

Service Manual

ORDER NO.
ARP2112

STEREO DOUBLE CASSETTE DECK AMPLIFIER

DC-Z83 HEXJ

- Refer to the service manual ARP1916, DC-Z83/HB type.
- This manual is applicable to the DC-Z83/HEXJ type.

CONTRAST OF MISCELLANEOUS PARTS

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.

The DC-Z83/HEXJ type is the same as the DC-Z83/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HB type	HEXJ type	
	GEQ assembly	AWG1028	AWG1043	*1 *2
	POWER SUPPLY assembly	AWZ2241	AWZ2239	*3
	CONNECT assembly	Non supply	Non supply	*3
	FUCTION assembly	AWK1174	AWK1346	*2
	SPEANA assembly	AWG1038	AWG1042	*2
\triangle	FU2001 Fuse (T2A/250V)	AEK-511	.....
\triangle	FU2001 Fuse (T1.25A/250V)	.....	AEK-018	
\triangle	FU2003 Fuse (T1.6A/250V)	AEK-510	AEK-405	
\triangle	FU2004 Fuse (T1.25A/250V)	AEK-509	.....
\triangle	FU2004 Fuse (T2A/250V)	.....	AEK-017	
\triangle	FU2005 Fuse (T1.25A/250V)	AEK-509	AEK-018	

Mark	Symbol & Description	Part No.		Remarks
		HB type	HEXJ type	
△	AC Power cord	ADG1052	ADG1049	
	Decorative plate (AMP U)	AAK1804	AAK2024	
	Decorative plate (AMP D)	AAK1877	AAK2026	
	Decorative plate (DECK)	AAK1880	AAK2029	
	Decorative plate (GEQ L)	AAK1878	AAK2027	
	Decorative plate (GEQ R)	AAK1879	AAK2028	
	Decorative plate (DOOR L)	AAK1882	AAK2031	
	Decorative plate (DOOR R)	AAK1873	AAK2025	
	Spring 1 (DOOR)	ABH1062	ABH1065	
	Spring 2 (DOOR)	ABH1063	ABH1066	
	Front panel	AMB1636	AMB1727	
	Operating instructions(English)	ARB1222	.....
	Operating instructions	.....	ARC1181	
	Operating instructions	.....	ARE1145	
	Front pad (L,R)	AHA1314	AHA1361	For packing
	Rear pad (L,R)	AHA1315	AHA1362	For packing
	Packing case	AHD1796	AHD1934	For packing

Notes:

*1 : GEQ assembly is a part of AF assembly.

*2 : The FUNCTION of the HEXJ type and the SPEANA assembly differ from the part No. of the HB type, however, the part No. for the supply parts are the same.

*3 : DC - Z83/HE and DC - 83/HEXJ of the CONNECT and POWER SUPPLY assembly are identical assemblies. For the schematic and P.C.Board diagram, refer to the DC - Z83/HE type in the DC - Z83/HB type service manual (ARP1916).

POWER SUPPLY assembly (AWZ2239)

The POWER SUPPLY assembly (AWZ2239) is the same as the POWER SUPPLY assembly (AWZ2241) with the exception of the following sections.

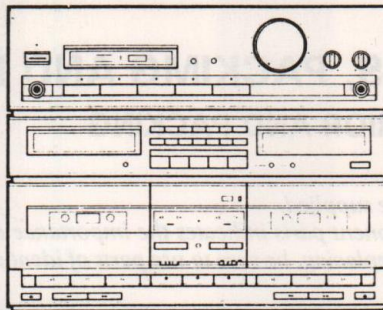
Mark	Symbol & Description	Part No.		Remarks
		AWZ2241	AWZ2239	
△	AC socket (OUTLET 1P)	AKP1035	AKP1034	

CONNECT assembly

The difference in parts between the CONNECT assemblies of the HEXJ type and the HB type is the jumper wire (220V and 240V).



PIONEER
The future of sound and vision.



Service Manual

ORDER NO.
ARP1916

STEREO DOUBLE CASSETTE DECK AMPLIFIER

DC-Z83

DC-Z83 HAS FOLLOWING VERSIONS:

Type	Power requirement	Export destination
HB	AC220V, 240V (switchable)*	United Kingdom
HE	AC220V, 240V (switchable)*	European continent
HEWZ	AC220V, 240V (switchable)*	West Germany
YPW	AC240V only	Australia
SD	AC110V, 120V-127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and General market

*: Change the Jumper wires of assembly boards.

- This manual is applicable to the DC-Z83/HB and HE types.
- As to the HE type, refer to page 68.
- As to the other types, refer to applicable service manuals.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.
- As to the system composition, refer to the S-222 service manual (ARP1936).

CONTENTS

1. EXPLODED VIEWS, PACKING AND PARTS LIST	2	5. FOR HE TYPE	68
2. SCHEMATIC DIAGRAMS AND P.C. BOARD CONNECTION DIAGRAMS	12	6. PANEL FACILITIES	69
3. P.C.B's PARTS LIST	47	7. SPECIFICATIONS	73
4. ADJUSTMENTS	53		
4. RÉGLAGE	58		
4. AJUSTE	63		

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

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

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

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

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

© **PIONEER ELECTRONIC CORPORATION** 1990

YV JAN. 1990 Printed in japan.

1. EXPLODED VIEWS, PACKING AND PARTS LIST

1.1 PARTS LIST OF EXTERIOR AND PACKING

NOTES:

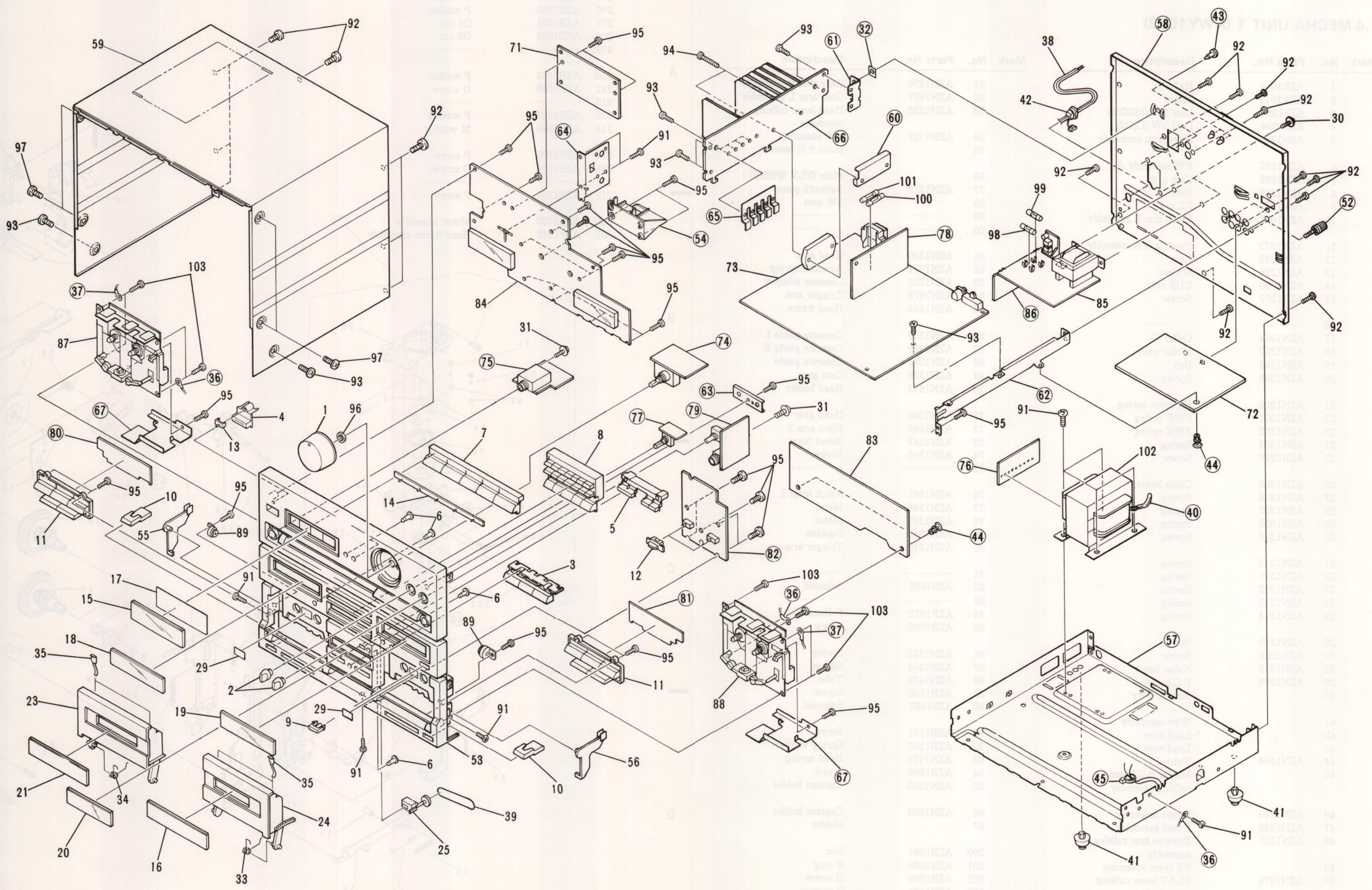
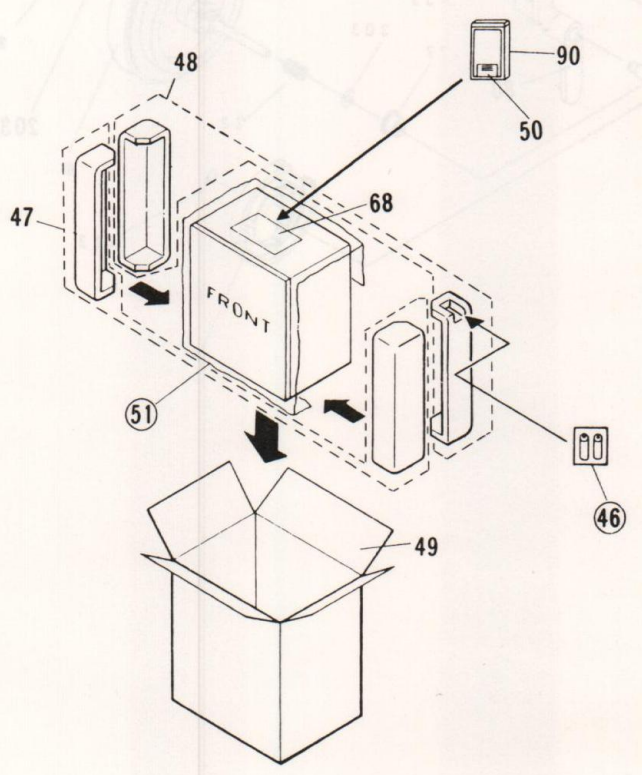
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be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

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Knob (VOLUME)	AAB1135		46	"AAA" dry cell	
	2	Rotary knob	AAB1136		47	Front pad (L.R)	AHA1314
	3	Button (REC)	AAD1668		48	Rear pad (L.R)	AHA1315
	4	Button (POWER)	AAD1674		49	Packing case	AHD1796
	5	Button (COPY)	AAD1676		50	Battery cover	AZN1846
	6	Button	AAD1682		51	Sheet	
	7	Button (FUNCTION)	AAD1711		52	Terminal screw	
	8	Button (GEQ)	AAD1712		53	Front panel	AMB1636
	9	Button (EQUALIZER)	AAD1713		54	P.C.B mold	
	10	Button (EJECT)	AAD1716		55	Eject arm (L)	AMR2031
	11	Button (PLAY)	AAD1718		56	Eject arm (R)	AMR2032
	12	Slide knob	AAE1128		57	Chassis	
	13	Indicator lens (POWER)	AAK1800		58	Rear panel	
	14	Indicator lens	AAK1801		59	Bonnet case	ANE1218
	15	Decorative plate (AMP U)	AAK1804		60	Plate	
	16	Decorative plate (DOOR R)	AAK1873		61	Plate B	
	17	Decorative plate (AMP D)	AAK1877		62	Plate	
	18	Decorative plate (GEQ L)	AAK1878		63	Plate	
	19	Decorative plate (GEQ R)	AAK1879		64	Plate A	
	20	Decorative plate (DECK)	AAK1880		65	Plate	
	21	Decorative plate (DOOR L)	AAK1882		66	Heat sink	
	22	...			67	Shield plate	
	23	Cassette door (L)	AAN1177		68	Operating instructions	ARB1222
	24	Cassette door (R)	AAN1181		69	...	
	25	Counter	AAW1009		70	...	
	26	...	...		71	SPEANA assembly	AWG1025
	27	...	...		72	FUNCTION assembly	AWK1174
	28	...	...		73	AF assembly	AWZ2632
	29	Lavel	AAX1301		74	MAIN VR assembly	
	30	Screw	ABA1084		75	HEAD PHONE assembly	
	31	Screw (STEEL)	ABA1095		76	TRANS CONNECT assembly	
	32	Washer (PAPER)			77	BALANCE assembly	
	33	Spring 1	ABH1062		78	GEQ assembly	AWG1028
	34	Spring 2	ABH1063		79	MIC assembly	
	35	Keep plate	ABK1011		80	DECK-1 SW assembly	
	36	Earth lead			81	DECK-2 SW assembly	
	37	Earth lead			82	DECK CENTER assembly	
Δ	38	AC power cord	ADG1052		83	DECK CTRL assembly	AWZ2641
	39	Counter belt	AEB1110		84	AMP,GEQ CTRL assembly	AWZ2642
	40	Nylon binder			85	POWER SUPPLY assembly	AWZ2241
	41	Leg assembly	AEC-847		86	CONNECT assembly	
Δ	42	Strain relief	AEC-882		87	Mechanism unit 1	AWY1052
	43	Spacer (PCB)			88	Mechanism unit 2	AWY1054
	44	Nylon rivet			89	Damper assembly	AXA1008
	45	Clamper			90	Remote control unit (CU-DC020)	AXD1132

1.3 EXTERIOR

Mark	No.	Description	Parts No.
	91	Screw	BBZ30P060FMC
	92	Screw	BBZ30P080FCU
	93	Screw	BBZ30P080FZK
	94	Screw	BBZ30P180FMC
	95	Screw	BPZ26P080FMC
	96	Nut	NK90FUC
	97	Screw	VPZ30P080FZK
⚠	98	Fuse (T2A/250V, FU2001)	AEK-511
⚠	99	Fuse (T1.6A/250V, FU2003)	AEK-510
⚠	100	Fuse (T1.25A/250V, FU2004)	AEK-509
⚠	101	Fuse (T1.25A/250V, FU2005)	AEK-509
	102	Power transformer (T2001)	ATS1252
	103	Screw	VPZ30P080FMC

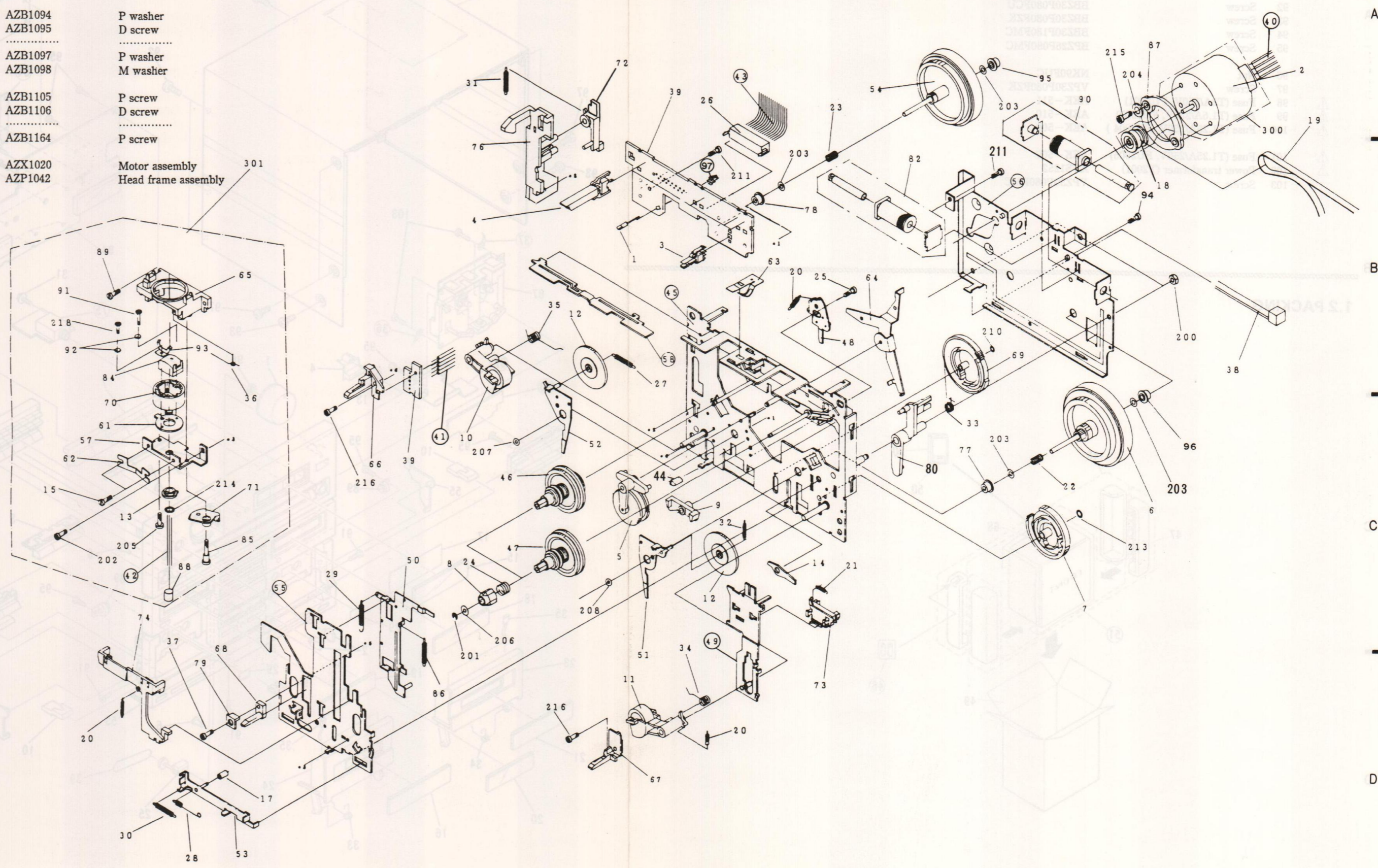
1.2 PACKING



1.4 MECHA UNIT 1 (AWY1052)

Mark	No.	Parts No.	Description	Mark	No.	Parts No.	Description
1		AZE1018	Hall IC	51		AZN1976	Gear arm R assembly
2		AZX1019	Motor	52		AZN1977	Gear arm L assembly
3		AZS1054	Leaf SW (MODE)	53		AZN1326	Head lever calking assembly
4		AZS1034	Leaf SW (CrO2)	54		AZN1327	FW assembly
5		AZN1286	Drive arm assembly	55			Head P.C.board
6		AZN1287	FW assembly A	56			Plate (FLY WHEEL)
7		AZN1288	Cam gear	57		AZN1328	Azimuth plate
8		AZN1289	Reel	58			SW arm
9		AZN1971	FR arm	59			
10		AZN1972	Pinch arm L assembly	60			
11		AZN1973	Pinch arm R assembly	61		AZN1330	Head arm
12		AZN1293	Gear	62		AZN1331	Azimuth spring
13		AZN1294	H Gear	63		AZN1332	Cassette stopper
14		AZN1793	CUE arm	64		AZN1978	Trigger arm
15		AZB1079	Screw	65		AZN1334	Head frame
16				66		AZN1335	Cassette guide L
17		AZN1984	Collar C	67		AZN1336	Cassette guide R
18		AZN1297	Motor pully	68		AZN1337	Cassette guide
19		AZN1298	Belt	69		AZN1338	Cam gear
20		AZN1299	Spring	70		AZN1994	Head holder
21		AZN1300	FR lever spring	71		AZN1340	Head gear
22		AZN1301	FWF spring	72		AZN1980	Eject arm 2
23		AZN1302	FWR spring	73		AZN1342	Select lever
24		AZN1303	Spring	74		AZN1343	Brake
25		AZB1297	Screw	75			
26		AZN1305	Cable holder	76		AZN1981	Ratch lever L
27		AZN1306	Spring	77		AZN1346	Metal
28		AZN1307	Spring	78		AZN1347	Metal
29		AZN1308	Spring	79		AZN1348	Cushion
30		AZN1309	Spring	80		AZN1349	Trigger arm
31		AZN1310	Spring	81			
32		AZN1311	Spring	82		AZS1085	Solenoid
33		AZN1312	Spring	83			
34		AZN1313	Spring	84		AZP1022	P Head
35		AZN1314	Spring	85		AZB1099	Screw
36		AZN1315	Spring	86		AZN1352	Spring
37		AZB1081	Screw	87		AZN1304	Spacer
38		AZN1316	Nylon band	88		AZN1470	Tube
39		AZN1995	P.C.board	89		AZB1100	Screw
40			Jumper wire	90		AZS1087	Solenoid
41			Wire assembly	91		AZB1101	Screw
42			Lead wire	92		AZB1102	Spring washer
43			Lead wire	93		AZN1471	Head spring
44		AZN1468	Tube	94		AZB1298	Screw
45			Mecha P.C.board calking assembly	95		AZN1833	Capstan holder
46		AZN1319	R reel assembly	96		AZN1834	Capstan holder
47		AZN1320	F reel assembly	97			Holder
48		AZN1321	Reverse arm calking assembly	200		AZB1084	Nut
49			FR lever assembly	201		AZB1085	E ring
50		AZN1975	PLAY lever calking assembly	202		AZB1086	D screw
				203		AZB1121	P washer
				204		AZB1087	N washer

Mark	No.	Parts No.	Description
	205	AZB1089	U screw
	206	AZB1090	P washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	.....	.....
	210	AZB1094	P washer
	211	AZB1095	D screw
	212	.....	.....
	213	AZB1097	P washer
	214	AZB1098	M washer
	215	AZB1105	P screw
	216	AZB1106	D screw
	217	.....	.....
	218	AZB1164	P screw
	300	AZX1020	Motor assembly
	301	AZP1042	Head frame assembly



