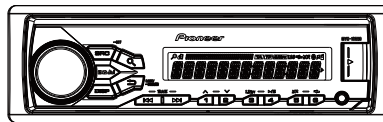


Pioneer

Service Manual



MVH-180UB/XINEW5

ORDER NO.
CRT5743

RDS MEDIA CENTER RECEIVER

MVH-180UB /XINEW5

MVH-180UBG /XINEW5

MVH-181UB /XINEW5



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.
Discord used batteries according to the manufacturer's instructions.

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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.
- Please keep the distance of more than 13 cm from focus lens for safety when you check pickup and make adjustment, and do not look straight at Laser Beam for more than 10 seconds.

1.2 NOTES ON DISASSEMBLY / ASSEMBLY

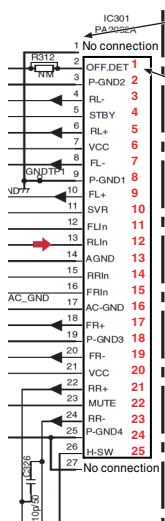
- Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
- Please be sure to conduct line process to original status if you make assembling after repair.

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 NOTES ON ADJUSTMENT

- Some of the adjustment is required when the part is replaced. Please refer to "8. EACH SETTING AND ADJUSTMENT".

1.5 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.

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



3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

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

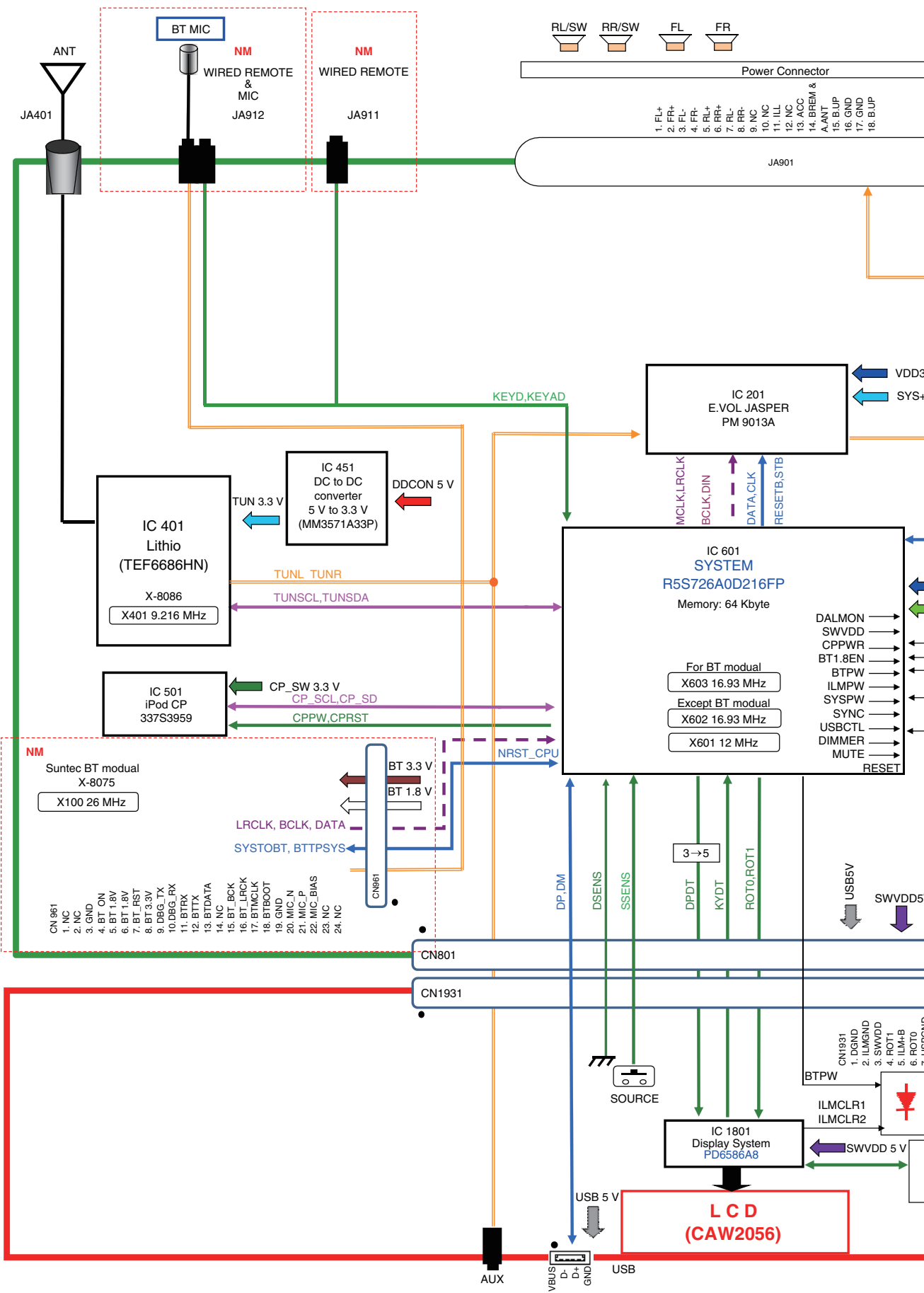
No.		Procedures	Item to be confirmed
1		Confirm whether the customer complain has been solved. If the customer complain occurs with the specific media, use it for the operation check.	The customer complain must not be reappeared. Display, audio and operations must be normal.
2	FM/AM tuner	Check FM/AM 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

