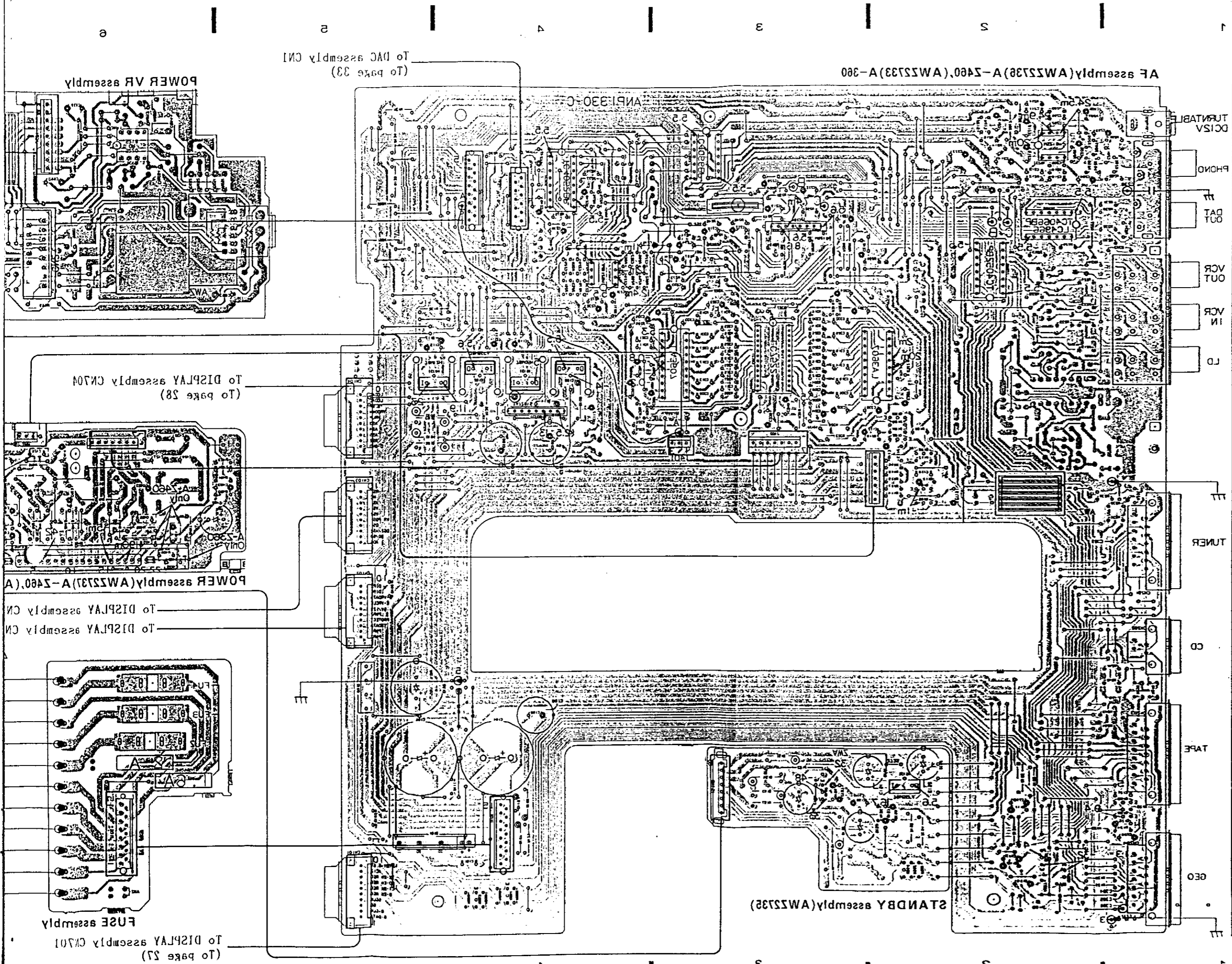
FUSE assembly

To DAC assembly (M1)  
(To page 33)

To DISPLAY assembly (M704)  
(To page 28)

To DISPLAY assembly (M703) (To page 28)  
To DISPLAY assembly (M702) (To page 27)

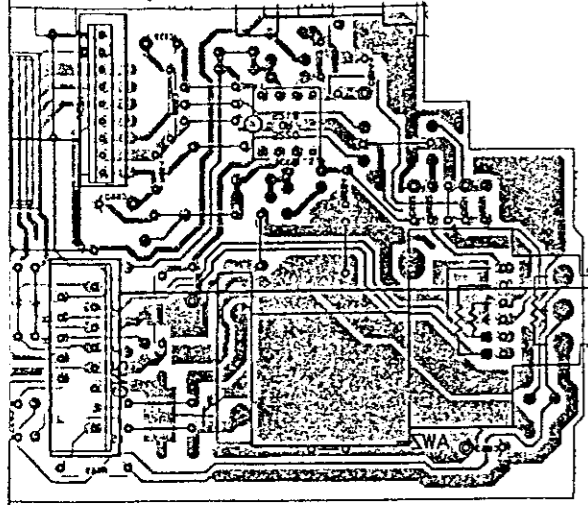
To DISPLAY assembly (M701)  
(To page 27)



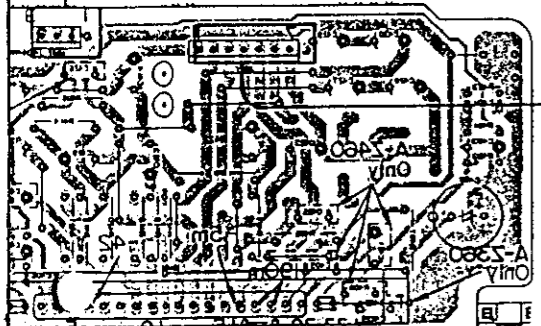
AF assembly (AW5238) A-240 (AW5233) A-300

To DAC assembly CN1  
(To page 33)

POWER VR assembly

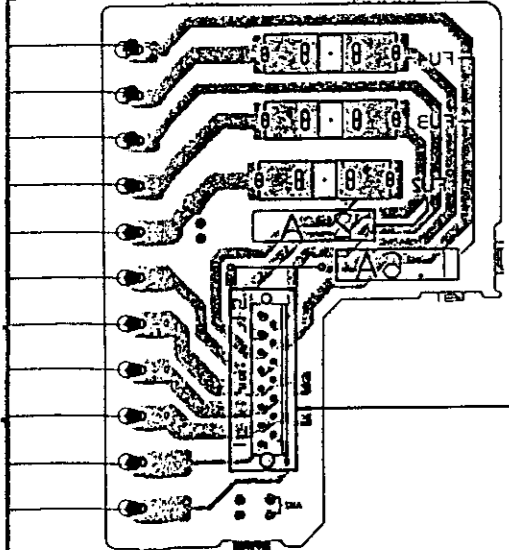


To DISPLAY assembly CN20N  
(To page 28)



