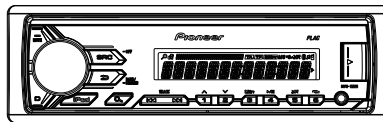


Pioneer

Service Manual



MVH-190UI/XINEW5

ORDER NO.
CRT5960

DIGITAL MEDIA RECEIVER

MVH-190UI /XINEW5

MVH-X195UI /XINGS

MVH-X199UI /XINID

MVH-X195UI /XINME



SAFETY INFORMATION

CAUTION

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.

Where in a manufacturer's service documentation, for example in circuit diagrams or lists of components, a symbol is used to indicate that a specific component shall be replaced only by the component specified in that documentation for safety reasons, the following symbol shall be used:



CAUTION

Danger of explosion if battery is incorrectly replaced.
Replaced only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacturer's instructions.

CONTENTS

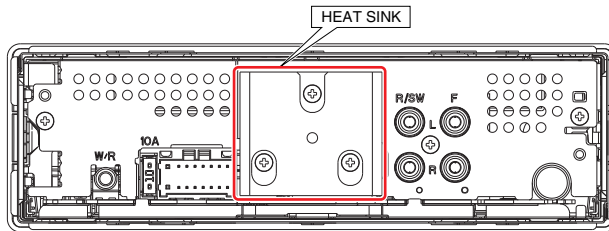
SAFETY INFORMATION	2
1. SERVICE PRECAUTIONS	3
1.1 SAFETY PRECAUTIONS	3
1.2 NOTES ON DISASSEMBLY / ASSEMBLY	3
1.3 NOTES ON REPLACING PARTS	3
1.4 OTHERS	4
2. SPECIFICATIONS	4
2.1 SPECIFICATIONS	4
2.2 DISC/CONTENT FORMAT	4
3. BASIC ITEMS FOR SERVICE	4
3.1 CHECK POINTS AFTER SERVICING	4
4. BLOCK DIAGRAM	5
4.1 BLOCK DIAGRAM	5
4.2 POWER SUPPLY SYSTEM FIGURE	6
5. DIAGNOSIS	7
5.1 OPERATIONAL FLOWCHART	7
5.2 ERROR CODE LIST	8
5.3 CONNECTOR FUNCTION DESCRIPTION	9
5.4 FUSE CHECK	9
6. SERVICE MODE	10
6.1 DISPLAY TEST MODE1	10
6.2 DISPLAY TEST MODE2	11
6.3 SOFTWARE VERSION UP METHOD	12
7. DISASSEMBLY	13
8. EACH SETTING AND ADJUSTMENT	15
9. EXPLODED VIEWS AND PARTS LIST	16
9.1 PACKING	16
9.2 EXTERIOR	18
10. SCHEMATIC DIAGRAM	20
10.1 TUNER AMP UNIT	20
10.2 KEYBOARD UNIT	21
11. PCB CONNECTION DIAGRAM	22
11.1 TUNER AMP UNIT	22
11.2 KEYBOARD UNIT	24
12. ELECTRICAL PARTS LIST	25

1. SERVICE PRECAUTIONS

1.1 SAFETY PRECAUTIONS



- You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
- Heat sink becomes hot areas. Be careful not to burn yourself.



1.2 NOTES ON DISASSEMBLY / ASSEMBLY

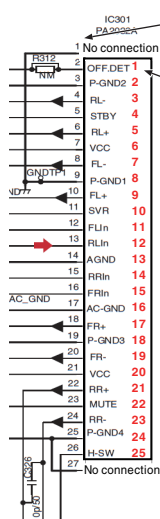
- Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
- Please be sure to conduct line process to original status if you make assembling after repair.

1.3 NOTES ON REPLACING PARTS

- Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
- Please be careful of not to apply static charge onto integrated circuits, etc, when you conduct repair work. Especially, please use soldering iron with its tip grounded. Also, please use a pair of tweezers with static charge protection capability if there is the possibility of contacting to device terminals, and avoid the use of metal-made tweezers.
- Notes about installation and pin number description of Power IC (IC301: PA2032A)
The Power IC, PA2032A used on the Tuner Amp Unit is a 25 pin IC.
The same PCB of the Tuner Amp Unit is used for other models that use a 27 pin IC, too.
So, the PCB has lands for a 27 pin IC.
When you replace the Power IC, install the Power IC onto 25 pins (2- 26 pin) located in the center of 27 pins for IC301.

Therefore, when you check the Power IC on the schematic diagram and the PCB connection diagram, you have to pay attention as follows.

SCHEMATIC DIAGRAM



The pin number of left side is a number on the PCB (silk printing).

The pin number of right side (in the IC frame) means the pin number of IC itself.

1.4 OTHERS

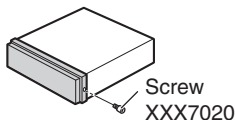
● Notes on soldering

For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.

Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

● To secure the front panel

The front panel can be secured with the supplied screw.



2. SPECIFICATIONS

2.1 SPECIFICATIONS

For all items except the backup current, refer to the Owner's Manual.

Backup current..... 4.0 mA or less

2.2 DISC/CONTENT FORMAT

Made for



iPod



iPhone



Spotify®

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

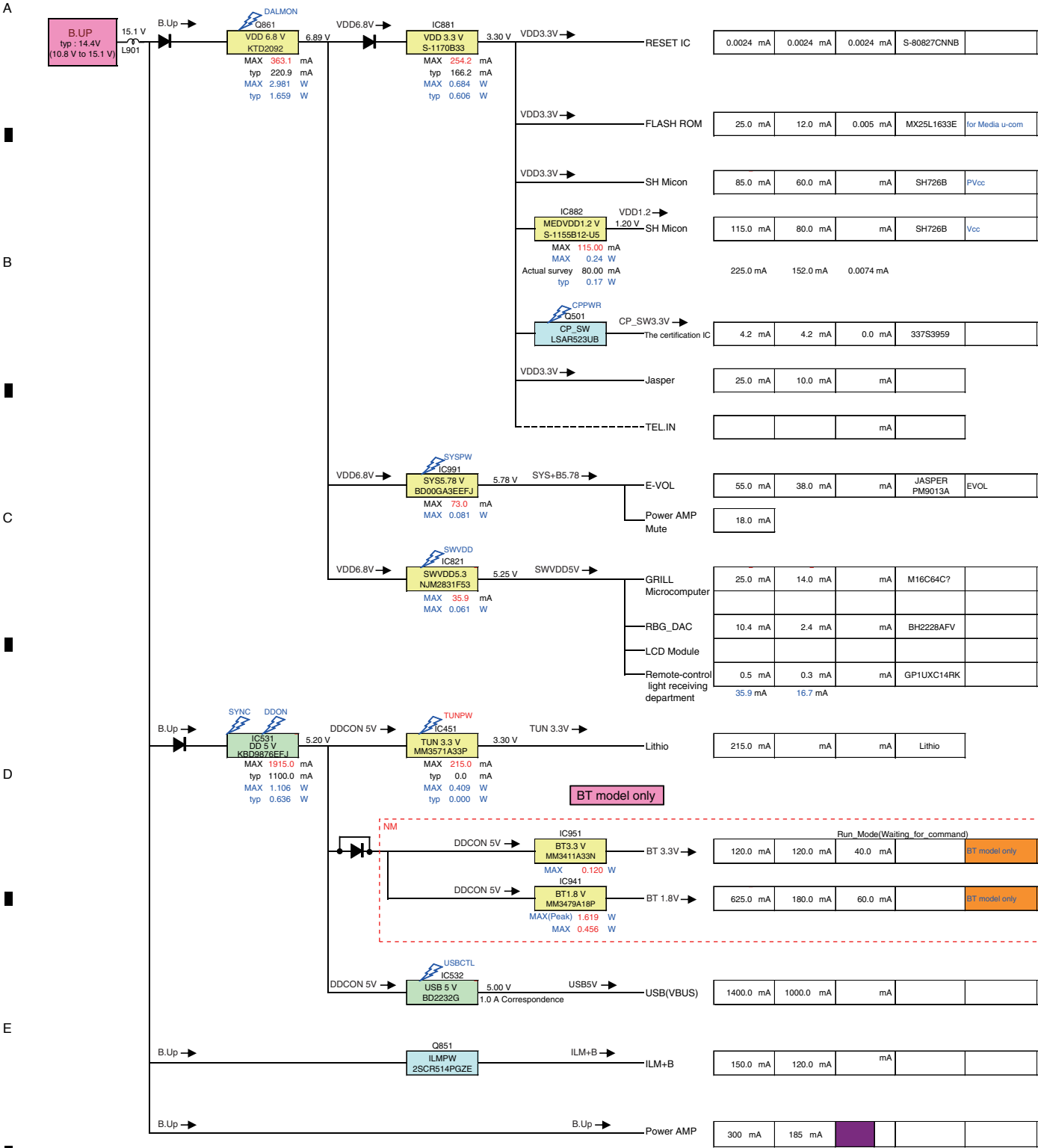
To keep the product quality after servicing, please confirm following check points.

