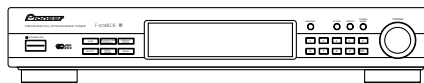


# Service Manual

**Pioneer**



ORDER NO.  
RRV2114

FM/AM DIGITAL-SYNTHESIZER TUNER

# F-208RDS

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

Type	Model	Power Requirement	Remarks
	F-208RDS		
HYXK/EW	O	AC220 - 230V	
HYXK/GR	O	AC220 - 230V	
HVXK	O	AC230V	

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4. PCB CONNECTION DIAGRAM .....	10	8. PANEL FACILITIES AND SPECIFICATIONS .....	17
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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**

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65



**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.

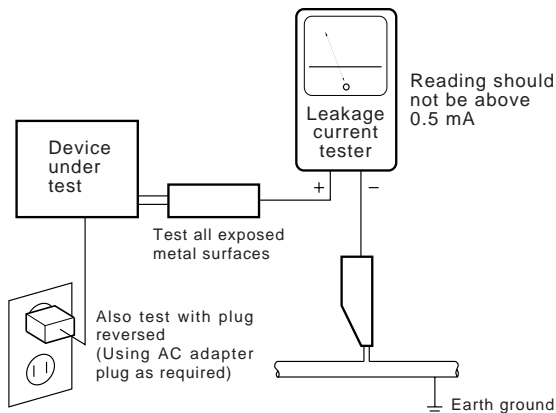
**(FOR USA MODEL ONLY)**

**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 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.




AC Leakage Test

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

**2. PRODUCT SAFETY NOTICE**

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

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

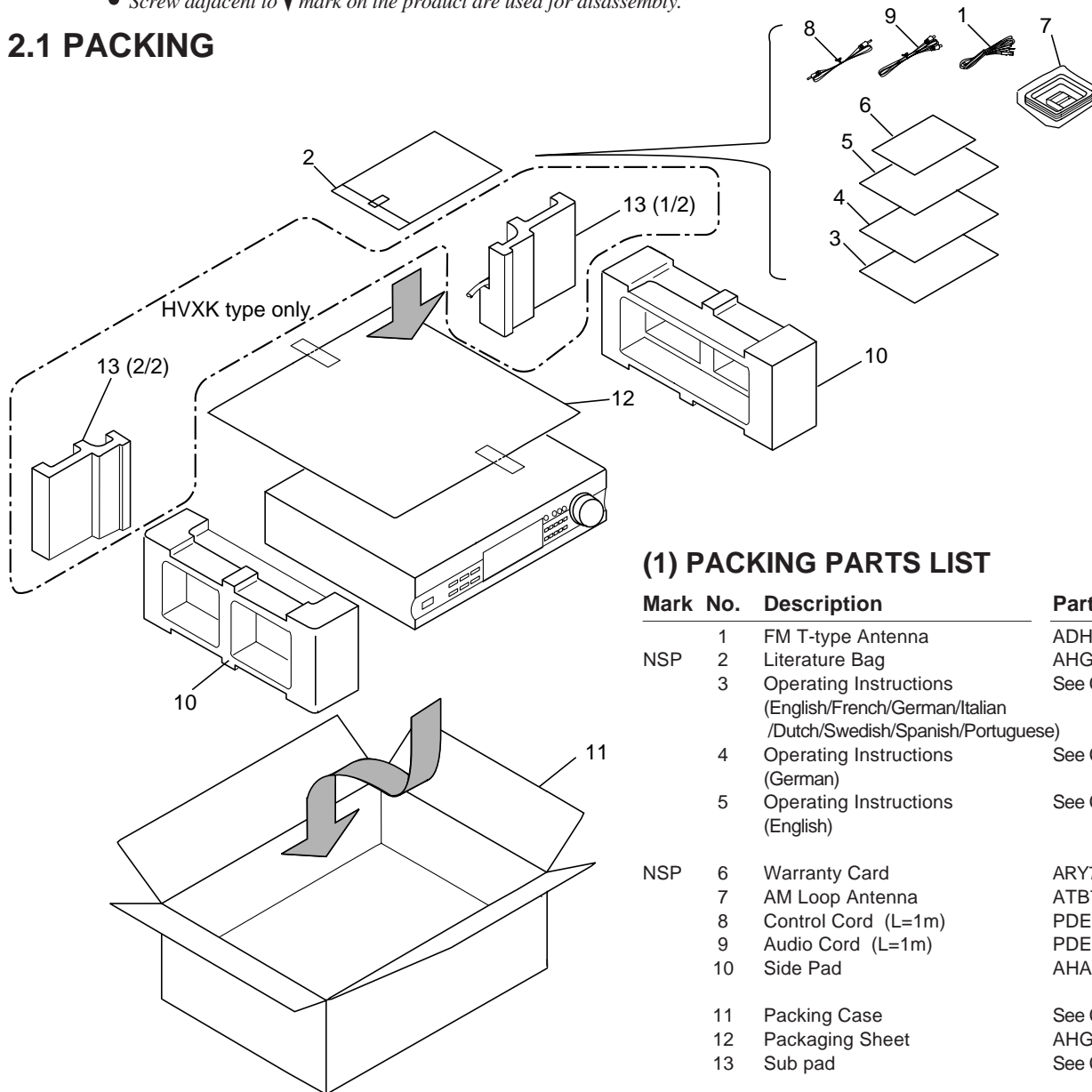
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

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 AND PARTS LIST

- NOTES :
- Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
  - The  $\triangle$  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.
  - Screw adjacent to  $\nabla$  mark on the product are used for disassembly.