POWER assembly (AW5237) A-240 (A)

To DISPLAY assembly CN  
To DISPLAY assembly CN



To DISPLAY assembly CN201  
(To page 27)

FUSE assembly

STANDBY assembly (AW5232)

- IC301
- IC302
- IC303
- IC304
- IC305
- IC306
- IC307
- IC308
- IC309
- IC310
- IC311
- IC312
- IC313
- IC314
- IC315
- IC316
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- IC391
- IC392
- IC393
- IC394
- IC395
- IC396
- IC397
- IC398
- IC399
- IC400

DCISA  
TURNABLE  
PHONO  
DAT  
OUT  
VCR  
OUT  
VCR  
IN  
LD  
TUNER  
CD  
TAPE  
GEO

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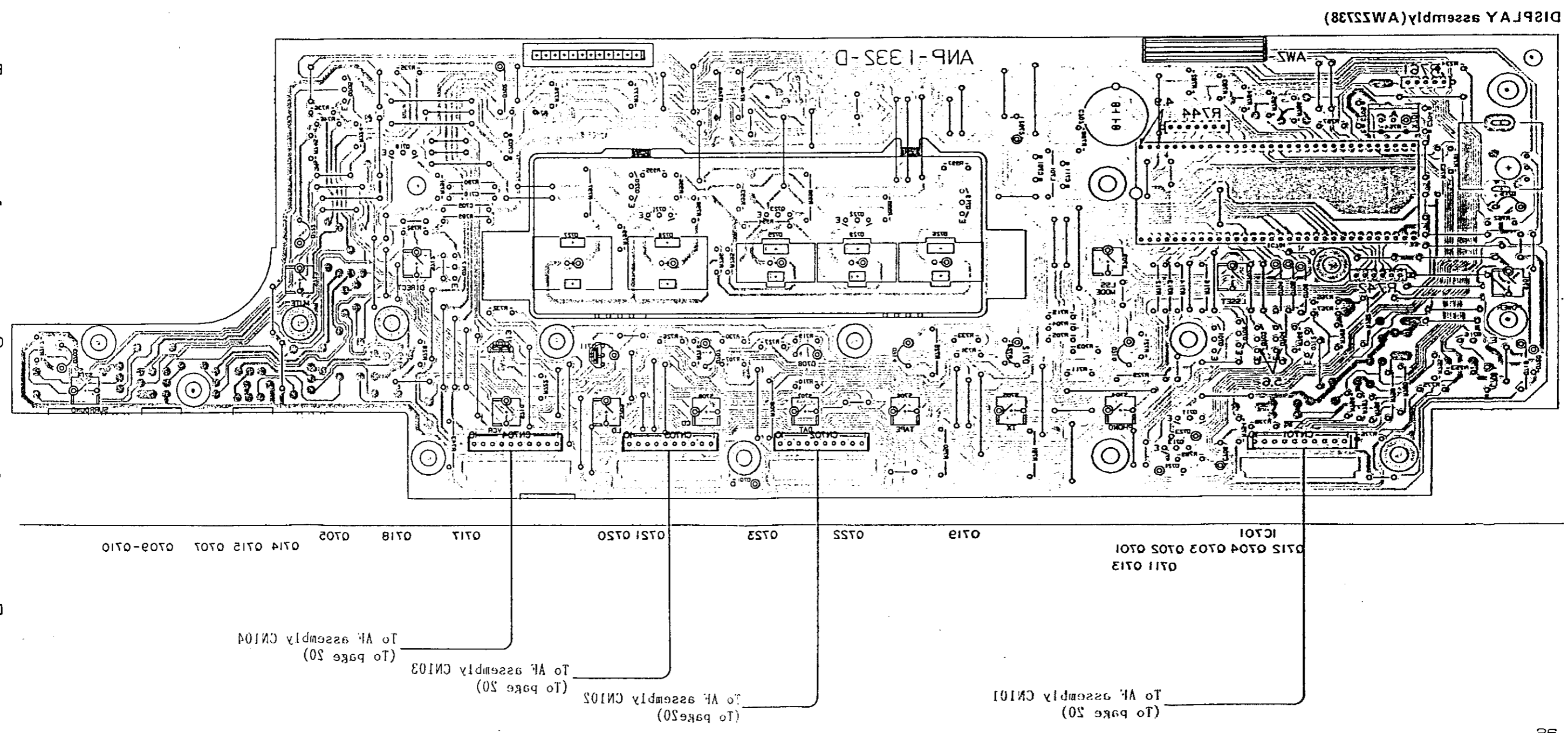
4

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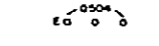
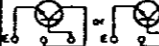
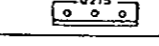
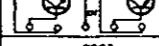
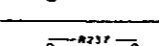
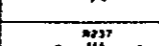
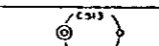
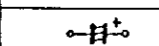
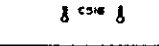
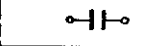


1

NOTE:  
This picture shows the foil side of the  
printed circuit.



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.

