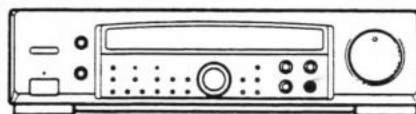


# Service Manual

**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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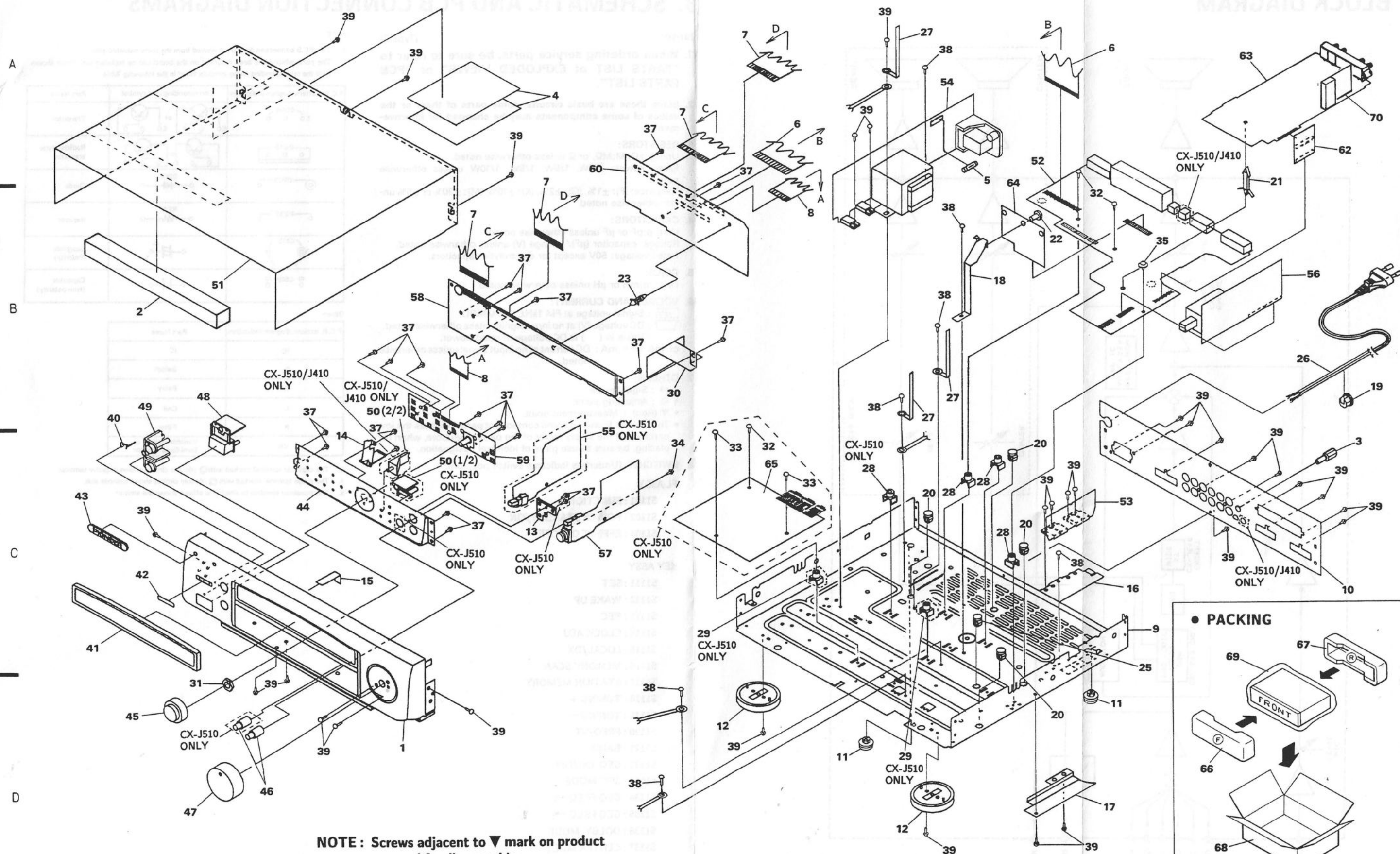
FO DEC. 1992 Printed in Japan

# 1. EXPLODED VIEWS, PACKING AND PARTS LIST

## NOTES:

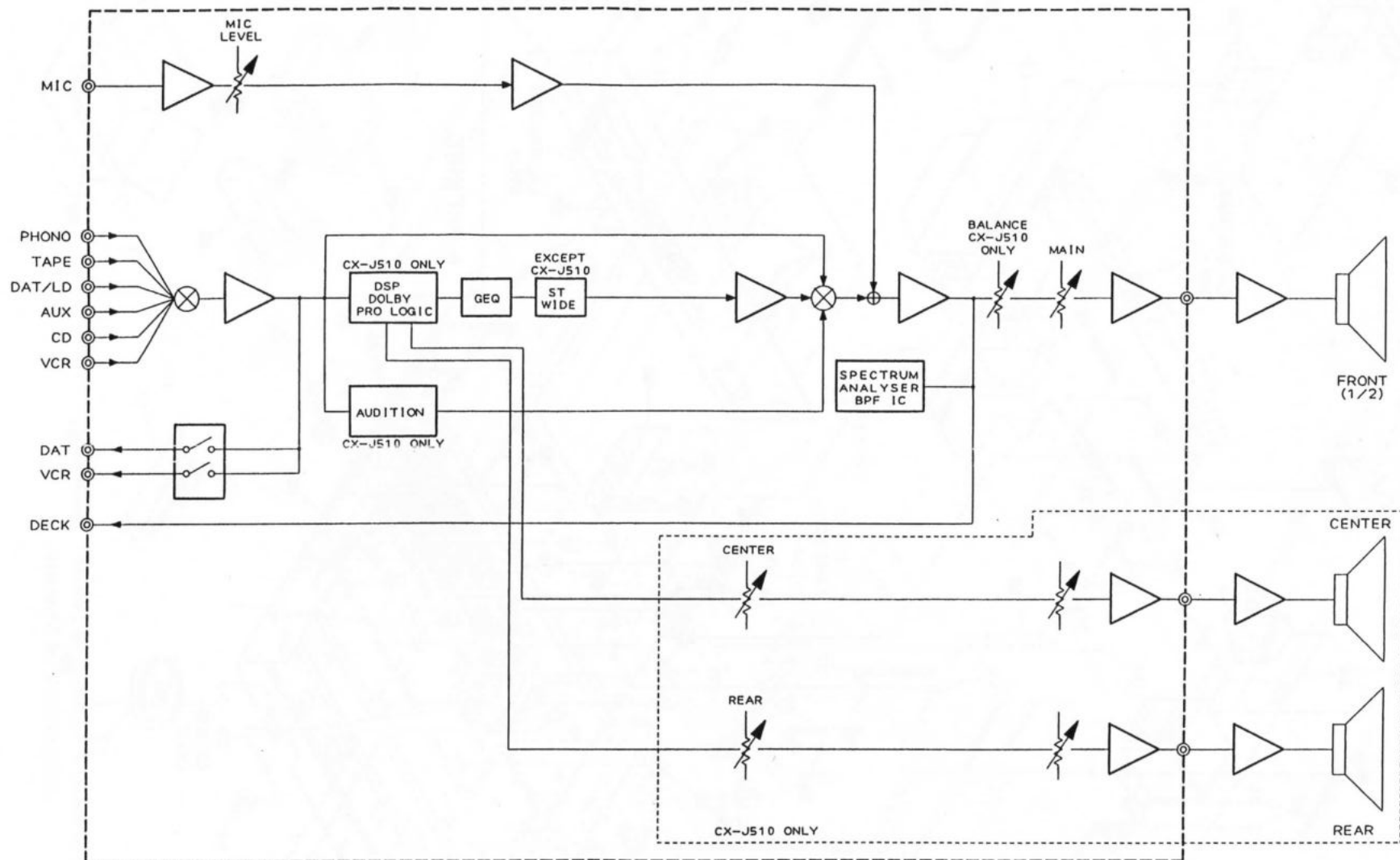
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked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

| Mark     | No. | Description                | Parts No.    | Mark | No. | Description                    | Parts No. |
|----------|-----|----------------------------|--------------|------|-----|--------------------------------|-----------|
|          | 1   | 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   |
| $\Delta$ | 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<br>(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   |
| $\Delta$ | 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.

## 2. BLOCK DIAGRAM



# 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.

## 3. RESISTORS:

Unit: k: k $\Omega$ , M: M $\Omega$ , or  $\Omega$  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.

## 4. CAPACITORS:

Unit: p: pF or  $\mu$ F unless otherwise noted.

Ratings: capacitor ( $\mu$ F)/ voltage (V) unless otherwise noted.

Rated voltage: 50V except for electrolytic capacitors.

## 5. COILS:

Unit: m: mH or  $\mu$ H unless otherwise noted.

## 6. 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.

## 7. OTHERS:

•  : Signal route.

•  : Adjusting point.

•  (Red) : Measurement point.

• The  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

## 8. SWITCHES (Underline indicates switch position):

### 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

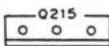
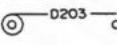
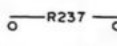
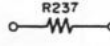
S1138 : AUDITION

S1141 : SOUND JOG.

## NOTE

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                |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|  |  or  | Transistor               |
|  |  or  | Radiator type transistor |
|  |                                                                                        | Diode                    |
|  |                                                                                        | Resistor                 |
|  |                                                                                        | Capacitor (Polarity)     |
|  |                                                                                        | Capacitor (Non-polarity) |

## Others

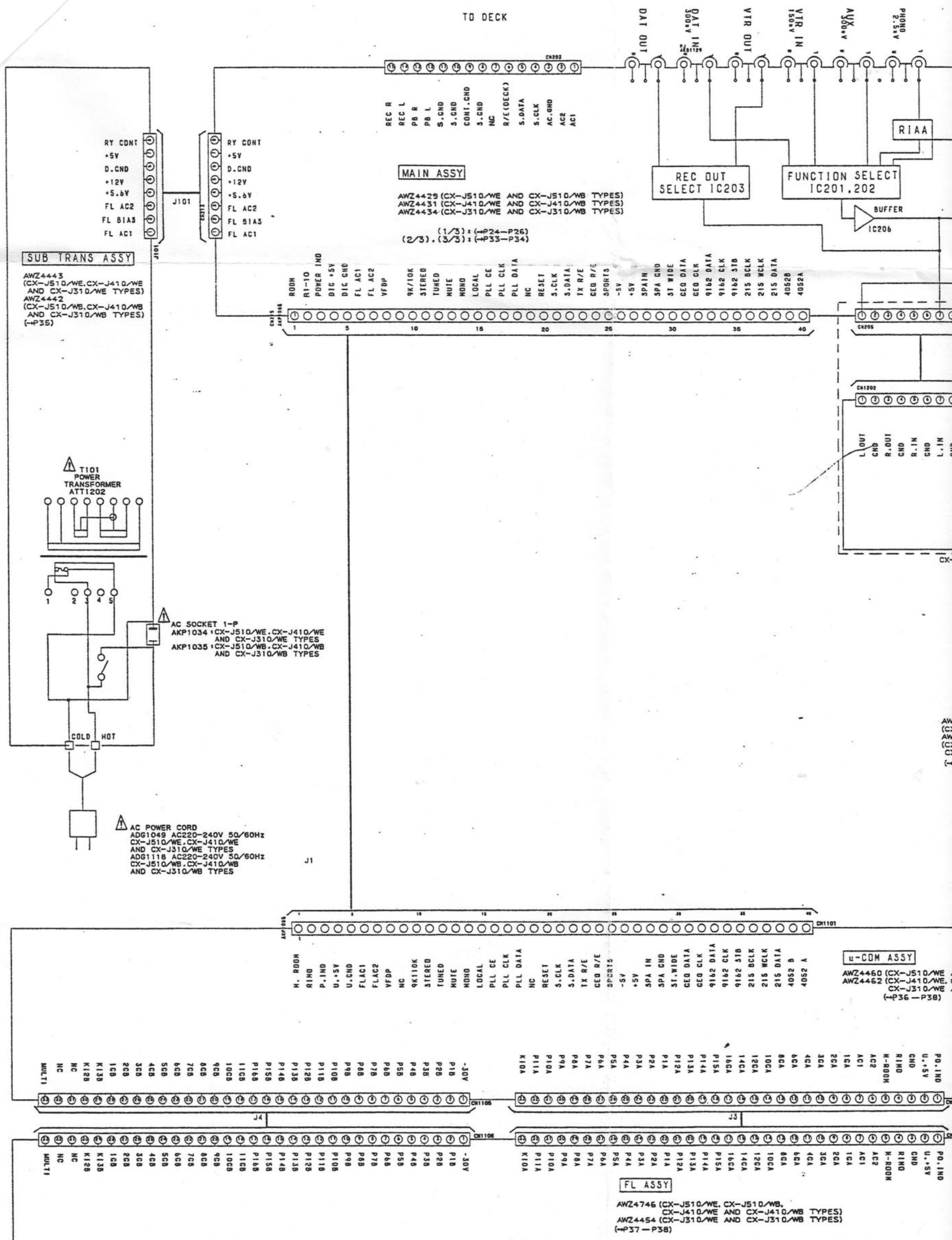
| P.C.B. pattern diagram indication | Part Name                                |
|-----------------------------------|------------------------------------------|
| IC                                | IC                                       |
| S                                 | Switch             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

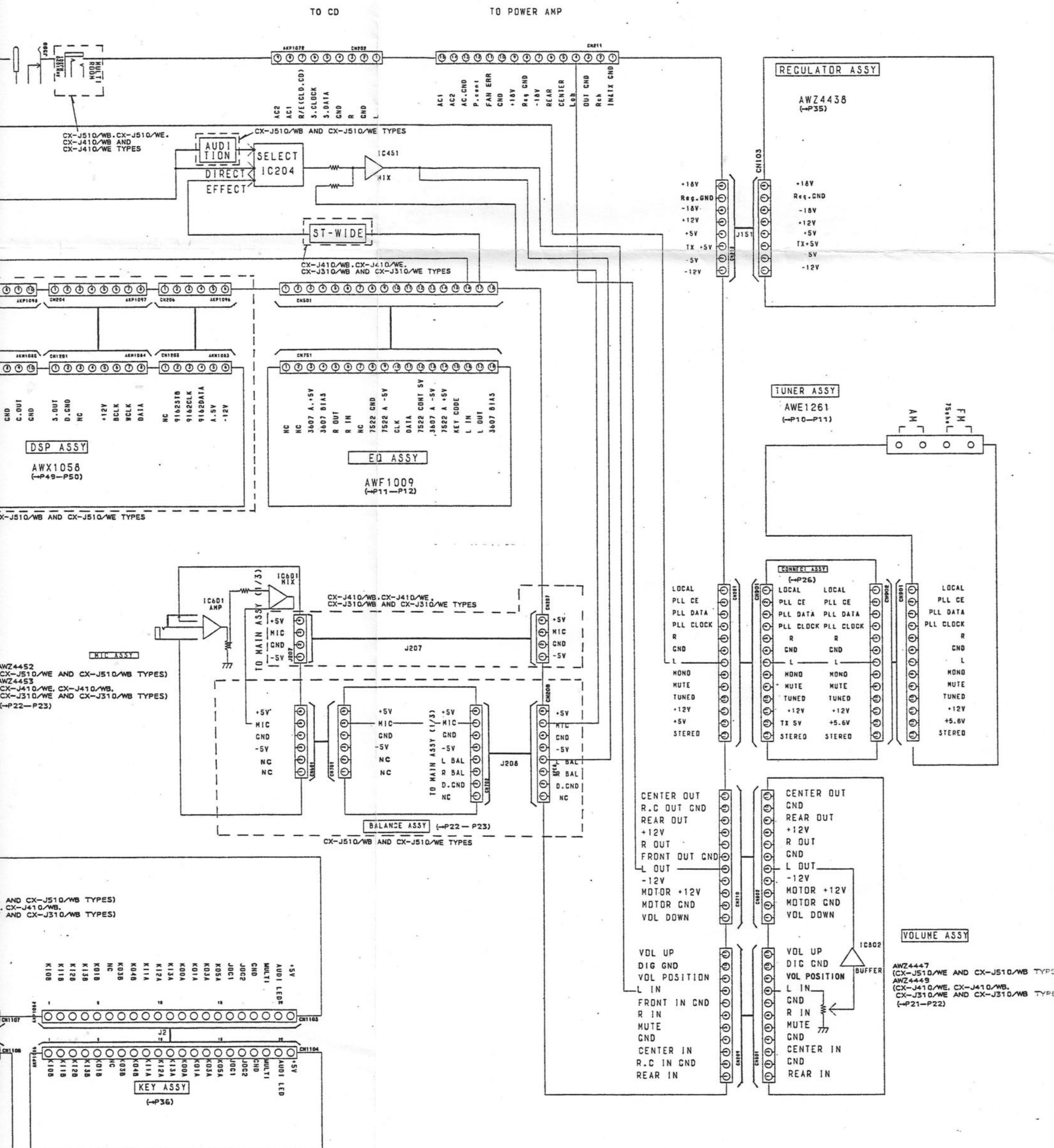
3. The capacitor terminal marked with  (double circles) shows negative terminal.

4. The diode terminal marked with  (double circles) shows cathode side.

5. The transistor terminal to which E is affixed shows the emitter.

7



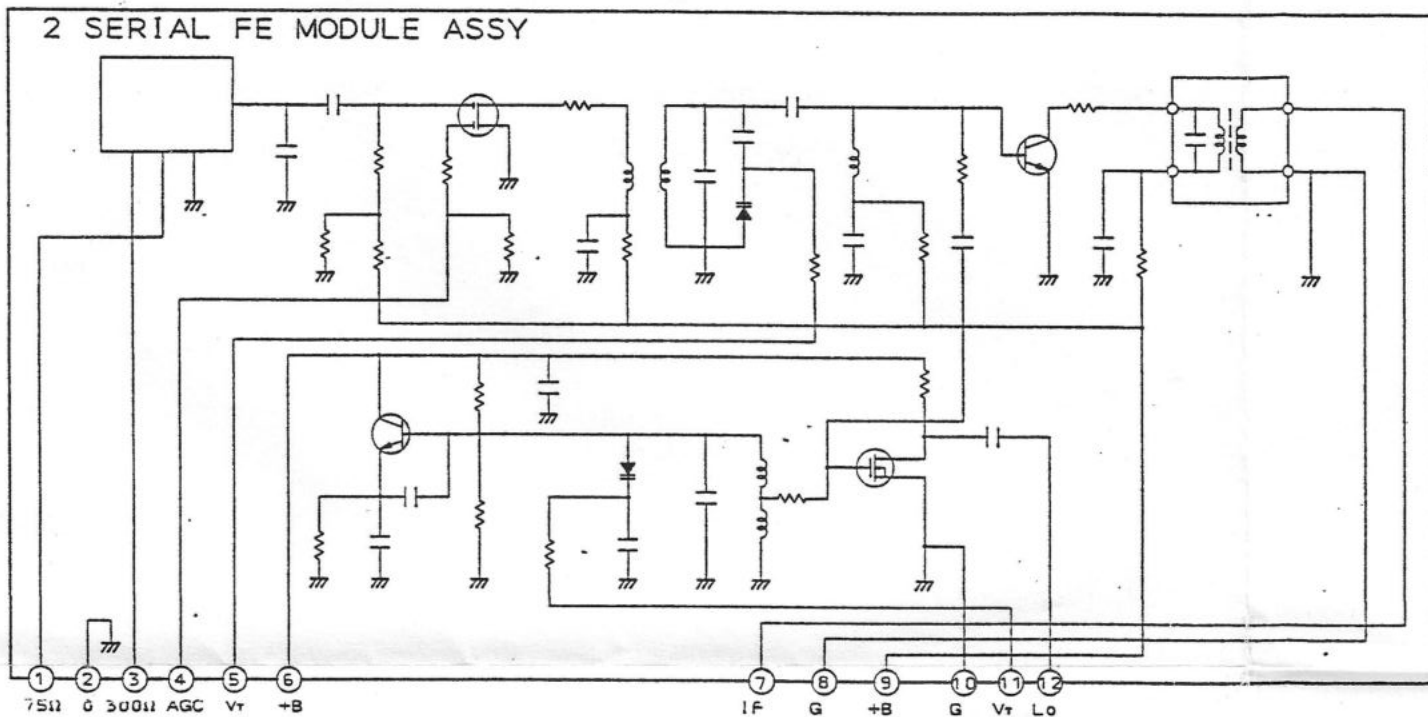


## 3.2 TUNER ASSY, EQ ASSY

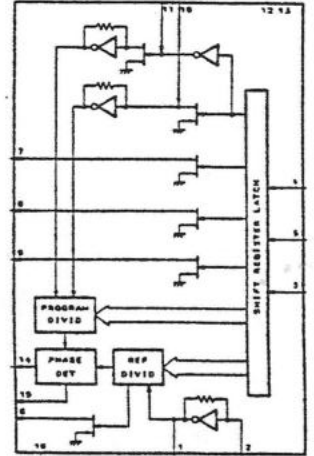
## 2 SERIAL FE MODULE ASSY

A

B



IC901 LM7001



IC901 L

| Pin No. |
|---------|
| 1       |
| 2       |
| 3       |
| 4       |
| 5       |
| 6       |
| 7       |
| 8       |

