

Service Manual

ORDER NO.
RRV1 377

FM/AM DIGITAL SYNTHESIZER TUNER

F-C5RDS

FM/AM TUNER

F-C3

- Refer to the service manual RRV1108 for F-C5RDS/HE and RRV1049 for F-C3/HE.

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

Type	Model		Power Requirement	The voltage can be converted by the following method.
	F-C5RDS	F-C3		
HE8	O	O	AC220-230V	AC240V, *
HEWZ18	O	O	AC220-230V	AC240V, *

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

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

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

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

560 Ω	\rightarrow	56 \times 10 ¹	\rightarrow	561	RD1/8PM	561J
47k Ω	\rightarrow	47 \times 10 ³	\rightarrow	473	RD1/4PS	473J
0.5 Ω	\rightarrow	0R5			RN2H	0R5K
1 Ω	\rightarrow	010			RS1P	010K

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

5.62k Ω	\rightarrow	562 \times 10 ¹	\rightarrow	5621	RN1/4PC	5621F
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1. CONTRAST OF F-C5RDS/HE8 AND F-C5RDS/HE

F-C5RDS/HE8 and F-C5RDS/HE have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		F-C5RDS/HE	F-C5RDS/HE8	
Δ	Tuner assy	AWE7007	AWE7006 *	
	Tuner assy	AWZ7272	AWZ7271 *	
	Power assy	AWZ7275	AWZ7274 *	
	Rear panel	ANC7095	ANC7297	
	Ferrite core	Not used	ATX7001 *	
NSP	Screw	Not used	ABA1047 *	
	Plate (GND)	Not used	ANK1120 *	
	FM antenna	ADH1005	ADH1002	

Note : Parts marked * are the same as those of F-C5RDS/HEWZI which is shown with F-C5RDS in the service manual RRV1108.

2. CONTRAST OF F-C5RDS/HEWZI8 AND F-C5RDS/HEWZI

Although F-C5RDS/HEWZI8 and F-C5RDS/HEWZI are different in model name, they consist of the same components.

P.S

F-C5RDS/HEWZI8 is made a design change like the following:

Mark	Description	OLD	NEW
Δ	Ferrite core	ATX7001	Not used
	Ferrite core	Not used	ATX7001

Power assy (AWZ7274) is made a design change like the following:

Mark	Description	OLD	NEW
Δ	C601	ACG1002 (0.01 μ F/400V)	ACG7020 (0.01 μ F/250V)

Tuner assy (AWZ7271) is made a design change like the following:

Mark	Description	OLD	NEW
Δ	C559	CKDYB102K50	Not used
	C559	Not used	CKDYB102K50

3. CONTRAST OF F-C3/HE8 AND F-C3/HE

F-C3/HE8 and F-C3/HE have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		F-C3/HE	F-C3/HE8	
NSP	Tuner assy	AWE7002	AWE7019	
	Main assy	AWZ7048	AWZ8214 *	
	Rear panel	ANC7058	ANC7296	
	Screw	Not used	ABA1047	
	Spacer	AEC1236	Not used	
	FM antenna	ADH1005	ADH1002	

Note * :Refer to 2. PCB PARTS LIST and 3. SCHEMATIC AND PCB DIAGRAMS.

4. CONTRAST OF F-C3/HEWZI8 AND F-C3/HEWZI

F-C3/HEWZI8 and F-C3/HEWZI have the same construction except for the following:

Mark	Symbol & Description	F-C3/HEWZI	F-C3/HEWZI8
△	Fuse (FU2, T2A/250V)	Not used	AEK - 511 *

Note * :Refer to 3. SCHEMATIC AND PCB DIAGRAMS.

P.S

Main assy (AWZ7049) is made a design change like the following:

Mark	Description	OLD	NEW
△	C309	ACG1002 (0.01μF/400V)	ACG7020 (0.01μF/250V)
	L301	ATF 1135	Not used
△	L301	Not used	ATF1135
	C1	CKDYX103M25	Not used
△	C1	Not used	CKDYX103M25

2. PCB PARTS LIST

NOTES:

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

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

560Ω → 56 × 10¹ → 561 RD1/8PM 561J
 47kΩ → 47 × 10³ → 473 RD1/4PS 473J
 0.5Ω → 0R5 RN2H 0R5K
 1Ω → 010 RS1P 010K

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

5.62kΩ → 562 × 10¹ → 5621 RN1/4PC 5621F

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
MAIN ASSY (AWZ8214)					
			Q305, Q401		2SC1740S
			Q111		2SC1740SLN
SEMICONDUCTORS					
IC103	AN7470P		Q101, Q102		2SC2668
IC102	LA1265S		Q304		2SD438
IC101	LM7001J		Q110		2SK246
IC301	NJM7812AS		Q104, Q106, Q108		XDA124ES
Q301	2SA1529		Q116, Q302		XDA143ES
Q103, Q112 - Q115, Q117 - Q119	2SC1740S		Q105, Q107, Q109, Q122, Q303		XDC143ES
			Q306		XDC143ES

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
	D102 - D108, D113, D114, D306	1SS252	C103, C104, C106, C113, C114		CKPUYY103M16
	D401, D402	1SS252	C116, C129, C136, C145		CKPUYY103M16
	D101	1SV156	C148, C149		CQMA102J50
	D112, D305, D403	RD6.2ESB	C141		CQPA471J100
	D301 - D304	S5566			

COILS AND FILTERS

L102	ATE - 079	
F103	ATF - 107	
F101, F102	ATF - 119	
F104	ATF - 208	
F105	ATF1088	

△ L301 (180μH, AC250V)	ATF1135	
L101	LAU2R2J	
L103, L104, L106	LAU2R2K	
L107	LAU330J	

TRANSFORMERS

△ T301 (6.5VA)	ATT1226	
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CAPACITORS

△ C303 (0.047μF, 25V)	ACG - 009	
△ C309 (10000PF, AC250V)	ACG7020	
C304	ACH1246	
C109, C117, C118	CCDCH150J50	
C187	CCPUSL270J50	

C115	CCPUSL470J50	
C138	CEANP4R7M50	
C133	CEAS010M50	
C127	CEAS100M50	
C128, C137, C301	CEAS101M16	

C143	CEAS1R5M50	
C189	CEAS220M25	
C302	CEAS222M35	
C126, C151, C152	CEAS2R2M50	
C111	CEAS330M16	

C142	CEAS3R3M50	
C135, C150, C305, C306	CEAS470M10	
C123, C140	CEAS4R7M50	
C144	CEASR22M50	
C308	CEHAQ330M16	

C112	CFTXA224J50	
C105, C107	CKDYB103K50	
C139	CKDYB122K50	
C124	CKDYB222K50	
C155, C156	CKDYB332K50	

△ C132	CKDYF103Z50	
C122, C130, C131, C4	CKDYF223Z50	
C1	CKDYX103M25	
C110, C125, C146	CKDYX473M25	
C185, C307, C402	CKPUYB101K50	

C101, C102, C186	CKPUYB102K50	
C147	CKPUYB121K50	
C134	CKPUYB331K50	
C184	CKPUYF223Z25	
C108	CKPUYF473Z16	

RESISTORS

R117		RD1/2PM681J
VR101 (4.7kΩ)		ACP1042
VR102 (10kΩ)		ACP1043
VR103 (22kΩ)		ACP1044
Other Resistors		RD1/8PM□□□J

OTHERS

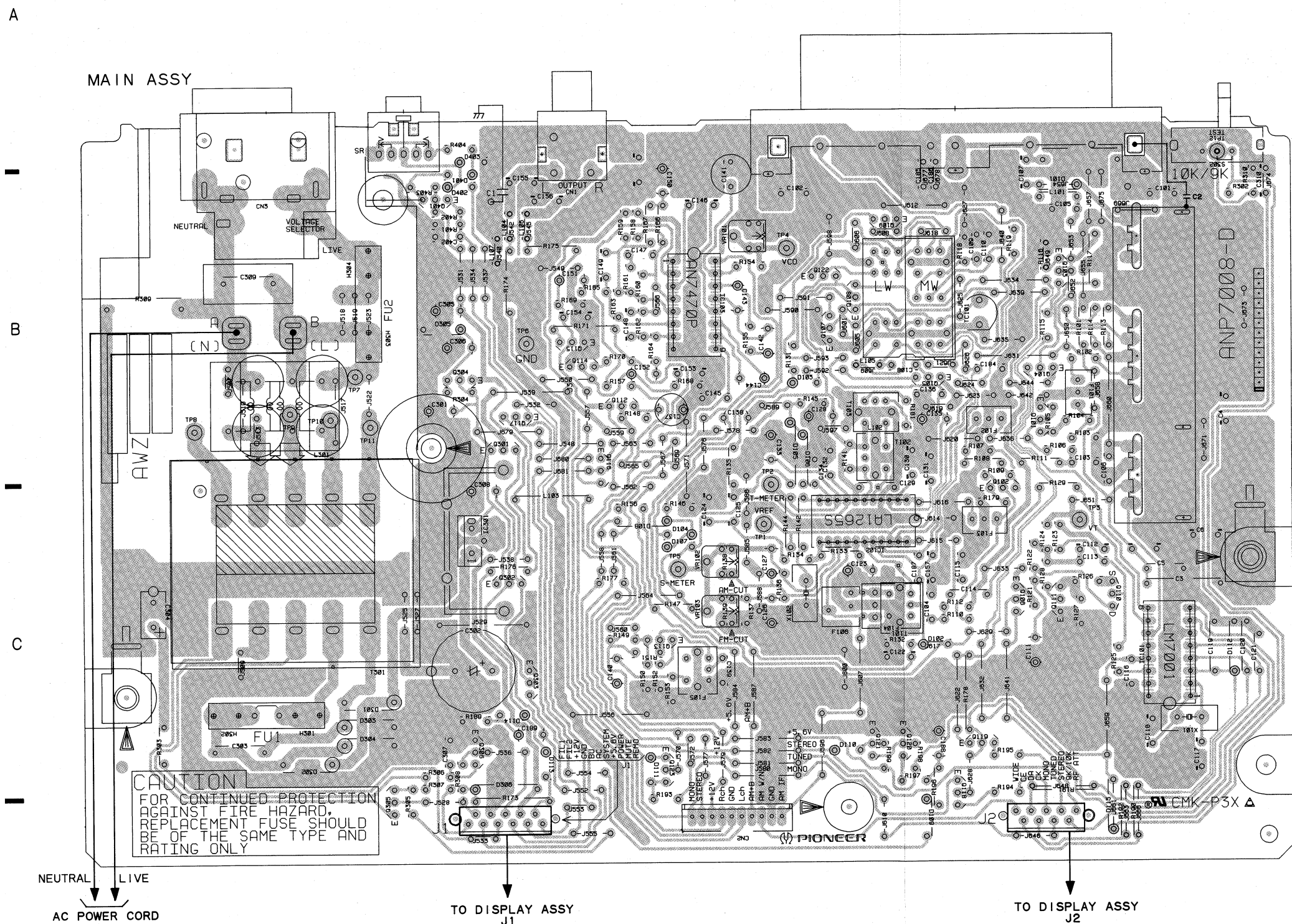
	SCREW	ABA1012
	ANTENNA TERMINAL 2 - P	AKA1012
CN1	PIN JACK(2P)	AKB1146
△ CN8220	JACK	AKN - 209
CN3	AC SOCKET 1 - P	AKP1034

H301 - H304	FUSE CLIP	AKR1003
	CABLE HOLDER	AKT1007
	CABLE HOLDER	AKT1023
	HEAT SINK M	ANH - 697
X101	CRYSTAL RESONATOR	ASS1042
X102	CERAMIC RESONATOR	ATF1027
	AM RF TUNING BLOCK	AXX1026
	4 SERIAL F.E. MODULE ASSY	AXQ1004

Note: 4 serial F.E. module assy has no servise part.

3. SCHEMATIC AND PCB DIAGRAMS

● This diagram is viewed from the mounted parts side.



- Q401
- Q109
- VR101
- Q103
- Q122
- IC103 Q108
- TC101
- Q107
- Q115
- Q304 Q104
- Q105
- Q112
- Q117 Q101
- Q301
- Q116
- Q102
- IC102
- IC103
- VR102
- Q302
- Q106 Q111 Q110
- VR103
- Q113 IC101
- Q303
- Q119
- Q306 Q121 Q120
- Q123
- Q118
- Q305

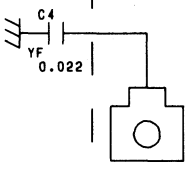
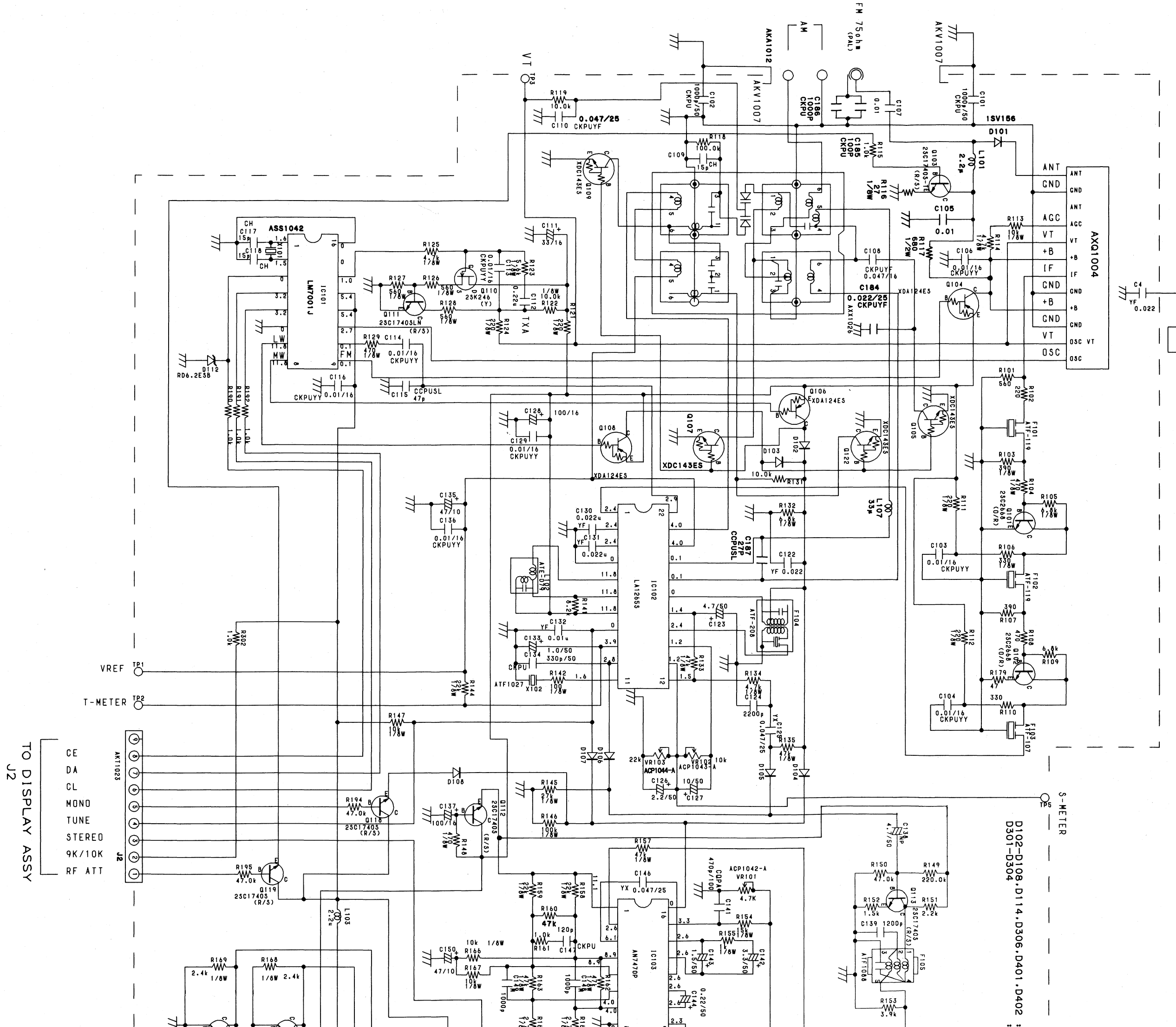
NOTE FOR PCB DIAGRAMS:

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

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

3. The transistor terminal marked with E or shows the emitter.
4. The diode terminal marked with or shows cathode side.
5. The capacitor terminal marked with or shows negative terminal.
6. The parts mounted on each PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

MAIN ASSY (AWZ8214)



S-METER
D102-D108, D114, D306, D401, D402 :
D301-D304

TO DISPLAY ASSY
J2
CE
DA
CL
MONO
TUNE
STEREO
9K/10K
RF ATT

VREF TP1
T-METER TP2

1
2
3
4
5

1
2
3
4
5

NOTE FOR SCHEMATIC DIAGRAMS

(Type 3A)

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 Ω , M:M Ω , or Ω unless otherwise noted.
 Rated power: 1/4W, 1/8W, 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 μ F unless otherwise noted.
 Ratings: capacitor (μ F)/voltage (V) unless otherwise noted.
 Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

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

6. VOLTAGE AND CURRENT:

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

7. OTHERS:

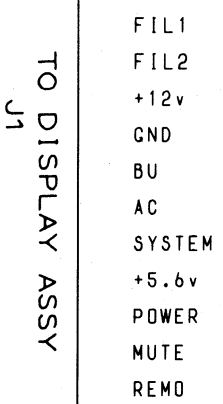
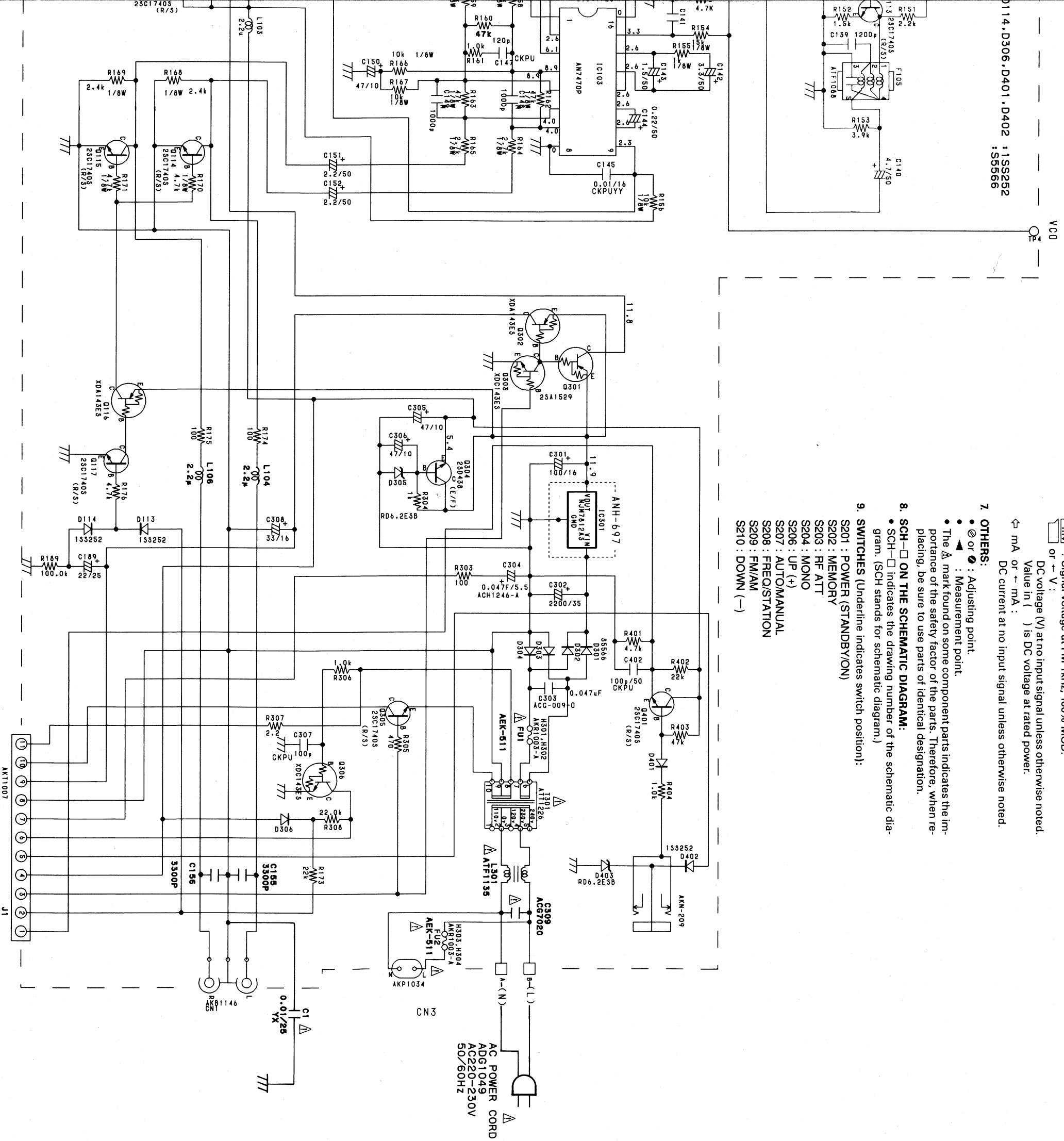
\odot or \odot : Adjusting point.
 \bullet or \blacktriangle : Measurement point.
 Δ : The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH- ON THE SCHEMATIC DIAGRAM:

\bullet SCH- indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

S201 : POWER (STANDBY/ON)
 S202 : MEMORY
 S203 : RF ATT
 S204 : MONO
 S206 : UP (+)
 S207 : AUTO/MANUAL
 S208 : FREQ/STATION
 S209 : FM/AM
 S210 : DOWN (-)

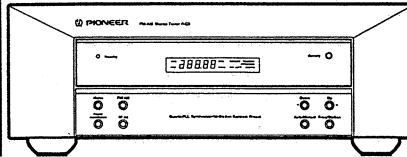


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Service Manual

PIONEER
The Art of Entertainment



ORDER NO.
RRV1049

FM/AM TUNER F-C3

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

Type	Model	Power Requirement	The voltage can be converted by the following method.
	F-C3		
KU	○	AC120V	—
HE	○	AC220—230V	AC240V, *
HB	○	AC240V	AC220—230V, *
HEWZI	○	AC220—230V	AC240V, *

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

● For HEWZI and HB types, refer to page 25.

