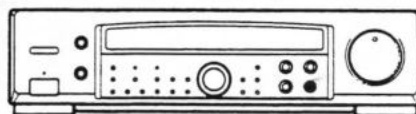


Service Manual

PIONEER
The Art of Entertainment



ORDER NO.
ARP2637

STEREO TUNER CONTROL AMPLIFIER

CX-J510

CX-J410

CX-J310

CX - J510, CX - J410 AND CX - J310 HAVE THE FOLLOWING :

Type	Model			Power Requirement	Remarks
	CX - J510	CX - J410	CX - J310		
WE	○	○	○	AC 220 - 240V	
WB	○	○	○		
WEWZI	○	○	○		

- This manual is applicable to WE and WB types.
- For the following : CX-J510/WB ; CX-J410/WB ; CX-J310/WE AND WB, refer to page 65.
- For the following : CX-J510/WEWZI ; CX-J410/WEWZI ; CX-J310/WEWZI, refer to the service manual ARP2639 for CX-J510, CX-J410 and CX-J310.
- 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.
This product's instructions are contained within the operating instructions manual of the related system component(s).
The manual is packed with those component(s).
This product's accessories etc. are packed with its related component(s).

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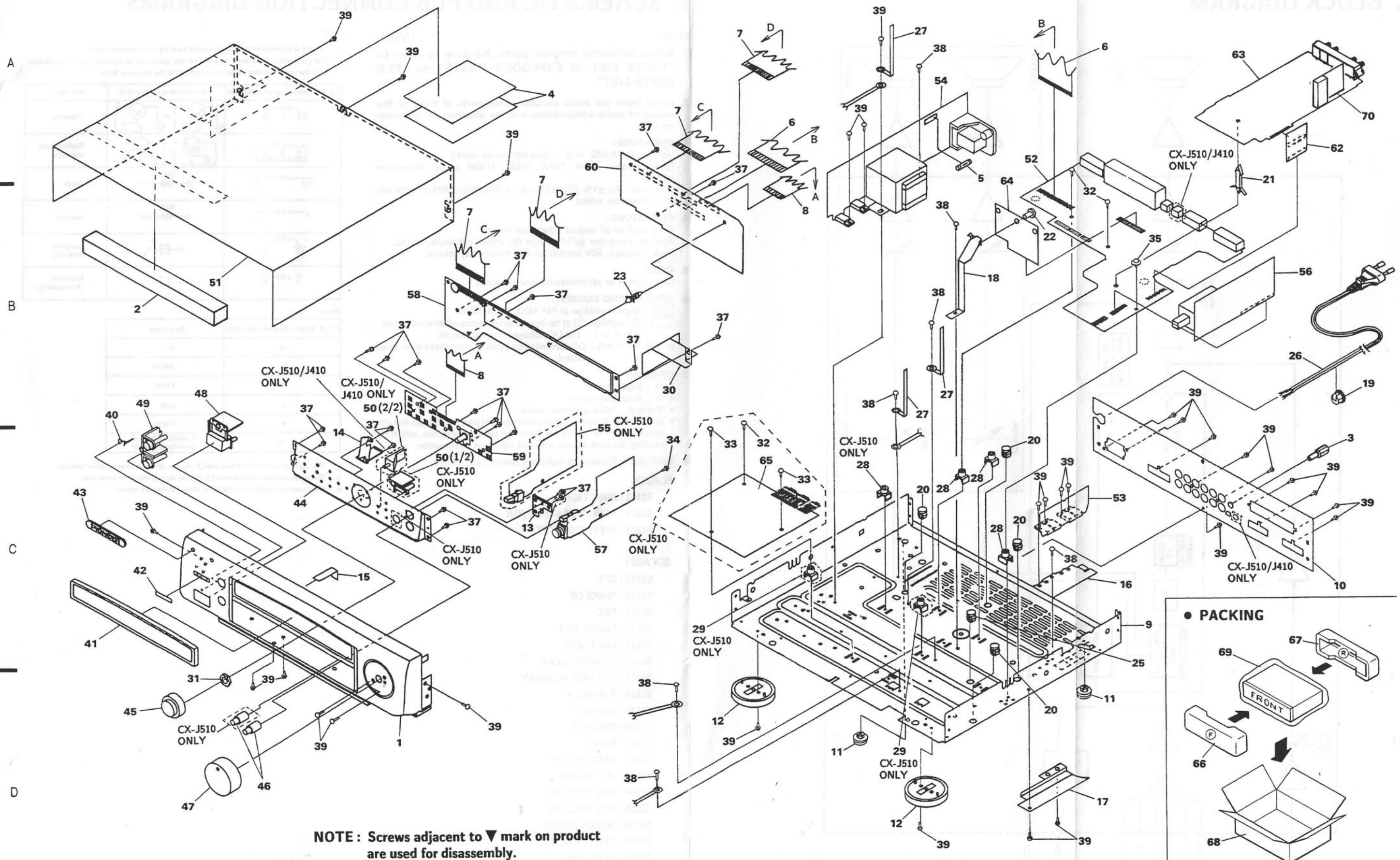
FO DEC. 1992 Printed in Japan

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 Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	FRONT PANEL(PLS)(CX-J410)	AMB2051		44	SUB PANEL ASSY(CX-J410)	AMR2476
	1	FRONT PANEL(PLS)(CX-J510)	AMB2052		44	SUB PANEL ASSY(CX-J510)	AMR2474
NSP	2	CUSHION	AEC1488		45	JOG KNOB(PLS)	AAB1313
NSP	3	TERMINAL SCREW	AKE-031		46	MIC KNOB(PLSS)	AAB1314
	4	BARRIER(PS)	AEC1487		47	VOL KNOB(PLS)	AAB1322
Δ	5	FUSE (FU2,T2A/250V)	AEK-511		48	POWER BUTTON(PLS)	AAD2406
NSP	6	J1 FLEXIBLE CABLE	ADD1112		49	FUNCTION BUTTON(PLS)	AAD2407
NSP	7	J3,J4 FLEXIBLE CABLE	ADD1113		50	AUDITION BUTTON(PLS)	AAD2342
NSP	8	J2 FLEXIBLE CABLE	ADD1114		51	BONNET(MTL)	ANE1382
NSP	9	CHASSIS(MTL)	ANA1193	●	52	MAIN ASSY(CX-J410)	AWZ4431
NSP	10	REAR PANEL(MTL)(CX-J410)	ANC1967	●	52	MAIN ASSY(CX-J510)	AWZ4429
NSP	10	REAR PANEL(MTL)(CX-J510)	ANC1963	●	53	REGULATOR ASSY	AWZ4438
	11	LEG ASSY(S)	AMR1937	●	54	SUB TRANS ASSY	AWZ4443
	12	FOOT ASSY(ABS)	RXA1448	NSP	55	BALANCE ASSY (CX-J510 ONLY)	AWZ4446
NSP	13	MIC HOLDER(MTL)	ANG1728				
NSP	14	PLATE (MTL)	ANG1729	●	56	VOLUME ASSY(CX-J510)	AWZ4447
NSP	15	PCB HOLDER(MTL)	ANG1730	●	56	VOLUME ASSY(CX-J410)	AWZ4449
NSP	16	COVER (MTL)	ANG1731	●	57	MIC ASSY(CX-J510)	AWZ4452
NSP	17	SCREW COVER(MTL)	ANG1792	●	57	MIC ASSY(CX-J410)	AWZ4453
NSP	18	PCB HOLDER(MTL)	ANG1795	●	58	FL ASSY	AWZ4746
	19	STRAIN RELIEF	AEC-882	NSP	59	KEY ASSY(CX-J410)	AWZ4456
NSP	20	PCB SUPPORT	AEC1010	NSP	59	KEY ASSY(CX-J510)	AWZ4747
NSP	21	PCB SPACER	AEC1100	●	60	U.COM ASSY(CX-J510)	AWZ4460
	22	NYLON RIVET	AEC1160	●	60	U.COM ASSY(CX-J410)	AWZ4462
NSP	23	PCB SUPPORT	AEC1215	NSP	62	CONNECT ASSY	AWZ4547
	24	.....			63	TUNER ASSY	AWE1261
NSP	25	PCB SUPPORT	AEC1461		64	EQ ASSY	AWF1009
Δ	26	AC POWER CORD	ADG1049		65	DSP ASSY(CX-J510 ONLY)	AWX1058
	27	BINDER	AEP-215		66	FRONT PAD	AHA1579
NSP	28	PCB MOLD	AMR1525		67	REAR PAD	AHA1580
NSP	29	PCB MOLD	AMR2115		68	PACKING CASE(PAP)(CX-J510)	AHD2484
NSP	30	SHIELD COVER	ANK1219		68	PACKING CASE(PAP)(CX-J410)	AHD2482
	31	NUT	NK90FUC		69	PACKING SHEET	AHG1017
	32	SCREW	ABA1018		70	F.E. MODULE ASSY	AXQ1002
	33	SCREW(CX-J510 ONLY)	ABA1024				
	34	SCREW (STEEL)	ABA1095				
	35	SCREW	ABA1100				
	36	.....					
	37	SCREW	BPZ26P080FMC				
	38	SCREW	BBZ30P060FZK				
	39	SCREW	BBZ30P080FZK				
	40	LENS(POWER IND)	AAK2343				
	41	DISPLAY PANEL(PLS)	AAK2434				
	42	REMOTE CONTROL FILTER(PLS)	AAK2376				
NSP	43	NAME PLATE(PLASTIC)	AAM1047				



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

The diagram illustrates the internal circuitry of the CX-J510 receiver. It features a variety of input sources on the left: MIC, PHONO, TAPE, DAT/LD, AUX, CD, VCR, DAT, VCR, and DECK. The MIC input is processed through a level control and an amplifier. The other inputs are combined and then pass through a series of processing blocks including 'CX-J510 ONLY' DSP DOLBY PRO LOGIC, a GEQ (Graphic Equalizer), and an 'EXCEPT CX-J510' ST WIDE (Stereo Width) control. An 'AUDITION' block, also 'CX-J510 ONLY', provides a direct path for monitoring. The main signal path then goes through a 'SPECTRUM ANALYSER BPF IC' (Band Pass Filter) and a balance control. The output is split into three channels: FRONT (1/2), CENTER, and REAR. The FRONT channel includes a 'MAIN' control. The CENTER and REAR channels are part of a 'CX-J510 ONLY' section and include individual level controls. The diagram uses standard electronic symbols for amplifiers, mixers, and level controls, with dashed lines separating different functional sections.

3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

Note: (Type 3)

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.

RESISTORS:

Unit: k: k Ω , M: M Ω , or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.

CAPACITORS:

Unit: p: pF or μ F unless otherwise noted.
Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

COILS:

Unit: m: mH or μ H unless otherwise noted.

VOLTAGE AND CURRENT:

 : Signal voltage at FM 1kHz, 100% MOD.
 : DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
 mA or $\leftarrow$ mA : DC current at no input signal unless otherwise noted.

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.

SWITCHES (Underline indicates switch position):

FL ASSY

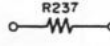
- S1101 : FUNCTION
- S1102 : POWER STANDBY/ON
- S1103 : EFFECT ON/OFF

KEY ASSY

- S1111 : SET
- S1112 : WAKE UP
- S1113 : REC
- S1114 : CLOCK ADJ
- S1115 : LOCAL/DX
- S1116 : MEMORY SCAN
- S1117 : STATION MEMORY
- S1118 : TUNING +
- S1119 : TUNING -
- S1120 : FREQ/ST
- S1121 : BAND
- S1132 : GEQ ON/OFF
- S1133 : SFC MODE
- S1134 : GEQ FREQ $\leftarrow$
- S1135 : GEQ FREQ $\rightarrow$
- S1136 : DOLBY MODE
- S1137 : CENTER MODE
- S1138 : AUDITION
- S1141 : SOUND JOG.

NOTE

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

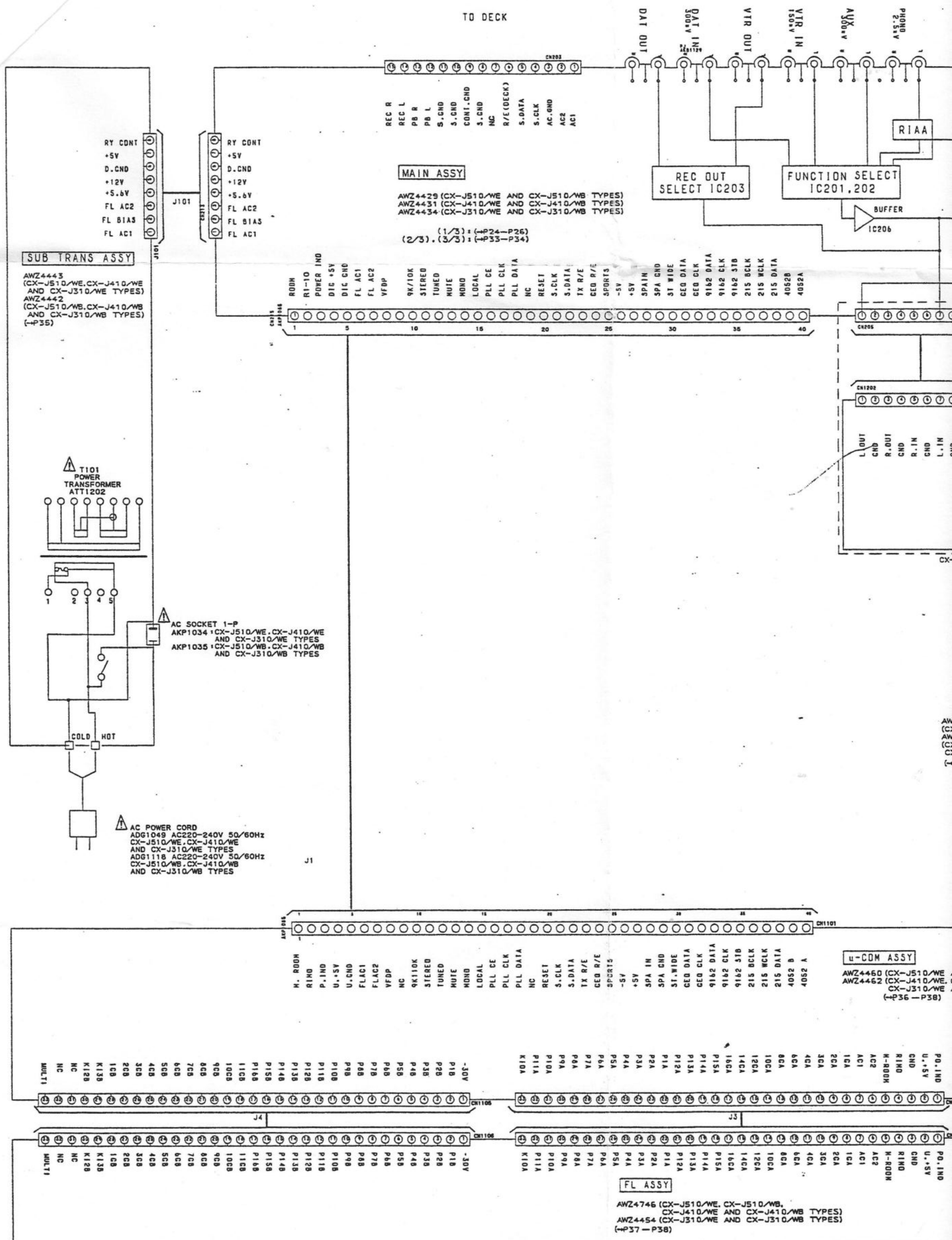
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
	 or 	Transistor
	 or 	Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

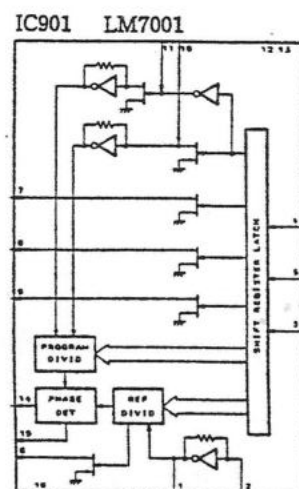
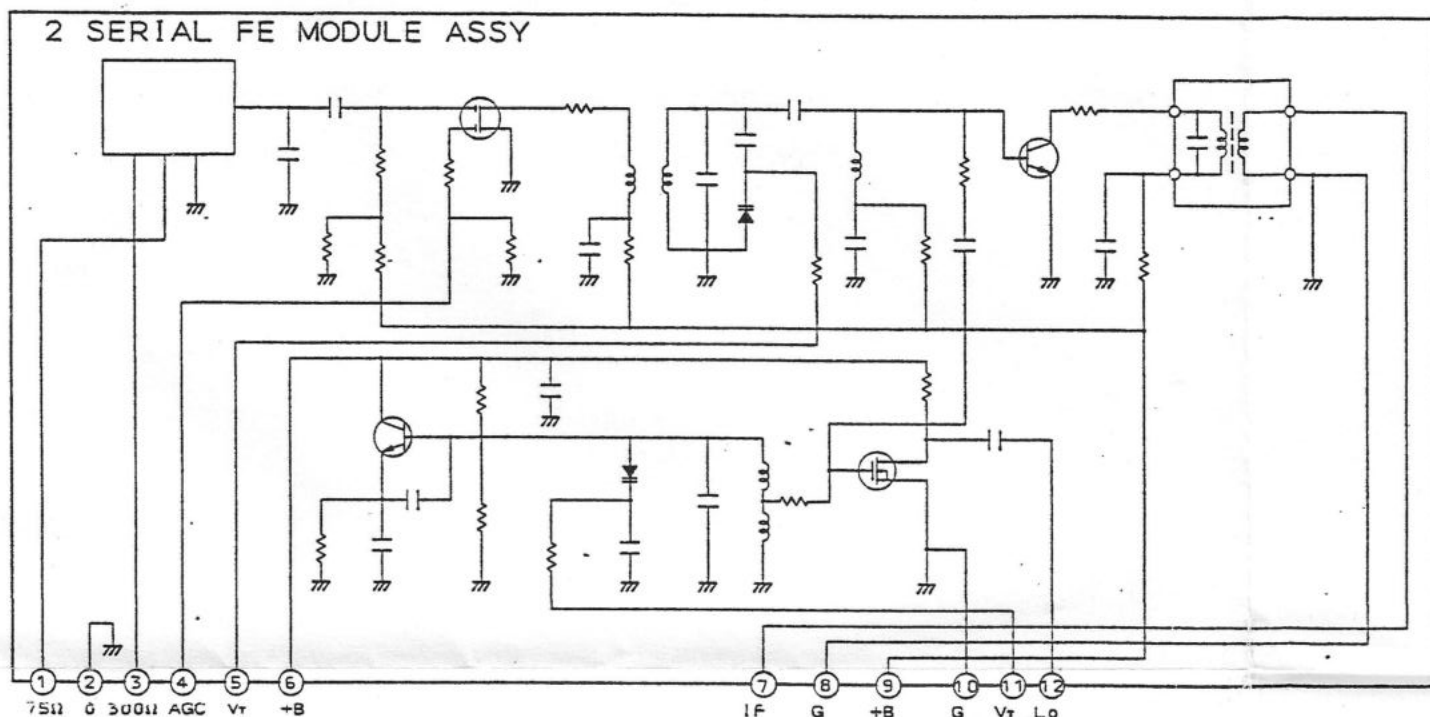
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

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

□

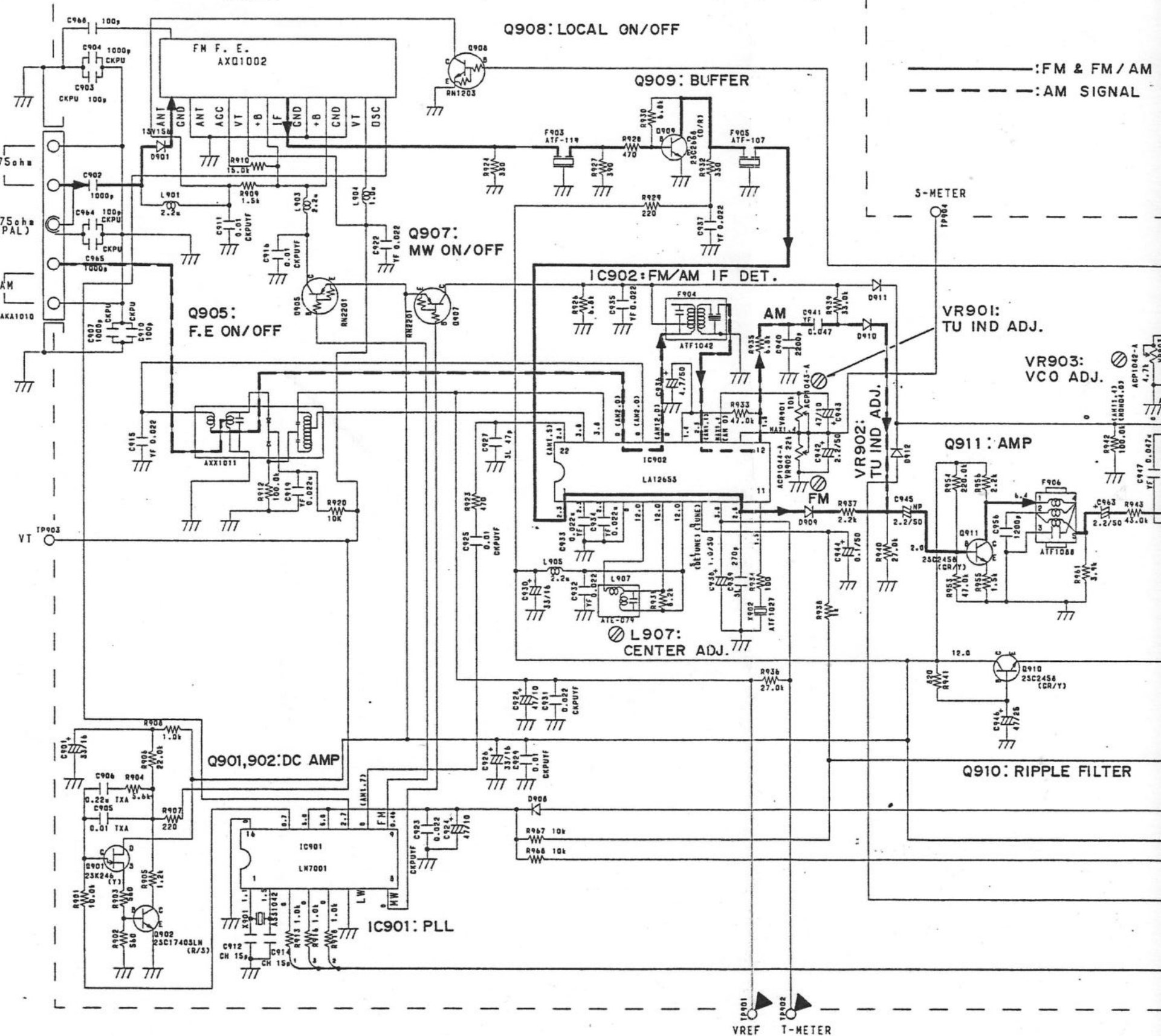


2 SERIAL FE MODULE ASSY



Pin No.
1
2
3
4
5
6
7
8

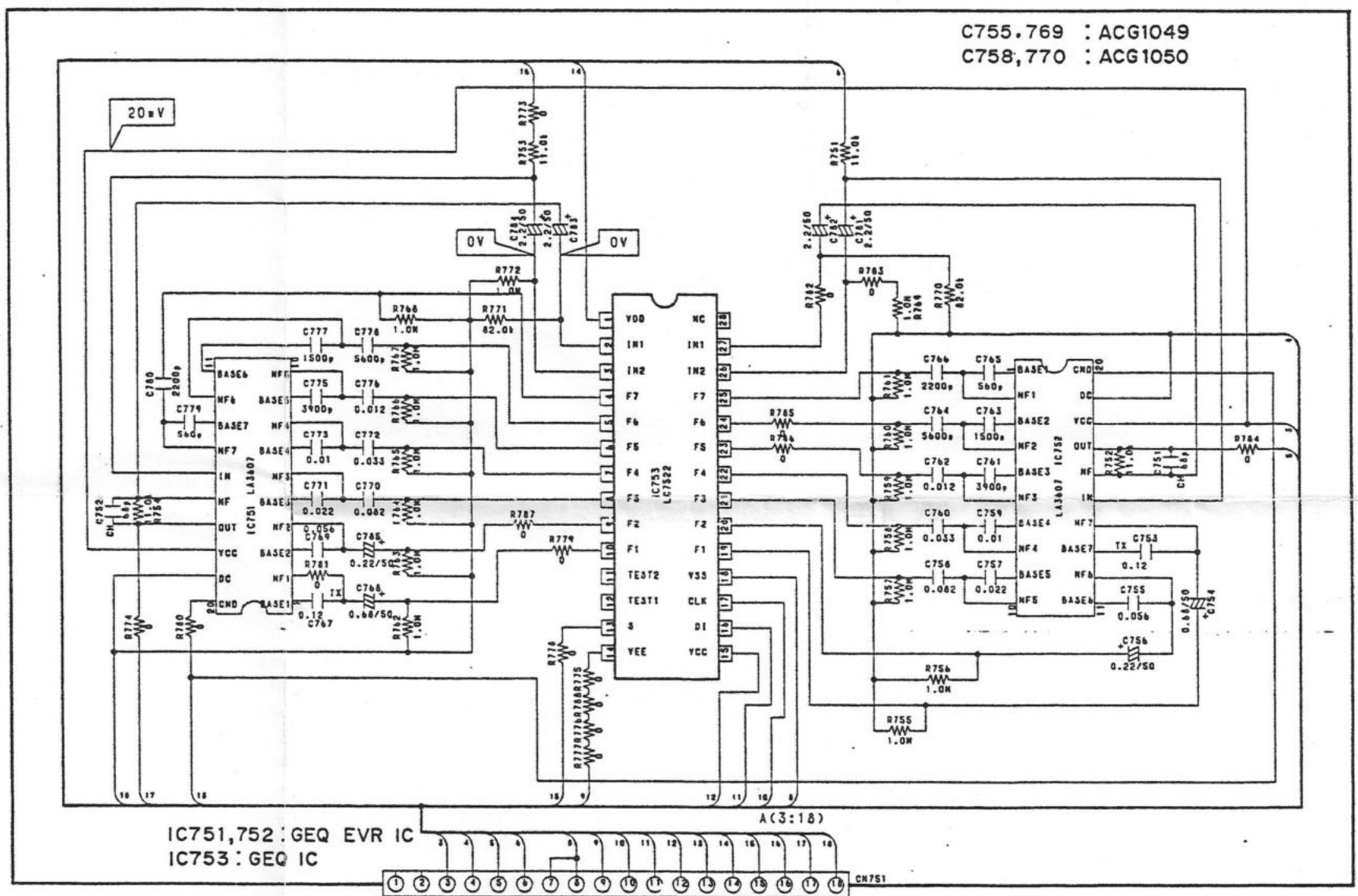
TUNER ASSY (AWE1261)