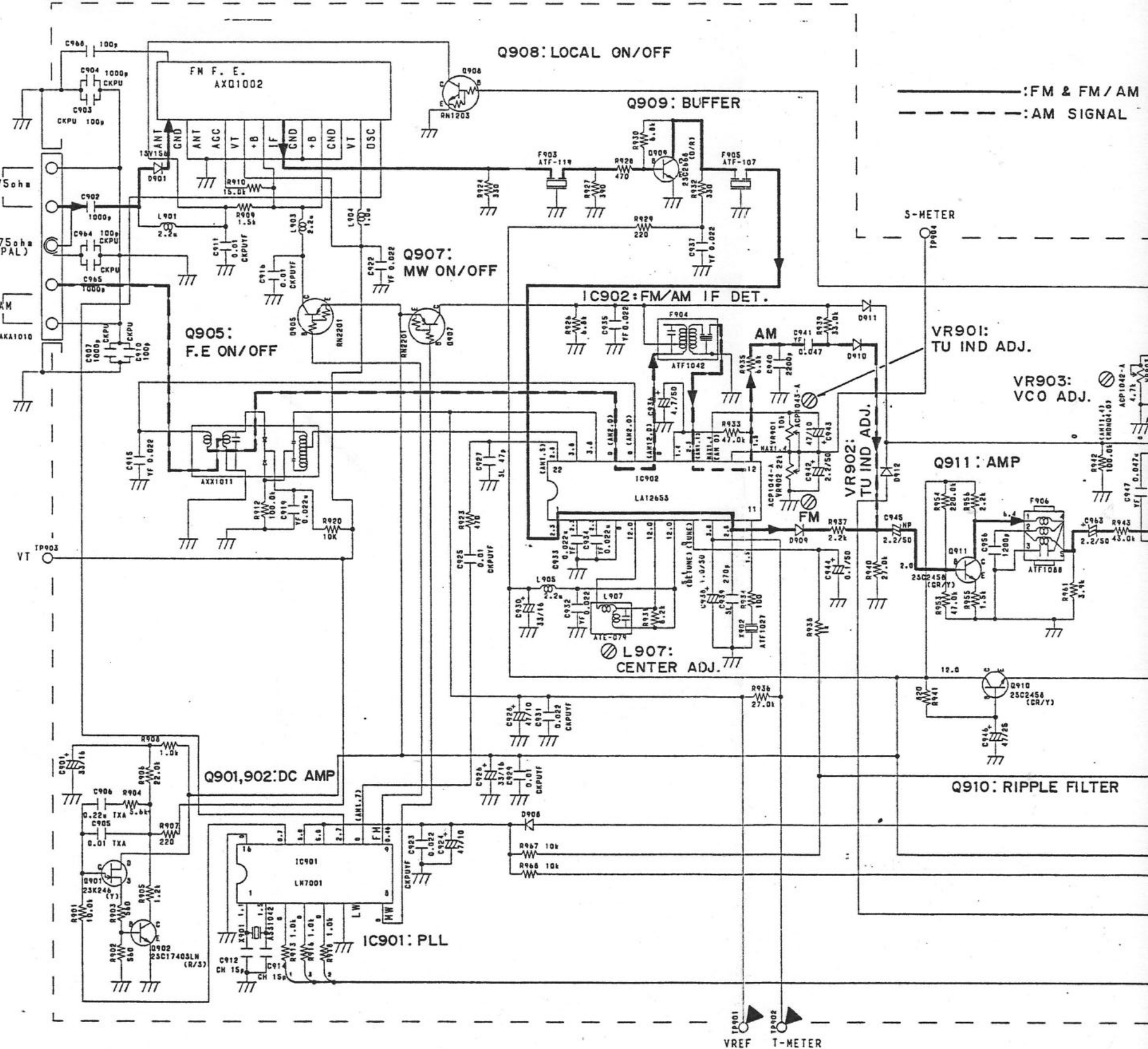
## TUNER ASSY (AWE1261)

C

D

E

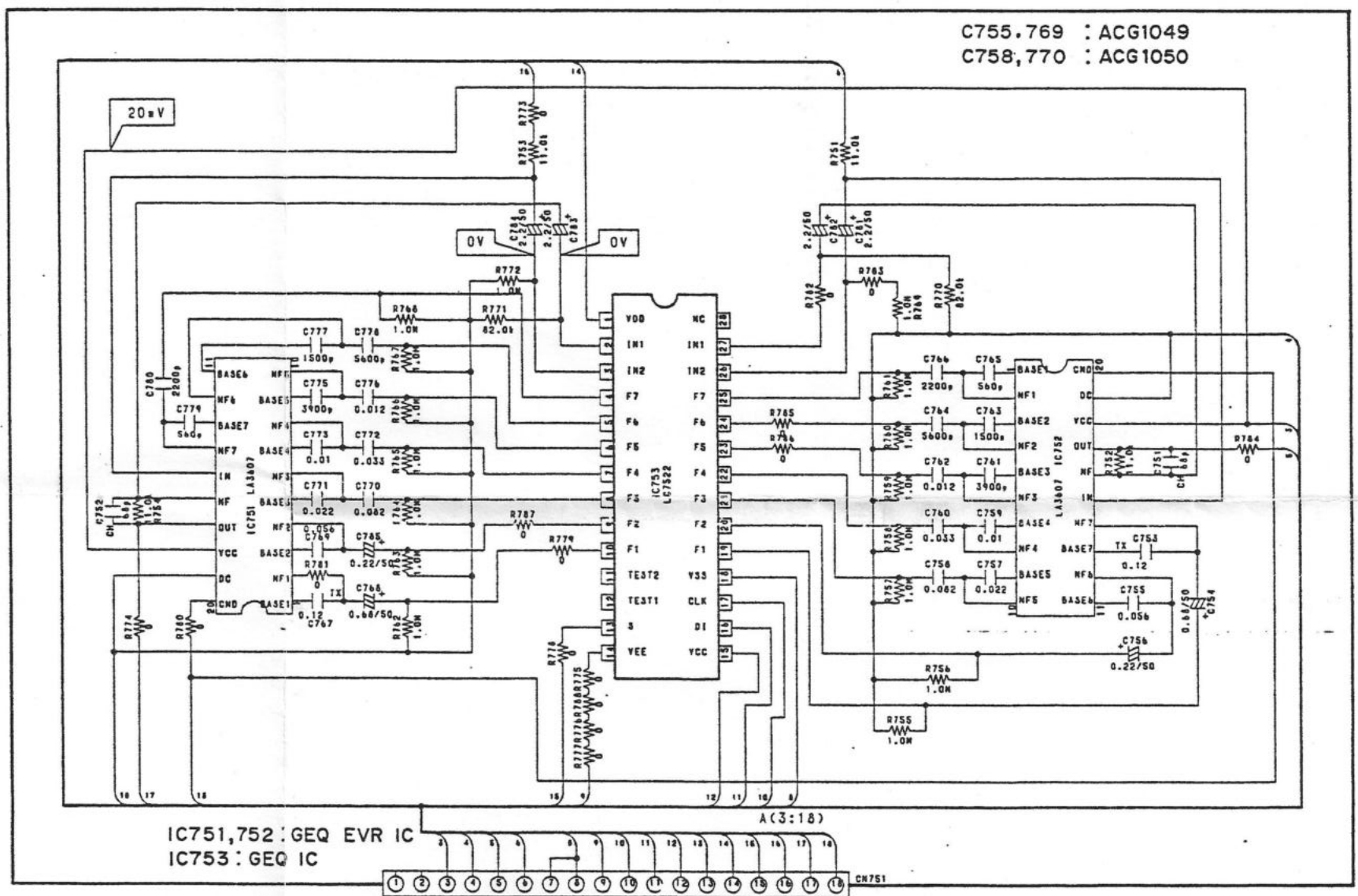
F



LM7001

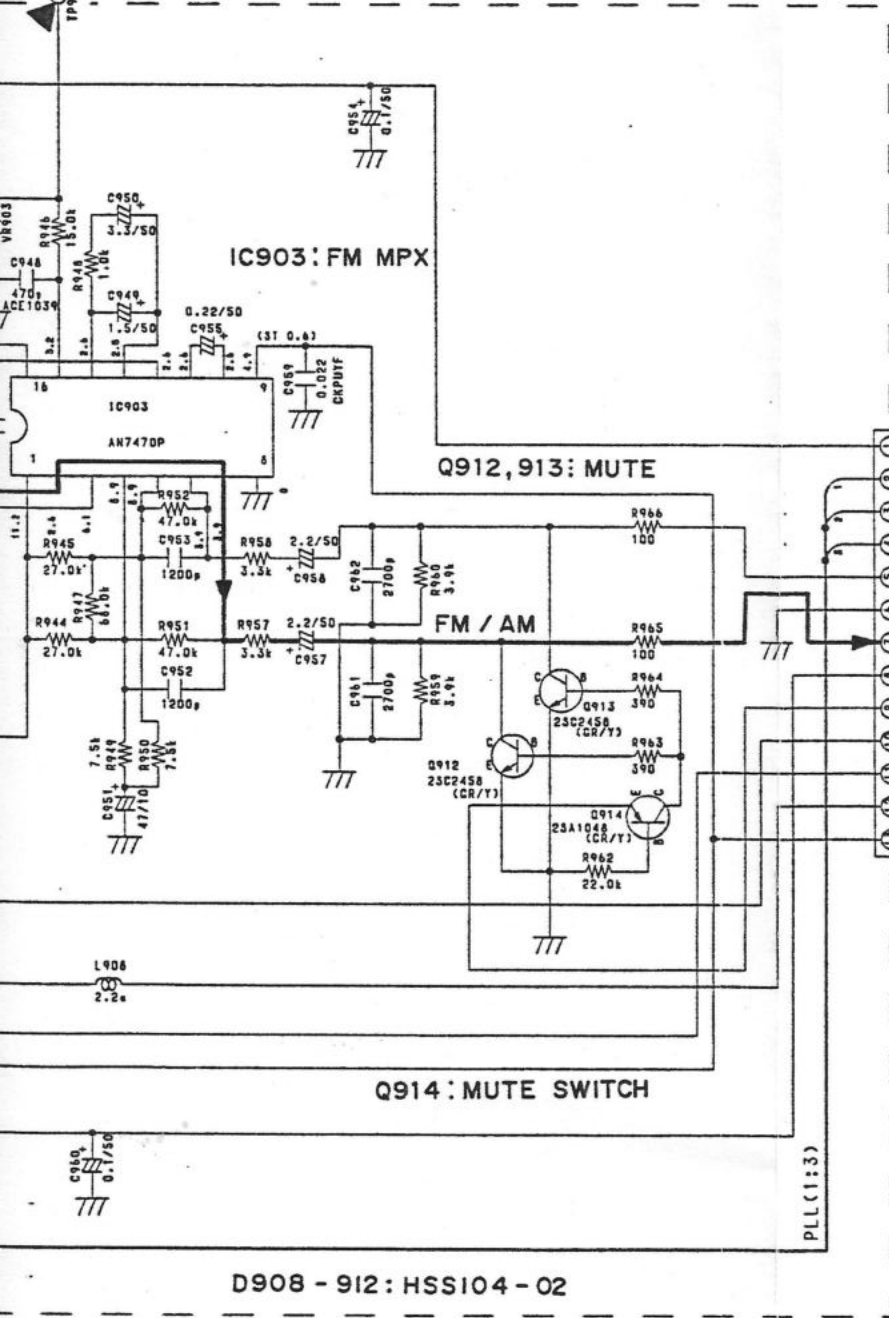
| Voltage | Pin No. | Voltage        |
|---------|---------|----------------|
| 1.1     | 9       | 0.46           |
| 1.5     | 10      | 0<br>(AM: 1.7) |
| 0       | 11      | 2.7            |
| 0       | 12      | 5.0            |
| 0       | 13      | 5.0            |
|         | 14      | 0.7  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

EQ ASSY (AWF 1009)



SIGNAL

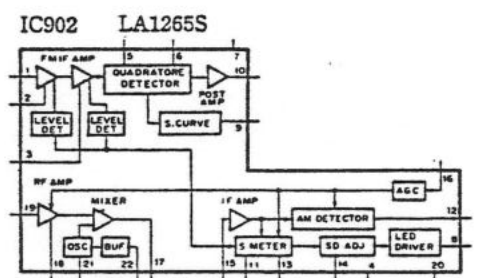
VCO



TO MAIN ASSY (2/3) CN501 (→P33)

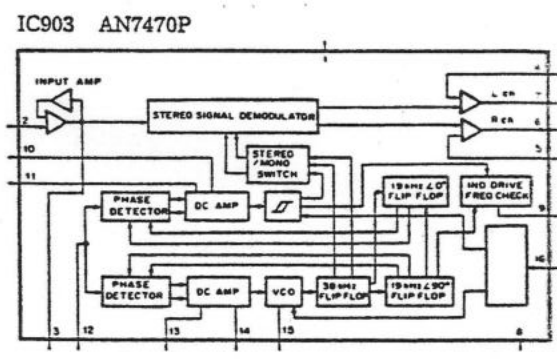
LOCAL  
PLL CE  
PLL DATA  
PLL CLOCK  
R  
CND  
L  
MONO  
MUTE  
TUNED  
+12V  
+5.6V  
STEREO

OUTPUT LEVEL  
650mV



| 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)  |

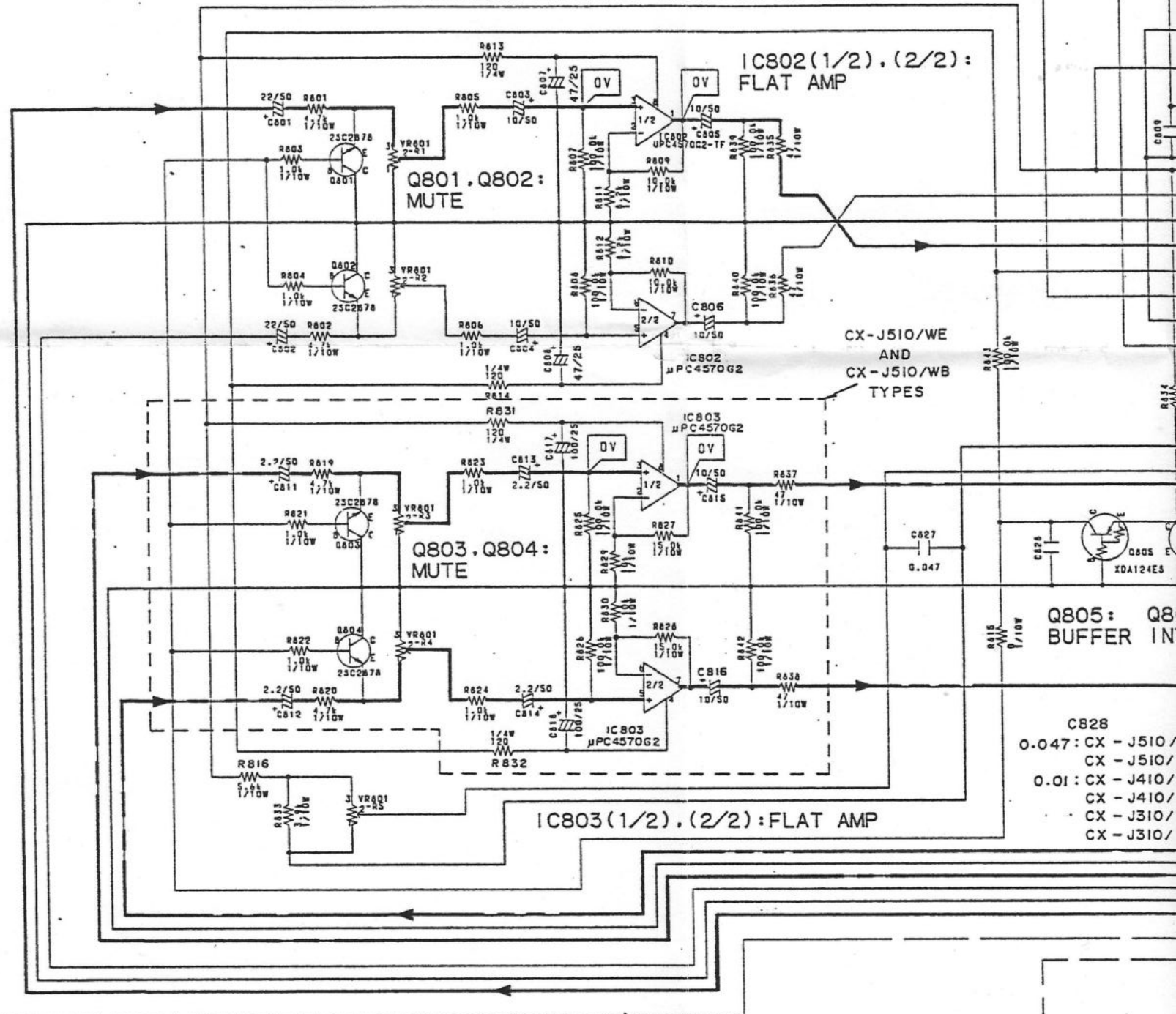
Note: (T) TUNE IND. ON  
(D) TUNE IND. OFF



| 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 (AM)  |
| 4       | 8.9     | 10      | 2.6      |         | 4.0 (MONO) |
| 5       | 8.9     | 11      | 2.6      |         |            |
| 6       | 3.9     | 12      | 2.6      |         |            |
| 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

MIC  
1.02V

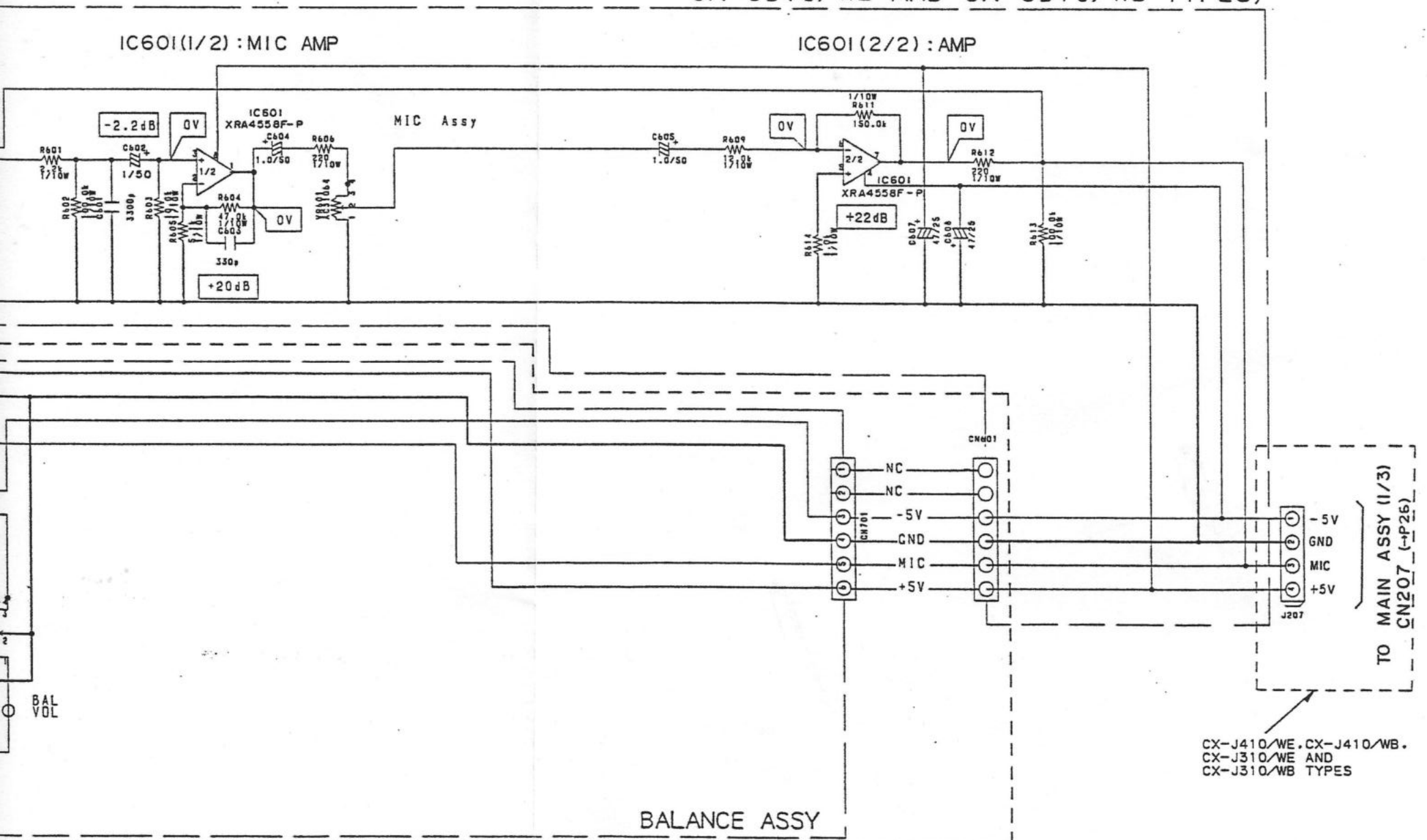
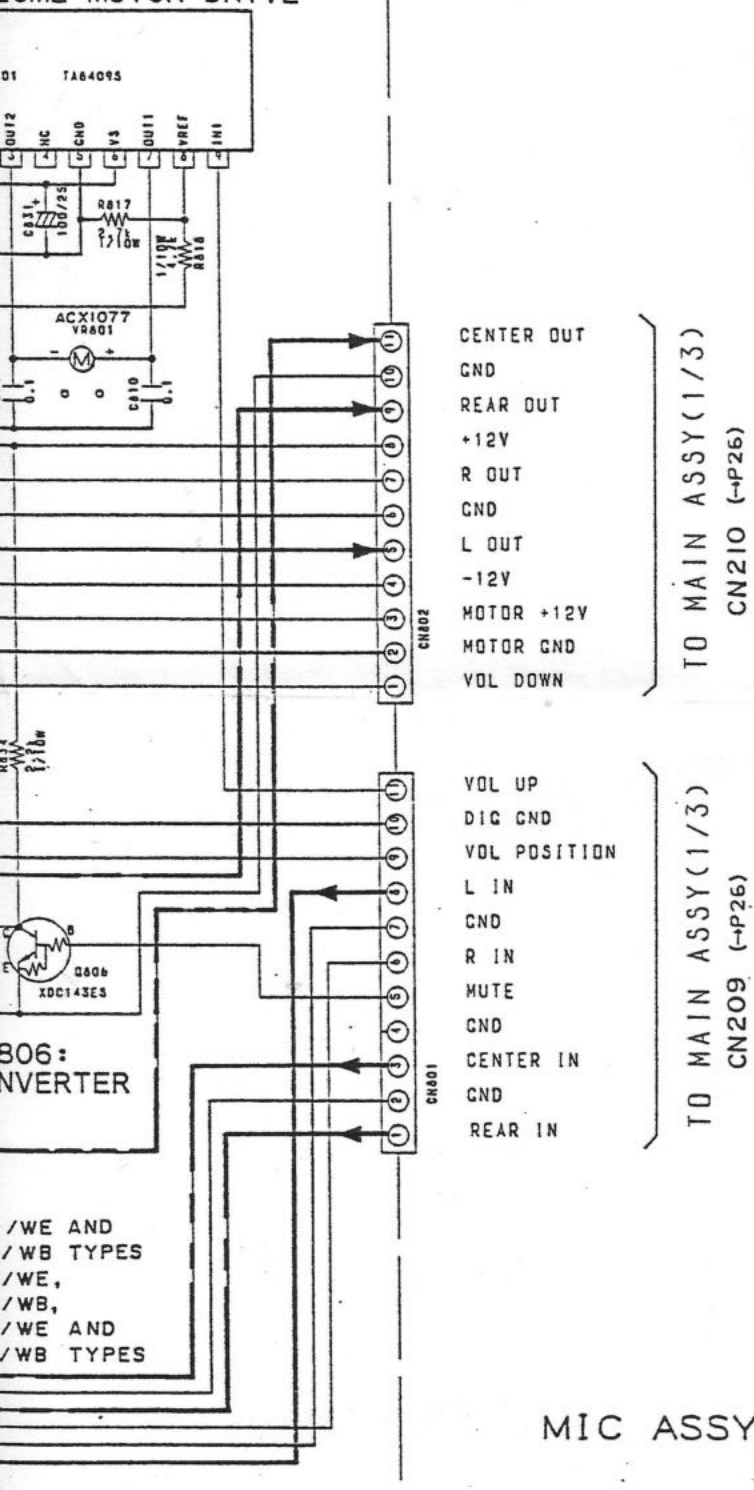
CX-J510/WE  
AND  
CX-J510/WB  
TYPES