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1. SAFETY INFORMATION



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

WARNING

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



NOTICE

(FOR CANADIAN MODEL ONLY)

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

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

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

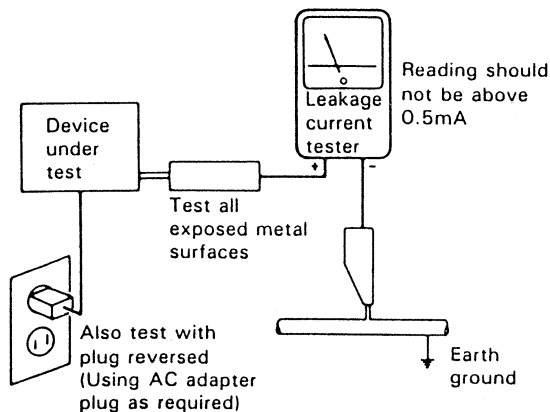
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

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

2. PRODUCT SAFETY NOTICE

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

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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

2. EXPLODED VIEWS, PACKING AND PARTS LIST

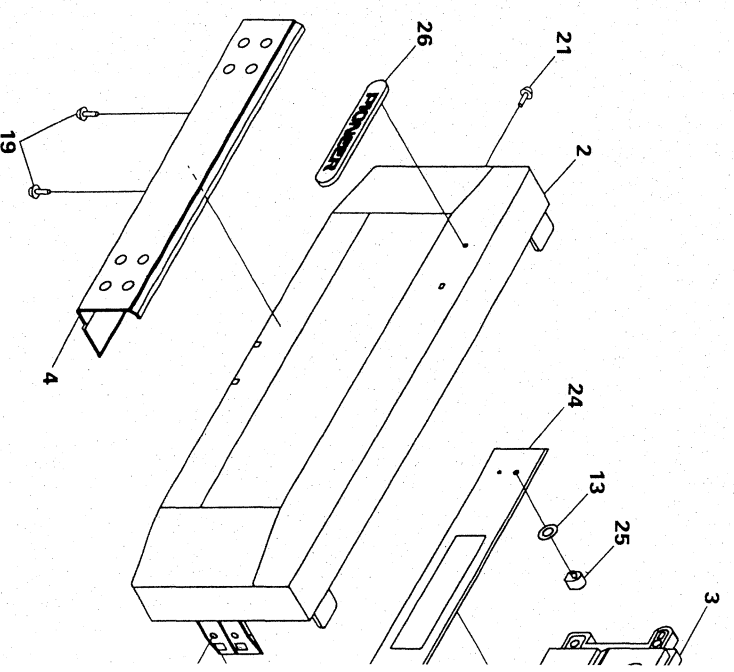
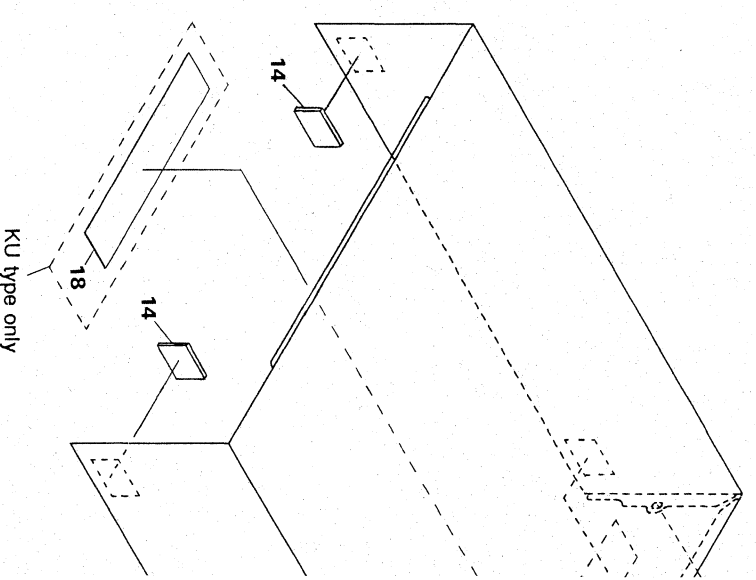
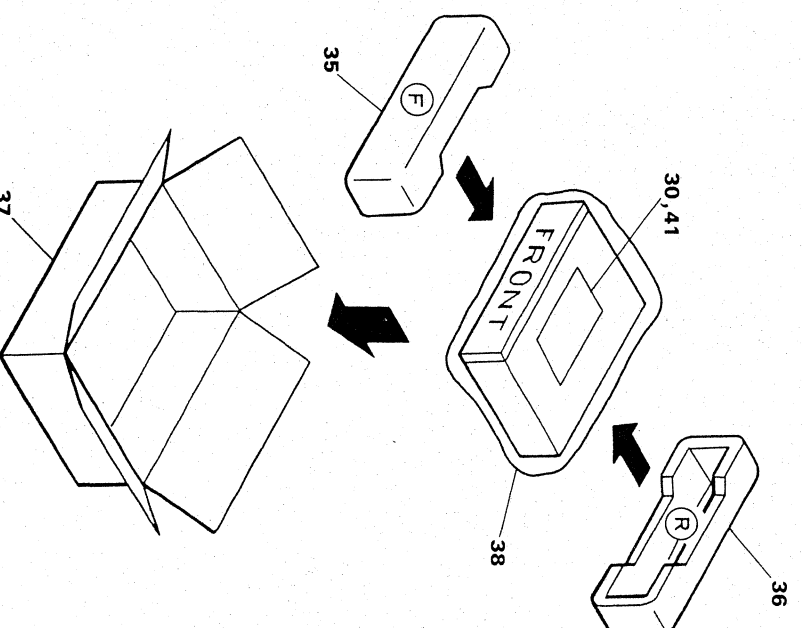
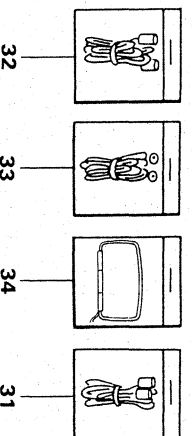
• Exploded View

C

- NOTES:**
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
 - **Parts List (FOR F—C3/KU and HE)**

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
1	3—SERIAL FEMODULE ASSEMBLY	AXQ1003	36	R.PAD	AHA7011
2	FRONT PANEL (For KU type)	AMB7079	37	PACKING CASE (For KU type)	AHD7015
2	FRONT PANEL (For HE type)	AMB7027	37	PACKING CASE (For HE type)	AHD7014
3	SUB PANEL (For KU type)	AMB7073	38	PACKING SHEET	AHG1093
3	SUB PANEL (For HE type)	AMB7029	39	MAIN ASSEMBLY (For KU type)	AWZ7050
4	FRONT PANEL (AL)	ANB7001	39	MAIN ASSEMBLY (For HE type)	AWZ7048
Δ 5	FU1 (500mA/125V) (For KU type)	AEK -136	40	DISPLAY ASSEMBLY (For KU type)	AWZ7043
Δ 5	FU1 (1400mA/250V) (For HE type)	AEK -504	40	DISPLAY ASSEMBLY (For HE type)	AWZ7041
Δ 6	FU2 (12A/250V) (HE type only)	AEK -511	41	SUB OPERATING INSTRUCTIONS	ARR7003
7	AC POWER CORD (For KU type)	ADG1058		(English/German/French/Italian/ Swedish/Spanish/Dutch/Portuguese)	
7	AC POWER CORD (For HE type)	ADG1049		(For HE type)	
NSP 8	SPACER (HE type only)	AEC1236			
NSP 9	PCB POST (HE type only)	DEC1390			
NSP 10	CHASSIS	ANA7006			
NSP 11	REAR PANEL (For KU type)	ANC7060			
11	REAR PANEL (For HE type)	ANC7058			
12	INSULATOR	PNW2363			
13	WASHER	ABE7001			
14	CUSHION RUBBER	ABE7004			
15	BINDER	AEC -826			
16	CORD STOPPER (For KU type)	AEP -113			
Δ 16	CORD STOPPER (For HE type)	AEC -882			
Δ 17	PCB MOLD	AMR1525			
NSP 18	65 LABEL (KU type only)	ORW1069			
NSP 19	SCREW (STEEL)	ABA1006			
20	SCREW	ABA1018			
21	SCREW	BBZ30P080FZK			
22	SCREW	BBZ30P100FZK			
23	SCREW	BPZ26P080FMC			
24	DISPLAY PANEL	AAK7059			
25	LED LENS	PNW2019			
26	NAME PLATE (AL)	RAN1013			
27	BUTTON	AAD7015			
28	BUTTON	RAC1859			
29	BONNET	ANE7010			
30	OPERATING INSTRUCTIONS	ARB7005			
30	(English) (For KU type)				
30	OPERATING INSTRUCTIONS	ARE7010			
30	(English/German/French/Italian/ Swedish/Spanish/Dutch/ Portuguese) (For HE type)				
31	PLUG CORD	ADE -052			
32	CORD WITH PLUG	ADE -085			
33	FM ANTENNA	ADH1005			
34	LOOP ANTENNA	ATB1006			
35	F.PAD	AHA7010			

• Packing



F

- 31 PLUG CORD
32 CORD WITH PLUG
33 FM ANTENNA
34 LOOP ANTENNA
35 F.PAD

E

- 20 SCREW
21 SCREW
22 SCREW
23 SCREW
24 DISPLAY PANEL
25 LED LENS
26 NAME PLATE (AL)
27 BUTTON
28 BUTTON
29 BONNET
30 OPERATING INSTRUCTIONS
(English) (For KU type)
30 OPERATING INSTRUCTIONS
(English/German/French/Italian/
Swedish/Spanish/Dutch/
Portuguese) (For HE type)

- ABE7001
BBZ30P080FZK
BBZ30P100FZK
BPZ26P080FMC
AAK7059
PNW2019
RAN1013
AAD7015
RAC1859
ANE7010
ARB7005
ARE7010
ADE -052
ADE -085
ADH1005
ATB1006
AHA7010

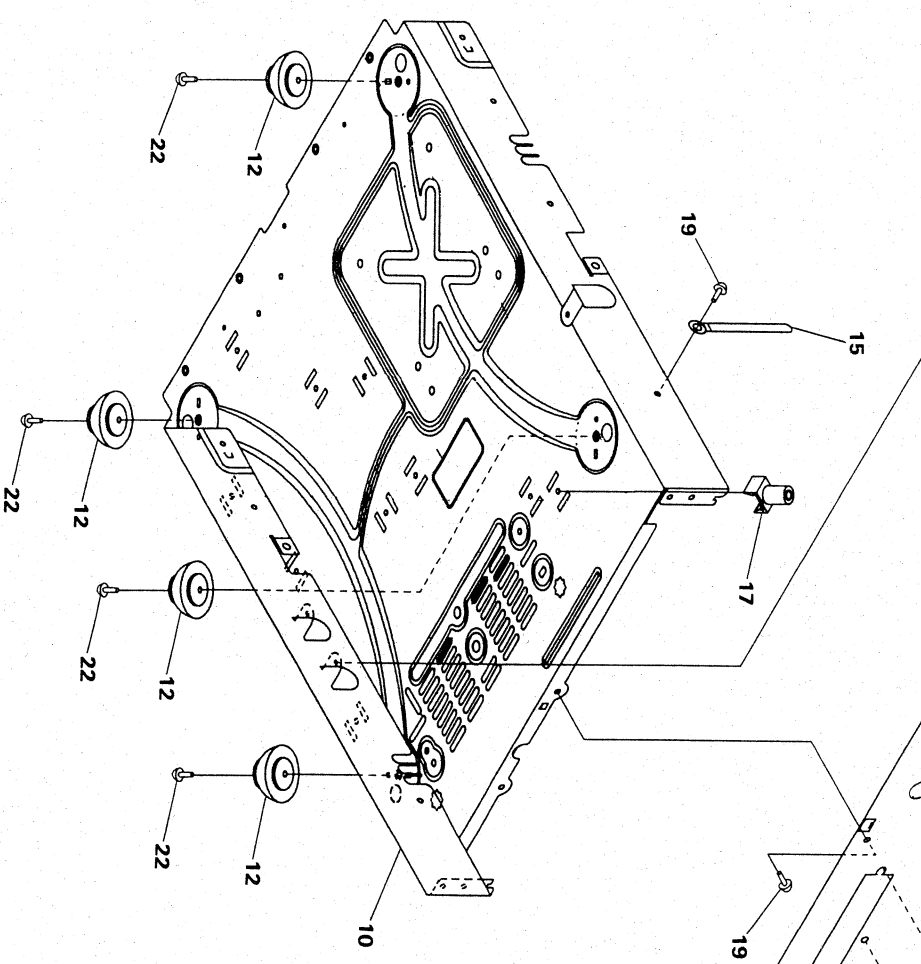
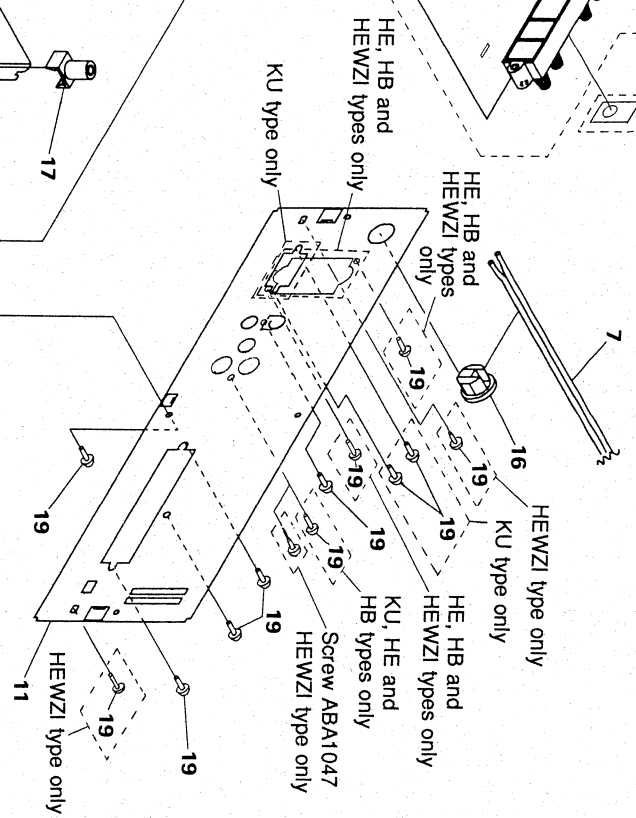
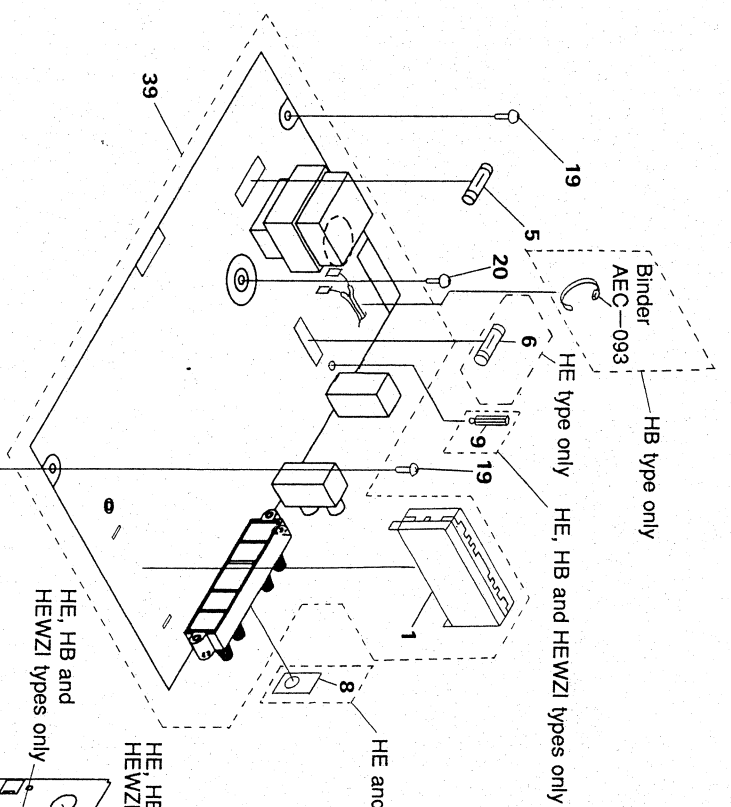
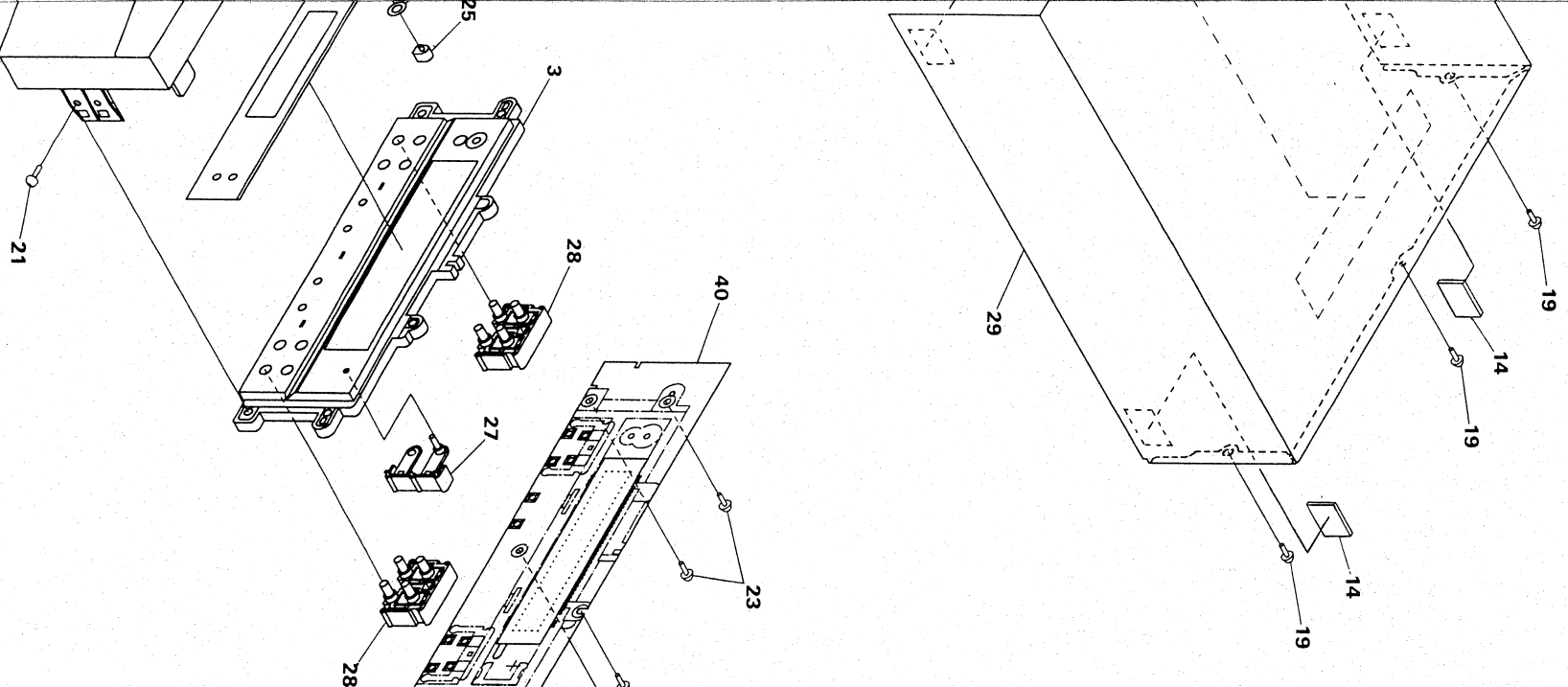
1

2

3

4

5

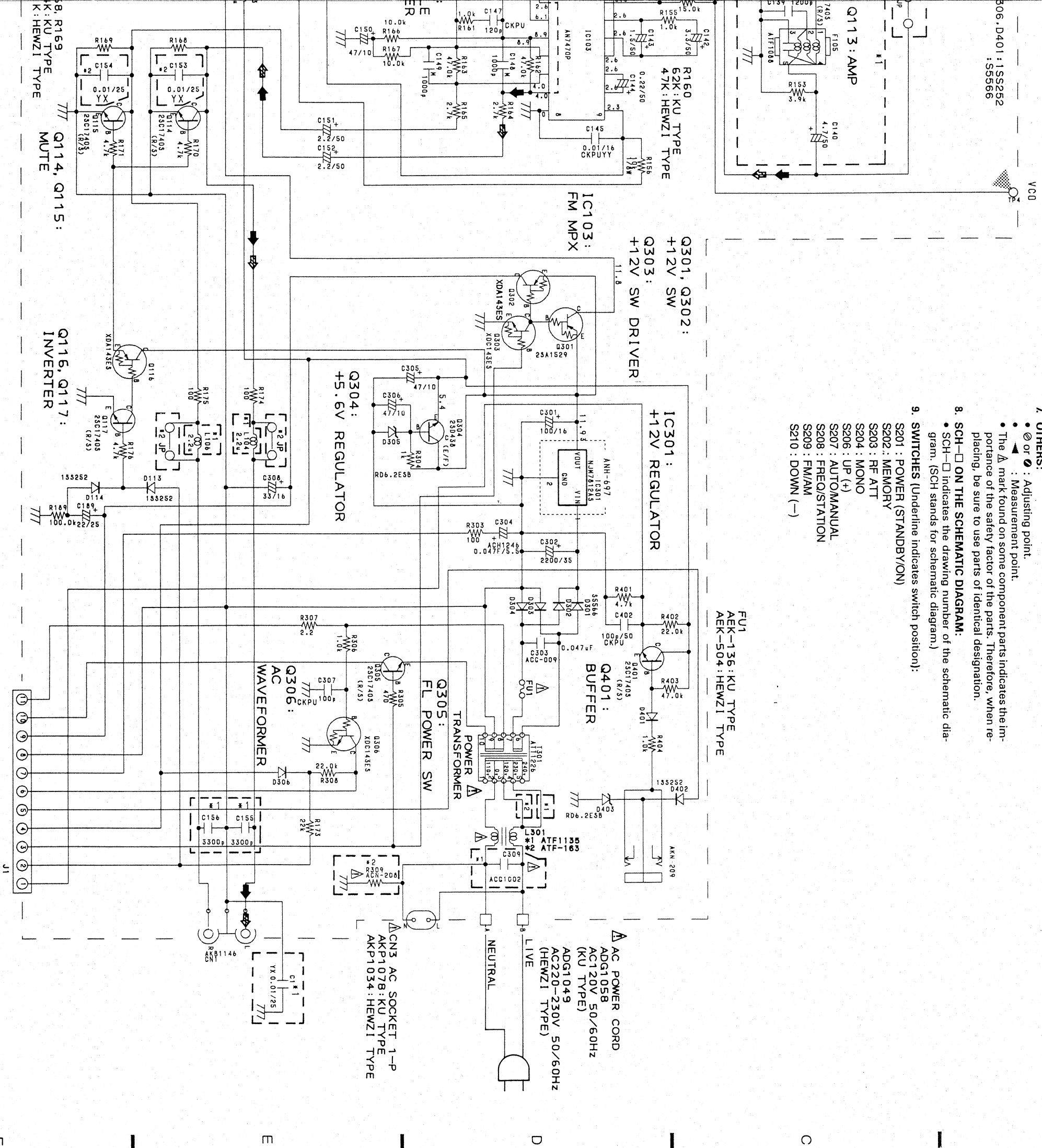


NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

NOTE FOR SCHEMATIC DIAGRAMS

(Type 3A)

- When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**
Unit: k:K Ω , M: M Ω , or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.
- CAPACITORS:**
Unit: p: pF or μ F unless otherwise noted.
Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**
Unit: m: mH or μ H unless otherwise noted.
- VOLTAGE AND CURRENT:**
[Symbol] : Signal voltage at FM 1kHz, 100% MOD.
or [Symbol] - V :
DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
mA or - mA :
DC current at no input signal unless otherwise noted.
- OTHERS:**
 - \odot or \ominus : Adjusting point.
 - \blacktriangle : Measurement point.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- SCH-□ ON THE SCHEMATIC DIAGRAM:**
 - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
- SWITCHES (Underline indicates switch position):**
 - S201 : POWER (STANDBY/ON)
 - S202 : MEMORY
 - S203 : RE ATT
 - S204 : MONO
 - S206 : UP (+)
 - S207 : AUTOMANUAL
 - S208 : FREQ/STATION
 - S209 : FM/AM
 - S210 : DOWN (-)



SCH-1

FM Signal route

AM Signal route

HEWZ1 TYPE ONLY

KU TYPE ONLY

FIL1
FIL2
+12V
GND
BU
AC
SYSTEM
+5.6V
POWER
MUTE
REMO

TO DISPLAY ASSY
J1 (→SCH-3)

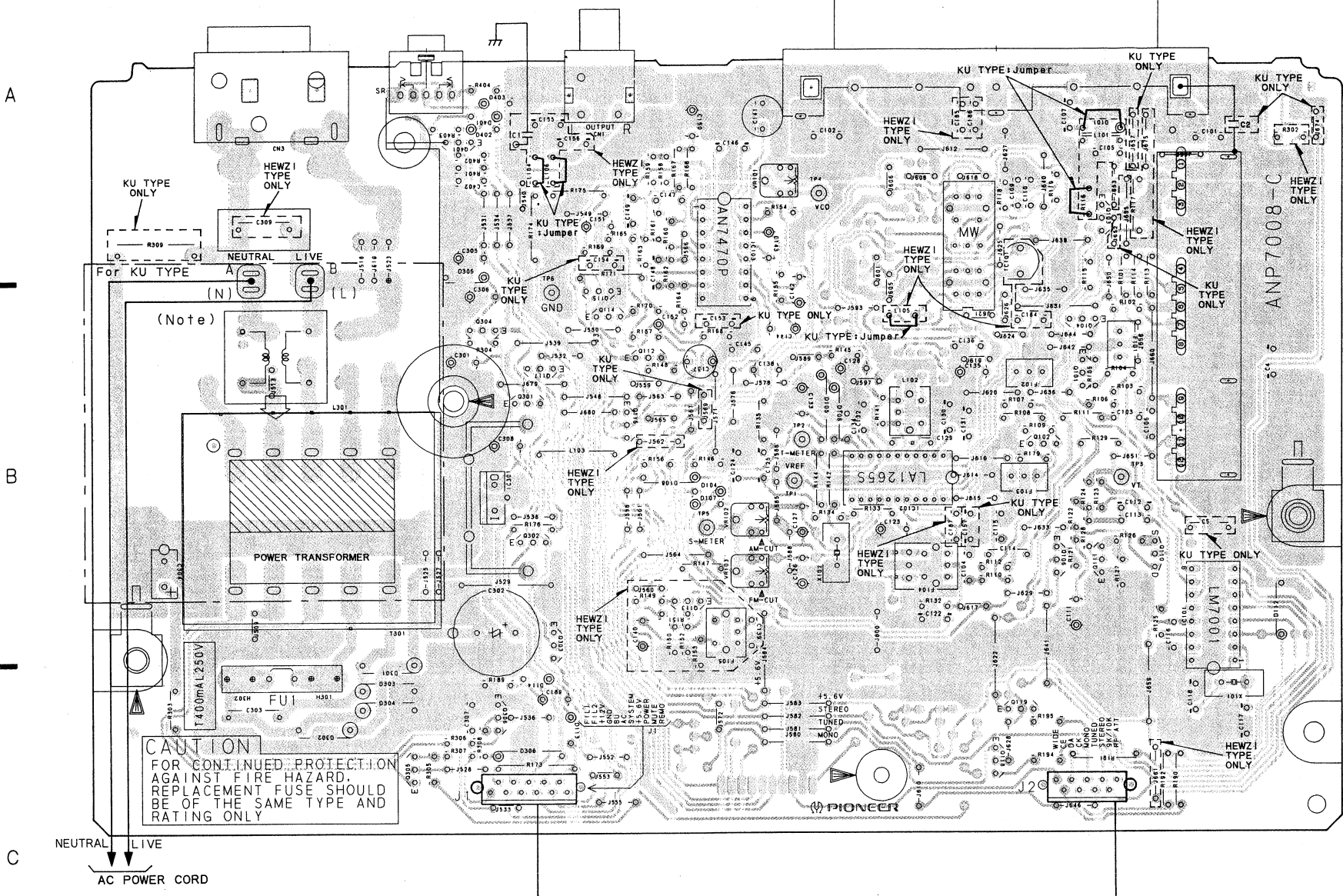
MAIN ASSY
(KU, HEWZ)

SCH-1

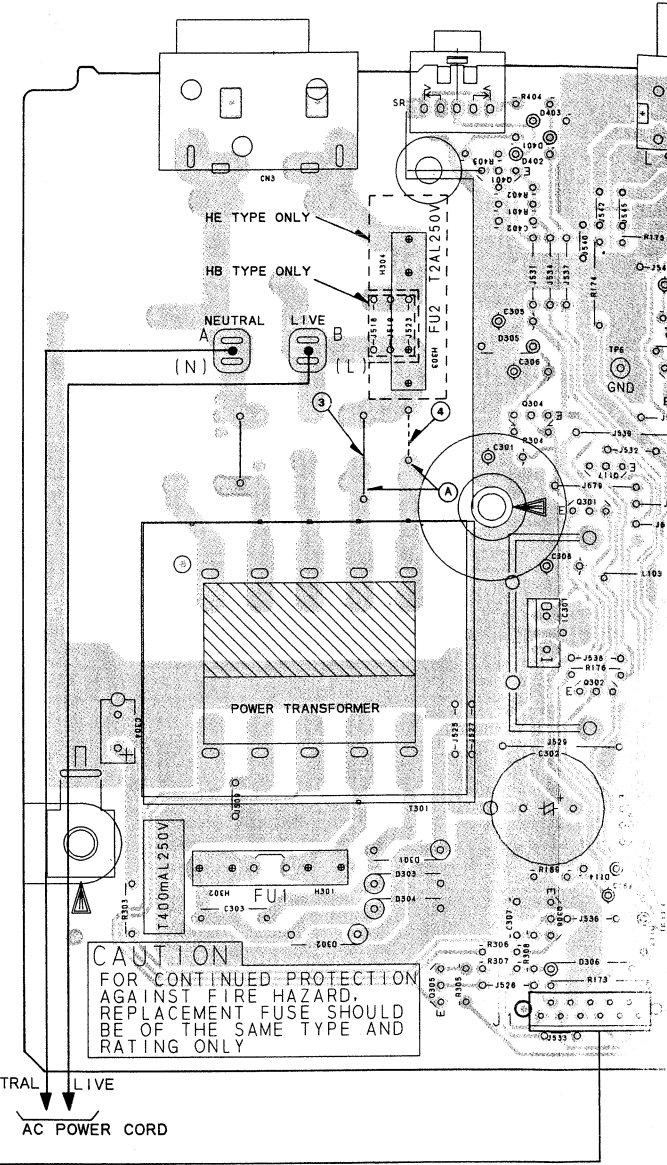
This PCB connection diagram is viewed from the parts mounted side.