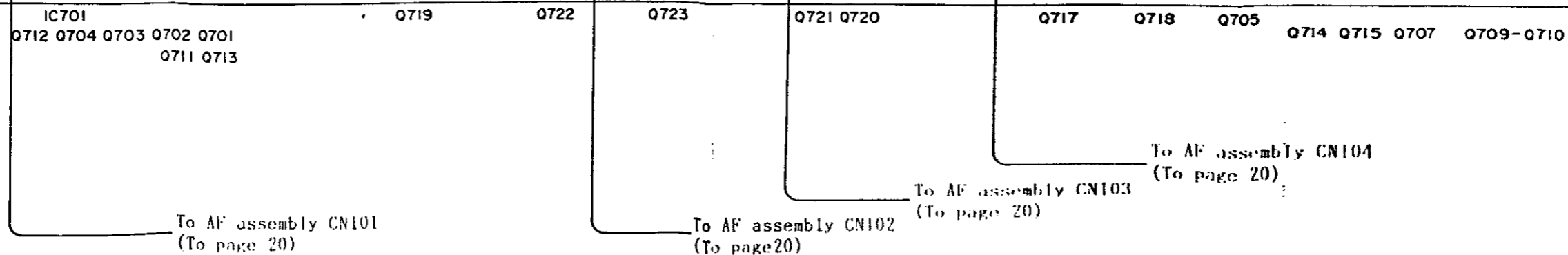
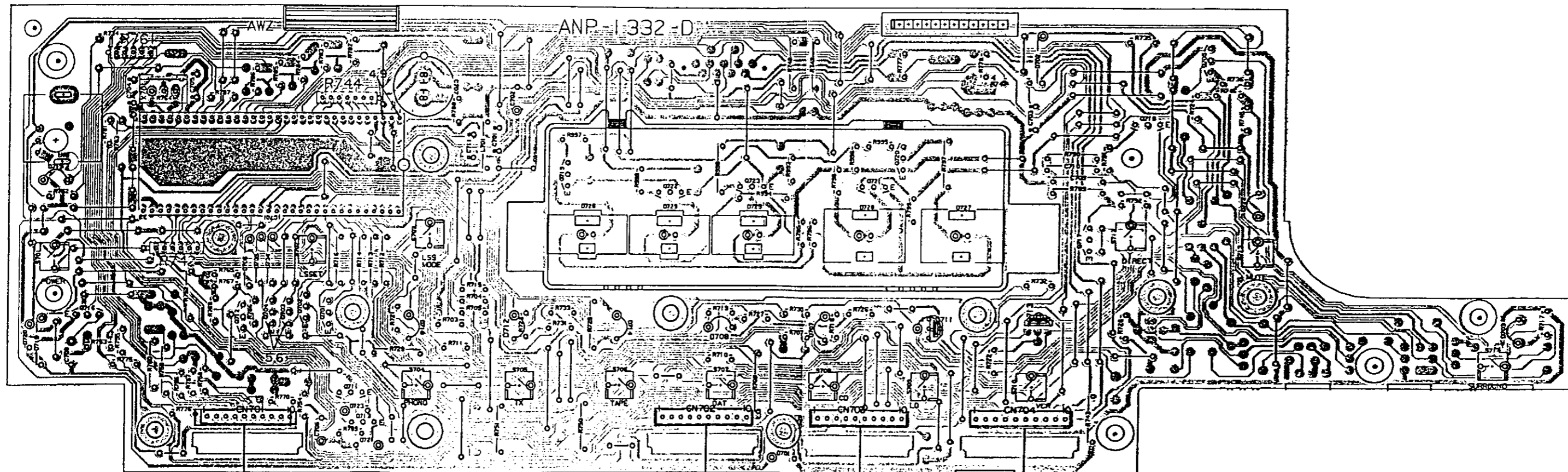
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Resistor type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

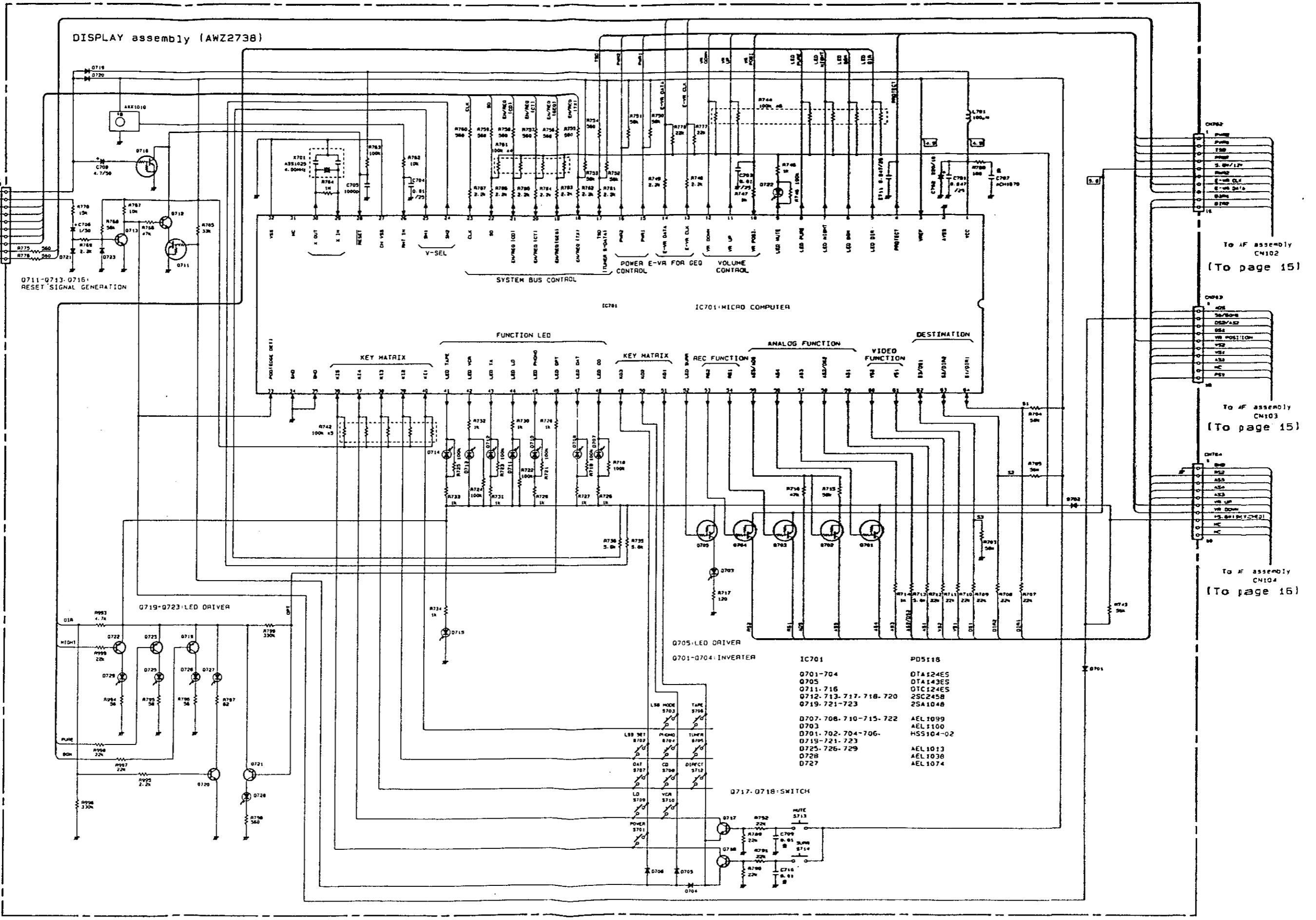
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

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.