No.		Procedures	Item to be confirmed
1		Confirm whether the customer complain has been solved. If the customer complain occurs with the specific media, use it for the operation check.	The customer complain must not be reappeared. Display, audio and operations must be normal.
2	FM/AM tuner	Check FM/AM tuner action. (Seek, Preset) Switch band to check both FM and AM.	Display, audio and operations must be normal.
3		Appearance check	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding audio:

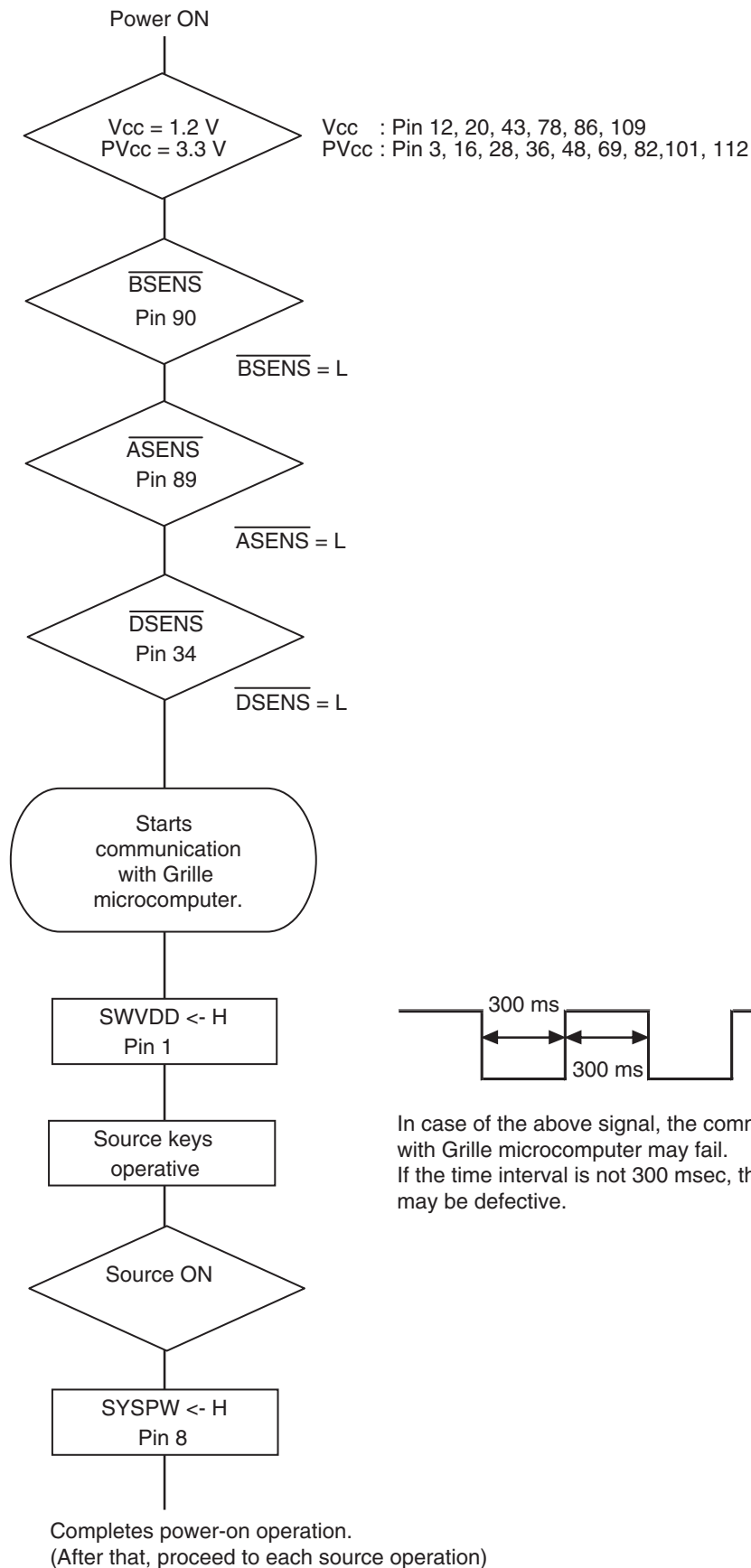
Item to be checked regarding audio
Distortion
Noise
Volume too low
Volume too high
Volume fluctuating
Sound interrupted

4.2 POWER SUPPLY SYSTEM FIGURE



5. DIAGNOSIS

5.1 OPERATIONAL FLOWCHART



5.2 ERROR CODE LIST

A

Common

- AMP ERROR
- This unit fails to operate or the speaker connection is incorrect.
 - The protective circuit is activated.
 - Check the speaker connection.
 - Check the power IC and its peripheral circuit.

- NO XXXX(NO TITLE, for example)
- There is no embedded text information.
 - Switch the display or play another track/file.

USB device/iPod

- FORMAT READ
- Sometimes there is a delay between the start of playback and when you start to hear any sound.
 - Wait until the message disappears and you hear sound.

B

- NO AUDIO
- There are no songs.
 - Transfer the audio files to the USB device and connect.
 - The connected USB device has security enabled.
 - Follow the USB device instructions to disable the security.

- SKIPPED
- The connected USB device contains DRM protected files.
 - The protected files are skipped.

C

- PROTECT
- All the files on the connected USB device are embedded with DRM.
 - Replace the USB device.

- N/A USB
- The connected USB device is not supported by this unit.
 - Disconnect your device and replace it with a compatible USB device.

- HUB ERROR
- The USB device connected via a USB hub is not supported by this unit.
 - Connect the USB device directly to this unit using a USB cable.

D

- CHECK USB
- The USB connector or USB cable has short-circuited.
 - Check that the USB connector or USB cable is not caught in something or damaged.
 - The connected USB device consumes more than maximum allowable current.
 - Disconnect the USB device and do not use it. Turn the ignition switch OFF and back to ACC or ON. Connect only compliant USB devices.
 - The iPod operates correctly but does not charge.
 - Make sure the connection cable for the iPod has not shorted out (e.g., not caught in metal objects). After checking, turn the ignition switch OFF and back to ON, or disconnect the iPod and reconnect.

E

F

- ERROR-19
- Communication failed.
 - Perform one of the following operations, then return to the USB source.
 - Turn the ignition switch OFF and back to ON.
 - Disconnect the USB device.
 - Change to a different source.
 - iPod failure.
 - Disconnect the cable from the iPod. Once the iPod's main menu is displayed, reconnect the iPod and reset it.

- ERROR-23
- USB device was not formatted properly.
 - Format the USB device with FAT12, FAT16 or FAT32.

- ERROR-16
- The iPod firmware version is old.
 - Update the iPod version.
 - iPod failure.
 - Disconnect the cable from the iPod. Once the iPod's main menu is displayed, reconnect the iPod and reset it.

- STOP
- There are no songs in the current list.
 - Select a list that contains songs.

- NOT FOUND
- No related songs.
 - Transfer songs to the iPod.

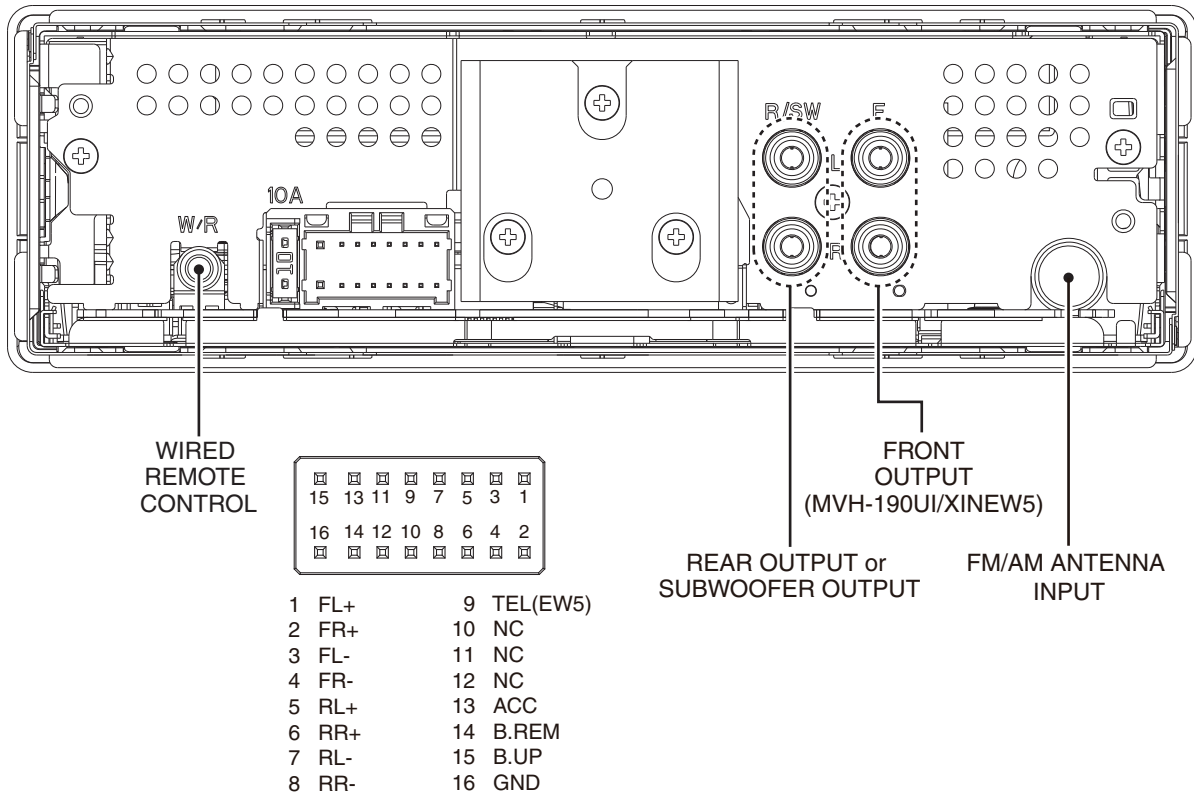
Apps

- START UP APP
- The application has not started running yet.
 - Operate the mobile device to start up the application.

Spotify

- CHECK APP
- Connection to the Spotify application failed.
 - Follow the instructions that appear on the screen.

