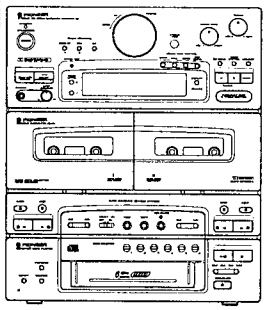
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
ARP2646

STEREO MULTI-PLAY CD CASSETTE DECK RECEIVER

XR-P330M

XR-P330M HAS THE FOLLOWING:

Type	Power Requirement	Remarks
HE	AC220V – 230V, 240V (Switchable) *	
HB	AC220V – 230V, 240V (Switchable) *	
HEWI	AC220V – 230V, 240V (Switchable) *	
SD	AC110V, 120V – 127V, 220V, 240V (Switchable)	
SL	AC110V, 120V, 220V, 240V (Switchable)	
KU	AC120V only	
KC	AC120V only	
YPW	AC240V only	

* Change the position of jumper wire.

- **This manual is applicable to XR-P330M/HE, HB, HEWI, SD and SL.**
- **For HB, HEWI, SD and SL types, refer to page 86.**
- **For KU, KC and YPW types, refer to the service manual ARP 2711.**

CONTENTS

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SN JAN. 1993 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

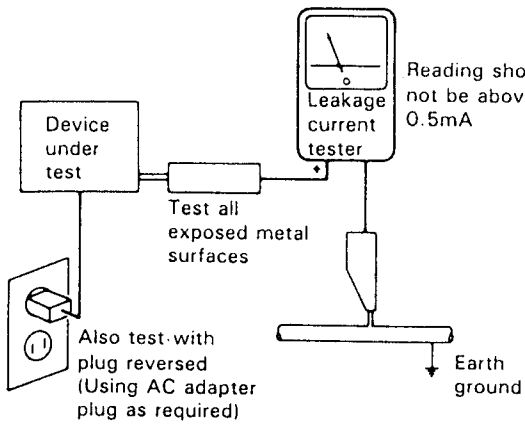
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

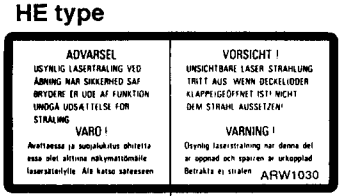
IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

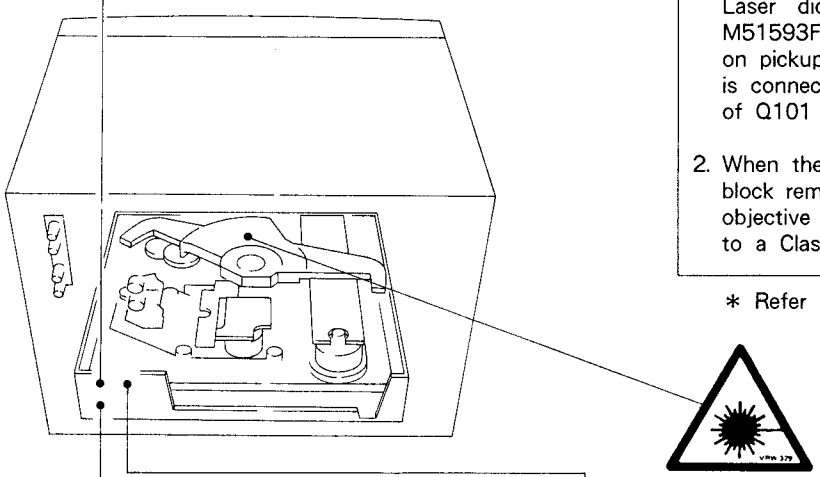
LASER
Picture 1
Warning sign for laser radiation

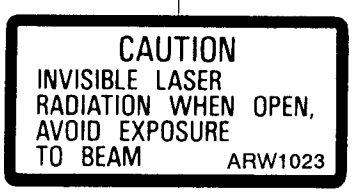
LABEL CHECK

HE type

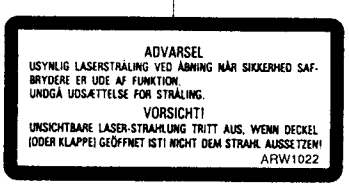


HB, YPW and HEWI types





HB and YPW types



HEWI type

Additional Laser Caution

1. Laser Interlock Mechanism
   The ON/OFF (ON : low level/OFF : high level) status of the LPS1 (S601) and LPS2 (S602) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when both switches LPS1 and LPS2 are not ON (low level) (clamped state).
   Thus, interlock will no longer function if switches LPS1 (S601) and LPS2 (S602) are deliberately shorted.
   The interlock also does not operate in the test mode *. Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the preamplifier board loaded on pickup assembly are connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).

2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 75.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

2.1 EXTERIOR

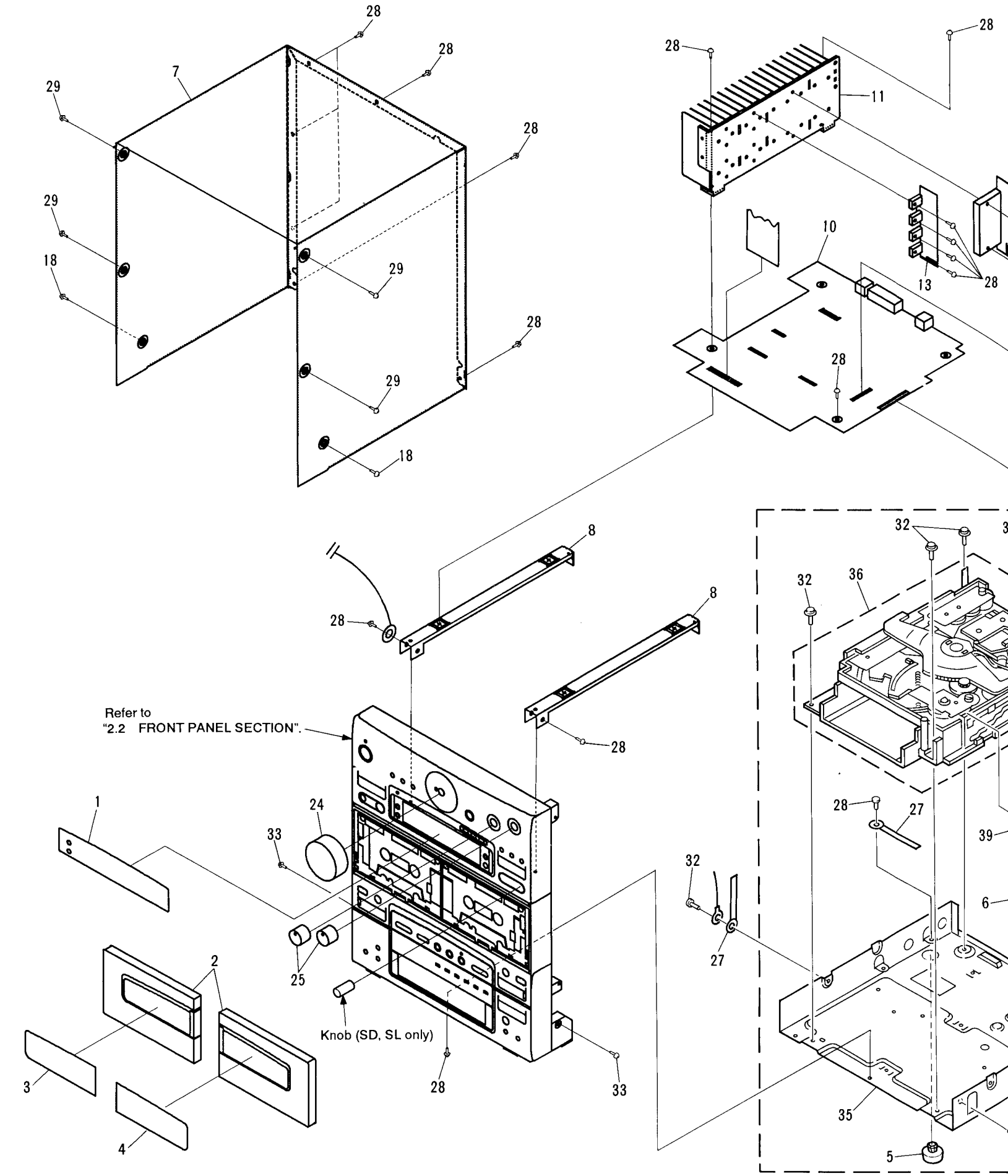
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Description	Part No.
	1	FL decorate plate	AAK2408
	2	Door panel (L, R)	AAK2455
	3	Door panel (L)	AAK2410
	4	Door panel (R)	AAK2411
	5	Leg assembly	REC – 434
⊙	6	Mother board assembly	PWM1724
	7	Bonnet	ANE1405
	8	P.C.B. support metal	ANG1805
⚠	9	Power transformer	ATS1473
⊙	10	AF assembly	AWZ4608
	11	Heat sink	ANH1420
⊙	12	POWER assembly	AWZ4609
⊙	13	REGULATOR assembly	AWZ4610
⊙	14	TRANS assembly	AWZ4612
⚠	15	FU1 Fuse (800mA)	AEK – 507
⚠	16	FU3 Fuse (2A)	AEK – 511
⚠	17	FU4, FU5 Fuse (1A)	AEK – 508
	18	Screw	VBZ30P080FZK
⊙	19	TUNER assembly	AWE1261
NSP	20	P.C.B. support	AEC1118
	21	Nylon rivet	AEC1160
	22	P.C.B. spacer (3 × 12)	AEC1372
⊙	23	TAPE assembly	AWZ4621
	24	Volume knob	AAB1333
	25	P – BASS knob	AAB1311
	26	Rear panel	ANC2022
	27	Binder	AEP – 215
	28	Screw	BBZ30P080FZK
	29	Screw	VPZ30P080FZK
	30	Screw	VBZ35P080FMC
	31	Screw	ABA – 258
	32	Screw	BBZ30P080FCC
	33	Screw	CBZ30P080FMC
NSP	34	Earth lead unit	PDF1074
NSP	35	Under base	ANA1205
NSP	36	Multi mechanism assembly	PXA1469
	37	Screw	BBZ30P060FMC
	38	.....	
NSP	39	Flat cable	D20PYY0610E
NSP	40	CD player	PD – XR330M/E

Exterior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Refer to
"2.2 FRONT PANEL SECTION".
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Knob (SD, SL only)
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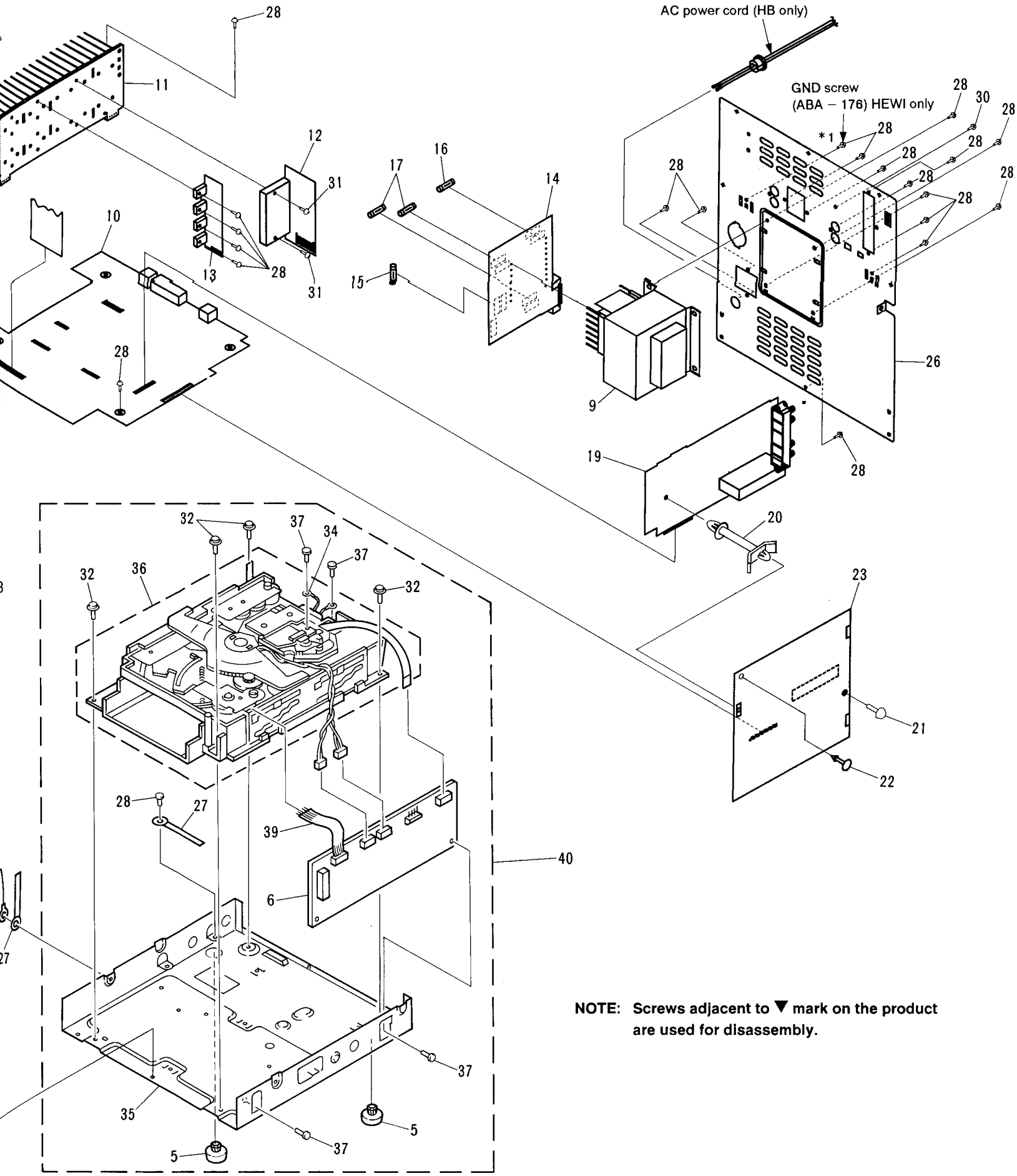
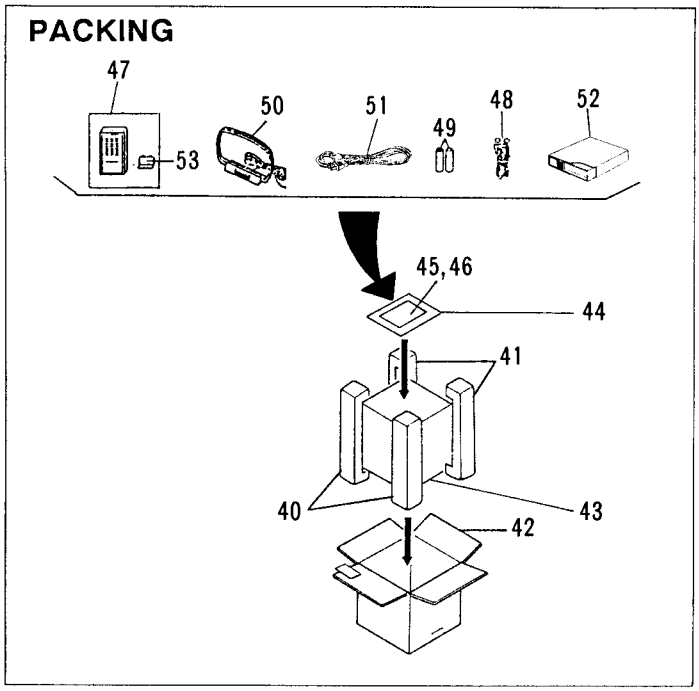
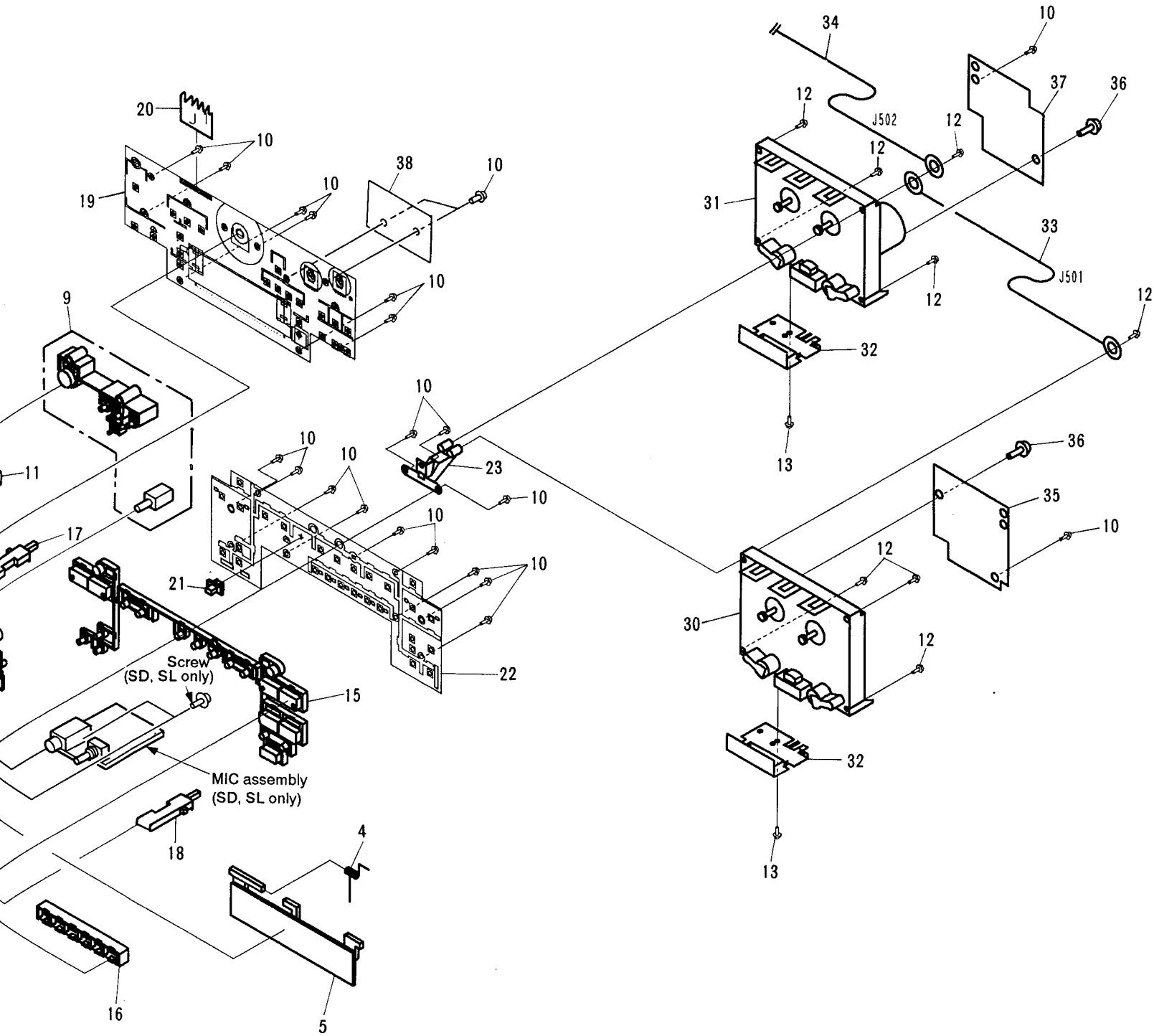


NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.

2.2 FRONT PANEL SECTION AND PACKING

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Screw
(SD, SL only)
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MIC assembly
(SD, SL only)
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J501
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Parts List

Mark	No.	Description	Part No.
	1	Front panel assembly	AMB2123
	2	Fulresent sheet	AAX1054
	3	Rubber sheet	AEB1247
	4	Door spring	ABH1088
	5	MCD door	AAK2415
	6	Damper assembly	AXA1011
	7	Indicator lens	AAK2416
	8	Power lens	AAK2442
	9	Power button	AAD2390
	10	Screw	BPZ26P080FMC
	11	Function button	AAD2391
	12	Screw	VPZ30P080FMC
	13	Screw	BBZ30P080FMC
	14	Tuner button	AAD2392
	15	DECK/CD button assembly	AAD2409
	16	Disc select button	AAD2396
	17	Eject button (L)	AAD2398
	18	Eject button (R)	AAD2399
⊙	19	AMP.TX SW assembly	AWZ4628
	20	Flexible flat cable	ADD1099
	21	Slide knob	AAE1161
⊙	22	CD DECK SW assembly	AWZ4629
	23	Mechanism bearing mold	AMR2508
	24	Screw	ABA1095
	25	Keep plate	ABK1017
	26	Door spring (L)	ABH1090
	27	Door spring (R)	ABH1091
	28	Half pocket (L)	AAN1316
	29	Half pocket (R)	AAN1317
⊙	30	Cassette mechanism unit 2	EXK2016
⊙	31	Cassette mechanism unit 1	EXK2026
NSP	32	Mechanism shield plate	ANK1157
NSP	33	Earth lead	ADB1001
NSP	34	Earth lead	ADB1005
⊙	35	REC/PB2 assembly	AWZ4623
	36	Nylon rivet	AEC1160
⊙	37	PB1 assembly	AWZ4622
	38	Sheild plate	ANK1243
⊙	39	HEADPHONE assembly	AWZ4734
	40	Front pad	AHA1575
	41	Rear pad	AHA1576
	42	Packing case	AHD2470
NSP	43	Packing sheet	AHG1040
NSP	44	Literature bag	AHG – 117
	45	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	ARC1414
	46	Operating instructions (English, French, German, Italian)	ARE1262
	47	Remote control unit	AXD1317
	48	FM antenna	ADH1005
NSP	49	Dry cell (R03, AAA)	AEX – 021
	50	Loop antenna assembly	ATB1006
⚠	51	AC power cord	ADG1127
	52	Magazine assembly	PXA1507
	53	Battery cover	AZA1375

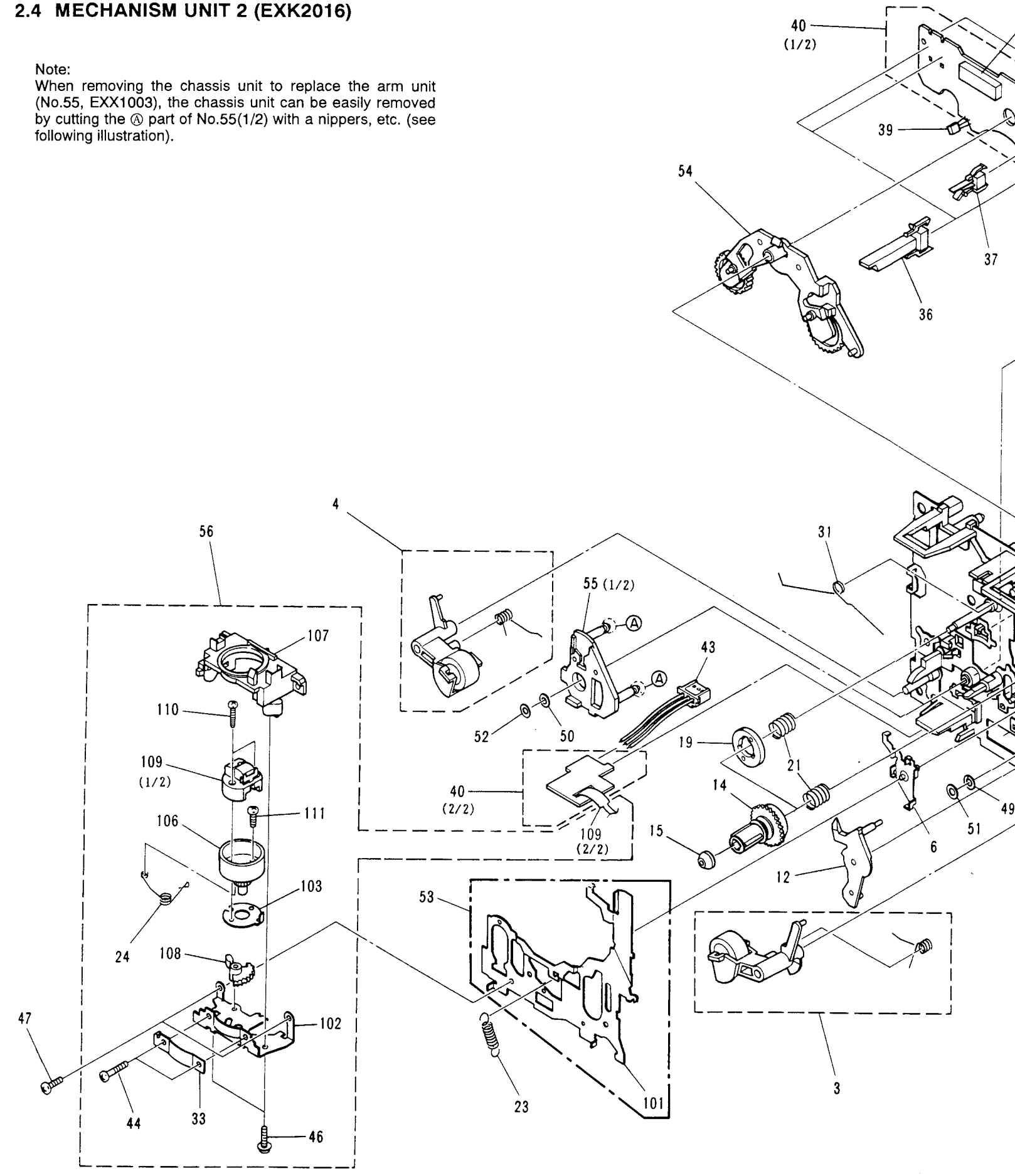
2.3 MECHANISM UNIT 1 (EXK2026)

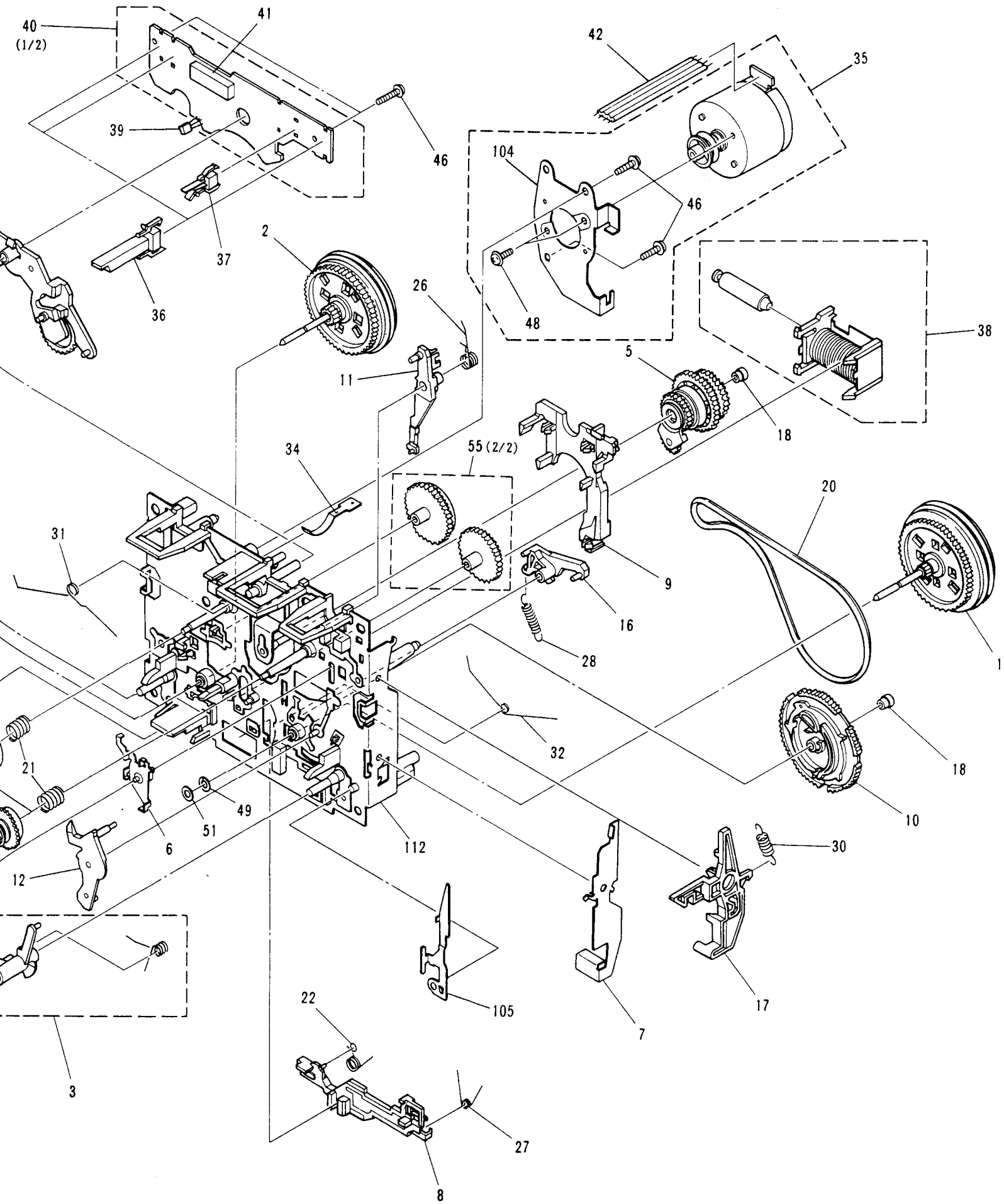
• Parts list of 1 Mecha unit

Mark	No.	Description	Parts No.
	1	FLYWHEEL UNIT (FWD)	EXA1222
	2	FLYWHEEL UNIT (RVS)	EXA1223
	3	ROLLER UNIT (FWD)	EXA1224
	4	ROLLER UNIT (RVS)	EXA1225
	5	LIMITER UNIT	EXA1226
	6	.....	
	7	EJECT LEVER L2	AZN2063
	8	LEVER	ENV1305
	9	BRAKE	ENV1317
	10	CAM GEAR	ENV1318
	11	LOCK ARM	ENV1159
	12	NR ARM	ENV1163
	13	.....	
	14	REEL	ENV1335
	15	REEL BUSH	ENV1338
	16	ARM	ENV1330
	17	EJECT LEVER L1	AZN2108
	18	BUSH	ENV1184
	19	MAGNET	ENV1336
	20	BELT	ENT1023
	21	SPRING	EBH1424
	22	SPRING	EBH1401
	23	SPRING	EBH1203
	24	SPRING	EBH1402
	25	.....	
	26	SPRING	EBH1406
	27	SPRING	EBH1407
	28	SPRING	EBH1408
	29	.....	
	30	SPRING	EBH1409
	31	SPRING	EBH1410
	32	SPRING	EBH1256
	33	SPRING	EBL1013
	34	SPRING	EBL1014
	35	MOTOR UNIT	EXA1241
	36	SWITCH (Detect)	ESN1009
	37	SWITCH (Mode)	ESN1004
	38	SOLENOID	EXP1005
	39	HALL IC	DN6847SE
	40	COMPLEX PCB	ENX1020
	41	CONNECTOR (10P)	EKS1013
	42	LEAD WIRE (4P)	EDD1003
	43	CONNECTOR (3P)	EDE1009
	44	SCREW (AZIMUTH)	EBA1020
	45	.....	
	46	SCREW (M2×8)	ATZ20P080FMC
	47	SCREW	BSZ20P050FMC
	48	SCREW	PMS26P025FUC
	49	WASHER	EBF1008
	50	WASHER	EBF1009
	51	WASHER	EBF1010
	52	WASHER	EBF1011
	53	HEAD BASE UNIT	EXA1230
	54	ARM UNIT	EXX1006
	55	ARM UNIT	EXX1003
	56	P HEAD ASSEMBLY	EXX1008
	101	HEAD BASE	ENC1290
	102	BRACKET	ENC1284
	103	PLATE	ENC1285
	104	BRACKET	ENC1199
	105	ARM	ENC1288
	106	HOLDER	ENV1161
	107	HOLDER	ENV1301
	108	GEAR	ENV1177
	109	P HEAD UNIT	EXA1110
	110	SCREW	JGZ14P085FNI
	111	SCREW	JGZ14P040FNI
	112	CHASSIS UNIT	.....

2.4 MECHANISM UNIT 2 (EXK2016)

Note:
When removing the chassis unit to replace the arm unit (No.55, EXX1003), the chassis unit can be easily removed by cutting the Ⓐ part of No.55(1/2) with a nippers, etc. (see following illustration).

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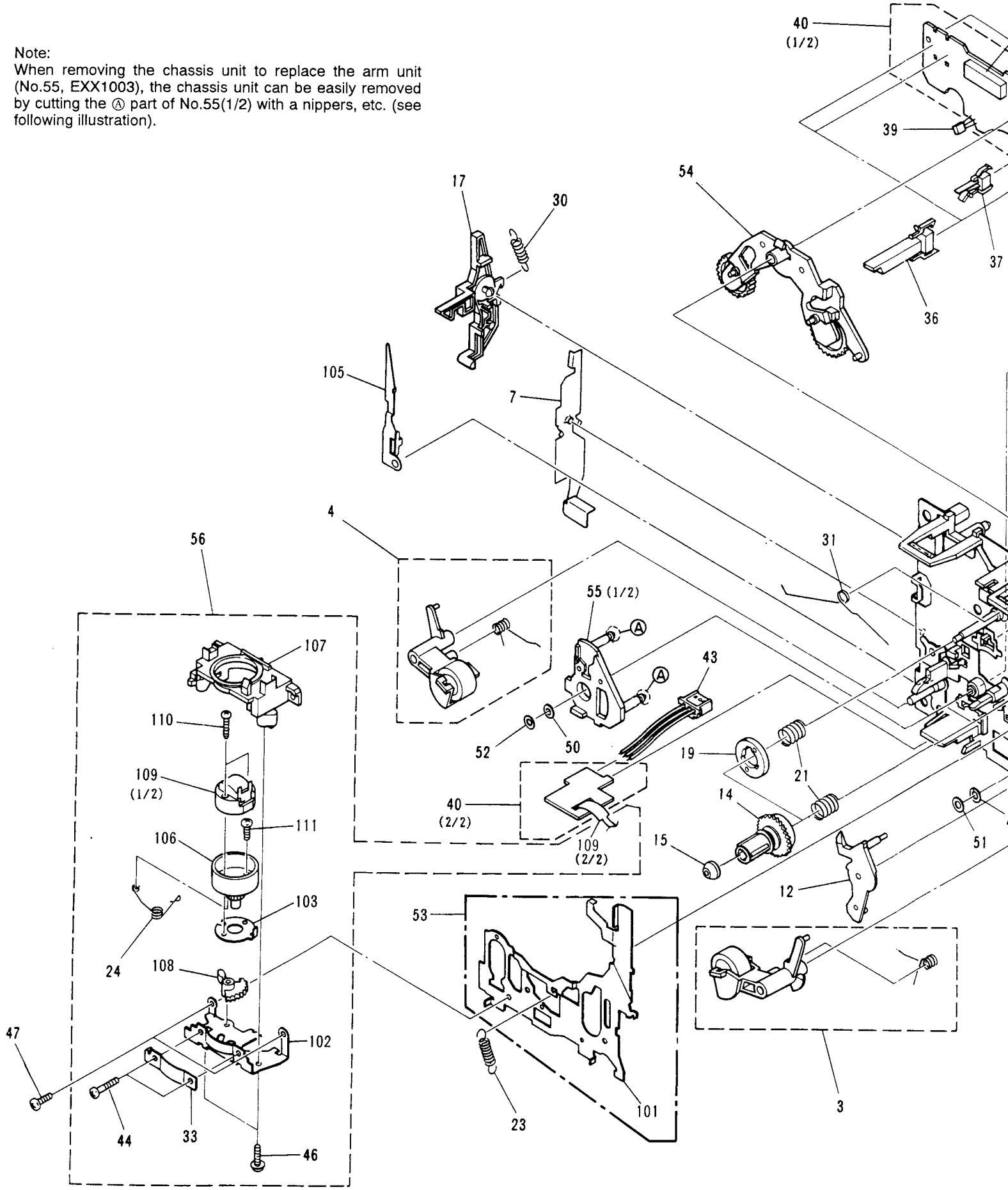
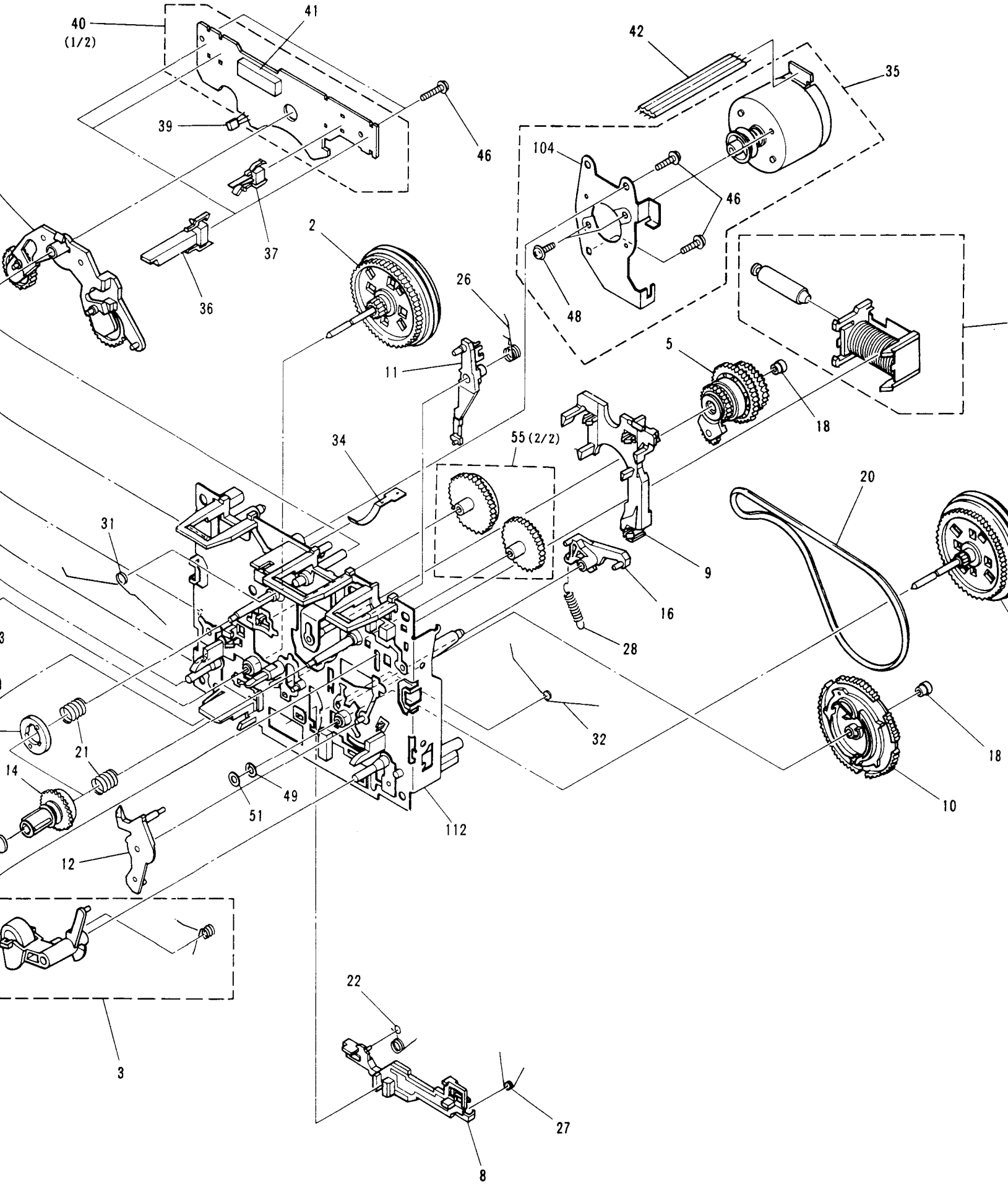
Note:
When removing the chassis unit to replace the arm unit (No.55, EXX1003), the chassis unit can be easily removed by cutting the Ⓐ part of No.55(1/2) with a nippers, etc. (see following illustration).

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• Parts list of 2 Mecha unit

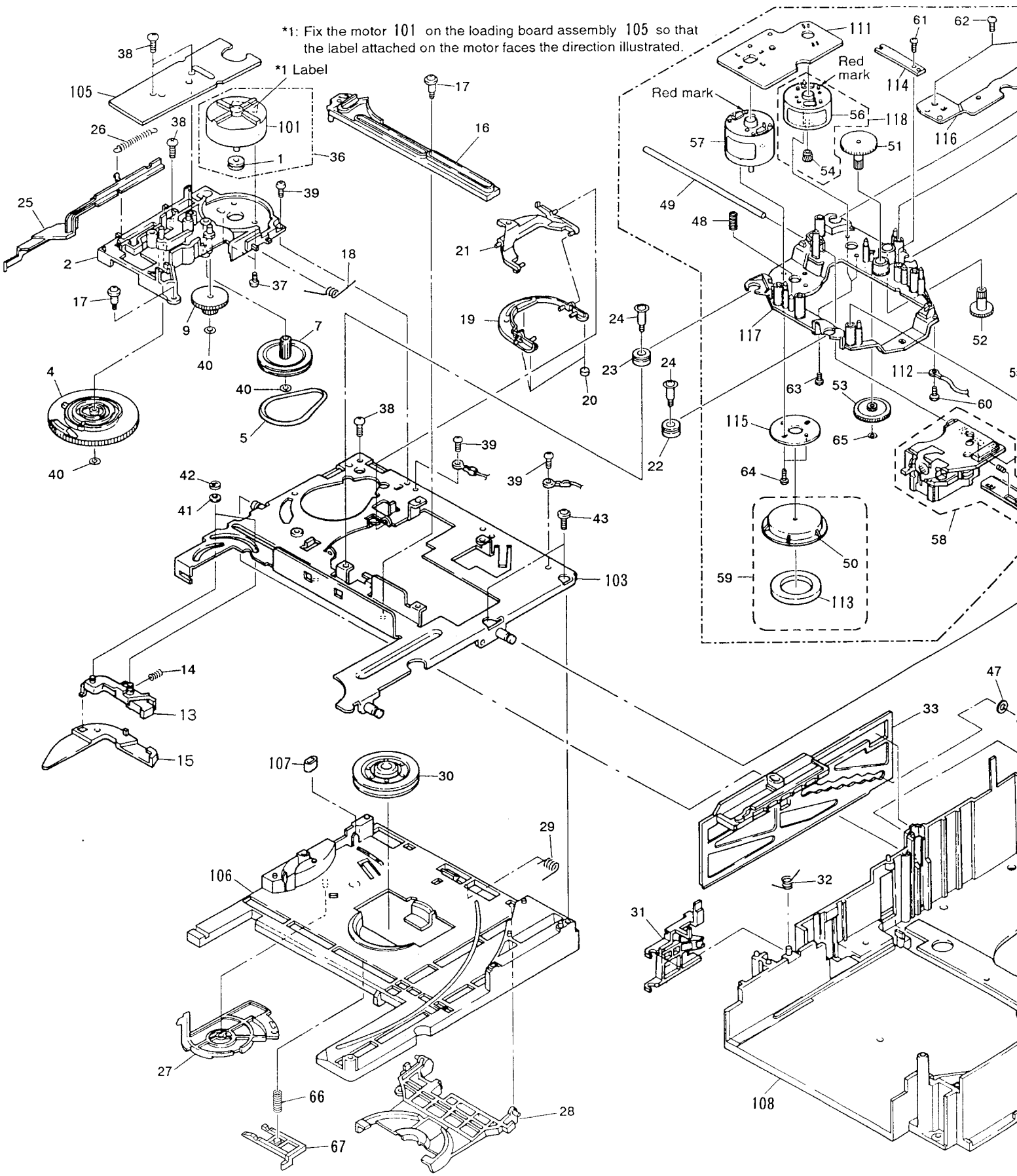
Mark	No.	Description	Parts No.
	1	FLYWHEEL UNIT (FWD)	EXA1222
	2	FLYWHEEL UNIT (RVS)	EXA1223
	3	ROLLER UNIT (FWD)	EXA1224
	4	ROLLER UNIT (RVS)	EXA1225
	5	LIMITER UNIT	EXA1226
	6	LEVER UNIT	EXA1227
	7	EJECT LEVER R2	AZN2064
	8	NR LEVER	ENV1305
	9	BRAKE	ENV1317
	10	CAM GEAR	ENV1318
	11	LOCK ARM	ENV1159
	12	NR ARM	ENV1163
	13	.....	
	14	REEL	ENV1335
	15	REEL BUSH	ENV1338
	16	ARM	ENV1330
	17	EJECT LEVER R1	AZN2109
	18	BUSH	ENV1184
	19	MAGNET	ENV1336
	20	BELT	ENT1023
	21	SPRING	EBH1424
	22	SPRING	EBH1401
	23	SPRING	EBH1203
	24	SPRING	EBH1402
	25	.....	
	26	SPRING	EBH1406
	27	SPRING	EBH1407
	28	SPRING	EBH1408
	29	.....	
	30	SPRING	EBH1409
	31	SPRING	EBH1410
	32	SPRING	EBH1256
	33	SPRING	EBL1013
	34	SPRING	EBL1014
	35	MOTOR UNIT	EXA1241
	36	SWITCH (Detect)	ESN1009
	37	SWITCH (Mode)	ESN1004
	38	SOLENOID	EXP1005
	39	HALL IC	DN6847SE
	40	COMPLEX PCB	ENX1019
	41	CONNECTOR (15P)	EKS1012
	42	LEAD WIRE (4P)	EDD1003
	43	CONNECTOR (5P)	EDE1008
	44	SCREW (AZIMUTH)	EBA1020
	45	.....	

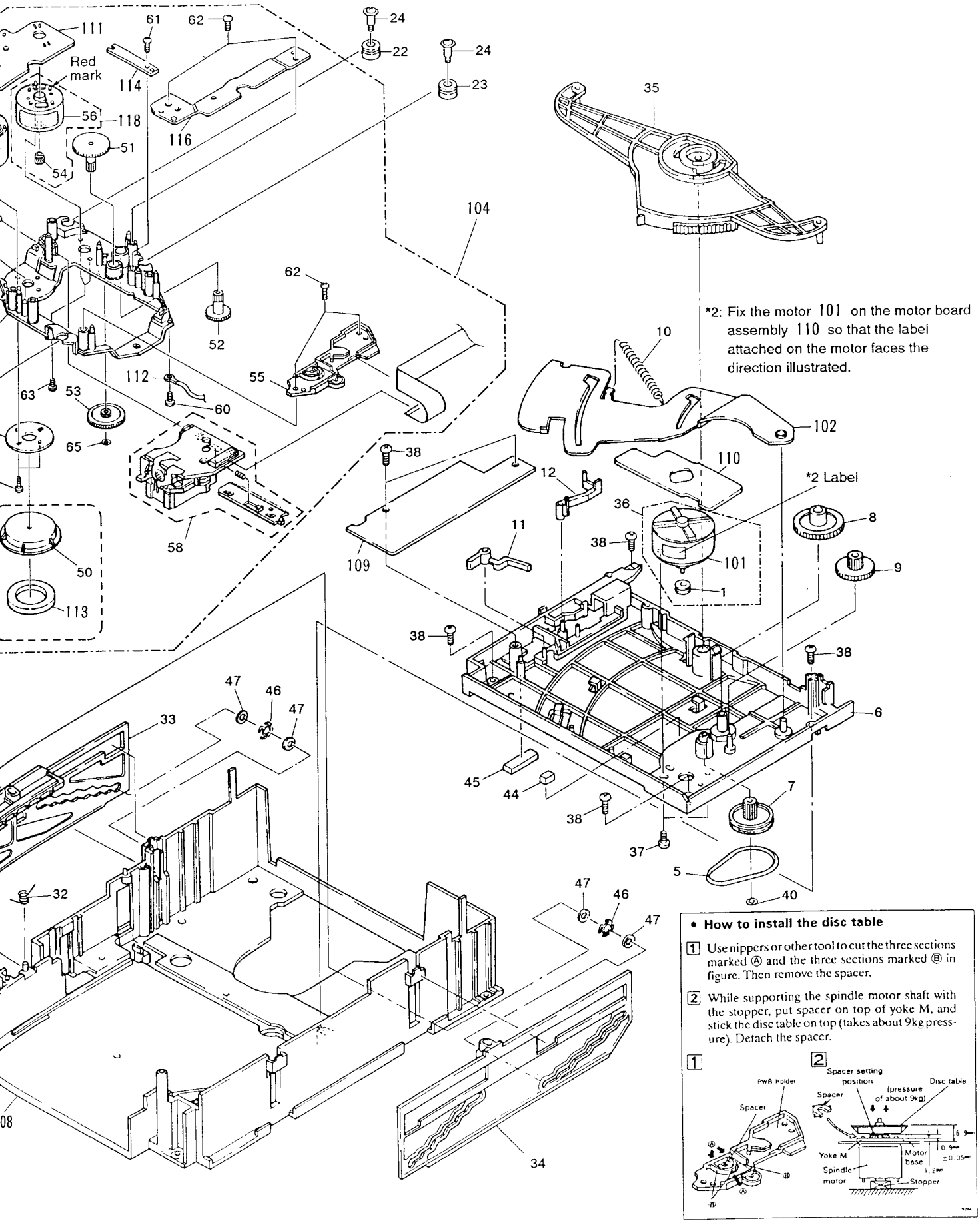
Mark	No.	Description	Parts No.
	46	SCREW (M2×8)	ATZ20P080FMC
	47	SCREW	BSZ20P050FMC
	48	SCREW	PMS26P025FUC
	49	WASHER	EBF1008
	50	WASHER	EBF1009
	51	WASHER	EBF1010
	52	WASHER	EBF1011
	53	HEAD BASE UNIT	EXA1230
	54	ARM UNIT	EXX1006
	55	ARM UNIT	EXX1003
	56	R/P HEAD ASSEMBLY	EXX1007
	101	HEAD BASE	ENC1290
	102	BRACKET	ENC1284
	103	PLATE	ENC1285
	104	BRACKET	ENC1199
	105	ARM	ENC1289
	106	HOLDER	ENV1161
	107	HOLDER	ENV1301
	108	GEAR	ENV1177
	109	R/P HEAD UNIT	EXA1109
	110	SCREW	JGZ14P085FNI
	111	SCREW	JGZ14P040FNI
	112	CHASSIS UNIT	.....