DISPLAY assembly (AWZ2738)







to AF assembly  
CN101  
(To page 15)

To AF assembly  
CN102  
(To page 15)

To AF assembly  
CN103  
(To page 15)

To AF assembly  
CN104  
(To page 16)

A

A

B

B

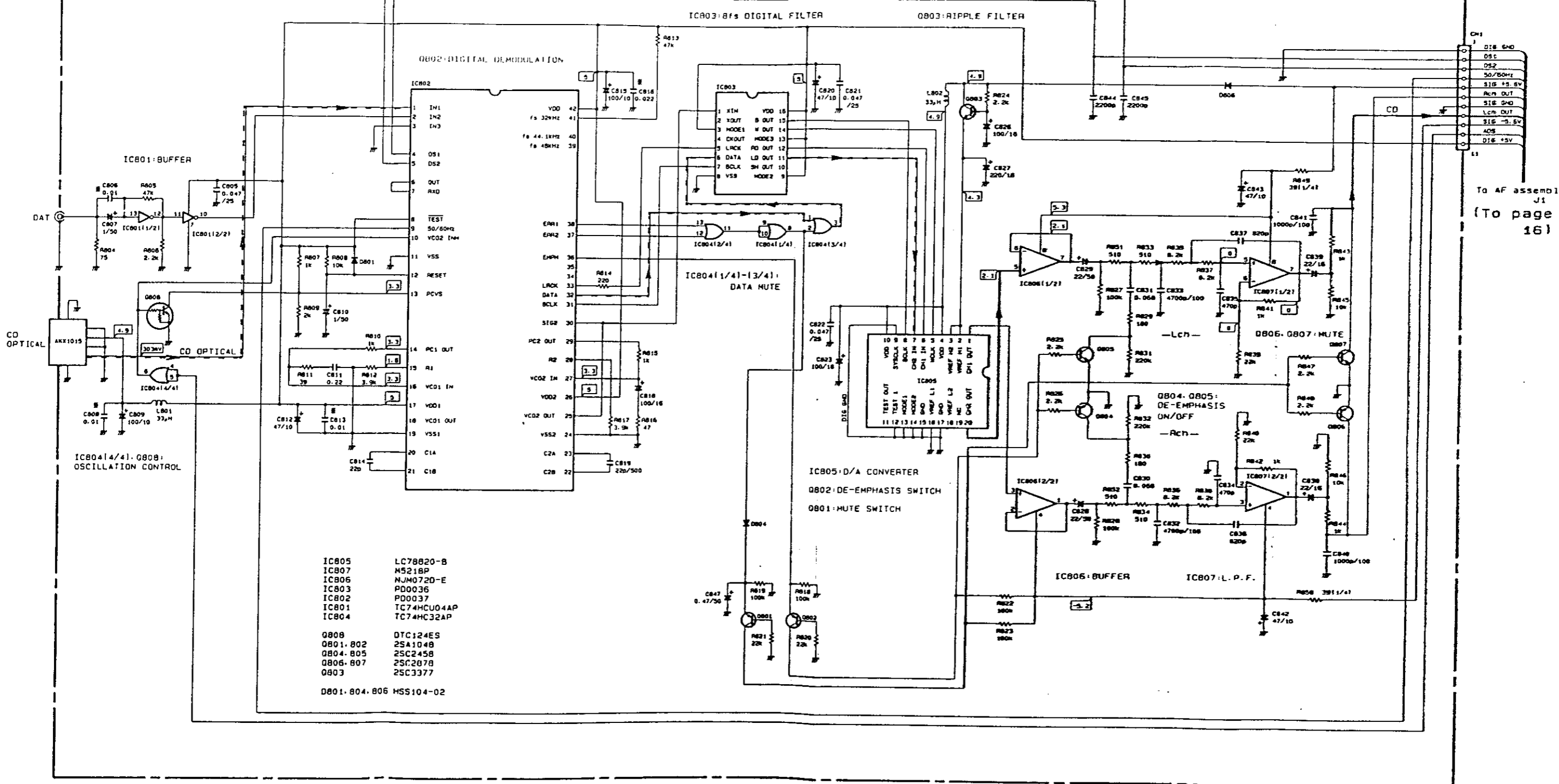
C

C

D

D

DAC assembly (AWK1273)



To AF assembly J1  
(To page 16)

- IC805 LC78820-B
- IC807 M5218P
- IC806 NJM0720-E
- IC803 PD0036
- IC802 PD0037
- IC801 TC74HC04AP
- IC804 TC74HC32AP
- Q808 DTC124ES
- Q801, Q802 2SA1048
- Q804, Q805 2SC2458
- Q806, Q807 2SC2878
- Q803 2SC3377
- D801, D804, D806 HSS104-02

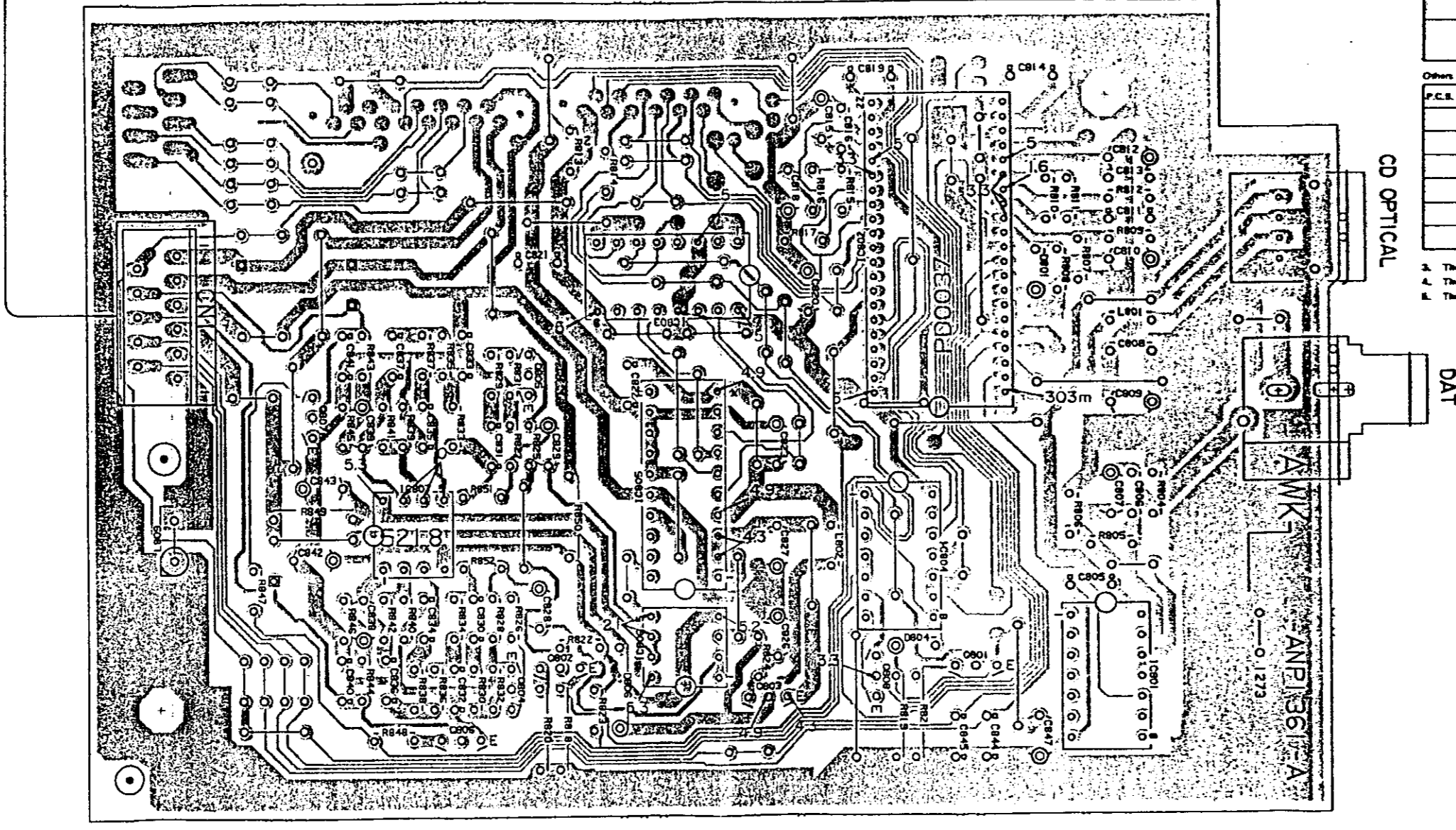
NOTE  
 1. This P.C.B. connection diagram is viewed from the parts mounted side.  
 2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Resistor 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