LM7001

Voltage	Pin No.	Voltage
1.1	9	0.46
1.5	10	0 (AM: 1.7)
0	11	2.7
0	12	5.0
0	13	5.0
	14	0.7
	15	
0	16	0

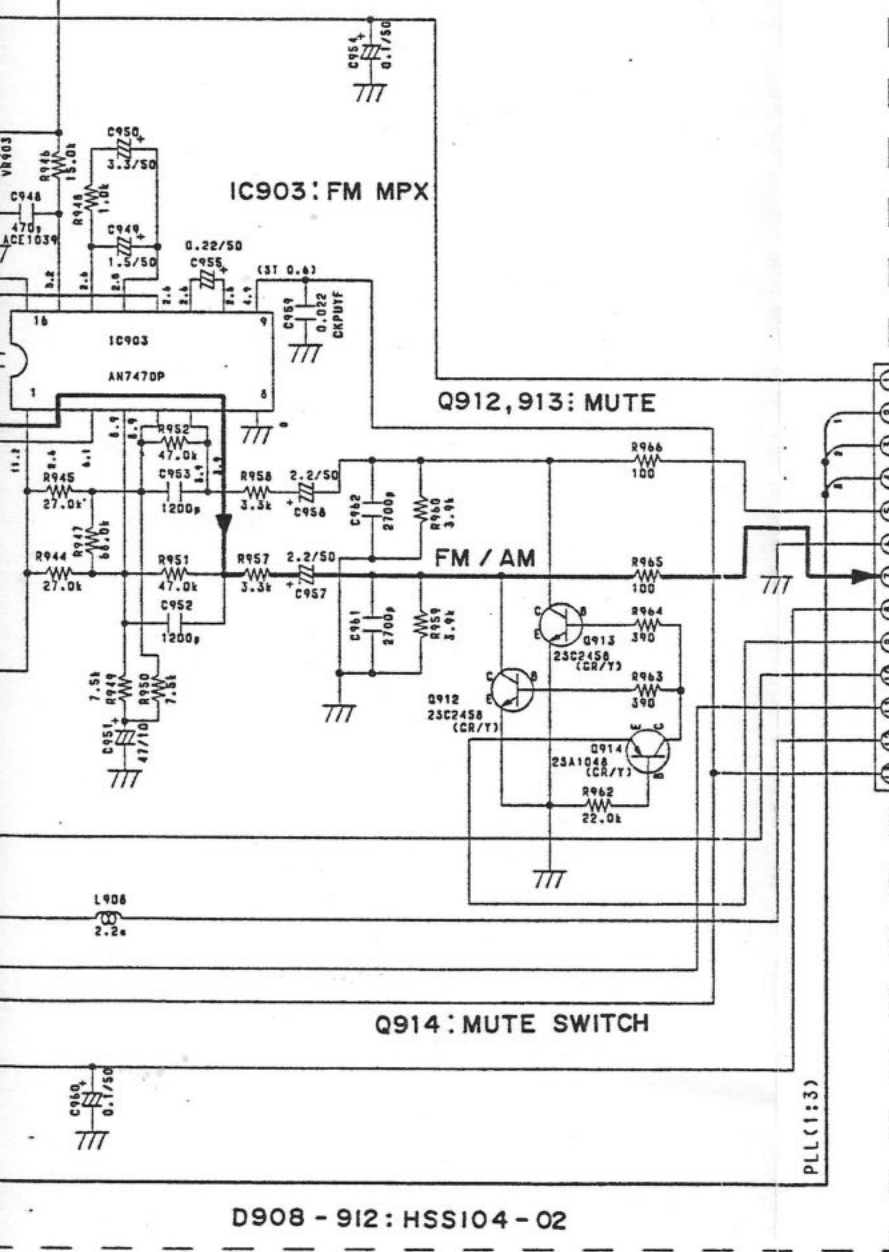
EQ ASSY (AWF 1009)



SIGNAL

VCO

TP905



IC903: FM MPX

Q912, 913: MUTE

FM / AM

Q914: MUTE SWITCH

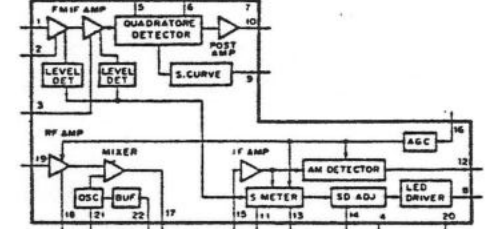
D908 - 912: HSS104 - 02

- LOCAL
- PLL CE
- PLL DATA
- PLL CLOCK
- R
- CND
- L
- MONO
- MUTE
- TUNED
- +12V
- +5.6V
- STEREO

TO CONNECT ASSY CN902 (-P26)

OUTPUT LEVEL
650mV

IC902 LA1265S

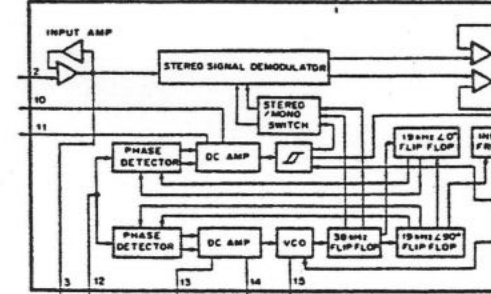


IC902 LA1265S

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	2.3	10	2.8	17	0
2	2.3	11	1.5		12.0(AM)
3	2.3	12	1.5	18	0
4	0	13	1.4(MAX)		2.0(AM)
5	12.0	14	1.4(MAX)	19	0
6	12.0		0(AM)		2.0(AM)
7	12.0	15	2.3	20	3.8
8	0(T)		1.1(AM)	21	3.8
	5.1(D)	16	1.4	22	2.8
9	3.8				1.5(AM)

Note: (T) TUNE IND. ON
(D) TUNE IND. OFF

IC903 AN7470P

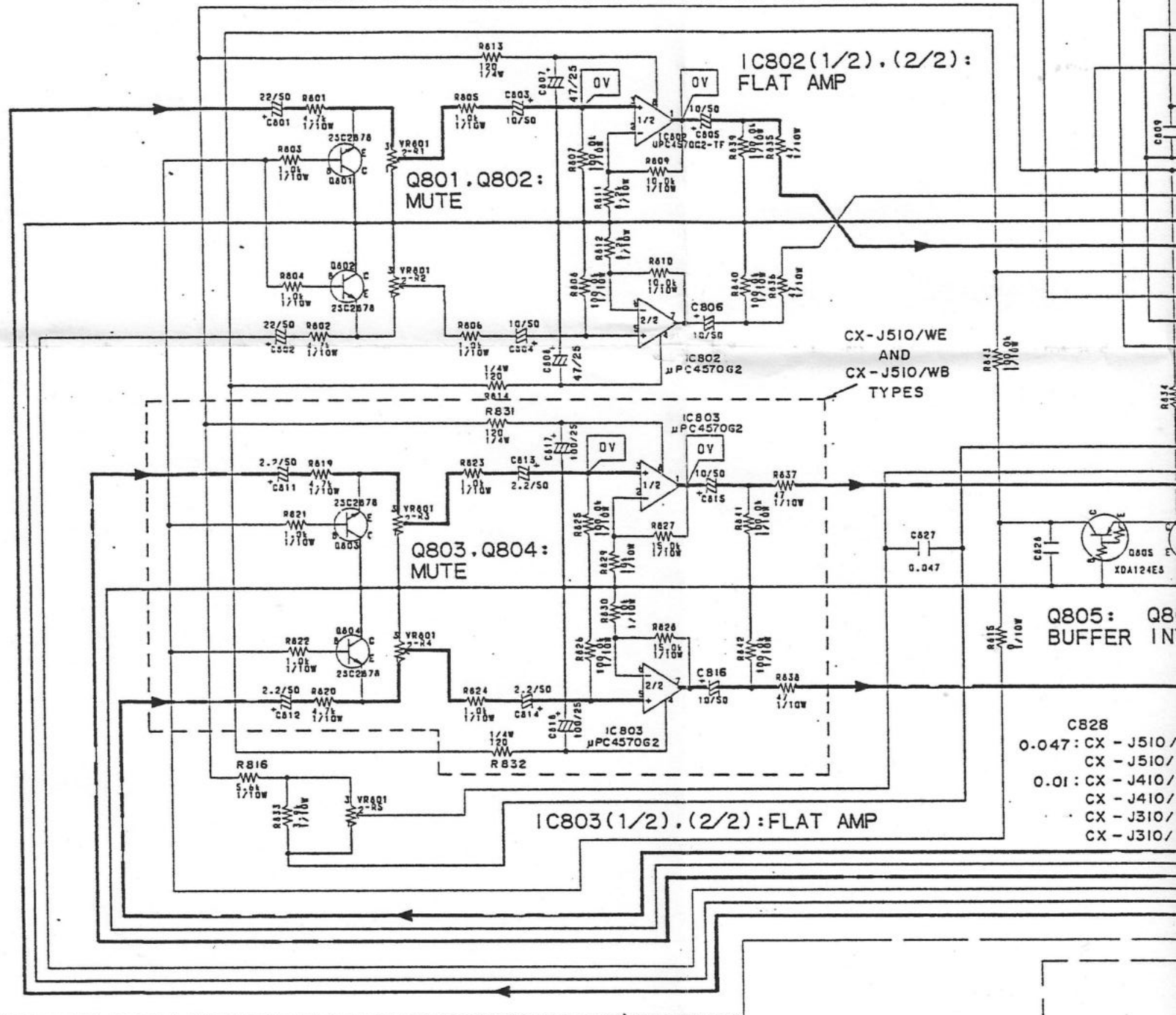


IC903 AN7470P

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	11.2	9	4.9	15	3.2
2	2.6		0.6	16	0
3	6.1		(STEREO)		11.4
4	8.9	10	2.6		(AM)
5	8.9	11	2.6		4.0
6	3.9	12	2.6		(MONO)
7	3.9	13	2.6		
8	0	14	2.6		

VOLUME ASSY (AWZ4447: CX-J510/WE AND CX-J510/WB TYPES)
(AWZ4449: CX-J410/WE, CX-J410/WB,
CX-J310/WE AND CX-J310/WB TYPES)

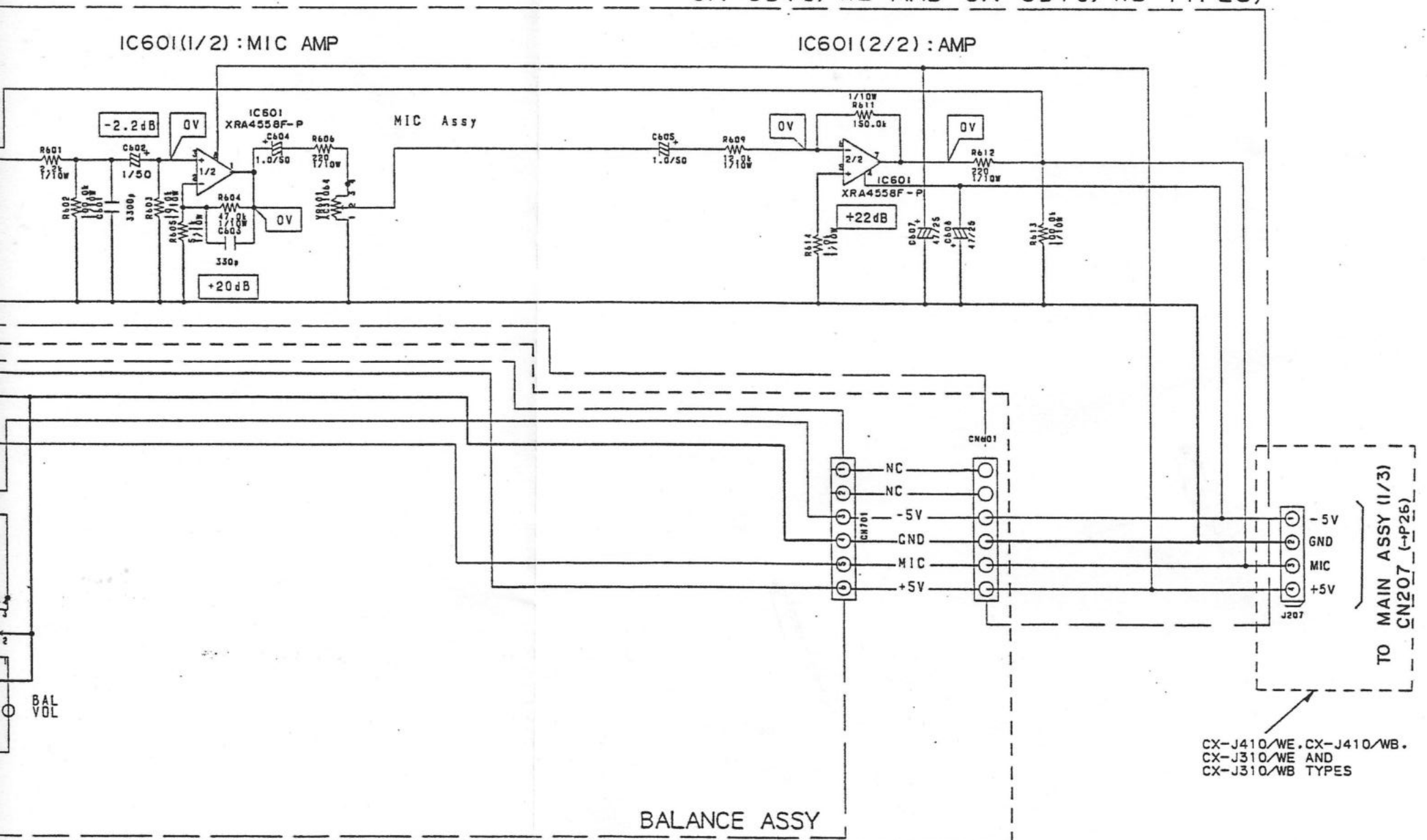
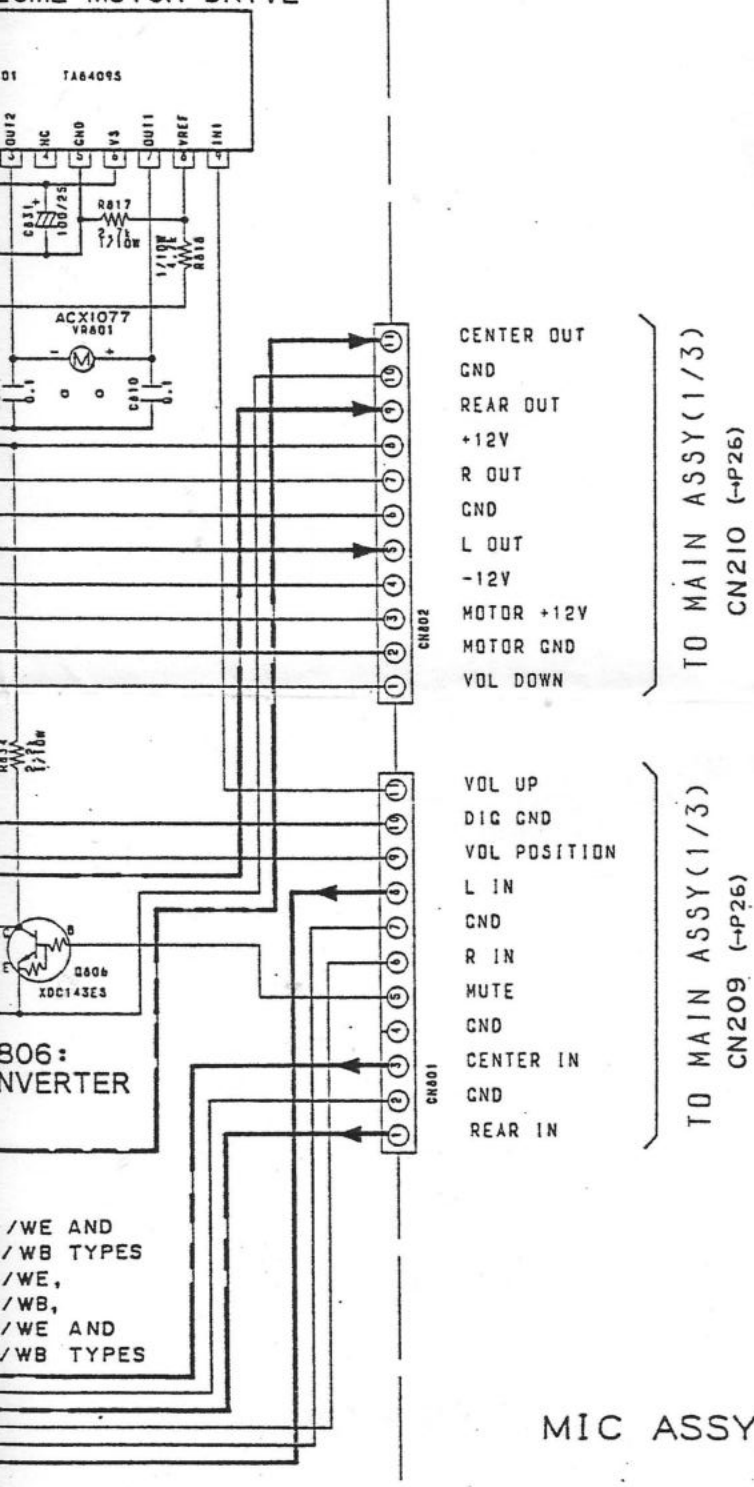
VR801
ACX1077: CX-J510/WE AND CX-J510/WB TYPES
ACX1067: CX-J410/WE, CX-J410/WB, CX-J310/WE AND CX-J310/WB TYPES



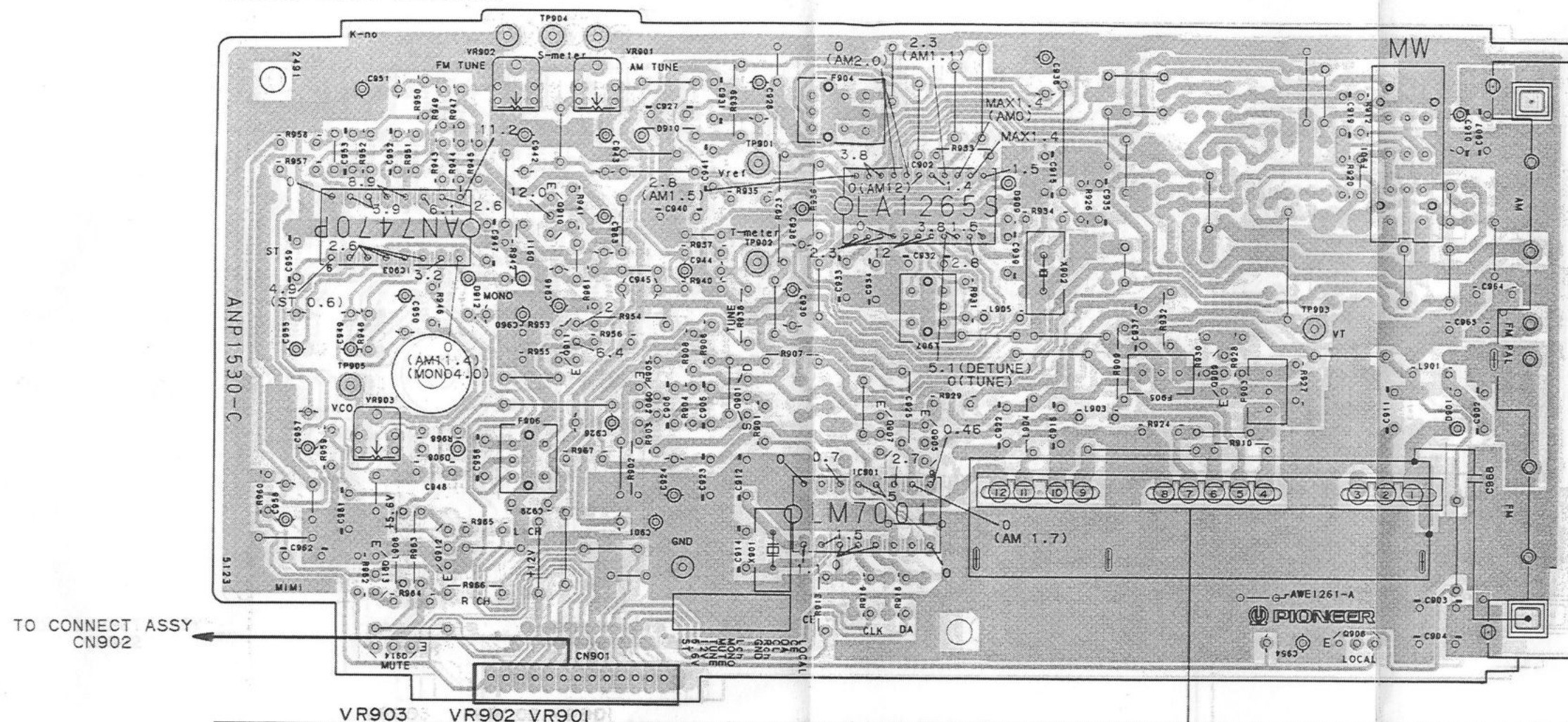
—————: NORMAL SIGNAL (FRONT)
- - - - -: REAR
- - - - -: CENTER