### 2.1 PACKING



#### (1) PACKING PARTS LIST

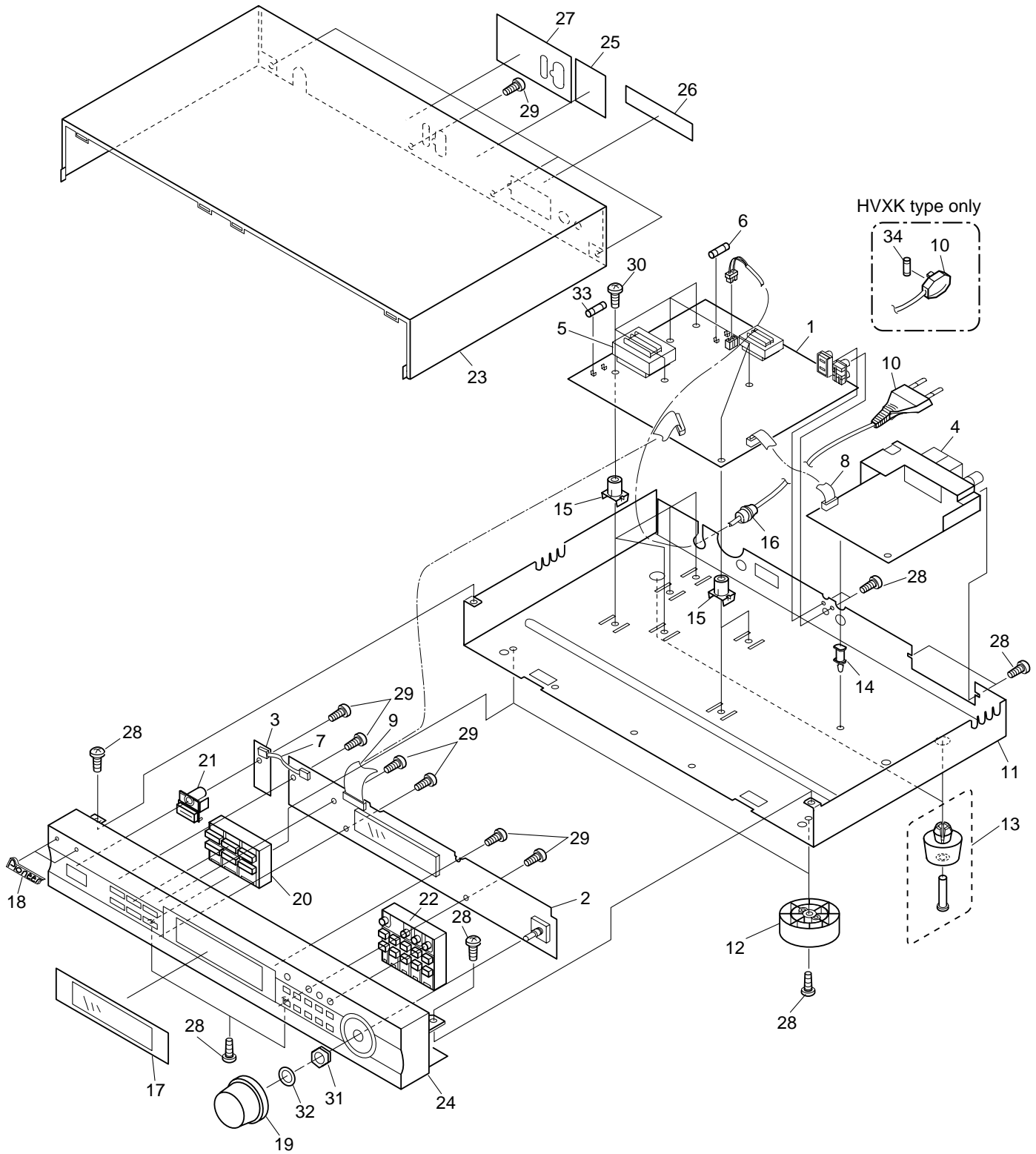
Mark	No.	Description	Part No.
	1	FM T-type Antenna	ADH7009
NSP	2	Literature Bag	AHG-117
	3	Operating Instructions (English/French/German/Italian /Dutch/Swedish/Spanish/Portuguese)	See Contrast table (2)
	4	Operating Instructions (German)	See Contrast table (2)
	5	Operating Instructions (English)	See Contrast table (2)
NSP	6	Warranty Card	ARY7022
	7	AM Loop Antenna	ATB7009
	8	Control Cord (L=1m)	PDE1095
	9	Audio Cord (L=1m)	PDE1290
	10	Side Pad	AHA7233
	11	Packing Case	See Contrast table (2)
	12	Packaging Sheet	AHG1107
	13	Sub pad	See Contrast table (2)

#### (2) CONTRAST TABLE

F208RDS/HYXK/EW, HYXK/GR and HVXK are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			HYXK/EW type	HYXK/GR type	HVXK type	
	3	Operating Instructions (English/French/German/Italian /Dutch/Swedish/Spanish/Portuguese)	ARE7208	Not used	Not used	
	4	Operating Instructions (German)	Not used	ARC7238	Not used	
	5	Operating Instructions (English)	Not used	Not used	ARB7182	
	11	Packing Case	AHD7660	AHD7660	AHD7739	
	13	Sub Pad	Not used	Not used	AHA7251	

2.2 EXTERIOR



**(1) EXTERIOR PARTS LIST**

Mark	No.	Description	Part No.
	1	MAIN ASSY	AWK7490
	2	DISPLAY ASSY	AWX7262
NSP	3	STANDBY ASSY	AWX7265
	4	FM/AM TUNER ASSY	AXX7053
△	5	Power Transformer (T102)	ATT7044
△	6	Fuse (T250mA/250V: FU101)	AEK1048
	7	3P F.F.C /30V (J1)	ADD7151
	8	13P F.F.C /30V (J2)	ADD7152
	9	20P F.F.C /30V (J3)	ADD7153
△	10	AC Power cord	See Contrast table (2)
NSP	11	Chassis	ANA7081
	12	Insulator	PNW2766
	13	Foot	REC1263
	14	PCB Spacer	AEC1372
NSP	15	PCB Mould	AMR1525
	16	Strain Relief	CM-22B
	17	FL Panel	AAK7611
	18	Name Plate	PAM1776
	19	Rotary Knob	AAA7004
	20	Hinge Button	AAD7502
	21	Hinge Button	AAD7503
	22	Hinge Button	AAD7523
	23	Bonnet	ANE7222
	24	Front Panel	AMB7559
NSP	25	Name Label	See Contrast table (2)
	26	Antenna Label	AAX7692
	27	Caution Label	AAX7695
	28	Screw	BBZ30P080FCC
	29	Screw	BPZ30P080FMC
	30	Screw	IBZ30P180FMC
	31	Nut	NK90FMC
	32	Washer	WA65F115M080
△	33	Fuse (T160mA/250V: FU102)	REK1014
△	34	Fuse (For AC Power Cord)	See Contrast table (2)