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 AF assembly J1  
 (To page 20)  
 DAC assembly(AWK1273)



Q807 IC807 Q805 Q806 Q804 Q802 IC803 IC805 IC806 Q803 IC804 Q808 Q801 IC801

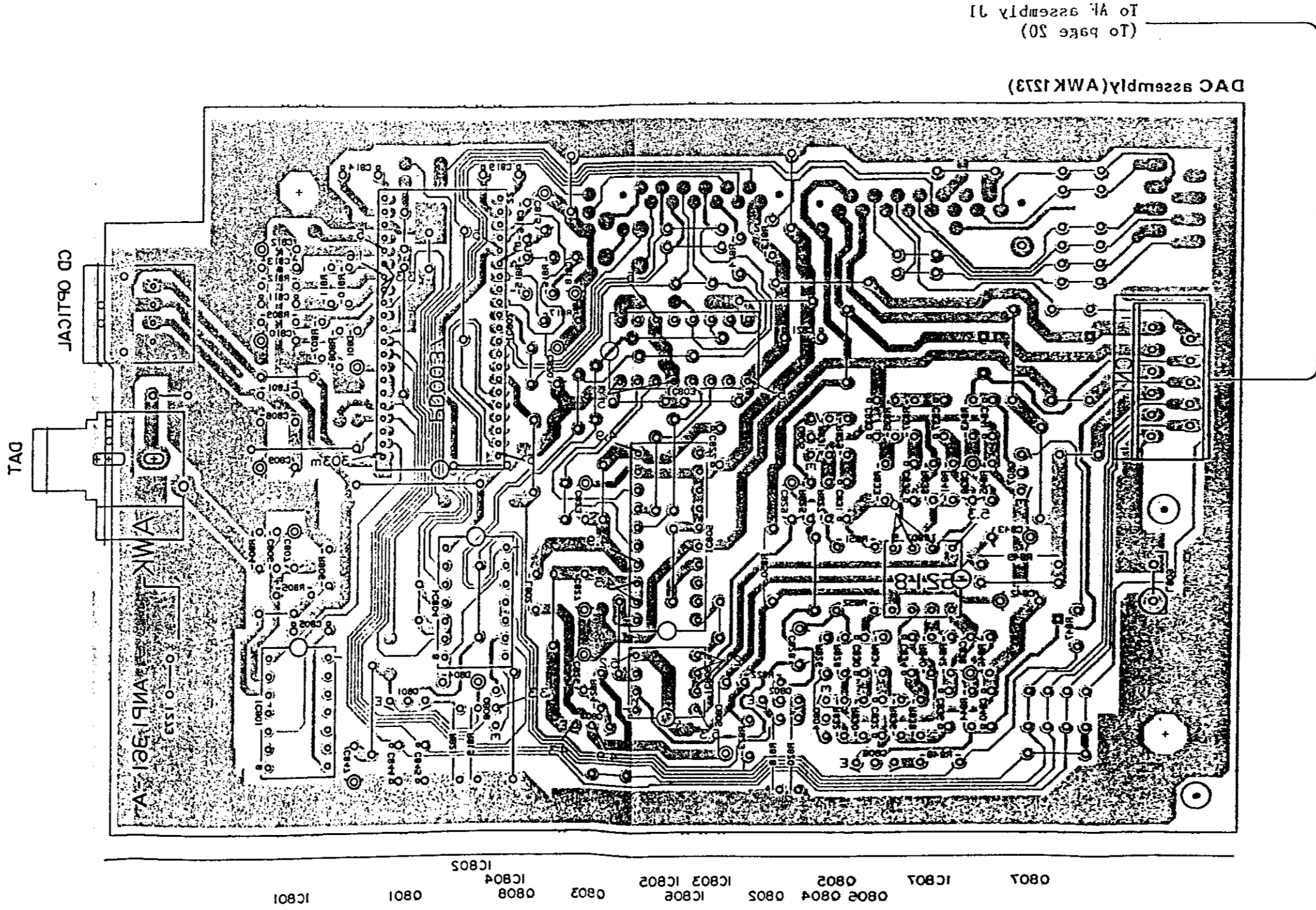
A

B

C

D

NOTE:  
This picture shows the foil side of the  
printed circuit.