2.5 CD PLAYER SECTION

Parts List

Mark	No.	Description	Part No.
	1	Motor pulley	PNW1634
	2	Gear holder	PNW1929
	3	• • • • •	
	4	Cam gear	PNW1923
	5	Belt	PEB1138
	6	Top guide	PNW2061
	7	Gear pulley	PNW1918
	8	Gear S	PNW1919
	9	Gear L	PNW1920
	10	Eject spring	PBH1107
	11	Switch lever	PNW1927
	12	Seven bar	PNW1931
	13	Sub rotary lever	PNW1933
	14	Sub rotary lever spring	PBH1111
	15	Rotary lever	PNW1932
	16	Drive plate	PNW1930
	17	Motor screw	PBA-112
	18	Holder lever spring	PBH1110
	19	Disc holder	PNW1924
	20	Cushion A	PED1001
	21	Holder lever	PNW1925
	22	Float rubber	PEB1014
	23	Float rubber	PEB1132
	24	Float screw	PBA1073
	25	Release lever	PNW1934
	26	Release spring	PBH1106
	27	Clamper cam	PNW1922
	28	Clamper holder	PNW1921
	29	Clamper spring	PBH1109
	30	Clamper	PNW1857
	31	Lock lever	PNW1917
	32	Lock spring	PBH1108
	33	Stair L	PNW1915
	34	Stair R	PNW1916
	35	Synchronize lever	PNW1926
	36	Motor assembly (LOADING, DISC SELECT)	PEA1130
	37	Screw	PMZ26P040FMC
	38	Screw	PPZ30P080FMC
	39	Screw	BBZ30P060FMC
	40	Washer	WT26D047D025
	41	Washer	WA31D054D025
	42	E ring	Z39-010
	43	Screw	IPZ30P080FMC
	44	Rubber spacer	PEB1238
	45	Rubber spacer	PEB1179
	46	Silent ring	PBK1093
	47	Washer	WA62D130D025
	48	Earth spring	PBH1132
	49	Guide bar	PLA1094
	50	Disc table	PNW1067
	51	Gear 1	PNW2052
	52	Gear 2	PNW2053
	53	Gear 3	PNW2054
	54	Pinion gear	PNW2055
	55	PWB holder	PNW2057
	56	Carriage DC motor / 0.3W	PXM1027
	57	D.C. motor assembly (spindle with oil)	PEA1235
	58	Pickup assembly	PEA1285
	59	Disc table assembly	PEA1035
	60	Screw	BBZ26P060FMC
	61	Screw	BPZ20P060FMC
	62	Screw	BPZ26P100FMC
	63	Screw	JFZ17P025FZK
	64	Screw	JFZ20P040FMC
	65	Washer	WT12D032D025
	66	Stop spring	PBH1131
	67	Stopper	PNW2069
NSP	101	Motor	VXM1033
NSP	102	Eject lever	PNB1306
	103	Upper chassis	PNB1267
NSP	104	Servo mechanism assembly M	PXA1417
NSP	105	Loading board assembly	PWZ2038
	106	Sub chassis	PNW2073
NSP	107	Rubber tube	PEB1171
NSP	108	Main chassis	PNW2074
NSP	109	Select board assembly	PWZ2533
NSP	110	Motor board assembly	PWZ2040
NSP	111	Mechanism board assembly	PWX1192
NSP	112	Earth lead unit	PDF1074
NSP	113	Clamp magnet	PMF1014
NSP	114	Gear stopper	PNB1303
NSP	115	Yoke M	PNB1312
NSP	116	AV angle	PNB1405
	117	Carriage base	PNW2058
	118	Carriage DC motor assembly	PEA1246


*1: Fix the motor 101 on the loading board assembly 105 so that the label attached on the motor faces the direction illustrated.
*1 Label
Red mark
Red mark

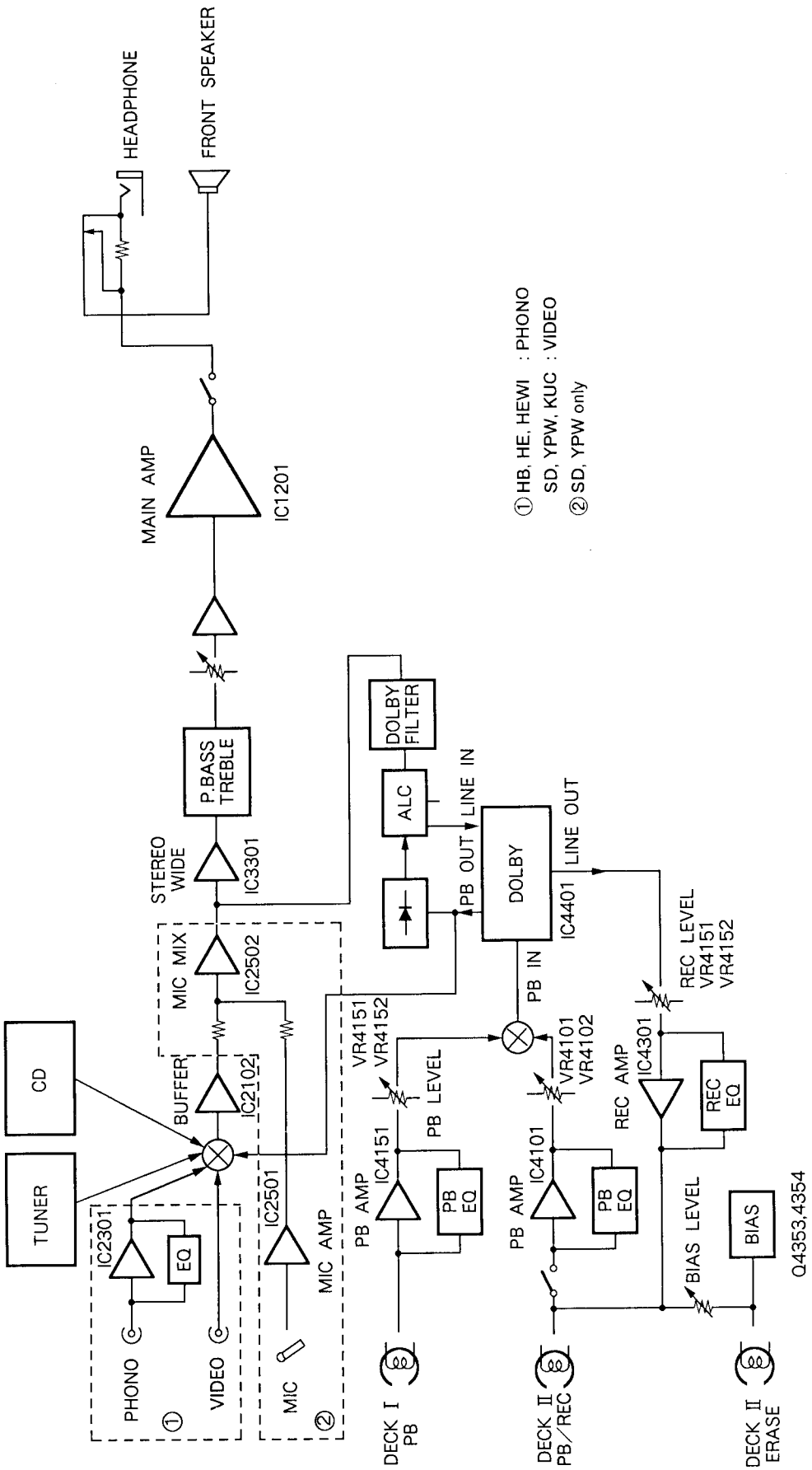


• How to install the disc table

1 Use nippers or other tool to cut the three sections marked Ⓐ and the three sections marked Ⓑ in figure. Then remove the spacer.

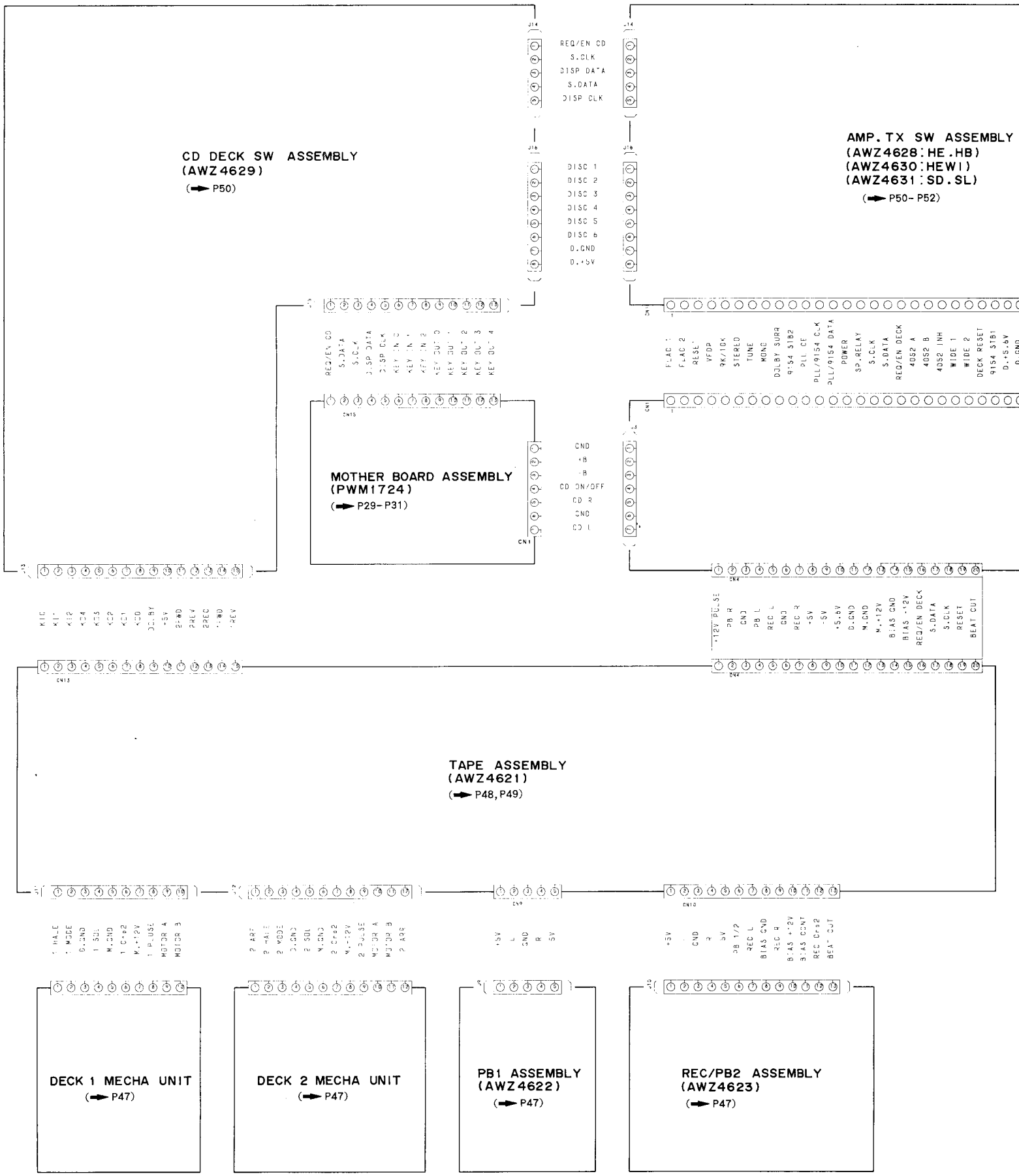
2 While supporting the spindle motor shaft with the stopper, put spacer on top of yoke M, and stick the disc table on top (takes about 9kg pressure). Detach the spacer.

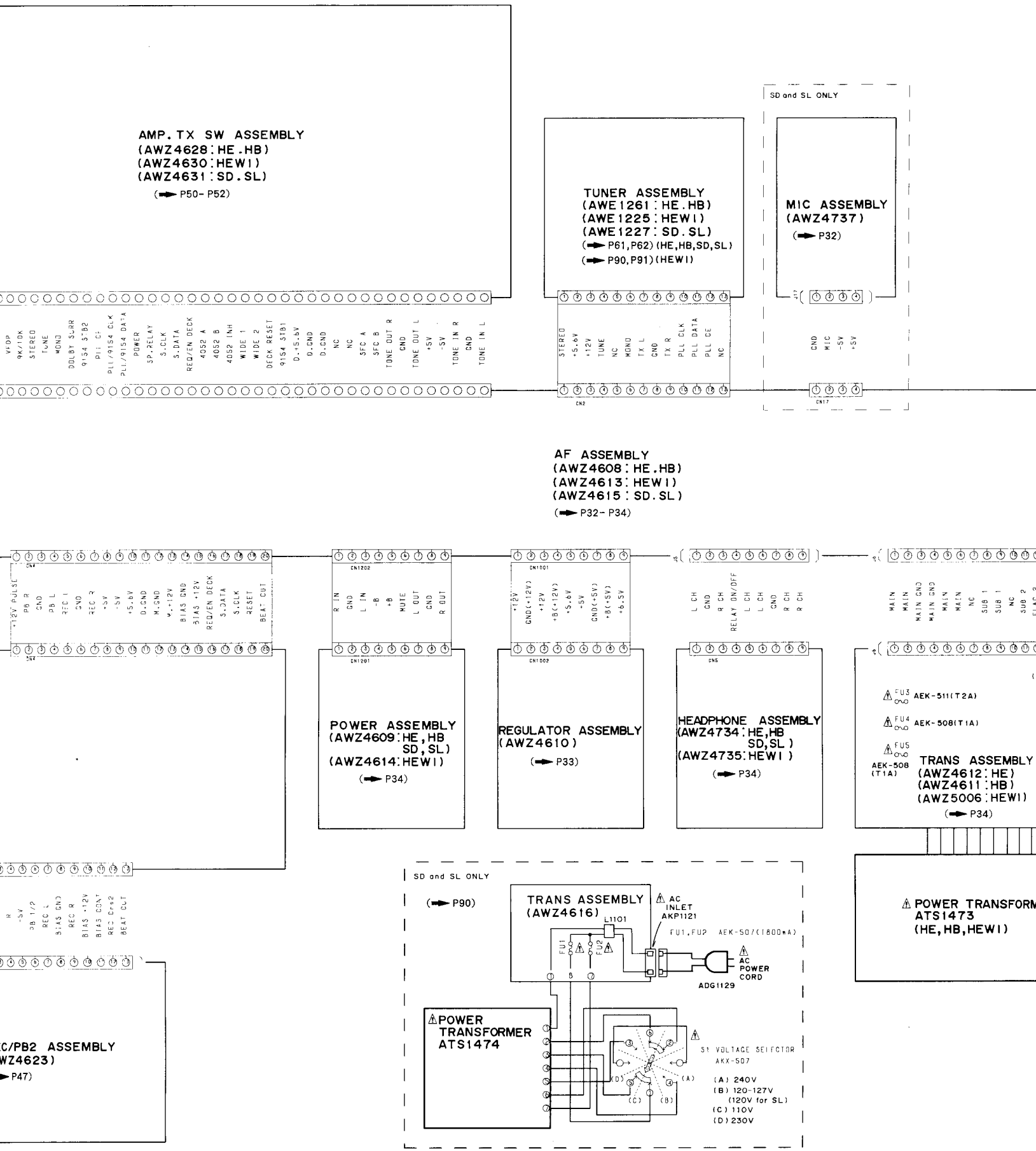
3. BLOCK DIAGRAM

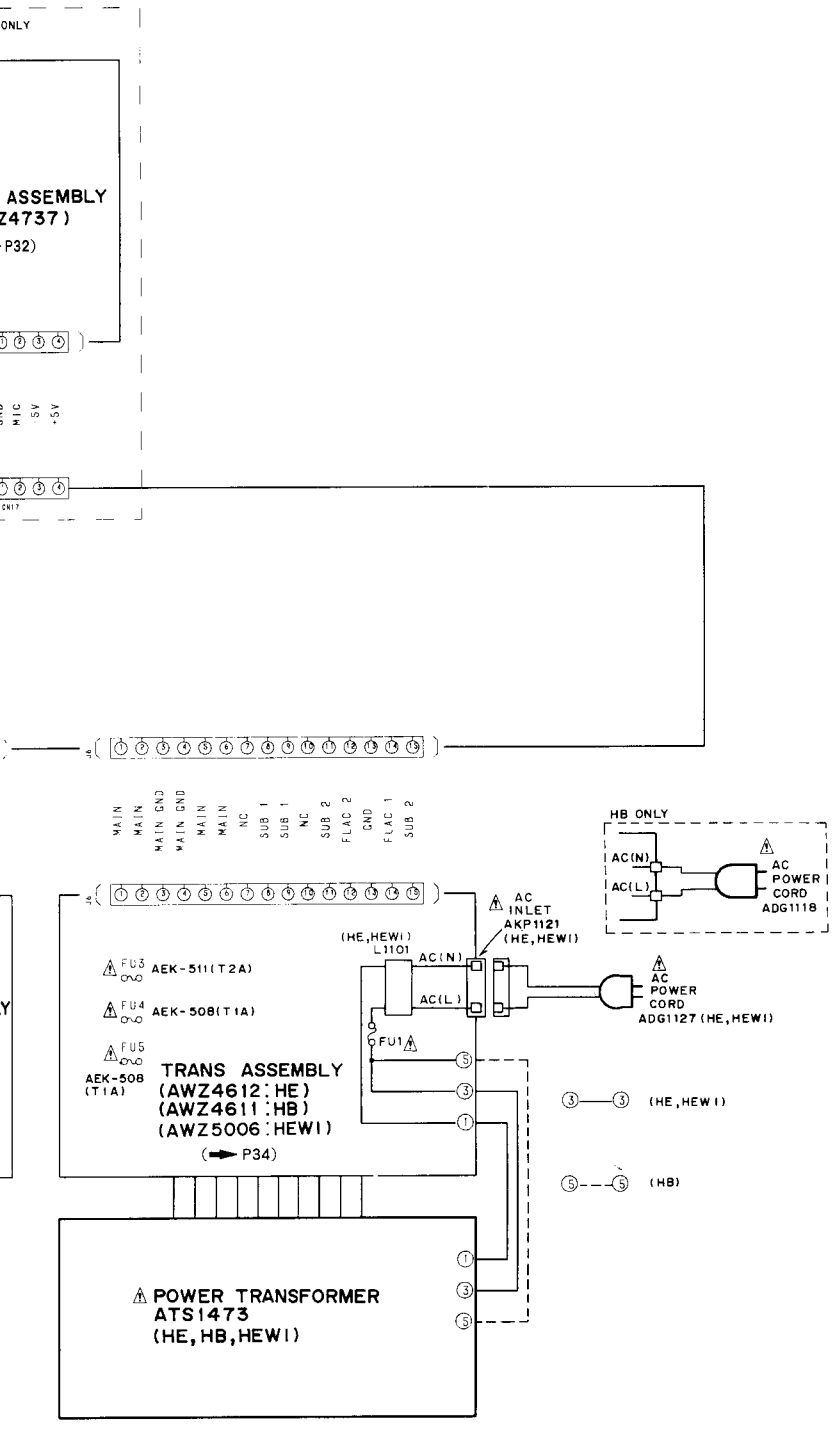


SCHEMATIC AND PCB CONNECTION DIAGRAMS

OVERALL WIRING DIAGRAM




AMP. TX SW ASSEMBLY
(AWZ4628 : HE.HB)
(AWZ4630 : HEW1)
(AWZ4631 : SD.SL)
(➡ P50- P52)
TUNER ASSEMBLY
(AWE1261 : HE.HB)
(AWE1225 : HEW1)
(AWE1227 : SD.SL)
(➡ P61,P62) (HE,HB,SD,SL)
(➡ P90,P91) (HEW1)
SD and SL ONLY
MIC ASSEMBLY
(AWZ4737)
(➡ P32)
AF ASSEMBLY
(AWZ4608 : HE.HB)
(AWZ4613 : HEW1)
(AWZ4615 : SD.SL)
(➡ P32- P34)
POWER ASSEMBLY
(AWZ4609 : HE,HB
SD,SL)
(AWZ4614 : HEW1)
(➡ P34)
REGULATOR ASSEMBLY
(AWZ4610)
(➡ P33)
HEADPHONE ASSEMBLY
(AWZ4734 : HE,HB
SD,SL)
(AWZ4735 : HEW1)
(➡ P34)
FU3 AEK-511(T2A)
FU4 AEK-508(T1A)
FU5 AEK-508 (T1A)
TRANS ASSEMBLY
(AWZ4612 : HE)
(AWZ4611 : HB)
(AWZ5006 : HEW1)
(➡ P34)
POWER TRANSFORM
ATS1473
(HE,HB,HEW1)
SD and SL ONLY
(➡ P90)
TRANS ASSEMBLY
(AWZ4616)
AC INLET AKP1121
L1101
FU1,FU2 AEK-507(1800mA)
AC POWER CORD
ADG1129
POWER TRANSFORMER ATS1474
ST VOLTAGE SELECTOR AKX-507
(A) 240V
(B) 120-127V
(120V for SL)
(C) 110V
(D) 230V
C/PB2 ASSEMBLY
WZ4623)
➡ P47)



Note: (Type 1)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   [V] : Signal voltage at rated output.
   : DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

AMP.TX SW ASSEMBLY

S1804	:	CLOCK ADJUST	S4814	:	DISC6
S1806	:	POWER	S4821	:	1REW
S1807	:	WAKE UP	S4822	:	1FF
S1808	:	REC/+	S4823	:	1REV
S1809	:	TIMER SET	S4824	:	1FWD
S1810	:	FM MONO	S4825	:	1STOP
S1811	:	FREQ/ST	S4826	:	2REW
S1812	:	TUNER MEMORY	S4827	:	2FF
S1813	:	TUNER −	S4828	:	2REV
S1814	:	TUNER +	S4829	:	2FWD
S1815	:	TUNER BAND	S4830	:	2STOP
S1816	:	SURROUND/WIDE	S4831	:	2REC
S1817	:	DISPLAY	S4832	:	COPY
S1822	:	FUNCTION	S4833	:	ASES

CD. DECK SW ASSEMBLY

S4401	:	DOLBY ON − OFF
S4801	:	OPEN/CLOSE
S4802	:	PLAY
S4803	:	STOP
S4804	:	BACK SKIP
S4805	:	SKIP
S4806	:	PGM
S4807	:	REP
S4808	:	RND
S4809	:	DISC1
S4810	:	DISC2
S4811	:	DISC3
S4812	:	DISC4
S4813	:	DISC5

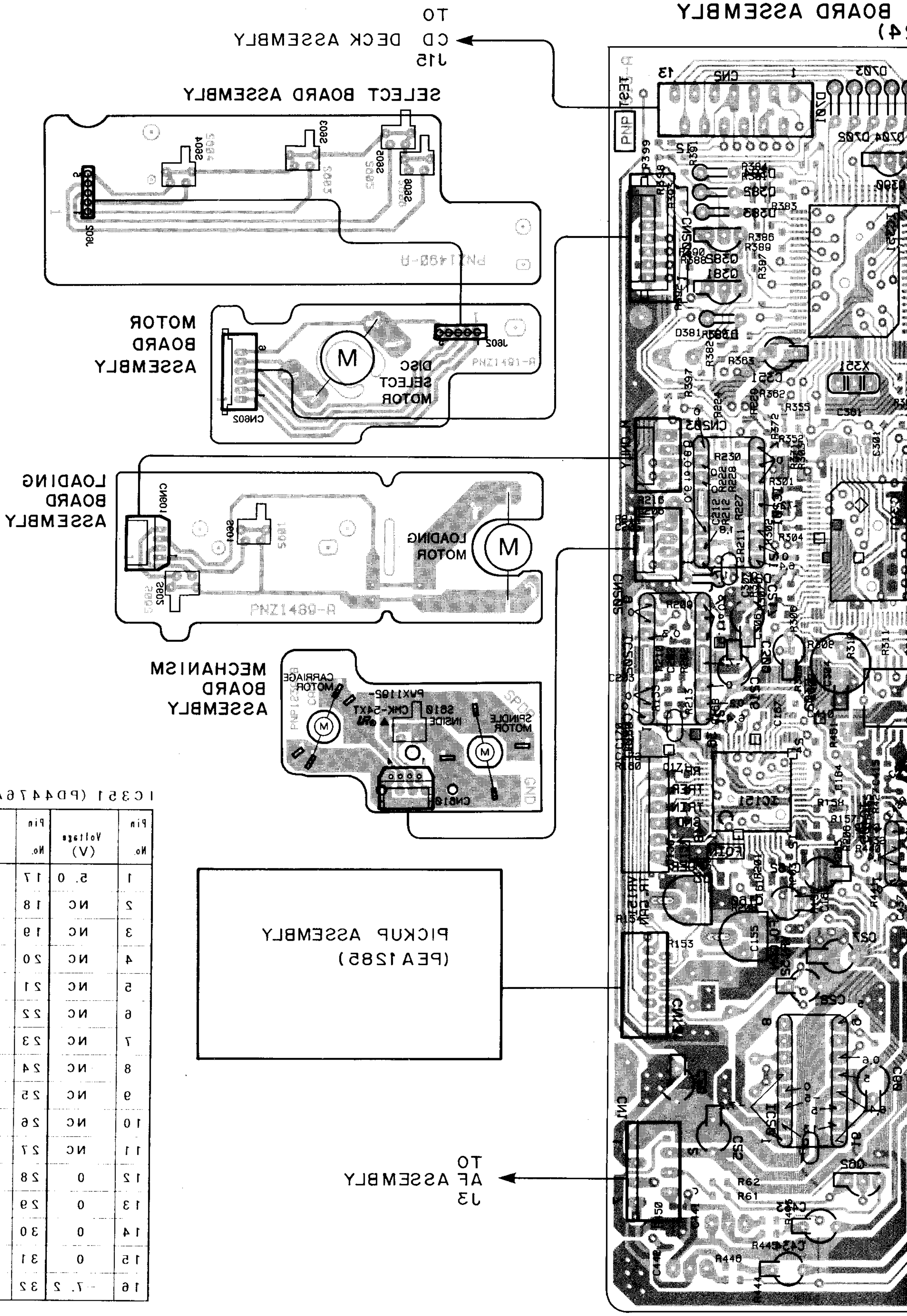
• View from solder

IC151 (CXA1372Q)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	25	5.0
2	0	26	0
3	0	27	5.0
4	0	28	0
5	0	29	0
6	0	30	NC
7	0.3	31	2.5
8	0	32	2.5
9	0	33	5.0
10	5.0	34	-2.1
11	0	35	-2.3
12	0	36	5.0
13	0	37	-1.3
14	0.2 to 0.4	38	-2.0
15	0	39	0
16	-4.1	40	1.1
17	1.3	41	-5.0
18	0	42	0
19	-5.0	43	0
20	5.0	44	0
21	5.0	45	0
22	5.0	46	0
23	5.0	47	0
24	5.0	48	0

IC351 (PD4476A or PD4476B)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	17	0	33	5.0	49	0
2	NC	18	0	34	5.0	50	5.0
3	NC	19	0	35	5.0	51	0
4	NC	20	NC	36	0	52	0
5	NC	21	NC	37	5.0	53	5.0
6	NC	22	NC	38	2.2 to 2.5	54	5.0
7	NC	23	NC	39	0	55	0
8	NC	24	NC	40	5.0	56	2.4
9	NC	25	1.5	41	5.0	57	2.4
10	NC	26	5.0	42	0	58	0
11	NC	27	1.0	43	NC	59	0
12	0	28	0.5	44	5.0	60	NC
13	0	29	0.5	45	0	61	5.0
14	0	30	2.4	46	0	62	5.0
15	0	31	5.0	47	0	63	0
16	-7.2	32	5.0	48	0	64	5.0



2. CD SECTION

● MOTHER BOARD, LOADING BOARD, MOTOR BOARD, SELECT BOARD and MECHANISM BOARD ASSEMBLY

IC301 (CXD2500AQ)

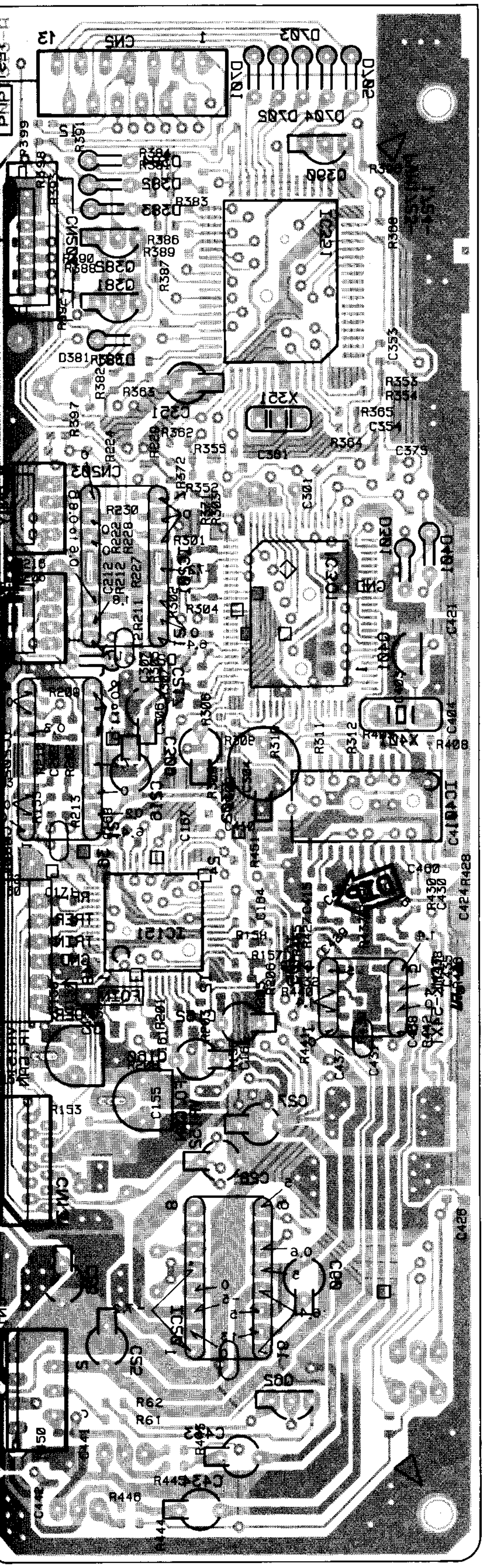
Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	21	0	41	NC	61	NC
2	NC	22	3.0	42	5.0	62	NC
3	5.0	23	5.0	43	NC	63	0
4	2.6	24	2.5	44	NC	64	NC
5	NC	25	NC	45	NC	65	0
6	5.0	26	0	46	4.5	66	3.3 to 4.3
7	NC	27	2.5	47	0	67	5.0
8	NC	28	0	48	0	68	0
9	0	29	NC	49	0	69	2.2 to 2.5
10	0	30	0	50	NC	70	5.0
11	NC	31	NC	51	NC	71	5.0
12	0	32	2.5	52	0	72	5.0
13	NC	33	5.0	53	2.5	73	5.0
14	NC	34	2.5	54	NC	74	5.0
15	NC	35	2.3	55	0	75	5.0
16	NC	36	NC	56	NC	76	0
17	0	37	NC	57	NC	77	5.0
18	3.0	38	NC	58	NC	78	5.0
19	2.4	39	NC	59	0	79	5.0
20	2.4	40	NC	60	NC	80	0

IC401 (SM5871AS)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.7	15	0
2	0	16	5.0
3	0	17	5.0
4	2.8	18	2.5
5	5.0	19	0
6	5.0	20	2.5
7	5.0	21	5.0
8	2.5	22	5.0
9	2.4	23	2.5
10	2.5	24	0
11	5.0	25	2.5
12	0	26	5.0
13	NC	27	5.0
14	5.0	28	2.6

• View from soldering side

MOTHER BOARD ASSEMBLY (PWZ1724)



2. CD SECTION

● MOTHER BOARD, LOADING BOARD, MOTOR BOARD, SELECT BOARD and MECHANISM BOARD ASSEMBLY

IC301 (CXD2500AQ)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	21	0	41	NC	61	NC
2	NC	22	3.0	42	5.0	62	NC
3	5.0	23	5.0	43	NC	63	0
4	2.6	24	2.5	44	NC	64	NC
5	NC	25	NC	45	NC	65	0
6	5.0	26	0	46	4.5	66	3.3 to 4.3
7	NC	27	2.5	47	0	67	5.0
8	NC	28	0	48	0	68	0
9	0	29	NC	49	0	69	2.2 to 2.5
10	0	30	0	50	NC	70	5.0
11	NC	31	NC	51	NC	71	5.0
12	0	32	2.5	52	0	72	5.0
13	NC	33	5.0	53	2.5	73	5.0
14	NC	34	2.5	54	NC	74	5.0
15	NC	35	2.3	55	0	75	5.0
16	NC	36	NC	56	NC	76	0
17	0	37	NC	57	NC	77	5.0
18	3.0	38	NC	58	NC	78	5.0
19	2.4	39	NC	59	0	79	5.0
20	2.4	40	NC	60	NC	80	0

IC401 (SM5871AS)

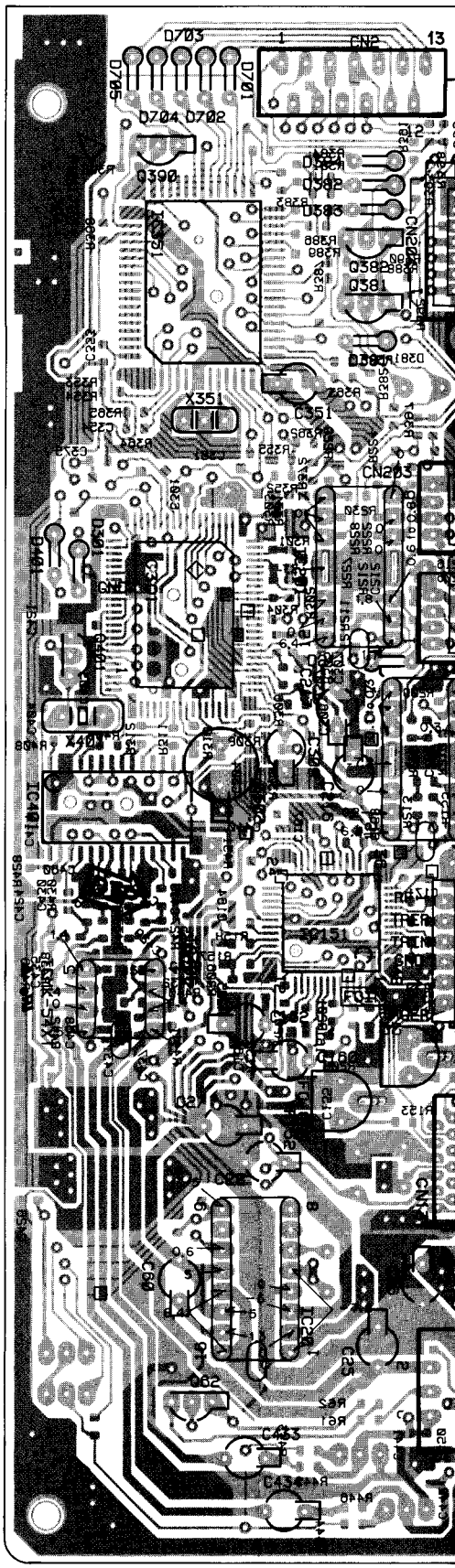
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.7	15	0
2	0	16	5.0
3	0	17	5.0
4	2.8	18	2.5
5	5.0	19	0
6	5.0	20	2.5
7	5.0	21	5.0
8	2.5	22	5.0
9	2.4	23	2.5
10	2.5	24	0
11	5.0	25	2.5
12	0	26	5.0
13	NC	27	5.0
14	5.0	28	2.6

P.C.B. pattern diagram indication	Corresponding part symbol	Part name	P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor			Ceramic capacitor
		FET			Mylar capacitor
		Diode			Styrol capacitor
					Electrolytic capacitor (Non polarized)
					Electrolytic capacitor (Noiseless)
		Zenner diode			Electrolytic capacitor (Polarized)
					Electrolytic capacitor (Polarized)
		LED			Power capacitor
		Varactor			Semi-fixed resistor
		Tact switch			Resistor array
					Resistor
		Inductor			
		Coil			Resonator
		Transformer			Thermistor
		Filter			

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 above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

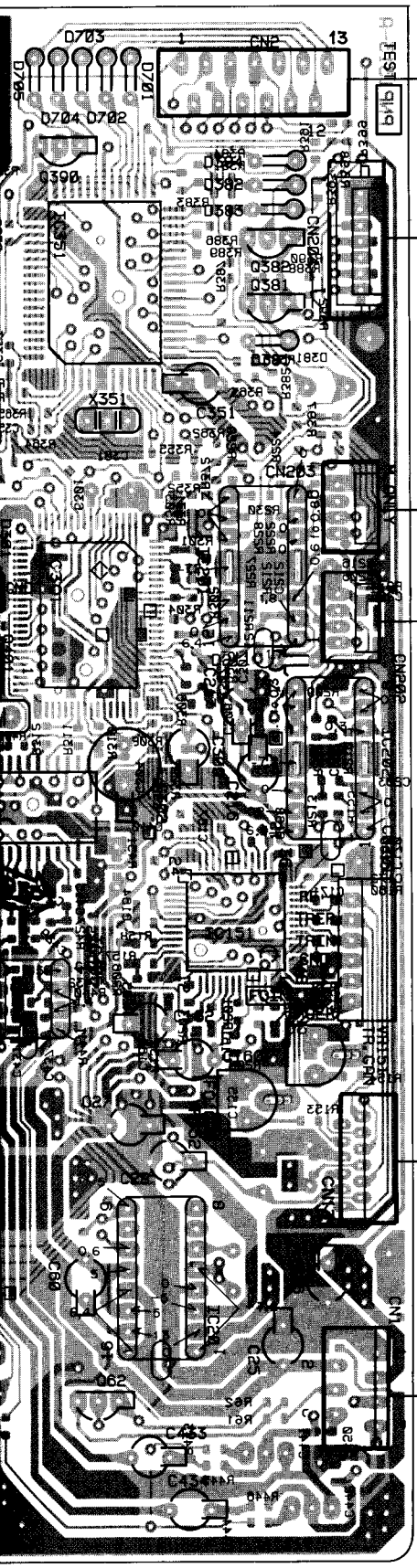
• View from component side

MOTHER BOARD ASSEMBLY (PWZ1724)



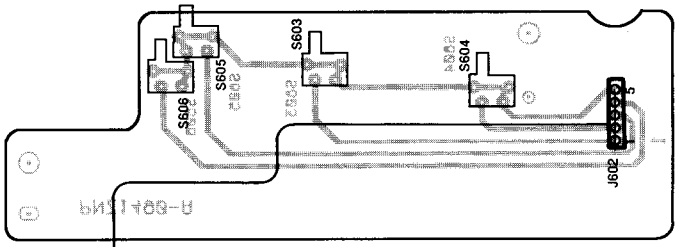
from component side

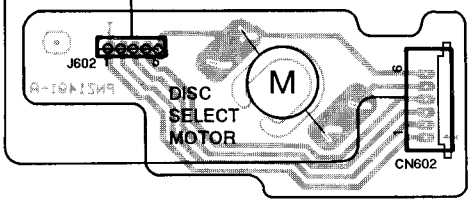
ER BOARD ASSEMBLY
1724)



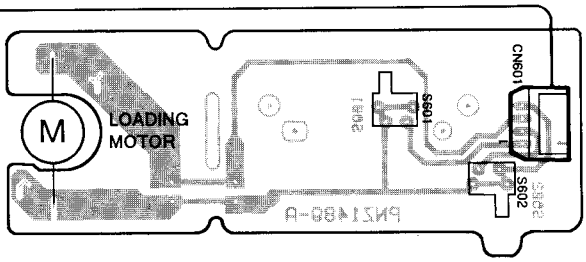
TO
CD DECK ASSEMBLY
J15

SELECT BOARD ASSEMBLY

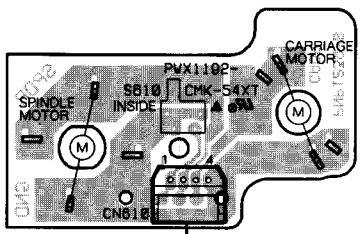




MOTOR
BOARD
ASSEMBLY



LOADING
BOARD
ASSEMBLY



MECHANISM
BOARD
ASSEMBLY

PICKUP ASSEMBLY
(PEA1285)

TO
AF ASSEMBLY
J3

IC151 (CXA1372Q)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	25	5.0
2	0	26	0
3	0	27	5.0
4	0	28	0
5	0	29	0
6	0	30	NC
7	0.3	31	2.5
8	0	32	2.5
9	0	33	5.0
10	5.0	34	−2.1
11	0	35	−2.3
12	0	36	5.0
13	0	37	−1.3
14	0.2 to 0.4	38	−2.0
15	0	39	0
16	−4.1	40	1.1
17	1.3	41	−5.0
18	0	42	0
19	−5.0	43	0
20	5.0	44	0
21	5.0	45	0
22	5.0	46	0
23	5.0	47	0
24	5.0	48	0

IC351 (PD4476A or PD4476B)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	17	0	33	5.0	49	0
2	NC	18	0	34	5.0	50	5.0
3	NC	19	0	35	5.0	51	0
4	NC	20	NC	36	0	52	0
5	NC	21	NC	37	5.0	53	5.0
6	NC	22	NC	38	2.2 to 2.5	54	5.0
7	NC	23	NC	39	0	55	0
8	NC	24	NC	40	5.0	56	2.4
9	NC	25	1.5	41	5.0	57	2.4
10	NC	26	5.0	42	0	58	0
11	NC	27	1.0	43	NC	59	0
12	0	28	0.5	44	5.0	60	NC
13	0	29	0.5	45	0	61	5.0
14	0	30	2.4	46	0	62	5.0
15	0	31	5.0	47	0	63	0
16	−7.2	32	5.0	48	0	64	5.0

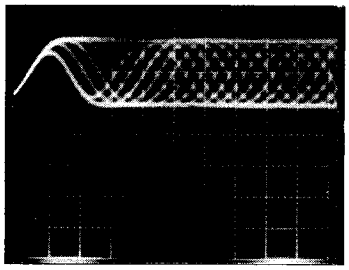
Waveforms

Note: The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.

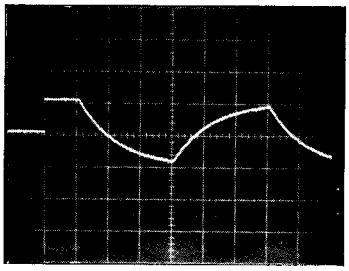
*2 FOCUS-IN: Press the key without loading a disc.