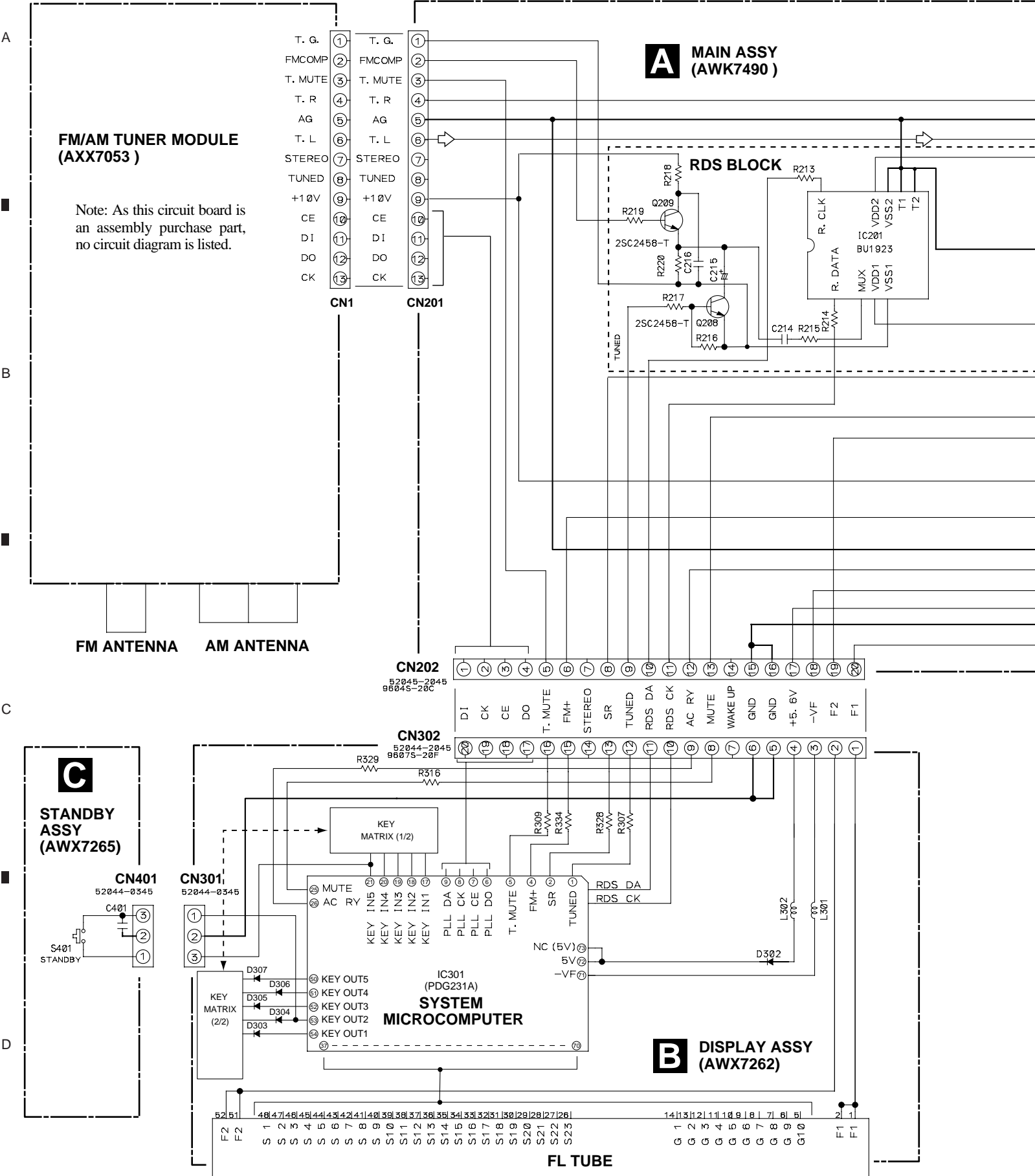
**(2) CONTRAST TABLE**

F-208RDS/HYXK/EW, HYXK/GR and HVXK types are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.			Remarks
			HYXK/EW type	HYXK/GR type	HVXK type	
△	10	AC Power Cord	VDG1061	VDG1061	VDG1063	
NSP	25	Name Label	AAL7221	AAL7221	AAL7222	
△	34	Fuse (T5A/250V) (For AC Power Cord)	Not used	Not used	PEK1003	

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM and OVERALL CONNECTION DIAGRAM



**A** MAIN ASSY (AWK7490)

**B** DISPLAY ASSY (AWX7262)

**FM/AM TUNER MODULE (AXX7053)**

Note: As this circuit board is an assembly purchase part, no circuit diagram is listed.

