

# Service Manual

ORDER NO.  
RRV1059

DOUBLE DECK AMPLIFIER

# DC-J121

● Refer to the service manual ARP2653 for DC-J210/SD.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	DC-J121		
HEWZIW	○	AC220-230V	AC240V, *

\*: Alter the wiring of the Power-supply block at the primary winding of Power transformer referring to the "Line Voltage Selection" described in Service Manual.

- This product is a system(s) component.  
This product does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.

# 1. CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10<sup>1</sup> → 561 ..... RD1/8PM  $\begin{matrix} 5 & 6 & 1 \\ \hline \end{matrix}$  J  
 47kΩ → 47 × 10<sup>3</sup> → 473 ..... RD1/4PS  $\begin{matrix} 4 & 7 & 3 \\ \hline \end{matrix}$  J  
 0.5Ω → 0R5 ..... RN2H  $\begin{matrix} 0 & R & 5 \\ \hline \end{matrix}$  K  
 1Ω → 010 ..... RS1P  $\begin{matrix} 0 & 1 & 0 \\ \hline \end{matrix}$  K

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

5.62kΩ → 562 × 10<sup>1</sup> → 5621 ..... RM1/4PC  $\begin{matrix} 5 & 6 & 2 & 1 \\ \hline \end{matrix}$  F

DC – J121/HEWZIW and DC – J210/SD have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		DC – J210/SD	DC – J121/HEWZIW	
NSP	AF assy	AWZ4650	AWZ7197	
	VOLUME assy	AWZ4653	AWZ7264	
	HEADPHONE assy	AWZ4666	AWZ4667	
	DISPLAY assy	AWZ4657	AWZ7201	
	TAPE assy	AWV1318	AWV1335	
	TRANS CONNECT assy	AWZ4672	AWZ4673	
	SUB TRANS assy	AWZ4680	AWZ7205	
	$\Delta$ S1 Voltage selector (AC110V/120–127V/220V/240V)	AKX–507	.....	
	$\Delta$ S2 Voltage selector (AC110–127V/220–240V)	AKX1004	.....	
	$\Delta$ T1 Power transformer	ATS1468	ATS1469	
$\Delta$ AC power cord	ADG1129	ADG1127		
$\Delta$ AC outlet (1P)	.....	AKP–508		
$\Delta$ FU1102 Fuse (T1.6A/250V)	AEK–510	.....		
$\Delta$ FU1102 Fuse (T800mA/250V)	.....	AEK–507		
$\Delta$ FU1103 Fuse (T1.6A/250V)	AEK–510	.....		
Power button	AAD2370	AAD7050		
Cursor button	AAD2377	AAD7010		
Deck button	AAD2379	AAD7011		
Decorative plate (DECK)	AAK2398	AAK7023		
Decorative plate (AMP)	AAK2441	AAK7041		
Cassette door L	AAN1365	AAN7003		
Cassette door R	AAN1376	AAN7004		
Front panel	AMB2092	AMB7014		
Rear panel	ANC2005	ANC7084		
NSP Name plate	AAL2008	AAL7020		
NSP Screw (EARTH)	.....	ABA1047		



Remarks

Parts No.
CCS101M10J50
CEANP100M100
CEAS010M50
CEAS100M50
CEAS101M10
CEAS101M16
CEAS101M50
CEAS102M35
CEAS220M25
CEAS220M25
CEAS221M16
CEAS2R2M50
CEAS2R2M50
CEAS330M25
CEASR15M50
CEASR33M50
CEASR47M50
CEHAQ220M16
CKCYB103K50
CKCYB391K50
CKCYF473Z50
CKCYX683M25
CKDYB103K50
CKDYF473Z50
CKPUYX182M16
CKSQYB102K50
CKSQYB152K50
CKSQYB182K50
CKSQYB183K50
CKSQYB222K50
CKSQYB272K50
CKSQYB273K50
C3104, CKSQYB472K50
CKSQYB562K50
CKSQYF103Z50
CKSQYF473Z50
CQMA473J50
CQMA683J50
RD1/2PMFL100J
RD1/4PM100J
RD1/4PM153J
RD1/4PM243J
RD1/4PM331J
RD1/4PM4R7J
RD1/4PM561J
RD1/4PM563J

Mark	No.	Description	Parts No.
	R2317, R2318 R1215, R1216, R1209, R1210		RD1/4PM820J RD1/4PMFL101J
	R1313 R2203, R2204 R1203, R1204, R1259 R1260, R1271, R1272 R2111, R2112		RD1/8PM100J RD1/8PM101J RD1/8PM102J RD1/8PM103J RD1/8PM103J
	R3320, R3321 R1266 R1902 R1006 R1268		RD1/8PM103J RD1/8PM104J RD1/8PM105J RD1/8PM122J RD1/8PM133J
	R1265 R2119, R2120, R3643 R1903, R1924, R2221, R2222 R1267, R1901 R1273		RD1/8PM152J RD1/8PM221J RD1/8PM222J RD1/8PM223J RD1/8PM392J
	R1258, R2207, R2208 R1005, R1257 R1205, R1206, R1909, R1917 R1920, R1921 R2211, R2212		RD1/8PM472J RD1/8PM562J RD1/8PM563J RD1/8PM622J
	R1016, R2505, R2509, R2510 R3314 R1263, R1264, R3313 R1261, R1262 Other Resistors		RD1/8PM682J RD1/8PM822J RD1/8PM823J RS2LMFR22J RS1/10S□□□□
	<b>OTHERS</b> X1901 (8.00MHZ) PIN JACK (6P) CN8104 PIN JACK (2P) SPEAKER TERMINAL 4 -- P JACK  SOCKET (14P) CN403 SOCKET (9P) CN112 40P SOCKET CN105 36P SOCKET SCREW  CN401 CONNECTOR (4P) CN106 CONNECTOR (7P)		ASS1015 AKB1121 AKB1100 AKE1012 AKN-203  AKP1048 AKP1072 AKP1085 AKP1105 BBZ30P080FZK  KPE4 KPE7
	<b>VOLUME ASSY (AWZ7264)</b> <b>SEMICONDUCTORS</b> IC1502 IC1501 Q1501, Q1502 Q1503  <b>CAPACITORS</b> C1513, C1514 C1531, C1532 C1507, C1508 C1501 -- C1504 C1505, C1506  C1511 C1509, C1510  <b>RESISTORS</b> VR1501 (100K -- 4B*2) R1511, R1512 R1507, R1508 R1505, R1506 R1531, R1532  Other Resistors		TA7291S XRA4558 - P 2SC2878 XDA124ES  CCS1330J50 CEAS0R1M50 CEAS101M16 CEAS220M25 CEAS470M25  CKDYX104M25 CKPUYF473Z16  ACX1053 RD1/4PM820J RS1/10S272J RS1/10S512J RS1/10S752J  RD1/8PM□□□□

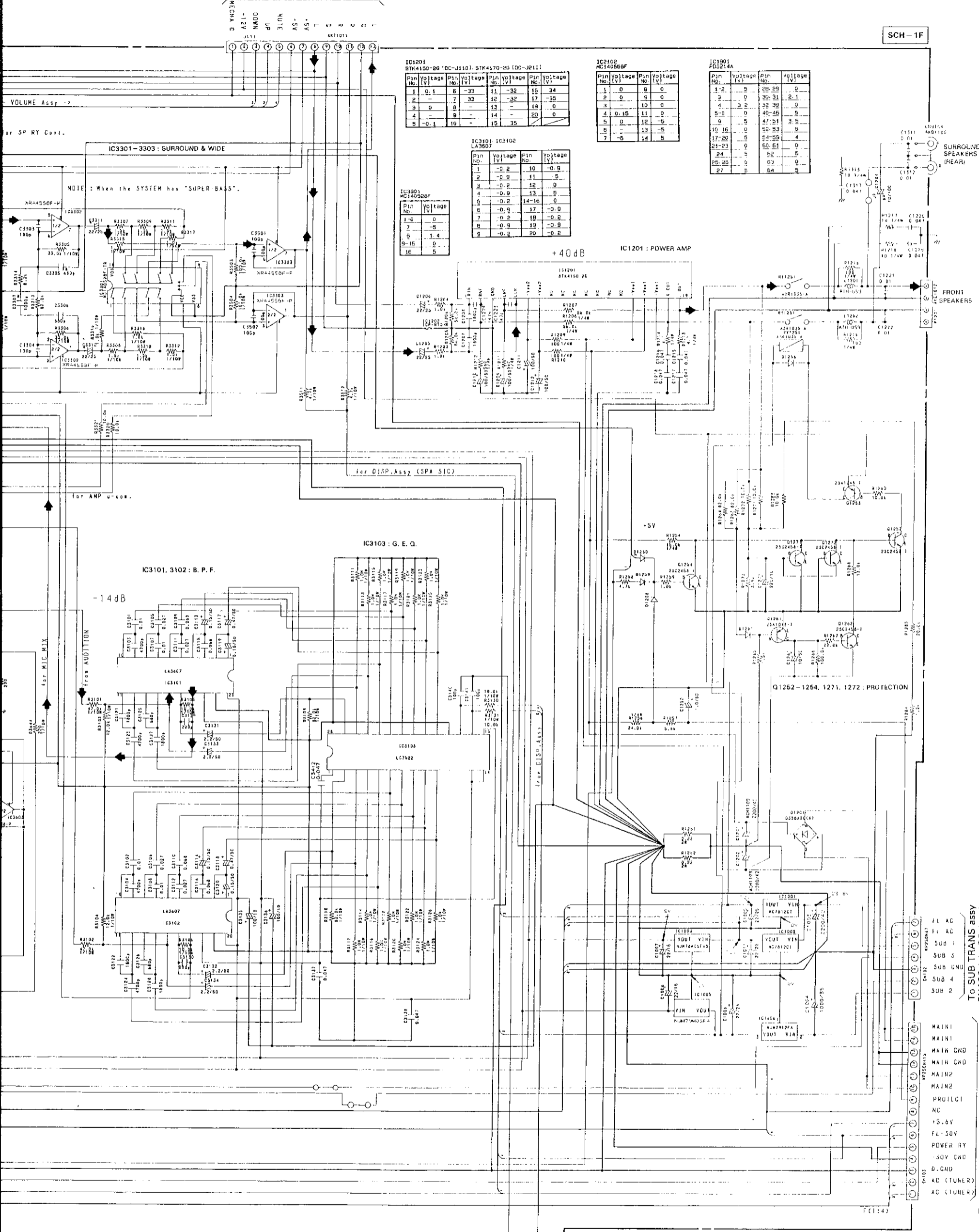
Mark	No.	Description	Parts No.
	<b>HEADPHONE ASSY (AWZ4667)</b> <b>SEMICONDUCTORS</b> IC1231 Q1231, Q1232 Q1233  <b>CAPACITORS</b> C1235, C1236 C1231 C1241, C1242 C1233, C1234 C1232  C1237, C1238, C1243, C1244 C1249, C1250 C1239, C1240 C1245, C1246, C1248  <b>RESISTORS</b> R1243, R1244 Other Resistors  <b>OTHERS</b> JACK  <b>DISPLAY ASSY (AWZ7201)</b> <b>SEMICONDUCTORS</b> IC3702 IC3901 IC1701, IC1702 Q3701 Q3901, Q3902  Q1701, Q1702 D1701 - D1704, D1707, D1716, D1717 D1705, D1706, D1709 - D1713, D1715 D1708, D1714, D1801 - D1806 D3702 - D3705, D3801, D3806  D3901 - D3907  <b>COILS AND FILTERS</b> L3901  <b>SWITCHES</b> S1801, S1802, S1804 - S1816 S1818, S1820, S3801, S3802 S3806, S3811, S3813 - S3818 S1901  <b>CAPACITORS</b> C3901 C1901 C3904, C3908 C3907 C3951  C3701, C3702 C3906 C3703, C3905 C3902, C3903  <b>RESISTORS</b> R3710, R3719 Other Resistors  <b>OTHERS</b> X3901 (12MHZ) V3901 CN1901 40P SOCKET REMOTE RECEIVER UNIT		M5216P 2SC2458 XDA124ES  CEAS220M25 CEAS2R2M50 CEAS330M25 CEAS470M25 CEJA2R2M50  CKPUYB101K50 CKPUYB101K50 CKPUYB151K50 CKPUYF473Z16  RS1LMF820J RD1/8PM□□□□  AKN1010  BA3826S PDC009A SN74LS05N 2SC2458 XDC124ES  XDC143ES AEL1064 AEL1065 HSS104 - 02 HSS104 - 02  HSS104 - 02  LAU221K  ASG1034 ASG1034 ASG1034 ASH1012  ACH1135 CCCSL100D50 CEAS470M10 CEAS4R7M50 CEAS6R8M50  CEJA2R2M50 CKCYB102K50 CKPUYB102K50 CKPUYF223Z25  RD1/2PM2R2J RD1/8PM□□□□  ASS1062 AAV1166 AKP1085 AXX1023

Mark	No.	Description	Parts No.
	<b>TAPE ASSY (AWV1335)</b> <b>SEMICONDUCTORS</b> IC4421 IC4202 IC4302 IC4121, IC4151 IC4201, IC4251, IC4301  Q4352, Q4904, Q4906, Q4908, Q4910 Q4203, Q4204, Q4355, Q4451 - Q4454 Q4205, Q4206, Q4461, Q4462 Q4353, Q4354 Q4321, Q4322  Q4207, Q4421, Q4460 Q4208 Q4905, Q4907, Q4909, Q4911 Q4209, Q4351 D4251, D4252, D4321 - D4326  D4451, D4452, D4903, D4912  <b>COILS AND FILTERS</b> F4401, F4402 T4351 L4301, L4302 L4303, L4304  <b>CAPACITORS</b> C4362 (2000P/630) C4333, C4334 C4354 C4319, C4320 C4123, C4124  C4252 C4151, C4152 C4253, C4303, C4304, C4403, C4404 C4453, C4454 C4254  C4213, C4214, C4358, C4363 C4405, C4406, C4409, C4410 C4133, C4134, C4161, C4162, C4402 C4455, C4456 C4321, C4322  C4309, C4310 C4353 C4131, C4132, C4159, C4160 C4325, C4326, C4361 C4129, C4130, C4157, C4158  C4407, C4408 C4307, C4308 C4323, C4324, C4356 C4352, C4360 C4211, C4212  C4311, C4312 C4305, C4306 C4251 C4357 C4355  C4209, C4210 C4127, C4128, C4155, C4156 C4317, C4318 C4351 C4313, C4314  <b>RESISTORS</b> VR4901, VR4902 VR4121, VR4122, VR4151, VR4152 VR4451, VR4452 VR4351, VR4352		CXA1100P MC14066BF SN74LS05N UPC4570G2 XRA4558F - P  2SA1515 2SC2458 2SC2878 2SC3377 2SK373  XDA124ES XDA143ES XDC124ES XDC143ES HSS104 - 02  HSS104 - 02  ATF1064 ATX - 043 LTA392J LTA822J  ACE1020 CCCSL100D50 CCCSL221J50 CCDSL271K500 CCSQCH331J50  CCSQCH560J50 CCSQCH561J50 CEAS010M50 CEAS010M50 CEAS0R1M50  CEAS100M50 CEAS100M50 CEAS101M10 CEAS220M16 CEAS2R2M50  CEAS330M16 CEAS3R3M50 CEAS470M10 CEAS470M16 CEAS4R7M50  CEASR22M50 CFTXA823J50 CKCYB681K50 CKCYF103Z50 CKSQYB152K50  CKSQYB223K50 CKSQYB272K50 CKSQYB473K50 CQMA153J50  CQMA183J50 CQMA223J50 CQMA333J50 CQMA562K400 CQMA822J50  VRTP6HS103 VRTP6HS202 VRTP6HS202 VRTP6HS204

Mark	No.	Description	Parts No.
	R4352 R4329, R4330, R4351, R4901, R4903 R4905, R4907, R4909, R4911 R4331, R4332 R4906, R4908, R4910, R4912  R4221, R4356, R4358, R4457 R4354, R4355 R4361, R4362 R4353 R4357  R4131, R4132, R4159, R4160 R4333, R4334 Other Resistors  <b>OTHERS</b> CN 36P SOCKET  <b>TRANS CONNECT ASSY (AWZ4673)</b> <b>CAPACITORS</b> C1158, C1161  <b>SUB TRANS ASSY (AWZ7205)</b> <b>SEMICONDUCTORS</b> IC1015 IC1013, IC1014 IC1152 IC1151 Q1151, Q1153  Q1152 D1154, D1156, D1159 D1160 D1151 D1155  D1005, D1009, D1152, D1153 D1157, D1158  <b>COILS AND FILTERS</b> L1101  <b>TRANSFORMER</b> T1151  <b>RELAY</b> RY1151  <b>CAPACITORS</b> C1101 (0.01/400) C1152, C1157 C1153 C1156 C1151, C1154  C1155 C1162  <b>RESISTORS</b> R1155, R1156 R1152 Other Resistors  <b>OTHERS</b> CN8206 AC INLET (1P)		RD1/8PM102J RD1/8PM103J RD1/8PM104J RD1/8PM105J RD1/8PM182J  RD1/8PM222J RD1/8PM223J RD1/8PM333J RD1/8PM560J RD1/8PM6R8J  RD1/8PM820J RD1/8PM820J RS1/10S□□□□  AKP1105  CQMXA104J100  ICP - N10 ICP - N70 NJM78M12FAS NJM78M56FAS 2SB560  2SC2458 HSS104 - 02 RD10ESB RD15ESB RD36ESB2  S5566 S5566  ATF - 151  ATF1219  ASR1027  ACG1003 CEAS220M50 CEAS221M100 CEAS222M25 CEAS470M16  CEAS470M25 CQMXA104J100  RD1/4PM470J RD1/4PM822J RD1/8PM□□□□  AKP1132



CH-3F) To VOLUME assy J111 (SCH-3F)



IC1201  
STR4150-26 (DC-J110) STK4176-26 (DC-J210)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.1	6	-33	11	-32	15	34
2	0	7	33	12	-32	17	-35
3	0	8	-	13	-	18	0
4	-	9	-	14	-	19	0
5	-0.1	10	-	15	35		

IC2102  
MC140560P

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	8	0
2	0	9	0
3	0	10	0
4	0.15	11	0
5	0	12	-5
6	-	13	-5
7	-	14	5

IC1301  
PDS214A

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1-2	5	28-29	0
3	0	30-31	2.1
4	3.0	32	0
5-8	0	40-46	0
9	0	47-51	3.5
10-16	0	52-53	0
17-20	0	54-55	4
21-23	0	60-61	0
24	0	62	5
25-26	0	63	0
27	0	64	5

IC3101-IC3102  
LA3607

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-0.2	10	-0.9
2	-0.9	11	5
3	-0.2	12	0
4	-0.9	13	0
5	-0.2	14-16	0
6	-0.9	17	-0.9
7	-0.2	18	-0.9
8	-0.9	19	-0.9
9	-0.2	20	-0.2

IC3301  
MC140520P

Pin No.	Voltage (V)
1-6	5
7	0
8-15	1.4
16	5

SCH-1F

SCH-1F

AF ASSY

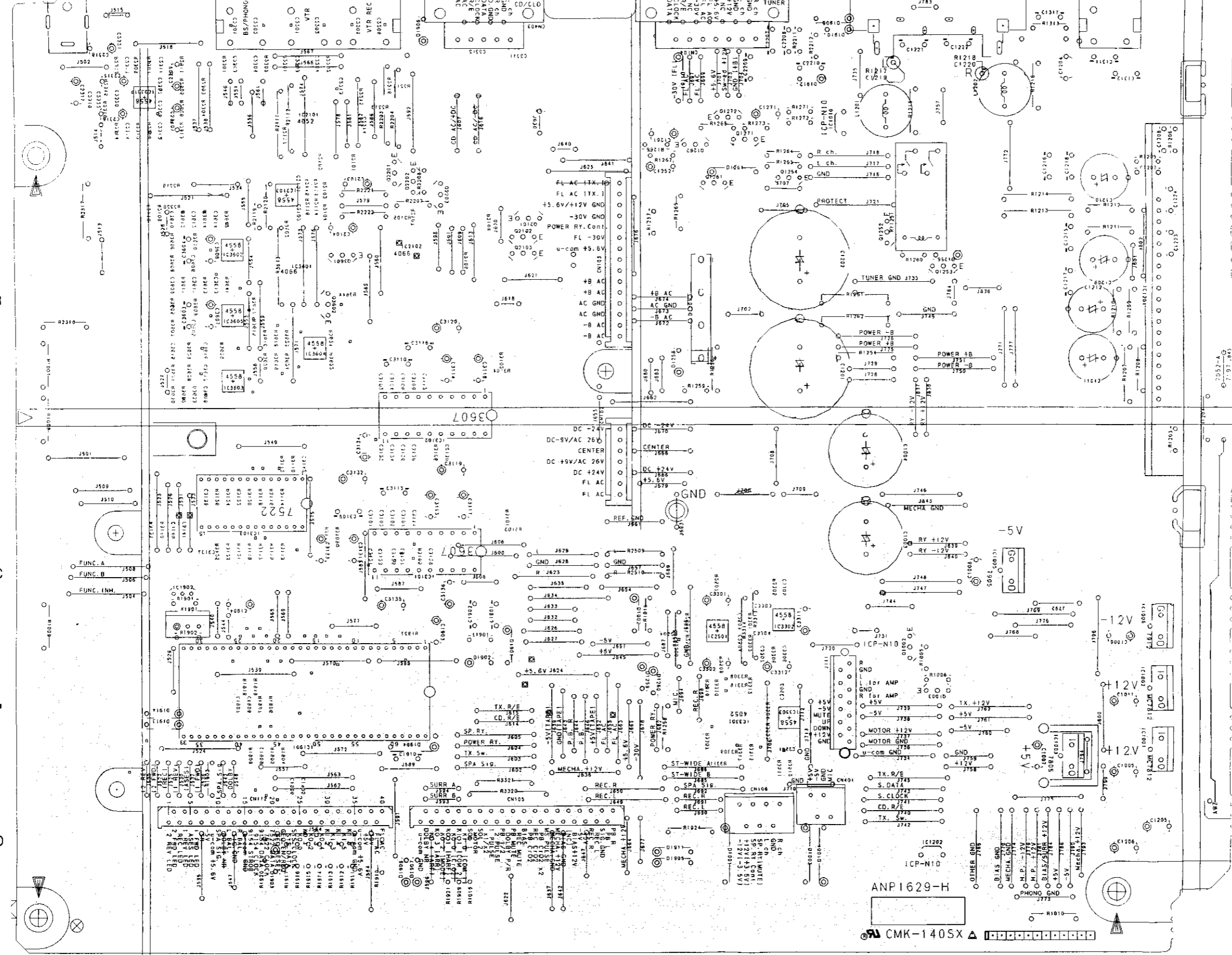
To SUB TRANS assy CN102 (SCH-5F)

To SUB TRANS assy CN103 (SCH-5F)

- FL AC
- Fx AD
- SUB 1
- SUB 3
- SUB 3
- SUB 2
- SUB 4
- MAIN1
- MAIN1
- MAIN CND
- MAIN2
- MAIN2
- PROJCT
- NC
- +5.0V
- FL-50V
- POWER RY
- 50V CND
- D.CND
- AD (TUNER)
- AC (TUNER)

IC2301 IC2103 IC2101 Q2201-Q2203 Q1262 Q1261 Q1272 Q1271 Q1254 IC1010 Q1252 Q1253 Q1002 Q1003 IC1005 IC1201 IC1006 IC1002 IC1902 IC3103 IC1901 IC3301 IC3302 IC3303 IC1202 IC1003 IC1001

AF assy



• This diagram is viewed from the mounted parts side.

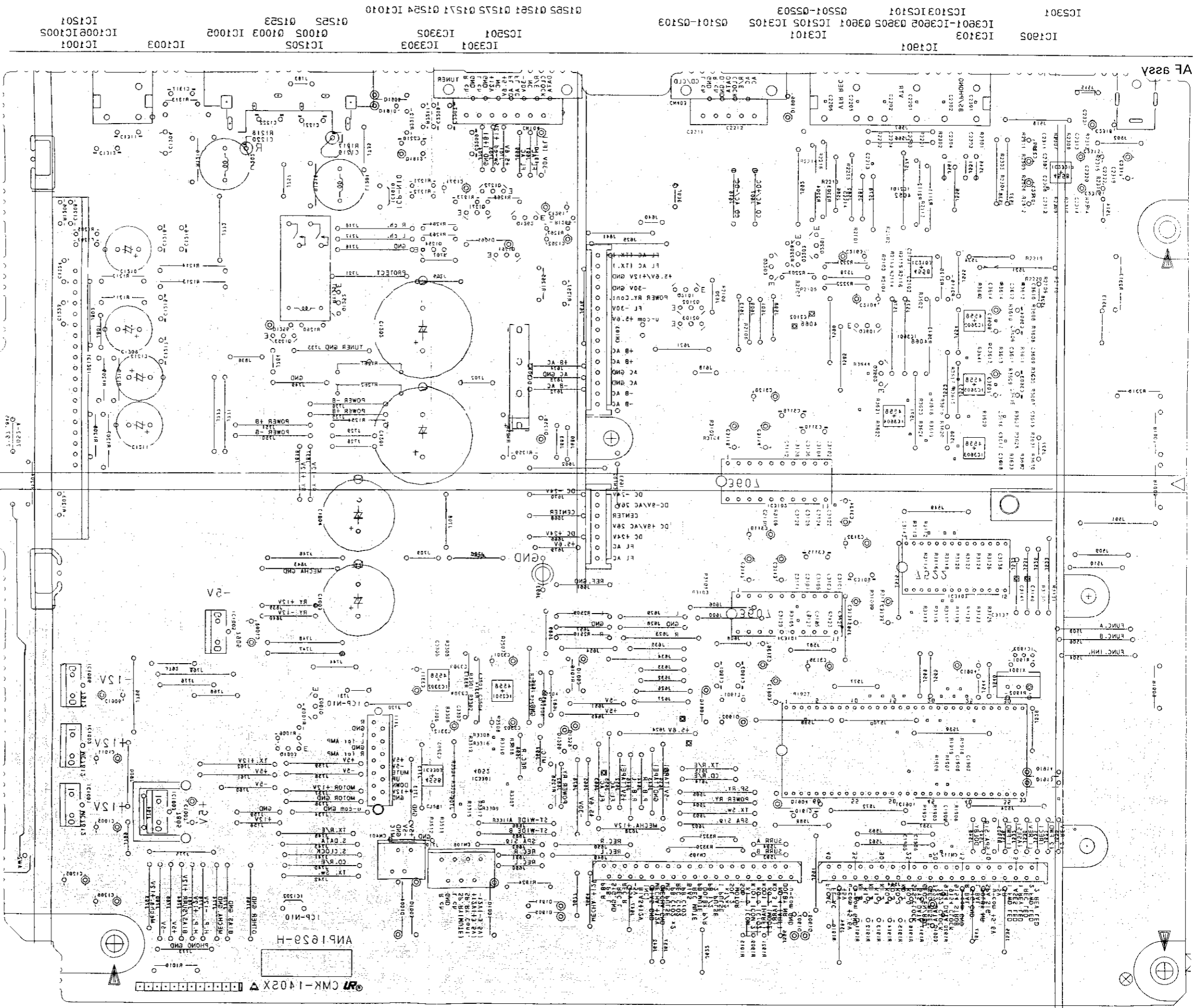
NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or □ shows the emitter.
4. The diode terminal marked with ⊙ or ○ shows cathode side.
5. The capacitor terminal marked with ⊙ or □ shows negative terminal.

ANP1629-H  
CMK-1405X



• This diagram is viewed from the foil side.

A A

B B

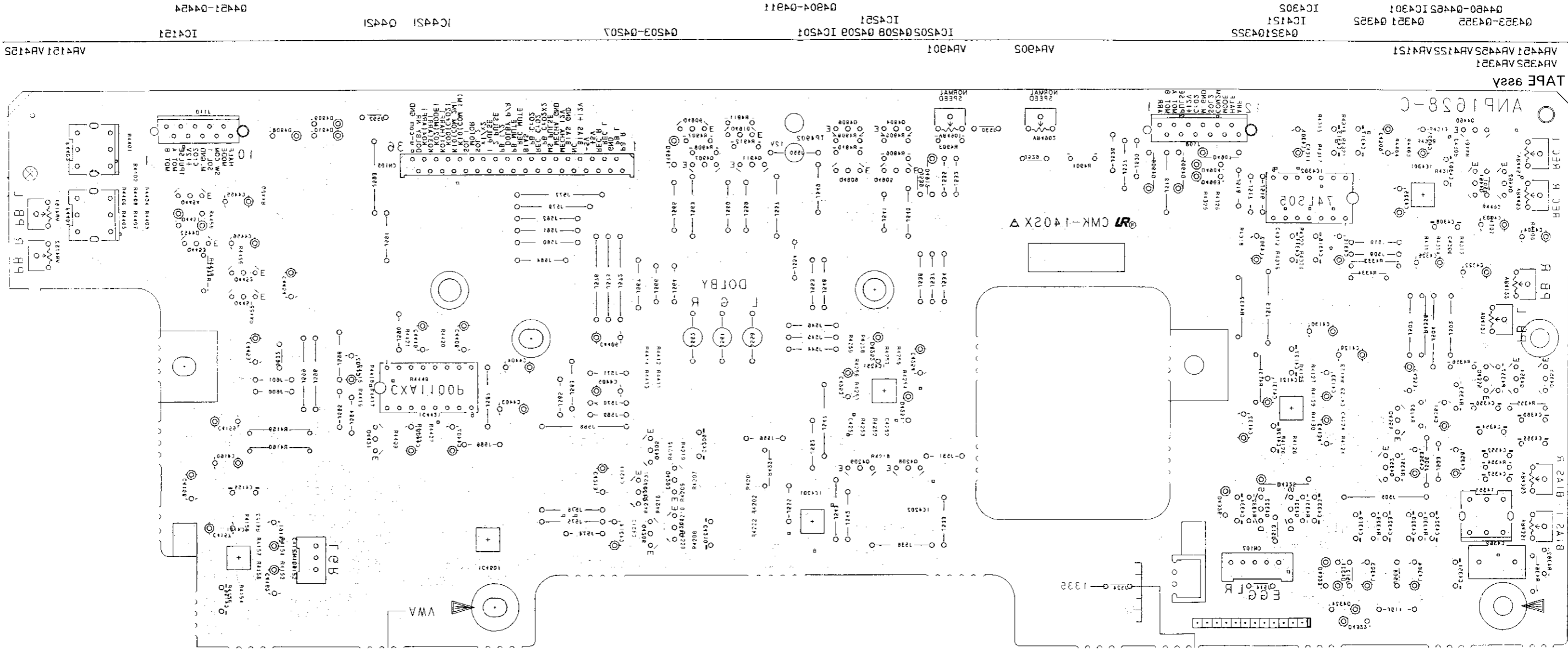
C C

D D

11



• This diagram is viewed from the foil side.