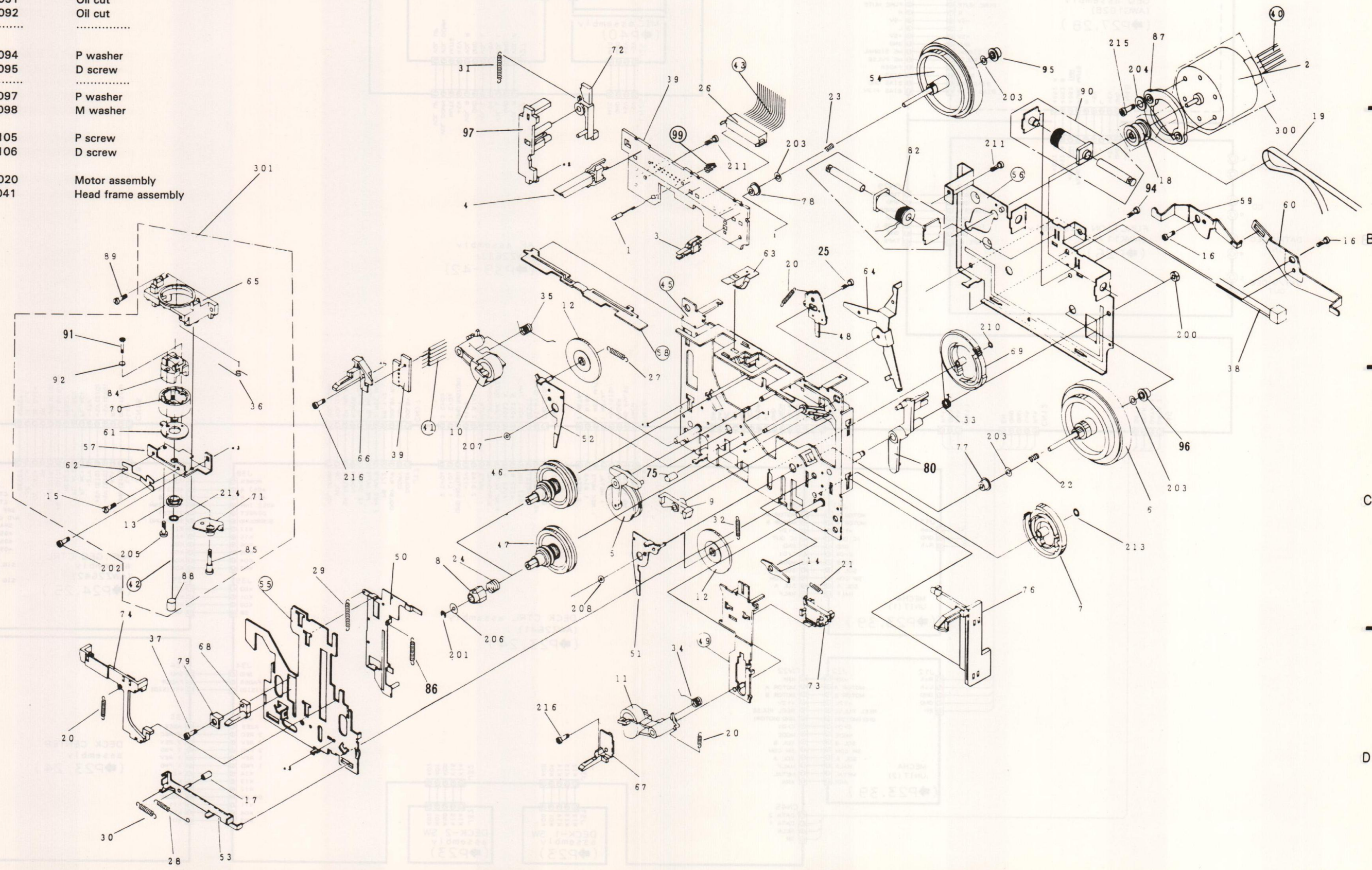
1.5 MECHA UNIT 2 (AWY1054)

Partslist of Mecha unit 2

Mark	No.	Parts No.	Description
1	AZE1018		Hall IC
2	AZX1019		Motor
3	AZS1054		Leaf SW (MODE)
4	AZS1034		Leaf SW (ARF, HALF, METAL, CrO2, ARR)
5	AZN1286		Drive arm assembly
6	AZN1287		FW assembly A
7	AZN1288		Cam gear
8	AZN1289		Reel
9	AZN1971		FR arm
10	AZN1972		Pinch roller L assembly
11	AZN1973		Pinch roller R assembly
12	AZN1293		Gear
13	AZN1294		H Gear
14	AZN1793		CUE arm
15	AZB1079		Screw
16	AZB1080		Screw
17	AZN1984		Collar
18	AZN1297		Motor pully
19	AZN1298		Belt
20	AZN1299		Spring
21	AZN1300		FR lever spring
22	AZN1301		FWF spring
23	AZN1302		FWR spring
24	AZN1303		Spring
25	AZB1080		Screw
26	AZN1305		Cable holder
27	AZN1306		Spring
28	AZN1307		Spring
29	AZN1308		Spring
30	AZN1309		Spring
31	AZN1310		Spring
32	AZN1311		Spring
33	AZN1312		Spring
34	AZN1313		Spring
35	AZN1314		Spring
36	AZN1315		Spring
37	AZB1081		Screw
38	AZN1316		Nylon band
39	AZN1983		P.C.board
40			Jumper wire
41			Head lead
42			Lead wire
43			Wire
44			.....
45			Mecha P.C.board calking assembly
46	AZN1319		R reel assembly
47	AZN1320		F reel assembly
48	AZN1321		Reverse arm calking assembly
49			FR lever assembly
50	AZN1975		PLAY lever calking assembly

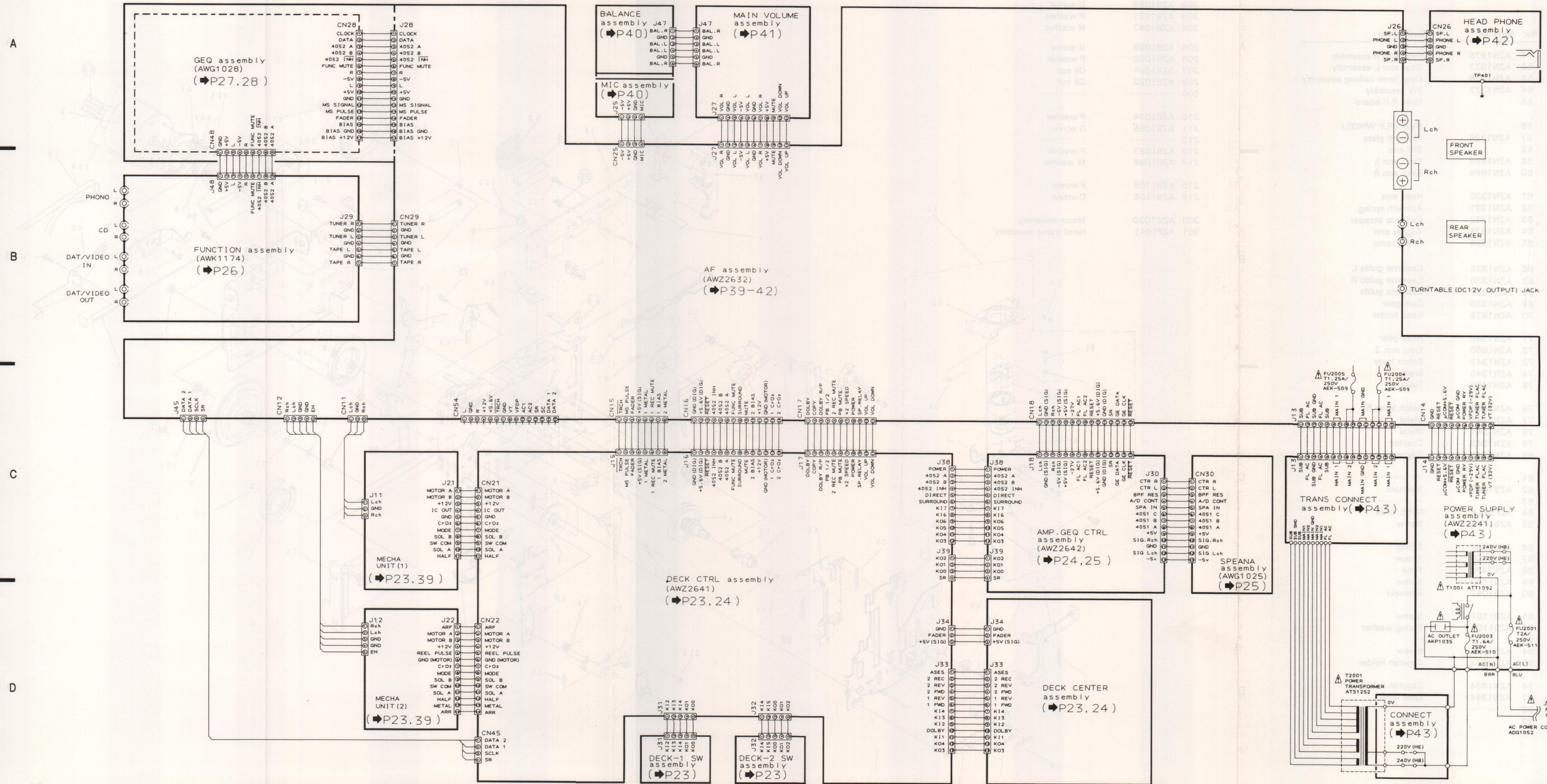
Mark	No.	Parts No.	Description
51	AZN1976		Gear arm R assembly
52	AZN1977		Gear arm L assembly
53	AZN1326		Head lever calking assembly
54	AZN1327		FW assembly
55			Head P.C.board
56			Plate (FLY WHEEL)
57	AZN1328		Azimuth plate
58			SW arm
59	AZN1988		Eject arm L
60	AZN1989		Eject arm R
61	AZN1330		Head arm
62	AZN1331		Azimuth spring
63	AZN1332		Cassette stopper
64	AZN1978		Trigger arm
65	AZN1334		Head frame
66	AZN1335		Cassette guide L
67	AZN1336		Cassette guide R
68	AZN1337		Cassette guide
69	AZN1338		Cam gear
70	AZN1979		Head holder
71	AZN1340		Head gear
72	AZN1980		Eject arm 2
73	AZN1342		Select lever
74	AZN1343		Brake
75	AZN1468		Tube
76	AZN1985		Ratch lever R
77	AZN1346		Metal
78	AZN1347		Metal
79	AZN1348		Cushion
80	AZN1349		Trigger arm
81	.....		.....
82	AZS1085		Solenoid
83	.....		.....
84	AZP1014		R/P/E Head
85	AZB1099		Screw
86	AZN1352		Spring
87	AZN1304		Spacer
88	AZN1470		Tube
89	AZB1100		Screw
90	AZS1087		Solenoid
91	AZB1101		Screw
92	AZB1102		Spring washer
93	.....		.....
94	AZB1298		Screw
95	AZN1833		Capstan holder
96	AZN1834		Capstan holder
97	AZN1344		Eject lever L
98	.....		.....
99			Holder

Mark	No.	Parts No.	Description
200	AZB1084		Nut
201	AZB1085		E ring
202	AZB1086		D screw
203	AZB1121		P washer
204	AZB1087		N washer
205	AZB1089		U screw
206	AZB1090		P washer
207	AZB1091		Oil cut
208	AZB1092		Oil cut
209	.....		.....
210	AZB1094		P washer
211	AZB1095		D screw
212	.....		.....
213	AZB1097		P washer
214	AZB1098		M washer
215	AZB1105		P screw
216	AZB1106		D screw
300	AZX1020		Motor assembly
301	AZP1041		Head frame assembly



2. SCHEMATIC DIAGRAMS AND P.C.BOARD CONNECTION DIAGRAMS

2.1 OVER ALL SCHEMATIC DIAGRAM



- RESISTORS:**
Indicated in Ω , $\frac{1}{2}W$, $\frac{1}{4}W$, $\pm 5\%$ tolerance unless otherwise noted k : k Ω , M : M Ω , (F) : $\pm 1\%$, (G) : $\pm 2\%$, (K) : $\pm 10\%$ (M) : $\pm 20\%$ tolerance
- CAPACITORS:**
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE, CURRENT:**
 - ⊕ : Signal voltage at (45V + 45W 8 Ω output (1kHz)
 - ⊖ : DC voltage (V) at no input signal
 - Value in () is DC voltage at rated power.
 - ← mA : DC current at no input signal

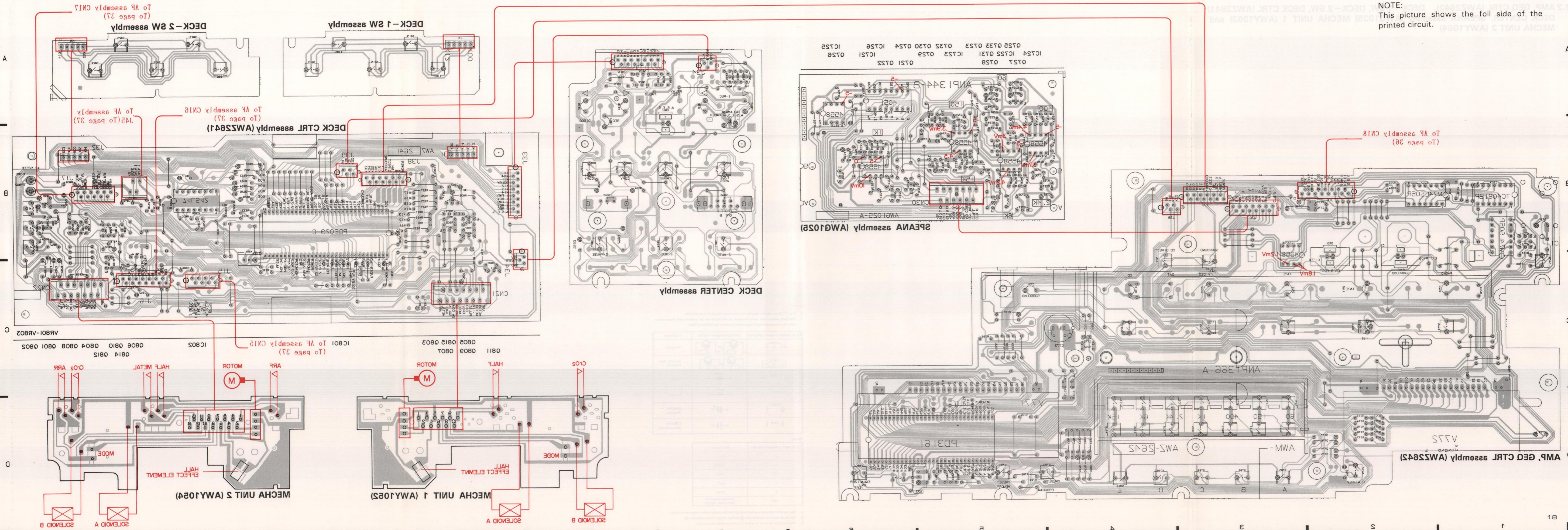
- OTHERS:**
 - ➡ : Signal route.
 - ⊗ : Adjusting point.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - * marked capacitors and resistors have parts numbers.
- This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

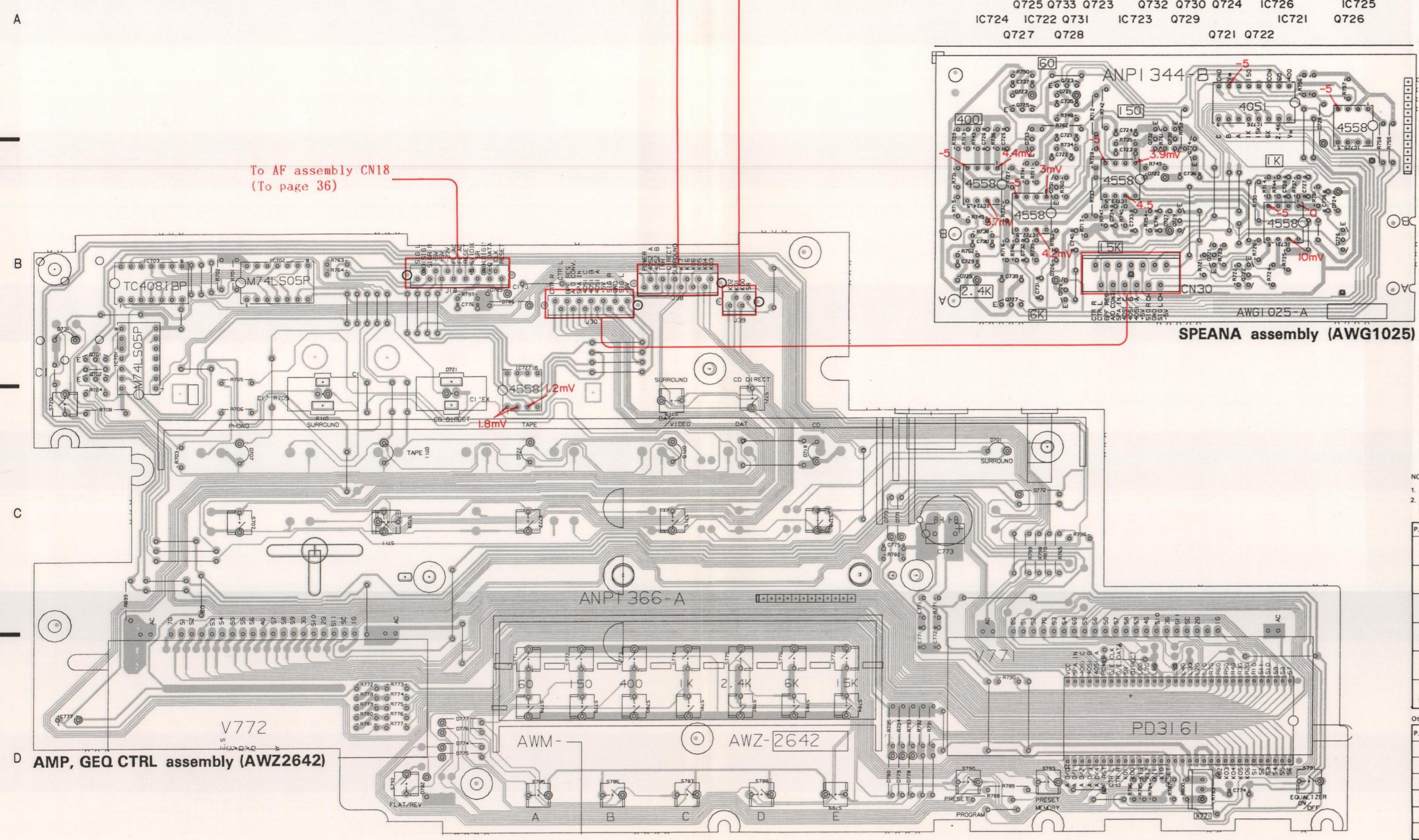
AMP,GEQ CTRL assembly	DECK-1 SW assembly
S707 PHONO	S811 1FWD
S709 TUNER	S812 1REV
S715 DAT	S813 1FF
S718 CD	S814 1REW
S719 SURROUND	S815 1STOP
S720 POWER	DECK-2 SW assembly
S721 CD DIRECT	S821 2FWD
S722 TAPE	S822 2REV
S771 60Hz +	S823 2FF
S772 150Hz +	S824 2REW
S773 400Hz +	S825 2STOP
S774 1kHz +	DECK CENTER assembly
S775 2.4kHz +	S848 DOLBY OFF-ON
S776 6kHz +	S849 REVERSE MODE
S777 15kHz +	S853 COPY
S778 60Hz -	S857 FADER
S779 150Hz -	S862 HI-SPEED COPY
S780 400Hz -	S871 DECK-2 MUTE
S781 1kHz -	S872 A.S.E.S
S782 2.4kHz -	S874 DECK-2 REC
S783 6kHz -	S875 DECK-2PAUSE
S784 15kHz -	
S785 A	
S786 B	
S787 C	
S788 D	
S789 E	
S790 PRESET/MEMORY	
S791 EQUALIZER ON/OFF	
S792 FLAT/REVERSE	
S793 MEMORY	

The underline indicates the switch position

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



2.2 AMP, GEQ CTRL (AWZ2642), DECK - 1 SW, DECK - 2 SW, DECK CTRL (AWZ2641), DECK CENTER, SPEANA assembly (AWG1025) MECHA UNIT 1 (AWY1052) and MECHA UNIT 2 (AWY1054)



To AF assembly CN18 (To page 36)

To AF assembly CN17 (To page 37)

To AF assembly CN16 (To page 37)

To AF assembly J45 (To page 37)

To AF assembly CN15 (To page 37)