TO MAIN ASSY (1/3)  
CN208 (-P26)

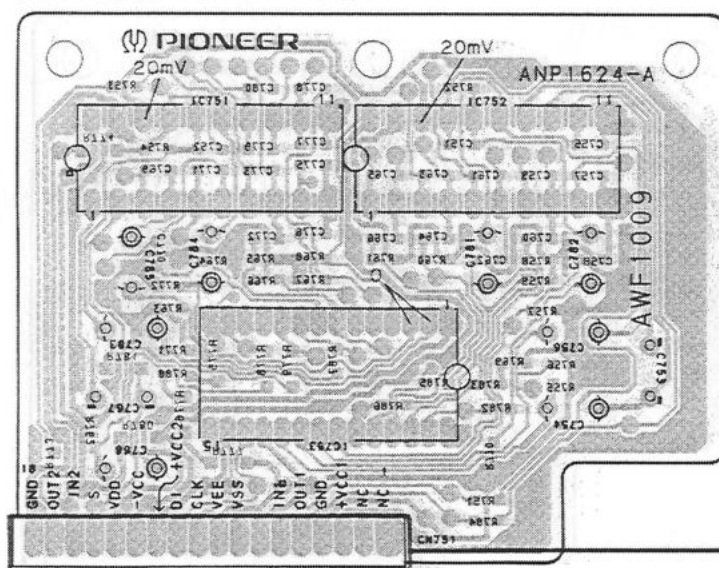
+5V  
MIC  
GND  
-5V  
L BAL  
R BAL  
D.CND  
NC

J208

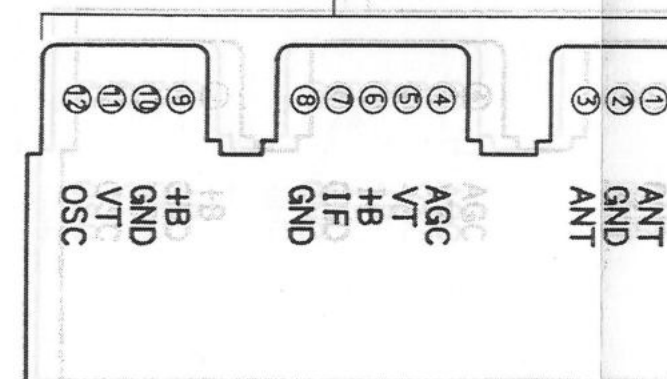
## VOLUME MOTOR DRIVE



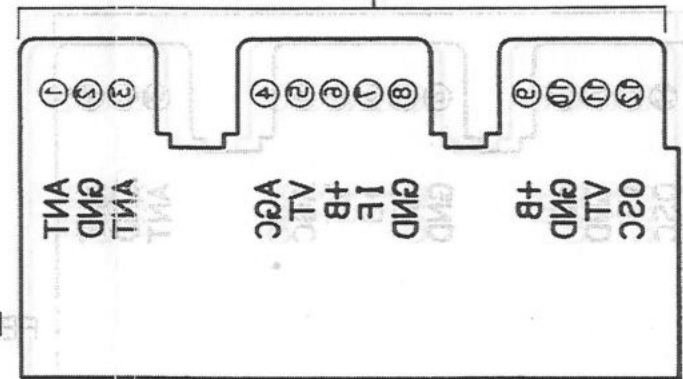
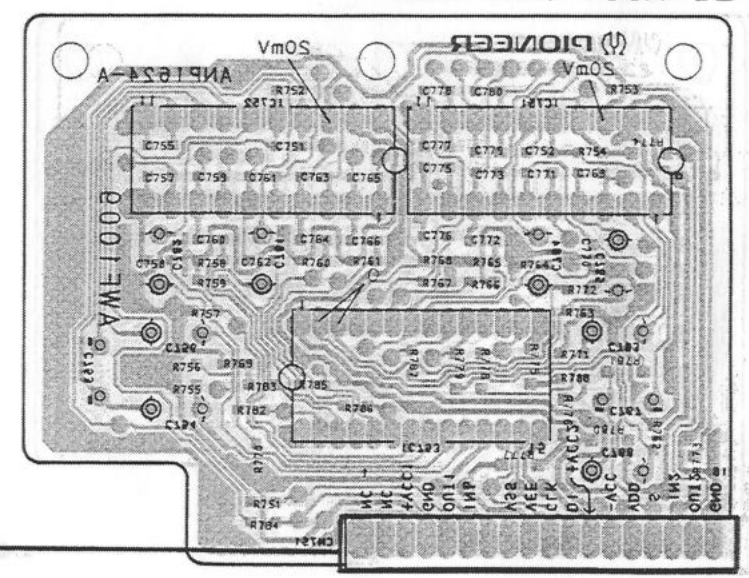
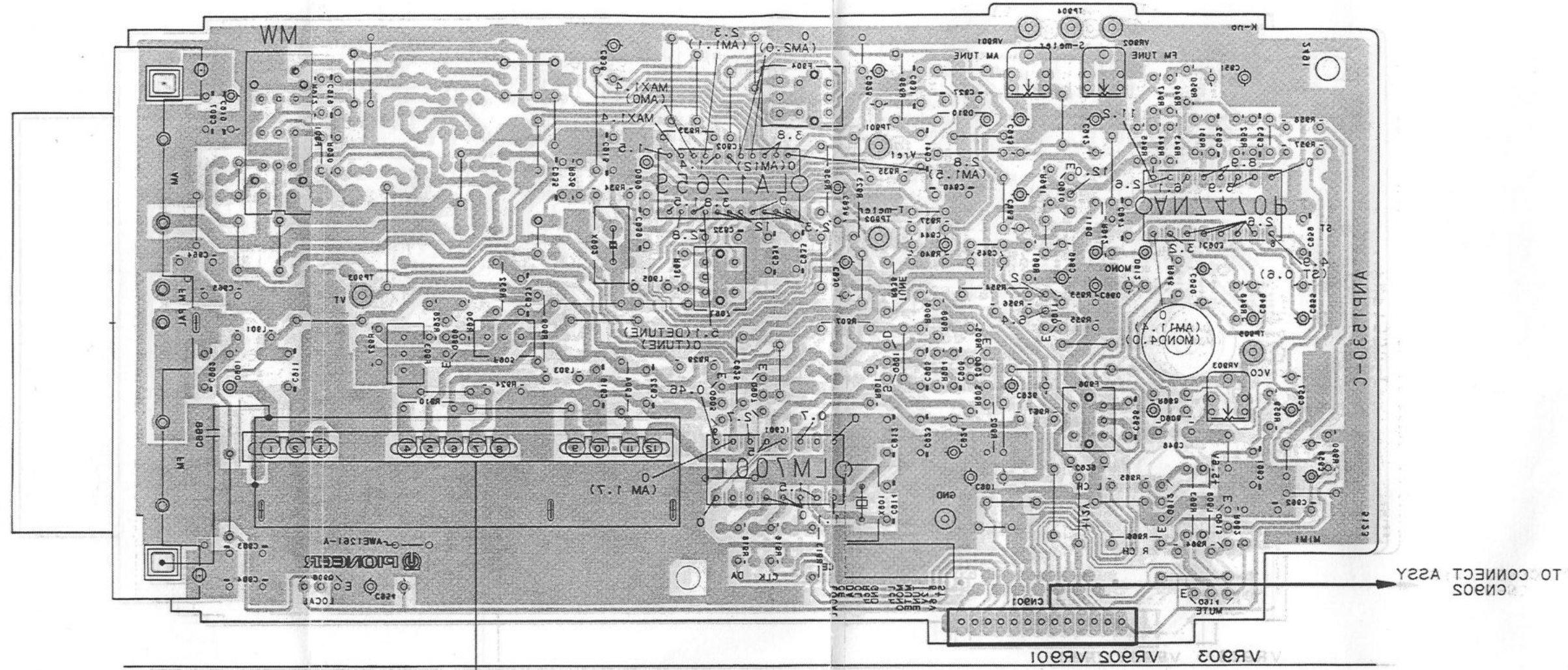
## EQ ASSY (AWF1009)



TO MAIN ASSY  
CN501



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

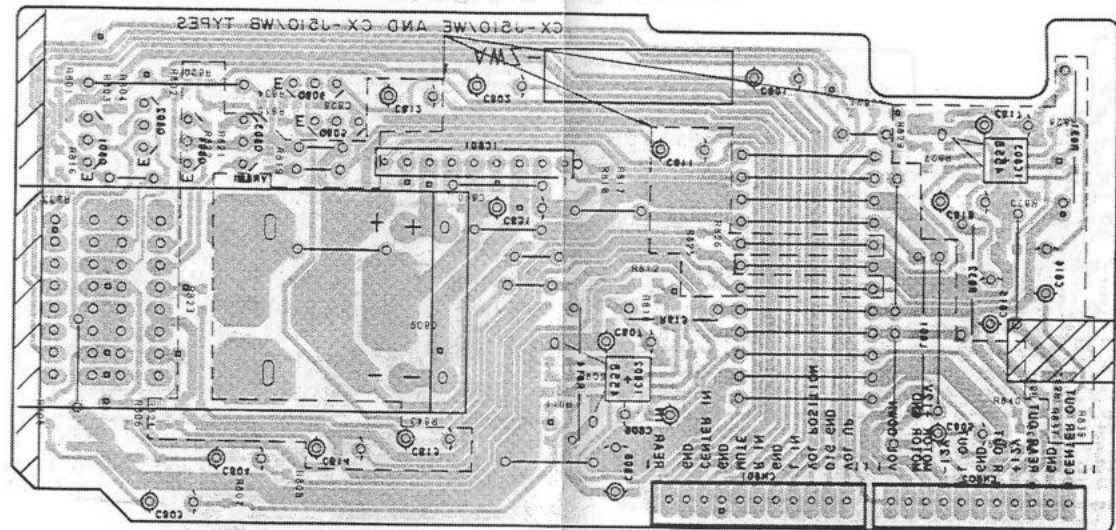


FE MODULE ASSEMBLY  
(AXQ100S)

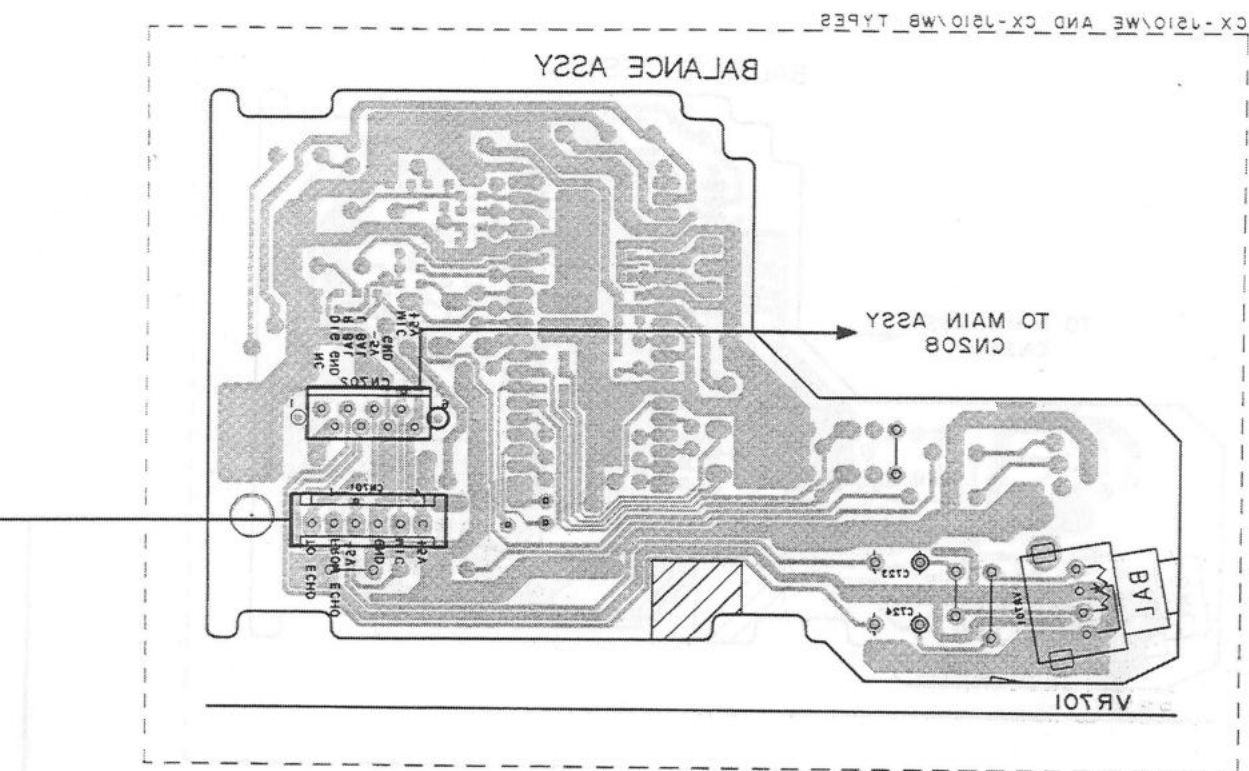
3.3 VOLUME ASSY, MIC ASSY, BALANCE ASSY

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

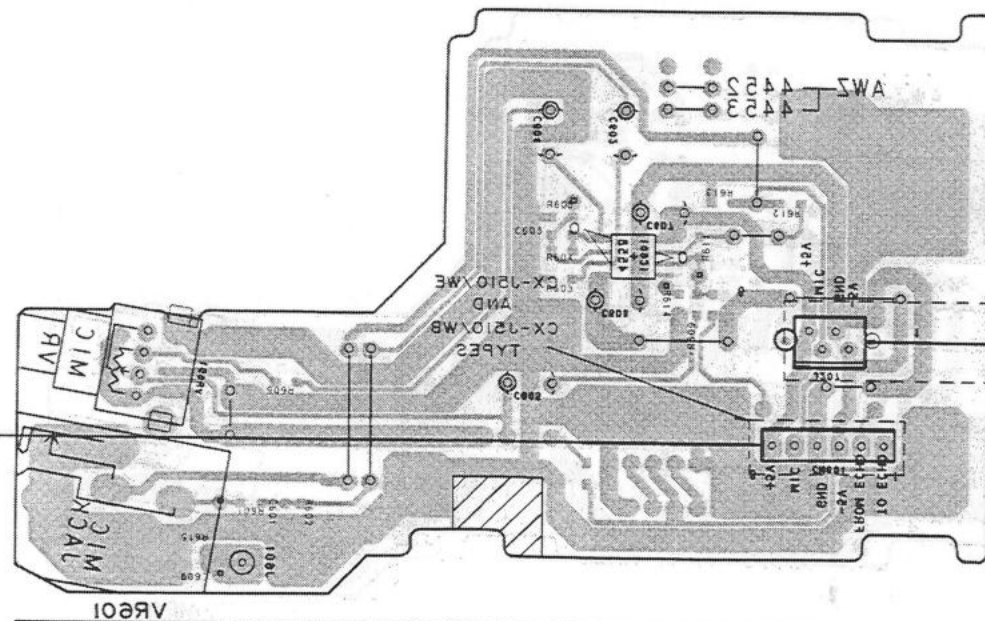
A  
VOLUME ASSY (AW54447: CX-7210\WE AND CX-7210\WB TYPES)  
(AW54448: CX-7410\WE, CX-7410\WB,  
CX-7310\WE AND CX-7310\WB TYPES)



IC803  
TO MAIN ASSY  
IC801  
TO MAIN ASSY  
IC802  
TO MAIN ASSY



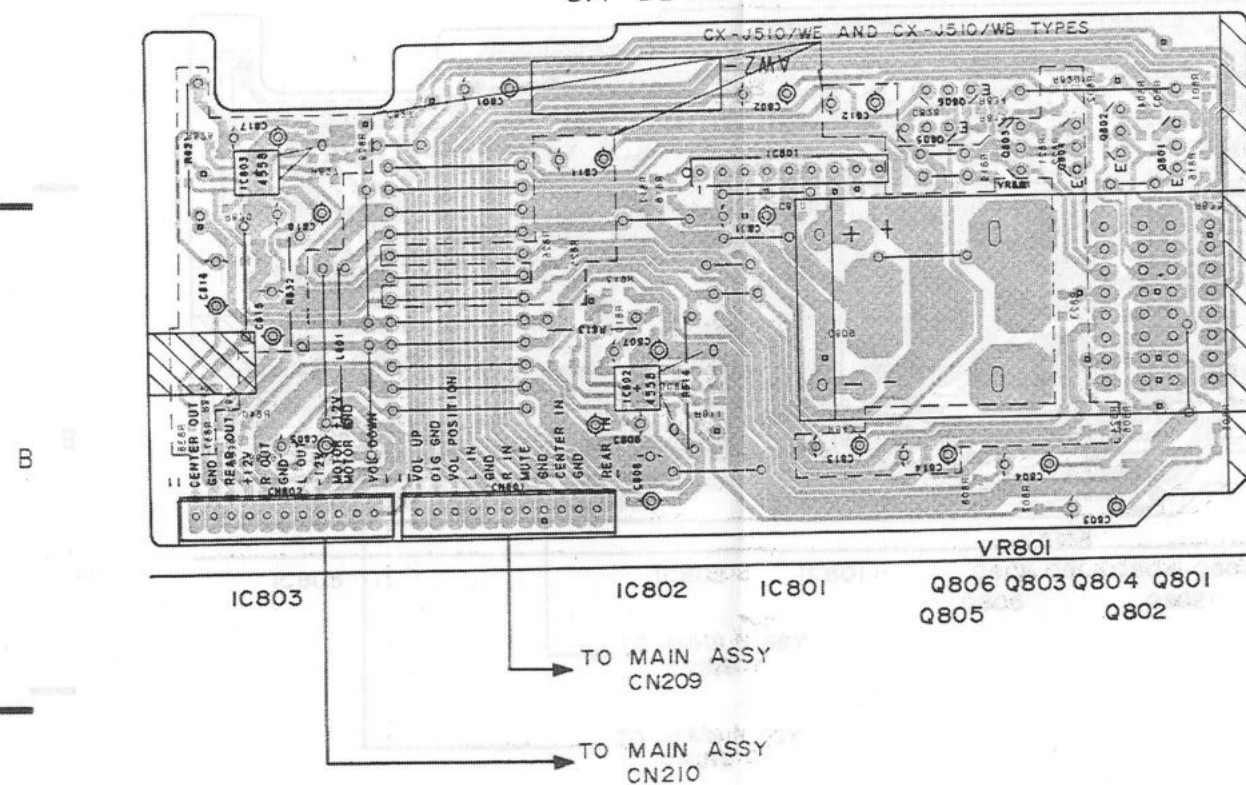
CX-7310\WE AND CX-7310\WB TYPES)  
(AW54423: CX-7410\WE, CX-7410\WB,  
MIC ASSY (AW54425: CX-7210\WE AND CX-7210\WB TYPES)