CX-J510/WE AND CX-J510/WB TYPES

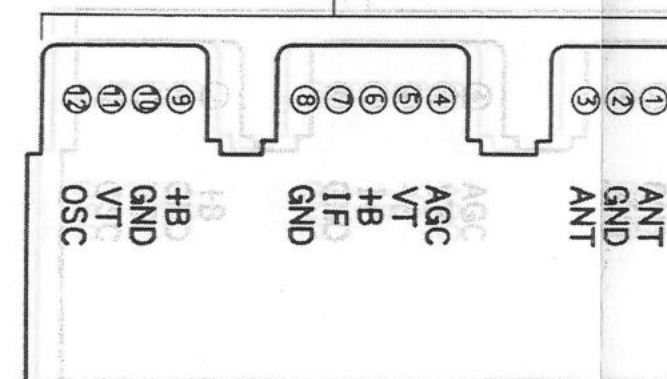
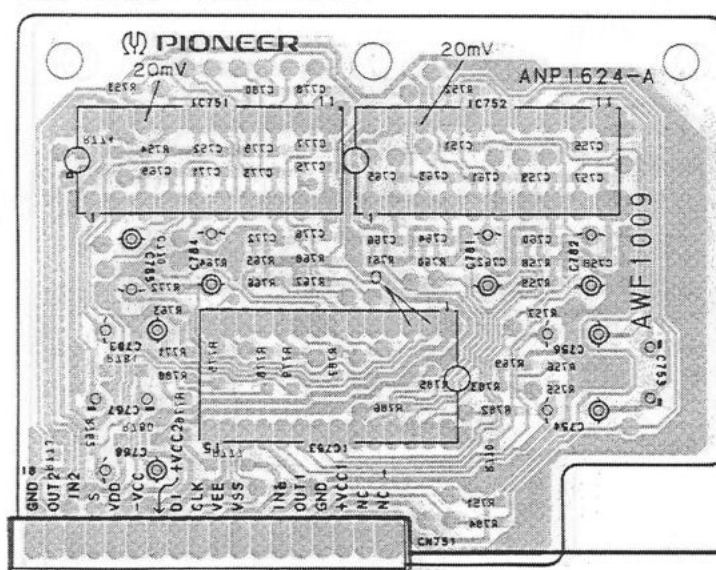
VOLUME MOTOR DRIVE



TUNER ASSY (AWE1261)

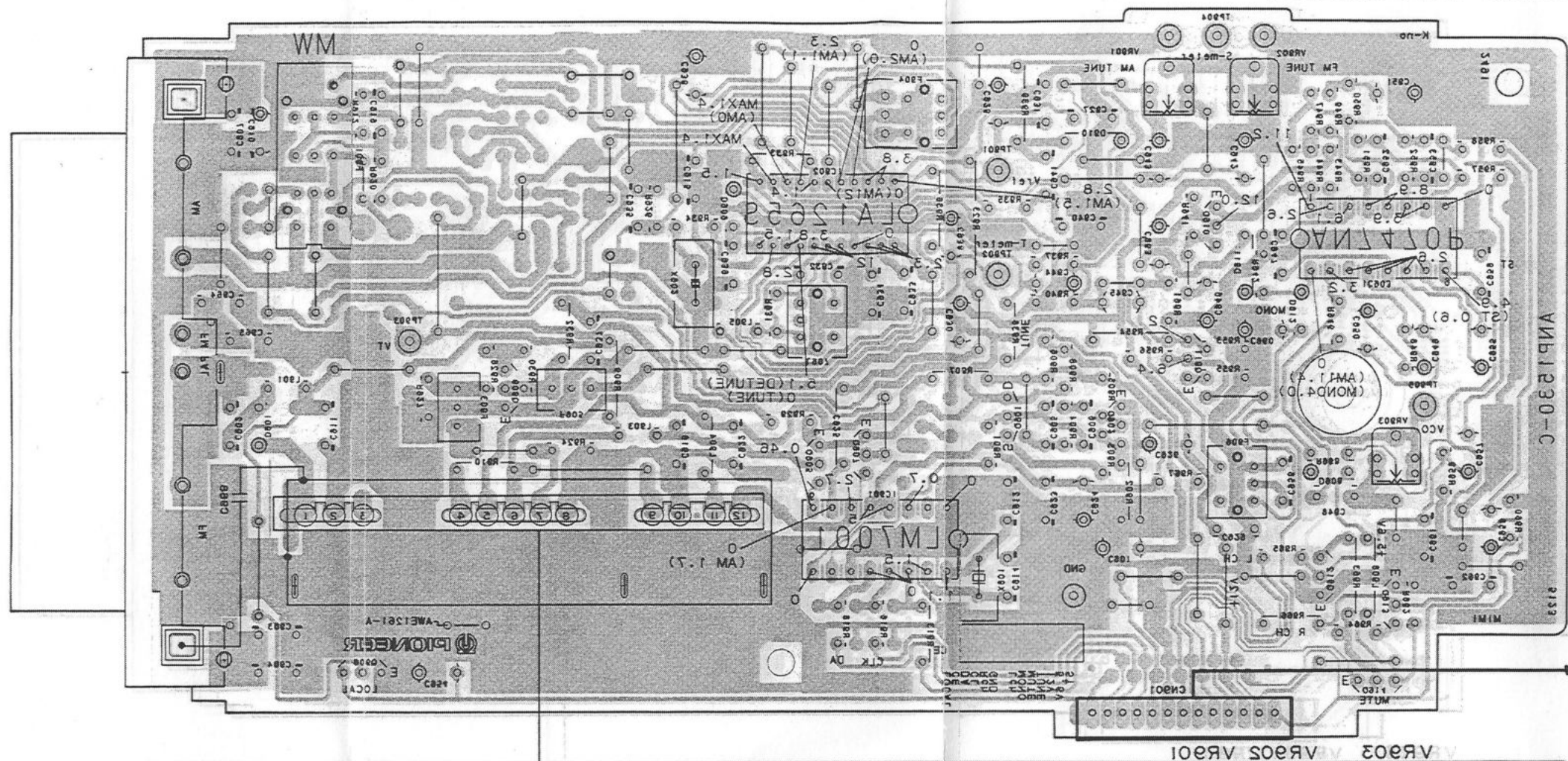


EQ ASSY (AWF1009)

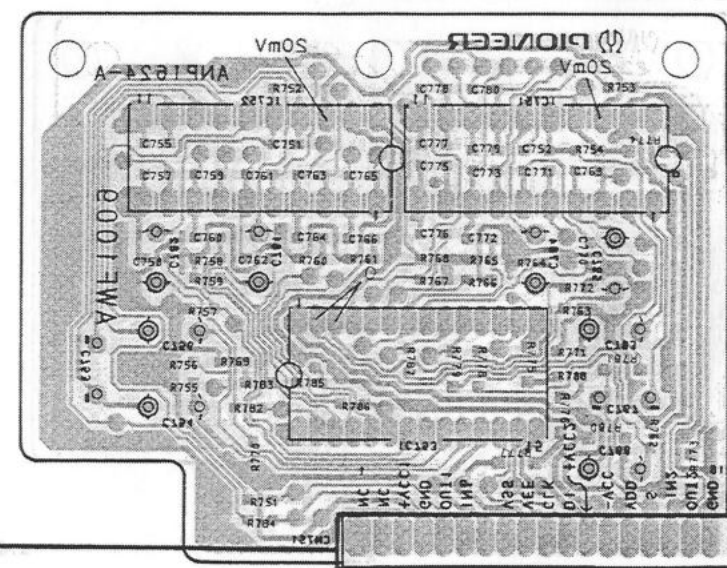


FE MODULE ASSEMBLY
(AXQ1002)

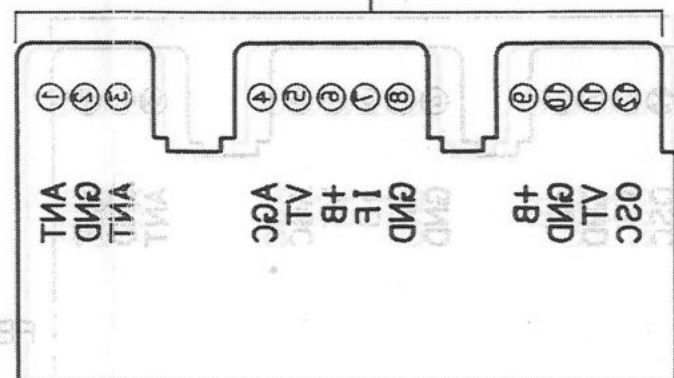
This P.C.B. connection diagram is viewed from the foil side.



TO CONNECT TO CHAS



YSSA NIAM OT
CNSOI

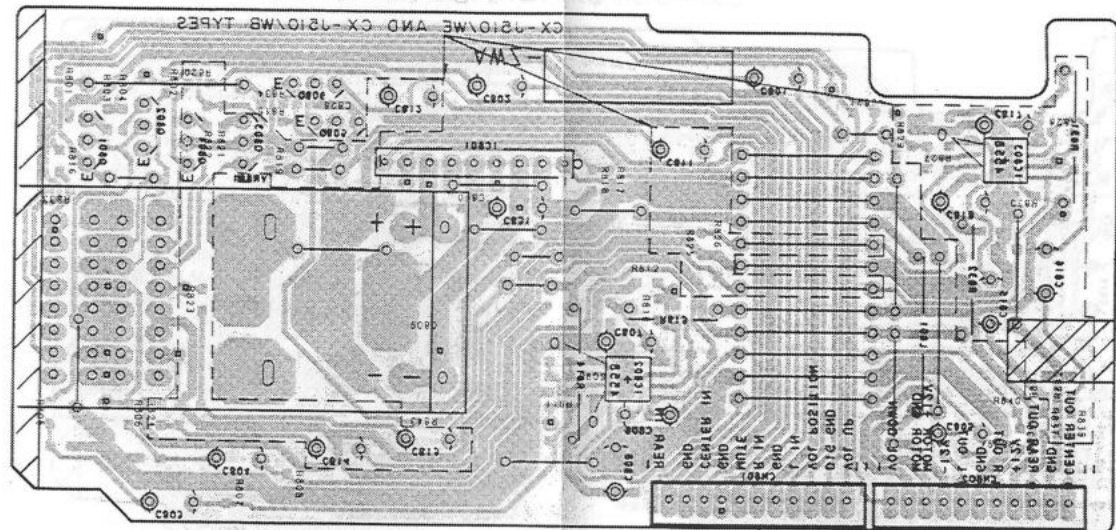


FE MODULE ASSEMBLY
(AXQ100S)

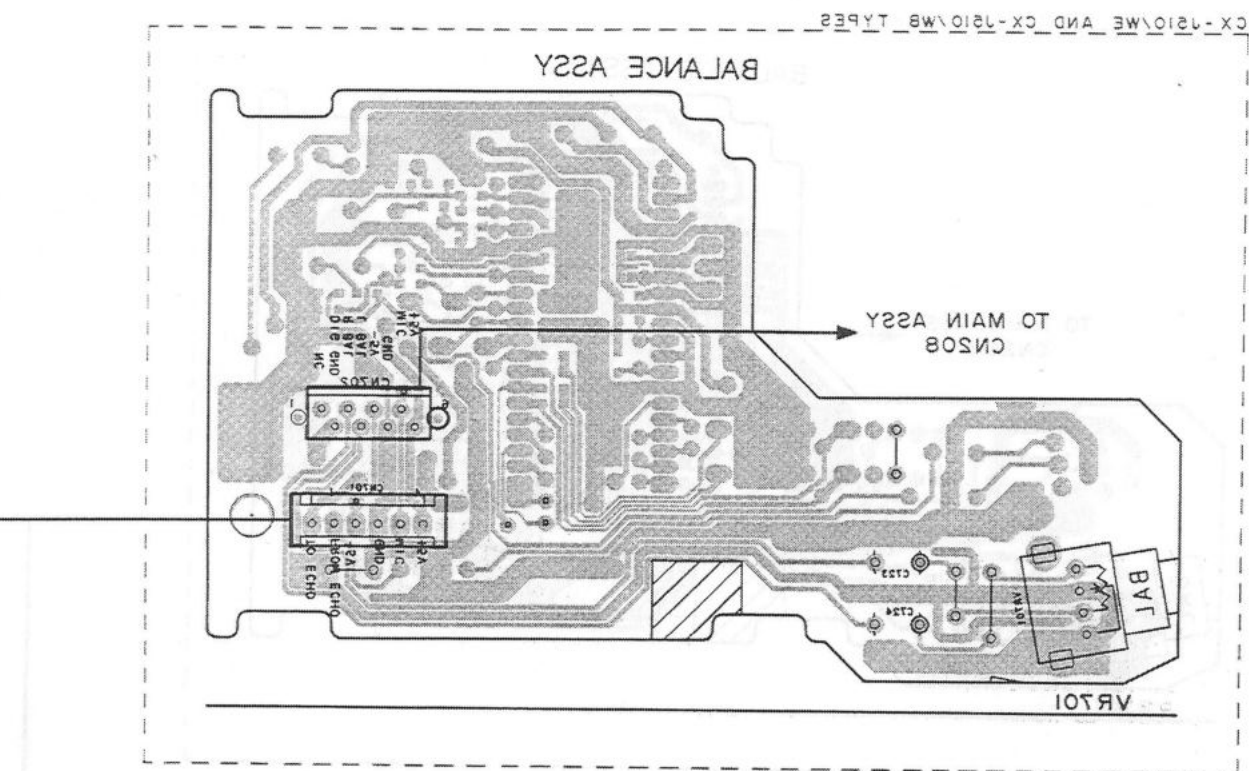
3.3 VOLUME ASSY, MIC ASSY, BALANCE ASSY

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

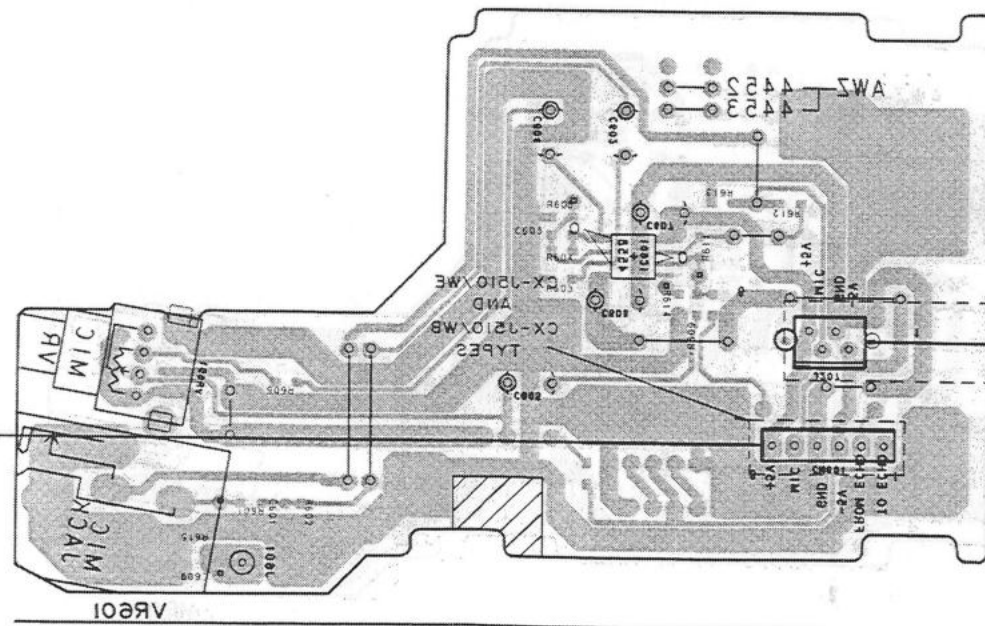
A
VOLUME ASSY (AW54447: CX-7210\WE AND CX-7210\WB TYPES)
(AW54448: CX-7410\WE, CX-7410\WB,
CX-7310\WE AND CX-7310\WB TYPES)



TO MAIN ASSY
TO MAIN ASSY
TO MAIN ASSY



CX-7310\WE AND CX-7310\WB TYPES)
(AW54423: CX-7410\WE, CX-7410\WB,
MIC ASSY (AW54425: CX-7210\WE AND CX-7210\WB TYPES)



TO MAIN ASSY
TO MAIN ASSY
TO MAIN ASSY

3.4 MAIN ASSY (1/3), CONNECT ASSY

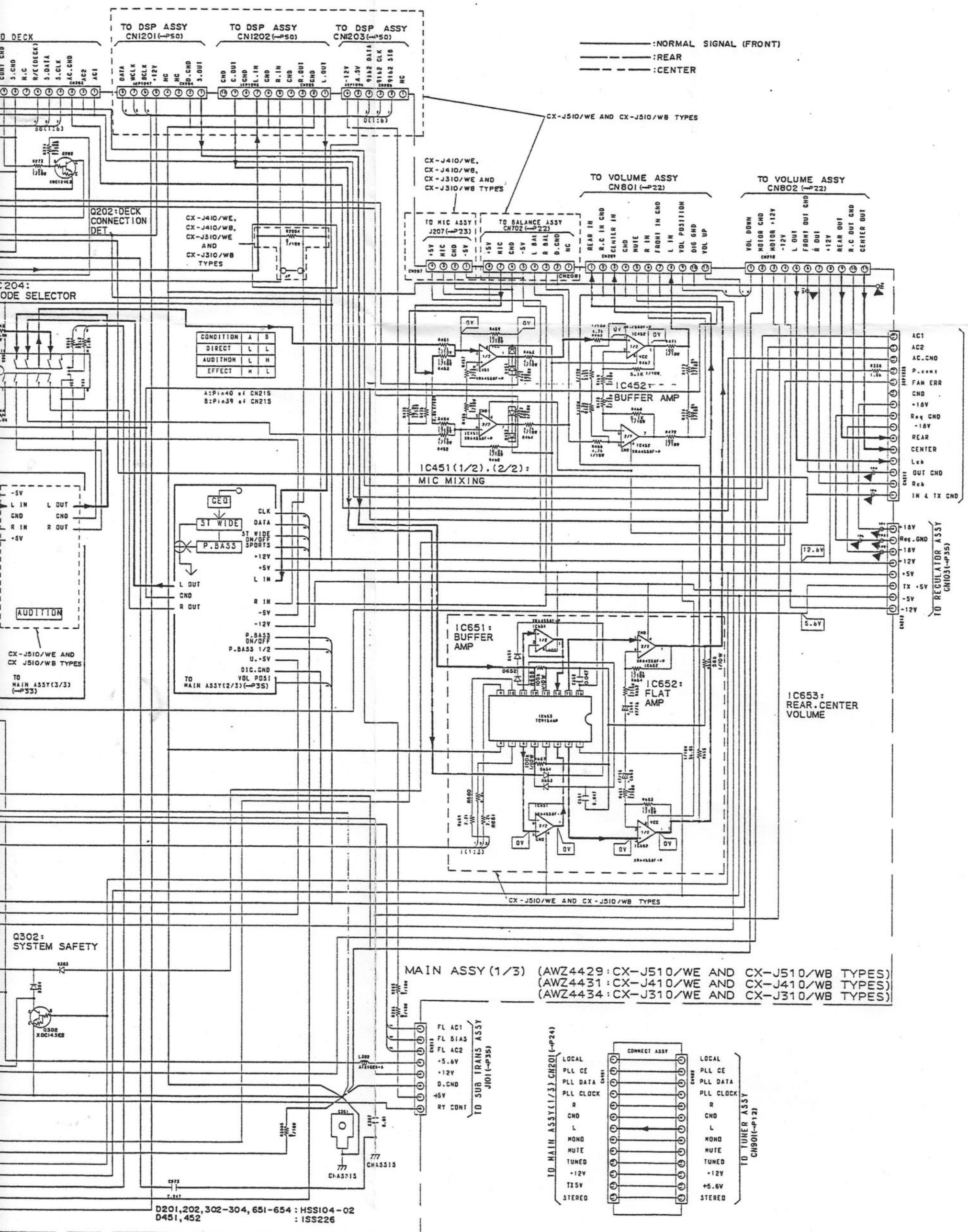
CONDITION	INH	A	B
PHONO	L	L	L
CD	L	H	L
TUNER	L	L	H
TAPE	L	H	H
AUX	H	L	H
YTR	H	H	H
DAT/LD	H	L	L

INH: Pin 48 of IC301
A: Pin 49 of IC301
B: Pin 50 of IC301

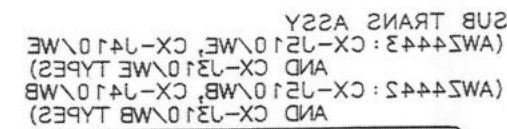
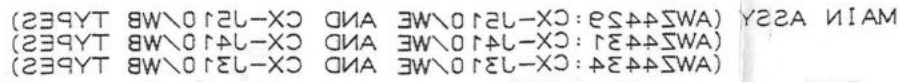
CX-J510/WE, CX-J510/WB,
CX-J410/WE AND CX-J410/WB
TYPES

PLAYER +12V

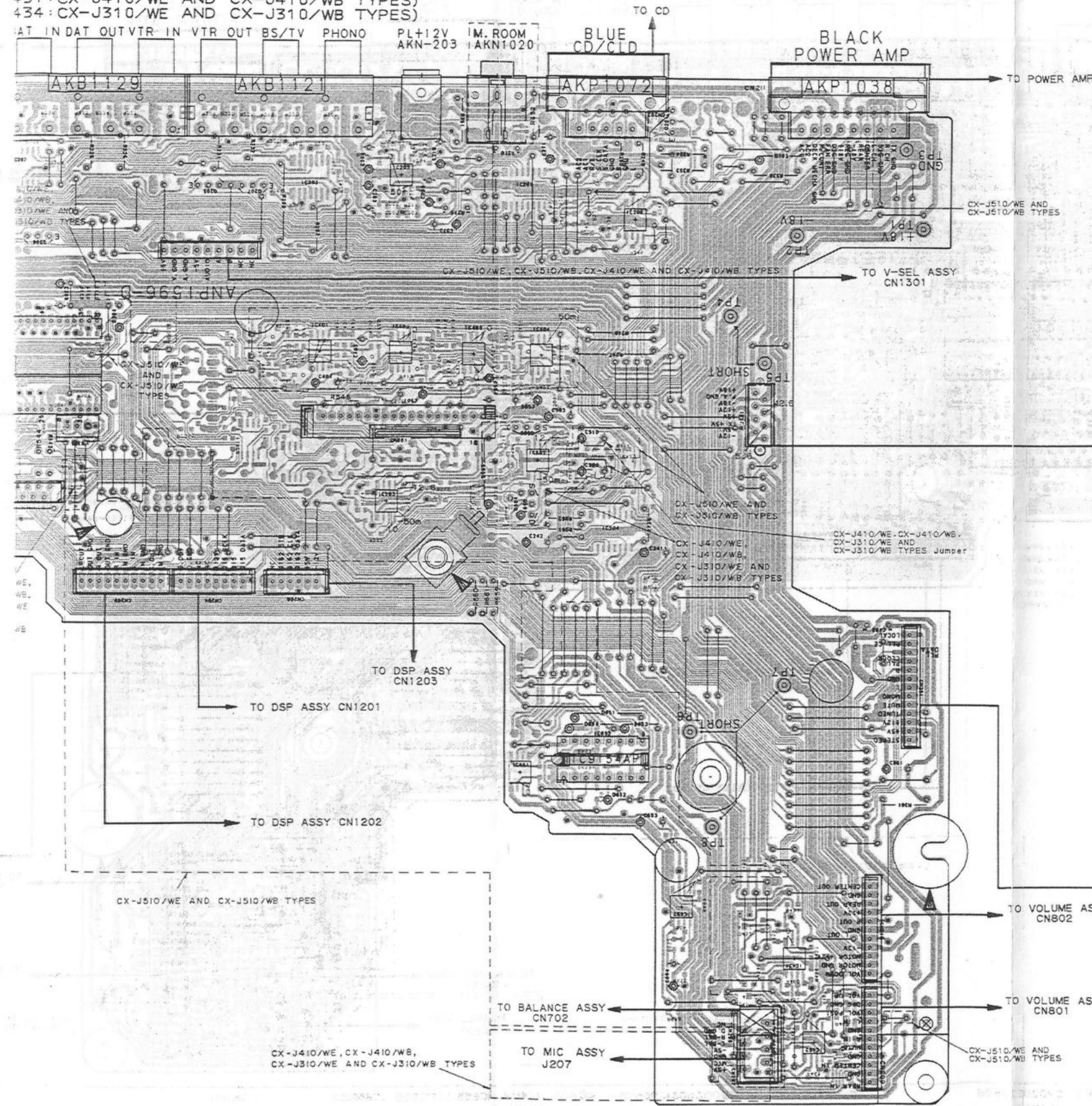
TO U. COM ASSY CNI101 (P37)



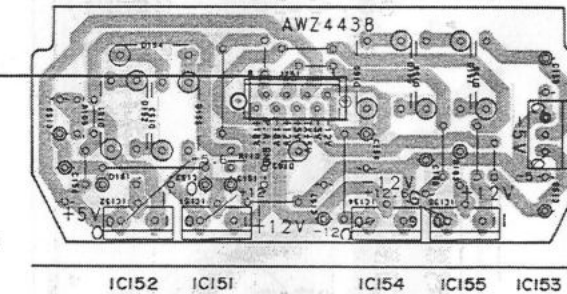
POWER AMP
BLACK



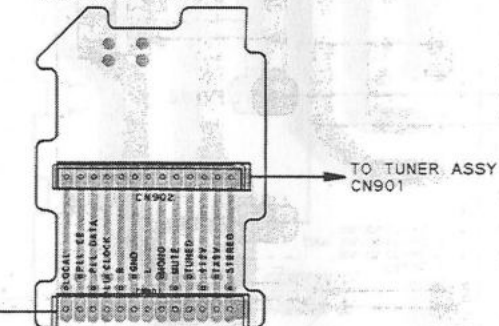
429: CX-J510/WE AND CX-J510/WB TYPES)
431: CX-J410/WE AND CX-J410/WB TYPES)
434: CX-J310/WE AND CX-J310/WB TYPES)



REGULATOR ASSY (AWZ4438)



CONNECT ASSY



Q206 Q205 Q207 IC203 IC503 IC205 IC403 IC404 IC653 IC206 IC652 IC451 IC452
IC401 IC402 IC201 Q502 IC204 IC651 IC502 Q501

A



C

D

RED
DECK



Q202	Q204	IC301	IC202	Q206
Q302	Q203		Q503	
			Q504	

TO DSP ASSY
CN1203

CX-J510/WE AND CX-J510/WB TYPES

CX-J410/WE, CX-J410/WB,
CX-J310/WE AND CX-J310/WB TYPES

4

□

Y

B. *Chlorophyll a* and *Chlorophyll b* content of the leaves of the plants was determined by the method of Arnon and Whistler (1940). The results are given in Table 1.