AV4421 AV4422 AV4423 AV4424 AV4425 AV4426 AV4427 AV4428 AV4429 AV4430 AV4431 AV4432 AV4433 AV4434 AV4435 AV4436 AV4437 AV4438 AV4439 AV4440 AV4441 AV4442 AV4443 AV4444 AV4445 AV4446 AV4447 AV4448 AV4449 AV4450 AV4451 AV4452 AV4453 AV4454 AV4455 AV4456 AV4457 AV4458 AV4459 AV4460 AV4461 AV4462 AV4463 AV4464 AV4465 AV4466 AV4467 AV4468 AV4469 AV4470 AV4471 AV4472 AV4473 AV4474 AV4475 AV4476 AV4477 AV4478 AV4479 AV4480 AV4481 AV4482 AV4483 AV4484 AV4485 AV4486 AV4487 AV4488 AV4489 AV4490 AV4491 AV4492 AV4493 AV4494 AV4495 AV4496 AV4497 AV4498 AV4499 AV4500 AV4501 AV4502 AV4503 AV4504 AV4505 AV4506 AV4507 AV4508 AV4509 AV4510 AV4511 AV4512 AV4513 AV4514 AV4515 AV4516 AV4517 AV4518 AV4519 AV4520 AV4521 AV4522 AV4523 AV4524 AV4525 AV4526 AV4527 AV4528 AV4529 AV4530 AV4531 AV4532 AV4533 AV4534 AV4535 AV4536 AV4537 AV4538 AV4539 AV4540 AV4541 AV4542 AV4543 AV4544 AV4545 AV4546 AV4547 AV4548 AV4549 AV4550 AV4551 AV4552 AV4553 AV4554 AV4555 AV4556 AV4557 AV4558 AV4559 AV4560 AV4561 AV4562 AV4563 AV4564 AV4565 AV4566 AV4567 AV4568 AV4569 AV4570 AV4571 AV4572 AV4573 AV4574 AV4575 AV4576 AV4577 AV4578 AV4579 AV4580 AV4581 AV4582 AV4583 AV4584 AV4585 AV4586 AV4587 AV4588 AV4589 AV4590 AV4591 AV4592 AV4593 AV4594 AV4595 AV4596 AV4597 AV4598 AV4599 AV4600

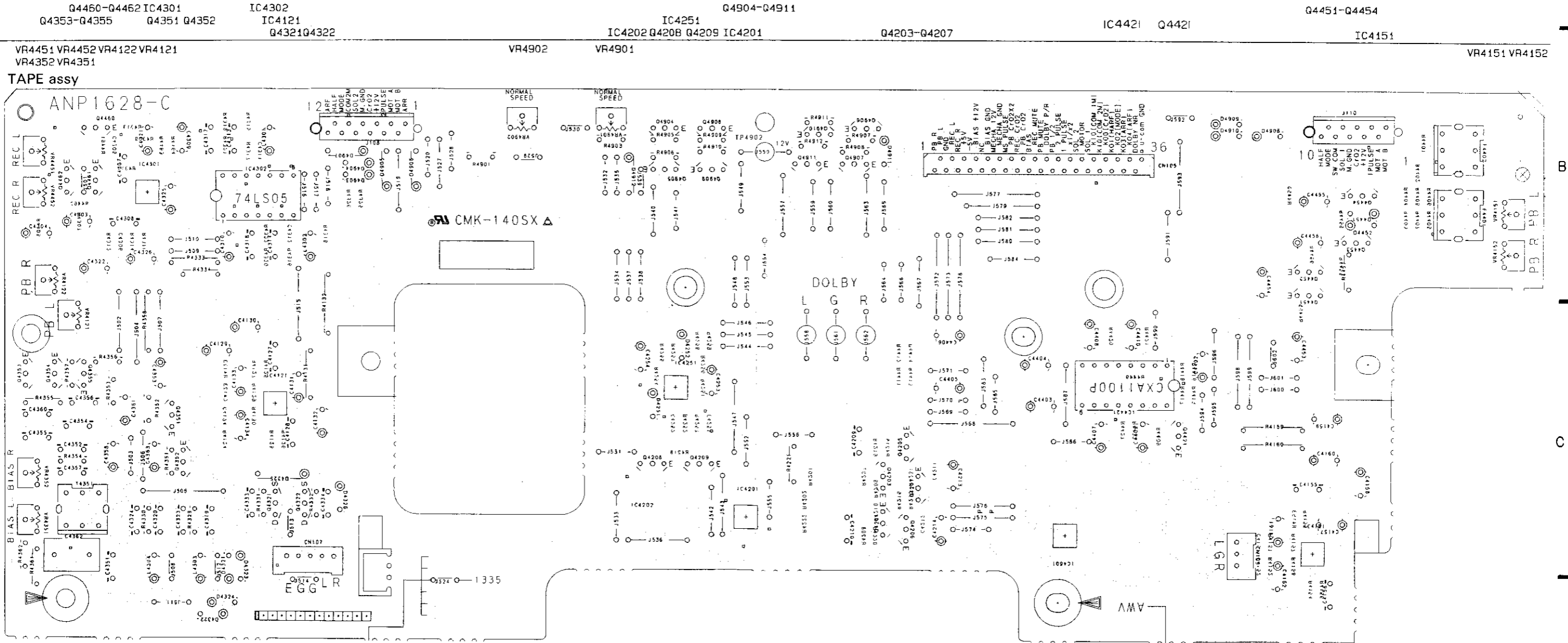
A B C D

2.2 TAPE ASSY

This diagram is viewed from the mounted parts side.

A

A



D

D

To AF assy CN105 (SCH-1F)

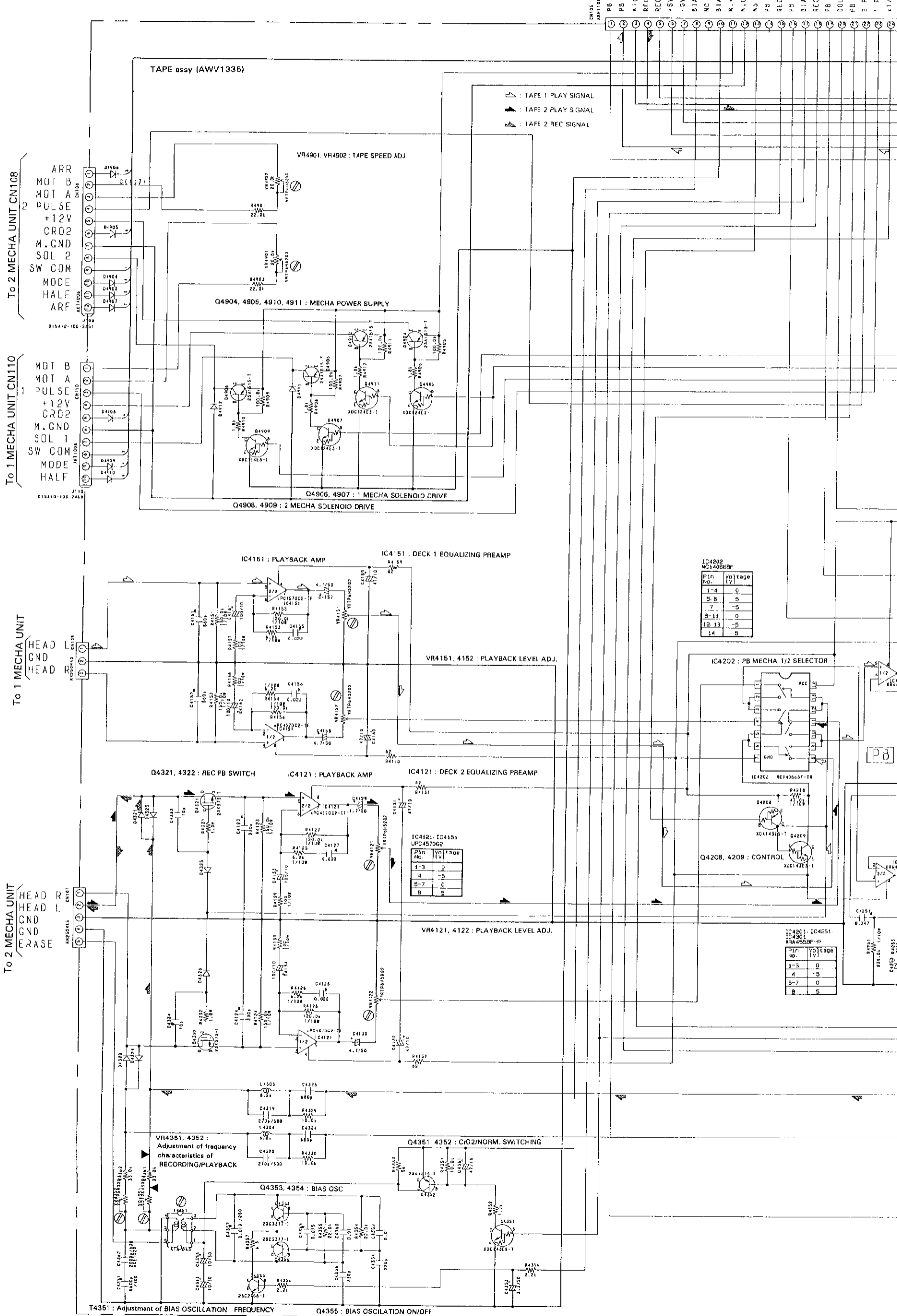
A

B

C

D

E



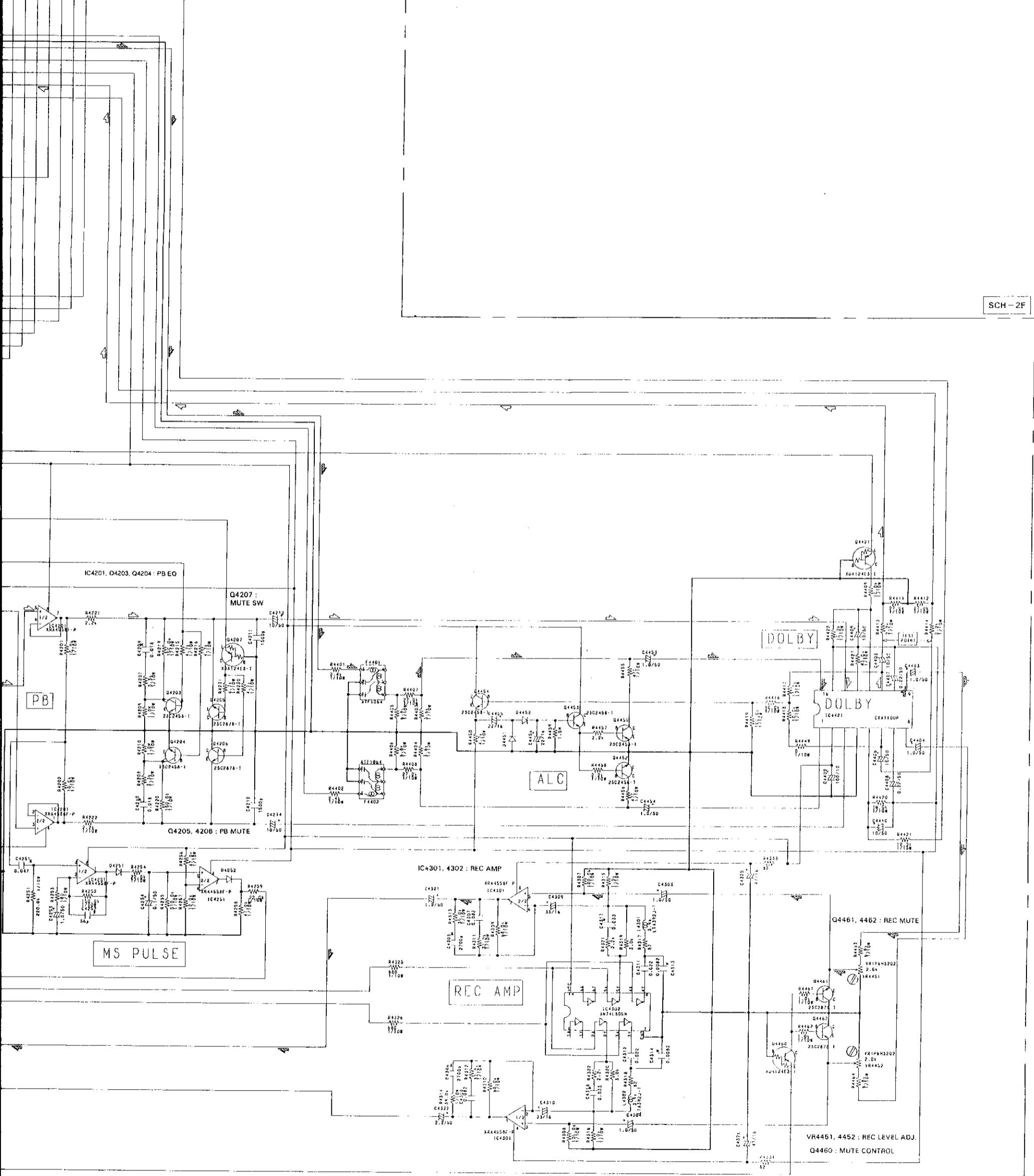
# SCH-2F

TAPE ASSY

SCH-1F

- 2 PULSE
- 1 PULSE
- 1/2
- SOL2
- MOTOR
- SOL1
- K10COM 1H
- K11COM 2H
- K00(C+D2)
- K01(HARF)
- K02(MODE)
- K03(ARR)
- K04(CARF)
- DOLBY OFF/B/C
- u-00 GND

SCH-2F



IC4302  
SN74LS05N

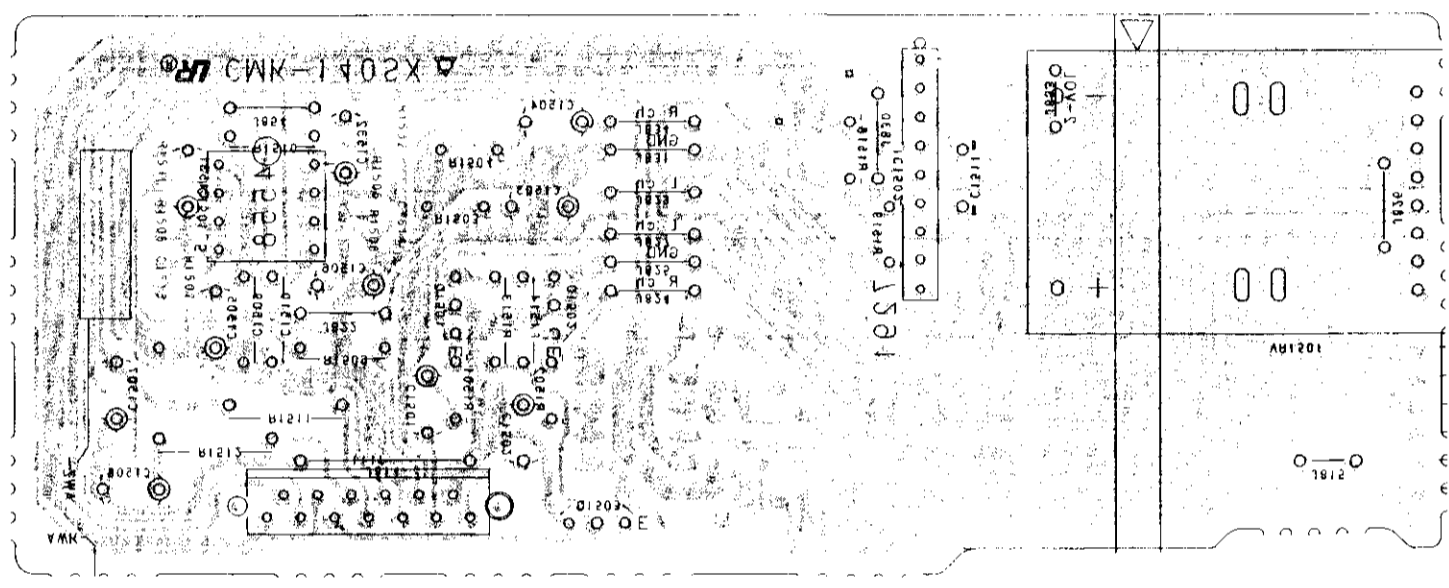
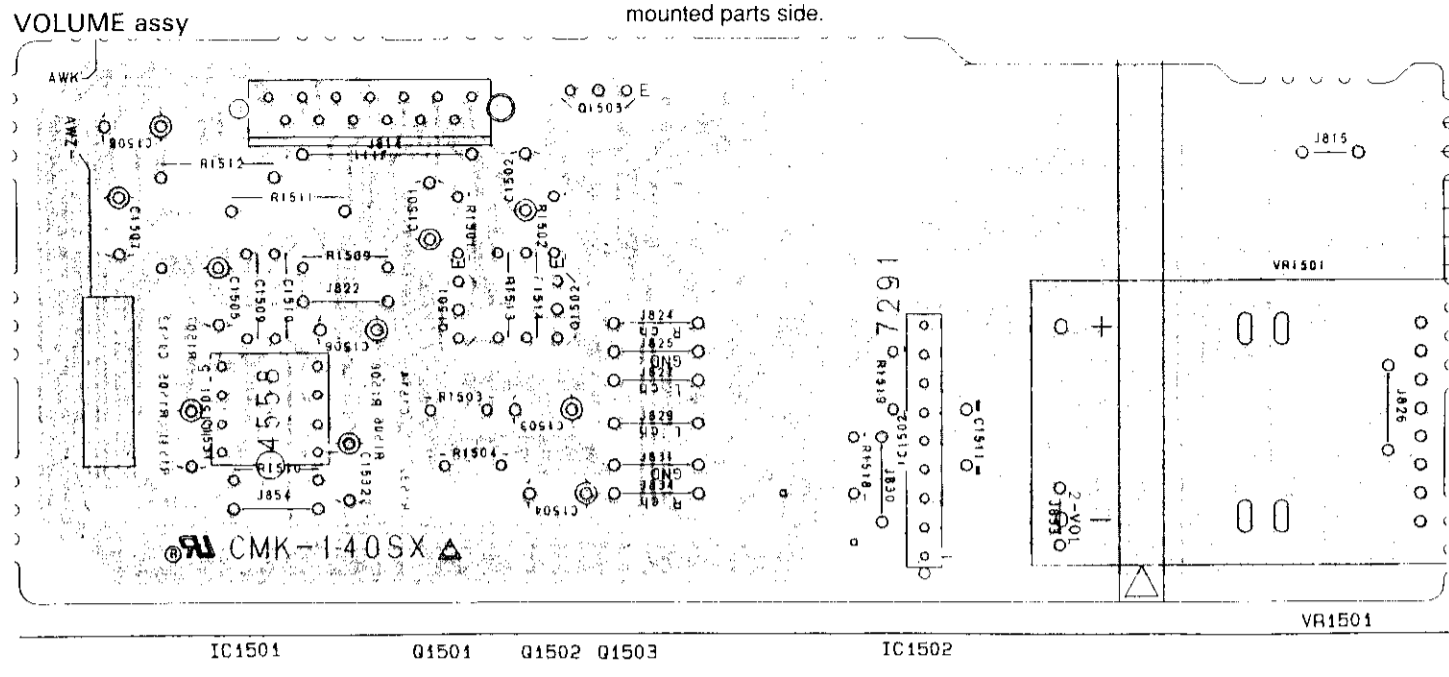
Pin	Voltage	Pin	Voltage
1	0	8	0
2	-	9	5
3	0.4	10	7.2
4	0	11	0.4
5	4.5	12	-
6	0	13	0
7	0	14	5

SCH-2F

TAPE ASSY

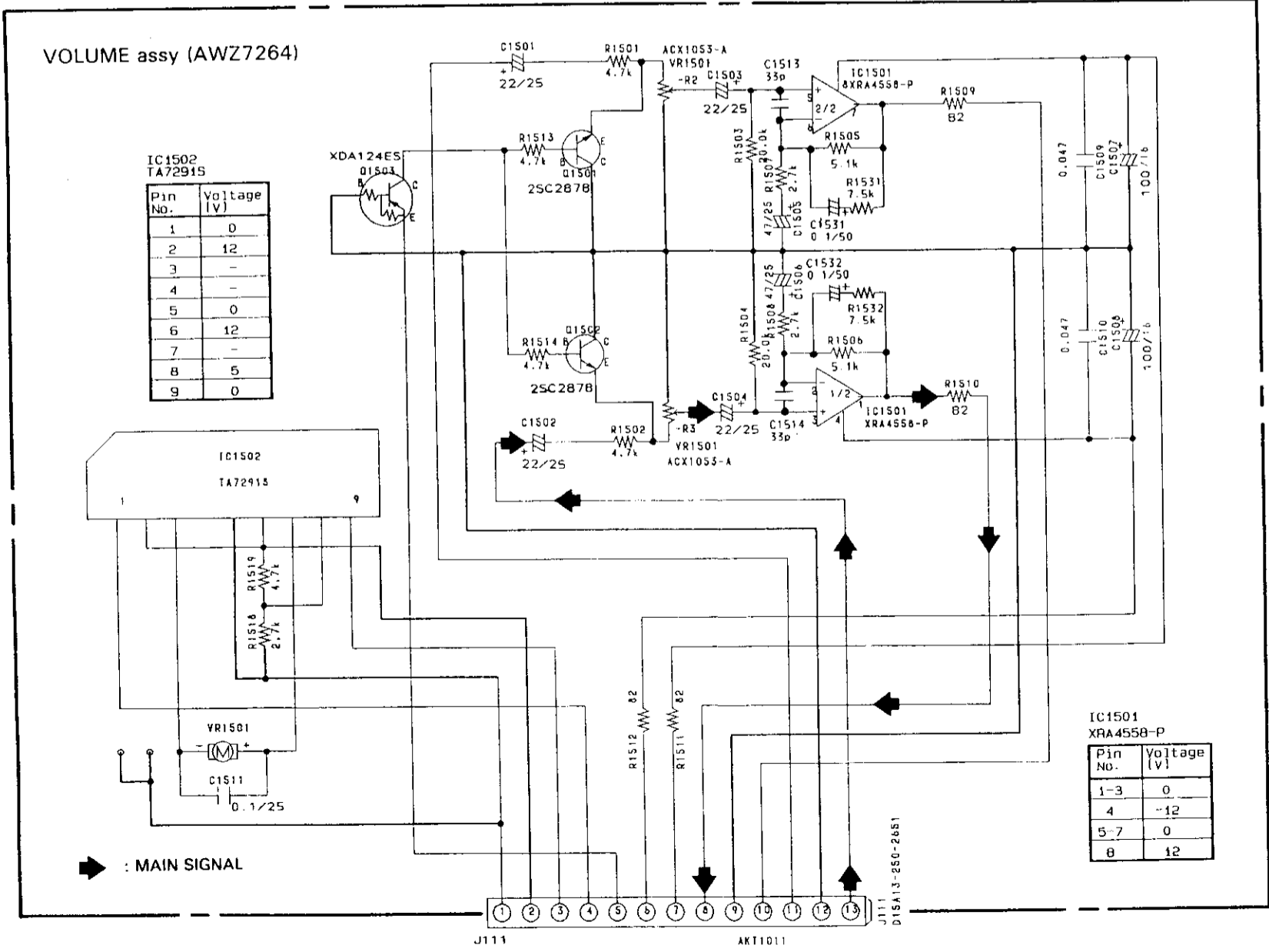
2.3 VOLUME ASSY AND HEADPHONE ASSY

• This diagram is viewed from the mounted parts side.



• This diagram is viewed from the foil side.

SCH-3F



To AF assy CN106 (➔ SCH-1F)

- 5V
- +5V
- MUTE
- PHONE DN
- PHONE L
- PHONE GND
- PHONE R

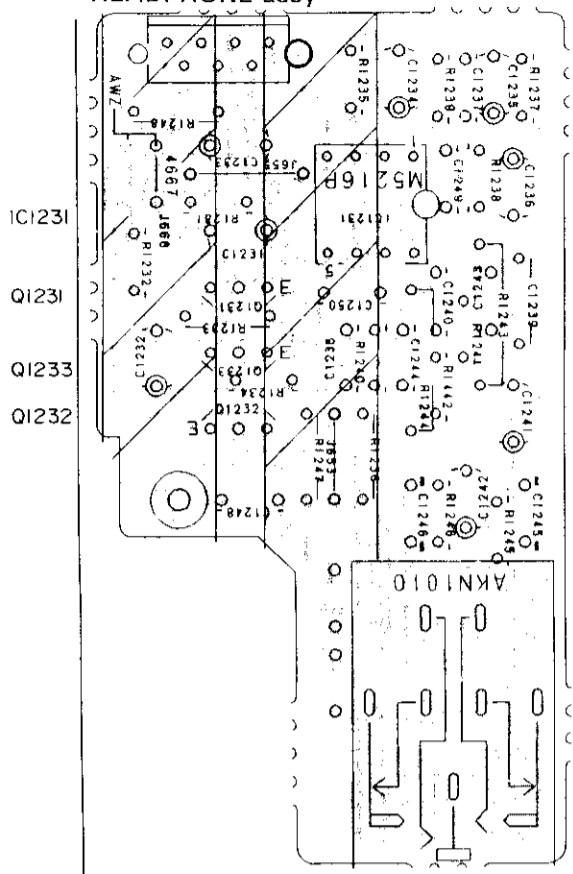
SCH-3F

VOLUME ASSY, HEADPHONE ASSY

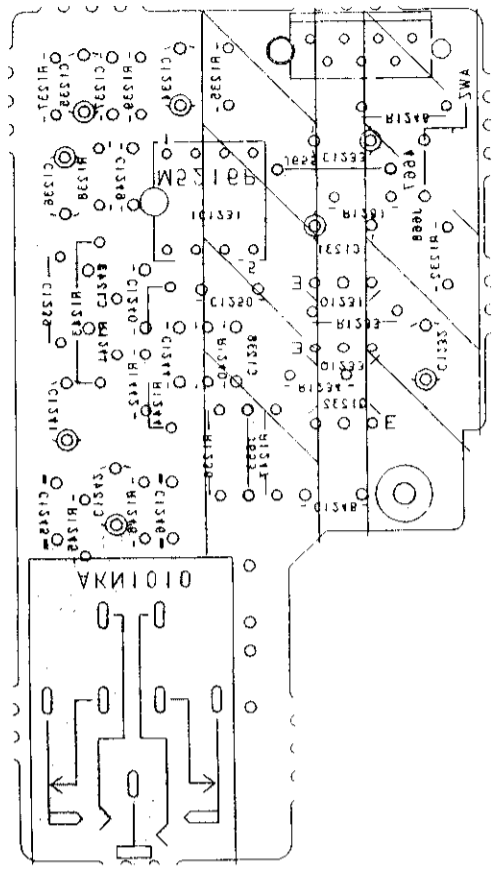
To AF assy J111 (➔ SCH-1F)

- GND
- +12V
- VR UP
- DOWN
- MUTE
- 5V
- +5V
- L OUT
- GND
- R OUT
- R IN
- GND
- L IN

HEADPHONE assy



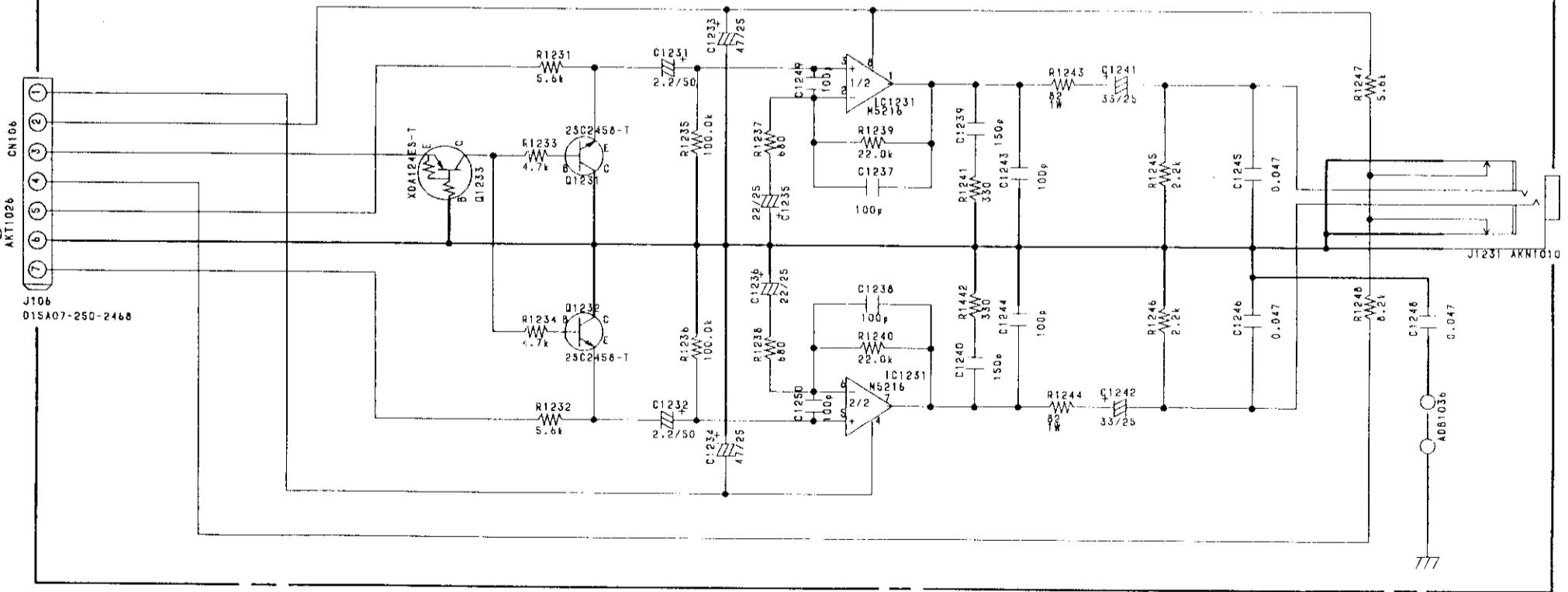
• This diagram is viewed from the mounted parts side.



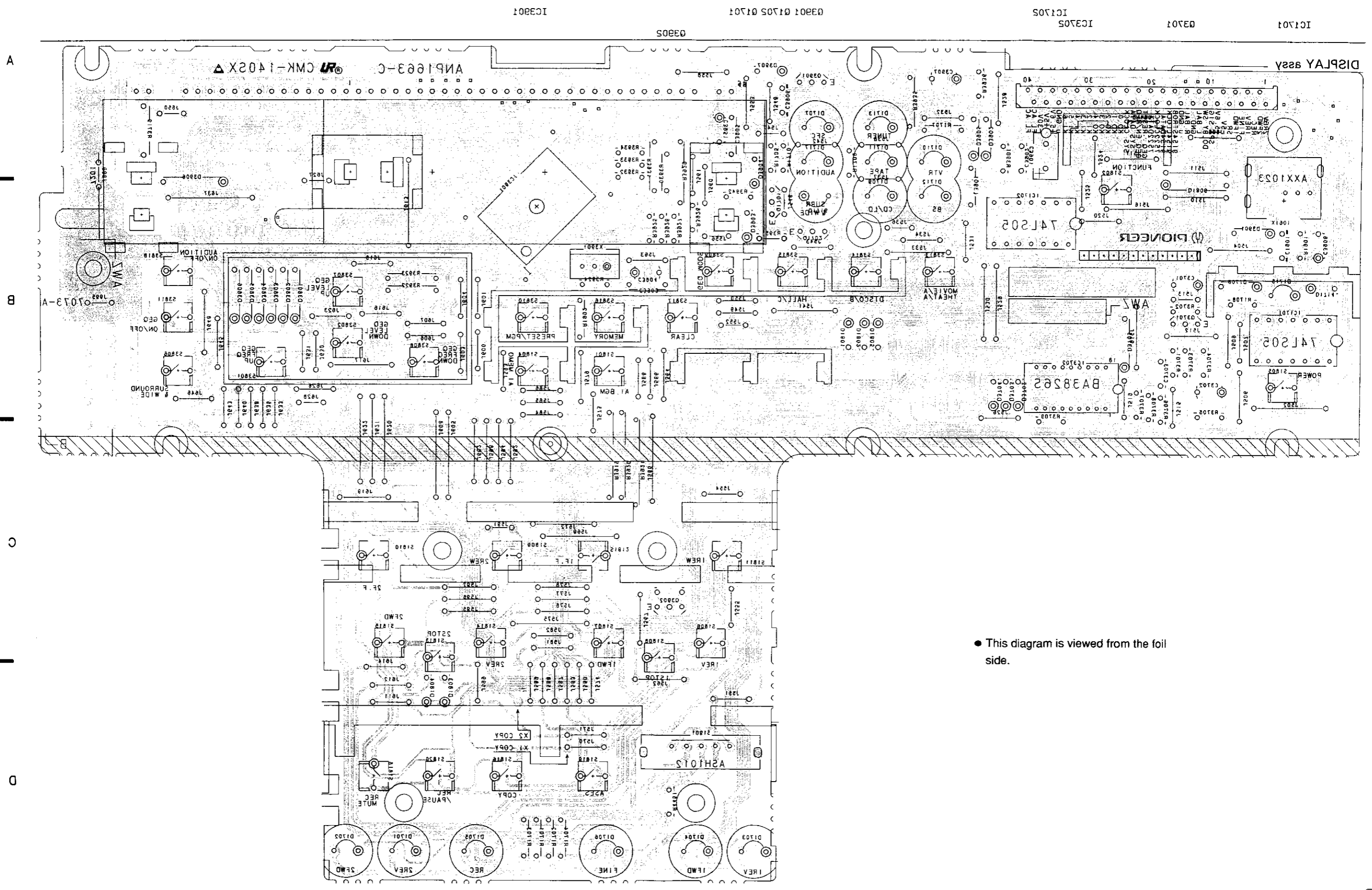
• This diagram is viewed from the foil side.