② TP1–Pin 1: PLAY MODE
(RF)
500mV/div 500nsec/div



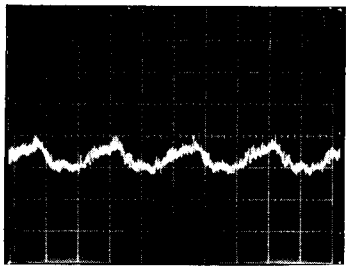
– GND

⑤ IC202–Pin 4: FOCUS–IN (* 2) MODE
(FODR)
1V/div 200msec/div



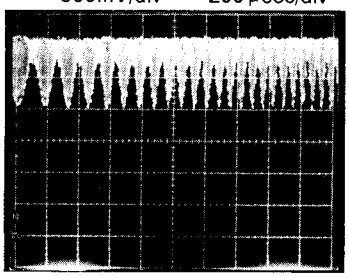
– GND

⑦ IC201–Pin 3: PLAY MODE
(SPDR)
1V/div 50msec/div



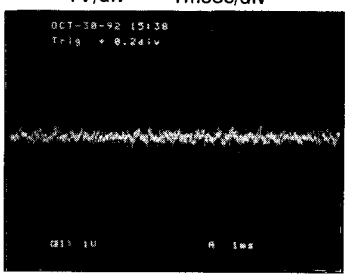
– GND

② TP1–Pin 1: TRACK SEARCH MODE
(RF)
500mV/div 200 μsec/div



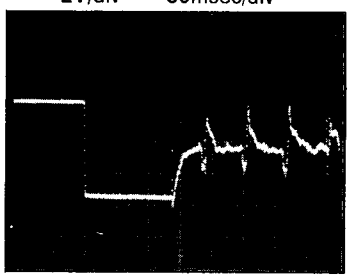
– GND

⑤ IC202–Pin 4: PLAY MODE
(FODR)
1V/div 1msec/div



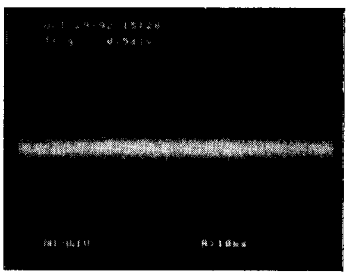
– GND

⑦ IC201–Pin 3: TRACK SEARCH MODE
(SPDR)
2V/div 50msec/div



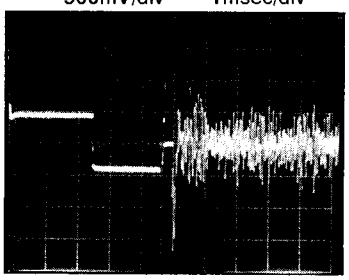
– GND

③ TP1–Pin 6: PLAY MODE
(FOER)
100mV/div 10msec/div



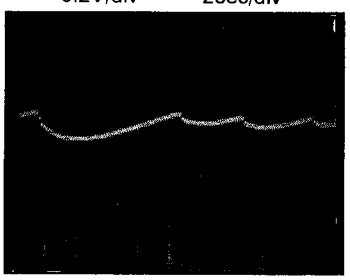
– GND

⑥ IC202–Pin 3: 50T–JUMP (* 1) MODE
(TRDR)
500mV/div 1msec/div



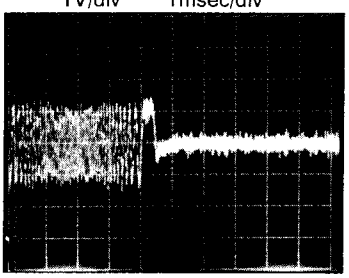
– GND

⑧ IC202–Pin 9: PLAY MODE
(CADR)
0.2V/div 2sec/div



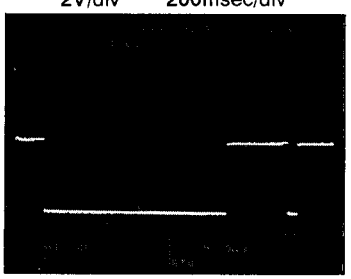
– GND

④ TP1–Pin 2: 50T–JUMP (* 1) MODE
(TRER)
1V/div 1msec/div



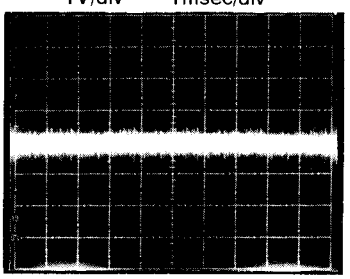
– GND

⑧ IC202–Pin 9: TRACK SEARCH MODE
(CADR)
2V/div 200msec/div



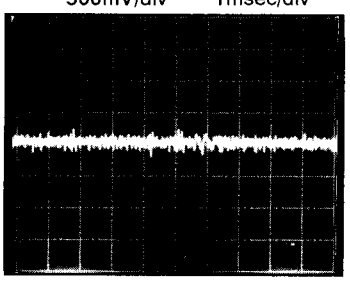
– GND

④ TP1–Pin 2: PLAY MODE
(TRER)
1V/div 1msec/div



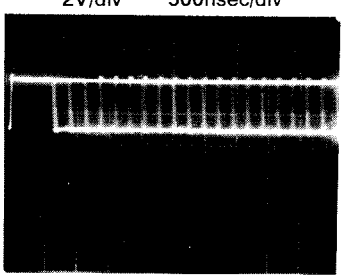
– GND

⑥ IC202–Pin 3: PLAY MODE
(TRDR)
500mV/div 1msec/div



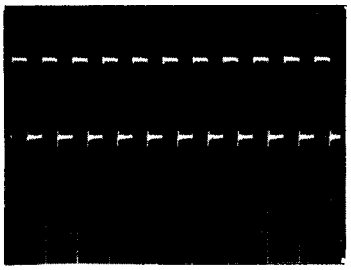
– GND

⑨ IC151–Pin 32: PLAY MODE
(EFM)
2V/div 500nsec/div



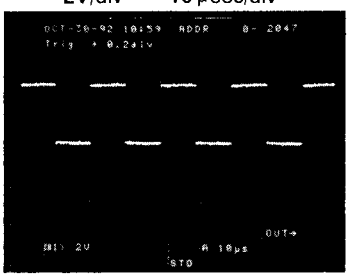
– GND

⑯ IC301–Pin 35: PLAY MODE (1kHz) (BCLK)
2V/div 500nsec/div



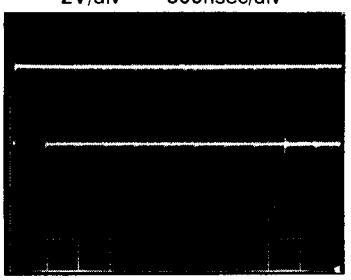
– GND

⑱ IC301–Pin 32: PLAY MODE (1kHz) (LRCK)
2V/div 10 µsec/div



– GND

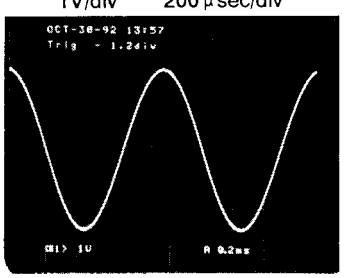
⑲ IC301–Pin 34: PLAY MODE (1kHz) (DATA)
2V/div 500nsec/div



– GND

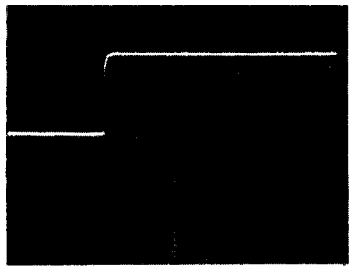
⑳

㉑ CN1–Pin 7: PLAY MODE (1kHz) (Lch OUT PUT)
1V/div 200 µsec/div



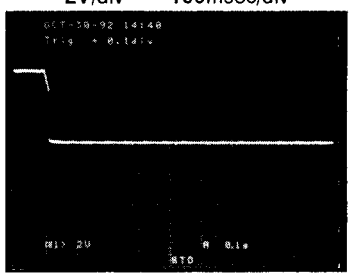
– GND

㉒ IC20–Pin 9: POWER SWITCH – ON (RST)
2V/div 100msec/div



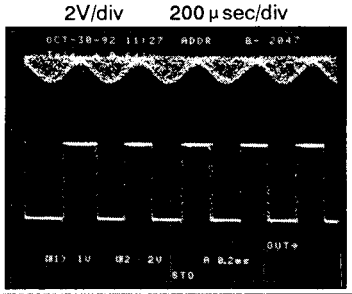
– GND

㉒ IC20–Pin 9: POWER SWITCH – OFF (RST)
2V/div 100msec/div



– GND

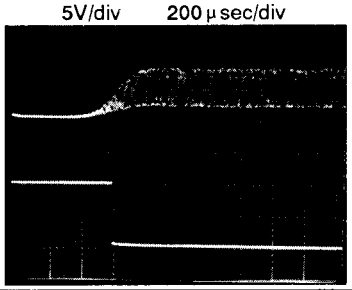
㉓ : TRACK SEARCH MODE
Upper: TP1 – Pin 1 (RF) 1V/div
Lower: IC151 – Pin 29 (MIRR)
2V/div 200 µsec/div



– GND

– GND

㉔ : PLAY MODE
Upper: TP1 – Pin 1 (RF) 1V/div
Lower: IC151 – Pin 30 (DFCT)
5V/div 200 µsec/div



– GND

– GND

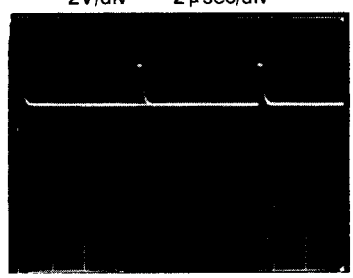
㉕

㉖

㉗

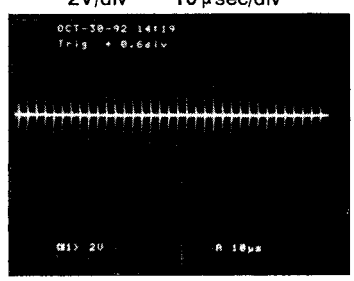
㉘

㉝ IC303–Pin 4: PLAY MODE (MDP)
2V/div 2 µsec/div

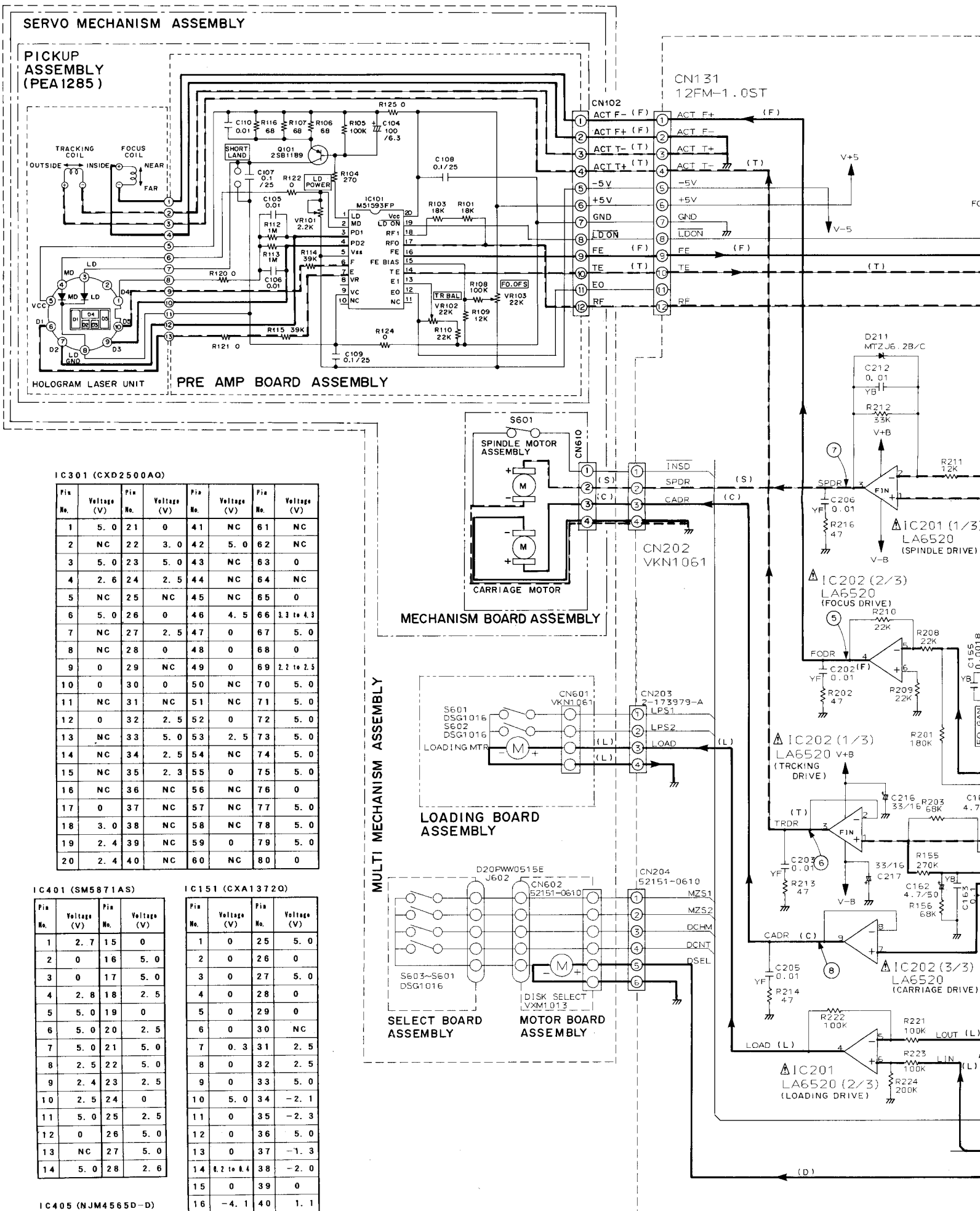


– GND

㊸ IC301 – Pin 20: PLAY MODE (PCO)
2V/div 10 µsec/div



– GND



IC301 (CXD2500AQ)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	21	0	41	NC	61	NC
2	NC	22	3.0	42	5.0	62	NC
3	5.0	23	5.0	43	NC	63	0
4	2.6	24	2.5	44	NC	64	NC
5	NC	25	NC	45	NC	65	0
6	5.0	26	0	46	4.5	66	3.3 to 4.3
7	NC	27	2.5	47	0	67	5.0
8	NC	28	0	48	0	68	0
9	0	29	NC	49	0	69	2.2 to 2.5
10	0	30	0	50	NC	70	5.0
11	NC	31	NC	51	NC	71	5.0
12	0	32	2.5	52	0	72	5.0
13	NC	33	5.0	53	2.5	73	5.0
14	NC	34	2.5	54	NC	74	5.0
15	NC	35	2.3	55	0	75	5.0
16	NC	36	NC	56	NC	76	0
17	0	37	NC	57	NC	77	5.0
18	3.0	38	NC	58	NC	78	5.0
19	2.4	39	NC	59	0	79	5.0
20	2.4	40	NC	60	NC	80	0

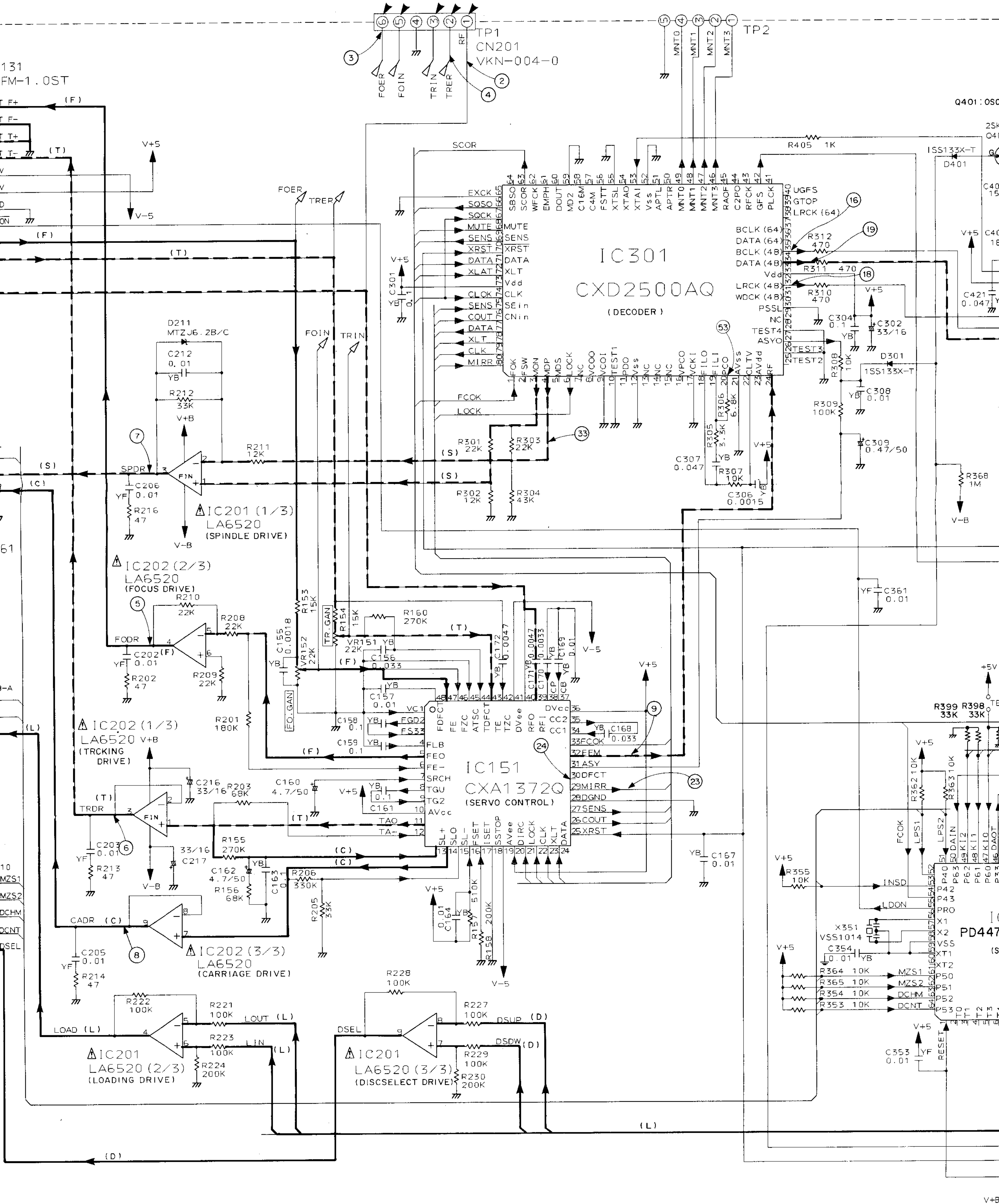
IC401 (SM5871AS)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.7	15	0
2	0	16	5.0
3	0	17	5.0
4	2.8	18	2.5
5	5.0	19	0
6	5.0	20	2.5
7	5.0	21	5.0
8	2.5	22	5.0
9	2.4	23	2.5
10	2.5	24	0
11	5.0	25	2.5
12	0	26	5.0
13	NC	27	5.0
14	5.0	28	2.6

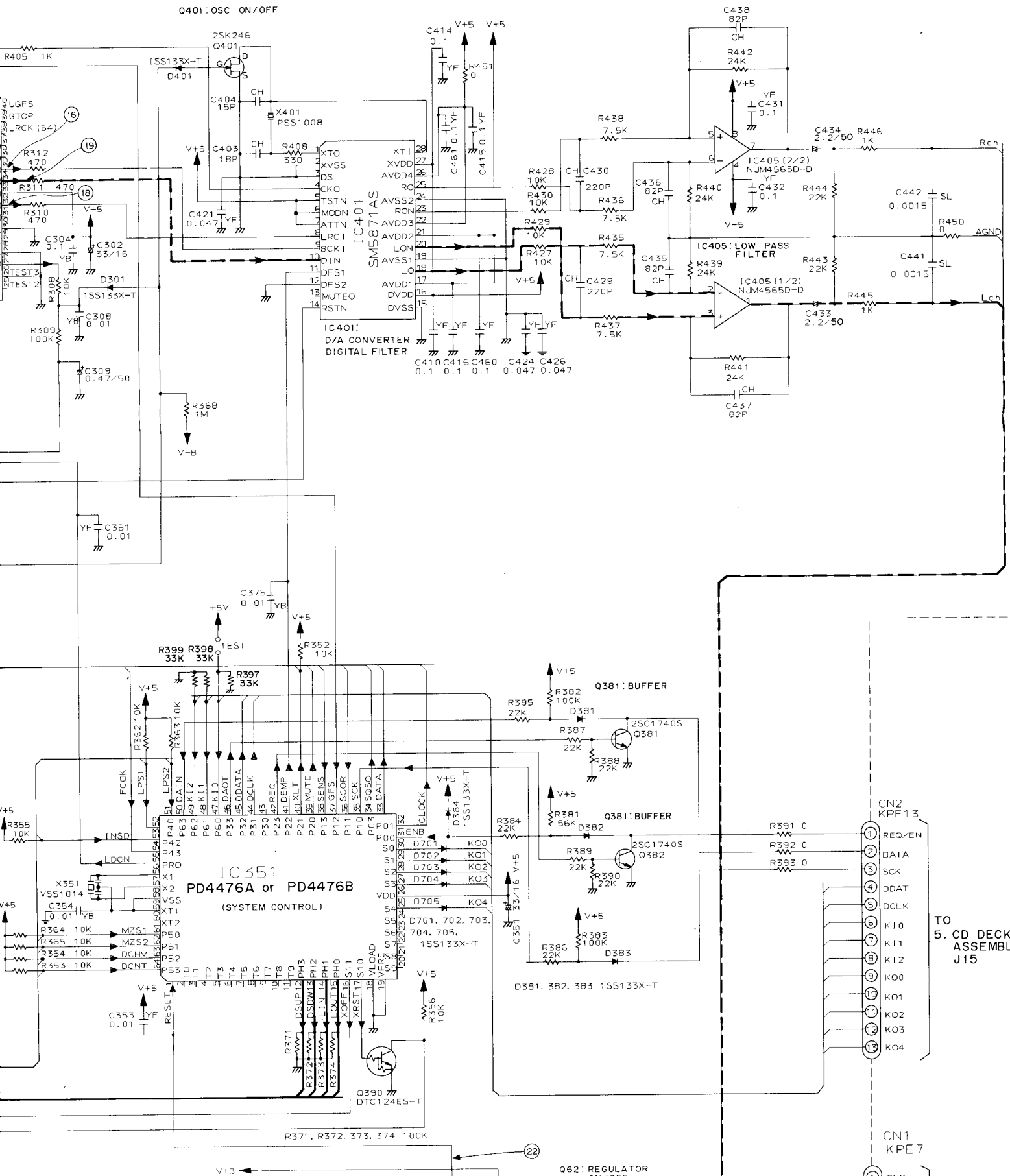
IC151 (CXA1372Q)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	25	5.0
2	0	26	0
3	0	27	5.0
4	0	28	0
5	0	29	0
6	0	30	NC
7	0.3	31	2.5
8	0	32	2.5
9	0	33	5.0
10	5.0	34	−2.1
11	0	35	−2.3
12	0	36	5.0
13	0	37	−1.3
14	0.2 to 0.4	38	−2.0
15	0	39	0
16	−4.1	40	1.1

IC405 (NJM4565D-D)


TP1
CN201
VKN-004-0
TP2
IC301
CXD2500AQ
(DECODER)
IC151
CXA1372Q
(SERVO CONTROL)
IC201 (1/3)
LA6520
(SPINDLE DRIVE)
IC202 (2/3)
LA6520
(FOCUS DRIVE)
IC202 (1/3)
LA6520
(TRCKING DRIVE)
IC202 (3/3)
LA6520
(CARRIAGE DRIVE)
IC201
LA6520 (2/3)
(LOADING DRIVE)
IC201
LA6520 (3/3)
(DISCSELECT DRIVE)
D211
MTZJ6.2B/C
D301
1SS133X-T
D401
1SS133X-T
X351
VSS1014
Q401 : OSC
PD447

MOTHER BOARD ASSEMBLY (PWM1724)



IC301 (CXD2500AQ)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.0	21	0	41	NC	61	NC
2	NC	22	3.0	42	5.0	62	NC
3	5.0	23	5.0	43	NC	63	0
4	2.6	24	2.5	44	NC	64	NC
5	NC	25	NC	45	NC	65	0
6	5.0	26	0	46	4.5	66	3.3 to 4.3
7	NC	27	2.5	47	0	67	5.0
8	NC	28	0	48	0	68	0
9	0	29	NC	49	0	69	2.2 to 2.5
10	0	30	0	50	NC	70	5.0
11	NC	31	NC	51	NC	71	5.0
12	0	32	2.5	52	0	72	5.0
13	NC	33	5.0	53	2.5	73	5.0
14	NC	34	2.5	54	NC	74	5.0
15	NC	35	2.3	55	0	75	5.0
16	NC	36	NC	56	NC	76	0
17	0	37	NC	57	NC	77	5.0
18	3.0	38	NC	58	NC	78	5.0
19	2.4	39	NC	59	0	79	5.0
20	2.4	40	NC	60	NC	80	0

IC401 (SM5871AS)

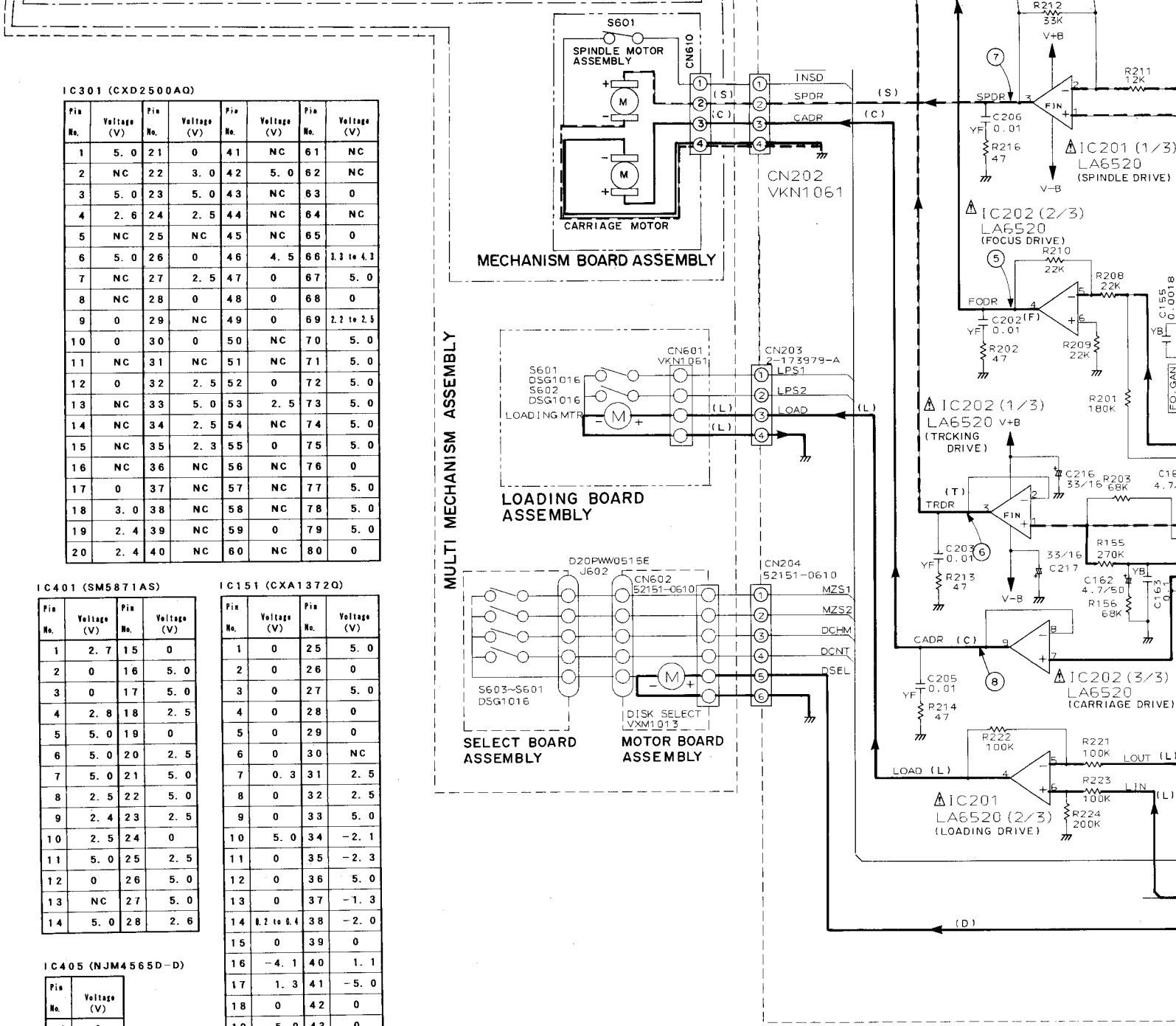
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	2.7	15	0
2	0	16	5.0
3	0	17	5.0
4	2.8	18	2.5
5	5.0	19	0
6	5.0	20	2.5
7	5.0	21	5.0
8	2.5	22	5.0
9	2.4	23	2.5
10	2.5	24	0
11	5.0	25	2.5
12	0	26	5.0
13	NC	27	5.0
14	5.0	28	2.6

IC151 (CXA1372Q)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	25	5.0
2	0	26	0
3	0	27	5.0
4	0	28	0
5	0	29	0
6	0	30	NC
7	0.3	31	2.5
8	0	32	2.5
9	0	33	5.0
10	5.0	34	−2.1
11	0	35	−2.3
12	0	36	5.0
13	0	37	−1.3
14	0.2 to 0.4	38	−2.0
15	0	39	0
16	−4.1	40	1.1
17	1.3	41	−5.0
18	0	42	0
19	−5.0	43	0
20	5.0	44	0
21	5.0	45	0
22	5.0	46	0
23	5.0	47	0
24	5.0	48	0

IC405 (NJM4565D-D)

Pin No.	Voltage (V)
1	0
2	1.4
3	1.4
4	−5.0
5	1.4
6	1.4
7	0
8	5.0



NOTE: Voltage for CD section

• DC voltage(V) in PLAY mode unless otherwise noted

(F) : FOCUS SERVO SIGNAL

: SIGNAL LINE

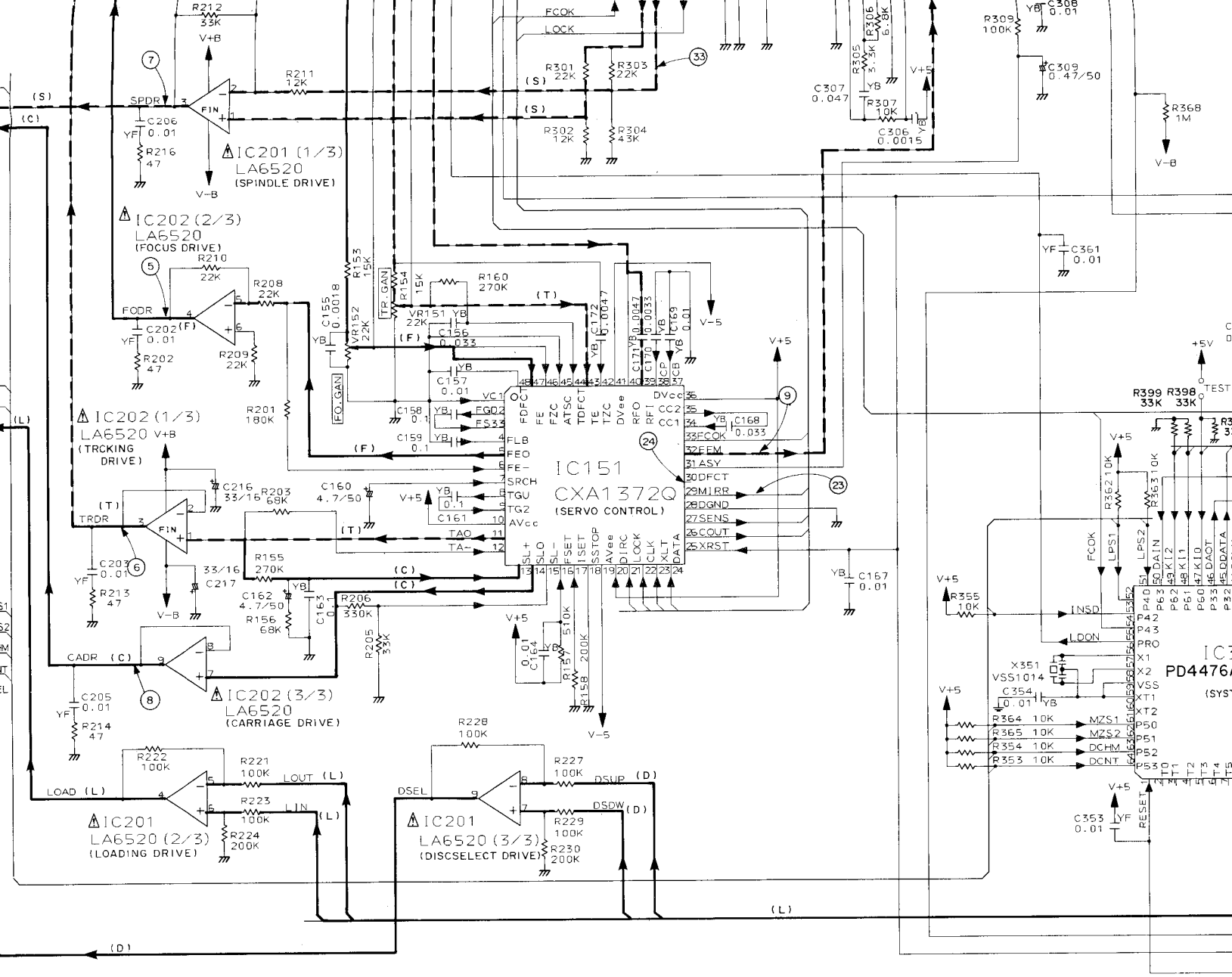
(T) : TRACKING SERVO SIGNAL

(C) : CARRIAGE MOTOR ROUTE

(L) : LOADING MOTOR ROUTE

(S) : SPINDLE MOTOR ROUTE

(D) : DISC SELECT MOTER ROUTE



ge for CD section
oltage(V) in PLAY mode unless otherwise noted.

-:FOCUS SERVO SIGNAL
-:SIGNAL LINE
-:TRACKING SERVO SIGNAL
-:CARRIAGE MOTOR ROUTE
-:LOADING MOTOR ROUTE
-:SPINDLE MOTOR ROUTE
-:DISC SELECT MOTER ROUTE

IC201 (LA6520)

Pin No.	Voltage (V)
1	1. 7
2	1. 8
3	0.6 to 0.8
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	6. 4
Fin	−7. 2

IC202 (LA6520)

Pin No.	Voltage (V)
1	0
2	0
3	0
4	0. 3
5	0
6	0
7	0.1 to 0.3
8	0.1 to 0.3
9	0.1 to 0.3
10	0
11	0. 2
12	6. 4
Fin	−7. 2

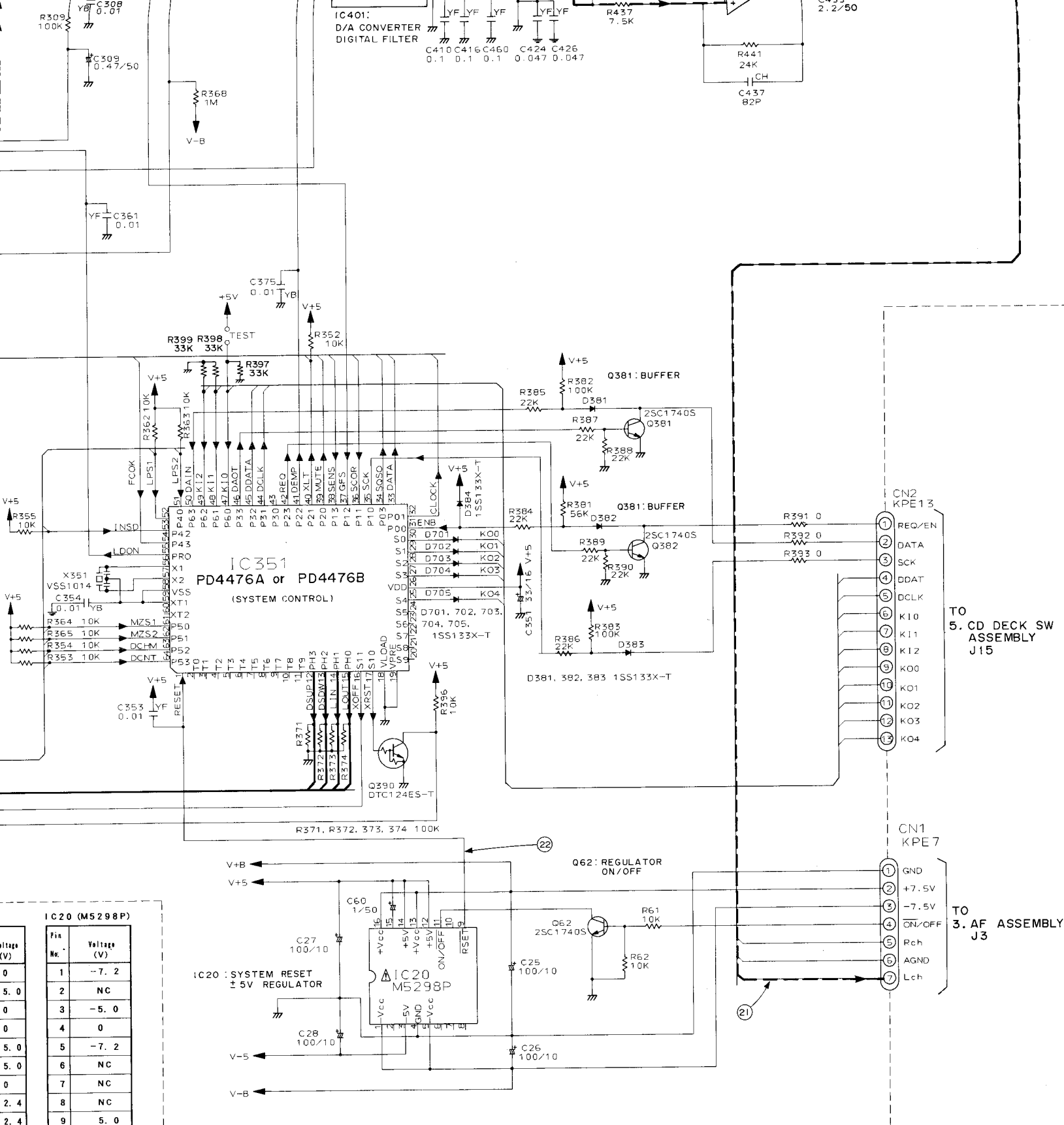
IC351 (PD4476A or PD4476B)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5. 0	17	0	33	5. 0	49	0
2	NC	18	0	34	5. 0	50	5. 0
3	NC	19	0	35	5. 0	51	0
4	NC	20	NC	36	0	52	0
5	NC	21	NC	37	5. 0	53	5. 0
6	NC	22	NC	38	2.2 to 2.5	54	5. 0
7	NC	23	NC	39	0	55	0
8	NC	24	NC	40	5. 0	56	2. 4
9	NC	25	1. 5	41	5. 0	57	2. 4
10	NC	26	5. 0	42	0	58	0
11	NC	27	1. 0	43	NC	59	0
12	0	28	0. 5	44	5. 0	60	NC
13	0	29	0. 5	45	0	61	5. 0
14	0	30	2. 4	46	0	62	5. 0
15	0	31	5. 0	47	0	63	0
16	−7. 2	32	5. 0	48	0	64	5. 0

IC20 (M5298P)

Pin No.	Voltage (V)
1	−7. 2
2	NC
3	−5. 0
4	0
5	−7. 2
6	NC
7	NC
8	NC
9	5. 0
10	NC
11	0. 6
12	5. 0
13	6. 4
14	5. 0
15	1. 3
16	6. 4

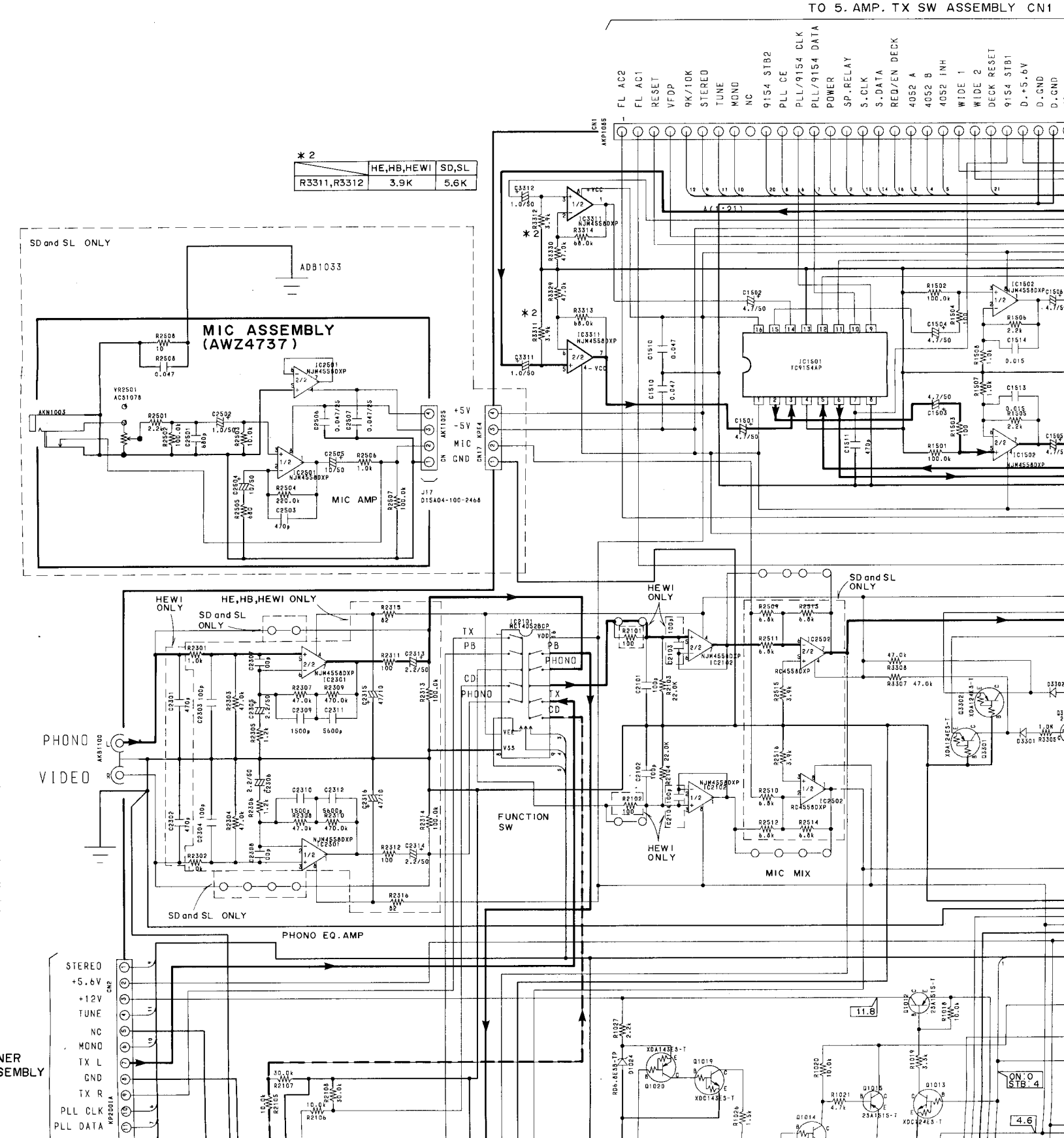
IC20 : SYST
± 5V



IC20 (M5298P)

Pin No.	Voltage (V)
1	-7. 2
2	NC
3	-5. 0
4	0
5	-7. 2
6	NC
7	NC
8	NC
9	5. 0
10	NC
11	0. 6
12	5. 0
13	6. 4
14	5. 0
15	1. 3
16	6. 4

MBLY, POWER ASSEMBLY, HEADPHONE ASSEMBLY, TOR ASSEMBLY and MIC ASSEMBLY (SD, SL ONLY)



HEADPHONE ASSEMBLY
(AWZ4734 : HE, HB, SD, SL)
(AWZ4735 : HEWI)

ADB1033

TO 5. AMP. TX SW ASSEMBLY CN1

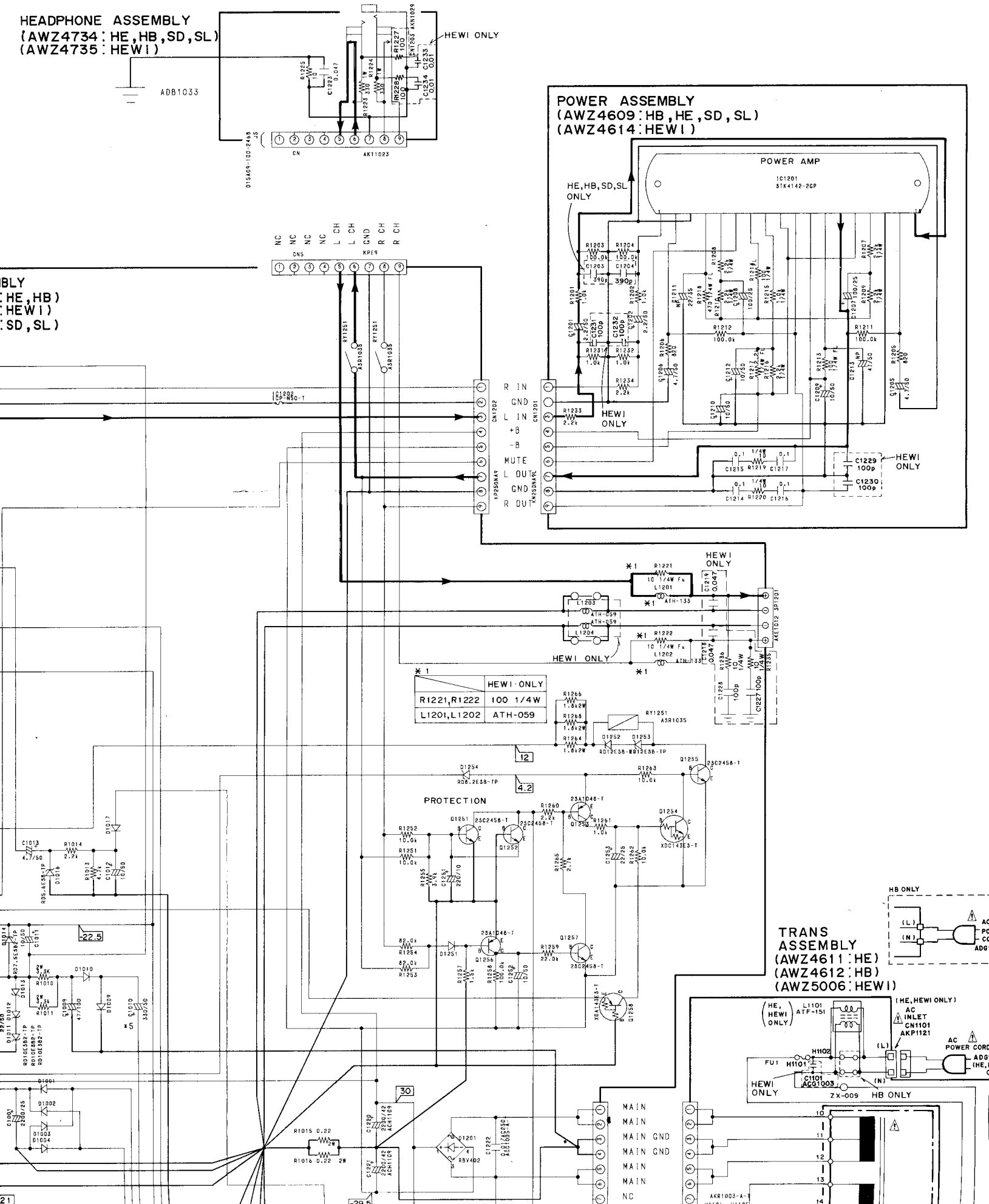
AF ASSEMBLY
(AWZ4608 : HE, HB)
(AWZ4613 : HEWI)
(AWZ4615 : SD, SL)