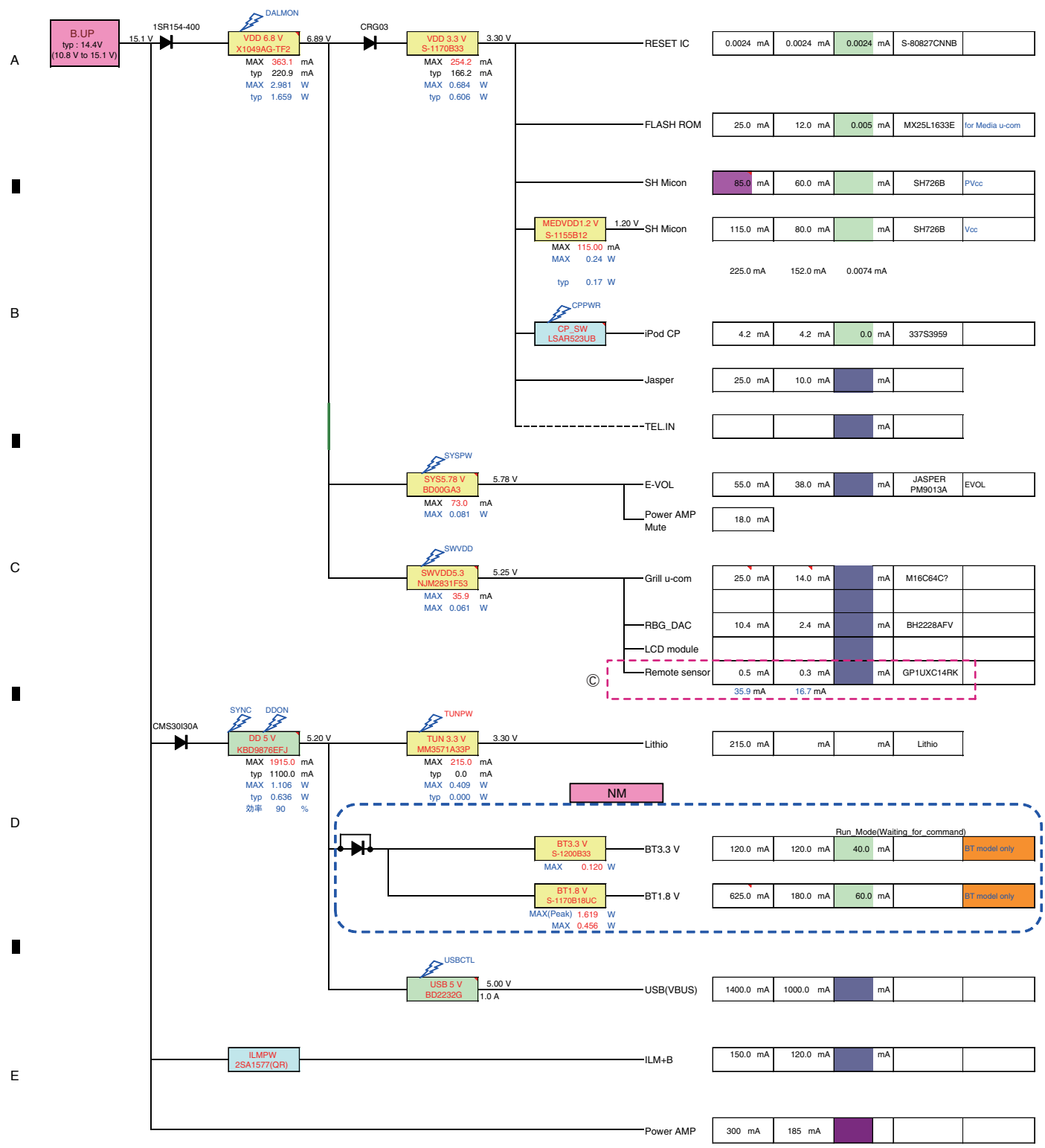
4. BLOCK DIAGRAM

4.1 BLOCK DIAGRAM





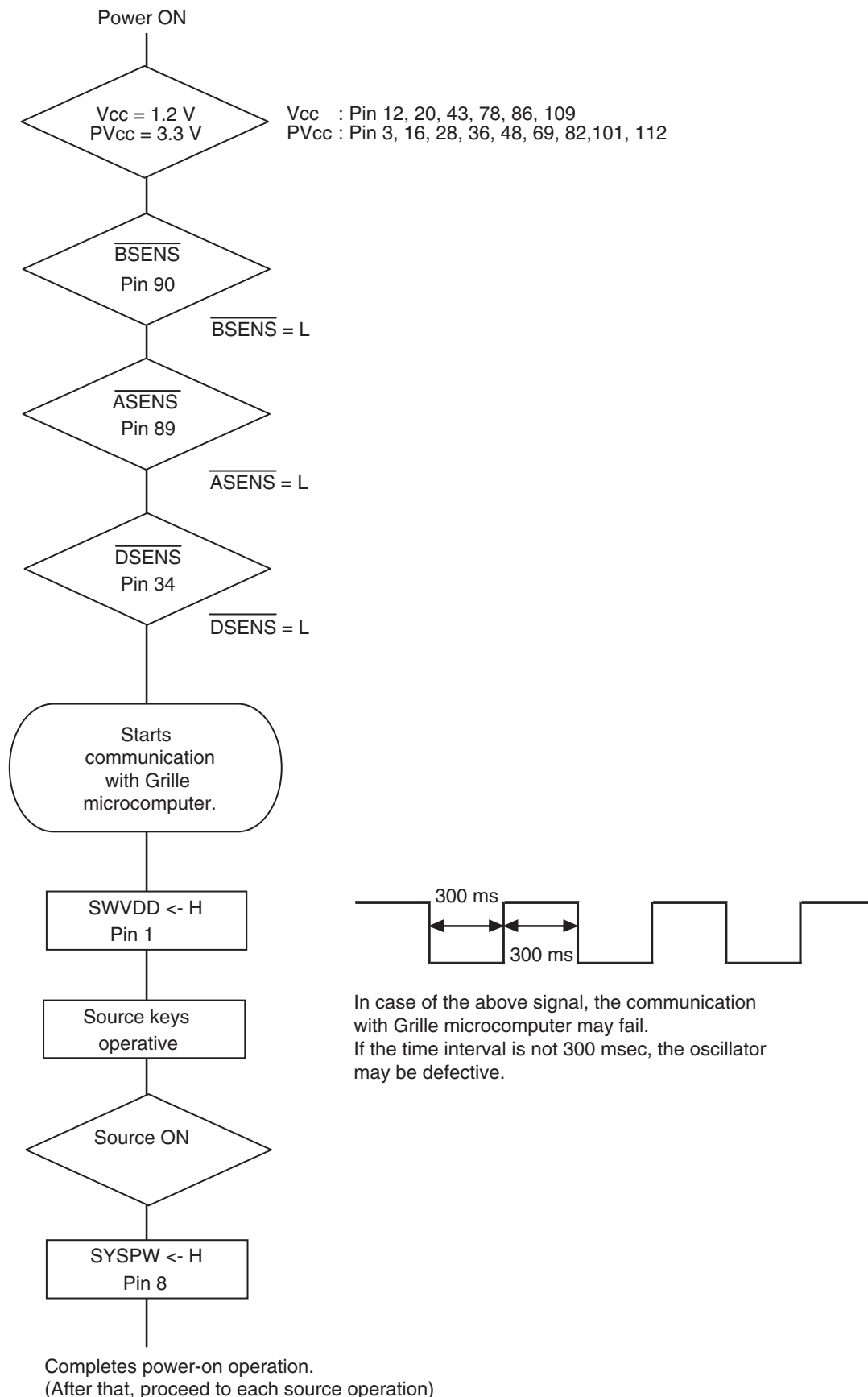
4.2 POWER BLOCK DIAGRAM



- (A) MVH-180UB/XINEW5
- (B) MVH-180UBG/XINEW5
- (C) MVH-181UB/XINEW5

5. DIAGNOSIS

5.1 OPERATIONAL FLOWCHART



5.2 ERROR CODE LIST

Common

AMP ERROR

- This unit fails to operate or the speaker connection is incorrect; the protection 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.

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.

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.

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.

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

NO BT DEVICE GO TO BT MENU TO REGISTER

- No Bluetooth device found.
 - Connect the unit and the device via Bluetooth.

CONN. FAILED PRESS BAND KEY TO RETRY

- Bluetooth connection failed.
 - Press **BAND**/ or **BAND**/ to make a connection again.

DISCONNECTED PRESS BAND KEY TO RETRY

- Bluetooth connection failed.
 - Press **BAND**/ or **BAND**/ to make a connection again.

CHECK APP

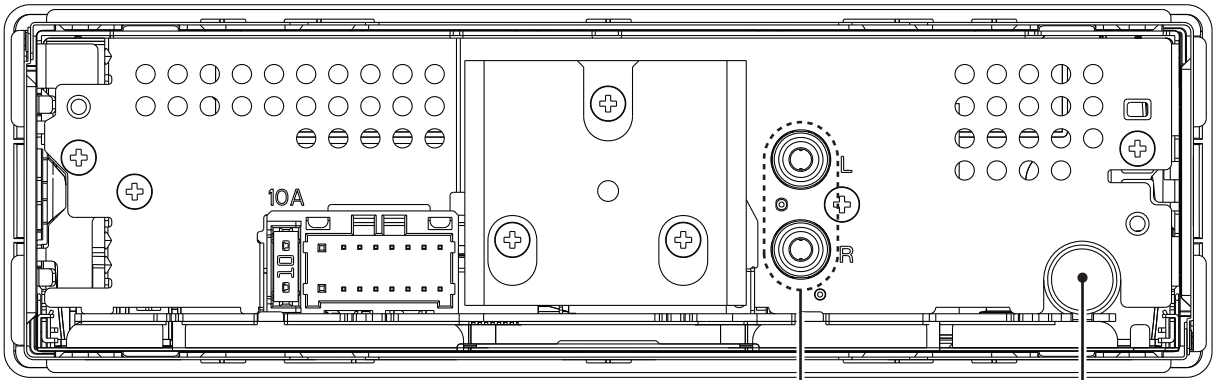
- Connection to the application failed.
 - Follow the instructions that appear on the screen.

START UP APP

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

1 2 3 4

5.3 CONNECTOR FUNCTION DESCRIPTION



15	13	11	9	7	5	3	1
16	14	12	10	8	6	4	2

- | | |
|-------|------------------|
| 1 FL+ | 9 NC |
| 2 FR+ | 10 NC |
| 3 FL- | 11 ILL |
| 4 FR- | 12 NC |
| 5 RL+ | 13 ACC |
| 6 RR+ | 14 B.REM & A.ANT |
| 7 RL- | 15 B.UP |
| 8 RR- | 16 GND |

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.

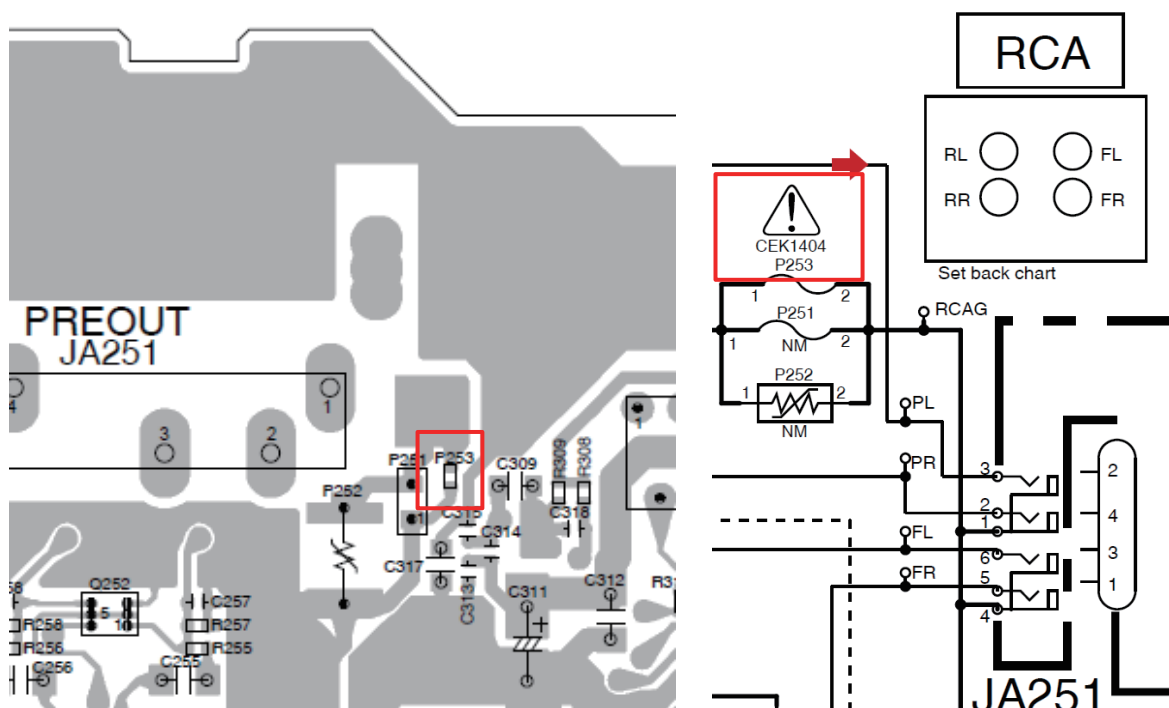
Even though fuse is blown, the sounds of Pre-out output and AUX input are output properly and also other functions work correctly.

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.

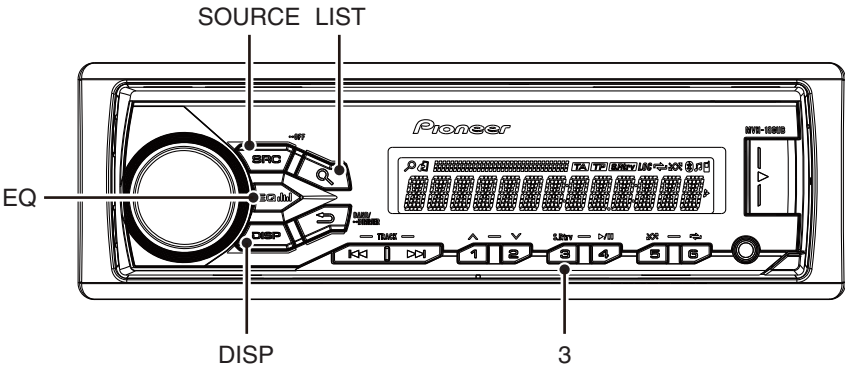


6. SERVICE MODE

6.1 DISPLAY TEST MODE 1

[How to enter Test mode]

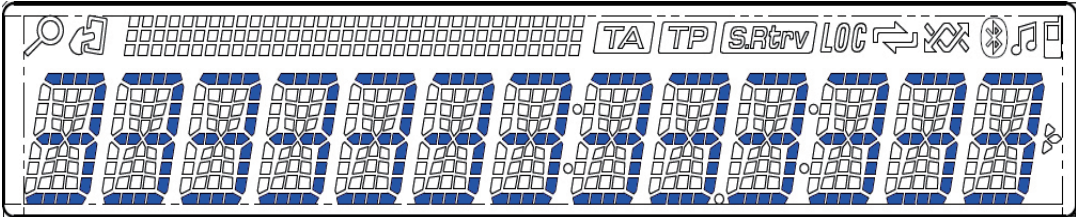
Press and hold "EQ" and "LIST" buttons together, and turn BUP and ACC on.