HEADPHONE assy (AWZ4667)

+30.5 dB

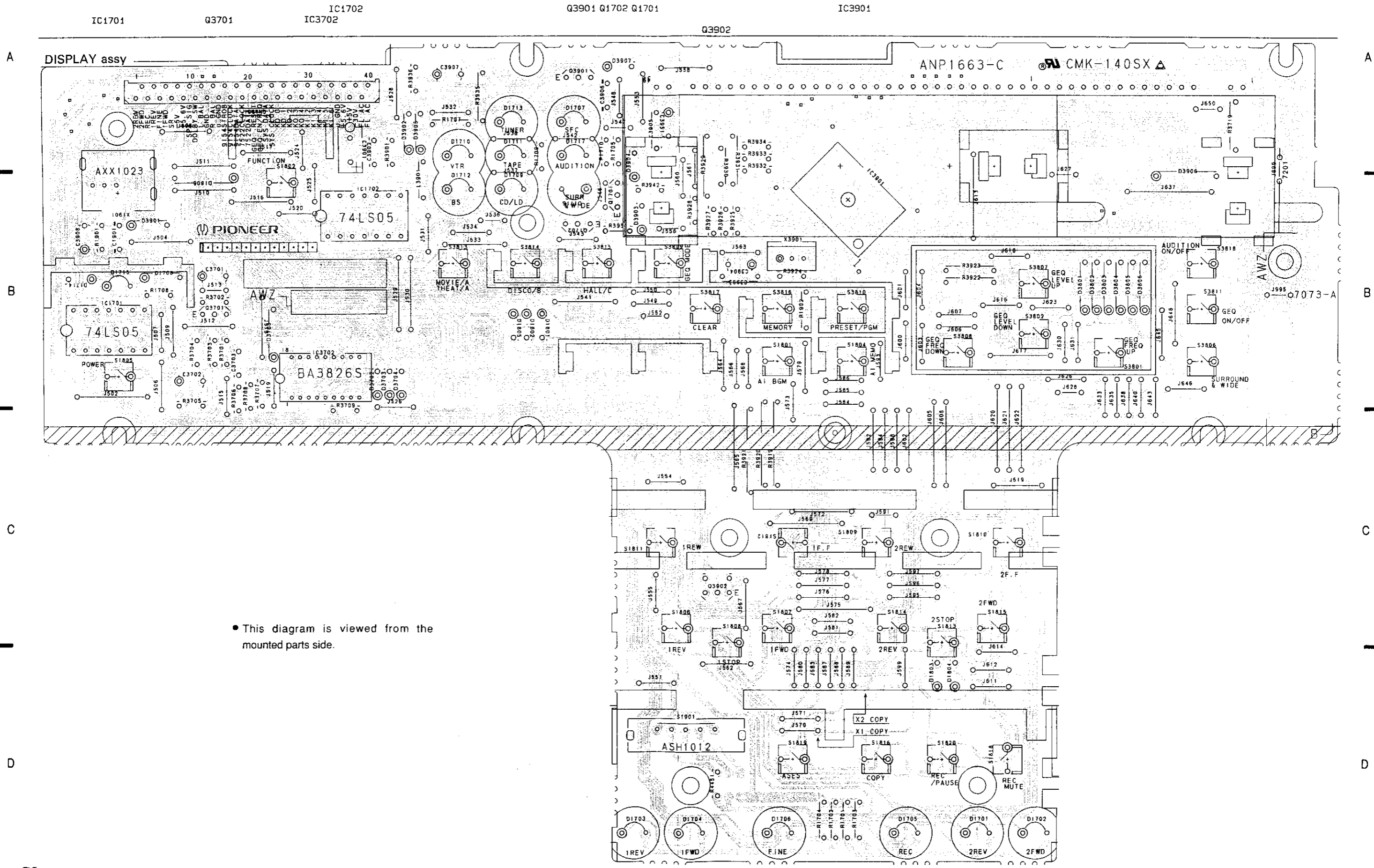


5.4 DISPLAY ASSY



● This diagram is viewed from the foil side.

### 2.4 DISPLAY ASSY

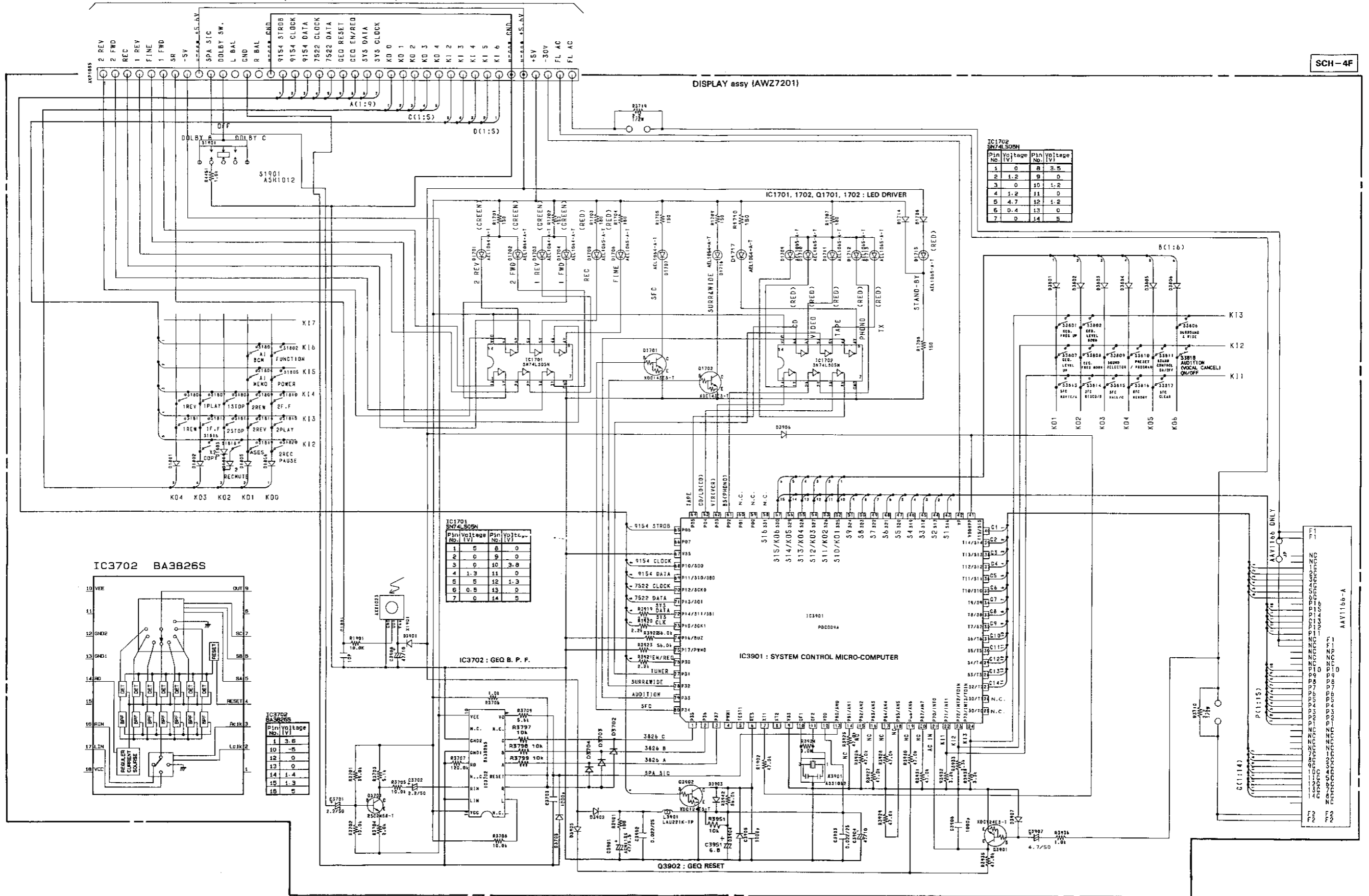


• This diagram is viewed from the mounted parts side.



To AF assy CN112 (SCH-1F)

SCH-4F



Pin No. (V)	Pin Voltage (V)	Pin No. (V)	Pin Voltage (V)
1	0	8	3.5
2	1.2	9	0
3	0	10	1.2
4	1.2	11	0
5	4.7	12	1.2
6	0.4	13	0
7	0	14	5

Pin No. (V)	Pin Voltage (V)	Pin No. (V)	Pin Voltage (V)
1	5	8	0
2	0	9	0
3	0	10	3.8
4	1.3	11	0
5	5	12	1.3
6	0.5	13	0
7	0	14	5

Pin No. (V)	Pin Voltage (V)
1	3.5
10	0
12	0
13	0
14	1.4
15	1.3
16	5

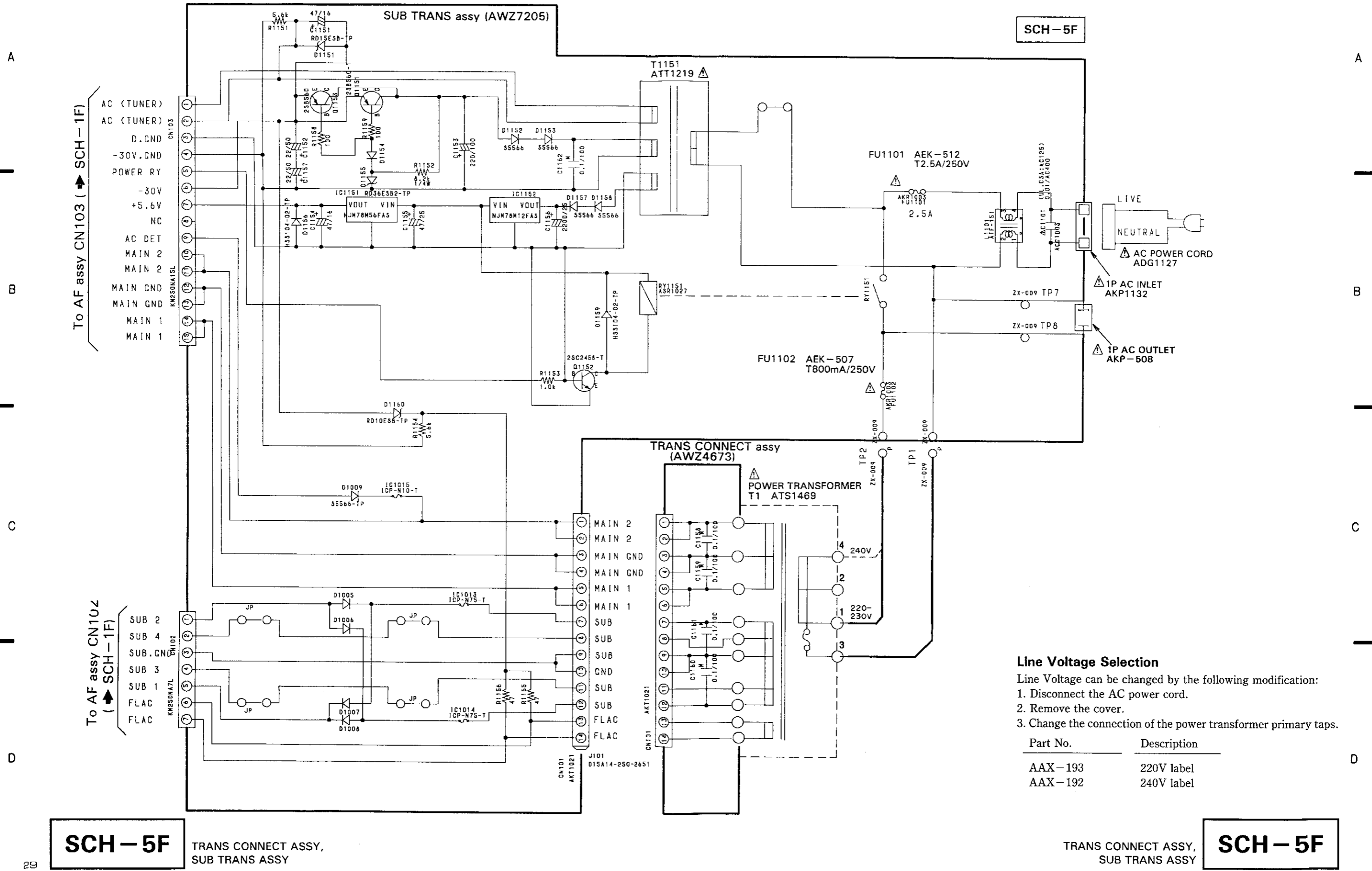
SCH-4F

DISPLAY ASSY

SCH-4F

DISPLAY ASSY

2.5 TRANS CONNECT ASSY AND SUB TRANS ASSY



SCH-5F

To AF assy CN103 (SCH-1F)  
 AC (TUNER)  
 AC (TUNER)  
 D.GND  
 -30V.GND  
 POWER RY  
 -30V  
 +5.6V  
 NC  
 AC DET  
 MAIN 2  
 MAIN 2  
 MAIN GND  
 MAIN GND  
 MAIN 1  
 MAIN 1

To AF assy CN10Z (SCH-1F)  
 SUB 2  
 SUB 4  
 SUB.CND  
 SUB 3  
 SUB 1  
 FLAC  
 FLAC

MAIN 2  
 MAIN 2  
 MAIN GND  
 MAIN GND  
 MAIN 1  
 MAIN 1  
 SUB  
 SUB  
 SUB  
 SUB  
 GND  
 SUB  
 SUB  
 FLAC  
 FLAC

**Line Voltage Selection**  
 Line Voltage can be changed by the following modification:  
 1. Disconnect the AC power cord.  
 2. Remove the cover.  
 3. Change the connection of the power transformer primary taps.

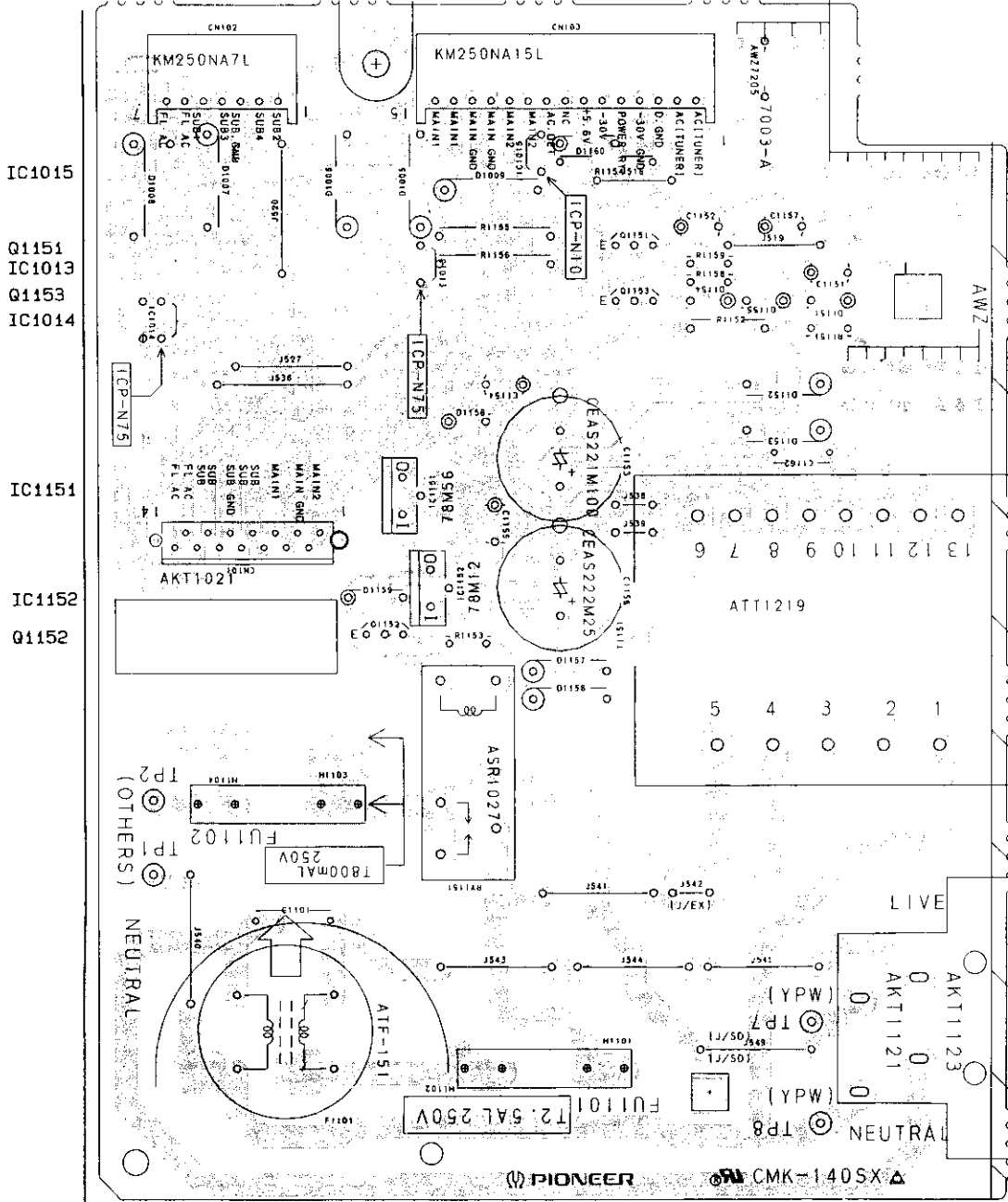
Part No.	Description
AAX-193	220V label
AAX-192	240V label

SCH-5F  
 TRANS CONNECT ASSY,  
 SUB TRANS ASSY

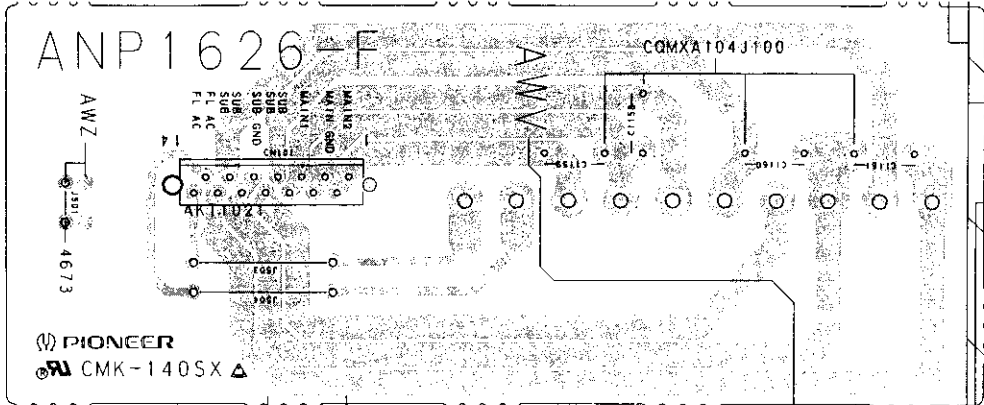
TRANS CONNECT ASSY,  
 SUB TRANS ASSY  
 SCH-5F

• This diagram is viewed from the mounted parts side.

SUB TRANS assy



TRANS CONNECT assy



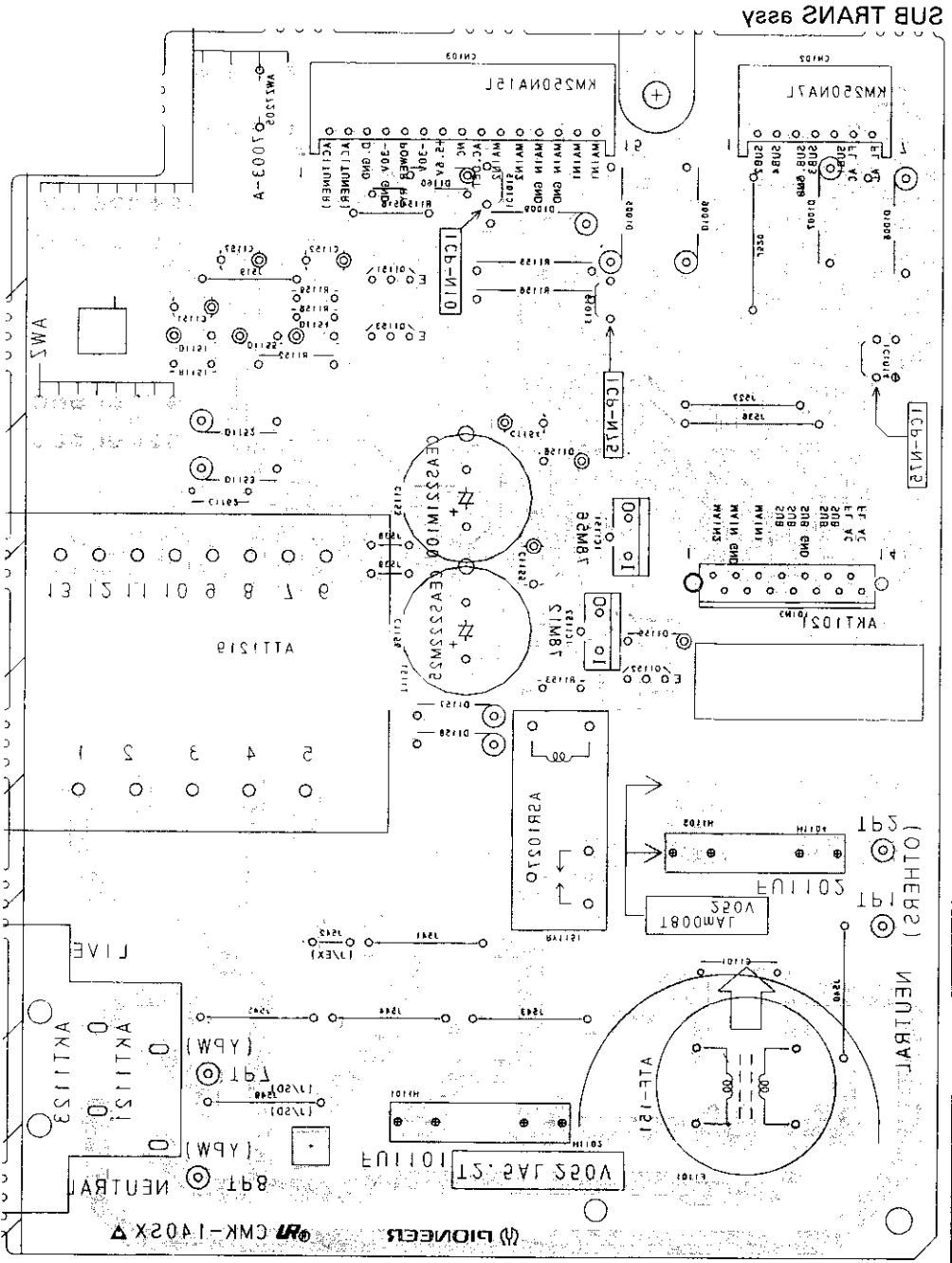
• This diagram is viewed from the foil side.

A

B

C

D



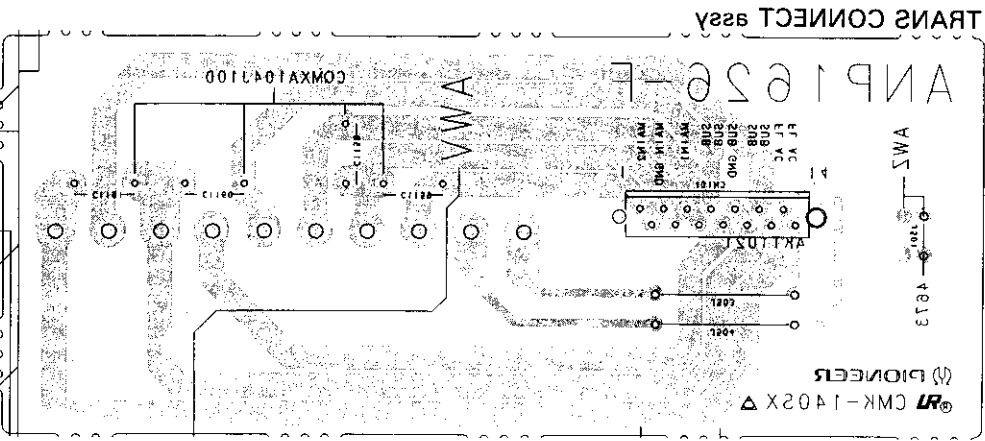
IC1012  
 01121  
 IC1013  
 01123  
 IC1014  
 01124  
 IC1121  
 01121  
 IC1125  
 01125

A

B

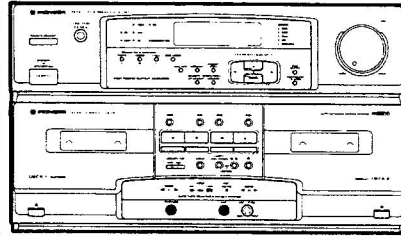
C

D



# Service Manual

**PIONEER**  
The Art of Entertainment



ORDER NO.  
ARP2653

DOUBLE DECK AMPLIFIER

# DC-J210

# DC-J110

DC-J210 AND DC-J110 HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	DC-J210	DC-J110		
SD	○	○*1	AC110V, 120*1-127V, 220V, 240V (Switchable)	*1 120V
SL	—	○	AC110V, 120V, 220V, 240V (Switchable)	
YPW	○	○	AC240V only	

- This manual is applicable to the following : DC-J210/SD and YPW ; DC-J110/SD, SL and YPW.
- For the following : DC-J210/YPW ; DC-J110/SD, SL and YPW, refer to page 59.
- These products are systems components.  
Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component (s), otherwise damage may result.

## CONTENTS

1. EXPLODED VIEWS, PACKING AND PARTS LIST .....	2	5. BLOCK DIAGRAM .....	58
2. SCHEMATIC AND PCB CONNECTION DIAGRAMS .....	11	6. FOR DC-J210/YPW, DC-J110/SD, SL AND YPW TYPES .....	59
3. PCB PARTS LIST .....	49	7. PANEL FACILITIES .....	60
4. ADJUSTMENTS .....	54	8. SPECIFICATIONS .....	64

**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan  
**PIONEER ELECTRONICS SERVICE INC.** P.O. Box 1760, Long Beach, California 90801 U.S.A.  
**PIONEER ELECTRONICS OF CANADA, INC.** 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada  
**PIONEER ELECTRONIC [EUROPE] N.V.** Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONICS AUSTRALIA PTY. LTD.** 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911  
 © PIONEER ELECTRONIC CORPORATION 1993

DG FEB. 1993 Printed in Japan

## 1. EXPLODED VIEWS, PACKING AND PARTS LIST

### NOTES :

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

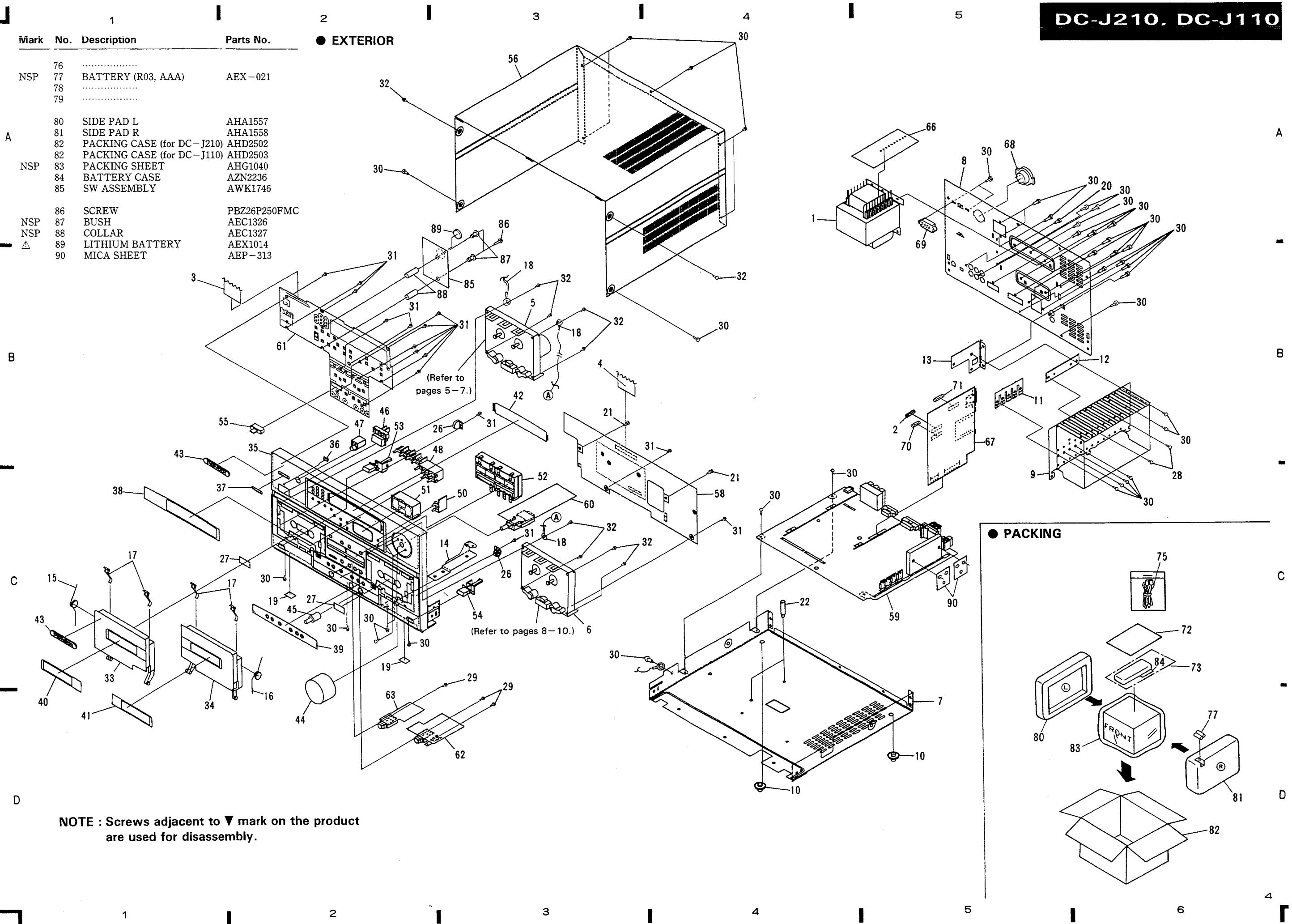
### 1.1 EXTERIOR AND PACKING

#### Parts list

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
$\Delta$	1	POWER TRANSFORMER (T102 for DC-J210)	ATS1468		39	DECORATIVE PLATE (DECK)	AAK2398
$\Delta$	1	POWER TRANSFORMER (T102 for DC-J110)	ATS1470		40	DECORATIVE PLATE (DOOR L)	AAK2400
$\Delta$	2	FUSE (T1.6A/250V, FU1102) (for DC-J210)	AEK-510		41	DECORATIVE PLATE (DOOR R)	AAK2402
$\Delta$	2	FUSE (T800mA/250V, FU1102) (for DC-J110)	AEK-507		42	FL FILTER (PVC)	AAK2482
$\Delta$ NSP	3	FLAT CABLE (J112)	ADD1112		43	BADGE (ABS)	AAM1047
$\Delta$	4	FLAT CABLE (J105)	ADD1116		44	VOL KNOB	AAB1337
	5	1 MECHA UNIT	EXK2026		45	MIC KNOB	AAB1339
	6	2 MECHA UNIT	EXK2056		46	POWER BUTTON	AAD2370
	7	CHASSIS (MTL)	ANA1201		47	FUNCTION BUTTON	AAD2372
	8	REAR PANEL (MTL)	ANC2005		48	BUTTON (GEQ)	AAD2373
	9	HEAT SINK (AL) (for DC-J210)	ANH1425		49	.....	
	9	HEAT SINK (AL) (for DC-J110)	ANH1408		50	AUDITION BUTTON	AAD2375
	10	LEG ASSEMBLY	AEC1049		51	CURSOR BUTTON	AAD2377
NSP	11	HOLDER	ANG1561		52	DECK BUTTON	AAD2379
NSP	12	HOLDER	ANG1600		53	EJECT BUTTON L	AAD2380
	13	HEAT SINK HOLDER (MTL)	ANG1777		54	EJECT BUTTON R	AAD2381
	14	PCB HOLDER A (MTL)	ANG1778		55	SLIDE KNOB	AAE1160
	15	DOOR SPRING L	ABH1085		56	BONNET CASE (MTL)	ANE1388
	16	DOOR SPRING R	ABH1086		57	.....	
	17	KEEP PLATE	ABK1017		58	TAPE ASSEMBLY	AWV1318
NSP	18	EARTH LEAD	ADB1006		59	AF ASSEMBLY (for DC-J210)	AWZ4650
NSP	19	CUSHION	AEB1194		59	AF ASSEMBLY (for DC-J110)	AWZ4647
	20	SCREW	ABA-222		60	VOLUME ASSEMBLY	AWZ4653
	21	NYLON RIVET	AEC1160		61	DISPLAY ASSEMBLY	AWZ4657
NSP	22	PCB SUPORT (H20)	AEC1200		62	MIC ASSEMBLY	AWZ4663
	23	.....			63	HEADPHONE ASSEMBLY	AWZ4666
	24	.....			64	.....	
	25	.....		NSP	66	TRANS CONNECT ASSEMBLY	AWZ4672
	26	DAMPER ASSEMBLY	AXA1008		67	SUB TRANS ASSEMBLY	AWZ4680
	27	SHEET	AAX1301	$\Delta$	68	VOLTAGE SELECTOR (S1) [AC110/120-127 (120 for SL) /220/240V]	AKX-507
	28	SCREW (3x18)	ABA1018		69	VOLTAGE SELECTOR (S2) (AC110-127/220-240V)	AKX1004
	29	SCREW (2.6x8)	ABA1095	$\Delta$	70	FUSE (T1.6A/250V, FU1103) (for DC-J210)	AEK-510
	30	SCREW	BBZ30P080FZK	$\Delta$	70	FUSE (T800mA/250V, FU1103) (for DC-J110)	AEK-507
	31	SCREW	BPZ26P080FMC		71	FUSE (T2.5A/250V, FU1101)	AEK-512
	32	SCREW	VPZ30P080FZK	$\Delta$	72	OPERATING INSTRUCTIONS (English)	ARB1410
	33	CASSETTE DOOR L (PLS)	AAN1365		73	REMOTE CONTROL UNIT (CU-DC030)	AXD1337
	34	CASSETTE DOOR R (PLS)	AAN1376		74	.....	
	35	FRONT PANEL (PLS) (for DC-J210)	AMB2092	$\Delta$	75	AC POWER CORD	ADG1129
	35	FRONT PANEL (PLS) (for DC-J110)	AMB2095				
	36	LENS (POWER)	AAK2442				
	37	FILTER (PLS)	AAK2376				
	38	DECORATIVE PLATE (AMP)	AAK2441				