**C** STANDBY ASSY (AWX7265)

**CN202**  
52045-2045  
96045-20C

**CN302**  
52044-2045  
96075-20F

**CN401**  
52044-0345

**CN301**  
52044-0345

**IC301 (PDG231A)**  
**SYSTEM MICROCOMPUTER**

**FL TUBE**

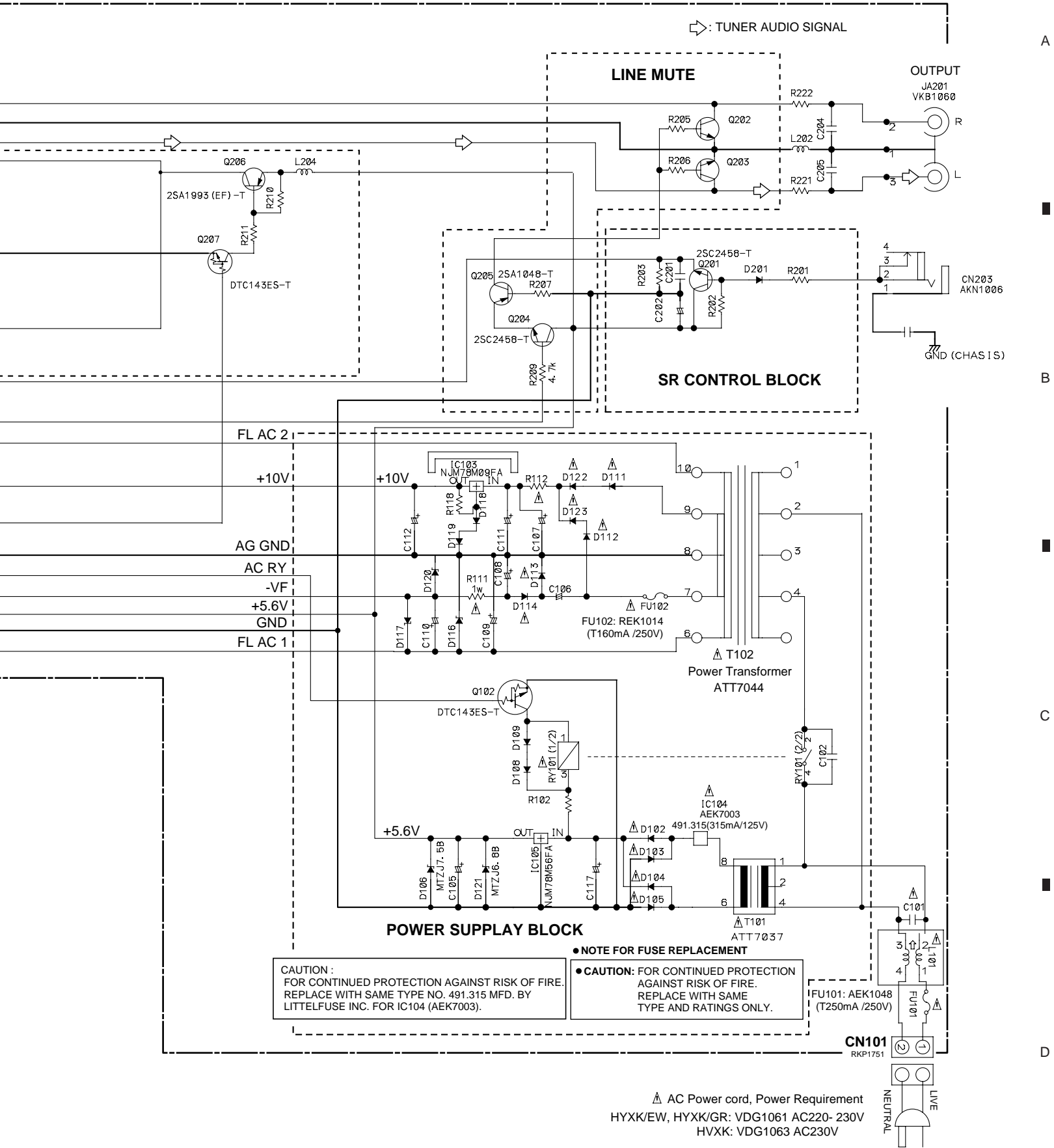
A

B

C

D

Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



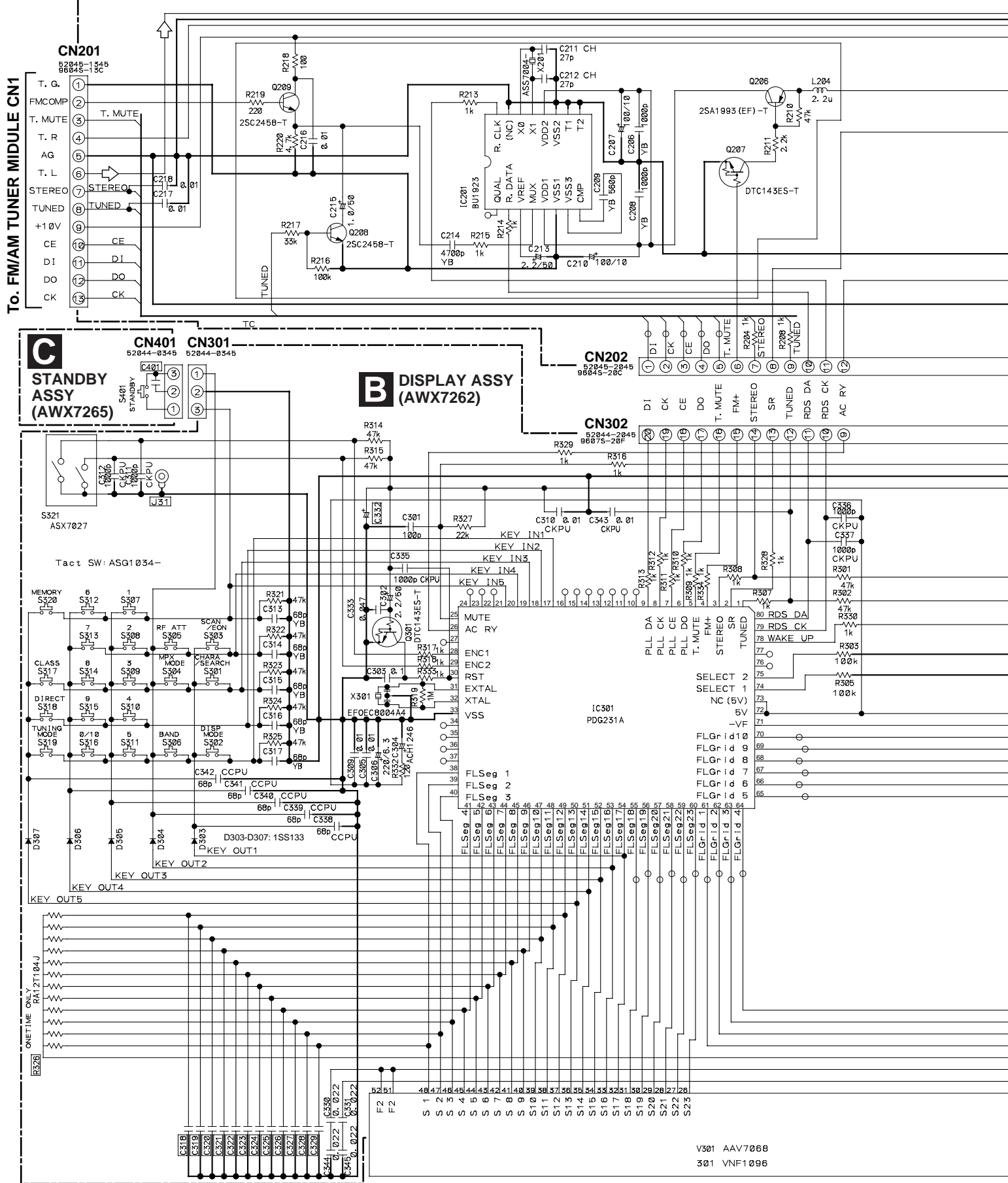
A

B

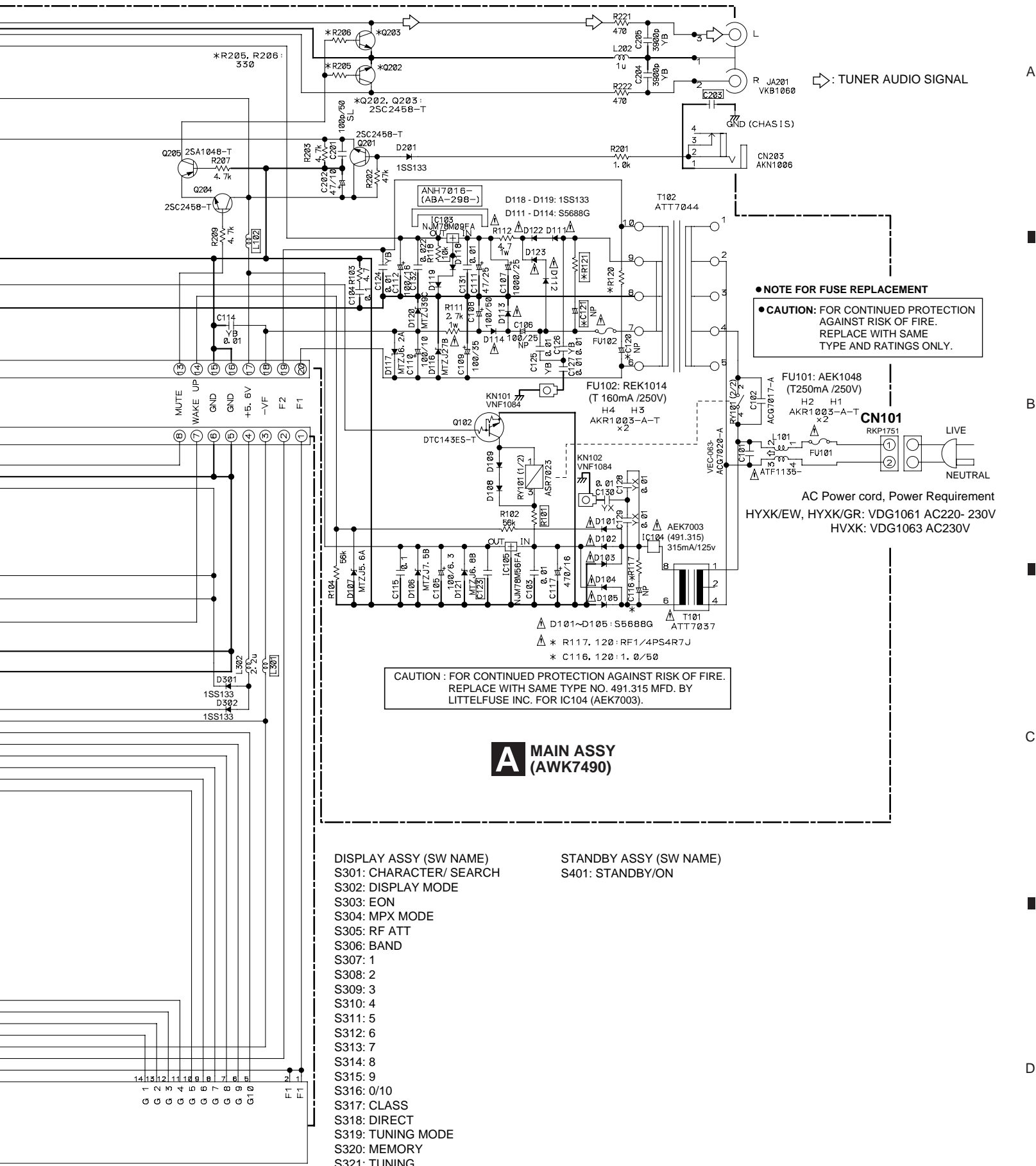
C

D

3.2 MAIN, DISPLAY and STANDBY ASSYS



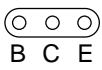
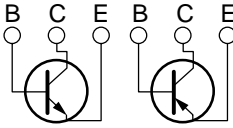
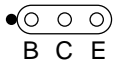
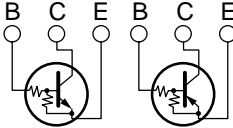

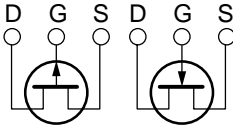
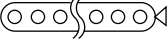
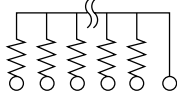
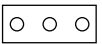
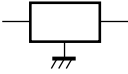




# 4. PCB CONNECTION DIAGRAM

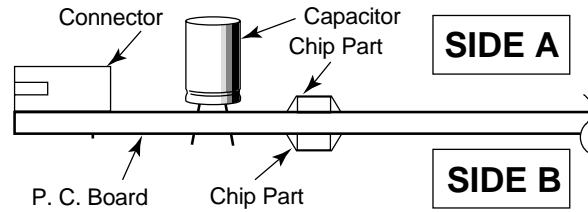
**NOTE FOR PCB DIAGRAMS:**

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.