MAIN ASSY (For KU and HEWZI types)

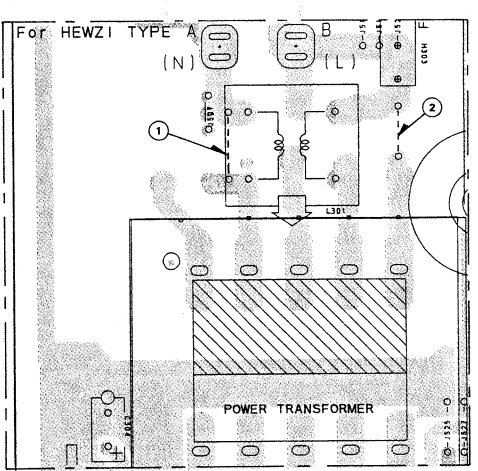
MAIN ASSY (For HE and HB types)



- Q401
- Q103
- IC103
- TC101
- Q115
- Q114
- Q304 Q104
- Q112
- Q117 Q101
- Q301
- Q116
- Q102
- IC102
- IC301
- VR101
- VR102
- VR103
- Q302
- Q110
- Q106 Q111
- IC101
- Q303
- Q119
- Q306
- Q118
- Q305



Note: For HEWZI type, PCB diagram is changed into the following:



Line Voltage Selection (For HEWZI)

- Line Voltage can be changed by the following modification:
1. Disconnect the AC power cord.
 2. Remove the cover.
 3. Change the L301 with the jumper-lines ① and ② follows.

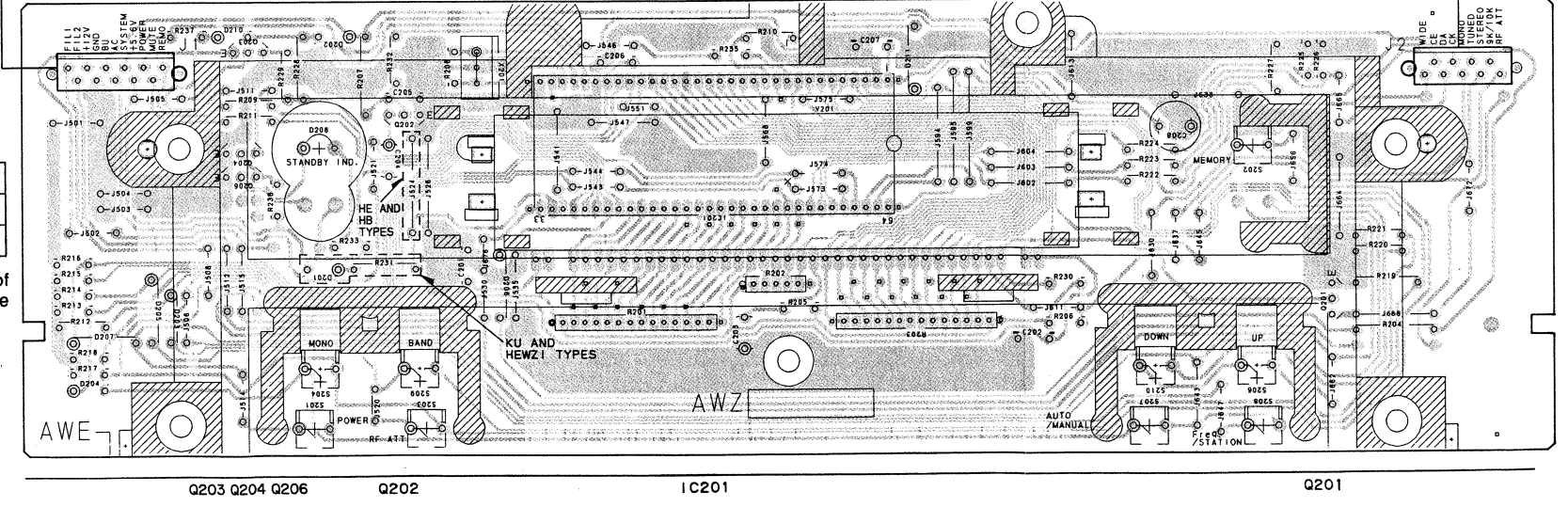
Voltage	L301 or jumper-lines
220V-230V	Change the jumper-lines ① and ② into the L301.
240V	Change the L301 into the jumper-lines ① and ②.

NOTE: When replacing a PCB which has the primary winding circuit of Power-transformer, be sure to compare its circuit with the diagram in Service Manual. Jumper-lines on the PCB may have to be removed. Forgetting this check-up will cause a serious damage.

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

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

DISPLAY ASSY



Line Volt

- Line Voltage
1. Disconnect
 2. Remove th
 3. Change th

Voltage
220V-230V
240V

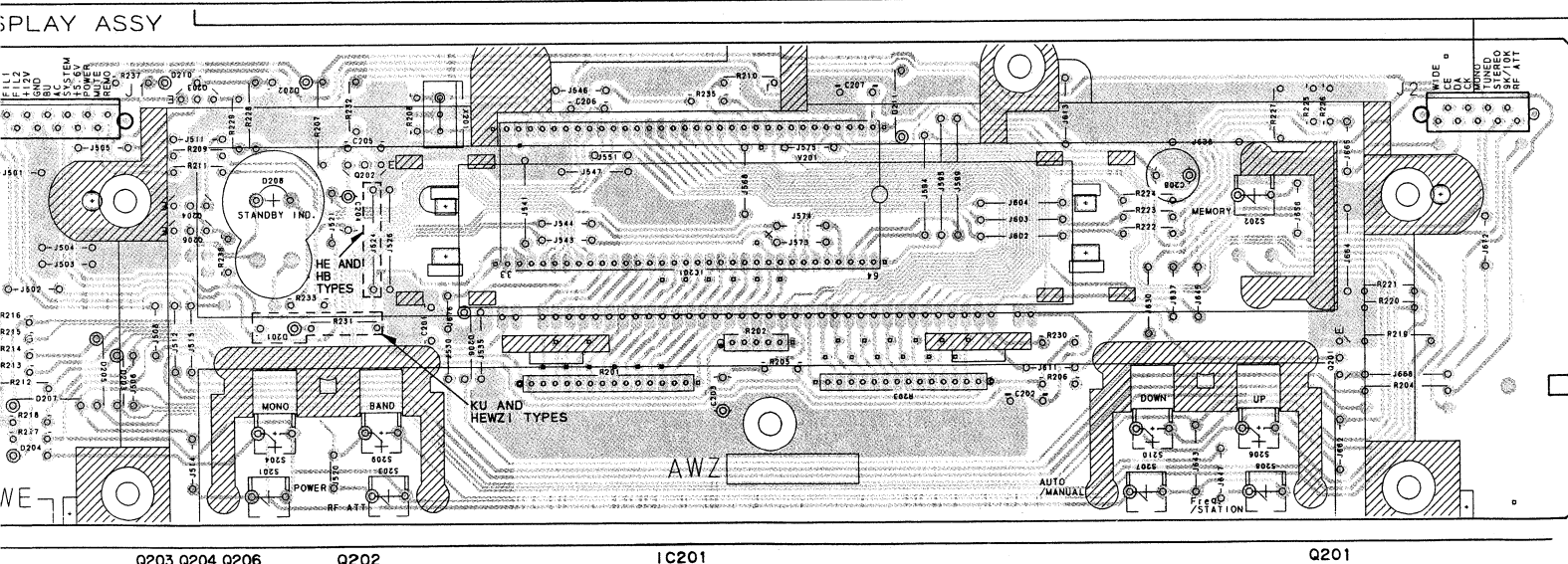
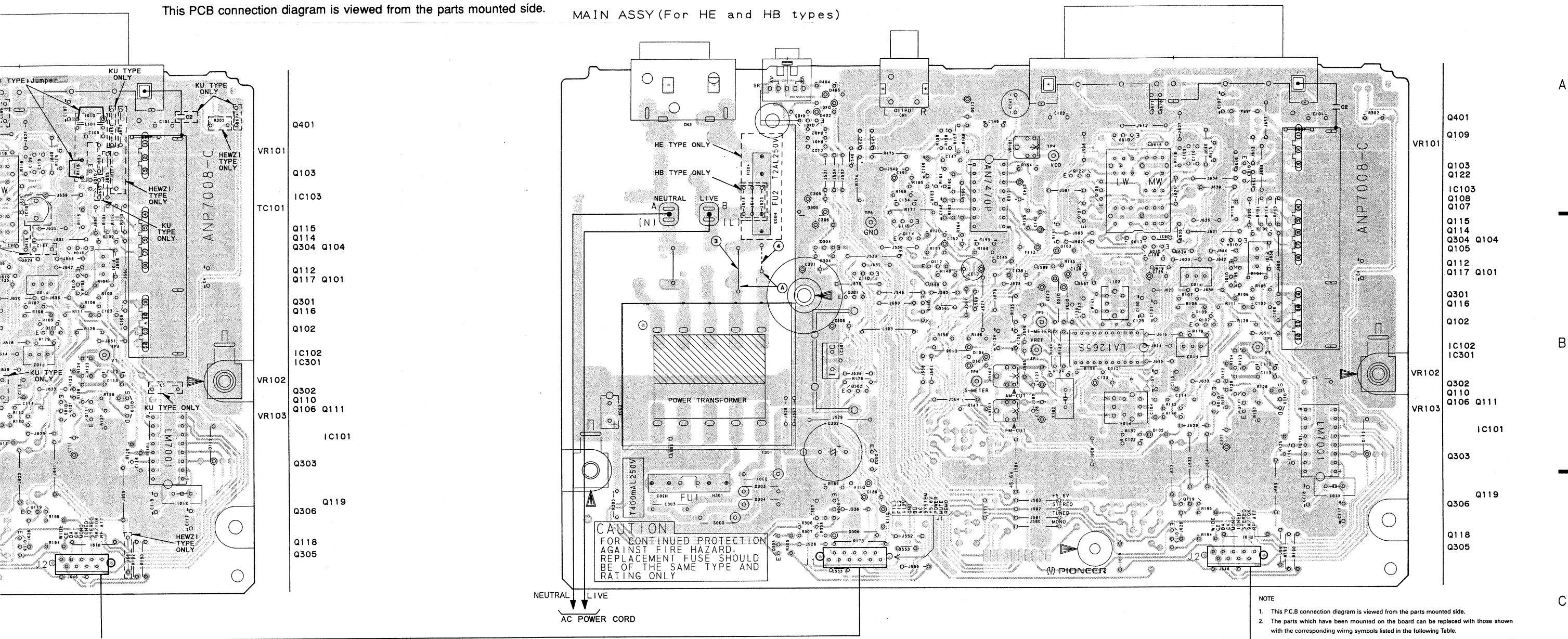
NOTE: When circuit jumper is changed, the circuit jumper must be changed. Forgetting this check-up will cause a serious damage.

4. Stick the l

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

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

MAIN ASSY (For HE and HB types)



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

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

Others

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

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

Line Voltage Selection (For HE and HB)

Line Voltage can be changed by the following modification:

- Disconnect the AC power cord.
- Remove the cover.
- Change the position of the jumper-lines as follows.

Voltage	jumper—line (A) position
220V—230V	
240V	

NOTE: When replacing a PCB which has the primary winding circuit of Power-transformer, be sure to compare its circuit with the diagram in Service Manual. Jumper-lines on the PCB may have to be removed. Forgetting this check-up will cause a serious damage.

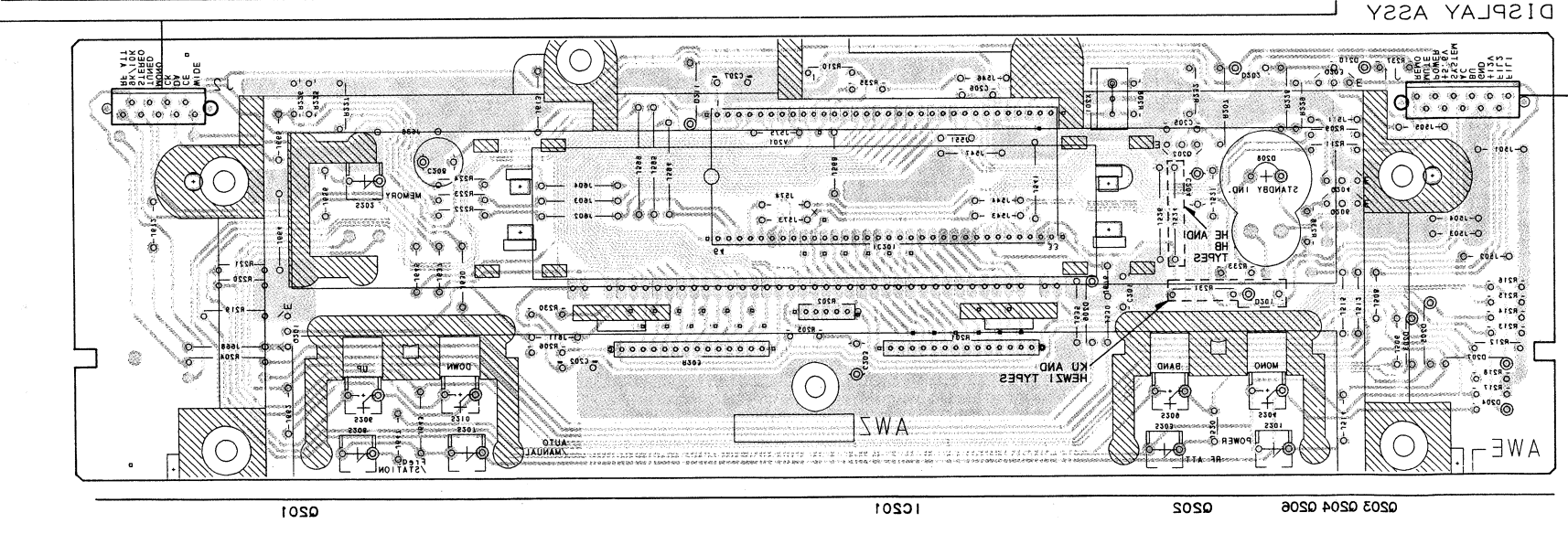
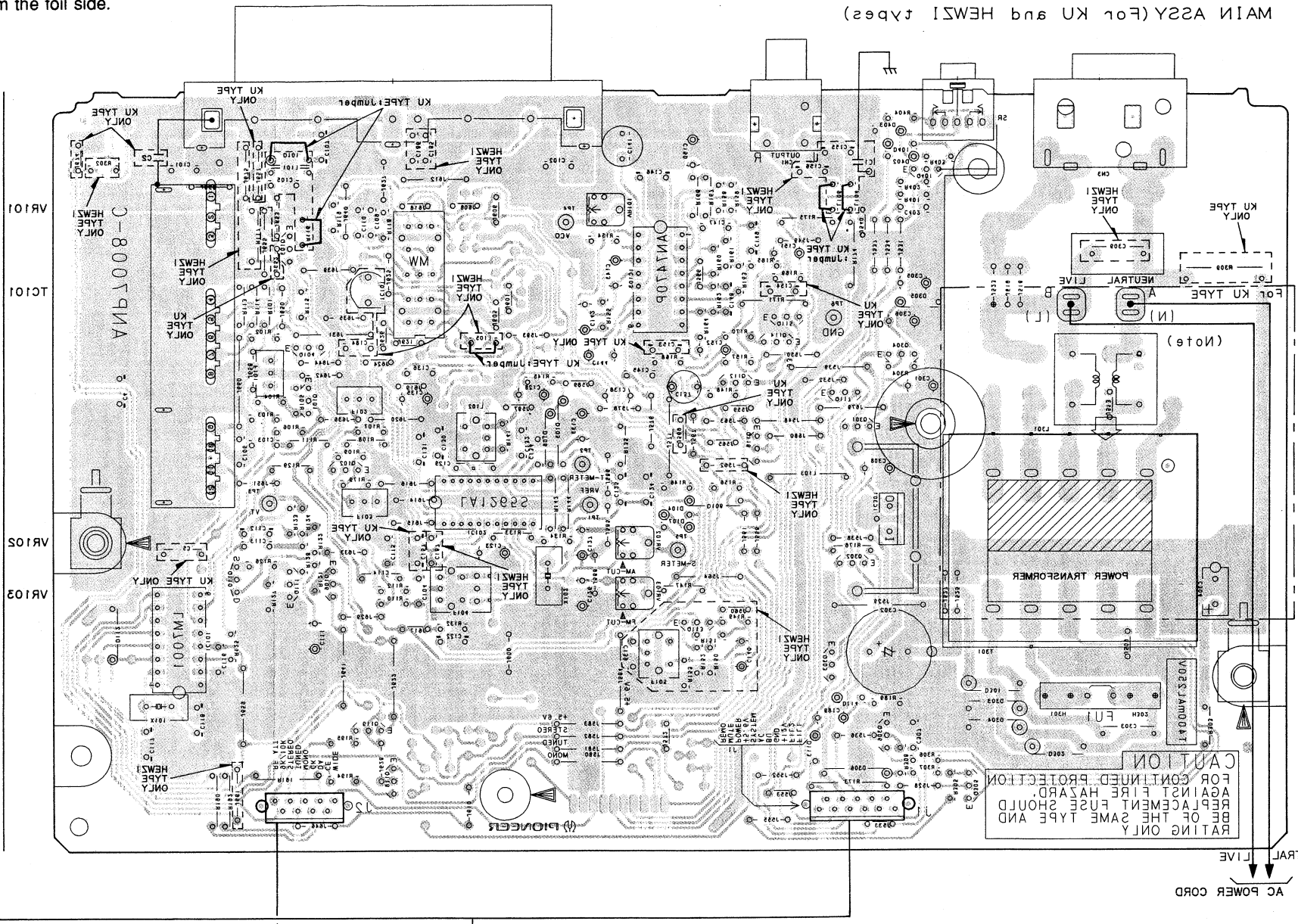
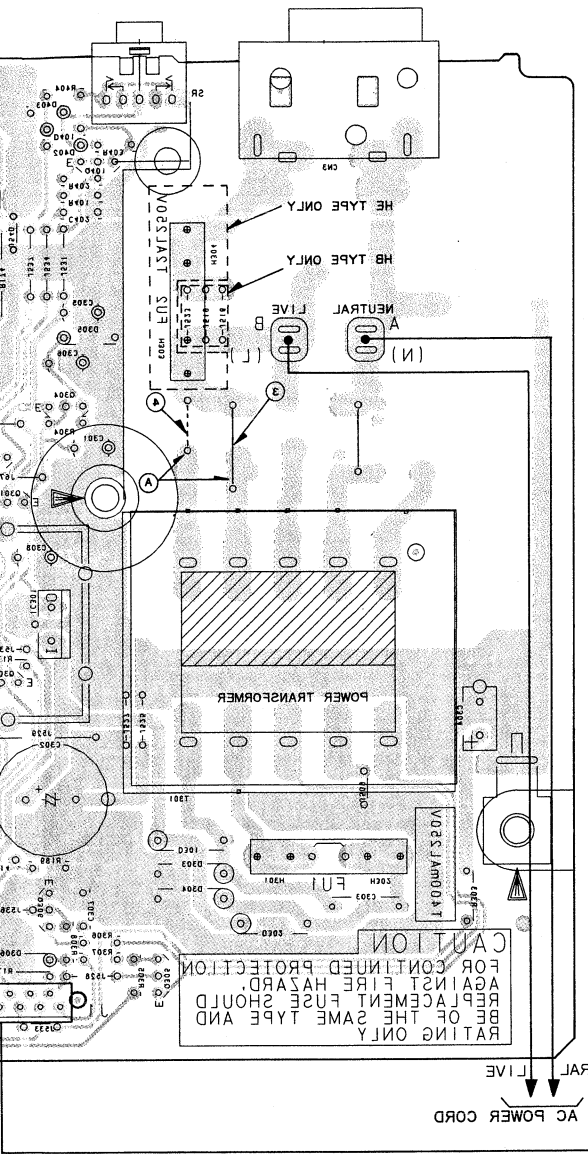
- Stick the line voltage label on the rear panel.

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

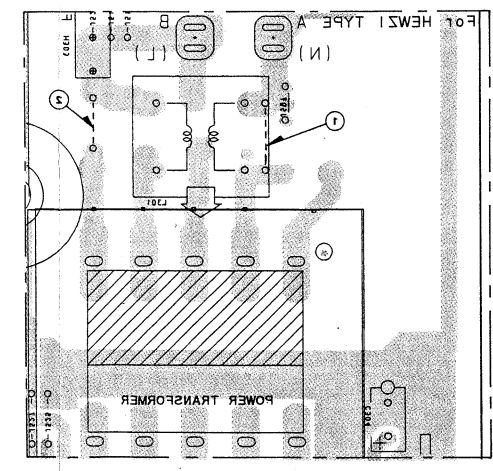
MAIN ASSY (For HE and HB types)

This PCB connection diagram is viewed from the foil side.