5.3 CONNECTOR FUNCTION DESCRIPTION



5.4 FUSE CHECK

● No sounds and display output of external unit (the condition when the fuse is blown)

This product may receive excessive current if the power line connection of the external product is incorrect, such as Ground connection failure.

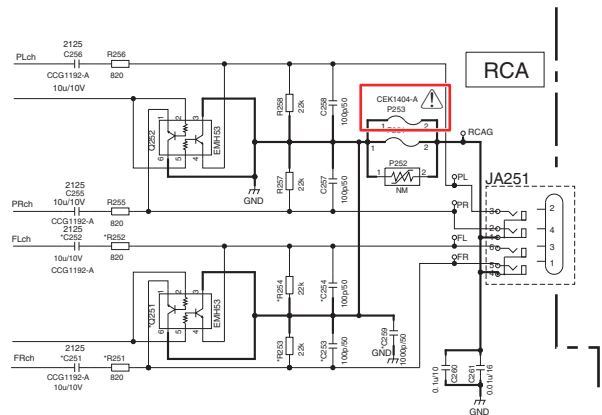
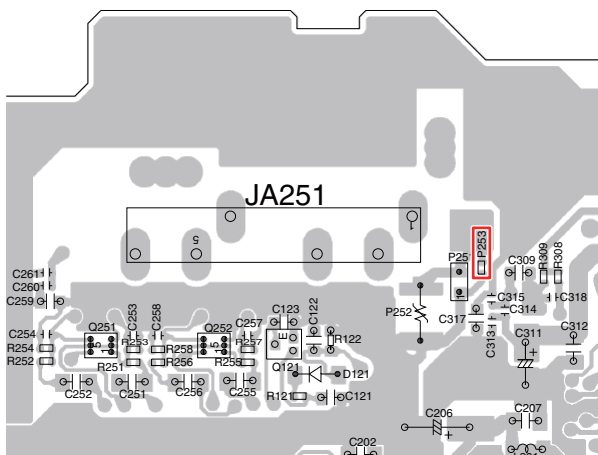
The fuse P253 on TUNER AMP UNIT is used to protect this product from this excessive current.

Even though the fuse is blown, the sounds of Pre-out output and AUX input are output properly and also other functions work correctly.

However, you cannot turn on the external product connected to this product as the power is not supplied if the fuse is blown. (The symptom in this case is the sounds of external product are not output on this product when the external product is connected on a vehicle.)

If you find the symptoms above, check if the fuse is not blown.

If you replace to a new fuse and the fuse is blown again (you cannot turn on the power of external product), check the power connection (Ground) of external product.

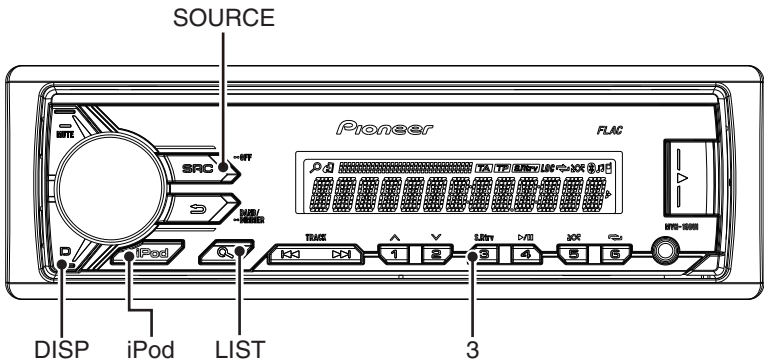


6. SERVICE MODE

6.1 DISPLAY TEST MODE1

[How to enter Test mode]

Press and hold "iPod" and "LIST" buttons together, and turn BUP and ACC on.

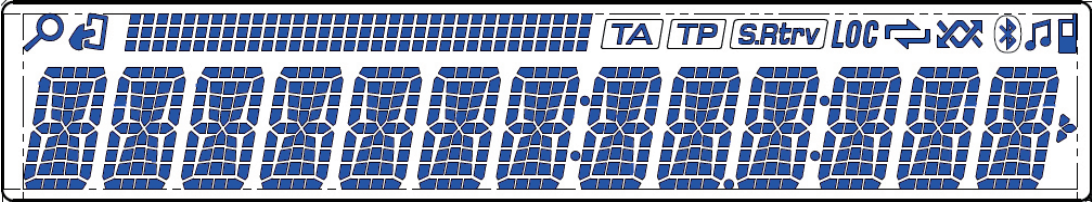


		Grille condition	
Conf. item	Operate	Show LCD	ILM
All light up	iPod+ LIST	Draw 1	RED
All light off	SOURCE	No light	No light
Conf. Button feeling	3	Draw 2	RED

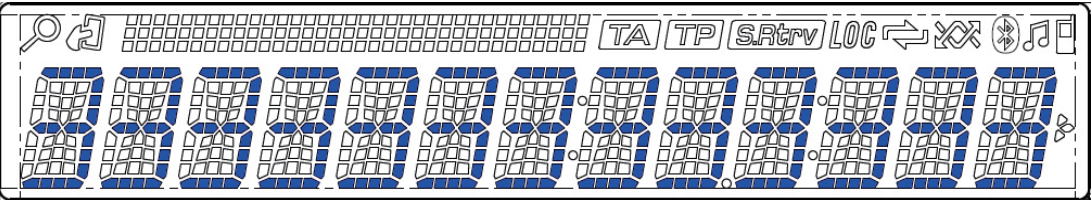
LCD States

Status 1: Refer to "Draw 1" below.
States 2: All light off
Status 3: Refer to "Draw 2" below.

Draw 1



Draw 2



6.2 DISPLAY TEST MODE2

The information such as the system microcomputer version is checked.

[How to enter Test mode]

Press and hold "1" and "3" buttons together, and turn BUP and ACC on.

[Operation key]

Operation key	Processing	Remarks
① + ③	Enter display test mode 2 Switch display status	

[Test items]

Start display test mode.

Press and hold "1" and "3" buttons together, and turn BUP and ACC on.

System Version information is displayed.

S **\$** **\$** **\$** **\$** **#** **#** **#**

\$ PD number For PEA010A, "010A" is displayed

System microcomputer version For Ver.7.01, "701" is displayed

Switching to next display by pressing "①" + "③" buttons together.

Display is normally updated

Product operation is performed as usual, in appearance.

Switching to next display by pressing "①" + "③" buttons together.

Display update is stopped

The screen gets still when entering this item.

Switching to next display by pressing "①" + "③" buttons together.

Key Illumination	Icon
Off	All off
On (an initial value)	All off
On (an initial value or setting value of default menu)	All off
On (an initial value or setting value of default menu)	On (lighting condition of normal times)
On (an initial value or setting value of default menu)	On (state when entering test mode)

* Initial condition

1 2 3 4

6.3 SOFTWARE VERSION UP METHOD

A

Overview

This mode is used for upgrading the MCU software of system using USB memory.

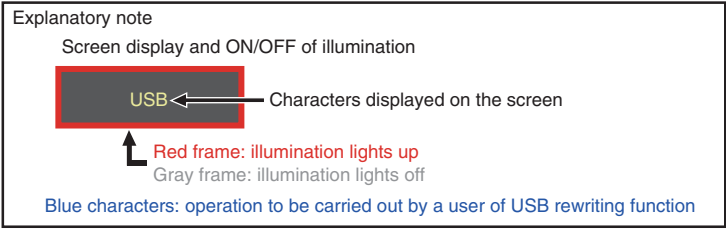
B

How to enter in USB rewriting mode

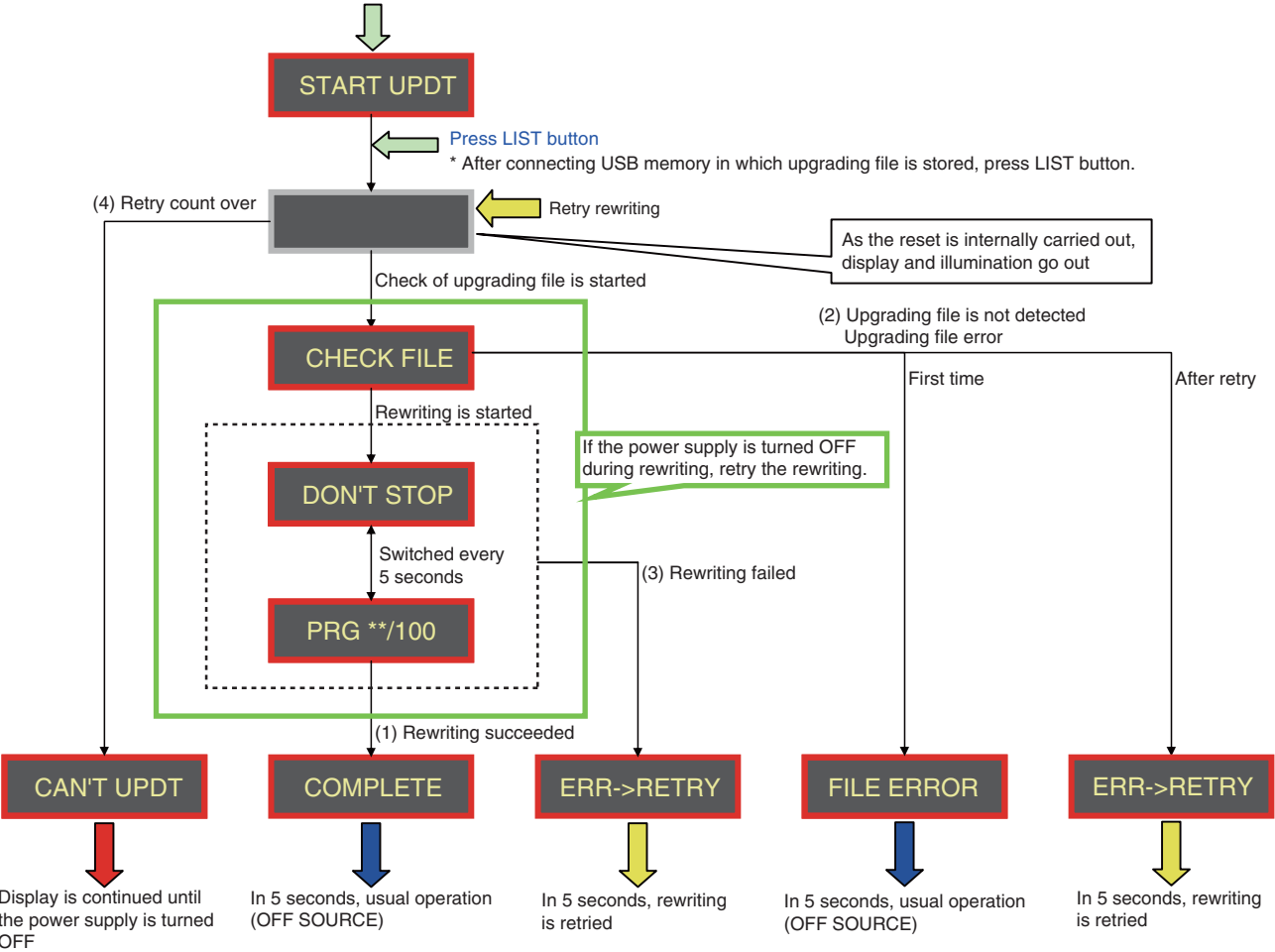
Press and hold "1" and "2" buttons together, and turn BUP and ACC on.