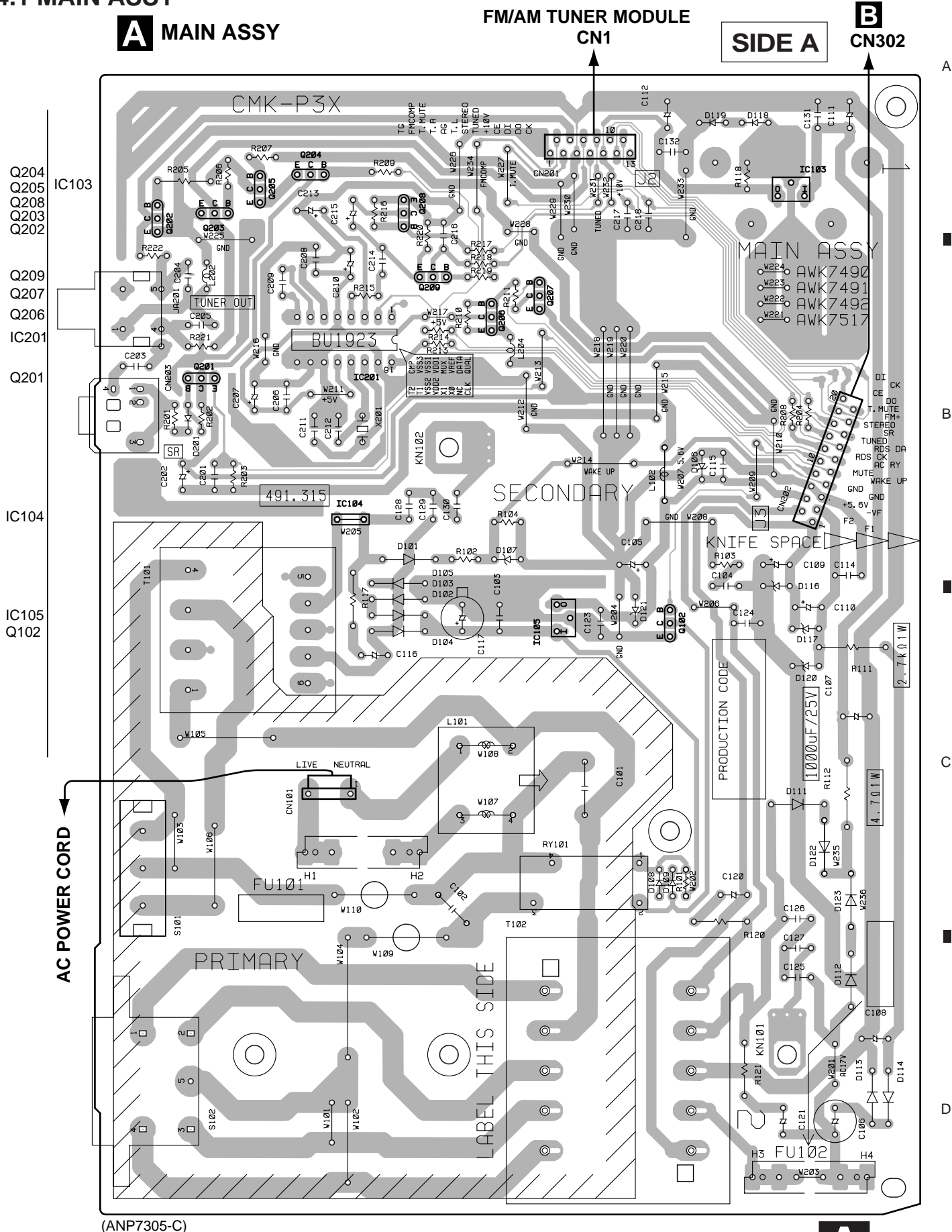
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.

4. Viewpoint of PCB diagrams



4.1 MAIN ASSY



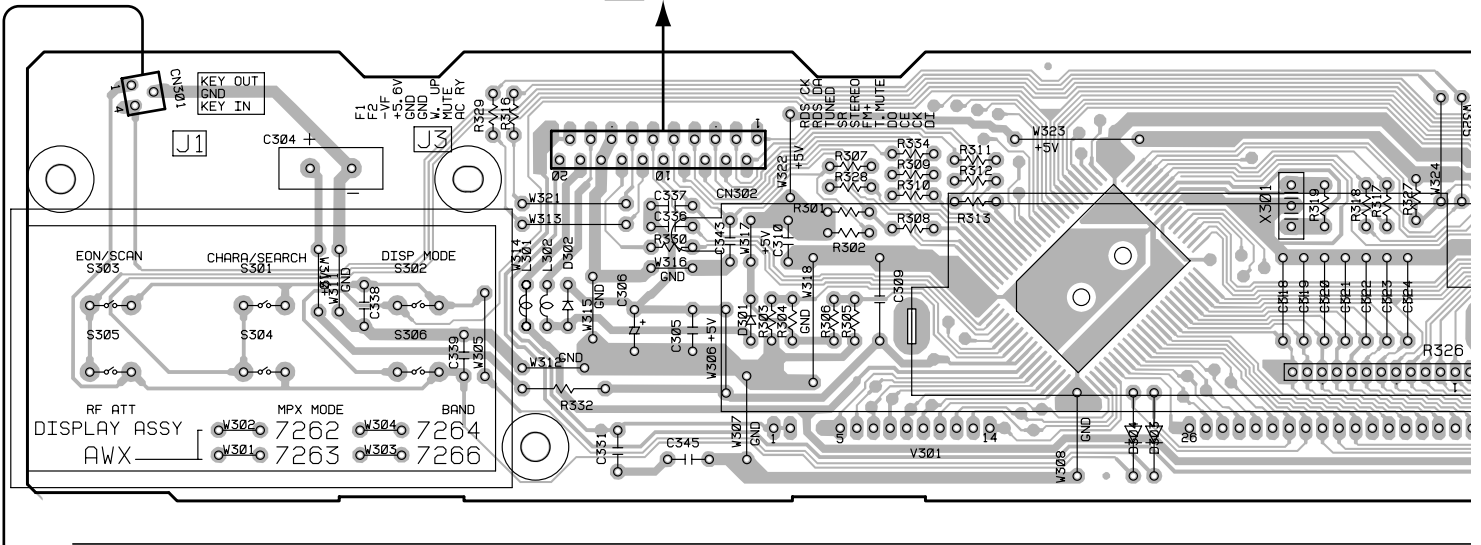
(ANP7305-C)

