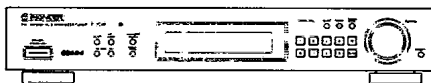


Service Manual



ORDER NO.
ARP2891

FM/AM DIGITAL-SYNTHESIZER TUNER F-204RDS

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-204RDS		
HEXK	○	AC 220-230V	AC240V, *
HBWXX	○	AC230V	AC240V, *
HEWZXX	○	AC220-230V	AC240V, *
HEWIXK	○	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 HBWXX, HEWZXX and HEWIXK types, refer to page 27.

CONTENTS

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1. EXPLODED VIEWS, PACKING AND PARTS LIST

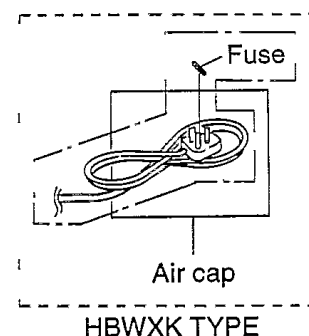
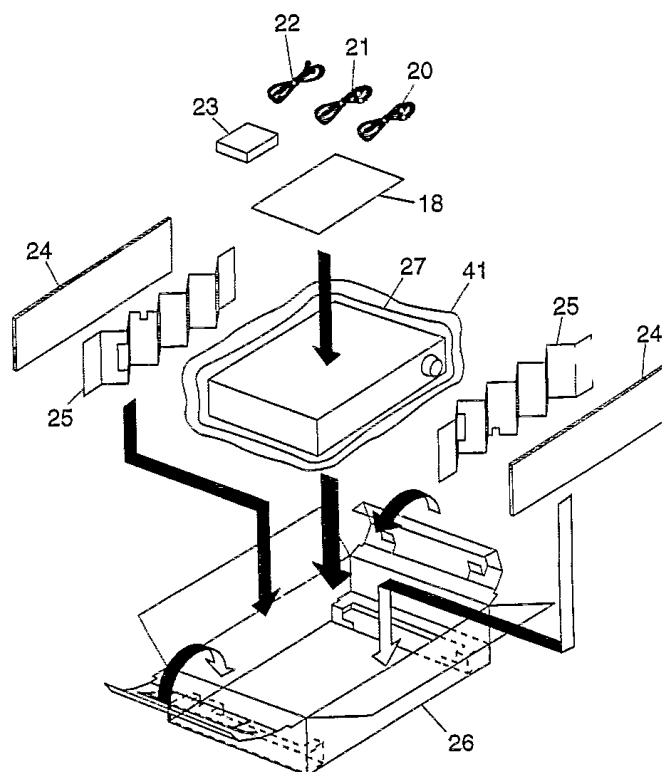
NOTES:

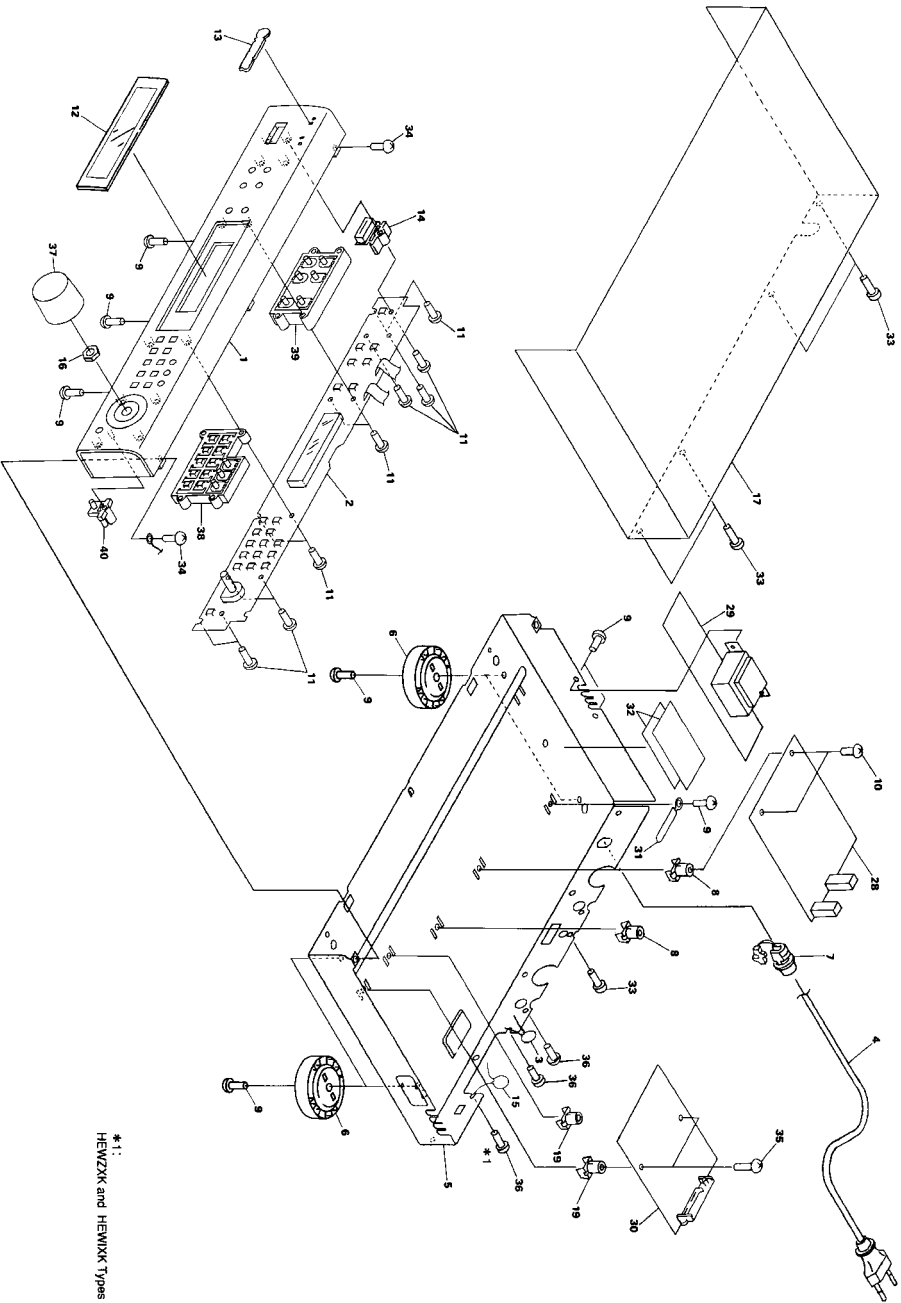
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●"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

PARTS LIST (for F-204RDS/HEXK)