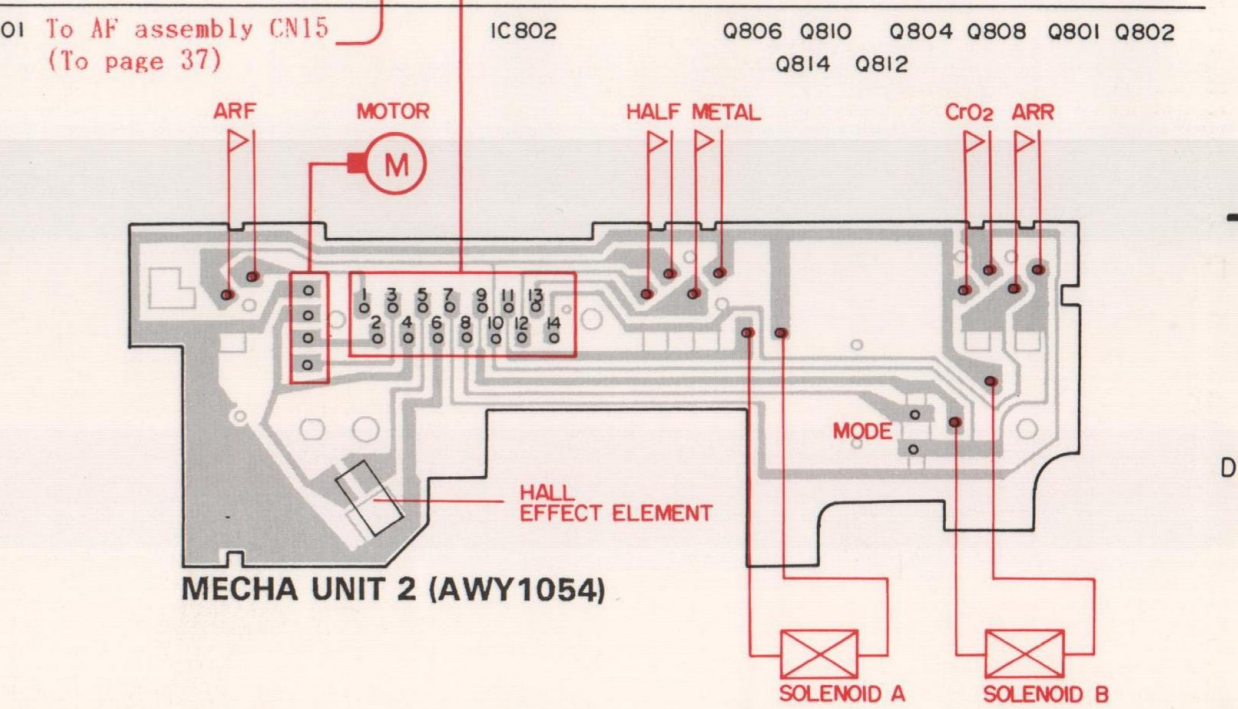
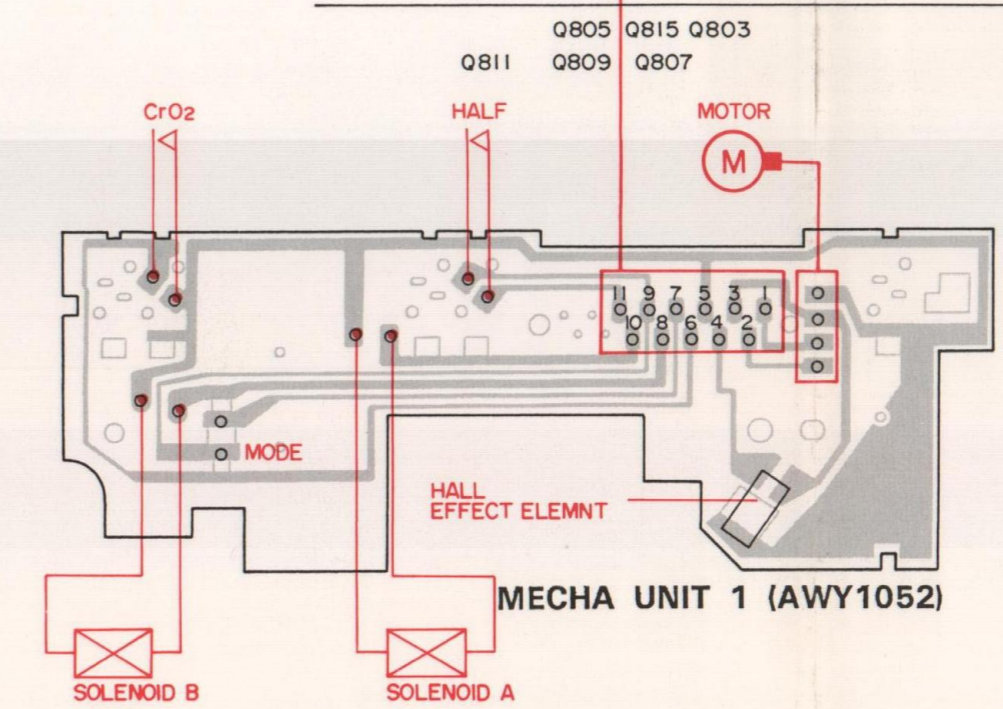
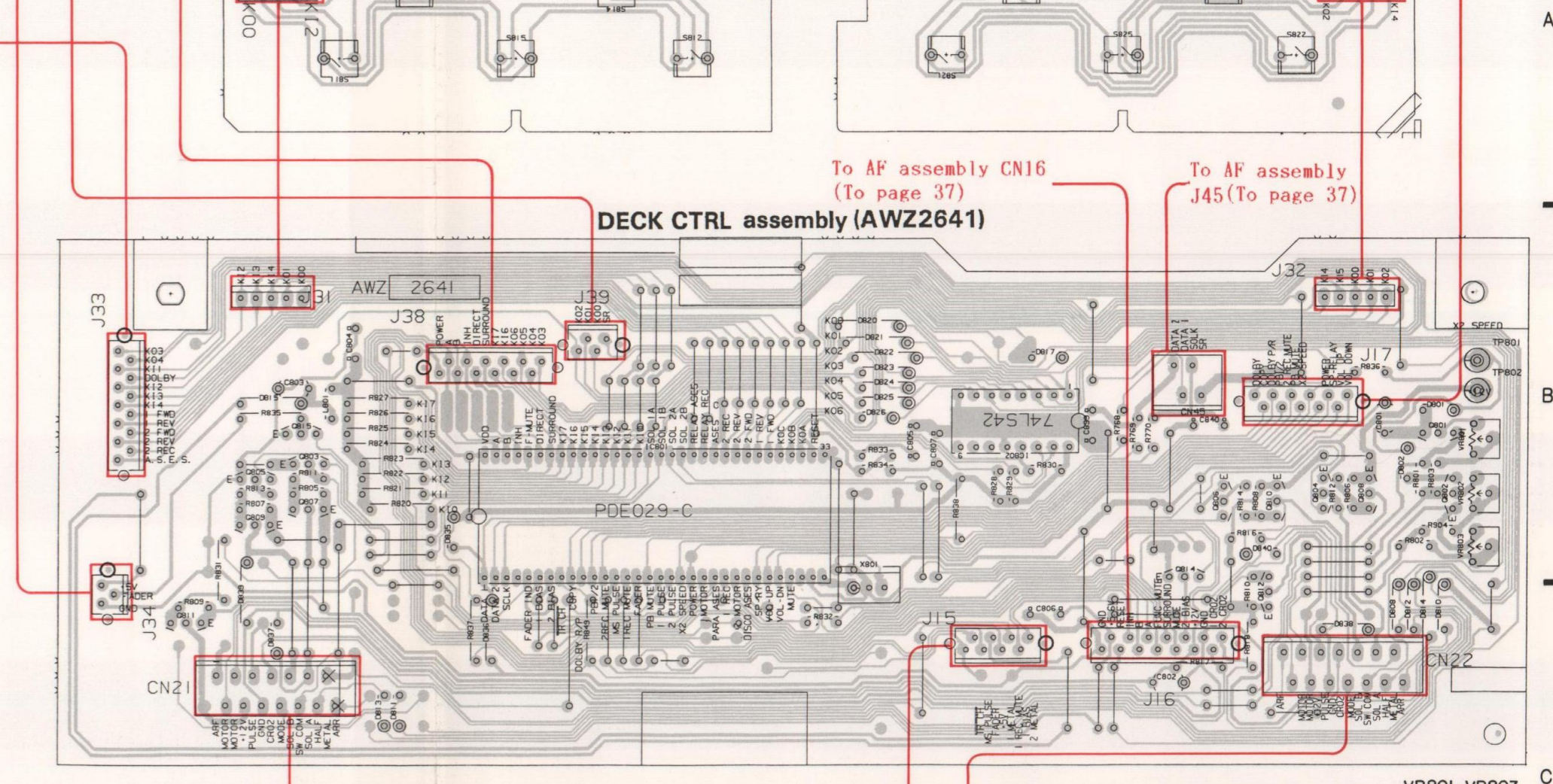
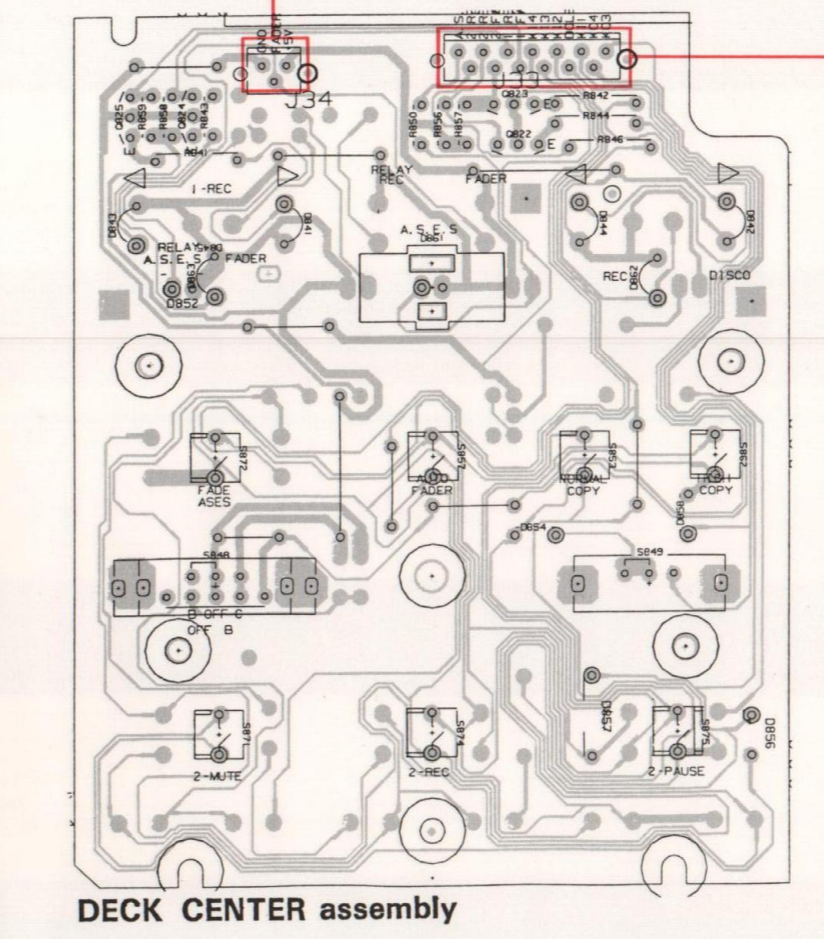
NOTE

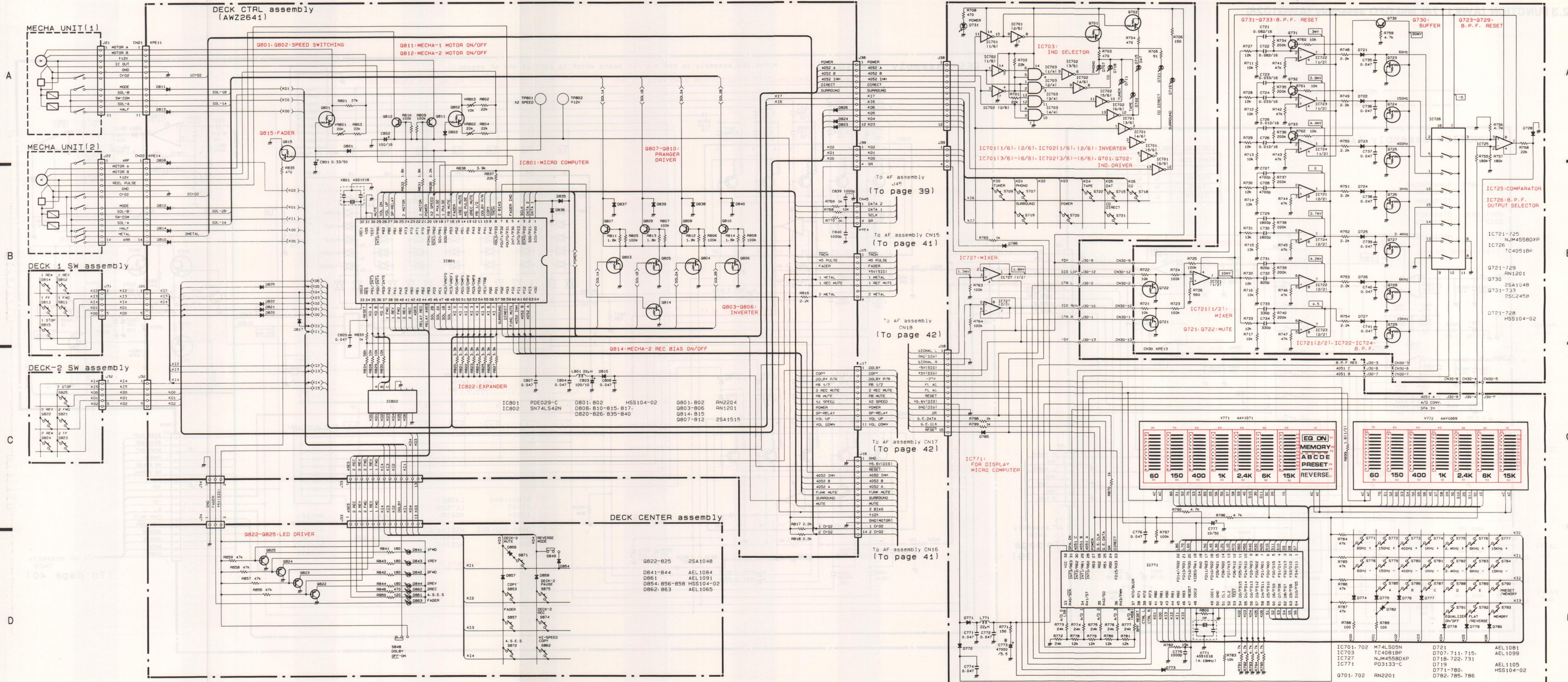
- This P.C.B connection diagram is viewed from the parts mounted side.
- The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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

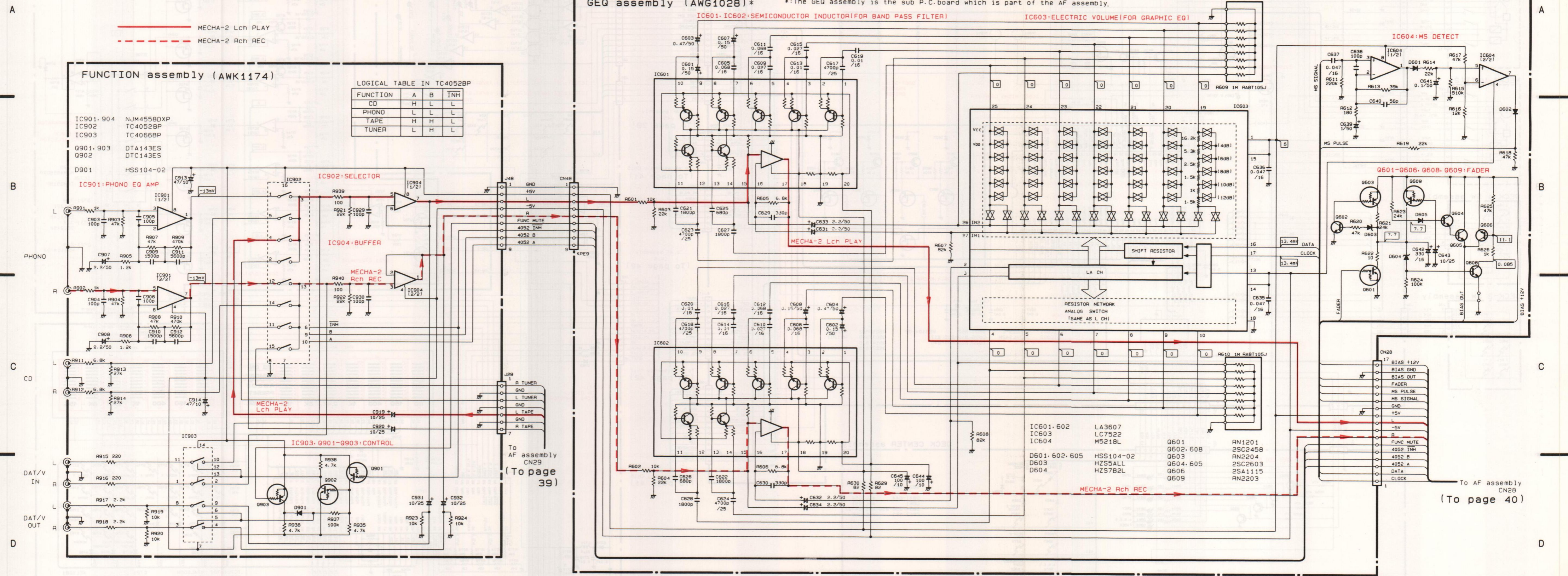
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

- The capacitor terminal marked with @ (double circles) shows negative terminal.
- The diode terminal marked with @ (double circles) shows cathode side.
- The transistor terminal to which E is affixed shows the emitter.