MAIN ASSY (For KU and HEW1 types)



Note: For HEW1 type PCB diagram is changed into the following:



A
B
C
D

6

2

4

3

5

1

6

2

4

3

5

1

0501

1C501

0505

0504 0508

0503

0504

DISPLAY ASSY

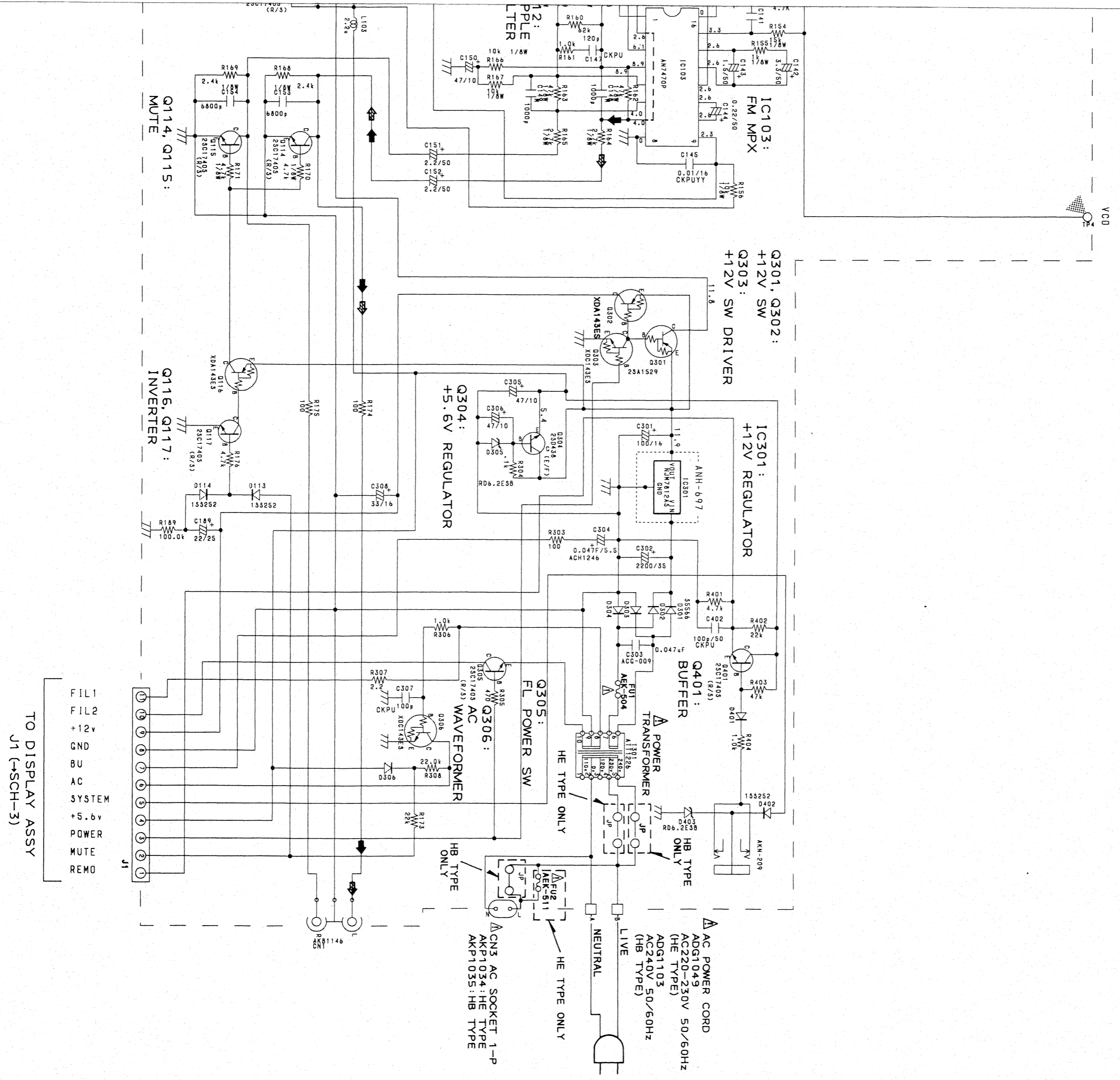
Q302 Q118 Q308 Q118 Q303 Q303 Q101 Q110 Q111 Q302 Q301 Q105 Q105 Q116 Q301 Q117 Q101 Q115 Q304 Q104 Q114 Q118 Q103 Q103 Q103 Q101 Q401

AC POWER CORD
NEUTRAL
LIVE

AC POWER CORD
NEUTRAL
LIVE

SCH-2

FM Signal route
LW/MW Signal route



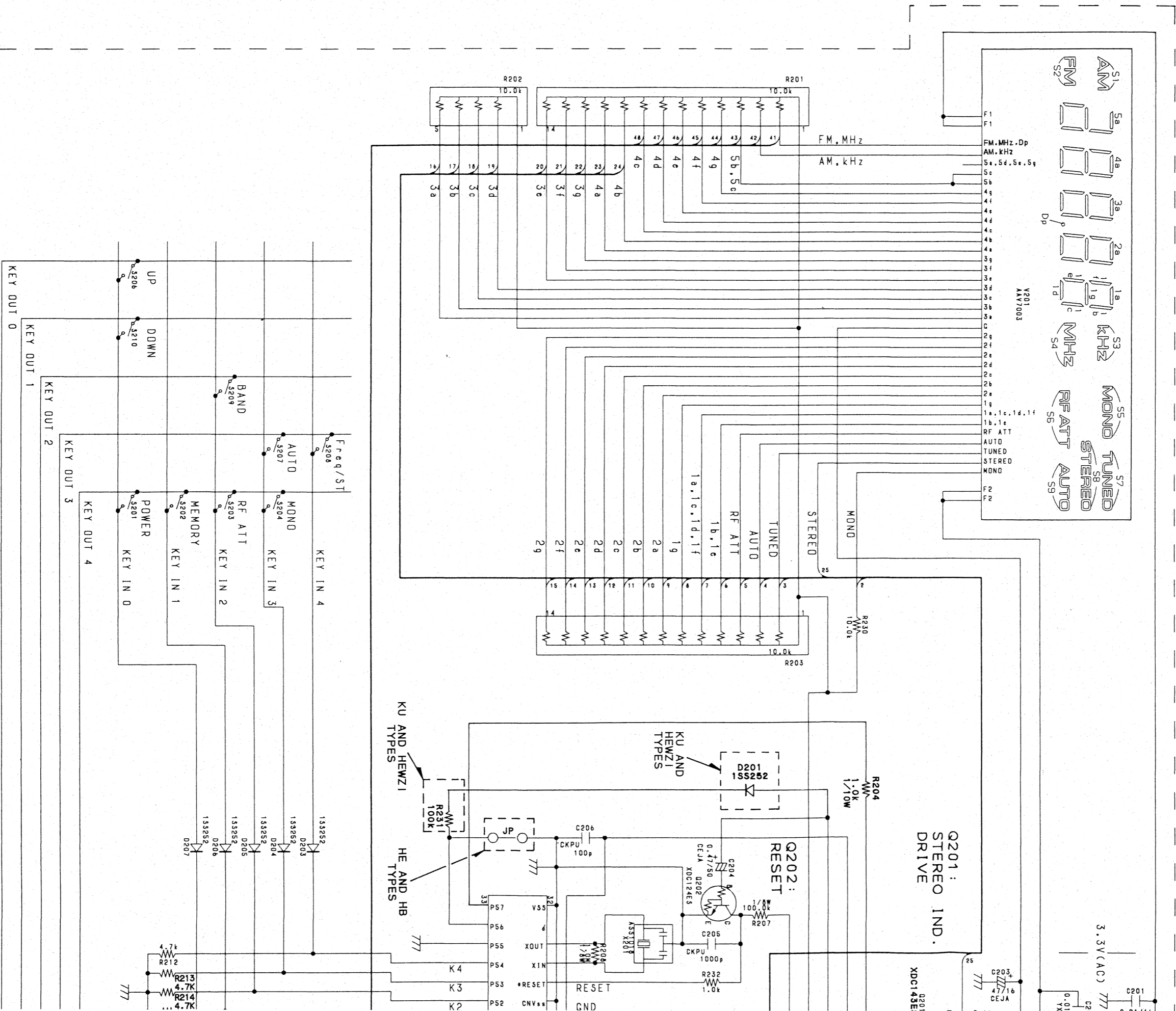
TO DISPLAY ASSY
J1 (→SCH-3)

FIL1
FIL2
+12v
GND
BU
AC
SYSTEM
+5.6v
POWER
MUTE
REMO

MAIN ASSY
(HE, HB)

SCH-2

DISPLAY ASSY (AWZ7043: KU TYPE)
(AWZ7041: HE AND HB TYPES)
(AWZ7042: HEWZI TYPE)



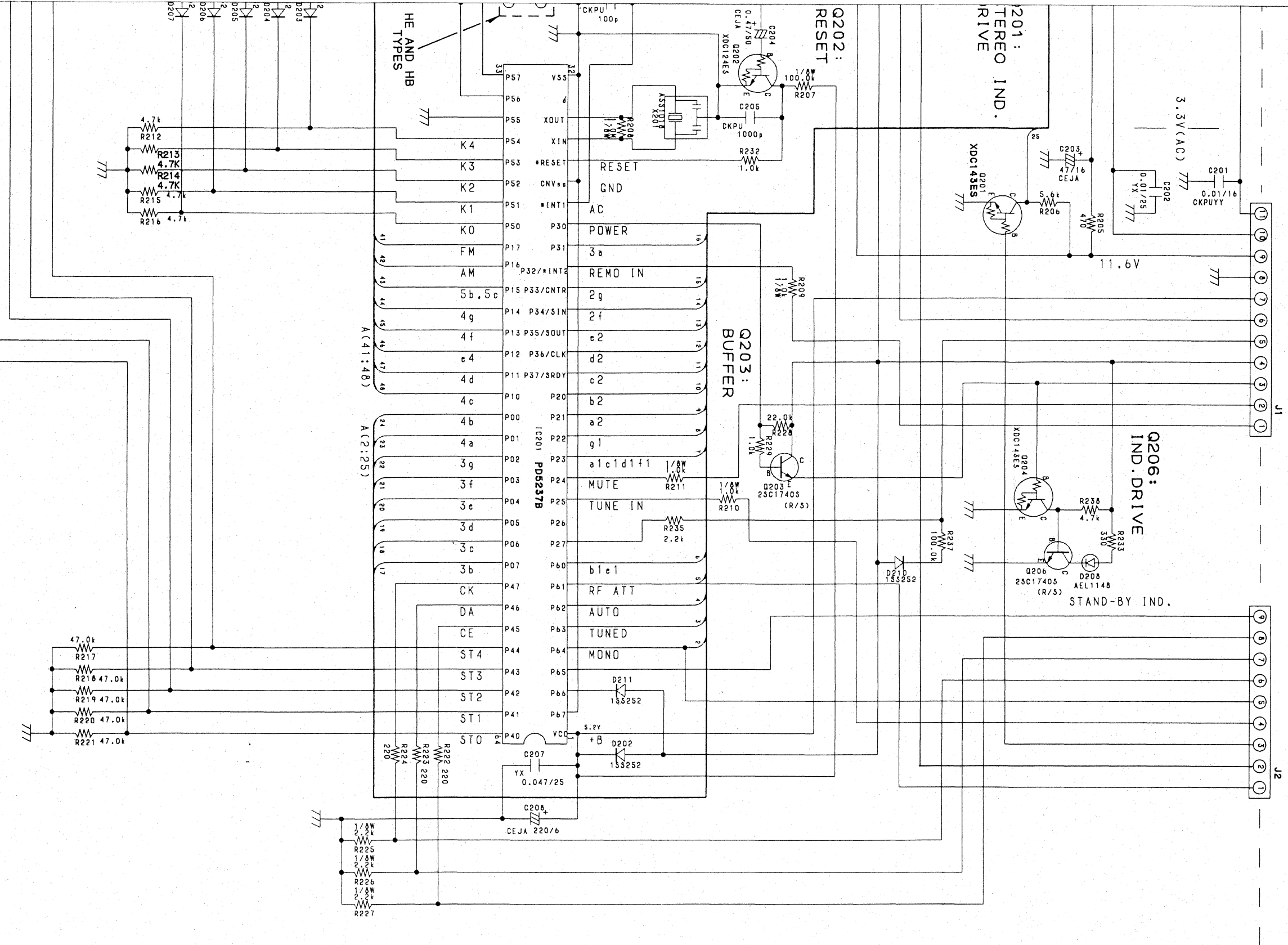
TO MAIN ASSY J1
(→SCH-1) or (→SCH-2)

TO MAIN ASSY J2
(→SCH-1) or (→SCH-2)

SCH-3

FIL1
FIL2
+12V
GND
Back up
AC
SYSTEM
+5.6V
POWER
MUTE
REMO IN

AM W/N
CE
DA
CL
MONO
TUNED
STEREO
9k/1-0k
RF ATT



DISPLAY ASSY

SCH-3

A B C D E F

4/4

4. PCB PARTS LIST

(For F-C3/KU and HE)

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	56 × 10 ¹	→	561	RD1/8PM	<table border="1"><tr><td>5</td><td>6</td><td>1</td></tr></table> J	5	6	1
5	6	1								
47kΩ	→	47 × 10 ³	→	473	RD1/4PS	<table border="1"><tr><td>4</td><td>7</td><td>3</td></tr></table> J	4	7	3
4	7	3								
0.5Ω	→	0R5			RN2H	<table border="1"><tr><td>0</td><td>R</td><td>5</td></tr></table> K	0	R	5
0	R	5								
1Ω	→	010			RS1P	<table border="1"><tr><td>0</td><td>1</td><td>0</td></tr></table> K	0	1	0
0	1	0								

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
 5.62kΩ → 562 × 10¹ → 5621 RN1/4PC

5	6	2	1
---	---	---	---

F

Mark No.	Description	Parts No.	Mark	Mark No.	Description	Parts No.	Mark
----------	-------------	-----------	------	----------	-------------	-----------	------

LIST OF ASSEMBLIES

TUNER ASSEMBLY (For HE type)	AWE7002
└─ DISPLAY ASSEMBLY	AWZ7041
└─ MAIN ASSEMBLY	AWZ7048
TUNER ASSEMBLY (For KU type)	AWE7004
└─ DISPLAY ASSEMBLY	AWZ7043
└─ MAIN ASSEMBLY	AWZ7050

DISPLAY ASSEMBLY (For KU and HE types)

SEMICONDUCTORS

IC201	PD5237B
Q203, Q206	2SC1740S
Q202	XDC124ES
Q201, Q204	XDC143ES
D201 - D207, D210, D211	1SS252
D208	AEL1148

SWITCHES AND RELAYS

S201 - S204, S206 - S210	ASG1034
--------------------------	---------

CAPACITORS

C208	CEJA221M6
C203	CEJA470M16
C204	CEJAR47M50
C202	CKDYX103M25
C207	CKDYX473M25
C206	CKPUYB101K50
C205	CKPUYB102K50
C201	CKPUYY103M16

RESISTORS

R201, R203	RA13T103J				
R202	RA4T103J				
Other Resistors	RD1/8PM <table border="1"><tr><td>□</td><td>□</td><td>□</td><td>□</td></tr></table> J	□	□	□	□
□	□	□	□		

OTHERS

X201	(4.19MHz)	ASS1018
V201	FL TUBE	AAV7003

MAIN ASSEMBLY (For HE type)

SEMICONDUCTORS

IC103	AN7470P
IC102	LA1265S
IC101	LM7001J
IC301	NJM7812AS
Q301	2SA1529
Q103, Q112, Q114, Q115	2SC1740S
Q117 - Q119, Q305, Q401	2SC1740S
Q111	2SC1740SLN
Q101, Q102	2SC2668
Q304	2SD438
Q110	2SK246
Q104, Q106, Q108	XDA124ES
Q116, Q302	XDA143ES
Q105, Q107, Q109, Q122, Q303	XDC143ES
Q306	XDC143ES
D102 - D108, D113, D114, D306	1SS252
D401, D402	1SS252
D112, D305, D403	RD6.2ESB
D301 - D304	S5566

COILS AND FILTERS

L102	ATE-079
F101, F102	ATF-119
F103	ATF-107
F104	ATF-208
L103	LAU2R2K

TRANSFORMERS

Δ T301 (6.5VA)	ATT1226
-----------------------	---------

CAPACITORS

C303 (0.047/AC25V)	ACG-009
C304 (47000/5.5)	ACH1246
C109, C117, C118	CCDCH150J50
C115	CCPUSL470J50
C138	CEANP4R7M50
C133	CEAS010M50
C127	CEAS100M50
C128, C137, C301	CEAS101M16
C143	CEAS1R5M50
C189	CEAS220M25
C302	CEAS222M35

5. ADJUSTMENTS

ADJUSTMENT OF THE FM TUNER SECTION

- Set the mode selector to FM BAND.
- Connect the wiring as shown in the Fig. 1.

Step No.	Adjustment Title	FM SG(1kHz, ± 75 kHz dev.)		Reception Frequency Display	Adjustment	
		Frequency(MHz)	Level(dB μ V)		Adjustment Location	Specifications
1	Center adjustment	98	60	98.0MHz	L102	Adjust so that the DC voltage between the TP1(VREF) and TP2(T-METER) becomes $0V \pm 50mV$.
2	VCO adjustment	Non modulation	60	98.0MHz	VR101	Adjust so that the output of the TP4 (VCO) becomes $76kHz \pm 0.5kHz$.
3	TUNED IND. Lighting level	98	$24 (\pm 3dB)$	98.0MHz	VR103	Adjust so that the indicators of TUNED IND. start to light up.

ADJUSTMENT OF MW TUNER SECTION

- Set the mode selector to AM(MW) BAND.
- Connect the wiring as shown in the Fig. 1.

Step No.	Adjustment Title	AM SG(400Hz, 30% Mod.)		Reception Frequency Display	Adjustment	
		Frequency(kHz)	Level(dB μ V/m)		Adjustment Location	Specifications
1	Tracking adjustment *2	603	Low input	603kHz	AM RF Tuning block antenna coil	Adjust so that the DC voltage between the TP5(S-METER) and GND becomes at maximum level.
2		1395		1395kHz	TC101	
3		IFT adjustment *2		603	603kHz		F104
4	TUNED IND. Lighting level	999 *1	$55 (\pm 5dB)$	999kHz *1	VR102	Adjust so that the indicator of TUNED IND. start to lights up.

Note1:

For the area using 10kHz step (KU type : 10kHz), frequencies should be as follows:

*1 : 1000kHz

Note2:

Adjustment marked with "*2" is only for HEWZI type.

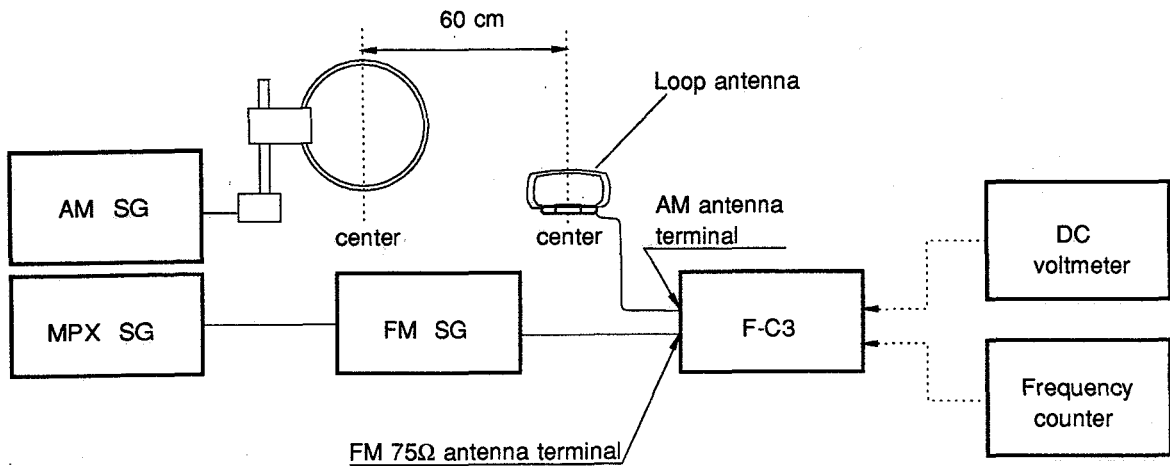
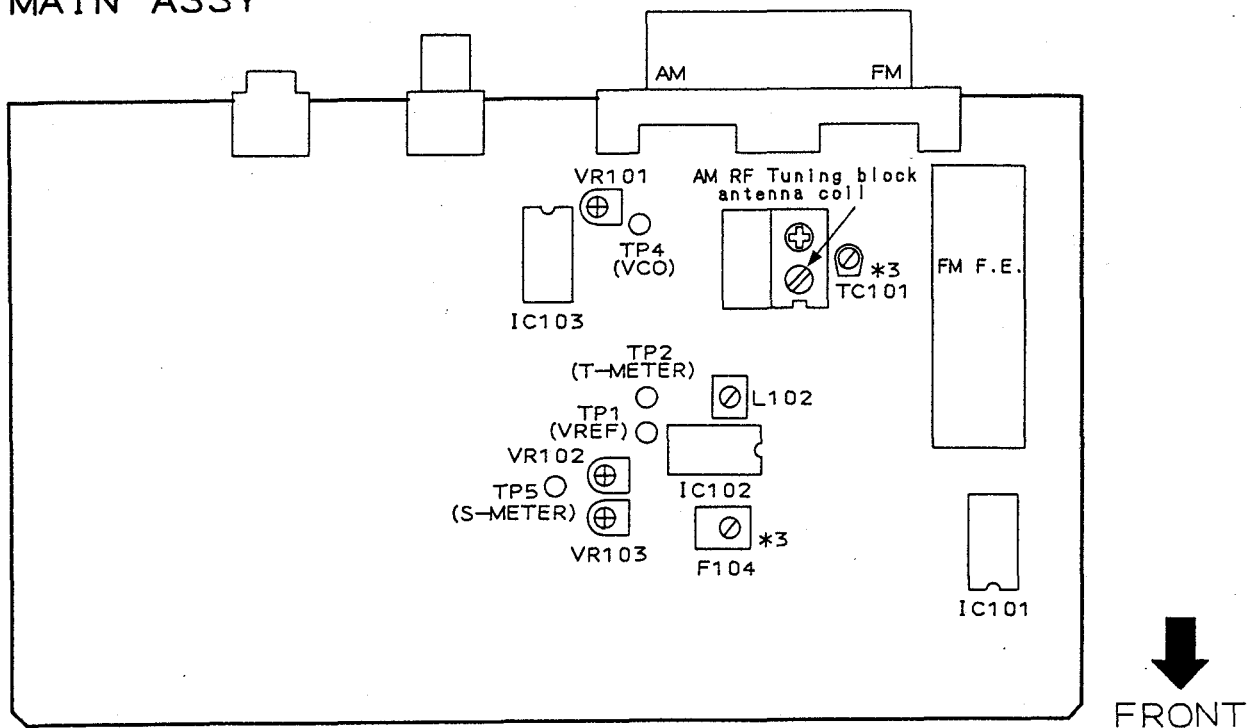


Fig. 1 AM and FM adjustment wiring diagram

MAIN ASSY



*3 : HEWZI type only

Fig. 2 Adjustment points

6. FOR HEWZI AND HB TYPES

NOTES:

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

6.1 CONTRAST OF MISCELLANEOUS PARTS FOR HEWZI TYPE

F-C3/HEWZI and F-C3/KU have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		F-C3/KU	F-C3/HEWZI	
	TUNER assembly	AWE7004	AWE7003	Refer to P.5
	DISPLAY assembly	AWZ7043	AWZ7042	
	MAIN assembly	AWZ7050	AWZ7049	
Δ	Screw (STEEL)	.....	ABA1047
	AC power cord	ADG1058	ADG1049	
	FM antenna	ADH1005	ADH1002	
Δ	FU1 Fuse (500mA/125V)	AEK-136	.....
Δ	FU1 Fuse (T400mA/250V)	.....	AEK-504
	Cord stopper	AEP-113	AEC-882	
	Packing case	AHD7015	AHD7014	
	Sub panel	AMB7073	AMB7029	
	Front panel	AMB7079	AMB7027	
	Rear panel	ANC7060	ANC7057	
	Operating instructions (English)	ARB7005	.....
	Operating instructions (German/Italian)	.....	ARC7005
NSP	PCB post	.....	DEC1390
	65 label	ORW1069	.....

MAIN ASSEMBLY

AWZ7049 and AWZ7050 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ7050	AWZ7049	
	FE module assembly (3L)	AXQ1003	
	FE module assembly (4L)	.....	AXQ1004
	AM RF tuning block (MW)	AXX1025	AXX1027	
	D101	.....	1SV156
	Q113	.....	2SC1740S
	R116	.....	RD1/8PM270J
	R117	.....	RD1/2PM681J
	R149	.....	RD1/8PM224J
	R150	.....	RD1/8PM473J
	R151	.....	RD1/8PM222J
	R152	.....	RD1/8PM152J

Mark	Symbol & Description	Part No.		Remarks
		AWZ7050	AWZ7049	
△	R153	.....	RD1/8PM392J	
	R160	RD1/8PM623J	RD1/8PM473J	
	R168,R169	RD1/8PM242J	RD1/8PM912J	
	R302	.....	RD1/8PM102J	
	R309	ACN-208	.....
	C1	.....	CKDYX103M25	
	C2	CKDYB103K50	.....
	C5	CKPUYB101K50	.....
	C105	.....	CKDYB103K50	
	C110	CKPUYF473Z16	CKDYX473M25	
	C139	.....	CKDYB122K50	
	C140	.....	CEA S4R7M50	
	C153,C154	CKDYX103M25	.....
C155,C156	.....	CKDYB332K50		
C157	CKDYF223Z50	.....	
△	C184	.....	CKPUYF223Z25	
	C185	.....	CKPUYB101K50	
	C186	.....	CKPUYB102K50	
	C187	.....	CCPUSL270J50	
	C309	.....	ACG1002	
	TC101	.....	ACM-018	
	F105	.....	ATF1088	
	L101	.....	LAU2R2J	
	L104,L106	.....	LAU2R2K	
	L105	.....	LAU330J	
L301	ATF-163	ATF1135		
△	Antenna terminal 4-P	AKA1009	.....
	Antenna terminal PAL 2-P	.....	AKA1012	
	CN3 AC socket 1-P	AKP1078	AKP1034	

DISPLAY ASSEMBLY

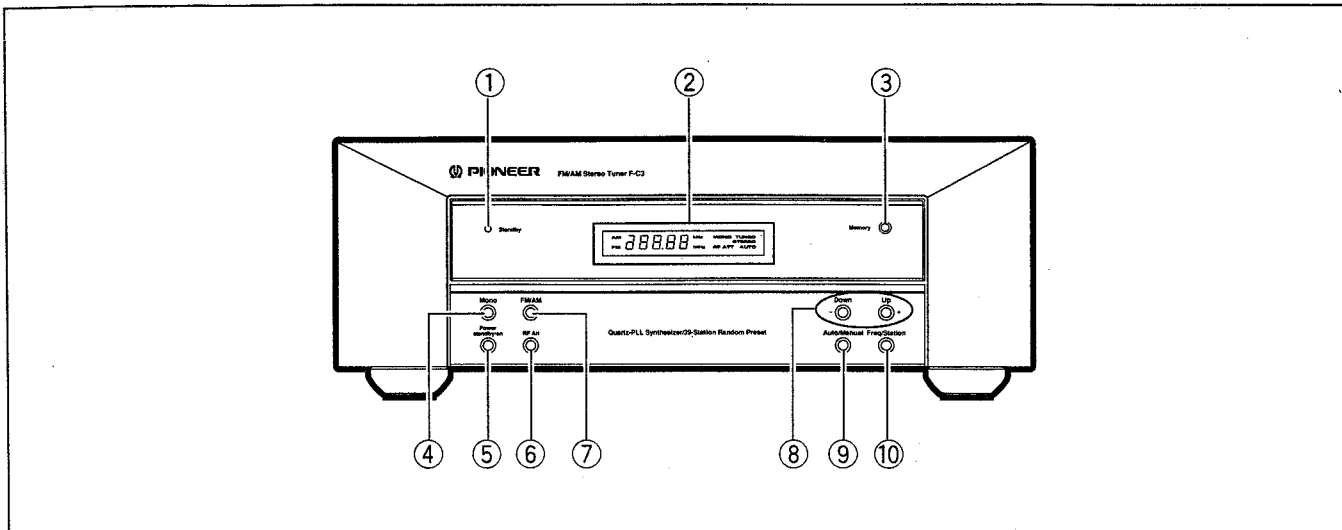
Although AWZ7042 and AWZ7043 are different in part number, they consist of the same components.