Mark	No.	Description	Parts No.
	1	FRONT PANEL (PLS)	AMB7241
	2	CONTROL ASS'Y	AWZ7714
	3	C1 CERAMIC CAPACITOR	CCDSL221J50
Δ	4	AC POWER CORD	ADG1138
	5	CHASSIS (MET)	ANA1478
Δ	6	INSULATOR	PNW1912
Δ	7	STRAIN RELIEF	AEC-882
NSP	8	PCB MOULD	AMR1525
	9	SCREW	ABA-298
	10	SCREW	ABA1018
	11	SCREW	BPZ26P080FMC
	12	FL PANEL (PLS)	AAK7132
	13	NAME PLATE	PAM1608
	14	POWER BUTTON (ABS)	AAD2425
	15	C2 CERAMIC CAPACITOR	CKDYB102K50
	16	NUT	NK70FUC
	17	BONNET(FE)	ANE7058
	18	OPERATING INSTRUCTIONS (English/French/German/Italian/ Swedish/Dutch/Spanish/Portuguese)	ARE7031
NSP	19	PCB MOULD	AMR2115
	20	CORD WITH PLUG	PDE1249
	21	CORD WITH PLUG	PDE1095
	22	FM ANTENNA	ADH7001
	23	LOOP ANTENNA	ATB7001
	24	SPACER (PAP)	AHA7058
	25	SPACER (PAP)	AHA7074
	26	PACKING CASE	AHD7133
	27	PACKAGING SHEET	AHG1107
	28	RDS ASS'Y	AWZ7711
NSP	29	POWER ASS'Y	AWZ7709
	30	FM/AM TUNER MODULE	AXQ7040
	31	BINDER	AEP-215
NSP	32	BARRIER	AEC1416
	33	SCREW (STEEL)	ABA1006
	34	SCREW (STEEL)	ABA1011
	35	SCREW	ABA1024
	36	SCREW (STEEL)	ABA1047
	37	ROTARY KNOB M (PLS)	AAB7049
	38	HINGE BUTTON A (PLS)	AAD7162
	39	HINGE BUTTON B (PLS)	AAD7164
	40	HINGE BUTTON C (PLS)	AAD7166
NSP	41	VINYL SHEET	AHG7013

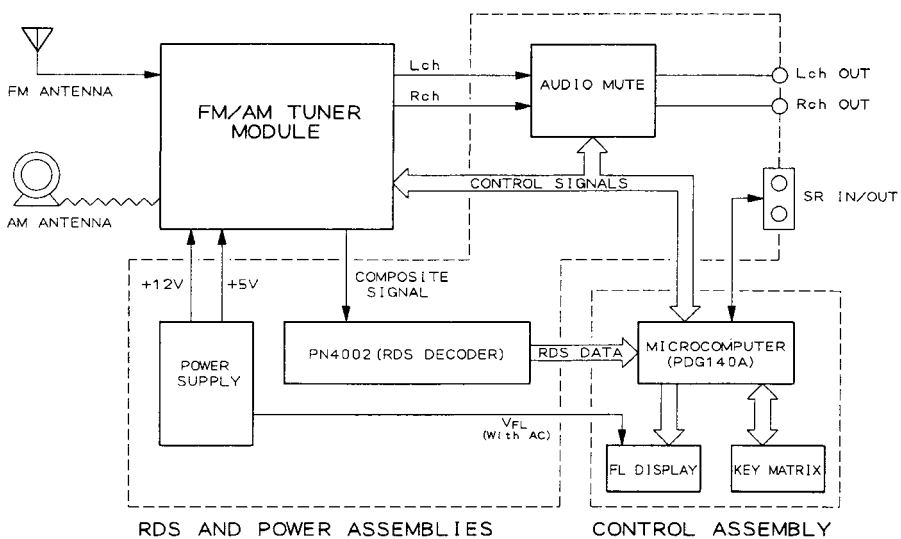
● PACKING





*1:
HEWLETT and HEWLETT Types: ABA1006

2. BLOCK DIAGRAM



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 3A)

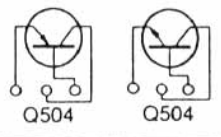
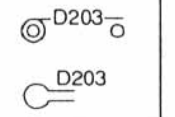
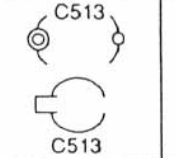
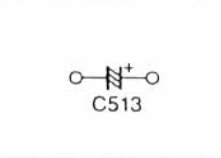
1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
3. RESISTORS:
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. CAPACITORS:
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
5. COILS:
Unit: m: mH or μH unless otherwise noted.
6. VOLTAGE AND CURRENT:
mV : Signal voltage at FM 1kHz, 100% MOD.
or - 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.

7. OTHERS:
• or • : Adjusting point.
• : 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.
8. SCH-□ ON THE SCHEMATIC DIAGRAM:
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. SWITCHES (Underline indicates switch position):

- CONTROL ASSY
- | | |
|----------------------------|--------------------|
| S401 : POWER(STANDBY/ON) | S414 : 1 |
| S402 : AM | S415 : 6 |
| S403 : FM | S416 : 7 |
| S404 : DISPLAY MODE | S417 : 8 |
| S405 : CHARACTER/SEARCH | S418 : 9 |
| S406 : MPX MODE(AUTO/MONO) | S419 : 0/10 |
| S407 : MEMORY | S420 : DIRECT |
| S410 : 5 | S421 : CLASS |
| S411 : 4 | S422 : RF ATT |
| S412 : 3 | S423 : TUNING |
| S413 : 2 | S424 : TUNING MODE |

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 C shows the emitter.
4. The diode terminal marked with C or C shows cathode side.
5. The capacitor terminal marked with C or C 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.

3.1 RDS, POWER AND CONTROL ASSEMBLIES

Line Voltage Selection

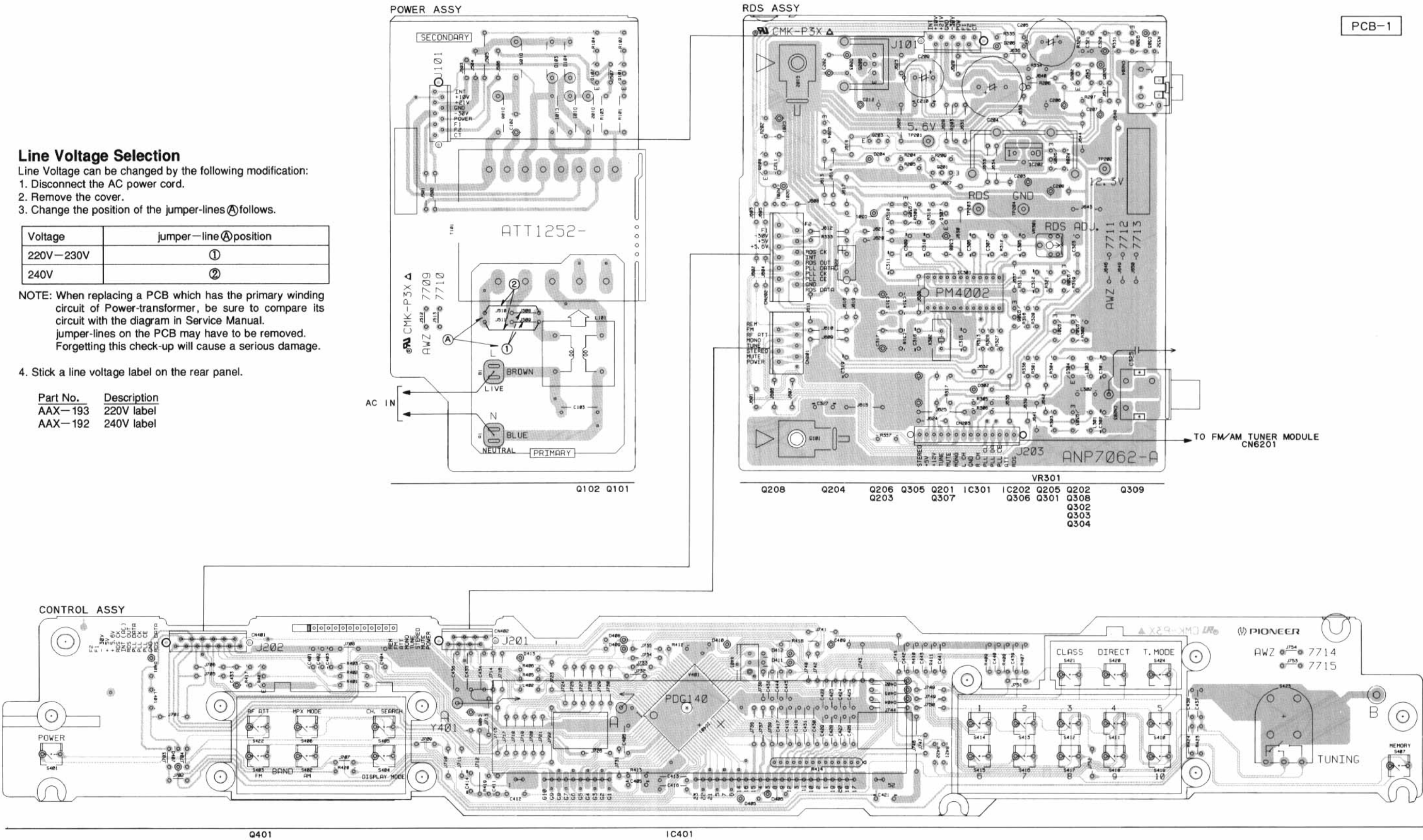
- Line Voltage can be changed by the following modification:
1. Disconnect the AC power cord.
 2. Remove the cover.
 3. Change the position of the jumper-lines A follows.