Confirmation item	Operate	Grille condition	
		LCD	ILM
All light up	EQ + LIST	States 1	Light on
All light off	SOURCE	States 2 (No light)	No light
Button feeling (and ILM light)	3	States 3	Light on

LCD States

- Status 1: All light up
- States 2: All light off
- Status 3: Refer to below draw.



6.2 DISPLAY TEST MODE 2

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

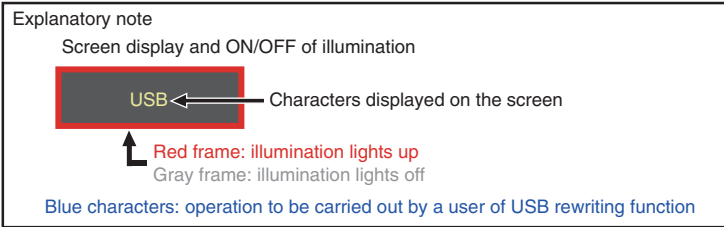
Overview

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

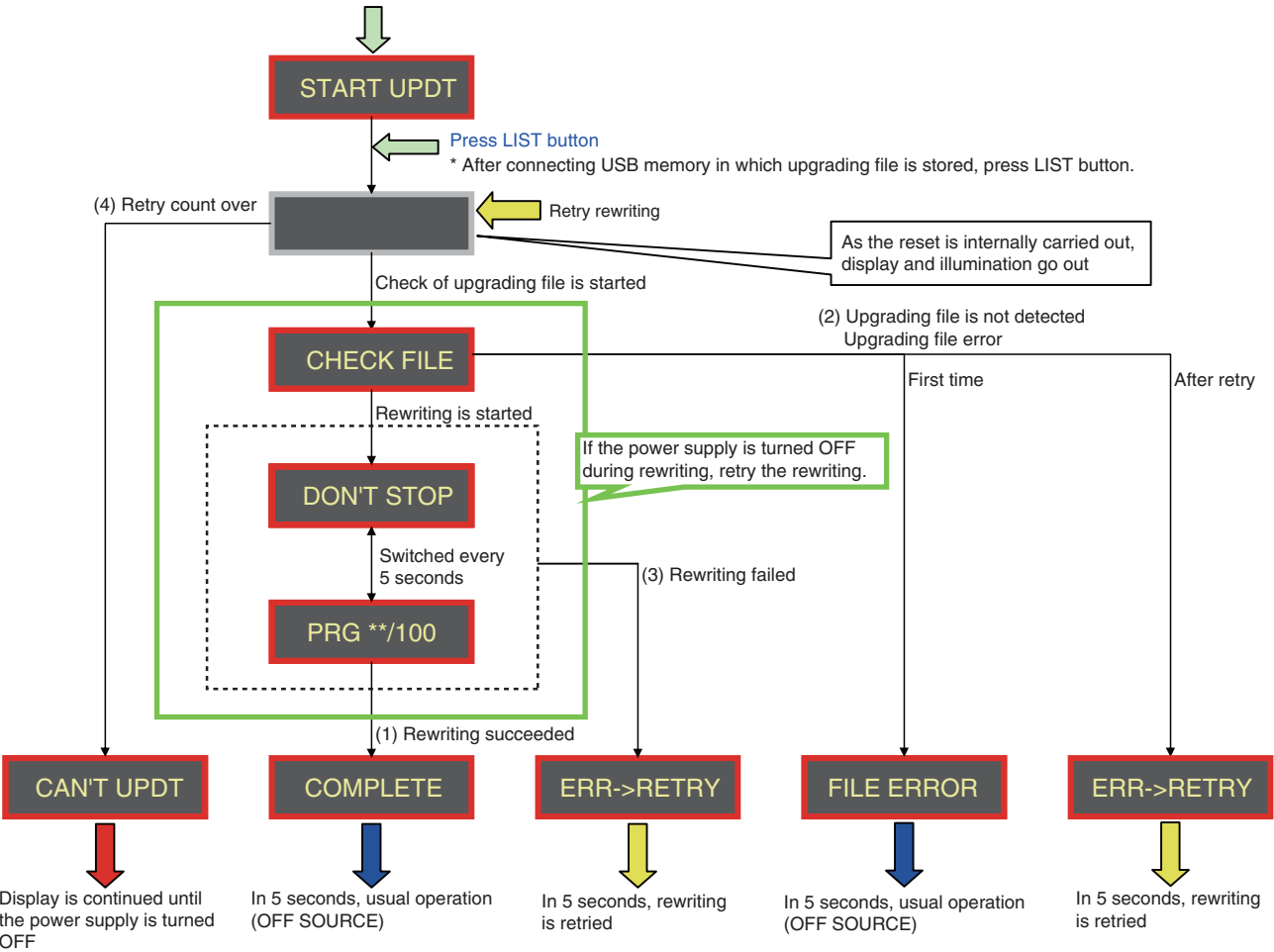
How to enter in USB rewriting mode

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

USB rewriting operation flow



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



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 Tuner Amp 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.

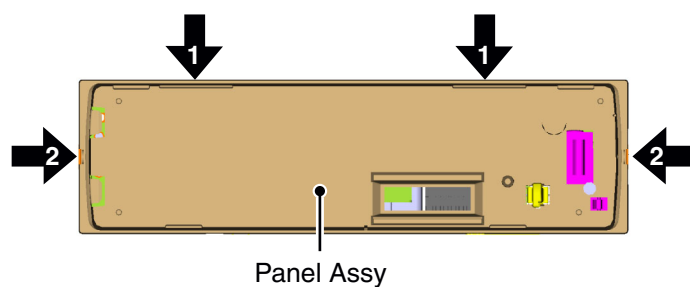
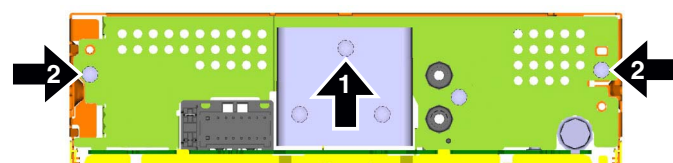


Fig.1

● 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.

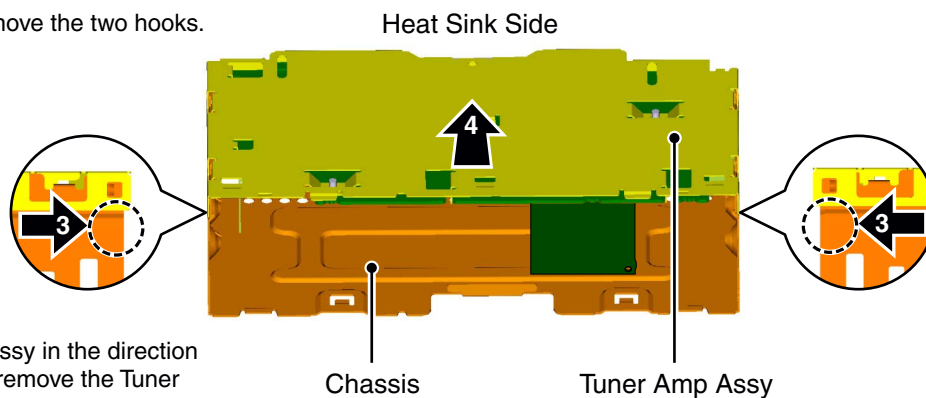


Fig.2

● 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.

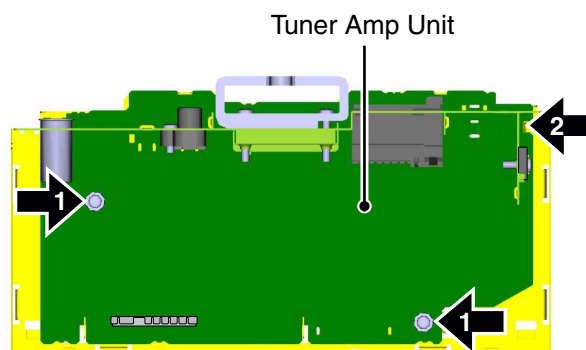


Fig.3

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

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

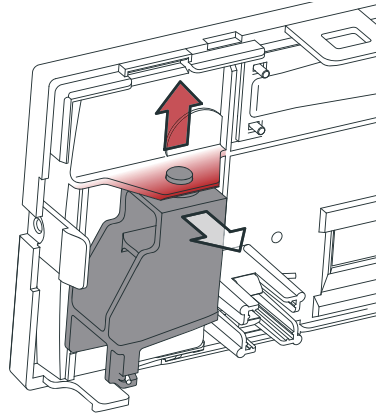


Fig.4

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

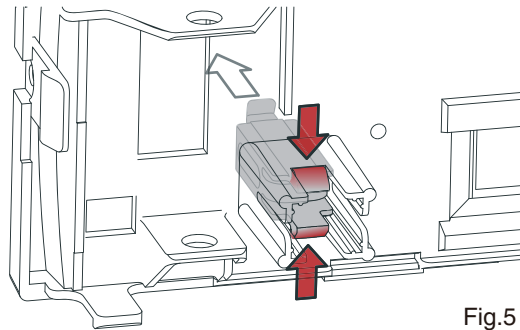


Fig.5

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

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

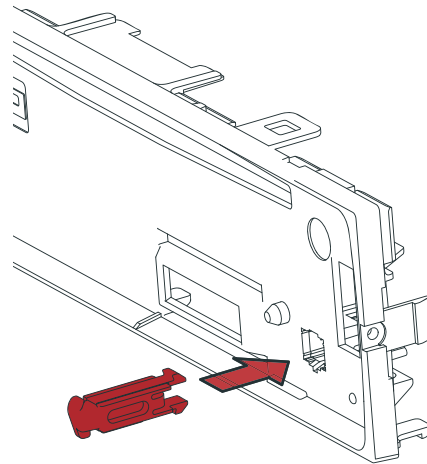


Fig.6

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

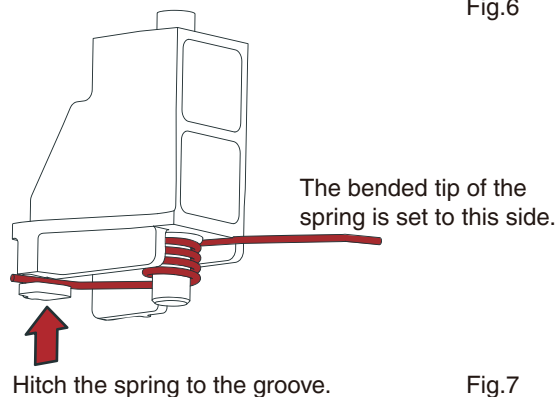


Fig.7

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.