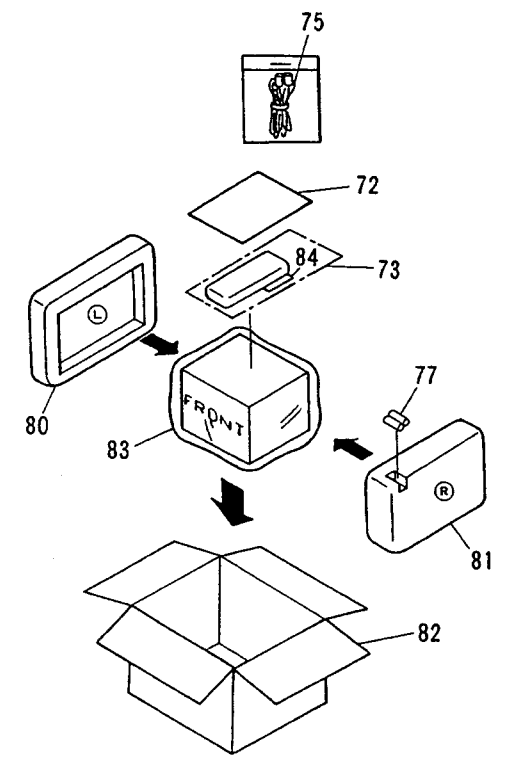
Mark	No.	Description	Parts No.
	76	.....	
NSP	77	BATTERY (R03, AAA)	AEX-021
	78	.....	
	79	.....	
A	80	SIDE PAD L	AHA1557
	81	SIDE PAD R	AHA1558
	82	PACKING CASE (for DC-J210)	AHD2502
	82	PACKING CASE (for DC-J110)	AHD2503
NSP	83	PACKING SHEET	AHG1040
	84	BATTERY CASE	AZN2236
	85	SW ASSEMBLY	AWK1746
	86	SCREW	PBZ26P250FMC
NSP	87	BUSH	AEC1326
NSP	88	COLLAR	AEC1327
△	89	LITHIUM BATTERY	AEX1014
	90	MICA SHEET	AEP-313

● EXTERIOR



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

● PACKING



# DC-J210, DC-J110

## 1.2 CASSETTE 1MECHA UNIT

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

A

B

C

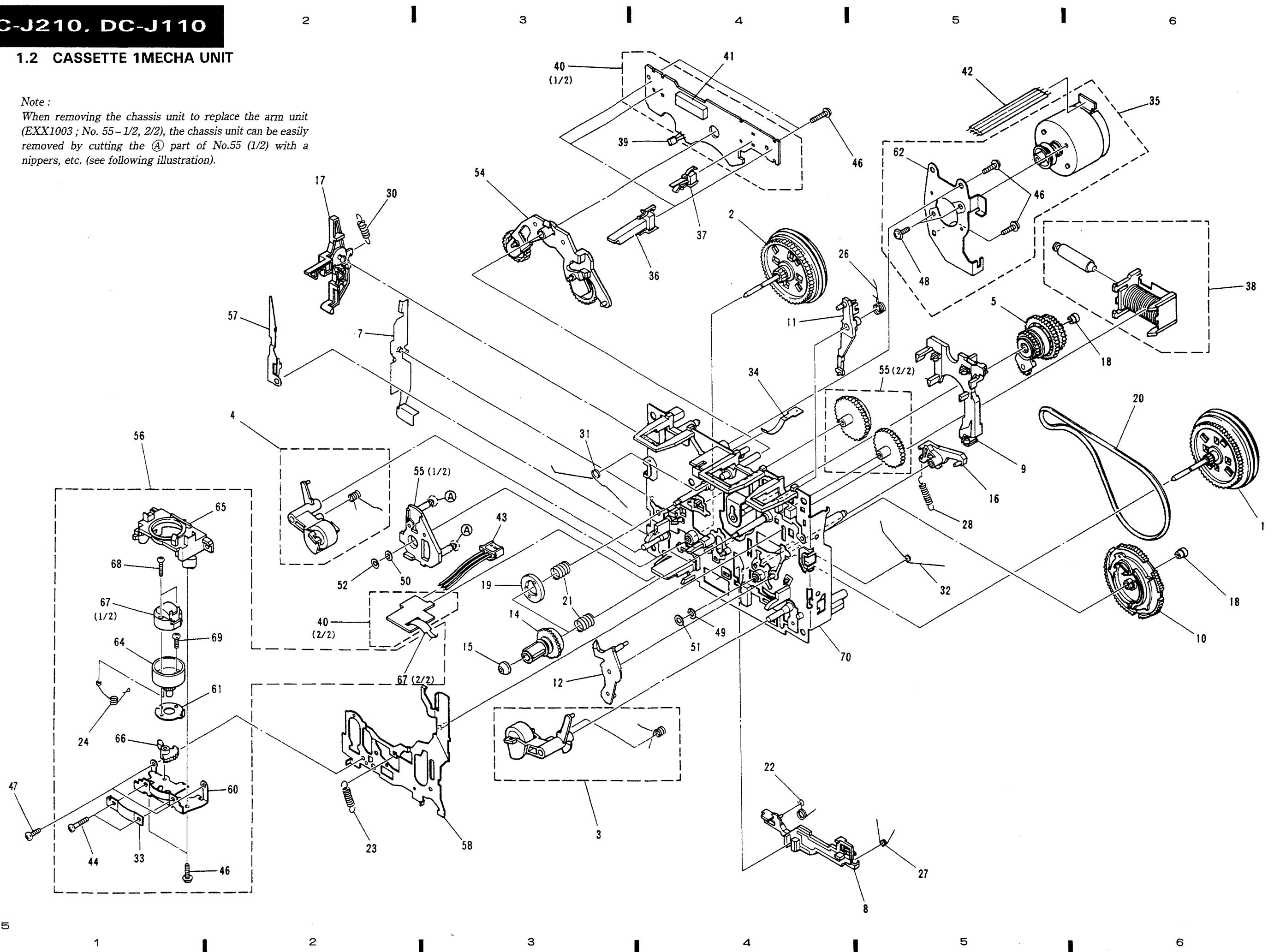
D

A

B

C

D





**Parts list**

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	FLYWHEEL UNIT (FWD)	EXA1222		46	SCREW (M2×8)	ATZ20P080FMC
	2	FLYWHEEL UNIT (RVS)	EXA1223		47	SCREW	BSZ20P050FMC
	3	ROLLER UNIT (FWD)	EXA1224		48	SCREW	PMS26P025FUC
	4	ROLLER UNIT (RVS)	EXA1225		49	WASHER	EBF1008
	5	LIMITER UNIT	EXA1226		50	WASHER	EBF1009
	6	.....			51	WASHER	EBF1010
	7	EJECT LEVER L2	AZN2063		52	WASHER	EBF1011
	8	LEVER	ENV1305		53	.....	
	9	BRAKE	ENV1317		54	ARM UNIT	EXX1006
	10	GEAR	ENV1318		55	ARM UNIT	EXX1003
	11	LOCK ARM	ENV1159		56	P HEAD ASSEMBLY	EXX1008
	12	NR ARM	ENV1163		57	ARM	ENC1288
	13	.....			58	HEAD BASE UNIT	EXA1230
	14	REEL	ENV1335		59	.....	
	15	REEL BUSH	ENV1338	NSP	60	BRACKET	ENC1284
	16	ARM	ENV1330	NSP	61	PLATE	ENC1285
	17	EJECT LEVER L1	AZN2108	NSP	62	BRACKET	ENC1199
	18	BUSH	ENV1184		63	.....	
	19	MAGNET	ENV1336	NSP	64	HOLDER	ENV1161
	20	BELT	ENT1023	NSP	65	HOLDER	ENV1301
	21	SPRING	EBH1424	NSP	66	GEAR	ENV1177
	22	SPRING	EBH1401	NSP	67	P HEAD UNIT	EXA1110
	23	SPRING	EBH1203	NSP	68	SCREW	JGZ14P085FNI
	24	SPRING	EBH1402	NSP	69	SCREW	JGZ14P040FNI
	25	.....		NSP	70	CHASSIS UNIT	.....
	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)	ESN1010				
	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	.....					

# DC-J210, DC-J110

## 1.3 CASSETTE 2 MECHA UNIT

### Parts list

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	FLYWHEEL UNIT (FWD)	EXA1222		46	SCREW (M2×8)	ATZ20P080FMC
	2	FLYWHEEL UNIT (RVS)	EXA1223		47	SCREW	BSZ20P050FMC
	3	ROLLER UNIT (FWD)	EXA1224		48	SCREW	PMS26P025FUC
	4	ROLLER UNIT (RVS)	EXA1225		49	WASHER	EBF1008
	5	LIMITER UNIT	EXA1226		50	WASHER	EBF1009
	6	.....			51	WASHER	EBF1010
	7	EJECT LEVER R2	AZN2064		52	WASHER	EBF1011
	8	NR LEVER	ENV1305		53	.....	
	9	BRAKE	ENV1317		54	ARM UNIT	EXX1006
	10	CAM GEAR	ENV1318		55	ARM UNIT	EXX1003
	11	LOCK ARM	ENV1159		56	R/P HEAD ASSEMBLY	EXX1013
	12	NR ARM	ENV1163		57	ARM	ENC1289
	13	.....			58	HEAD BASE UNIT	EXA1230
	14	REEL	ENV1335		59	.....	
	15	REEL BUSH	ENV1338	NSP	60	BRACKET	ENC1284
	16	ARM	ENV1330	NSP	61	PLATE	ENC1285
	17	EJECT LEVER R1	AZN2109	NSP	62	BRACKET	ENC1289
	18	BUSH	ENV1184		63	.....	
	19	MAGNET	ENV1336	NSP	64	HOLDER	ENV1161
	20	BELT	ENT1023	NSP	65	HOLDER	ENV1301
	21	SPRING	EBH1424	NSP	66	GEAR	ENV1177
	22	SPRING	EBH1401	NSP	67	R/P HEAD UNIT	EXA1234
	23	SPRING	EBH1203	NSP	68	SCREW	JGZ14P085FNI
	24	SPRING	EBH1402	NSP	69	SCREW	JGZ14P040FNI
	25	.....		NSP	70	CHASSIS UNIT	.....
	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)	ESN1010				
	38	SOLENOID	EXP1005				
	39	HALL IC	DN6847SE				
	40	SUB COMPLEX PCB	ENX1019				
	41	CONNECTOR (15P)	EKS1012				
	42	LEAD WIRE (4P)	EDD1003				
	43	CONNECTOR (5P)	EDE1008				
	44	SCREW (AZIMUTH)	EBA1020				
	45	.....					

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

A

B

C

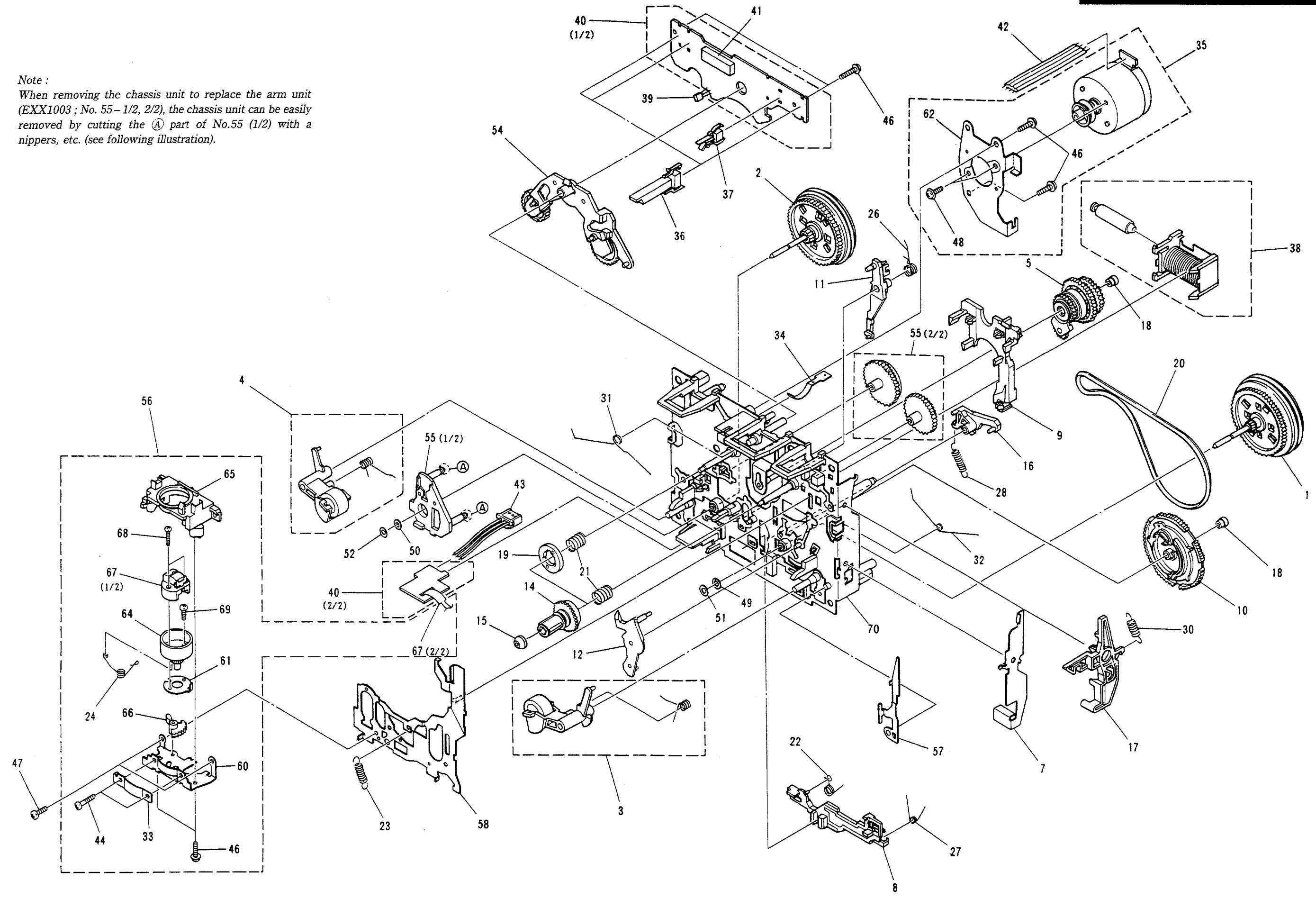
D

A

B

C

D



1

2

3

4

5

1

2

3

4

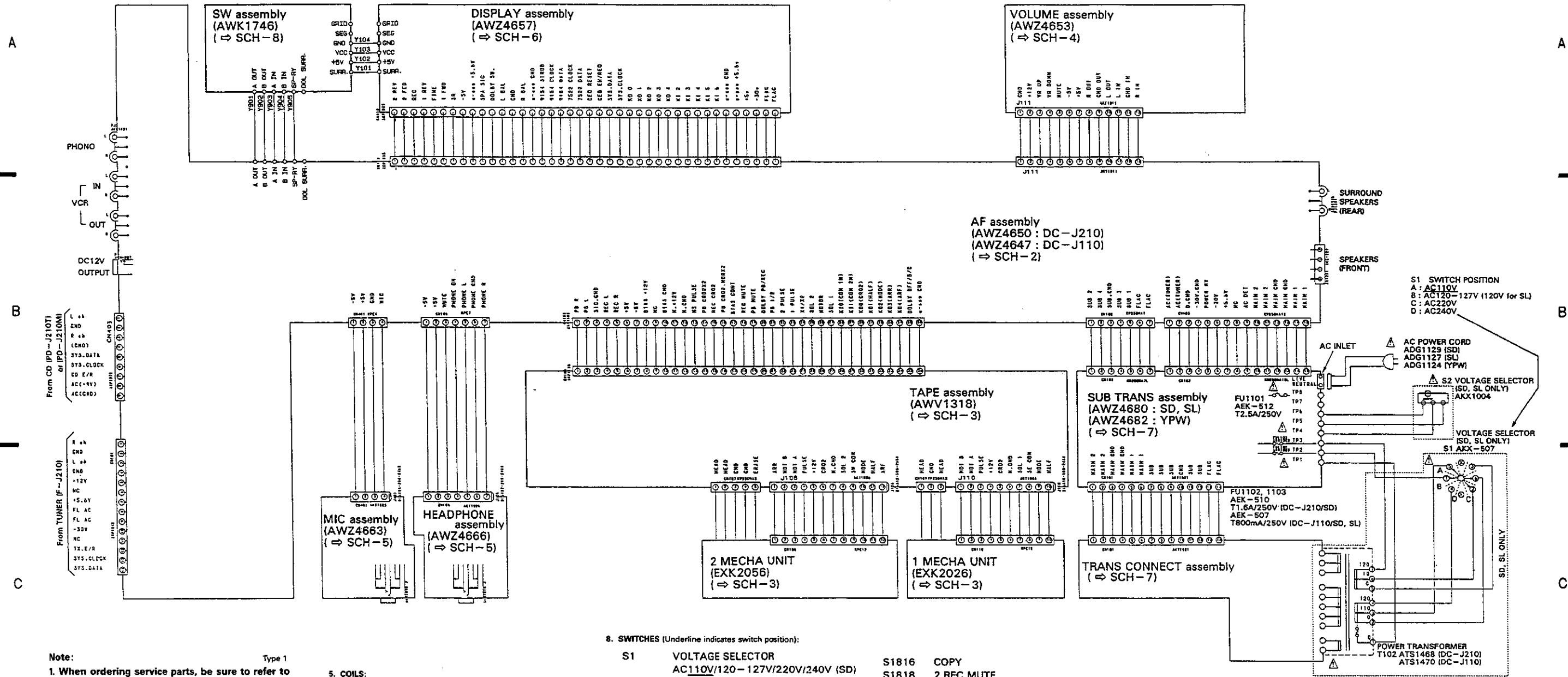
5

6

10

2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

2.1 OVERALL SCHEMATIC DIAGRAM



- Note:** Type 1
- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
  - Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
  - 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.
  - CAPACITORS:**  
Unit: p: pF or μF unless otherwise noted.  
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.  
Rated voltage: 50V except for electrolytic capacitors.

- COILS:**  
Unit: m:mH or μH unless otherwise noted.
- VOLTAGE AND CURRENT:**  
□ V: Signal voltage at rated output.  
— V: DC voltage (V) at no input signal unless otherwise noted.  
Value in ( ) is DC voltage at rated power.  
φ mA or — mA: DC current at no input signal unless otherwise noted.
- OTHERS:**  
• →: Signal route.  
• ⊙: Adjusting point.  
• ▽: Measurement point.  
• Δ: The Δ 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):

- |    |  |       |  |
|----|--|-------|--|
| S1 | VOLTAGE SELECTOR<br>AC110V/120-127V/220V/240V (SD)<br>AC110V/120V/220V/240V (SL) | S1816 | COPY                                       |
| S2 | VOLTAGE SELECTOR<br>AC110-127V/220-240V  | S1818 | 2 REC MUTE                                 |
|    |  | S1819 | ASES                                       |
|    |  | S1820 | 2 REC PAUSE                                |
|    |  | S1901 | DOLBY NR ON/OFF                            |
|    |  | S3801 | GEQ FREQ UP                                |
|    |  | S3802 | GEQ LEVEL DOWN                             |
|    |  | S3806 | SURROUND & WIDE                            |
|    |  | S3807 | GEQ LEVEL UP                               |
|    |  | S3808 | GEQ FREQ DOWN                              |
|    |  | S3809 | GEQ MODE                                   |
|    |  | S3810 | PRESET/PGM                                 |
|    |  | S3811 | GEQ ON/OFF                                 |
|    |  | S3813 | SFC MOVIE/A<br>(SFC : SOUND FIELD CONTROL) |
|    |  | S3814 | SFC DISCO/B                                |
|    |  | S3815 | SFC HALL/C                                 |
|    |  | S3816 | SFC MEMO                                   |
|    |  | S3817 | SFC OFF                                    |
- DISPLAY assembly**
- |       |                                       |
|-------|---------------------------------------|
| S1801 | SMART OPERATION START/SET<br>(AI BGM) |
| S1802 | FUNCTION (DEMO)                       |
| S1804 | SMART OPERATION MEMORY<br>(AI MEMORY) |
| S1805 | POWER                                 |
| S1806 | 1 REV                                 |
| S1807 | 1 PLAY                                |
| S1808 | 1 STOP                                |
| S1809 | 2 REW                                 |
| S1810 | 2 FF                                  |
| S1811 | 1 REW                                 |
| S1812 | 1 FF                                  |
| S1813 | 2 STOP                                |
| S1814 | 2 REV                                 |
| S1815 | 2 PLAY                                |

9. For SCH-□ on the schematic diagram  
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

SCH-1

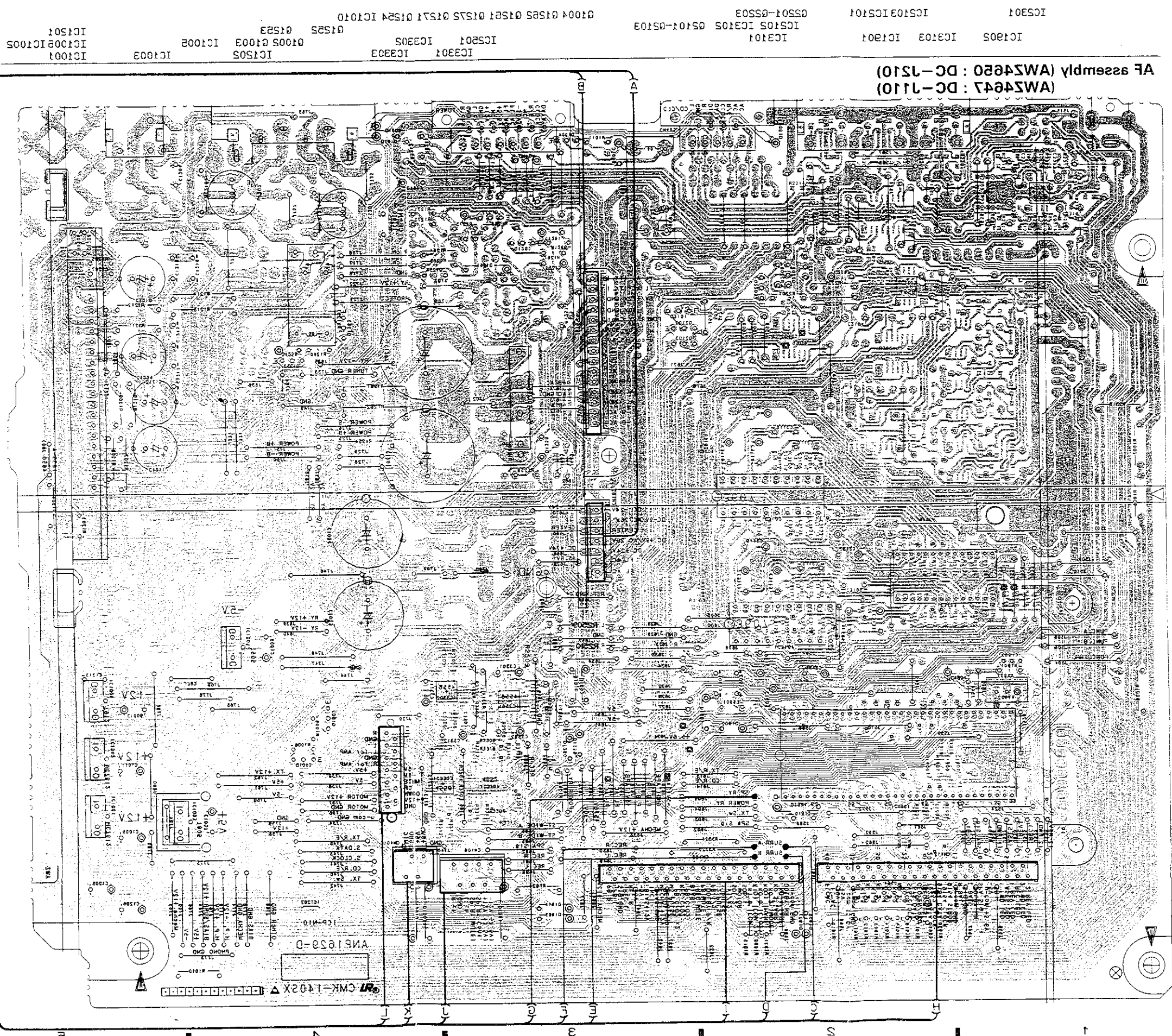
OVERALL SCHEMATIC DIAGRAM

OVERALL SCHEMATIC DIAGRAM

SCH-1

S.S. AF ASSEMBLY

This PCB connection diagram is viewed from the foil side.



- (A) TO SUB TRANS assembly CN105
- (B) TO SUB TRANS assembly CN103
- (C) A IN (Y903)
- (D) B IN (Y904)
- (E) B OUT (Y905) TO SW assembly
- (F) A OUT (Y901)
- (G) SP-RY (Y902)
- (H) TO DISPLAY assembly CN115
- (I) TO TAPES assembly CN102
- (J) TO HEADPHONE assembly CN108
- (K) TO MIC assembly CN401
- (L) TO VOLUME assembly 1111

A

B

C

D

A

B

C

D

14

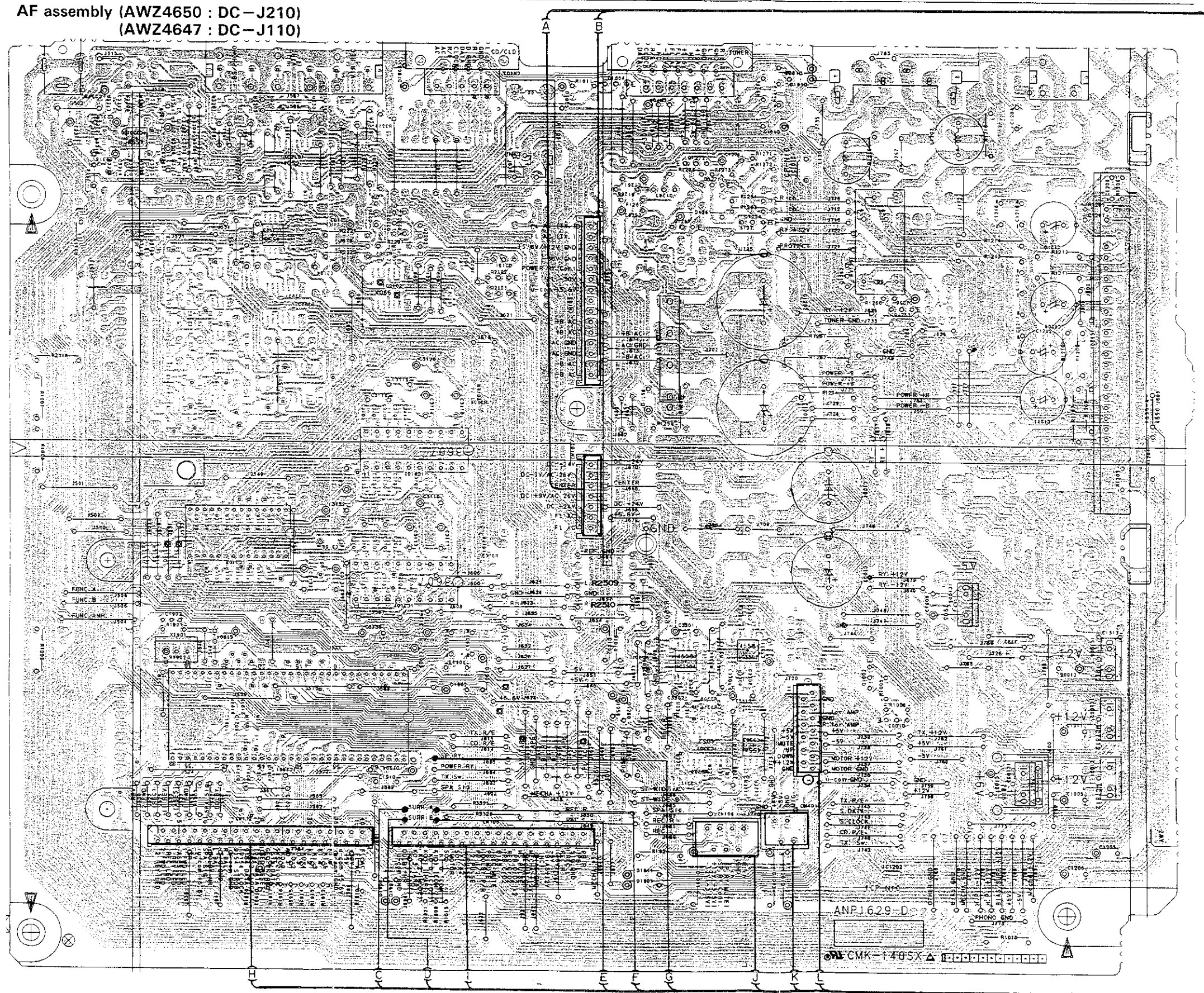


This PCB connection diagram is viewed from the parts mounted side.