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

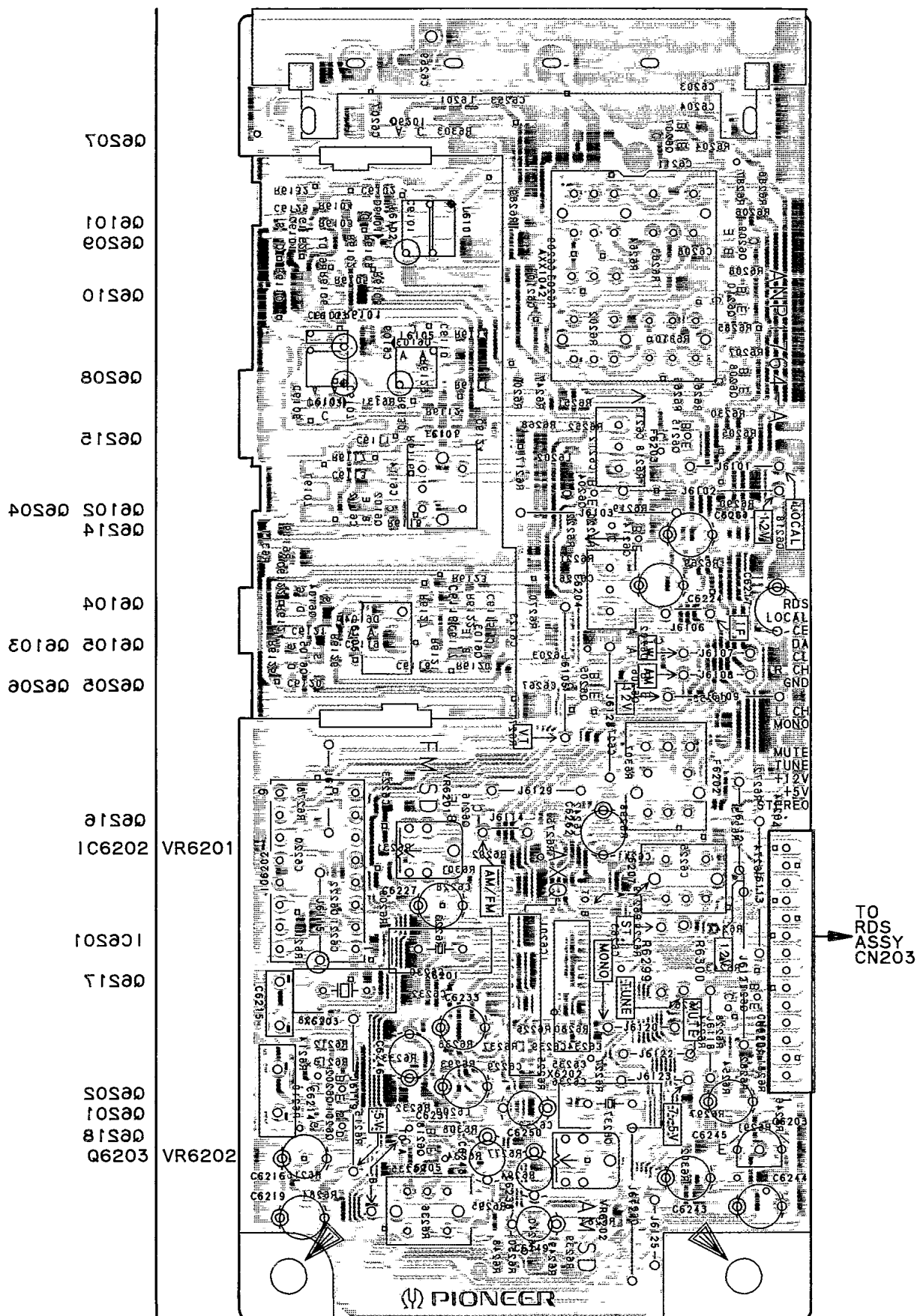




● This diagram is viewed from the mounted parts side.

PCB-2

FM/AM TUNER MODULE (HEXK AND HBWXK TYPES)