2.3 FUNCTION (AWK1174) and GEQ assembly (AWG1028)

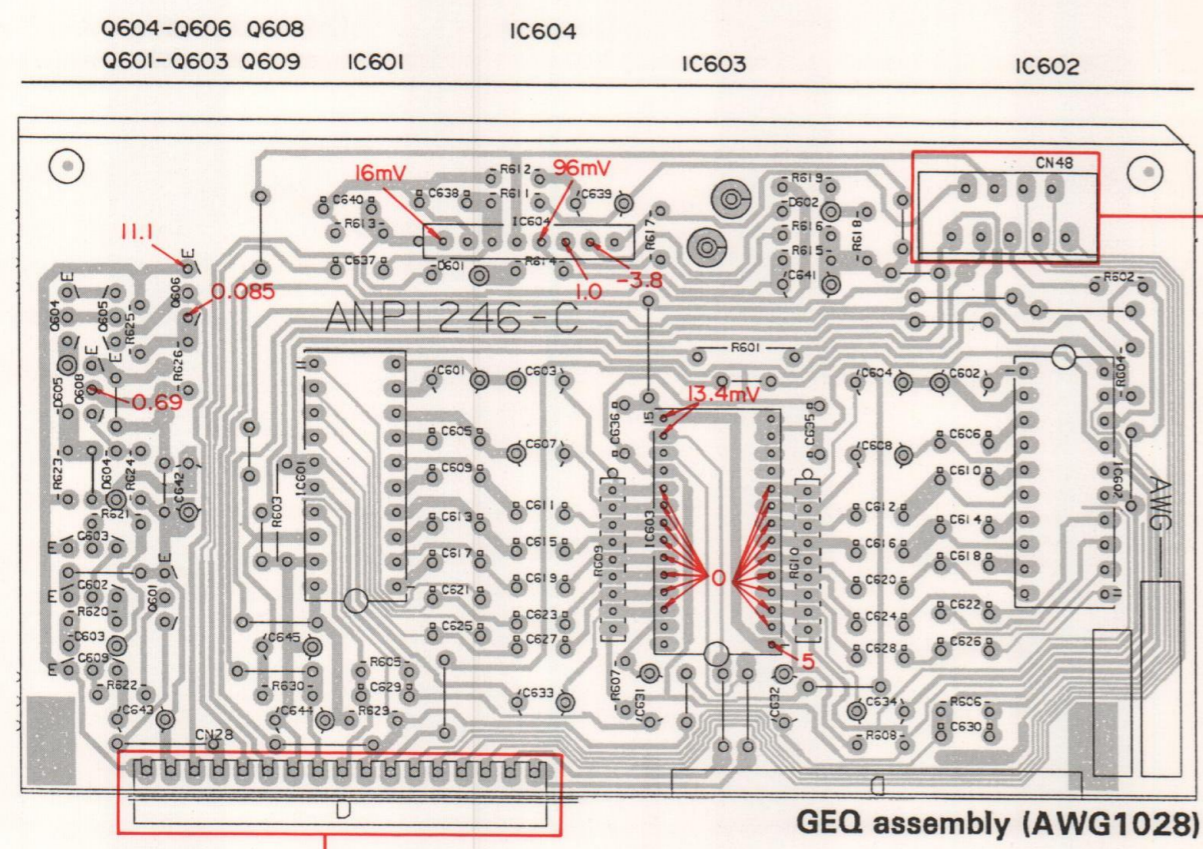


A

B

C

D

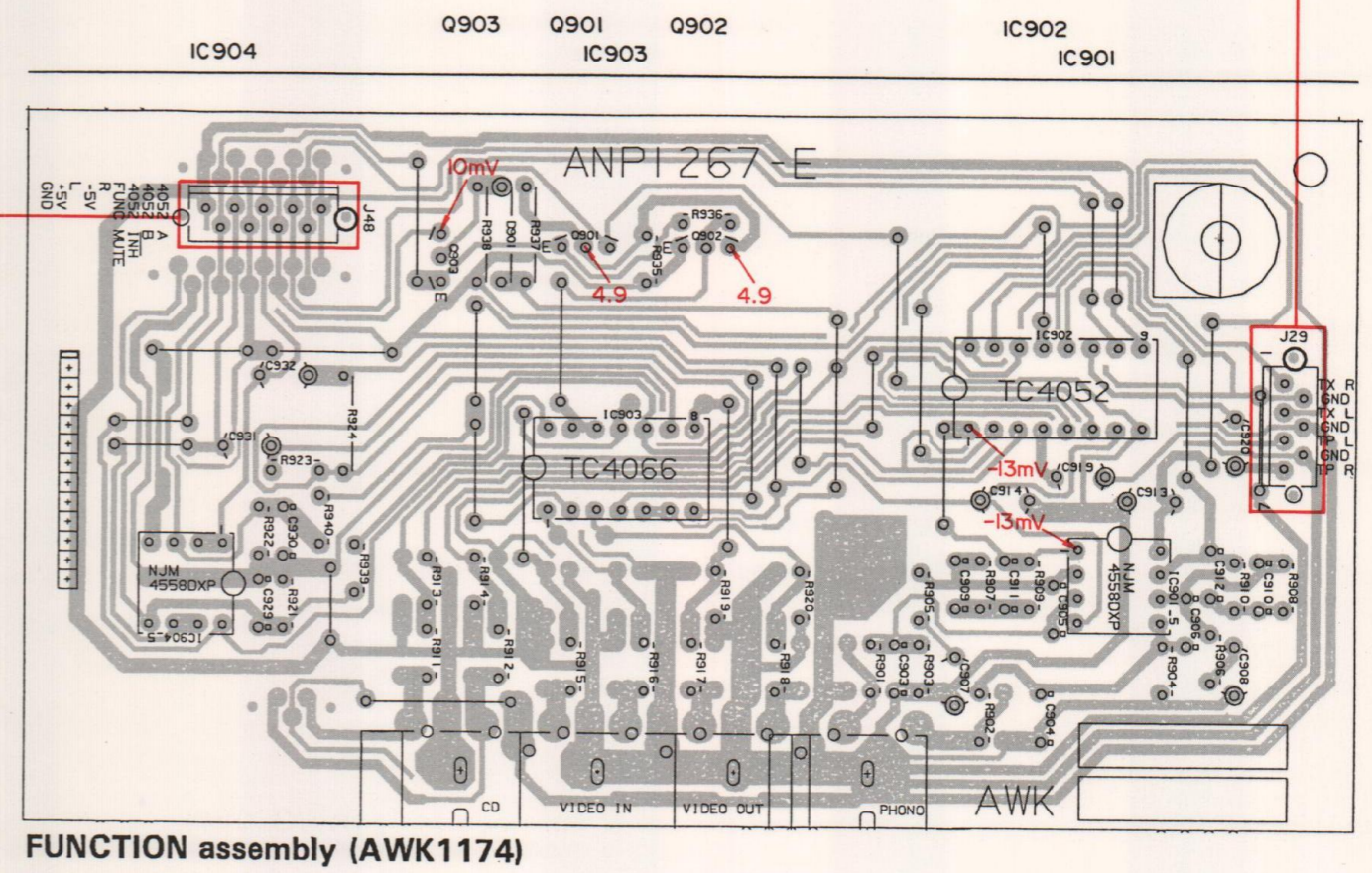


A

B

C

D



NOTE

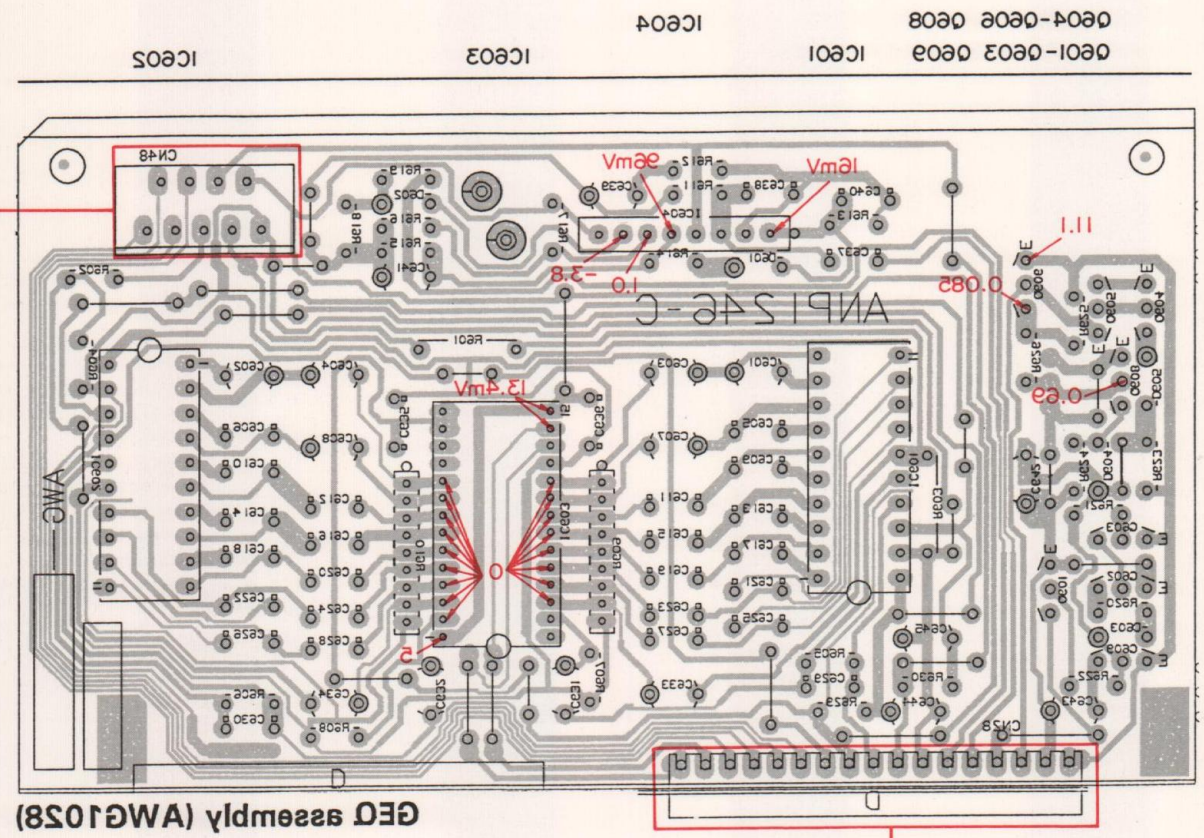
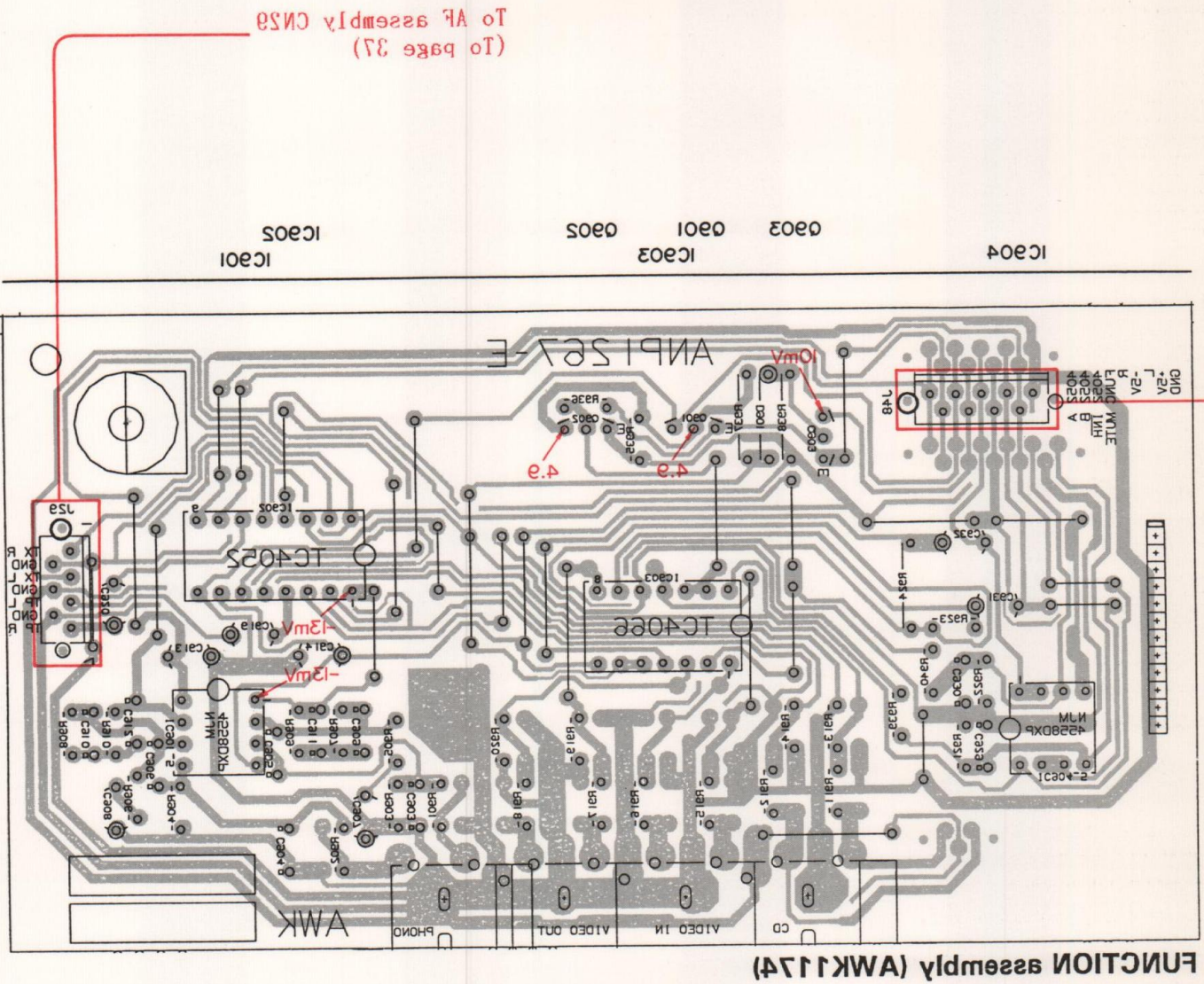
- This P.C.B connection diagram is viewed from the parts mounted side.
- The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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

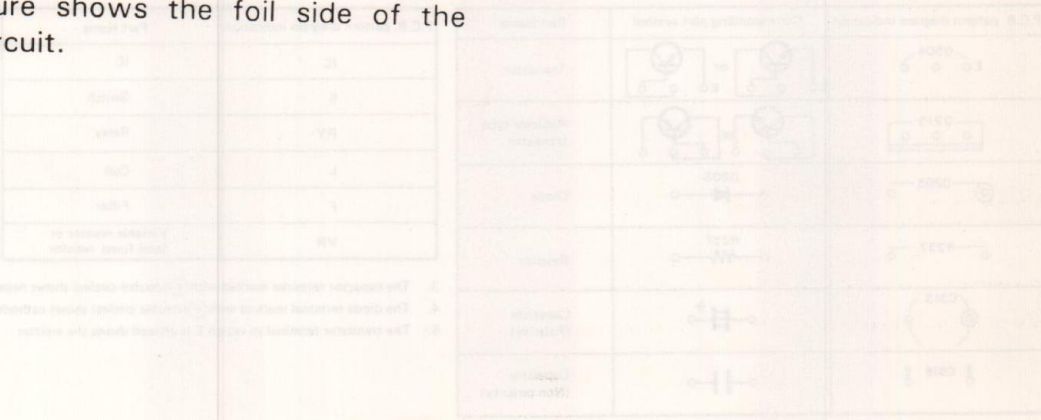
- The capacitor terminal marked with ⊖ (double circles) shows negative terminal.
- The diode terminal marked with ⊖ (double circles) shows cathode side.
- The transistor terminal to which E is affixed shows the emitter.



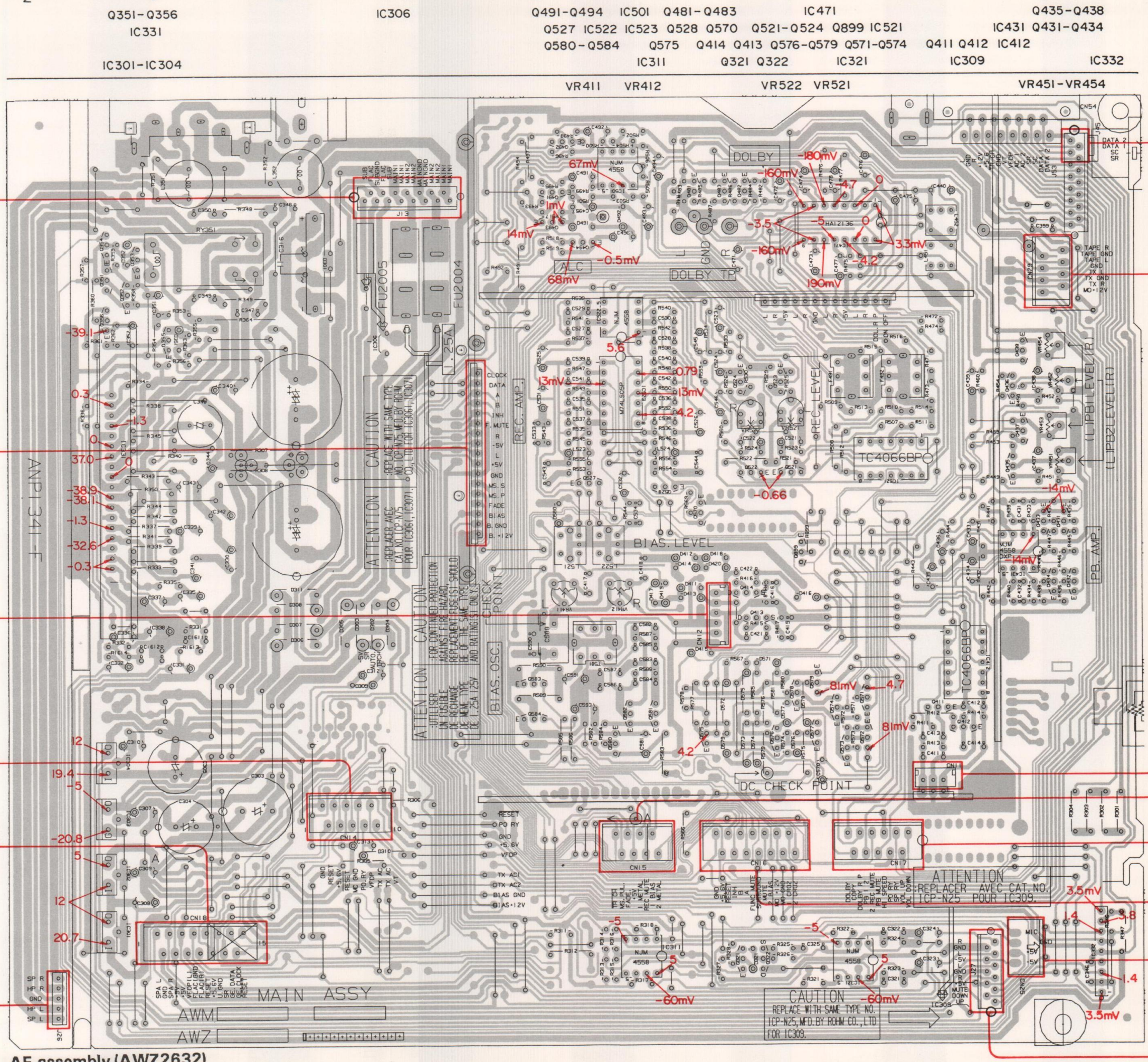
To AF assembly CN59 (To page 37)

To AF assembly CN58 (To page 37)

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

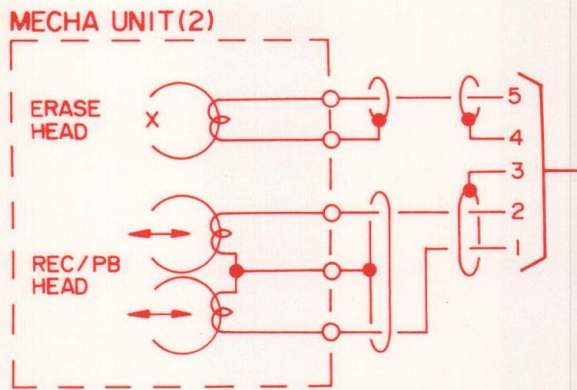


2.4 AF (AWZ2632), MIC, BLANCE, MAIN VR and HEAD PHONE assembly

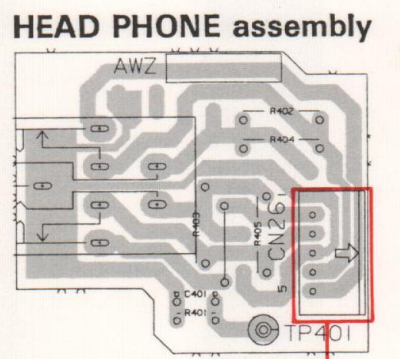


To TRANS CONNECT assembly J13
(To page 45)

To GEQ assembly CN28
(To page 29)



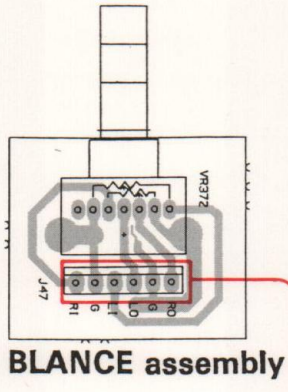
To POWER SUPPLY assembly J14
(To page 44)



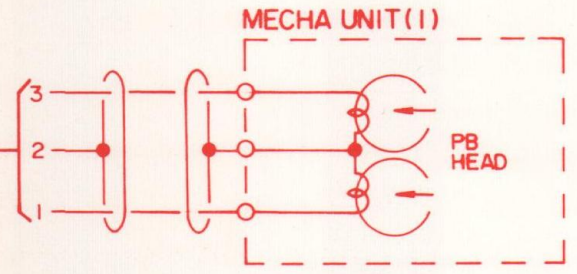
To AMP GEQ CTRL assembly J18
(To page 19)

To DECK CTRL assembly CN45
(To page 22)

To FUNCTION assembly J29
(To page 30)



BLANCE assembly



To DECK CTRL assembly J15
(To page 22)

To DECK CTRL assembly J17
(To page 22)

To DECK CTRL assembly J16
(To page 22)

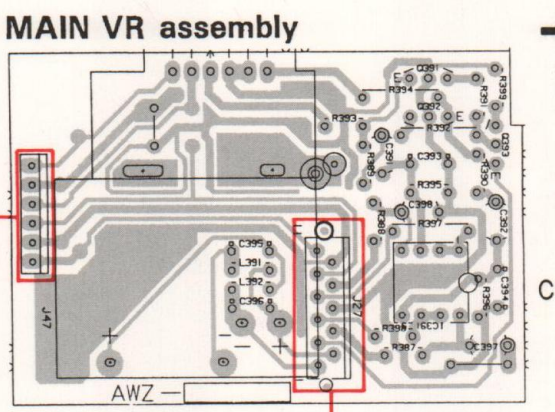
- NOTE
- This P.C.B connection diagram is viewed from the parts mounted side.
 - The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

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

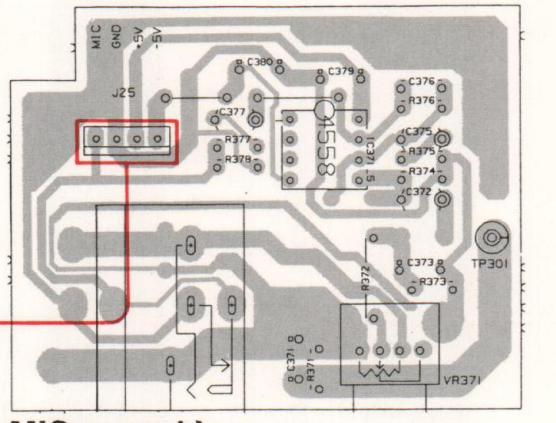
Others

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

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



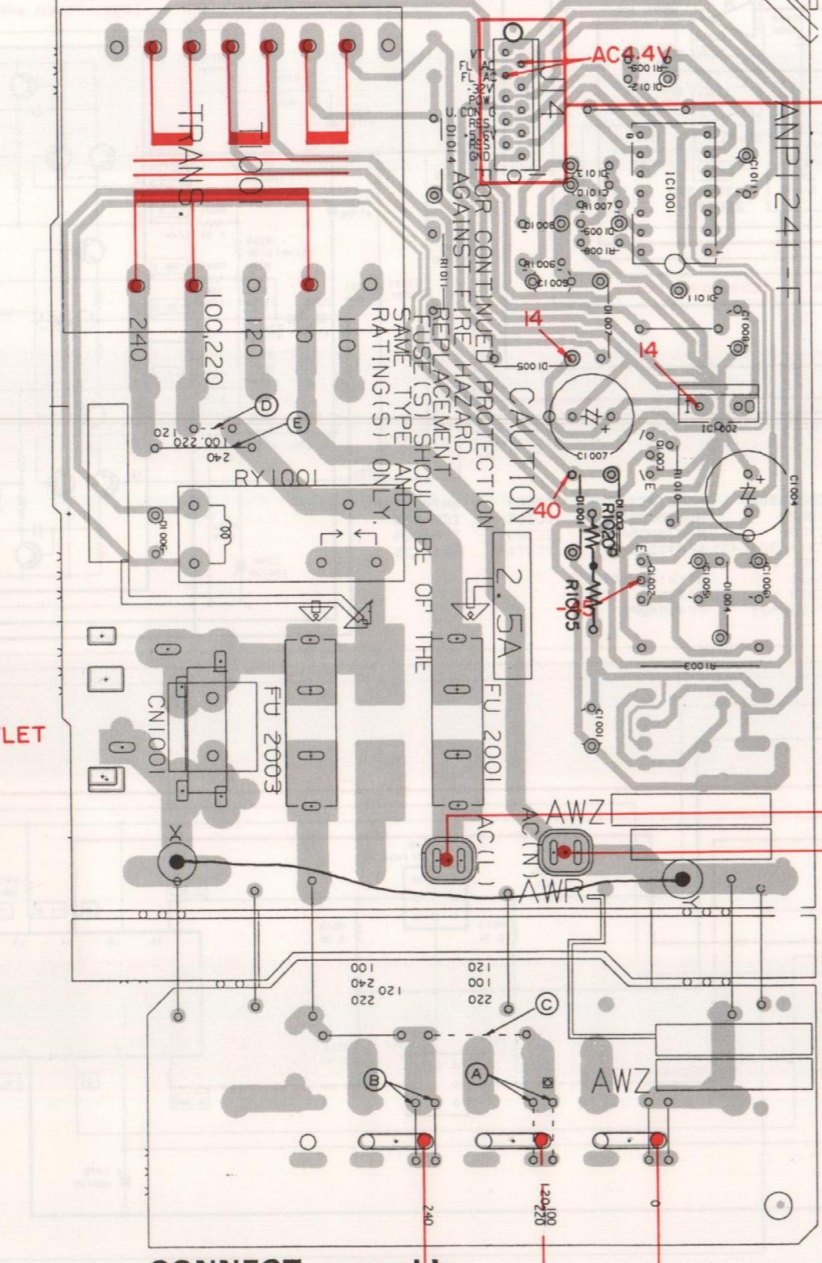
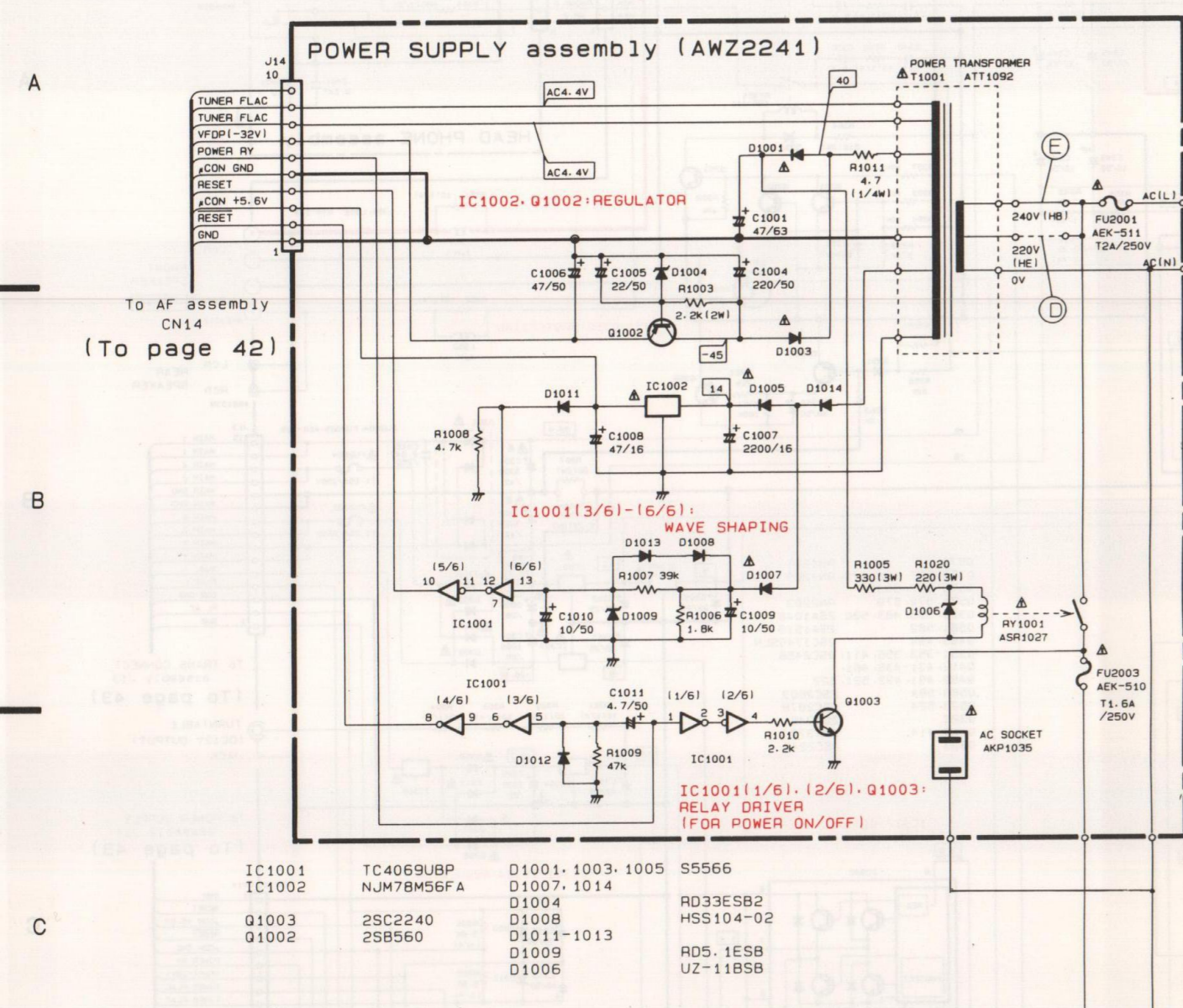
MAIN VR assembly