6.2 CONTRAST OF MISCELLANEOUS PARTS FOR HB TYPE

F-C3/HB and F-C3/HE have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		F-C3/HE	F-C3/HB	
	TUNER assembly MAIN assembly	AWE7002 AWZ7048	AWE7001 AWZ7047	

8. PANEL FACILITIES



① Standby indicator

Goes out when power is turned on; lights when power is set to standby.

② Display section

③ Memory button

④ Mono button

⑤ Power standby/on switch

This is the switch for electric power.

On: When set to the on position, power is supplied and the unit becomes operational.

Standby: When set to the standby position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

When the Standby indicator lights, the unit is in STANDBY.

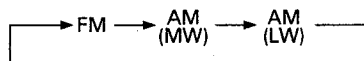
⑥ RF Att button

Press this RF attenuator button if the excessive strength of FM signals results in distortion. The RF ATT indicator will light in the display section.

• This function does not operate during AM broadcasts.

⑦ FM/AM button

Each time you press the button, the changes as follows.

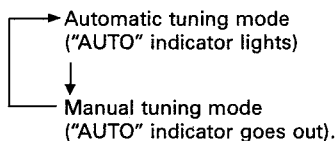


⑧ Tuning Up+ Down- button

Use to tune broadcast stations.

⑨ Auto/Manual button

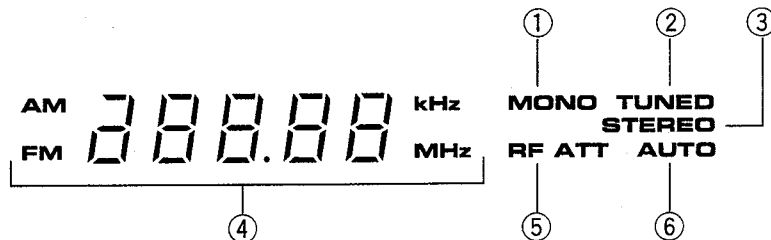
When this button is pressed, the tuning function changes alternately as follows:



• Auto tuning is not possible on the LW band.

⑩ Frequency/Station button

Display Section



① Lights when the Mono button is set to ON.

② Lights when broadcast is received.

③ Lights during reception of stereo broadcast.

④ Displays the frequency or station.

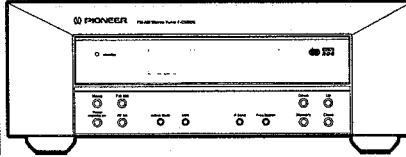
⑤ Lights when RF attenuator function is on.

⑥ Lights during auto tuning mode.

4209

PIONEER
The Art of Entertainment

Service Manual



ORDER NO.
RRV1108

FM/AM DIGITAL SYNTHESIZER TUNER **F-C5RDS**

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

Type	Model	Power Requirement	The voltage can be converted by the following method.
	F-C5RDS		
HE	○	AC220—230V	AC240V, *
HB	○	AC240V	AC220—230V, *
HEWZI	○	AC220—230V	AC240V, *

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

• For HB and HEWZI types, refer to page 30.

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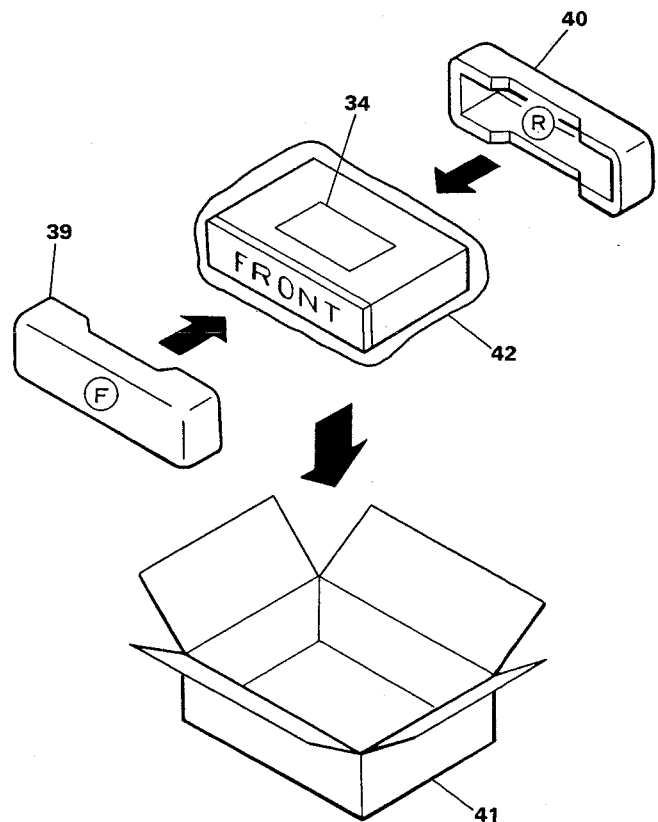
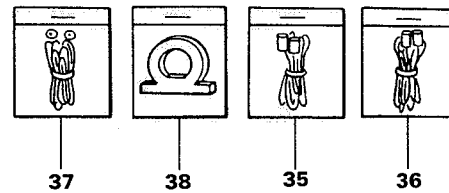
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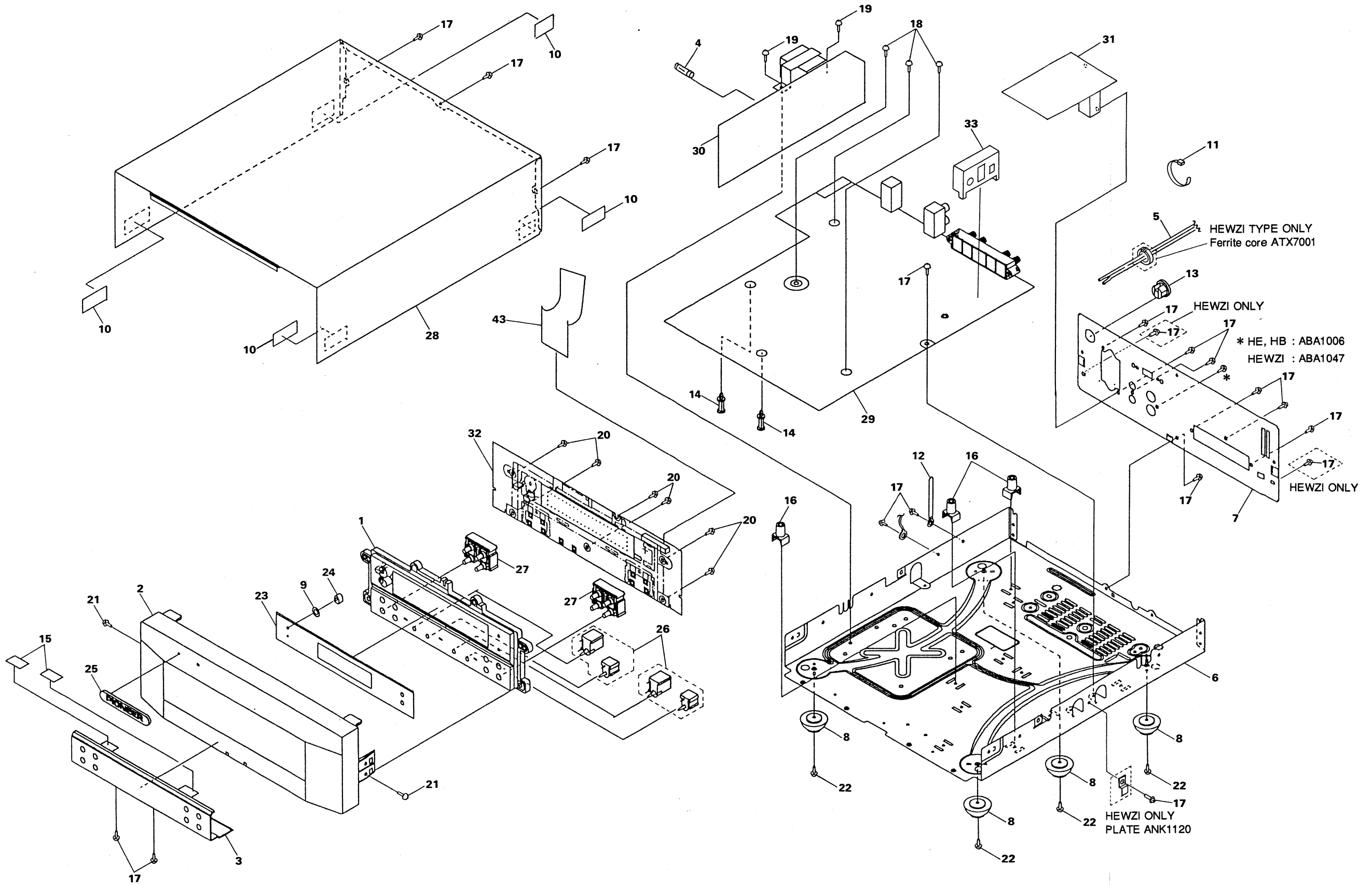
1. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

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

Mark	No.	Description	Parts No.
	1	SUB PANEL	AMB7029
	2	FRONT PANEL	AMB7080
	3	FRONT PANEL	ANB7005
Δ	4	FU1 FUSE (2.5A,250V)	AEK-512
Δ	5	AC POWER CORD	ADG1049
NSP	6	CHASSIS	ANA7006
	7	REAR PANEL	ANC7095
	8	INSULATOR	PNW2363
	9	WASHER	ABE7001
	10	CUSHON GUM	AEB7004
	11	NYLON BINDER	AEC-093
	12	BINDER	AEC-826
Δ	13	STRAIN RELIEF	AEC-882
	14	PCB SPACER(3X12)	AEC1372
	15	SPACER (PVC)	AEC7007
NSP	16	PCB MOULD	AMR1525
	17	SCREW (STEEL)	ABA1006
	18	SCREW	ABA1018
	19	SCREW (STEEL)	ABA1048
	20	SCREW	BBZ26P100FMC
	21	SCREW	BBZ30P080FZK
	22	SCREW	BBZ30P100FZK
	23	DISPLAY PANEL	AAK7071
	24	LED LENS	PNW2019
	25	NAME PLATE (AL)	RAN1013
	26	BUTTON	AAD7052
	27	BUTTON	RAC1859
	28	BONNET	ANE7010
	29	TUNER ASSEMBLY	AWZ7272
	30	POWER ASSEMBLY	AWZ7275
	31	OUTLET ASSEMBLY	AWZ7279
	32	DISPLAY ASSEMBLY	AWP7001
	33	4 SERIAL F.E. MODULE ASSY	AXQ1004
	34	OPE. INSTRUCTIONS (English/French/German/Italian/ Swedish/Dutch/Spanish/ Portuguese)	ARE7015
	35	PLUG CORD	ADE-052
	36	CORD WITH PLUG	ADE-085
	37	FM ANTENNA	ADH1005
	38	LOOP ANTENNA	ATB1011
	39	F.PAD	AHA7010
	40	R.PAD(PS)	AHA7011
	41	PACKING CASE	AHD7055
	42	PACKING SHEET	AHG1093
	43	FLEXIBLE CABLE	ADD1114





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

4. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 3A)

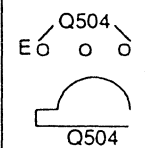
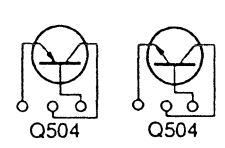
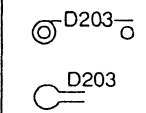
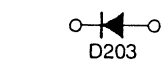
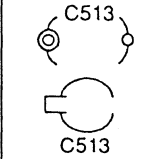
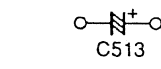
- When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**
Unit: k: k Ω , M: M Ω , or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.
- CAPACITORS:**
Unit: p: pF or μ F unless otherwise noted.
Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**
Unit: m: mH or μ H unless otherwise noted.
- VOLTAGE AND CURRENT:**

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

mA	or \leftarrow mA : DC current at no input signal unless otherwise noted.
----	---
- OTHERS:**
 - \odot or \bullet : Adjusting point.
 - \blacktriangleleft : Measurement point.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- SCH-□ ON THE SCHEMATIC DIAGRAM:**
 - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
- SWITCHES (Underline indicates switch position):**
 S901: POWER (STANDBY/ON)
 S902: RF Att
 S905: Class
 S906: FM/AM
 S911: Memory
 S916: Active mode
 S917: IF Band
 S921: EON
 S922: Mono
 S924: Freq/Station
 S925: Up
 S926: Down

NOTE FOR PCB DIAGRAMS:

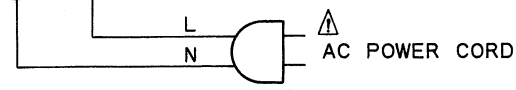
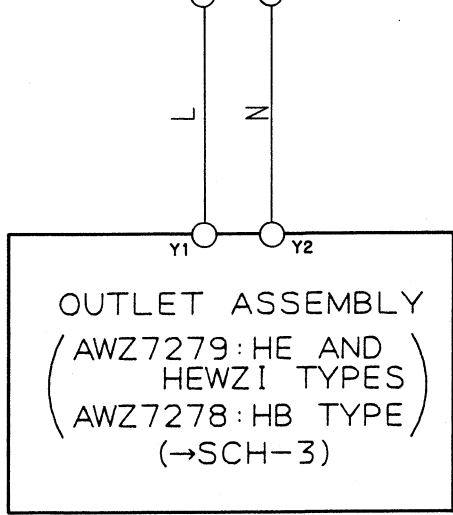
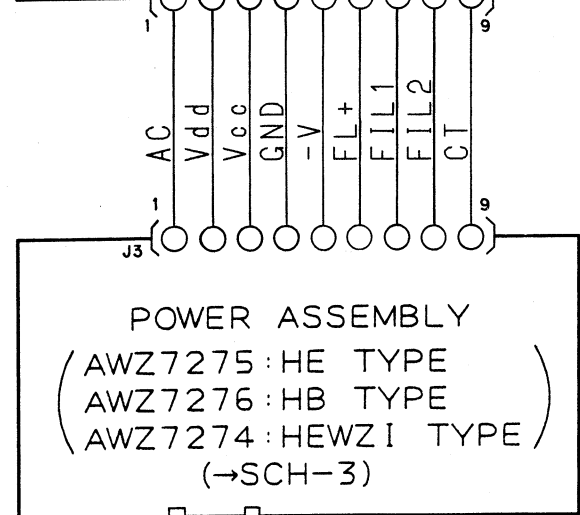
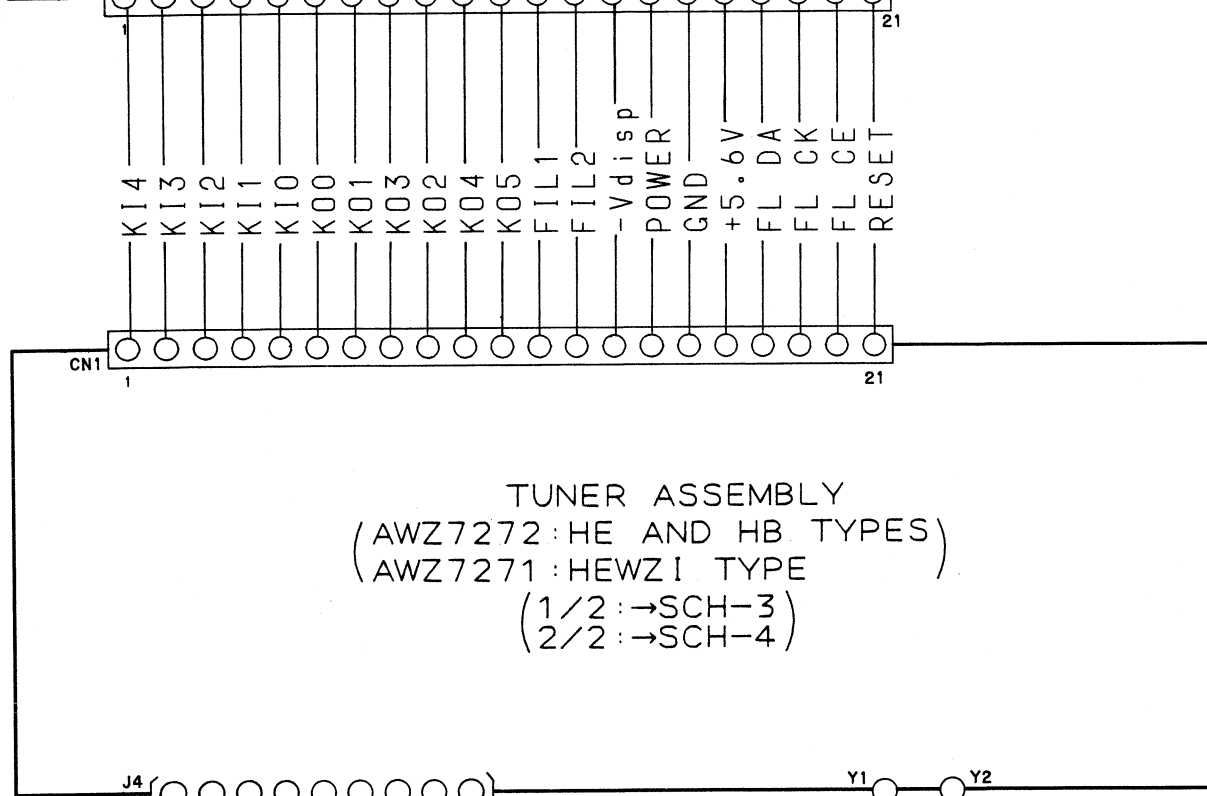
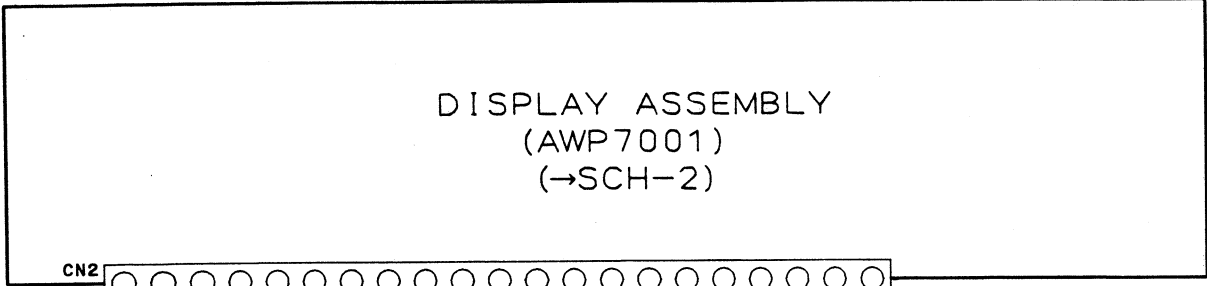
- Part numbers in PCB diagrams match those in the schematic diagrams.
- A comparison between the main parts of PCB and schematic diagrams is shown below.

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

- The transistor terminal marked with E or \square shows the emitter.
- The diode terminal marked with \odot or \square shows cathode side.
- The capacitor terminal marked with \odot or \square shows negative terminal.

4.1 OVERALL WIRING DIAGRAM

SCH-1

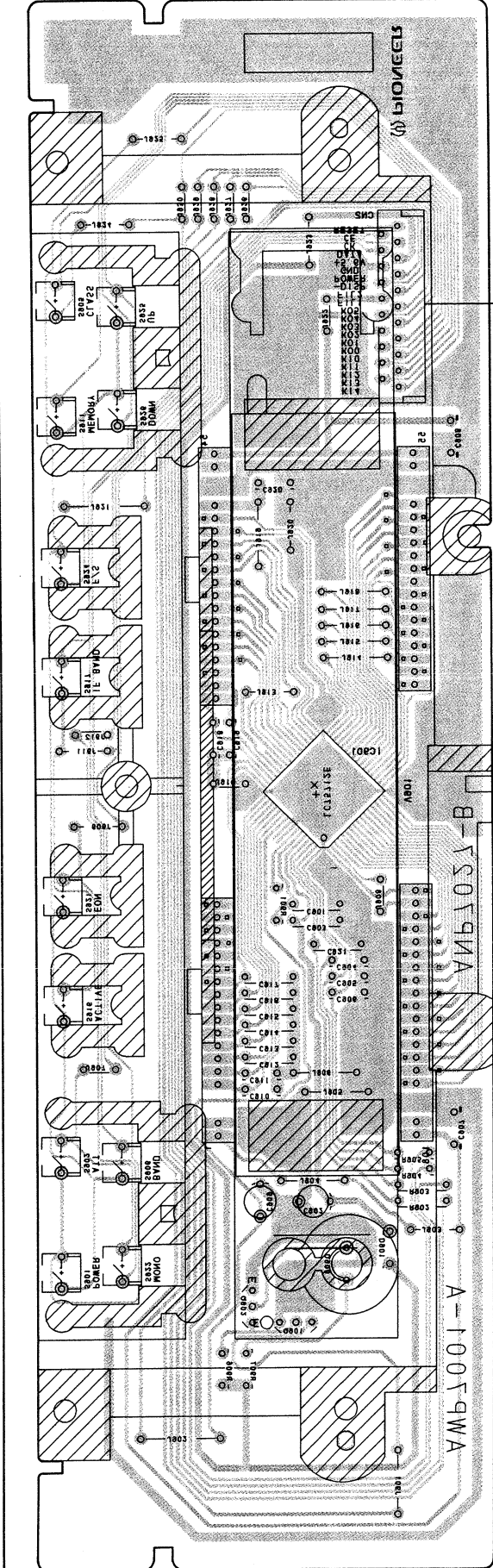


OVERALL SCH-1

4.2 DISPLAY ASSEMBLY

● This diagram is viewed from the foil side.

PCB-1



DISPLAY ASSEMBLY

TO TUNER ASSEMBLY
CN1

IC801

IC801

IC801-B

A-100T-QWA

A

B

C

D

3

5

3

5

1

6

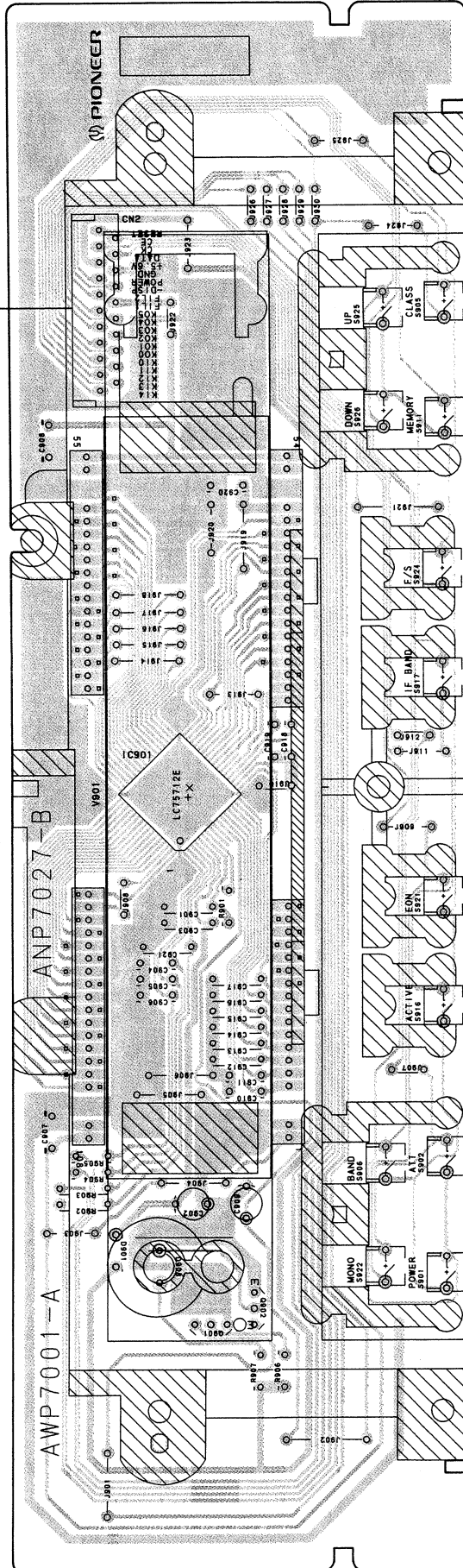
4.2 DISPLAY ASSEMBLY

• This diagram is viewed from the mounted parts side.