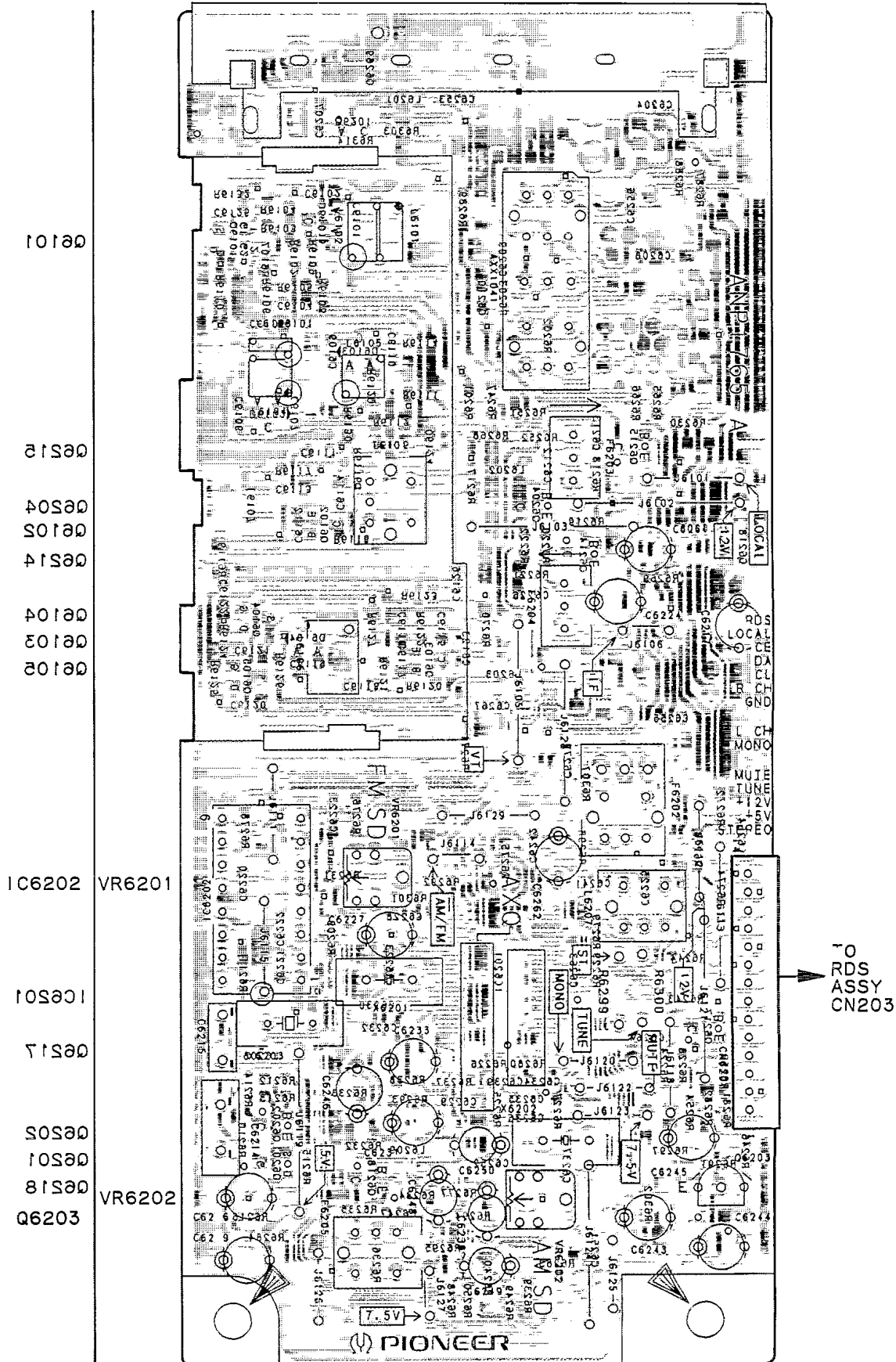


3.3 FM/AM TUNER MODULE (FOR HEWZXX AND HEWIXX TYPES)

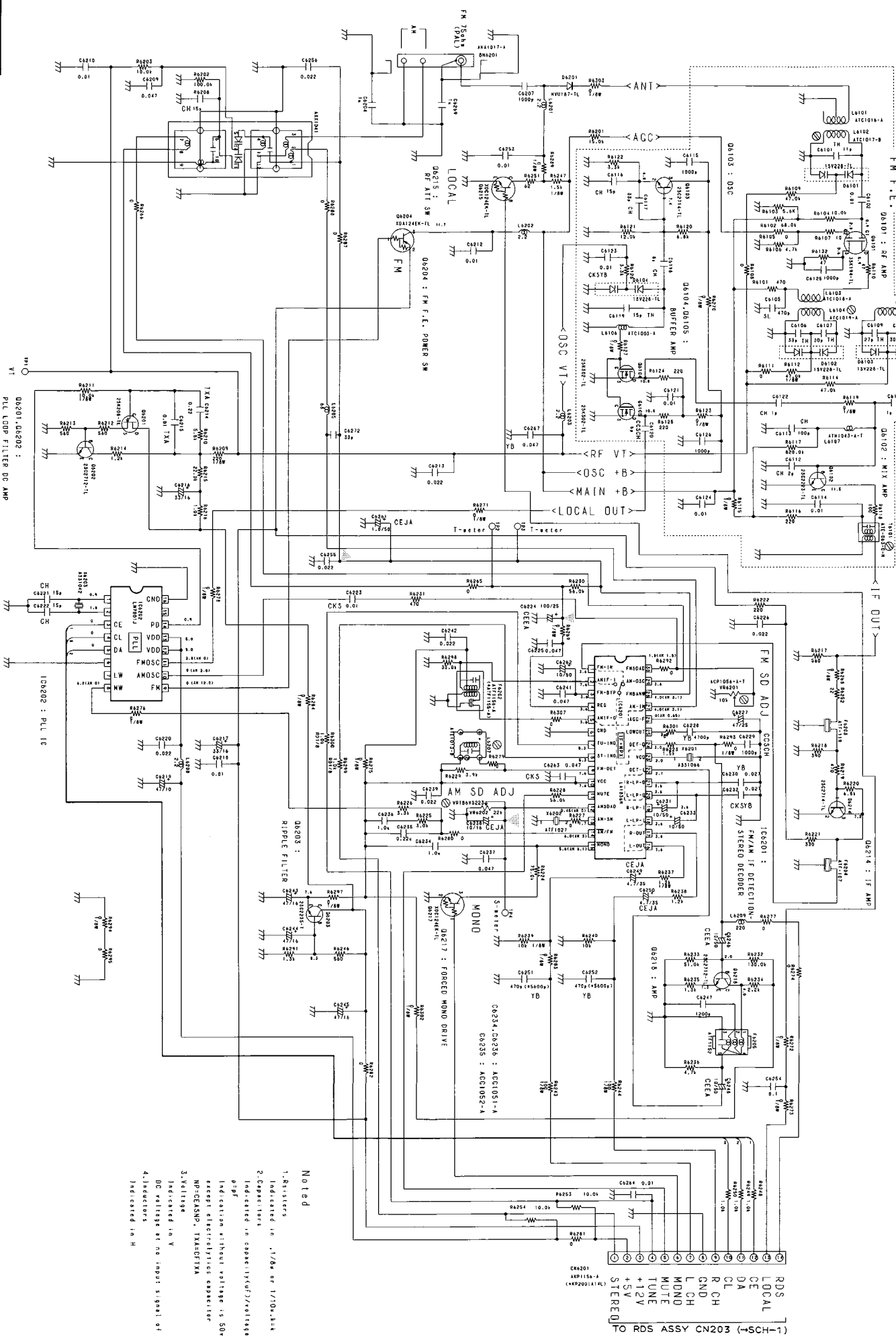
● This diagram is viewed from the mounted parts side.

PCB-3

FM/AM TUNER MODULE (HEWIXX AND HEWZXX TYPES)



SCH-3



```

RDS LOCAL
CE
DA
CL
R CH
GND
L CH
MDNO
MUTE
TUNE
+12V
+5V
STEREO]
TO RDS ASSY CN203 (→SCH-1)

```

Noted

1. Resistors indicated in .1/8w or 1/10w are
2. Capacitors indicated in .1uF or 10uF are
3. Inductors indicated in mH are
4. Diodes indicated in V are
5. Transistors indicated in V are
6. Thyristors indicated in V are
7. Triacs indicated in V are
8. Relays indicated in V are
9. Switches indicated in V are
10. Indicators indicated in H are
11. DC voltage at no input signal of FM
12. Inductors indicated in H

4. PCB PARTS LIST
(for F-204RDS/HEXX)

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 " $\odot$ " 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 ohms and 47k ohms (Tolerance is shown by J = 5%, and K = 10%).

560 Ω $\rightarrow$ 56 $\times 10^1 \rightarrow$ 561 RD1/8PM $\begin{bmatrix} 5 \\ 6 \end{bmatrix} \begin{bmatrix} 1 \end{bmatrix}$ J
47k Ω $\rightarrow$ 47 $\times 10^3 \rightarrow$ 473 RD1/4PS $\begin{bmatrix} 4 \\ 7 \end{bmatrix} \begin{bmatrix} 3 \end{bmatrix}$ J
0.5 Ω $\rightarrow$ 0R5 RN2H $\begin{bmatrix} 0 \end{bmatrix} \begin{bmatrix} 5 \end{bmatrix}$ K
1 Ω $\rightarrow$ 010 RS1P $\begin{bmatrix} 0 \end{bmatrix} \begin{bmatrix} 1 \end{bmatrix} \begin{bmatrix} 0 \end{bmatrix}$ 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 5 6 2 1 F