2.2 AF ASSEMBLY

IC2301 IC2103 IC2101 Q2201-Q2203 G1004 Q1262 Q1261 Q1272 Q1271 Q1254 IC1010  
 IC1902 IC3103 IC1901 IC2102 IC3102 Q2101-Q2103 IC3101 IC2501 IC3302 G1252 G1253 G1002 Q1003 IC1005 IC1201 IC1006 IC1002  
 IC3301 IC3303 IC1202 IC1003 IC1001

AF assembly (AWZ4650 : DC-J210)  
 (AWZ4647 : DC-J110)



- (A) To SUB TRANS assembly CN102
- (B) To SUB TRANS assembly CN103
- (C) A IN (Y903)
- (D) B IN (Y904)
- (E) B OUT (Y902) To SW assembly
- (F) A OUT (Y901)
- (G) SP-RY (Y905)
- (H) To DISPLAY assembly CN112
- (I) To TAPE assembly CN105
- (J) To HEADPHONE assembly CN106
- (K) To MIC assembly CN401
- (L) To VOLUME assembly J111

NOTE

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

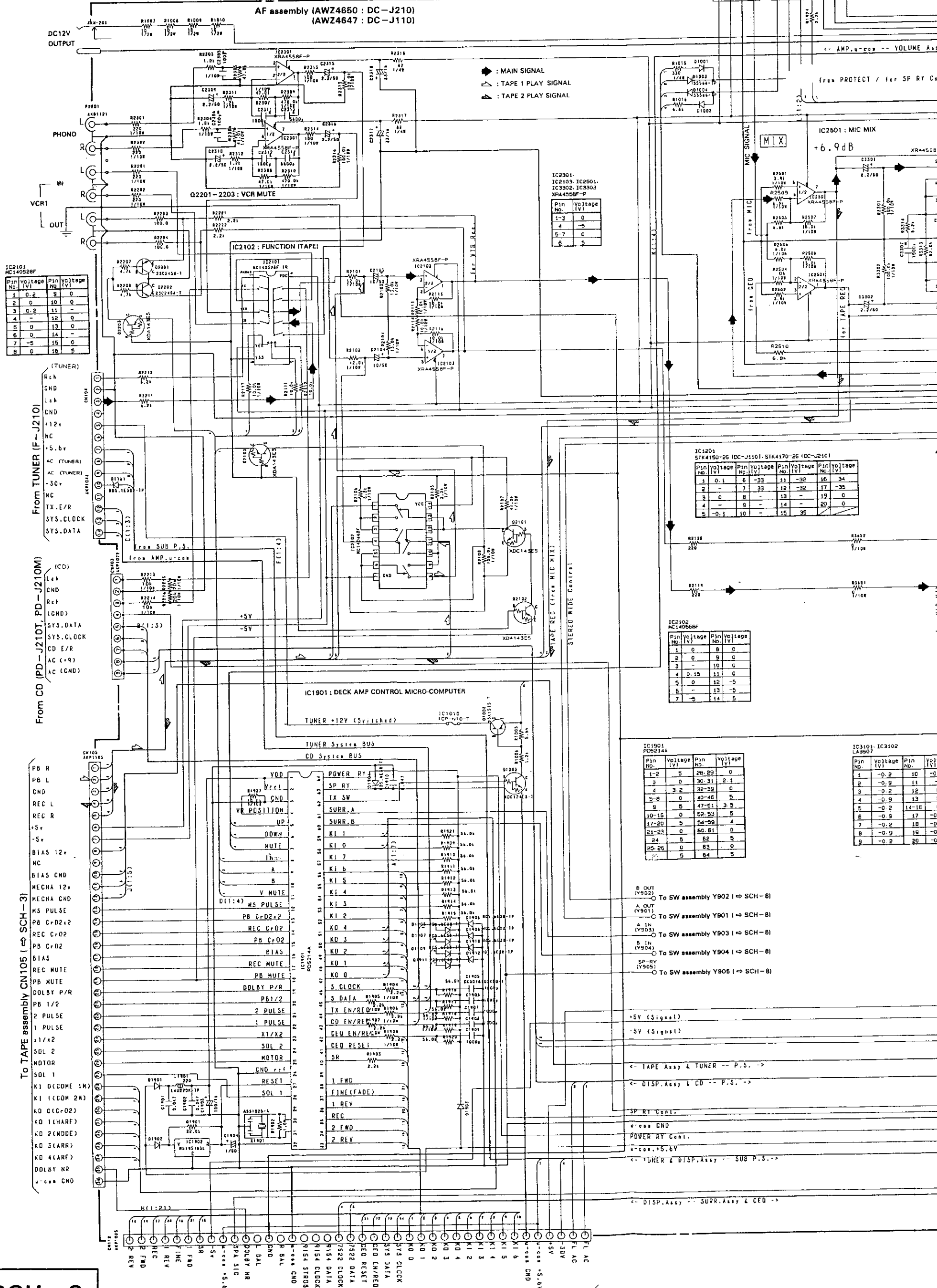
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarized)
		Capacitor (Non-polarized)

Others

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

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

To MIC assembly CN401 (⇒ SCH-5)  
To HEADPHONE assembly CN106 (⇒ SCH-6)



IC2101  
MC14052BF

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.2	9	0
2	0	10	0
3	0.2	11	0
4	0	12	0
5	0	13	0
6	0	14	0
7	0	15	0
8	0	16	0

IC2901  
IC2103  
IC2501  
XRA455BF-P

Pin No.	Voltage (V)
1-3	0
4	-5
5-7	0
8	5

IC2501  
STK4150-26 (DC-J110), STK4170-26 (DC-J210)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.1	6	-33	11	-32	16	34
2	-	7	33	12	-32	17	-35
3	0	8	-	13	-	18	0
4	-	9	-	14	-	19	0
5	-0.1	10	-	15	35		

IC2102  
MC14056BF

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	8	0
2	0	9	0
3	-	10	0
4	0.15	11	0
5	0	12	-5
6	-	13	-5
7	-5	14	5

IC1901  
PD52144

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1-2	5	28-29	0
3	0	30-31	2.1
4	3.2	32-39	0
5-8	0	40-46	5
9	5	47-51	3.5
10-15	0	52-53	5
17-20	5	54-59	4
21-23	0	60-61	0
24	5	62	5
25-26	0	63	0
		64	5

IC3101, IC3102  
LA3607

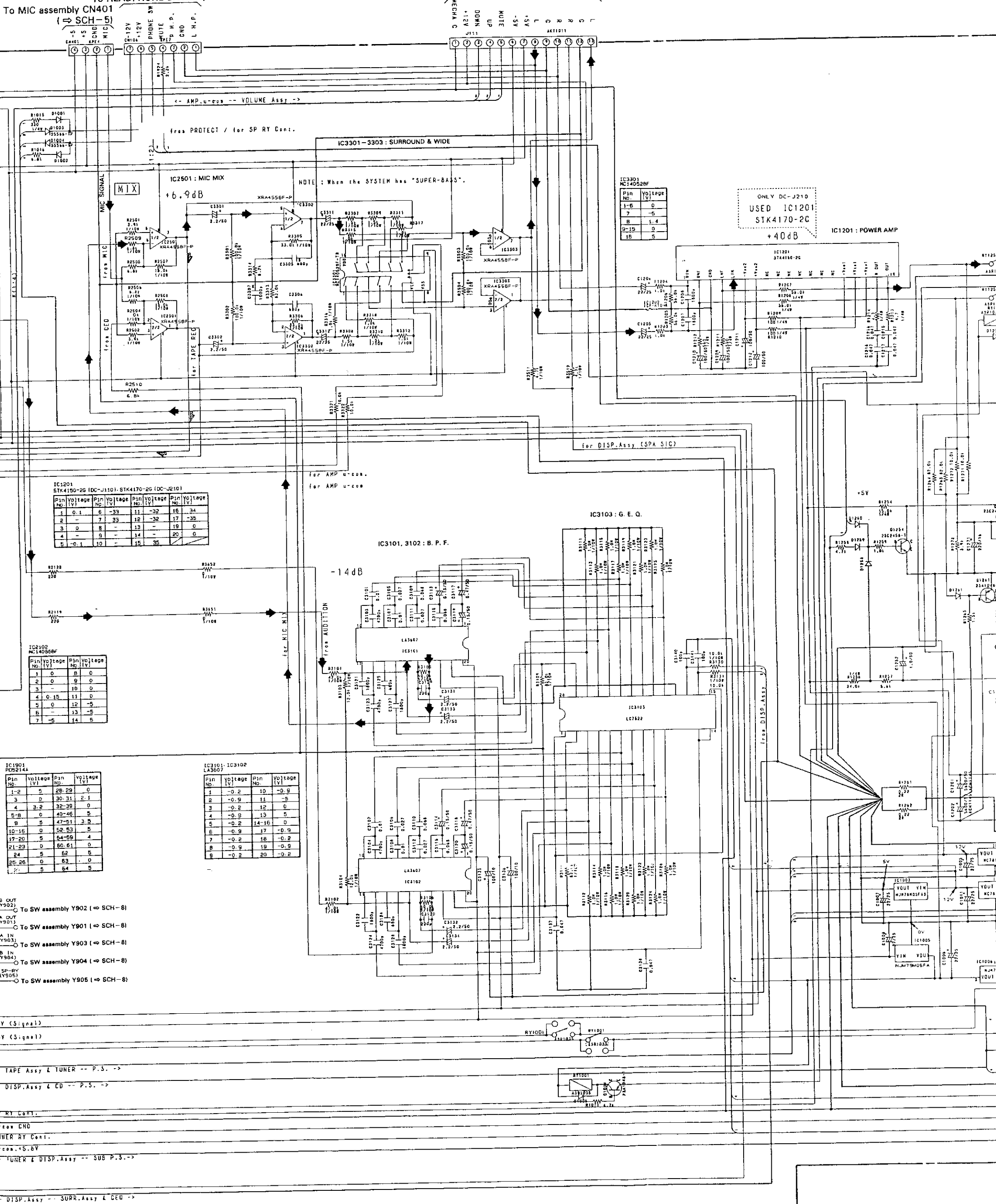
Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-0.2	10	-0.5		
2	-0.9	11	-5		
3	-0.2	12	0		
4	-0.9	13	5		
5	-0.2	14-16	0		
6	-0.9	17	-0.5		
7	-0.2	18	-0.5		
8	-0.9	19	-0.5		
9	-0.2	20	-0.5		

**SCH-2**

AF ASSEMBLY To DISPLAY assembly CN112 (⇒ SCH-6)

To MIC assembly CN401 (SCH-5)  
To HEADPHONE assembly CN106 (SCH-5)

To VOLUME assembly J111 (SCH-4)



Pin No.	Voltage
1-6	0
7	-5
8	5.4
9-15	0
16	5

ONLY DC-J210  
USED IC1201  
STK4170-2C  
+40dB

IC1201  
STK4150-2G (DC-J110), STK4170-2C (DC-J210)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	6	-33	11	-32	16	34
2	0	7	33	12	-32	17	-35
3	0	8	-	13	-	19	0
4	0	9	-	14	-	20	0
5	-0.1	10	-	15	35		

IC2102  
MC140556P

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	8	0
2	0	9	0
3	-	10	0
4	0.15	11	0
5	0	12	-3
6	-	13	-5
7	-5	14	5

IC1901  
PDS214A

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1-2	5	28-29	0
3	0	30-31	2.1
4	3.2	32-39	0
5-8	0	40-46	5
9	5	47-51	3.5
10-16	0	52-53	5
17-20	5	54-59	4
21-23	0	60-61	0
24	5	62	5
25	0	63	0
26	5	64	5

IC3101-IC3102  
LA3607

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-0.2	10	-0.9
2	-0.2	11	-5
3	-0.2	12	0
4	-0.2	13	5
5	-0.2	14-16	0
6	-0.2	17	-0.2
7	-0.2	18	-0.2
8	-0.2	19	-0.2
9	-0.2	20	-0.2

- B OUT (Y902) To SW assembly Y902 (SCH-8)
- A OUT (Y901) To SW assembly Y901 (SCH-8)
- A IN (Y903) To SW assembly Y903 (SCH-8)
- B IN (Y904) To SW assembly Y904 (SCH-8)
- SP-RY (Y905) To SW assembly Y905 (SCH-8)

- +SY (Signal)
- SY (Signal)
- ← TAPE Assy & TUNER -- P.S. -->
- ← DISP. Assy & CD -- P.S. -->
- SP-RY Cont.
- u-con CND
- POWER RY Cont.
- u-con +5.6V
- ← TUNER & DISP. Assy -- SUB P.S. -->
- ← DISP. Assy -- SURR. Assy & CED -->

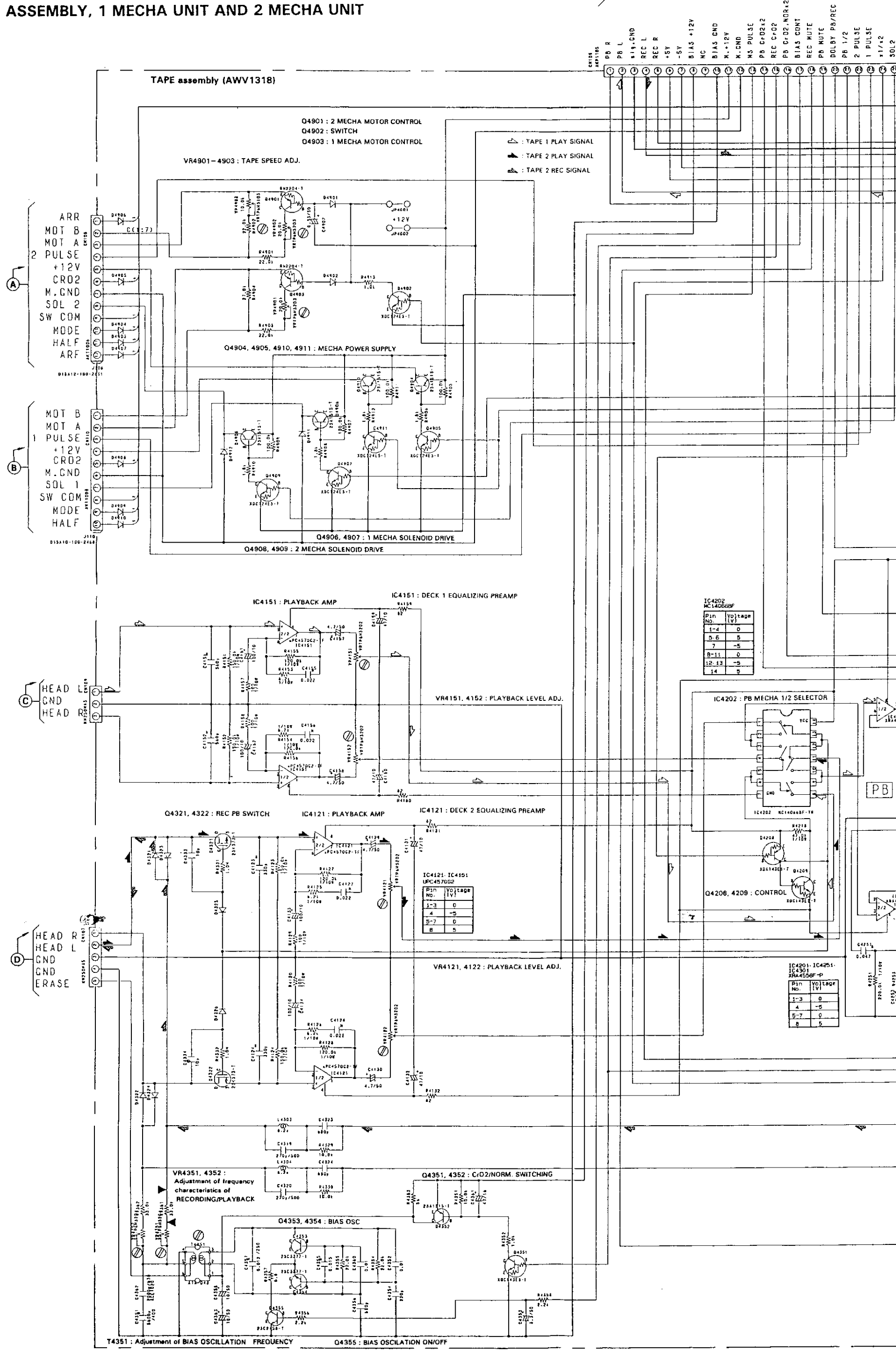




2.3 TAPE ASSEMBLY, 1 MECHA UNIT AND 2 MECHA UNIT

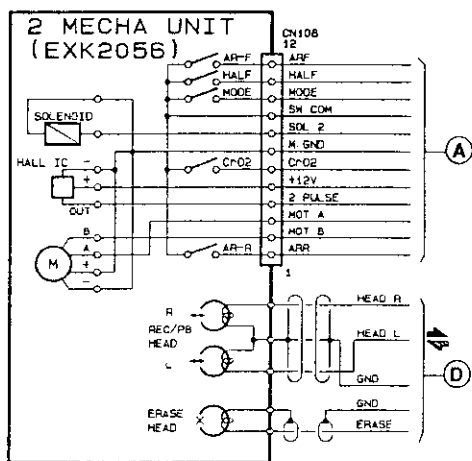
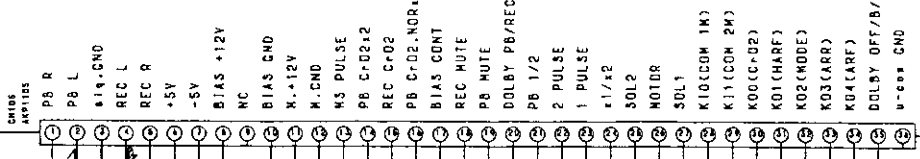
To AF assembly CN105 (→ SCH-2)

A  
B  
C  
D  
E  
F



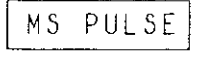
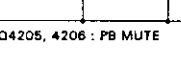
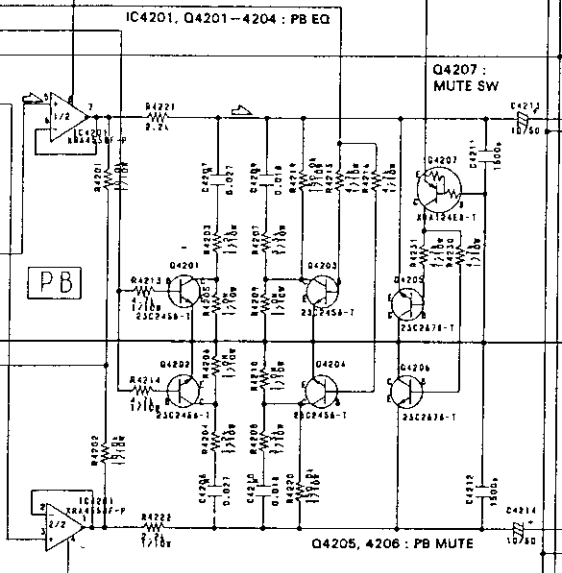
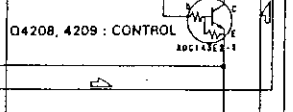
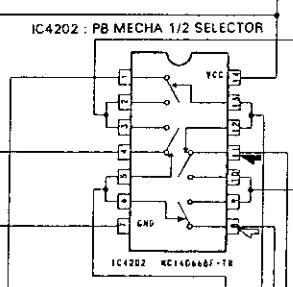
SCH-3 TAPE ASSEMBLY, 1 MECHA UNIT, 2 MECHA UNIT

To AF assembly CN105 (↔ SCH-2)



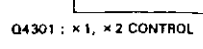
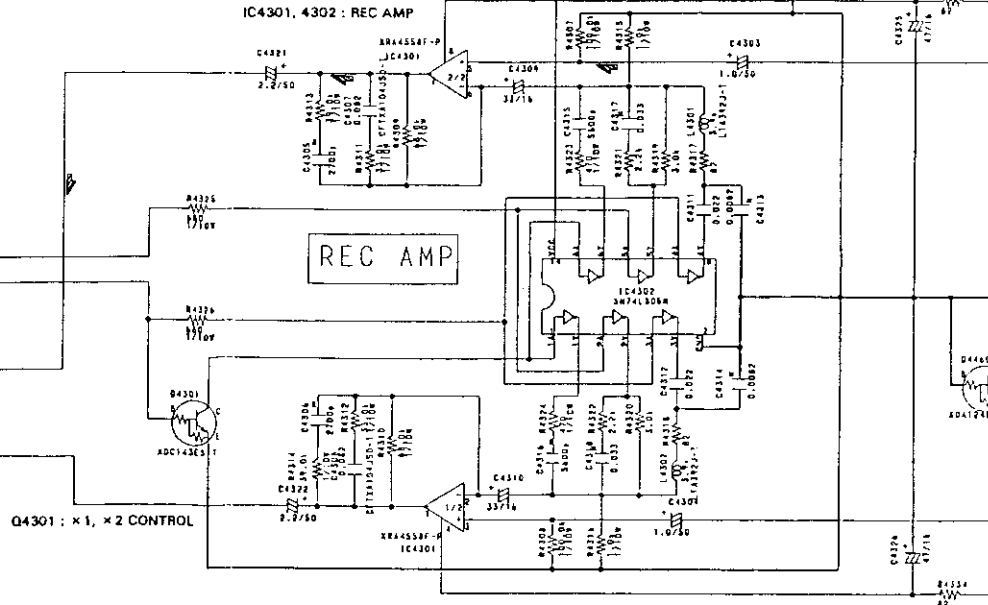
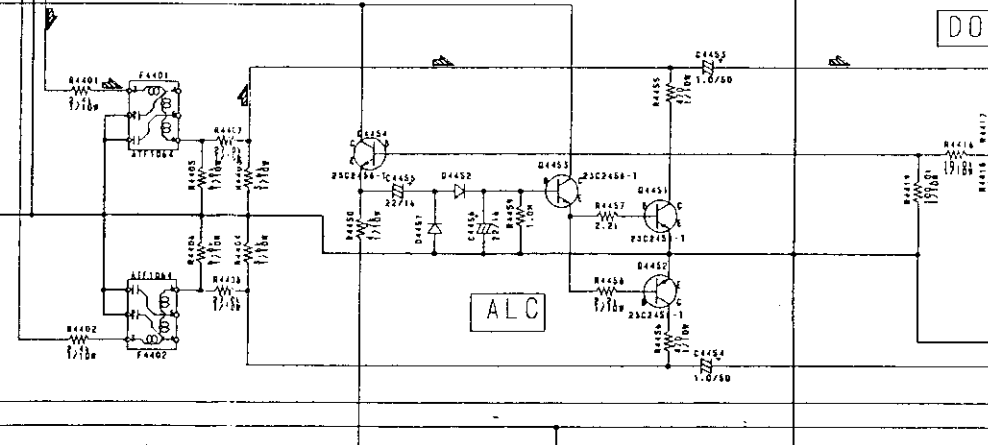
IC4202 MC14066BF

Pin No.	Voltage [V]
1-4	0
5, 6	5
7	-5
8-11	0
12-13	-5
14	5



IC4201-IC4204-IC4205-IC4206-IC4207-IC4208-IC4209

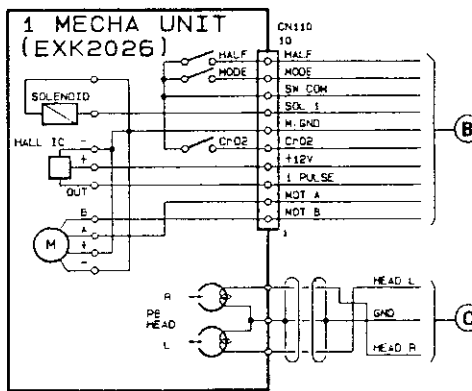
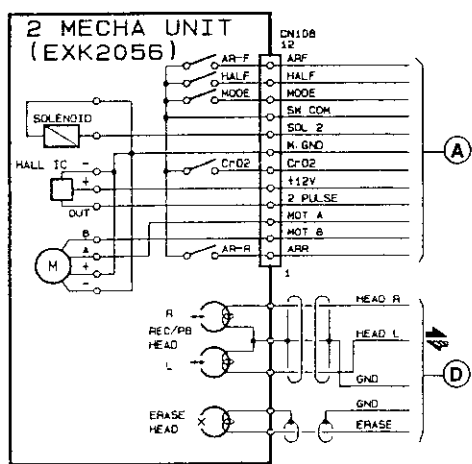
Pin No.	Voltage [V]
1-3	0
4	5
5-7	0
8	5



IC4302 SN74LS05N

Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	0	9	0
2	0	10	5
3	0.4	11	0.4
4	0	12	0
5	4.5	13	0
6	0	14	5
7	0		

K11 (COM 2M)  
 K00 (CP-D2)  
 K01 (HARF)  
 K02 (MODE)  
 K03 (ARR)  
 K04 (ARF)  
 DOLBY OFF/B/C  
 S-CAS GND



Q4201-4204 : PB EQ

Q4207 : MUTE SW

Q4205, 4206 : PB MUTE

MS PULSE

IC4301, 4302 : REC AMP

REC AMP

Q4301 : x1, x2 CONTROL

Q4461, 4462 : REC MUTE

VR4451, 4462 : REC LEVEL ADJ.

Q4480 : MUTE CONTROL

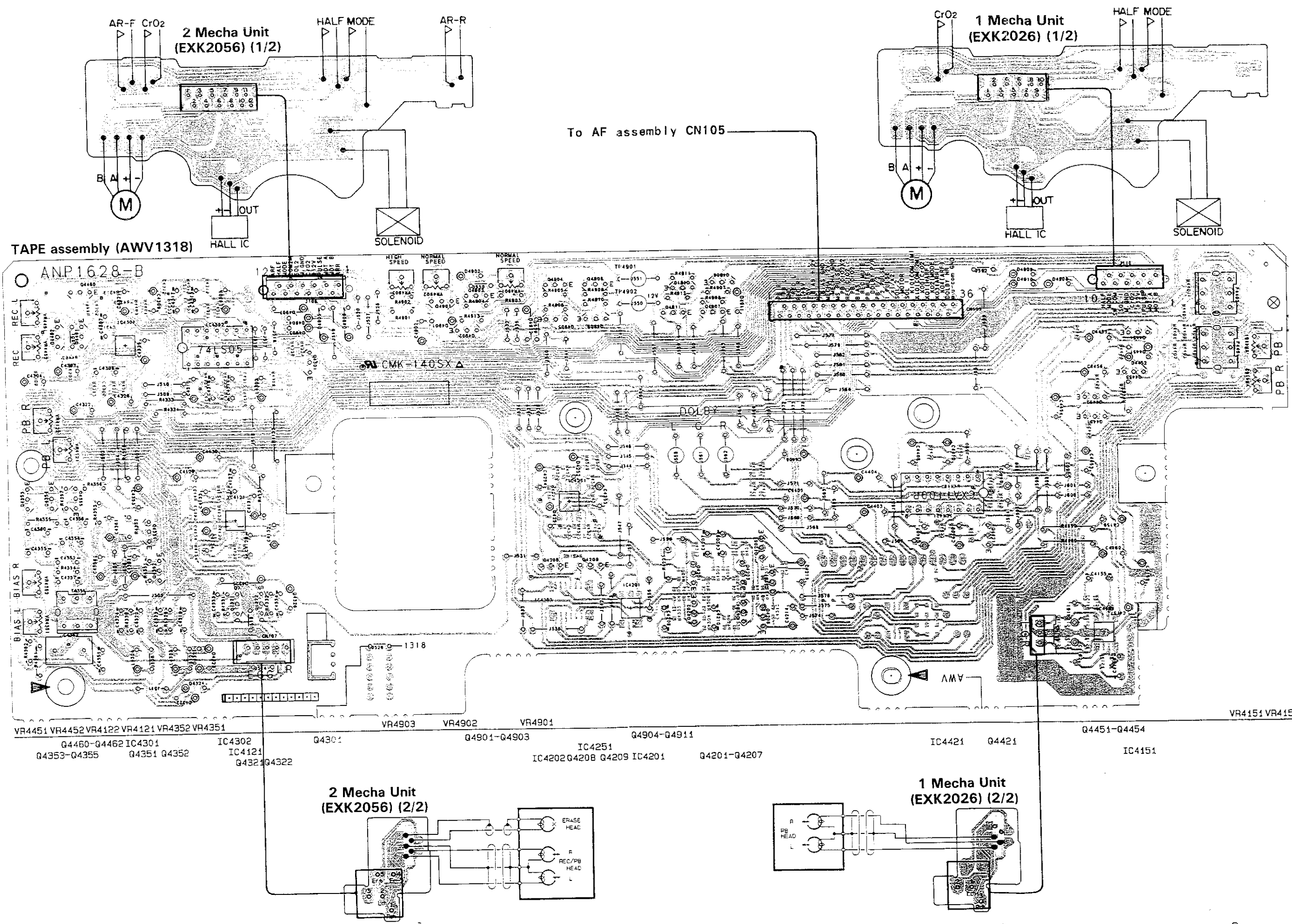
IC4302  
SN74LS05N

Pin No.	Voltage	Pin No.	Voltage
1	0	8	0
2	0	9	5
3	0.4	10	7.2
4	0	11	0.4
5	4.5	12	-
6	0	13	0
7	0	14	5

TAPE ASSEMBLY,  
 1 MECHA UNIT,  
 2 MECHA UNIT

**SCH-3**

This PCB connection diagram is viewed from the parts mounted side.