B

USB rewriting operation flow



Press and hold "1" and "2" buttons together, and turn BUP and ACC on.



E

Result of rewriting

(1) Rewriting succeeded	Displayed when USB rewriting is normally terminated. In 5 seconds, usual operation (OFF SOURCE) is started.
(2) Upgrading file error Upgrading file is not detected	Displayed when there is no upgrading file in USB memory or the data of upgrading file is different. In 5 seconds, usual operation (OFF SOURCE) is started. If the upgrading file error is detected or the upgrading file is not detected after the rewriting is retried, the rewriting is failed. In 5 seconds, rewriting is retried.
(3) Rewriting failed	Displayed when the writing of upgrading file in serial Flash is not normally terminated. Or, displayed if the upgrading file error is detected or the upgrading file is not detected after the rewriting is retried. In 5 seconds, rewriting is retried.
(4) Retry count over	Displayed when the retry becomes unavailable because the retry count is exceeded. The display is continued until the power supply is turned OFF. If the power supply is turned ON again, the display is not changed. Since USB Updating is disabled, it is necessary to replace Fash ROM Unit.

7. DISASSEMBLY

While the photograph shown is slightly different from this model in shape, the disassembly procedure is the same.

● Removing the Panel Assy (Fig.1)

- ➡ 1 Release the two latches.
- ➡ 2 Release the two latches and then remove the Panel Assy.

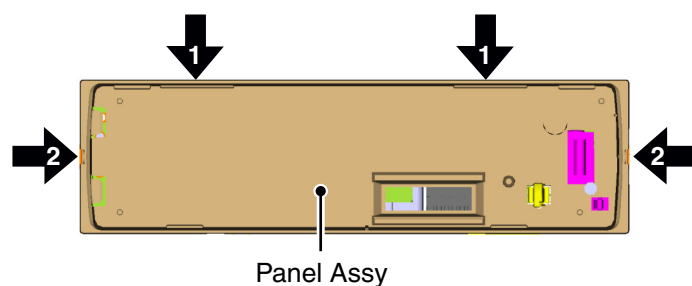
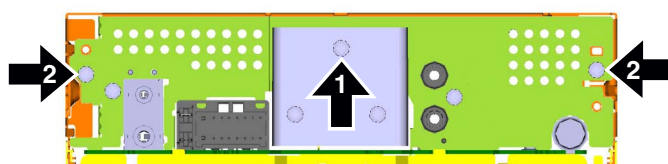


Fig.1

● Removing the Tuner Amp Assy (Fig.2)

- ➡ 1 Remove the screw.
 - ➡ 2 Remove the two screws.
- The Chassis side is made a bottom.
- ➡ 3 Push the area and remove the two hooks.



- ➡ 4 Slide the Tuner Amp Assy in the direction of the arrow and then remove the Tuner Amp Assy.

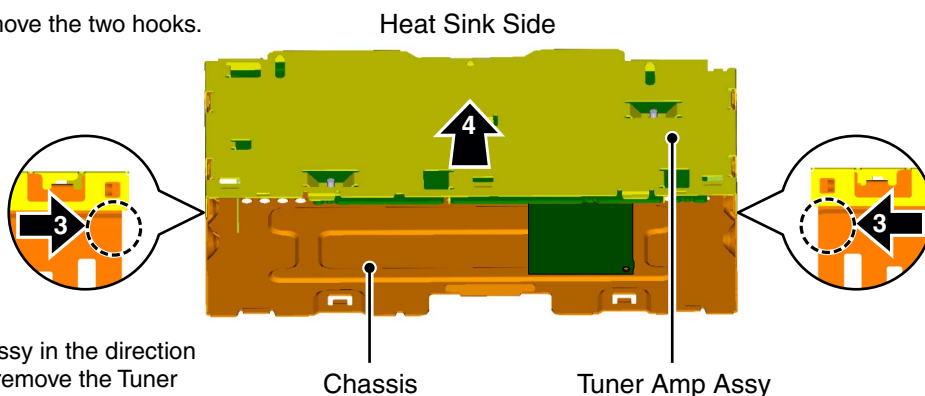


Fig.2

● Removing the Tuner Amp Unit (Fig.3)

- ➡ 1 Remove the two screws.
- ➡ 2 Straighten the tab at location indicated and then remove the Tuner Amp Unit.

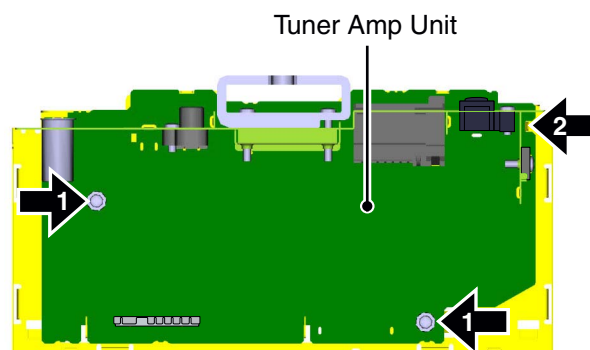


Fig.3

● Disassembling the Panel Part (Fig.4, 5)

1. Remove the arm while bending the rib of the panel upward.

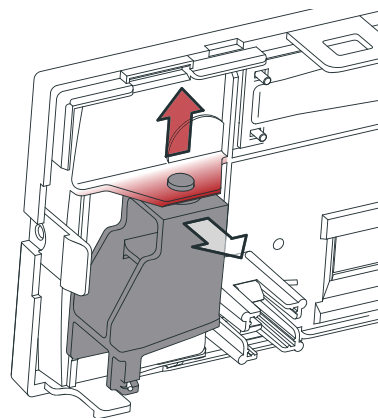


Fig.4

2. Press the upside hook and the bottom side hook of the button at the same time, and pull out the button.

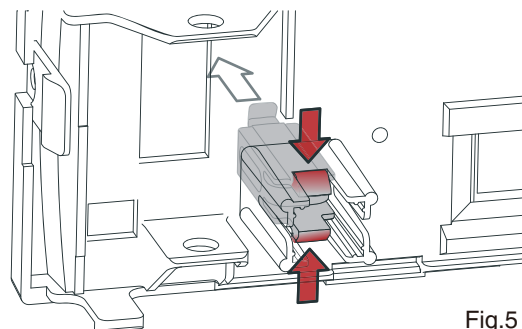


Fig.5

● Assembling the Panel Part (Fig.6, 7, 8)

1. Attach the button from the front side of the panel.

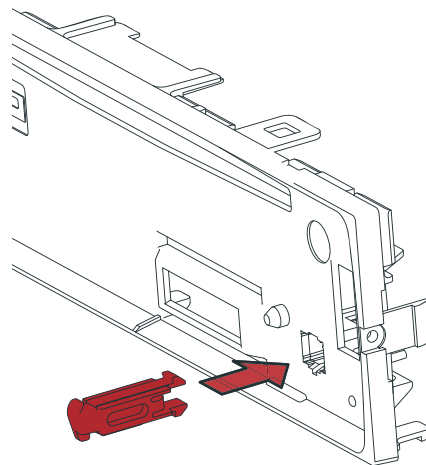


Fig.6

2. Attach the spring to the arm as shown in the figure.

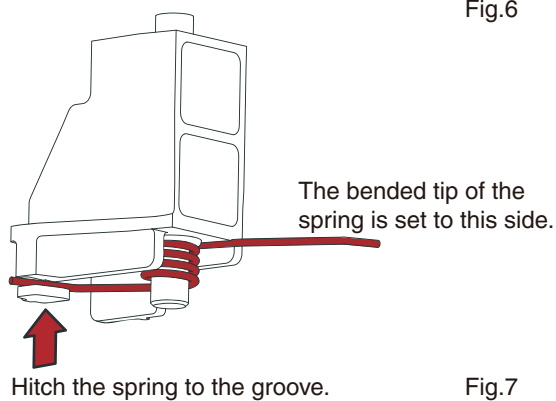


Fig.7

3. Fit the spring in the groove at the position shown in the figure.
4. Fit the boss on the lower side of the arm in the lower hole of the panel, and then warp the rib on the panel in the direction shown in the figure and fit the boss of the arm in the panel.