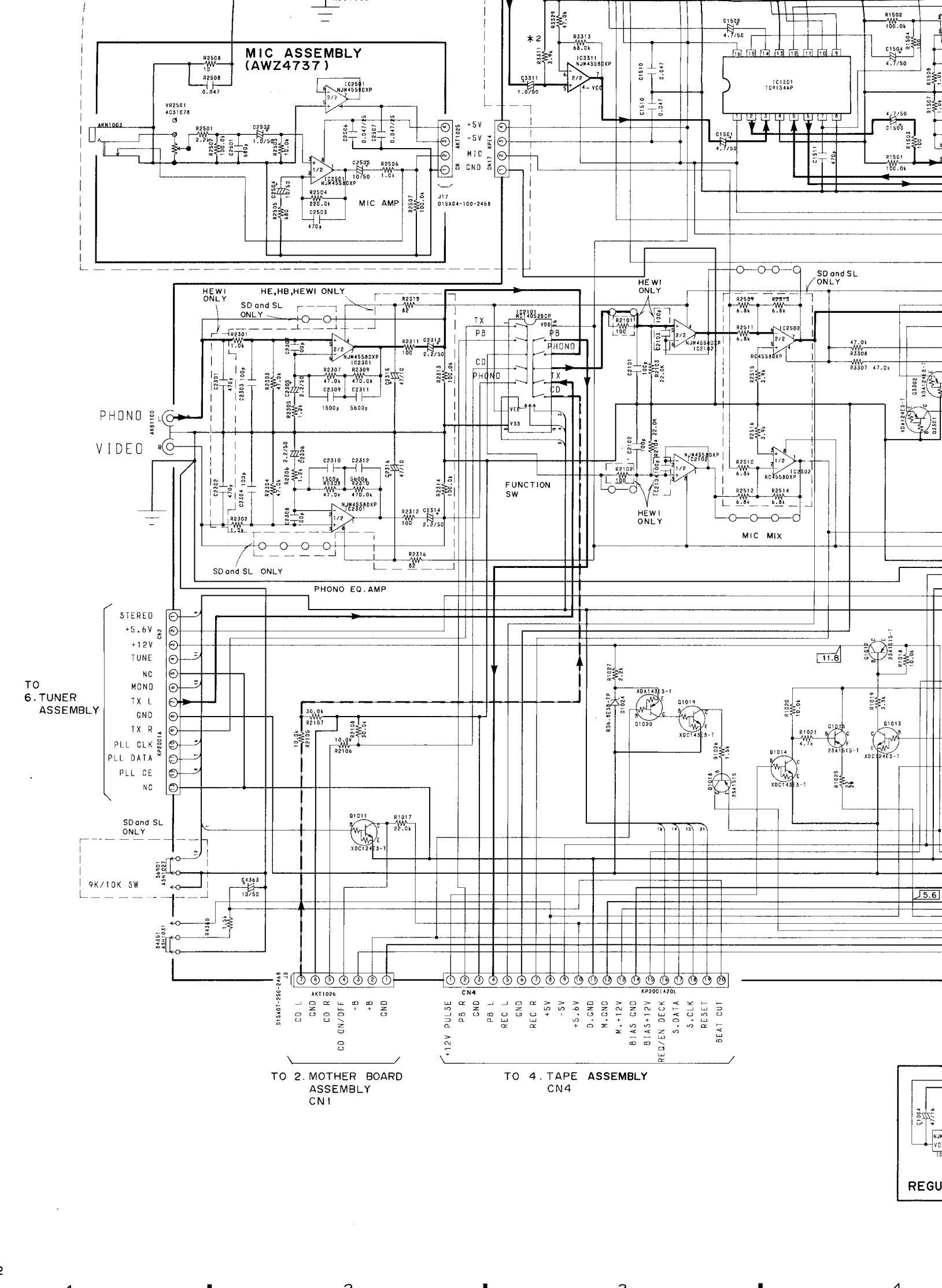
SD and SL ONLY

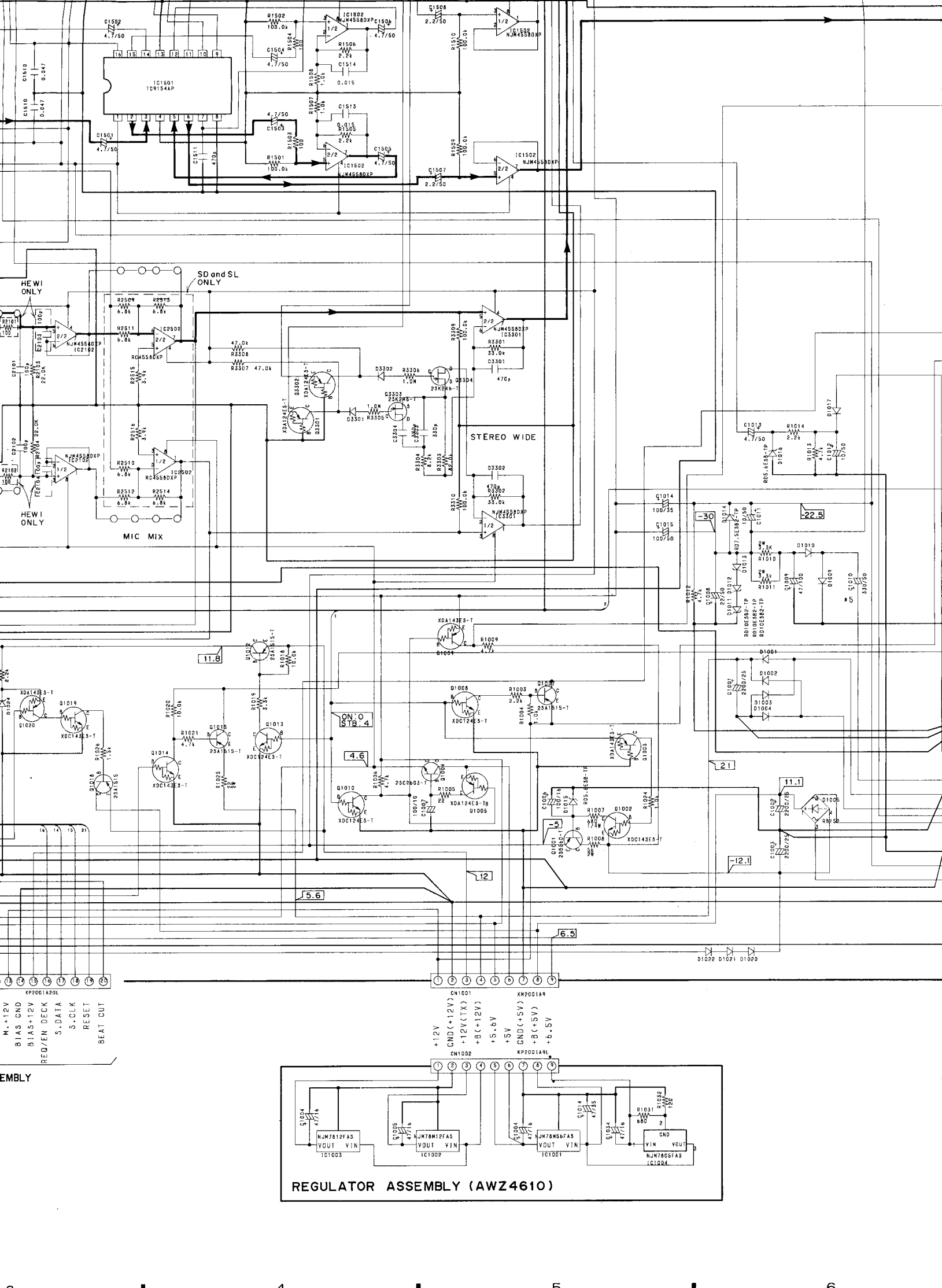
STEREO WIDE

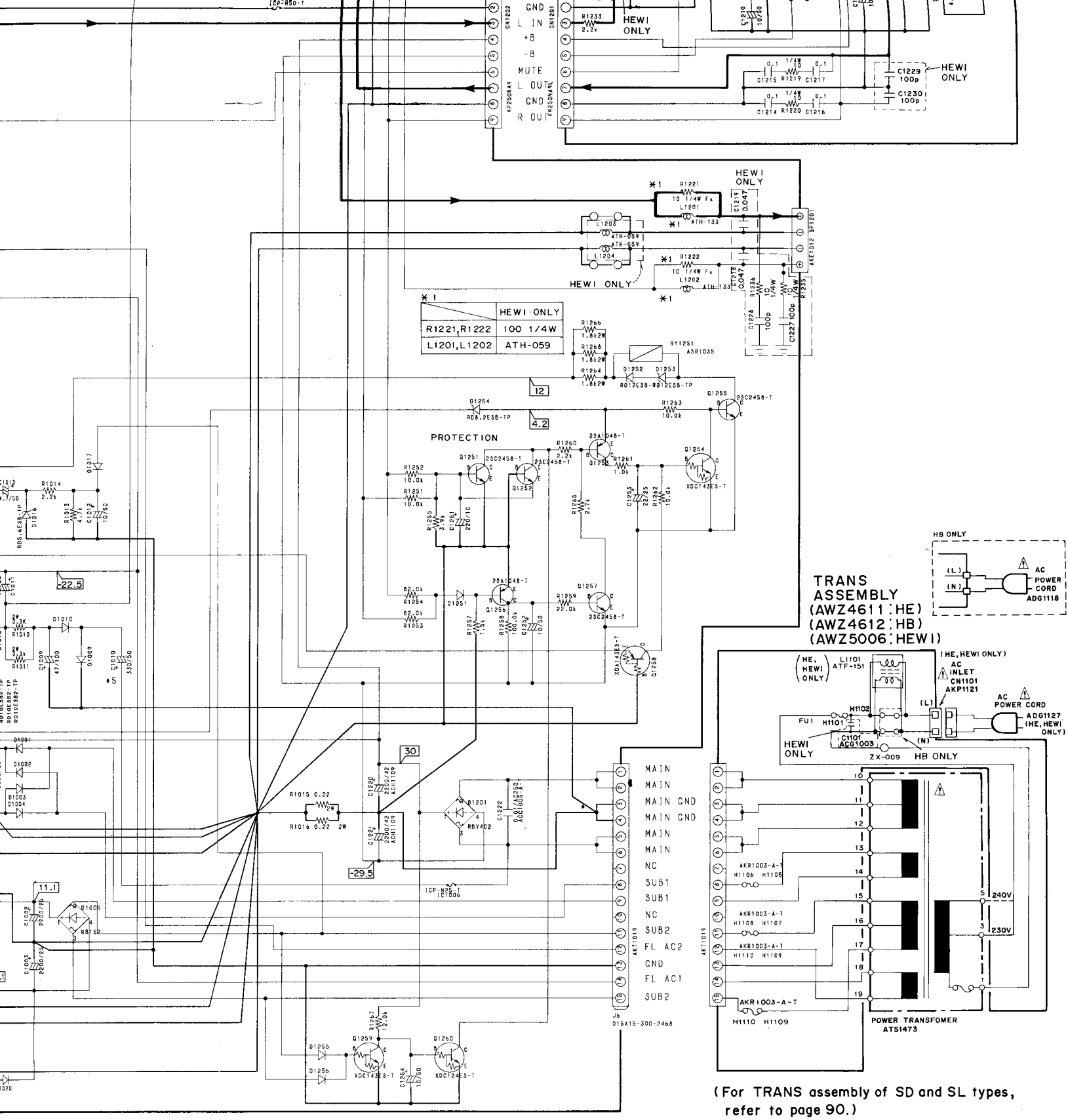
MIC MIX

ON : 0
STB : 4


HEADPHONE ASSEMBLY
(AWZ4734 : HE, HB, SD, SL)
(AWZ4735 : HEWI)
HEWI ONLY
ADB1033
POWER ASSEMBLY
(AWZ4609 : HB, HE, SD, SL)
(AWZ4614 : HEWI)
POWER AMP
HE, HB, SD, SL ONLY
HEWI ONLY
PROTECTION
TRANS ASSEMBLY
(AWZ4611 : HE)
(AWZ4612 : HB)
(AWZ5006 : HEWI)
HB ONLY
(HE, HEWI ONLY)
MAIN
MAIN GND
NC
R IN
GND
L IN
+B
-B
MUTE
L OUT
GND
R OUT
NC NC NC NC L CH L CH GND R CH R CH
CN5 KPE9
CN1202 CN1201
HP25GNAG
HM35GNAG
AKE1012 3P1201
AKP1121
AKR1003-A-1
ZX-009
ACG1003
ATF-151
ATH-133
ATH-059
ASR1035
RD12ES8-B
RD8.2ES8-TP
RD7.5ES8-TP
RD10ES8-TP
RD10ES8Z-TP
RBV402
2SC2458-T
2SA1048-T
2SA1463-T
XDC143E8-T
XDA143E8-T
HEWI ONLY
R1221,R1222 100 1/4W
L1201,L1202 ATH-059


MIC ASSEMBLY
(AWZ4737)
MIC AMP
+5V
-5V
MIC
GND
HEWI ONLY
HE,HB,HEWI ONLY
SD and SL ONLY
PHONO
VIDEO
FUNCTION SW
MIC MIX
PHONO EQ. AMP
STEREO
+5.6V
+12V
TUNE
NC
MONO
TX L
GND
TX R
PLL CLK
PLL DATA
PLL CE
NC
9K/10K SW
TO 6. TUNER ASSEMBLY
CD L
GND
CD R
CD ON/OFF
-B
+B
GND
TO 2. MOTHER BOARD ASSEMBLY CN1
+12V PULSE
PB R
GND
PB L
REC L
GND
REC R
+5V
-5V
+5.6V
D.GND
M.GND
M.+12V
BIAS GND
BIAS+12V
REQ/EN DECK
S.DATA
S.CLK
RESET
BEAT CUT
TO 4. TAPE ASSEMBLY CN4
REGU

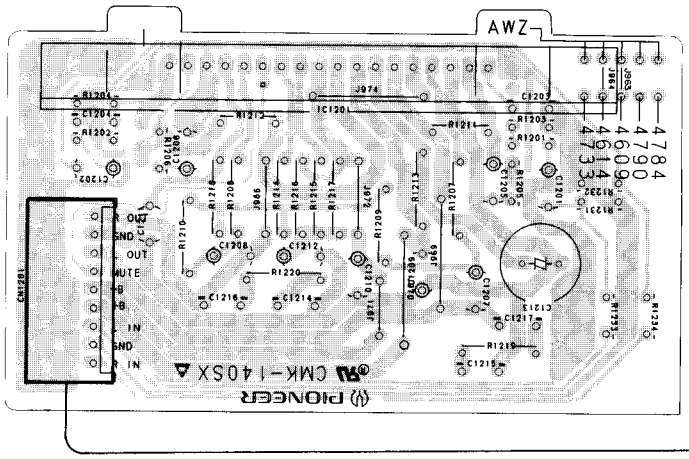

HEWI ONLY
SD and SL ONLY
MIC MIX
STEREO WIDE
ON:0
STB:4
11.8
4.6
5.6
6.5
12
21
11.1
-12.1
-30
-22.5
-5
+5
M.+12V
BIAS GND
BIAS+12V
REQ/EN DECK
S.DATA
S.CLK
RESET
BEAT CUT
+12V
GND(+12V)
+12V(TX)
+B(+12V)
+5.6V
+5V
GND(+5V)
+B(+5V)
+6.5V
REGULATOR ASSEMBLY (AWZ4610)



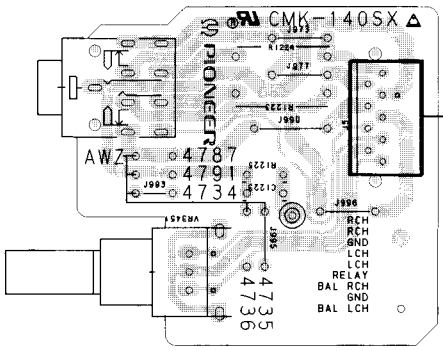
(For TRANS assembly of SD and SL types, refer to page 90.)

nent side

POWER ASSEMBLY
(AWZ4609 : HE, HB, SD, SL)
(AWZ4614 : HEWI)



HEADPHONE ASSMBLY
(AWZ4734 : HE, HB, SD, SL)
(AWZ4735 : HEWI)

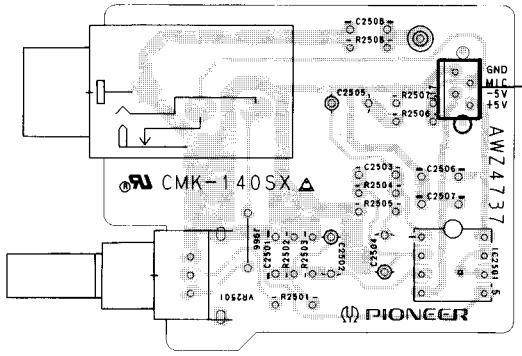


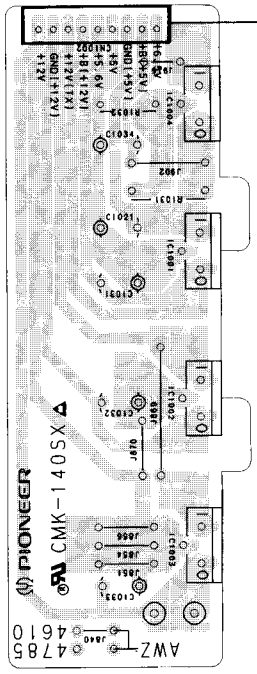
TO
AMP. TX SW
ASSEMBLY
CN 1

Q1010
Q1009
Q1005 Q1253
Q1018 Q1252
Q1008
Q1004 Q1251
Q1013
Q1003
Q1019
Q1254
Q1259
Q1012
Q1020
Q1250
Q1007
Q1258
IC1503

SD, SL Types only.

MIC ASSEMBLY (AWZ4737)





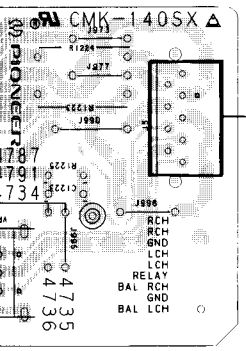
Q1001
Q1015
Q1014
IC1501
IC1502
Q1002
Q1260
Q1259
IC3331
IC3301
IC2301
IC2502
IC2102
IC2101
Q3303
Q3304
Q3302
Q3301

REGULATOR ASSEMBLY (AWZ4610)

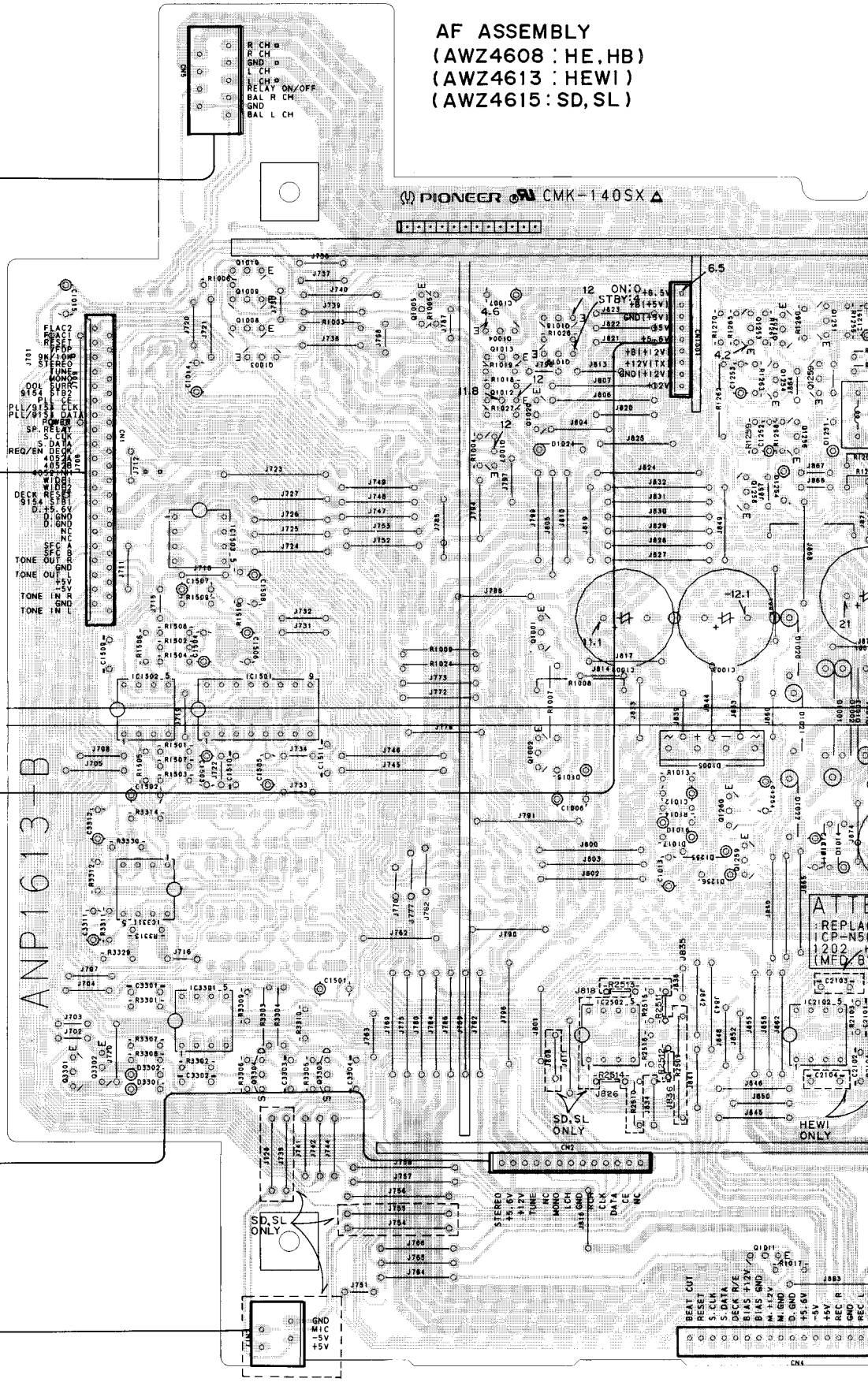
TO
TUNER ASSEMBLY
CN 2

Q1011

ONE ASSMBLY
34 : HE, HB, SD, SL)
35 : HEWI)



AF ASSEMBLY
(AWZ4608 : HE, HB)
(AWZ4613 : HEWI)
(AWZ4615 : SD, SL)



Q1010

Q1009 Q1005 Q1253
Q1018 Q1252

Q1008 Q1004 Q1251
Q1013

Q1003 Q1019 Q1254
Q1259

Q1012

Q1020

Q1250

TO
AMP. TX SW
ASSEMBLY
CN 1

Q1007

Q1258

IC1503

Q1001

Q1015
Q1014

IC1501

IC1502

Q1002

Q1260

Q1259

IC3331

IC3301 IC2301
IC2502 IC2102
IC2101

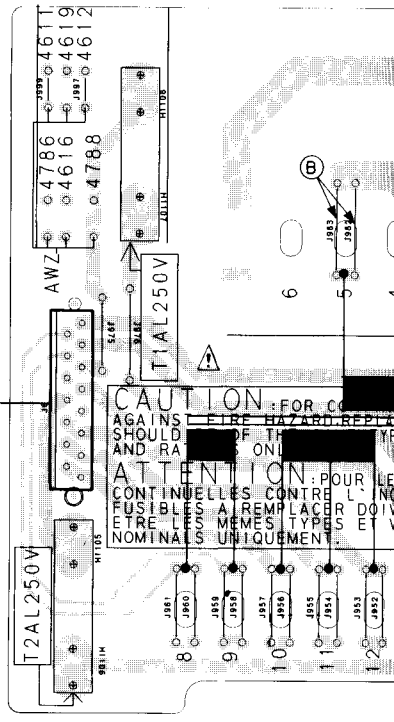
Q3303
Q3304
Q3302
Q3301

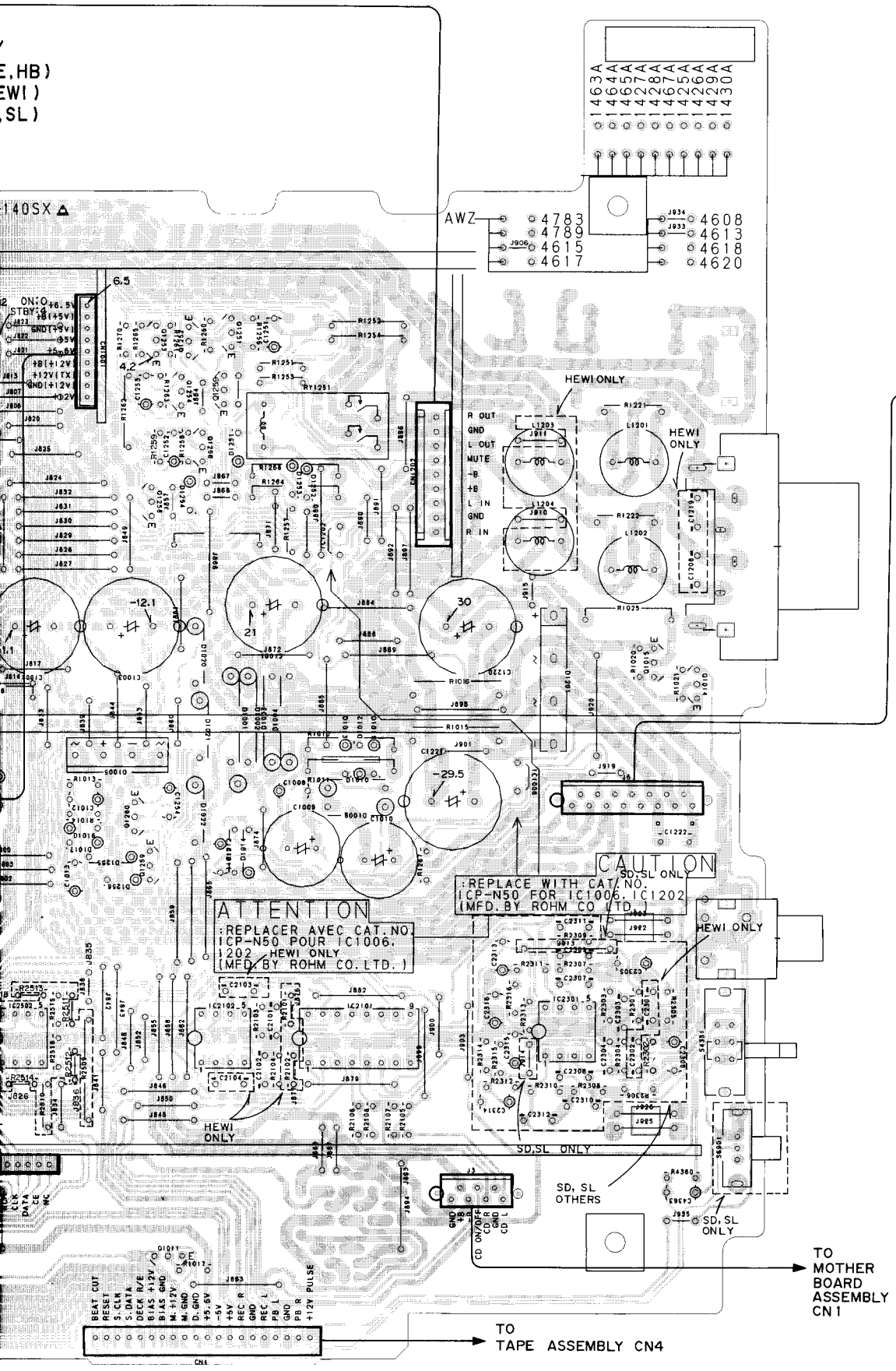
LATOR
MBLY
4610)

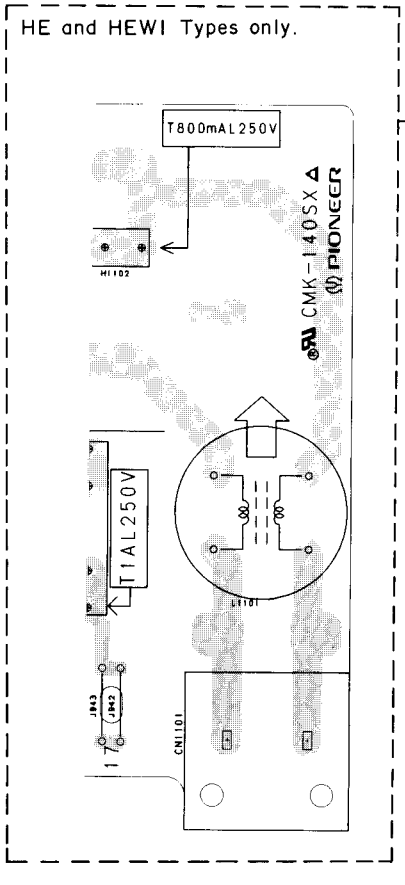
TO
TUNER ASSEMBLY
CN 2

Q1011

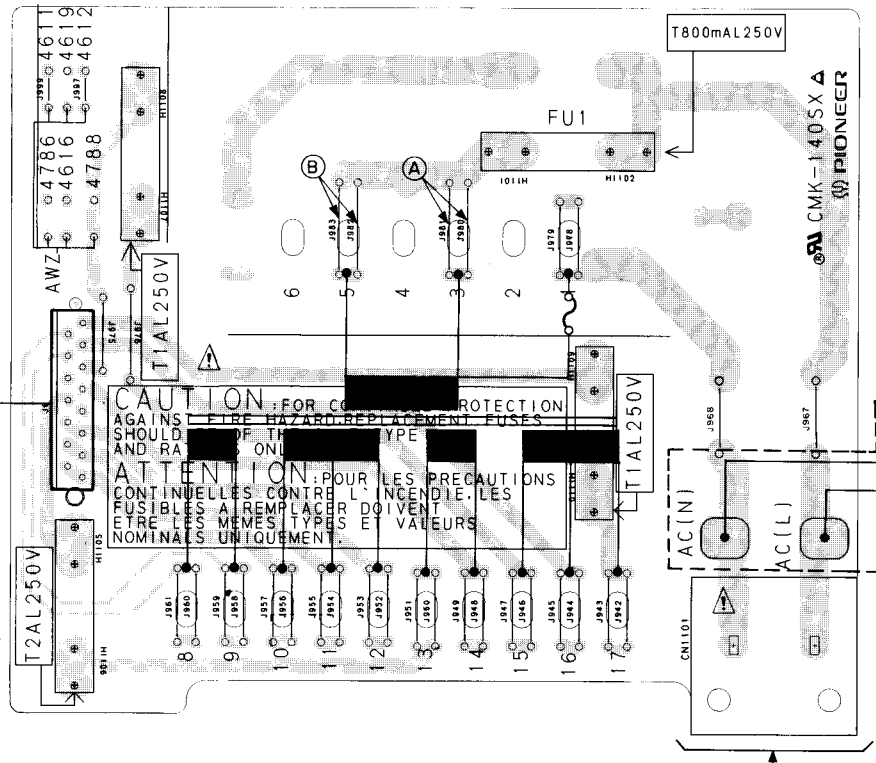
TRANS ASSEMBLY
(AWZ4611 : HE)
(AWZ4612 : HB)
(AWZ5006 : HEWI)







TRANS ASSEMBLY
(AWZ4611 : HE)
(AWZ4612 : HB)
(AWZ5006 : HEWI)



Line Voltage Selection

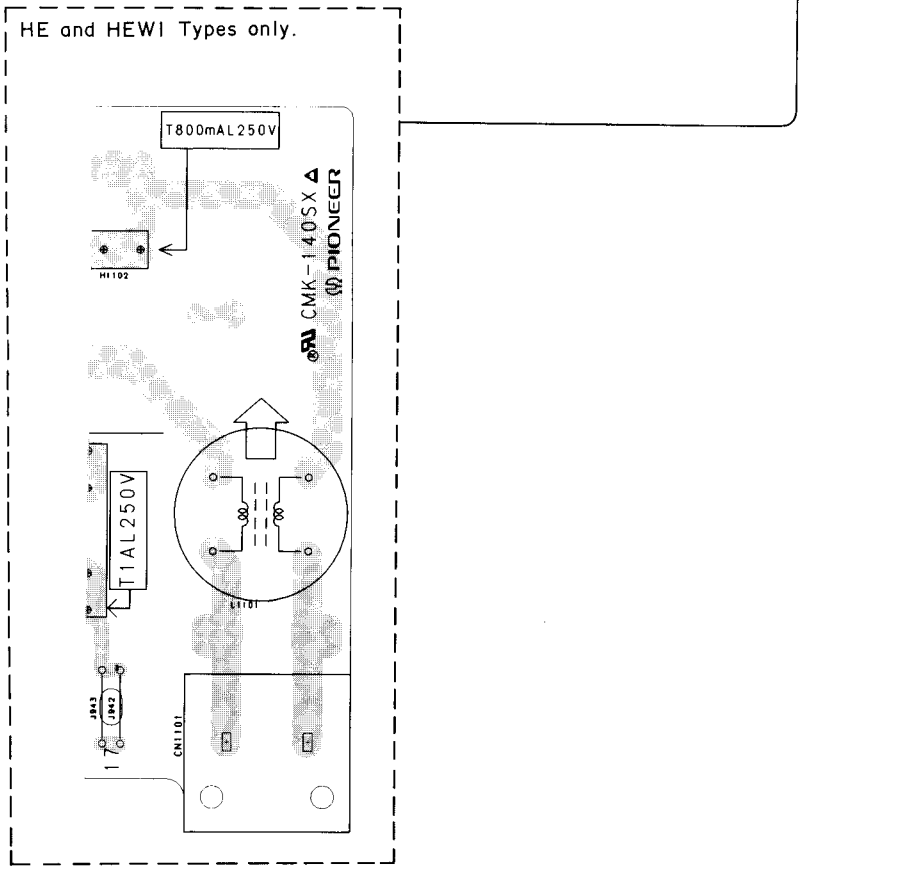
Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the Top cover
3. Change the jumper wire of Ⓐ and Ⓑ as follows.

Voltage	Ⓐ	Ⓑ
220V	USED	UNUSED
240V	UNUSED	USED

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

Parts No	Description
AAX-193	220 V label
AAX-192	240 V label

NOTE :
- The wiring No. on the jumper wire not match that on the board in some case.
- For TRANS assembly of SD and SL types, refer to page 90.



NOTE

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

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E C B)	or	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

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

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

TRANS ASSEMBLY
(AWZ4611 : HE)
(AWZ4612 : HB)
(AWZ5006 : HEWI)

Line Voltage Selection

Line voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the Top cover
3. Change the jumper wire of Ⓐ and Ⓑ as follows.

Voltage	Ⓐ	Ⓑ
220V	USED	UNUSED
240V	UNUSED	USED

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

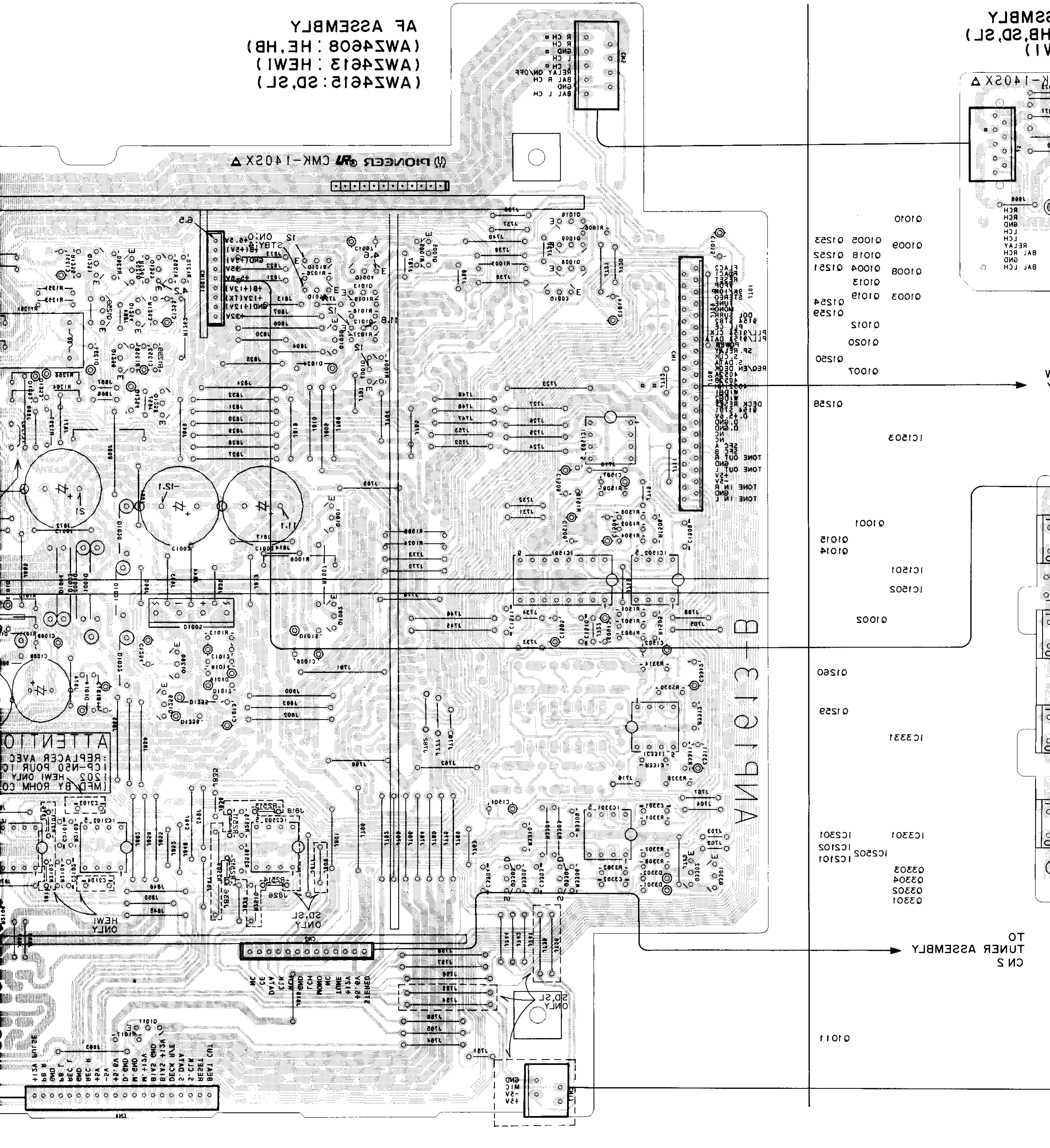
Parts No	Description
AAX-193	220 V label
AAX-192	240 V label

NOTE : • The wiring No. on the jumper wire not match that on the board in some case.
• For TRANS assembly of SD and SL types, refer to page 90.

TRANS ASSEMBLY
(AWZ4611 : HE)
(AWZ4612 : HB)
(AWZ5006 : HEW1)

HE and HEW1 Types only.

9 8 7 6


AF ASSEMBLY
(AWZ4608 : HE,HB)
(AWZ4613 : HEWI)
(AWZ4615 : SD,SL)
PIONEER CMK-140SX
HEWI ONLY
SD,SL ONLY
SD,SL ONLY
TO TUNER ASSEMBLY CN 2

• View

HEADPHONE ASSEMBLY
(AWZ4734 : HE, HB, SD, SL)
(AWZ4735 : HEW1)

POWER ASSEMBLY
(AWZ4609 : HE, HB, SD, SL)
(AWZ4614 : HEW1)

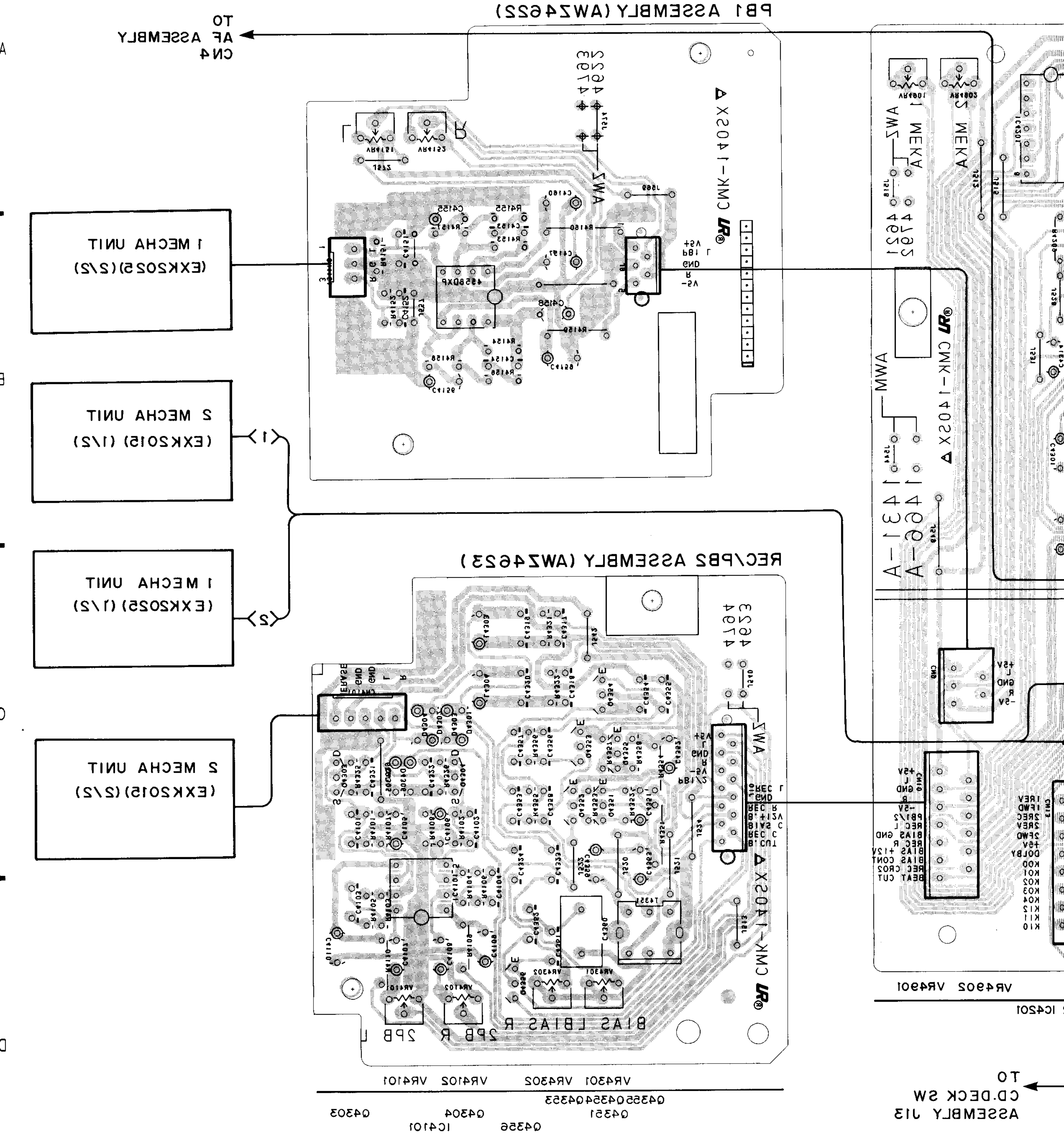
REGULATOR ASSEMBLY
(AWZ4610)

TO AMP.TX SW ASSEMBLY CN1

TO TUNER ASSEMBLY CN2

MIC ASSEMBLY (AWZ4737)

SD, SL Types only.



PB1 ASSEMBLY (AWZ4622)
TO AF ASSEMBLY CN4
1 MECHA UNIT (EXK2025)(2/2)
2 MECHA UNIT (EXK2015)(1/2)
1 MECHA UNIT (EXK2025)(1/2)
2 MECHA UNIT (EXK2015)(2/2)
REC/PB2 ASSEMBLY (AWZ4623)
CMK-1405X
2PB L
2PB R
BIAS R
BIAS L
VR4101 VR4102 VR4302 VR4301
Q4303 Q4304 IC4101 Q4356 Q4351 Q4355Q4354Q4353
VR4902 VR4901
IC4201
TO CD.DECK SW ASSEMBLY J13

4. TAPE ASSEMBLY, PB1 ASSEMBLY and REC/PB2 ASSEMBLY

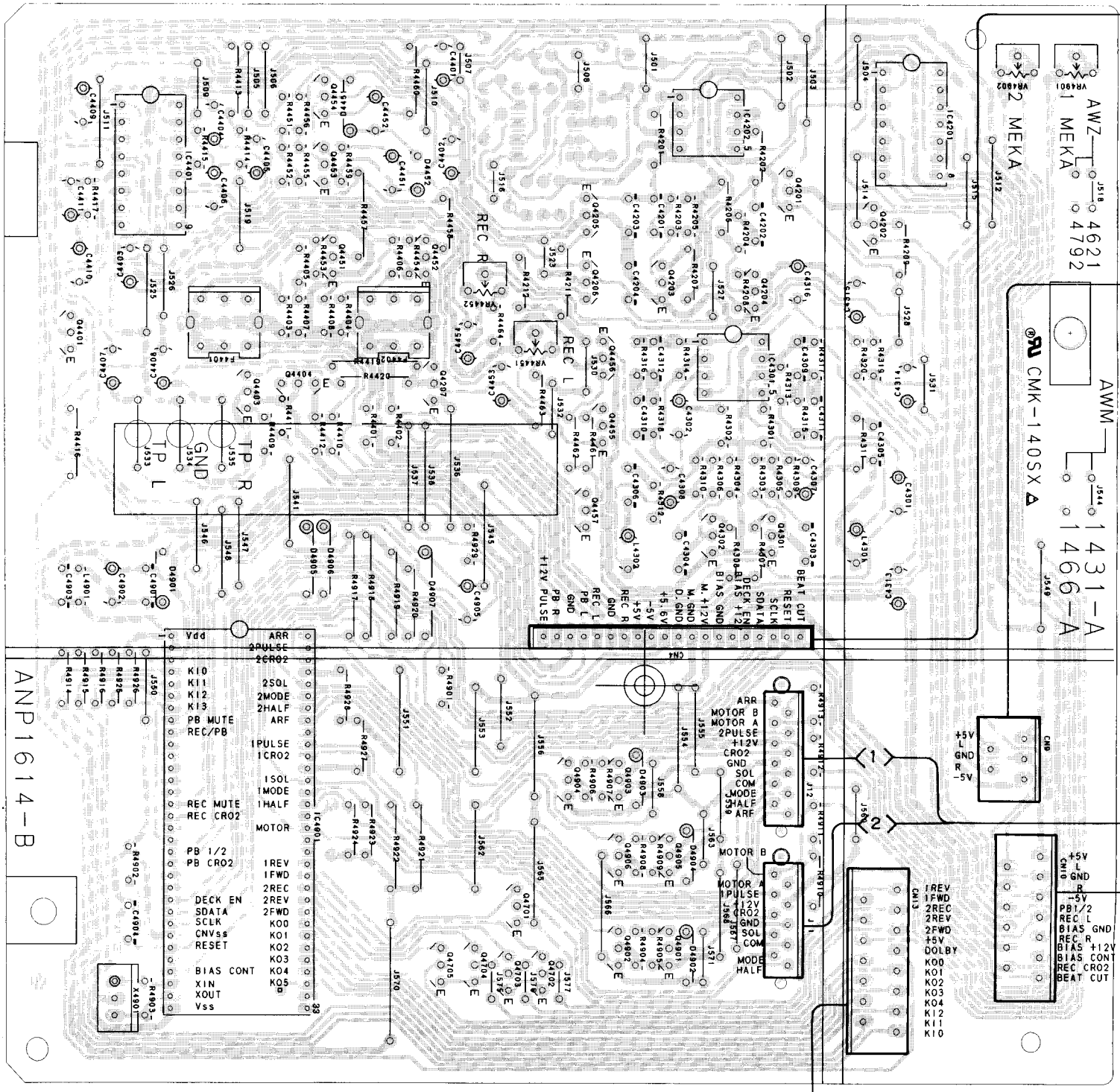
• View from soldering side

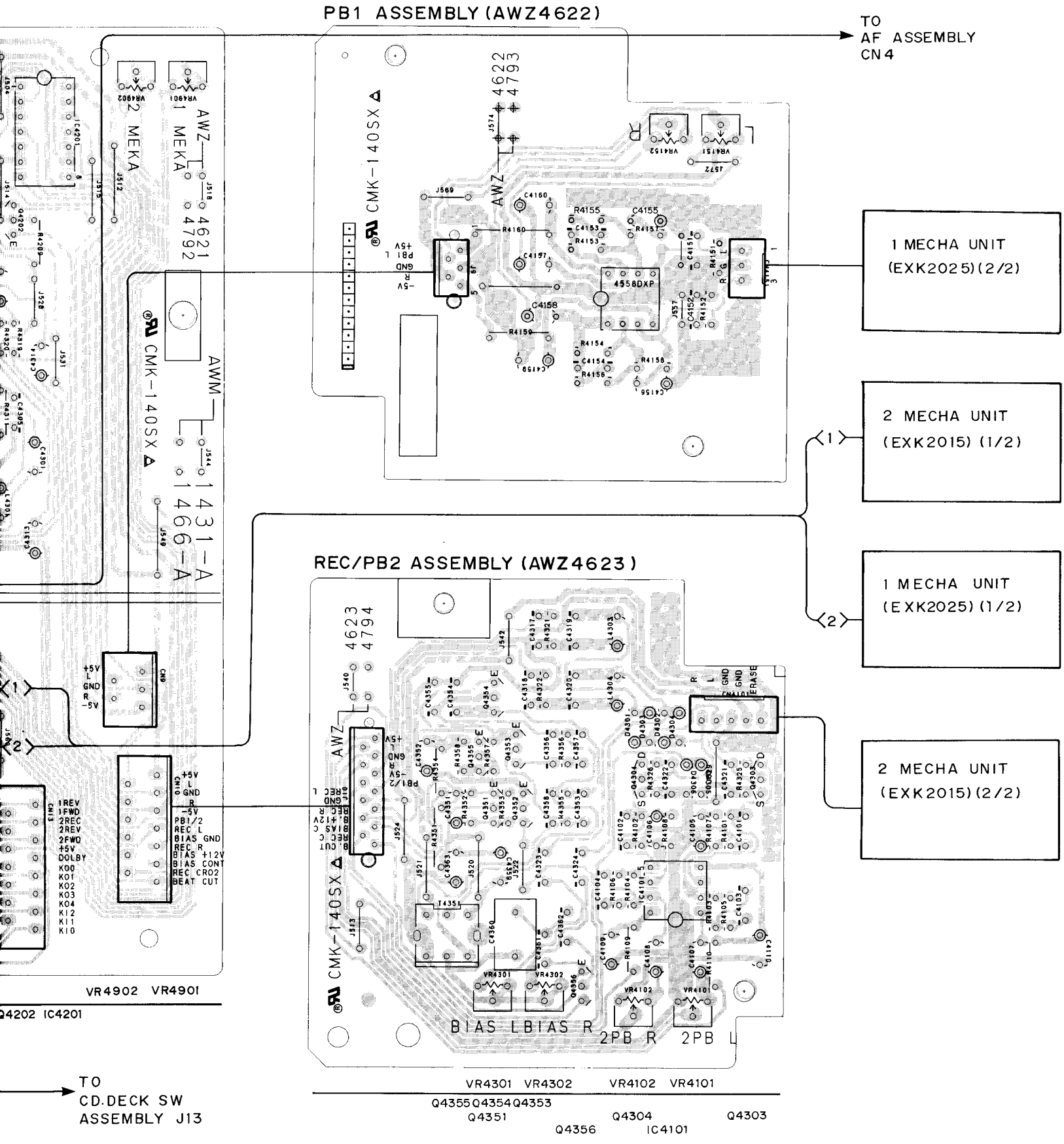
TAPE ASSEMBLY (AWZ4621)