A  
B  
C  
C  
D  
24







2.4 VOLUME ASSEMBLY

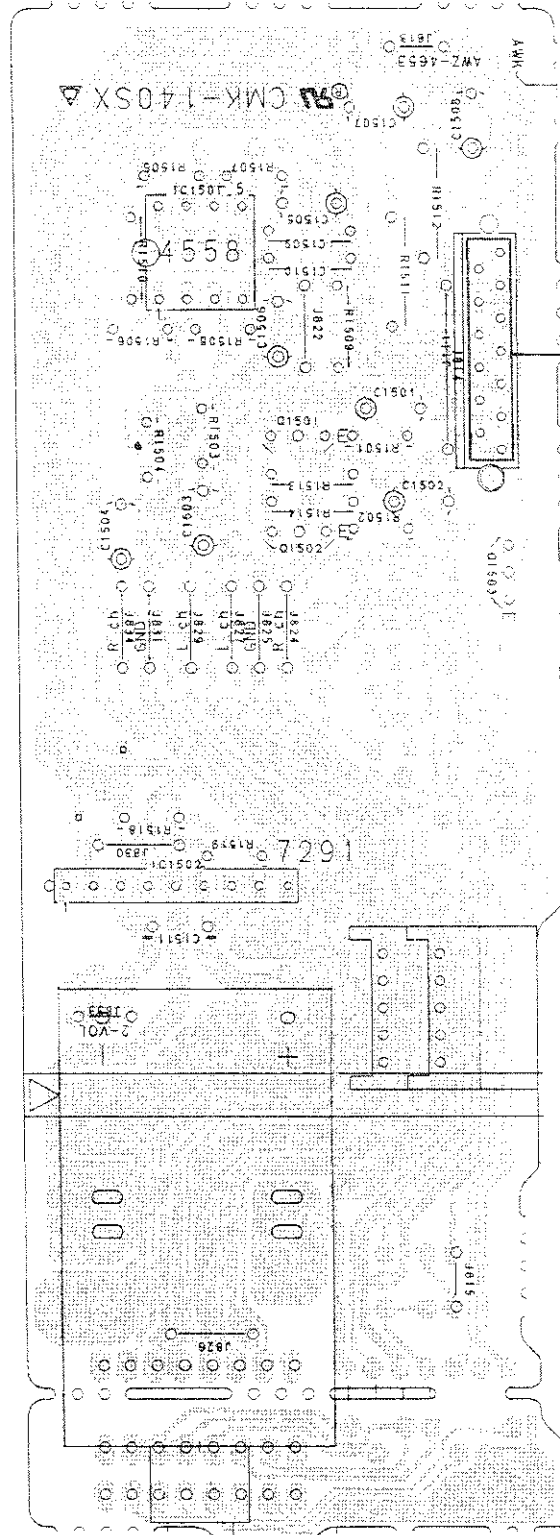
VOLUME assembly (AWZ4653)

A

B

C

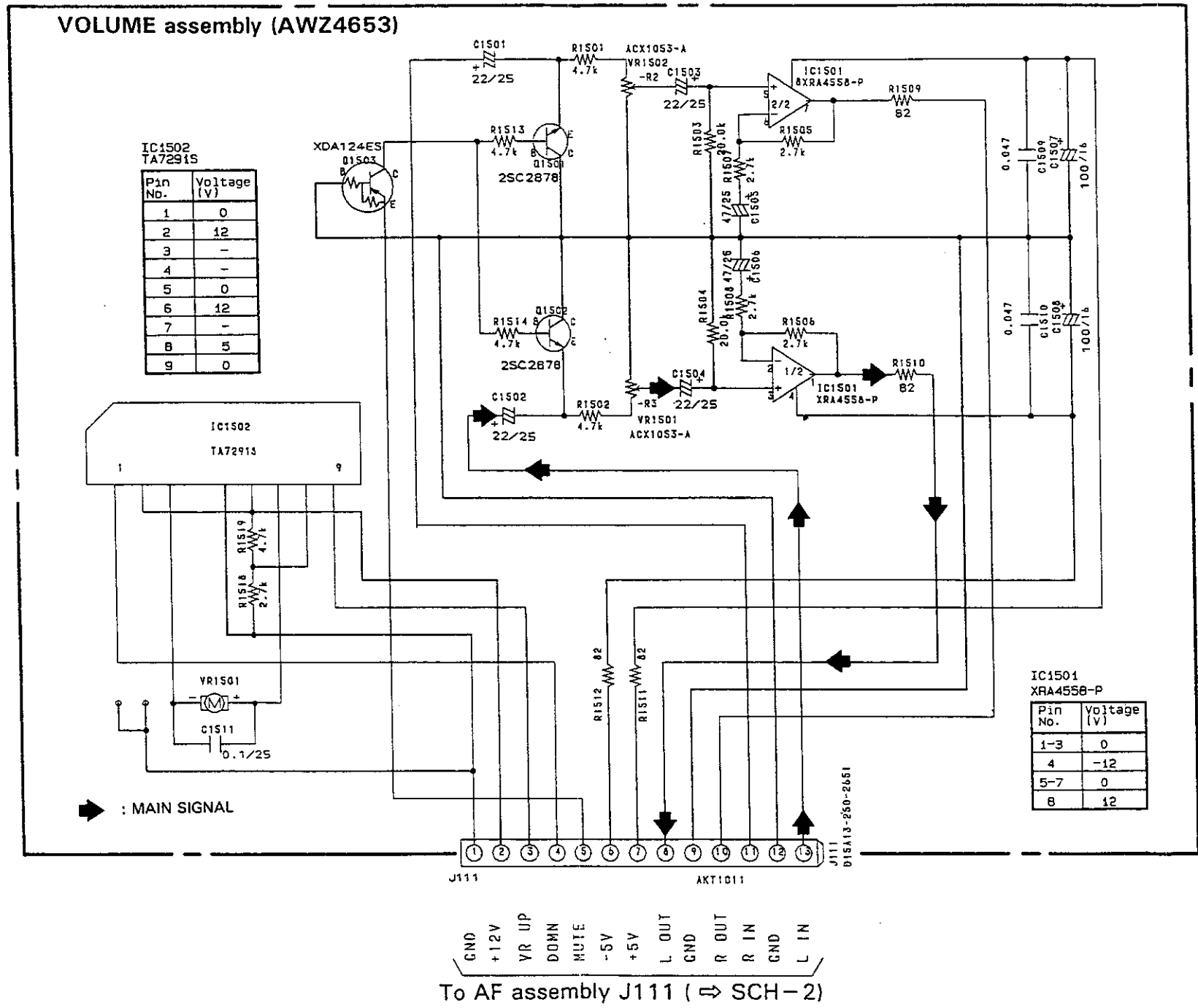
D



To AF assembly J111

This PCB connection diagram is viewed from the parts mounted side.





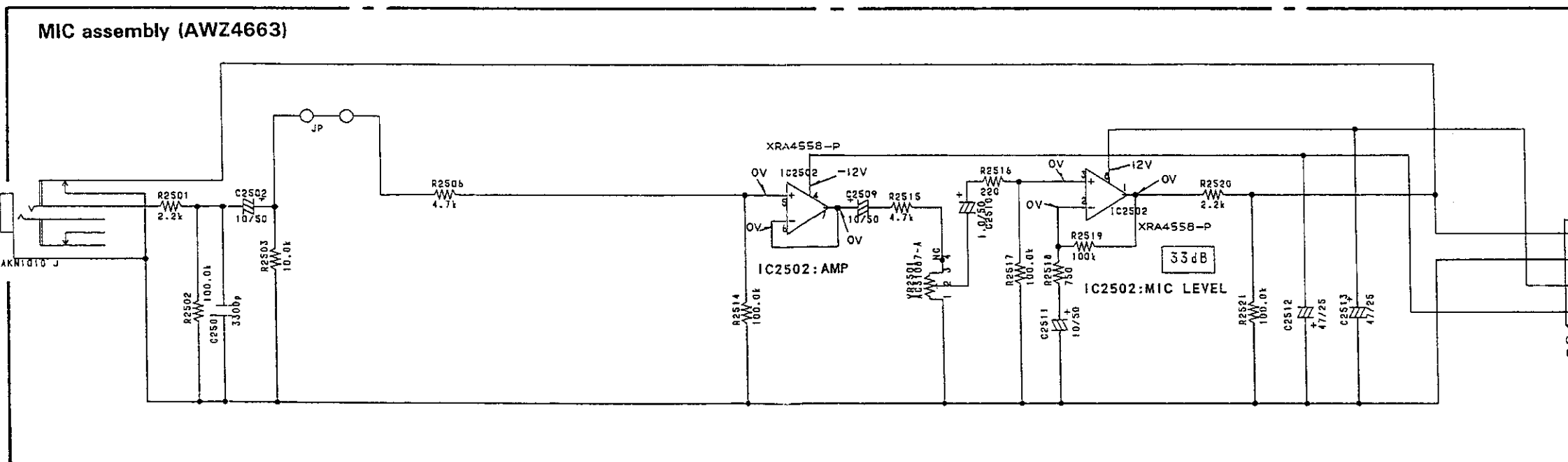
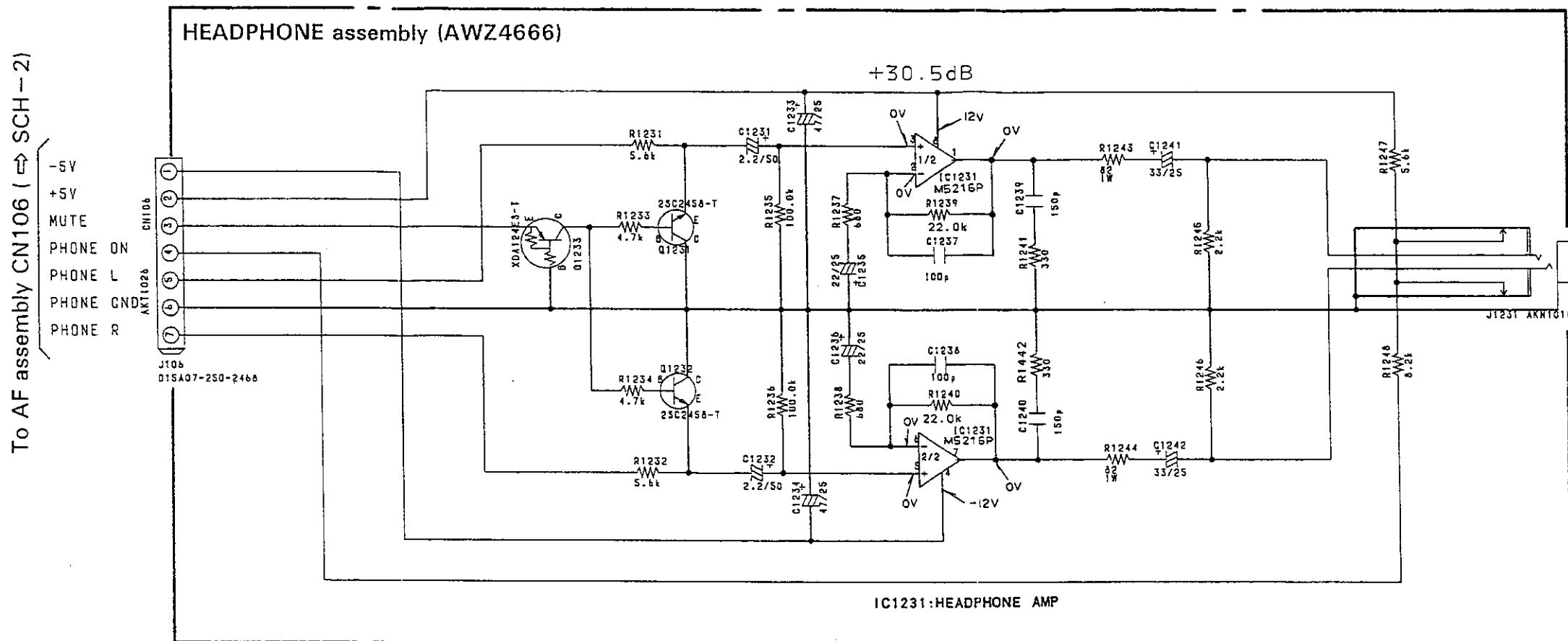
**SCH-4**

VOLUME ASSEMBLY

**SCH-4**

VOLUME ASSEMBLY

2.5 HEADPHONE ASSEMBLY AND MIC ASSEMBLY



SCH-5

HEADPHONE ASSEMBLY,  
MIC ASSEMBLY

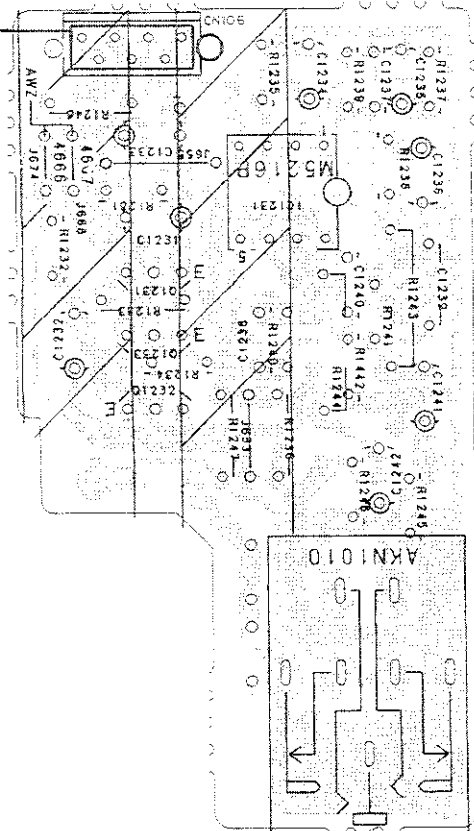
HEADPHONE ASSEMBLY,  
MIC ASSEMBLY

SCH-5

This PCB connection diagram is viewed from the parts mounted side.

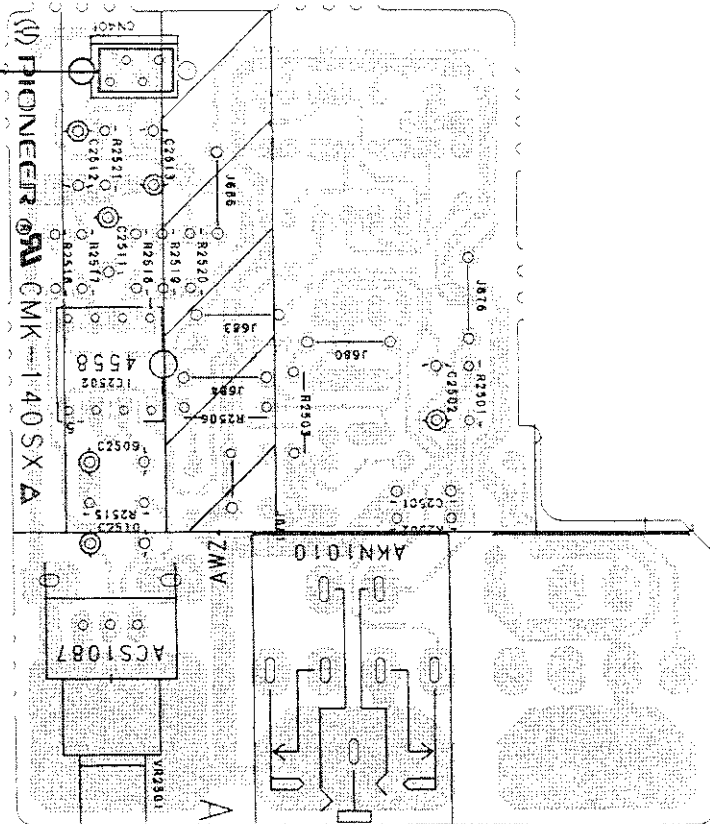
HEADPHONE assembly (AWZ4666)

To AF assembly CN106



MIC assembly (AWZ4663)

To AF assembly CN401

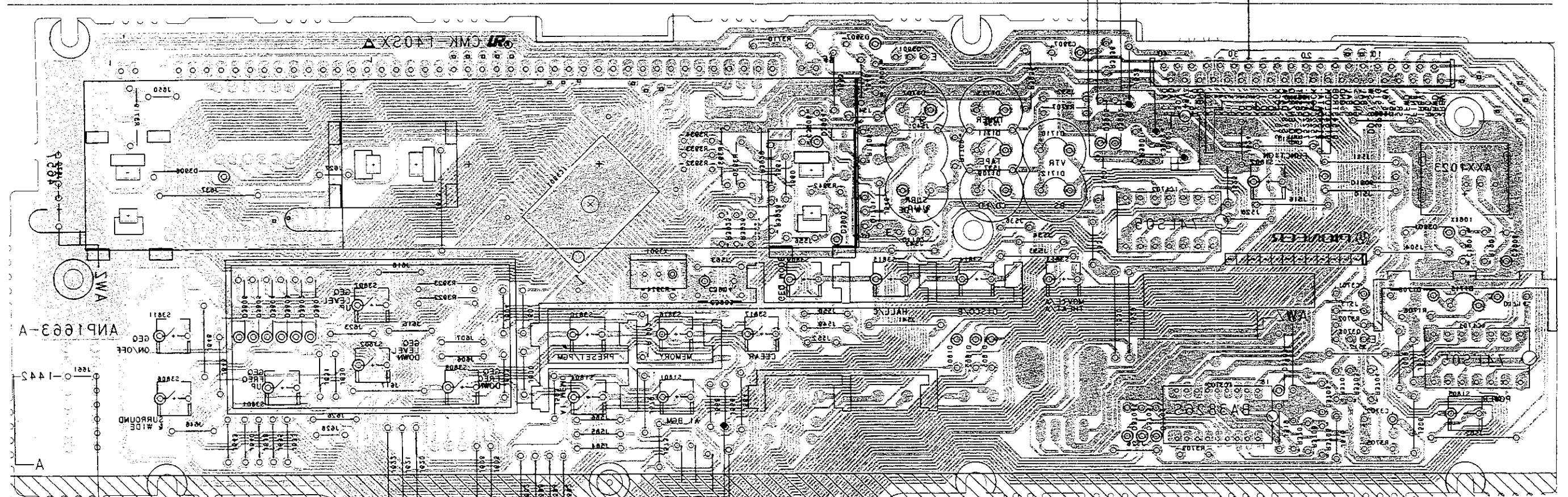




S.6 DISPLAY ASSEMBLY

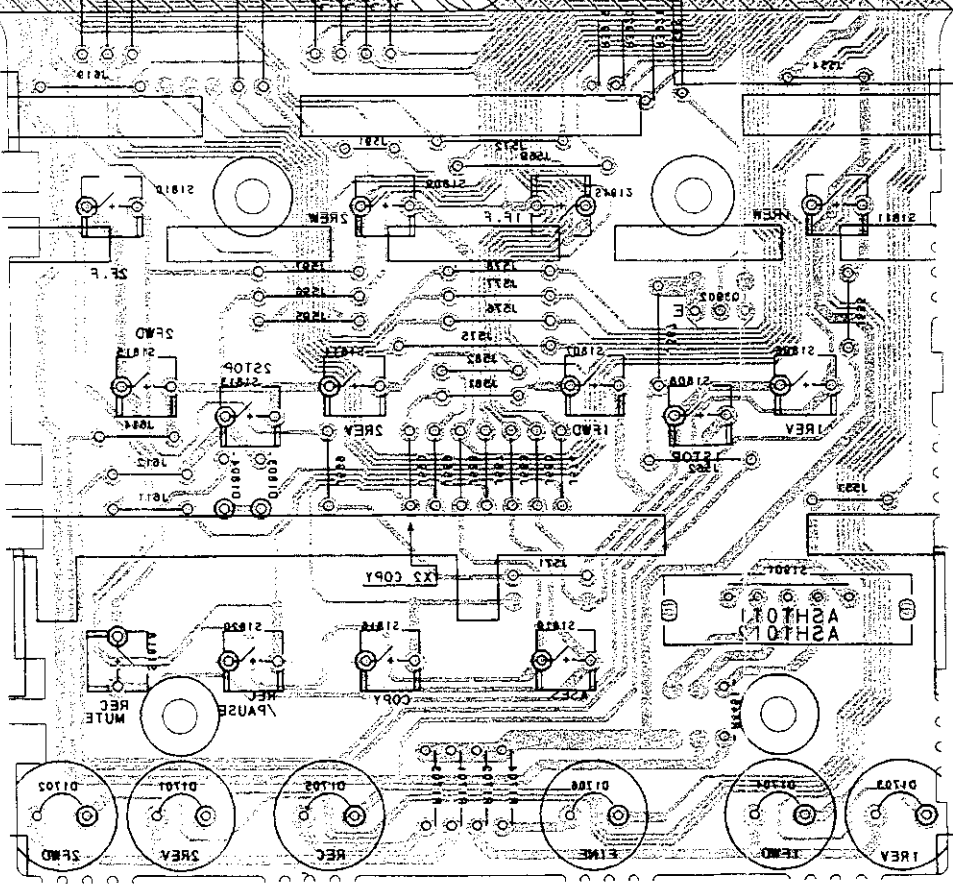
+5V (Y105)  
VCC (Y103)  
GND (Y104)  
To SW assembly

To AF assembly CN12



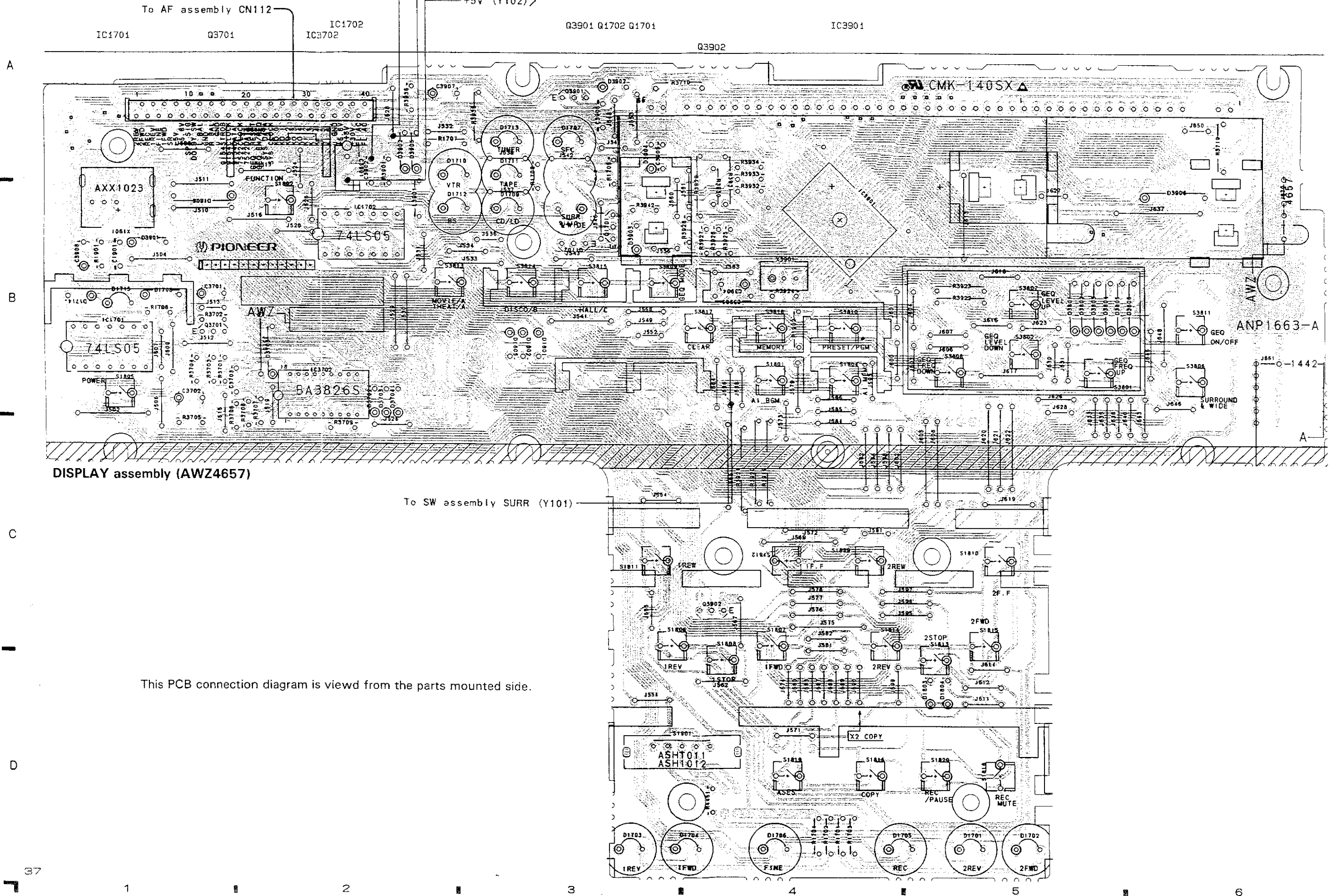
DISPLAY assembly (W24627)

To SW assembly SURR (Y101)



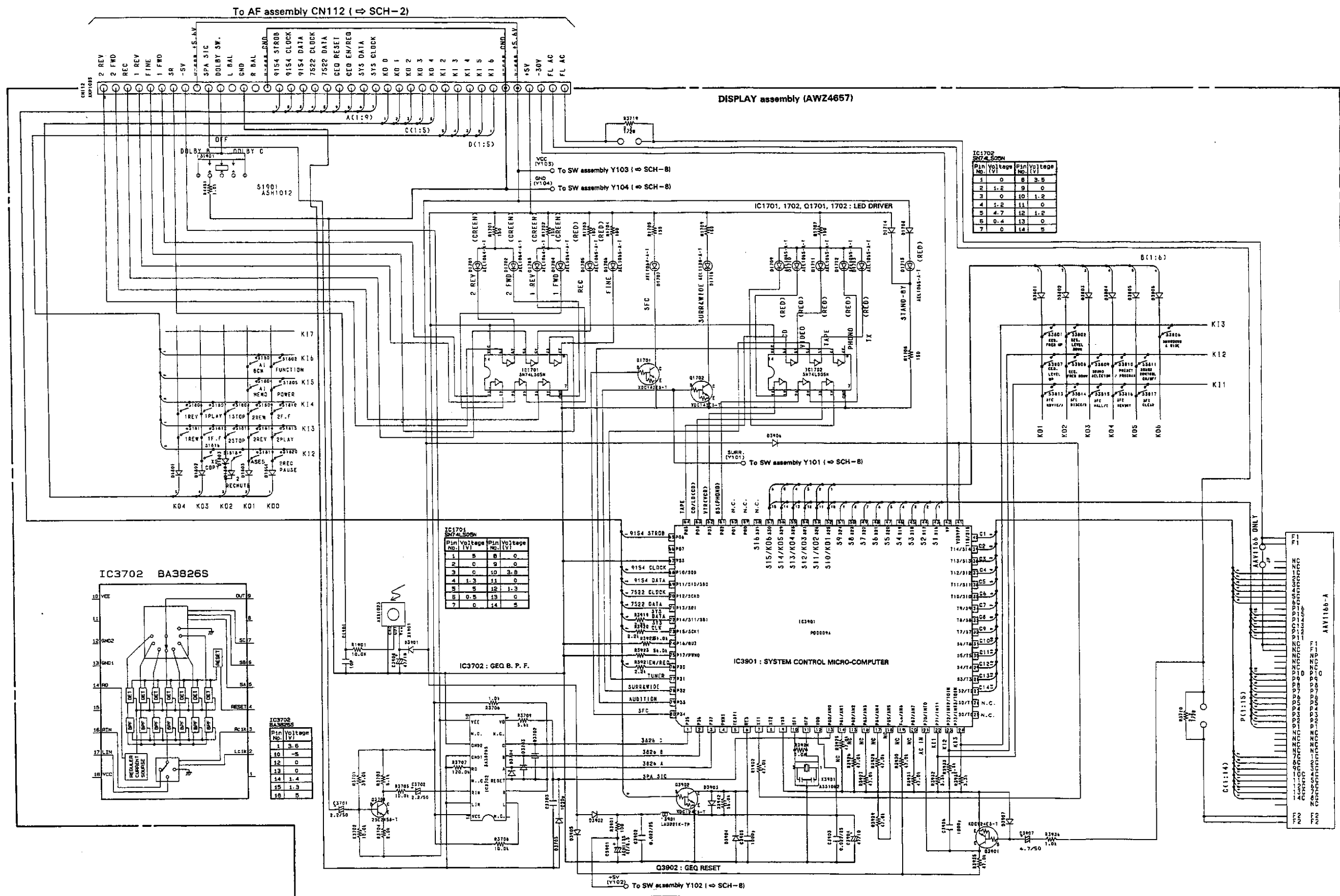
This PCB connection diagram is viewed from the foil side.

2.6 DISPLAY ASSEMBLY



This PCB connection diagram is viewed from the parts mounted side.

1 2 3 4 5



SCH-6

DISPLAY ASSEMBLY

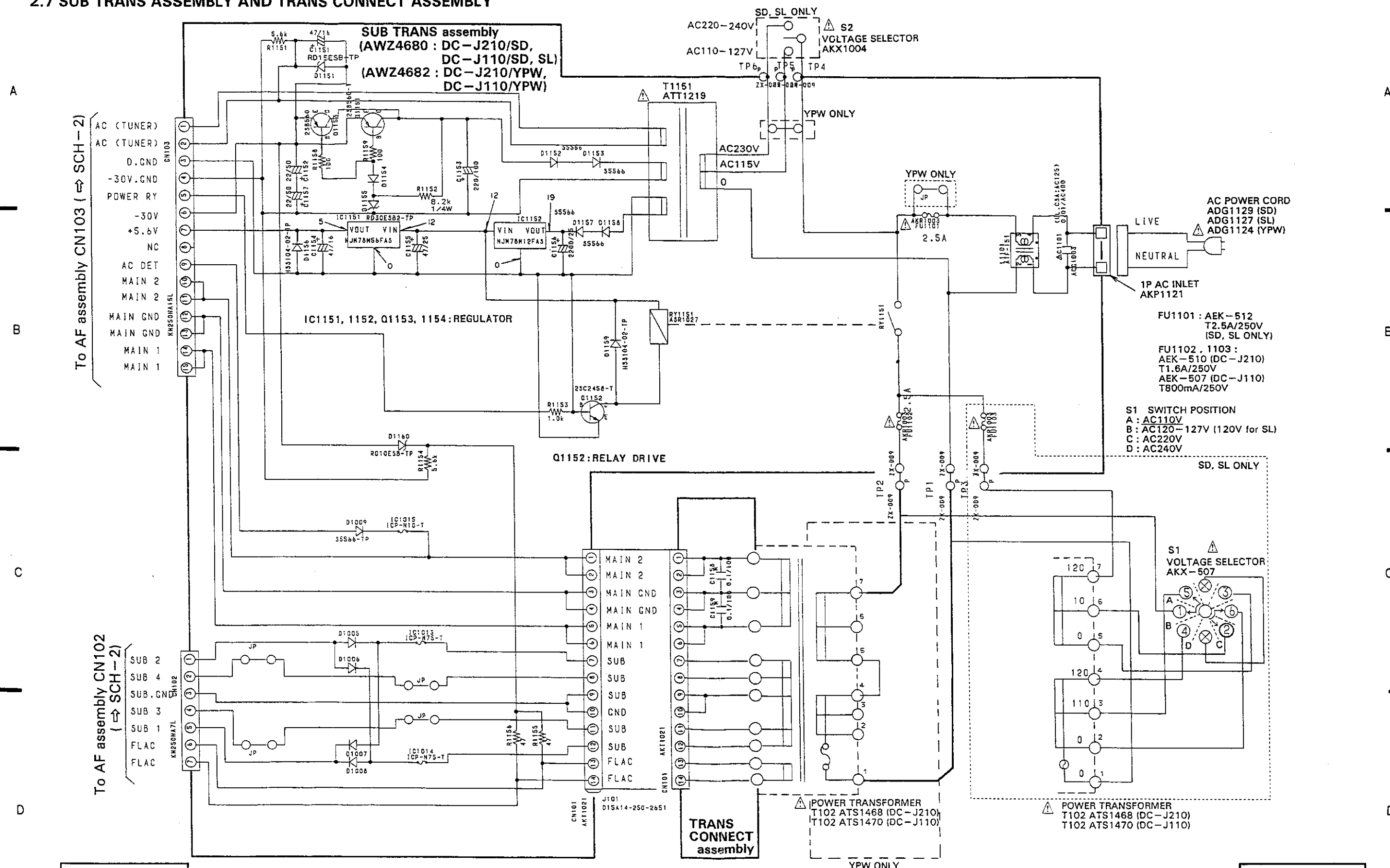
SCH-6

DISPLAY ASSEMBLY

1 2 3 4 5 6



2.7 SUB TRANS ASSEMBLY AND TRANS CONNECT ASSEMBLY



SCH-7

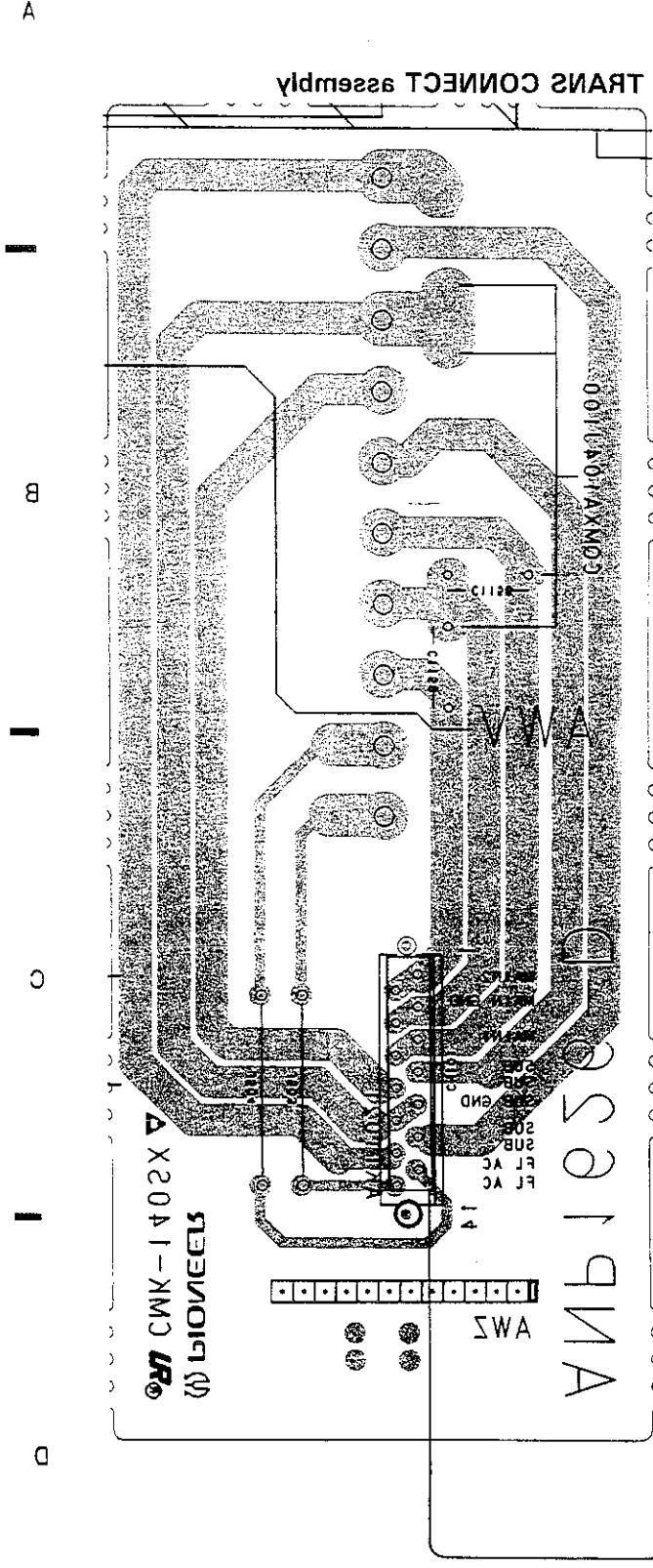
SUB TRANS ASSEMBLY,  
TRANS CONNECT ASSEMBLY

SUB TRANS ASSEMBLY,  
TRANS CONNECT ASSEMBLY

SCH-7



This PCB connection diagram is viewed from the foil side.