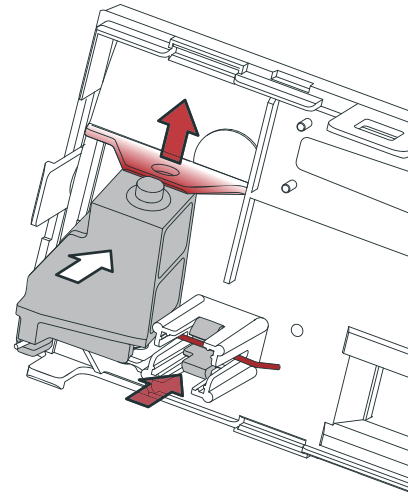


Fig.8

8. EACH SETTING AND ADJUSTMENT

There is not information to be shown in this chapter.

(1) PACKING SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Cord Assy	See Contrast table (2)	10	Protector	QHP3051
2	Detach Grille Case	See Contrast table (2)			
3	Accessory Assy	See Contrast table (2)	11	Unit Box	See Contrast table (2)
4	Screw	See Contrast table (2)	12	Contain Box	See Contrast table (2)
5	Handle	QNC3119	13	Card Remote Control Unit	See Contrast table (2)
			* 14-1	Warranty Card	See Contrast table (2)
6	Bracket	QNC3086	14-2	Owner's Manual	See Contrast table (2)
7	Screw	BSZ26P060FTC			
8	Polyethylene Bag	CEG1260	* 14-3	Service Network	See Contrast table (2)
9	Protector	QHP3050			

(2) CONTRAST TABLE

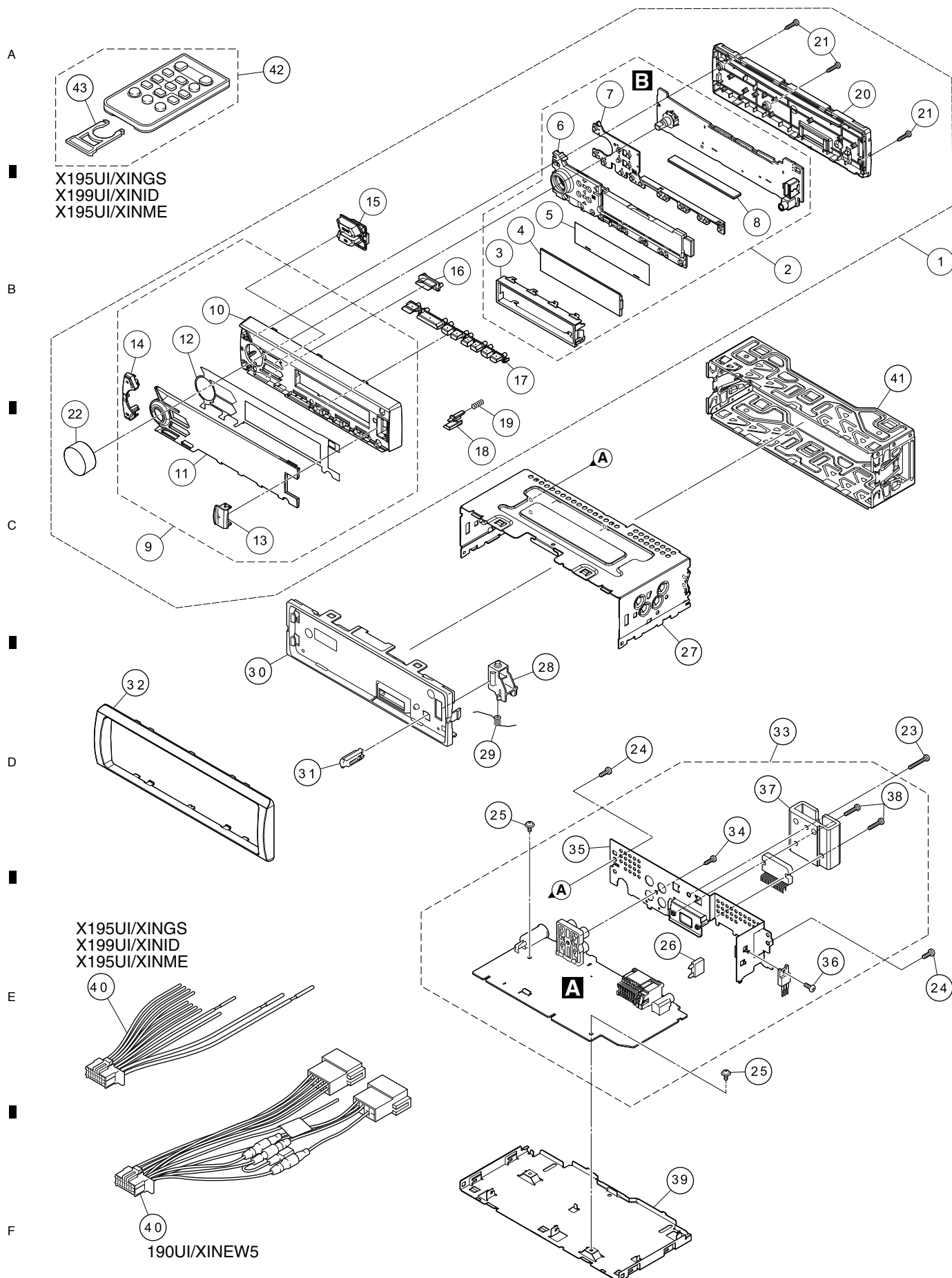
MVH-190UI/XINEW5, MVH-X195UI/XINGS, MVH-X199UI/XINID and MVH-X195UI/XINME are constructed the same except for the following:

Mark	No.	Description	MVH-190UI/XINEW5	MVH-X195UI/XINGS	MVH-X199UI/XINID	MVH-X195UI/XINME
	1	Cord Assy	QDP3070	CDP1480	CDP1480	CDP1480
	2	Detach Grille Case	QEG3004	QEG3004	QXA3129	QEG3004
	3	Accessory Assy	QEA3318	QEA3341	QEA3341	QEA3341
	4	Screw	Not used	CBA2384	CBA2384	CBA2384
	11	Unit Box	QHG3946	QHG3947	QHG3948	QHG3957
	12	Contain Box	QHL3946	QHL3947	QHL3948	QHL3957
	13	Card Remote Control Unit	Not used	CXE9606	CXE9606	CXE9606
*	14-1	Warranty Card	CRY1376	Not used	CRY1304	QRY3005
	14-2	Owner's Manual	QRD3405	QRD3409	QRB3616	QRD3408
*	14-3	Service Network	Not used	Not used	Not used	QRY3006

Owner's Manual,Installation Manual

Part No.	Language
QRD3405	English, French, Italian, Spanish(Espanol), German, Dutch, Russian
QRD3409	English, Traditional Chinese, Arabic, Persian
QRB3616	English
QRD3408	English, French, Spanish(Espanol)

9.2 EXTERIOR



(2) CONTRAST TABLE
 MVH-190UI/XINEW5, MVH-X195UI/XINGS, MVH-X199UI/XINID and MVH-X195UI/XINME are constructed the same except for the following:

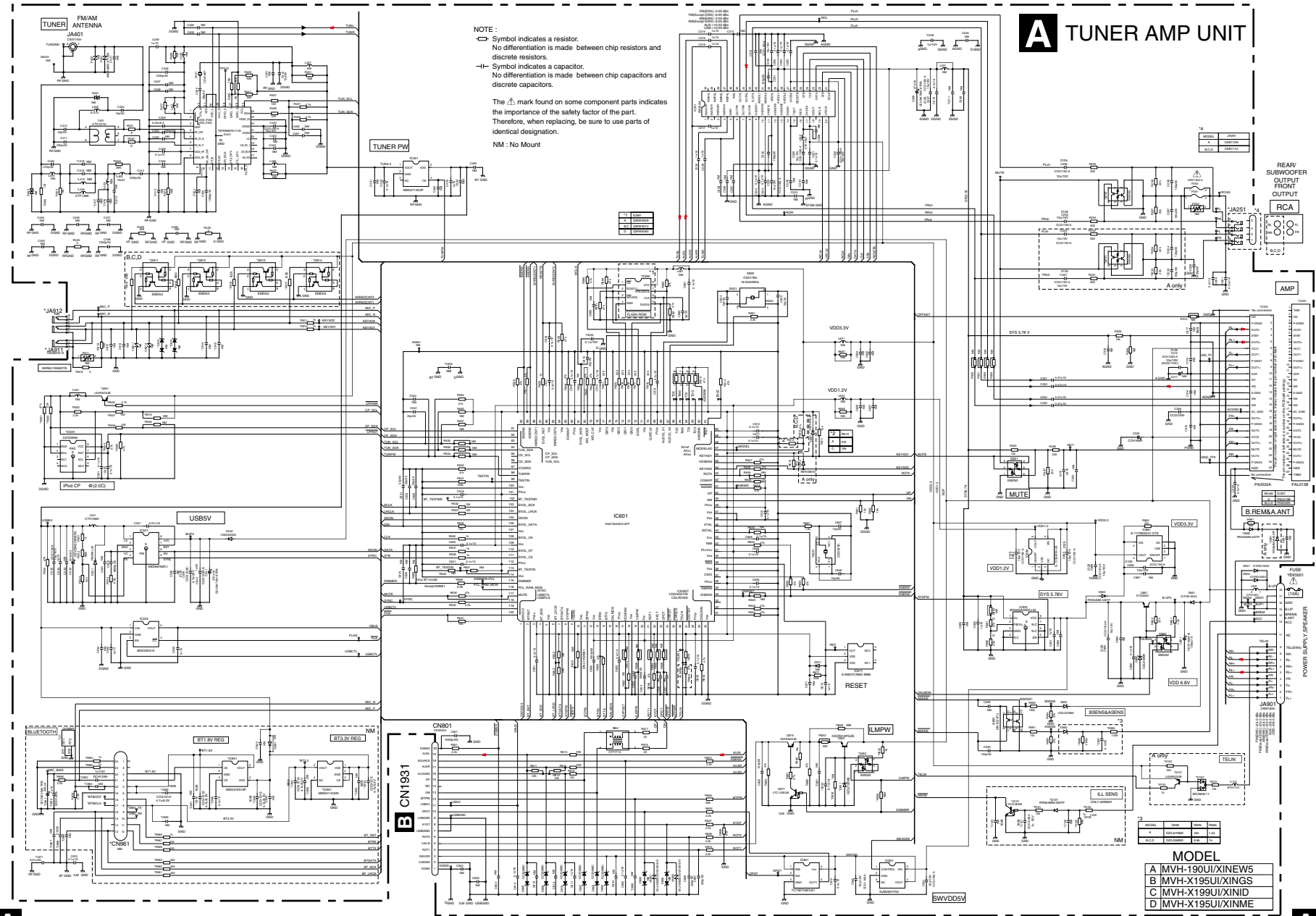
Mark	No.	Description	MVH-190UI/XINEW5	MVH-X195UI/XINGS	MVH-X199UI/XINID	MVH-X195UI/XINME	
	1	Detach Grille Assy	QXA4816	QXA4817	QXA4819	QXA4817	D
	2	Keyboard Unit	QWM4385	QWM4384	QWM4384	QWM4384	
	9	Grille Unit	QXA4796	QXA4797	QXA4799	QXA4797	
	14	Button(MUTE)	QAC3259	QAC3261	QAC3261	QAC3261	
	16	Button(iPod)	QAC3249	QAC3247(EQ)	QAC3247(EQ)	QAC3247(EQ)	
	33	Tuner Amp Unit	QWM4360	QWM4361	QWM4363	QWM4403	■
	35	Holder	QNC3104	QNC3105	QNC3105	QNC3105	
	40	Cord Assy	QDP3070	CDP1480	CDP1480	CDP1480	
	42	Card Remote Control Unit	Not used	CXE9606	CXE9606	CXE9606	
	43	Cover	Not used	CNU3681	CNU3681	CNU3681	

10. SCHEMATIC DIAGRAM

10.1 TUNER AMP UNIT

10. SCHEMATIC DIAGRAM

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



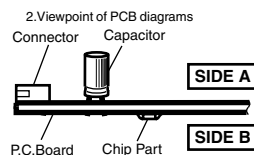
MVH-190UI/XINEW5

11. PCB CONNECTION DIAGRAM

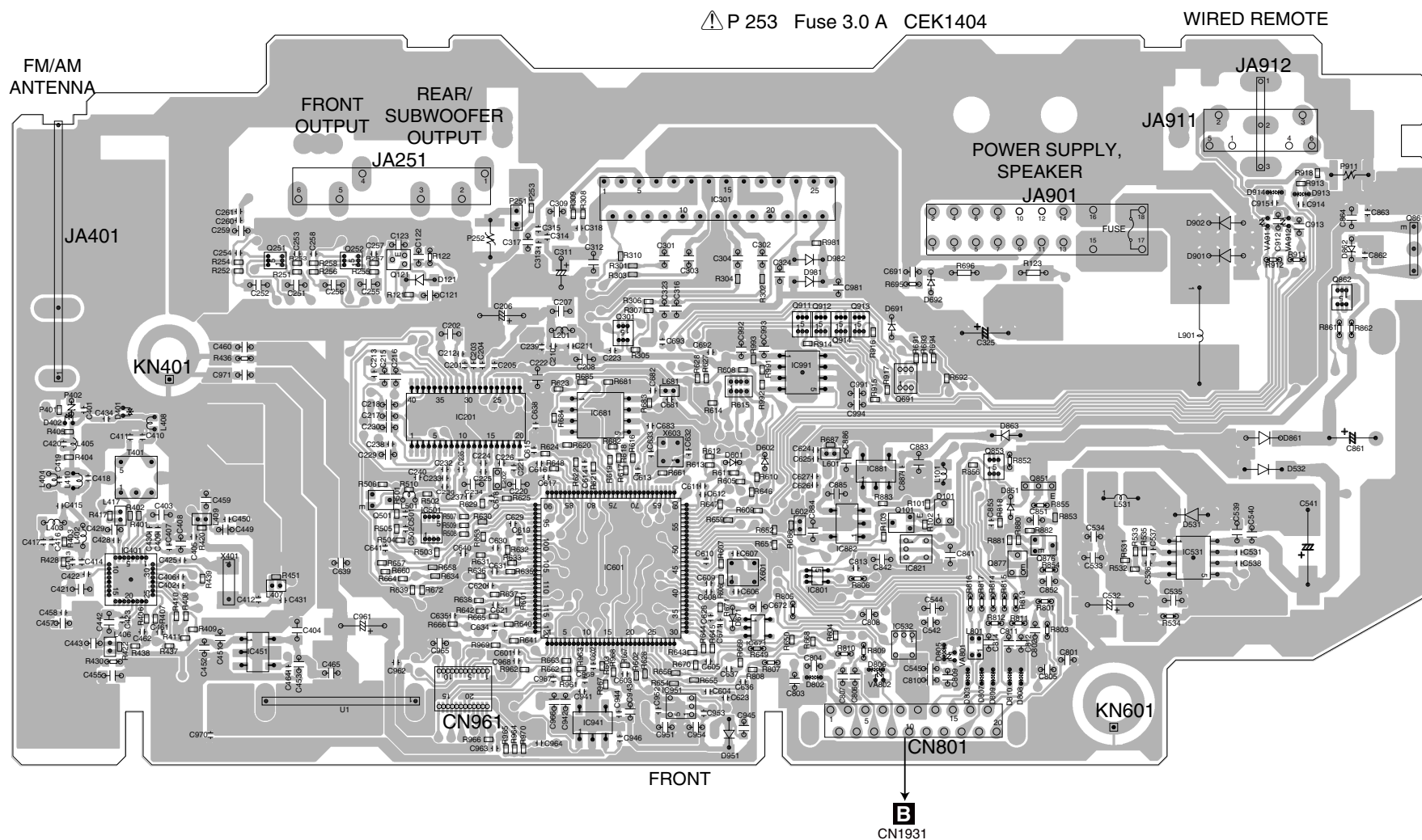
A TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

1. 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.