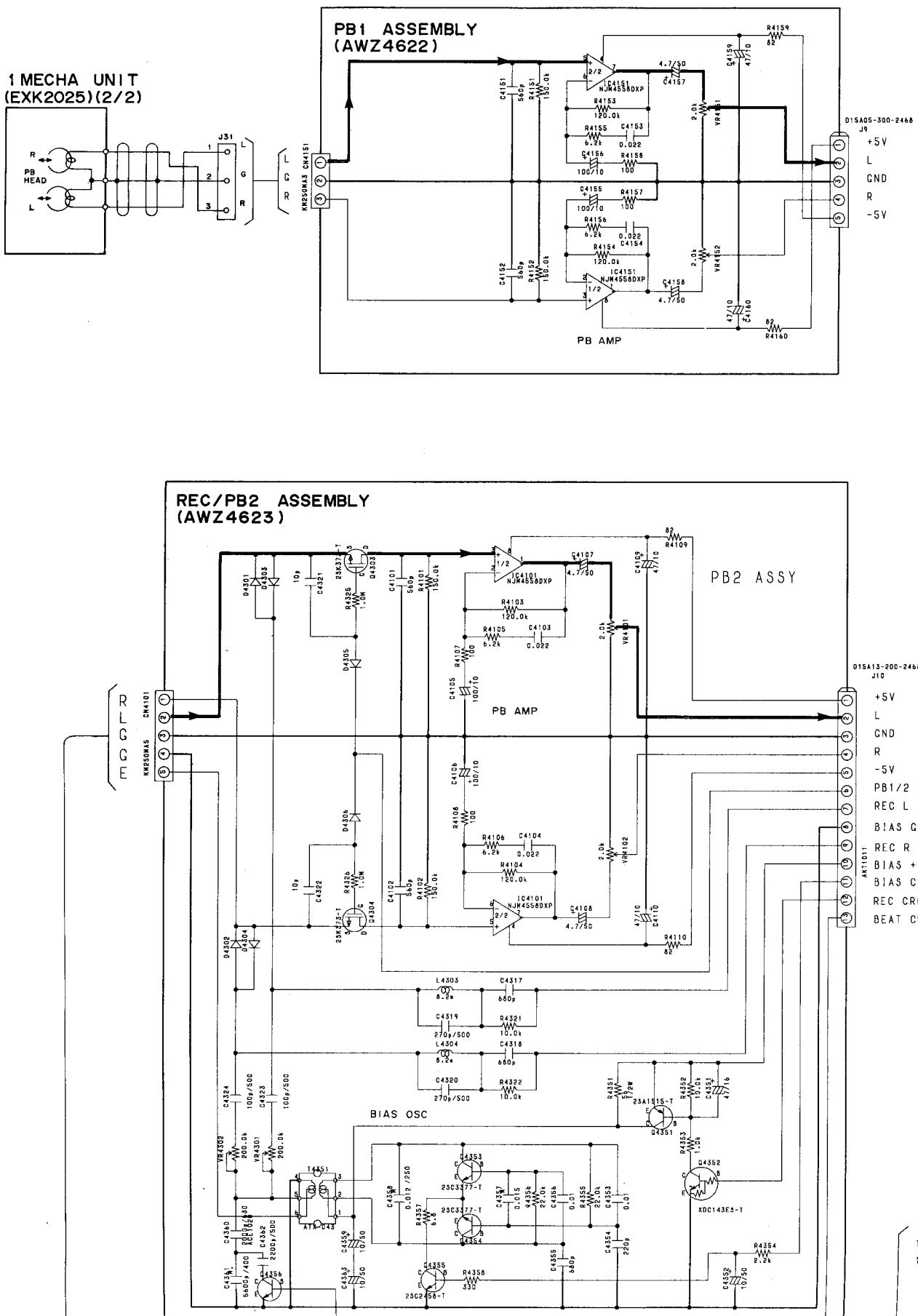
4. TAPE ASSEMBLY, PB1 ASSEMBLY and REC/PB2 ASSEMBLY

- View from component side

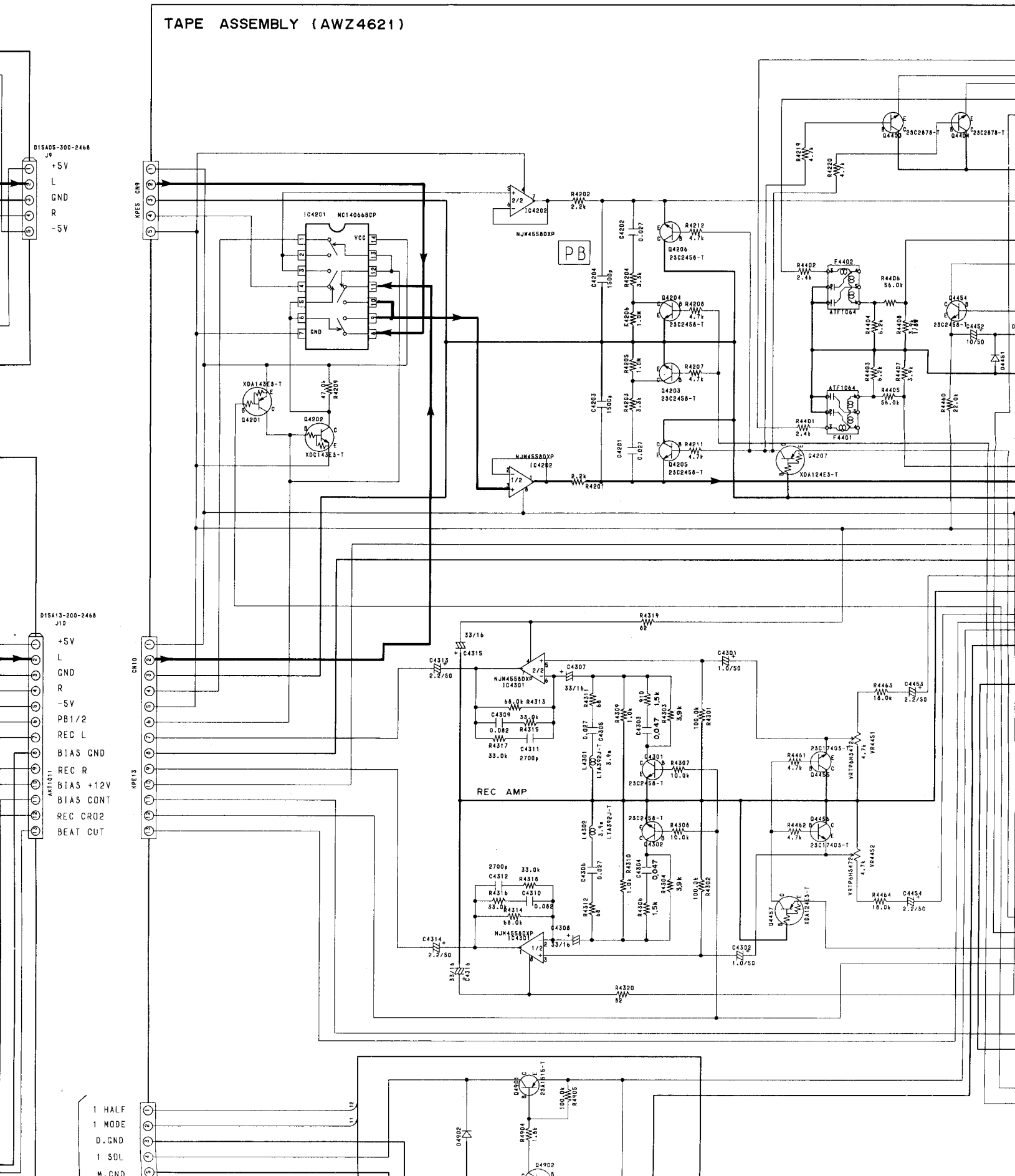
TAPE ASSEMBLY (AWZ4621)

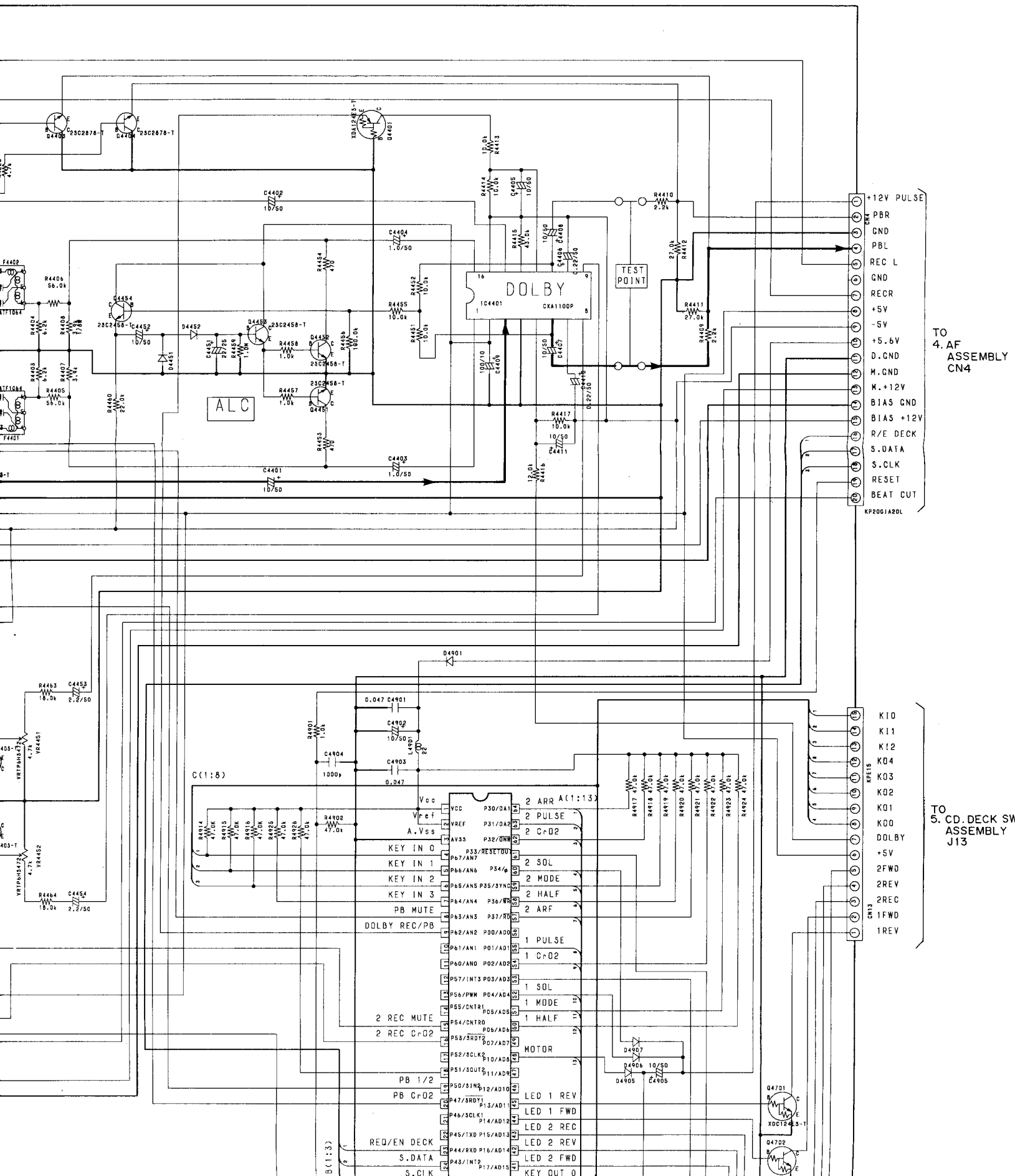


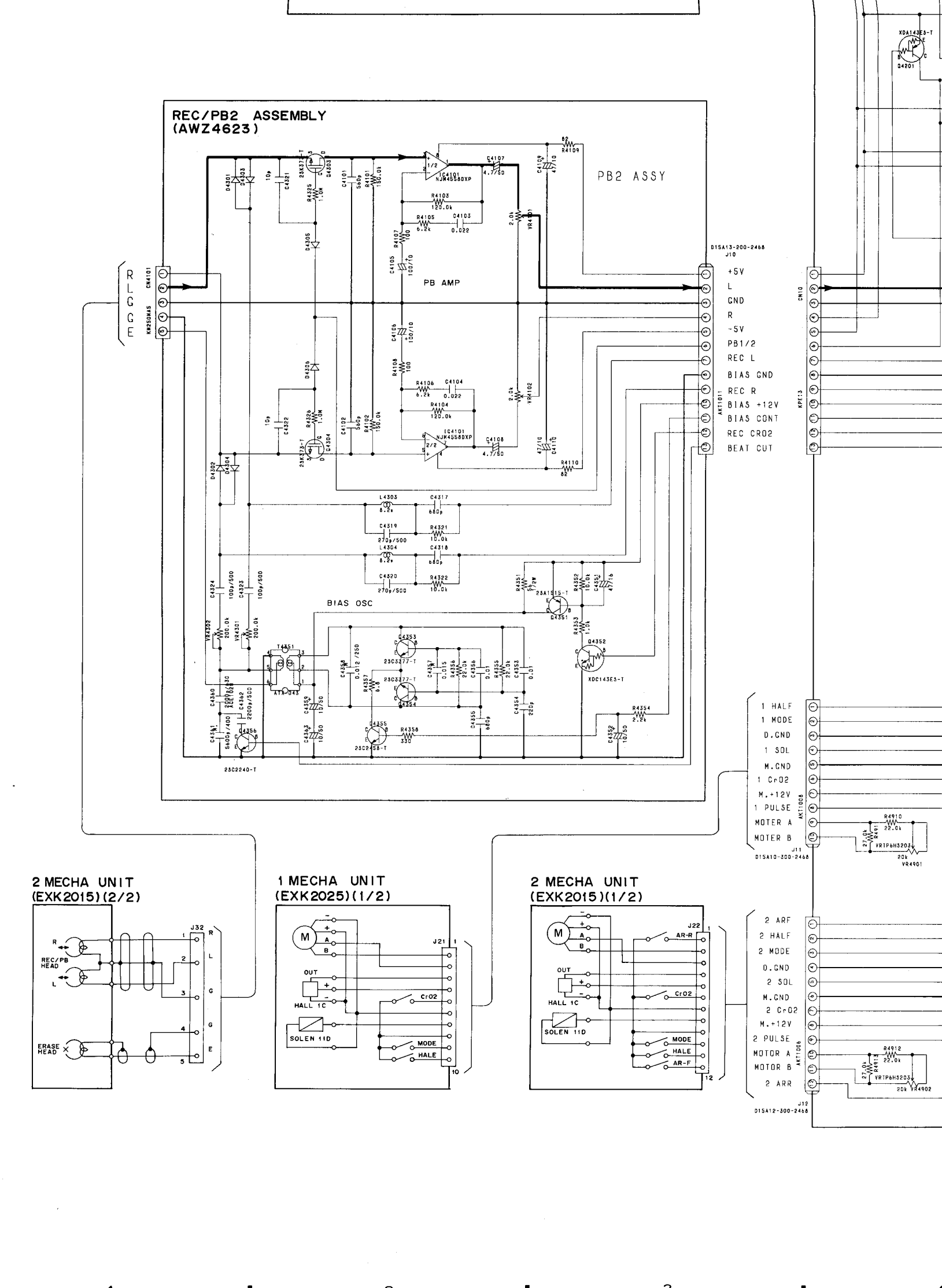

PB1 ASSEMBLY (AWZ4622)
TO
AF ASSEMBLY
CN4
CMK-140SX
AWZ 4622 4793
1 MECHA UNIT
(EXK2025)(2/2)
2 MECHA UNIT
(EXK2015) (1/2)
1 MECHA UNIT
(EXK2025) (1/2)
2 MECHA UNIT
(EXK2015)(2/2)
REC/PB2 ASSEMBLY (AWZ4623)
CMK-140SX
AWZ 4623 4794
AWM 1431-A 1466-A
1 MEKA
2 MEKA
VR4902 VR4901
Q4202 IC4201
VR4301 VR4302 VR4102 VR4101
Q4355 Q4354 Q4353
Q4351
Q4304
Q4303
Q4356
IC4101
TO
CD.DECK SW
ASSEMBLY J13

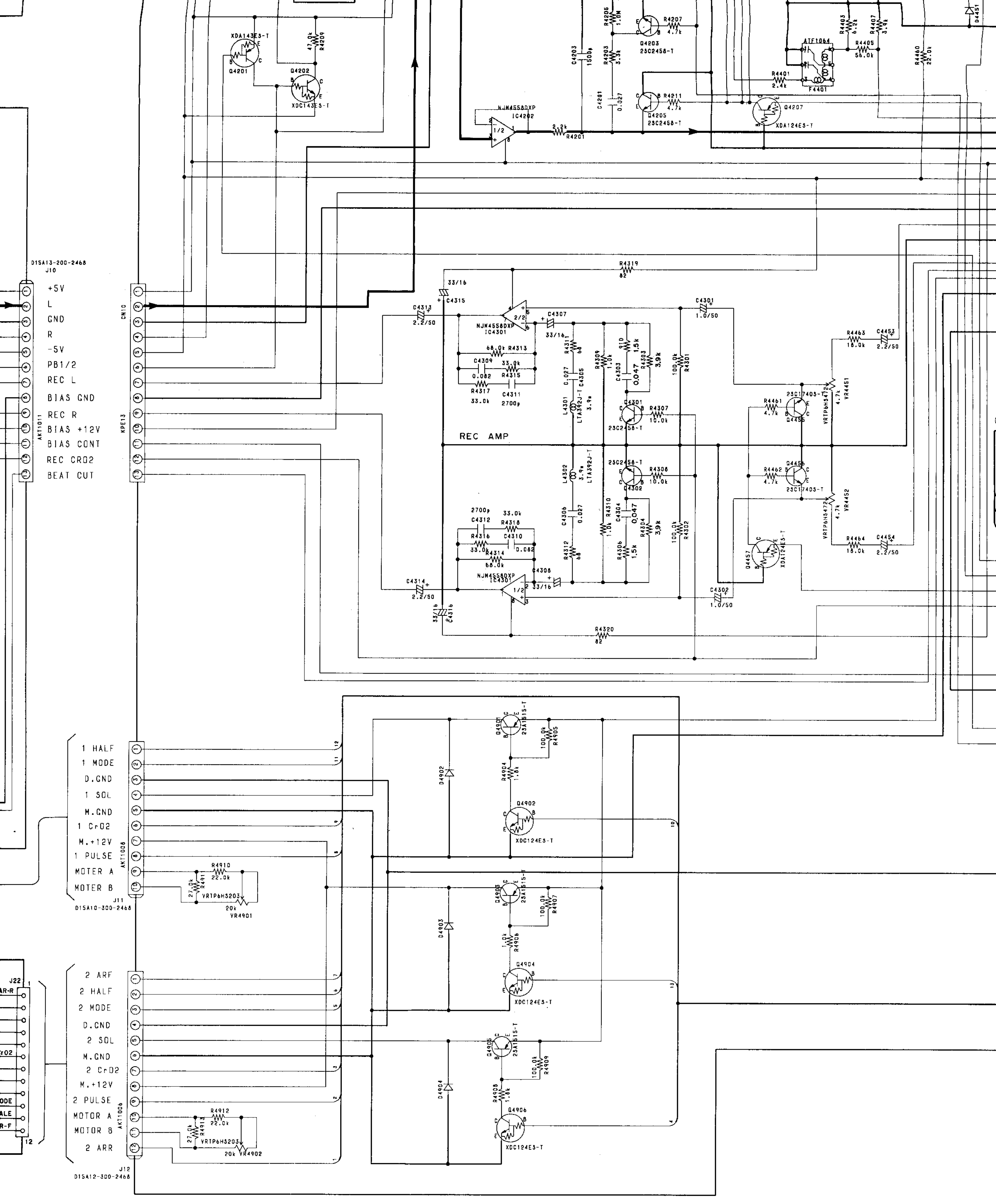

1 MECHA UNIT
(EXK2025)(2/2)
PB HEAD
J31
PB1 ASSEMBLY
(AWZ4622)
PB AMP
D15A05-300-2468
J9
+5V
L
GND
R
-5V
TAPE ASSEMBLY
REC/PB2 ASSEMBLY
(AWZ4623)
PB2 ASSY
PB AMP
D15A13-200-2468
J10
+5V
L
GND
R
-5V
PB1/2
REC L
BIAS GND
REC R
BIAS +12V
BIAS CONT
REC CRO2
BEAT CUT
BIAS OSC
1 HALF
1 MODE
D.GND
1 SOL
M.GND

TAPE ASSEMBLY (AWZ4621)

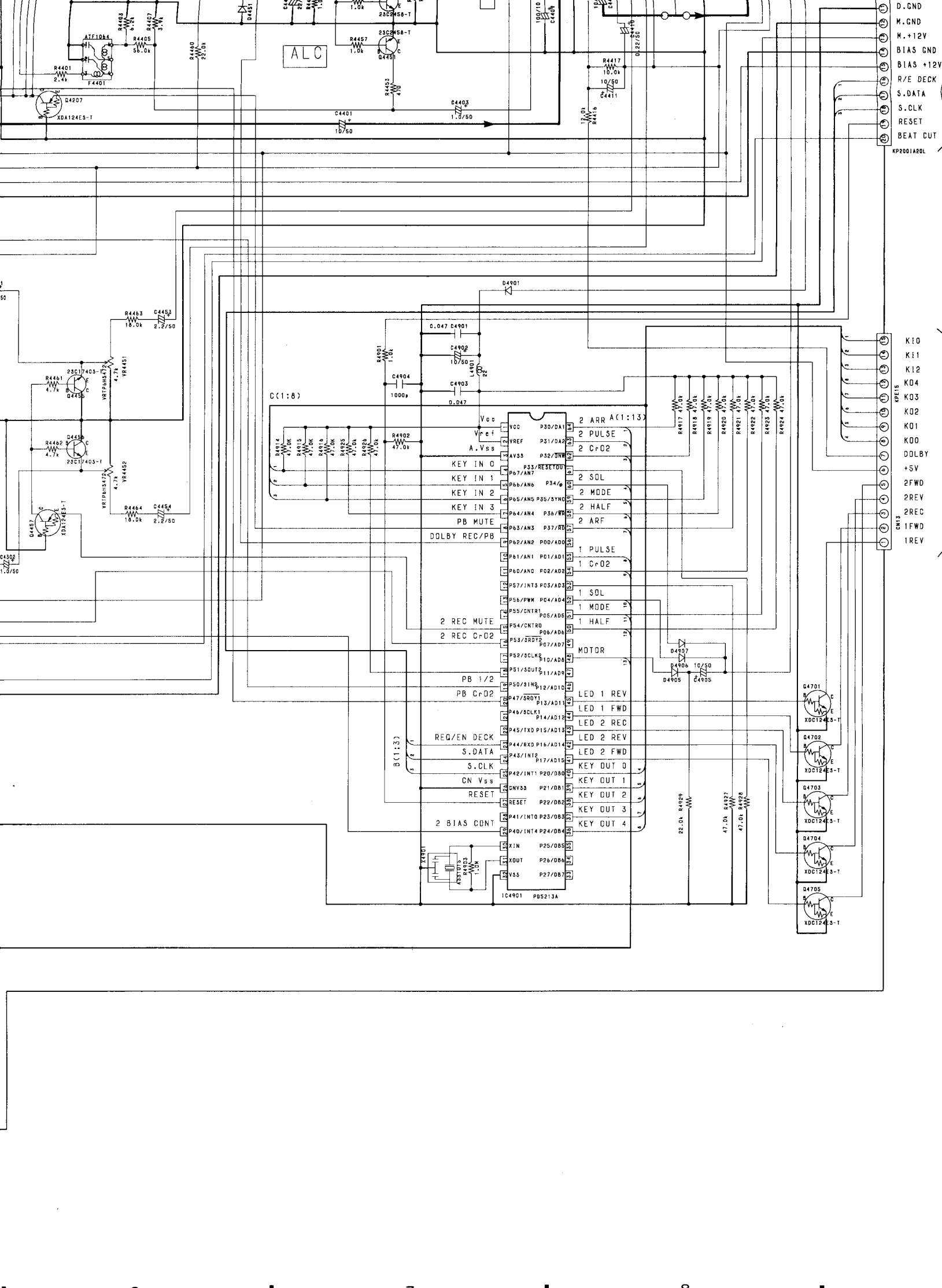



DOLBY
IC4401
CXA1100P
TEST POINT
ALC
+12V PULSE
PBR
GND
PBL
REC L
GND
RECR
+5V
-5V
+5.6V
D.GND
M.GND
M.+12V
BIAS GND
BIAS +12V
R/E DECK
S.DATA
S.CLK
RESET
BEAT CUT
KP20GJA20L
TO 4. AF ASSEMBLY CN4
KI0
KI1
KI2
KO4
KO3
KO2
KO1
KO0
DOLBY
+5V
2FWD
2REV
2REC
1FWD
1REV
KPE15
TO 5. CD. DECK SW ASSEMBLY J13
C(1:8)
A(1:13)
Vcc
Vref
A.Vss
KEY IN 0
KEY IN 1
KEY IN 2
KEY IN 3
PB MUTE
DOLBY REC/PB
2 REC MUTE
2 REC CrO2
PB 1/2
PB CrO2
REQ/EN DECK
S.DATA
S.CLK
2 ARR
2 PULSE
2 CrO2
2 SOL
2 MODE
2 HALF
2 ARF
1 PULSE
1 CrO2
1 SOL
1 MODE
1 HALF
MOTOR
LED 1 REV
LED 1 FWD
LED 2 REC
LED 2 REV
LED 2 FWD
KEY OUT 0

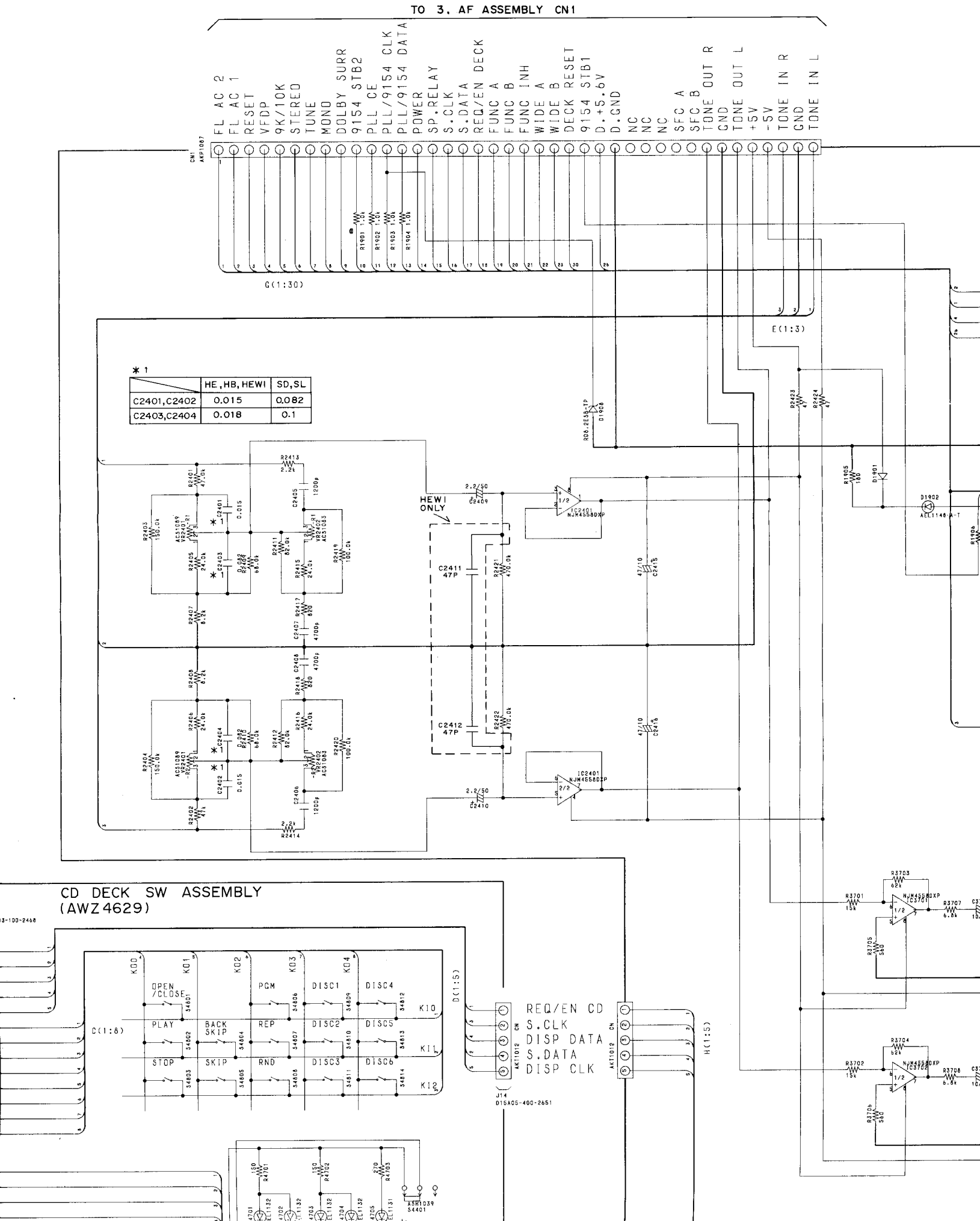

REC/PB2 ASSEMBLY
(AWZ4623)
PB2 ASSY
PB AMP
BIAS OSC
R
L
G
G
E
+5V
L
GND
R
-5V
PB1/2
REC L
BIAS GND
REC R
BIAS +12V
BIAS CONT
REC CRO2
BEAT CUT
1 HALF
1 MODE
D.GND
1 SOL
M.GND
1 CrO2
M.+12V
1 PULSE
MOTER A
MOTER B
2 ARF
2 HALF
2 MODE
D.GND
2 SOL
M.GND
2 CrO2
M.+12V
2 PULSE
MOTOR A
MOTOR B
2 ARR
2 MECHA UNIT
(EXK2015)(2/2)
REC/PB HEAD
ERASE HEAD
1 MECHA UNIT
(EXK2025)(1/2)
HALL 1C
SOLEN 11D
MODE
HALE
2 MECHA UNIT
(EXK2015)(1/2)
AR-R
CrO2
AR-F

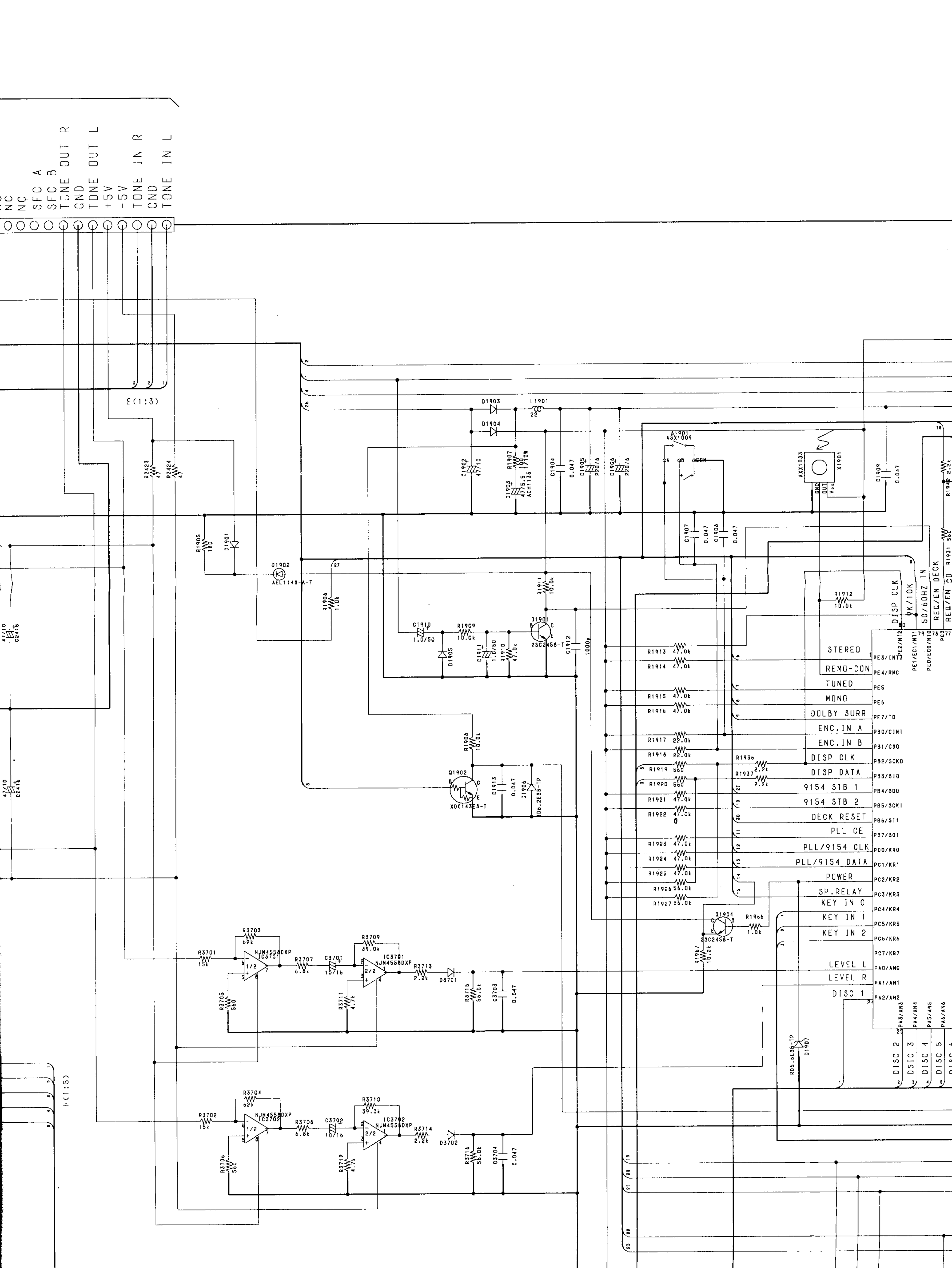


D15A13-200-2468
J10
+5V
L
GND
R
-5V
PB1/2
REC L
BIAS GND
REC R
BIAS +12V
BIAS CONT
REC CrO2
BEAT CUT
AKT1011
CN10
KPE13
REC AMP
NJM4558DXP
IC4301
IC4202
1 HALF
1 MODE
D.GND
1 SOL
M.GND
1 CrO2
M.+12V
1 PULSE
MOTER A
MOTER B
J11
D15A10-300-2468
AKT1006
2 ARF
2 HALF
2 MODE
D.GND
2 SOL
M.GND
2 CrO2
M.+12V
2 PULSE
MOTOR A
MOTOR B
2 ARR
J12
D15A12-300-2468
J22
XDA143E3-T
XDC143E3-T
2SC2458-T
2SC17403-T
XDA124E3-T
XDC124E3-T
2SA1515-T
LTA392J-T
VRTP6H3203
VRTP6H5472
ATF1064
F4401

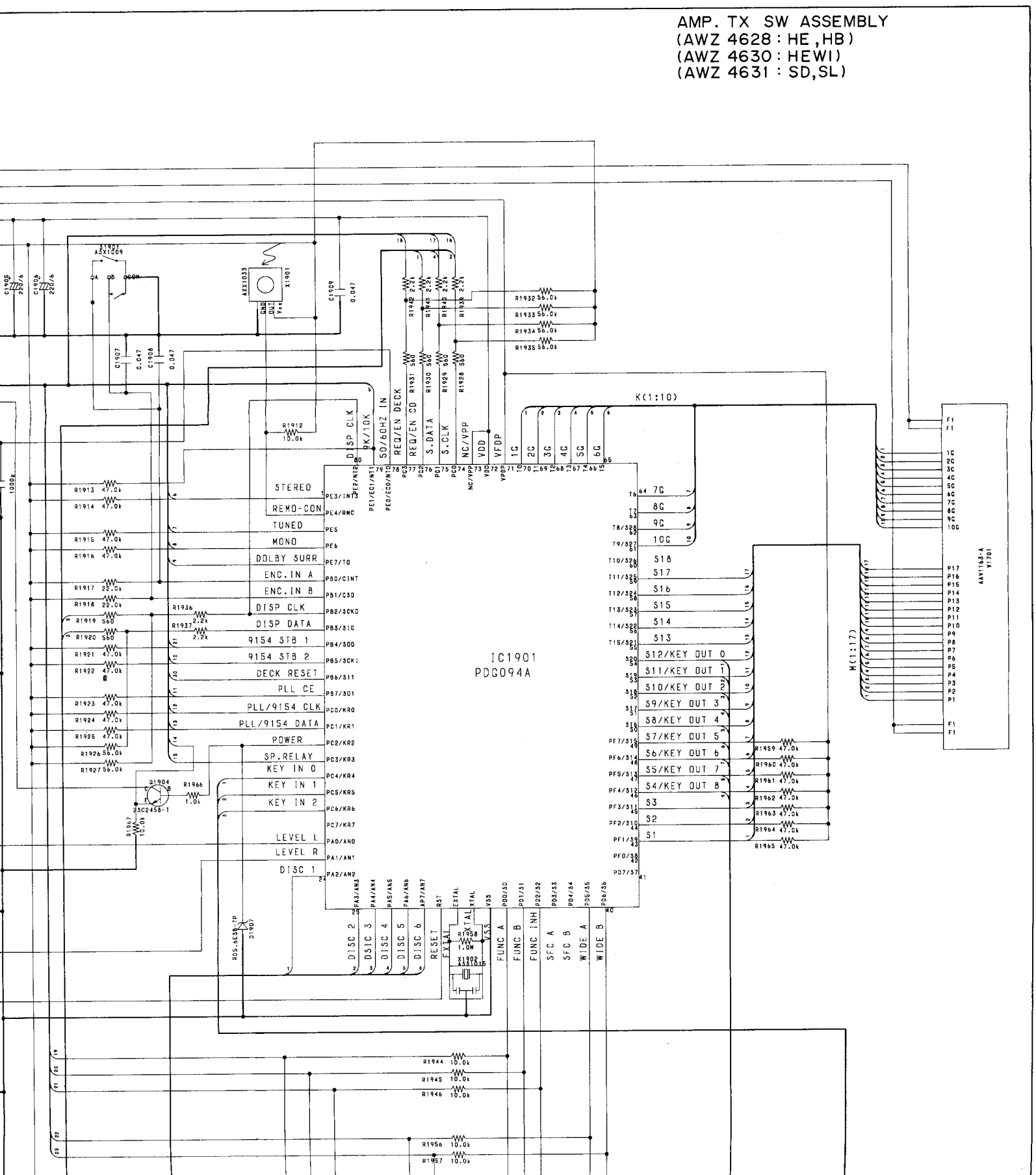

ALC
D.GND
M.GND
M.+12V
BIAS GND
BIAS +12V
R/E DECK
S.DATA
S.CLK
RESET
BEAT CUT
KP2001A20L
KEY IN 0
KEY IN 1
KEY IN 2
KEY IN 3
PB MUTE
DOLBY REC/PB
2 REC MUTE
2 REC CrO2
PB 1/2
PB CrO2
REQ/EN DECK
S.DATA
S.CLK
CN Vss
RESET
2 BIAS CONT
2 ARR
2 PULSE
2 CrO2
2 SOL
2 MODE
2 HALF
2 ARF
1 PULSE
1 CrO2
1 SOL
1 MODE
1 HALF
MOTOR
LED 1 REV
LED 1 FWD
LED 2 REC
LED 2 REV
LED 2 FWD
KEY OUT 0
KEY OUT 1
KEY OUT 2
KEY OUT 3
KEY OUT 4
KI0
KI1
KI2
KO4
KO3
KO2
KO1
KO0
DOLBY
+5V
2FWD
2REV
2REC
1FWD
1REV
CN13
KPE15
IC4901 PDS213A

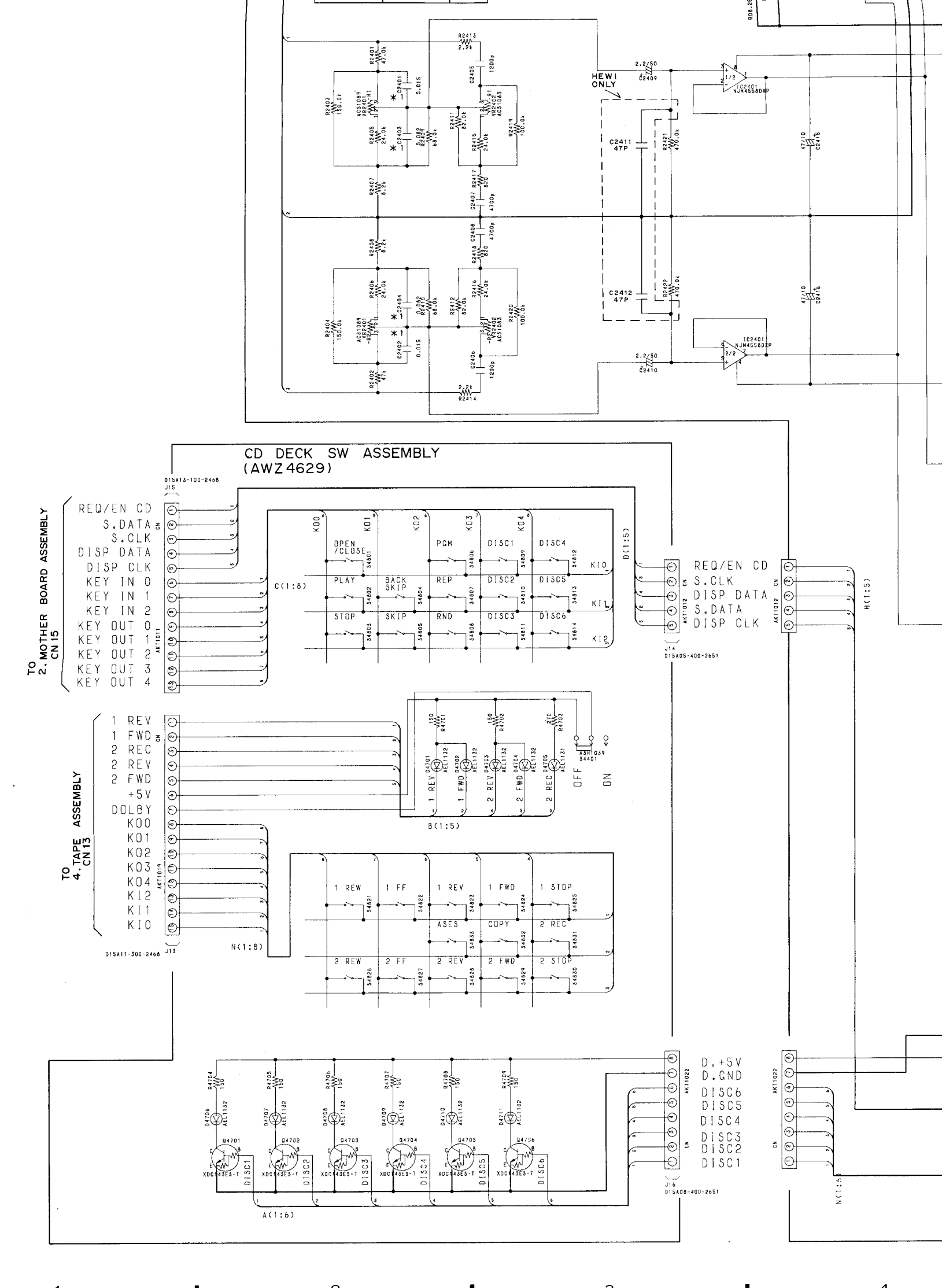
and CD DECK SW ASSEMBLY

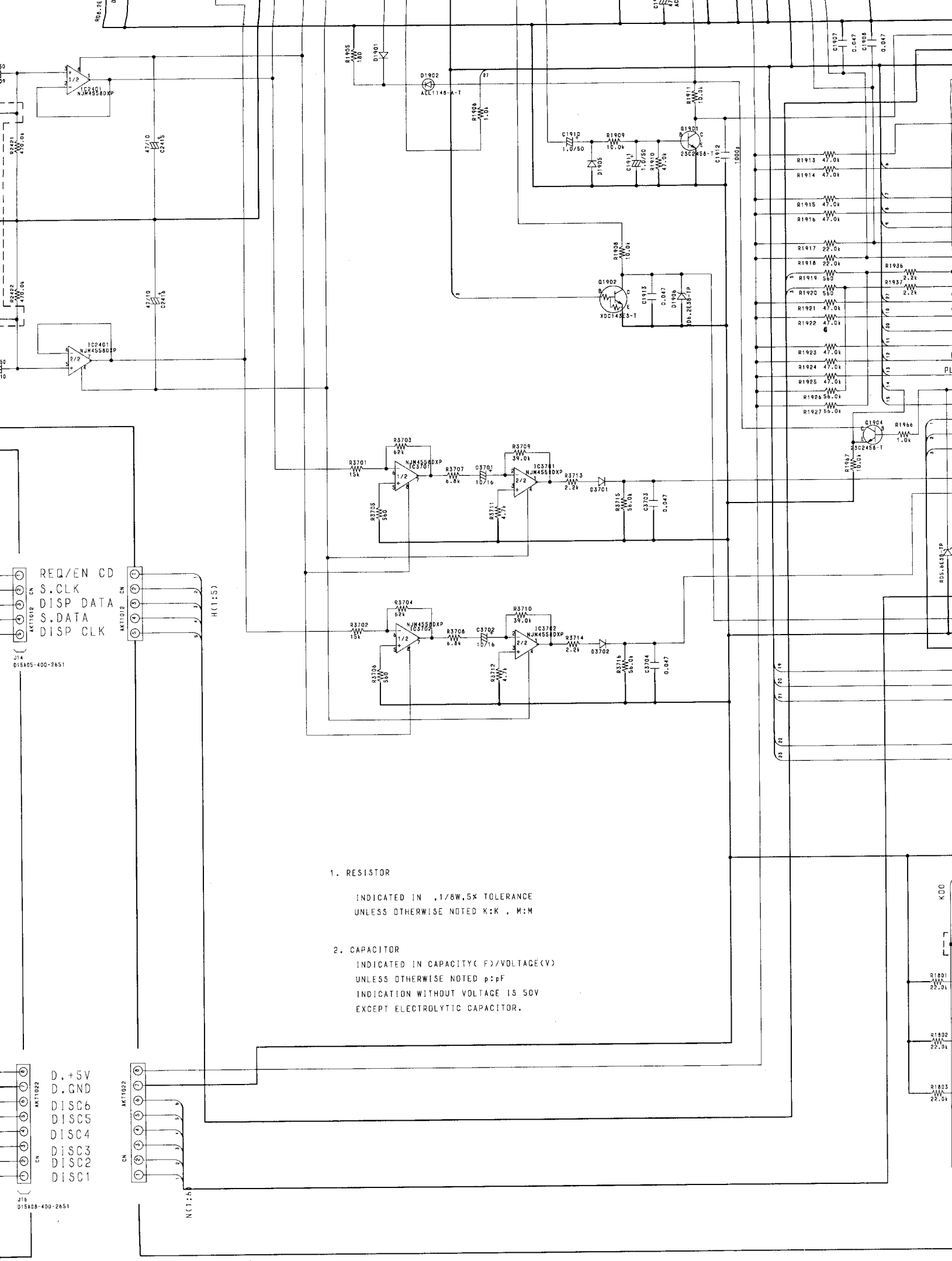


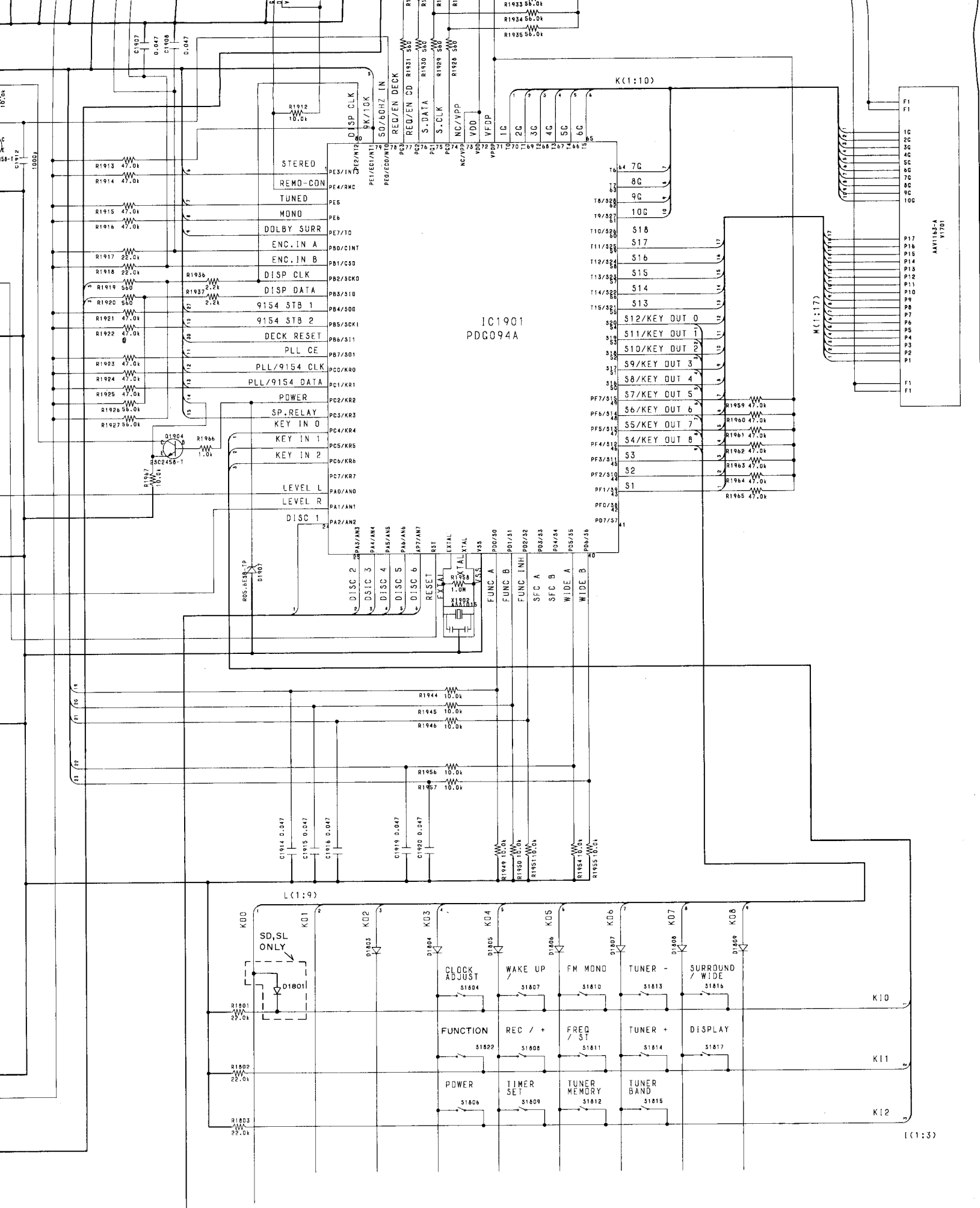

NC
NC
SFC A
SFC B
TONE OUT R
GND
TONE OUT L
+5V
-5V
TONE IN R
GND
TONE IN L
E(1:3)
H(1:5)
STEREO
REMO-CON
TUNED
MONO
DOLBY SURR
ENC.IN A
ENC.IN B
DISP CLK
DISP DATA
9154 STB 1
9154 STB 2
DECK RESET
PLL CE
PLL/9154 CLK
PLL/9154 DATA
POWER
SP.RELAY
KEY IN 0
KEY IN 1
KEY IN 2
LEVEL L
LEVEL R
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
DISP CLK
9K/10K
50/60HZ IN
REQ/EN DECK
REQ/EN CD
NJM4558DXP
IC3701
IC3702
2SC2458-T
XDC143ES-T
AEL1146-A-T
ASX1009
AXX1033