A

### 4.2 DISPALY and STANDBY ASSYS

#### B DISPLAY ASSY ASSY

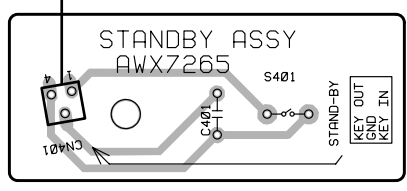
#### A CN2



IC301

SIDE A

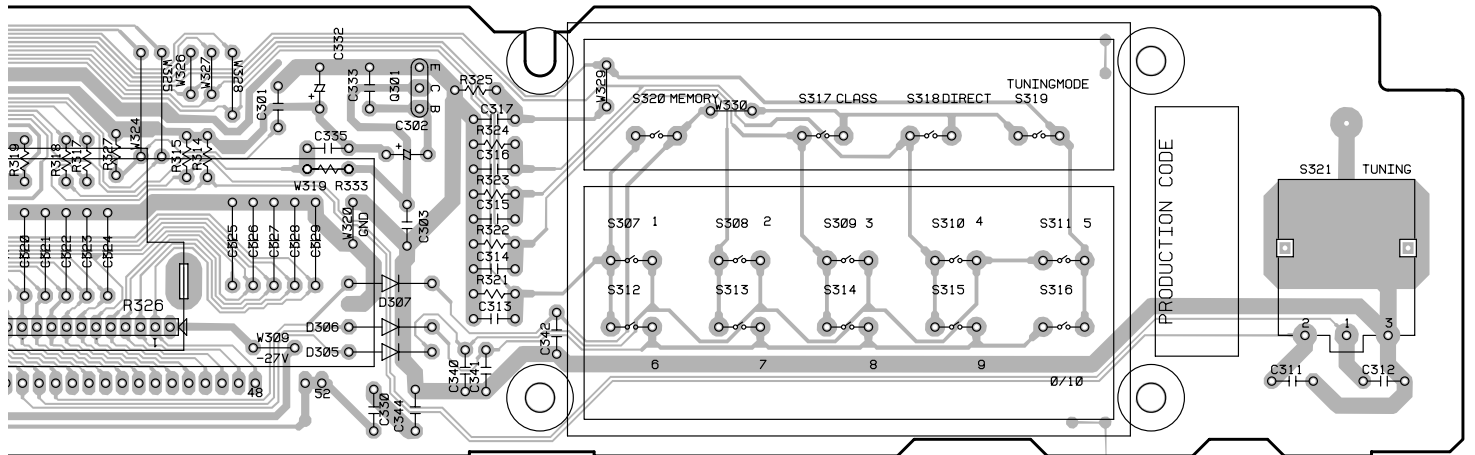
#### C STANDBY ASSY



(ANP7306-A)

SIDE A

A



B

Q301

(ANP7306-A)

**SIDE A**

C

D

# 5. PCB PARTS LIST

- NOTES :
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
  - The  $\triangle$  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.
  - 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  $\Omega$   $\rightarrow$   $56 \times 10^1 \rightarrow 561$  ..... RD1/4PU  $\boxed{5} \boxed{6} \boxed{1} J$   
 47k  $\Omega$   $\rightarrow$   $47 \times 10^3 \rightarrow 473$  ..... RD1/4PU  $\boxed{4} \boxed{7} \boxed{3} J$   
 0.5  $\Omega$   $\rightarrow$  R50 ..... RN2H  $\boxed{R} \boxed{5} \boxed{0} K$   
 1  $\Omega$   $\rightarrow$  1R0 ..... RSIP  $\boxed{1} \boxed{R} \boxed{0} K$
- Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
- 5.62k  $\Omega$   $\rightarrow$   $562 \times 10^1 \rightarrow 5621$  ..... RN1/4PC  $\boxed{5} \boxed{6} \boxed{2} \boxed{1} F$

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
------	-----	-------------	----------	------	-----	-------------	----------

## LIST OF PCB ASSEMBLIES

		MAIN ASSY	AWK7490
NSP		CONTROL ASSY	AWP7018
		└ DISPLAY ASSY	AWX7262
NSP		└ STANDBY ASSY	AWX7265

## $\triangle$ MAIN ASSY

### SEMICONDUCTORS

$\triangle$	IC104 (491.315: 315mA/125V)	AEK7003
	IC201	BU1923
	IC103	NJM78M09FA
	IC105	NJM78M56FA
	Q205	2SA1048
	Q206	2SA1993
	Q201-Q204, Q208, Q209	2SC2458
	Q102, Q207	DTC143ES
	D108, D109, D118, D119, D201	1SS133
	D116	MTZJ27B
	D120	MTZJ39C
	D107	MTZJ5.6A
	D117	MTZJ6.2A
	D121	MTZJ6.8B
	D106	MTZJ7.5B
$\triangle$	D101-D105, D111-D114, D122, D123	S5688G

### COILS AND FILTERS

$\triangle$	L101	ATF1135
	L202	LAU1R0J
	L204	LAU2R2J

### SWITCHES AND RELAYS

$\triangle$	RY101	ASR7023
-------------	-------	---------

### CAPACITORS

$\triangle$	C102 (3300pF/AC125V)	ACG7017
$\triangle$	C101 (10000pF/AC125V)	ACG7020
	C211, C212	CCCCH270J50
	C201	CCCSL101J50
	C106	CEANP101M25

	C116, C120	CEANP1R0M50
	C110, C207, C210	CEAT101M10
	C112	CEAT101M16
	C109	CEAT101M35
	C108	CEAT101M50
	C105	CEAT101M6R3
	C107	CEAT102M25
	C215	CEAT1R0M50
	C213	CEAT2R2M50
	C202	CEAT470M10
	C111	CEAT470M25
	C117	CEAT471M16
	C103, C127-C131, C216-C218	CGCYX103K25
	C104, C115	CGCYX104M16
	C132	CGCYX223K25
	C206, C208	CKCYB102K50
	C114, C124-C126	CKCYB103K50
	C204, C205	CKCYB392K50
	C214	CKCYB472K50
	C209	CKCYB561K50

### RESISTORS

$\triangle$	R117, R120	RF1/4PS4R7J
$\triangle$	R111	RS1LMF272J
$\triangle$	R112	RS1LMF4R7J
	Other Resistors	RD1/4PU□□□ J

### OTHERS

	CN201 FFC CONNECTOR 13P	9604S-13C
	CN202 FFC CONNECTOR 20P	9604S-20C
	CN203 PIN JACK 2P	AKN1006
	H1-H4 FUSE CLIP	AKR1003
	CN101 AC CORD SOCKET	RKP1751
	JA201 PIN JACK 2P	VKB1060
	KN101, KN102 EARTH METAL FITTING	VNF1084
	X201 (4.332MHz)	ASS7004
$\triangle$	T101 Standby Transformer	ATT7037

## CONTROL ASSY

No service part

## 6. ADJUSTMENT

There is no information to be shown in this chapter.

Mark No.	Description	Part No.
<b>B DISPLAY ASSY</b>		
<b>SEMICONDUCTORS</b>		
IC301		PDG231A
Q301		DTC143ES
D301-D307		1SS133
<b>COILS AND FILTERS</b>		
L302		LAU2R2J
<b>SWITCHES AND RELAYS</b>		
S301-S320		ASG1034
S321		ASX7027
<b>CAPACITORS</b>		
C304 (0.047F/5.5V)		ACH1246
C301		CCCSL101J50
C313-C317		CCCSL680J50
C338-C342		CCPUSL680J50
C306		CEAT221M6R3
C302		CEAT2R2M50
C305		CGCYX103K25
C303		CGCYX104K25
C330, C331, C344, C345		CGCYX223K25
C333		CGCYX473K25
C311, C312, C335-C337		CKPUYB102K50
C309, C310, C343		CKPUYY103M16
<b>RESISTORS</b>		
All Resistors		RD1/4PU□□□ J
<b>OTHERS</b>		
CN301	FFC CONNECTOR 3P	52044-0345
CN302	FFC CONNECTOR 20P	9607S-20F
V301	FL TUBE	AAV7068
X301	(8.00MHz)	EFOEC8004A4
<b>C STANDBY ASSY</b>		
<b>SWITCHES AND RELAYS</b>		
S401		ASG1034
<b>OTHERS</b>		
CN401	FFC CONNECTOR 3P	52044-0345