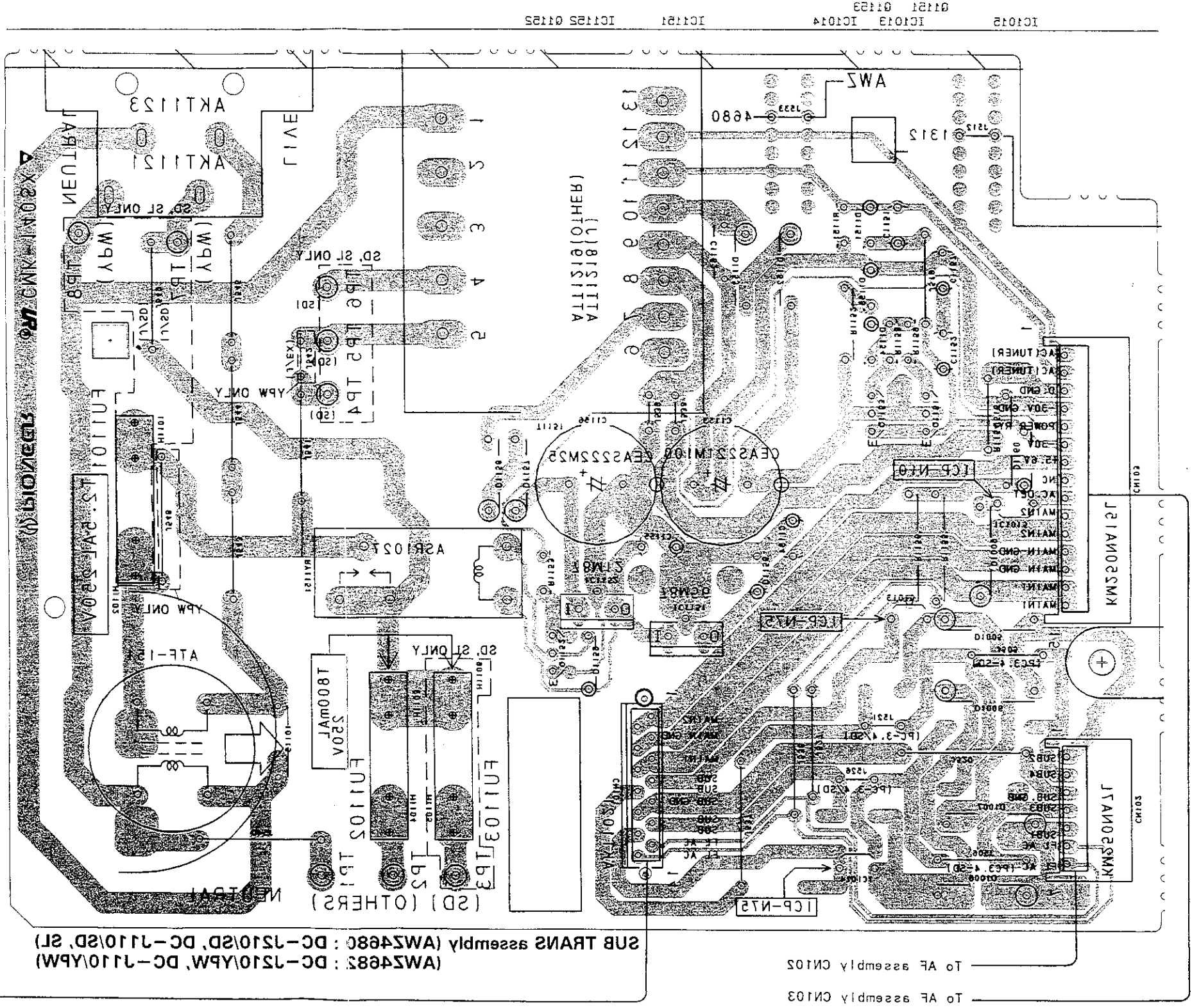


A

B

C

D



A

B

C

D

B

A

3

5

1

2

4

3

5

1

To AF assembly CN103

To AF assembly CN105

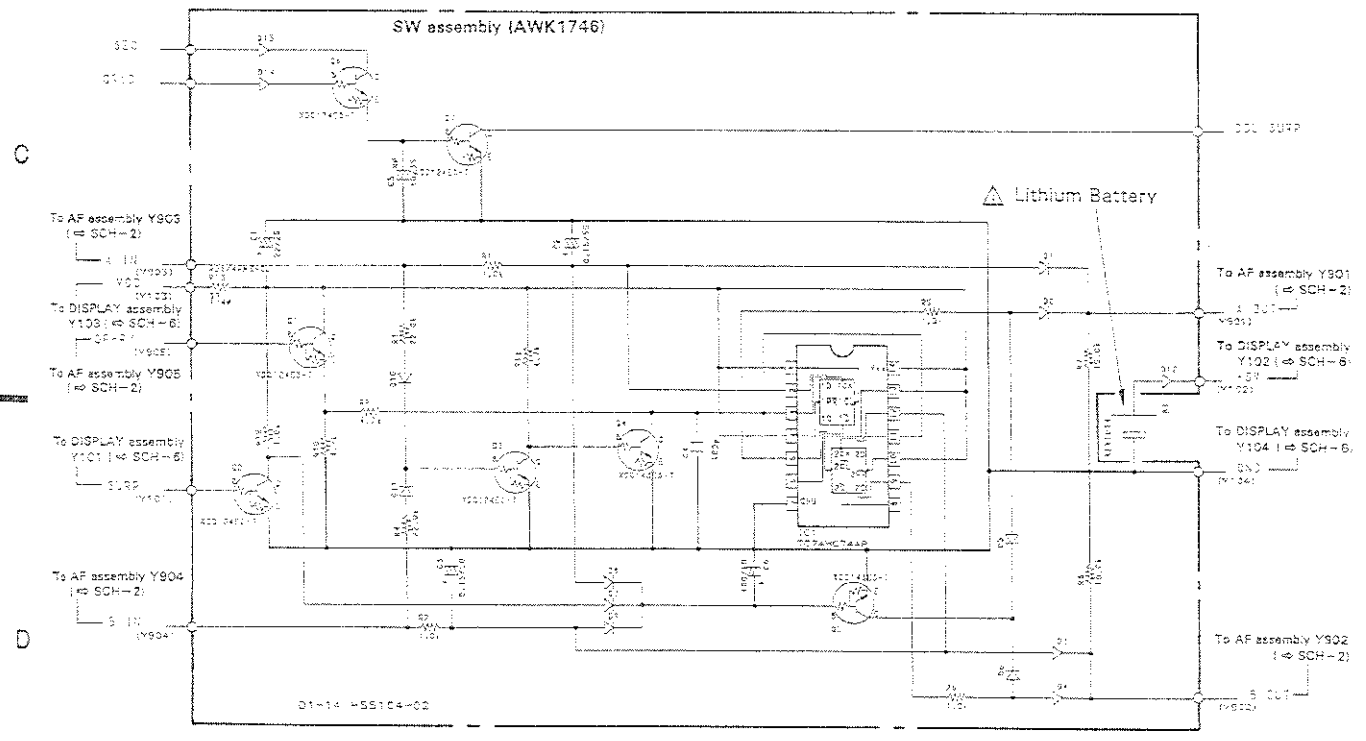
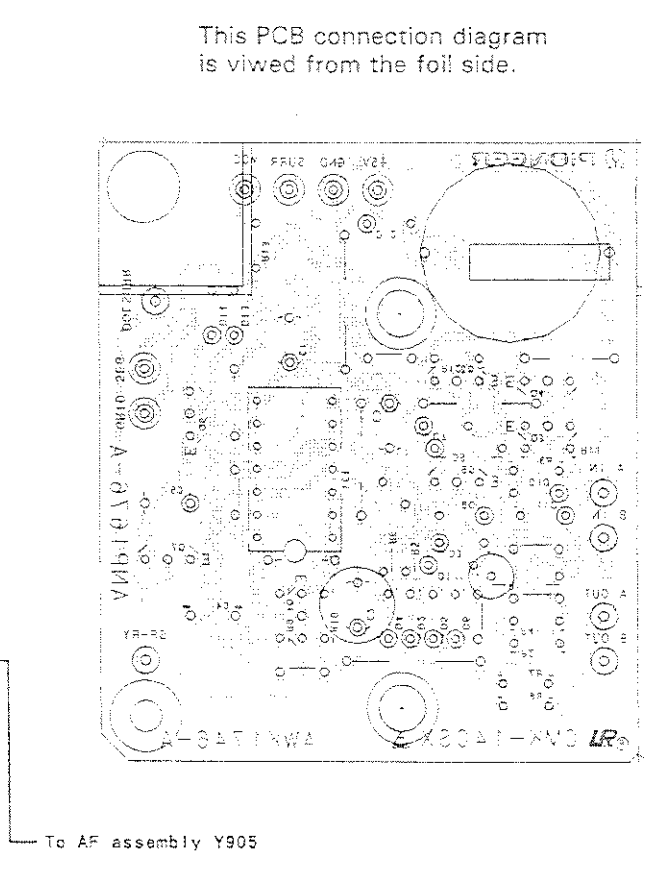
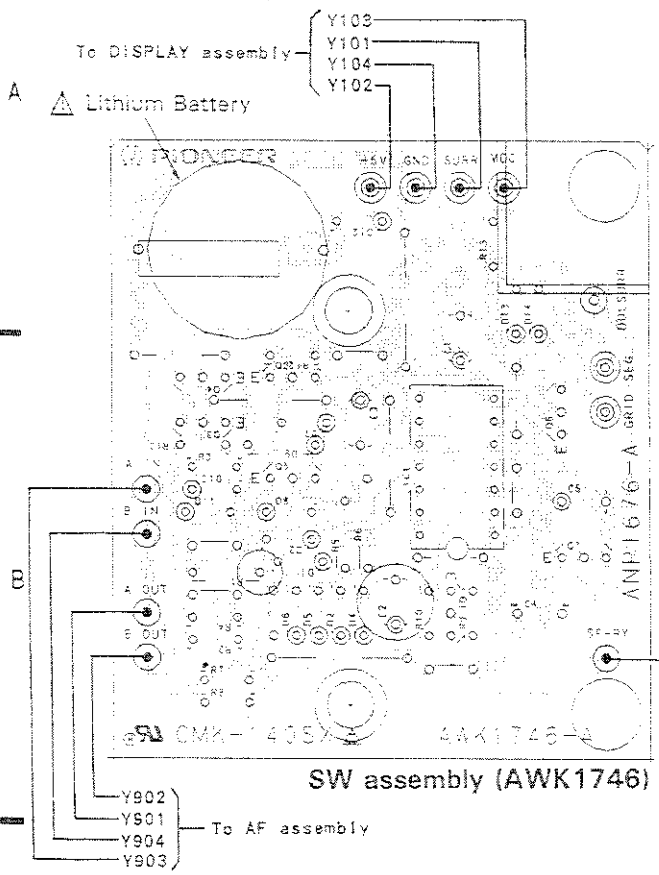
(AW2480 : DC-7510/SD, DC-7110/SD, SL)

SUB TRANS assembly (AW2480 : DC-7510/SD, DC-7110/SD, SL)

2.8 SW ASSEMBLY

This PCB connection diagram is viewed from the parts mounted side.

This PCB connection diagram is viewed from the foil side.



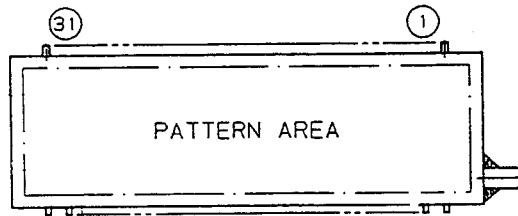
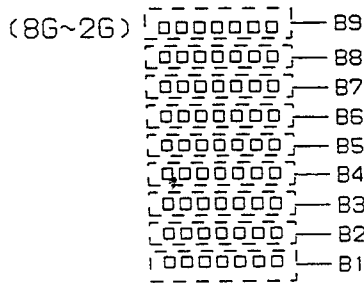
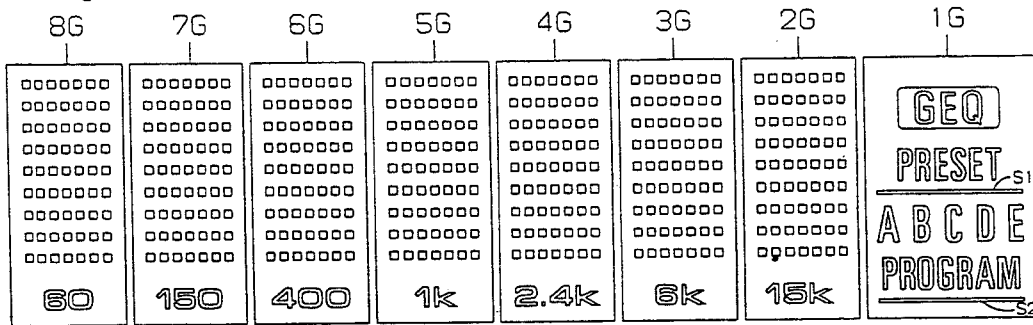
SCH-8

SW ASSEMBLY

# DC-J210, DC-J110

## AAV1166 (V3901 : DISPLAY ASSEMBLY)

- FL Tube
- Grid Assignment



### ● Pin Connection

PIN NO.	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	0	9	8	7	6	5	4	3	2	1
CONNECTION	F	F	N	N	8	7	6	5	4	3	2	1	N	N	N	N	P	P	P	P	P	P	P	P	1	N	N	N	F	F
	2	2	P	C	G	G	G	G	G	G	G	C	C	C	C	1	2	3	4	5	6	7	8	9	0	C	C	P	1	1

- NOTE
- 1) F1, F2 --- Filament
  - 2) NP ----- No pin
  - 3) NC ----- No connection
  - 4) 1G~8G --- Grid
  - 5) DL ----- Datum Line

### ● Anode Connection

	8G	7G	6G	5G	4G	3G	2G	1G
P1	60	150	400	1k	2.4k	6k	15k	S2
P2	B1	B1	B1	B1	B1	B1	B1	PROGRAM
P3	B2	B2	B2	B2	B2	B2	B2	A
P4	B3	B3	B3	B3	B3	B3	B3	B
P5	B4	B4	B4	B4	B4	B4	B4	C
P6	B5	B5	B5	B5	B5	B5	B5	D
P7	B6	B6	B6	B6	B6	B6	B6	E
P8	B7	B7	B7	B7	B7	B7	B7	S1
P9	B8	B8	B8	B8	B8	B8	B8	PRESET
P10	B9	B9	B9	B9	B9	B9	B9	GEO

### 3. PCB PARTS LIST

**NOTES :**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 $\Omega$   $\rightarrow$  56  $\times$  10<sup>1</sup>  $\rightarrow$  561 ..... RD1/8PM  $\boxed{5}$   $\boxed{6}$   $\boxed{1}$  J  
 47k $\Omega$   $\rightarrow$  47  $\times$  10<sup>3</sup>  $\rightarrow$  473 ..... RD1/4PS  $\boxed{4}$   $\boxed{7}$   $\boxed{3}$  J  
 0.5 $\Omega$   $\rightarrow$  0R5 ..... RN2H  $\boxed{0}$   $\boxed{R}$   $\boxed{5}$  K  
 1 $\Omega$   $\rightarrow$  010 ..... RS1P  $\boxed{0}$   $\boxed{1}$   $\boxed{0}$  K

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

5.62k $\Omega$   $\rightarrow$  562  $\times$  10<sup>1</sup>  $\rightarrow$  5621 ..... RM1/4PC  $\boxed{5}$   $\boxed{6}$   $\boxed{2}$   $\boxed{1}$  F

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>LIST OF ASSEMBLIES</b>							
		AF ASSEMBLY (for DC-J210)	AWZ4650		D1201		D3SBA20 (A)
		AF ASSEMBLY (for DC-J110)	AWZ4647		D1001, D1002, D1005, D1256,		HSS104-02
		VOLUME ASSEMBLY	AWZ4653		D1258-D1261, D1901-D1903		
		DISPLAY ASSEMBLY	AWZ4657		D1161		RD5.1ESB2
NSP		MIC ASSEMBLY	AWZ4663		D1904-D1912		RD5.6ESB
		HEADPHONE ASSEMBLY	AWZ4666		D1003, D1004, D1257		S5566
NSP		TRANS CONNECT ASSEMBLY	AWZ4672	<b>RELAIIES</b>			
		SUB TRANS ASSEMBLY	AWZ4680		RY1001, RY1251		ASR1035
		TAPE ASSEMBLY	AWV1318	<b>COILS</b>			
		SW ASSEMBLY	AWK1746		L1201, L1202		ATH-133
					L1901		LAU221K
<b>AF ASSEMBLY</b>				<b>CAPACITORS</b>			
<b>SEMICONDUCTORS</b>					C1003 (2200/42)		ACH1109
	IC1010, IC1202		ICP-N10		C1201, C1202 (5600/50)(for DC-J210)		ACH1145
	IC3101, IC3102		LA3607		C1201, C1202 (2200/42)(for DC-J110)		ACH1109
	IC3103		LC7522		C2305, C2306		CCSQCH101J50
	IC1902		M51951BSL		C3307		CCSQCH102J50
	IC2101, IC3301		MC14052BF		C3129, C3130		CCSQCH221J50
	IC2102		MC14066BF		C3125, C3126, C3305, C3306		CCSQCH681J50
	IC1001, IC1002		MC7812CT		C3140, C3141		CCSQSL101J50
	IC1003		NJM78M05FAS		C1204		CEANP100M100
	IC1006		NJM7912FA		C1252, C1904		CEAS010M50
	IC1005		NJM79M05FA		C1261, C2103, C2104		CEAS100M50
	IC1901		PD5214A		C3135, C3136		CEAS101M10
	IC1201 (for DC-J210)		STK4170-2G		C1903		CEAS101M16
	IC1201 (for DC-J110)		STK4150-2G		C1209-1212		CEAS101M50
	IC2103, IC2301, IC2501, IC3302, IC3303		XRA4558F-P		C1004		CEAS102M35
	Q1004, Q1253, Q1261		2SA1048		C1005, C1006, C1011, C1205, C1206, C3311, C3312		CEAS220M25
	Q1002		2SA1515		C1271		CEAS221M16
	Q1252, Q1254, Q1262, Q1271, Q1272, Q2201, Q2202		2SC2458		C2309, C2310, C2315, C2316, C3131-C3134, C3301, C3302		CEAS2R2M50
	Q2102, Q2103, Q2203		XDA143ES		C2317, C2318		CEAS330M25
	Q1003		XDC124ES		C3113, C3114, C3119, C3120		CEASR15M50
	Q2101		XDC143ES		C3117, C3118		CEASR47M50
					C1007, C1008		CEHAQ220M16
					C1901, C1902, C1910		CKCYF473Z50

# DC-J210, DC-J110

Mark	No.	Description	Parts No.
	C3109, C3110, C3115, C3116 C1207, C1208 C1905 - C1909		CKCYX683M25 CKPUYX182M16 CKSQYB102K50
	C2311, C2312 C3121, C3122, C3127, C3128 C3105, C3106, C3111, C3112 C3103, C3104, C3123, C3124 C2313, C2314		CKSQYB152K50 CKSQYB182K50 CKSQYB273K50 CKSQYB472K50 CKSQYB562K50
	C3101, C3102, C3107, C3108 C3137, C3138, C3142 C1215 - C1218		CKSQYF103Z50 CKSQYF473Z50 CQMA473J50

## RESISTORS

R1007 - R1010 R1254 R1256 R1015 R1213, R1214	RD1/2PMFL100J RD1/4PM153J RD1/4PM243J RD1/4PM331J RD1/4PM4R7J
R1211, R1212 R1207, R1208 R2317, R2318 R1215, R1216 R1209, R1210	RD1/4PM561J RD1/4PM563J RD1/4PM820J RD1/4PMFL100J RD1/4PMFL101J
R3651, R3652 R2313, R2314 R2303, R2304, R3315 - R3318 R1927, R2113 - R2117, R2213, R2214, R3105, R3106, R3130, R3131	RS1/10S000J RS1/10S101J RS1/10S102J RS1/10S103J
R2108, R2315, R2316, R3301, R3302, R3503, R3504 R3111 - R3126 R2311, R2312 R2101, R2102, R3103, R3104 R2103, R2104	RS1/10S104J RS1/10S105J RS1/10S122J RS1/10S123J RS1/10S133J
R3307 - R3312 R2507, R2508 R2215, R2216 R2201, R2202, R2301, R2302 R1904 - R1908	RS1/10S152J RS1/10S153J RS1/10S203J RS1/10S221J RS1/10S222J
R2105, R2106 R3305, R3306 R2501, R2502 R2109, R2110, R3511, R3512 R2107, R2305 - R2308, R3101, R3102	RS1/10S332J RS1/10S333J RS1/10S392J RS1/10S472J RS1/10S473J
R2309, R2310 R1918, R1919 R2503, R2504, R2506 R3109, R3110 R1261, R1262	RS1/10S474J RS1/10S563J RS1/10S682J RS1/10S823J RS2LMFR22J
Other Resistors	RD1/8PM□□□J

## OTHERS

X1901 (8.00MHz) ASS1015

Mark	No.	Description	Parts No.
	CN403	9P SOCKET	AKP1072
	CN112	40P SOCKET	AKP1085
	CN105	36P SOCKET	AKP1105
	CN401	4P JUMPER CONNECTOR	KPE4
	CN106	7P JUMPER CONNECTOR	KPE7
		6P PIN JACK	AKB1121
		2P PIN JACK	AKB1146
		4P SPEAKER TERMINAL	AKE1012
		MINI JACK	AKN - 203
		14P SOCKET	AKP1048
		SCREW	BBZ30P080FZK

## VOLUME ASSEMBLY

### SEMICONDUCTORS

IC1502 IC1501	TA7291S XRA4558 - P
Q1501, Q1502 Q1503	2SC2878 XDA124ES

### CAPACITORS

C1507, C1508 C1501 - C1504 C1505, C1506 C1511 C1509, C1510	CEAS101M16 CEAS220M25 CEAS470M25 CKDYX104M25 CKPUYF473Z16
--	---

### RESISTORS

VR1501 (100k - 4B x 2)	ACX1053
R1511, R1512	RD1/4PM820J
Other Resistors	RD1/8PM□□□J

## DISPLAY ASSEMBLY

### SEMICONDUCTORS

IC3702 IC3901 IC1701, IC1702	BA3826S PDC009A SN74LS05N
Q3701 Q3901, Q3902 Q1701, Q1702	2SC2458 XDC124ES XDC143ES
D1701 - D1704, D1707, D1716 D1705, D1706, D1709 - D1713, D1715 D1708, D1714, D1801 - D1806, D3702 - D3705, D3801 - D3806, D3901 - D3907	AEL1064 AEL1065 HSS104 - 02

### SWITCHES

S1801, S1802, S1804 - S1816, S1818 - S1820, S3801, S3802, S3806 - S3811, S3813 - S3817 S1901	ASG1034 ASH1012
---	--------------------



Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>COIL</b>				<b>CAPACITORS</b>			
	L3901		LAU221K		C1235, C1236		CEAS220M25
<b>CAPACITORS</b>					C1231, C1232		CEAS2R2M50
	C3901		ACH1135		C1241, C1242		CEAS330M25
	C1901		CCCSL100D50		C1233, C1234		CEAS470M25
	C3907		CEAS100M50		C1237, C1238		CKPUYB101K50
	C3904, C3908		CEAS470M10		C1239, C1240		CKPUYB151K50
	C3701, C3702		CEJA2R2M50	<b>RESISTORS</b>			
	C3906		CKCYB102K50		R1243, R1244		RS1LMF820J
	C3703, C3905		CKPUYB102K50		Other Resistors		RD1/8PM□□□J
	C3902, C3903		CKPUYF223Z25	<b>OTHERS</b>			
<b>RESISTORS</b>						HEADPHONE JACK	AKN1010
	R3710, R3719		RD1/2PM2R2J	<b>TRANS CONNECT ASSEMBLY</b>			
	Other Resistors		RD1/8PM□□□J	<b>CAPACITORS</b>			
<b>OTHERS</b>					C1158, C1159		CQMXA104J100
	X3901 (12MHz)		ASS1062	<b>SUB TRANS ASSEMBLY</b>			
	CN1901 40P SOCKET		AKP1085	<b>SEMICONDUCTORS</b>			
	V3901 FL TUBE		AAV1166		IC1015		ICP-N10
	REMOTE CONTROL		AXX1023		IC1013, IC1014		ICP-N75
	SENSOR UNIT				IC1152		NJM78M12FAS
<b>MIC ASSEMBLY</b>					IC1151		NJM78M56FAS
<b>SEMICONDUCTORS</b>					Q1151, Q1153		2SB560
	IC2502		XRA4558-P		Q1152		2SC2458
<b>CAPACITORS</b>					D1154, D1156, D1159		HSS104-02
	C2510		CEAS010M50		D1160		RD10ESB
	C2502, C2511		CEAS100M50		D1151		RD15ESB
	C2512, C2513		CEAS470M25		D1155		RD36ESB2
	C2509		CEJA100M50		D1005-D1009, D1152, D1153, D1157, D1158		S5566
	C2501		CKPUYX332M16	<b>RELAY</b>			
<b>RESISTORS</b>					RY1151		ASR1027
	VR2501 (10k-B)		ACS1087	<b>COILS &amp; TRANSFORMERS</b>			
	Other Resistors		RD1/8PM□□□J		L1101		ATF-151
<b>OTHERS</b>					T1151		ATT1219
	MIC JACK		AKN1010	<b>CAPACITORS</b>			
<b>HEADPHONE ASSEMBLY</b>					C1101 (0.01/400)		ACG1003
<b>SEMICONDUCTORS</b>					C1152, C1157		CEAS220M50
	IC1231		M5216P		C1153		CEAS221M100
	Q1231, Q1232		2SC2458		C1156		CEAS222M25
	Q1233		XDA124ES		C1151, C1154		CEAS470M16
					C1155		CEAS470M25

# DC-J210, DC-J110

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
<b>RESISTORS</b>							
	R1152		RD1/4PM273J		C4353		CEAS3R3M50
	R1155, R1156		RD1/4PM470J		C4131, C4132, C4159, C4160		CEAS470M10
	Other Resistors		RD1/8PM□□□□		C4325, C4326, C4361		CEAS470M16
<b>OTHERS</b>					C4129, C4130, C4157, C4158		CEAS4R7M50
	CN 1P AC INLET		AKP1121		C4407, C4408		CEASR22M50
<b>TAPE ASSEMBLY</b>					C4902		CEASR33M50
<b>SEMICONDUCTORS</b>					C4307, C4308		CFTXA823J50
	IC4421		CXA1100P		C4323, C4324, C4356		CKCYB681K50
	IC4202		MC14066BF		C4352, C4360		CKCYF103Z50
	IC4302		SN74LS05N		C4211, C4212		CKSQYB152K50
	IC4121, IC4151		UPC4570G2		C4311, C4312		CKSQYB223K50
	IC4201, IC4251, IC4301		XRA4558F-P		C4305, C4306		CKSQYB272K50
	Q4352, Q4904, Q4906, Q4908, Q4910		2SA1515		C4251		CKSQYB473K50
	Q4201-Q4204, Q4355,		2SC2458		C4315, C4316		CKSQYB562K50
	Q4451-Q4454		2SC2878		C4357		CQMA123K250
	Q4205, Q4206, Q4461, Q4462		2SC3377		C4355		CQMA153J50
	Q4353, Q4354		2SK373		C4209, C4210		CQMA183J50
	Q4321, Q4322				C4127, C4128, C4155, C4156		CQMA223J50
	Q4901, Q4903		RN2204		C4207, C4208		CQMA273J50
	Q4207, Q4421, Q4460		XDA124ES		C4317, C4318		CQMA333J50
	Q4208		XDA143ES		C4351		CQMA562K400
	Q4902, Q4905, Q4907, Q4909, Q4911		XDC124ES		C4313, C4314		CQMA822J50
	Q4209, Q4301, Q4351		XDC143ES	<b>RESISTORS</b>			
	D4251, D4252, D4321-D4326, D4451,		HSS104-02		VR4903		VRTP6HS103
	D4452, D4901-D4912				VR4121, VR4122, VR4151, VR4152,		VRTP6HS202
<b>COILS &amp; TRANSFORMER</b>					VR4451, VR4452		VRTP6HS203
	F4401, F4402		ATF1064		VR4901, VR4902		VRTP6HS204
	T4351		ATX-043		VR4351, VR4352		
	L4301, L4302		LTA392J		R4449		RS1/10S000J
	L4303, L4304		LTA822J		R4129, R4130, R4157, R4158		RS1/10S101J
<b>CAPACITORS</b>					R4315, Q4316, R4461, R4462		RS1/10S102J
	C4362 (2000p/630)		ACE1020		R4201, R4202, R4409, R4416-R4418,		RS1/10S103J
	C4333, C4334		CCCSL100D50		R4420, R4422		
	C4354		CCCSL221J50		R4307, R4308, R4419		RS1/10S104J
	C4319, C4320		CCDSL271K500		R4205, R4206, R4209, R4210, R4459		RS1/10S105J
	C4123, C4124		CCSQCH331J50		R4203, R4204		RS1/10S122J
	C4252		CCSQCH560J50		R4257, R4421		RS1/10S123J
	C4151, C4152		CCSQCH561J50		R4127, R4128, R4155, R4156		RS1/10S124J
	C4253, C4303, C4304, C4403, C4404,		CEAS010M50		R4123, R4124, R4151, R4152, R4219,		RS1/10S154J
	C4453, C4454		CEAS0R1M50		R4220, R4252		
	C4254		CEAS100M50		R4253		RS1/10S181J
	C4213, C4214, C4358, C4363, C4405,		CEAS101M10		R4222, R4321, R4322, R4413, R4414,		RS1/10S222J
	C4406, C4409, C4410		CEAS220M16		R4458		
	C4133, C4134, C4161, C4162, C4402		CEAS2R2M50		R4254, R4259		RS1/10S223J
	C4455, C4456		CEAS330M16		R4251		RS1/10S224J
	C4321, C4322				R4401, R4402		RS1/10S242J
	C4309, C4310				R4407, R4408, R4411, R4412		RS1/10S273J
					R4319, R4320		RS1/10S302J
					R4207, R4208		RS1/10S332J
					R4311, R4312		RS1/10S333J
					R4403, R4404		RS1/10S362J
					R4313, R4314		RS1/10S393J
					R4427		RS1/10S433J
					R4323, R4324, R4455, R4456		RS1/10S471J

Mark	No.	Description	Parts No.
	R4213-R4216, R4231, R4450 R4218, R4230, R4256, R4258		RS1/10S472J RS1/10S473J
	R4255 R4125, R4126, R4153, R4154 R4325, R4326 R4405, R4406, R4463, R4464 R4309, R4310 R4317, R4318		RS1/10S514J RS1/10S622J RS1/10S681J RS1/10S682J RS1/10S683J RS1/10S820J
	Other Resistors		RD1/8PM□□□J
<b>OTHERS</b>			
	CN 36P SOCKET		AKP1105
<b>SW ASSEMBLY</b>			
<b>SEMICONDUCTORS</b>			
	IC1		TC74HC74AP
	Q1-Q3, Q6, Q7 Q4, Q5		XDC124ES XDC143ES
	D1-D14		HSS104-02
<b>CAPACITORS</b>			
	C4		CCCSL101J50
	C5		CEANP100M35
	C2, C3		CEASR15M50
	C6		CEAS101M10
	C1		CEAS220M25
<b>RESISTORS</b>			
	R13		RD1/4PM390J
	Other Resistors		RD1/8PM□□□J

## 4. ADJUSTMENTS

### 4.1 ADJUSTMENT OF MECHANICAL SECTION

- The adjustment location and the measuring location, refer to Fig. 4-4.
- Set the function switch to "TAPE".
- Test tape : STD-301 (3kHz 30min)


1. Adjustment of tape speed							
No.	Mode	Input signal & Test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	PLAY	Playback the STD-301 tape to 3kHz.	Deck I	TAPE assembly VR4901	JP-L (Lch)	Press the PLAY button and adjust the frequency to 3010Hz $\pm$ 10Hz. Make sure that the wow and flutter is 3010Hz $\pm$ 55Hz.	
2	PLAY (Double speed mode)			—		Press the PLAY button in double speed mode and confirm that the frequency is 6000Hz $\pm$ 1000Hz. Note down the figure.	Release the double speed mode after adjustment.
3	PLAY (Double speed mode)		Deck II	TAPE assembly VR4903	JP-L (Lch)	Press the PLAY button in double speed mode and adjust the frequency to be within $\pm$ 30Hz of the figure recorded at step No. 2.	Release the double speed mode after adjustment.
4	PLAY			TAPE assembly VR4902		Press the PLAY button and adjust the frequency to 3010Hz $\pm$ 10Hz. Make sure that the wow and flutter is 3010Hz $\pm$ 55Hz.	