MIC assembly

2.5 POWER SUPPLY (AWZ2241), CONNECT and TRANS CONNECT assembly

POWER SUPPLY assembly (AWZ2241)



To AF assembly CN14 (To page 36)

AC POWER CORD AC 240V/220V 50/60Hz

To AF assembly J13 (To page 36)

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

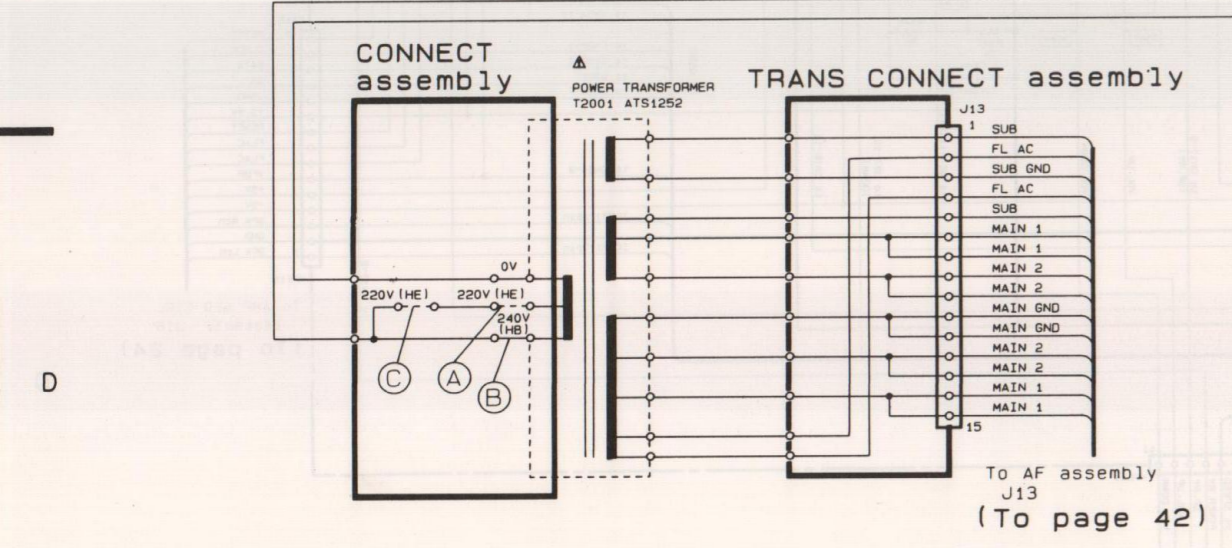
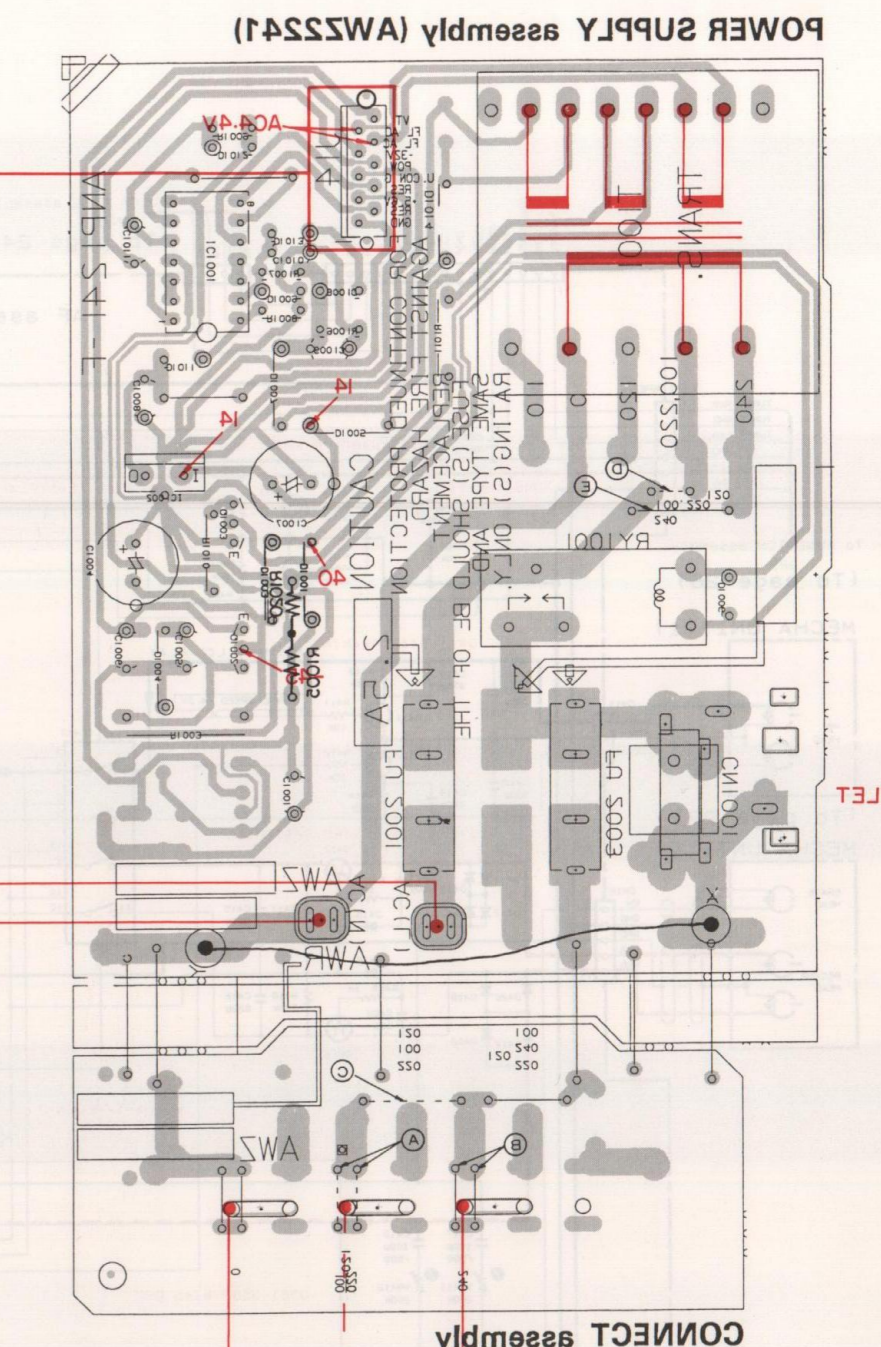
3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

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

To AF assembly CN14 (To page 36)

AC POWER CORD AC 240V/220V 50/60Hz

To AF assembly J13 (To page 36)



Line Voltage Selection (FOR 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 jumper wires ⊕-⊕ as follows.
4. Stick the line voltage label on the rear panel.

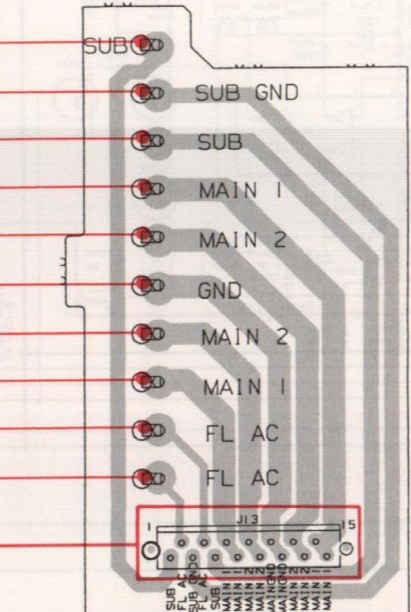
Jumper wires	220V (HE)	240V (HB)
⊕	○	×
⊕	×	○
⊕	○	×
⊕	○	×
⊕	×	○

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

○: Be needed
×: Be needless

T2001 POWER TRANSFORMER

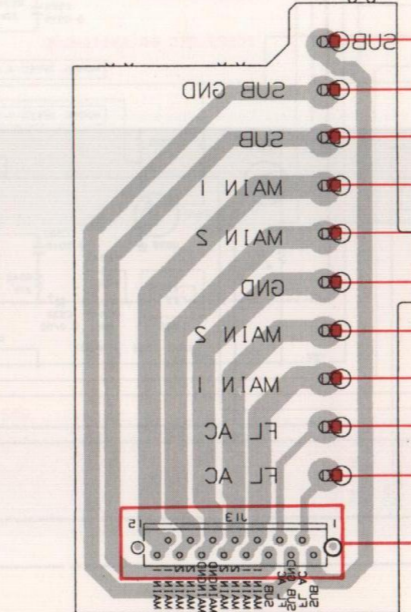
0V
220V
240V



TRANS CONNECT assembly

T2001 POWER TRANSFORMER

0V
220V
240V



TRANS CONNECT assembly

3. P.C.B'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 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%).

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

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

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

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
SPEANA ASSEMBLY (AWG1025)							
SEMICONDUCTORS							
	IC721-725	OP-AMP IC	NJM4558DXP	Q601	TRANSISTOR	RN1201	
	IC726	LOGIC IC	TC4051BP	Q602	TRANSISTOR	2SC2458	
	Q721-729	TRANSISTOR	RN1201	Q603	TRANSISTOR	RN2204	
	Q730	TRANSISTOR	2SA1048	Q604,605	TRANSISTOR	2SC2603	
	Q731-733	TRANSISTOR	2SC2458	Q606	TRANSISTOR	2SA1115	
	D721-728	DIODE	HSS104-02	Q608	TRANSISTOR	2SC2458	
CAPACITORS				Q609	TRANSISTOR	RN2203	
	C721,722	CERAMIC CAPACITOR	CKDYX823M16	D601,602	DIODE	HSS104-02	
	C723,724	CERAMIC CAPACITOR	CKCYX333M16	D603	ZENER DIODE	HZS5ALL	
	C725,726	CERAMIC CAPACITOR	CKCYX123M16	D604	ZENER DIODE	HZS7B2L	
	C727,728	CERAMIC CAPACITOR	CKCYB472K50	D605	DIODE	HSS104-02	
	C729,730	CERAMIC CAPACITOR	CKCYB182K50	CAPACITORS			
	C731,732	CERAMIC CAPACITOR	CKCYB821K50	C601,602	ELECTR.CAPACITOR	CEASR15M50	
	C733,734	CERAMIC CAPACITOR	CKCYB331K50	C603,604	ELECTR.CAPACITOR	CEASR47M50	
	C735-741	CERAMIC CAPACITOR	CKDYF473Z50	C605,606	CERAMIC CAPACITOR	CKDYX683M16	
RESISTORS				C607,608	ELECTR.CAPACITOR	CEASR15M50	
	All resistors		RD1/8PM \square \square \square J	C609,610	CERAMIC CAPACITOR	CKDYX273M16	
OTHERS				C611,612	CERAMIC CAPACITOR	CKDYX683M16	
	CN30	JUMPER CONNECTOR	KPE13	C613,614	CERAMIC CAPACITOR	CGMYX103M16	
		13-P		C615,616	CERAMIC CAPACITOR	CKDYX273M16	
GEQ ASSEMBLY (AWG1028)				C617,618	CERAMIC CAPACITOR	CGMYX472M25	
This GEQ ASSEMBLY (AWG1028) is a part of				C619,620	CERAMIC CAPACITOR	CGMYX103M16	
AF ASSEMBLY (AWZ2632)				C621,622	CERAMIC CAPACITOR	CGMYB182M50	
SEMICONDUCTORS				C623,624	CERAMIC CAPACITOR	CGMYX472M25	
	IC601,602	GEQ IC	LA3607	C625,626	CERAMIC CAPACITOR	CKMYB681K50	
	IC603	GEQ EVR IC	LC7522	C627,628	CERAMIC CAPACITOR	CGMYB182M50	
	IC604	OP-AMP IC	M5218L	C629,630	CERAMIC CAPACITOR	CKCYB331K50	
				C631-634	ELECTR.CAPACITOR	CEAS2R2M50	
				C635-637	CERAMIC CAPACITOR	CKDYX473M16	
				C638	CERAMIC CAPACITOR	CCCSL101J50	
				C639	ELECTR.CAPACITOR	CEAS010M50	
				C640	CERAMIC CAPACITOR	CCCSL560J50	

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	C641	ELECTR.CAPACITOR	CEAS0R1M50		IC331	AUDIO IC	STK4162-2GP
	C642	ELECTR.CAPACITOR	CEAS331M16		IC332	MECHANISM DRIVER IC	TA7291S
	C643	ELECTR.CAPACITOR	CEAS100M25		IC412	LOGIC IC	TC4066BP
	C644,645	ELECTR.CAPACITOR	CEAS101M10		IC431	OP-AMP IC	NJM4588DXP
RESISTORS					IC471	DOLBY-B IC	HA12136
	R609,610	RESISTOR ARRAY (1M Ω)	RA8T105J		IC501	OP-AMP IC	NJM4558DXP
		Other resistors	RD1/8PM□□□J		IC521	LOGIC IC	TC4066BP
OTHERS					IC522	OP-AMP IC	NJM4558DXP
	CN48	JUMPER CONNECTOR 9-P	KPE9		IC523	LOGIC IC	SN74LS05N
FUNCTION ASSEMBLY (AWK1174)					Q321	TRANSISTOR	2SA1048
SEMICONDUCTORS					Q322	N-FET	2SK246
	IC901	OP-AMP IC	NJM4558DXP		Q351-353	TRANSISTOR	2SC2458
	IC902	LOGIC IC	TC4052BP		Q354	TRANSISTOR	RN1203
	IC903	LOGIC IC	TC4066BP		Q355	TRANSISTOR	2SA1048
	IC904	OP-AMP IC	NJM4558DXP		Q356	TRANSISTOR	2SC2458
	Q901,903	TRANSISTOR	DTA143ES		Q411,412	TRANSISTOR	2SC2458
	Q902		DTC143ES		Q413,414	N-FET	2SK373
	D901	DIODE	HSS104-02		Q431-438	TRANSISTOR	2SC2458
CAPACITORS					Q481,482	TRANSISTOR	2SC2458
	C903-906	CERAMIC CAPACITOR	CCCSL101J50		Q483	TRANSISTOR	2SA1048
	C907,908	ELECTR.CAPACITOR	CEAS2R2M50		Q491,492	TRANSISTOR	2SC2458
	C909,910	CERAMIC CAPACITOR	CKCYB152K50		Q493,494	TRANSISTOR	2SC1740SLN
	C911,912	CERAMIC CAPACITOR	CKCYB562K50		Q521,522	TRANSISTOR	2SC2458
	C913,914	ELECTR.CAPACITOR	CEAS470M10		Q523,524	TRANSISTOR	2SC2878
	C919,920	ELECTR.CAPACITOR	CEAS100M25		Q527,528	TRANSISTOR	RN1203
	C929,930	CERAMIC CAPACITOR	CCCSL101J50		Q570	TRANSISTOR	RN1203
	C931,932	ELECTR.CAPACITOR	CEAS100M25		Q571,572	TRANSISTOR	RN2203
RESISTORS					Q573-577	TRANSISTOR	RN1203
		All resistors	RD1/8PM□□□J		Q578	TRANSISTOR	RN1201
OTHERS					Q579	TRANSISTOR	RN2203
		PHONO JACK 4-P	AKB1009		Q580	TRANSISTOR	2SA1048
		PHONO JACK 4-P	AKB1085		Q581,582	TRANSISTOR	2SA1515
AF ASSEMBLY (AWZ2632)					Q583,584	TRANSISTOR	2SC2603
SEMICONDUCTORS					Q899		RN1203
	IC301	REGULATOR IC	MC7812CT		D301	DIODE	RBV402
	IC302	REGULATOR IC	NJM78M05FA		D302-308	DIODE	S5566
	IC303	REGULATOR IC	NJM79M05FA		D309	ZENER DIODE	UZ-5.6BS
	IC304	REGULATOR IC	MC7812CT		D310	ZENER DIODE	UZ-13BSB
	IC306	IC PROTECTOR	ICP-N75		D311	DIODE	S5566
	IC309	IC PROTECTOR	ICP-N25		D321	DIODE	HSS104-02
	IC311	OP-AMP IC	NJM4558DXP		D351	DIODE	HSS104-02
	IC321	OP-AMP IC	NJM4558DXP		D352	ZENER DIODE	UZ-22BS
					D411-420	DIODE	HSS104-02
					D491,492	DIODE	HSS104-02
					D571-579	DIODE	HSS104-02
					D580	DIODE	2-1K261

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
RELAY							
	RY351	RELAY	ASR-111	C437,438	ELECTR.CAPACITOR	CEAS010M50	
COILS & TRANSFORMER				C439,440	ELECTR.CAPACITOR	CEAS010M50	
	L351,352	COIL	ATH-133	C471,472	ELECTR.CAPACITOR	CEAS100M50	
	L451,452	COIL	ATM1001	C473,474	ELECTR.CAPACITOR	CEASR22M50	
	L521,522	COIL	ATM-037	C475,476	ELECTR.CAPACITOR	CEAS101M10	
	L523,524	INDUCTOR	LTA392J	C478	ELECTR.CAPACITOR	CEAS220M25	
	T581	OSC TRANSFORMER	ATX-043	C491,492	ELECTR.CAPACITOR	CEAS010M50	
FILTERS				C493,494	ELECTR.CAPACITOR	CEAS100M50	
	F491,F492	DOLBY FILTER	ATF1064	C495	ELECTR.CAPACITOR	CEASR33M50	
CAPACITORS				C496	ELECTR.CAPACITOR	CEAS100M50	
	C1611,1612	CERAMIC CAPACITOR	CCCSL101J50	C521-524	ELECTR.CAPACITOR	CEAS010M50	
	C301,302	ELECTR.CAPACITOR (3300 μ F/42V)	ACH1017	C525,526	ELECTR.CAPACITOR	CEAS330M16	
	C303	ELECTR.CAPACITOR	CEAS222M25	C527,528	AUDIO FILM CAPACITOR	CFTXA683J50	
	C304,305	ELECTR.CAPACITOR	CEAS102M25	C529,530	CERAMIC CAPACITOR	CKCYB182K50	
	C307-310	ELECTR.CAPACITOR	CEAS220M25	C531,532	ELECTR.CAPACITOR	CEAS2R2M50	
	C312,313	ELECTR.CAPACITOR	CEAS100M50	C533,534	CERAMIC CAPACITOR	CKMYB681K50	
	C316	MYLOR FILM CAPACITOR	CQMA473K250	C535,536	MYLOR FILM CAPACITOR	CQMA183J50	
	C321,322	PL STYRENE CAPACITOR	CQSA471J50	C537,538	MYLOR FILM CAPACITOR	CQMA752J50	
	C323,324	ELECTR.CAPACITOR	CEAS010M50	C539,540	CERAMIC CAPACITOR	CKCYB562K50	
	C325	CERAMIC CAPACITOR	CKMYB681K50	C541,542	MYLOR FILM CAPACITOR	CQMA473J50	
	C330	ELECTR.CAPACITOR	CEAS470M50	C543,544	MYLOR FILM CAPACITOR	CQMA333J50	
	C331	ELECTR.CAPACITOR	CEAS2R2M50	C545,546	ELECTR.CAPACITOR	CEAS470M16	
	C332	ELECTR.CAPACITOR	CEHAQ2R2M50	C570	ELECTR.CAPACITOR	CEAS470M16	
	C335	ELECTR.CAPACITOR	CEAS470M50	C581	ELECTR CAPACITOR	CEAS470M16	
	C336	ELECTR.CAPACITOR	CEHAQ470M50	C582	CERAMIC CAPACITOR	CKCYB103K50	
	C337,338	ELECTR.CAPACITOR	CEAS470M50	C583	MYLOR FILM CAPACITOR	CQMA153K50	
	C339,340	ELECTR.CAPACITOR	CEAS101M25	C584	CERAMIC CAPACITOR	CKCYB103K50	
	C341	ELECTR.CAPACITOR	CEAS470M50	C585	MYLOR FILM CAPACITOR	CQMA123K250	
	C342	ELECTR.CAPACITOR	CEAS100M50	C586	CERAMIC CAPACITOR	CKMYB681K50	
	C343	ELECTR.CAPACITOR	CEANP100M50	C587	CERAMIC CAPACITOR	CKMYB221K50	
	C344	ELECTR.CAPACITOR	CEAS100M50	C588	CQPA(2000P/630V)	ACE1020	
	C345	ELECTR.CAPACITOR	CEANP470M50	C590	MYLOR FILM CAPACITOR	CQMA562K400	
	C346	CERAMIC CAPACITOR	CKDYF473Z50	C591	ELECTR.CAPACITOR	CEAS4R7M50	
	C347-350	MYLOR FILM CAPACITOR	CQMA104K50	C593	ELECTR.CAPACITOR	CEAS101M16	
	C351	ELECTR.CAPACITOR	CEAS221M10	RESISTORS			
	C352	ELECTR.CAPACITOR	CEAS100M50	VR411,412	VR (200k Ω)	VRTM6V204	
	C399	CERAMIC CAPACITOR	CKDYB392K50	VR451,452	VR (100k Ω)	VRTM6H104	
	C411,412	CERAMIC CAPACITOR	CKMYB331K50	VR453,454	VR (20k Ω)	VRTM6H203	
	C413,414	CERAMIC CAPACITOR	CKMYB471K50	VR521,522	VR (22k Ω)	ACP1026	
	C415,416	CERAMIC CAPACITOR	CKMYB821K50	R301-304	CARBON FILM RESISTOR	RD1/4PM100J	
	C417,418	CERAMIC CAPACITOR	CCCSL101K500	R305,306	CARBON FILM RESISTOR	RD1/4PM562J	
	C421,422	CERAMIC CAPACITOR	CCMSL100D50	R307,308	METAL OXIDE RESISTOR	RS2LMFR22J	
	C431,432	MYLOR FILM CAPACITOR	CQMA682J50	R337-340	CARBON FILM RESISTOR	RD1/4PM222J	
	C433,434	ELECTR.CAPACITOR	CEAS330M16				
	C435,436	ELECTR.CAPACITOR	CEAS470M10				