## 7. GENERAL INFORMATION

### 7.1 IC

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

#### ■ PDG231A (DISPLAY ASSY : IC301)

##### • System Control IC

##### ● Pin Function

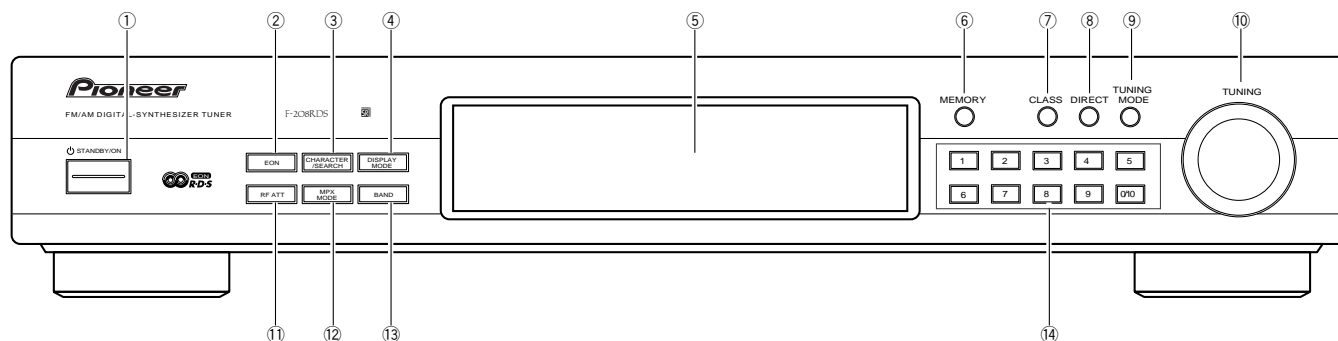
No.	Name	I/O	Description
1	TUNED	I	TUNE indicator signal input
2	SR	I	SR signal input
3	STEREO	I	STEREO indicator signal input
4	FM+	O	RDS decoder ON/OFF (VDD ON/OFF)
5	T.MUTE	O	TUNER mute control output
6	PLL DO	I	PLL IC data input
7	PLL CE	O	PLL IC serial control chip enable output
8	PLL CK	O	PLL IC serial control clock output
9	PLL DA	I	PLL IC serial control data output
10	NC	-	-
11	NC	-	-
12	NC	-	-
13	NC	-	-
14	NC	-	-
15	NC	-	-
16	NC	-	-
17	KEY IN1	I	Keyscan input
18	KEY IN2	I	Keyscan input
19	KEY IN3	I	Keyscan input
20	KEY IN4	I	Keyscan input
21	KEY IN5	I	Keyscan input
22	NC	-	-
23	NC	-	-
24	NC	-	-
25	MUTE	O	MUTE control output
26	AC RY	O	AC power relay ON/OFF
27	NC	-	-
28	ENCORDER1	I	Encoder data input
29	ENCORDER2	I	Encoder data input
30	RST	-	Reset input
31	EXTAL	-	Oscillator pulses
32	XTAL	-	(8MHz)
33	Vss	-	GNDD
34	NC	-	-
35	NC	-	-
36	NC	-	-
37	NC	-	-
38	FLSeg1	O	Segment indication output
39	FLSeg2	O	Segment indication output
40	FLSeg3	O	Segment indication output

No.	Name	I/O	Description
41	FLSeg.4	O	Segment indication output
42	FLSeg.5	O	Segment indication output
43	FLSeg.6	O	Segment indication output
44	FLSeg.7	O	Segment indication output
45	FLSeg.8	O	Segment indication output
46	FLSeg.9	O	Segment indication output
47	FLSeg.10	O	Segment indication output
48	FLSeg.11	O	Segment indication output
49	FLSeg.12	O	Segment indication output
50	FLSeg.13/KO5	O	Segment indication output / Keyscan output
51	FLSeg.14/KO4	O	Segment indication output / Keyscan output
52	FLSeg.15/KO3	O	Segment indication output / Keyscan output
53	FLSeg.16/KO2	O	Segment indication output / Keyscan output
54	FLSeg.17/KO1	O	Segment indication output / Keyscan output
55	FLSeg.18	O	Segment indication output
56	FLSeg.19	O	Segment indication output
57	FLSeg.20	O	Segment indication output
58	FLSeg.21	O	Segment indication output
59	FLSeg.22	O	Segment indication output
60	FLSeg.23	O	Segment indication output
61	FL Grid.1	O	Grid FL indication output
62	FL Grid.2	O	Grid FL indication output
63	FL Grid.3	O	Grid FL indication output
64	FL Grid.4	O	Grid FL indication output
65	FL Grid.5	O	Grid FL indication output
66	FL Grid.6	O	Grid FL indication output
67	FL Grid.7	O	Grid FL indication output
68	FL Grid.8	O	Grid FL indication output
69	FL Grid.9	O	Grid FL indication output
70	FL Grid.10	O	Grid FL indication output
71	SYSMUTE	O	System mute control
72	VFDP	-	- 5.0V
73	5V	-	+5.0V
74	SELECT1	I	Model type select input
75	SELECT2	O	Model type select input
76	NC	-	-
77	NC	-	-
78	WAKE UP	I	WAKE UP AC pulse input
79	RDS CK	I	RDS clock input
80	RDS DA	I	RDS data input



# 8. PANEL FACILITIES AND SPECIFICATIONS

## 8.1 PANEL FACILITIES



### ① **STANDBY/ON switch**

This is the switch for electric power.

**ON** ..... When set to ON position, power is supplied and the unit becomes operational.

**STANDBY** ..... When set to 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.

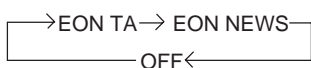
**NOTES:**

- The memory will be backed up so long as the power cord is unplugged.
- If the power cord is unplugged, the memory will be retained for several days.
- When not using the unit for a long period, disconnect the power cord.

### ② **EON button**

Use this to select the desired EON mode.

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



### ③ **CHARACTER/SEARCH button**

**When in the Preset Station Tuning mode:**

You can use it to input station names manually.

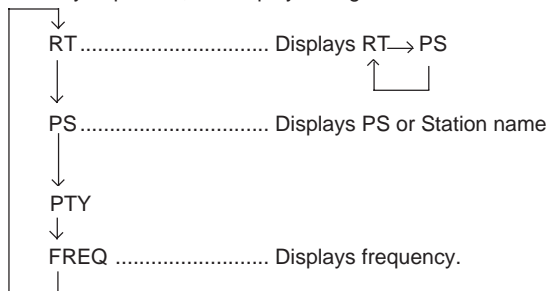
**During FM reception:**

You can use it to perform Program Type Search.

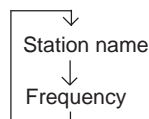
### ④ **DISPLAY MODE button**

During FM reception, Use this to switch between display modes.

Each time you press it, the display changes as follows.



When receiving AM, valid only when the station name is memorized.



When no station name is memorized, the DISPLAY MODE button becomes invalid.

### ⑤ **Operating Display**

#### ⑥ **MEMORY button**

Use to preset stations. This is also used for FM or AM broadcast manual station name character selection and for Program Type Search.