AMP. TX SW ASSEMBLY
(AWZ 4628 : HE, HB)
(AWZ 4630 : HEWI)
(AWZ 4631 : SD, SL)




CD DECK SW ASSEMBLY
(AWZ4629)
TO
2. MOTHER BOARD ASSEMBLY
CN 15
TO
4. TAPE ASSEMBLY
CN 13
REQ/EN CD
S.DATA
S.CLK
DISP DATA
DISP CLK
KEY IN 0
KEY IN 1
KEY IN 2
KEY OUT 0
KEY OUT 1
KEY OUT 2
KEY OUT 3
KEY OUT 4
1 REV
1 FWD
2 REV
2 FWD
+5V
DOLBY
KO0
KO1
KO2
KO3
KO4
KI2
KI1
KI0
OPEN /CLOSE
PGM
DISC1
DISC4
PLAY
BACK SKIP
REP
DISC2
DISC5
STOP
SKIP
RND
DISC3
DISC6
1 REW
1 FF
1 STOP
ASES
COPY
2 REC
2 REW
2 FF
2 STOP
OFF
ON
D.+5V
D.GND
DISC6
DISC5
DISC4
DISC3
DISC2
DISC1
HEW1 ONLY
IC2401
NJM4558DXP
A(1:6)
B(1:5)
C(1:8)
D(1:5)
H(1:5)
N(1:8)

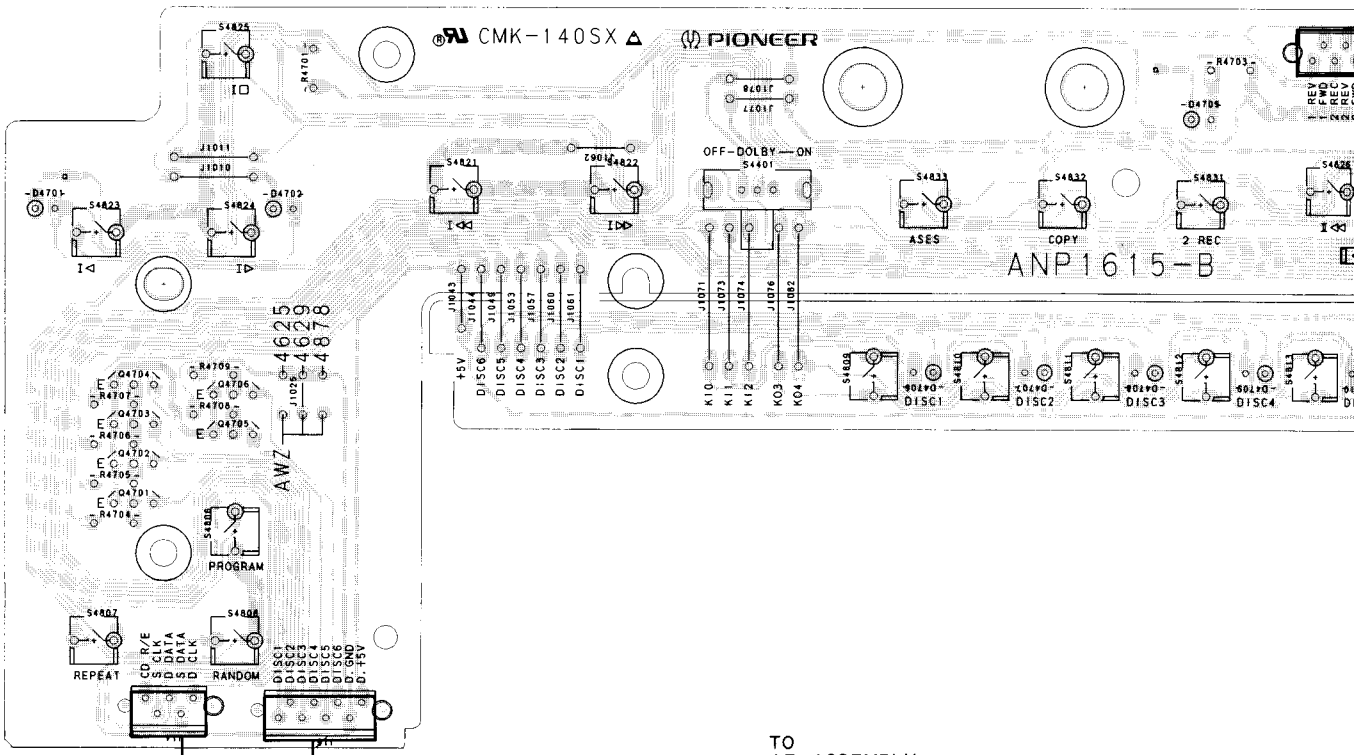

REQ/EN CD
S.CLK
DISP DATA
S.DATA
DISP CLK
H(1:5)
D.+5V
D.GND
DISC6
DISC5
DISC4
DISC3
DISC2
DISC1
N(1:6)
1. RESISTOR
INDICATED IN ,1/8W,5% TOLERANCE
UNLESS OTHERWISE NOTED K:K , M:M
2. CAPACITOR
INDICATED IN CAPACITY(F)/VOLTAGE(V)
UNLESS OTHERWISE NOTED p:pF
INDICATION WITHOUT VOLTAGE IS 50V
EXCEPT ELECTROLYTIC CAPACITOR.


IC1901
PDG094A
STEREO
REMO-CON
TUNED
MONO
DOLBY SURR
ENC.IN A
ENC.IN B
DISP CLK
DISP DATA
9154 STB 1
9154 STB 2
DECK RESET
PLL CE
PLL/9154 CLK
PLL/9154 DATA
POWER
SP.RELAY
KEY IN 0
KEY IN 1
KEY IN 2
LEVEL L
LEVEL R
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
DISC 6
RESET
FUNC A
FUNC B
FUNC INH
SFC A
SFC B
WIDE A
WIDE B
S1
S2
S3
S4/KEY OUT 8
S5/KEY OUT 7
S6/KEY OUT 6
S7/KEY OUT 5
S8/KEY OUT 4
S9/KEY OUT 3
S10/KEY OUT 2
S11/KEY OUT 1
S12/KEY OUT 0
S13
S14
S15
S16
S17
S18
K(1:10)
M(1:17)
L(1:9)
I(1:3)
SD,SL ONLY
CLOCK ADJUST
WAKE UP
FM MONO
TUNER -
SURROUND / WIDE
FUNCTION
REC / +
FREQ / ST
TUNER +
DISPLAY
POWER
TIMER SET
TUNER MEMORY
TUNER BAND
KI0
KI1
KI2

6 7 8 9

from component side

CD DECK SW ASSEMBLY (AWZ4629)



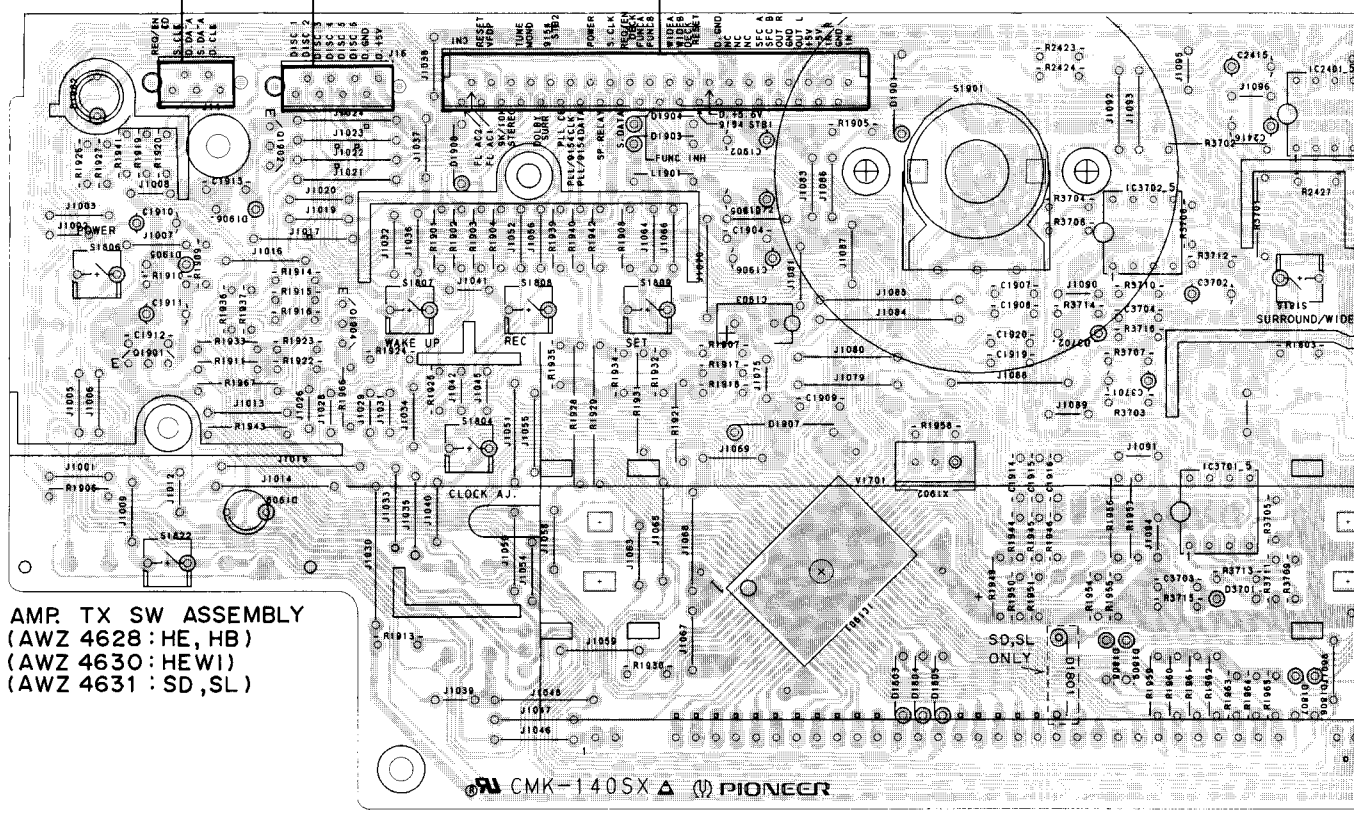
Q4704 Q4706

Q4703 Q4705

Q4702

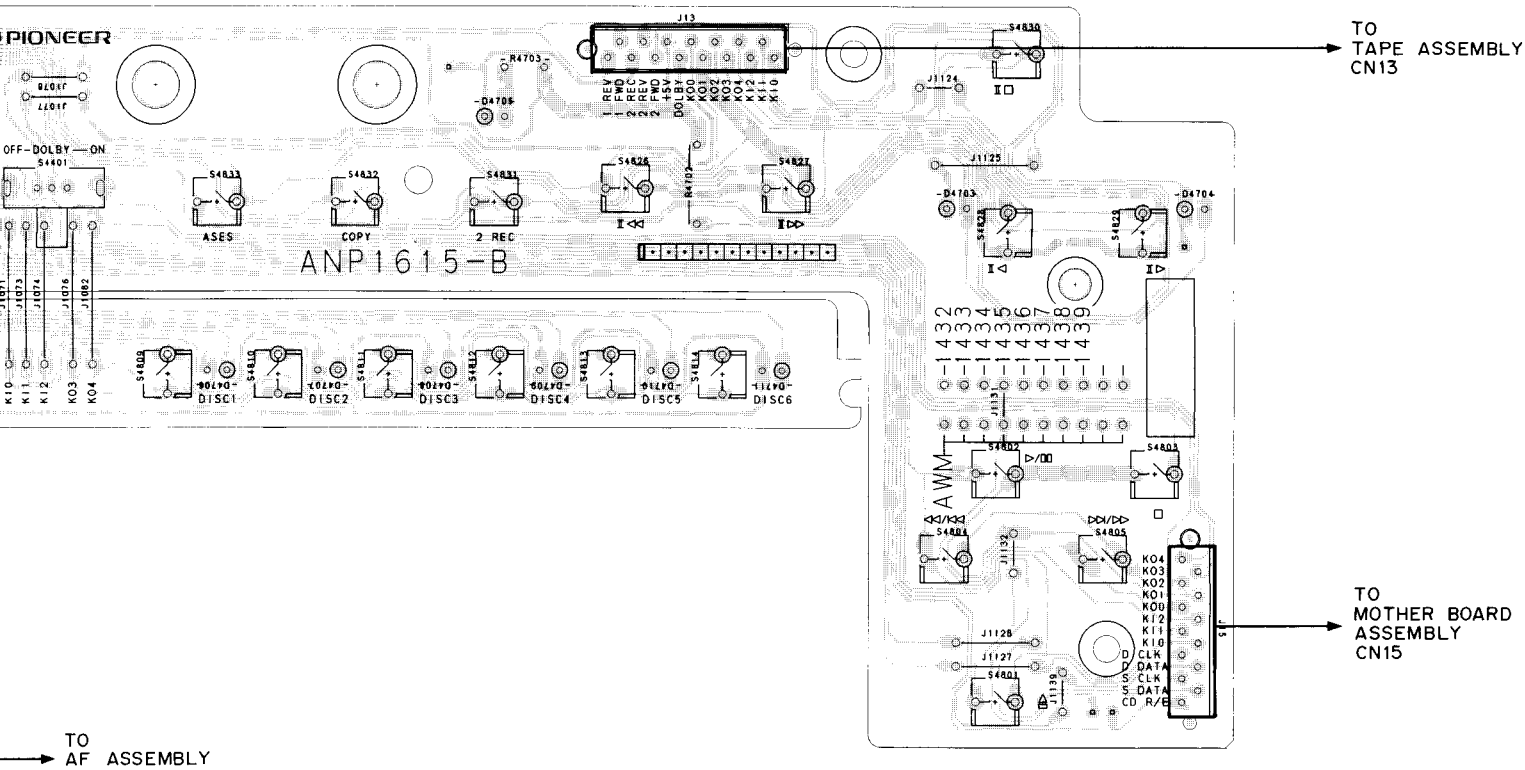
Q4701

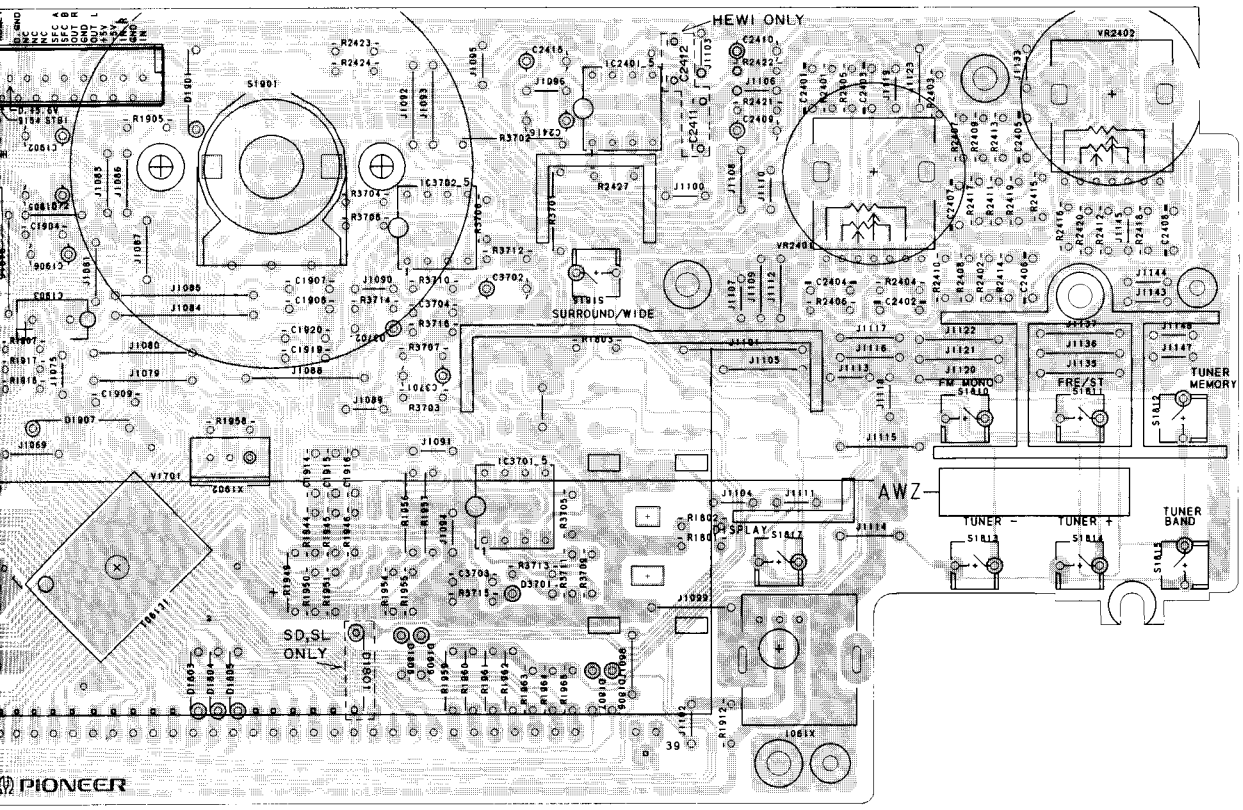
TO AF ASSEMBLY CN1



AMP. TX SW ASSEMBLY
(AWZ 4628 : HE, HB)
(AWZ 4630 : HEWI)
(AWZ 4631 : SD, SL)

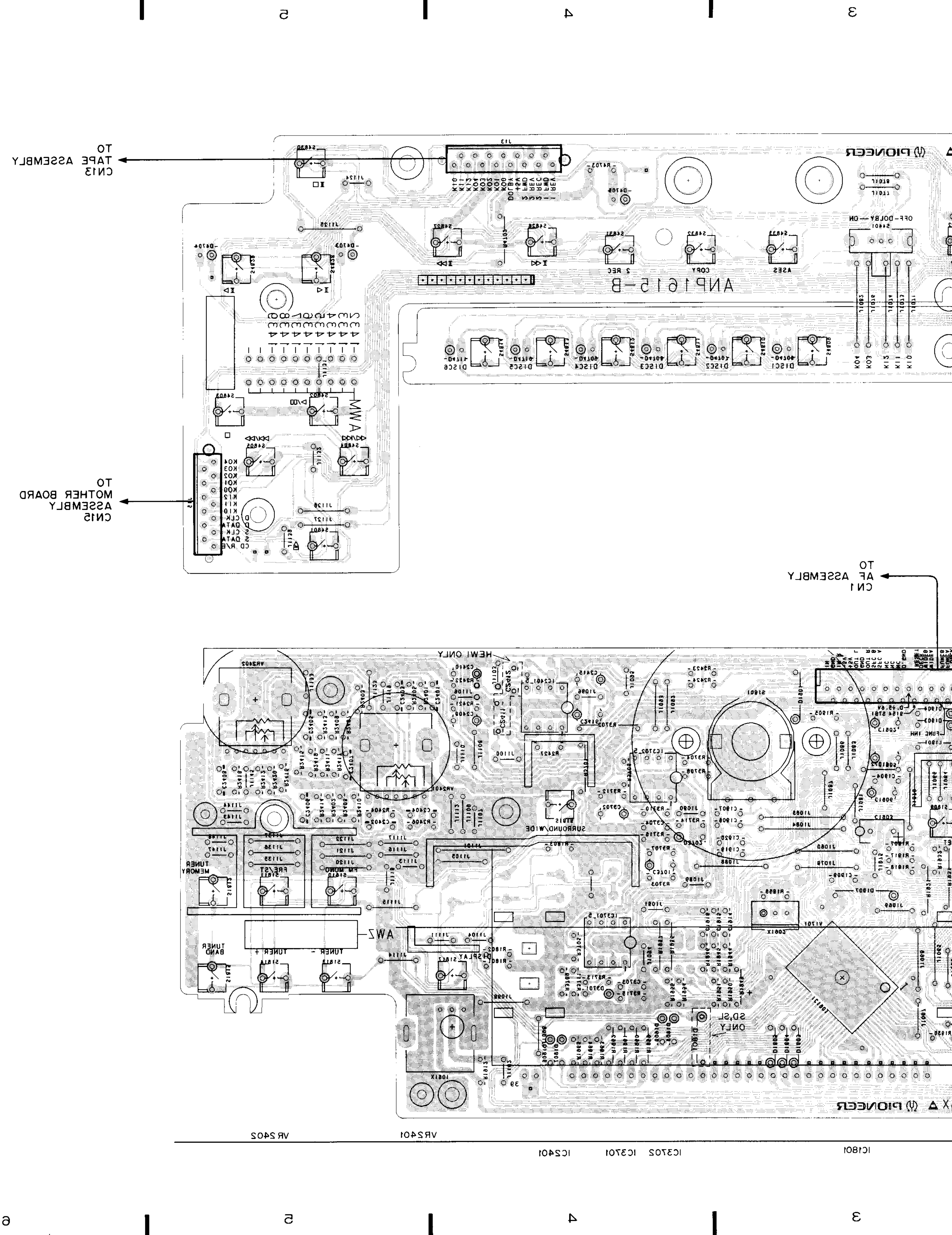
Q1901 Q1902 Q1904 IC1801 IC3702 IC3701 IC2401





VR2401 VR2402

IC1801 IC3702 IC3701 IC2401



TO
TAPE ASSEMBLY
CN13
TO
MOTHER BOARD
ASSEMBLY
CN15
TO
AF ASSEMBLY
CN1
ANP1615-B
AWM
AWZ
PIONEER
HEWI ONLY
SURROUND/WIDE
TUNER MEMORY
TUNER BAND
SD,SL ONLY
VR2402
VR2401
IC2401
IC3701
IC3702
IC1801

• View from soldering s

CD DECK SW ASSEMBLY (AWZ4629)

TO AF ASSEMBLY CN1

AMP TX SW ASSEMBLY
(AWZ 4628 : HE, HB)
(AWZ 4630 : HEW1)
(AWZ 4631 : SD, SL)

IC2401 IC3701 IC3702 IC1801 Q1904 Q1903 Q1901

(Refer to pages 93 and 94.)

SEMBLY

• View from solde

TUNER ASSEMBLY
(AWE1261 : HE,HB)
(AWE1227 : SD,SL)

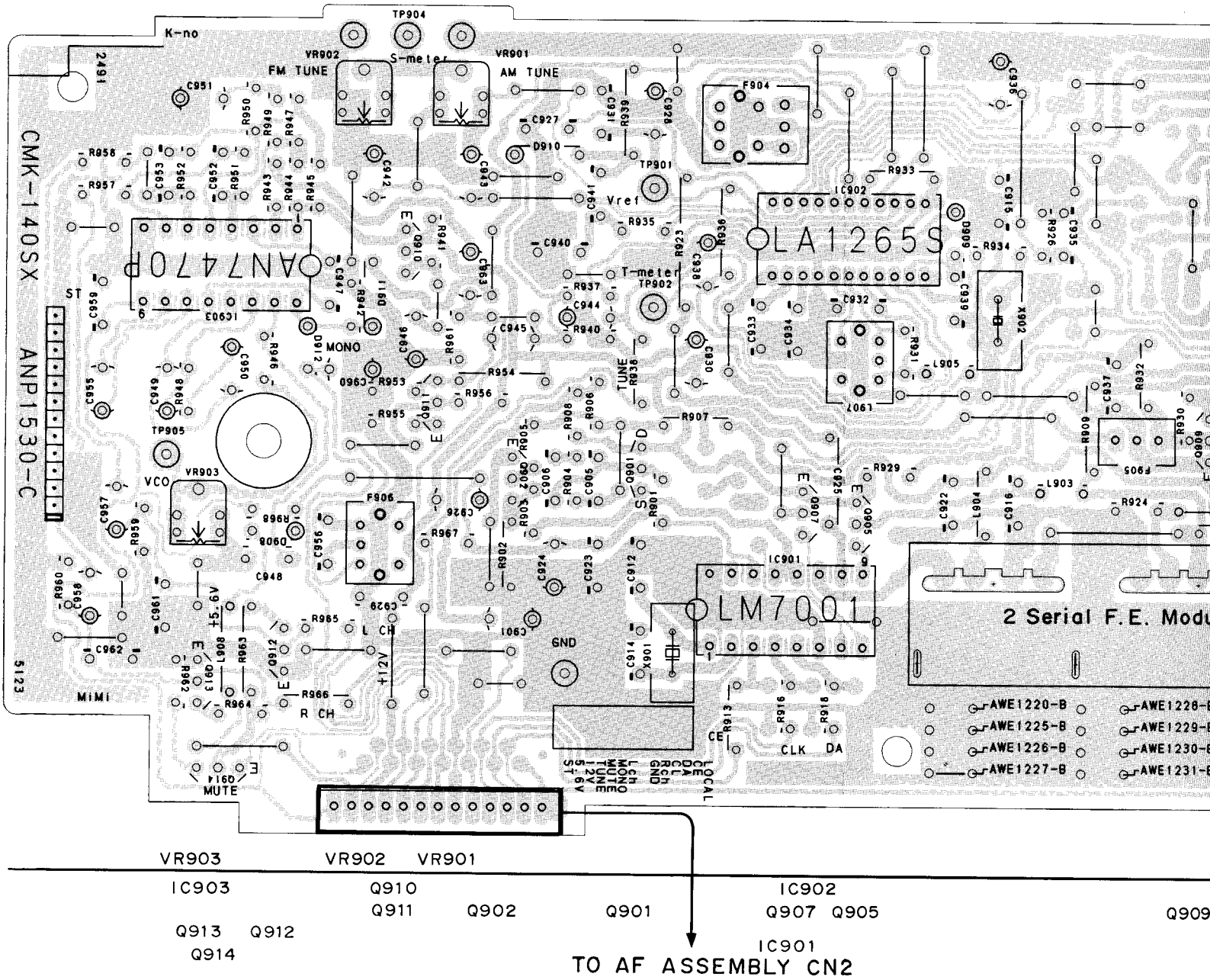
(For HEW1 type, refer to pages 93 and 94.)

EMBLY

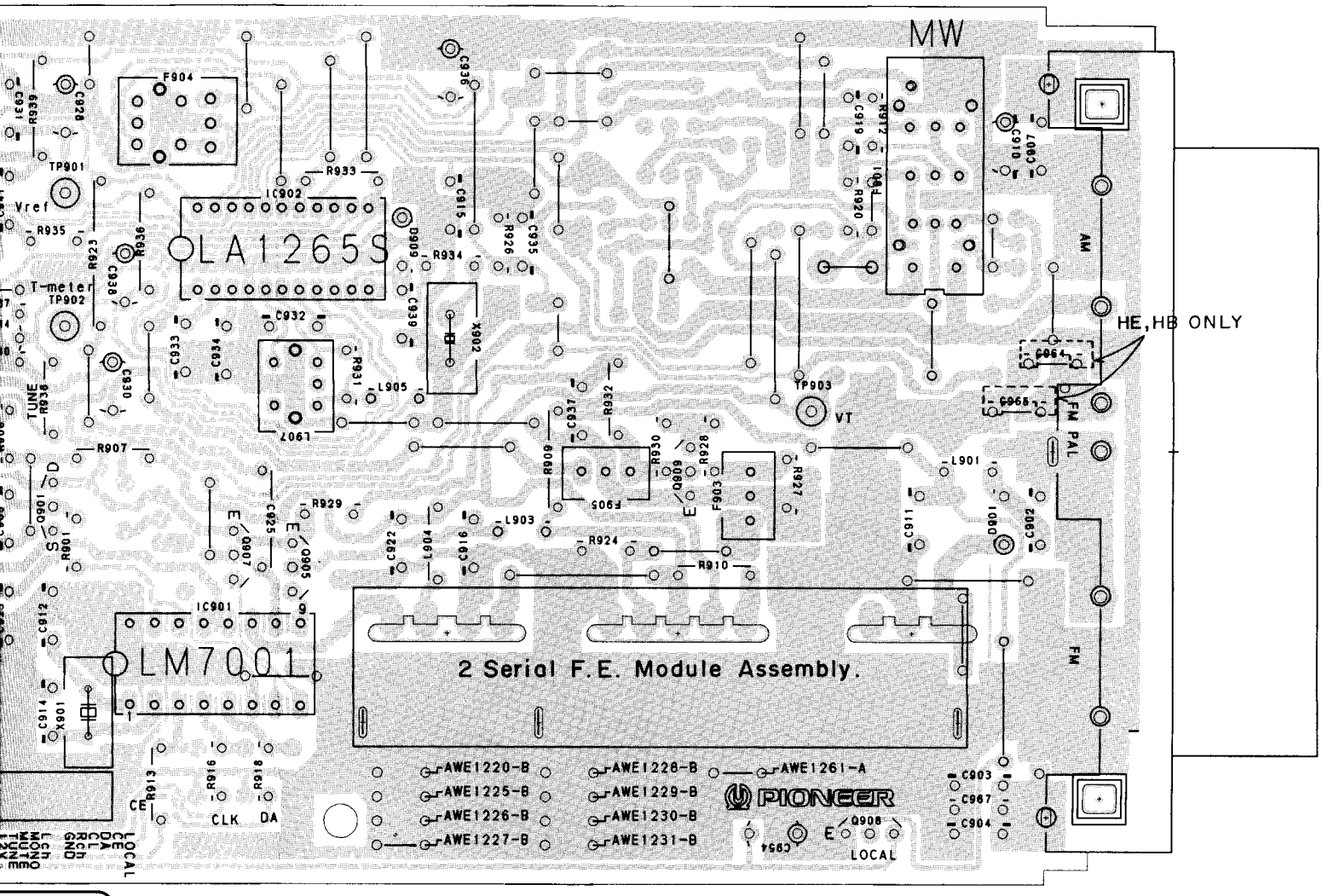
omponent side

TUNER ASSEMBLY
(AWE1261 : HE,HB)
(AWE1227 : SD,SL)

(For HEWI type, refer to pages 93 and 94.)



refer to pages 93 and 94.)



IC902

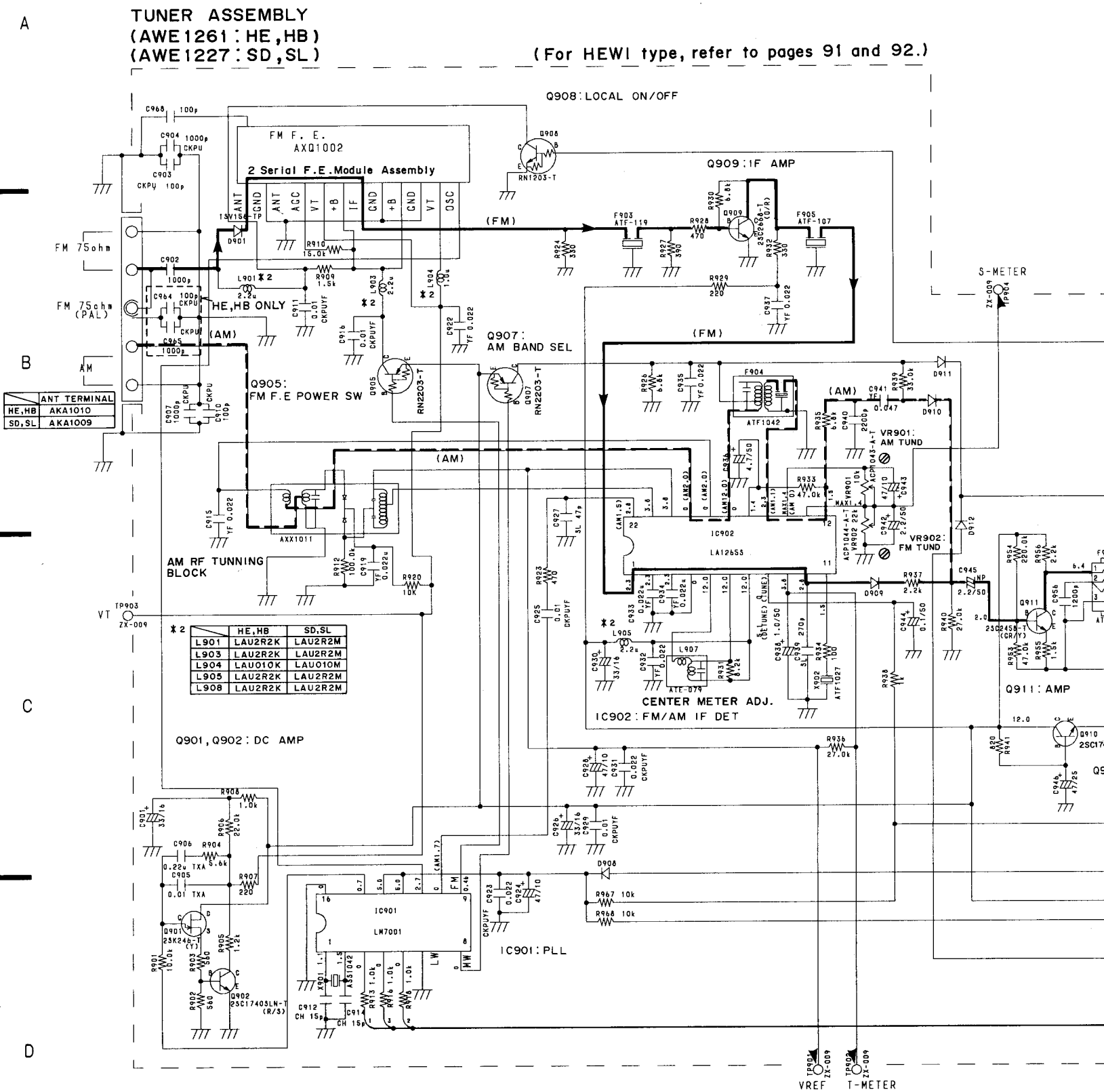
Q901 Q907 Q905 Q909

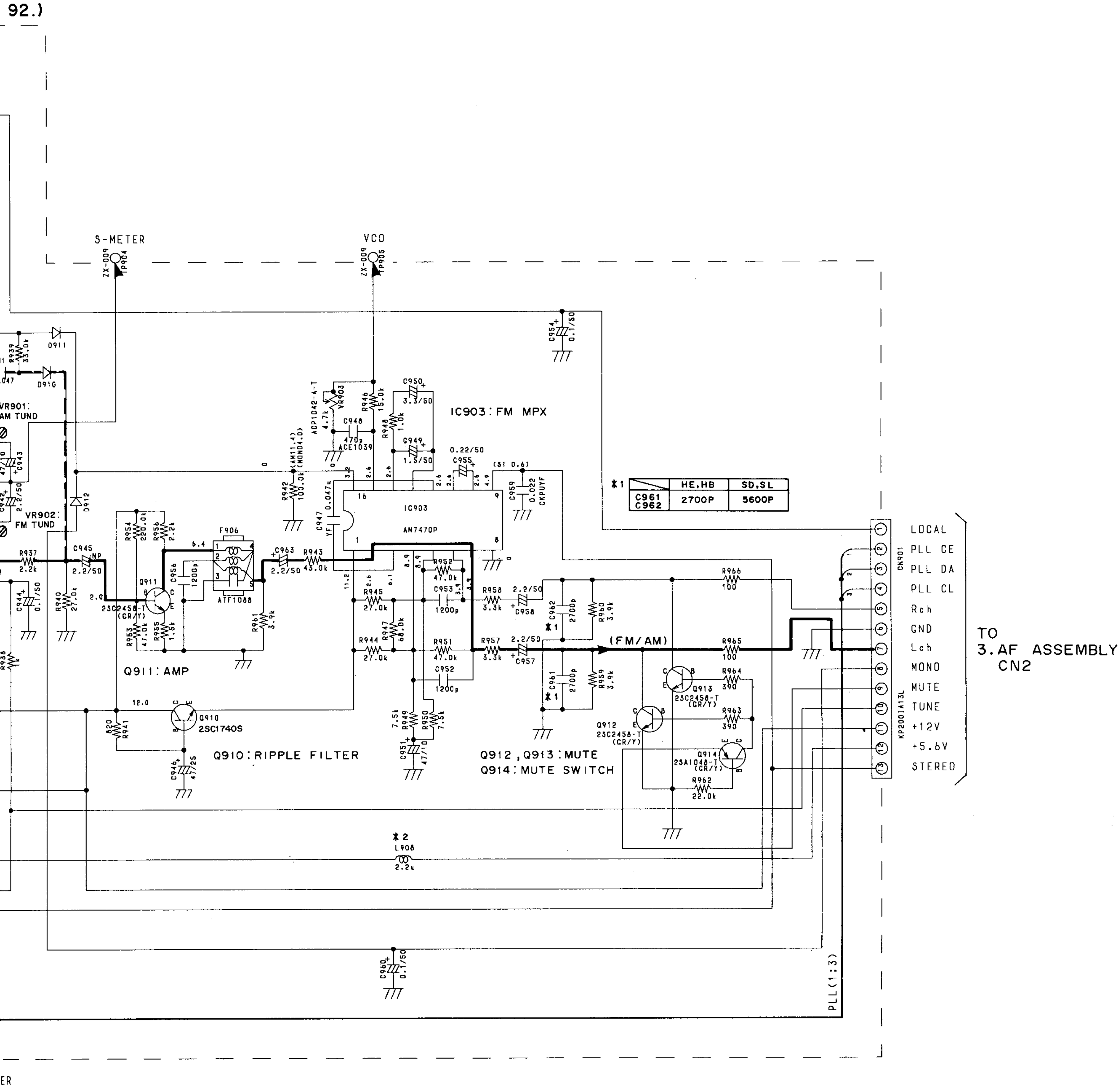
IC901 Q908

0 AF ASSEMBLY CN2

TUNER ASSEMBLY
(AWE1261 : HE, HB)
(AWE1227 : SD, SL)

(For HEWI type, refer to pages 91 and 92.)




92.)
S-METER
VCO
ZX-009
TP904
TP905
IC903 : FM MPX
IC903
AN7470P
F906
ATF1088
Q911 : AMP
Q910 2SC1740S
Q910 : RIPPLE FILTER
Q912 , Q913 : MUTE
Q914 : MUTE SWITCH
2SC2458-T (GR/Y)
2SA1048-T (GR/Y)
VR901 : AM TUND
VR902 : FM TUND
ACP1042-A-T
ACE1039
CKPUYF
(FM/AM)
✱1
C961 C962
HE,HB 2700P
SD,SL 5600P
✱2
L908 2.2u
CN901
KP200IA13L
LOCAL
PLL CE
PLL DA
PLL CL
Rch
GND
Lch
MONO
MUTE
TUNE
+12V
+5.6V
STEREO
TO
3. AF ASSEMBLY
CN2
PLL(1:3)
ER

5. DISASSEMBLY

● DISASSEMBLING OF THE CD SECTION

1) Disconnect the flexible flat cable from AMP.TX SW assembly at the AF assembly side.
2) Disconnect the cable from HEADPHONE assembly at the AF assembly side.
3) To disassemble the chassis, front panel section, rear panel section, and AF assembly section, loosen the screws ① on the left and right of the P.C.B. support metal and the screw ② at the rear panel (three screws altogether).

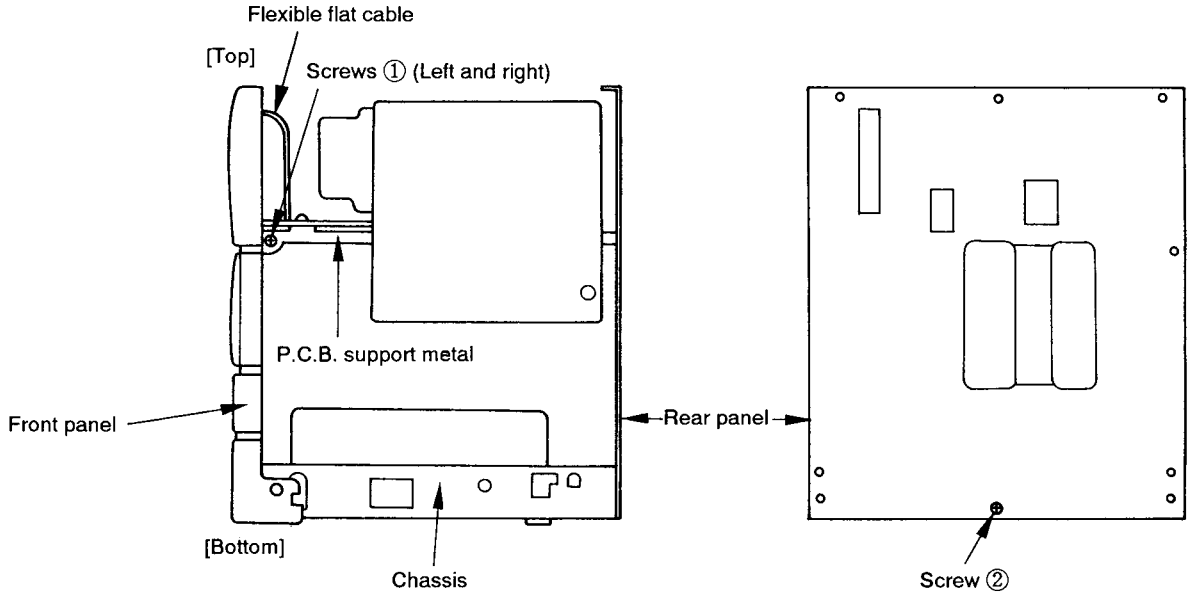


Fig. 1

- Four screws are attached to the CD unit as shown in the figure below.

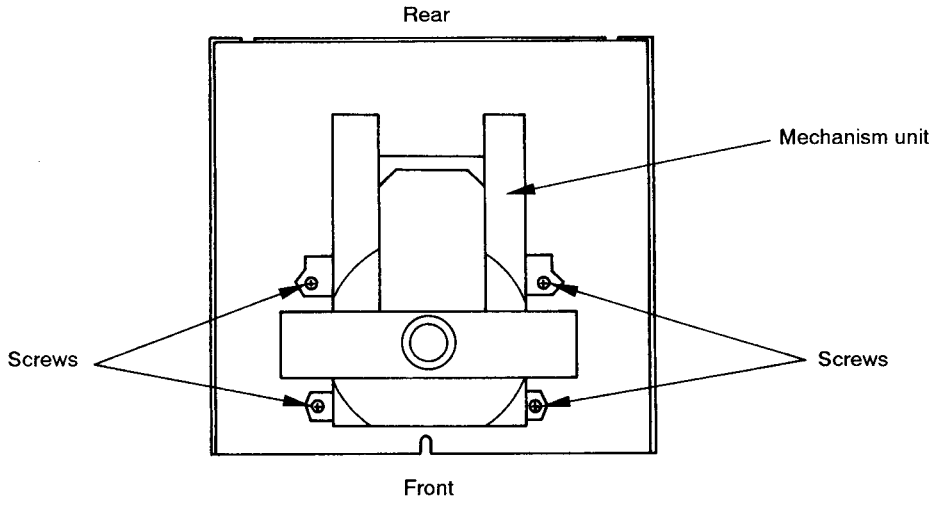


Fig. 2

6. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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 → 56×10^1 → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47×10^3 → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

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

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.
LIST OF ASSEMBLIES			
⊙		MOTHER BOARD ASSEMBLY	PWM1724
⊙		TUNER ASSEMBLY	AWE1261
⊙		AMP. TX SW ASSEMBLY	AWZ4628
⊙		CD DECK SW ASSEMBLY	AWZ4629
⊙		AF ASSEMBLY	AWZ4608
⊙		POWER ASSEMBLY	AWZ4609
⊙		REGULATOR ASSEMBLY	AWZ4610
⊙		HEADPHONE ASSEMBLY	AWZ4734
⊙		TRANS ASSEMBLY	AWZ4612
⊙		TAPE ASSEMBLY	AWZ4621
⊙		PB1 ASSEMBLY	AWZ4622
⊙		REC/PB2 ASSEMBLY	AWZ4623
NSP		LOADING BOARD ASSEMBLY	PWZ2038
NSP		MOTOR BOARD ASSEMBLY	PWZ2040
NSP		SELECT BOARD ASSEMBLY	PWZ2533
NSP		MECHANISM BOARD ASSEMBLY	PWX1192
TUNER ASSEMBLY			
SEMICONDUCTORS			
	IC903		AN7470P
	IC902		LA1265S
	IC901		LM7001
	Q914		2SA1048
	Q902		2SC1740SLN
	Q910		2SC1740S
	Q911-Q913		2SC2458
	Q909		2SC2668
	Q901		2SK246
	Q908		RN1203
	Q905, Q907		RN2203
	D901		1SV156
	D908-D912		HSS104-02
COILS AND FILTERS			
	L907		ATE-079
	F905		ATF-107
	F903		ATF-119
	F904		ATF1042
	F906		ATF1088
	L904		LAU010K
	L901, L903, L905, L908		LAU2R2K
CAPACITORS			
	C948	(C=470P, V(DC)=50)	ACE1039
	C912, C914		CCDCH150J50
	C968		CCDSL101J50
	C939		CCDSL271J50
	C927		CCDSL470J50
	C945		CEANP2R2M50
	C938		CEAS010M50
	C944, C954, C960		CEAS0R1M50
	C949		CEAS1R5M50
	C942, C957, C958, C963		CEAS2R2M50
	C901, C926, C930		CEAS330M16
	C950		CEAS3R3M50
	C924, C928, C943, C951		CEAS470M10
	C946		CEAS470M25
	C936		CEAS4R7M50
	C955		CEASR22M50
	C905		CFTXA103J50
	C906		CFTXA224J50
	C952, C953, C956		CKDYB122K50
	C940		CKDYB222K50
	C961, C962		CKDYB272K50
	C902		CKDYF102Z50
	C915, C919, C922, C932-C935, C937		CKDYF223Z50
	C941, C947		CKDYF473Z50
	C903, C910, C964		CKPUYB101K50
	C904, C907, C965		CKPUYB102K50
	C911, C916, C925, C929		CKPUYF103Z25
	C923, C931, C959		CKPUYF223Z25
RESISTORS			
	VR903	(R=4.7K, W=0.1)	ACP1042
	VR901	(R=10K, W=0.1)	ACP1043
	VR902	(R=22K, W=0.1)	ACP1044
	OTHER RESISTORS		RD1/8PM□□□J

Mark	No.	Description	Part No.
OTHERS			
		X901 CRYSTAL RESONATOR(7.200MHz)	ASS1042
		X902 CERAMIC RESONATOR	ATF1027
		ANTENNA TERMINAL 4P	AKA1010
		AM RF TUNING BLOCK	AXX1011
		2 SERIAL F.E.MODULE ASSEMBLY	AXQ1002

NOTE:The 2 SERIAL F.E.MODULE assembly (AXQ1002) has no service part.