SIDE A



11. PCB CONNECTION DIAGRAM

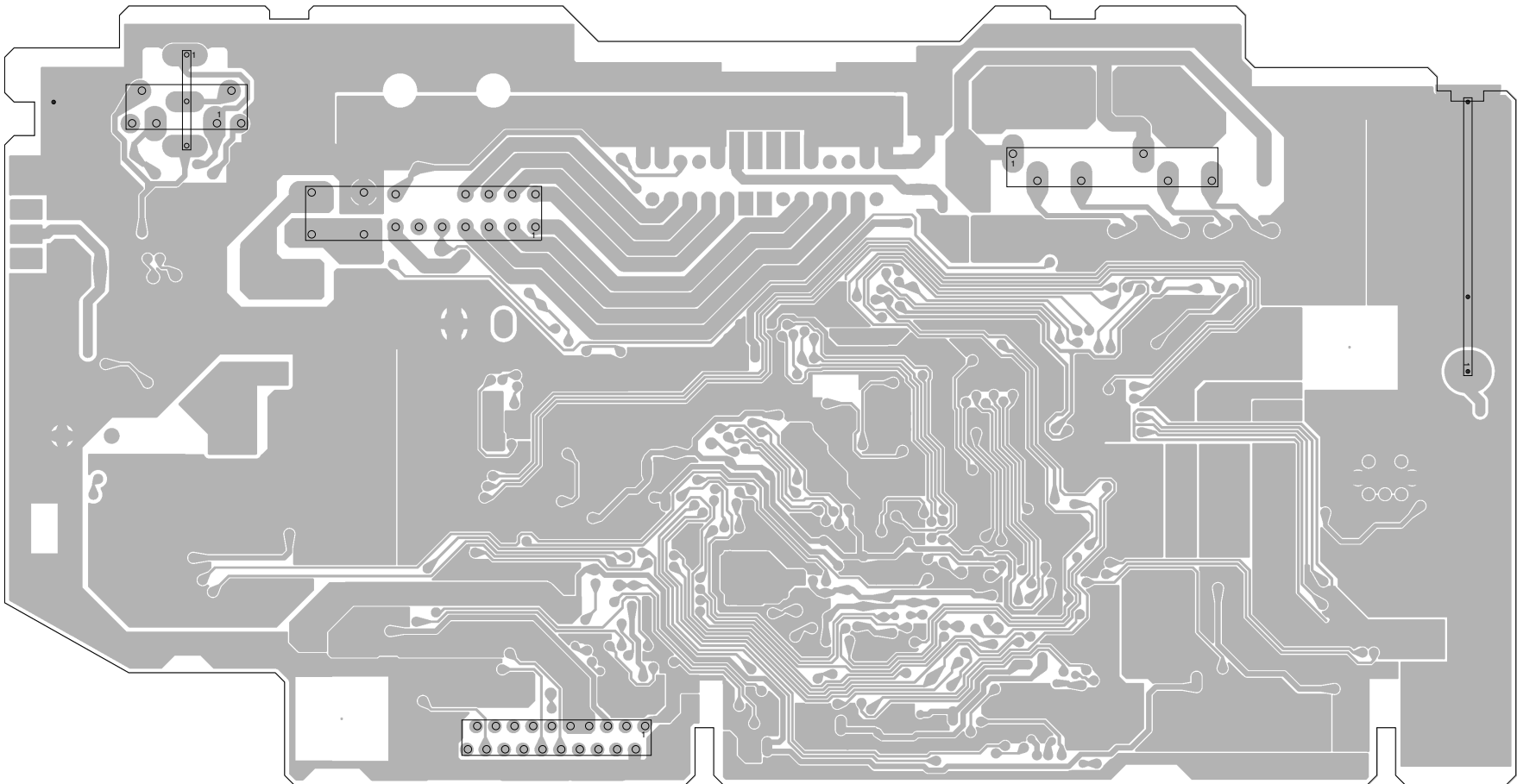
11.1 TUNER AMP UNIT

A

A

A TUNER AMP UNIT

SIDE B



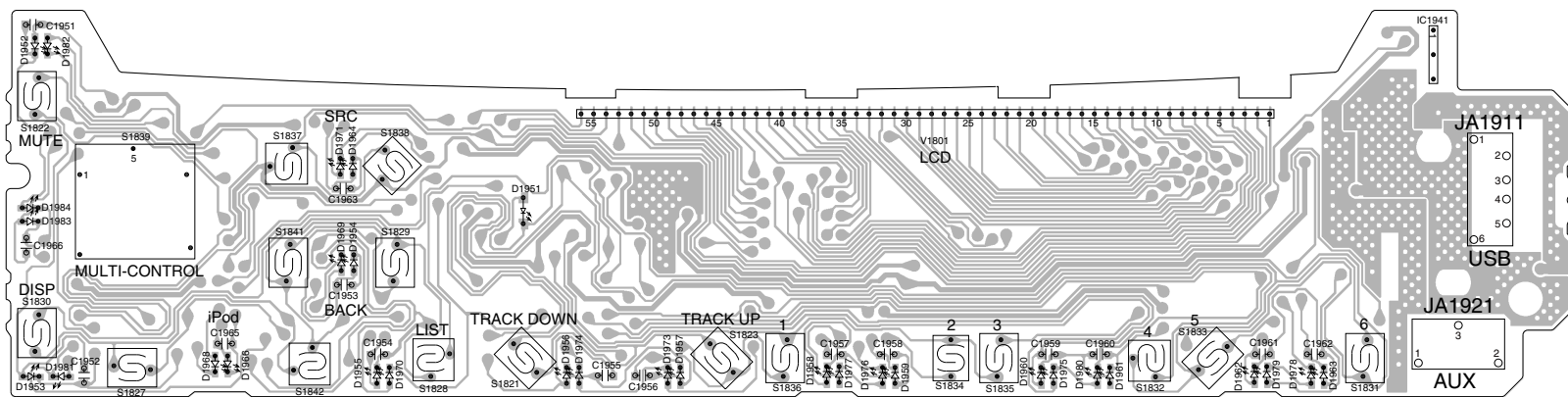
MVH-190U/XINews

A

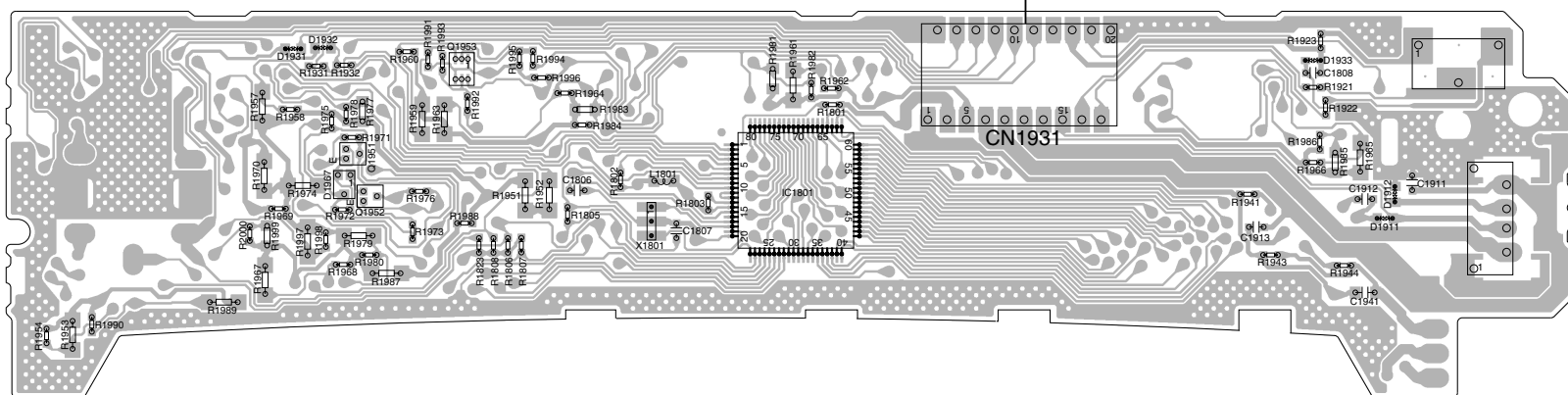
A

23

SIDE A



SIDE B



B KEYBOARD UNIT

B KEYBOARD UNIT

	1	2	3	4
	<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
	L 404 Inductor	CTF1389	R 534	RS1/10SR471J
			R 535	RS1/16SS682J
	L 408 Inductor	LCMAR27J1608		
A	L 531 SMD SPL Inductor	CTH1584	R 603	RS1/16SS473J
	L 801 Inductor	CTF1713	R 604	RS1/16SS473J
	L 901 Choke Coil	CTH1621	R 605	RS1/16SS473J
	T 401 Variable Coil	CTC1215	R 607	RS1/16SS152J
			R 608	RS1/16SS473J
	X 401 Crystal Resonator	CSS1867		
	X 601 Crystal Resonator 12.000000 MHz	CSS1876	R 609	RS1/16SS473J
	X 603 Resonator 16.93 MHz	CSS1794	R 610	RS1/16SS103J
	△P253 Fuse 3.0 A	CEK1404	R 611	RS1/16SS103J
	P 401 Surge Absorber	IMSA-6803-01Y900	R 612 (A)	RS1/16SS473J
			R 612 (C)	RS1/16SS103J
	VA801 SMD Varistor	MLV0402ES012V0010N		
	VA802 SMD Varistor	MLV0402ES012V0010N	R 613 (B,C,D)	RS1/16SS473J
B	CN801 Connector	CKS6452	R 614	RS1/16SS473J
	JA251 Jack(A)	CKB1109	R 615	RAB4CQ473J
	JA251 Jack(B,C,D)	CKB1115	R 616	RS1/16SS221J
			R 617	RS1/16SS221J
	JA401 Antenna Jack	CKX1104		
	JA901 Plug	CKM1624	R 618	RS1/16SS221J
	JA911 Jack	CKS6437	R 619	RS1/16SS221J
			R 620	RS1/16SS221J
			R 621	RS1/16SS221J
			R 622	RS1/16SS473J
	RESISTORS			
	R 101 (A)	RS1/16SS153J		
	R 102 (A)	RS1/16SS223J	R 623	RS1/16SS473J
	R 103 (A)	RS1/16SS102J	R 624	RS1/16SS101J
C	R 251 (A)	RS1/16SS821J	R 625	RS1/16SS102J
	R 252 (A)	RS1/16SS821J	R 627	RS1/16SS473J
			R 628	RS1/16SS473J
	R 253 (A)	RS1/16SS223J		
	R 254 (A)	RS1/16SS223J	R 629	RS1/16SS473J
	R 255	RS1/16SS821J	R 631	RS1/16SS104J
	R 256	RS1/16SS821J	R 632	RS1/16SS101J
	R 257	RS1/16SS223J	R 633	RS1/16SS101J
			R 635	RS1/16SS101J
	R 258	RS1/16SS223J		
	R 305	RS1/16SS103J	R 636	RS1/16SS102J
	R 306	RS1/16SS221J	R 637	RS1/16SS102J
	R 307	RS1/16SS223J	R 638	RS1/16SS102J
D	R 308	RS1/16SS103J	R 639	RS1/16SS473J
			R 640	RS1/16SS222J
	R 403	RS1/16SS391J		
	R 404	RS1/16SS105J	R 641	RS1/16SS103J
	R 405	RS1/16SS105J	R 643	RS1/16SS473J
	R 406	RS1/16SS101J	R 644	RS1/16SS473J
	R 407	RS1/16SS101J	R 645	RS1/16SS473J
			R 646	RS1/16SS473J
	R 408	RS1/16SS103J		
	R 410	RS1/16SS103J	R 647	RS1/16SS473J
	R 417	RS1/16SS0R0J	R 648	RS1/16SS473J
	R 430	RS1/10SR0R0J	R 650	RS1/16SS473J
E	R 437	RS1/16SS472J	R 651	RS1/16SS153J
			R 652	RS1/16SS153J
	R 438	RS1/16SS472J		
	R 439	RS1/16SS0R0J	R 653	RS1/16SS473J
	R 501	RS1/16SS473J	R 661	RS1/16SS222J
	R 502	RS1/16SS222J	R 664	RS1/16SS473J
	R 503	RS1/16SS222J	R 665	RS1/16SS222J
			R 667	RS1/16SS103J
	R 504	RS1/16SS272J		
	R 505	RS1/16SS472J	R 668	RS1/16SS473J
	R 506	RS1/16SS472J	R 669 (A)	RS1/16SS473J
	R 507	RS1/16SS101J	R 671	RS1/16SS104J
	R 508	RS1/16SS101J	R 681	RS1/16SS473J
			R 682	RS1/16SS473J
F	R 531	RS1/16SS0R0J		
	R 532	RS1/16SS1803D	R 683	RS1/16SS473J
	R 533	RS1/16SS4302D	R 684	RS1/16SS473J
			R 685	RS1/16SS473J