TO MAIN ASSY  
CX-7310\WB TYPES  
CX-7310\WE AND CX-7410\WB

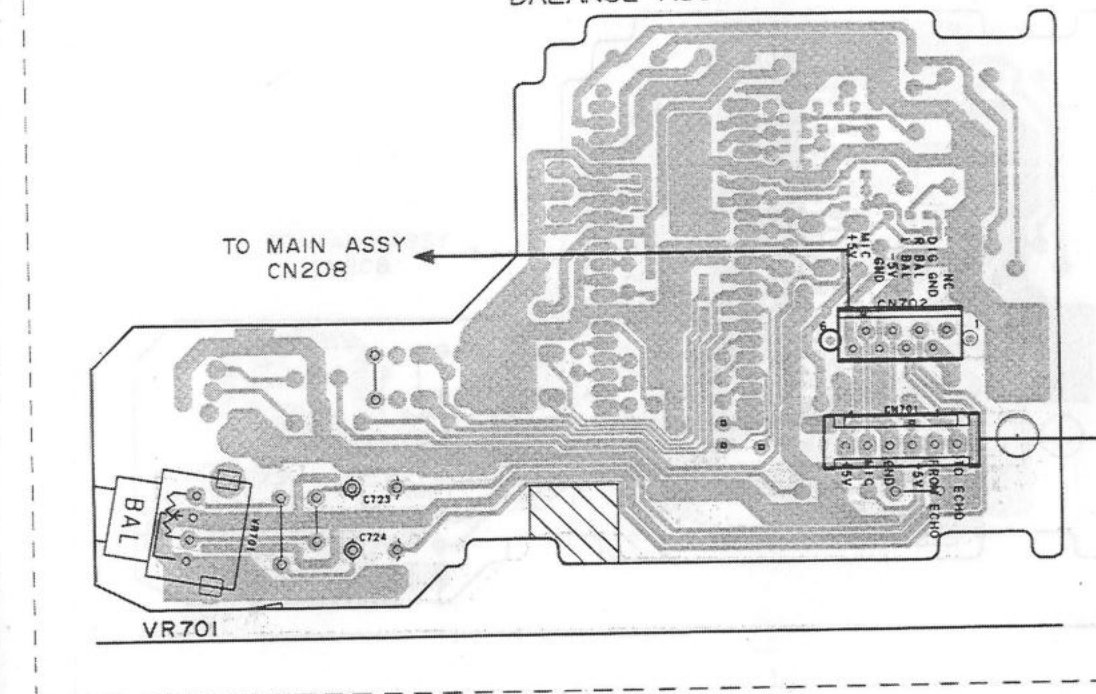
## 3.3 VOLUME ASSY, MIC ASSY, BALANCE ASSY

A 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)

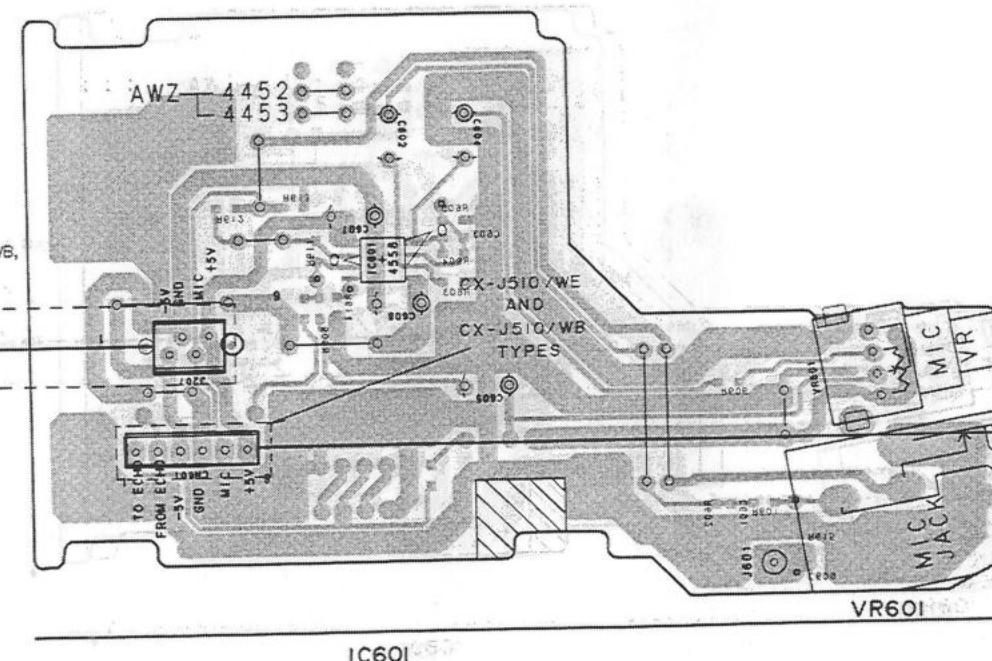


CX-J510/WE AND CX-J510/WB TYPES

## BALANCE ASSY

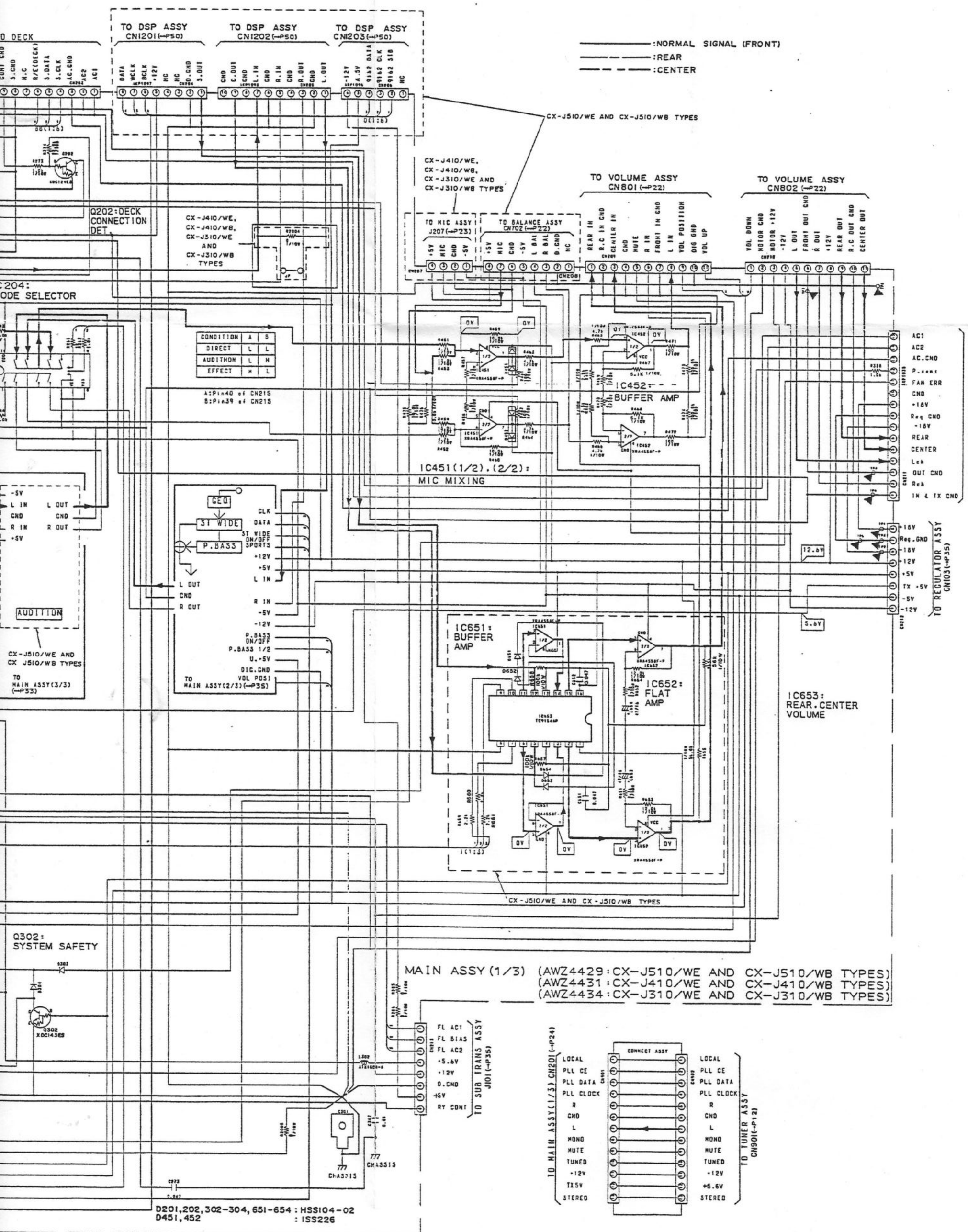


MIC ASSY (AWZ4452: CX-J510/WE AND CX-J510/WB TYPES)  
(AWZ4453: CX-J410/WE, CX-J410/WB,  
CX-J310/WE AND CX-J310/WB TYPES)

CX-J410/WE, CX-J410/WB,  
CX-J310/WE AND  
CX-J310/WB TYPESTO MAIN ASSY  
CN207

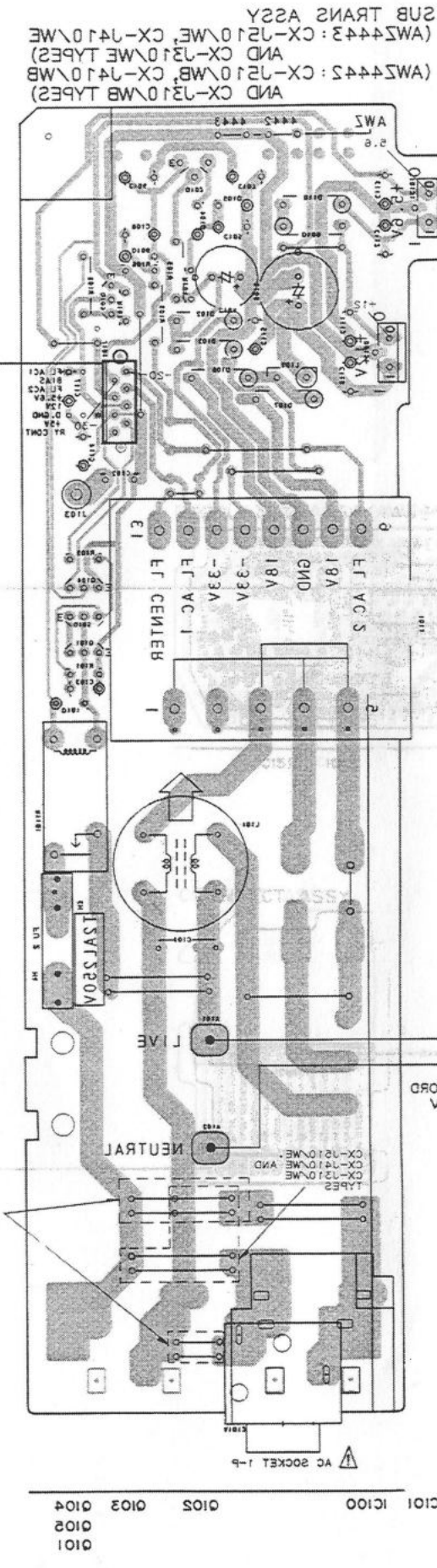
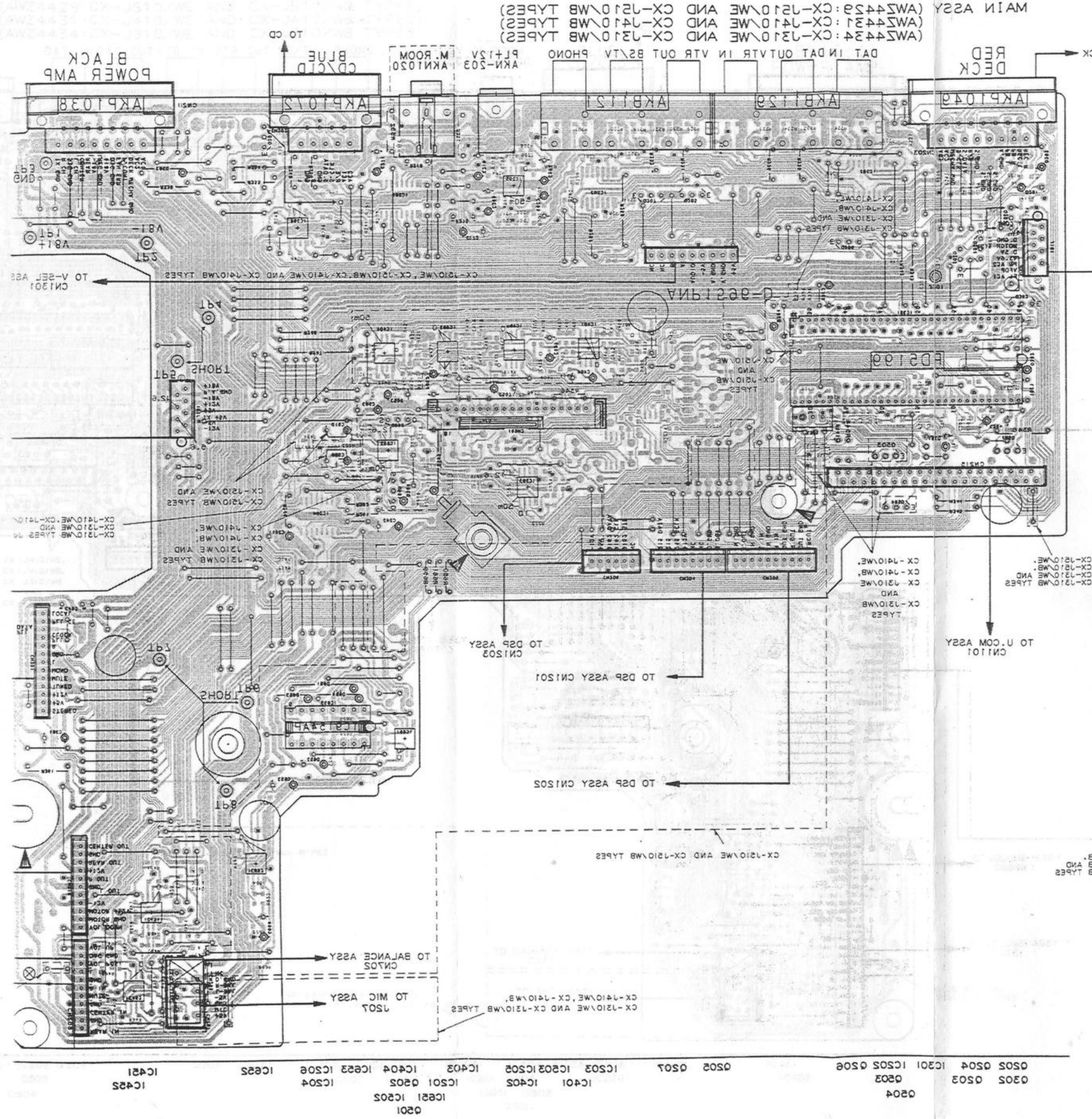
## F



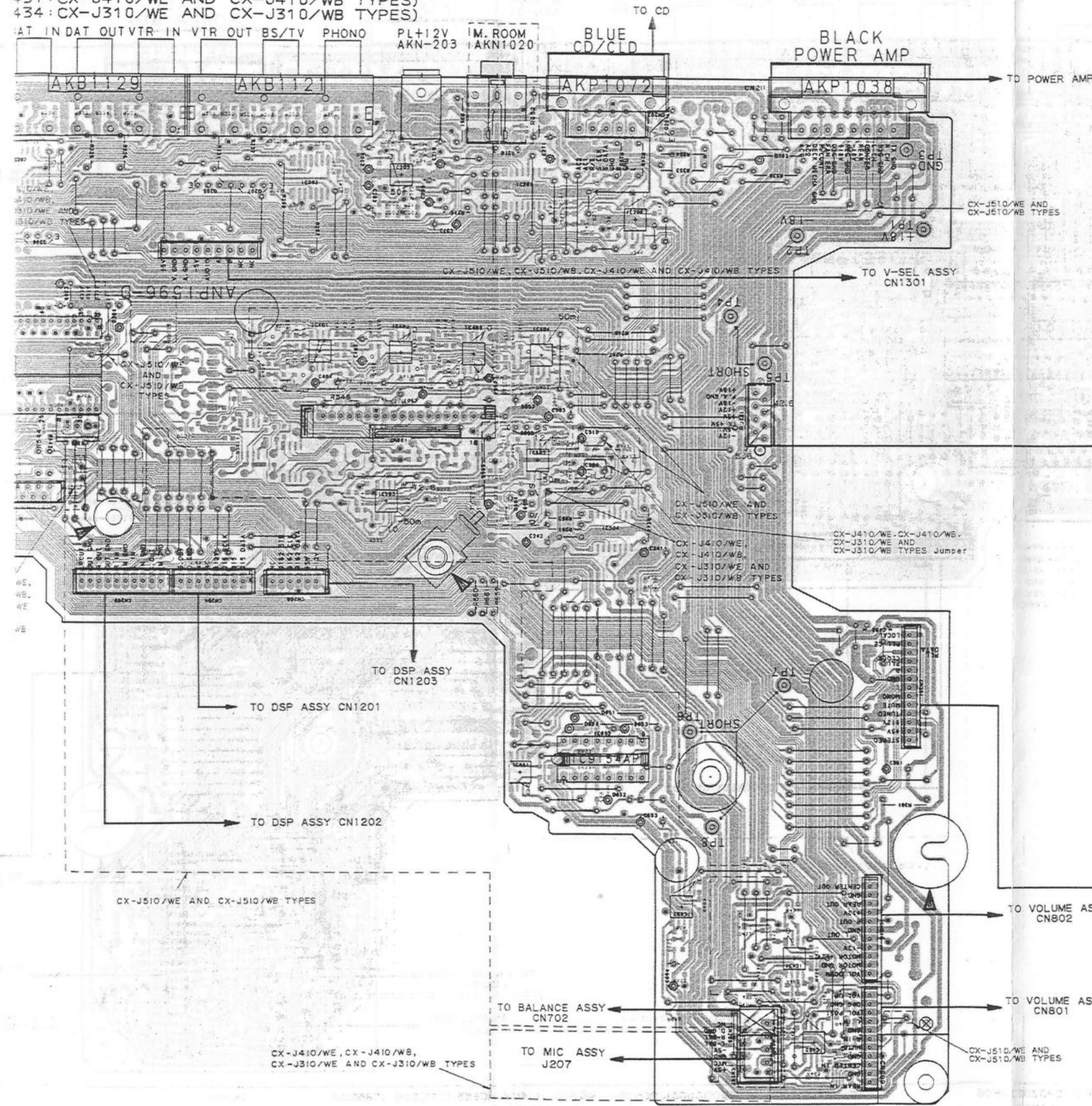


D201,202,302-304, 651-654 : HSS104-02  
D451,452 : ISS226

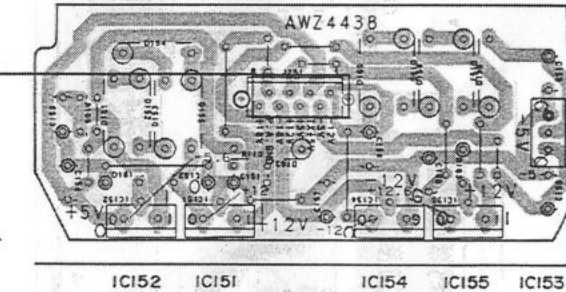
on the foil side.