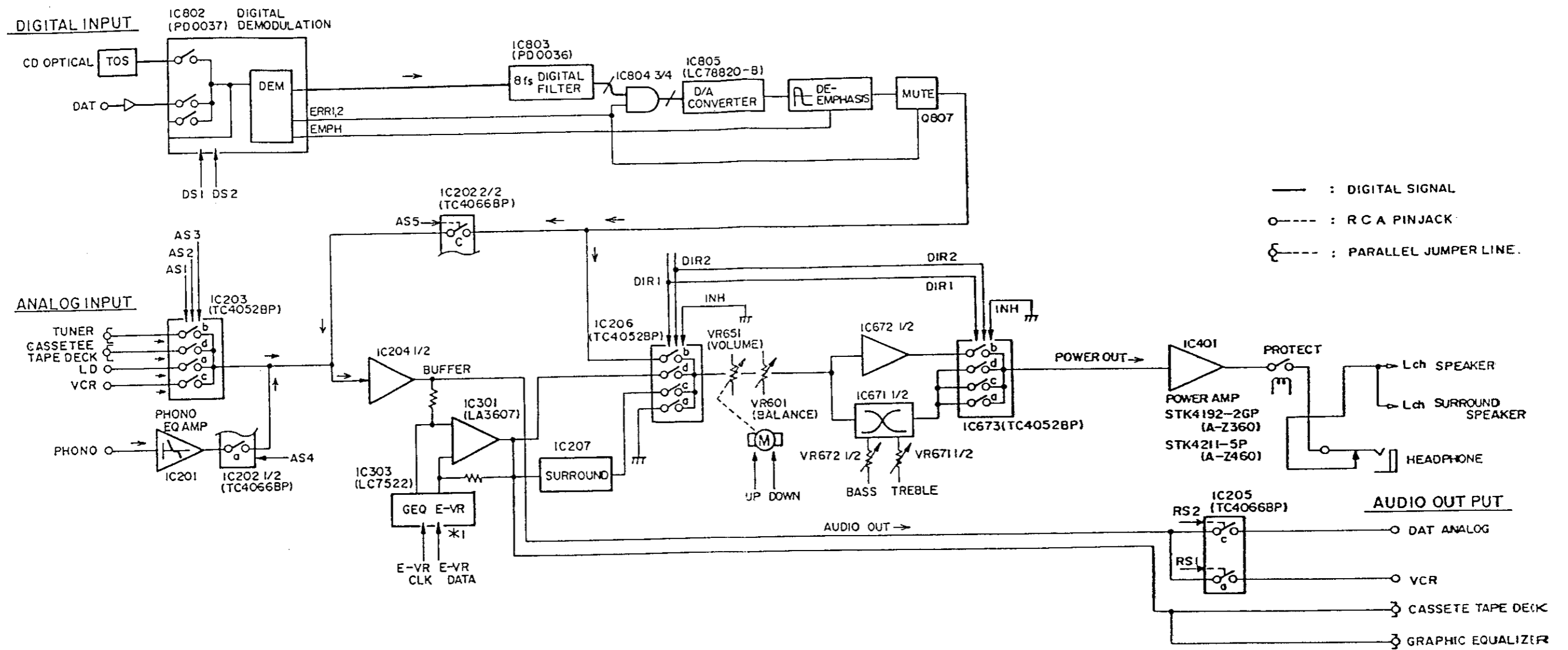
A

B

C

D

### 5. BLOCK DIAGRAM



— : DIGITAL SIGNAL  
 ○--- : R C A PINJACK  
 ⊕--- : PARALLEL JUMPER LINE.

NOTE : The audio system uses only the left channel(Lch)signal.

\*1 : In direct mode, the E-VR signal be come flat, and the E-VR signal is output to AUDIOREC OUT.

**A-Z460,A-Z360**

No.	Terminal name	Function	Active	I/O	
52	LED SURR	SURROUND LED ON/OFF control (L: ON)	L	O	
53	RS2		H/L	O	
54	RS1		H/L	O	
55	AS5/ADS		H/L	O	
56	AS4		H/L	O	
57	AS3		H/L	O	
58	AS2/DS2		H/L	O	
59	AS1		H/L	O	
60	VS2		H/L	O	
61	VS1		H/L	O	
62	S3/DS1		Signal control (See figure 6-1), These pins are also used as a specification selector for A-Z560, A-Z460 and A-Z360 (See below).	H/L	I/O
63	S2/DIR2			H/L	I/O
64	S1/DIR1			H/L	I/O

• **Specification select**

Pin No.	Pin 64	Pin 63	Pin 62
Name	S1	S2	S3
A-Z560	PU	PD	PD
A-Z460 and A-Z360	PU	PU	PD

PD: Pull down  
 PU: Pull up  
 In this case, Pins 62-64 function as an input port.

6.1.2 Signal control circuit

As shown in previous tables, the pins 53-64 in the A-Z460 and the A-Z360 of the system control micro computer PD5118 are used to control (or switch ON/OFF) each signal. To confirm which signal controls which IC, refer to figure 6-1.

The control of ICs is summarized in the following logic tables. The logic in the tables refers to input values for each controlled IC instead of the output values of the PD5118.

Refer to each circuit diagram for switch names (a, b and c, etc.) in the switch status of these tables.