Double-speed mode : The double-speed mode can be entered by short circuiting the line between TP4901 and TP4902. The mode is canceled by opening the short circuited line and switching the power to OFF.

### 4.2 ADJUSTMENT OF ELECTRICAL SECTION

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

- Adjustment of tape speed has been completed.
- Clean and demagnetize the head using a head eraser.
- When measured, the level should be 0dBV = 1Vrms.
- Use side A of the specified tape for adjustment.  
STD-331E : For adjustment of playback system.  
STD-631 : NORMAL blank tape
- Prepare the following measuring devices :
  - AC millivoltmeter
  - Low-frequency oscillator
  - Attenuator
  - Oscilloscope
- Adjust both L and R channels, unless specified otherwise.
- Set the DOLBY NR switches to OFF, unless specified otherwise.
- Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
- Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an improper result.

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

#### ■ List of Adjustment

##### Deck I

- Head azimuth adjustment
- Playback level adjustment

##### Deck II

- Head azimuth adjustment
- Playback level adjustment
- Bias oscillation frequency adjustment
- Recording level adjustment
- Adjustment of frequency characteristics of recording/playback

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

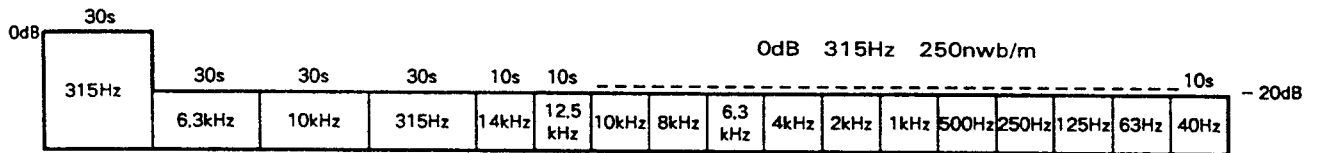


Fig. 4-1 Test Tape STD-331E

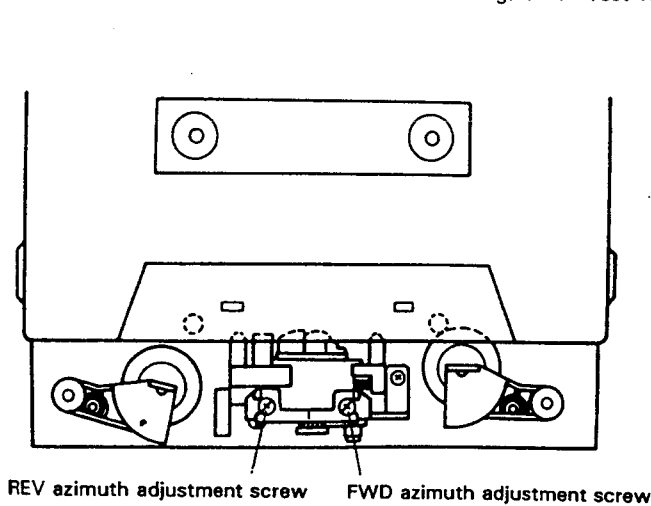
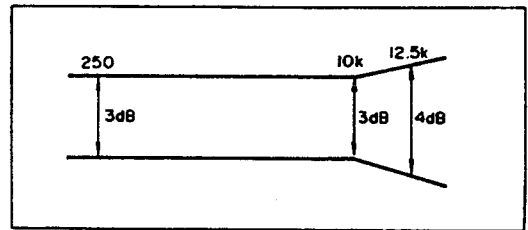


Fig. 4-2 Head Azimuth Adjustment

NOTE : Before adjusting, remove the deck panel.

### PLAY BACK



### RECORDING

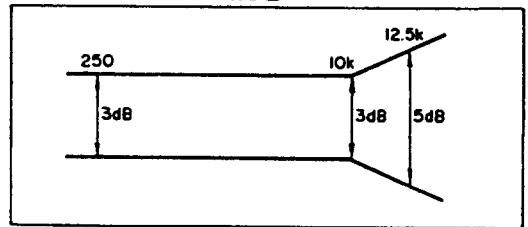


Fig. 4-3 Frequency Characteristics

## Head Adjustment of Deck I

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

### 1. Head Azimuth Adjustment

Pro-cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (10kHz, -20dB).	Head azimuth adjustment screw (Fig. 4-2)	TAPE assembly JP-L (Lch) JP-R (Rch)	Maximum playback signal level.	Lock the screw with screw lock after completing adjustment.

### 2. Playback Level Adjustment

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

Pro-cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (315Hz, 0dB).	TAPE assembly VR4151 (Lch) VR4152 (Rch)	TAPE assembly JP-L (Lch) JP-R (Rch)	-6.3dBV	

## Head Adjustment of Deck II

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

### 1. Head Azimuth Adjustment

Pro- cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (10kHz, -20dB).	Head azimuth adjustment screw (Fig. 4-2)	TAPE assembly JP-L (Lch) JP-R (Rch)	Maximum playback signal level.	Lock the screw with screw lock after completing adjustment.

### 2. Playback Level Adjustment

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

Pro- cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (315Hz, 0dB).	TAPE assembly VR4121 (Lch) VR4122 (Rch)	TAPE assembly JP-L (Lch) JP-R (Rch)	-6.3dBV	

### 3. Bias Oscillation Frequency Adjustment

Pro- cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-631 and set to record mode.	TAPE assembly T4351	Area between ① and ② (TAPE assembly) shown in Fig. 4-4.	The oscillation frequency is 105kHz $\pm$ 5kHz.	

### 4. Recording Level Adjustment

Pro- cedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR".	Input signal level	TAPE assembly JP-L (Lch) JP-R (Rch)	-10.3dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-631 (315Hz).	TAPE assembly VR4451 (Lch) VR4452 (Rch)	TAPE assembly JP-L (Lch) JP-R (Rch)	Repeat the recording/playback, and make adjustment so that the playback level of 315Hz is -10.3dBV.	

5. Adjustment of Frequency Characteristics of Recording/playback

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

Procedure	Tape selector (Auto)	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315Hz to the VCR input terminal and set the function to "VCR".	Input signal level	TAPE assembly JP-L (Lch) JP-R (Rch)	-30.3dBV	
2	NORM	REC/PLAY	Record and playback the test tape STD-631 (315Hz and 10kHz).	TAPE assembly VR4351 (Lch) VR4352 (Rch)	TAPE assembly JP-L (Lch) JP-R (Rch)	Repeat the recording/playback, and make adjustment so that the playback level of 10kHz remains $0 \pm 0.5\text{dB}$ in relation to 315Hz.	

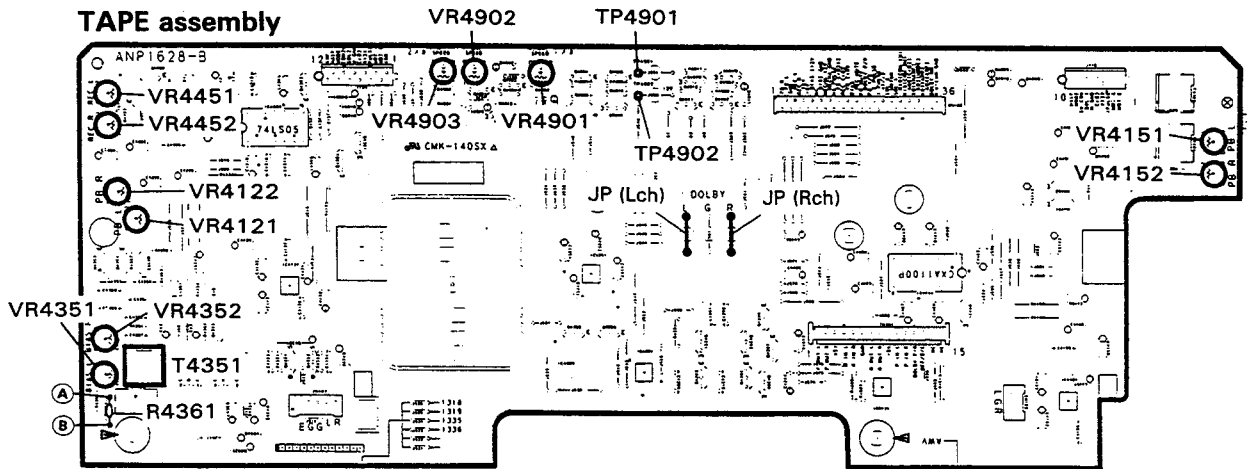
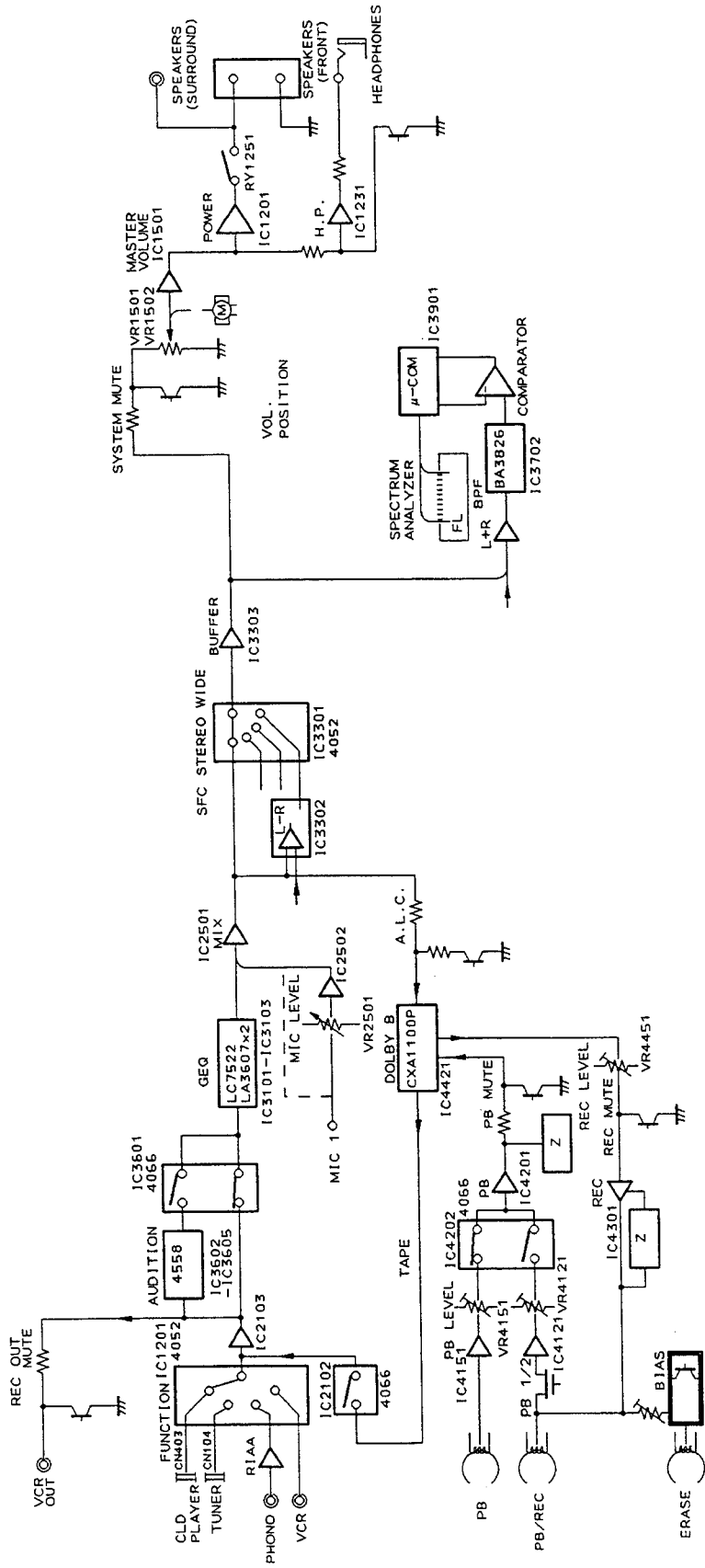


Fig. 4-4 Adjustment Points



# DC-J210, DC-J110

## 5. BLOCK DIAGRAM



## 6. FOR DC-J210/YPW, DC-J110/SD, SL AND YPW TYPES

**NOTES :**

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

### CONTRAST OF MISCELLANEOUS PARTS

DC-J210/YPW, DC-J110/SD, SL, YPW and DC-J210/SD have the same construction except for the following :

Mark	Symbol & Description	Part No.					Remarks
		DC-J210/SD	DC-J210/YPW	DC-J110/SD	DC-J110/SL	DC-J110/YPW	
	AF assembly	AWZ4650	AWZ4650	AWZ4647	AWZ4647	AWZ4647	*1
	SUB TRANS assembly	AWZ4680	AWZ4682	AWZ4680	AWZ4680	AWZ4682	
$\Delta$	S1 Voltage selector (AC110V/120-127V/220V/240V)	AKX-507	.....	AKX-507	AKX-507	.....	
$\Delta$	S Voltage selector (AC110-127V/220V-240V)	AKX1004	.....	AKX1004	AKX1004	.....	
$\Delta$	T102 Power transformer	ATS1468	ATS1468	ATS1470	ATS1470	ATS1470	
$\Delta$	FU1101 Fuse (T2.5A/250V)	AEK-512	.....	AEK-512	AEK-512	.....	
$\Delta$	FU1102 Fuse (T1.6A/250V)	AEK-510	AEK-510	.....	.....	.....	
$\Delta$	FU1102 Fuse (T800mA/250V)	.....	.....	AEK-507	AEK-507	AEK-507	
$\Delta$	FU1103 Fuse (T1.6A/250V)	AEK-510	.....	.....	.....	.....	
$\Delta$	FU1103 Fuse (T800mA/250V)	.....	.....	AEK-507	AEK-507	.....	
$\Delta$	AC Power cord	ADG1129	ADG1124	ADG1129	ADG1127	ADG1124	
	Rear panel	ANC2005	ANC2006	ANC2005	ANC2083	ANC2006	
	Front panel	AMB2092	AMB2092	AMB2095	AMB2095	AMB2095	
	Heat sink	ANH1425	ANH1425	ANH1408	ANH1408	ANH1408	
	Packing case	AHD2502	AHD2502	AHD2503	AHD2503	AHD2503	

\*1 : Although AWZ4682 and AWZ4680 are different in part number, they have the same service parts.

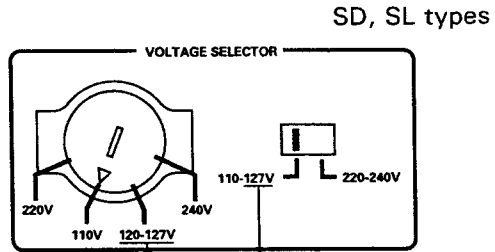
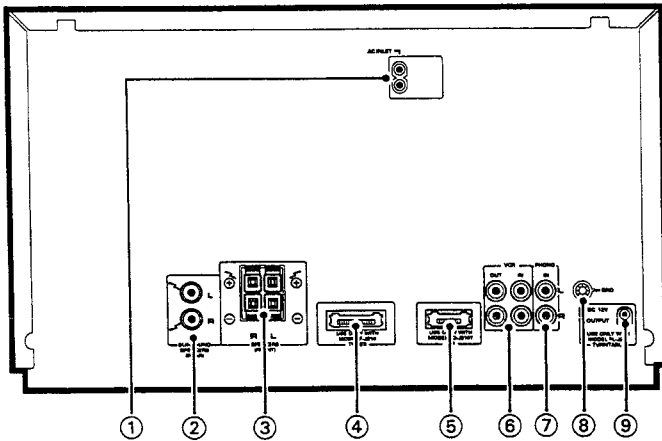
### AF ASSEMBLY

AWZ4647 and AWZ4650 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4650	AWZ4647	
	IC1201	STK4170-2G	STK4150-2G	
	C1201, C1202 (5600/50)	ACH1145	.....	
	C1201, C1202 (2200/42)	.....	ACH1109	

# DC-J210, DC-J110

## 7. PANEL FACILITIES



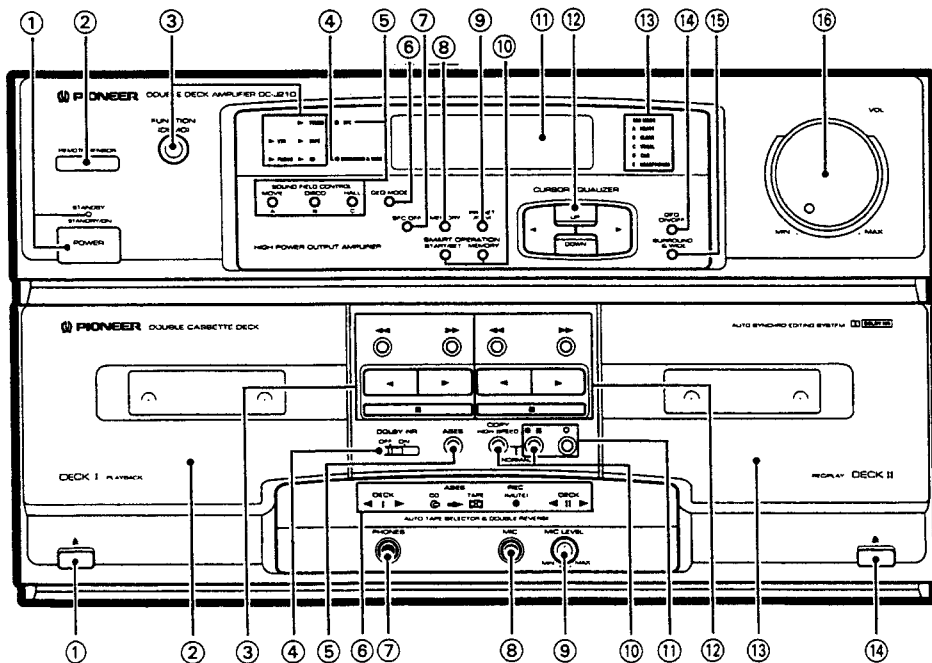
These voltage indications show 120V only with Singapore model.

(YPW type)

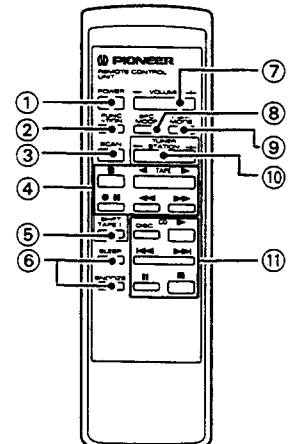
### Double Deck Amplifier: DC-J210/DC-J110

- ① **AC INLET jack**  
Connect the power cord here.
- ② **SURROUND SPEAKERS jacks**  
Connect the surround speaker systems.  
**NOTE:**  
Connect a speaker system having a nominal impedance of 16Ω or more.
- ③ **SPEAKERS terminals**  
**L:** Connect the left speaker systems as seen from the listening position.  
**R:** Connect the right speaker system as seen from the listening position.  
**NOTE:**  
Connect a speaker system having a nominal impedance ranging from 6Ω to 16Ω.

- ④ **TUNER jacks**  
Connect the tuner flat cable here.
- ⑤ **CD jacks**  
Connect to a compact disc player PD-J210T or PD-J215M flat cable.
- ⑥ **VCR IN/OUT jacks**  
**IN :** Connect to audio output jacks of VCR.  
**OUT:** Connect to audio input jacks of VCR.
- ⑦ **PHONO input jacks**  
Connect the audio cord of the turntable to these jacks.
- ⑧ **Ground terminal (GND)**  
Connect the ground cord of the turntable here (except for PL-J210).
- ⑨ **TURNTABLE (DC 12V OUTPUT) jack**  
This jack supplies power to the turntable PL-J210.  
Connect the power supply cord of the turntable to this jack.



DC-J210/DC-J110  
(The illustration of the double deck amplifier shows the Model DC-J210.)



## Double Deck Amplifier: DC-J210/DC-J110

- This unit has an automatic tape type selector.
- Tapes can be played back on deck I; tapes can be played back and recorded on deck II.
- Sound can be recorded as adjusted by the graphic equalizer.
- Use a TYPE I (normal) or TYPE II (HIGH/CrO<sub>2</sub>) tape.

### Amplifier section

#### 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.

When the STANDBY indicator is on, the unit is in STANDBY.

#### ② REMOTE SENSOR window

#### ③ FUNCTION (DEMO) button and indicators

Use to select the input source. Each time the button is pressed, the input source changes in the order:

→ CD → VCR → PHONO → TUNER → TAPE

As each source is selected, the corresponding indicator lights.

#### ④ SURROUND & WIDE indicator

This lights when SURROUND & WIDE is on.

#### ⑤ SOUND FIELD CONTROL buttons and indicator (MOVIE/A, DISCO/B, HALL/C)

These buttons are used when selecting one of the preset sound fields (MOVIE, DISCO, HALL), or one of your own original memory settings (PROGRAM A, B, C). The SFC indicator lights when this setting is selected.

#### ⑥ GEQ MODE button

Use to recall preset equalization settings. Also use to program into memory desired sound field settings.

#### ⑦ SFC OFF button

Press to reset the sound field control to no effect. Then, the SURROUND and WIDE to off, and set the graphic equalizer to its flat setting.

#### ⑧ MEMORY button

Use to memorize your desired sound field control settings.

#### ⑨ PRESET/PGM (PROGRAM) button

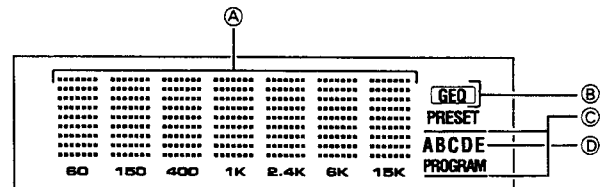
Use to switch between preset sound field control settings and your own personally created sound field setting.

#### ⑩ SMART OPERATION buttons

**START/SET**: Use when programming memory and operating SMART OPERATION.

**MEMORY** : Use when programming SMART OPERATION into memory.

#### ⑪ Display section



① Visual display of spectrum analyzer and graphic equalizer.

② This lights when the GEQ ON/OFF button is ON.

③ These underlines indicate the memory (PRESET or PROGRAM) that can be recalled with the PRESET/PGM or GEQ MODE button.

④ Display of the memory being recalled with the GEQ MODE button (A, B, C, D or E lights) or SOUND FIELD CONTROL buttons (A, B or C lights).

#### ⑫ CURSOR EQUALIZER buttons

Use to adjust graphic equalizer settings.

◀, ▶ : Use these to change the frequency range to be adjusted.

UP, DOWN: Use these to adjust the degree of equalization.

#### ⑬ Preset equalizer indicators

Lights when the desired preset equalizer is selected.

#### ⑭ GEQ ON/OFF button

This switches the graphic equalizer ON/OFF. When it's ON, the GEQ indicator in the display section lights.

#### ⑮ SURROUND & WIDE button

By turning this button ON, you can enjoy surround reproduction when rear speakers are used.

By turning this button ON, you can enjoy WIDE (stereo wide) reproduction with greater left-right spread when rear speakers are not used.

Each time the button is pressed the function changes in the following order:

→ WIDE 1 → WIDE 2 → WIDE 3 → off

The sense of left-right breadth increases as the numbers increase from 1 to 3.

#### NOTE:

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

#### ⑯ VOL. (Volume) control

## ■ Cassette deck section

### ① Deck I eject button (▲)

### ② Deck I cassette door


### ③ Deck I operation buttons

- ▶ (Play) : For playing back a tape in the forward mode.
- ◀ (Play) : For playing back a tape in the reverse mode.
- (Stop) : For stopping the tape.
- ▶▶ (Fast): Fast forward in forward mode, rewind in reverse mode.  
Music search (MS) starts if this is pressed during playback.
- ◀◀ (Fast): Rewind in forward mode, fast forward in reverse mode.  
Music search (MS) starts if this is pressed during playback.

### ④ DOLBY\* NR switch

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

- Tapes recorded using Dolby noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby NR system on.
- It is recommended that tapes recorded with Dolby B type NR be so marked on the label. This will help prevent incorrect setting of the noise reduction switch during playback.

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

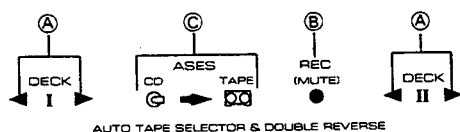
### ⑤ ASES button

Used for automatically recording a CD on cassette tape.

#### NOTE:

- *FINE is the mode when performing CD player EDIT (Computer Allocated Program Editing).*
- *The NORMAL mode provides a blank space of about five seconds between songs.*

### ⑥ Operation indicators



- Ⓐ **Direction (◀, ▶):** Indicates direction of tape travel during recording or playback. Flashes slowly in Pause mode. Flashes rapidly during Music Search (MS).
- Ⓑ **REC (MUTE):** Lights when recording. It flashes during tape copying.
- Ⓒ **ASES:** Lights during the A.S.E.S. mode.

### ⑦ PHONES (Headphones) jack

For stereo headphones.

#### NOTE:

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

### ⑧ MIC (Microphone) jack

This is a standard jack for connecting a microphone.

### ⑨ MIC LEVEL control

Used for adjusting the volume of microphone.

### ⑩ COPY buttons

Used for tape copying. To select normal speed, press the recording pause button (●II) followed by the HIGH SPEED button.

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

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

### ⑪ Deck II control buttons

- II (Rec pause): When pressed once, sets unit to recording pause mode. The REC indicator lights and the direction indicators (◀ and ▶) flash. Recording begins when you press the play button (▶ or ▶). When pressed while the tape is traveling, the unit will enter the pause mode.
- (Mute) : Used for creating a blank space between songs.

### ⑫ Deck II operation buttons

Same as Deck I operation buttons ③.

### ⑬ Deck II cassette door

### ⑭ Deck II eject button (▲)

## Remote Control Unit

### ① POWER button

### ② FUNCTION button

Use to select the input source. Each time the button is pressed, the input source changes in the order:

→ CD → VCR → PHONO → TUNER → TAPE →

As each source is selected, the corresponding indicator lights.

### ③ SCAN button

Use when you wish to scan the radio stations stored in the memory. Each station will be received for about five seconds before moving automatically to the next station.

### ④ TAPE II operation buttons

Same as Deck II operation buttons and Deck II control buttons on the cassette deck amplifier (except Mute).

### ⑤ SHIFT TAPE I button

To operate Deck I, press the desired deck operation while pressing this button.

### ⑥ Timer operation buttons

**SLEEP** : Sets the sleep timer.

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

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

### ⑦ VOLUME + (UP)/- (DOWN) buttons

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

### ⑧ SFC MODE button

Use to select one of the preset sound fields. Each time the button is pressed, one of the preset sound fields will be selected, in the following order:

→ MOVIE → DISCO → HALL →  
off\* ←

\*Set SURROUND & WIDE to off, and set the graphic equalizer to its flat setting.

### ⑨ PGM (PROGRAM) MODE button

This button is used when selecting one of your own personally created sound fields. Each time the button is pressed, one of the sound fields will be selected, in the following order:

→ A → B → C →  
off\* ←

\*Set SURROUND & WIDE to off, and set the graphic equalizer to its flat setting.

### ⑩ TUNER STATION - (DOWN)/ + (UP) buttons

• Used for locating Stations (see pages 15, 16).

+ (UP) : Stations change in order in the upward direction

- (DOWN): Stations change in order in the downward direction.

### ⑪ CD operation buttons

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

▶ : Play

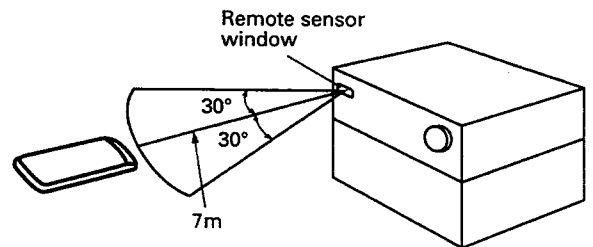
DISC : DISC selection

■ : Stop

|| : Pause

◀◀, ▶▶ : Track search

### Range of remote control



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

Distance: Within a range of approx. 7 meters (23 feet) from the remote sensor window.

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

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

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

## 8. SPECIFICATIONS

### Double deck amplifier: DC-J210/DC-J110

#### Amplifier Section

[DC-J210]

Continuously Average Power Output is 50 Watts\* per channel, min., at 8 ohms from 40 Herz to 20,000 Herz, with no more than 5% \*\* total harmonic distortion.

[DC-J110]

Continuously Average Power Output is 25 Watts\* per channel, min., at 8 ohms from 40 Herz to 20,000 Herz, with no more than 5% \*\* total harmonic distortion.

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

#### Music power (DIN)

[DC-J210] .....	105 W+105 W (1kHz, T.H.D. 1%, 8Ω)
[DC-J110] .....	82 W+82 W (1kHz, T.H.D. 1%, 8Ω)
Graphic equalizer frequency band .....	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB
Total Harmonic Distortion	
[DC-J210] .....	No more than 0.2% (40 Hz to 20,000 Hz, 35 W, 8Ω)**
[DC-J110] .....	No more than 0.2% (40 Hz to 20,000 Hz, 22.5 W, 8Ω)**

#### 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 2 speed motor x 2
Wow and Flutter .....	No more than 0.09% (W.PEAK)
Fast Winding Time .....	Approximately 105 seconds (C-60 tape)
Frequency Response (-20 dB recording):	
TYPE I (Normal) tape .....	35 Hz to 14,000 Hz ±6 dB
TYPE II (HIGH/CrO <sub>2</sub> ) tape .....	35 Hz to 15,000 Hz ±6 dB
Signal-to-Noise ratio	
Dolby NR OFF .....	56 dB
Noise Reduction Effect	
Dolby B-type NR ON .....	More than 5 dB (at 5 kHz)

#### Furnished Parts

Operating Instructions .....	1
Remote Control Unit .....	1
Dry Cell Batteries ("AAA" (IEC R03/UM-4) .....	2
Power cord .....	1

#### Miscellaneous

Power requirements	
Australian model .....	AC 240 Volts-, 50/60 Hz
Singapore model .....	AC 110/120/220/240 V (switchable), 50/60 Hz
Other models .....	AC 110/120-127/220/240 V (switchable), 50/60 Hz
Power Consumption:	
[DC-J210] .....	400 W
[DC-J110] .....	275 W
Dimensions .....	360 (W) x 210 (H) x 344 (D) mm
Weight (without package)	
[DC-J210] .....	9.5 kg
[DC-J110] .....	8 kg

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

\*\*Measured By Audio Spectrum Analyzer.