Mark	No.	Description	Parts No.
R341		FUSIBLE RESISTOR	RFA1/4PL471J
R342		CARBON FILM RESISTOR	RD1/4PMFL101J
R343,344		CARBON FILM RESISTOR	RD1/4PM222J
R345		CARBON FILM RESISTOR	RD1/4PMFL101J
R348,349		CARBON FILM RESISTOR	RD1/4PMF100J
R350		CARBON FILM RESISTOR	RD1/4PMFL102J
R351,352		CARBON FILM RESISTOR	RD1/4PMFL100J
R364		METAL OXIDE RESISTOR	RS2LMF511J
R589,590		CARBON FILM RESISTOR Other resistors	RD1/2PM□□□J RD1/8PM□□□J

OTHERS

CN14		JUMPER CONNECTOR 10-P	KPE10
CN15		JUMPER CONNECTOR 8-P	KPE8
CN16		JUMPER CONNECTOR 14-P	KPE14
CN17		JUMPER CONNECTOR 11-P	KPE11
CN18		JUMPER CONNECTOR 15-P	KPE15
CN25		JUMPER CONNECTOR 4-P	KPC4
CN29		JUMPER CONNECTOR 7-P	KPE7
		PIN JACK 2-P (SPEAKER)	AKB1039
		TERMINAL 4-P (SPEAKER)	AKE1012
		JACK (PL DC+12V) Socket 15-P (To TUNER)	AKN-203 AKP1038
		GEQ ASSEMBLY (As to the parts list, refer to page47)	AWG1028

MAIN VR ASSEMBLY

SEMICONDUCTORS

IC391		OP-AMP IC	NJM4558DXP
Q391,392		TRANSISTOR	2SC2878
Q393		TRANSISTOR	2SA1048

COILS

L391,392		AXIAL INDUCTOR (5.6μH)	LAU5R6K
----------	--	------------------------	---------

Mark	No.	Description	Parts No.
CAPACITORS			
	C391,392	ELECTR.CAPACITOR	CEAS4R7M50
	C393,394	CERAMIC CAPACITOR	CCMSL101J50
	C395,396	CERAMIC CAPACITOR	CKCYF473Z50
	C397,398	ELECTR.CAPACITOR	CEAS470M10

RESISTORS

VR391		VR (100k) Other resistors	ACX1021 RD1/8PM□□□J
-------	--	------------------------------	------------------------

HEAD PHONE ASSEMBLY

CAPACITOR

C401		CERAMIC CAPACITOR	CKCYF473Z50
------	--	-------------------	-------------

RESISTORS

R401		CARBON FILM RESISTOR	RD1/8PM100J
R402-405		CARBON FILM RESISTOR	RD1/2PMF681J

OTHERS

CN26		JUMPER CONNECTOR 5-P JACK (HEADPHONE)	KPC5 AKN1010
------	--	--	-----------------

TRANSE CONNECT ASSEMBLY

No Parte are supplied with the TRANS CONNECT assembly

BALANCE ASSEMBLY

RESISTOR

VR372		VR(10k)	ACS1042
-------	--	---------	---------

MIC ASSEMBLY

SEMICONDUCTOR

IC371		OP-AMP IC	NJM4558DXP
-------	--	-----------	------------

CAPACITORS

C371		CERAMIC CAPACITOR	CKCYF473Z50
C372		ELECTR.CAPACITOR	CEAS010M50
C373		CERAMIC CAPACITOR	CKMYB681K50
C375		ELECTR.CAPACITOR	CEAS100M25
C376		CERAMIC CAPACITOR (470p)	ACG1019
C377		ELECTR.CAPACITOR	CEAS100M25
C379,380		CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

VR371		VR (10K-X1) Other resistors	ACS1043 RD1/8PM□□□J
-------	--	--------------------------------	------------------------

Mark	No.	Description	Parts No.
OTHERS			
		JACK (MIC)	AKN1017
DECK - 1 SW ASSEMBLY			
SWITCHES			
	S811-815	SWITCH	ASG1034
DECK - 2 SW ASSEMBLY			
SWITCHES			
	S821-825	SWITCH	ASG1034
DECK CENTER ASSEMBLY			
SEMICONDUCTORS			
	Q822-825	TRANSISTOR	2SA1048
	D841-844	LED	AEL1084
	D854	DIODE	HSS104-02
	D856-858	DIODE	HSS104-02
	D861	LED	AEL1091
	D862,863	LED(RED)	AEL1065
SWITCHES			
	S848,849	SWITCH	ASH1014
	S853	SWITCH	ASG1034
	S857	SWITCH	ASG1034
	S862	SWITCH	ASG1034
	S871,872	SWITCH	ASG1034
	S874,875	SWITCH	ASG1034
RESISTORS			
		All resistors	RD1/8PM□□□J
DECK CTRL ASSEMBLY(AWZ2641)			
SEMICONDUCTORS			
	IC801	DECK AMP	PDE029-C
	IC802	LOGIC IC	SN74LS42N
	Q801,802	TRANSISTOR	RN2204
	Q803-806	TRANSISTOR	RN1201
	Q807-812	TRANSISTOR	2SA1515
	Q814,815	TRANSISTOR	RN1201
	D801,802	DIODE	HSS104-02
	D808	DIODE	HSS104-02
	D810-815	DIODE	HSS104-02
	D817	DIODE	HSS104-02
	D820-826	DIODE	HSS104-02
	D835-840	DIODE	HSS104-02

Mark	No.	Description	Parts No.
COIL			
	L801	AXIAL INDUCTOR (22 μ H)	LAU220K
CAPACITORS			
	C801	ELECTR.CAPACITOR	CEASR33M50
	C802	ELECTR.CAPACITOR	CEAS101M16
	C803	ELECTR.CAPACITOR	CEAS101M10
	C804-807	CERAMIC CAPACITOR	CKDYF473Z50
	C839,840	CERAMIC CAPACITOR	CKDYB102K50
RESISTORS			
	VR801,802	VR	VRTM6H203
	VR803	VR	VRTM6H103
		Other resistors	RD1/8□□□J
OTHERS			
	X801	(4.19MHz)	ASS1018
	CN21	JUMPER CONNECTOR 11-P	KPE11
	CN22	JUMPER CONNECTOR 14-P	KPE14
	CN45	JUMPER CONNECTOR 4-P	KPE4
AMP, GEQ CTRL ASSEMBLY (AWZ2642)			
SEMICONDUCTORS			
	IC771		PD3161
	IC701,702		SN74LS05N
	IC703	LOGIC IC	TC4081BP
	IC727	OP-AMP IC	NJM4558DXP
	Q701,702	TRANSISTOR	RN2201
	D707	LED(RED)	AEL1099
	D711	LED(RED)	AEL1099
	D715	LED(RED)	AEL1099
	D718	LED(RED)	AEL1099
	D719	LED	AEL1105
	D721	LED	AEL1081
	D722	LED(RED)	AEL1099
	D731	LED(RED)	AEL1099
	D771-780	DIODE	HSS104-02
	D782	DIODE	HSS104-02
	D785,786	DIODE	HSS104-02
SWITCHES			
	S707	SWITCH	ASG1034
	S709	SWITCH	ASG1034
	S715	SWITCH	ASG1034
	S718-722	SWITCH	ASG1034
	S771-793	SWITCH	ASG1034
COIL			
	L771	AXIAL INDUCTOR (22 μ H)	LAU220K

Mark No. Description Parts No.

CAPACITORS

C771,772	CERAMIC CAPACITOR	CKDYF473Z50
C773	(47000µ / 5.5 V)	ACH1135
C774	CERAMIC CAPACITOR	CKDYF473Z50
C775	CERAMIC CAPACITOR	CKCYB102K50
C776	CERAMIC CAPACITOR	CKDYF473Z50
C777	ELECTR.CAPACITOR	CEAS100M50

RESISTORS

R899	CARBON FILM RESISTOR	RD1/2PM1R8J
	Other resistors	RD1/8PM□□□J

OTHERS

V771	FL TUBE	AAV1071
V772	FL TUBE	AAV1069
X771	(4.19MHz)	ASS1018

POWER SUPPLY ASSEMBLY (AWZ2241)

SEMICONDUCTORS

IC1001	LOGIC IC	TC4069UBP
IC1002	REGULATOR	NJM78M56FA
Q1002	TRANSISTOR	2SB560
Q1003	TRANSISTOR	2SC2240
D1001	DIODE	S5566
D1003	DIODE	S5566
D1004	ZENER DIODE	RD33ESB2
D1005	DIODE	S5566
D1006	ZENER DIODE	UZ-11BSB
D1007	DIODE	S5566
D1008	DIODE	HSS104-02
D1009	ZENER DIODE	RD5.1ESB
D1011-1013	DIODE	HSS104-02
D1014	DIODE	S5566

RELAY

△	RY1001	RELAY	ASR1027
---	--------	-------	---------

TRANSFORMER

T1001	POWER TRANSFORMER	ATT1092
-------	-------------------	---------

CAPACITORS

C1001	ELECTR.CAPACITOR	CEAS470M63
C1004	ELECTR.CAPACITOR	CEAS221M50
C1005	ELECTR.CAPACITOR	CEHAQ220M50
C1006	ELECTR.CAPACITOR	CEAS470M50
C1007	ELECTR.CAPACITOR	CEAS222M16
C1008	ELECTR.CAPACITOR	CEAS470M16
C1009,1010	ELECTR.CAPACITOR	CEAS100M50
C1011	ELECTR.CAPACITOR	CEAS4R7M50

Mark No. Description Parts No.

RESISTORS

R1003	METAL OXIDE RESISTOR	RS2LMF222J
R1005	METAL OXIDE RESISTOR	RS3PMF331J
R1020		RS3PMF221J
R1011	CARBON FILM RESISTOR	RD1/4PMFL4R7J
	Other resistors	RD1/8PM□□□J

OTHERS

△	AC SOCKET 1-P (OUTLET)	AKP1035
---	------------------------	---------

CONNECT ASSEMBLY

No parts are supplied with the CONNECT assembly.

4. ADJUSTMENTS

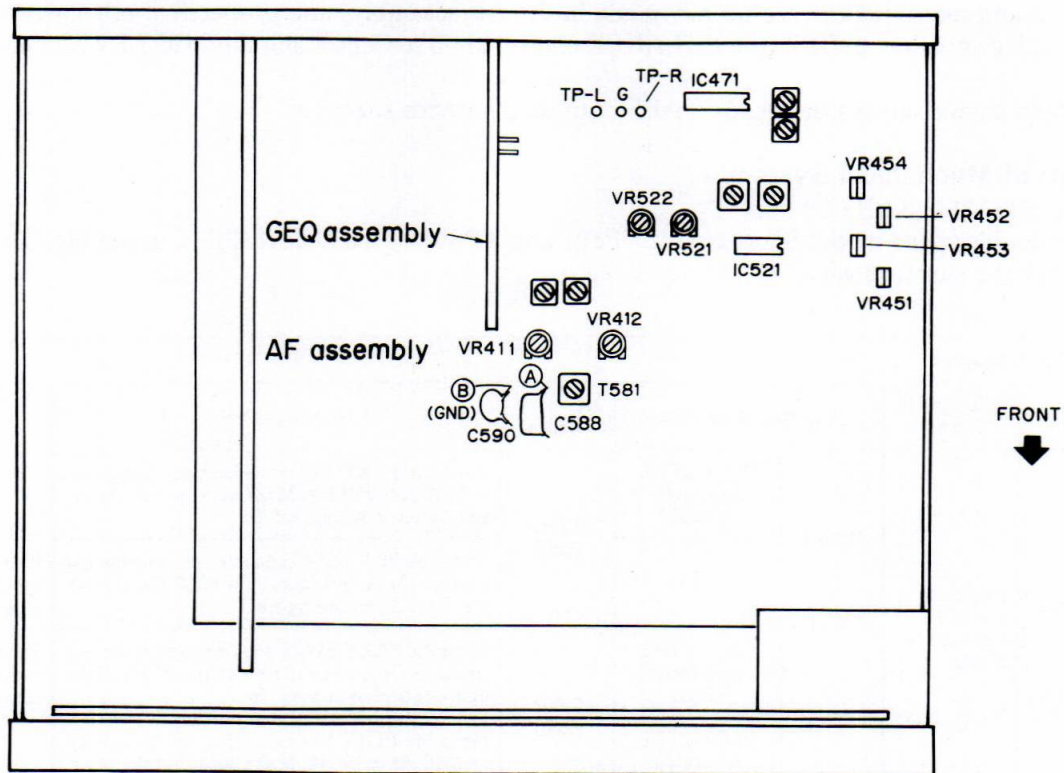


Fig 4.1. Adjustment location

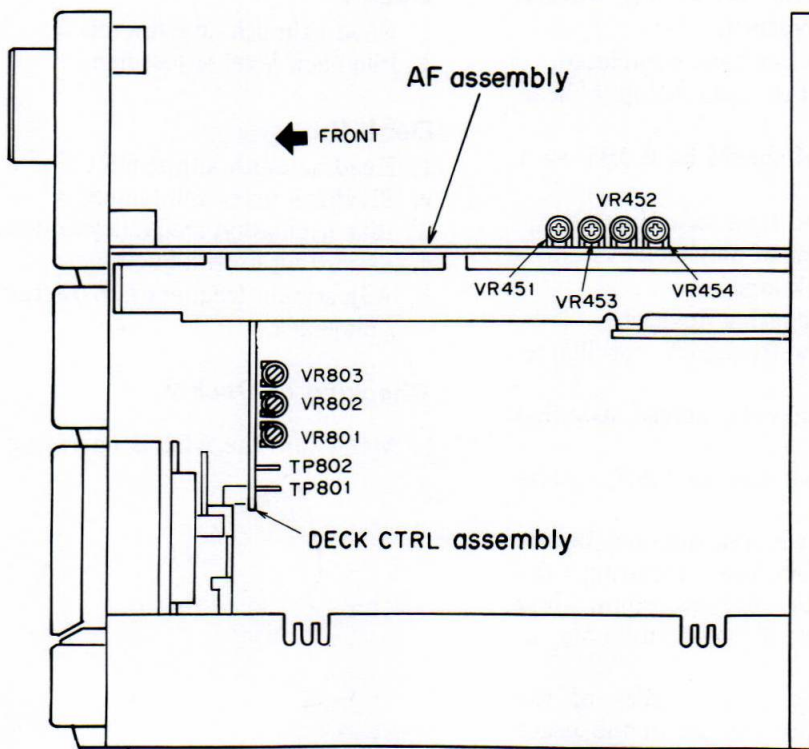


Fig 4.2. Adjustment location

- Adjustment and measurement are usually made in the AF assembly, unless specified otherwise.
- Set the graphic equalizer to OFF, the BALANCE control knob to Center and the MIC LEVEL control knob to MIN.
- The function should always be set to "TAPE" unless otherwise specified.

Adjustment of Mechanical System

- Test tape: STD-301 (3 kHz 30 min)
- Setting of double speed mode: Short-circuit TP801 and TP802 of the DECK CTRL assembly. To release the mode, break the short circuit.

1. Adjustment of tape speed							
No.	Mode	Input signal & Test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	PLAY	Playback the STD-301 tape to 3 kHz.	Deck I	DECK CTRL Assembly VR801	TP-L (Lch)	Press the PLAY SW and adjust the frequency to 3010 Hz \pm 10 Hz. Make sure that the wow and flutter is within 0.2 %.	
2	PLAY (Double speed mode)			—		Press the PLAY SW in double speed mode and confirm that the frequency is 6000 Hz \pm 1000 Hz. Note down the figure.	Release the double speed mode after adjustment.
3	PLAY (Double speed mode)		Deck II	DECK CTRL Assembly VR803	TP-R (Rch)	Press the PLAY SW in double speed mode and adjust the frequency to be within \pm 30 Hz of the figure recorded at step No. 2.	Release the double speed mode after adjustment.
4	PLAY			DECK CTRL Assembly VR802		Press the PLAY SW and adjust the frequency to 3010 Hz \pm 10 Hz. Make sure that the wow and flutter is within 0.2 %.	

Adjustment of Electric System

■ Check and conduct the following before adjusting the electric system.

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0 dBV = 1 Vrms.
4. Use side A of the specified tape for adjustment.
STD-331B: For adjustment of playback system.
STD-630: NORMAL blank tape
5. Prepare the following measuring devices:
AC millivoltmeter, Low-frequency oscillator, Attenuator, Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF, unless specified otherwise.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an imperfect result.

List of Adjustment

Deck I

1. Head azimuth adjustment
2. Playback level adjustment

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Bias oscillation frequency adjustment
4. Recording level adjustment
5. Adjustment frequency characteristics of recording / playback

Checking of Deck II

1. Make sure the ALC is operating properly.

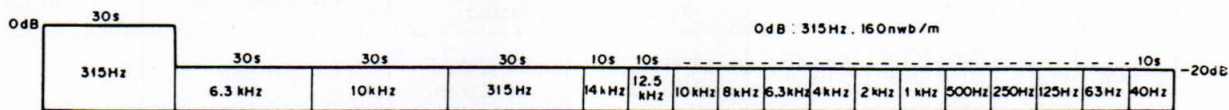


Fig. 4.3 Test tape STD-331B

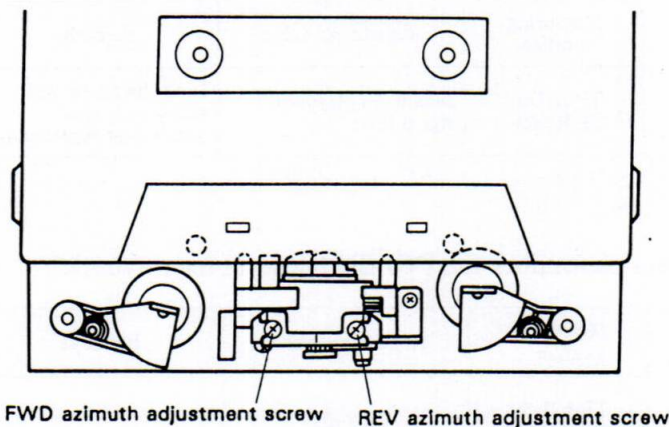


Fig. 4.4 Head azimuth adjustment

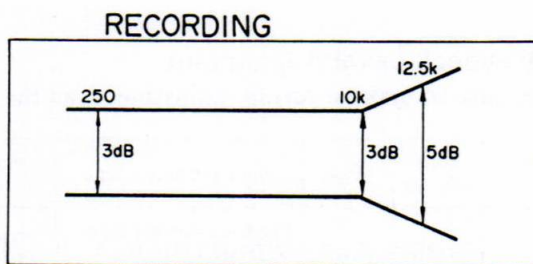
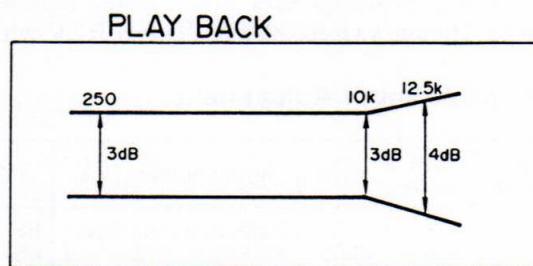


Fig. 4.5 Frequency characteristics

• **Head Adjustment of Deck I**

- Deck I is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 4-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR453 (Lch) VR454 (Rch)	TP-L (Lch) TP-R (Rch)	-6.7 dBV	

• Head Adjustment of Deck II

- Deck II is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 4-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR451 (Lch) VR452 (Rch)	TP-L (Lch) TP-R (Rch)	-6.7 dBV	

3. Bias oscillation frequency adjustment

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-630 and set to record mode.	T581	Area between ① and ② (AF Assembly) shown in Fig. 4-1.	The oscillation frequency is 105 kHz \pm 1 kHz.	

4. Recording Level Adjustment

Pro-cedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-7.7 dBV	
2	NORM	REC / PLAY	Record and playback the test tape STD-630 (315 Hz).	VR521 (Lch) VR522 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the recording and correction so that the playback level of 315 Hz is -6.7 dBV.	

5. Adjustment of frequency characteristics of recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by under-adjusting the bias.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-27.7 dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	VR411 (Lch) VR412 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the correction so that the playback level of 10 kHz remains 0 ± 0.5 dB in relation to 315 Hz.	