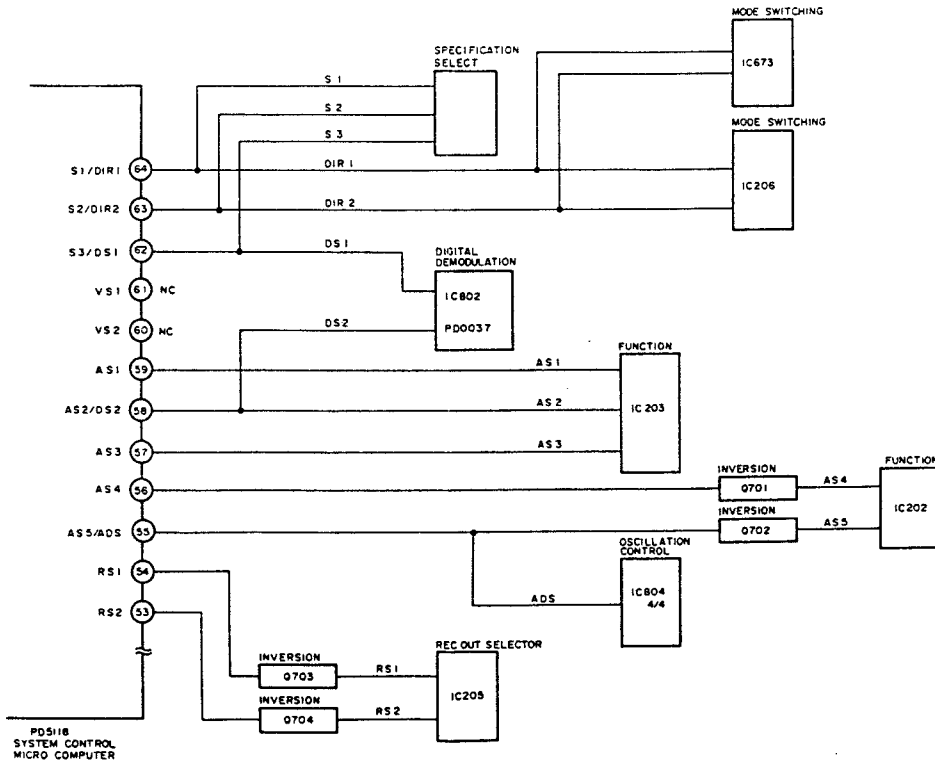


Figure 6-1 Circuit diagram of signal control pins

• IC203 (TC4052BP) Function No.1

Pin No.	6	10	9	Switch status		Function	Remarks
	Terminal name	AS3	AS1	AS2	Lch		
Logic	L	L	L	a: on	e: on	LD	
	L	H	L	b: on	f: on	TUNER	
	L	L	H	d: on	h: on	TAPE DECK	
	L	H	H	c: on	g: on	VCR	
	H	H	L	Switches, a-g, go to OFF		CD	Selection in the IC802
	H	H	H			DAT	
	H	H	H			PHONO	Selection in the IC202

• IC202 (TC4066BP) Function No.2

PHONO ON/OFF

Pin No.	5, 13	Switch status		Function
	Name	AS4	Lch	
Logic	H	a: on	b: on	PHONO
	L	a: off	b: off	Others

Digital input function

Pin No.	6, 12	Switch status		Function
	Name	AS5	Lch	
Logic	H	c: on	d: on	CD or DAT
	L	c: off	d: off	Other than CD and DAT

**6. IC INFORMATION**

**6.1 PD5118 (System control micro computer)**

**6.1.1 Terminal function**

No.	Terminal name	Function	Active	I/O		
1	Vcc	Vcc	—	—		
2	AVss	GND	—	—		
3	VREF	STB +5V	—	I		
4	PROTECT	Protection relay control (H: Relay ON)	H	O		
5	LED DIR	DIRECT LED control (L: ON)	L	O		
6	LED BGM	BGM LED control (L: ON)	L	O		
7	LED NIGHT	NIGHT LED control (L: ON)	L	O		
8	LED PURE	PURE LED control (L: ON)	L	SO		
9	LED MUTE	MUTE LED control (L: ON)	L	O		
10	VR POSITION	This pin detects the VR position (A/D conversion of analog input) and stores it in the memory. The position is used for servo-control of the motor in the LS mode when the power is turned on after the timer record.	—	I		
11	VR UP	These pins are used for controlling the volume motor via VOL UP/DOWN commands from the remote controller.	H/L	O		
12	VR DOWN	MOTOR Status				
		Pin 11			Pin 12	
		0			0	Stop (in the normal mode)
		0			1	DOWN
1	0	UP				
1	1	Stop (except for immediately after the prohibited mode RESET)				
13	E-VR CLK	These pins control the E-VR for Graphic equalizer.	H/L	O		
14	E-VR DATA	Pin 13			Graphic equalizer connected	Initial status is H. When the FUNCTION is switched, CLK with flat characteristics and DATA are sent to the Graphic equalizer IC (LC7552).
		Pin 14			H	
15	PWR 1	Power relay ON/OFF (L: ON)	L	O		
16	PER 2	Power electric (TR) switch ON/OFF (L: ON)	L	O		
17	TSD	System bus control serial data for the tuner	H/L	I/O		
18	EN/REQ (TX)	System bus control enable/request for the tuner	H/L	I/O		
19	EN/REQ (GEQ)	System bus control enable/request for the graphic equalizer	H/L	I/O		
20	EN/REQ (CT)	System bus control enable/request for the tape deck	H/L	I/O		

No.	Terminal name	Function	Active	I/O
21	EN/REQ (CD)	System bus control enable/request for the CD player	H/L	I/O
22	SD	System bus control serial data	H/L	I/O
23	SCK	System bus control serial clock	H/L	O
24	SM 2	Not used	—	O
25	SM 1			
26	RMT IN	Remote control signal input (L: When receiving)	L	I
27	CN Vss	GND	—	—
28	RESET	RESET input	L	I
29	X IN	Connected to the 4MHz crystal oscillator	—	I
30	X OUT		—	O
31	NC	Not used	—	—
32	Vss	GND	—	—
33	POD	EDGE DET (It switches to the back-up mode when 50/60Hz signals are detected or there are no input pulses for more than 50msec.	L	I
34	GND	GND	—	I
35				
36	KI5	Key matrix input	L	I
37	KI4		L	I
38	KI3		L	I
39	KI2		L	I
40	KI1		L	I
41	LED TAPE	TAPE IND LED control (L: ON)	L	O
42	LED VCR	VCR IND LED control (L: ON)	L	O
43	LED TX	TUNER IND LED control (L: ON)	L	O
44	LED LD	LD IND LED control (L: ON)	L	O
45	LED PHONO	PHONO IND LED control (L: ON)	L	O
46	LED OPT.	OPTICAL LED control (L: ON)	L	O
47	LED DA	DAT IND LED control (L: ON)	L	O
48	LED CD	CD IND LED control (L: ON)	L	O
49	KO3	Key matrix output	—	O
50	KO2			O
51	KO1			O



• IC205 (TC4066BP) Audio REC output selection

VCR OUT selection

Pin No.	5, 6		Switch status		Function	Output signal from the VCR OUT pin
	Name	RS1	Lch	Rch		
Logic	H	a: on	b: on		Other than VCR	Any selected signal other than the VCR
	L	a: off	b: off		VCR	No output from the VCR OUT pin

DAT OUT selection

Pin No.	12, 13		Switch status		Function	Output signal from the DAT OUT pin
	Name	RS2	Lch	Rch		
Logic	H	c: on	d: on		Other than DAT	Any selected signal other than DAT
	L	c: off	d: off		DAT	No output from the DAT OUT pin

• IC802 (PD0037) Digital input signal selection

Pin No.	4	5	Function
	Name	DS1	
Logic	H	L	CD
	L	H	DAT (plus PHONO, VCR and TAPE) *1
	L	L	(LD, TUNER) *1

\*1: Functions in parentheses are analog input values which are independent of switching of the PD0037.