DISPLAY ASSEMBLY

PCB-1

TO TUNER ASSEMBLY
CN1



IC901

Q902
Q901

A

B

C

D

A

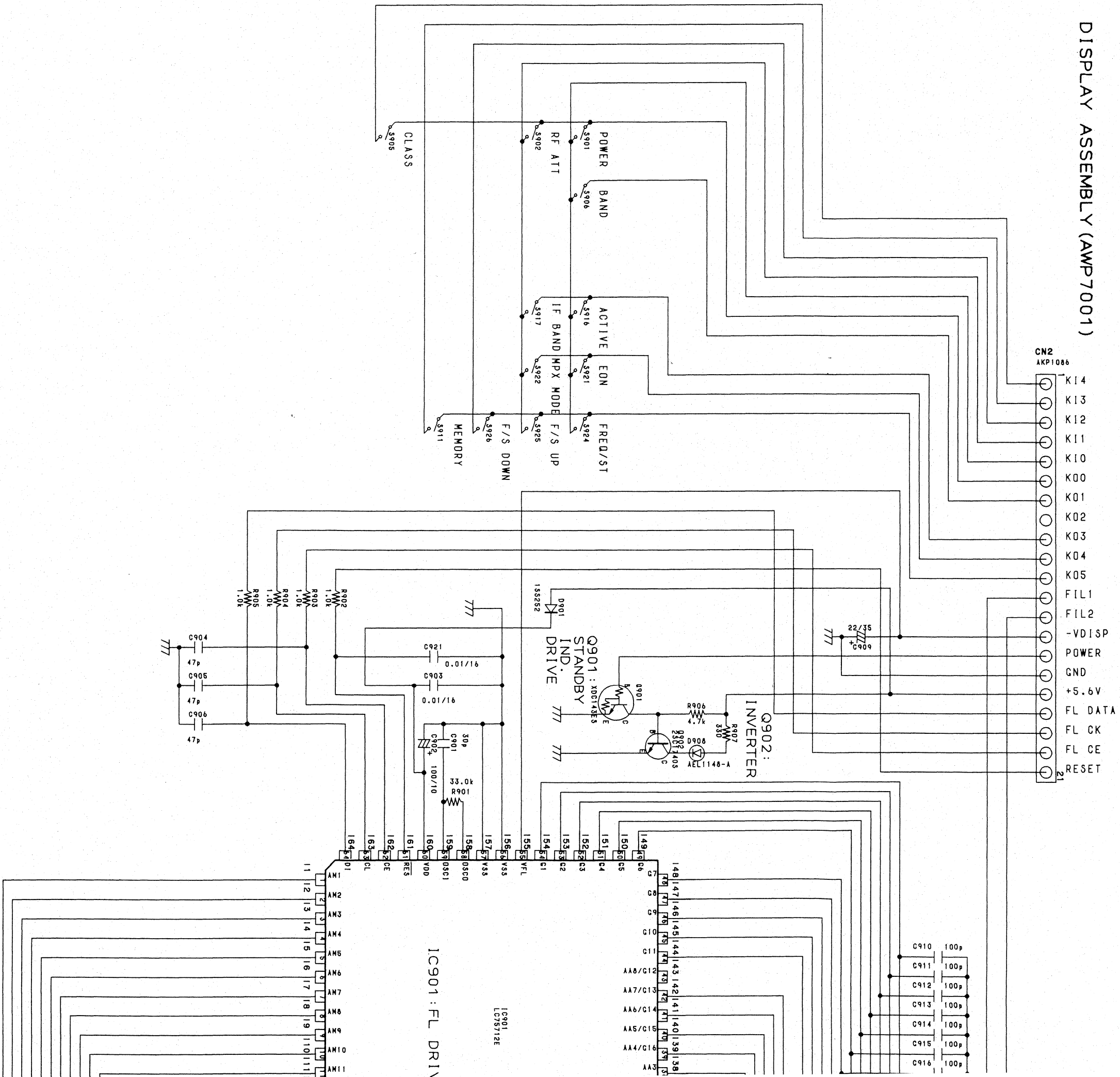
B

C

D

TO TUNER ASSEMBLY (2/2) CN1 (->SCH-4)

DISPLAY ASSEMBLY (AWP7001)

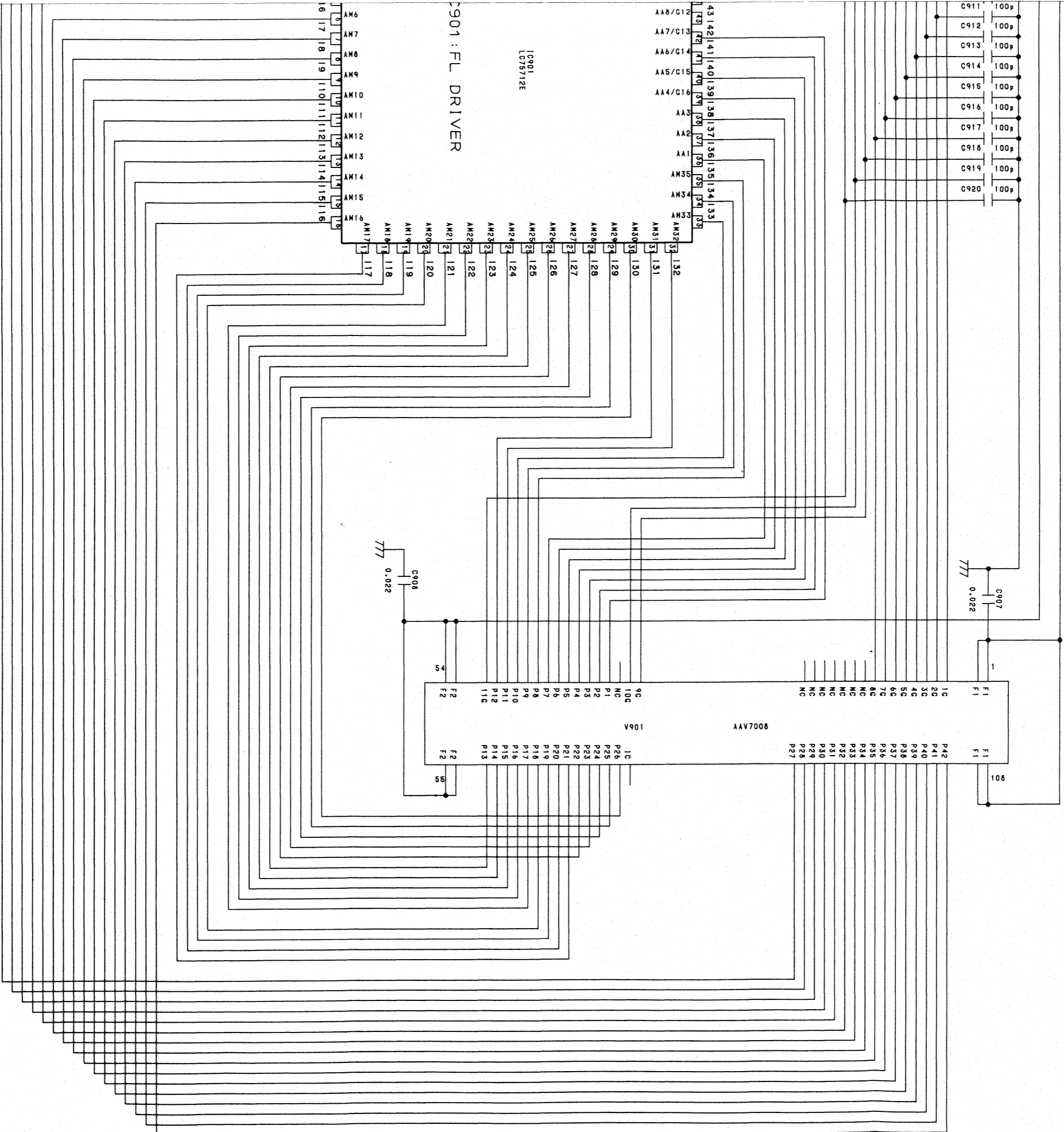


SCH-2

DISPLAY ASSY

1 2 3 4 5

SCH-2



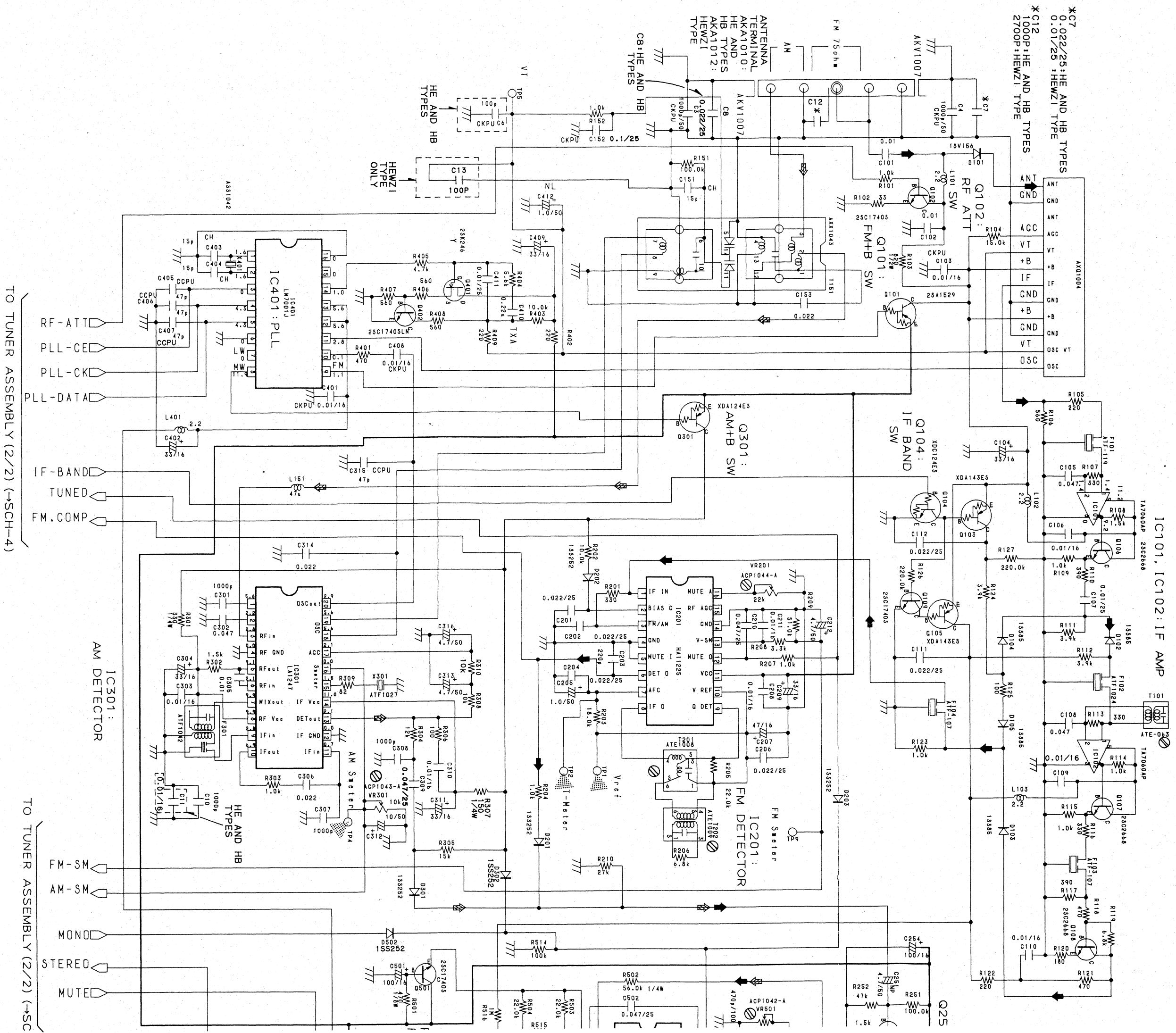
LC75712E

901: FL DRIVER

DISPLAY ASSY

SCH-2

TUNER ASSEMBLY (1/2) (AWZ7272:HE AND HB TYPES)
(AWZ7271:HEWZ1 TYPE)



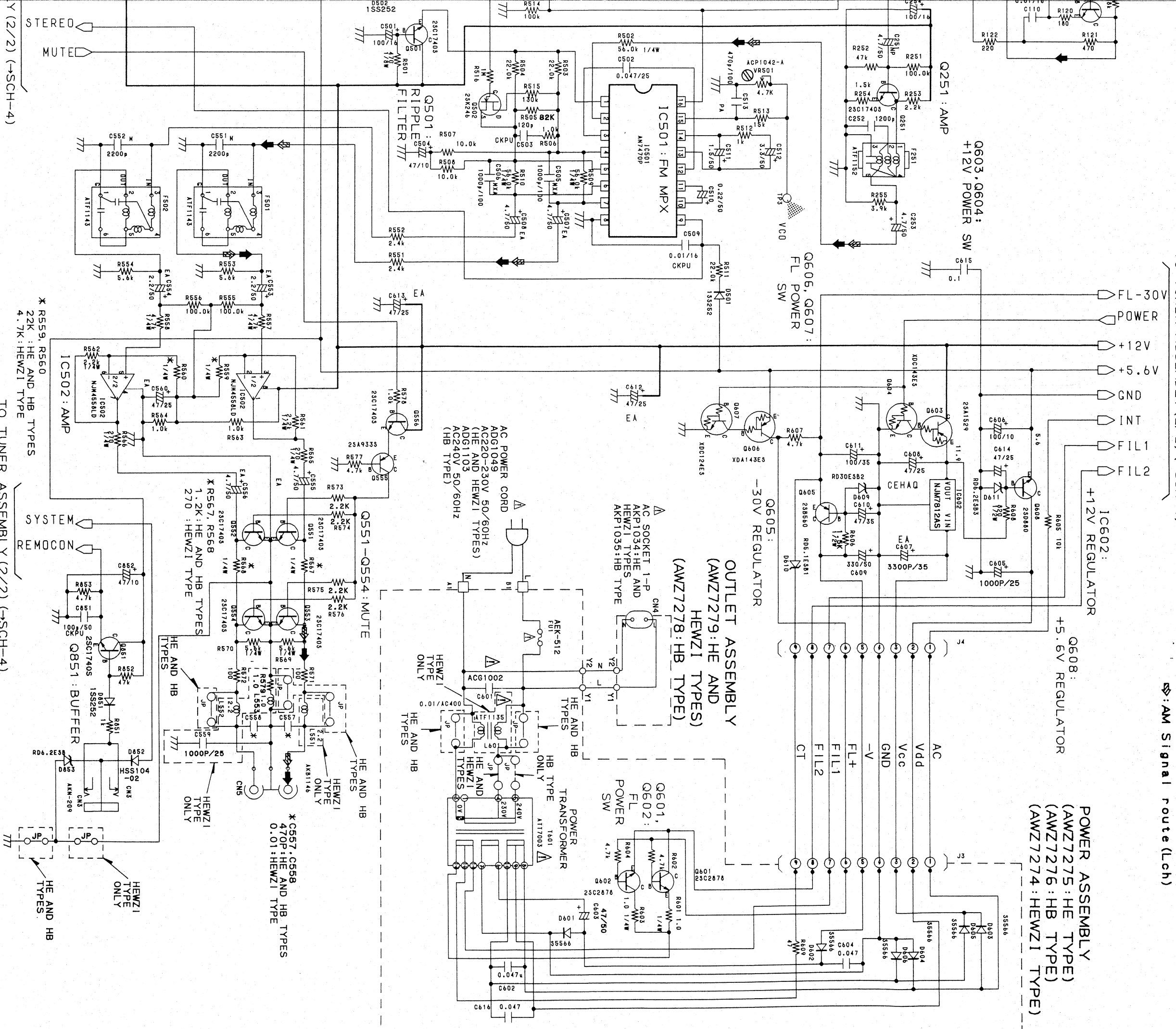
SCH-3

TUNER ASSY (1/2),
POWER ASSY,
OUTLET ASSY

TO TUNER ASSEMBLY (2/2) (→SCH-4)

◆: FM Signal route (Lch)
 ⊠: AM Signal route (Lch)

SCH-3



TO TUNER ASSEMBLY (2/2) (→SCH-4)

HE AND HB TYPES

HEWZI TYPE ONLY

TUNER ASSY (1/2),
 POWER ASSY,
 OUTLET ASSY

SCH-3

A B C D E F

5 6 7 8 9

Line Voltage Selection

Line Voltage can be changed by the following modification:

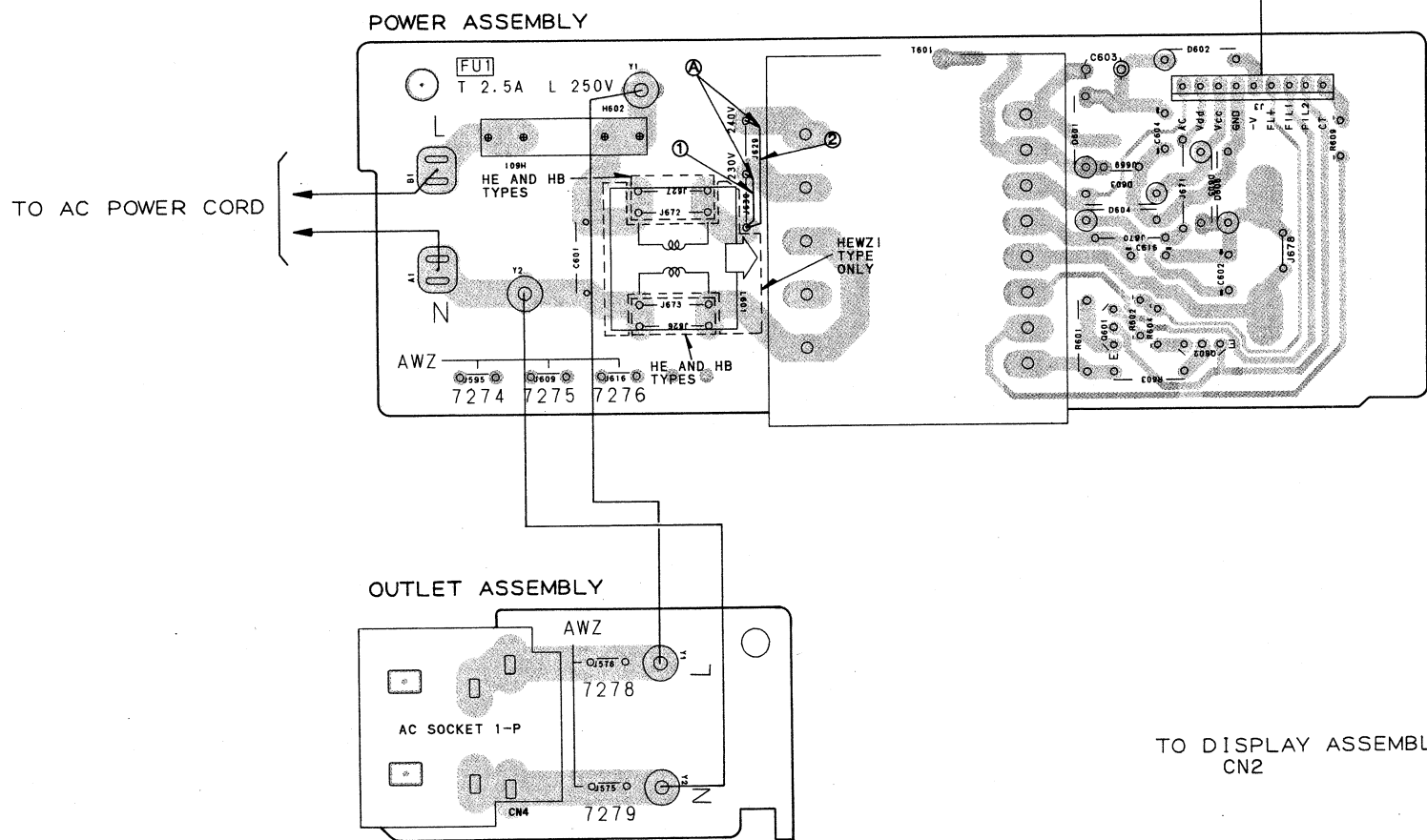
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the jumper-lines (A) follows.

Voltage	jumper—line (A) position
220V—230V	①
240V	②

NOTE: When replacing a PCB which has the primary winding circuit of Power-transformer, be sure to compare its circuit with the diagram in Service Manual. Jumper-lines on the PCB may have to be removed. Forgetting this check-up will cause a serious damage.

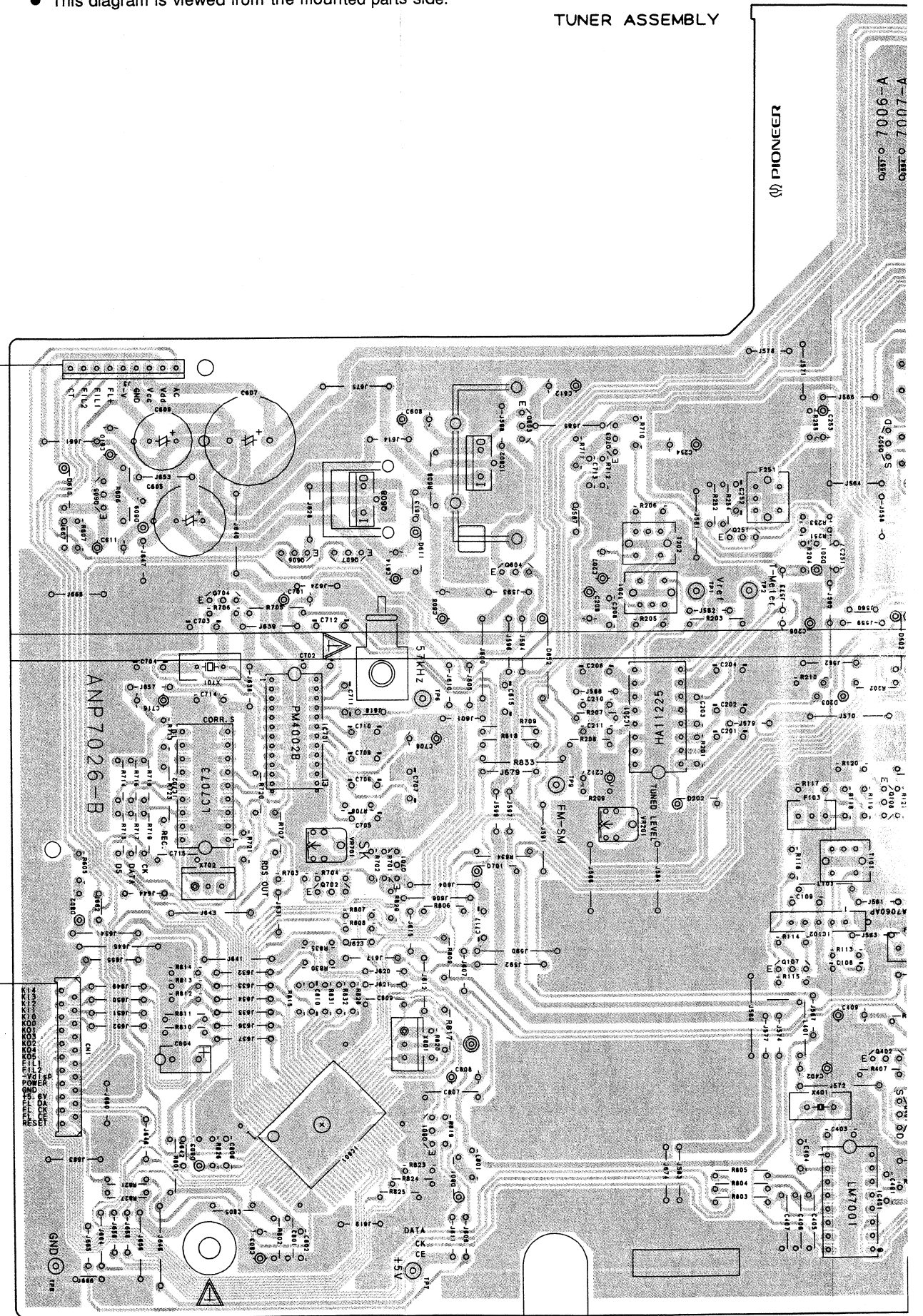
4. Stick a line voltage label on the rear panel.

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



• This diagram is viewed from the mounted parts side.