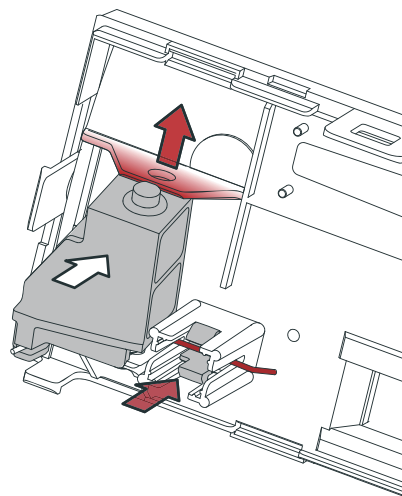


Fig.8

8. EACH SETTING AND ADJUSTMENT

8.1 PCL OUTPUT CONFIRMATION



● PCL Output

In the normal operation mode (with the detachable panel installed, the ACC switched ON, the standby mode cancelled), shift the TESTIN IC601(Pin 99) terminal to H.

The clock signal is output from the PCL_RAM_MON terminal IC601(Pin116).

The frequency of the clock signal is 600 kHz that is divided by 20th of the oscillation frequency of X601 (12 MHz).

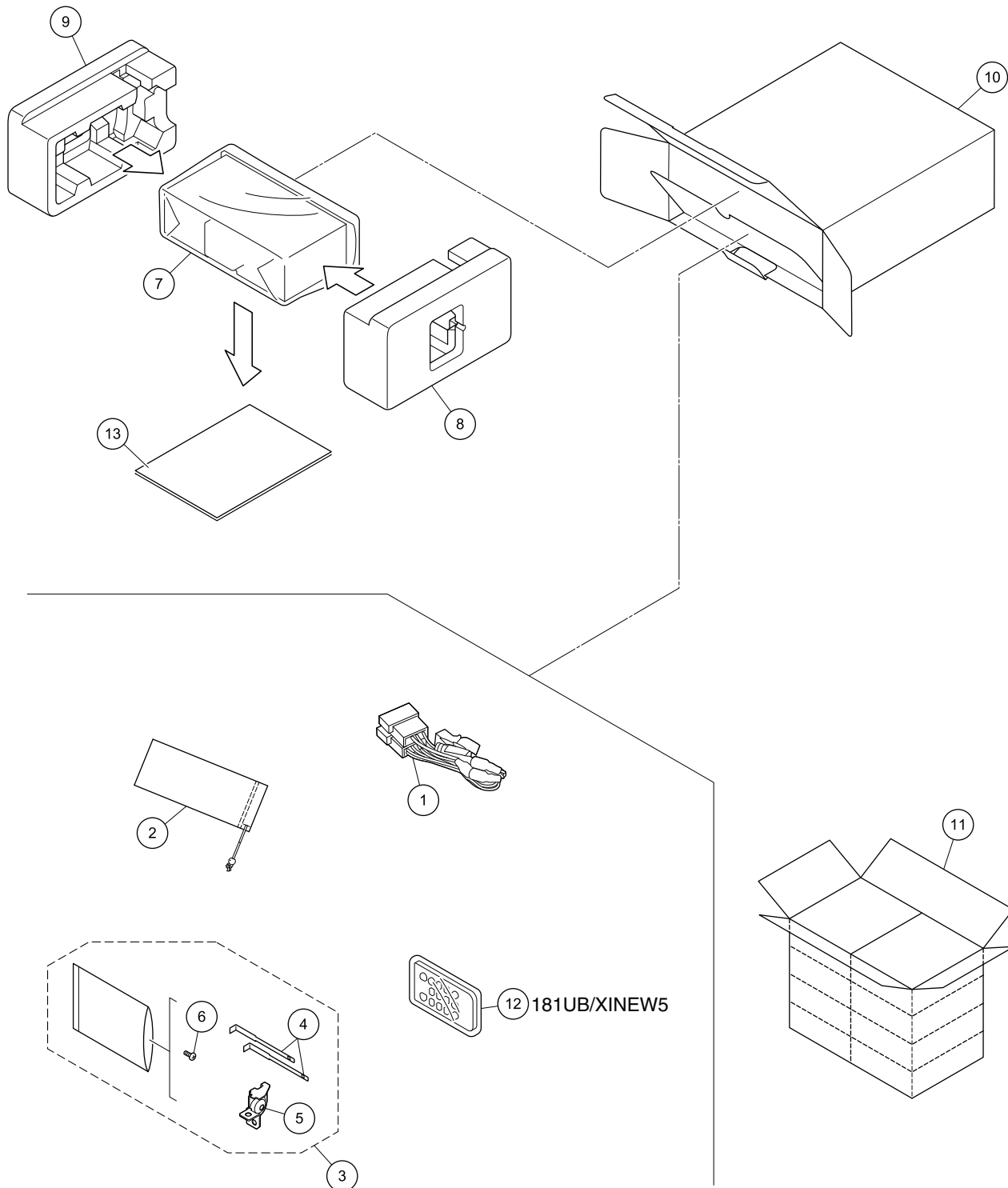
The clock signal should be 600 kHz(- 25 Hz, + 25 Hz).

If the clock signal is out of the range, the X'tal (X601) should be replaced with new one.

9. EXPLODED VIEWS AND PARTS LIST

- NOTES :
- Parts marked by " * " 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.
 - Screw adjacent to ▽ mark on the product are used for disassembly.
 - For the applying amount of lubricants or glue, follow the instructions in this manual.
- (In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING



	5		6		7		8	
(1) PACKING SECTION PARTS LIST								
Mark	No.	Description	Part No.		Mark	No.	Description	Part No.
	1	Cord Assy	QDP3071			8	Protector	QHP3042
	2	Detach Grille Case	QEG3004			9	Protector	QHP3043
	3	Accessory Assy	QEA3318			10	Unit Box	See Contrast table (2)
	4	Handle	QNC3119					
	5	Bracket	QNC3086			11	Contain Box	See Contrast table (2)
						12	Card Remote Control Unit	See Contrast table (2)
	6	Screw	BSZ26P060FTC	*		13-1	Warranty Card	CRY1376
	7	Polyethylene Bag	CEG1260			13-2	Owner's Manual	See Contrast table (2)

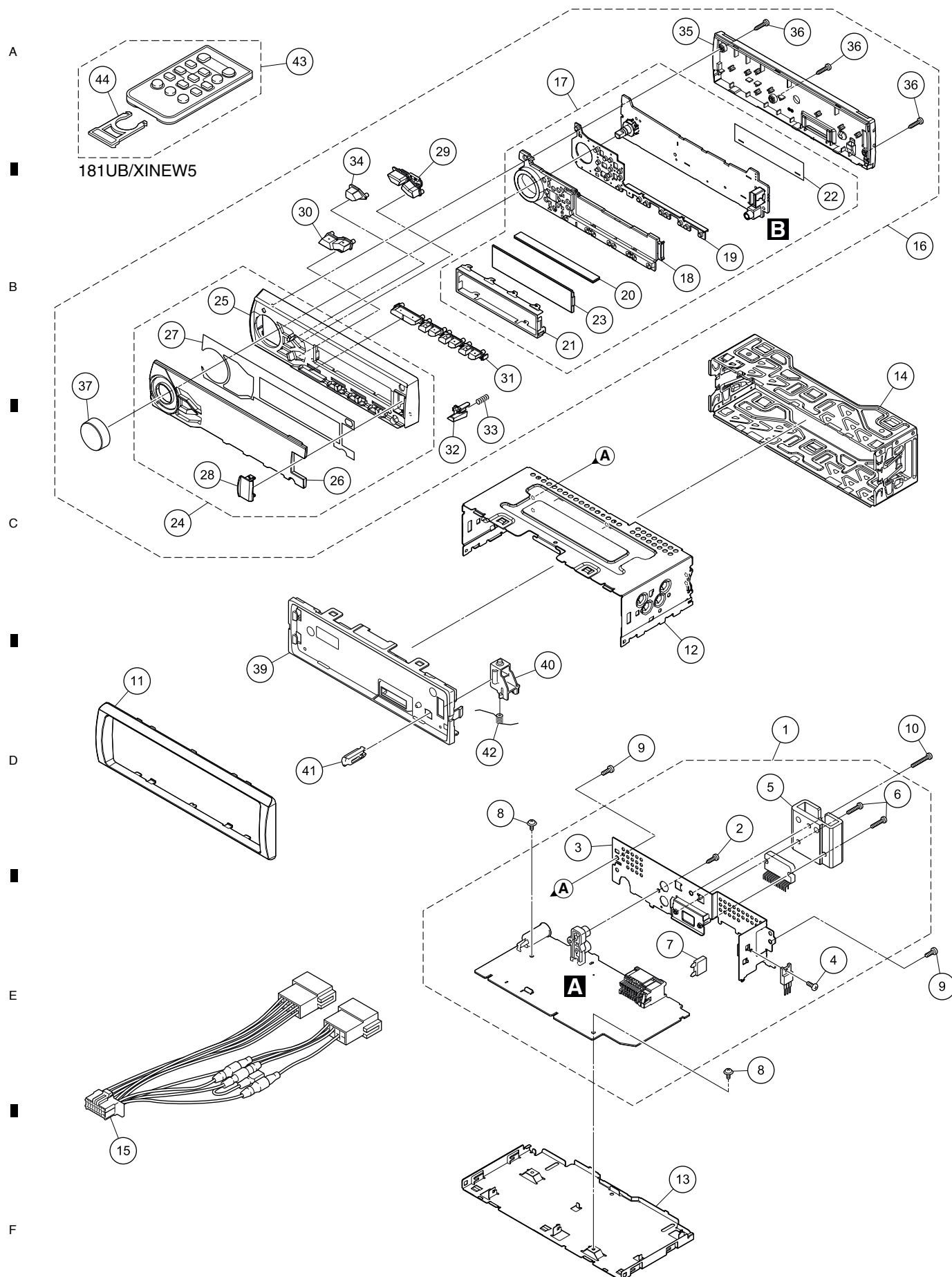
(2) CONTRAST TABLE
 MVH-180UB/XINEW5, MVH-180UBG/XINEW5 and MVH-181UB/XINEW5 are constructed the same except for the following:

Mark	No.	Description	MVH-180UB/XINEW5	MVH-180UBG/XINEW5	MVH-181UB/XINEW5
	10	Unit Box	QHG3817	QHG3818	QHG3819
	11	Contain Box	QHL3817	QHL3818	QHL3819
	12	Card Remote Control Unit	Not used	Not used	QXE1047
	13-2	Owner's Manual	Not used	QRD3330	QRD3330

Owner's Manual

Part No.	Language
QRD3330	English, French, Italian, Spanish(Espanol), German, Dutch, Russian

9.2 EXTERIOR



5

6

7

8

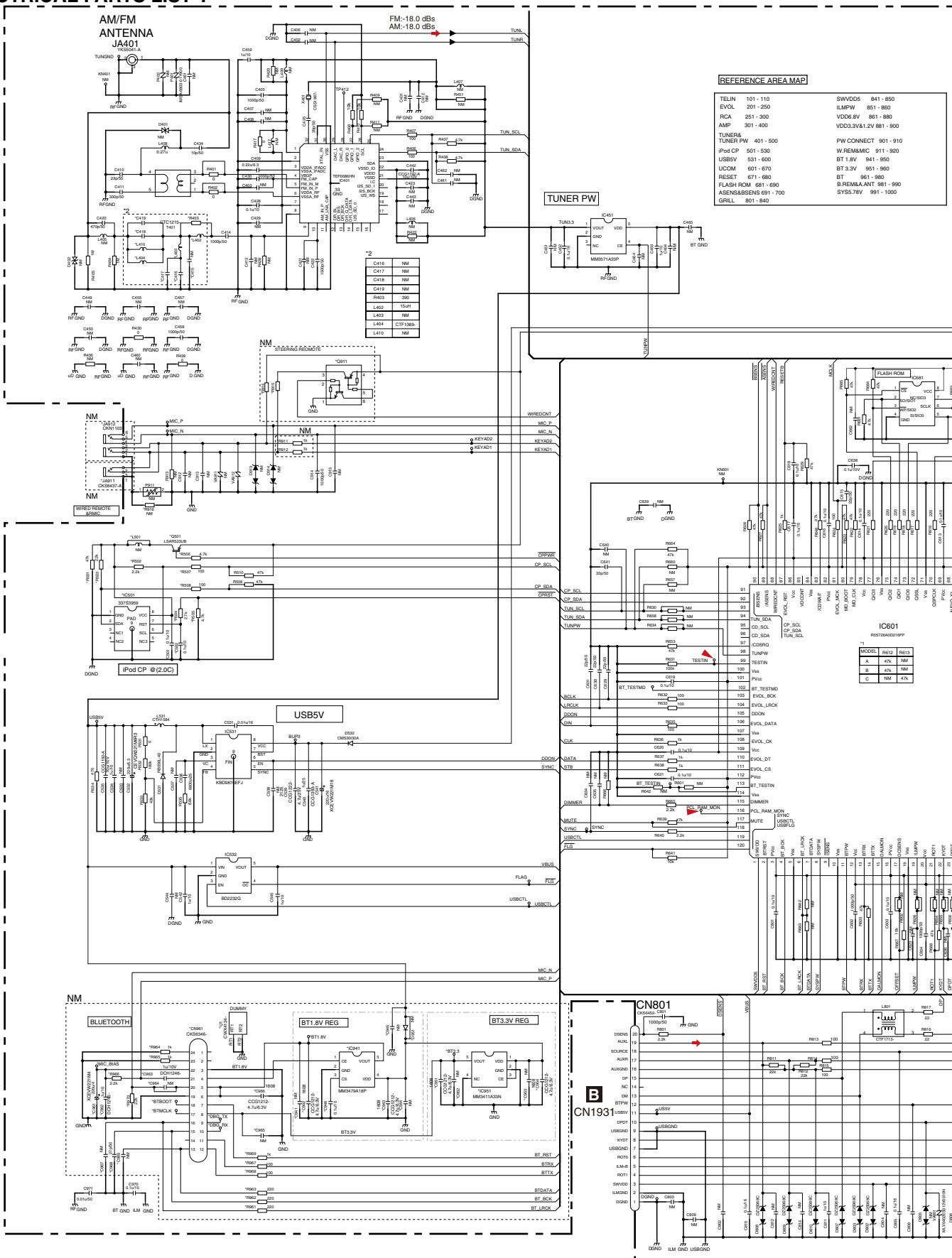
(1) EXTERIOR SECTION PARTS LIST

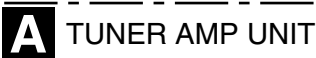
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Tuner Amp Unit	See Contrast table (2)	23	LCD (V1801)	CAW2056
2	Screw	BPZ26P080FTC	24	Grille Unit	See Contrast table (2)
3	Holder	QNC3106	25	Grille	QNS3891
4	Screw	BSZ26P060FTC			
5	Heat Sink	QNR3012	26	Plate	QNS3930
			27	Double Side Tape	QNM3133
6	Screw	BSZ26P160FTC	28	Door	QAT3018
7	Fuse (10 A)	YEK5001	29	Button (SRC, LIST)	QAC3208
8	Screw	ASZ26P050FTC	30	Button (DISP, BACK)	QAC3209
9	Screw	BSZ26P060FTC			
10	Screw	BSZ26P160FTC	31	Button (TRACK, 1-6)	QAC3210
			32	Button (DETACH)	QAC3211
11	Panel	QNS3568	33	Spring	CBH2210
12	Chassis	QNA3027	34	Button (EQ)	QAC3213
13	Case	QNB3041	35	Cover	QNS3944
14	Holder	QNC3118			
15	Cord Assy	QDP3071	36	Screw	BPZ20P100FTC
			37	Knob Unit	QXA4413
16	Detach Grille Assy	See Contrast table (2)	38	•••••	
17	Keyboard Unit	See Contrast table (2)	39	Panel	QNS3289
18	Lighting Conductor	QNV3114	40	Arm	QNV3025
19	Contact Rubber	QNV3115			
20	Rubber Connector	QNV3071	41	Button	QNV3026
			42	Spring	QBH3001
21	Holder	QNC3108	43	Card Remote Control Unit	See Contrast table (2)
22	Sheet	QNM3138	44	Cover	See Contrast table (2)

10. SCHEMATIC DIAGRAM

10.1 TUNER AMP UNIT (1/2 scale)

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





A	MVH-180UB/XINew5
B	MVH-180UBG/XINew5
C	MVH-181UB/XINew5

FM: -2.0 dBs
AM: -2.0 dBs
AUX:+10.2 dBs
CD:+10.0 dBs
USB:+10.0 dBs
iPod:+10.0 dBs
BT:+10.0 dBs

RCA

PREOUT

AN

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

POWER SUPPLY

A

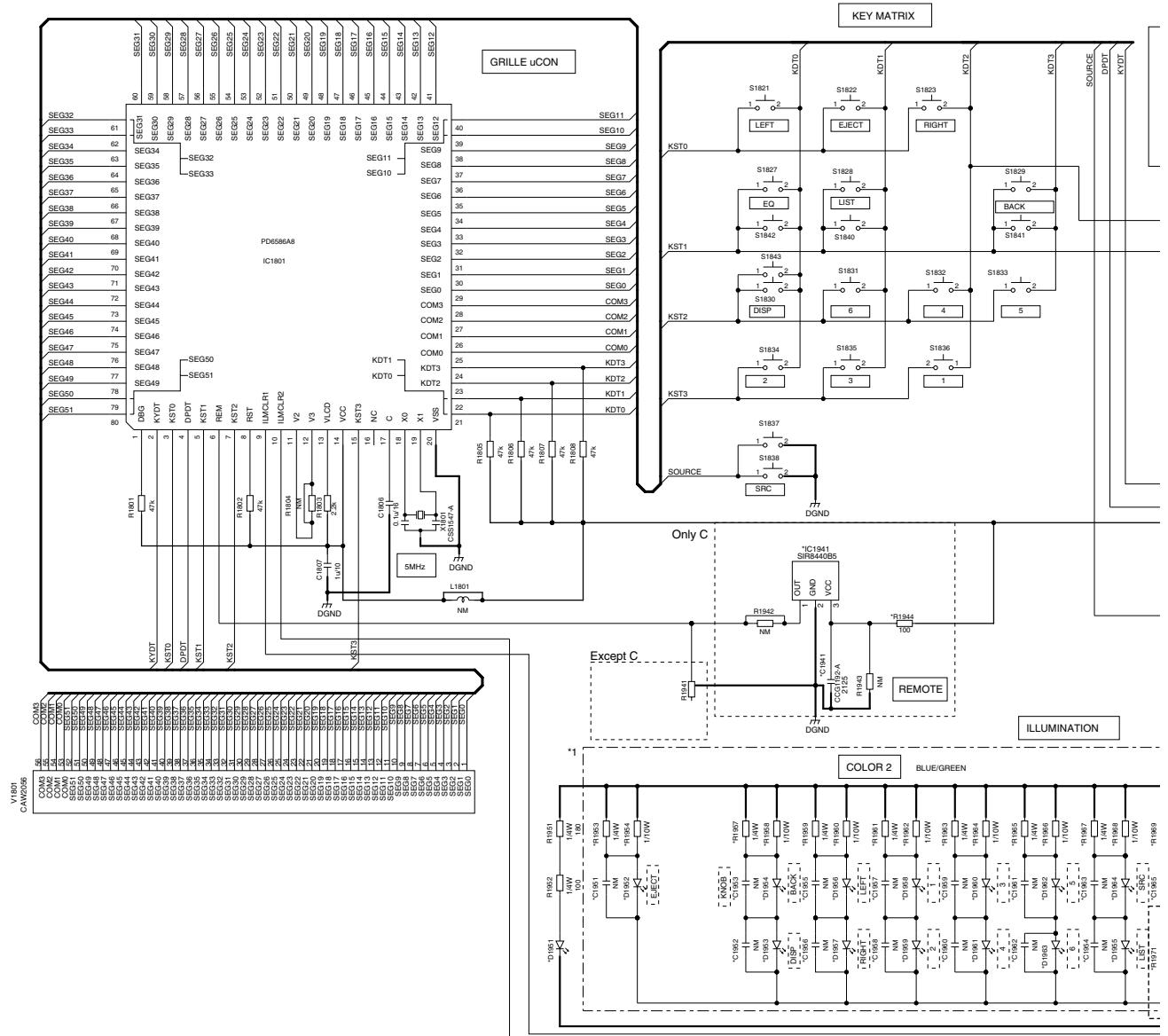
NOTE:

- R— Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
- C— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Therefore, when replacing a component, use the identical designation.

MVH-180UB/XINEW5

10.2 KEYBOARD UNIT



*1	A	B	C
D1952-D1966	RED	GREEN	RED
D1968-D1982	SML-D12P8W(PQ)	SML-D12P8W(PQ)	FC-1608S(MS30D08)
R1953	NM	RS14SA681J-T	NM
R1954	NM	NM	NM
R1955	NM	NM	NM
R1956	NM	NM	NM
R1957	NM	RS14SA471J-T	NM
R1958	NM	NM	NM
R1959	NM	RS14SA471J-T	NM
R1960	NM	NM	NM
R1961	NM	RS14SA471J-T	NM
R1962	NM	NM	NM
R1963	NM	RS14SA471J-T	NM
R1964	NM	NM	NM
R1965	NM	RS14SA471J-T	NM
R1966	NM	NM	NM
R1967	NM	RS14SA471J-T	NM
R1968	NM	NM	NM
R1969	NM	NM	NM
R1970	NM	RS14SA681J-T	NM
R1971	NM	NM	NM
R1974	NM	NM	NM
R1975	RS110SR182J-T	NM	RS110SR182J-T
R1976	NM	NM	NM
R1977	NM	NM	NM
R1978	RS110SR182J-T	NM	RS110SR182J-T
R1979	NM	NM	NM
R1980	RS110SR182J-T	NM	RS110SR182J-T
R1981	NM	NM	NM
R1982	RS110SR182J-T	NM	RS110SR182J-T
R1983	NM	NM	NM
R1984	RS110SR182J-T	NM	RS110SR182J-T
R1985	NM	NM	NM
R1986	RS110SR182J-T	NM	RS110SR182J-T
R1987	NM	NM	NM
R1988	RS110SR182J-T	NM	RS110SR182J-T
R1989	NM	NM	NM
R1990	RS110SR182J-T	NM	RS110SR182J-T

*3	MODEL	A	B	C
D1951	NM	NM	NM	NM
D1952	NM	NM	NM	NM
D1967	NM	NM	NM	NM
R1971	NM	RS110SR182J-T	NM	NM
R1972	NM	NM	NM	NM
R1973	NM	NM	NM	NM
R1976	RS110SR182J-T	NM	NM	NM

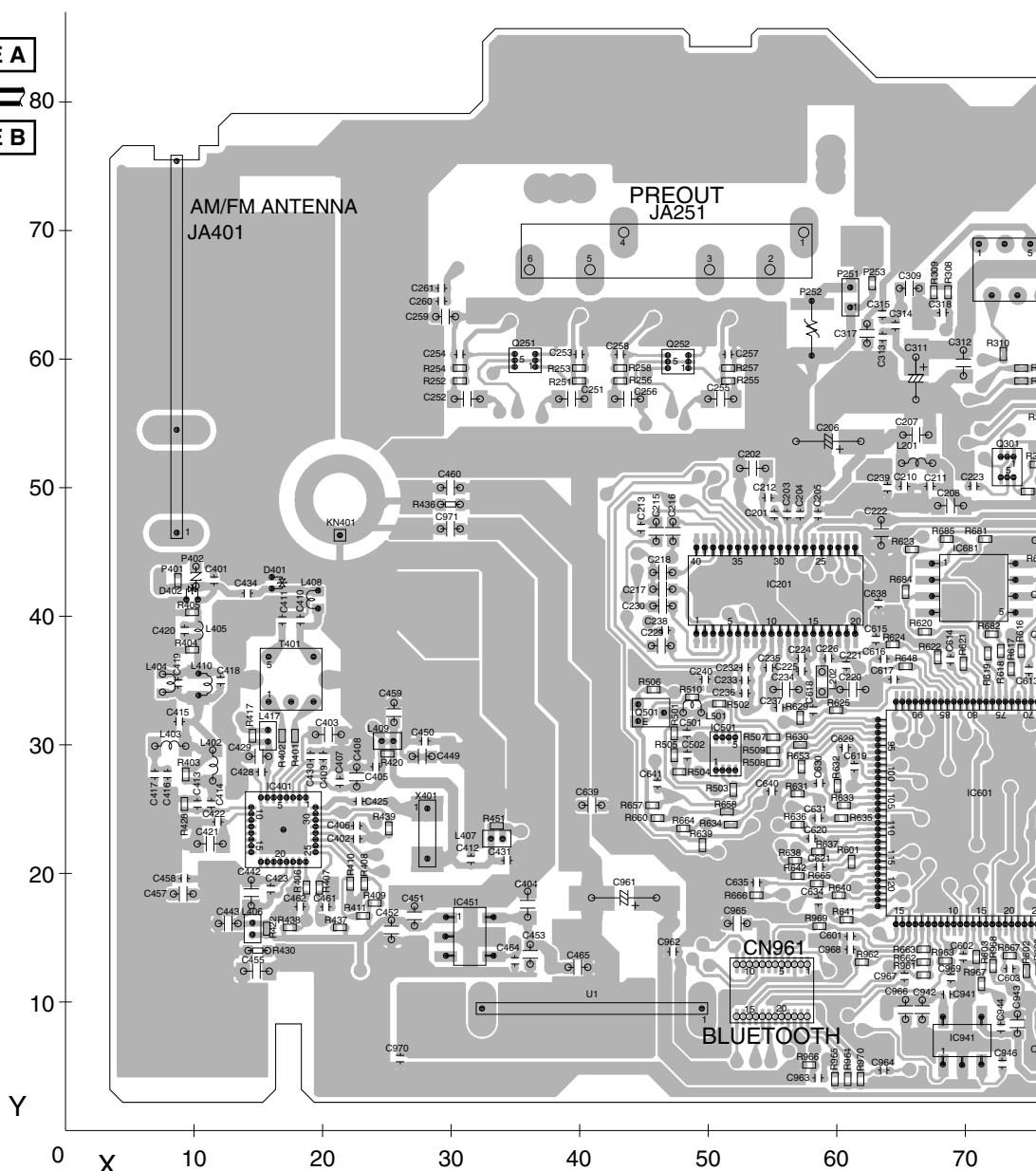
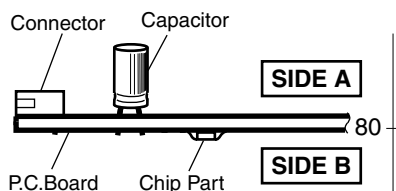