• Checking Procedure for Deck II

1. Action of ALC

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Checking value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	-7.7 dBV	
2				+10 dB against the input level of step 1.		-2.7 dBV ± 2.5 dB	

4 RÉGLAGE

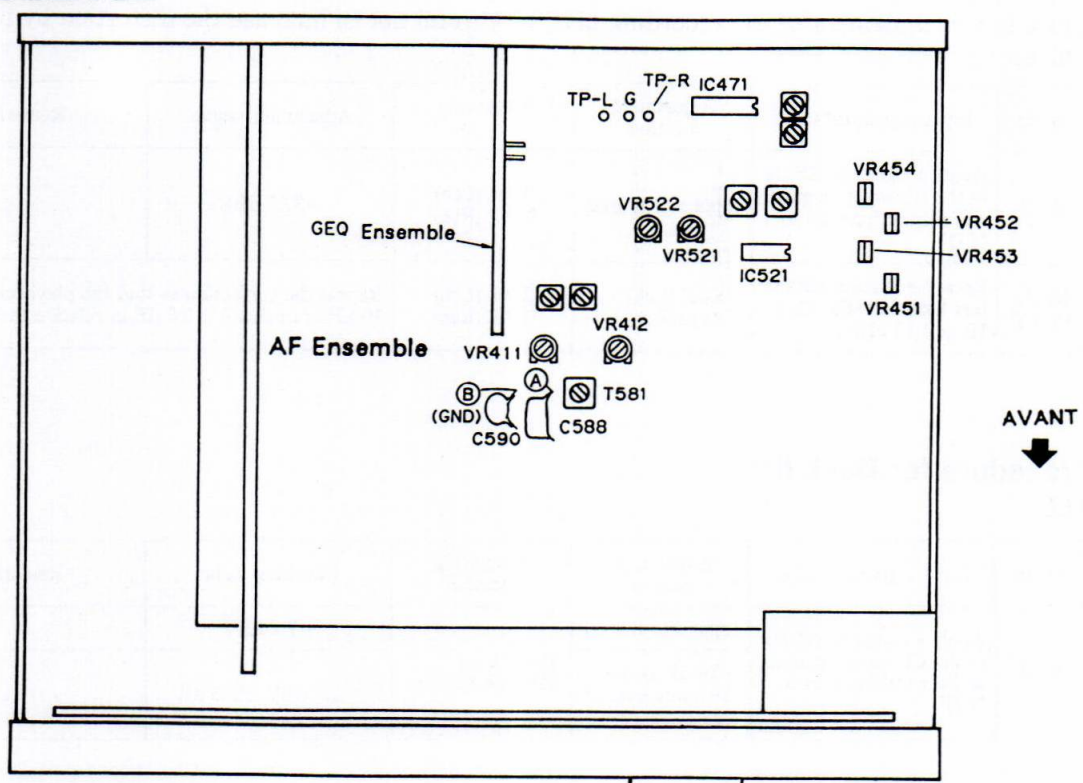


Fig 4.1 Points de réglage

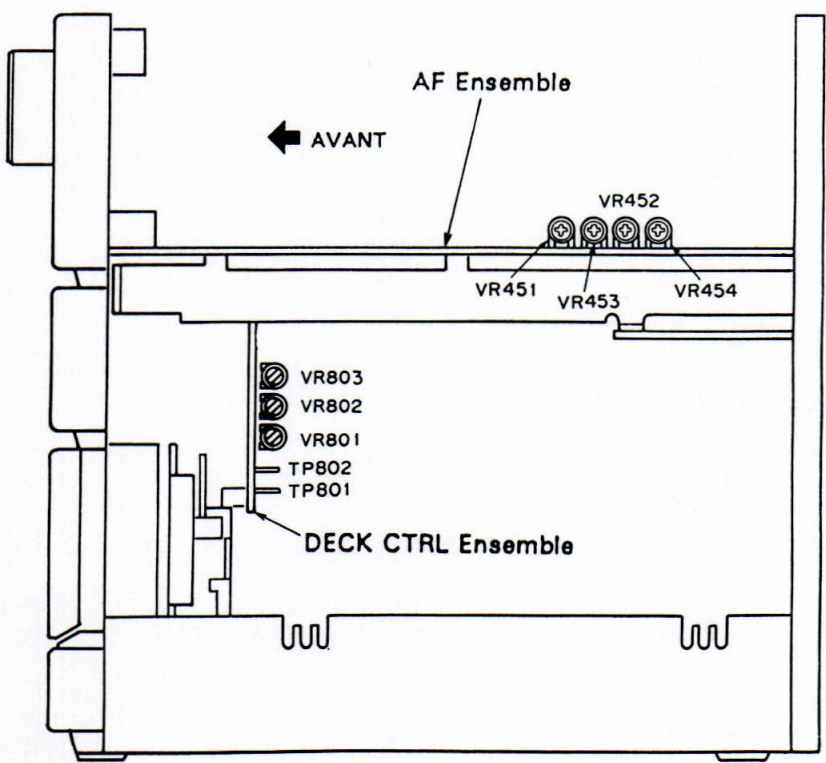


Fig 4.2 Points de réglage

- Les réglages et les mesures sont généralement faits dans l'ensemble AF, à moins de spécification contraire.
- Régler l'égaliseur graphique sur OFF, la commande d'équilibre (BALANCE) en position centrale et le volume de la commande de niveau microphone (MIC LEVEL) sur MIN.
- La fonction doit toujours être réglée sur "TAPE" à moins de spécification contraire.

Réglages mécaniques

- Bande d'étalonnage: STD-301 (3 kHz, 30 mn.)
- Réglage du mode de vitesse double: Court-circuiter TP801 et TP802 de l'ensemble de DECK CTRL. Pour libérer le mode, ouvrir le court-circuit.

1. Réglage de la vitesse de bande							
No.	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage		Emplacement du point de mesure	Valeur relevée	Observations
1	PLAY	Reproduire la bande STD-301 par 3 kHz.	Platine I	ENSEMBLE COMM. PLATINE VR801	TP-L (can. G)	Appuyer sur le contacteur PLAY et régler la fréquence sur 3010 Hz \pm 10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0,2%.	
2	PLAY (Mode de vitesse double)			—		Appuyer sur le contacteur PLAY dans le mode de vitesse double et vérifier que la fréquence est 6000 Hz \pm 1000 Hz. Noter le chiffre.	Libérer le mode de vitesse double après le réglage.
3	PLAY (Mode de vitesse double)		Platine II	ENSEMBLE COMM. PLATINE VR803	TP-R (can. D)	Appuyer sur le contacteur PLAY dans le mode de vitesse double et régler la fréquence pour qu'elle soit dans la limite de \pm 30 Hz du chiffre noté dans l'étape No. 2.	Libérer le mode de vitesse double après le réglage.
4	PLAY			ENSEMBLE COMM. PLATINE VR802		Appuyer sur le contacteur PLAY et régler la fréquence sur 3010 Hz \pm 10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0,2%.	

Réglages électriques

■ Vérifier les points suivants et effectuer les opérations suivantes avant procéder aux réglages électriques.

1. Le réglage de la vitesse de bande a été complété.
2. Nettoyer et démagnétiser la tête avec un démagnétiseur de tête.
3. Lors de la mesure, le niveau doit être de 0 dBV = 1 V_{eff}.
4. Utiliser la face A de la bande spécifiée pour le réglage. STD-331B: Pour le réglage du système de lecture.
STD-630: Bande vierge NORMAL
5. Préparer les instruments de mesure suivants:
Millivoltmètre CA, oscillateur à basse fréquence, éatténuateur et oscilloscope.
6. Régler les deux canaux L (gauche) et R (droit), sauf spécification contraire.
7. Régler les commutateurs DOLBY NR sur la position OFF, sauf spécification contraire.
8. Laisser chauffer l'appareil pendant plusieurs minutes avant le réglage. En particulier avant d'effectuer le réglage de la réponse en fréquence d'enregistrement et de lecture, laisser chauffer l'appareil pendant 3 à 5 minutes dans le mode d'enregistrement/lecture (REC/PLAY).
9. Toujours suivre l'ordre spécifié de la méthode réglage. Tout changement de l'ordre peut provoquer des résultats imparfaits.

Liste des réglages

Platine I

1. Azimut de la tête
2. Niveau de lecture

Platine II

1. Azimut de la tête
2. Niveau de lecture
3. Réglage de fréquence d'oscillation de polarisation
4. Niveau d'enregistrement
5. Réponse en fréquence d'enregistrement / lecture

Vérification des Platine II

1. Vérifier que le ALC fonctionne correctement.

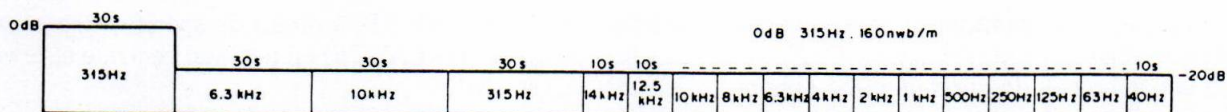
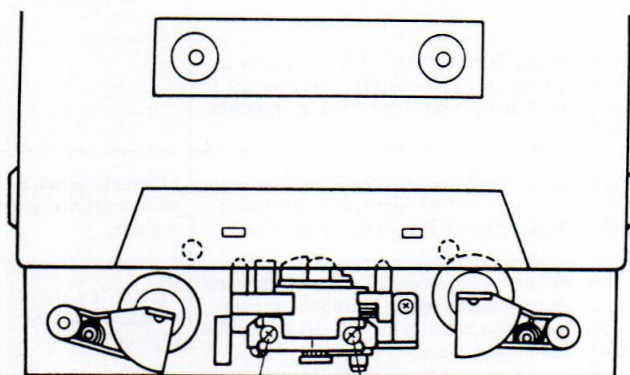


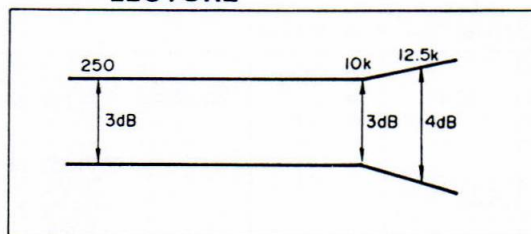
Fig. 4.3 Bande d'étalonnage STD-331B



Vis d'azimut FWD Vis d'azimut REV

Fig. 4.4 Réglage d'azimut de la tête

LECTURE



ENREGISTREMENT

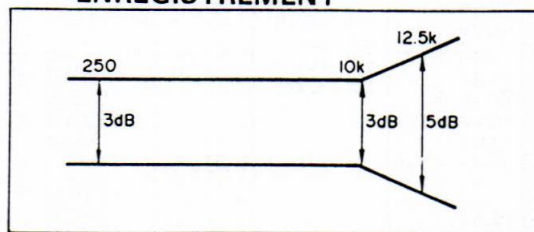


Fig. 4.5 Réponse en fréquence

• Réglage de la Platine I

- La Platine I est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'azimut de tête (Fig. 4-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (315 kHz, 0 dB)	VR453 (can. G) VR454 (can. D)	TP-L (can. G) TP-R (can. D)	-6,7 dBV	

• Réglage de la Platine II

- La Platine II est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'azimut de tête (Fig. 4-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (315 kHz, 0 dB)	VR451 (can. G) VR452 (can. D)	TP-L (can. G) TP-R (can. D)	-6,7 dBV	

3. Réglage de fréquence d'oscillation de polarisation

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Charger la bande d'étalonnage STD-630 et régler dans le mode d'enregistrement.	T581	Partie entre ① et ② (ensemble d'enregistrement (AF) indiquée sur la Fig. 4-1.	La fréquence d'oscillation est de 105 kHz \pm 1 kHz.	

4. Réglage du niveau d'enregistrement

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-7,7 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz).	VR521 (can. G) VR522 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter l'enregistrement et la correction de sorte que le niveau de lecture de 315 Hz soit de -6,7 dBV.	

5. Réglage de la réponse fréquence d'enregistrement/lecture

- Cette opération réglant la polarisation d'enregistrement, faire attention de ne pas augmenter la distorsion par un réglage insuffisant de la polarisation.

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-27,7 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz et 10 kHz).	VR411 (can. G) VR412 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter la correction de sorte que le niveau de lecture de 10 kHz soit de $0 \pm 0,5$ dB en relation avec 315 Hz.	

• Vérification de la Platine II

1. Action du ALC

Opération	Sélecteur de bande	Mode	Signal appliqué / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur mesurée	Observations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	-7,7 dBV	
2				+10 dB par rapport au niveau d'entrée de l'étape 1.		-2,7 dBV $\pm 2,5$ dB	

4. AJUSTE

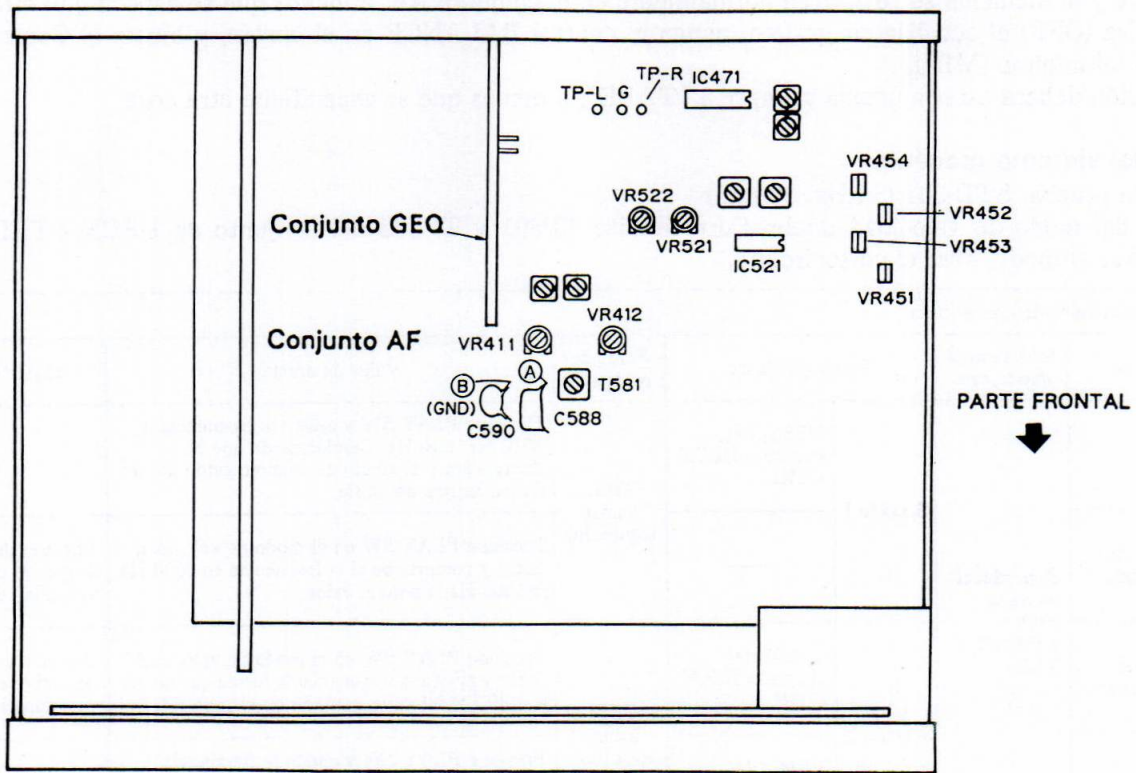


Fig 4.1 Punto de ajuste

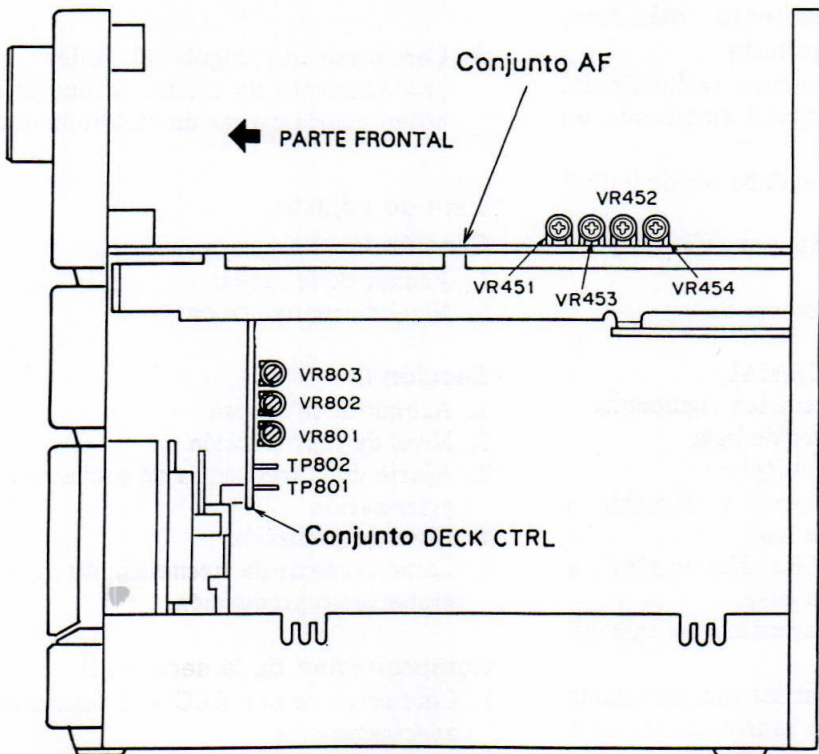


Fig 4.2 Punto de ajuste

- El ajuste y la medición se realizarán normalmente en el conjunto AF, a menos que se especifique otra cosa.
- Desactive (OFF) el ecualizador gráfico, ponga el control BALANCE en el centro, y ajuste el Control MIC LEVEL al mínimo (MIN).
- La función deberá estar ajustada siempre a "TAPE", a menos que se especifique otra cosa.

Ajuste del sistema mecánico

- Cinta de prueba: STD-301 (3 kHz, 30 min)
- Ajuste del modo de velocidad doble: Cortocircuite TP801 y TP802 del conjunto de DECK CTRL. Para desactivar el modo, abra el cortocircuito.

1. Ajuste de la velocidad de la cinta							
Nº	Modo	Señal de entrada/ cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	PLAY	Reproducción de la cinta STDy301 a 3 kHz	Sección I	VR801 del conjunto DECK CTRL	TP-L (canal izquierdo)	Presione PLAY SW y ajuste la frecuencia a 3010 Hz \pm 10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0,2%.	
2	PLAY (Modo de velocidad doble)			—		Presione PLAY SW en el modo de velocidad doble y compruebe si la frecuencia es 6000 Hz \pm 1000 Hz. Anote el valor.	Después del ajuste, desactive el modo de velocidad doble.
3	PLAY (Modo de velocidad doble)		Sección II	VR803 del conjunto DECK CTRL	TP-R (canal derecho)	Presione PLAY SW en el modo de velocidad doble y ajuste la frecuencia de forma que quede a \pm 30 Hz del valor anotado en el paso N°2.	Después del ajuste, desactive el modo de velocidad doble.
4	PLAY			VR802 del conjunto DECK CTRL		Presione PLAY SW y ajuste la frecuencia a 3010 Hz \pm 10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0,2%.	

Ajuste del sistema eléctrico

■ Antes de ajustar el sistema eléctrico, compruebe y realice lo siguiente.

1. El ajuste de la velocidad de la cinta ha finalizado.
2. Limpie y desmagnetice la cabeza empleando un desmagnetizador de cabezas.
3. Cuando se mida, el nivel de nivel debe ser de 0 dBV = 1V rms.
4. Emplee el lado A de la cinta especificada para realizar el ajuste.
STD-331B: Para ajuste del sistema de reproducción.
STD-630: Cinta en blanco NORMAL
5. Prepare los dispositivos de medición siguientes: Milivoltímetro de CA, oscilador de baja frecuencia, atenuador, y osciloscopio
6. Ajuste ambos canales, izquierdo y derecho, a menos que se especifique otra cosa.
7. Ponga los interruptores DOLBY NR en OFF, a menos que se especifique otra cosa.
8. Antes del ajuste, deje que la unidad se caliente durante varios minutos.
Especialmente antes de ajustar las características de frecuencia de grabación y reproducción, deje que se caliente durante 3 a 5 minutos en el modo REC/PLAY.

9. Cerciórese de seguir el orden apropiado del procedimiento de ajuste. Cualquier cambio en el orden podría causar un resultado imperfecto.

Lista de ajuste

Sección I

1. Azimut de la cabeza
2. Nivel de reproducción

Sección II

1. Azimut de la cabeza
2. Nivel de reproducción
3. Ajuste de la frecuencia de oscilación de polarización
4. Nivel de grabación
5. Características de frecuencia de grabación/reproducción

Comprobación de la sección II

1. Cerciórese de que ALC esté funcionando adecuadamente.

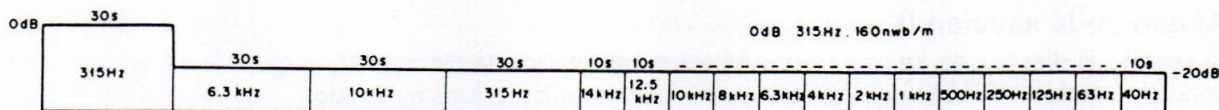


Fig. 4.3 Cinta de prueba STD-331B

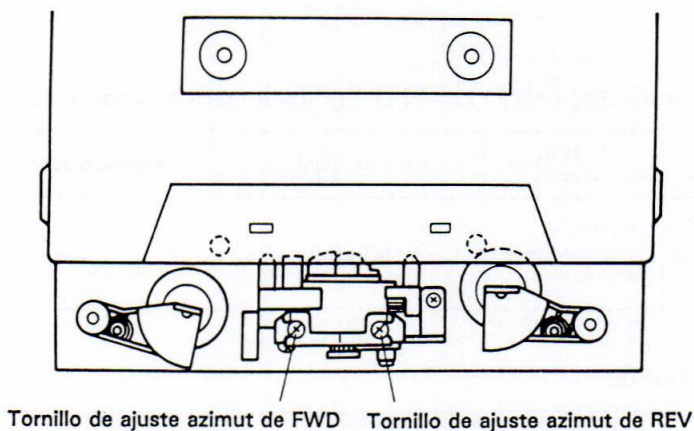
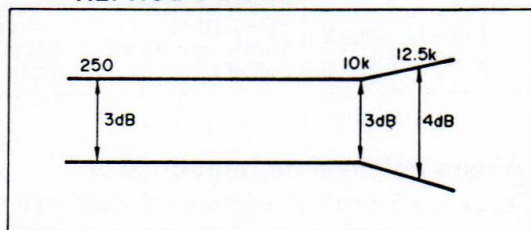


Fig. 4.4 Ajuste del azimut de la cabeza

REPRODUCCIÓN



CRABACIÓN

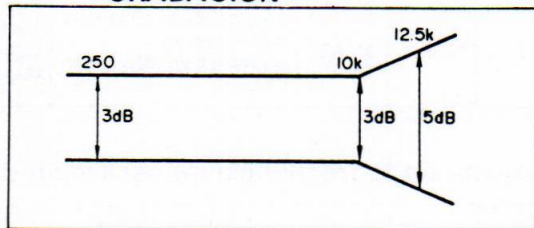


Fig. 4.5 Características de frecuencia

• Ajuste de la sección I

- La sección I dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 4-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Bloquee el tornillo con bloqueador de tornillos después de haber terminado el ajuste.