TUNER ASSEMBLY



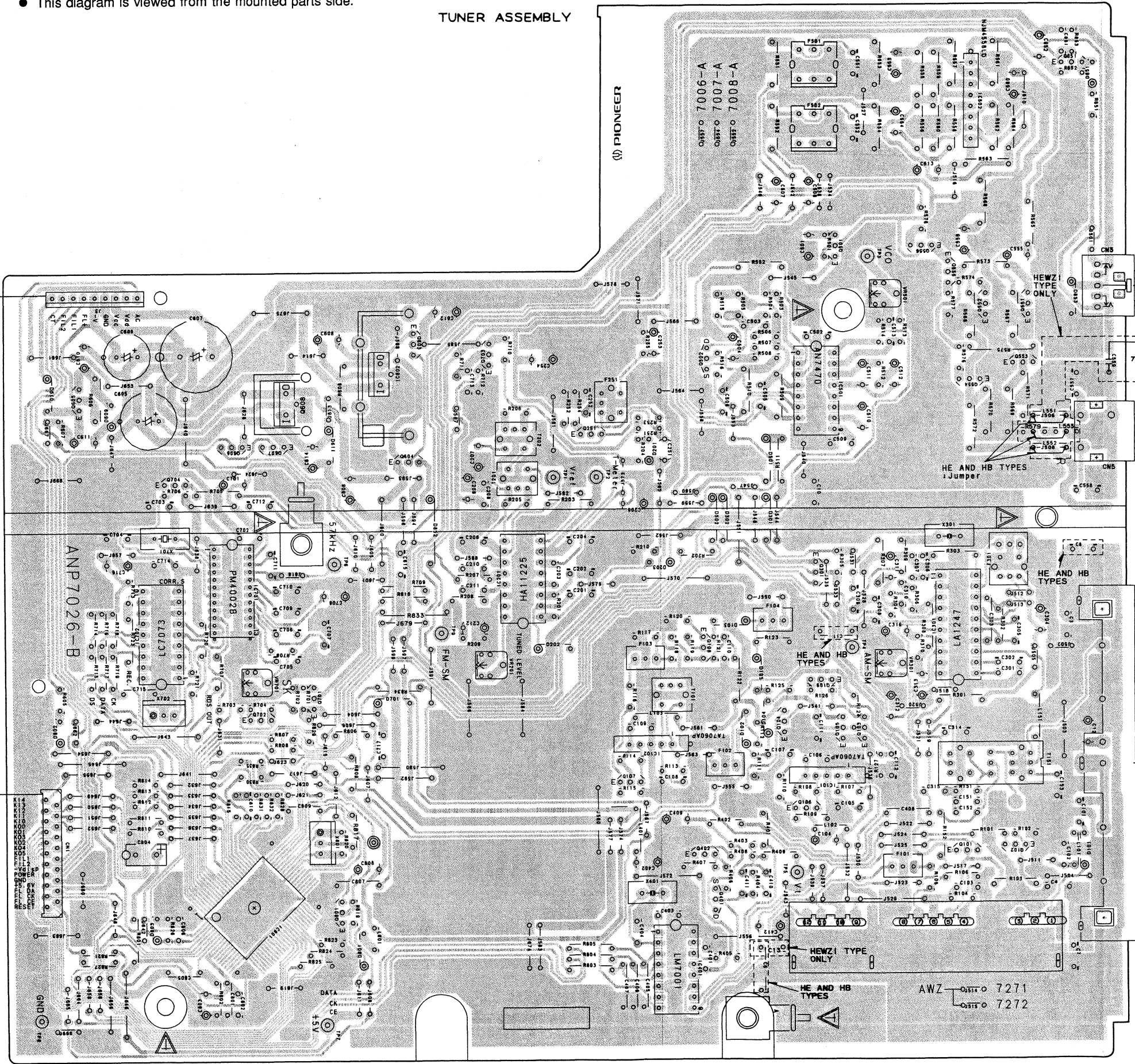
(P) PIONEER

Q1870-7006-A
Q1870-7007-A

● This diagram is viewed from the mounted parts side.

TUNER ASSEMBLY

PCB-2



- Q851
- IC502
- Q501
- Q556
- Q555
- VR501
- Q552
- Q551
- Q603
- Q703
- Q502
- Q553
- IC602
- Q554
- Q605
- IC501
- Q608
- Q251
- Q606
- Q604
- Q607
- Q704
- IC701
- IC201
- Q301
- IC301
- IC702
- Q108
- VR301
- VR201
- VR701
- Q109
- Q701
- Q702
- Q104
- Q105
- Q103
- IC102
- Q107
- IC101
- Q106
- Q101
- Q102
- Q402
- IC801
- Q401
- Q801
- IC401

A

B

C

D

4

5

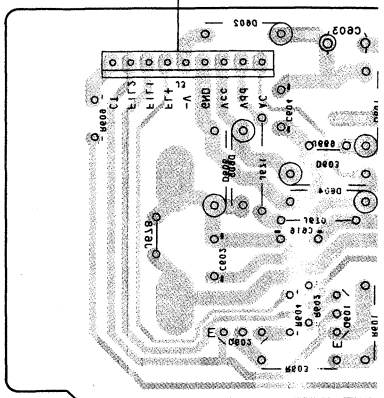
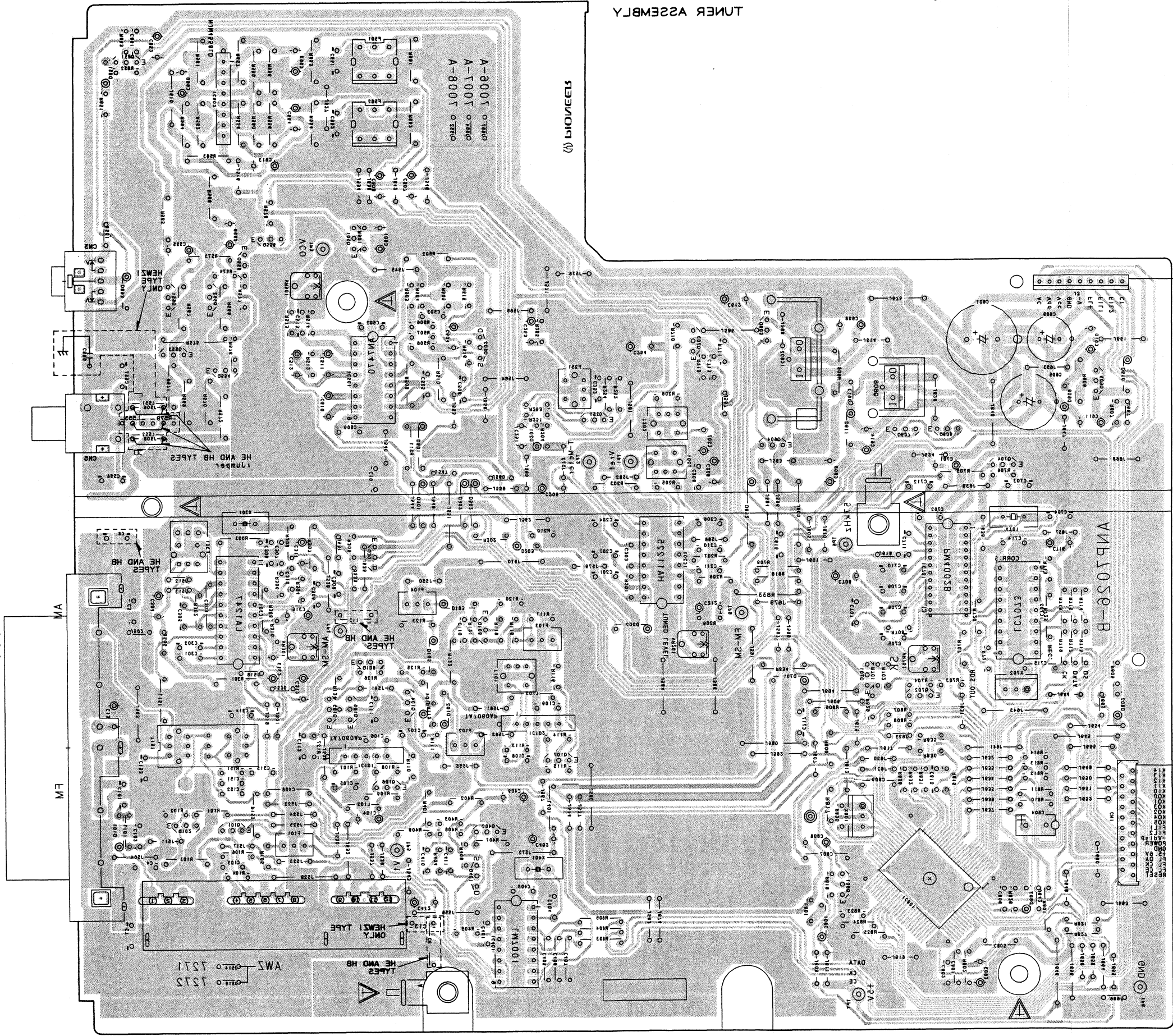
6

7

8

9

● This diagram is viewed from the foil side.



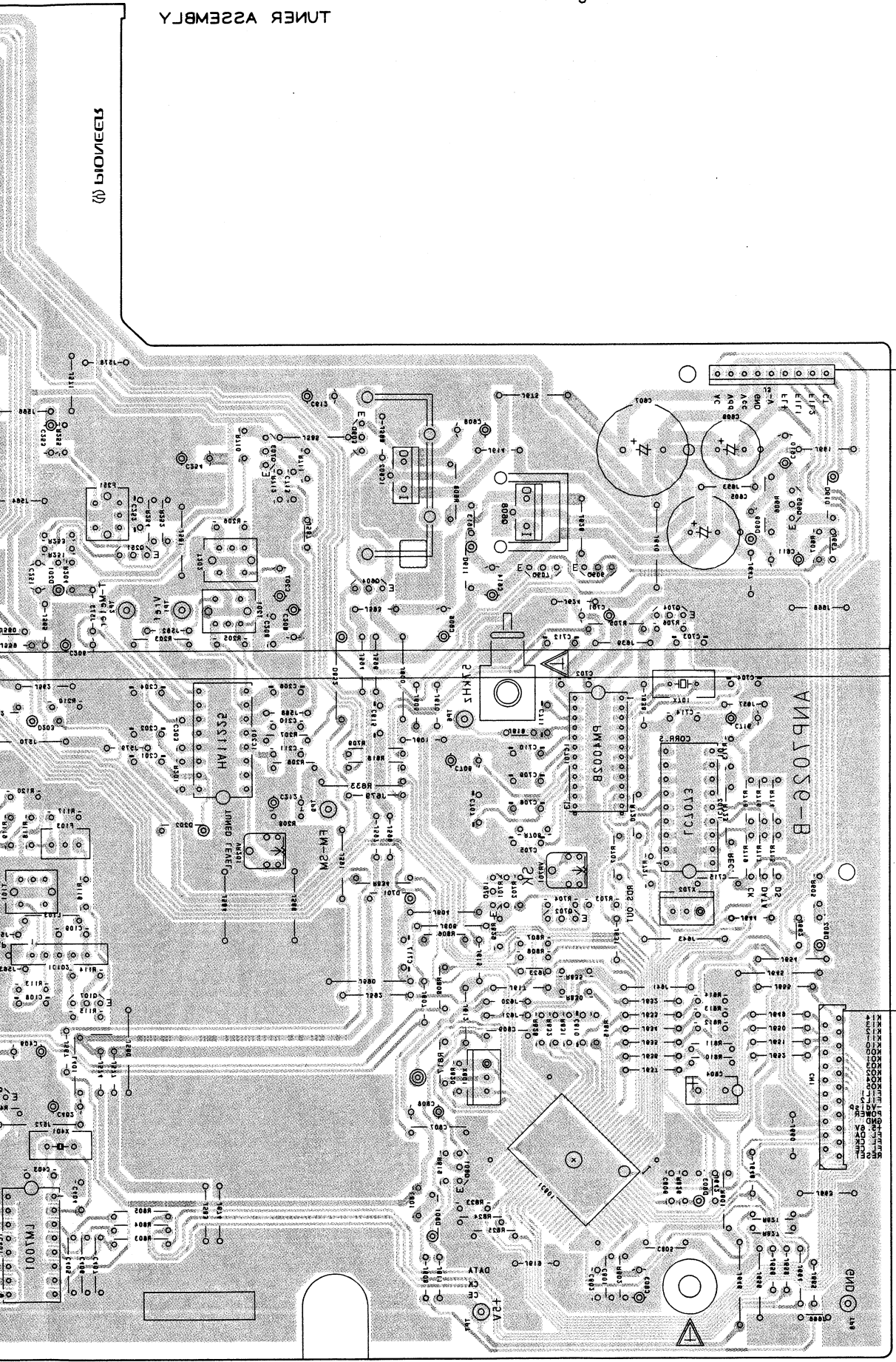
TO DISPLAY ASSEMBLY

Q801
Q802

IC401 Q801 IC801 Q401 Q405 Q101 Q105 Q106 Q108 Q109 Q110 Q112 Q113 Q114 Q115 Q116 Q117 Q118 Q119 Q120 Q121 Q122 Q123 Q124 Q125 Q126 Q127 Q128 Q129 Q130 Q131 Q132 Q133 Q134 Q135 Q136 Q137 Q138 Q139 Q140 Q141 Q142 Q143 Q144 Q145 Q146 Q147 Q148 Q149 Q150 Q151 Q152 Q153 Q154 Q155 Q156 Q157 Q158 Q159 Q160 Q161 Q162 Q163 Q164 Q165 Q166 Q167 Q168 Q169 Q170 Q171 Q172 Q173 Q174 Q175 Q176 Q177 Q178 Q179 Q180 Q181 Q182 Q183 Q184 Q185 Q186 Q187 Q188 Q189 Q190 Q191 Q192 Q193 Q194 Q195 Q196 Q197 Q198 Q199 Q200 Q201 Q202 Q203 Q204 Q205 Q206 Q207 Q208 Q209 Q210 Q211 Q212 Q213 Q214 Q215 Q216 Q217 Q218 Q219 Q220 Q221 Q222 Q223 Q224 Q225 Q226 Q227 Q228 Q229 Q230 Q231 Q232 Q233 Q234 Q235 Q236 Q237 Q238 Q239 Q240 Q241 Q242 Q243 Q244 Q245 Q246 Q247 Q248 Q249 Q250 Q251 Q252 Q253 Q254 Q255 Q256 Q257 Q258 Q259 Q260 Q261 Q262 Q263 Q264 Q265 Q266 Q267 Q268 Q269 Q270 Q271 Q272 Q273 Q274 Q275 Q276 Q277 Q278 Q279 Q280 Q281 Q282 Q283 Q284 Q285 Q286 Q287 Q288 Q289 Q290 Q291 Q292 Q293 Q294 Q295 Q296 Q297 Q298 Q299 Q300 Q301 Q302 Q303 Q304 Q305 Q306 Q307 Q308 Q309 Q310 Q311 Q312 Q313 Q314 Q315 Q316 Q317 Q318 Q319 Q320 Q321 Q322 Q323 Q324 Q325 Q326 Q327 Q328 Q329 Q330 Q331 Q332 Q333 Q334 Q335 Q336 Q337 Q338 Q339 Q340 Q341 Q342 Q343 Q344 Q345 Q346 Q347 Q348 Q349 Q350 Q351 Q352 Q353 Q354 Q355 Q356 Q357 Q358 Q359 Q360 Q361 Q362 Q363 Q364 Q365 Q366 Q367 Q368 Q369 Q370 Q371 Q372 Q373 Q374 Q375 Q376 Q377 Q378 Q379 Q380 Q381 Q382 Q383 Q384 Q385 Q386 Q387 Q388 Q389 Q390 Q391 Q392 Q393 Q394 Q395 Q396 Q397 Q398 Q399 Q400

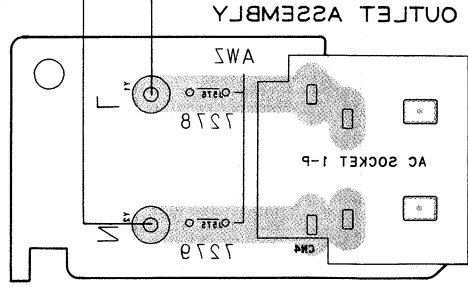
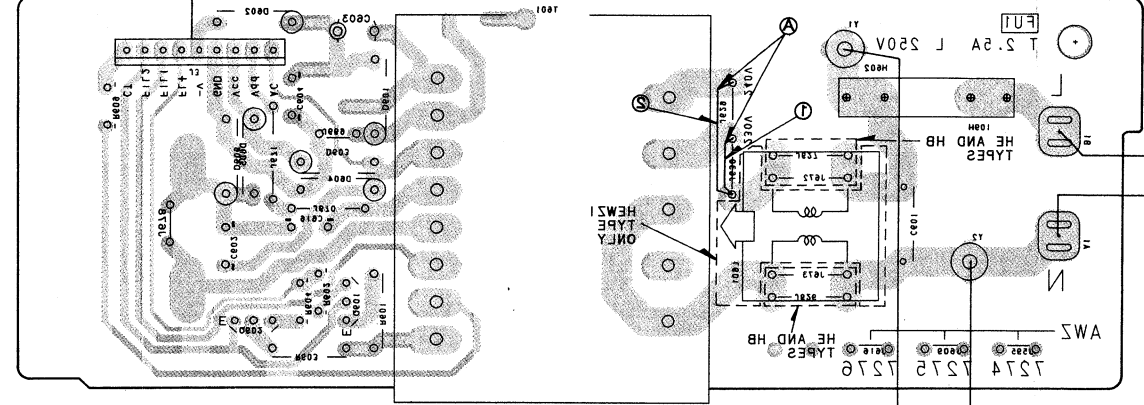
PCB-3

F-CARDS



0801
0805

TO DISPLAY ASSEMBLY



TO AC POWER CORD

● This diagram is viewed from the foil side.

TUNER ASSEMBLY

BIIONEERS

A

B

C

D

0

0

4

3

5

1

4

3

5

1

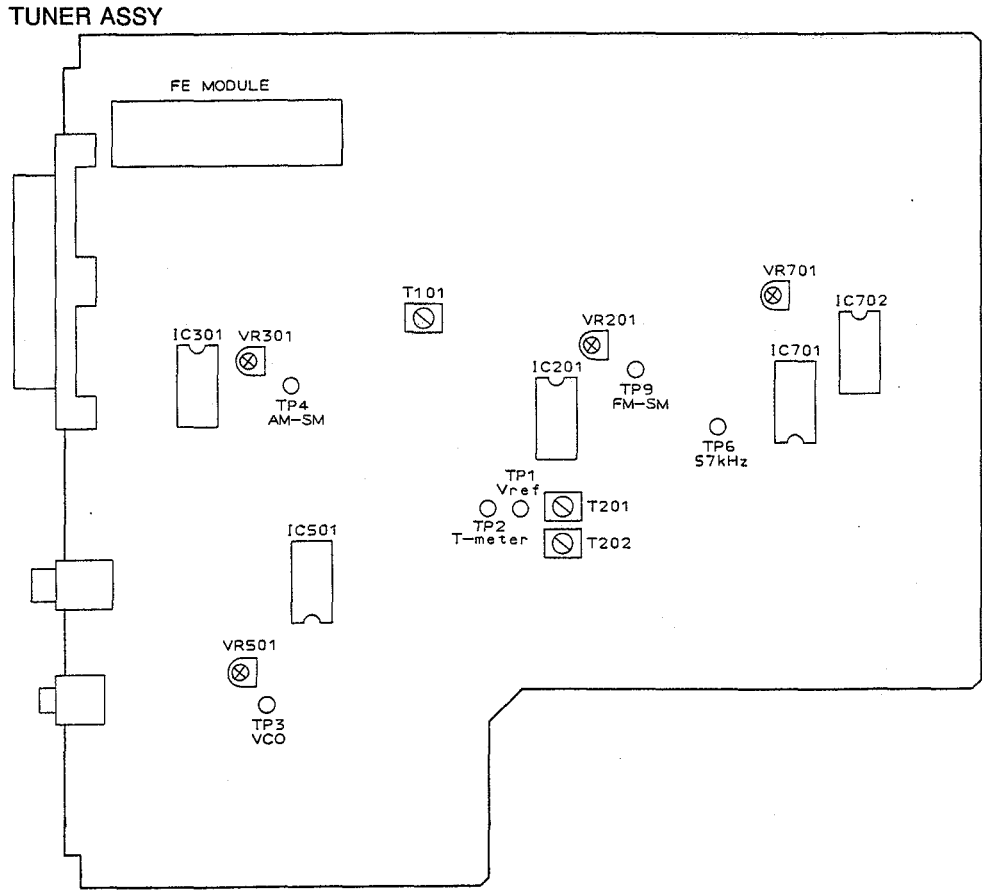


Fig. 1 Adjustment Points

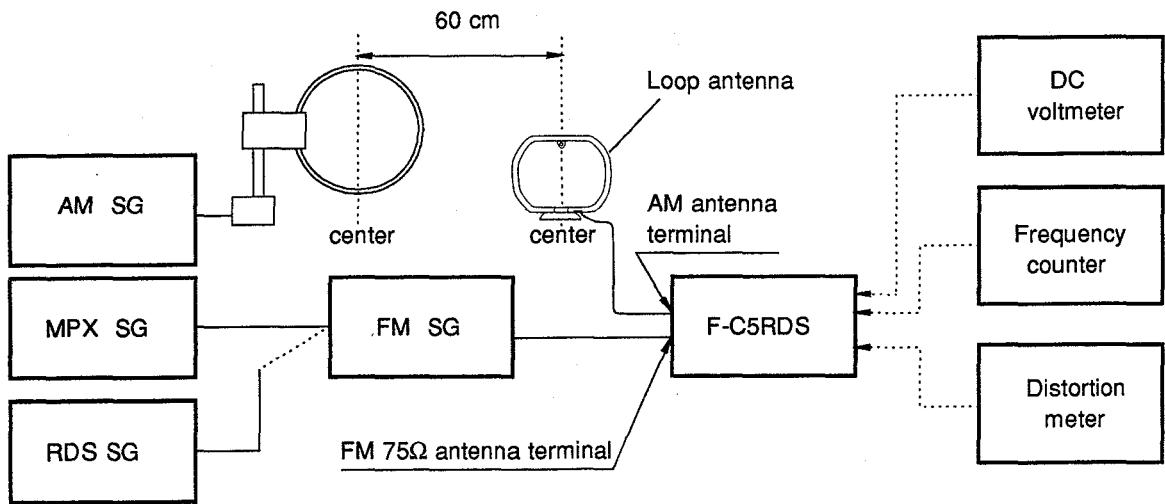


Fig. 2 Connection Diagram

7. FOR HB AND HEWZI TYPES

NOTES:

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

F-C5RDS/HB, HEWZI and F-C5RDS/HE have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		F-C5RDS/HE	F-C5RDS/HB	F-C5RDS/HEWZI	
Δ	TUNER assembly	AWE7007	AWE7008	AWE7006	
	TUNER assembly	AWZ7272	AWZ7272	AWZ7271	
	POWER assembly	AWZ7275	AWZ7276	AWZ7274	
	OUTLET assembly	AWZ7279	AWZ7278	AWZ7279	
	AC power cord	ADG1049	ADG1103	ADG1049	
	Rear panel	ANC7095	ANC7096	ANC7094	
	Ferrite core	.....	.....	ATX7001	*
	Screw	.....	.....	ABA1047	*
	Operating instructions (English/German/French/Italian/ Swedish/Dutch/Spanish/Portuguese)	ARE7015	.....	.....
	Operating instructions (English)	.....	ARB7014	.....
	Operating instructions (German/Italian)	.....	.....	ARC7022	
	FM antenna	ADH1005	ADH1005	ADH1002	
	Plate (GND)	.....	.....	ANK1120	*

* : Refer to page4.

TUNER ASSEMBLY

AWZ7271 and AWZ7272 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ7272	AWZ7271	
	R559,R560	RDR1/4PM223J	RDR1/4PM472J	
	R567,R568	RDR1/4PM122J	RDR1/4PM271J	
	R579	.....	RD1/8PM010J	
	C6	CKPUYB101K50	.....
	C7	CKDYX223M25	CKDYX103M25	
	C8	CKDYX223M25	.....
	C10	CKPUYB102K50	CKDYB102K50	
	C11	CKPUYY103M16	.....
	C12	CKDYB102K50	CKDYB272K50	
	C13	.....	CKPUYB101K50	
	C557,C558	CKDYB471K50	CKDYB103K50	
	C559	.....	CKDYB102K50	
	L551,L552	.....	LAU2R2K	
	L553	.....	LAU010K	
Antenna terminal 4-P	AKA1010	.....	
Antenna terminal 2-P	.....	AKA1012		

POWER ASSEMBLY

AWZ7276, AWZ7274 and AWZ7275 have the same construction except for the following:

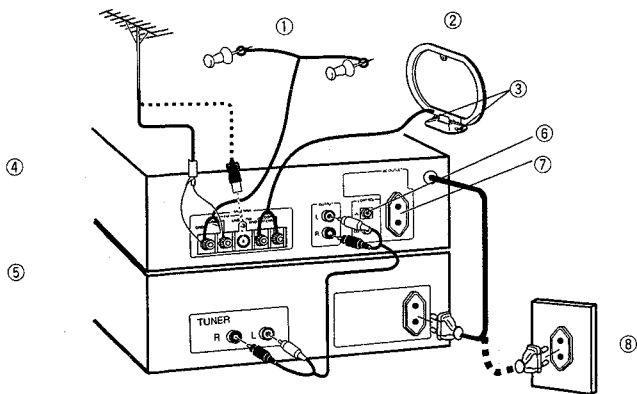
Mark	Symbol & Description	Part No.			Remarks
		AWZ7275	AWZ7276	AWZ7274	
△	L601	.....	.....	ATF1135	

OUTLET ASSEMBLY

AWZ7278 and AWZ7279 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ7279	AWZ7278	
△	AC socket 1-P	AKP1034	AKP1035	

8. CONNECTONS



① **FM T-type antenna (accessory)**

- Use thumb tacks or push pins to fasten antenna wires to a wall.
- Fasten the antenna wires on a wall, not allowing the wires to droop or bunch up.