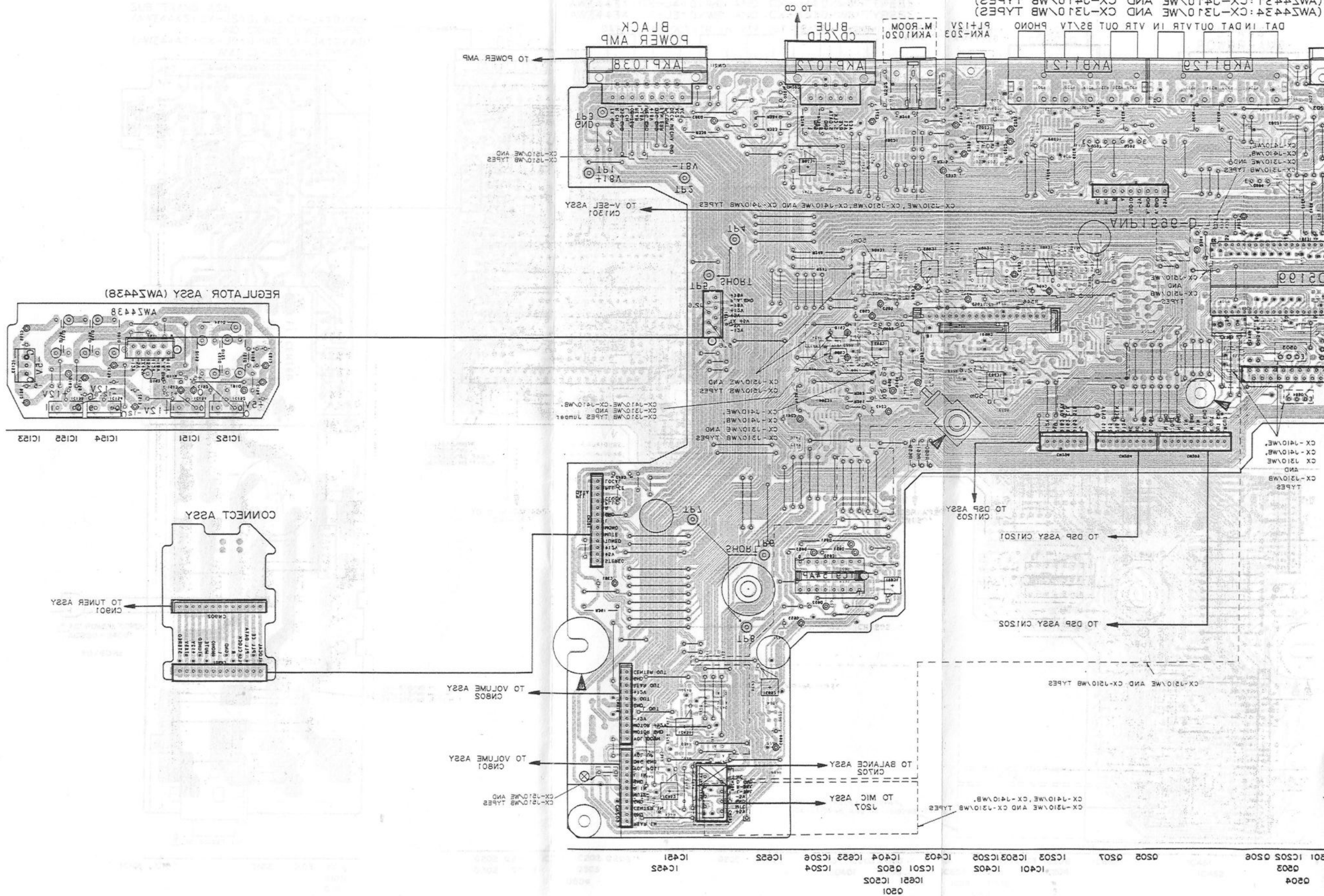
TO :

TO: V

CX-J510/WE
 CX-J510/WB

1

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



(AW24438: CX-1210WB AND CX-1410WB TYPES)
(AW24439: CX-1210WB AND CX-1410WB TYPES)
(AW24440: CX-1210WB AND CX-1410WB TYPES)

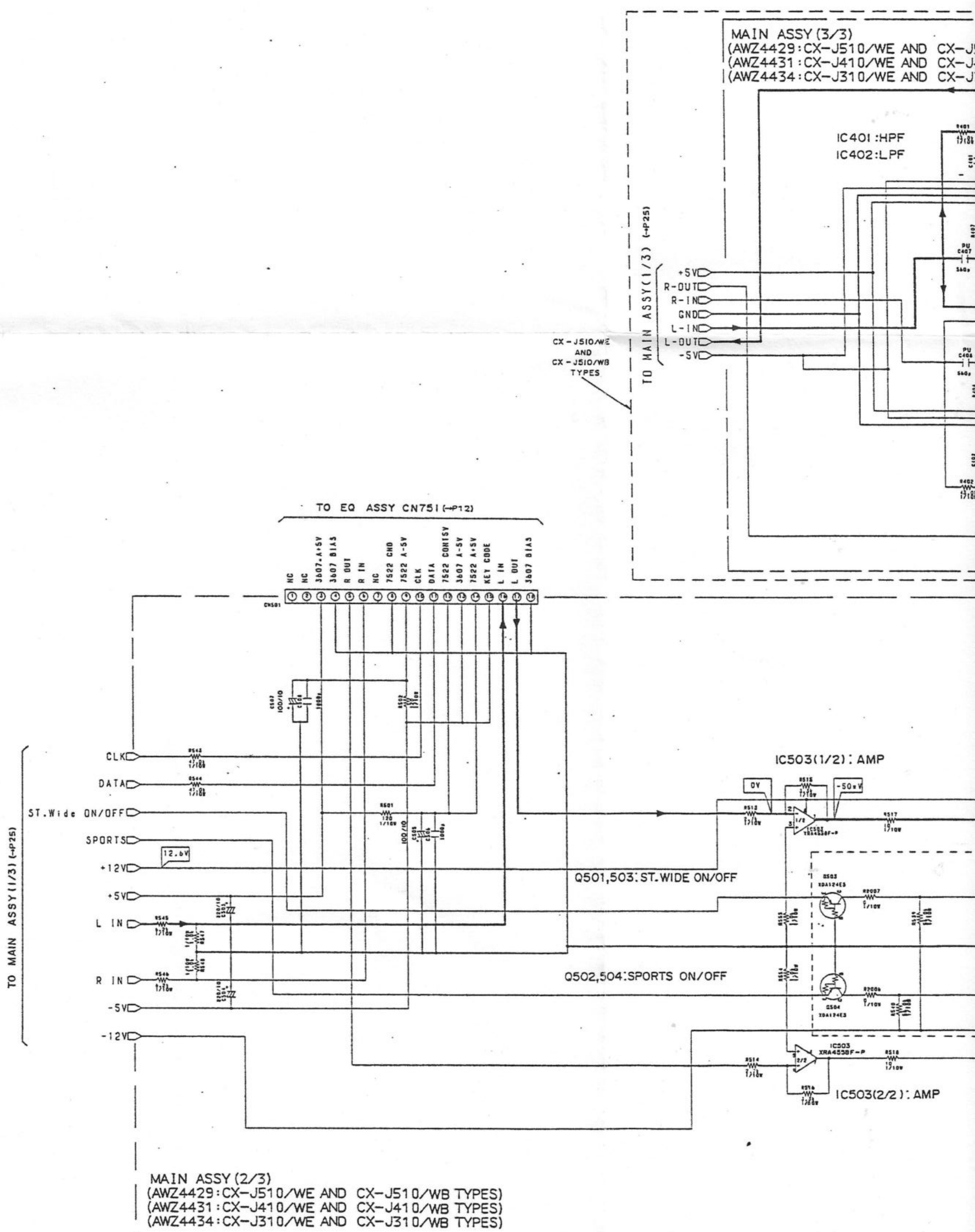
A

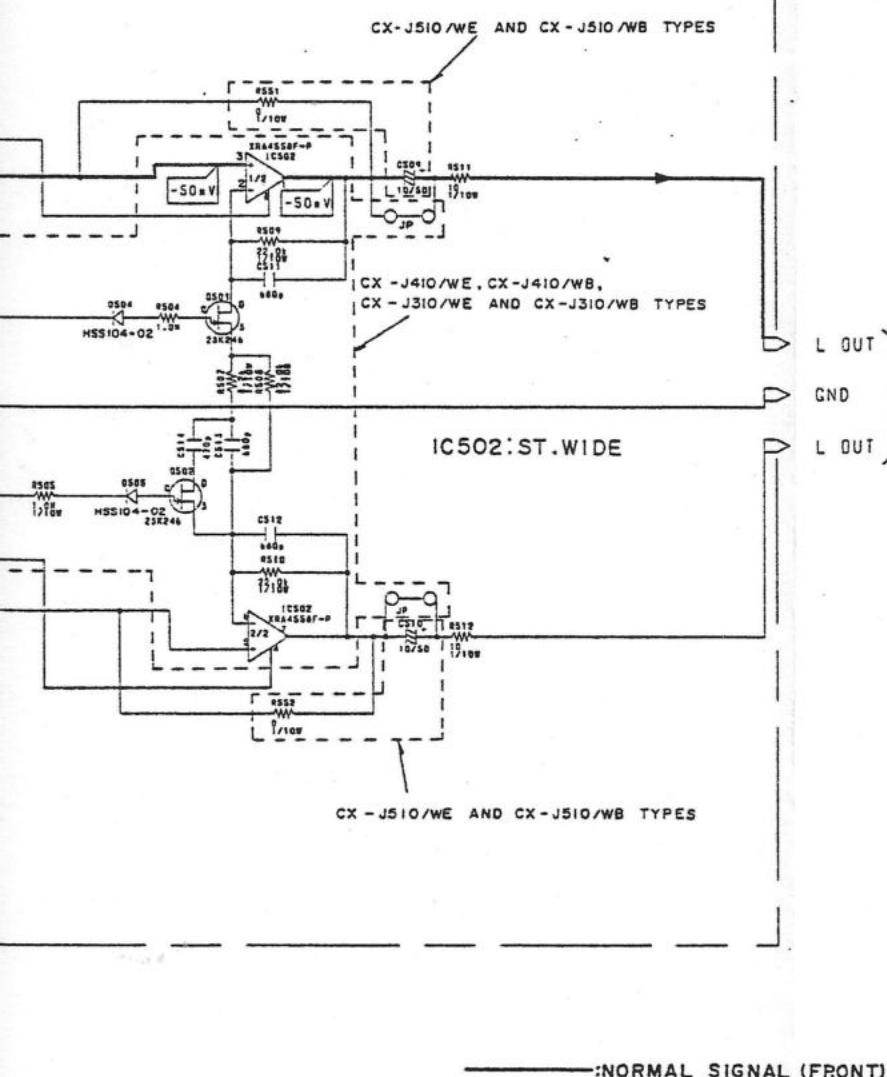
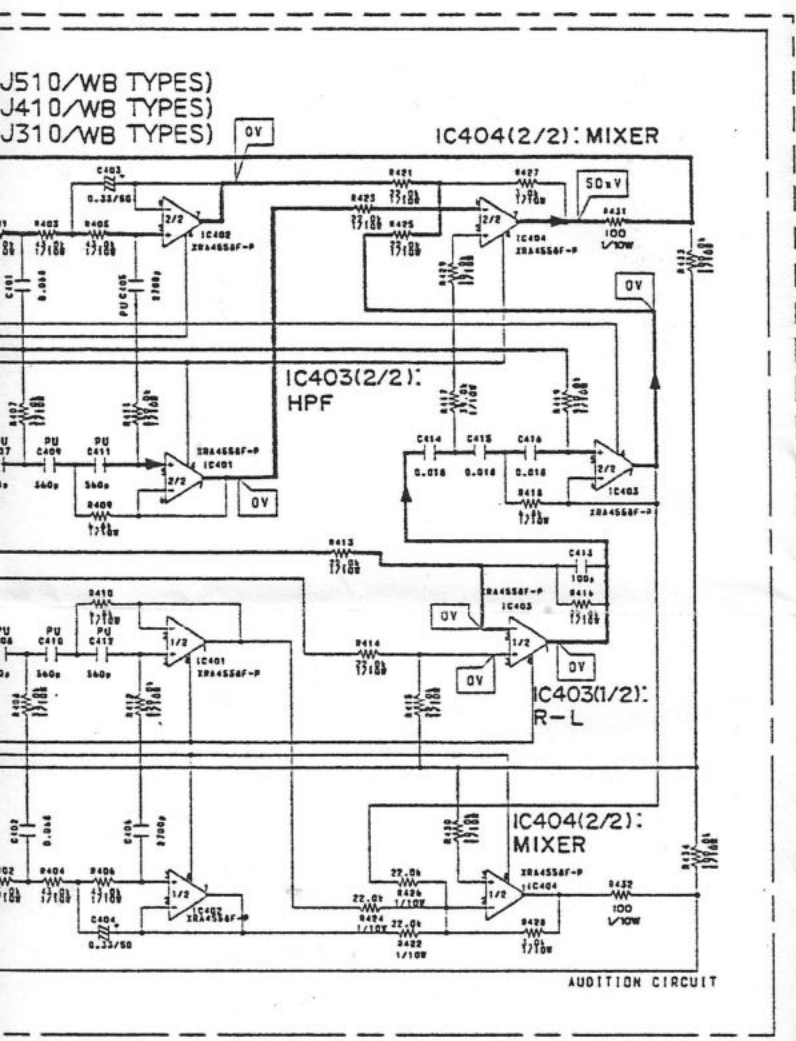
B

C

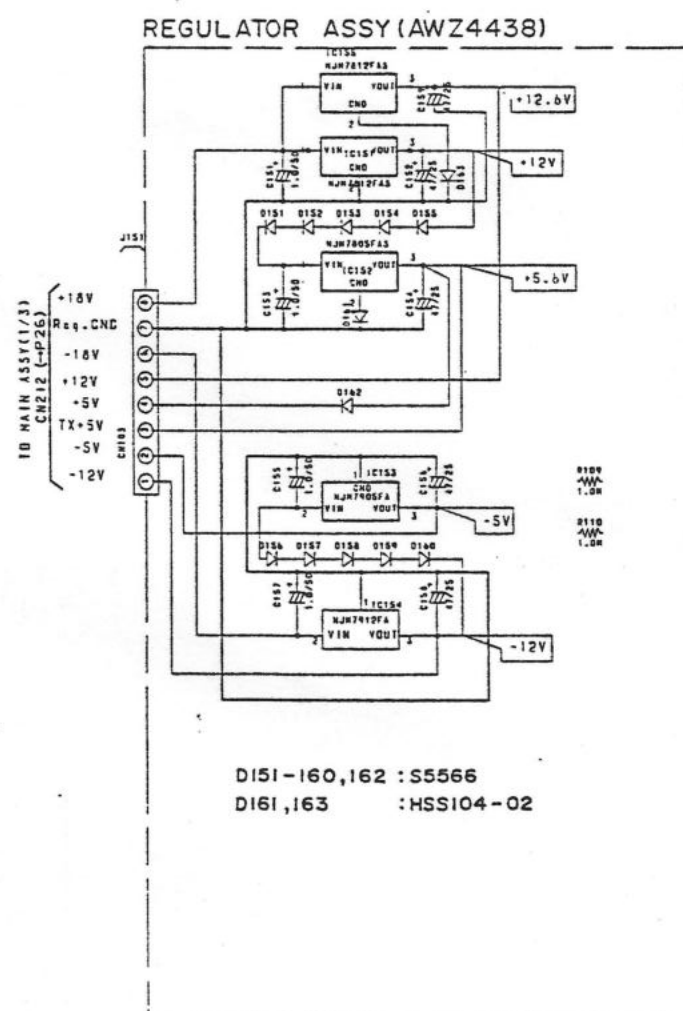
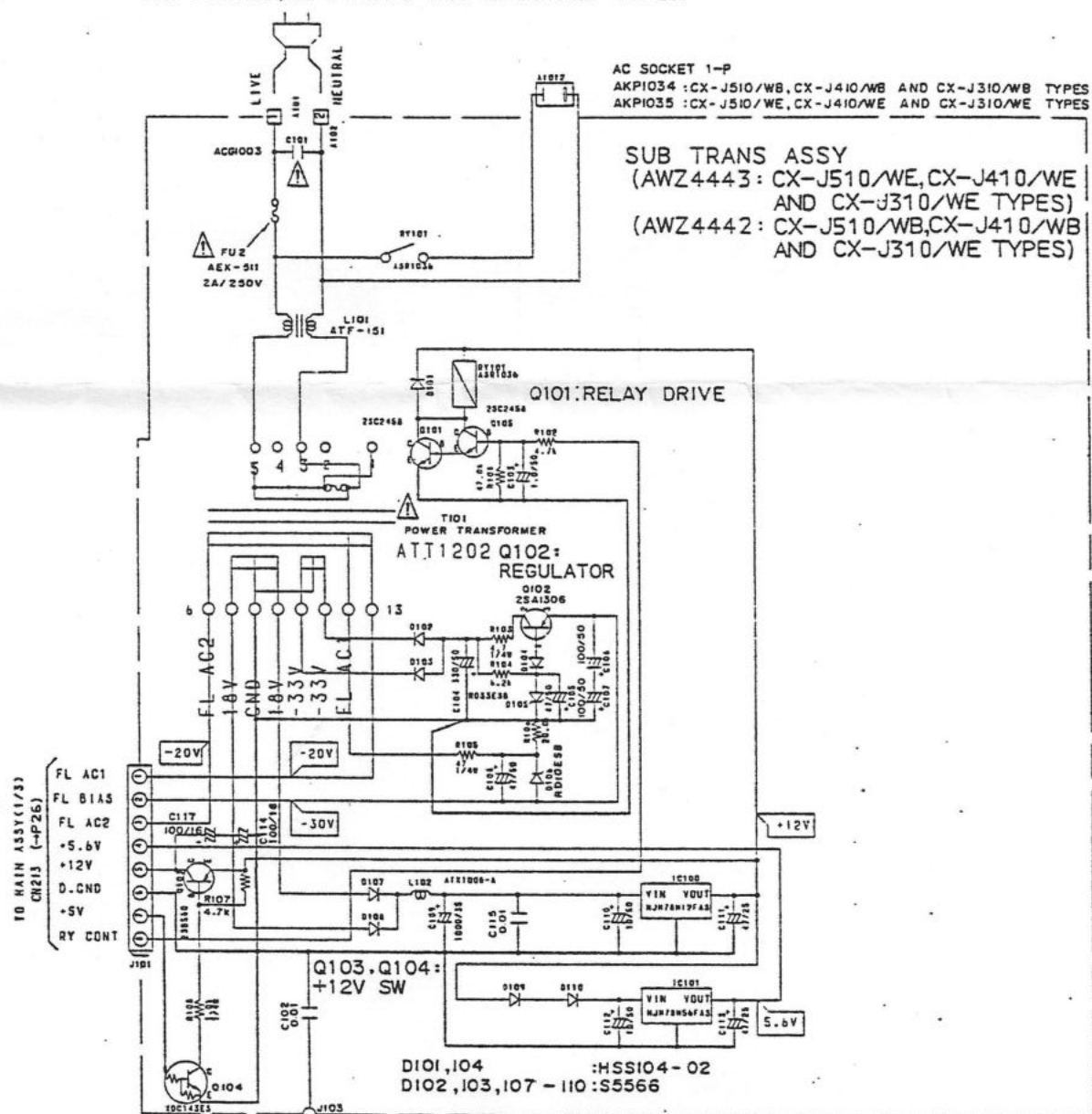
D