11.1 TUNER AMP UNIT

2. Viewpoint of PCB diagrams

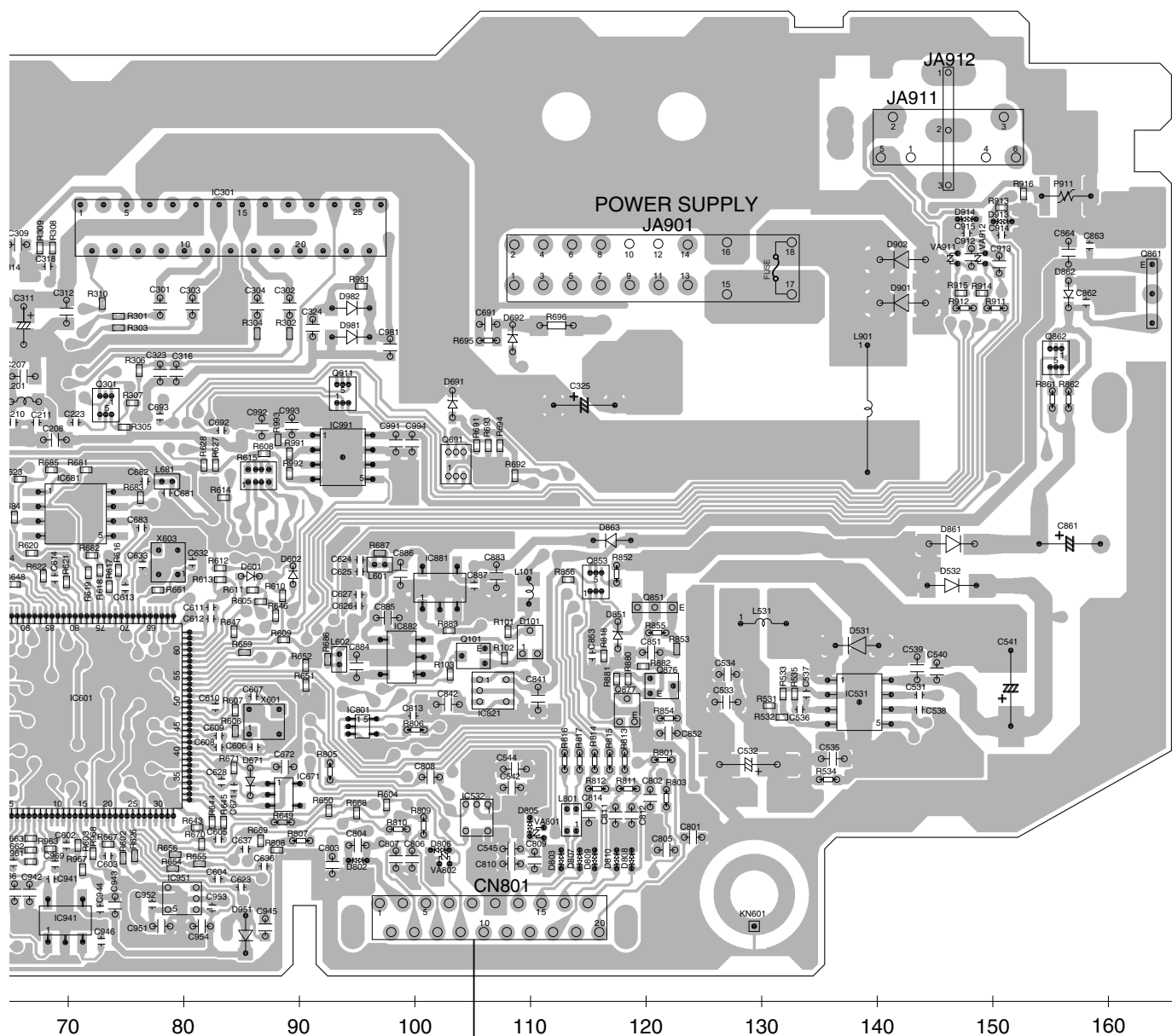
A TUNER AMP UNIT

 P253 (A,63,66) Fuse 3.0 A CEK1404



SIDE A

E1404



B CN1931

FRONT

A

1

2

3

4

A TUNER AMP UNIT

A

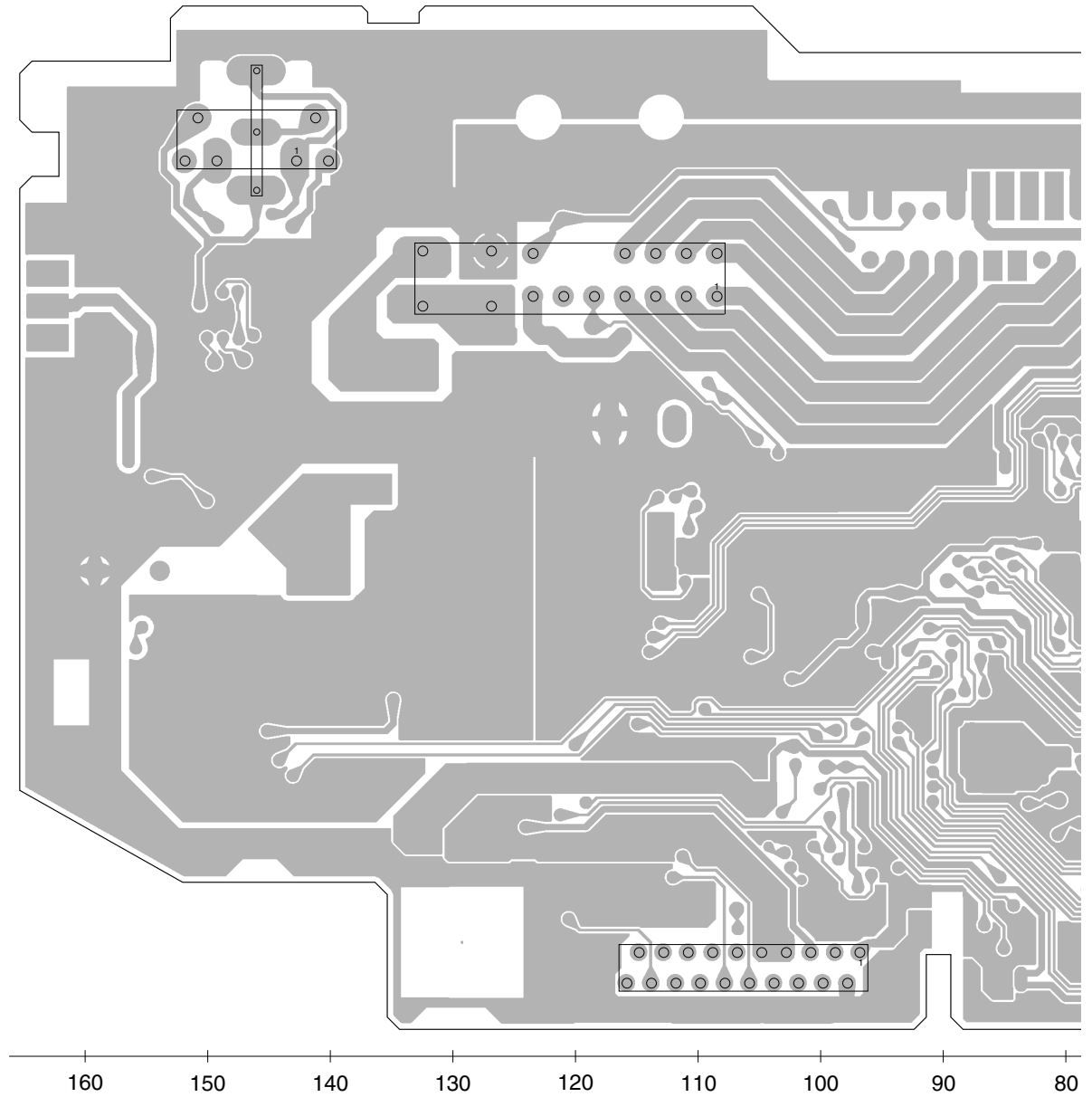
B

C