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIS							
NSP		TUNER ASSY	AWE7009		D201 ,D204 ,D301 -D303	1SS252	
	└	POWER ASSY	AWZ7709		D205	MTZJ30C	
		RDS ASSY	AWZ7711		D206	MTZJ4,7B	
		CONTROL ASSY	AWZ7714		D203	MTZJ6,2B	
		FM/AM TUNER MODULE	AXQ7040		L303	LAU010J	
				L301 ,L302	LAU2R2J		
				CAPACITORS			
					C322 (47mF/5.5)	ACH1135	
					C315 ,C316	CCCCH220J50	
					C210	CCCSL101J50	
					C201	CEAS100M50	
					C212 ,C313 ,C317	CEAS101M10	
					C207	CEAS101M35	
					C209	CEAS102M16	
					C204	CEAS22M35	
					C308	CEAS2R2M50	
					C202 ,C208 ,C320	CEAS470M25	
					C205	CEAS470M50	
					C205	CEAS471M50	
					C203	CEEA330M50	
					C319 ,C327	CKCYB102K50	
					C309 ,C310	CKCYB332K50	
					C301 ,C302	CKCYB392K50	
					C311 ,C312	CKCYB472K50	
					C307	CKCYF223Z50	
					C395	CKCYX223M25	
					C306	CKCYX473M25	
					C325	CKDYF102Z50	
					C211 ,C321	CKPUYB101K50	
					C314 ,C318 ,C323	CKPUYV103M16	
				RESISTORS			
					R206	RD1/2PM102J	
					R203	RD1/4PM272J	
					VR301	ACP1045	
					Other Resistors	RD1/8PM□□□□	
				OTHERS			
					SCREW	ABA-298	
					CN205 2P PIN JACK	AKB7010	
					CN204 JACK	AKN1006	
					CABLE HOLDER	AKT1023	
					CABLE HOLDER (14P)	AKT1086	
					X302 CRYSTAL RESONATOR (4.332MHz)	ASS7004	
					CN202 CONNECTOR(13P)	KPE13	
					CN201 CONNECTOR(8P)	KPE8	
	</						

Mark.	No.	Description	Parts No.	Mark.	No.	Description	Parts No.	
CONTROL ASS'Y				CAPACITORS				
SEMICONDUCTORS				C6204 ,C6234 ,C6236 (1/16)				ACG1051
IC401				C6254 ,C6269				ACG1051
Q401				C6120				CCSCH060D50
D401 -D407				C6229				CCSCH102J50
D408 -D413				C6111 ,C6122				CCSQCH010C50
COILS				C6112				CCSQCH020C50
L402				C6118				CCSQCH080D50
L401				C6113				CCSQCH101J50
SWITCHES				C6116 ,C6208 ,C6221 ,C6222				CCSQCH150J50
S401 -S407 ,S410 -S422 ,S424				C6203				CCSQCH221J50
S423				C6117				CCSQCH330J50
CAPACITORS				C6272				CCSQSL330J50
C405				C6105				CCSQSL471J50
C409				C6101				CCSQTH110J50
C408				C6119				CCSQTH150J50
C433				C6109				CCSQTH270J50
C414 ,C421				C6107 ,C6110				CCSQTH300J50
C411 -C413 ,C416 -C419				C6106				CCSQTH330J50
C422 -C431 ,C434 -C436				C6262				CEAS100M50
C439 -C445				C6216 ,C6217				CEAS330M25
C404 ,C437 ,C438				C6231 ,C6233				CEAS3R3M50
C401 -C403				C6219 ,C6227 ,C6243 -C6245				CEAS470M25
C432				C6246 ,C6248				CEEA100M50
C406				C6224				CEEA101M25
RESISTORS				C6261				CEJA010M50
Other Resistors				C6238				CEJA100M16
RD1/8PM□□□□				C6249 ,C6250				CEJA4R7M35
OTHERS				C6215				CFTXA103J50
V401 FL DISPLAY				C6214				CFTXA224J50
CABLE HOLDER				C6125 ,C6207				CKSQYB102K50
X401 CERAMIC RESONATOR (7.70MHz)				C6102 ,C6114 ,C6115 ,C6121 ,C6124				CKSQYB103K50
				C6210 ,C6253 ,C6264				CKSQYB103M50
				C6247				CKSQYB122K50
				C6213				CKSQYB223K50
				C6230				CKSQYB273K50
				C6251 ,C6252				CKSQYB471K50
				C6228				CKSQYB472K50
				C6209 ,C6237 ,C6267				CKSQYB473K50
				C6212 ,C6218				CKSQYF103Z50
				C6290 ,C6276 ,C6239 ,C6242 ,C6255				CKSQYF223Z50
				C6235				CKSQYF224Z25
				C6121 ,C6225 ,C6241				CKSQYF473Z50
				C6213				CKSYB103K50
				C6232				CKSYB273K50
				C6223				CKSYF103Z50
				C6263				CKSYF473Z50
				RESISTORS				
				R6299 ,R6300				RD1/8PM102J
				R6115 ,R6119 ,R6123 ,R6127 ,R6129				RS1/8S00J0J
				R6263 ,R6268 -R6273 ,R6275 ,R6278				RS1/8S00J0J
				R6283 ,R6284 ,R6289 ,R6293 ,R6294				RS1/8S00J0J
				R6297 ,R6302 ,R6303				RS1/8S00J0J
				R6243 ,R6244				RS1/8S101J
				R6211 ,R6239				RS1/8S103J
				R6237				RS1/8S122J
				R6247				RS1/8S152J
				R6209				RS1/8S221J
				R6112				RS1/8S473J
				VR6201 (10K)				ACP1056
				VR6202				VRT86VS223
				Other Resistors				RS1/10S□□□□
				OTHERS				
				BNR201 2P TERMINAL WITH PAL				AKA1012
				X6203 CRYSTAL RESONATOR (7.200MHz)				ASS1042
				X6201 CRYSTAL RESONATOR (456kHz)				ASS1066
				X6202 CERAMIC RESONATOR (450kHz)				ATF1027
				AM RF TUNING BLOCK				AXX1042

■ AM Tuner Section

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

Step No.	Adjustment Title	AM SG(400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency(KHz)	Level(dBμV/m)			
1	TUNED IND. Lighting level	999	47 ± 2	999KHz	VR6202	Adjust so that the indicator of TUNED IND. starts to light up.

■ FM Tuner Section

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

Step No.	Adjustment Title	FM SG(1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency(KHz)	Level(dBμV)			
1	Center Adjustment	98 Non modulation	80 or more	98MHz	L6207	Adjust so that the DC voltage between Pin 4 and Pin 28 (or ⊕ leads of C6224 and C6261) of IC 6201 becomes 0V ± 50mV.
2	Front End Sensitivity	98	10 - 30	98MHz	*1 L6104 L6105 L6102 T6101	Adjust so that the DC voltage between Pin 12 (or ⊕ lead of C6238) of IC6201 (S-meter) and GND becomes at maximum level.
3	TUNED IND. Lighting Level	98	15 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.
4	SK Level Adjustment	88 EXTERNAL *2 (RDS SG)	60	88MHz (RF ATT ON)	VR301	Adjust so that the output level 57KHz between TP 203 and GND becomes maximum.

*1 : HEW/ZXK and HEW/IXK types only.

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

Notes:

- Before adjusting, make sure there is no gap between L6101 and L6102. If there is a gap between them, bring them into contact with each other first, and then make adjustments.
- Make indicator adjustments in order of AM → FM.