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproducción.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR453 (canal izquierdo) VR454 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	-6,7 dBV	

• **Ajuste de la sección II**

- La sección II dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 4-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Bloquee el tornillo con bloqueador de tornillos después de haber terminado el ajuste.

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproducción.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR451 (canal izquierdo) VR452 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	-6,7 dBV	

3. Ajuste de la frecuencia de oscilación de polarización

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Cargue la cinta de prueba STD-630 y establezca el modo de grabación.	T581	Área entre ① y ② (conjunto de AF) mostrada en la Fig. 4-1.	La frecuencia de oscilación es de 105 kHz \pm 1 kHz.	

4. Ajuste del nivel de grabación

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-7,7 dBV	
2	NORM	REC/PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz).	VR521 (canal izquierdo) VR522 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Grabe y reproduzca la cinta de prueba de forma que el nivel de reproducción de 315 Hz sea de -6,7 dBV.	

5. Ajuste de las características de frecuencia de grabación/reproducción

- Como este procedimiento es para el ajuste de la polarización de grabación, tenga cuidado de no aumentar el valor de distorsión mediante el subajuste de la polarización.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-27,7 dBV	
2	NORM	REC/PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	VR411 (canal izquierdo) VR412 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Repita la corrección de forma que el nivel de reproducción de 10 kHz sea de $0 \pm 0,5$ dB en relación con 315 Hz.	

• Procedimiento de comprobación para sección II

1. Acción del ALC

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	-7,7 dBV	
2				+10 dB contra el nivel de entrada del paso 1.		-2,7 dBV $\pm 2,5$ dB	

5. FOR HE TYPE

CONTRAST OF MISCELLANEOUS PARTS

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.

The DC-Z83/HE type is the same as the DC-Z83/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HB type	HE type	
	POWER SUPPLY assembly	AWZ2241	AWZ2239	
	CONNECT assembly	Non supply	Non supply	
\triangle	FU2001 Fuse (T2A/250V)	AEK-511	.....
\triangle	FU2001 Fuse (T1.25A/250V)	.....	AEK-018	
\triangle	FU2004 Fuse (T1.25A/250V)	AEK-509	.....
\triangle	FU2004 Fuse (T2A/250V)	.....	AEK-017	
\triangle	FU2003 Fuse (T1.6A/250V)	AEK-510	AEK-405	
\triangle	FU2005 Fuse (T1.25A/250V)	AEK-509	AEK-018	
\triangle	AC Power cord	ADG1052	ADG1049	
	Operating instructions (English)	ARB1222	.....
	Operating instructions (Dutch,Swedish,Spanish,Portguese)	.....	ARC1181	
	Operating instructions (English,German,Fernch,Italian)	.....	ARE1145	

POWER SUPPLY assembly (AWZ2239)

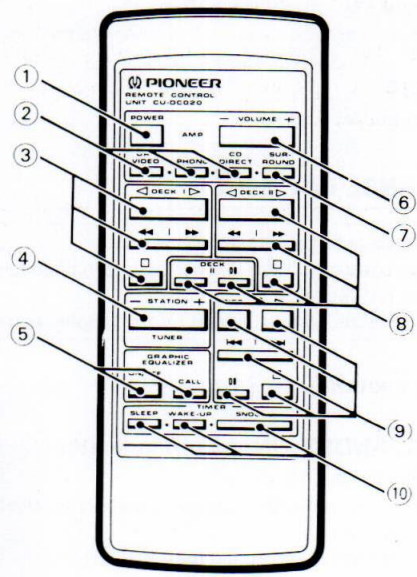
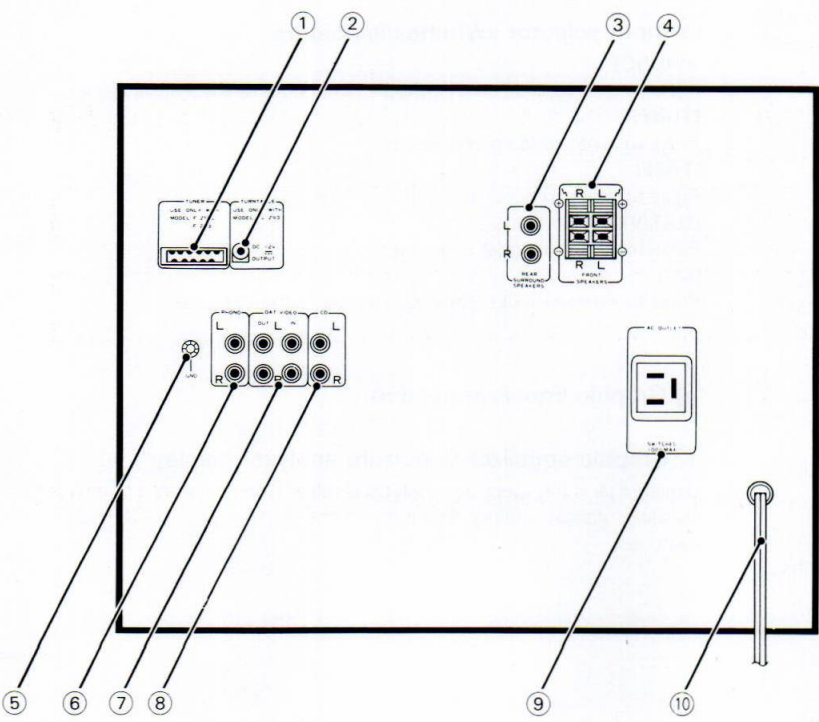
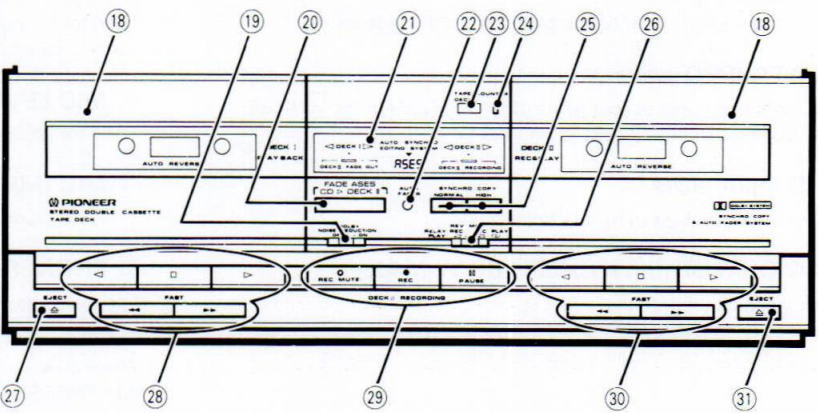
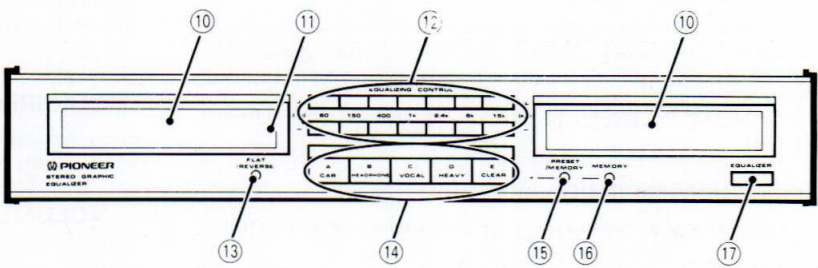
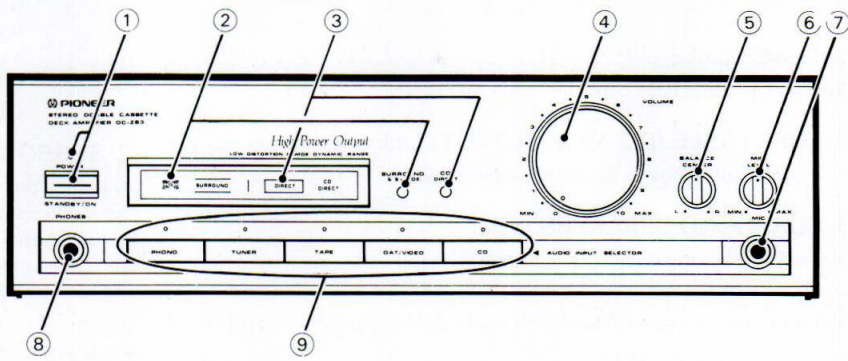
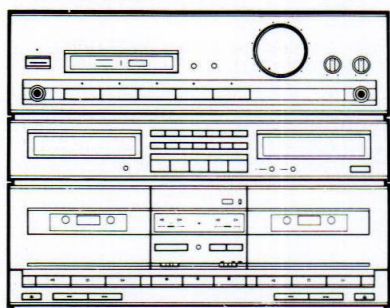
The POWER SUPPLY assembly (AWZ2239) is the same as the POWER SUPPLY assembly (AWZ2241) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2241	AWZ2239	
\triangle	AC socket (OUTLET)	AKP1035	AKP1034	

CONNECT assembly

The difference in parts between the CONNECT assemblies HB type and HE type is only the jumper wire.

6. PANES FACILITIES



REAR PANEL FACILITIES

① TUNER jacks

Connect the tuner cord here.

② TURNTABLE (DC 12 V OUTPUT) jack

This jack supplies power to the turntable (PL-Z93).

③ SURROUND SPEAKERS jacks

Connect the Surround speaker systems.

NOTE:

Connect a speaker system having a nominal impedance of 16 Ω or more.

④ SPEAKERS terminals

L: Connect the left speaker system as seen from the listening position.

R: Connect the right speaker system as seen from the listening position.

NOTE:

Connect a speaker system having a nominal impedance ranging from 6 Ω to 16 Ω .

⑤ Ground terminal (GND)

Connect this to the ground terminal on the turntable (except for PL-Z93).

⑥ PHONO input jacks

Connect the output cord of the turntable to these jacks.

⑦ DAT/VIDEO jacks

IN: Connect to audio output jacks of DAT, LD player or VCR, etc.

OUT: Connect to audio input jacks of DAT or VCR, etc.

⑧ CD input jacks

Connect to output jacks of a CD player.

⑨ AC OUTLET (SWITCHED 100 W MAX)

Power supplied through this outlet is turned on and off by the cassette tape deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.

This can cause the cassette tape deck amplifier to malfunction.

⑩ Power cord

Connect this to the AC wall socket.

FRONT PANEL FACILITIES

- This unit has an automatic tape type selector.
- Tapes can be played back on Deck I; tapes can be played back and recorded on Deck II.
- Sound can be recorded as adjusted by the graphic equalizer.

■ Amplifier 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.
The POWER indicator lights.

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.

When the POWER indicator is off, the unit is in STANDBY.
(The tuner display shows only the time.)

② 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.
The indicator lights when the switch is on.

NOTE:

- In the case of monaural source, SURROUND & STEREO WIDE effects cannot be obtained.
- SURROUND & STEREO WIDE functions do not operate if CD DIRECT is on.

③ CD DIRECT switch/indicator

Press this switch to listen to a CD without passing the signal through sound quality adjustment circuits.

④ VOLUME control

⑤ BALANCE control

Used for changing the balance between left and right channels. Usually set this control to the centre position.

⑥ MIC LEVEL control

Used for adjusting the volume of microphone.

⑦ MIC (Microphone) jack

This is a standard jack for connecting a microphone.

⑧ PHONES (Headphones) jack

For stereo headphones.

NOTE:

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

⑨ Input selector switches/indicators

[PHONO]

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

[TUNER]

Press to listen to radio broadcast.

[TAPE]

Press to listen to cassette tape.

[DAT/VIDEO]

Press to listen to digital audio tape.

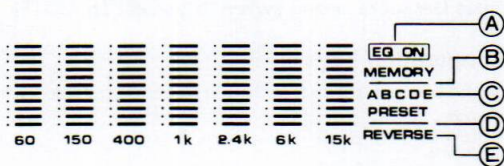
[CD]

Press to listen to a CD player connected to the CD jacks.

■ Graphic Equalizer section

⑩ Graphic equalizer/Spectrum analyzer display

Usually this is the spectrum analyzer display. And becomes a graphic equalizer display during operation of the EQUALIZING CONTROL switches.

11 MODE display**A EQ ON indicator**

Lights when the EQUALIZER switch is set to ON. When this indicator is lit, the graphic equalizer can be used to adjust sound quality.

B MEMORY indicator

When the line under "MEMORY" is lit, it indicates that the equalization curves you input in the memory recall switches can be recalled.

C A – E indicators

Indicates which equalization curve is currently recalled.

- A:** Curve stored in A/CAR. (Preset CAR or Memory A)
- B:** Curve stored in B/HEADPHONE. (Preset HEADPHONE or Memory B)
- C:** Curve stored in C/VOCAL. (Preset VOCAL or Memory C)
- D:** Curve stored in D/HEAVY. (Preset HEAVY or Memory D)
- E:** Curve stored in E/CLEAR. (Preset CLEAR or Memory E)

D PRESET indicator

When the line under "PRESET" is lit, it indicates that the equalization factory curves preset in the memory recall switches can be recalled.

E REVERSE indicator

Lights when FLAT/REVERSE switch is used to invert the equalization curve.

12 EQUALIZING CONTROL switches

These strengthen or weaken the indicated frequency band. Press the upper switch to emphasize; press the lower switch to attenuate.

13 FLAT/REVERSE switch

Press once to reset the equalizer to flat response (no equalization). Press again to reverse a previous curve (boosted frequencies will be attenuated, and vice versa).

14 Memory recall switches

Used for recalling equalization curves.

15 PRESET/MEMORY switch

Determines whether the equalizer curves recalled by the Memory recall switches are your memorized curves or factory preset curves.

16 MEMORY switch

Used for storing equalization curves you input in the memory recall switches.

17 EQUALIZER switch

Turns the equalizer on and off. The EQ ON indicator lights when this switch is on.

The equalizer can not be used to adjust the sound when CD DIRECT is on.

Cassette Tape Deck Section**18 Cassette door****19 DOLBY* NR switch**


Set this switch to the ON position to activate the DOLBY NR system.

- Tapes recorded using Dolby noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby NR system on.

- It is recommended that tapes recorded with Dolby B type NR be so marked on the label. This will help prevent incorrect setting of the noise reduction switch during playback.

*

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

20 AUTO SYNCHRO EDITING SYSTEM switch

Used for automatically recording a CD on cassette tape.

The sound will fade out at the end of the tape.

21 Operation indicators

DECK II FADE OUT: Lights when AUTO FADE OUT mode is on.

ASES: Lights when the ASES (Auto Synchro Editing System) is operating.

DECK II RECORDING: Lights when recording. Flashes when copying a tape.

Slow flashing – Normal copy

Rapid flashing – High speed copy

Direction (<, >): Indicates direction of tape travel during recording or playback. Flashes slowly in pause mode. Flashes rapidly during Music Search (MS).

22 AUTO FADER switch

Used for gradually fading out a recorded tape in Deck II. (The sound will be completely cut off after approximately 10 seconds and the tape will stop.)

23 Tape counter (DECK II)**24 Counter reset switch**

Press this switch to reset the Deck II tape counter display to 000.




25 SYNCHRO COPY switches

Used for tape copying.

NORMAL: Copying from the Deck I tape to the Deck II tape at normal recording/playback speed.

HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

26 REV (REVERSE) MODE switch

Switch position	During playback	During recording
RELAY REC PLAY 	Plays both tape sides. When one deck finishes playback, the other deck begins playback of both tape sides for 6 times. If there is a tape in only one deck, then that deck continuously plays both sides of the tape for 6 times.	Records on one side (Deck II only).
REC PLAY  	Plays both tape sides for 6 times maximum.	Records on both sides (Deck II only).

27 Deck I EJECT switch

28 Deck I Operation switches

- ▷ **PLAY (FWD)** For playing back a tape in the forward mode.
- ◁ **PLAY (REV)** For playing back a tape in the reverse mode.
- **STOP** For stopping the tape.
- ▶▶ **FAST** Fast forward in forward mode, rewind in reverse mode.
Music search (MS) starts if this is pressed during playback.
- ◀◀ **FAST** Rewind in forward mode, fast forward in reverse mode.
Music search (MS) starts if this is pressed during playback.

29 DECK II RECORDING switches

- MUTE (●)** Used for creating a blank space between songs. The unrecorded space is created for as long as this switch is kept depressed.
- REC (●)** To set to recording standby mode. Recording begins when you press the PLAY switch (◁ or ▷).
- PAUSE (□□)** Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.

30 Deck II Operation switches: Same as Deck I operation switches 28

31 Deck II EJECT switch

8 Deck II operation keys: Same as Deck I operation switches 28 plus Deck II recording switch 29 (except for MUTE).

9 CD operation keys

Perform the connections so that the CD player is operated by the remote control unit.

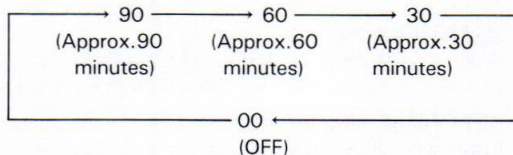
- ▷ Play
- DISC** DISC selection
- Stop
- Pause
- ◀◀, ▶▶ Track search

NOTE:

Note that the DISC selector key on the remote control unit may not operate, depending on the CD player used.

10 Timer operation keys

SLEEP: Sets the sleep timer. Each time you press this key, the setting changes as shown here. The current setting is shown on the tuner display. Power turns off when your set time has elapsed.



If you press the SLEEP key during SLEEP operation, the display will show the time remaining till power turns off.

WAKE-UP: Timer playback setting/cancellation can be performed when the timer playback time has been set. This is shown in the tuner display section.

SNOOZE: Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

The amplifier input selector automatically switches to the music source being operated when you press the CD playback (▷), cassette tape deck playback (◁, ▷), or tuner station controls.

NOTE:

It is not possible to operate the CD player with the remote control unless the remote control cord is connected

Range of remote control

When the remote control unit is pointed at the remote sensor window on the tuner and any of its keys is pressed, the tuner and other components can be operated by remote control.

Distance: Within a range of approx. 7 meters from the remote sensor window on the tuner.

Angle: Within approx. 30 degrees from the center of the remote sensor window on the tuner.

Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the tuner.

Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, specially from the sensor window.

Remote control unit

1 POWER key

2 Function keys

- DAT/VIDEO** Sets function to DAT/VIDEO.
- PHONO** Sets function to PHONO.
- CD DIRECT** Sets function to CD DIRECT.

3 DECK I operation keys: Same as the Deck I operation switches 28

4 TUNER STATION key

- Before operation, memorize broadcast stations in the STATION CALL switches.
- + ... Stations change in order in the upward direction
- ... Stations change in order in the downward direction.

5 GRAPHIC EQUALIZER operation keys.

- ON/OFF:** Turns the equalizer on and off.
- CALL:** Recalls the preset equalization curves (PRESET) and memorized equalization curves (MEMORY) in sequence.

6 VOLUME + (UP)/- (DOWN) key

When pressed, VOLUME on the amplifier is actually moved by a motor.

7 SURROUND key

Turns SURROUND & STEREO WIDE on and off.

7. SPECIFICATIONS

Cassette tape deck amplifier: DC-Z83

Amplifier Section

Continuously Average Power Output is 35 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.4 % total harmonic distortion.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.

Music power	75 W + 75 W (1 kHz, T.H.D. 1 %, 8 Ω)
Music power (DIN)	75 W + 75 W (1 kHz, T.H.D. 1 %, 8 Ω)
Peak music power.....	450 W (1 kHz, T.H.D. 10 %, 6 Ω)
Continuous Power Output (DIN)	45 W + 45 W (1 kHz, T.H.D. 1 %, 8 Ω)
Graphic equalizer frequency band.....	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, \pm 7 dB
Signal-to-Noise Ratio (IHF, short-circuited, A network)	
PHONO	72 dB
Signal-to-Noise Ratio (DIN, continuous Power/50 mW)	
PHONO	68 dB/60 dB
Total Harmonic Distortion	
(40 Hz to 20,000 Hz, 20 W, 8 ohms)**	No more than 0.2 %

Tape Deck Section

Systems	4 track, 2-channel stereo
Heads	Recording/playback head x 1 Playback head x 1 Erasing head x 1
Motor.....	DC servo 2 speed motor x 2
Wow and Flutter.....	No more than 0.09 % (WRMS)
Fast Winding Time	Approximately 95 seconds (C-60 tape)
Frequency Response (– 20 dB recording):	
Normal tape	35 Hz to 14,000 Hz \pm 6 dB
CrO ₂ tape	35 Hz to 15,000 Hz \pm 6 dB
Metal tape	35 Hz to 16,000 Hz \pm 6 dB
Signal-to-Noise ratio	
Dolby NR OFF.....	56 dB
Noise Reduction Effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)

Furnished Parts

Operating Instructions	1
Remote control unit	1
Dry cell batteries	2

Miscellaneous

Power requirements	
U.K. and Australian models.....	a.c. 240 Volts ~, 50/60 Hz
Other destination models	
.....	AC 110/120–127/220/240 V (switchable) 50/60 Hz
Power Consumption	336 W
Dimensions	360 (W) x 287 (H) x 329 (D) mm 14-3/16 (W) x 11-5/16 (H) x 12-15/16 (D) in
Weight (without package)	9 kg (19 lb 14 oz)

Accessories

EP Adaptor.....	1
-----------------	---

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

** Measured By Audio Spectrum Analyzer.