AF ASSEMBLY

SEMICONDUCTORS			
		IC1006	ICP-N25
		IC1202	ICP-N50
		IC2101	MC14052BCP
		IC1502, IC1503, IC2102, IC2301, IC3301, IC3311	NJM4558DXP
		IC1501	TC9154AP
		Q1253, Q1256	2SA1048
		Q1007, Q1012, Q1015, Q1018	2SA1515
		Q1001	2SB560
		Q1251, Q1252, Q1255, Q1257	2SC2458
		Q1004	2SC2603
		Q3303, Q3304	2SK246
		Q1005, Q3301, Q3302	XDA124ES
		Q1003, Q1009, Q1020, Q1258	XDA143ES
		Q1008, Q1010, Q1011, Q1260	XDC124ES
		Q1002, Q1013, Q1014, Q1019, Q1254, Q1259	XDC143ES
		D1017, D1251, D1255, D1256, D3301, D3302	HSS104-02
		D1005	RB152
		D1201	RBV402
		D1011-D1013	RD10ESB2
		D1252, D1253	RD12ESB
		D1015, D1016	RD5.6ESB
		D1024	RD6.8ESB
		D1014	RD7.5ESB2
		D1254	RD8.2ESB
		D1001-D1004, D1009, D1010, D1020, D1021, D1022	S5566
SWITCHES			
		S4351	ASH1031
RELAYS			
		RY1251	ASR1035
COILS			
		L1201, L1202	ATH-133
CAPACITORS			
		C1222 (C=0.01, V(AC)=150)	ACG1005
		C1220, C1221 (C= 2200, V(DC)=42)	ACH1109
		C2101-C2304, C2307, C2308	CCCSL101J50
		C3311, C3312	CEAS010M50
		C1011, C1012, C1252, C1254, C4363	CEAS100M50
		C1007	CEAS101M10
		C1006	CEAS101M16
		C1014	CEAS101M35
		C1015	CEAS101M50
		C1253	CEAS220M25
		C1251	CEAS221M10
		C1001-C1003	CEAS222M25
		C1507, C1508, C2305, C2306, C2313, C2314	CEAS2R2M50
		C1010	CEAS331M50
		C2315, C2316	CEAS470M10
		C1009	CEAS470M100
		C1013, C1501-C1506	CEAS4R7M50
		C1008	CEHAQ220M50
		C2309, C2310	CKCYB152K50
		C3303	CKCYB331K50
		C3304	CKCYB391K50
		C1511, C3301, C3302	CKCYB471K50
		C2311, C2312	CKCYB562K50
		C1513, C1514	CKCYX153M25
		C1509, C1510	CKPUYF473Z16
RESISTORS			
		R1007	RD1/4PM□□□J
		R1221, R1222	RFA1/4PL□□□J
		R1264, R1266, R1268	RS2LMF182J
		R1025	RS2LMF220J
		R1010, R1011	RS2LMF332J
		R1008	RS2LMF560J
		R1015, R1016	RS2LMFR22J
		OTHER RESISTORS	RD1/8PM□□□J
OTHERS			
		PIN JACK 2P	AKB1100
		SPEAKER TERMINAL 4P	AKE1012
		CN1 SOCKET 40P	AKP1085
		CN5 CONNECTOR 9P	KPE9

POWER ASSEMBLY

SEMICONDUCTORS			
		IC1201	STK4142-2GP
CAPACITORS			
		C1211	CEANP220M35
		C1213	CEANP470M50
		C1212	CEAS100M50
		C1207, C1208	CEAS101M25
		C1209, C1210	CEXA100M50
		C1201, C1202	CEXA2R2M50
		C1205, C1206	CEXA4R7M50
		C1203, C1204	CKCYB331K50
		C1214-C1217	CKCYX104M25
RESISTORS			
		R1219, R1220, R1215, R1207, R1208, R1209, R1210, R1216	RD1/4PM□□□J
		R1213, R1214, R1217, R1218	RD1/4PMFL□□□J
		OTHER RESISTORS	RD1/8PM□□□J

Mark	No.	Description	Part No.

REGULATOR ASSEMBLY

SEMICONDUCTORS

	IC1004	NJM7805FAS
	IC1003	NJM7812FAS
	IC1002	NJM78M12FAS
	IC1001	NJM78M56FAS

CAPACITORS

	C1031-C1034	CEAS470M16
	C1021	CEAS470M35

RESISTORS

	ALL RESISTORS	RD1/8PM□□□J

TRANS ASSEMBLY

OTHERS

	CN1101 AC INLET 1P	AKP1121

TAPE ASSEMBLY

SEMICONDUCTORS

	IC4401	CXA1100P
	IC4201	MC14066BCP
	IC4202, IC4301	NJM4558DXP
	IC4901	PD5213A
	Q4901, Q4903, Q4905	2SA1515
	Q4455, Q4456	2SC1740S
	Q4203-Q4206, Q4301, Q4302, Q4451-Q4454	2SC2458
	Q4403, Q4404	2SC2878
	Q4401, Q4457	XDA124ES
	Q4201, Q4207	XDA143ES
	Q4701-Q4705, Q4902, Q4904, Q4906	XDC124ES
	Q4202	XDC143ES
	D4451, D4452, D4901-D4907	HSS104-02

COILS AND FILTERS

	F4401, F4402	ATF1064
	L4901	LAU220K
	L4301, L4302	LTA392J

CAPACITORS

	C4301, C4302, C4403, C4404	CEAS010M50
	C4401, C4402, C4405, C4407, C4408, C4411, C4452, C4902, C4905	CEAS100M50
	C4409	CEAS101M10
	C4451	CEAS220M25
	C4313, C4314, C4453, C4454	CEAS2R2M50
	C4307, C4308, C4315, C4316	CEAS330M16
	C4406, C4410	CEASR22M50
	C4904	CKCYB102K50
	C4203, C4204	CKCYB152K50
	C4311, C4312	CKCYB272K50
	C4901, C4903	CKCYF473Z50
	C4201, C4202, C4305, C4306	CKCYX273M25
	C4303, C4304	CKCYX473M16
	C4309, C4310	CKCYX823M25

RESISTORS

	VR4901, VR4902	VRTP6HS203
	VR4451, VR4452	VRTP6HS502
	OTHER RESISTORS	RD1/8PM□□□J

OTHERS

	X4901 CERAMIC RESONATOR(8.00MHz)	ASS1015
	CN10 CONNECTOR 13P	KPE13
	CN13 CONNECTOR 10P	KPE15
	CN9 CONNECTOR 9P	KPE5

PB1 ASSEMBLY

SEMICONDUCTORS

	IC4151	NJM4558DXP

CAPACITORS

	C4155, C4156	CEAS101M10
	C4159, C4160	CEAS470M10
	C4157, C4158	CEAS4R7M50
	C4151, C4152	CKCYB561K50
	C4153, C4154	CKCYF223Z50

RESISTORS

	VR4151, VR4152	VRTP6HS202
	OTHER RESISTORS	RD1/8PM□□□J

REC/PB2 ASSEMBLY

SEMICONDUCTORS

	IC4101	NJM4558DXP
	Q4351	2SA1515
	Q4356	2SC2240
	Q4355	2SC2458
	Q4353, Q4354	2SC3377
	Q4303, Q4304	2SK373
	Q4352	XDC143ES
	D4301-D4306	HSS104-02

COILS AND TRANSFORMERS

	T4351	ATX-043
	L4303, L4304	LTA822J

CAPACITORS

	C4360 (C=2000P, V(DC)=630)	ACE1020
	C4321, C4322	CCCSL100D50
	C4323, C4324	CCCSL101K500
	C4319, C4320	CCCSL271K500
	C4352, C4359, C4363	CEAS100M50
	C4105, C4106	CEAS101M10
	C4109, C4110	CEAS470M10
	C4351	CEAS470M16
	C4107, C4108	CEAS4R7M50
	C4353, C4356	CGMYX103M16
	C4362	CKCYB222K500
	C4101, C4102	CKCYB561K50
	C4317, C4318	CKCYB681K50
	C4103, C4104	CKCYF223Z50
	C4354	CKMYB221K50
	C4355	CKMYB681K50
	C4358	CQMA123K250
	C4357	CQMA153J50
	C4361	CQMA562K400

RESISTORS

	R4351	RD1/2PM560J

Mark	No.	Description	Part No.
	VR4101, VR4102		VRTP6HS202
	VR4301, VR4302		VRTP6HS204
	OTHER RESISTORS		RD1/8PM□□□J

AMP. TX SW ASSEMBLY

SEMICONDUCTORS

	IC2401, IC3701, IC3702	NJM4558DXP
	IC1901	PDG094A
	Q1901, Q1904	2SC2458
	Q1902	XDC143ES
	D1902	AEL1148
	D1803-D1809, D1901, D1903-D1905, D3701, D3702	HSS104-02
	D1907	RD5.6ESB
	D1906	RD6.2ESB
	D1908	RD8.2ESB

SWITCHES

	S1804, S1806-S1817, S1822	ASG1029
	S1901	ASX1009

COILS

	L1901	LAU220K

CAPACITORS

	C1903	ACH1135
	C1910, C1911	CEJA010M50
	C3701, C3702	CEJA100M16
	C1905, C1906	CEJA221M6
	C2409, C2410	CEJA2R2M50
	C1902, C2415, C2416	CEJA470M10
	C2407, C2408	CKCYB472K50
	C2401, C2402	CKCYX153M25
	C2403, C2404	CFTYA823J50
	C1912	CKPUYB102K50
	C1904, C1907-C1909, C1913-C1916, C1919, C1920, C3703, C3704	CKPUYF473Z16
	C2405, C2406	CKPUYX122M16

RESISTORS

	VR2402 (R=100K-CX2)	ACS1083
	VR2401 (R=100K-CX2)	ACS1089
	OTHER RESISTORS	RD1/8PM□□□J

OTHERS

	X1902 CERAMIC RESONATOR8.00MHz)	ASS1015
	CN1 SOCKET 40P	AKP1087
	V1701	AAV1163
	REMOTE SENSOR UNIT	AXX1033

CD DECK SW ASSEMBLY

SEMICONDUCTORS

	Q4701-Q4706	XDC143ES
	D4705	AEL1131
	D4701-D4704, D4706-D4711	AEL1132

SWITCHES

	S4801-S4814, S4821-S4833	ASG1029
	S4401	ASH1039

RESISTORS

	ALL RESISTORS	RD1/8PM□□□J

Mark	No.	Description	Part No.

HEADPHONE ASSEMBLY

CAPACITORS

	C1223	CKPUYF473Z16

RESISTORS

	R1223, R1224	RS1LMF331J
	OTHER RESISTORS	RD1/8PM□□□J

OTHERS

	CN1203 MINI JACK	AKN1028

MOTHER BOARD ASSEMBLY

SEMICONDUCTORS

	IC151	CXA1372Q
	IC301	CXD2500AQ
⚠	IC201, IC202	LA6520
	IC20	M5298P
	IC405	NJM4565D-D
	IC351	PD4476A
	IC401	SM5871AS
	Q62, Q381, Q382	2SC1740S
	Q401	2SK246
	Q390	DTC124ES
	D211	MTZJ6.2B
	D301, D381-D384, D401, D701-D705	1SS133X

RESISTORS

	VR151, VR152 (22K)	RCP1046
	R391-R393, R450, R451	RS1/10S000J
	OTHER RESISTORS	RS1/10S□□□J

CAPACITORS

	C404	CCSQCH150J50
	C403	CCSQCH180J50
	C429, C430	CCSQCH221J50
	C435-C438	CCSQCH820J50
	C441, C442	CCSQSL152J50
	C60	CEJA010M50
	C25-C28	CEJA101M10
	C216, C217, C302, C351	CEJA330M16
	C160, C162	CEJA4R7M50
	C433, C434	CEJANP2R2M50
	C309	CEJAR47M50
	C157, C164, C167, C169, C212, C308, C354, C375	CKSQYB103K50
	C158, C159, C161, C163, C301, C304	CKSQYB104K25
	C306	CKSQYB152K50
	C155	CKSQYB182K50
	C170	CKSQYB332K50
	C156, C168	CKSQYB333K25
	C171, C172	CKSQYB472K50
	C307	CKSQYB473K25
	C202, C203, C205, C206, C353, C361	CKSQYF103Z50
	C410, C414-C416, C431, C432, C460, C461	CKSQYF104Z25
	C421, C424, C426	CKSQYF473Z25

OTHERS

	CN131 CONNECTOR 12P	12FM-1.0ST

Mark	No.	Description	Part No.
		CN2 CONNECTOR 13P	KPE13
		CN1 CONNECTOR 7P	KPE7
		X401 CRYSTAL RESONATOR	PSS1008
		X351 CERAMIC RESONATOR	VSS1014

LOADING BOARD ASSEMBLY

SWITCHES

	S601, S602	DSG1016

MOTOR BOARD ASSEMBLY

There is no supply part in this unit.

SELECT BOARD ASSEMBLY

SWITCHES

	S604-S606	DSG1016
	S603	PSG1010

MECHANISM BOARD ASSEMBLY

SWITCHES

	S601	DSG1016

7. ADJUSTMENTS

7.1 ADJUSTMENT OF THE FM TUNER SECTION

- Refer to Fig 7-3. for adjustment test points and controls.
- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 7-1.

Step No.	Adjustment title	FM SG (1kHz, ± 75kHz dev.)		Reception frequency display	Adjustment location	Specifications
		Frequency (MHz)	Level (dBμ V)			
1	Center adjustment	98	80	98.0MHz	L907	Adjust so that the DC voltage between the TP901 (Vref) and TP902 (T-meter) becomes 0V ± 50mV.
2	VCO adjustment	Non modulation	80	98.0MHz	VR903	Adjust so that the output of the TP905 (VCO) becomes 76kHz ± 0.5kHz.
3	TUNED IND. Lighting level	98 *1 (Stereo modulation)	18 (± 3dB)	98.0MHz	VR902	Adjsut so that the indicators of TUNED, STEREO IND. start to light up.

Note: *1 Stereo modulation: Main 1kHz, L+R, ± 68.25kHz dev.
Pilot 19kHz, ± 6.75kHz dev.

7.2 ADJUSTMENT OF AM (MW) TUNER SECTION

- Set the mode selector to AM (MW) BAND.
- Connect the wiring as shown in Fig. 7-2.

Step No.	Adjustment title	AM SG (400kHz, 30% Mod.)		Reception frequency display	Adjustment location	Specifications
		Frequency (kHz)	Level (dBμ V/m)			
1	Tracking adjustment *1	603 *3	Feeble input	603kHz *3	AM RF Tuning block antenna coil	Adjust so that the DC voltage between the TP904 (S-meter) and GND becomes at maximum level.
		1395 *4		1395kHz *4	TC901	
2	IFT adjustment *1	603 *3		603kHz *3	F904	
3	TUNED IND. Lighting level	999 *2	55 (± 5dB)	999kHz *2	VR901	Adjsut so that the indicators of TUNED IND. start to light up.

Note 1: Adjustment marked with "*1" is only for HEWI.
Note 2: Frequencies indicated in the above table are for the area using 9kHz step (HE, HB, HEWI, SD, SL: 9kHz).
For the area using 10kHz step (SD, SL: 10kHz, KU, KC), frequencies should be as follows:
*2: 1000kHz *3: 600kHz *4: 1400kHz

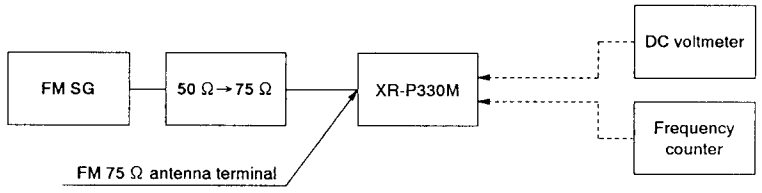


Fig. 7-1. FM Adjustment Connection Diagram

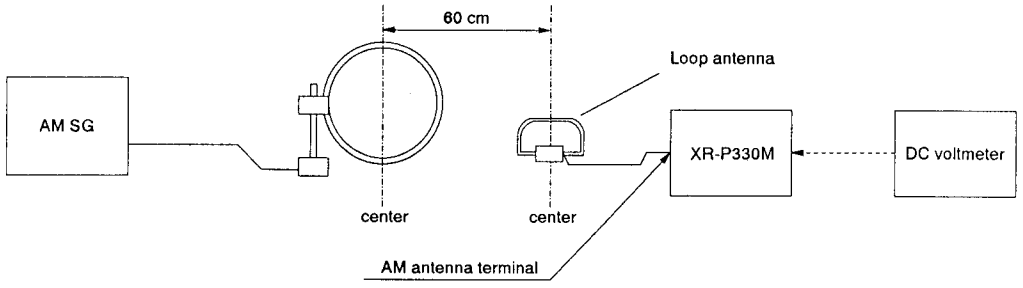


Fig. 7-2. AM Adjustment Connection Diagram

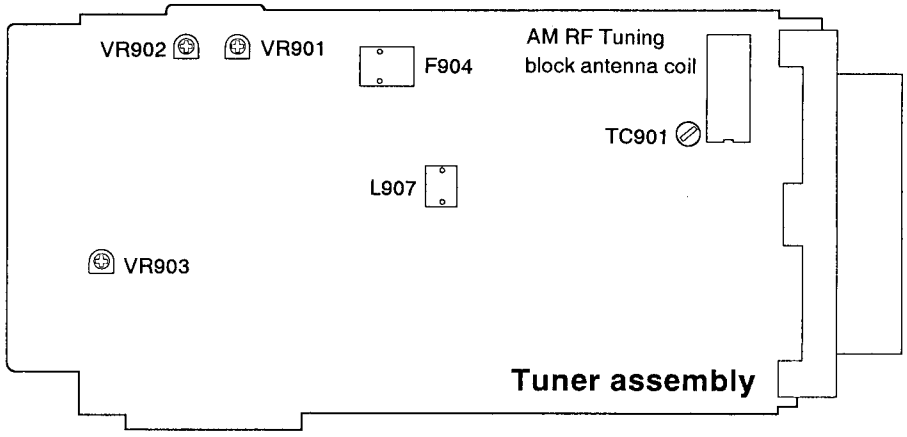


Fig. 7-3. Adjustment Points and Test Points

7.3 TAPE DECK SECTION

• Adjustment points and test points are shown in Fig. 7-7.

● Mechanical Adjustment

• Set the TAPE function.
• Test tape: STD–301 (3 kHz, 30 min.)

1. Tape Speed Adjustment

No.	Mode	Test tape	Adjusting points		Measurement points	Adjustment procedure	Remarks
1	PLAY	STD–301 (playback 3 kHz)	Deck I	TAPE assembly VR4901	J533 (Rch)	Press the PLAY SW and adjust so that the reading becomes 3010 ± 10 Hz. Confirm that wow & flutter level is below 0.2% (in the reverse direction, confirm that the reading is within 3010 ± 55 Hz).	
2	PLAY		Deck II	TAPE assembly VR4902	J535 (Rch)	Press the PLAY SW and adjust so that the reading becomes 3010 ± 10 Hz. Confirm that wow & flutter level is below 0.2% (in the reverse direction, confirm that the reading is within 3010 ± 55 Hz).	

● Electrical Adjustment

Check the following before starting.

1. Confirm that tape speed adjustment has been completed.
2. Clean the heads and demagnetize them using a head eraser.
3. Set the measurement level to 0 dBV=1 Vrms.
4. Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
   STD-331E: for playback adjustment
   STD-631: normal bland tape
5. Provide yourself with the following measuring devices:
   AC millivoltmeter, low–frequency oscillator, attenuator, oscilloscope
6. Adjust both right and left channels unless otherwise specified.
7. Turn the DOLBY NR switch off unless otherwise specified.
8. Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
9. Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (decks I, II)

1. Head azimuth adjustment
2. Playback level adjustment

Recording Adjustment (deck II)

1. Bias oscillation frequency check
2. Recording/playback frequency characteristics adjustment
3. Recording level adjustment
4. ALC operation check

* As the reference recording level is 250 nwb/m for STD–331E, the recording level will be higher by 4 dB for STD–331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

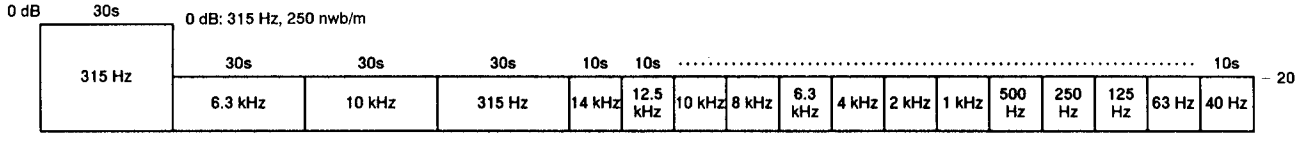


Fig. 7-4. STD-331E Test Tape

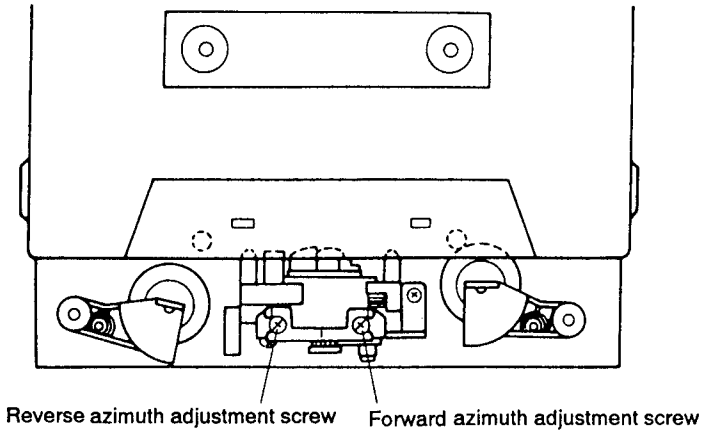


Fig. 7-5. Head azimuth Adjustment

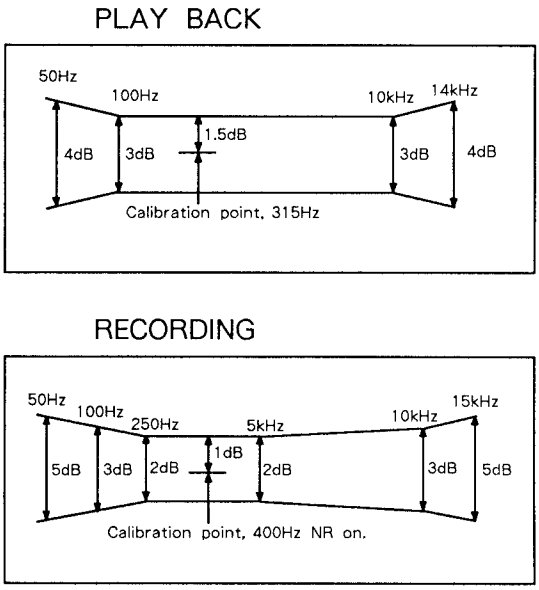


Fig. 7-6. Frequency Characteristics

● Playback Adjustment

1. Head Azimuth Adjustment

- This unit is equipped with auto tape selector.
- Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points		Measurement points	Adjustment value	Remarks
1	NORMAL	PLAY	STD-331E test tape (playback 10kHz, −10 dB)	Deck I	Head azimuth adjustment screw (Fig. 7-5)	J533 (Lch) J535 (Rch) (DOLBY TP)	Max. playback signal level	After adjustment, apply lock paint to the head azimuth adjustment screw.
				Deck II				

2. Playback Level Adjustment

- Since this adjustment determines playback Dolby NR level, perform it carefully.

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points		Measurement points	Adjustment value	Remarks
1	NORMAL	PLAY	STD-331E test tape (playback 315kHz, 0 dB)	Deck I	VR4151 (Lch) VR4152 (Rch)	J533 (Lch) J535 (Rch) (DOLBY TP)	−1.2 dBV	
				Deck II	VR4101 (Lch) VR4102 (Rch)			

Note: Deck II level also changes when deck I level is adjusted.
Therefore, adjust deck I level first.

● Recording Adjustment

Note: To make frequency response of the phone equalizer flat, perform the following adjustment items 2 to 4 with connecting B1 to B2 and C1 to C2 in Fig. 7-3 respectively.

1. Bias Oscillation Frequency Check

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points		Measurement points	Adjustment value	Remarks
1	NORMAL	REC	Load the STD-631 test tape and set the recording mode.	Deck I			Oscillation frequency to be 108.5 ± 2 kHz with the rear panel beat-cut switch in the "1" position.	Frequency is 2 to 3 kHz lower with the rear panel beat-cut switch in the "2" position.
				Deck II	—	Between the A point in Fig. 7-7 and GND		

2. Recording/Playback Frequency Characteristics Adjustment

• Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points		Measurement points	Adjustment value	Remarks
1	NORMAL	REC	Input a 315 Hz signal to the phono terminal and set the input selector to PHONO.	Deck I		J533 (Lch) J535 (Rch) (DOLBY TP)	−25.2 dBV	
				Deck II	Input signal level			
2	NORMAL	REC/ PLAY	Load the STD-631 test tape and record/ playback the 315 Hz and 10 kHz signals (see the Note below).	Deck I		J533 (Lch) J535 (Rch) (DOLBY TP)	Repeat adjustment until playback level of the 10 kHz signal is within 0 ± 0.5 dB from that of the 315 Hz signal.	
				Deck II	VR4301 (Lch) VR4302 (Rch)			

Note: Set to the same level used for the 315 Hz input signal at step 1.

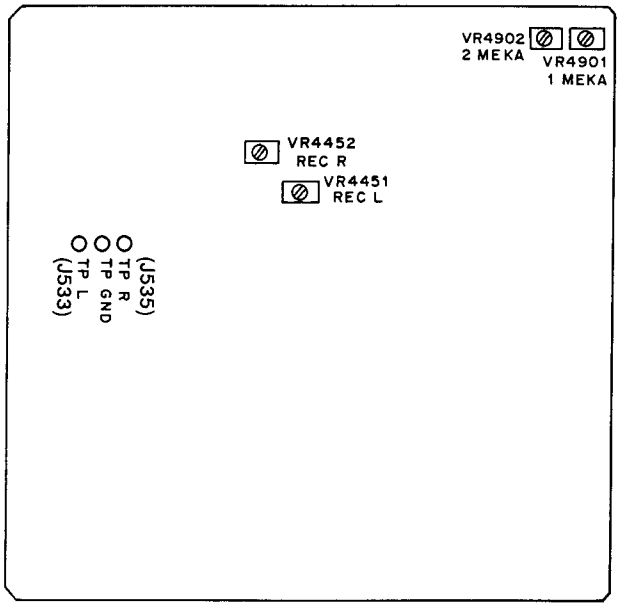
3. Recording Level Adjustment

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points		Measurement points	Adjustment value	Remarks
1	NORMAL	REC	Input a 315 Hz signal to the phono terminal and set the input selector to PHONO.	Deck I	Input signal level	J533 (Lch) J535 (Rch) (DOLBY TP)	−5.2 dBV	
				Deck II				
2	NORMAL	REC/ PLAY	STD-631 test tape and record/playback the 315 Hz signal.	Deck I		J533 (Lch) J535 (Rch) (DOLBY TP)	Repeat recording, playback and adjustment until playback level of the 315 Hz signal becomes −5.2 dBV.	
				Deck II	VR4451 (Lch) VR4452 (Rch)			

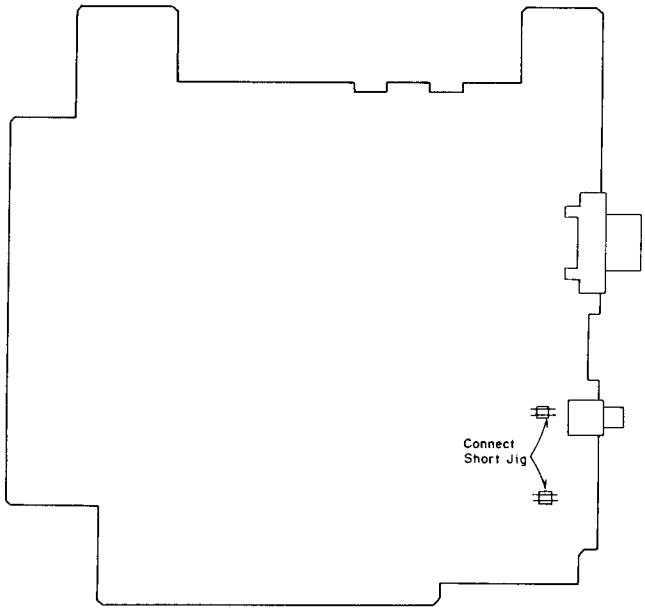
4. ALC Operation Check

Step	Tape selector (AUTO)	Mode	Input signal/ test tape	Adjusting points	Measurement points	Adjustment value	Remarks
1	NORMAL	REC• PAUSE	Input a 315 Hz signal to the PHONO terminal and set the input selector to PHONO.	Input signal level	J533 (Lch) J535 (Rch) (DOLBY TP)	−5.2 dBV	
2				Set to a level +10 dB above the input level at step 1.		−1.2 ± 2.5 dBV	

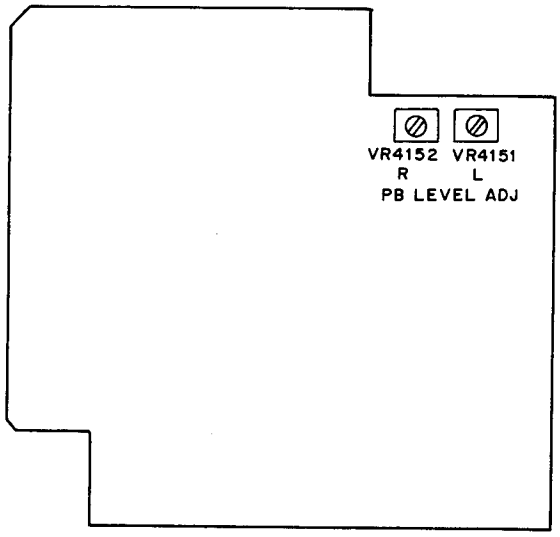
TAPE ASSEMBLY



AF ASSEMBLY



PB1 ASSEMBLY



REC/PB2 ASSEMBLY

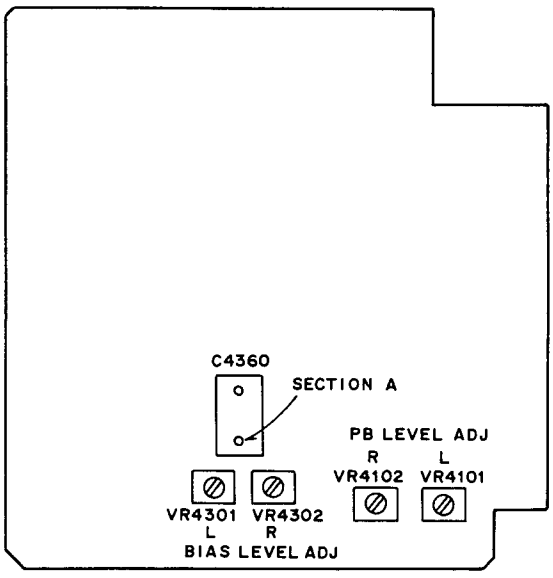


Fig. 7-7. Adjustment Points and Test Points

7.4 CD PLAYER SECTION

● Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 − 4, the pickup block may be defective.

Step	Item	Test Point	Adjustment Location
1	Focus offset verification	TP1, Pin 6 (FCS. ERR)	None
2	Tracking error balance verification	TP1, Pin 2 (TRK. ERR)	None
3	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1 (RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
4	RF level verification	TP1, Pin 1 (RF)	None
5	Focus servo loop gain adjustment	TP1, Pin 5 (FCS. IN) TP1, Pin 6 (FCS. ERR)	VR152 (FCS. GAN)
6	Tracking servo loop gain adjustment	TP1, Pin 3 (TRK. IN) TP1, Pin 2 (TRK. ERR)	VR151 (TRK. GAN)

● **Abbreviation table**

FCS. ERR :Focus Error
TRK. ERR :Tracking Error
FCS GAN :Focus Gain
TRK GAN :Tracking Gain
FCS. IN :Focus In
TRK. IN :Tracking In

● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. Resistor (100 kΩ)
5. Standard tools

● Test Point and Adjustment Variable Resistor Positions

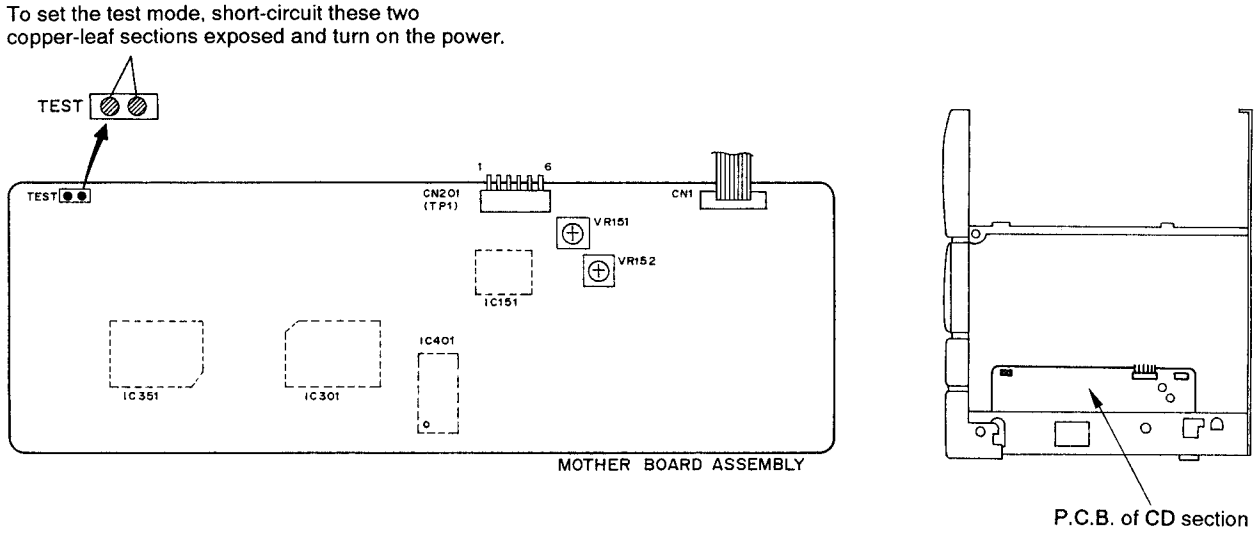


Figure 1 Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test Mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.

1. Turn off the power switch.
2. Short the test mode copper-leaf section. (See Figure 1.)
3. Turn on the power switch.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch.

[Operations of the keys in test mode]

Code	Key Name	Function in Test Mode	Explanation
	PROGRAM	Focus servo close	The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo. If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position.
►/II	PLAY/PAUSE	Spindle servo ON	Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop. Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed. If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.
►/II	PLAY/PAUSE	Tracking servo close/open	Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal. If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem. This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.

Code	Key Name	Function in Test Mode	Explanation
⏮• ◀◀	MANUAL/ TRACK SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▶▶• ⏭	MANUAL/ TRACK SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
■	STOP	Stop	Initializes and the disc rotation stops. The pickup and disc remain where they are when this key is pressed.
▲	EJECT	CD magazine eject	Stores Disc 1 in the CD magazine, then ejects the CD magazine. However, even though the CD magazine is ejected, the pickup does not return to the park position. Even if the CD magazine is mounted again, the pickup remains where it is.

Note : When inserting the magazine, disc 1 of the magazine is loaded automatically.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

PROGRAM	Lights up the laser diode and closes the focus servo.
⇩	
PLAY/PAUSE ►/II	Starts the spindle motor and closes the spindle servo.
⇩	
PLAY/PAUSE ►/II	Closes the tracking servo.

Wait at least 2-3 seconds between each of these operations.

1. Focus Offset Verification

● Objective	Verify the DC offset for the focus error amp.		
● Symptom when out of adjustment	The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stopped (just the Power switch on) None None needed

[Procedure]

Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

2. Tracking Error Balance Verification

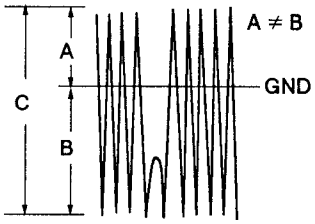
● Objective ● Symptom when out of adjustment	To verify that there is no variation in the sensitivity of the tracking photo diode. Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter. [Settings] 50 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, focus and spindle servos closed and tracking servo open None YEDS-7

[Procedure]

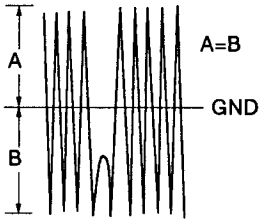
1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key.
2. Press the PROGRAM key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

$$\text{when } A \geqq B, \quad \frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$$

$$\text{when } A < B, \quad \frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$$



When there is a DC component



When there is no DC component

3. Pickup Radial/Tangential Tilt Adjustment

● Objective	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals.		
● Symptom when out of adjustment	Sound broken;some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play Pickup radial tilt adjustment screw and tangential tilt adjustment screw YEDS-7

[Procedure]

1. Press the MANUAL TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35mm).
   Press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.

Note:Radial and tangential mean the directions relative to the disc shown in Figure 2.

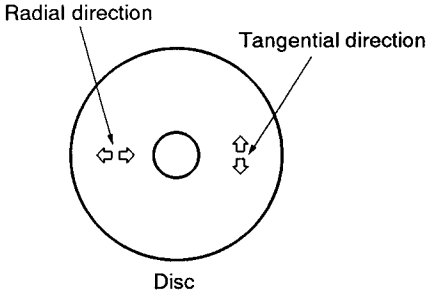
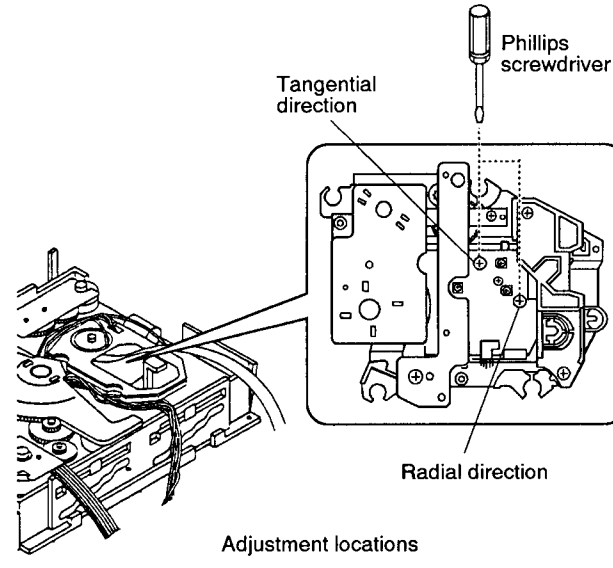


Figure 2



Adjustment locations

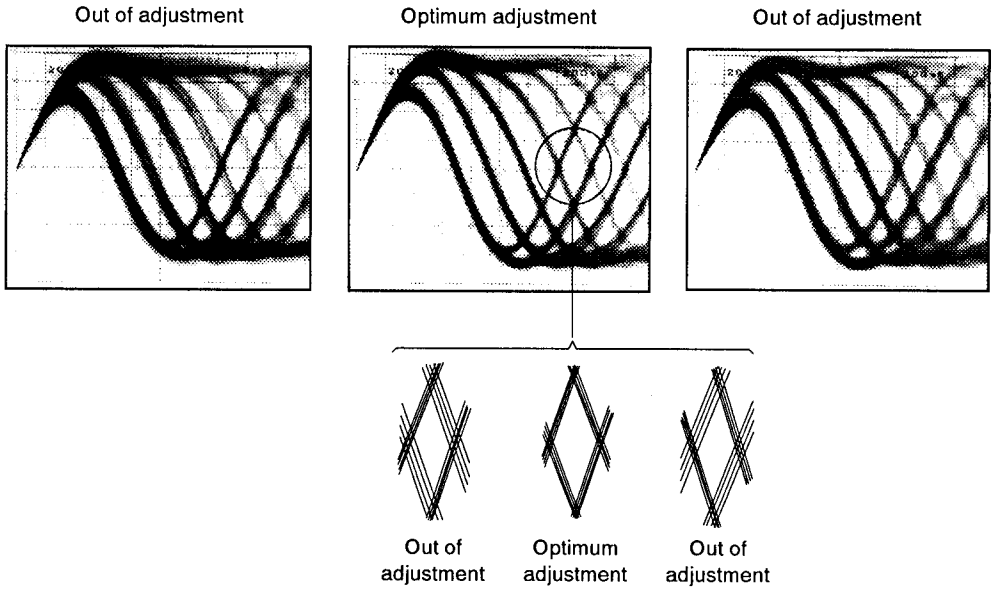


Figure 3 Eye pattern

4. RF Level Verification

● Objective	To verify the playback RF signal amplitude		
● Symptom when out of adjustment	No play or no search		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 50 mV/division 10 ms/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play None YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the MANUAL TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key, then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is 1.2 Vp-p ± 0.2 V.

5. Focus Servo Loop Gain Adjustment

● Objective	To optimize the focus servo loop gain.		
● Symptom when out of adjustment	Playback does not start or focus actuator noisy.		
● Measurement instrument connections	See figure 4. [Settings] CH1 CH2 20 mV/division 5 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR152 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the MANUAL TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

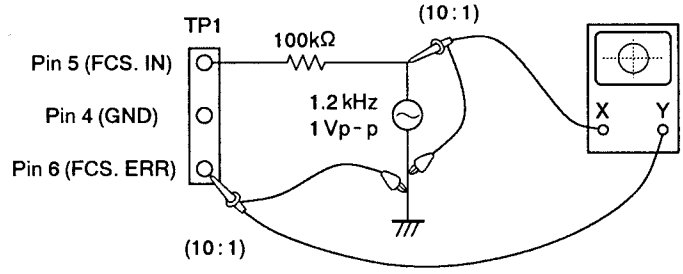
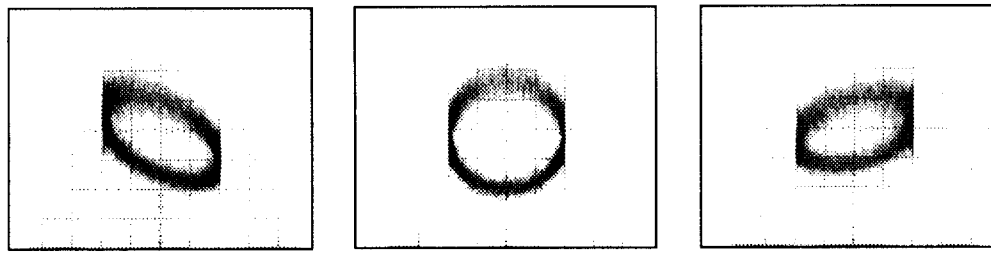


Figure 4

Focus Gain Adjustment



Higher gain | Optimum gain | Lower gain

6. Tracking Servo Loop Gain Adjustment

● Objective	To optimize the tracking servo loop gain.		
● Symptom when out of adjustment	Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	See Figure 5. [Settings] CH1 CH2 50 mV/division 20 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR151 (TRK. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the MANUAL TRACK SEARCH FWD ▶▶ • ▶▶| or |◀◀ • ◀◀ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key, the PLAY/PAUSE ▶/❚❚ key, then the PLAY/PAUSE ▶/❚❚ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

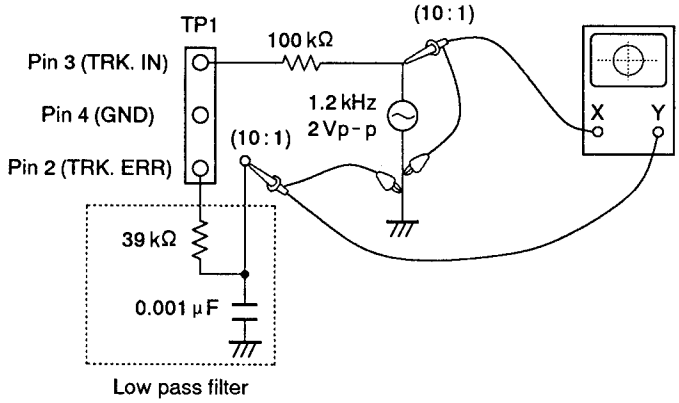
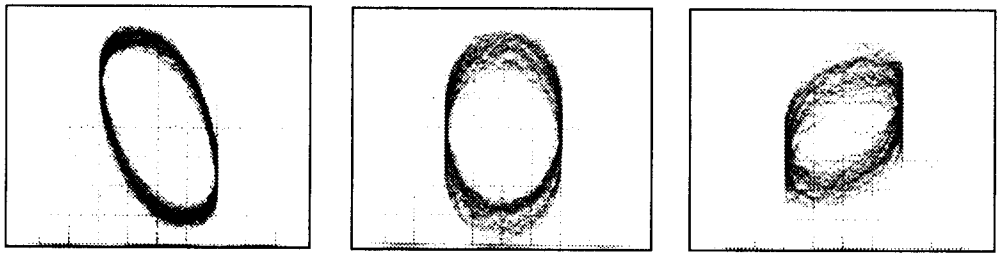


Figure 5

Tracking Gain Adjustment



Higher gain | Optimum gain | Lower gain

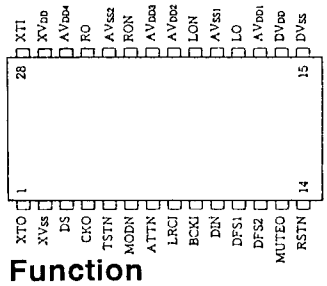
8. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

1. SM5871AS (IC401)

● ΣΔ system D/A converter with built-in digital filter

● Pin Assignment



(Top view)

● Pin Function

Pin No.	Pin Name	I/O	Function
1	XTO	O	Oscillating section output pin.
2	XV_{SS}	–	Crystal system GND pin (0V).
3	DS	ip	Normal/double speed playback mode selection. (DS=L:Normal playback mode) (DS=H:Double speed playback mode)
4	CKO	O	Oscillating section output clock. (DS=L:Same 384 fs as the XTI input frequency) (DS=H:Same 192 fs as the XTI input frequency)
5	TSTN	ip	Test pin: Normally fixed at level H.
6	MODN	ip	Mode control pin.
7	ATTN	ip	Soft mute control pin.

ATTN Selection	MODN = H	MODN = L
H	Soft mute releasing	Soft mute holding (fixed)
L	Soft muting	

8	LRCI	ip	Input data sample rate (fs) clock. H=Lch. L=Rch.
9	BCKI	ip	Input data bit clock.
10	DIN	ip	Input data.
11	DFS1	ip	De-emphasis control pin 1.
12	DFS2	ip	De-emphasis control pin 2.

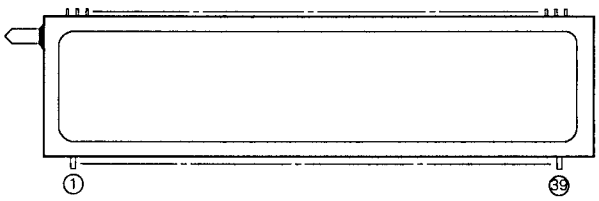
DFS2 Selection	DFS1 = H	DFS1 = L
H	De-emphasis ON 44.1 kHz	De-emphasis OFF
L	De-emphasis ON 48.0 kHz	De-emphasis ON 32.0 kHz

13	MUTEO	O	Infinity/zero detection output.
14	RSTN	ip	System reset: H=Normal operations. L=System reset.
15	DV_{SS}	–	Digital GND pin (0V).
16	DV_{DD}	–	Digital VDD pin (5V).
17	AV_{DD1}	–	Analog VDD pin 1 (5V).
18	LO	O	Lch PWM output (+).
19	AV_{SS1}	–	Analog GND pin (0V).
20	LON	O	Lch PWM output (–).
21	AV_{DD2}	–	Analog VDD pin 2 (5V).
22	AV_{DD3}	–	Analog VDD pin 3 (5V).
23	RON	O	Rch PWM output (–).
24	AV_{SS2}	–	Analog GND pin 2 (0V).
25	RO	O	Rch PWM output (+).
26	AV_{DD4}	–	Analog VDD pin 4 (5V).
27	XV_{DD}	–	Crystal system VDD pin (5V).
28	XTI	i	Oscillating section input pin. (384fs:When DS=L) (192fs:When DS=H)

i : Input pin. ip : Input pin with pull-up resistor. o : Output pin.