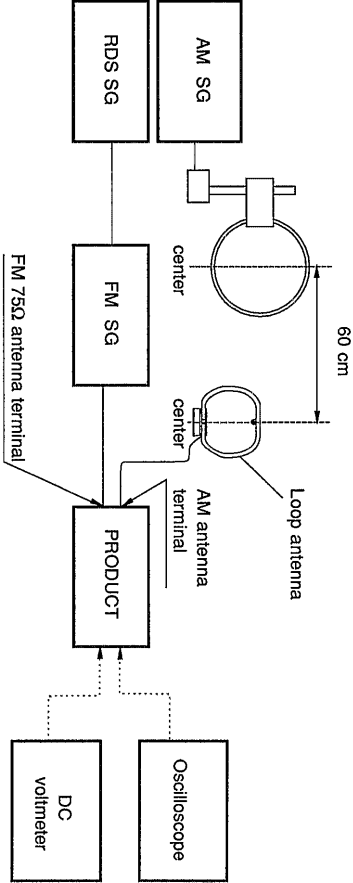


Fig. 1 FM and AM adjustment wiring diagram

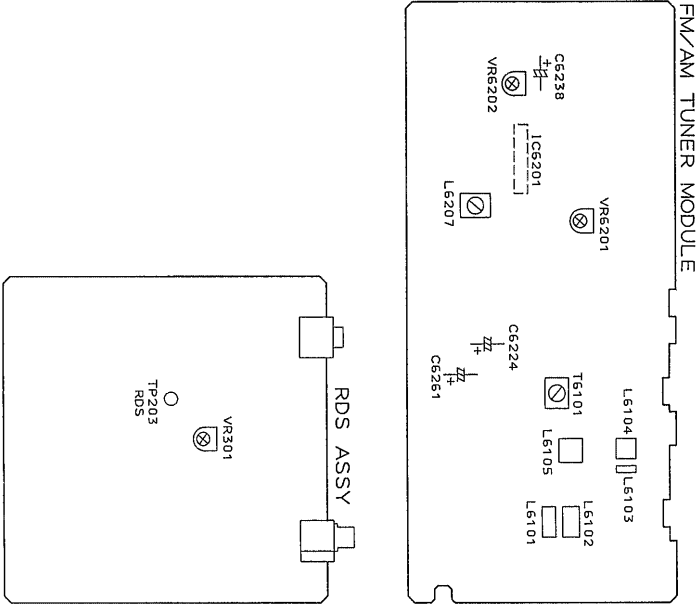


Fig. 2 Adjustment Points

7. IC INFORMATION

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

■ PDG140A (IC401)

● CONTROL MICROCOMPUTER

● Pin Function

No.	NAME	I/O	FUNCTION	ACT
1	RDS DATA	I	Data from LC7073 input	—
2	REMOCON	I	REMOCON signal input	—
3	NOT USED	I	GND standard electric potential	—
4	NC	O	Not used	—
5	FM	O	FM BAND select output	H
6	RF ATT	O	RF ATT ON/OFF output	H
7	MONO	O	FM MONO output	H
8	TUNE	I	TUNE indicator signal input	L
9	STEREO	I	STEREO indicator signal input	L
10	NC	O	Not used	—
11	DIRECT	O	DIRECT ON/OFF (Receiver only) *1	H
12	LW be or not	I	L: LW not being H: LW being (Tuner only) *1	—
13	LOUDNESS	O	LOUDNESS ON/OFF (Receiver only) *1	H
14	K10	I	KEYSCAN input 0	H
15	K11	I	KEYSCAN input 1	H
16	K12	I	KEYSCAN input 2	H
17	K13	I	KEYSCAN input 3	H
18	K14	I	KEYSCAN input 4	H
19	RECEIVER/ TUNER	I	Change-over of RECEIVER/ TUNER (L: Tuner H: Receiver)	—
20	K15	I	KEYSCAN input 5 (Receiver only) *1	H
21	K16	I	KEYSCAN input 6 (Receiver only) *1	H
22	REMOCON be or not	I	Change-over of destination (Receiver only) *1	H
23	NC		Not used	—

No.	NAME	I/O	FUNCTION	ACT
24	FUNCTION ST	O	Change-over of FUNCTION IC (TC9164N) Strobe (Receiver only) *1	
25	MUTE	O	TUNER, MUTE control output	H
26	VOL UP	O	VOLUME UP output	H
27	VOL DOWN	O	VOLUME DOWN output	H
28	Rotary input	O	Rotary encoder input A (Tuner only) *1	H
29	Rotary input	O	Rotary encoder input B (Tuner only) *1	H
30	$\overline{\text{RST}}$	I	Reset input	
31	EX' TAL		Connecting 7.7 MHz oscillation crystal between pins	—
32	X' TAL			—
33	Vss		GND standard electric potential	—
34	NC		Not used	—
35	FL AC	O	FC AC ON/OFF	L
36	POWER	O	POWER ON/OFF	H
37	Seg 17	O	Segment indication output	H
38	Seg 18	O		
39	Seg 20	O		
40	Seg 19	O		
41	Seg 1	O		
42	Seg 2	O		
43	Seg 10	O		
44	Seg 11	O		
45	Seg 3	O		
46	Seg 12	O		
47	K00/S9	O	Segment indication output / KEYSKAN output	H

No.	NAME	I/O	FUNCTION	ACT
48	K01/S8	O	Segment indication output / KEYSCAN output	H
49	K02/S13	O		
50	K03/S4	O		
51	K04/S15	O		
52	Seg 16	O	Segment indication output	H
53	Seg 14	O		
54	Seg 6	O		
55	Seg 7	O		
56	Seg 5	O		
57	Seg 21	O		
58	Seg 22	O		
59	Seg 23	O		
60	Seg 24	O	Segment indication output (Receiver only) *1	H
61	R: G 1 T: G 10	O	Grid FL indication output	H
62	R: G 2 T: G 9	O		
63	R: G 3 T: G 8	O		
64	R: G 4 T: G 7	O		
65	R: G 5 T: G 6	O		
66	R: G 6 T: G 1	O		
67	R: G 7 T: G 2	O		
68	R: G 8 T: G 3	O		
69	R: G 9 T: G 4	O		
70	R: G 10 T: G 5	O		

No.	NAME	I/O	FUNCTION	ACT
71	-VFDP		Electric potential for EDP (-30 V)	—
72	VDD		+5 V Power source input	—
73	NC		+5 V Power source input	—
74	TEST	I	TEST MODE judgement input	H
75	PLL_DT	O	PLL communication data output (LM7001) and change-over function (TC9164N)	—
76	PLL_CK	O	PLL communication clock output (LM7001) and change-over function (TC9164N)	—
77	PLL_CE	O	PLL communication chip unable output (LM7001)	H
78	RDS_CK	I	Each bit from LC7073 synchronizing clock input	—
79	AC	I	WAKE • UP AC pulse input	—
80	RDS_OUT	I	Judging RDS signals output or not	L

*1 : Functions will be changed according to setting (L or H) of Pin 19.