A
B
C
D
E
F

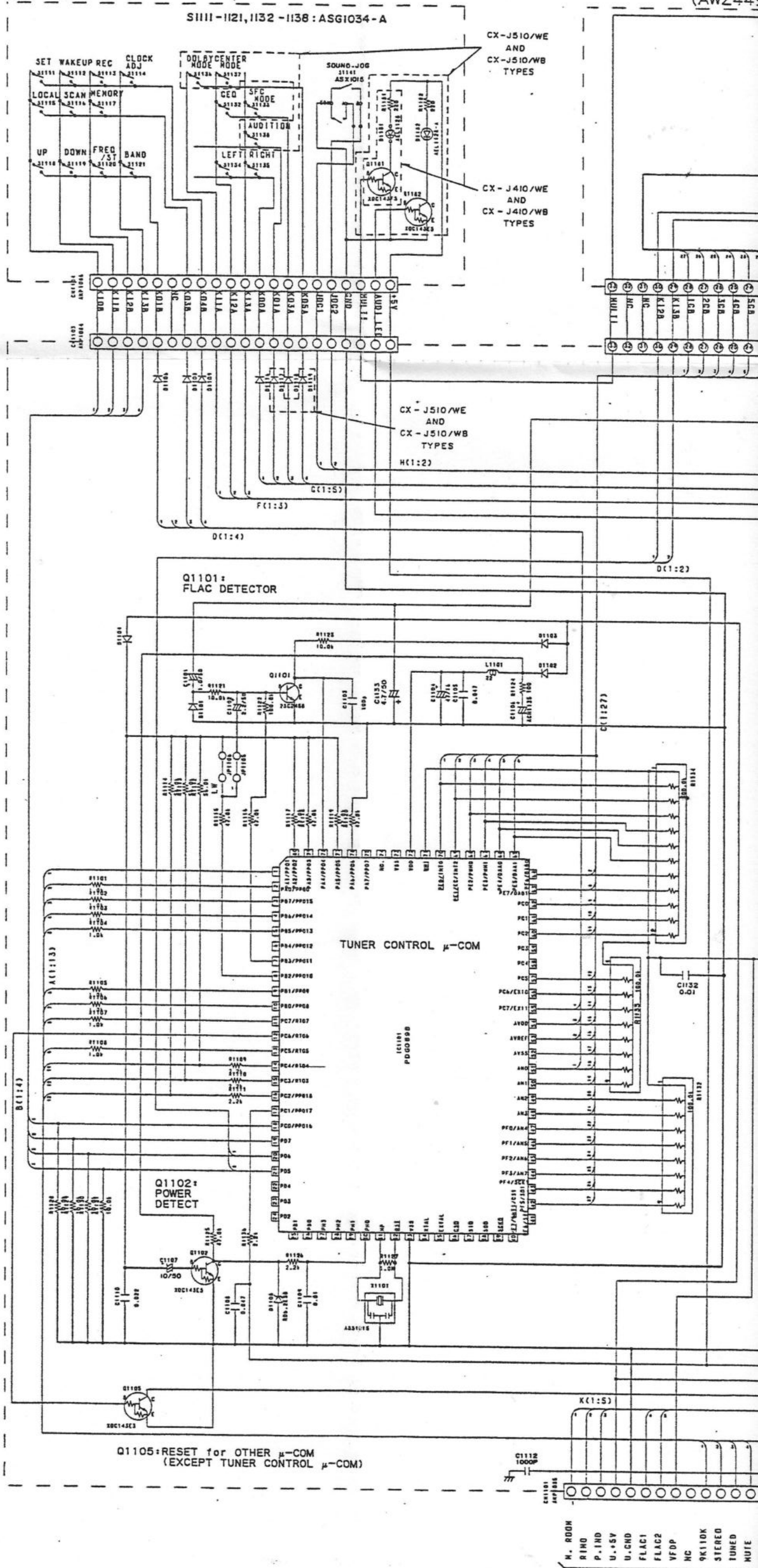




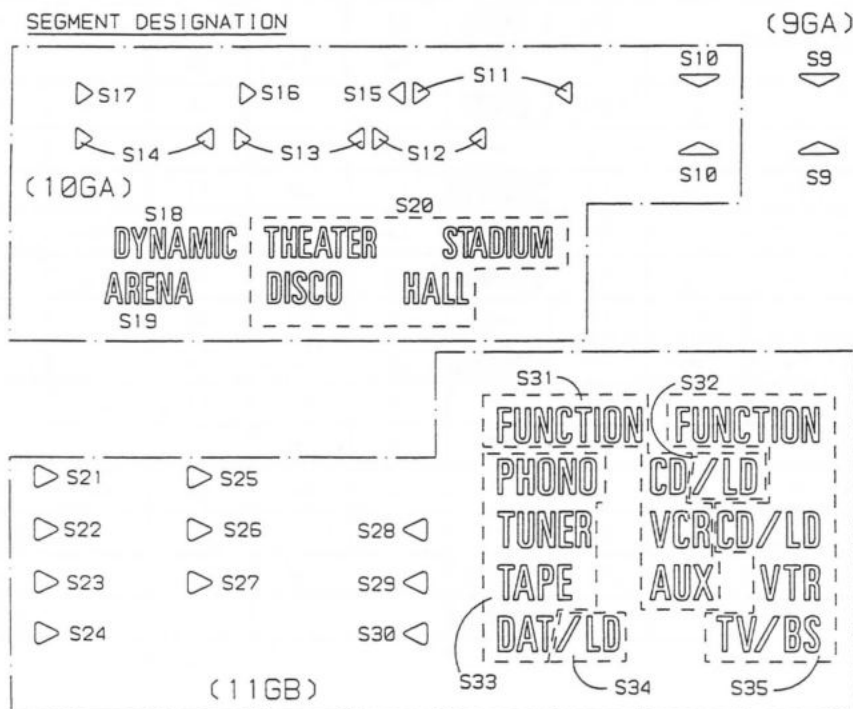
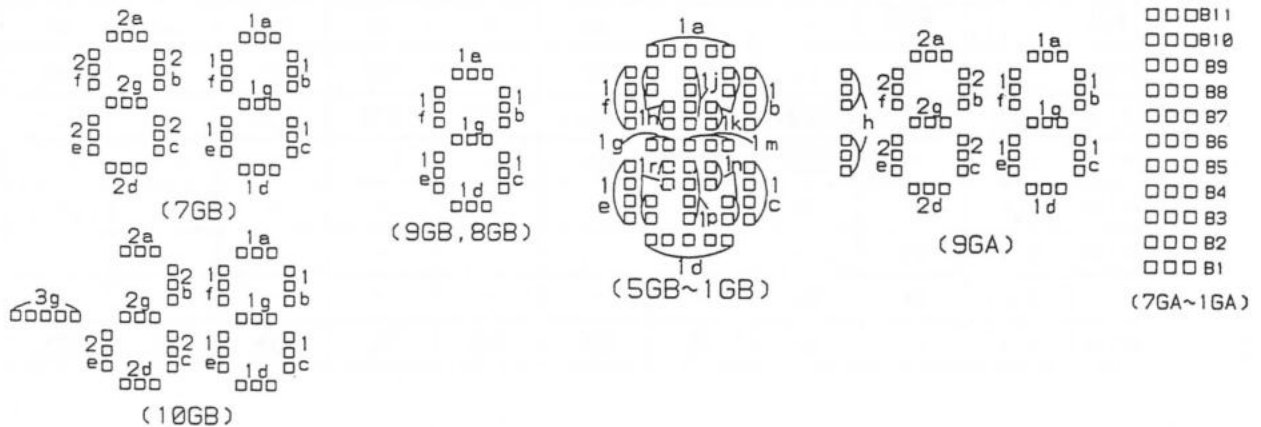
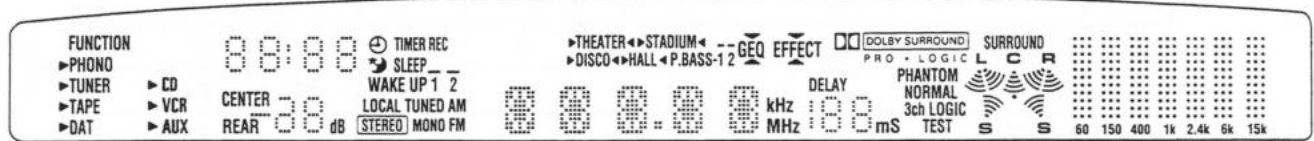
△ AC POWER CORD
ADG1049 AC220-240V 50/60Hz
(CX-J510/WE, CX-J410/WE AND CX-J310/WE TYPES)
ADG1118 AC220-240V 50/60Hz
(CX-J510/WB, CX-J410/WB AND CX-J310/WB TYPES)



KEY ASSY

FL ASSY (AWZ47-
(AWZ44-

● AAV 1157 (V 1101) Display Segments



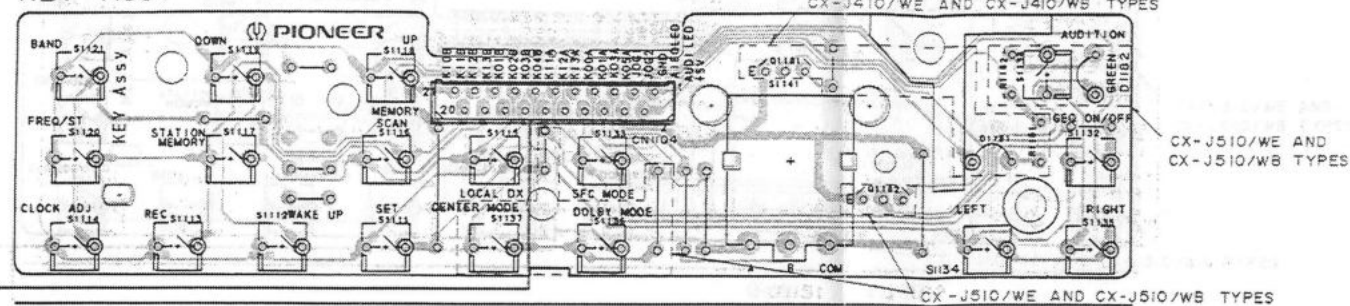
ANODE CONNECTION

	10GA	9GA	8GA	7GA	6GA	5GA	4GA	3GA	2GA	1GA
P1A	S13	2g	S1	B1	B1	B1	B1	B1	B1	B1
P2A	S12	2f	S6	B2	B2	B2	B2	B2	B2	B2
P3A	P.BASS-12	2b	S7	B3	B3	B3	B3	B3	B3	B3
P4A	S16	2a	C	B4	B4	B4	B4	B4	B4	B4
P5A	S20	1b, 1e	3ch LOGIC	B5	B5	B5	B5	B5	B5	B5
P6A	S15	1a, 1f 1c, 1d	NORMAL	B6	B6	B6	B6	B6	B6	B6
P7A	S11	1g	PHANTOM	B7	B7	B7	B7	B7	B7	B7
P8A	-(1)	DELAY ms	-	B8	B8	B8	B8	B8	B8	B8
P9A	-(2)	S9	S2	B9	B9	B9	B9	B9	B9	B9
P10A	GEO	EFFECT	SURROUND	B10	B10	B10	B10	B10	B10	B10
P11A	S10	-	TEST	B11	B11	B11	B11	B11	B11	B11
P12A	S14	h	S8	-	-	-	-	-	-	-
P13A	S19	2d	S4	-	-	-	-	-	-	-
P14A	S17	2e	S3	-	-	-	-	-	-	-
P15A	S18	2c	S5	60	150	400	1k	2.4k	6k	15k

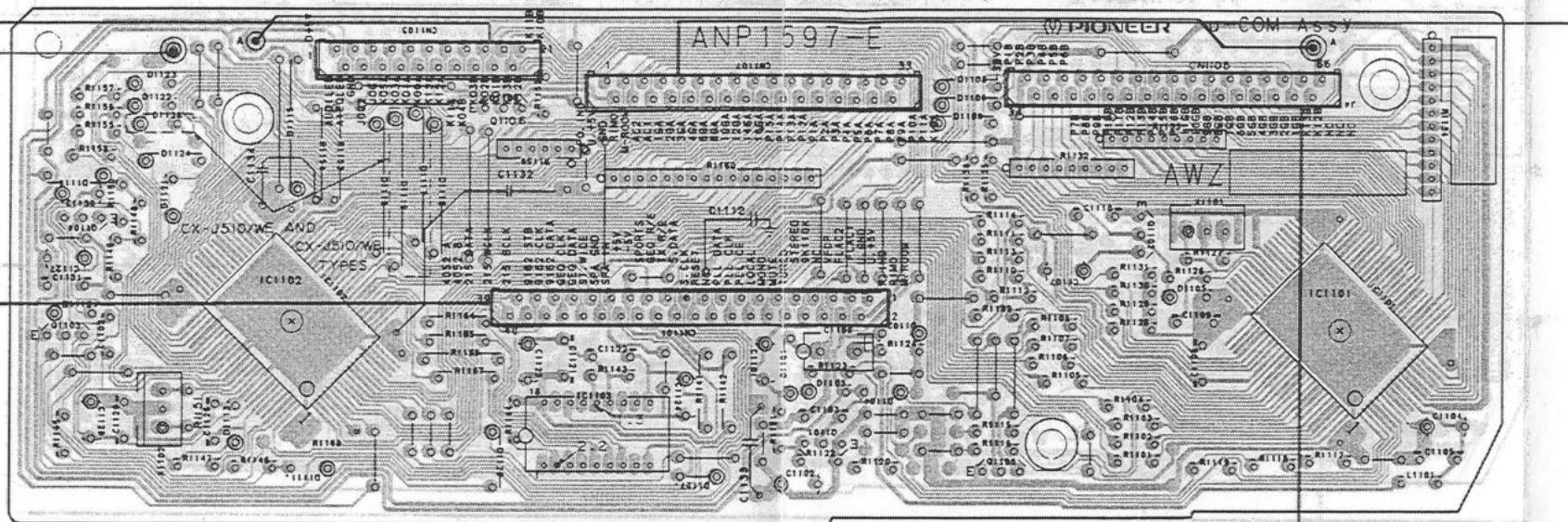
ANODE CONNECTION

	11GB	10GB	9GB	8GB	7GB	6GB	5GB	4GB	3GB	2GB	1GB
P1B	S28	1a	1a	1a	1a	-	1a	1a	1a	1a	1a
P2B	S32	REAR	-	-	2a	TUNED	1j	1j	1j	1j	1j
P3B	S31	CENTER	-	-	-	REC	1h	1h	1h	1h	1h
P4B	S21	-	-	-	2b	MONO	1k	1k	1k	1k	1k
P5B	S25	1b	1b	1b	1b	-(1)	1b	1b	1b	1b	1b
P6B	S29	1f	1f	1f	1f	SLEEP	1f	1f	1f	1f	1f
P7B	S33	dB	-	-	2c	AM	1m	1m	1m	1m	1m
P8B	S26	1g	1g	1g	1g	TIMER	1g	1g	1g	1g	1g
P9B	S22	1c	1c	1c	1c	-(2)	1c	1c	1c	1c	1c
P10B	S30	1e	1e	1e	1e	STEREO	1e	1e	1e	1e	1e
P11B	S35	2e	-	-	2f	-	1r	1r	1r	1r	1r
P12B	S23	2b	-	-	2d	FM	1n	1n	1n	1n	1n
P13B	S27	2c	-	-	2e	-	1p	1p	1p	1p	1p
P14B	S24	2a, 2g, 2d	-	-	2g	-	-	-	-	-	kHz
P15B	S34	1d	1d	1d	1d	LOCAL	1d	1d	1d	1d	1d
P16B	-	3g	-	-	-	WAKE UP 1 2	-	-	-	-	MHz

KEY ASSY

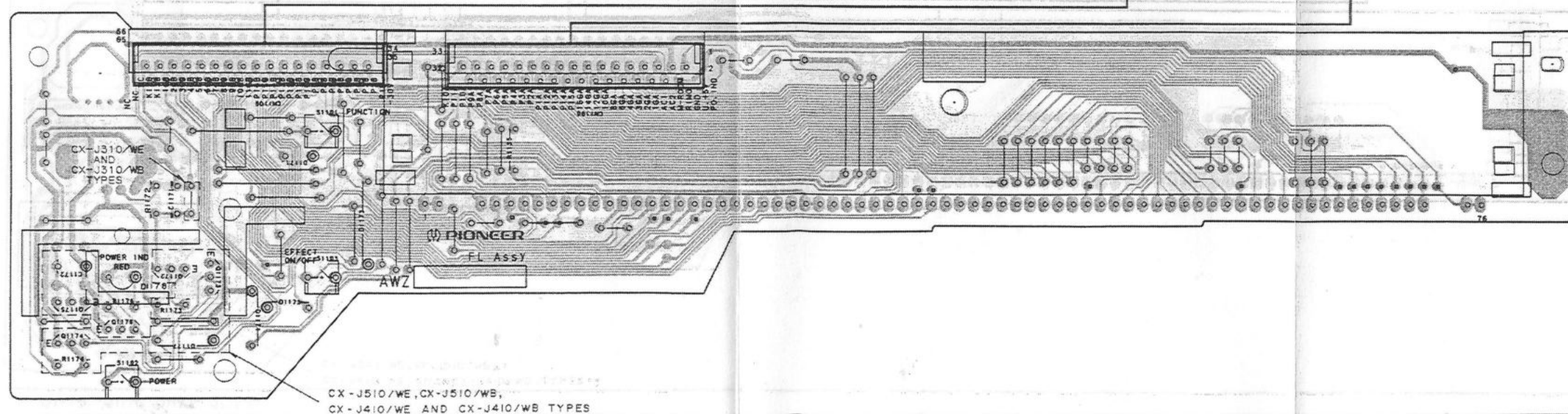


U.COM ASSY (AWZ4460: CX-J510/WE AND CX-J510/WB TYPES)
 (AWZ4462: CX-J410/WE, CX-J410/WB,
 CX-J310/WE AND CX-J310/WB TYPES)



TO MAIN ASSY
 CN215

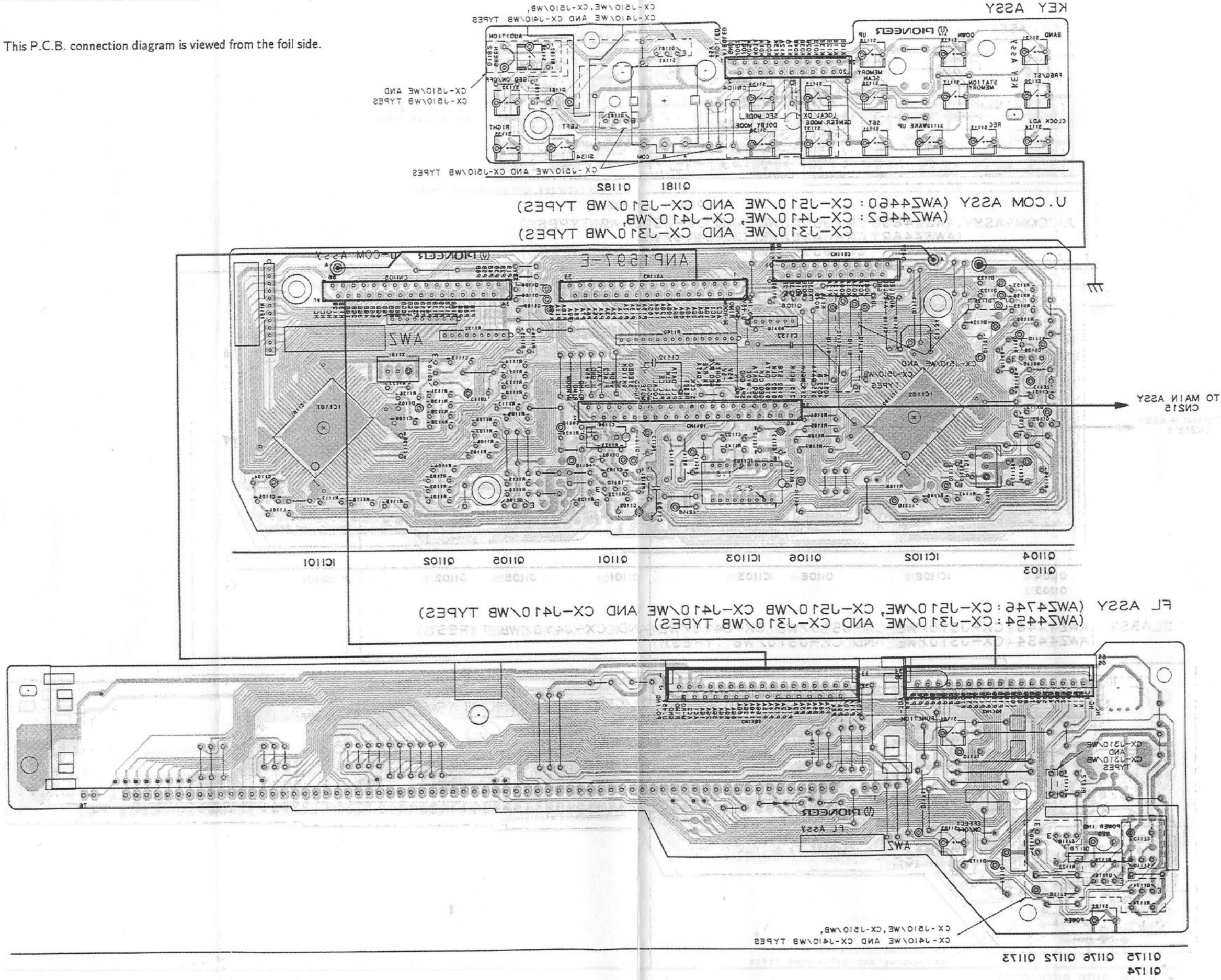
FL ASSY (AWZ4746: CX-J510/WE, CX-J510/WB CX-J410/WE AND CX-J410/WB TYPES)
 (AWZ4454: CX-J310/WE AND CX-J310/WB TYPES)



Q1175 Q1176 Q1172 Q1173
 Q1174

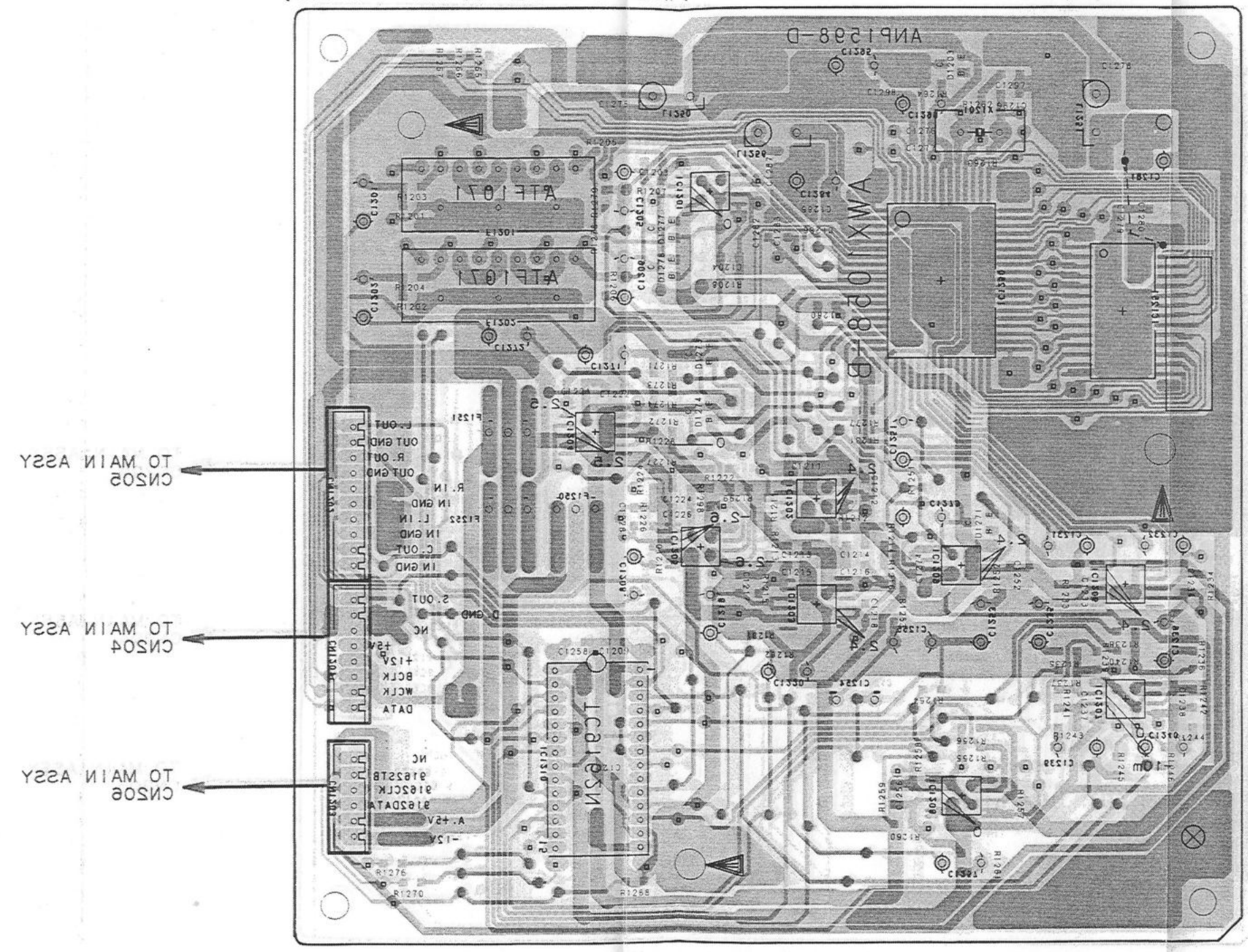
CX-J510/WE, CX-J510/WB,
 CX-J410/WE AND CX-J410/WB TYPES