• Switching of IC206 and IC673 (TC4052BP) modes

Pin No.	6	10	9	Switch status		Mode		
	Name	INH	DIR1	DIR2	Lch	Rch	Direct	Mute
Logic	L	L	L	d: on	h: on	OFF	OFF	OFF
		H	L	a: on	e: on	ON/OFF	ON	ON/OFF
		L	H	b: on	f: on	ON	OFF	OFF
	L	H	H	c: on	g: on	OFF	OFF	ON

7. FOR A-Z460/HE AND A-Z360/HE TYPES

CONTRAST OF MISCELLANEOUS PARTS

The A-Z460/HE type is the same as the A-Z460/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		A-Z460/HB type	A-Z460/HE type	
△	SUB TRANS assembly	Non supply	Non supply	*1
	FU1, Fuse (T2.5A/250V)	AEK-512	AEK-403	
	FU2, FU5 Fuse (T2A/250V)	AEK-511	AEK-017	
	FU3, FU4 Fuse (T1.6A/250V)	AEK-510	AEK-405	
	AC power cord	ADG-051	ADG1019	
	Operating instructions (English) Operating instructions (4L) Operating instructions (4L)	ARB1219 ..... .....	..... ARC1176 ARE1137	

The A-Z360/HE type is the same as the A-Z360/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		A-Z360/HB type	A-Z360/HE type	
△	SUB TRANS assembly	Non supply	Non supply	*1
	FU1, Fuse (T2.5A/250V)	AEK-512	AEK-403	
	FU2, FU5 Fuse (T2A/250V)	AEK-511	AEK-017	
	FU3, FU4 Fuse (T1.6A/250V)	AEK-510	AEK-405	
	AC power cord	ADG-051	ADG1019	
	Operating instructions (English) Operating instructions (4L) Operating instructions (4L)	ARB1219 ..... .....	..... ARC1176 ARE1137	

\*1: A-Z460/HB and A-Z360/HB of the SUB TRANS assembly are identical assemblies.  
A-Z460/HE and A-Z360/HE of the SUB TRANS assembly are also identical assemblies.

SUB TRANS assembly

The SUB TRANS assembly (A-Z460/HE and A-Z360/HE types) is the same as the SUB TRANS assembly (A-Z460/HB and A-Z360/HB types) with the exception of the following sections.

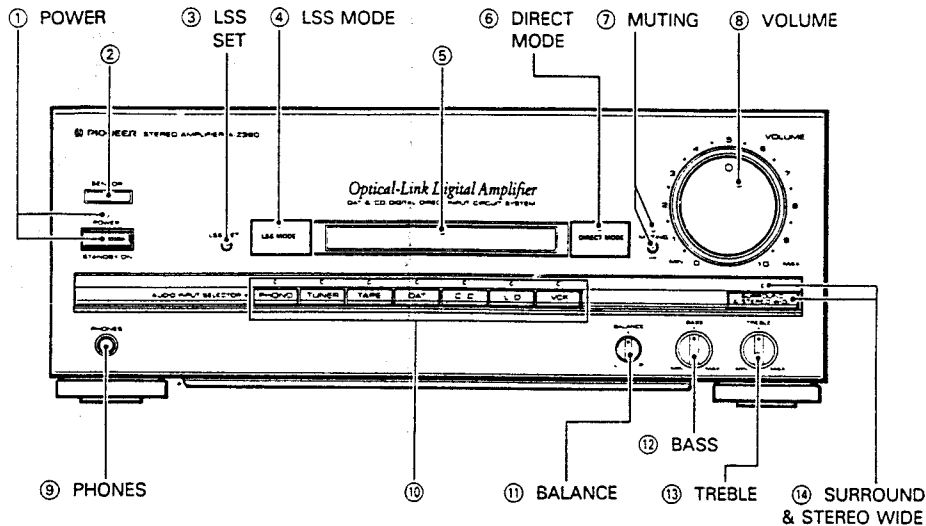
Mark	Symbol & Description	Part No.		Remarks
		HB type	HE type	
△	1P AC outlet	AKP1035	AKP1034	

## 8. PANEL FACILITIES

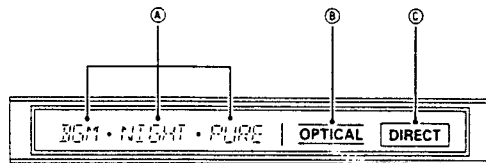
STEREO AMPLIFIER A-Z360/A-Z460

• Illustration shows model 360.

### Front panel



### Display section



#### 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 the 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 indicator above the switch lights when the power is ON, and goes out during STANDBY.  
 During STANDBY, the tuner display only shows the time on the clock.

#### ② Remote sensor

#### ③ LSS SET switch

Use to operate the Listening Style Selector memory.

#### ④ LSS MODE switch

Use to recall the Listening Style S.

#### ⑤ Display section

#### ⑥ DIRECT MODE switch

Use this when you want by-pass sound quality adjustment circuitry and listen to a CD or DAT in the direct mode.

#### ⑦ MUTING switch/indicator

Use when you want to temporarily cut sound during playback. Press again to return to the previous volume level.

#### ⑧ VOLUME control

#### ⑨ PHONES jack

For stereo headphones.

#### NOTE:

There is no output from the speakers when headphones are plugged into PHONES jack.

#### ⑩ Input selector switches/indicators

##### [PHONO]

Press to play records on a turntable connected to the PHONO input jacks.

##### [TUNER]

Press to listen to radio broadcast.

##### [TAPE]

Press to listen to cassette tape.

##### [DAT]

Press to listen to a DAT playing on a digital audio tape deck connected to the DAT jacks.

##### [CD]

Press to listen to compact disc.

##### [LD]

Press to play an LD on a video disc player connected to the LD input jacks.

##### [VCR]

Press to play a tape on a video cassette recorder connected to the VCR jacks.

#### ⑪ BALANCE control

Used for changing the balance between left and right channels. Usually set to the center position.

#### ⑫ BASS control

Use to adjust bass sound quality. Turn to the right for stronger bass response. Turn to the left for weaker bass response.

#### NOTE:

When CD DIRECT or DAT DIRECT are ON, BASS control ⑫ and TREBLE control ⑬ do not operate.

To use the graphic equalizer, first set the BASS control and TREBLE control to the center (flat) position.

#### ⑬ TREBLE control

Use to adjust treble sound quality. Turn to the right for stronger treble response. Turn to the left for weaker treble response.

#### ⑭ SURROUND & STEREO WIDE switch/indicator

By turning this switch on, you can enjoy surround reproduction when rear speakers are used.

By turning this switch on, you can enjoy STEREO WIDE reproduction with greater left-right spread when rear speakers are not used.

#### NOTE:

• In the case of a monaural source, SURROUND & STEREO WIDE effects cannot be obtained.

• SURROUND & STEREO WIDE functions do not operate if DIRECT MODE is on.

Ⓐ This shows the position of the listening style selector.

Ⓑ This lights when you play a CD.

Ⓒ This lights when you can select CD and DAT direct mode.