8. FOR HBWXX, HEWZXX AND HEWIXX TYPES

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.
 - 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 ohms and 47k ohms (Tolerance is shown by J = 5%, and K = 10%).
- 560 Ω $\rightarrow$ 56 $\times 10^1 \rightarrow$ 561----- RD1/8PM $\boxed{5} \boxed{6} \boxed{1}$ J
 47k Ω $\rightarrow$ 47 $\times 10^3 \rightarrow$ 473----- RD1/4PS $\boxed{4} \boxed{7} \boxed{3}$ J
 0.5 Ω $\rightarrow$ 0R5----- RN2H $\boxed{0} \boxed{R} \boxed{5}$ K
 1 Ω $\rightarrow$ 010----- RS1P $\boxed{0} \boxed{1} \boxed{0}$ K

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

5.62k Ω $\rightarrow$ 562 $\times 10^1 \rightarrow$ 5621----- RN1/4PC 5 6 2 1 F

HBWXX, HEWZXX, HEWIXX and HEXX have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		HEXX	HBWXX	HEWZXX	HEWIXX	
NSP	TUNER ASSY POWER ASSY RDS ASSY CONTROL ASSY FM/AM TUNER MODUL	AWE7009 AWZ7709 AWZ7711 AWZ7714 AXQ7040	AWE7009 AWZ7709 AWZ7711 AWZ7714 AXQ7040	AWE7010 AWZ7710 AWZ7712 AWZ7715 AXQ3226	AWE7011 AWZ7710 AWZ7713 AWZ7715 AXQ3226	
$\triangle$	C2 Ceramic capacitor	CKDYB102K50	CKDYB102K50	Not used	Not used	With AC power cord
$\triangle$	AC power cord	ADG1138	ADG1148	ADG1138	ADG1138	
	Fuse (5A/250V)	Not used	AEK1046	Not used	Not used	
	Operating instructions (English, French, German, Swedish, Italian, Dutch, Spanish, Portuguese)	ARE7031	Not used	Not used	Not used	
	Operating instructions (English)	Not used	ARB7032	Not used	Not used	For AC power cord
	Operating instructions (German)	Not used	Not used	ARC7051	Not used	
	Operating instructions (Italian)	Not used	Not used	Not used	ARC7052	
	Air cap	Not used	AHG1203	Not used	Not used	
	Packing case	AHD7133	AHD7134	AHD7133	AHD7133	

● POWER ASSY

Although AWZ7715 and AWZ7714 are different in part number, they have the same service parts.

● RDS ASSY

AWZ7712, AWZ7713 and AWZ7711 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ7711	AWZ7712	AWZ7713	
	L303 R305, R306	LAU010J RD1/8PM332J	LAU2R2J Not used	LAU2R2J RD1/8PM332J	

● CONTROL ASSY

AWZ7715 and AWZ7714 have the same construction except for the following:

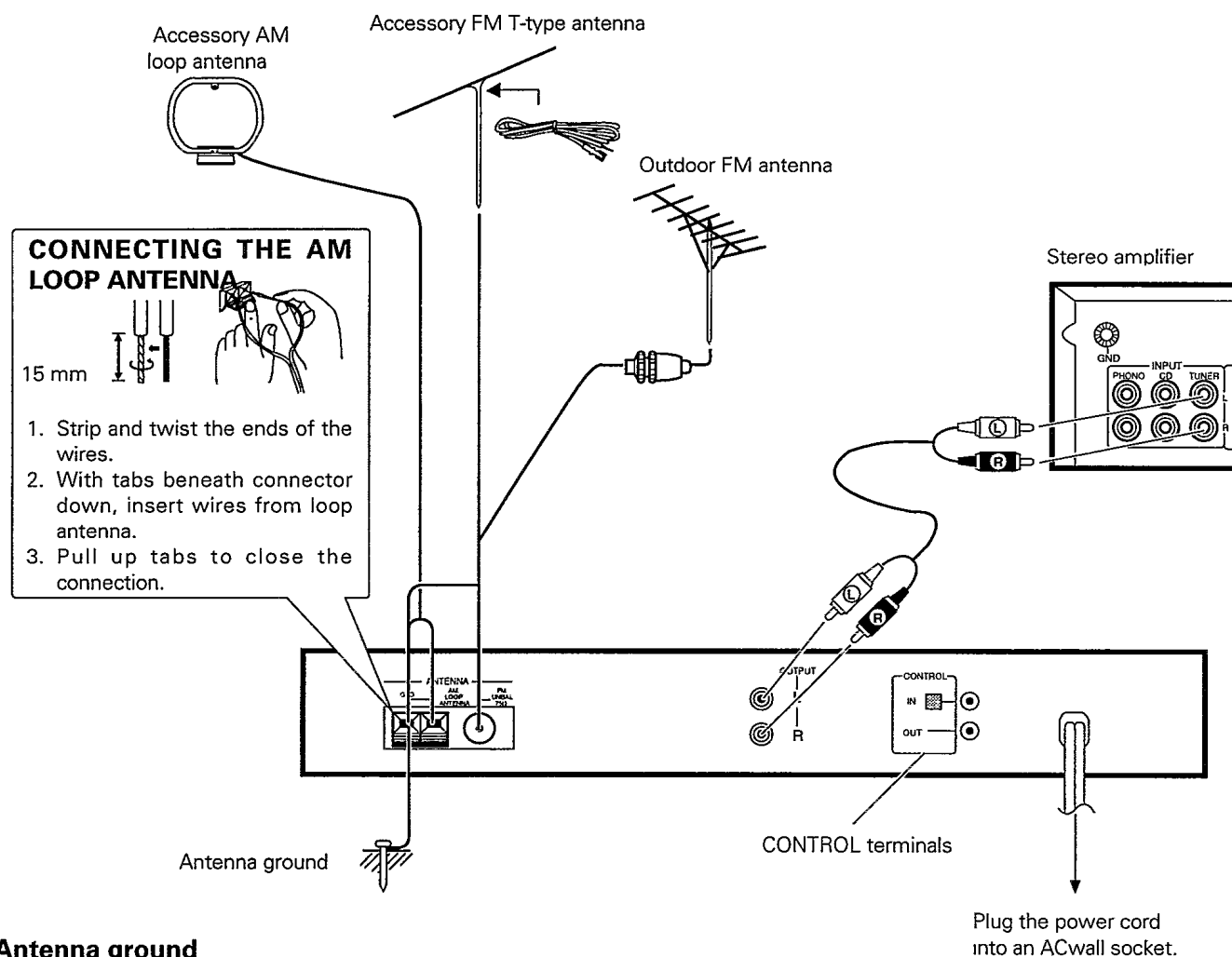
Mark	Symbol & Description	Part No.		Remarks
		AWZ7714	AWZ7715	
	R419 R420	RD1/8PM473J RD1/8PM222J	RD1/8PM104J Not used	

● FM/AM TUNER MODUL

AXQ3226 and AXQ7040 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AXQ7040	AXQ3226	
	Q6205, Q6206 Q6207 - Q6209, Q6210, Q6216 D6202 C6115 C6126	XDA124EK XDC124EK 1SS184 CKSQYB103K50 Not used	Not used Not used Not used CKSQYB102K50 CKSQYB102K50	
	C6203 C6211 C6216, C6217 C6219 C6231, C6233	CCSQCH221J50 CKSQYF473Z50 CEAS330M25 CEAS470M25 CEAS3R3M50	Not used Not used CEAS330M16 CEAS470M10 CEAS100M50	
	C6243 - C6245 C6256 R6204 - R6206 R6207, R6208 R6263	CEAS470M25 Not used RS1/10S103J RS1/10S102J RS1/8S000J	CEAS470M16 CKSQYF223Z50 Not used Not used Not used	
	R6264, R6285, R6286, R6310 R6276 R6288 AM RF tuning block	RS1/10S000J Not used Not used AXX1042	Not used RS1/8S000J RS1/10S000J AXX1041	

9. CONNECTIONS

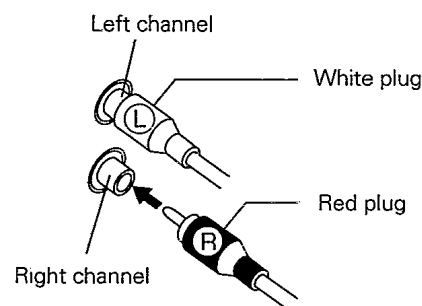


Antenna ground

Although grounding is not always necessary for reception, it is recommended for protection against damage from lightning if an outdoor FM antenna is used. It is also recommended for reducing noise and hum.

Pin plug connecting cord

- Connect the white plug to the white terminal (L) and the red plug to the red terminal (R).
- Make sure that the connections are secure.