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



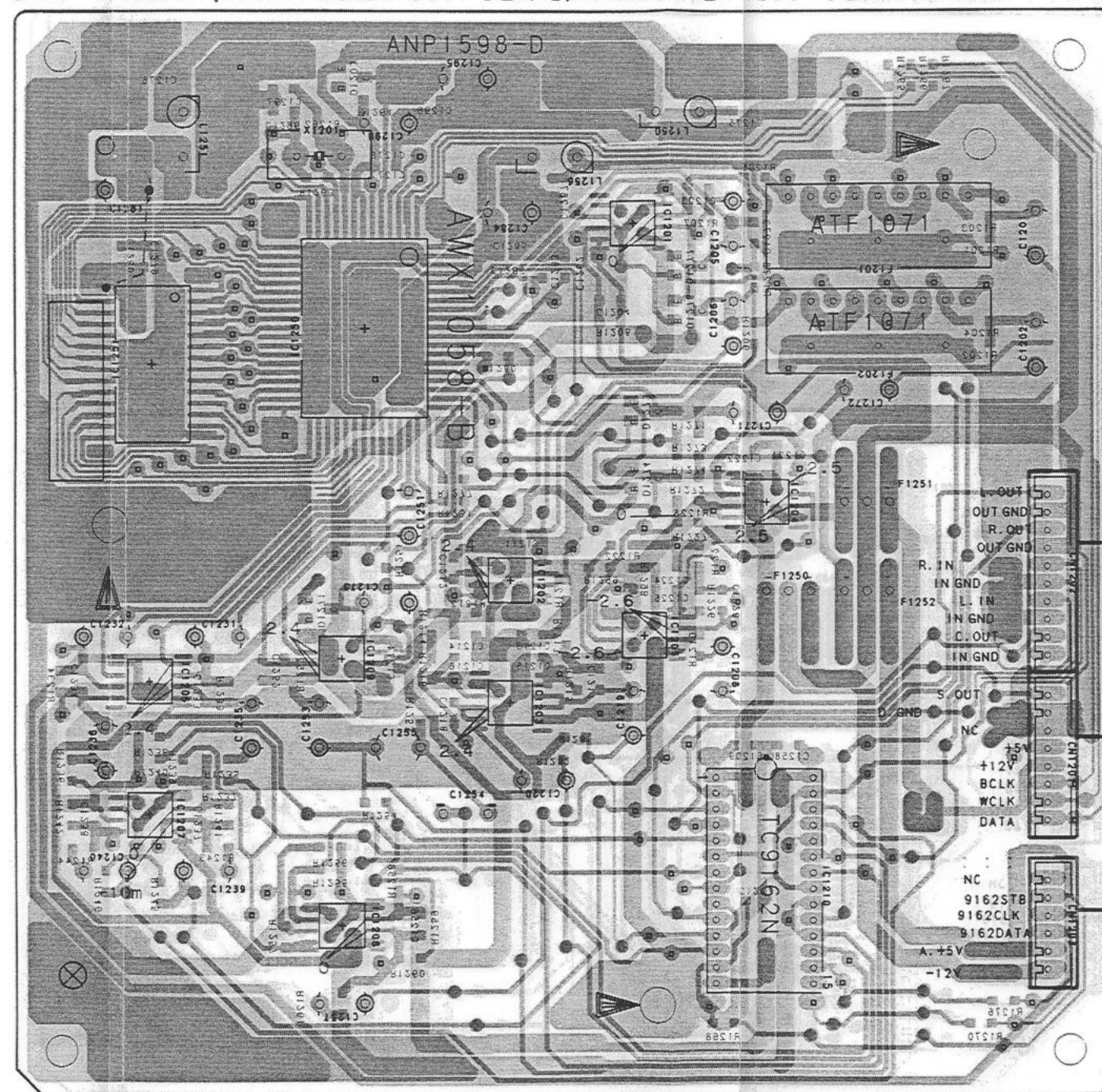
This P.C.B. connection diagram is viewed from the foil side.

DSP ASSY (AWX1028: CX-7210\WE AND CX-7210\WB TYPES)



- IC1501
- IC1502
- IC1503
- IC1504
- IC1505
- IC1506
- IC1507
- IC1508
- IC1509
- IC1510
- IC1511
- IC1512
- IC1513
- IC1514
- IC1515
- IC1516
- IC1517
- IC1518
- IC1519
- IC1520
- IC1521
- IC1522
- IC1523
- IC1524
- IC1525
- IC1526
- IC1527
- IC1528
- IC1529
- IC1530
- IC1531
- IC1532
- IC1533
- IC1534
- IC1535
- IC1536
- IC1537
- IC1538
- IC1539
- IC1540
- IC1541
- IC1542
- IC1543
- IC1544
- IC1545
- IC1546
- IC1547
- IC1548
- IC1549
- IC1550
- IC1551
- IC1552
- IC1553
- IC1554
- IC1555
- IC1556
- IC1557
- IC1558
- IC1559
- IC1560
- IC1561
- IC1562
- IC1563
- IC1564
- IC1565
- IC1566
- IC1567
- IC1568
- IC1569
- IC1570
- IC1571
- IC1572
- IC1573
- IC1574
- IC1575
- IC1576
- IC1577
- IC1578
- IC1579
- IC1580
- IC1581
- IC1582
- IC1583
- IC1584
- IC1585
- IC1586
- IC1587
- IC1588
- IC1589
- IC1590
- IC1591
- IC1592
- IC1593
- IC1594
- IC1595
- IC1596
- IC1597
- IC1598
- IC1599
- IC1600

DSP ASSY (AWX1058: CX-J510/WE AND CX-J510/WB TYPES)



IC1251	IC1250	IC1202	IC1201	IC1204
IC1206	IC1209	IC1203	IC1205	IC1210
IC1207	IC1208			

← : FRONT (SURROUND)



4. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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 $\rightarrow$ 56 $\times$ 10¹ $\rightarrow$ 561 RD1/8PM $\overline{561}$ J
 47k Ω $\rightarrow$ 47 $\times$ 10³ $\rightarrow$ 473 RD1/4PS $\overline{473}$ J
 0.5 Ω $\rightarrow$ 0R5 RN2H $\overline{0R5}$ K
 1 Ω $\rightarrow$ 010 RS1P $\overline{010}$ K

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

5.62k Ω $\rightarrow$ 562 $\times$ 10¹ $\rightarrow$ 5621 RN1/4PC $\overline{5621}$ F

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES				COILS, FILTERS			
		TUNER ASSY	AWE1261			L907	ATE-079
		EQ ASSY	AWF1009			L904	LAU010K
		DSP ASSY(CX-J510 only)	AWX1058			L901	LAU2R2K
●		MAIN ASSY(CX-J510)	AWZ4429			L903	LAU2R2K
●		MAIN ASSY(CX-J410)	AWZ4431			L905	LAU2R2K
●		REGULATOR ASSY	AWZ4438			L908	LAU2R2K
●		SUB TRANS ASSY	AWZ4443			F905	ATF-107
NSP		BALANCE ASSY(CX-J510 only)	AWZ4446			F903	ATF-119
						F904	ATF1042
						F906	ATF1088
●		VOLUME ASSY(CX-J510)	AWZ4447	CAPACITORS			
●		VOLUME ASSY(CX-J410)	AWZ4449			C948	(470P/50V) ACE1039
●		MIC ASSY(CX-J510)	AWZ4452			C912,C914	CCDCH150J50
●		MIC ASSY(CX-J410)	AWZ4453			C968	CCDSL101J50
NSP		CONNECT ASSY	AWZ4547			C939	CCDSL271J50
						C927	CCDSL470J50
●		U.COM ASSY(CX-J510)	AWZ4460			C945	CEANP2R2M50
●		U.COM ASSY(CX-J410)	AWZ4462			C938	CEAS010M50
●		FL ASSY	AWZ4746			C944,C954,C960	CEAS0R1M50
NSP		KEY ASSY(CX-J510)	AWZ4747			C949	CEAS1R5M50
NSP		KEY ASSY(CX-J410)	AWZ4456			C942,C957,C958,C963	CEAS2R2M50
TUNER ASSY						C901,C926,C930	CEAS330M16
SEMICONDUCTORS						C950	CEAS3R3M50
		IC903	AN7470P			C924,C928,C943,C951	CEAS470M10
		IC902	LA1265S			C946	CEAS470M25
		IC901	LM7001			C936	CEAS4R7M50
		Q914	2SA1048			C955	CEASR22M50
		Q902	2SC1740SLN			C905	CFTXA103J50
		Q910-Q913	2SC2458			C906	CFTXA224J50
		Q909	2SC2668			C952,C953,C956	CKDYB122K50
		Q901	2SK246			C940	CKDYB222K50
		Q908	RN1203			C961,C962	CKDYB272K50
		Q905,Q907 RN2201				C902	CKDYF102Z50
		D901	1SV156			C915,C919,C922,C932-C935,	CKDYF223Z50
		D908-D912	HSS104-02			C937	
						C941,C947	CKDYF473Z50

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	C903, C910, C964		CKPUYB101K50		C754, C768		CEJAR68M50
	C904, C907, C965		CKPUYB102K50		C753, C767		CFTXA124J50
	C911, C916, C925, C929		CKPUYF103Z25		C759, C773		CKSQYB103K50
	C923, C931, C959		CKPUYF223Z25		C762, C776		CKSQYB123K50
					C763, C777		CKSQYB152K50
RESISTORS					C766, C780		CKSQYB222K50
	VR903 (4.7K)		ACP1042		C757, C771		CKSQYB223K50
	VR901 (10K)		ACP1043		C760, C772		CKSQYB333K50
	VR902 (22K)		ACP1044		C761, C775		CKSQYB392K50
	R934, R965, R966		RD1/8PM101J		C765, C779		CKSQYB561K50
	R908, R913, R916, R918, R938, R948		RD1/8PM102J		C764, C778		CKSQYB562K50
	R901, R920, R967, R968		RD1/8PM103J	RESISTORS			
	R912, R942		RD1/8PM104J		R773 - R781		RS1/8S000J
	R905		RD1/8PM122J		Other Resistors		RS1/10S□□□J
	R909, R955		RD1/8PM152J	DSP ASSY (CX - J510 ONLY)			
	R910, R946		RD1/8PM153J	SEMICONDUCTORS			
	R907, R929		RD1/8PM221J		IC1251		LH5P832N - 10T
	R937, R956		RD1/8PM222J		IC1201, IC1203, IC1205,		NJM4558M - D
	R906, R962		RD1/8PM223J		IC1207, IC1208		
	R954		RD1/8PM224J		IC1210		TC9162N
	R936, R940, R944, R945		RD1/8PM273J		IC1202, IC1204, IC1206,		UPC4570G2
	R924, R932		RD1/8PM331J		IC1209		
	R957, R958		RD1/8PM332J		IC1250		YSS215 - F
	R939		RD1/8PM333J		D1203, D1271, D1273, D1274,		1SS226
	R927, R963, R964		RD1/8PM391J		D1277, D1278		
	R959 - R961		RD1/8PM392J	COILS, FILTERS			
	R943		RD1/8PM433J		L1250, L1251, L1256		ATX1008
	R923, R928		RD1/8PM471J		F1250 - F1252		ATF1011
	R933, R951 - R953		RD1/8PM473J		F1201, F1202		ATF1071
	R902, R903		RD1/8PM561J	CAPACITORS			
	R904		RD1/8PM562J		C1203, C1204, C1233, C1234,		CCSQCH101J50
	R926, R930, R935		RD1/8PM682J		C1237, C1238, C1252, C1256		
	R947		RD1/8PM683J		C1296, C1297		CCSQCH300J50
	R949, R950		RD1/8PM752J		C1207, C1211, C1212,		CCSQCH330J50
	R941		RD1/8PM821J		C1221, C1222		
	R931		RD1/8PM822J		C1226		CCSQCH391J50
OTHERS					C1255		CEANP2R2M50
	X901 (7.200MHz)		ASS1042		C1201, C1202, C1205, C1206,		CEAS100M50
	X902		ATF1027		C1219, C1220, C1231, C1232,		
	ANTENNA TERMINAL(4P)		AKA1010		C1251, C1271, C1272		
	AM RF TUNING BLOCK		AXX1011		C1273		CEAS101M10
	F.E. MODULE ASSY		AXQ1002		C1208, C1235, C1236,		CEAS220M25
	Note:				C1239, C1240, C1253, C1257		
	F.E. MODULE assembly has no service part.				C1281, C1299		CEAS331M6
EQ ASSY					C1284		CEAS470M10
SEMICONDUCTORS					C1295		CEAS4R7M50
	IC751, IC752		LA3607		C1254		CFTXA274J50
	IC753		LC7522		C1277, C1280, C1286		CKSQYB102K50
CAPACITORS					C1213, C1214, C1224		CKSQYB272K50
	C755, C769 (0.056/25)		ACG1049		C1282, C1283		CKSQYB332K50
	C758, C770 (0.082/25)		ACG1050		C1215, C1216		CKSQYB392K50
	C751, C752		CCSQCH680J50		C1275, C1276, C1278, C1279,		CKSQYB473K50
	C781 - C784		CEAS2R2M50		C1285, C1287		
	C756, C785		CEASR22M50		C1217, C1218, C1228		CKSQYB682K50
					C1209, C1258		CKSQYF103Z50

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
		C1274,C1298	CKSQYF104Z50			C207,C208	CKSQYB562K50
RESISTORS						C511-C513 (CX-J410 only)	CKSQYB681K50
		All Resistors	RS1/10S□□□J			C307	CKSQYF103Z50
OTHERS						C273,C301-C303,C305,C306	CKSQYF473Z50
		X1201 (11.2MHz)	ASS1031			C651,C652 (CX-J510 only)	CKSQYF473Z50
		CN1203 PLUG(6P)	AKM1083			C401,C402 (CX-J510 only)	CKSQYF683Z50
		CN1201 PLUG(8P)	AKM1084	RESISTORS			
		CN1202 PLUG(10P)	AKM1085			R351-R354,R361	RD1/4PMFL100J
MAIN ASSY						R261,R262,R338	RD1/8PM102J
SEMICONDUCTORS						R249,R250	RD1/8PM123J
		IC201,IC202,IC204	MC14052BF			R257,R258,R342-R346	RD1/8PM222J
		IC203	MC14066BF			R659-R661(CX-J510 only)	RD1/8PM222J
		IC301	PD5199A			R244	RD1/8PM273J
		IC653 (CX-J510 only)	TC9154AP			R231,R232	RD1/8PM331J
		IC205	UPC4570G2			R235,R236	RD1/8PM331J
		IC206,IC451,IC452,IC503	XRA4558F-P			R247,R248	RD1/8PM470J
		IC401-IC404,IC651,IC652	XRA4558F-P			R543,R544	RD1/8PM473J
		(CX-J510 only)				R546	RD1/8PM622J
		IC502 (CX-J410 only)	XRA4558F-P			R215,R216	RD1/8PM820J
		Q206	2SA1048		Other Resistors		RS1/10S□□□J
		Q203	2SC2458	OTHERS			
		Q501,Q502 (CX-J410 only)	2SK246			CN202 SOCKET(9P)	AKP1072
		Q204,Q205,Q207	XDA124ES			CN215 SOCKET(40P)	AKP1085
		Q503,Q504 (CX-J410 only)	XDA124ES			CN206 SOCKET(6P)(CX-J510 only)	AKP1096
		Q201,Q202	XDC124ES			CN204 SOCKET(8P)(CX-J510 only)	AKP1097
		Q302	XDC143ES			CN205 SOCKET(10P)(CX-J510 only)	AKP1098
		D451,D452	1SS226			CN207 CONNECTOR(4P)(CX-J410 only)	KPE4
		D201,D202,D302-D304	HSS104-02			CN208 CONNECTOR(8P)(CX-J510 only)	KPE8
		D504,D505 (CX-J410 only)	HSS104-02			X301 (4.00MHz)	ASS1025
		D651-D654 (CX-J510 only)	HSS104-02			PIN JACK(6P)	AKB1121
		D301	RD6.2ESB			PIN JACK(6P)	AKB1129
COILS, FILTERS						JACK	AKN-203
		L302	ATX1008			JACK	AKN1020
		L301	LAU220K			SOCKET(15P)	AKP1038
CAPACITORS						SOCKET(15P)	AKP1049
		C413 (CX-J510 only)	CCSQSL101J50	REGULATOR ASSY			
		C247,C248,C253,C254	CCSQSL391J50	SEMICONDUCTORS			
		C308	CEAS100M50			IC152	NJM7805FAS
		C509,C510 (CX-J510 only)	CEAS100M50			IC151,IC155	NJM7812FAS
		C505,C507	CEAS101M10			IC153	NJM7905FA
		C503,C504	CEAS221M10			IC154	NJM7912FA
		C361	CEAS221M16			D151-D160,D162	S5566
		C203,C204	CEAS3R3M50			D161,D163	HSS104-02
		C209,C210	CEAS470M10	CAPACITORS			
		C653,C654 (CX-J510 only)	CEAS470M16			C151,C153,C155,C157	CEHAQ010M50
		C304	CEAS470M25			C152,C154,C156,C158,C159	CEHAQ470M25
		C403,C404 (CX-J510 only)	CEASR33M50	RESISTORS			
		C241,C242,C271,C272	CEXA470M25			R109,R110	RD1/8PM105J
		C249,C250,C506,C508	CKSQYB102K50	SUB TRANS ASSY			
		C309	CKSQYB122K50	SEMICONDUCTORS			
		C205,C206	CKSQYB152K50			IC100	NJM78M12FAS
		C414-C416 (CX-J510 only)	CKSQYB183K50			IC101	NJM78M56FAS
		C405,C406 (CX-J510 only)	CKSQYB272K50			Q102	2SA1306
		C514 (CX-J410 only)	CKSQYB471K50			Q103	2SB560
		C407-C412 (CX-J510 only)	CKSQYB561K50				

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	Q101,Q105		2SC2458	COILS, FILTERS			
	Q104		XDC143ES		L801		LAU221K
	D101,D104		HSS104-02	CAPACITORS			
	D106		RD10ESB		C803-C806		CEAS100M50
	D105		RD33ESB		C815,C816 (CX-J510 only)		CEAS100M50
	D102,D103,D107-D110		S5566		C817,C818 (CX-J510 only)		CEAS101M25
					C831		CEAS101M25
					C801,C802		CEAS220M50
RELAY					C811-C814 (CX-J510 only)		CEAS2R2M50
	RY101		ASR1036		C807,C808		CEXA470M25
COILS, FILTERS					C828 (CX-J410)		CKSQYB103K50
	L101		ATF-151		C809,C810		CKSQYF104Z50
	L102		ATX1008		C827		CKSQYF473Z50
△	T101		ATT1202		C828 (CX-J510)		CKSQYF473Z50
CAPACITORS				RESISTORS			
△	C101 (0.01/AC400V)		ACG1003		VR801 (100K-X4)(CX-J510)		ACX1077
	C103		CEAS010M50		VR801 (CX-J410)		ACX1067
	C112		CEAS100M50		R813,R814		RD1/4PM121J
	C114,C117		CEAS101M16		R831,R832 (CX-J510 only)		RD1/4PM121J
	C106,C107		CEAS101M50		Other Resistors		RS1/10S□□□J
	C109		CEAS102M35	MIC ASSY			
	C104		CEAS331M50	SEMICONDUCTORS			
	C113		CEAS470M25		IC601		XRA4558F-P
	C105,C108		CEAS470M50	CAPACITORS			
	C110		CEHAQ100M50		C603		CCSLSL331J50
	C111		CEHAQ470M25		C604,C605		CEAS010M50
	C102,C115		CKCYF103Z50		C602		CEAS100M50
RESISTORS					C607,C608		CEAS470M25
	R108		RD1/4PM102J		C601		CKSQYB332K50
	R105		RD1/4PM470J		C609		CKSQYF473Z50
	R106		RD1/8PM203J	RESISTORS			
	R102,R107		RD1/8PM472J		VR601 (10K-B)		ACS1064
	R101		RD1/8PM473J		Other Resistors		RS1/10S□□□J
	R104		RD1/8PM622J	OTHERS			
	R103		RFA1/4PS4R7J		MIC JACK		AKN1017
OTHERS				CONNECT ASSY			
△	AC SOCKET 1-P		AKP1034	CONNECT assembly has no service part.			
BALANCE ASSY (CX-J510 ONLY)				U.COM ASSY			
CAPACITORS				SEMICONDUCTORS			
	C723,C724		CEAS100M50		IC1102		PDC007C
RESISTORS					IC1101		PDG089B
	VR701 (100K-X1)		ACS1026		IC1103		XRA3826S
VOLUME ASSY					Q1101		2SC2458
SEMICONDUCTORS					Q1103		XDC124ES
	IC801		TA8409S		Q1102,Q1104-Q1106		XDC143ES
	IC802		UPC4570G2		D1101-D1104,D1106,		1SS252
	IC803 (CX-J510 only)		UPC4570G2		D1108,D1109,D1111,D1112,		
	Q801,Q802		2SC2878		D1114-D1116,D1118,D1120-1124		
	Q803,Q804 (CX-J510 only)		2SC2878		D1117,D1119,D1126 (CX-J510 only)		1SS252
	Q805		XDA124ES				
	Q806		XDC143ES				

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	D1127		MA700A		SWITCHES		
	D1105,D1113		RD6.2ESB		S1101-S1103		ASG1034
COILS, FILTERS				CAPACITORS			
	L1101,L1102		LAU220K		C1171		CCCSL101J50
CAPACITORS					C1172		CEASR47M50
	C1106		ACH1135	RESISTORS			
	C1103		CCMSL101J50		R1176		RD1/8PM101J
	C1101		CEAS010M50		R1172,R1173		RD1/8PM103J
	C1107		CEAS100M50		R1135		RD1/8PM432J
	C1127		CEAS3R3M50		R1174		RD1/8PM473J
	C1104		CEAS470M16	OTHERS			
	C1123,C1124,C1128,C1130		CEAS470M16		REMOTE RECEIVER UNIT		AXX1033
	C1133		CEAS4R7M50		CN1106,CN1108 SOCKET(33P L)		AKP1108
	C1102		CEJA2R2M50		V1101 FL TUBE		AAV1157
	C1109,C1122,C1126		CKCYF103Z50	KEY ASSY			
	C1110		CKCYF223Z50	SEMICONDUCTORS			
	C1112		CKDYB102K50		Q1181		XDC143ES
	C1121,C1132,C1134		CKDYF103Z50		Q1182 (CX-J510 only)		XDC143ES
	C1131		CKDYX223M25		D1181		AEL1128
	C1105,C1108,C1129		CKDYX473M25		D1182 (CX-J510 only)		AEL1128
RESISTORS				SWITCHES			
	R1134		RA11T104J		S1111-S1121		ASG1034
	R1160		RA15T104J		S1132-S1135		ASG1034
	R1159		RA5T104J		S1136-S1138 (CX-J510 only)		ASG1034
	R1132,R1133		RA8T104J		S1141		ASX1015
	R1141,R1142		RD1/4PM390J	RESISTORS			
	R1124		RD1/8PM101J		R1181		RD1/8PM221J
	R1101-R1108		RD1/8PM102J		R1182 (CX-J510 only)		RD1/8PM221J
	R1121,R1123,R1128-R1131,		RD1/8PM103J	OTHERS			
	R1155-R1158,R1168				CN1104 SOCKET(21P L)		AKP1086
	R1122		RD1/8PM104J				
	R1127,R1151		RD1/8PM105J				
	R1143		RD1/8PM124J				
	R1109-R1111,R1126,R1136,		RD1/8PM222J				
	R1146,R1147,R1149						
	R1144,R1164-R1167		RD1/8PM333J				
	R1115-R1120,R1125,R1150,		RD1/8PM473J				
	R1153,R1154						
	R1112-R1114,R1145,R1148,		RD1/8PM563J				
	R1152						
OTHERS							
	X1101 (8.00MHz)		ASS1015				
	X1102 (12MHz)		ASS1062				
	CN1103 SOCKET(21P)		AKP1084				
	CN1101 SOCKET(40P)		AKP1085				
	CN1105,CN1107 SOCKET(33P)		AKP1104				
FL ASSY							
SEMICONDUCTORS							
	Q1172,Q1173,Q1175		XDA143ES				
	Q1174		XDC124ES				
	Q1176		XDC143ES				
	D1171-D1174,D1177		1SS252				
	D1178		AEL1065				

5. HOW TO CHECK THE PRODUCT INDEPENDENTLY

Use the following procedure to check the basic operations of this product standing alone.