5	6	7	8	
<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>	
R 691	RS1/16SS103J	C 233	CKSSYB104K10	
R 692	RS1/16SS104J	C 234 10 uF	CCG1192	
R 693	RS1/16SS473J	C 235	CCSSCH151J50	A
R 694	RS1/16SS473J	C 239 1 uF	DCH1246	
R 695 (A)	RS1/10SR333J	C 251 10 uF(A)	CCG1192	
R 695 (B,C,D)	RS1/10SR682J	C 252 10 uF(A)	CCG1192	
R 696 (A)	RS1/4SA122J	C 253 (A)	CCSSCH101J50	
R 696 (B,C,D)	RS1/4SA102J	C 254 (A)	CCSSCH101J50	
R 801	RS1/10SR222J	C 255 10 uF	CCG1192	
R 803	RS1/10SR222J	C 256 10 uF	CCG1192	
R 806	RS1/10SR222J	C 257	CCSSCH101J50	
R 807	RS1/10SR222J	C 258	CCSSCH101J50	
R 808	RS1/16SS822J	C 259	CCSRCH102J50	
R 809	RS1/10SR222J	C 260	CKSSYB104K10	B
R 810	RS1/10SR222J	C 261	CKSSYB103K16	
R 811	RS1/10SR223J	C 301	CKSRYB474K10	
R 812	RS1/10SR223J	C 302	CKSRYB474K10	
R 813	RS1/10SR101J	C 303	CKSRYB474K10	
R 814	RS1/10SR101J	C 304	CKSRYB474K10	
R 815	RS1/10SR101J	C 309 2.2 uF	CCG1205	
R 816	RS1/10SR220J	C 312 10 uF/16 V	DCH1263	
R 817	RS1/10SR220J	C 316	CKSRYB105K10	
R 852	RS1/10SR102J	C 324	CKSRYB104K16	
R 854	RS1/10SR473J	C 325 2 200 uF/16V	CCH1659	
R 861	RS1/10SR122J	C 405	CKSSYB102K50	C
R 862	RS1/10SR223J	C 409	CKSSYB224K6R3	
R 880	RS1/16SS103J	C 410	CCSSCH220J50	
R 881	RS1/16SS272J	C 411	CCSSCH331J50	
R 882	RS1/16SS473J	C 412	CCSSCH100D50	
R 883	RS1/16SS473J	C 414	CKSSYB102K50	
R 911	RS1/10SR102J	C 420	CCSSCH471J50	
R 912	RS1/10SR102J	C 422	CKSSYB152K50	
R 914 (B,C,D)	RS1/16SS681J	C 425	CCSSCH390J50	
R 915 (B,C,D)	RS1/16SS681J	C 428	CKSSYB104K10	
R 916 (B,C,D)	RS1/16SS822J	C 430	CKSSYB102K50	
R 917 (B,C,D)	RS1/16SS822J	C 434	CCSSCH100D50	D
R 918	RS1/16SS0R0J	C 442 10 uF	CCG1192	
R 991	RS1/16SS2702D	C 452	CKSRYB104K16	
R 992	RS1/16SS4301D	C 453	CKSRYB105K10	
		C 458	CCSSCH102J50	
		C 459	CKSRYB105K10	
		C 501	CKSSYB104K10	
<u>CAPACITORS</u>				
C 201	CCSSCH151J50	C 502	CKSSYB104K10	
C 202 10 uF	CCG1192	C 531	CKSSYB103K16	
C 203	CKSSYB104K10	C 532	CEVQW221M6R3	
C 204	CKSSYB104K10	C 534	CKSRYB105K10	
C 205	CKSSYB104K10	C 535 10 uF	CCG1192	E
C 206	CEVW470M16	C 536	CKSSYB682K25	
C 207 10 uF	CCG1192	C 539 4.7 uF	CCG1222	
C 210	CKSSYB104K16	C 540 1 uF	CCG1393	
C 215	CKSRYB105K10	C 541	CEVW471M16	
C 216	CKSRYB105K10	C 542	CKSRYB105K10	
C 217	CKSRYB105K10	C 545	CKSRYB105K10	
C 218	CKSRYB105K10	C 601	CKSSYB104K10	
C 220 10 uF	CCG1192	C 602	CKSSYB102K50	
C 221	CKSSYB104K10	C 603	CKSSYB104K10	
C 222 10 uF	CCG1192	C 604	CKSSYB102K50	F
C 229	CKSRYB105K10	C 605	CKSSYB104K10	
C 230	CKSRYB105K10	C 606	CCSSCH120J50	
C 232	CKSSYB104K10	C 607	CCSSCH120J50	

1

2

3

4

Circuit Symbol and No.**Part No.****Circuit Symbol and No.****Part No.**

C 608 CKSSYB104K10
C 609 CKSSYB104K10

D 1951 White LED
D 1969 Red LED
D 1970 Red LED

CSL0401WBHCW1(A)
FC-1608SXX630D08
FC-1608SXX630D08

A

C 610 CKSSYB104K10
C 611 CKSSYB104K10
C 612 CKSSYB104K10
C 613 CKSSYB104K10
C 614 CKSSYB104K10

D 1971 Red LED
D 1973 Red LED
D 1974 Red LED
D 1975 Red LED
D 1976 Red LED

FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08

C 615 CCSSCH220J50
C 616 CKSSYB104K10
C 617 CKSSYB104K10
C 618 CKSSYB104K10
C 619 CKSSYB104K10

D 1977 Red LED
D 1978 Red LED
D 1979 Red LED
D 1980 Red LED
D 1981 Red LED

FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08
FC-1608SXX630D08

B

C 620 CKSSYB104K10
C 621 CKSSYB104K10
C 628 CKSSYB104K10
C 629 CCSSCH220J50
C 630 CCSSCH220J50

D 1982 Red LED
D 1984 Red LED
X 1801 Ceramic Resonator 5.00 MHz
S 1839 Encoder(MULTI-CONTROL)
CN1931 Connector

FC-1608SXX630D08
FC-1608SXX630D08
CSS1547
CSD1193
CKS6451

C 631 CCSSCH220J50
C 632 CCSSCH120J50
C 633 CCSSCH120J50
C 638 CKSSYB104K10
C 641 CCSSCH330J50

JA1911 Connector
JA1921 Jack
V 1801 Segment LCD

CKS6443
CKN1090
CAW2056

RESISTORS

C 672 CKSRYB105K10
C 681 CKSSYB104K10
C 683 CCSSCJ3R0C50
C 691 CKSRYB104K50
C 693 CCSSCH101J50

R 1801
R 1802
R 1803
R 1805
R 1806

RS1/10SR473J
RS1/10SR473J
RS1/10SR222J
RS1/10SR473J
RS1/10SR473J

C 801 CCSRCH102J50
C 805 CKSRYB104K16
C 806 CCSRCH221J50
C 807 CCSRCH221J50
C 810 CKSRYB104K16

R 1807
R 1808
R 1823
R 1921
R 1922

RS1/10SR473J
RS1/10SR473J
RS1/10SR273J
RS1/10SR0R0J
RS1/10SR0R0J

D

C 811 CKSRYB105K10
C 813 CKSSYB104K10
C 841 10 uF CCG1192
C 842 10 uF CCG1192
C 852 CCSRCH101J50

R 1923
R 1931
R 1932
R 1941 (A)
R 1944 (B,C,D)

RS1/10SR0R0J
RS1/10SR222J
RS1/10SR222J
RS1/10SR473J
RS1/10SR101J

C 853 CKSSYB104K16
C 861 CEAT102M16
C 862 CKSSYB104K16
C 864 10 uF CCG1192
C 883 10 uF CCG1192

R 1951
R 1952
R 1978
R 1979
R 1982

RS1/4SA181J
RS1/4SA101J
RS1/10SR182J
RS1/4SA471J
RS1/10SR681J

C 884 10 uF CCG1192
C 885 10 uF CCG1192
C 886 10 uF CCG1192
C 970 CKSSYB104K10
C 971 CKSRYB103K50

R 1984
R 1986
R 1988
R 1989
R 1996

RS1/10SR821J
RS1/10SR821J
RS1/10SR821J
RS1/4SA821J
RS1/10SR0R0J

E

C 991 CKSRYB105K16
C 992 CKSRYB105K16

R 2000

RS1/10SR122J

B**CAPACITORS****Unit Number: QWM4385(A)****Unit Number: QWM4384(B,C,D)****Unit Name : Keyboard Unit****MISCELLANEOUS**

IC 1801 IC PD6586A8
IC 1941 IC(B,C,D) SIR8440B5

C 1806 CKSRYB104K16
C 1807 CKSRYB105K10
C 1808 CCSRCH221J50
C 1912 CKSRYB102K50
C 1941 10 uF(B,C,D) CCG1192