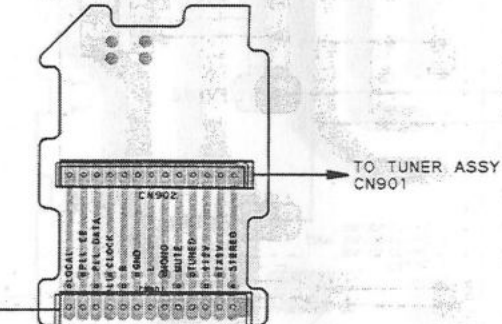
429: CX-J510/WE AND CX-J510/WB TYPES)  
431: CX-J410/WE AND CX-J410/WB TYPES)  
434: CX-J310/WE AND CX-J310/WB TYPES)



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

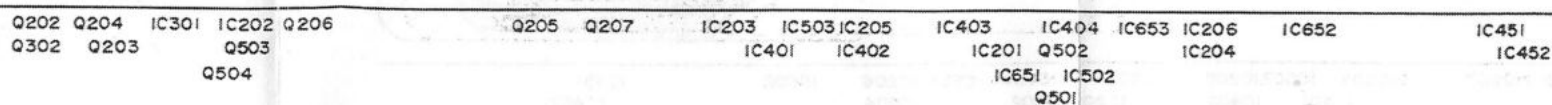
A



C

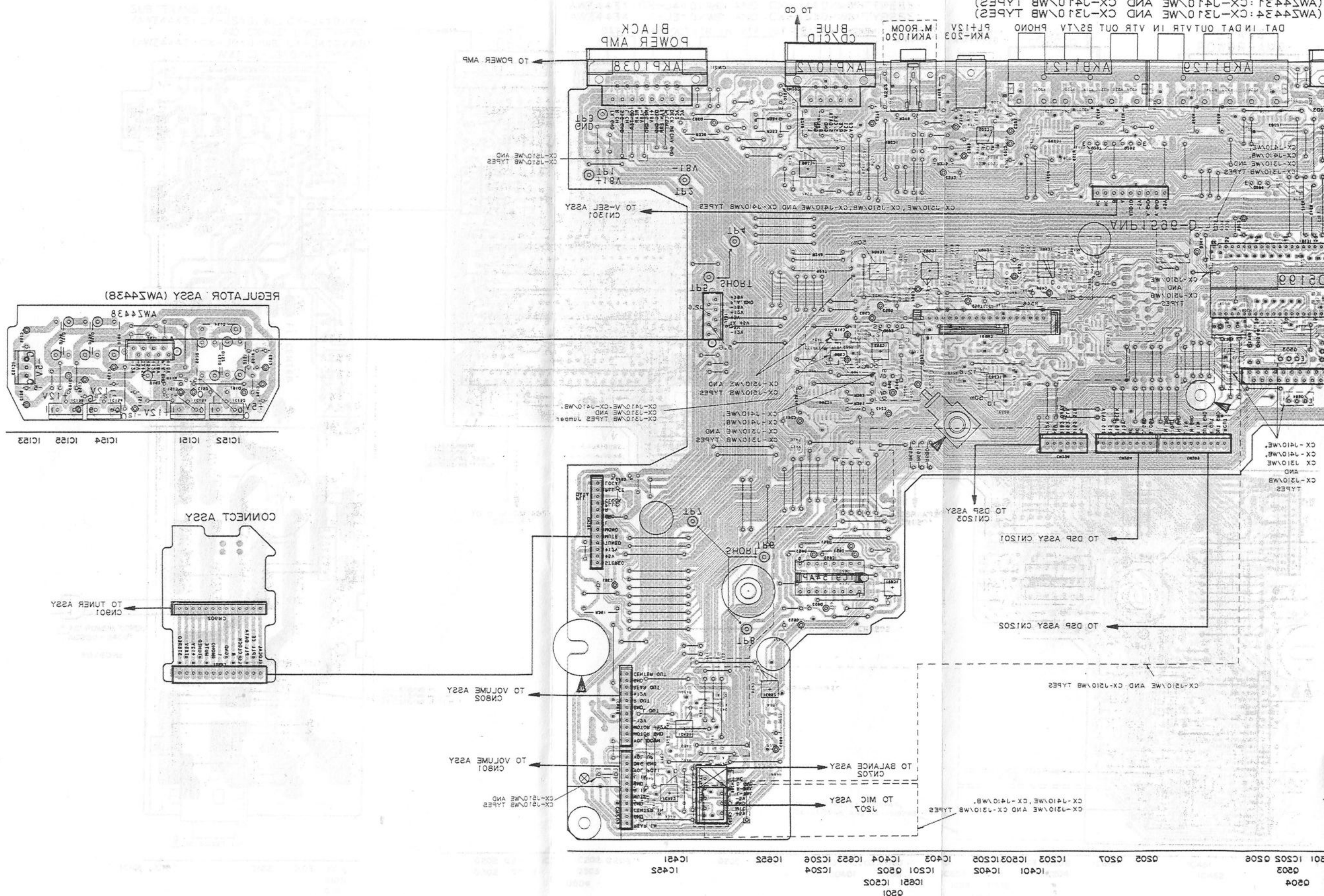
D

MAIN ASSY (AWZ4429: CX-J510/WE AND CX-J510/WB TYPES)  
(AWZ4431: CX-J410/WE AND CX-J410/WB TYPES)  
(AWZ4434: CX-J310/WE AND CX-J310/WB TYPES)



|      |      |       |       |      |  |      |      |       |       |       |       |       |       |       |       |       |
|------|------|-------|-------|------|--|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Q202 | Q204 | IC301 | IC202 | Q206 |  | Q205 | Q207 | IC203 | IC503 | IC205 | IC403 | IC404 | IC653 | IC206 | IC652 | IC451 |
| Q302 | Q203 |       | Q503  |      |  |      |      | IC401 | IC402 |       | IC201 | Q502  |       | IC204 |       | IC452 |
|      |      |       | Q504  |      |  |      |      |       |       |       |       | IC651 | IC502 |       |       |       |
|      |      |       |       |      |  |      |      |       |       |       |       | Q501  |       |       |       |       |

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



(AW24438: CX-1210WB AND CX-1410WB TYPES)  
(AW24431: CX-1410WB AND CX-1310WB TYPES)  
(AW24434: CX-1310WB AND CX-1210WB TYPES)

A

B

C

D

A

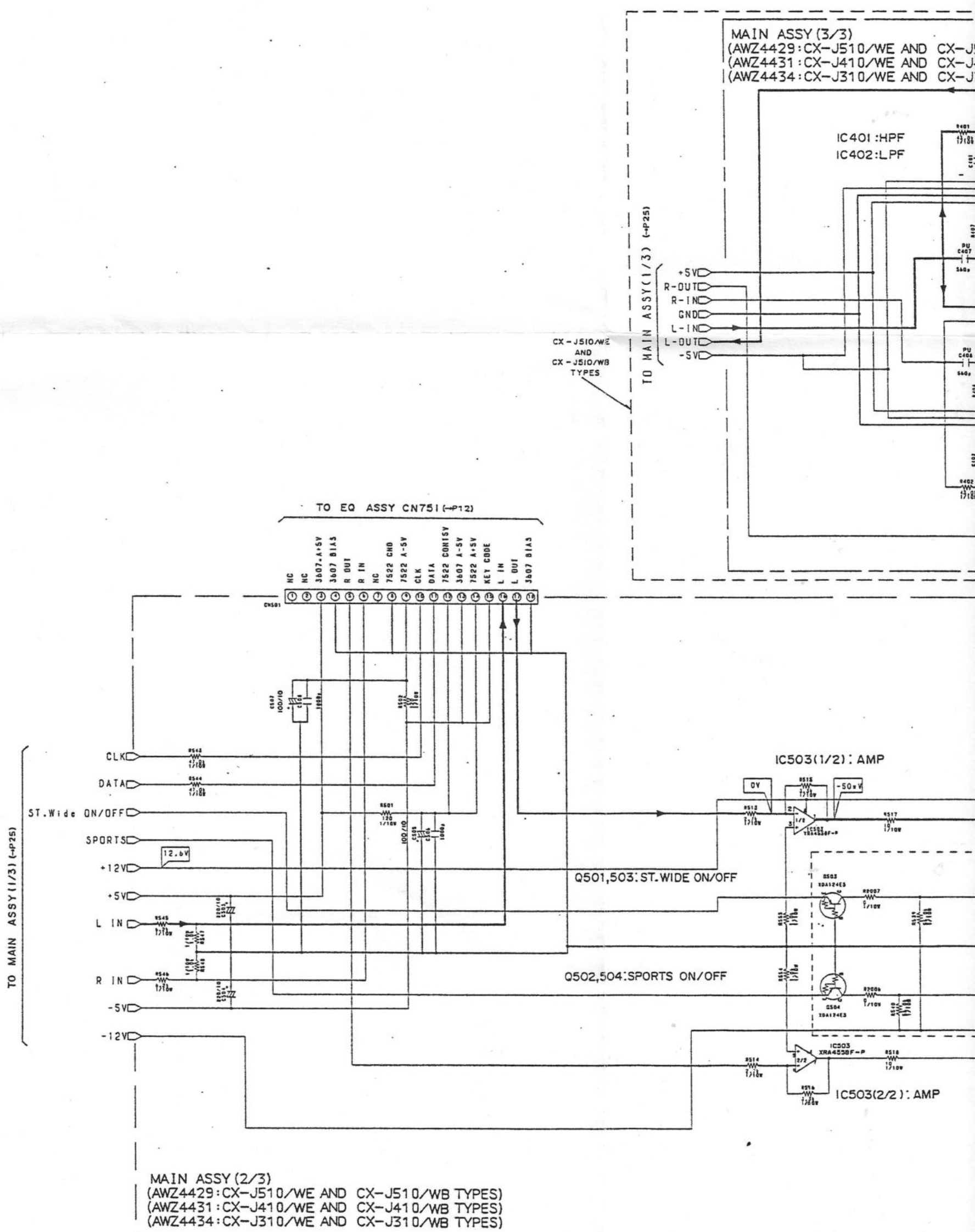
B

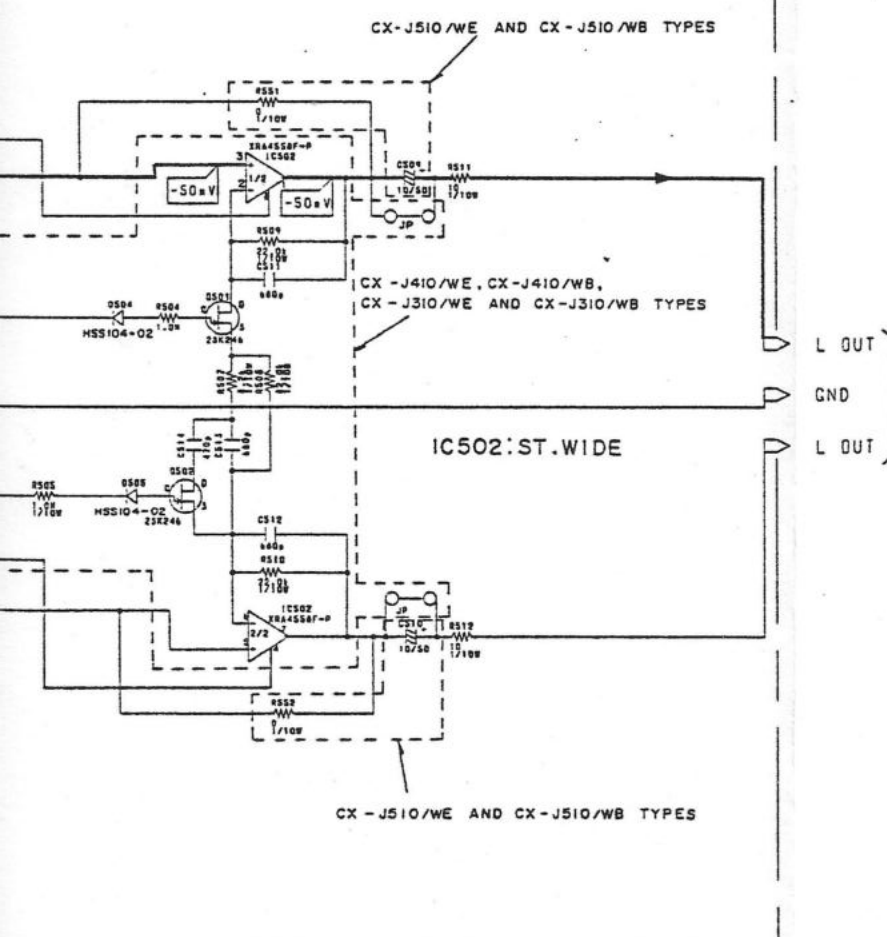
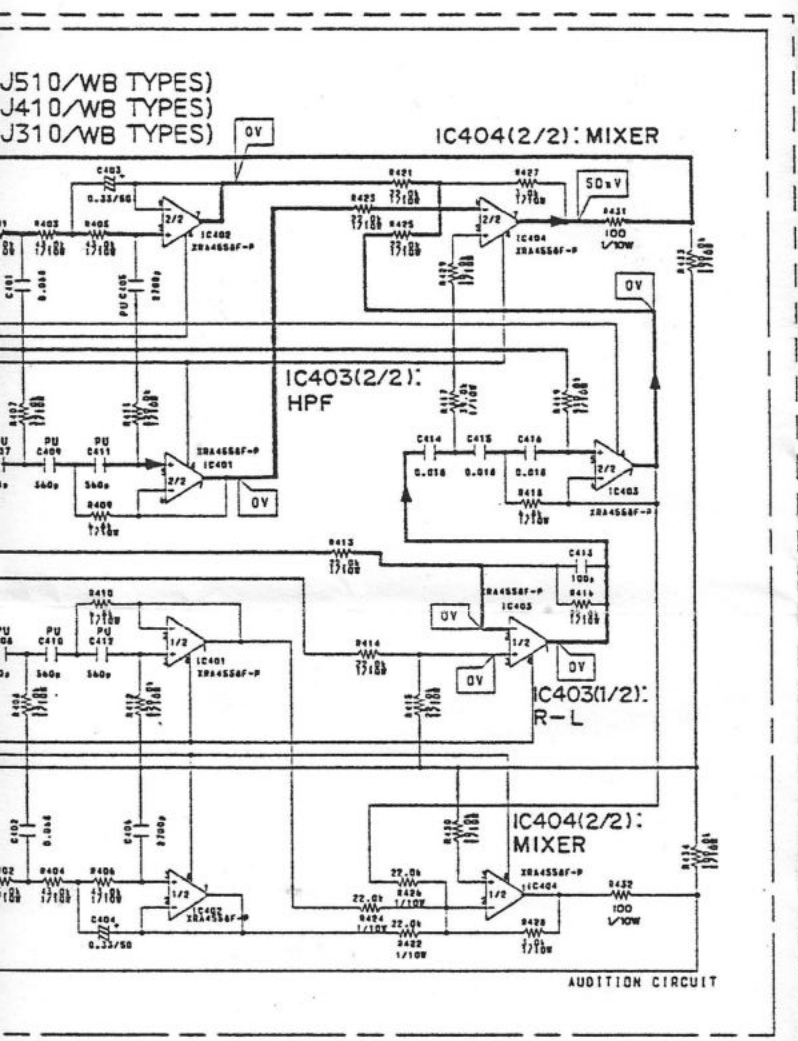
C

D

E

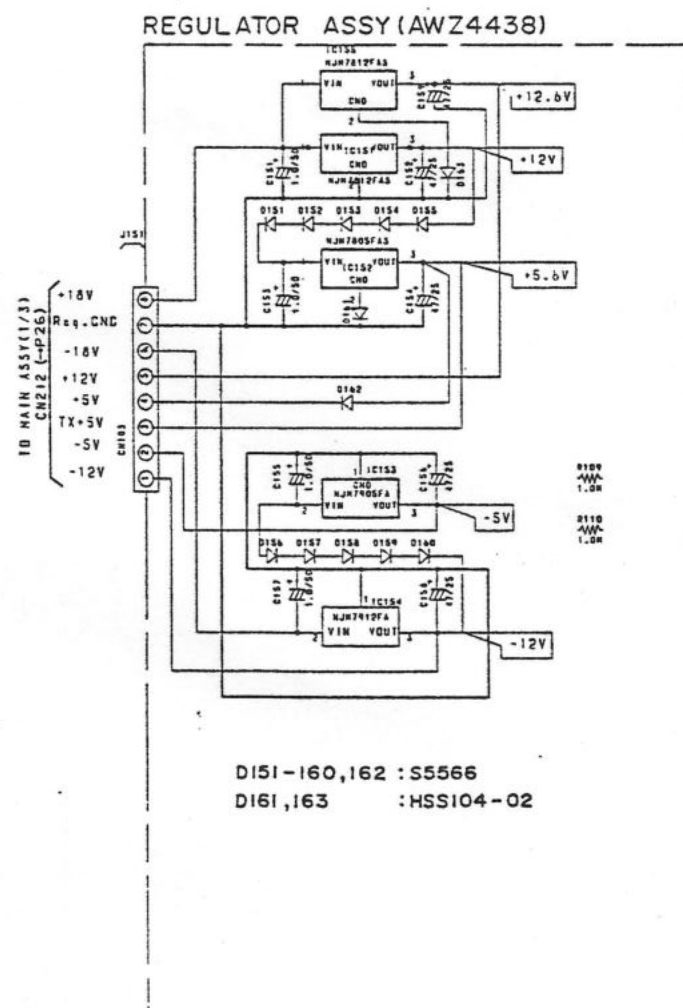
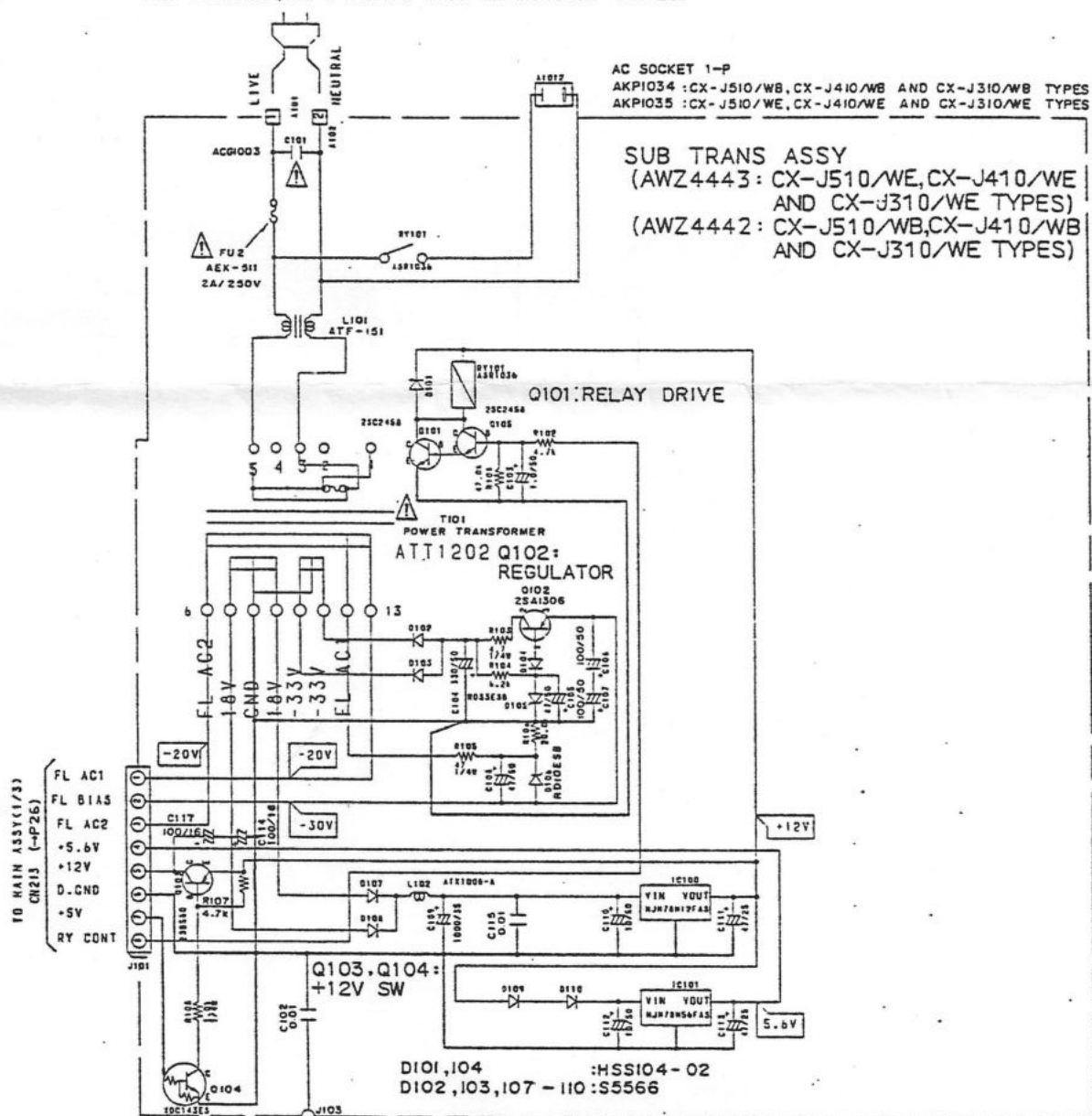
F





—NORMAL SIGNAL (FRONT)

△ 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)