#### ⑦ **CLASS button**

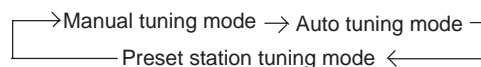
Use to switch between preset memory classes A to C. In each class, 10 stations can be memorized using the STATION CALL buttons, enabling a total of 30 stations to be memorized.

#### ⑧ **DIRECT button**

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

#### ⑨ **TUNING MODE button**

Each time you press this button, the TUNING knob's function changes as follows.



#### ⑩ **TUNING knob**

Use for tuning. To raise the frequency, turn in a clockwise direction; to lower the frequency, turn counterclockwise.

**AM** : For MW, frequency changes in 9 kHz steps.  
For LW, frequency changes in 1 kHz steps.

**FM** : Frequency changes in 50kHz steps.

In the Station Name input mode, PTY Search mode, the TUNING knob is used to select characters and program types. When presetting a station or selecting a preset station, you can also turn this knob to select a desired station number.

## ⑪ RF ATT button

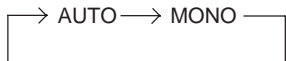
Set this button to on when receiving strong FM signals (nearby stations) to reduce sound distortion (RF ATT indicator lights). Normally, this button should be set to off. This button does not affect AM reception.

### NOTE:

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

## ⑫ MPX (multiplex) MODE button

Mode changes as follows each time this button is pressed.



This button does not affect AM reception.

### AUTO:

"AUTO" is not displayed.

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound and the STEREO indicator lights up.

### MONO:

MONO indicator lights up.

To receive stereo broadcasts in monaural.

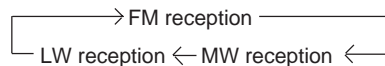
If there is too much noise during stereo reception of a weak signal, you can reduce the level of noise by switching to MONO.

### NOTES:

- This button's status is preset for each station in station memory.
- When the signal level is too weak for reception, sound output is automatically muted. If sound is muted when the selected mode is AUTO, switching to MONO lets you hear the broadcast.

## ⑬ BAND button

The button is used to select either FM or AM reception. The bands change alternately as follows, each time this button is pressed.

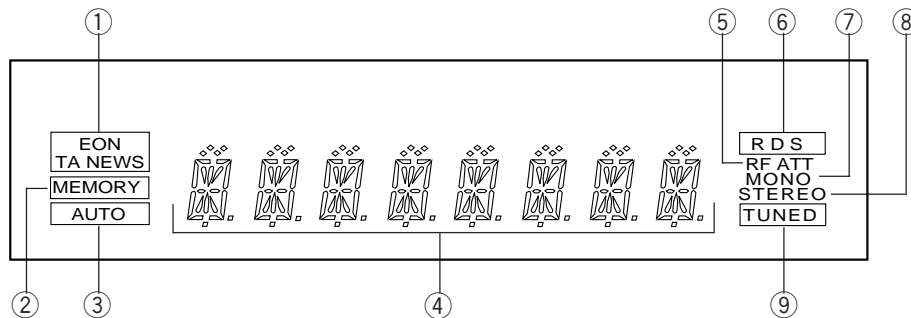


## ⑭ STATION CALL buttons

Use these buttons to preset stations and to receive the already preset stations.

These are also used when performing direct access tuning.

## DISPLAY



### ① EON(TA/NEWS) indicator

Lights when EON mode is ON. Lights during EON Standby. Flashes during EON reception.

### ② MEMORY indicator

Lights when presetting stations.

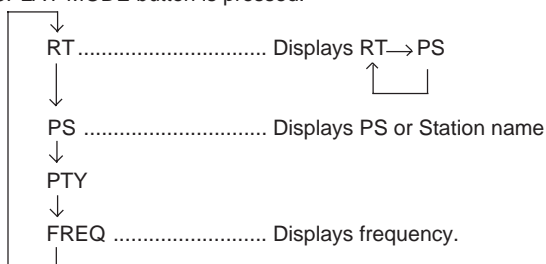
### ③ AUTO indicator

Lights during auto tuning mode.

### ④ Frequency and character display section

Band and frequency data is displayed.

During FM reception, the display changes as follows each time the DISPLAY MODE button is pressed.



### ⑤ RF ATT indicator

Stays lit while RF ATT button is on.

### ⑥ RDS indicator

Lights when an RDS broadcast is received.

### ⑩ MONO indicator

Stays lit while MPX MODE button is set to MONO.

### ⑧ STEREO indicator

Lights up when a stereo broadcast is received (the indicator does not light when the MPX MODE button is set to MONO).

### ⑨ TUNED indicator

Lights when a broadcast is received.

## 8.2 SPECIFICATIONS

### FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz

Usable Sensitivity  
 NORMAL ..... Mono: 14.2 dBf, IHF(1.4  $\mu$  V / 75  $\Omega$ ).  
 50 dB Quieting Sensitivity  
 NORMAL ..... Mono: 22.2 dBf, IHF (3.5  $\mu$  V / 75  $\Omega$ )  
 Stereo: 38.6 dBf, IHF (23.3  $\mu$  V / 75  $\Omega$ )

Sensitivity (DIN)  
 NORMAL ..... Mono: 1.0  $\mu$  V / 75  $\Omega$ )  
 Stereo: 50  $\mu$  V / 75  $\Omega$ )

Signal-to-Noise Ratio ..... Mono: 76 dB (at 85 dBf)  
 Stereo: 73 dB (at 85 dBf)

Signal-to-Noise Ratio (DIN) ..... Mono: 64 dB  
 Stereo: 60 dB

Distortion ..... Mono: 0.4 % (1 kHz)  
 Stereo: 1.0 % (1 kHz)

Alternate Channel Selectivity ..... 70 dB ( $\pm$ 400 kHz)

Stereo Separation ..... 40 dB (1 kHz)

Frequency Response .....  $\pm$ 1 dB (30 Hz to 15 kHz)

Image Response Ratio ..... 80 dB

IF Response Ratio ..... 90 dB

Antenna Input ..... 75  $\Omega$  unbalanced

### AM (MW) Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz (Step 9 kHz)

Sensitivity (IHF, Loop antenna) ..... 350  $\mu$  V / m

Selectivity ..... 33 dB( $\pm$ 10 kHz)

Signal-to-Noise Ratio ..... 51 dB

Image Response Ratio ..... 35 dB

IF Response Ratio ..... 51 dB

Antenna ..... Loop Antenna

### AM (LW) Tuner Section

Frequency Range ..... 153 kHz to 281 kHz

Sensitivity (IHF, Loop antenna) ..... 1,000  $\mu$  V / m

Selectivity ..... 30 dB

Signal-to-Noise Ratio ..... 51 dB

Image Response Ratio ..... 30 dB

IF Response Ratio ..... 51 dB

Antenna ..... Loop Antenna

### Audio Section

Output (Level/Impedance)

FM (100 % MOD) ..... 1.0 V / 1k  $\Omega$

AM (30 % MOD) ..... 224 mV / 1k  $\Omega$

### Miscellaneous

Power Requirements ..... AC 230 Volts~, 50 / 60 Hz

Power Consumption ..... 10 W

Power Consumption in standby mode ..... 1 W

Dimensions ..... 420 (W) x 78 (H) x 287 (D) mm

Weight (without package) ..... 2.7 kg

### Furnished Parts

FM T-type antenna ..... 1

AM Loop antenna ..... 1

Audio cord ..... 1

Control cord ..... 1

Operating Instructions ..... 1

Warranty card ..... 1

### NOTE:

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

### Accessories