1. Short the base of MAIN assembly Q201 and Q202 to the solder plating line according to the arrows on the board (to put the unit in the same state as when a CD player and a cassette deck are connected).
2. Supply +18V to TP1 of MAIN assembly and -18V to TP2 and connect TP3 to the ground for these power supplies. (This substitutes for the power supply fed from the power amp through CN211.)

3. Short MAIN assembly TP4-TP8 (to make the ground common).

4. Plug the power cord into a power socket.

Note 1: After the check is complete, be sure to undo the connections made in 1, 2 and 3 above.

Note 2: Make the final operations check on the product by connecting the specified components.

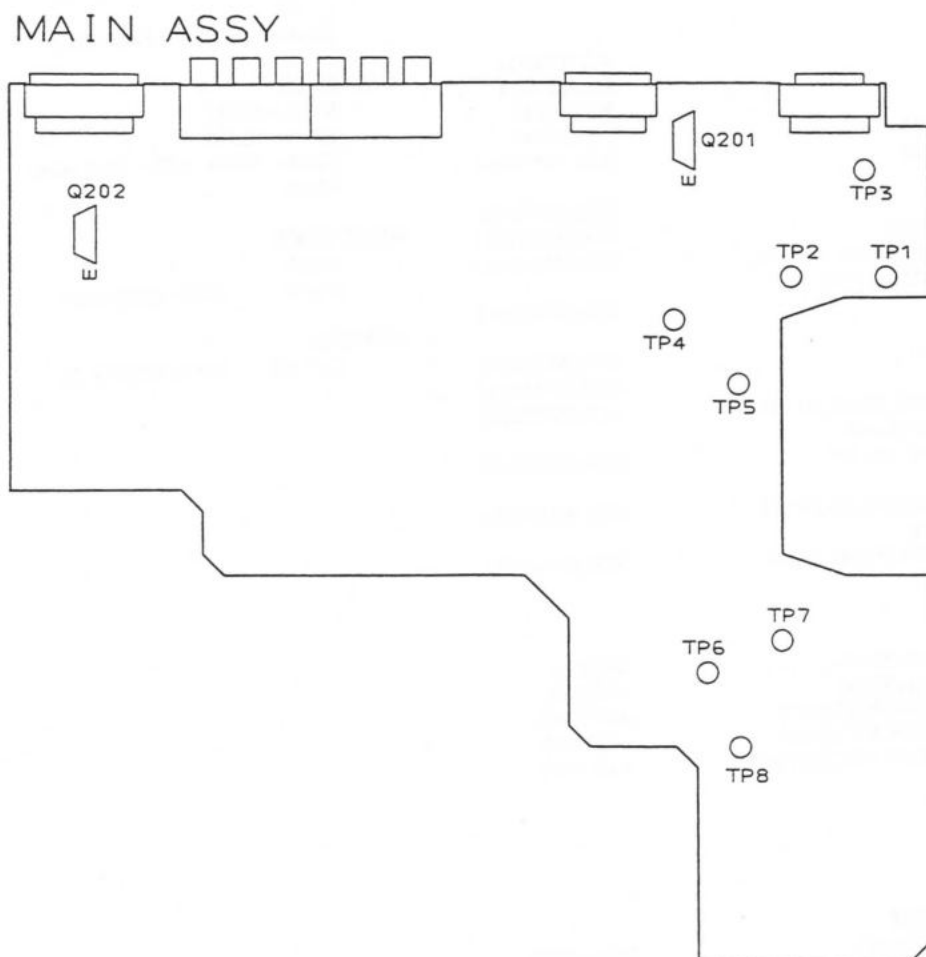


Fig. 5 - 1. Connection Locations

6. ADJUSTMENTS

- As to connections and points to be adjusted, refer to Fig. 1 and Fig. 2.

6.1 AM TUNER ADJUSTMENT

- Set the BAND selector to "AM".

Step No.	Adjustment Title	AM SG(400Hz, 30% modulation)		Reception Frequency Display	Adjustment	
		Frequency(kHz)	Level(dB μ V/m)		Adjustment Location	Specifications
1	TUNED indicator sensitivity adjustment	999	55 (± 5 dB)	999kHz	VR901	Adjust so that the indicator lights up.

6.2 FM TUNER ADJUSTMENT

- Set the BAND selector to "FM".
- Perform VCO adjustment two minutes or more after turning the power ON.

Note : Stereo modulation : Main 1 kHz L + R $\pm$ 68.25 kHz dev.

Pilot 19 kHz $\pm$ 6.75 kHz dev.

Step No.	Adjustment Title	FM SG(1kHz $\pm$ 75kHz dev.)		Reception Frequency Display	Adjustment	
		Frequency(MHz)	Level(dB μ V)		Adjustment Location	Specifications
1	Detector coil T – meter adjustment	98.0	80	98.0MHz	L907	Adjust so that the DC voltage between TP901 and TP902 is $\pm$ 50mV.
2	VCO adjustment	98.0 (No modulation)	80	98.0MHz	VR903	Adjust so that the frequency between TP 905 and GND is 76 kHz $\pm$ 0.5kHz
3	TUNED indicator sensitivity adjustment	98.0	18 ($\pm$ 3 dB)	98.0MHz	VR902	Adjust so that the indicator lights up.

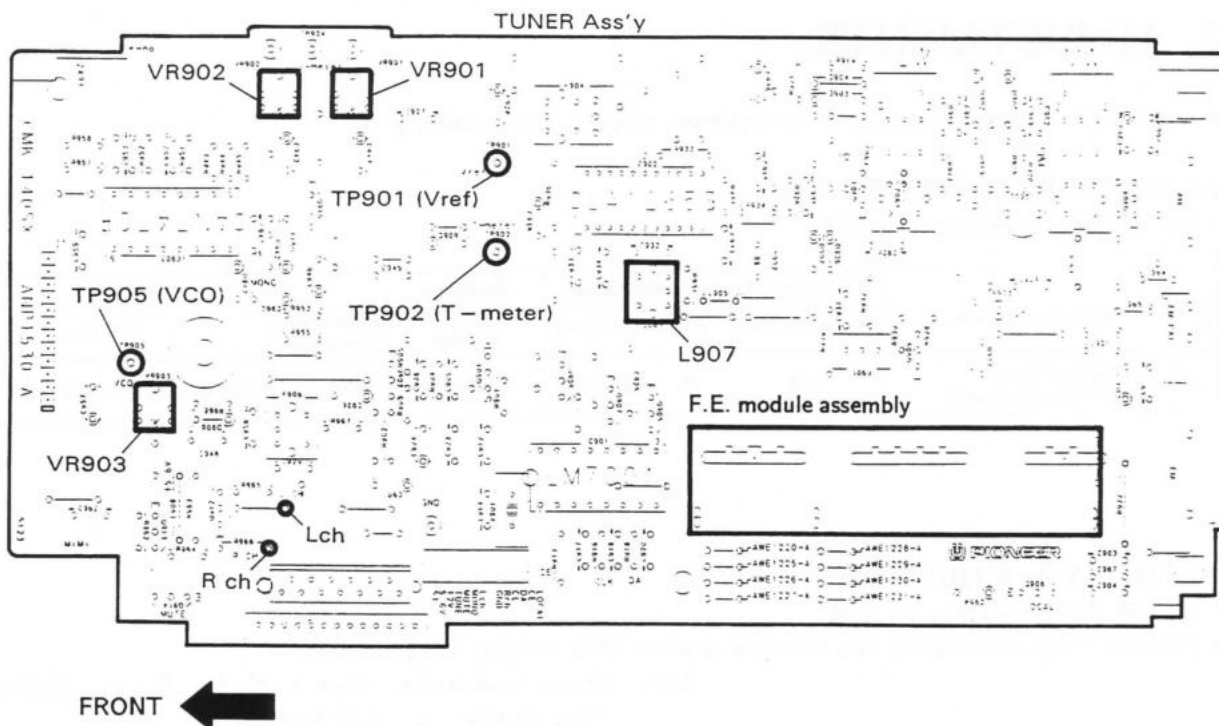


Fig. 1 Adjustment Points

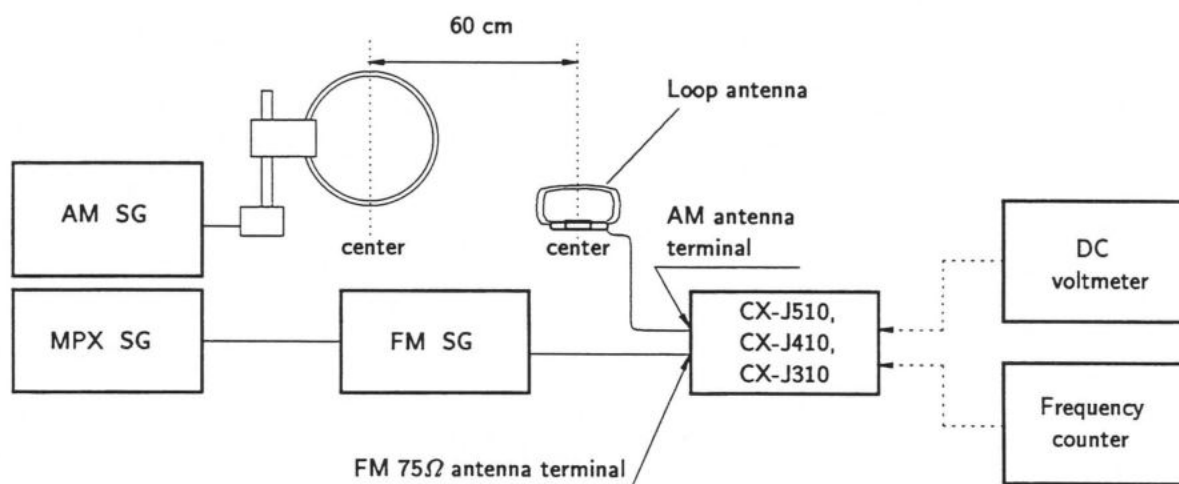


Fig. 2 Connection Diagram

7. IC INFORMATION

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

■ PDC007C (IC1102)

- System Control μ - COM

Pin Function

Pin	Pin Name	I/O	Function
1	P35	I/O	System Bus request/enable
2	P36	I	System Bus system clock input
3	P37	O	System Bus data output
4	PWM1	O	Not used (Open)
5	TEST1	O	Not used (Open)
6	RESET	I	Reset input ACTIVE : L
7	XT1	I	Not used (GND)
8	XT2	O	Not used (Open)
9	VSS	—	GND
10	CF1	I	12 MHz Ceramic Oscillator connection
11	CF2	O	
12	VDD	—	+5.6 V power supply input
13	P80/AN0	I	System Bus data input
14	P81/AN1	O	Not used (GND)
15	P82/AN2	O	Not used (GND)
16	P83/AN3	I	Analog input for the Spectrum Analyzer
17	P84/AN4	I	Key scan input (KI 0)
18	P85/AN5	I	Key scan input (KI 2)
19	P86/AN6	I	Key scan input (KI 1)
20	P87/AN7	I	Key scan input (KI 0)
21	P70/INT0	I	Not used (+5.6 V)
22	P71/INT1	I	AC pulse input
23	P72/INT2	I	Rotary pulse encoder A input
24	P73/INT3	I	Rotary pulse encoder B input
25	S0/T0	DP	FL display tube grid output (G1)
26	S1/T1	DP	FL display tube grid output (G2)
27	S2/T2	DP	FL display tube grid output (G3)
28	S3/T3	DP	FL display tube grid output (G4)
29	S4/T4	DP	Not used (Open)
30	S5/T5	DP	FL display tube grid output (G6)
31	S6/T6	DP	Not used (Open)
32	T7/S7	DP	FL display tube grid output (G8)
33	T8/S8	DP	Not used (Open)
34	T9/S9	DP	FL display tube grid output (G10)
35	T10/S10	DP	Not used (Open)
36	T11/S11	DP	FL display tube grid output (G12)
37	T12/S12	DP	Not used (Open)
38	T13/S13	DP	FL display tube grid output (G14)
39	T14/S14	DP	Not used (Open)
40	T15/S15	DP	FL display tube grid output (G16)

Pin	Pin Name	I/O	Function
41	VDDVPP	—	A/D reference voltage (+5.6 V)
42	VP	—	Minus power supply for FL tube
43	S16	DP	Not used (Open)
44	S17	DP	FL segment output (S15)
45	S18	DP	FL segment output (S14)
46	S19	DP	FL segment output (S13)
47	S20	DP	FL segment output (S12)
48	S21	DP	FL segment output (S1)
49	S22	DP	FL segment output (S2)
50	S23	DP	FL segment output (S3)
51	S24	DP	FL segment output (S4)
52	S25	DP	FL segment output (S5)/ Key scan output (KO0)
53	S26	DP	FL segment output (S6)/ Key scan output (KO1)
54	S27	DP	FL segment output (S7)/ Key scan output (KO2)
55	S28	DP	FL segment output (S8)/ Key scan output (KO3)
56	S29	DP	FL segment output (S9)/ Key scan output (KO4)
57	S30	DP	FL segment output (S10)/ Key scan output (KO5)
58	S31	DP	FL segment output (S11)/ Key scan output (KO6)
59	P00	O	Sports ON/OFF output (CX - J310, CX - J410, CX - J710 only)

I : CMOS input
O : CMOS output
DP : Pch Open drain output with pull down resistor

Pin	Pin Name	I/O	Function
60	P01	O	BA3826S C output
61	P02	O	BA3826S B output
62	P03	O	BA3826S A output
63	P04	O	BA3826S Reset output ACTIVE : H
64	P05	O	Not used (Open)
65	P06	O	
66	P07	O	
67	VSS	—	GND
68	P10/S00	O	ST. WIDE ON/OFF output (CX - J310, CX - J410, CX - J710 only)
69	P11/S10	O	STK301 Data output
70	P12/SCK0	O	STK301 Clock output
71	P13/S01	O	M66320 STB output (CX - J710 only)
			YSS215 CD output (CX - J510, CX - J910 only)
72	P14/S11	O	M66320 Data output (CX - J710 only)
			YSS215 WCK output (CX - J510, CX - J910 only)
73	P15/SCK1	O	M66320 Clock output (CX - J710 only)
			YSS215 BCK output (CX - J510, CX - J910 only)
74	P16/BUZ	O	TS9162 Data output
75	P17/PWM0	O	TC9162 Clock output
76	P30	O	TC9162 STB output
77	P31	O	Audition ON/OFF output
78	P32	O	Not used (Open)
79	P33	O	14052 B output
80	P34	O	14052 A output

I : CMOS input

O : CMOS output

DP : Pch Open drain output with pull down resistor

■ PDG089B (IC1101)

● System Control μ - COM

Pin Function

Pin	Pin Name	I/O	Function
1	PE3	I	Channel step (10/9 kHz) select input
2	PE4	I	STEREO signal input
3	PE5	I	TUNED signal input
4	PE6	O	TUNER MUTE output
5	PE7	O	FM MONO output
6	PB0	O	Not used (Open)
7	PB1	I	J/ $\overline{\text{EX}}$ input
8	PB2	I	LW Exist/ $\overline{\text{Not Exist}}$ input
9	PB3	O	Local and Narrow output
10	PB4	O	PLL CE output (LM7001)
11	PB5	O	PLL CLK output (LM7001)
12	PB6	O	AMP μ com reset output
13	PB7	O	PLL DATA output (LM7001)
14	PC0	I	System Bus CLK input
15	PC1	I/O	System Bus Data input/output
16	PC2	O	System Bus REQ output
		I	System Bus Enable input
17	PC3	I	Power ON/ $\overline{\text{OFF}}$ input
18	PC4	I	Key scan input
19	PC5	I	
20	PC6	I	
21	PC7	I	
22	PA0	O	Not used (Open)
23	PA1	O	Function LED $\overline{\text{ON}}$ / $\overline{\text{OFF}}$
24	PA2	O	
25	PA3	O	
26	PA4	O	
27	PA5	O	
28	PA6	O	
29	PA7	O	
30	RST	I/O	Reset input
31	EXTAL	I	8MHz Ceramic Oscillator connection
32	XTAL	O	
33	Vss	-	GND
34	PD0	DP	Not used (Open)
35	PD1	DP	
36	PD2	DP	
37	PD3	DP	
38	PD4	DP	
39	PD5	DP	

Pin	Pin Name	I/O	Function
40	PD6	DP	Not used (Open)
41	PD7	DP	
42	S8	DP	Segment output
43	S9	DP	
44	S10	DP	
45	S11	DP	
46	S12	DP	
47	S13	DP	
48	S14	DP	Segment output / Key scan output
49	S15	DP	
50	S16	DP	
51	S17	DP	
52	S18	DP	Segment output
53	S19	DP	
54	S20	DP	
55	S21	DP	
56	S22	DP	Not used (Open)
57	S23	DP	
58	T12	DP	
59	T11	DP	FL grid output (11G)
60	T10	DP	FL grid output (10G)
61	T9	DP	FL grid output (9G)
62	T8	DP	FL grid output (8G)
63	T7	DP	FL grid output (7G)
64	T6	DP	FL grid output (6G)
65	T5	DP	FL grid output (5G)
66	T4	DP	FL grid output (4G)
67	T3	DP	FL grid output (3G)
68	T2	DP	FL grid output (2G)
69	T1	DP	FL grid output (1G)
70	T0	DP	FL grid output (1G)
71	Vfdp	-	-30V FDP power supply input
72	Vdd	-	+5V power supply input
73	N.C.	-	Connect to Vdd
74	PG0	O	Not used (Open)
75	PG1	I	REC Time Counter Exist/ $\overline{\text{Not Exist}}$
76	PG2	I	HS/PS Destination select.
77	PG3	I	(Refer to Note 1)
78	PE0	I	AC input
79	PE1	I	JOG 2 input
80	PE2	I	JOG 1 input

Note 1 :

	Pin 77(PG3)	Pin 76(PG2)	Pin 7(PB1)
CX - J310, CX - J410	H	L	L
CX - J510	H	H	L
CX - J710, CX - J910	H	H	H

I : CMOS input

O : CMOS output

DP : Pch Open drain output with pull down resistor

PD5199A (IC301)
• System Control μ - COM
Pin Function

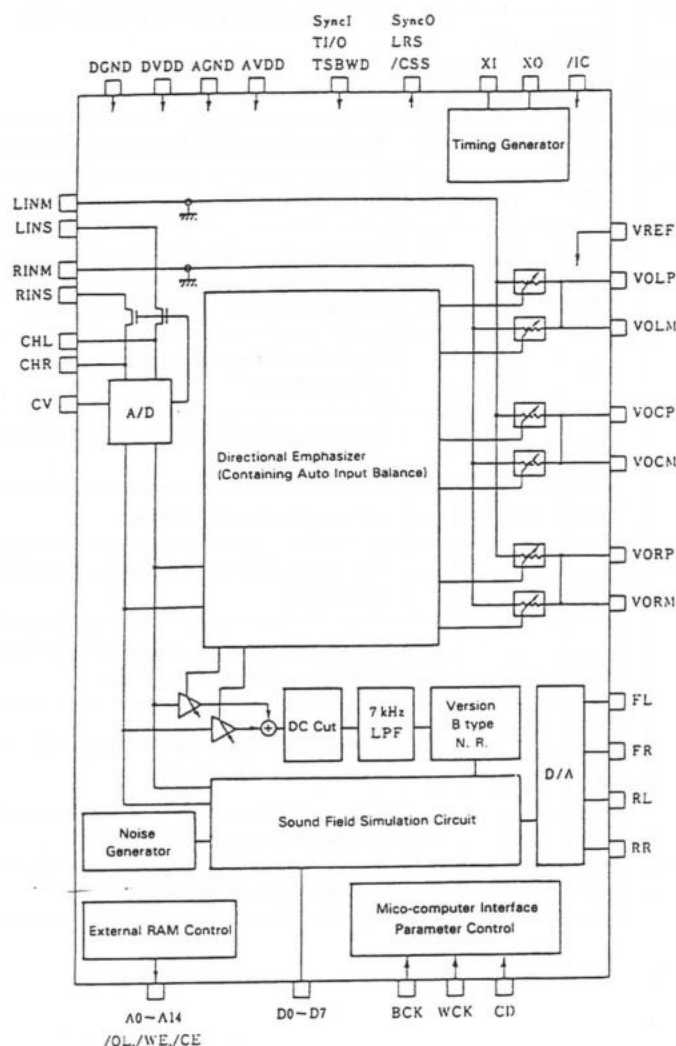
Pin	Pin Name	Function
1	Vcc	+5V power supply
2	Vref	
3	AVss	GND
4	P67/AN7 FUN Detect 1	Select FUN operation/Power off/ Normal operation from A/D input value.
5	P66/AN6 FUN Detect 2	
6	P65/AN5 Power Detect	Power off when 3 seconds keeps "H" after 500 ms from power on.
7	P64/AN4 FUN drive	FUN $\overline{\text{ON}}$ /OFF
8	P63/AN3 VOLUME POS	A/D input for VR position detection.
9	P62/AN2 VOLUME DOWN	Motor VR down. ACTIVE : H
10	P61/AN1 VOLUME UP	Motor VR up. ACTIVE : H
11	P60/AN0 LINE MUTE	Line muting output ACTIVE : L
12	P57 REMOCON IN	SR signal input ACTIVE : L
13	P56	N.C.
14	P55 P.BASS1	P.BASS 1 $\overline{\text{ON}}$ /OFF
15	P54 P.BASS2	P.BASS 2 $\overline{\text{ON}}$ /OFF
16	P53 ST	Center/Rear volume control TC9154 ST
17	P52 CLK	Center/Rear volume control TC9154 CLK
18	P51 DATA	Center/Rear volume control TC9154 DATA
19	P50/SIN2	N.C.
20	P47/SRDV1 DECK	System bus Enable/Request (For DECK)
21	P46/SCLK1 CD	System bus Enable/Request (For CD)
22	P45/TxD TUNER	System bus Enable/Request (For TUNER)
23	P44/RxD GEQ	System bus Enable/Request (For GEQ)
24	P43/INT2 S.DATA	System bus Enable/Request (For S DATA)
25	P42/INT1	N.C.
26	CNVs	GND.
27	RESET	RESET input
28	P41/INT0 JOG1	For Center/Rear level.