A

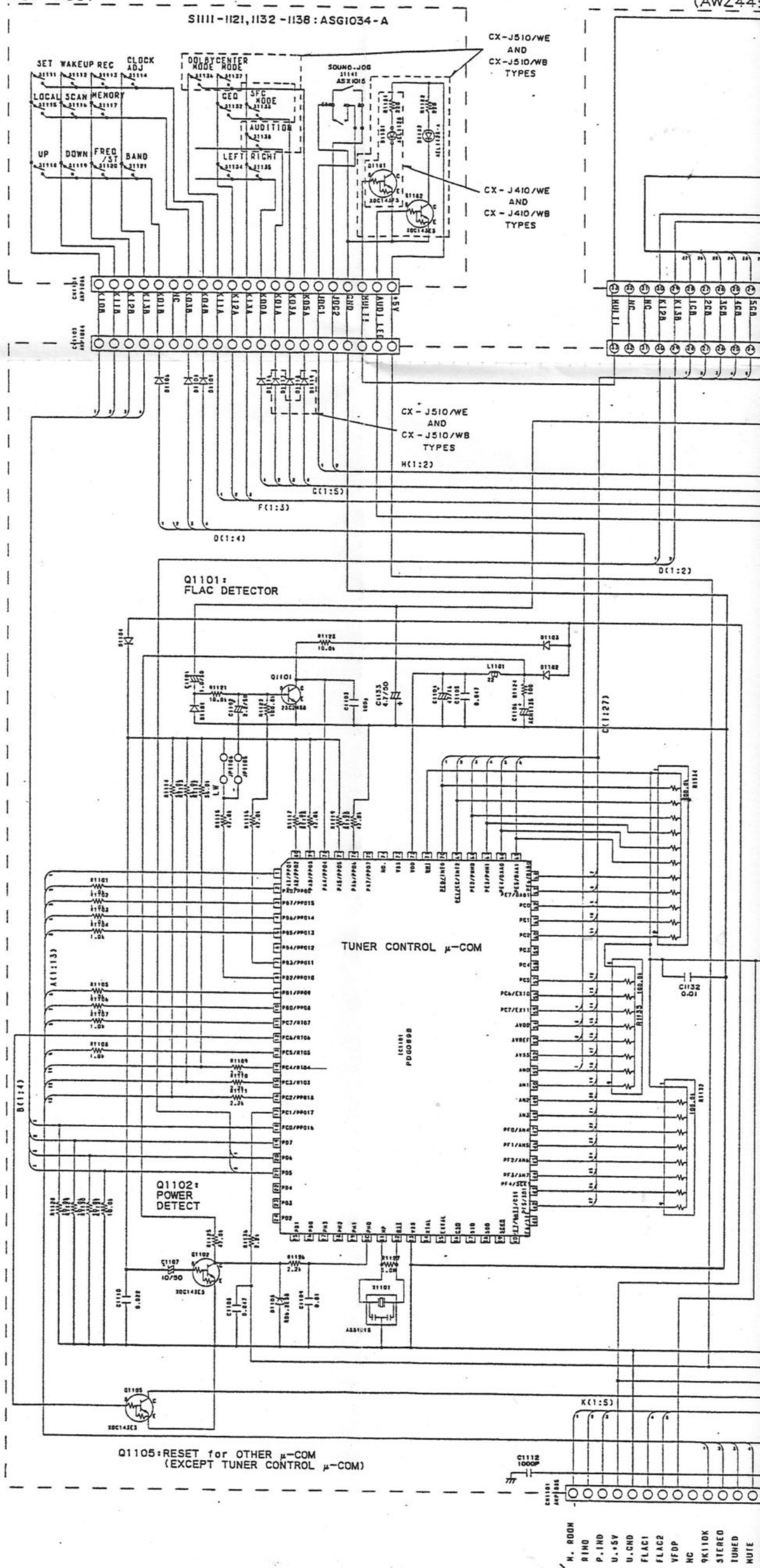
3

C

D

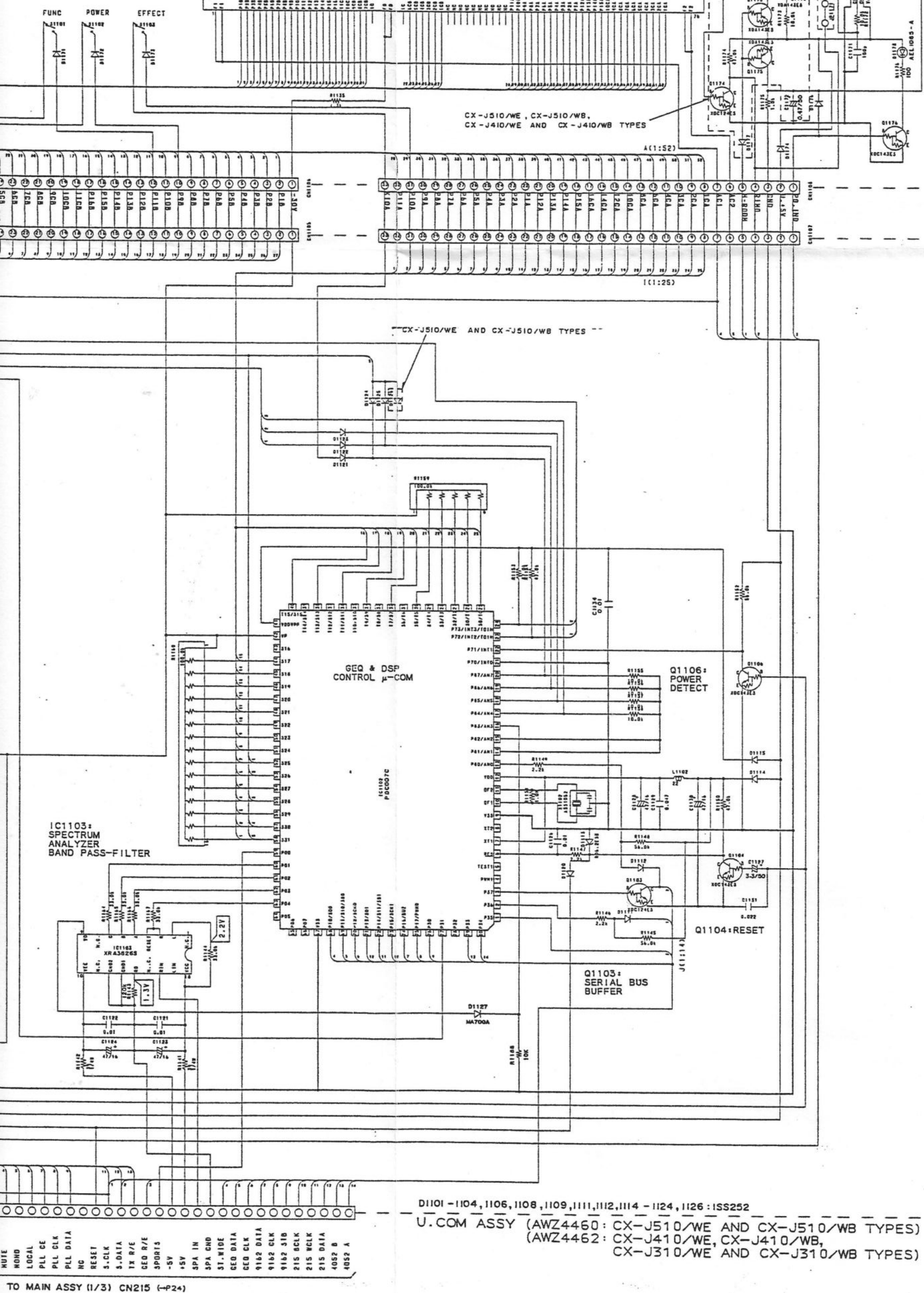
E

F



46: CX-J510/WE, CX-J510/WB, CX-J410/WE AND CX-J410/WB TYPES)  
54: CX-J310/WE AND CX-J310/WB TYPES)

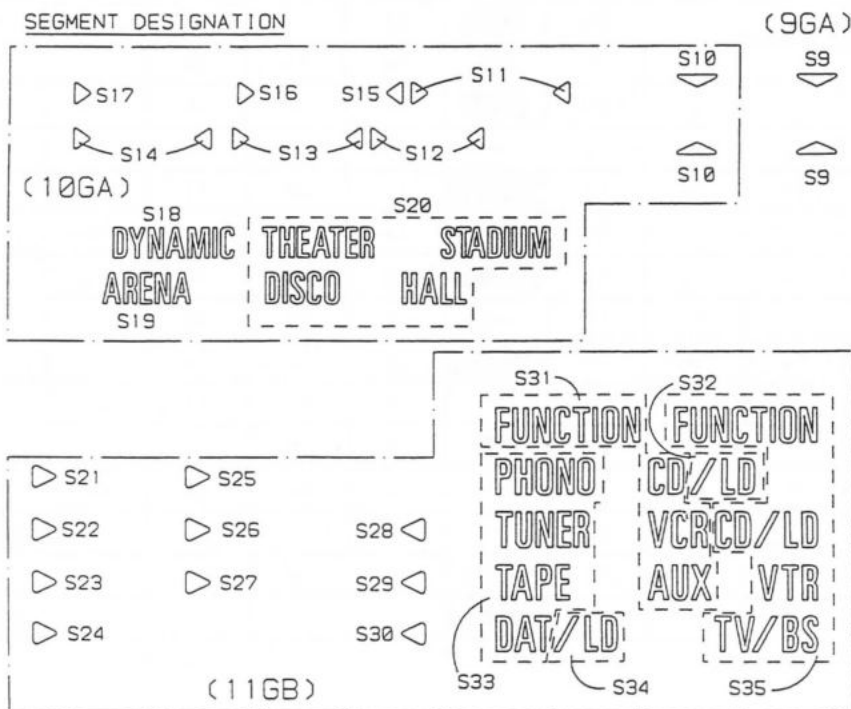
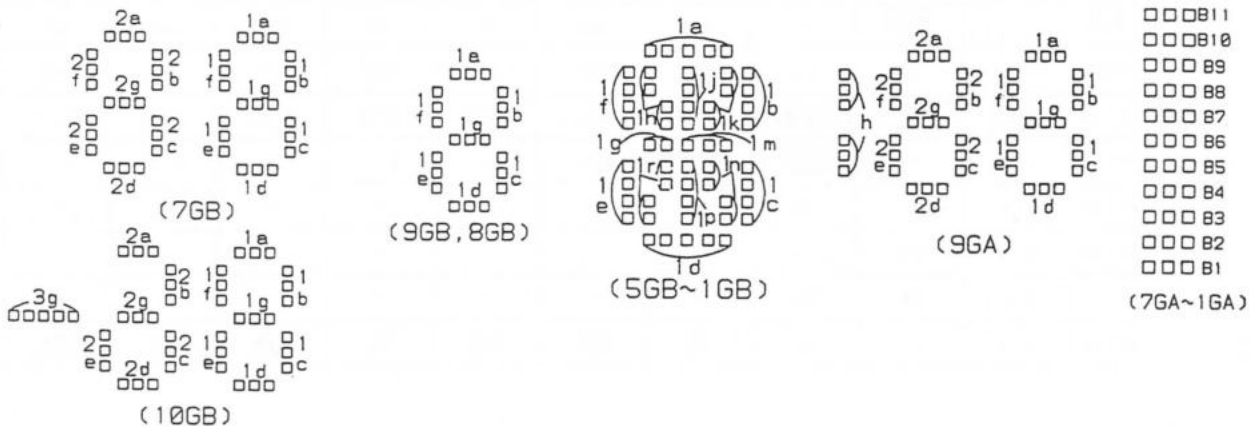
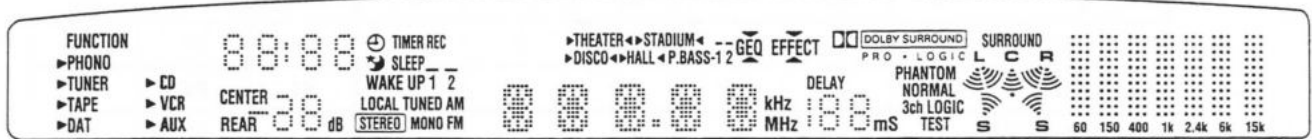
DI171 - I174, I177: ISS252  
SI101 - I103: ASG1034 - A



DI101 - I104, I106, I108, I109, I111, I112, I114 - I124, I126: ISS252  
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 (1/3) CN215 (-P24)

● AAV 1157 (V 1101) Display Segments

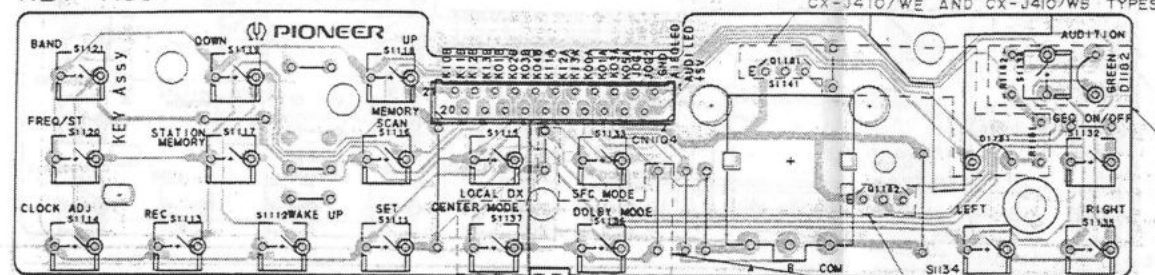


ANODE CONNECTION

|      | 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<br>1c, 1d | NORMAL    | B6  | B6  | B6  | B6  | B6   | B6  | B6  |
| P7A  | S11       | 1g               | PHANTOM   | B7  | B7  | B7  | B7  | B7   | B7  | B7  |
| P8A  | -(1)      | DELAY<br>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 |

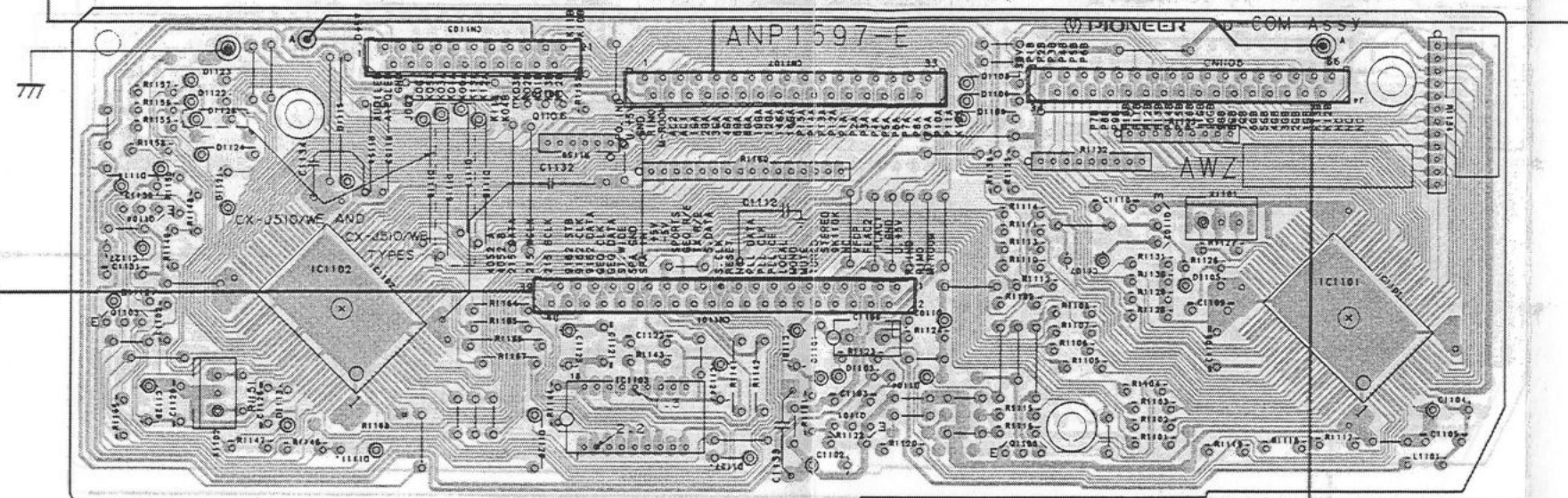


CX-J510/WE, CX-J510/WB,  
CX-J410/WE AND CX-J410/WB TYPES

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

✓ CX-J510/WE AND CX-J510/WS TYPES

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

Q1104  
Q1103

ICI 102

Q1106

IC1103

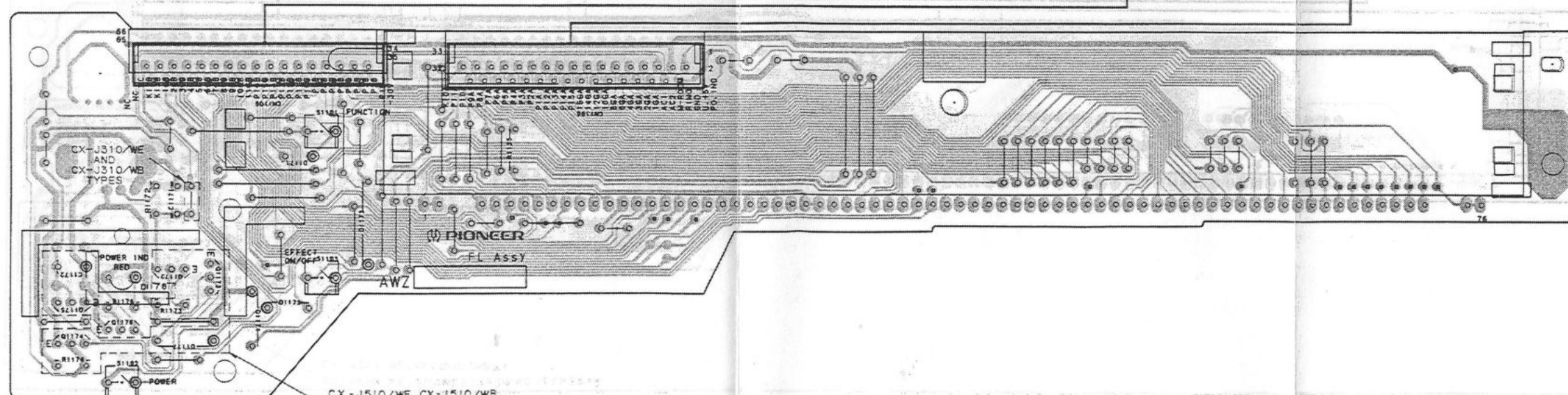
Q1101

105

1102

|         |  |
|---------|--|
| ICI 101 |  |
|---------|--|

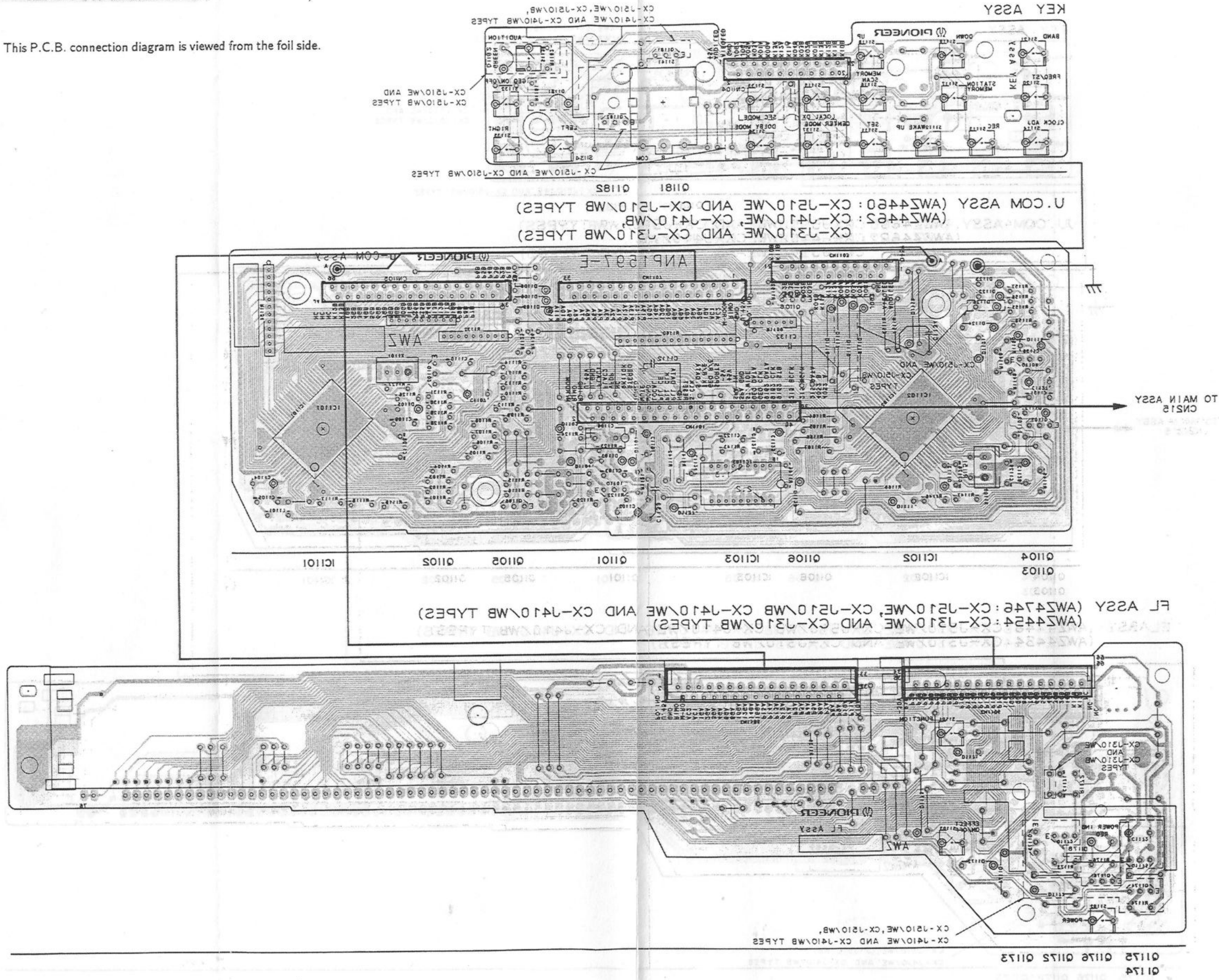
FL ASSY (AWZ4746: CX-J510/WE, CX-J510/WB CX-J410/WE AND CX-J410/WB TYPES)  
(AWZ4454: CX-J310/WE AND CX-J310/WB TYPES)