CAUTION:

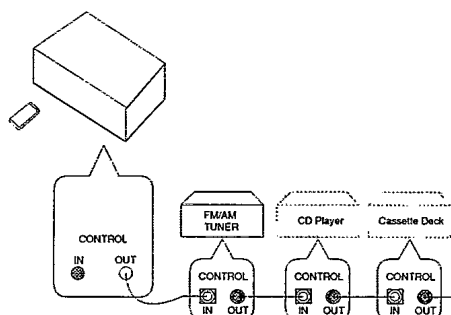
Never make the ground connection to a gas pipe as sparks can cause the gas to ignite.

CONTROL Terminals

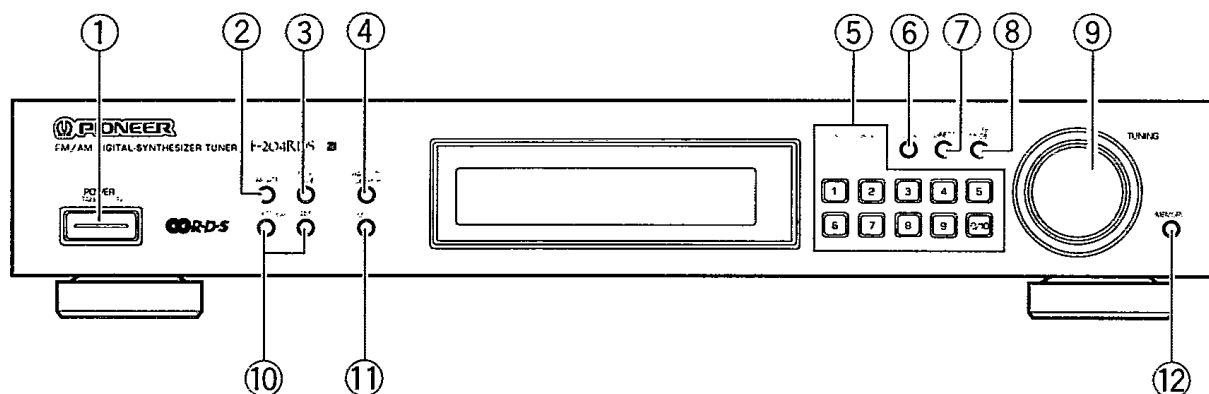
When using together with a Pioneer component bearing the mark, connect the CONTROL IN terminal on the rear panel of the tuner to the CONTROL OUT terminal on the component using the supplied control cord. This will enable the tuner to be controlled from a distance with the remote control unit supplied with the component.

When this feature is not used, connection is not necessary.

- For instructions regarding connection and operation, please refer to the operating instruction manual of your stereo component.



10. FRONT PANEL FACILITIES



① POWER (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.

NOTE:

- 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 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.

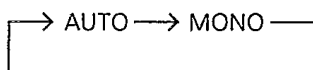
This button does not affect AM reception.

NOTE:

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

③ 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.

NOTE:

When the signal level is too weak for reception, sound output is automatically muted.

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.

NOTE:

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

④ CHARACTER/SEARCH button

When receiving an AM broadcast, or when in the FM RT or PS mode:

Press this button, "INPUT" is displayed, and the mode switches to manual station name input.

When in the FM PTY mode:

Press this button, "SEARCH" is displayed, and the mode switches to program type search.

⑤ 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.

⑥ CLASS button

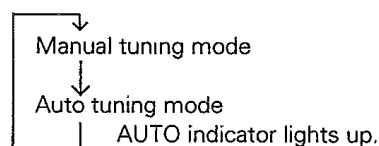
Use to switch between preset memory classes 1 to 3. In each class, 10 stations can be memorized using the STATION CALL buttons, enabling a total of 30 stations to be memorized.

⑦ 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.

⑧ TUNING MODE button

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



- Auto Tuning is not possible on the LW band.

⑨ 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.

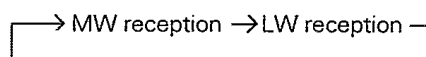
In the Station Name input mode, PTY Search mode, the TUNING knob is used to select characters and program types.

⑩ BAND selector buttons

These buttons are used to select either FM or AM reception.

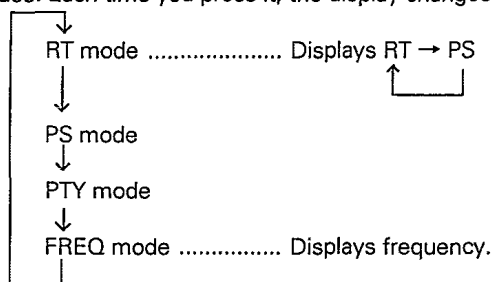
FM: Press to receive FM broadcasts.

AM: The bands change alternately as follows, each time this button is pressed.

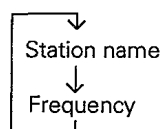


11 DISPLAY MODE button

Use only 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.



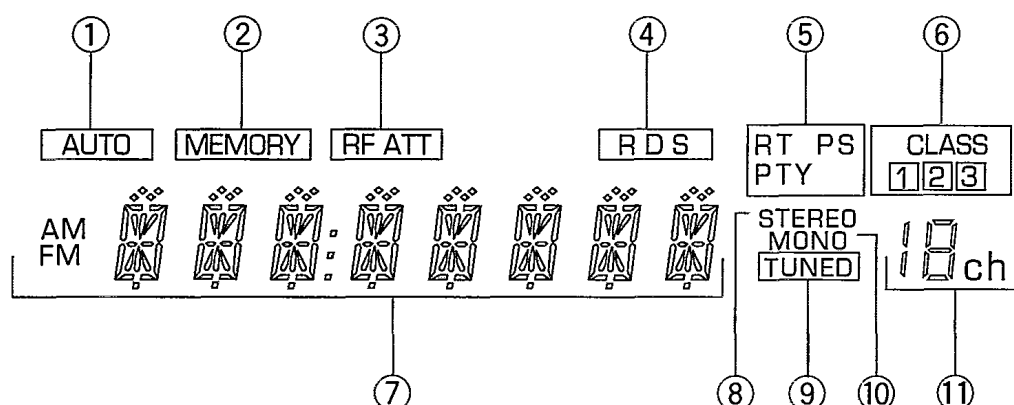
Does not show other displays. When no station name is memorized, the DISPLAY MODE button becomes invalid.

12 MEMORY button

Use to preset stations.

This is also used for FM or AM broadcast manual station name character selection.

● DISPLAY



1 AUTO indicator

Lights during auto tuning mode.

2 MEMORY indicator

3 RF ATT indicator

Stays lit while RF ATT button is on.

4 RDS indicator

Lights when an RDS broadcast is received.

5 RT, PS, PTY indicator

One of these lights to indicate the selected display mode (selected by the DISPLAY MODE button).

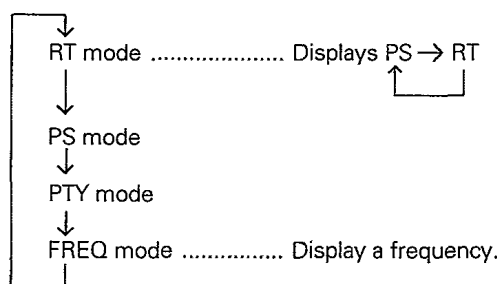
6 CLASS 1, 2, 3 indicator

Shows the class selected by the CLASS button. The current CLASS is displayed.

7 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.



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.

10 MONO indicator

Stays lit while MPX MODE button is set to MONO.

11 Station display section

When STATION CALL buttons are pressed, it will show the corresponding station number.