② **AM loop antenna (accessory)**

③ **Use these holes if necessary to mount antenna on a post or wall.**

④ **F-C5RDS**

⑤ **Stereo amplifier**

⑥ **Control jack**

⑦ **AC outlet**

1. Connecting the accessory FM T-type antenna and AM loop antenna.



Twist the vinyl covering on the end of the wire to remove the covering.



Unscrew the connector and twist the antenna wire around the shaft.



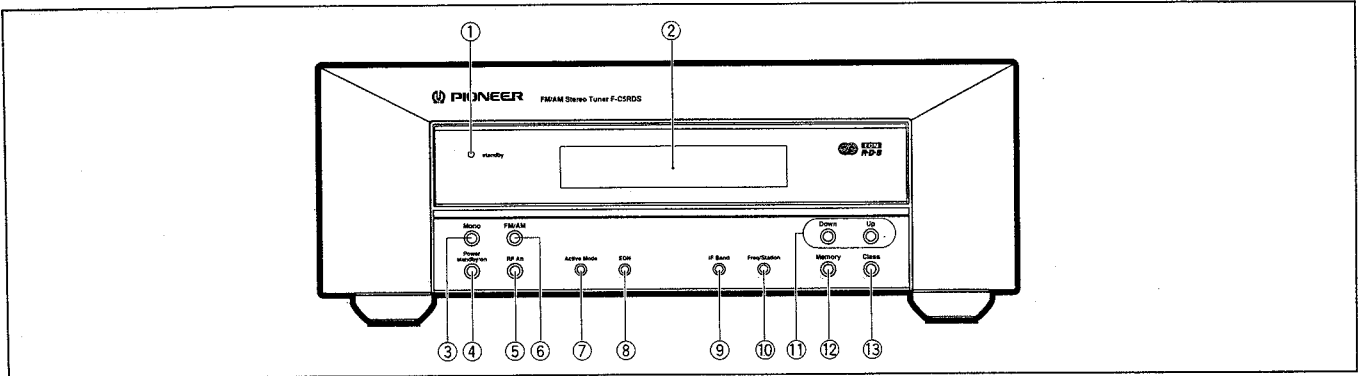
Tighten securely.

- This antenna provides a simple means of receiving FM broadcasts. For better reception, however, you may wish to use a special outdoor FM antenna.
- Do not mount the AM loop antenna on the metal case of this or other components, or near a CD player, personal computer, or television.

2. Use the accessory audio cables to connect the color-coded connectors.

(connect Red to the Right channel and White to the Left channel).

9. PANEL FACILITIES



① **Standby indicator**

Goes out when power is turned on; lights when power is set to standby.

② **Display section**

③ **Mono button**

④ **Power standby/on switch**

This is the switch for electric power.

on: When set to the on position, power is supplied and the unit becomes operational.

standby: When set to the standby position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness. When the Standby indicator lights, the unit is in STANDBY.

⑤ **RF Att button**

Press this RF attenuator button if the excessive strength of FM signals results in distortion. The RF ATT indicator will light in the display section.

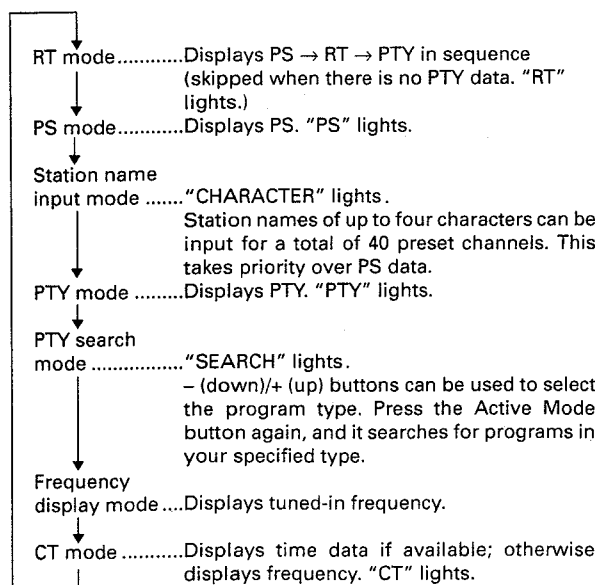
● This function does not operate during AM broadcasts.

⑥ **FM/AM button**

⑦ **Active Mode button**

Each time you press this button, the mode changes as follows:

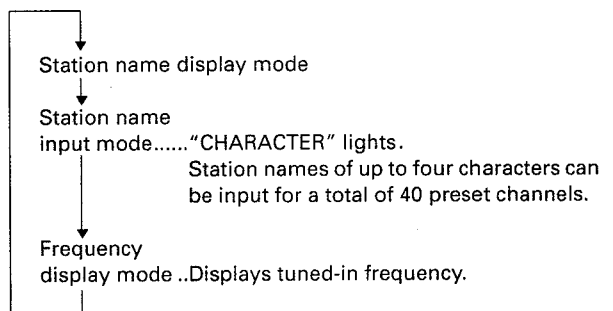
FM:



NOTE:

The station name input mode and PTY search mode are skipped when the EON function is used for interrupt waiting.

AM:



⑧ **EON button**

If receiving a station broadcasting EON information, the radio can automatically keep track of broadcast information from other network stations. If you specify traffic information (TA) or program type (PTY) beforehand, the frequency will change automatically when the specified broadcast begins. The display's EON indicator lights when receiving a station broadcasting EON information.

⑨ **IF Band button**

Each time this button is pressed, the bandwidth of the IF circuit switches between "normal" and "narrow" for the FM band. The NARROW indicator lights up. When not lit, normal filter bandwidth is selected. Set to NARROW in case of interference from other stations. This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

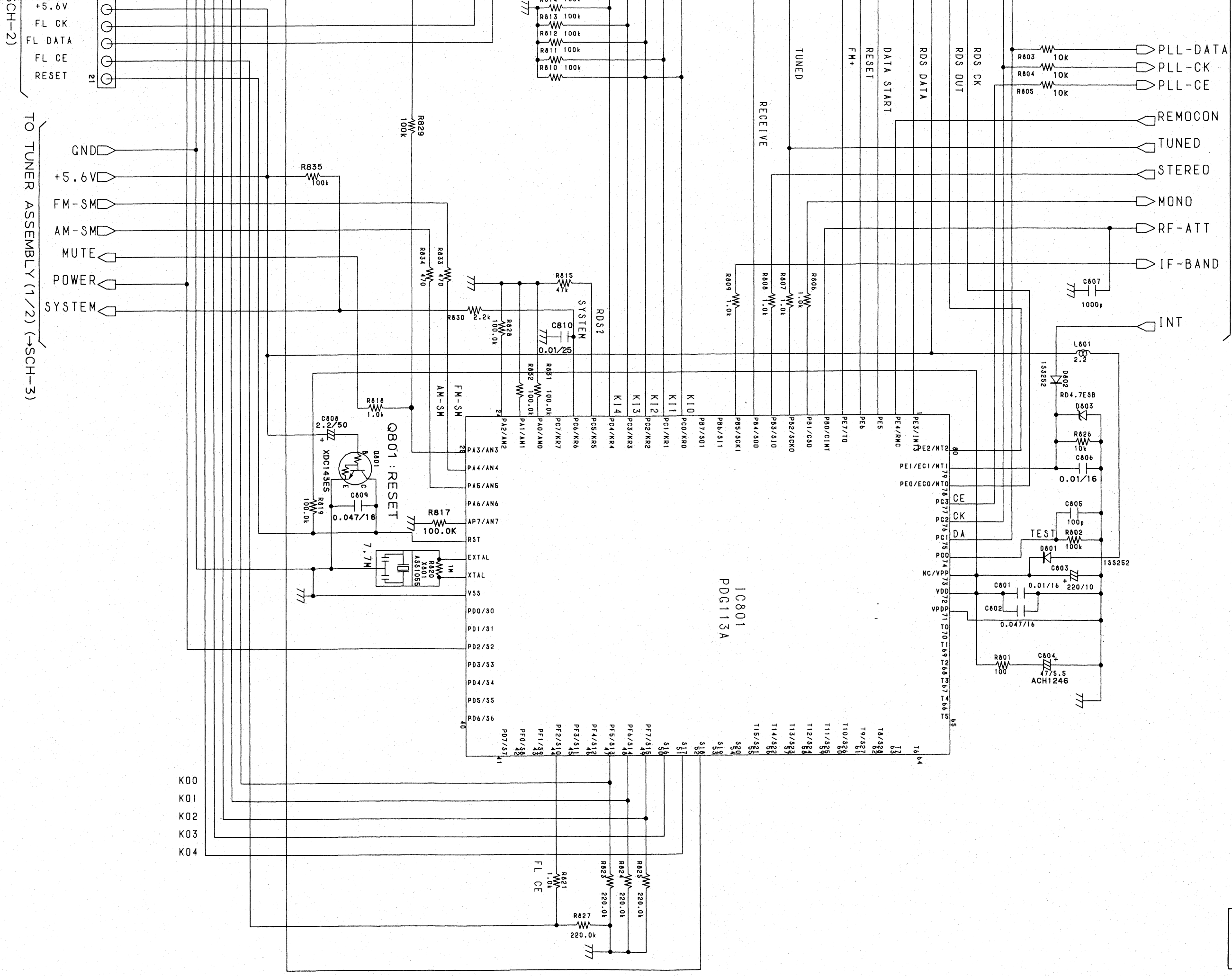
⑩ **Freq/Station button**

⑪ **Tuning Up+ Down- button**
Use to tune broadcast stations.

⑫ **Memory button**

⑬ **Class button**

Use to switch between preset memory classes 1 to 4. In each class, 10 stations can be memorized using the "+" / "-" buttons, enabling a total of 40 stations to be memorized.



5. PCB PARTS LIST

NOTES:

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

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

560 Ω	\rightarrow	56 \times 10 ⁰	\rightarrow	561	.....	RD1/8PM	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 1	<input type="checkbox"/> J
47K Ω	\rightarrow	47 \times 10 ³	\rightarrow	473	.....	RD1/4PS	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 3	<input type="checkbox"/> J
0.5 Ω	\rightarrow	0R5	.....	RN2H	<input type="checkbox"/> 0	<input type="checkbox"/> R	<input type="checkbox"/> 5	<input type="checkbox"/> K		
1 Ω	\rightarrow	010	.....	RS1P	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> K		

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

5.62K Ω	\rightarrow	562 \times 10 ¹	\rightarrow	5621	RN1/4PC	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> F
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LIST OF ASSEMBLIES

Mark No.	Description	Parts No.	Mark	Mark No.	Description	Parts No.	Mark
	TUNER ASSEMBLY	AWE7007		D609	RD30ESB2		
	TUNER ASSEMBLY	AWZ7272		D803	RD4,7ESB		
	POWER ASSEMBLY	AWZ7275		D610	RD5,1ESB1		
	OUTLET ASSEMBLY	AWZ7279		D853	RD6,2ESB		
	DISPLAY ASSEMBLY	AWP7001		D611	RD6,2ESB3		

TUNER ASSEMBLY

IC501	AN7470P
IC201	HA11225
IC301	LA1247
IC702	LC7073
IC401	LM7001J
IC502	NIM4558LD
IC602	NJM7812AS
IC801	PDG113A
IC701	PM4002B
IC101,IC102	TA7060AP

SEMICONDUCTORS

Q101,Q603	2SA1529
Q555,Q701	2SA933S
Q605	2SB560
Q102,Q109,Q251,Q501	2SC1740S
Q551-Q554,Q556,Q702,Q704	2SC1740S

Q851	2SC1740S
Q402	2SC1740SLN
Q106-Q108,Q703	2SC2668
Q608	2SD880
Q401,Q502	2SK246

Q301	XDA124ES
Q103,Q105,Q606	XDA143ES
Q104,Q607	XDC124ES
Q604,Q801	XDC143ES
D201-D203,D301,D302	1SS252
D501,D502,D701,D801,D802	1SS252
D851	1SS252
D102-D105	1SS85
D101	1SV156
D852	HSS104-02

COILS AND FILTERS

T101	ATE-063
T201	ATE1008
T202	ATE1009
F103,F104	ATF-107
F101	ATF-119
F102	ATF1024
F301	ATF1042
F501,F502	ATF1143
F251	ATF1152
L101-L103,L401,L801	LAU2R2K
L151	LAU470K

CAPACITORS

C703,C704	ACH1246
C151,C403,C404	CCDCGH220J50
C315,C405-C407	CCPUCHI50J50
C412	CCPUSLA70J50
C251	CEANL010M50
C205	CEANPAR7M50
C312	CEAS010M50
C606,C701	CEAS100M50
C501	CEAS101M10
C611	CEAS101M16
C605	CEAS102M25
C511	CEAS1R5M50
C803	CEAS221M10
C708,C808	CEAS2R2M50
C104,C209,C304,C311,C402	CEAS330M16
C409	CEAS330M16
C609	CEAS331M50
C512	CEAS3R3M50
C504,C716,C852	CEAS470M10

Mark No.	Description	Parts No.	Mark	Mark
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C207	CEAS470M16			
C608,C614	CEAS470M25			
C610	CEAS470M35			
C212,C253,C313,C316	CEAS4R7M50			
C510	CEASR2M50			

C254	CEEA101M16			
C607	CEEA332M35			
C553,C554	CEEA2R2M50			
C560,C612,C613	CEEA470M25			
C507,C508,C555,C556	CEEA4R7M50			

C410	CFTXA224J50			
C12,C308	CKDYB102K50			
C252	CKDYB122K50			
C709,C710	CKDYB332K50			
C557,C558	CKDYB471K50			

C711,C712	CKDYB472K50			
C101,C102,C107,C305,C411	CKDYX103M25			
C810	CKDYX103M25			
C152,C615	CKDYX104M25			
C111,C112,C153,C201,C202	CKDYX223M25			

C204,C206,C306,C314,C7	CKDYX223M25			
C705,C707,C717,C8	CKDYX223M25			
C105,C108,C210,C302,C309,C502	CKDYX473M25			
C706	CKDYX473M25			
C6,C805,C851	CKPUBY01K50			

C10,C3,C301,C307,C4	CKPUBY102K50			
C715,C807	CKPUBY102K50			
C503	CKPUBY121K50			
C203	CKPUBY221K50			
C802,C809	CKPUYF473Z16			

C103,C106,C109,C11,C110	CKPUYY103M16			
C208,C211,C303,C310,C401	CKPUYY103M16			
C408,C509,C702,C713,C714	CKPUYY103M16			
C801,C806	CKPUYY103M16			
C551,C552	QMAA222J50			

C505,C506	QOMXA1021I00			
C513	QCPA471J1100			

RD1/2PM471J				
RD1/2PM821J				
RD1/4PM311J				
RD1/4PM331J				
RD1/4PM101J				

RDRI/4PM104J				
RDRI/4PM122J				
RDRI/4PM222J				
RDRI/4PM223J				
RDRI/4PM242J				

RDRI/4PM271J				
RDRI/4PM472J				
RDRI/4PM562J				
RDRI/4PM563J				
ACPI042				

ACPI043				
ACPI044				
ACPI045				
RD1/8PM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SWITCH

CAPA

RESIS

OTHE

RESIS

OTHE

OTHERS

CNS	SCREW	ABA-298
	ANTENNA TERMINAL 4-P	AKA1010
	PIN JACK(2P)	AKB1146

Q. Mark	Mark No.	Description	Parts No.	Mark
M16	CN3	JACK(2P)	AKN-209	
M25	CN1	21P SOCKET	AKP1084	
M35	X702	CERAMIC RESONATOR	ASSI025	
M50	X401	CRYSTAL RESONATOR	ASSI042	
M50	X801	CERAMIC RESONATOR	ASSI055	
M16	X701	CRYSTAL RESONATOR	ASSI061	
M35	X301	CERAMIC RESONATOR	ATPI027	
M50		AM RF TUNING BLOCK	AXX1043	
M25		4 SERIAL F.E. MODULE ASSY	AXQ1004	

Note: 4 serial F.E. module assy has no service part.

POWER ASSEMBLY

02K50	Q601,Q602	2SC2878
22K50	D601-D606	S5566

TRANSFORMERS

03M25	T601	ATT7003
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CAPACITORS
(0.01/AC400V)

23M25	C601	ACG1002
23M25	C603	CEA5470N450
73M25	C604	CKDYF473Z250
73M25	C602,C616	CQMA473J50

RESISTORS

101K50	R601,R603	RD1/4PM0101
	Other Resistors	RD1/8PM□□□J

OUTLET ASSEMBLY

OTHERS

103M16	CN4	AC SOCKET 1-P	AKP1034
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DISPLAY ASSEMBLY

SEMICONDUCTORS

102J100	IC901	LC75712E
103M16	Q902	2SC1740S
103M16	Q901	XDC143ES
22J50	D901	1SS252
	D908	ABEL1148

SWITCHES AND RELAYS

147J1	S901,S902,S905,S906,S911	ASSI034
182J1	S916,S917,S921,S922	ASSI034
115J1	S924-S926	ASSI034
433J1		ASSI034
M101J		ASSI034

CAPACITORS

M104J	C901	CCPUSL300J50
M122J	C904-C906	CCPUSL470J50
M222J	C902	CEJA101M10
M223J	C909	CEJA220M35
M242J	C907,C908	CKDYX223M25
M271J	C910-C920	CKPUBYB101K50
M472J	C903,C921	CKPUY103M16
M562J		
M563J		

RESISTORS

Other Resistors RD1/8PM□□□J

OTHERS

V901	FL TUBE	AAV7008
	FL SPASER	AEB7006
CN1	21P SOCKET	AKP1086

6. ADJUSTMENTS

6.1 FM TUNER ADJUSTMENTS

- Connect as shown in Fig. 2.
- Set the function to FM.

Step	Adjustment name	FM SG (1 kHz ± 75 kHz dev.)			FL display, IF BAND etc.	Location	Adjustment
		Frequency (MHz)	Modulation	Level (dBμV)			
1	IF sensitivity-UP adjustment	98	MONO	Low input level	98	T101	Adjust so that the voltage between TP9 and GND becomes maximum.
2	T meter adjustment	98	MONO	60	98 MHz NARROW	T201	Adjust so that the voltage between TP1 and TP2 becomes 0±50 mV.
3	MONO distortion adjustment	98	MONO	60	98 MHz NARROW	T202	Adjust so that the distortion becomes minimum.
4	Repeat step 2 and 3 until optimum adjustment is obtained.						
5	VCO adjustment	108	OFF	60	108MHz NARROW	VR501	Adjust so that the output at TP3 becomes 76 kHz ±0.5 kHz.
6	STEREO distortion adjustment (NARROW)	89(*2)	L-ONLY	60	89 MHz NARROW	T101	Turn the core of T101 within a range of ±90° and adjust so that the distortion becomes minimum.
7	Muting level adjustment	98	MONO	15 ±5dB	98 MHz NORMAL	VR201	Adjust so that the muting is released at the input level shown on the left.
8	SK level adjustment	88	EXTERNAL *1 (RDS SG)	60	88 MHz NORMAL (ATT ON)	VR701	Adjust so that the voltage between TP6 and GND becomes maximum.

*1 : RDS SG (AUDIO, PILOT, RDS, BK and DK : OFF, SK : ON)

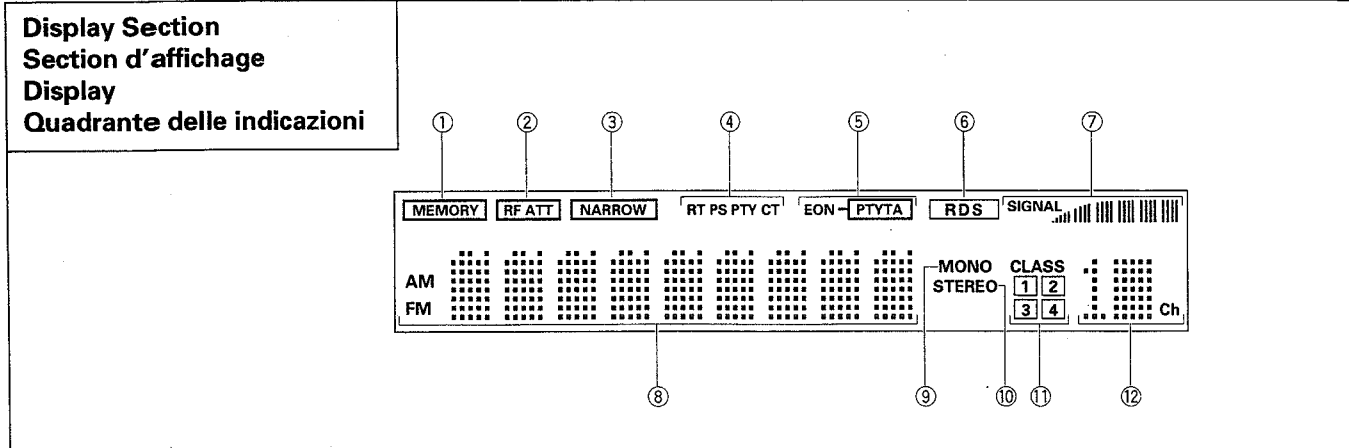
*2 : Stereo modulation : Main 1 kHz L+R, ±68.25 kHz.

Pilot 19 kHz, ±6.75 kHz.

6.2 AM TUNER ADJUSTMENT

- Connect as shown in Fig. 2.
- Set the function to AM.

Step	Adjustment name	AM SG(400kHz, 30% modulation)		FL Display	Location	Adjustment Specifications
		Frequency(kHz)	Level(dBμV/m)			
1	S meter adjustment	1008	100	1008 kHz	VR301	Adjust so that the voltage between TP4 and GND becomes 4.5V ±0.1 V.



- ① **MEMORY indicator**
- ② **RF ATT indicator**
Stays lit while RF Att button is on.
- ③ **NARROW indicator**
Stays lit while IF Band button is set to NARROW. When not lit, stays NORMAL.
- ④ **RT, PS, PTY, CT indicator**
One of these lights to indicate the selected display mode (selected by the Active Mode button). Time is displayed when the CT data is received. It switches to frequency mode display if not lit.
- ⑤ **EON - PTY TA indicator**
When a station broadcasting EON information is received, EON - lights. After specifying TA or PTY, interrupt waiting begins and the TA or PTY indicator lights. When specified TA or PTY is received, TA or PTY flashes.
- ⑥ **RDS indicator**
Lights when an RDS broadcast is received.
- ⑦ **SIGNAL indicator**
- ⑧ **Frequency, character, clock time indicator**
CT (Clock Time) data, band RDS data and frequency data are displayed.
- ⑨ **MONO indicator**
Stays lit while Mono button is set to MONO.
- ⑩ **STEREO indicator**
Lights up when a stereo broadcast is received (the indicator does not light when the Mono button is set to MONO).
- ⑪ **CLASS , , , indicator**
Shows the class selected by the Class button. The current CLASS is displayed.
- ⑫ **Station indicator**
When Freq/Station button is pressed, it will show the corresponding channel number.

10. SPECIFICATIONS

FM Tuner Section

Frequency range	87.5 MHz to 108 MHz
Usable Sensitivity (IHF)	12.7 dBf (1.2 μ V/75 Ω)
50 dB Quieting Sensitivity	Mono; 18 dBf (2.2 μ V/75 Ω)
	Stereo; 38.3 dBf (22.6 μ V/75 Ω)
Sensitivity (DIN)	Mono; 1.0 μ V/75 Ω
	Stereo; 35 μ V/75 Ω
Signal-to-Noise Ratio	Mono; 78 dB (at 85 dBf)
	Stereo; 74 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN)	Mono; 62 dB
	Stereo; 60 dB
Distortion	0.3 % (1 kHz)
Alternate Channel Selectivity	65 dB (300 kHz)
Stereo Separation	40 dB (1 kHz)
Frequency Response	30 Hz to 15 kHz \pm 1 dB
Image Response Ratio	80 dB
IF Response Ratio	90 dB
Antenna Input	75 Ω unbalanced
Output	650 mV (100 % MOD.)

MW (AM) Tuner Section

Frequency range	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna)	350 μ V/m
Selectivity	30 dB
Signal-to Noise Ratio	50 dB
Antenna	Loop Antenna
Output	150 mV (30 % MOD.)

Miscellaneous

Power Requirements	AC220—230 Volts \sim , 50/60 Hz
Power Consumption	16 W
Dimensions	260 (W) x 95.5 (H) x 336 (D) mm
Weight (without package)	2.4 kg

Furnished Parts

FM T-type Antenna	1
AM Loop Antenna	1
Audio connection cable with Pin Plugs	1
Operating Instructions	1
Control cable	1

NOTE:

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