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

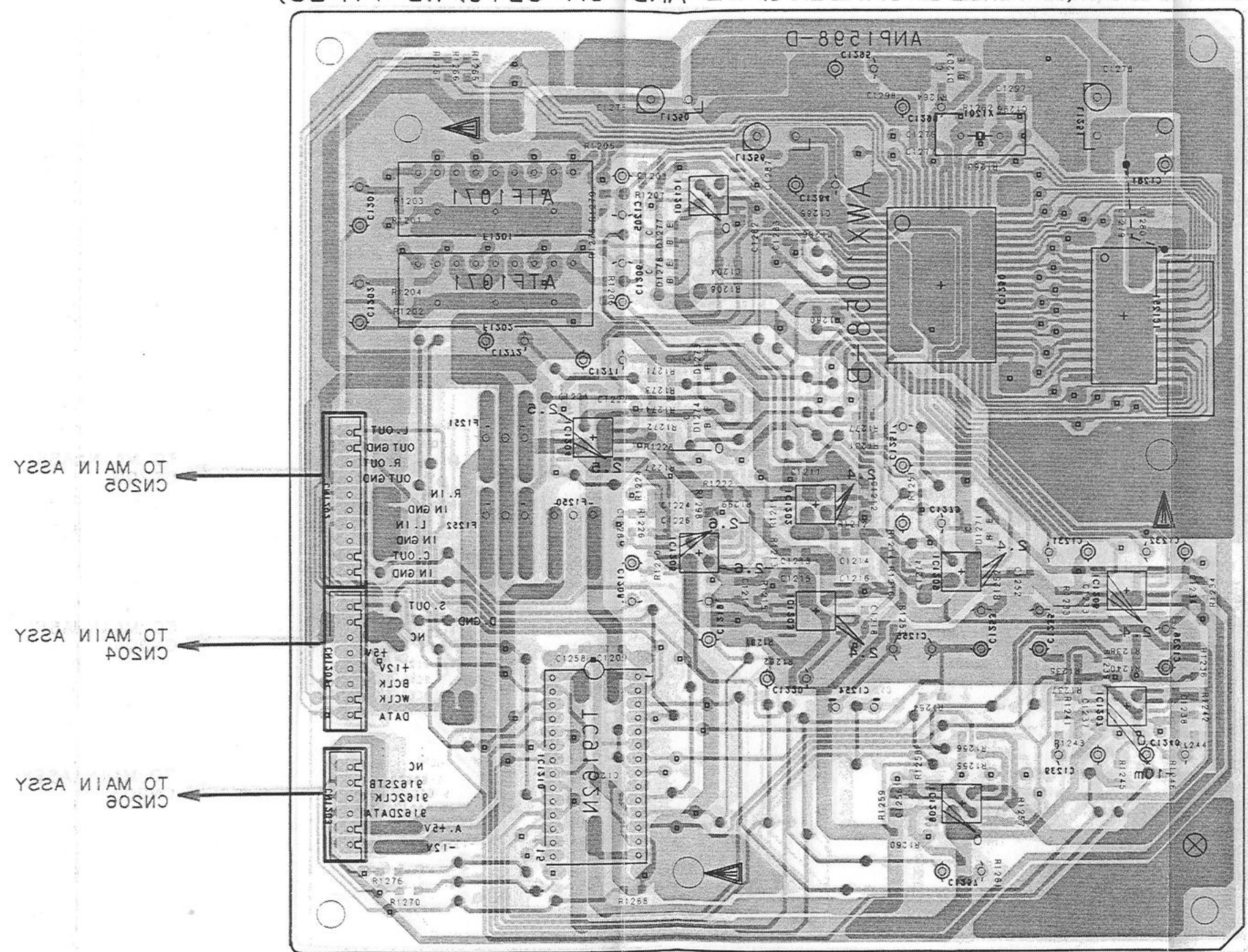
Q1175 Q1176 Q1172 Q1173  
Q1174

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



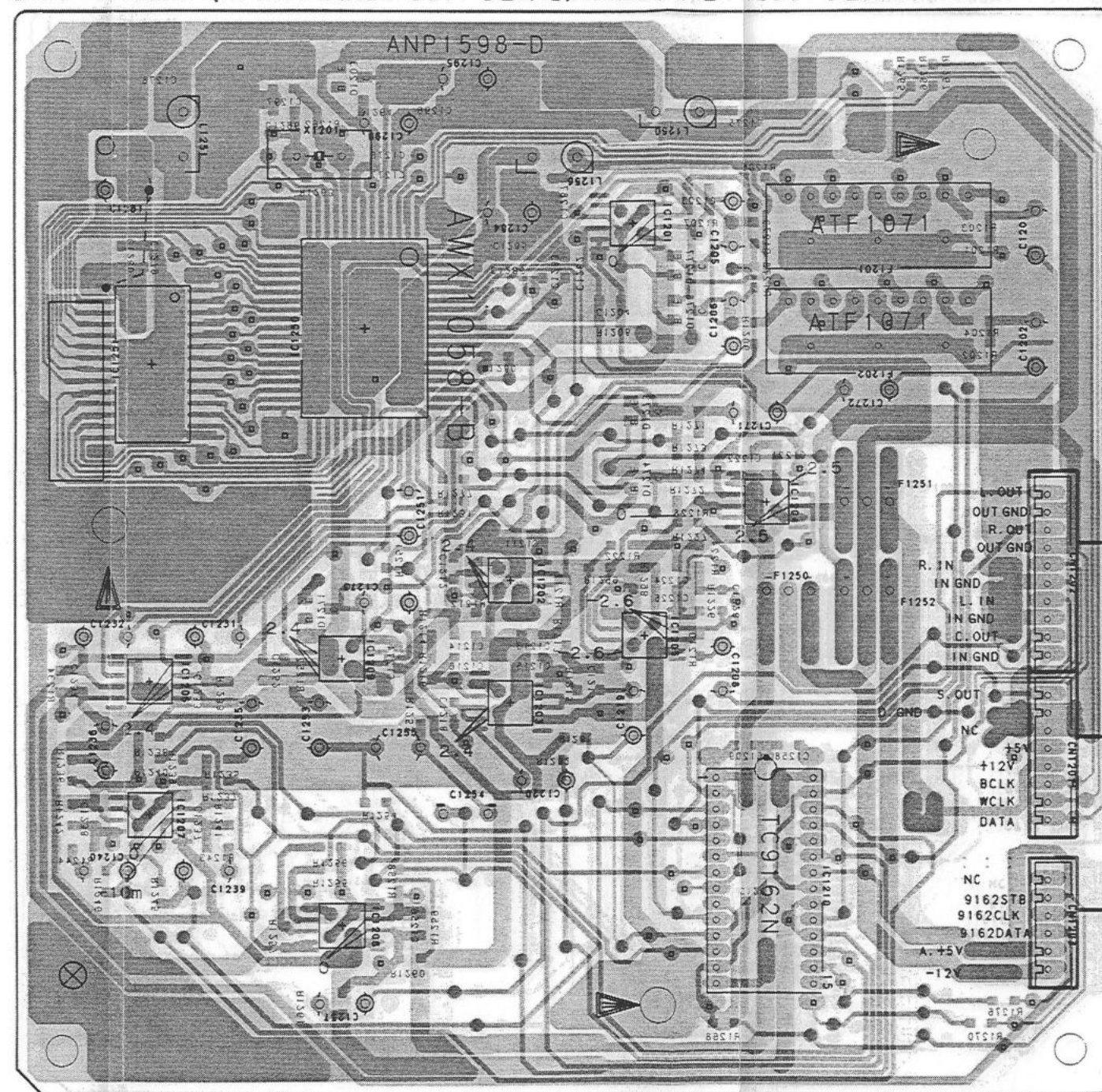
This P.C.B. connection diagram is viewed from the foil side.

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



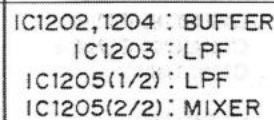
IC1501 IC1502 IC1503 IC1504  
IC1505 IC1506 IC1507 IC1508  
IC1509 IC1510 IC1511 IC1512  
IC1513 IC1514 IC1515 IC1516  
IC1517 IC1518 IC1519 IC1520  
IC1521 IC1522 IC1523 IC1524  
IC1525 IC1526 IC1527 IC1528  
IC1529 IC1530 IC1531 IC1532  
IC1533 IC1534 IC1535 IC1536  
IC1537 IC1538 IC1539 IC1540  
IC1541 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)

TO MAIN ASSY  
CN205TO MAIN ASSY  
CN204TO MAIN ASSY  
CN206

|        |        |        |        |        |
|--------|--------|--------|--------|--------|
| 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  $\Delta$  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  $\overline{561}$  J  
 47k $\Omega$   $\rightarrow$  47  $\times$  10<sup>3</sup>  $\rightarrow$  473 ..... RD1/4PS  $\overline{473}$  J  
 0.5 $\Omega$   $\rightarrow$  0R5 ..... RN2H  $\overline{0R5}$  K  
 1 $\Omega$   $\rightarrow$  010 ..... RS1P  $\overline{010}$  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 ..... RN1/4PC  $\overline{5621}$  F

| Mark                      | No. | Description                | Parts No.  | Mark                  | No. | Description                  | Parts No.   |
|---------------------------|-----|----------------------------|------------|-----------------------|-----|------------------------------|-------------|
| <b>LIST OF ASSEMBLIES</b> |     |                            |            | <b>COILS, FILTERS</b> |     |                              |             |
|                           |     | 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    | <b>CAPACITORS</b>     |     |                              |             |
| ●                         |     | VOLUME ASSY(CX-J410)       | AWZ4449    |                       |     | C948                         | 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  |
| <b>TUNER ASSY</b>         |     |                            |            |                       |     | C901, C926, C930             | CEAS330M16  |
| <b>SEMICONDUCTORS</b>     |     |                            |            |                       |     | 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   |
| <b>RESISTORS</b>      |                                           |             |              |                                  | 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  | <b>RESISTORS</b>                 |                             |             |                |
|                       | R912, R942                                |             | RD1/8PM104J  |                                  | R773 - R781                 |             | RS1/8S000J     |
|                       | R905                                      |             | RD1/8PM122J  |                                  | Other Resistors             |             | RS1/10S□□□J    |
|                       | R909, R955                                |             | RD1/8PM152J  | <b>DSP ASSY (CX - J510 ONLY)</b> |                             |             |                |
|                       | R910, R946                                |             | RD1/8PM153J  | <b>SEMICONDUCTORS</b>            |                             |             |                |
|                       | 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  | <b>COILS, FILTERS</b>            |                             |             |                |
|                       | 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  | <b>CAPACITORS</b>                |                             |             |                |
|                       | 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   |
| <b>OTHERS</b>         |                                           |             |              |                                  | 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      |
| <b>EQ ASSY</b>        |                                           |             |              |                                  | C1284                       |             | CEAS470M10     |
| <b>SEMICONDUCTORS</b> |                                           |             |              |                                  | C1295                       |             | CEAS4R7M50     |
|                       | IC751, IC752                              |             | LA3607       |                                  | C1254                       |             | CFTXA274J50    |
|                       | IC753                                     |             | LC7522       |                                  | C1277, C1280, C1286         |             | CKSQYB102K50   |
| <b>CAPACITORS</b>     |                                           |             |              |                                  | 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  |
| <b>RESISTORS</b>      |     |                          |              |                       |                 | C511-C513 (CX-J410 only)          | CKSQYB681K50  |
|                       |     | All Resistors            | RS1/10S□□□J  |                       |                 | C307                              | CKSQYF103Z50  |
| <b>OTHERS</b>         |     |                          |              |                       |                 | 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      | <b>RESISTORS</b>      |                 |                                   |               |
|                       |     | CN1202 PLUG(10P)         | AKM1085      |                       |                 | R351-R354,R361                    | RD1/4PMFL100J |
| <b>MAIN ASSY</b>      |     |                          |              |                       |                 | R261,R262,R338                    | RD1/8PM102J   |
| <b>SEMICONDUCTORS</b> |     |                          |              |                       |                 | 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      | <b>OTHERS</b>         |                 |                                   |               |
|                       |     | 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       |
| <b>COILS, FILTERS</b> |     |                          |              |                       |                 | JACK                              | AKN-203       |
|                       |     | L302                     | ATX1008      |                       |                 | JACK                              | AKN1020       |
|                       |     | L301                     | LAU220K      |                       |                 | SOCKET(15P)                       | AKP1038       |
| <b>CAPACITORS</b>     |     |                          |              |                       |                 | SOCKET(15P)                       | AKP1049       |
|                       |     | C413 (CX-J510 only)      | CCSQSL101J50 | <b>REGULATOR ASSY</b> |                 |                                   |               |
|                       |     | C247,C248,C253,C254      | CCSQSL391J50 | <b>SEMICONDUCTORS</b> |                 |                                   |               |
|                       |     | 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   | <b>CAPACITORS</b>     |                 |                                   |               |
|                       |     | 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   | <b>RESISTORS</b>      |                 |                                   |               |
|                       |     | C241,C242,C271,C272      | CEXA470M25   |                       |                 | R109,R110                         | RD1/8PM105J   |
|                       |     | C249,C250,C506,C508      | CKSQYB102K50 | <b>SUB TRANS ASSY</b> |                 |                                   |               |
|                       |     | C309                     | CKSQYB122K50 | <b>SEMICONDUCTORS</b> |                 |                                   |               |
|                       |     | 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      | <b>COILS, FILTERS</b>                 |                                  |             |              |
|                                    | Q104                     |             | XDC143ES     |                                       | L801                             |             | LAU221K      |
|                                    | D101,D104                |             | HSS104-02    | <b>CAPACITORS</b>                     |                                  |             |              |
|                                    | 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   |
| <b>RELAY</b>                       |                          |             |              |                                       | C811-C814 (CX-J510 only)         |             | CEAS2R2M50   |
|                                    | RY101                    |             | ASR1036      |                                       | C807,C808                        |             | CEXA470M25   |
| <b>COILS, FILTERS</b>              |                          |             |              |                                       | C828 (CX-J410)                   |             | CKSQYB103K50 |
|                                    | L101                     |             | ATF-151      |                                       | C809,C810                        |             | CKSQYF104Z50 |
|                                    | L102                     |             | ATX1008      |                                       | C827                             |             | CKSQYF473Z50 |
| △                                  | T101                     |             | ATT1202      |                                       | C828 (CX-J510)                   |             | CKSQYF473Z50 |
| <b>CAPACITORS</b>                  |                          |             |              | <b>RESISTORS</b>                      |                                  |             |              |
| △                                  | 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   | <b>MIC ASSY</b>                       |                                  |             |              |
|                                    | C104                     |             | CEAS331M50   | <b>SEMICONDUCTORS</b>                 |                                  |             |              |
|                                    | C113                     |             | CEAS470M25   |                                       | IC601                            |             | XRA4558F-P   |
|                                    | C105,C108                |             | CEAS470M50   | <b>CAPACITORS</b>                     |                                  |             |              |
|                                    | C110                     |             | CEHAQ100M50  |                                       | C603                             |             | CCSLSL331J50 |
|                                    | C111                     |             | CEHAQ470M25  |                                       | C604,C605                        |             | CEAS010M50   |
|                                    | C102,C115                |             | CKCYF103Z50  |                                       | C602                             |             | CEAS100M50   |
| <b>RESISTORS</b>                   |                          |             |              |                                       | C607,C608                        |             | CEAS470M25   |
|                                    | R108                     |             | RD1/4PM102J  |                                       | C601                             |             | CKSQYB332K50 |
|                                    | R105                     |             | RD1/4PM470J  |                                       | C609                             |             | CKSQYF473Z50 |
|                                    | R106                     |             | RD1/8PM203J  | <b>RESISTORS</b>                      |                                  |             |              |
|                                    | R102,R107                |             | RD1/8PM472J  |                                       | VR601 (10K-B)                    |             | ACS1064      |
|                                    | R101                     |             | RD1/8PM473J  |                                       | Other Resistors                  |             | RS1/10S□□□J  |
|                                    | R104                     |             | RD1/8PM622J  | <b>OTHERS</b>                         |                                  |             |              |
|                                    | R103                     |             | RFA1/4PS4R7J |                                       | MIC JACK                         |             | AKN1017      |
| <b>OTHERS</b>                      |                          |             |              | <b>CONNECT ASSY</b>                   |                                  |             |              |
| △                                  | AC SOCKET 1-P            |             | AKP1034      | CONNECT assembly has no service part. |                                  |             |              |
| <b>BALANCE ASSY (CX-J510 ONLY)</b> |                          |             |              | <b>U.COM ASSY</b>                     |                                  |             |              |
| <b>CAPACITORS</b>                  |                          |             |              | <b>SEMICONDUCTORS</b>                 |                                  |             |              |
|                                    | C723,C724                |             | CEAS100M50   |                                       | IC1102                           |             | PDC007C      |
| <b>RESISTORS</b>                   |                          |             |              |                                       | IC1101                           |             | PDG089B      |
|                                    | VR701 (100K-X1)          |             | ACS1026      |                                       | IC1103                           |             | XRA3826S     |
| <b>VOLUME ASSY</b>                 |                          |             |              |                                       | Q1101                            |             | 2SC2458      |
| <b>SEMICONDUCTORS</b>              |                          |             |              |                                       | 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    |                       |                             |             |             |
|                       | D1105,D1113               |             | RD6.2ESB  |                       |                             |             |             |
| <b>COILS, FILTERS</b> |                           |             |           | <b>SWITCHES</b>       |                             |             |             |
|                       | L1101,L1102               |             | LAU220K   |                       | S1101-S1103                 |             | ASG1034     |
| <b>CAPACITORS</b>     |                           |             |           | <b>CAPACITORS</b>     |                             |             |             |
|                       | C1106                     | ACH1135     |           |                       | C1171                       |             | CCCSL101J50 |
|                       | C1103                     | CCMSL101J50 |           |                       | C1172                       |             | CEASR47M50  |
|                       | C1101                     | CEAS010M50  |           | <b>RESISTORS</b>      |                             |             |             |
|                       | C1107                     | CEAS100M50  |           |                       | R1176                       |             | RD1/8PM101J |
|                       | C1127                     | CEAS3R3M50  |           |                       | R1172,R1173                 |             | RD1/8PM103J |
|                       |                           |             |           |                       | R1135                       |             | RD1/8PM432J |
|                       |                           |             |           |                       | R1174                       |             | RD1/8PM473J |
|                       | C1104                     | CEAS470M16  |           | <b>OTHERS</b>         |                             |             |             |
|                       | 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 |           |                       |                             |             |             |
|                       | C1110                     | CKCYF223Z50 |           | <b>KEY ASSY</b>       |                             |             |             |
|                       | C1112                     | CKDYB102K50 |           | <b>SEMICONDUCTORS</b> |                             |             |             |
|                       | C1121,C1132,C1134         | CKDYF103Z50 |           |                       | Q1181                       |             | XDC143ES    |
|                       | C1131                     | CKDYX223M25 |           |                       | Q1182 (CX-J510 only)        |             | XDC143ES    |
|                       | C1105,C1108,C1129         | CKDYX473M25 |           |                       | D1181                       |             | AEL1128     |
| <b>RESISTORS</b>      |                           |             |           |                       | D1182 (CX-J510 only)        |             | AEL1128     |
|                       | R1134                     | RA11T104J   |           | <b>SWITCHES</b>       |                             |             |             |
|                       | R1160                     | RA15T104J   |           |                       | S1111-S1121                 |             | ASG1034     |
|                       | R1159                     | RA5T104J    |           |                       | S1132-S1135                 |             | ASG1034     |
|                       | R1132,R1133               | RA8T104J    |           |                       | S1136-S1138 (CX-J510 only)  |             | ASG1034     |
|                       | R1141,R1142               | RD1/4PM390J |           |                       | S1141                       |             | ASX1015     |
|                       | R1124                     | RD1/8PM101J |           | <b>RESISTORS</b>      |                             |             |             |
|                       | R1101-R1108               | RD1/8PM102J |           |                       | R1181                       |             | RD1/8PM221J |
|                       | R1121,R1123,R1128-R1131,  | RD1/8PM103J |           |                       | R1182 (CX-J510 only)        |             | RD1/8PM221J |
|                       | R1155-R1158,R1168         |             |           | <b>OTHERS</b>         |                             |             |             |
|                       | R1122                     | RD1/8PM104J |           |                       | CN1104 SOCKET(21P L)        |             | AKP1086     |
|                       | 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                     |             |           |                       |                             |             |             |
| <b>OTHERS</b>         |                           |             |           |                       |                             |             |             |
|                       | X1101 (8.00MHz)           | ASS1015     |           |                       |                             |             |             |
|                       | X1102 (12MHz)             | ASS1062     |           |                       |                             |             |             |
|                       | CN1103 SOCKET(21P)        | AKP1084     |           |                       |                             |             |             |
|                       | CN1101 SOCKET(40P)        | AKP1085     |           |                       |                             |             |             |
|                       | CN1105,CN1107 SOCKET(33P) | AKP1104     |           |                       |                             |             |             |
| <b>FL ASSY</b>        |                           |             |           |                       |                             |             |             |
| <b>SEMICONDUCTORS</b> |                           |             |           |                       |                             |             |             |
|                       | 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.