Pin	Pin Name	Function
29	P40/INT4 JOG2	For Center/Rear level.
30	Xin	Oscillator 8 MHz
31	Xout	
32	Vss	GND
33	P27/DB7	Destination select
34	P26/DB6	
35	P25/DB5	
36	P24/DB4	N.C.
37	P23/DB3	
38	P22/DB2	
39	P21/DB1	
40	P20/DB0	N.C.
41	P17/AD15	
42	P16/AD14	
43	P15/AD13	
44	P14/AD12	Video function control.
45	P13/AD11 V-SEL A	
46	P12/AD10 V-SEL B.	
47	P11/AD9 REC MUTE	Video Rec out muting ACTIVE : H
48	P10/AD8 4052 INH	4052 INH Function control
49	P07/AD7 4052 B	4052 B Function control
50	P06/AD6 4052 A	4052 A Function control
51	P05/AD5	N.C.
52	P04/AD4	
53	P03/AD3	
54	P02/AD2	
55	P01/AD1	
56	P00/AD0	
57	P37/RD	P.BASS 2 LED display ACTIVE : H
58	P36/WR LED P.BASS 2	
59	P35/SYNC LED P.BASS 1	P.BASS 1 LED display ACTIVE : H
60	P43/ ϕ HEADPHONE	HEADPHONE input ACTIVE : L
61	P33/RESET out RELAY D	Rear AMP speaker RY ACTIVE : L
62	P32/ONW RELAY A	Front AMP speaker RY ACTIVE : L
63	P31/DA1 POWER IND	POWER IND LED ACTIVE : L
64	P30/DA1 POWER RY	AC RY ACTIVE : H

■ YSS215 - F (IC1250 : CX - J510 only)

● Dolby Pro - logic Decoder

● Block Diagram



● Pin Function

No.	Name	I/O	Description
1	CD	I	Serial data of parameter data input.
2	TSBWD	I	LSI test terminal. Normally connect to DVDD.
3	TI/O	I	LSI test terminal. Normally connect to DVDD.
4	AVDD	—	+5V power supply (A/D, D/A)
5	RL	O	RL channel D/A output
6	FL	O	FL channel D/A output
7	CHL	—	LINS input sample/hold capacitor external terminal.
8	LINS	I	L channel A/D input
9	RINS	I	R channel A/D input
10	CHR	—	RINS input sample/hold capacitor external terminal.
11	FR	O	FR channel D/A output
12	RR	O	RR channel D/A output
13	CV	O	A/D, center power voltage of the multiplying DAC.
14	AGND	—	GND (A/D, D/A)
15	AGND	—	GND (multiplying DAC)
16	VREF	I	Reference power voltage input of the multiplying DAC.
17	LINM	I	L channel multiplying DAC input
18	RINM	I	R channel multiplying DAC input
19	VOLM	O	L channel operational amplifier. Connect to the negative (-) terminal.
20	VOLP	O	L channel operational amplifier. Connect to the positive (+) terminal.
21	VOCM	O	C channel operational amplifier. Connect to the negative (-) terminal.
22	VOCM	O	C channel operational amplifier. Connect to the positive (+) terminal.

No.	Name	I/O	Description
23	VORM	O	R channel operational amplifier. Connect to the negative (-) terminal.
24	VORP	O	R channel operational amplifier. Connect to the positive (+) terminal.
25	AVDD	—	+5V power supply (multiplying DAC)
26	DVDD	—	+5V power supply (digital)
27	D7	I/O	External delay RAM data terminal
28	D6	I/O	
29	D5	I/O	
30	D4	I/O	
31	D3	I/O	
32	D2	I/O	
33	D1	I/O	
34	D0	I/O	
35	A0	O	External delay RAM address terminal
36	A1	O	
37	A2	O	
38	A3	O	
39	A4	O	
40	DGND	—	GND (digital)
41	DGND	—	
42	A5	O	External delay RAM address terminal
43	A6	O	
44	A7	O	
45	A12	O	
46	A14	O	
47	WE	O	External delay RAM write enable terminal

No.	Name	I/O	Description
48	A13	O	External delay RAM address terminal
49	A8	O	
50	A9	O	
51	A11	O	
52	OE	O	External delay RAM output enable terminal
53	A10	O	External delay RAM address terminal
54	CE	O	External delay RAM chip enable terminal
55	XO	O	Crystal oscillator connection terminal
56	XI	I	Crystal oscillator connection terminal (11.2896MHz)
57	SyncI	I	Test terminal for system cycle. Normally connect to DVDD.
58	DVDD	—	+5V power supply (digital)
59	SyncO	O	Test terminal for system cycle. Normally do not connect.
60	IC	I	Initial clear terminal. Requires to be reset when the power is turned ON.
61	LRS	O	External auto input balance terminal. Normally do not connect.
62	CSS	O	
63	BCK	I	Parameter data input bit clock
64	WCK	I	Parameter data input word clock

8. FOR CX-J510/WB,CX-J410/WB,CX-J310/WE AND WB

NOTES:

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

8.1 CONTRAST OF MISCELLANEOUS PARTS FOR CX-J510/WB

CX-J510/WB and CX-J510/WE have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		CX-J510/WE	CX-J510/WB	
⊙	SUB TRANS assembly	AWZ4443	AWZ4442	
Δ	AC power cord	ADG1049	ADG1118	
NSP	Rear Panel(MTL)	ANC1963	ANC1965	

SUB TRANS ASSEMBLY

AWZ4442 and AWZ4443 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4443	AWZ4442	
Δ	AC SOCKET 1-P	AKP1034	AKP1035	

8.2 CONTRAST OF MISCELLANEOUS PARTS FOR CX-J410/WB, CX-J310/WE AND WB

CX-J410/WB, CX-J310/WE, WB and CX-J410/WE have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		CX-J410/WE	CX-J410/WB	CX-J310/WE	CX-J310/WB	
⊙	SUB TRANS assembly	AWZ4443	AWZ4442	AWZ4443	AWZ4442	
⊙	MAIN assembly	AWZ4431	AWZ4431	AWZ4434	AWZ4434	
⊙	FL assembly	AWZ4746	AWZ4746	AWZ4454	AWZ4454	
NSP	KEY assembly	AWZ4456	AWZ4456	AWZ4457	AWZ4457	
	Audition Button (PLS)	AAD2342	AAD2342	.....	.....	
Δ	AC power cord	ADG1049	ADG1118	ADG1049	ADG1118	
NSP	Packing case(PAP)	AHD2482	AHD2482	AHD2480	AHD2480	
	Front Panel(PLS)	AMB2051	AMB2051	AMB2053	AMB2053	
	Sub panel assembly	AMR2476	AMR2476	AMR2475	AMR2475	
NSP	Rear Panel(MTL)	ANC1967	ANC1969	ANC1971	ANC1973	

SUB TRANS ASSEMBLY

AWZ4442 and AWZ4443 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4443	AWZ4442	
△	AC SOCKET 1-P	AKP1034	AKP1035	

MAIN ASSEMBLY

AWZ4434 and AWZ4431 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4431	AWZ4434	
	R356	RS1/10S102J	.....	
	MINI JACK (MULTI-ROOM)	AKN1020	.....	

FL ASSEMBLY

AWZ4454 and AWZ4746 have the same construction except for the following :

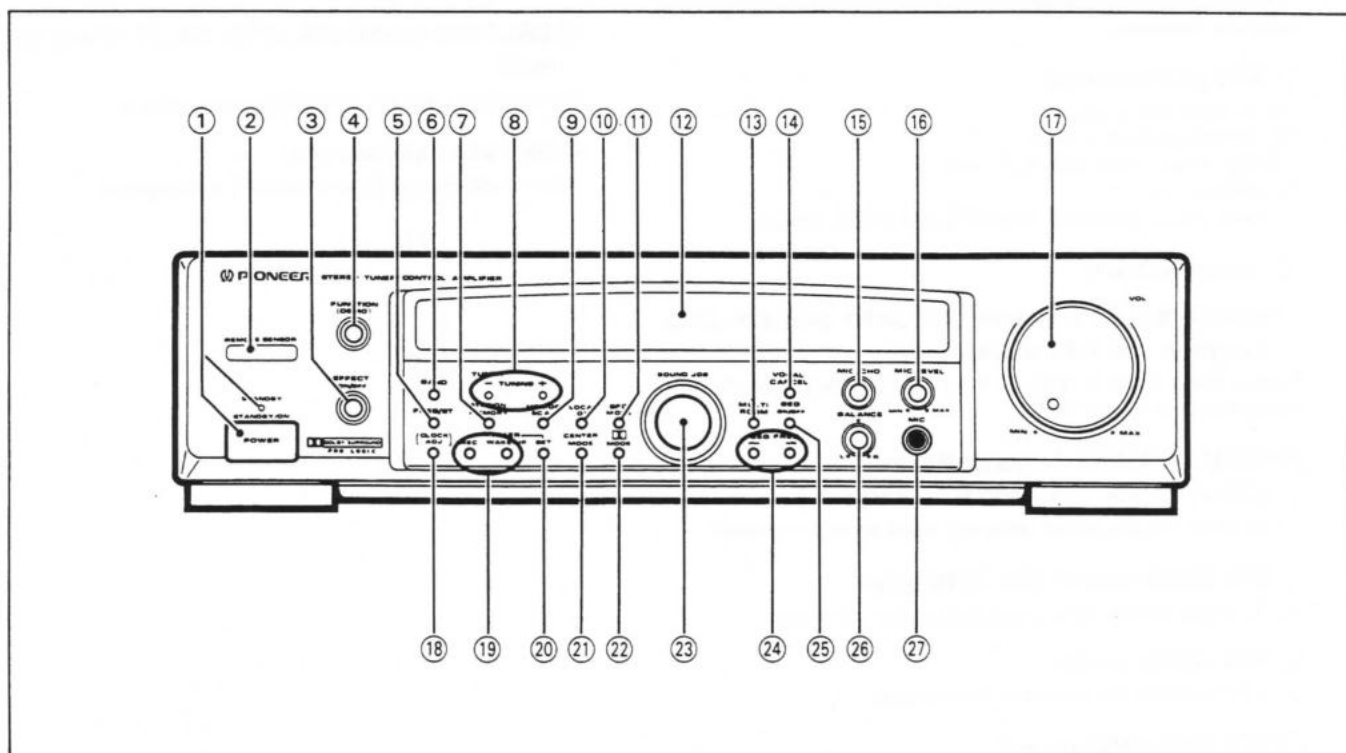
Mark	Symbol & Description	Part No.		Remarks
		AWZ4746	AWZ4454	
	Q1172, Q1173, Q1175	XDA143ES	.....	
	Q1174	XDC124ES	.....	
	D1177	1SS252	.....	
	C1172	CEASR47M50	.....	
	R1173	RD1/8PM103J	.....	
	R1174	RD1/8PM473J	.....	

KEY ASSEMBLY

AWZ4457 and AWZ4456 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ4456	AWZ4457	
	Q1181	XDC143ES	.....	
	D1181	AEL1128	.....	
	R1181	RD1/8PM221J	.....	

9. FRONT PANEL FACILITIES



TUNER CONTROL AMPLIFIER CX-J310/ CX-J410/CX-J510/CX-J710/CX-J910

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 only the time is indicated in the display section, the unit is in STANDBY.

② REMOTE SENSOR

③ EFFECT ON/OFF button

Press this button ON, and select the desired sound field with the SFC MODE button. Press the button OFF, and sound from the source is reproduced without any effects.

When using the DOLBY PRO LOGIC SURROUND function, press the EFFECT button ON, and then select the mode with the **□□** MODE button. (CX-J510, CX-J710 and CX-J910 only)

④ FUNCTION (DEMO) button

Each time you press the FUNCTION button, the amplifier function changes.

If this is pressed from power off, it goes into demonstration mode.

⑤ FREQ/ST (Frequency/Station) button

Use to switch between the Frequency mode and the Station Call mode.

⑥ BAND selector button

Each time the button is pressed, FM or AM reception is selected in order.

⑦ STATION MEMORY button

Used to memorize stations.

⑧ TUNING (+, -) buttons

[During tuning]

- When in the Frequency mode, use to raise and lower the reception frequency.

- When in the Station mode, use to raise and lower the station number.

[During time and timer setting]

Used for adjusting the clock, timer settings and its related adjustments.

⑨ MEMORY SCAN button

Press this button to scan programs on the preset stations automatically for 5 seconds each. If you wish to continue listening to the station currently being scanned, press this button again to lock the tuning to the station. This will cancel the preset scan function and return you to normal reception.

⑩ LOCAL/DX button (when receiving FM broadcasts)

Use this if the broadcast signal is too strong, causing noise and distortion. The attenuator reduces the strength of the signal, reducing noise and distortion.

⑪ SFC MODE button

Use to recall SFC mode.

CX-J310/CX-J410/CX-J710:

DISCO, HALL, THEATER, STADIUM

CX-J510/CX-J910:

DISCO, HALL, DYNAMIC THEATER, STADIUM, ARENA

⑫ Display section**⑬ MULTI ROOM indicator (CX-J410 and CX-J510 European and U.K. models only)**

Flashes when signal is received from MR-100 Multi-Room System Remote Control Sensor Unit.

⑭ VOCAL CANCEL button/indicator (CX-J510, CX-J710 and CX-J910 only)

When set to ON, the sound volume of vocal sounds is lowered.

⑮ MIC ECHO control (CX-J910 only)

Use to adjust the mic echo effect level during mic mixing.

⑯ MIC LEVEL control

Used for adjusting the volume of microphone.

⑰ VOL (VOLUME) control**⑱ CLOCK ADJ button**

Used for starting the clock adjustment.

⑲ Timer selector buttons

[WAKE-UP 1, 2]

Used for timer playback setting.

[REC]

Used for timer recording setting.

⑳ SET button

Used for current time, timer playback, and timer recording setting.

㉑ CENTER MODE button (CX-J510, CX-J710, and CX-J910 only)

Use to select the center mode when using DOLBY PRO LOGIC SURROUND. Press the button to switch between NORMAL and PHANTOM modes.

㉒ MODE button (CX-J510, CX-J710, and CX-J910 only)

Use to select DOLBY PRO LOGIC SURROUND and DOLBY 3CH LOGIC.

㉓ SOUND JOG

Use to increase and decrease the sound field effect, and the graphic equalizer effect.

㉔ GEQ (Graphic equalizer) FREQ buttons (← →)

Use to select frequencies to be boosted or attenuated with the graphic equalizer.

㉕ GEQ ON/OFF button

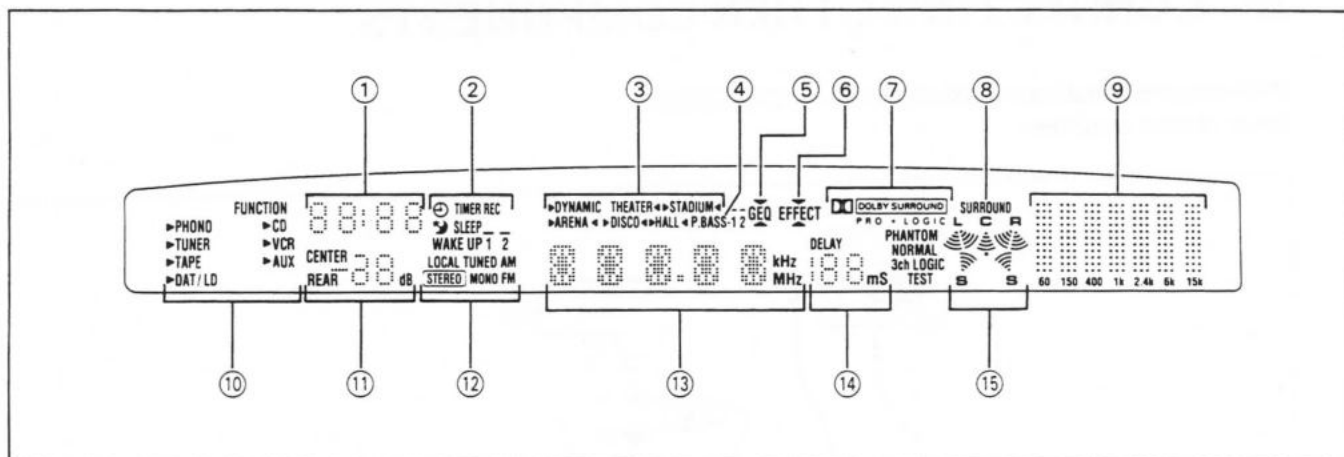
Use to switch the graphic equalizer ON or OFF.

㉖ BALANCE control (CX-J510, CX-J710 and CX-J910 only)

Use to adjust front left and right speaker balance.

㉗ MIC (microphone) jack

This is a standard jack for connecting a microphone.



Display Section

* Illustration shows model CX-J510.

① Time/channel indicators

Display current time and channel number.

② Time indicators

TIME REC: Lights during recording timer setting.

SLEEP: Lights when the sleep timer is ON.

WAKE UP 1, 2: Lights to indicate the selected timer during wake up timer setting.

③ Sound Field Control indicators

► ◀ lights for selected SFC mode.

④ P. BASS indicator (CX-J710 and CX-J910 only)

⑤ Graphic equalizer indicator

▲ lights when the graphic equalizer is ON.

⑥ Effect indicator

▲ lights when the SFC effect is ON.

⑦ DOLBY SURROUND indicator (CX-J510, CX-J710, and CX-J910 only)

DOLBY SURROUND PRO LOGIC: Lights when DOLBY PRO LOGIC SURROUND is ON.

PHANTOM/NORMAL: Displays selected center mode.

3ch LOGIC: Lights when DOLBY 3CH LOGIC is ON.

TEST: Lights when a test tone is being output for level adjustment of each channel.

⑧ Surround indicator

Lights when Surround is ON.

⑨ Spectrum analyzer display

Regular spectrum analyzer display. When using the graphic equalizer, graphic equalizer settings are displayed.

⑩ Function indicators

► lights to indicate the selected function.

Available functions with the CX-J710 and CX-J910 are PHONO, TUNER, TAPE, DAT, CD/LD, VCR, and AUX.

⑪ Center level, Rear level indicators (CX-J510, CX-J710, and CX-J910 only)

⑫ Tuner function indicator

LOCAL: Lights when the LOCAL function is ON.

STEREO: Lights during FM stereo broadcast reception.

MONO: Lights when the remote control FM MONO button is ON during stereo FM broadcast reception.

FM/AM: Indicates band being received.

⑬ Alphanumeric display

Displays frequency of station being received, and major operation conditions.

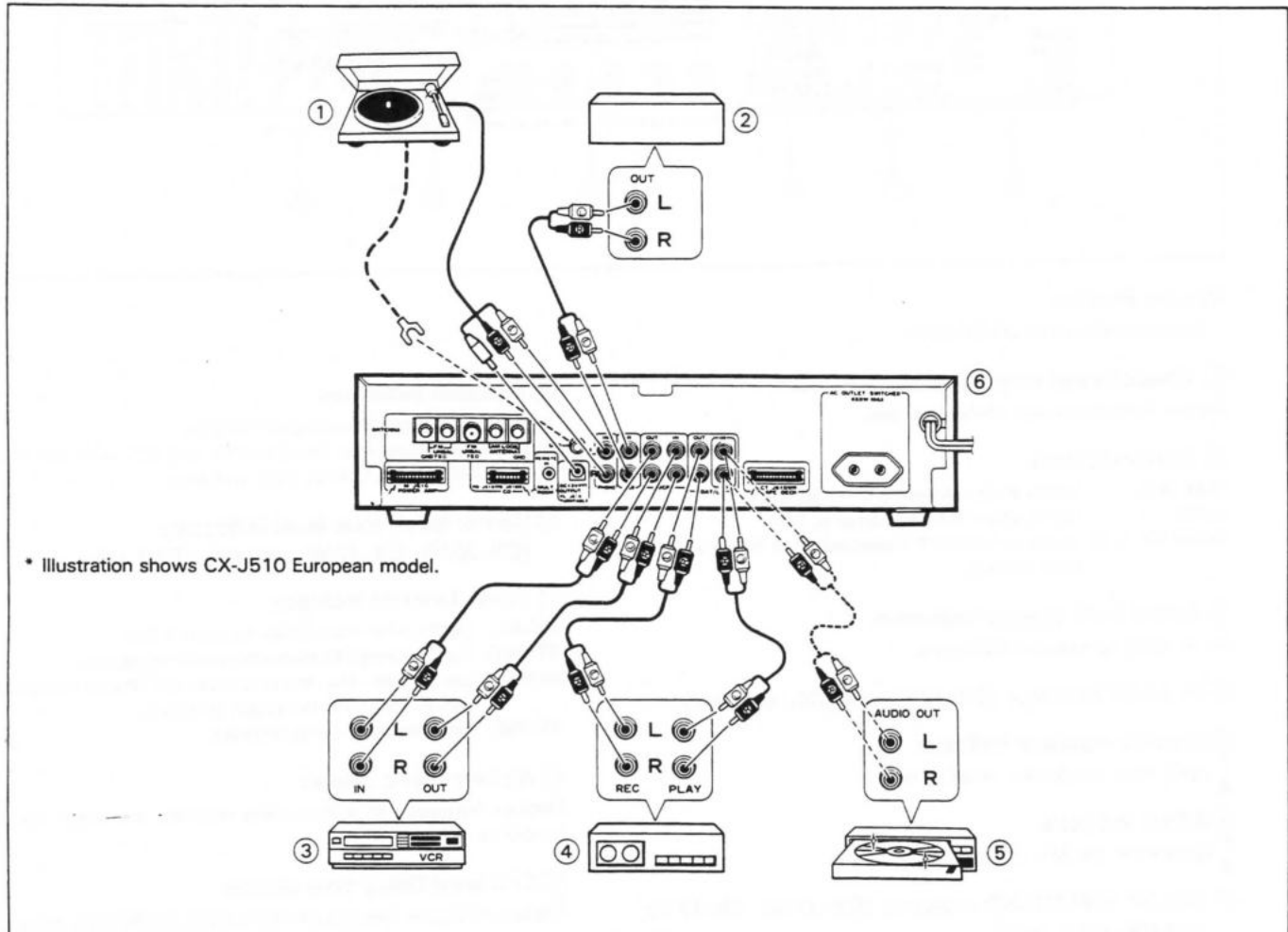
⑭ SFC level/Delay time display

Displays SFC level and DOLBY PRO LOGIC SURROUND delay time.

⑮ Speaker indicators

10. CONNECTING OTHER COMPONENTS

With systems featuring the CX-J310/CX-J410/CX-J510 tuner control amplifiers.



- ① Turntable PL-J210
- ② Audio equipment (such as a second CD player)
- ③ VCR (sound only)
- ④ DAT
- ⑤ LD player (sound only)
- ⑥ Tuner control amplifier

11. SPECIFICATIONS

TUNER CONTROL AMPLIFIER

CX-J310/CX-J410/CX-J510/CX-J710/CX-J910

FM Tuner Section

Frequency range	87.5 MHz to 108 MHz
Usable Sensitivity	Mono: 12.8 dBf, IHF (1.2 μ V/75 Ω)
Sensitivity (DIN)	Mono S/N 26 dB: 1 μ V/75 Ω
	Stereo S/N 46 dB: 50 μ V/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 % (1 kHz)
Antenna Input	75 Ω unbalanced
Output	650 mV (100 % MOD.)

MW (AM) Tuner Section

Frequency range	
9 kHz step	531 kHz to 1,602 kHz
10 kHz step	530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna)	350 μ V/m
Output	150 mV (30 % MOD.)

Power Supply/Miscellaneous

Power requirements	
U.K. model	a.c. 240 Volts ~, 50/60 Hz
European model	a.c. 220 – 230 Volts ~, 50/60 Hz
Multivoltage model.....	AC 110 – 127 V/220 – 240 V (switchable), 50/60 Hz
Power consumption	15 W
AC outlets	
CX-J310/CX-J410/CX-J510/CX-J710	
Switched (x 1)	400 W MAX
CX-J910	
Switched (x 2)	Total 500 W MAX
Dimensions	360 (W) x 347 (D) x 91 (H) mm
Weight	
CX-J310/CX-J410	3.9 kg
CX-J510/CX-J710/CX-J910	4.0 kg

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