9 . FL INFORMATION

1. AAV1163 (V1701)

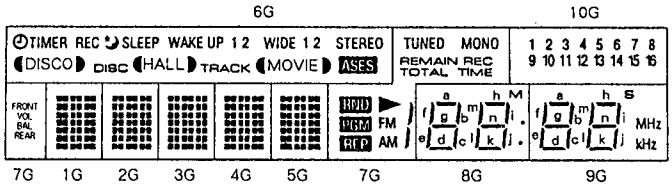


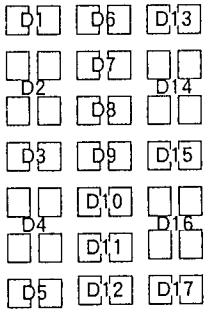
• TERMINAL CONNECTION

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ELECTRODE	F1	F1	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	NP	NP	NP	NP	P17	P16

TERMINAL NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
ELECTRODE	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	F2	F2

Notes F : Filament
G : Grid
P : Anode
NP : No Pin





• ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1	D1	D1	D1	D1	D1	TIMER	FRONT	a	a	1
P2	D2	D2	D2	D2	D2	REC	VOL	b	b	2
P3	D3	D3	D3	D3	D3	SLEEP	BAL	c	c	3
P4	D4	D4	D4	D4	D4	WAKE UP	REAR	d	d	4
P5	D5	D5	D5	D5	D5	(WAKE UP) 1	TUNED	e	e	5
P6	D6	D6	D6	D6	D6	(WAKE UP) 2	MONO	f	f	6
P7	D7	D7	D7	D7	D7	WIDE	REMAIN	g	g	7
P8	D8	D8	D8	D8	D8	(WIDE) 1	TOTAL	M	S	8
P9	D9	D9	D9	D9	D9	(WIDE) 2	REC	h	h	9
P10	D10	D10	D10	D10	D10	STEREO	TIME	i	i	10
P11	D11	D11	D11	D11	D11	DISCO HALL MOVIE	RND	j	j	11
P12	D12	D12	D12	D12	D12	(DISCO)	PGM	k	k	12
P13	D13	D13	D13	D13	D13	(HALL)	REP	l	l	13
P14	D14	D14	D14	D14	D14	(MOVIE)	▶	m	m	14
P15	D15	D15	D15	D15	D15	DISC	FM	n	n	15
P16	D16	D16	D16	D16	D16	TRACK	AM	• Top	MHz	16
P17	D17	D17	D17	D17	D17	ASES		• Bottom	kHz	

10. FOR HB, HEWI, SD AND SL TYPES

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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 → 56×10^1 → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47×10^3 → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

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

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

XR-P330M/HB, HEWI, SD, SL and XR-P330M/HE have the same construction except for the following:

Mark	Symbol & Description	Part No.				
		HE type	HB type	HEWI type	SD type	SL type
⊙	TUNER assembly	AWE1261	AWE1261	AWE1225	AWE1227	AWE1227
⊙	AMP.TX SW assembly	AWZ4628	AWZ4628	AWZ4630	AWZ4631	AWZ4631
⊙	AF assembly	AWZ4608	AWZ4608	AWZ4613	AWZ4615	AWZ4615
⊙	POWER assembly	AWZ4609	AWZ4609	AWZ4614	AWZ4609	AWZ4609
⊙	HEADPHONE assembly	AWZ4734	AWZ4734	AWZ4735	AWZ4734	AWZ4734
⊙	TRANS assembly	AWZ4612	AWZ4611	AWZ5006	AWZ4616	AWZ4616
⊙	MIC assembly	·····	·····	·····	AWZ4737	AWZ4737
⚠	AC power cord	ADG1127	ADG1118	ADG1127	ADG1129	ADG1127
⚠	Strain relief	·····	AEC – 882	·····	·····	·····
⚠	Voltage selector (AC110/120 – 127/220/240V:SD type) (AC110/120/220/240V:SL type)	·····	·····	·····	AKX – 507	AKX – 507
⚠	Power transformer (AC220 – 230/240V)	ATS1473	ATS1473	ATS1473	·····	·····
⚠	Power transformer (AC110/120-127/220/240V)	·····	·····	·····	ATS1474	ATS1474
	Rear panel	ANC2022	ANC2021	ANC2023	ANC2024	ANC2053
	Screw	BBZ30P080FZK	BBZ30P080FZK	*1 ABA – 176 (GND screw)	BBZ30P080FZK	BBZ30P080FZK
	knob	·····	·····	·····	AAB1253	AAB1253
	Front panel assembly	AMB2123	AMB2123	AMB2123	AMB2122	AMB2122
	Screw	VBZ35P080FMC	VBZ35P080FMC	VBZ35P080FMC	·····	·····
	Packing case	AHD2470	AHD2470	AHD2470	AHD2471	AHD2471
	FM antenna	ADH1005	ADH1005	·····	ADH1005	ADH1005
	FM antenna assembly	·····	·····	ADH1002	·····	·····
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	ARC1414	·····	·····	·····	·····
	Operating instructions (English, French, German, Italian)	ARE1262	·····	·····	·····	·····
	Operating instructions (English)	·····	ARB1406	·····	ARB1406	ARB1406
	Operating instructions (Italian)	·····	·····	ARC1396	·····	·····
	Operating instructions (Spanish)	·····	·····	·····	ARC1394	·····

Note. * 1 : Refer to page 6.

TUNER ASSEMBLY

AWE1225, AWE1227 and AWE1261 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWE1261	AWE1225	AWE1227	
	L901, L903, L905, L908	LAU2R2K	LAU2R2M	LAU2R2M	
	L904	LAU010K	LAU010M	LAU010M	
	L906	.....	LAU330K	.....	
	C908	.....	CKDYF223Z50	.....	
	C909	.....	CKDYF103Z50	.....	
	C915	CKDYF223Z50	.....	CKDYF223Z50	
	C919	CKDYF223Z50	CKDYF473Z50	CKDYF223Z50	
	C922	CKDYF223Z50	CKDYF223Z25	CKDYF223Z50	
	C952, C953	CKDYB122K50	CKDYB102K50	CKDYB122K50	
	C961, C962	CKDYB272K50	CKDYB392K50	CKDYB562K50	
	C968	CCDSL101J50	CCDCH101J50	CCDSL101J50	
	C969	.....	CCDCH270J50	.....	
	C964	CKPUYB101K50	CKPUYB101K50	.....	
	C965	CKPUYB102K50	CKPUYB102K50	.....	
	R920	RD1/8PM103J	RD1/8PM472J	RD1/8PM103J	
	R922	.....	RD1/8PM680J	.....	
	R924	RD1/8PM331J	RD1/8PM561J	RD1/8PM331J	
	R943	RD1/8PM433J	RD1/8PM473J	RD1/8PM433J	
	R955	RD1/8PM152J	RD1/8PM122J	RD1/8PM152J	
	R959, R960	RD1/8PM392J	RD1/8PM682J	RD1/8PM392J	
	TC901	.....	ACM – 018	.....	
	Antenna terminal 4P	AKA1010	AKA1012	AKA1009	
	2 serial F.E. module assembly	AXQ1002	AXQ1004	AXQ1002	
	AM RF tuning block	AXX1011	AXX1014	AXX1011	
	Q905, Q907	RN2203	RN2201	RN2203	
	Q910	2SC1740S	2SC2458	2SC1740S	
	R925	.....	RD1/8PM221J	.....	

Note : 2 SERIAL F.E. MODULE assembly (AXQ1004) has no service part.

AMP. TX SW ASSEMBLY

AWZ4630, AWZ4631 and AWZ4628 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ4628	AWZ4630	AWZ4631	
	D1801	.....	.....	HSS104 – 02	
	C2411, 2412	.....	CCCSL470J50	.....	
	C2401, 2402	CKCYX153M25	CKCYX153M25	CKCYX183M16	
	C2403, 2404	CFTYA823J50	CFTA823J50	CFTYA104J50	

AF ASSEMBLY

AWZ4613, AWZ4615 and AWZ4608 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ4608	AWZ4613	AWZ4615	
	IC2301	NJM4558DXP	NJM4558DXP	.....	
	IC2502	.....	.....	NJM4558DXP	
	L1201, L1202	ATH – 133	ATH – 059	ATH – 133	
	L1203, L1204	.....	ATH – 059	.....	
	S6901	.....	.....	ASH1027	
	C1218, C1219	.....	CKCYX473M25	.....	
	C1227, C1228	.....	CCDSL101J50	.....	
	C2301, C2302	.....	CKCYB471K50	.....	
	C2303, C2304	CCCSL101J50	CKCYB391K50	.....	
	C2305, C2306	CEAS2R2M50	CEAS2R2M50	.....	
	C2307, C2308	CCCSL101J50	CCCSL101J50	.....	
	C2309, C2310	CKCYB152K50	CKCYB152K50	.....	
	C2311, C2312	CKCYB562K50	CKCYB562K50	.....	
	C2313, C2314	CEAS2R2M50	CEAS2R2M50	.....	
	C2315, C2316	CEAS470M10	CEAS470M10	.....	
	R1221, R1222	RFA1/4PL100J	RFA1/4PL101J	RFA1/4PL100J	
	R1235, R1236	.....	RD1/4PMF100J	.....	
	R2101, R2102	.....	RD1/8PM101J	.....	
	R2301, R2302	RD1/8PM102J	RD1/8PM222J	.....	
	R2303, R2304	RD1/8PM473J	RD1/8PM473J	.....	
	R2305, R2306	RD1/8PM122J	RD1/8PM122J	.....	
	R2307, R2308	RD1/8PM473J	RD1/8PM473J	.....	
	R2309, R2310	RD1/8PM474J	RD1/8PM474J	.....	
	R2311, R2312	RD1/8PM101J	RD1/8PM101J	.....	
	R2313, R2314	RD1/8PM104J	RD1/8PM104J	.....	
	R3311, R3312	RD1/8PM392J	RD1/8PM392J	RD1/8PM562J	
	R2315, R2316	RD1/8PM820J	RD1/8PM820J	.....	
	R2509-R2514	.....	.....	RD1/8PM682J	
	R2515, R2516	.....	.....	RD1/8PM392J	
	CN17	.....	.....	KPE4	
	C2103, C2104	.....	CCCSL101J50	.....	

TRANS ASSEMBLY

AWZ4611, AWZ5006, AWZ4616 and AWZ4612 have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		AWZ4612	AWZ4611	AWZ5006	AWZ4616	
	L1101	ATF – 151	.....	ATF – 151	ATF – 151	
	C1101	.....	.....	ACG1003	ACG1003	

POWER ASSEMBLY

AWZ4614 and AWZ4609 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ4609	AWZ4614	
	C1203, 1204	CKCYB331K50	.....	
	C1231, 1232	.....	CCCSL101J50	
	C1229, 1230	.....	CCCSL101J50	

HEADPHONE ASSEMBLY

AWZ4735 and AWZ4734 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ4734	AWZ4735	
	C1233, 1234	.....	CKCYF103Z50	
	R1227, 1228	.....	RD1/8PM101J	

● PCB PARTS LIST

Mark	No.	Description	Part No.

MIC ASSEMBLY

SEMICONDUCTORS

	IC2501	NJM4558DXP

CAPACITORS

	C2502	CEAS010M50
	C2504, C2505	CEAS100M50
	C2501	CKCYB681K50
	C2506, C2507	CKCYX473M25
	C2503	CKPUYB471K50
	C2508	CKPUYF473Z16

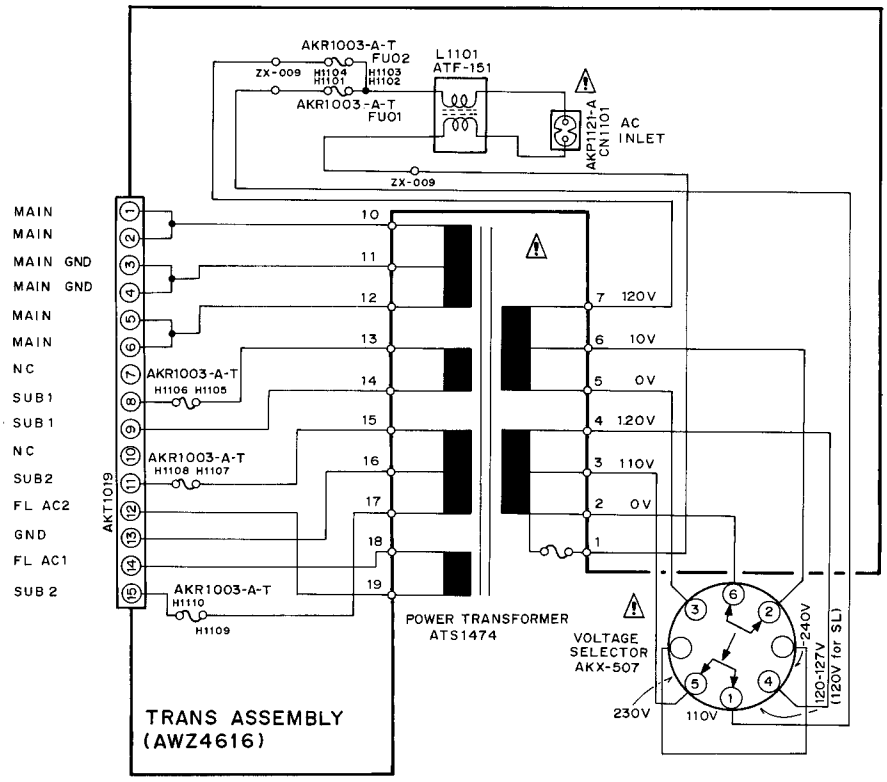
RESISTORS

	VR2501 (10K)	ACS1095
	OTHER RESISTORS	RD1/8PM□□□J

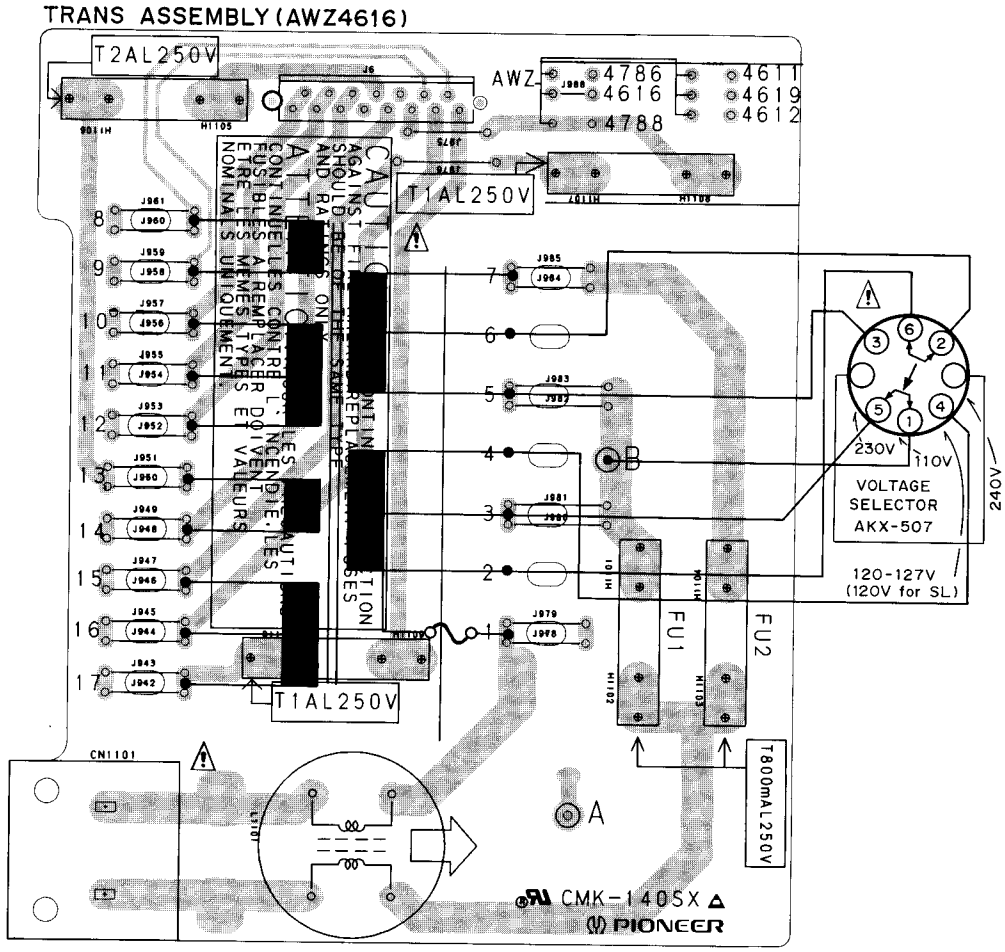
OTHERS

	MIC JACK	AKN1009

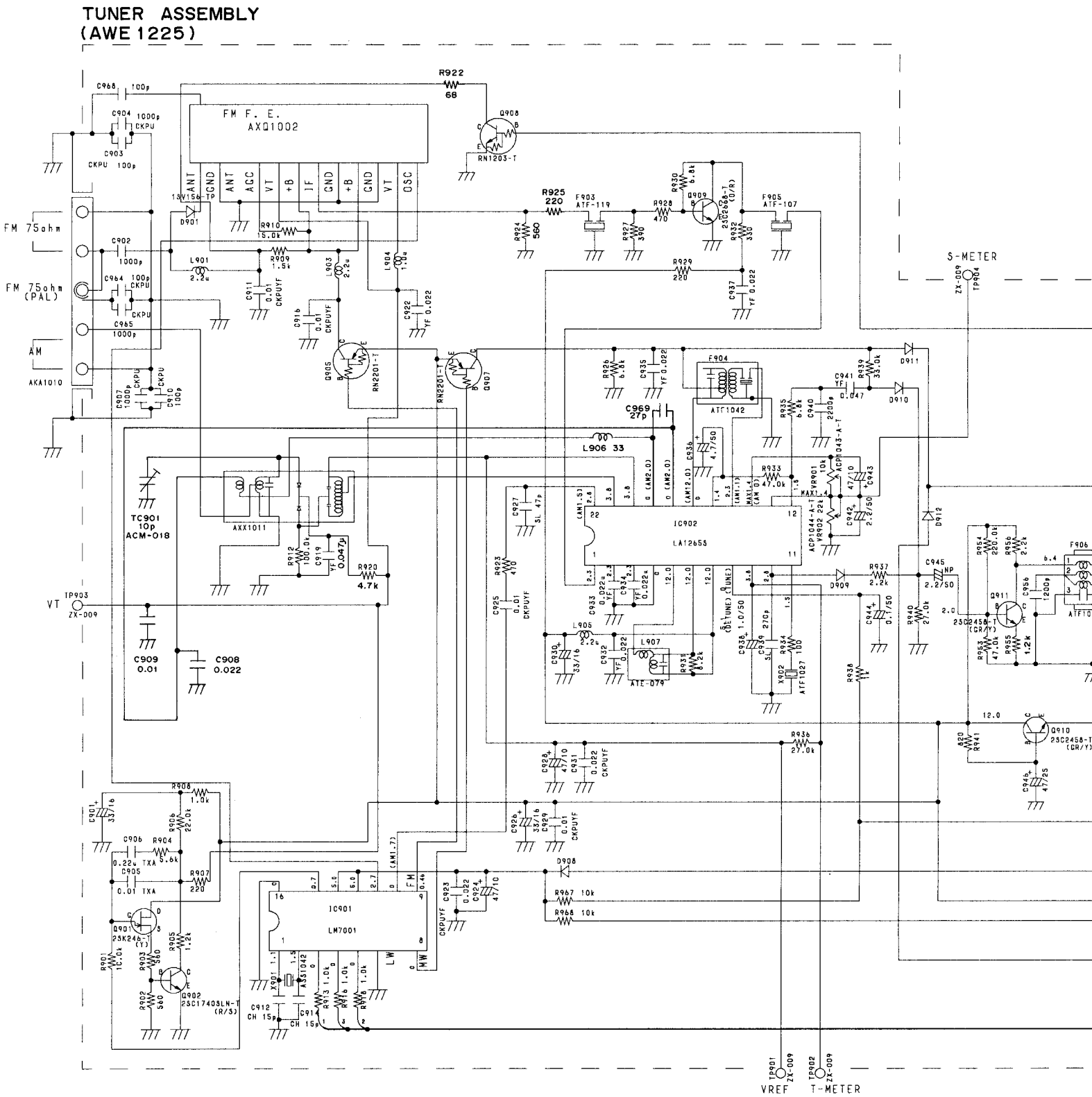
• SCHEMATIC DIAGRAMS AND PCB PATTERNS
(1)TRANS ASSEMBLY (For SD and SL types)

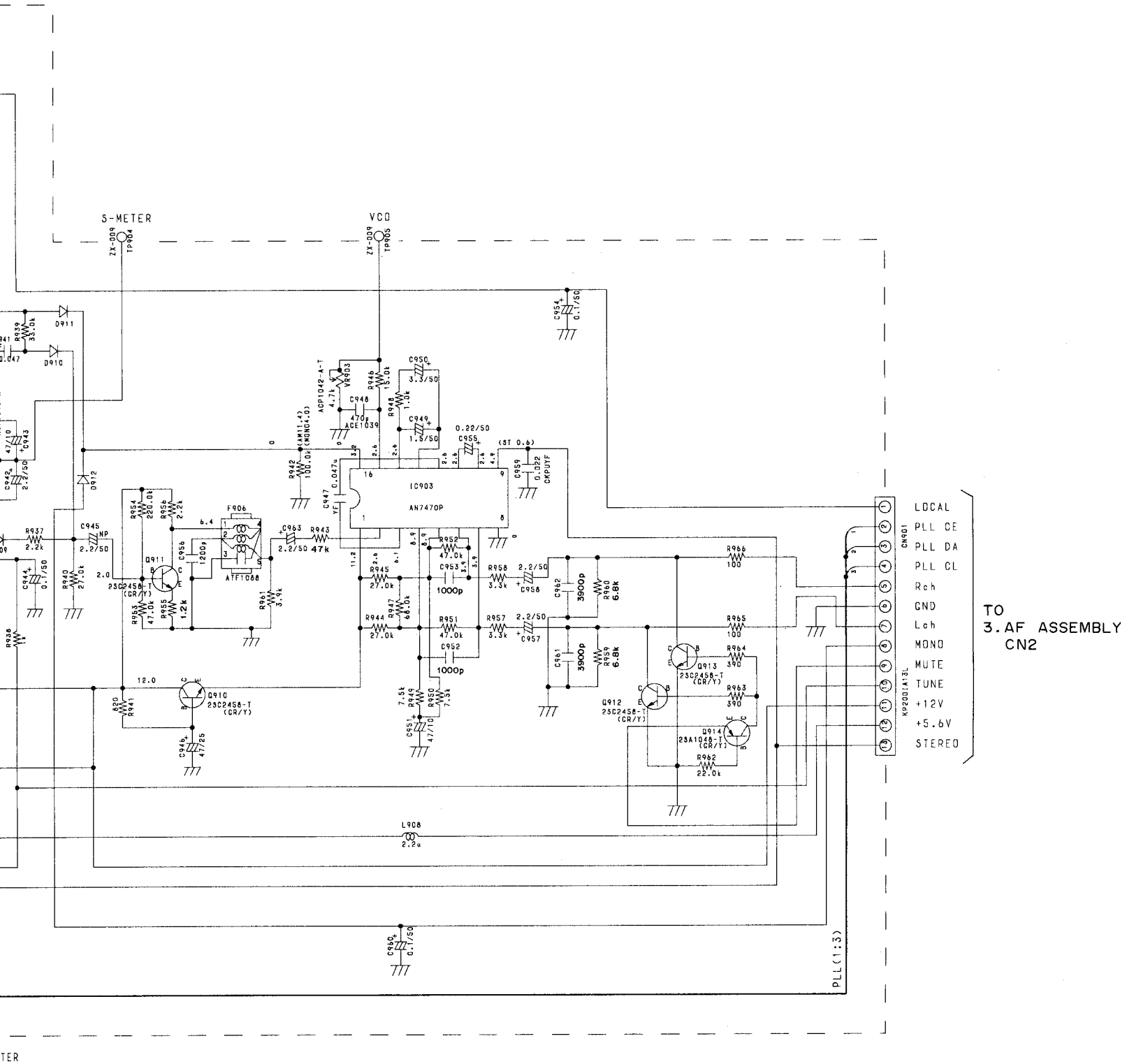


• View from component side



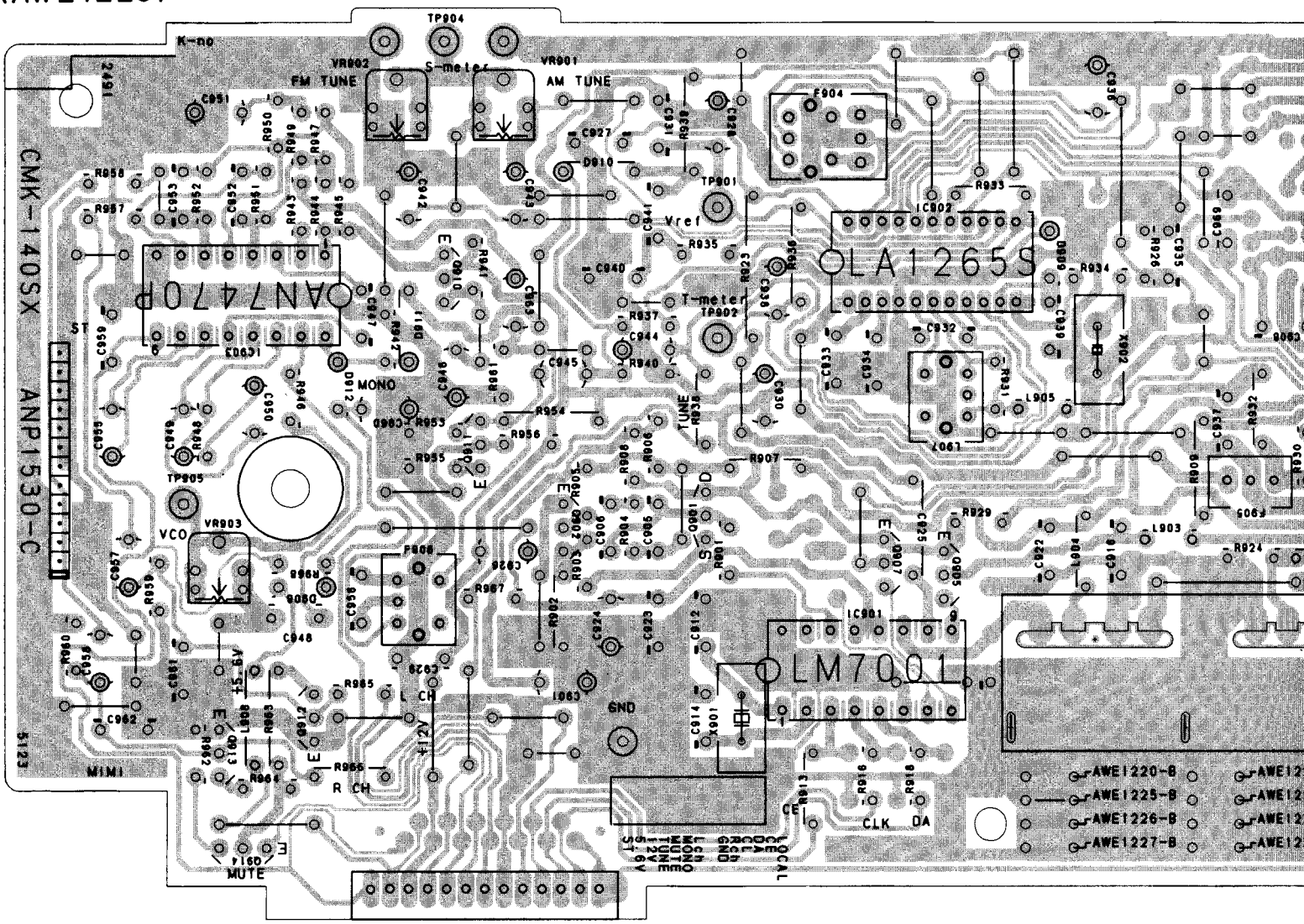
(2) TUNER ASSEMBLY (For HEWI type)




S-METER
VCO
IC903
AN7470P
Q910
2SC2458-T (GR/Y)
Q911
2SC2458-T (GR/Y)
Q912
2SC2458-T (GR/Y)
Q913
2SC2458-T (GR/Y)
Q914
2SA1048-T (GR/Y)
F906
ATF1068
D911
D910
D912
L908
2.2u
LOCAL
PLL CE
PLL DA
PLL CL
Rch
GND
Lch
MONO
MUTE
TUNE
+12V
+5.6V
STEREO
CN901
KP200(A13L
TO
3.AF ASSEMBLY
CN2
PLL(1:3)

m component side

TUNER ASSEMBLY (AWE1225)



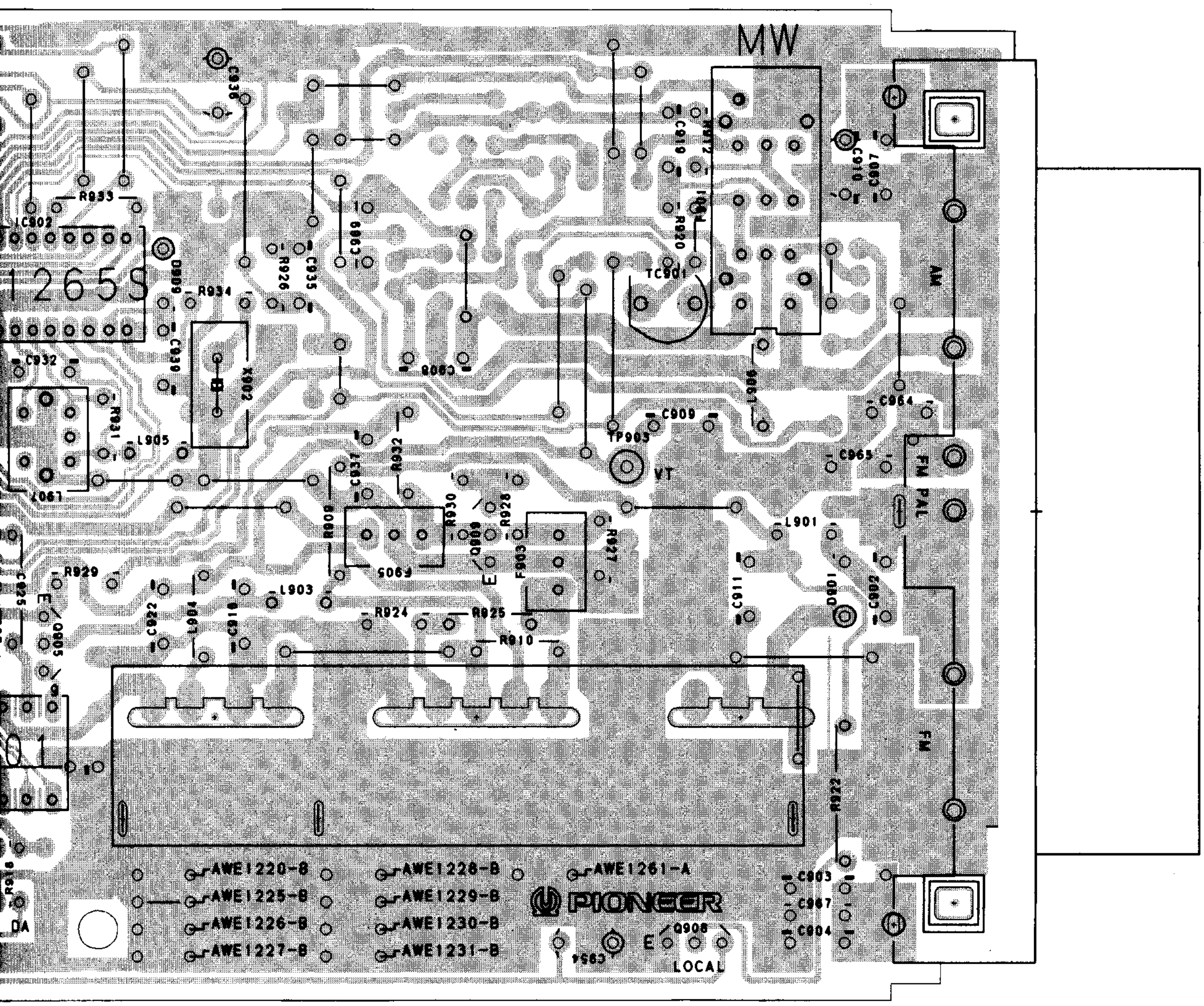
VR903 VR902 VR901

IC903 Q910 IC902

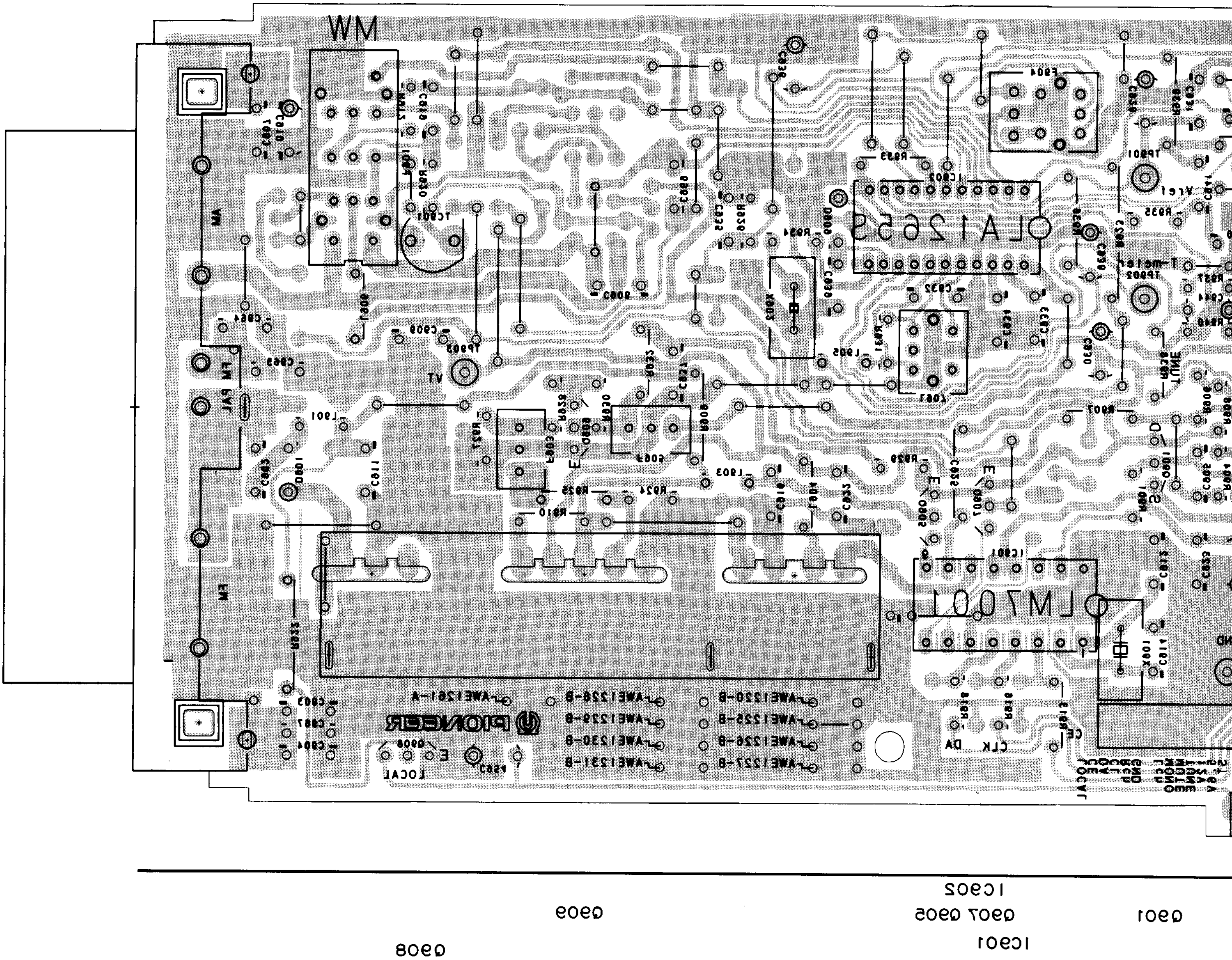
Q911 Q902 Q901 Q907 Q905

Q913 Q912 IC901

Q914



002
Q905
Q909
Q908


MW
LA1265
LM7001
PIONEER
LOCAL
IC902
Q907 Q905
Q901
IC901
Q909
Q908

• View from soldering side

TUNER ASSEMBLY
(AWE1225)

11. PANEL FACILITIES

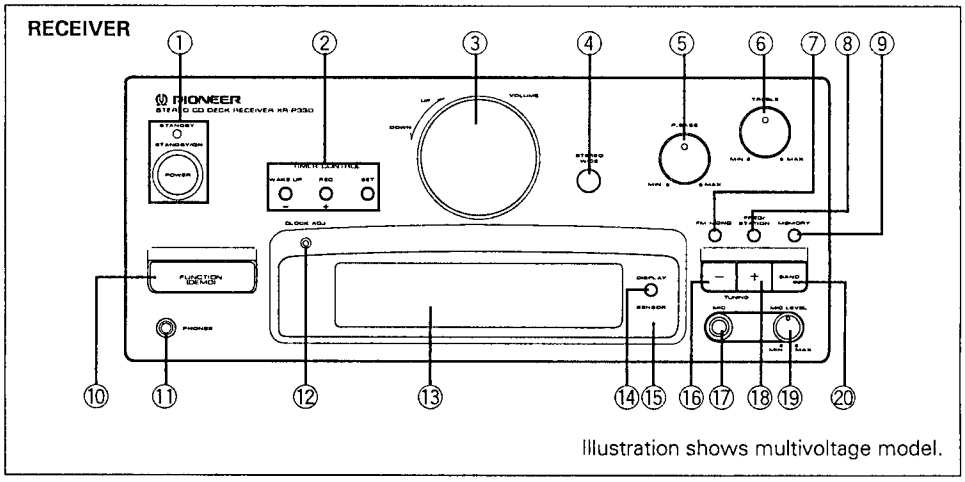


Illustration shows multivoltage model.

RECEIVER

① POWER STANDBY/ON switch / STANDBY 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 STANDBY indicator lights.)

② TIMER CONTROL buttons (WAKE UP/–, REC/+, SET)

③ VOLUME control

④ STEREO WIDE button

⑤ P.BASS level control

⑥ TREBLE level control

⑦ FM MONO button

⑧ FREQ/STATION button

⑨ MEMORY button

⑩ FUNCTION (*DEMO) button

Each time this button is pressed, the function changes in the following sequence. (They appear in the display.):

(U.K. model: PHONO)

⑪ Headphones jack (PHONES)

⑫ CLOCK ADJ button

⑬ Display

⑭ DISPLAY button

⑮ Remote sensor window (SENSOR)

⑯ TUNING – (down) button

⑰ Microphone jack (MIC) (multi- voltage model and Australian model only)

⑱ TUNING + (up) button

⑲ MIC LEVEL control (multi-voltage model and Australian model only)

⑳ BAND button

■ Auto Function

This model is equipped with "Auto Function" operation, so when the switch for CD PLAY, RANDOM, PLAY (tape), +/– (tuner up/down) or BAND is pressed, the function switches automatically. Use the VIDEO (PHONO) function button to select the component connected to the VIDEO (PHONO) jacks, since Auto Function is not effective for this.

NOTE:

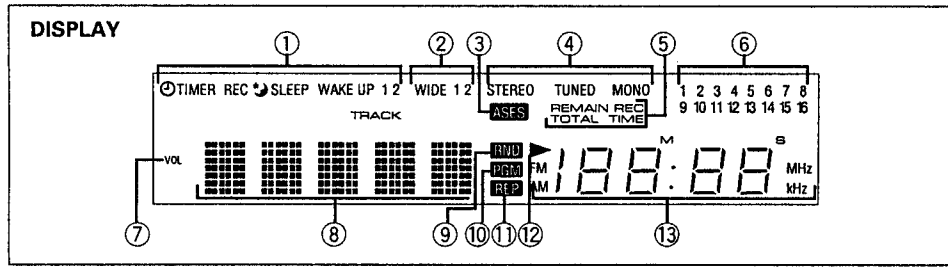
The function cannot be switched during recording except for tape copying. (Auto Function does not operate either.)

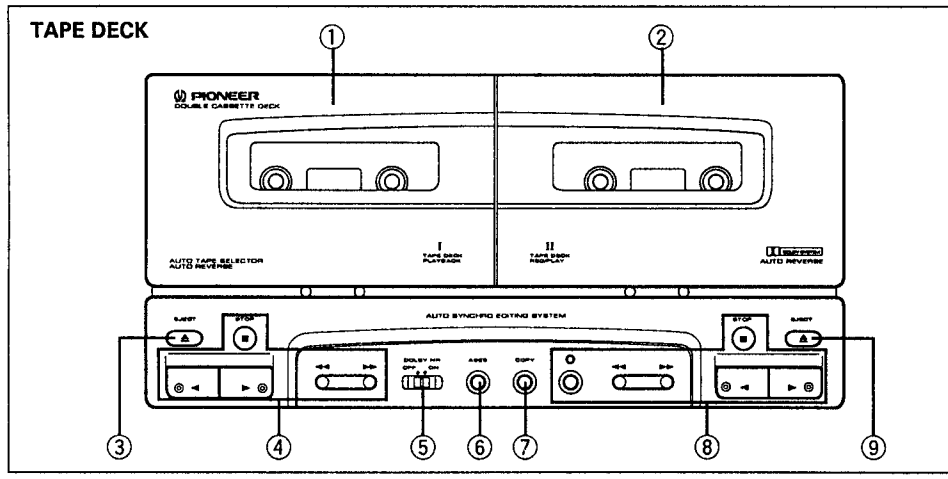
■ *Demo Function

If the FUNCTION (DEMO) button is pressed when the power is in STANDBY mode, the demonstration mode will be selected and power will be turned ON automatically.

In the demo mode, various functions of this system appear on the display.

- To exit the demo mode, turn off the power, or press one of any buttons of the receiver or the remote control unit.





DISPLAY

① **Timer indicators**
Display timer settings.

② **WIDE 1, 2 indicator**
Lights when STEREO WIDE is turned on.

③ **ASES (Auto Synchro Editing System) indicator**
Lights when A.S.E.S. is performed.

④ **Tuner indicators**
Indicate the tuning mode.

⑤ **Time display indicators**
Light when time display for CD or recording is displayed.

⑥ **Music calendar**

⑦ **Volume indicators**
Light when adjusting the sound volume.

⑧ **Function display**
Displays the selected function. In the TUNER mode, this displays the station No., and when playing a CD it displays the track No.
When adjusting the sound volume, the corresponding volume setting is displayed.
When setting the timer, it displays the timer settings.
Normally, it displays the level meter.

⑨ **Random indicator**

⑩ **Program indicator**

⑪ **Repeat indicator**

⑫ **Play indicator (►)**

⑬ **Frequency/Time display**
In TUNER mode, frequency is displayed. In any other mode it displays the time.

TAPE DECK

① **DECK I cassette door**

② **DECK II cassette door**

③ **DECK I EJECT button (▲)**

④ **DECK I operation buttons (Play ◄ ►, STOP ■, Fast ◄◄ ►►)**

⑤ **DOLBY* NR switch**

⑥ **ASES (Auto Synchro Editing System) button**

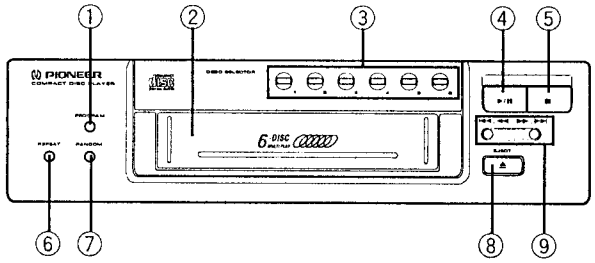
⑦ **COPY button**

⑧ **DECK II operation buttons (Play ◄ ►, STOP ■, Fast ◄◄ ►►, REC PAUSE)**

⑨ **DECK II EJECT button (▲)**

*
- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.*

CD PLAYER



CD PLAYER

① **PROGRAM button**
② **Magazine insertion slot**
③ **DISC SELECTOR buttons (1-6)**
④ **Play/Pause button (▶/II)**
⑤ **Stop button (■)**
⑥ **REPEAT button**
⑦ **RANDOM button**
⑧ **EJECT button (⏏)**
⑨ **Manual/Track search buttons (|◀◀ · ◀◀, ▶▶ · ▶▶|)**

12. SPECIFICATIONS

Amplifier section

<U.S., Canadian and multi-voltage models> Continuous Average Power Output is 21 Watts* per channel, min., at 8 ohms from 50 Hertz to 20,000 Hertz with no more than 0.9 % total harmonic distortion.**

Music Power (DIN) ..... 37 W + 37 W
Continuous Power Output (DIN) ..... 22 W + 22 W
(1 kHz, T.H.D. 1%, 8 Ω)

<Front>
Continuous Power Output (RMS) (1 kHz, T.H.D. 5%, 8 Ω)
U.K. model ..... 28 W + 28 W
Australian, U.S., Canadian and multi-voltage models ..... 30 W + 30 W

<Rear>
Hum & Noise
(DIN, Continuous Power/50 mW) ..... 68 dB/60 dB
Total Harmonic Distortion
(40 Hz to 20,000 Hz, 20 W, 8 ohms)
**VIDEO (U.K. model: PHONO) ..... No more than 0.25%
(Multi-voltage models only)
Music Power (DIN) ..... 39 W + 39 W
Peak Music Power ..... 275 W

FM/AM tuner section

FM Tuner Section
Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono: 12.8 dBf, IHF
(1.2 μV/75 ohms)
Sensitivity (DIN) ..... Mono S/N 26 dB: 1 μV/75 Ω
Stereo S/N 46 dB: 50 μV/75 Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input) ..... Mono: 77 dB
Stereo: 73 dB
Signal-to-Noise Ratio (DIN) ..... Mono: 66 dB
Stereo: 60 dB
Distortion ..... Stereo: 0.5 % (1kHz)
Antenna Input ..... 75 ohms unbalanced

AM Tuner Section
Frequency Range
With 10 kHz step ..... 530 kHz to 1,700 kHz
With 9 kHz step ..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 μV/m
Antenna ..... Loop Antenna

CD Section

Type ..... Compact disc digital audio system
Wow and Flutter ..... Limit of measurement
(±0.001% W.PEAK) or less (EIAJ)

Cassette 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 motor x 2
Wow and Flutter ..... No more than 0.09 % (WRMS)
Frequency Response (–20 dB recording):
TYPE II (HIGH/CrO_2) tape ..... 35 Hz to 15,000 Hz ±6 dB
TYPE I (Normal) tape ..... 35 Hz to 14,000 Hz ±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)

Miscellaneous

Power Requirements
U.K. and Australian models ..... 240 V AC, 50/60 Hz
Multi-voltage model ..... 110/120 – 127/220/240 V AC (switchable), 50/60 Hz
U.S. and Canadian models ..... 120 V AC, 60 Hz
Power Consumption
XR-P530M ..... 95 W
XR-P330M
U.S. and Canadian models ..... 80 W
Other destination models ..... 180 W
Dimensions ..... 260 (W) x 310 (H) x 295 (D) mm
10-4/16 (W) x 12-3/16 (H) x 11-10/16 (D) in.
Weight (without package) ..... 7.6 kg (16 lb 12 oz)

Accessories

Operating Instructions 1
Remote Control Unit 1
Dry Cell Batteries (AAA/R03) 2
FM T-type Antenna 1
AM Loop Antenna 1
Speaker cords (included with speaker section)
(U.S. and Canadian models only) 1
Power cord (except for U.K. model) 1
6-compact disc magazine 1

NOTE:
Specifications and design subject to possible modification without notice due to improvements.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.
** Measured by audio spectrum analyzer.