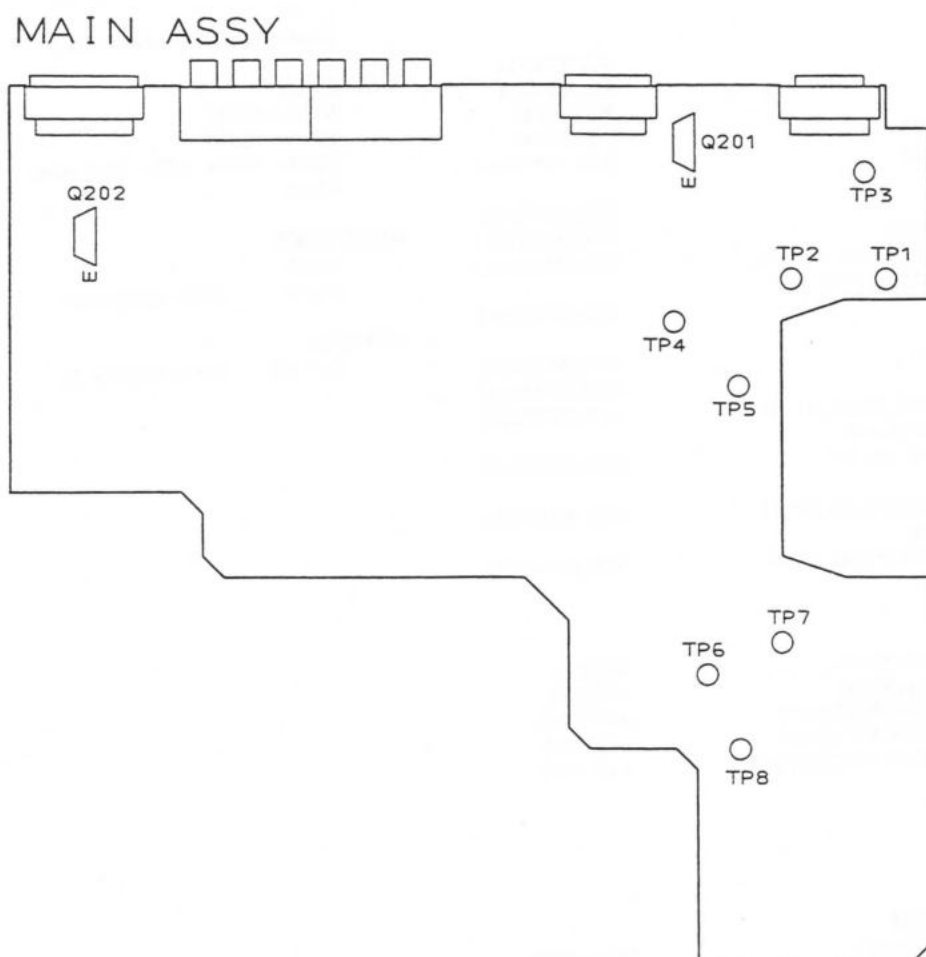


Fig. 5 - 1. Connection Locations

## 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 $\mu$ V/m) |                             | Adjustment Location | Specifications                          |
| 1        | TUNED indicator sensitivity adjustment | 999                          | 55 ( $\pm 5$ 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 $\mu$ 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<br>(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.                                    |

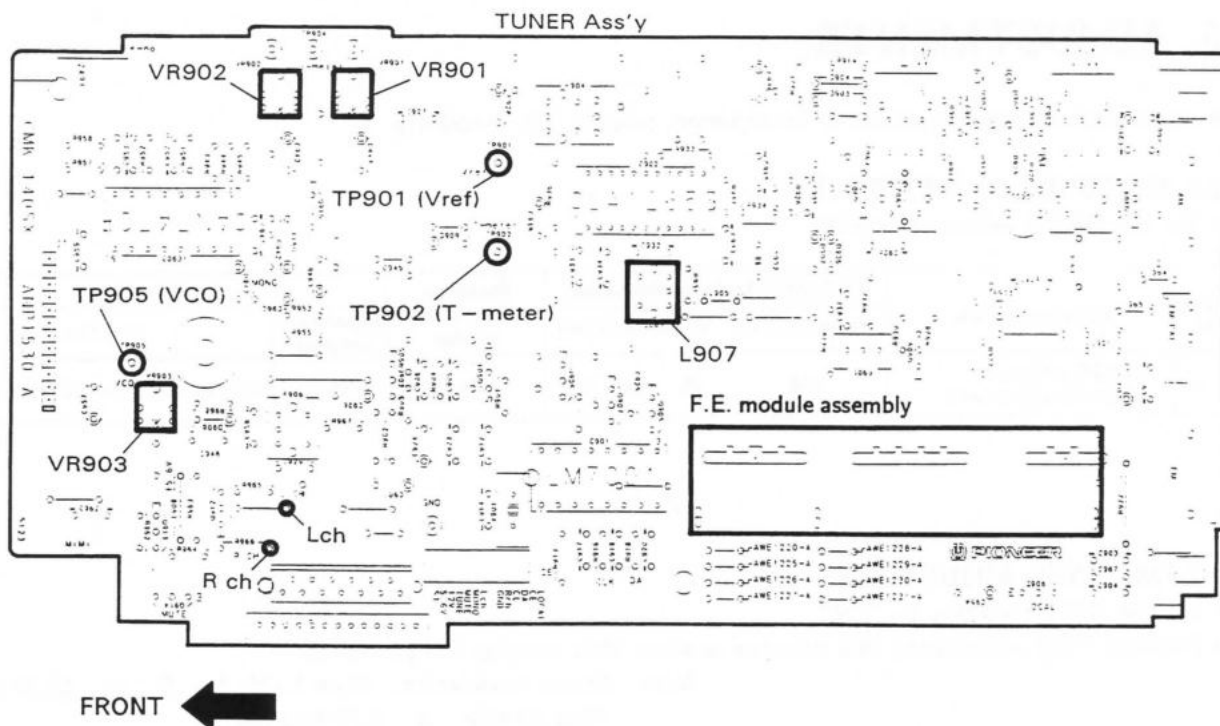


Fig. 1 Adjustment Points

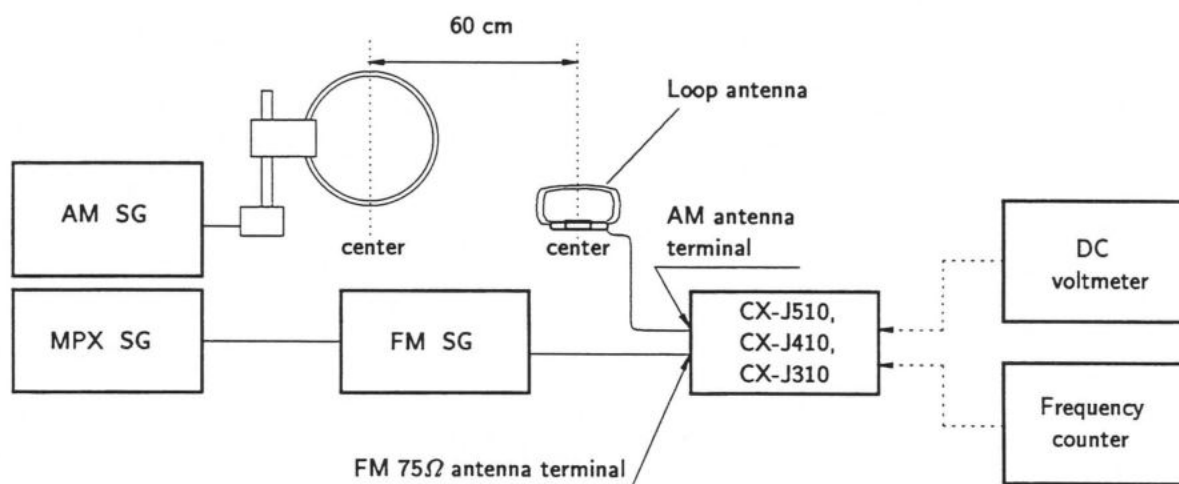


Fig. 2 Connection Diagram

## 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  $\mu$  - 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)/<br>Key scan output (KO0)               |
| 53  | S26      | DP  | FL segment output (S6)/<br>Key scan output (KO1)               |
| 54  | S27      | DP  | FL segment output (S7)/<br>Key scan output (KO2)               |
| 55  | S28      | DP  | FL segment output (S8)/<br>Key scan output (KO3)               |
| 56  | S29      | DP  | FL segment output (S9)/<br>Key scan output (KO4)               |
| 57  | S30      | DP  | FL segment output (S10)/<br>Key scan output (KO5)              |
| 58  | S31      | DP  | FL segment output (S11)/<br>Key scan output (KO6)              |
| 59  | P00      | O   | Sports ON/OFF output<br>(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<br>(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<br>(CX - J510, CX - J910 only)                  |
| 72  | P14/S11  | O   | M66320 Data output (CX - J710 only)                              |
|     |          |     | YSS215 WCK output<br>(CX - J510, CX - J910 only)                 |
| 73  | P15/SCK1 | O   | M66320 Clock output (CX - J710 only)                             |
|     |          |     | YSS215 BCK output<br>(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 $\mu$ - 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/EX input                           |
| 8   | PB2      | I   | LW Exist/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 $\mu$ 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/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 ON/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  | Segment output                   |
| 56  | S22      | DP  |                                  |
| 57  | S23      | DP  | Not used (Open)                  |
| 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/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  $\mu$  - COM**
**Pin Function**

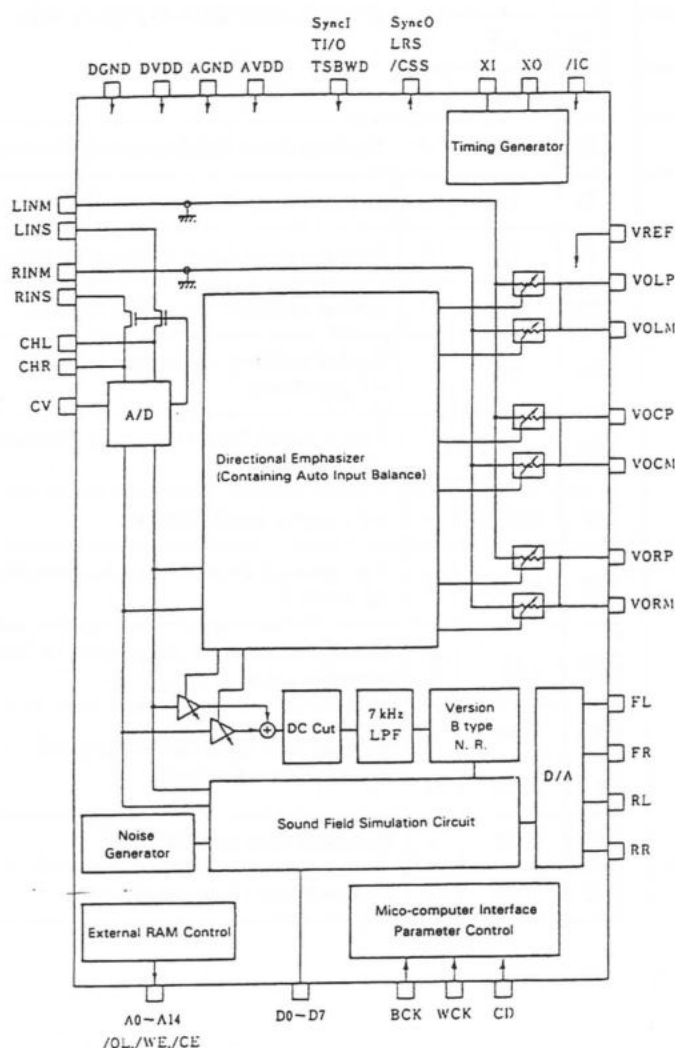
| Pin | Pin Name                  | Function                                                                     |
|-----|---------------------------|------------------------------------------------------------------------------|
| 1   | Vcc                       | +5V power supply                  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

| Pin | Pin Name                 | Function                        |
|-----|--------------------------|---------------------------------|
| 29  | P40/INT4<br>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<br>V-SEL A      |                                 |
| 46  | P12/AD10<br>V-SEL B.     |                                 |
| 47  | P11/AD9<br>REC MUTE      | Video Rec out muting ACTIVE : H |
| 48  | P10/AD8<br>4052 INH      | 4052 INH Function control       |
| 49  | P07/AD7<br>4052 B        | 4052 B Function control         |
| 50  | P06/AD6<br>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<br>LED P.BASS 2   |                                 |
| 59  | P35/SYNC<br>LED P.BASS 1 | P.BASS 1 LED display ACTIVE : H |
| 60  | P43/ $\phi$<br>HEADPHONE | HEADPHONE input ACTIVE : L      |
| 61  | P33/RESET out<br>RELAY D | Rear AMP speaker RY ACTIVE : L  |
| 62  | P32/ONW<br>RELAY A       | Front AMP speaker RY ACTIVE : L |
| 63  | P31/DA1<br>POWER IND     | POWER IND LED ACTIVE : L        |
| 64  | P30/DA1<br>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  $\Delta$  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.

### 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    |         |
| $\Delta$ | 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 |         |
| $\Delta$ | 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    | .....      | .....      |         |
| $\Delta$ | 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     | .....   |         |

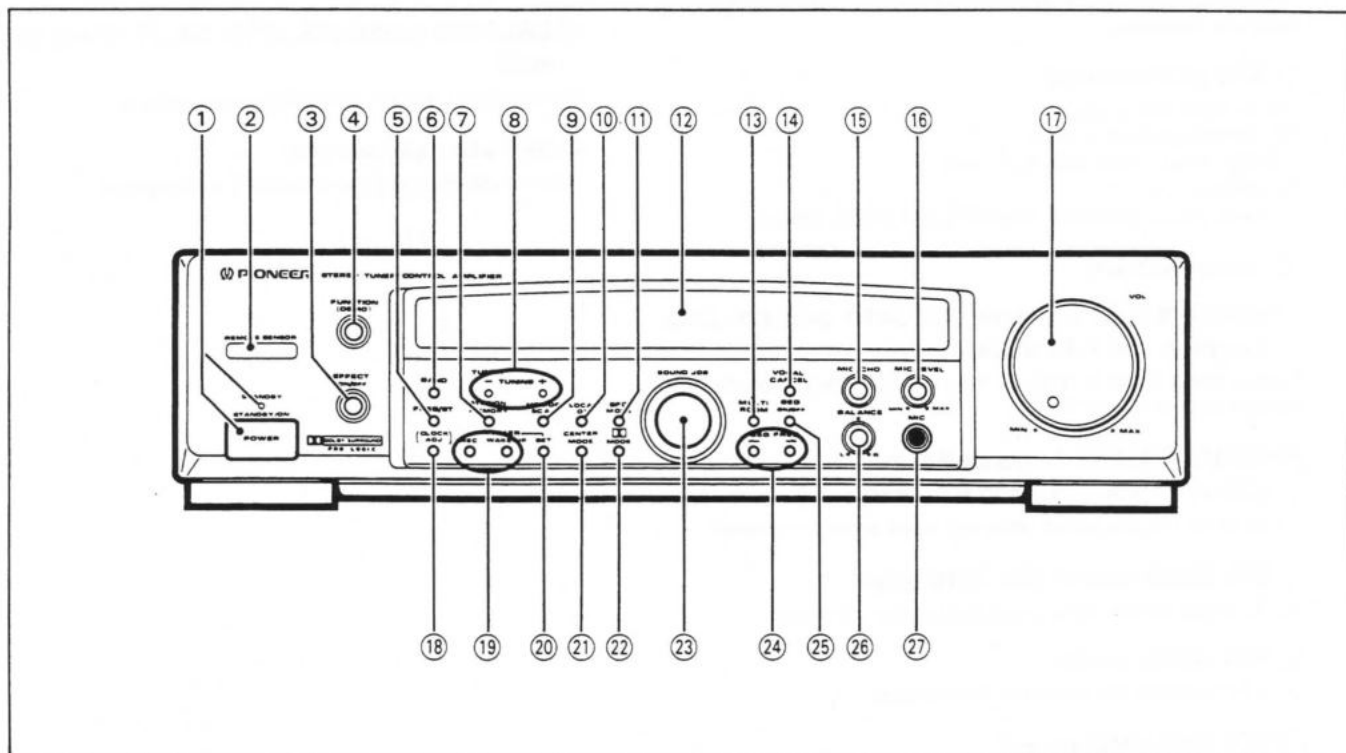
**FL ASSEMBLY****AWZ4454 and AWZ4746 have the same construction except for the following :**

| 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**

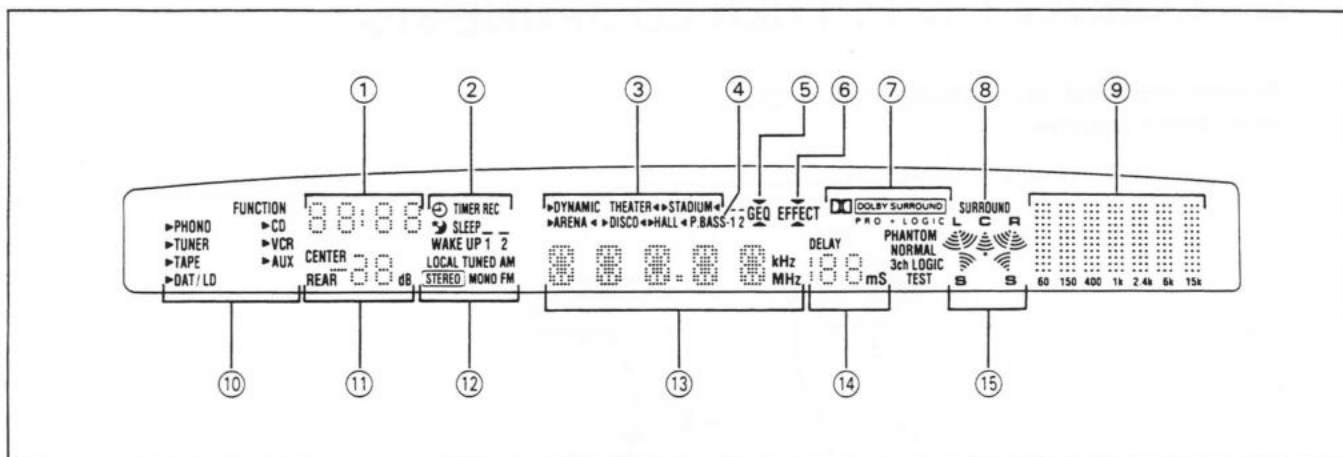
Use to switch the graphic equalizer ON or OFF.

**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.

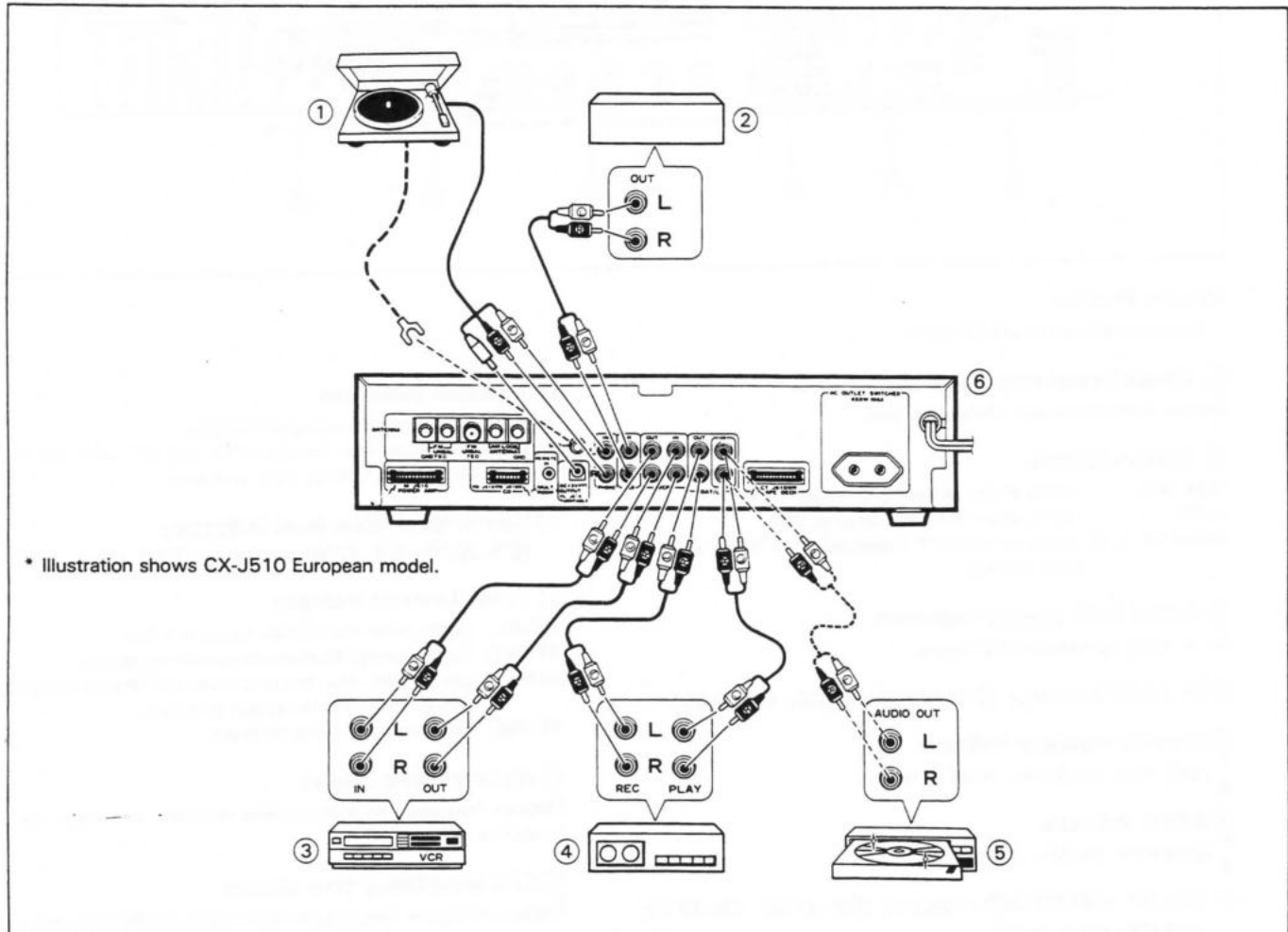
### ⑭ SFC level/Delay time display

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  $\mu$ V/75  $\Omega$ )  
Sensitivity (DIN) ..... Mono S/N 26 dB: 1  $\mu$ V/75  $\Omega$   
..... Stereo S/N 46 dB: 50  $\mu$ V/75  $\Omega$   
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  $\Omega$  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 $\mu$ 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<br>(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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