D

E

F

**A**

MVH-180UB/XINEW5

30

1

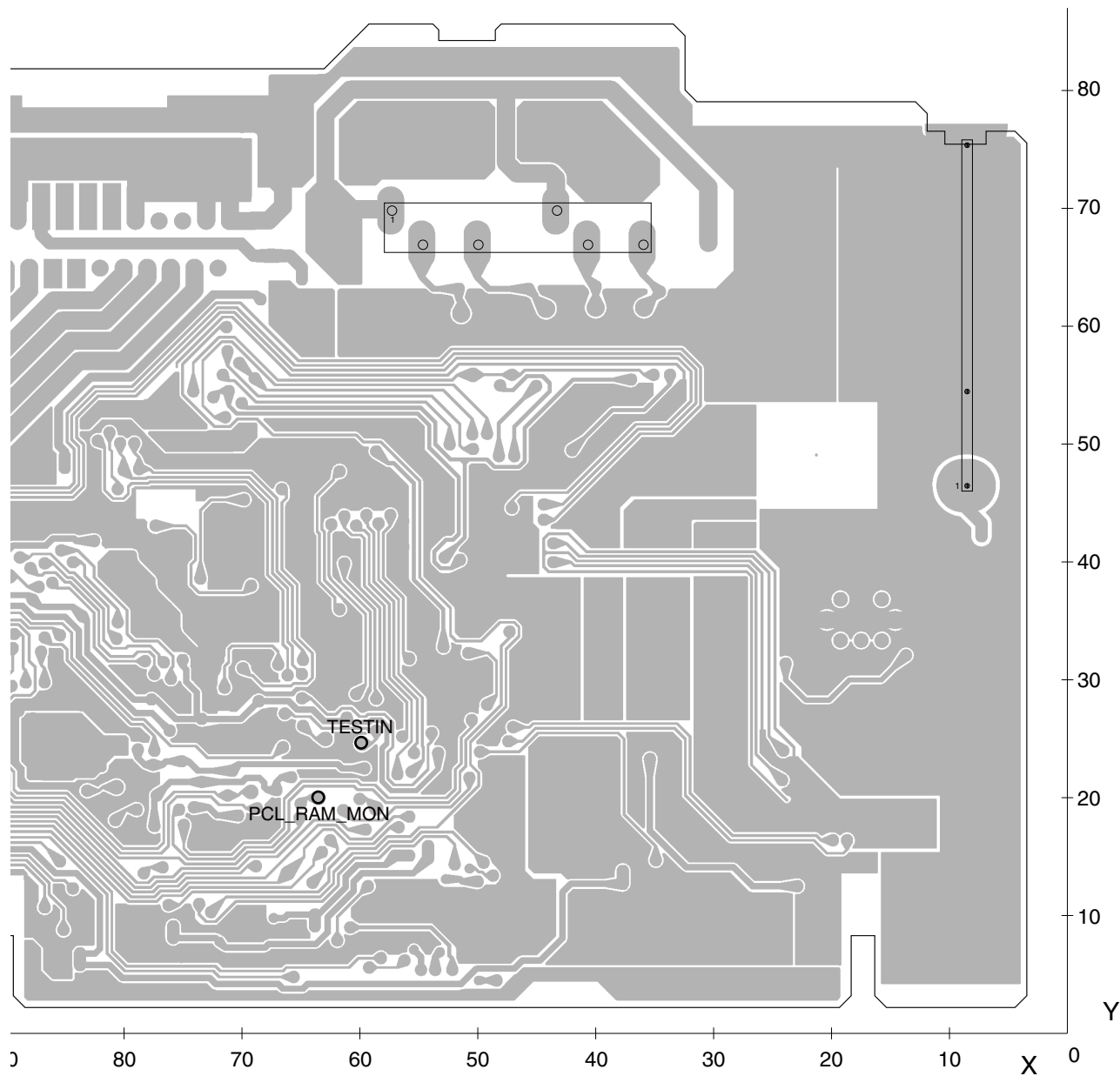
2

3

4

SIDE B

A



B

C

D

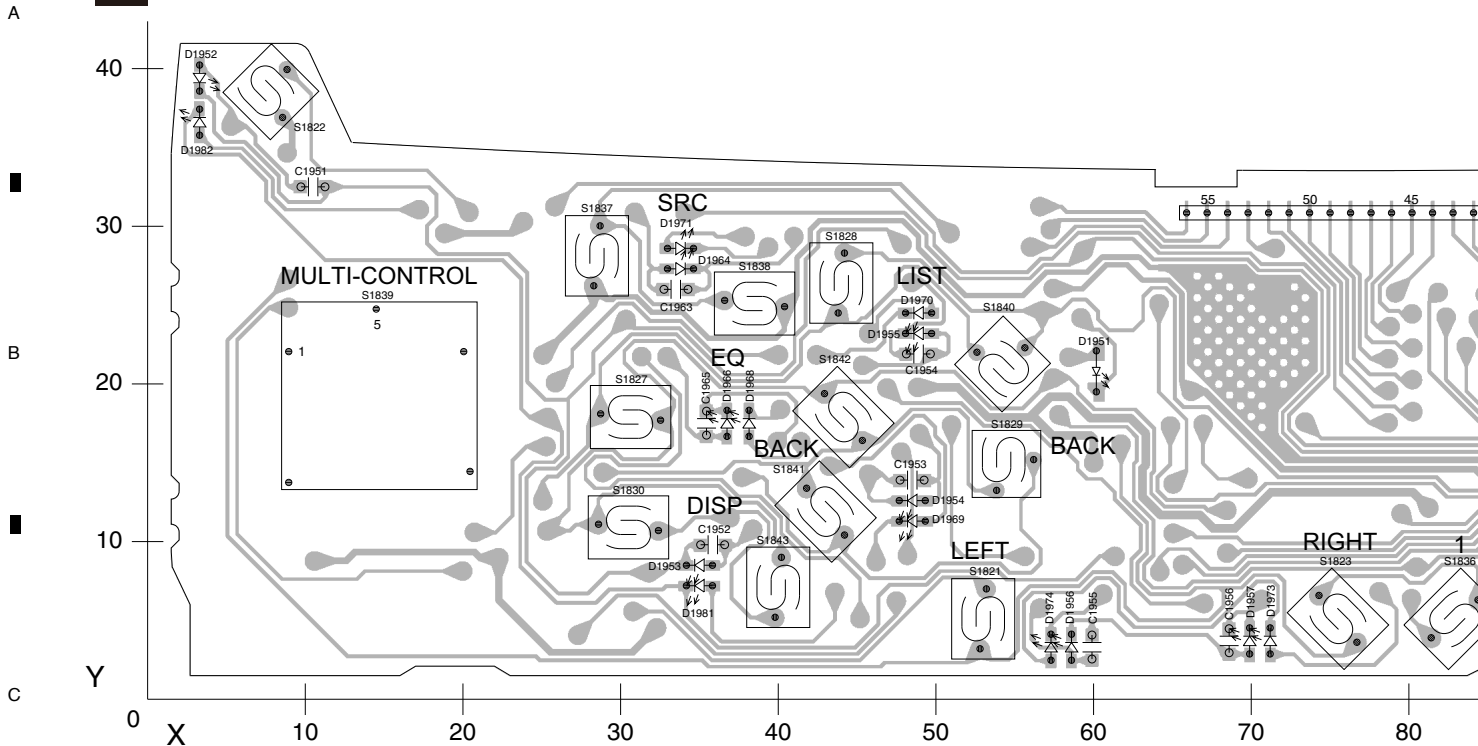
E

F

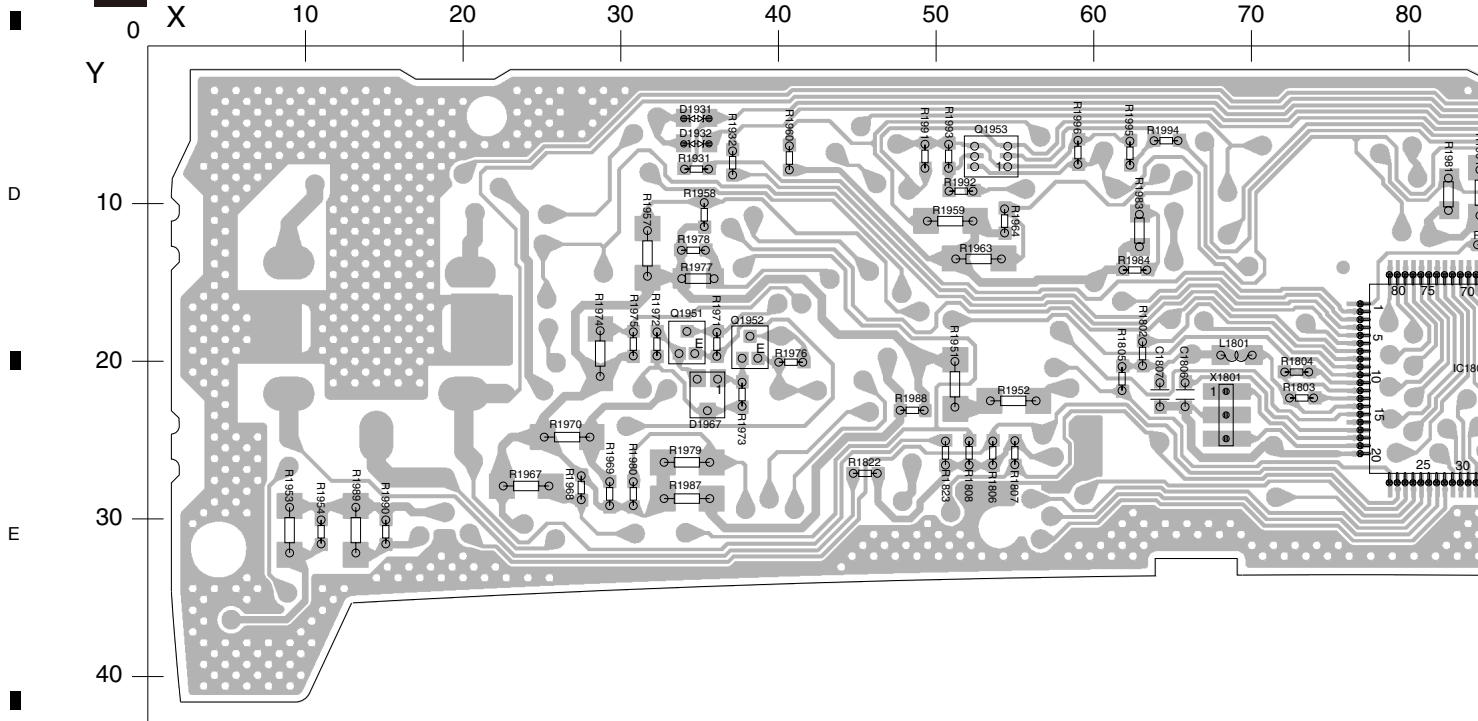
A

11.2 KEYBOARD UNIT

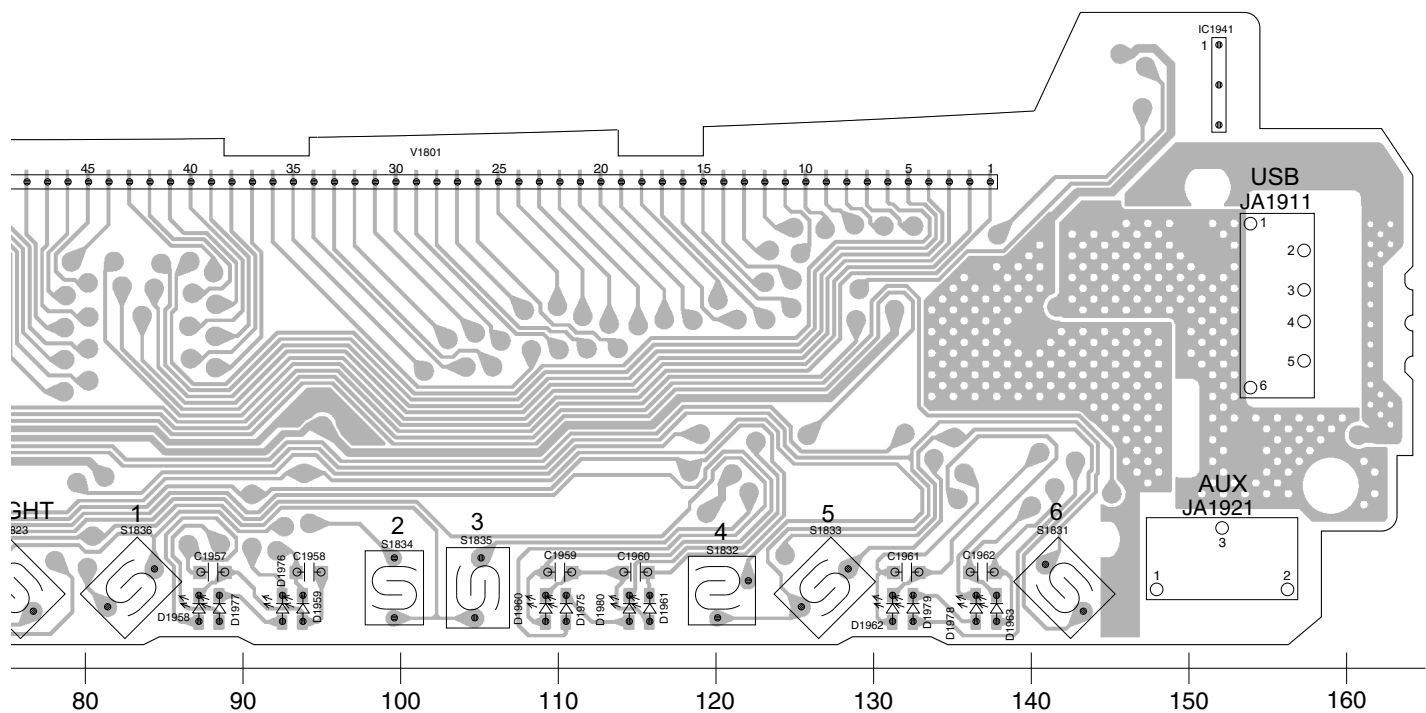
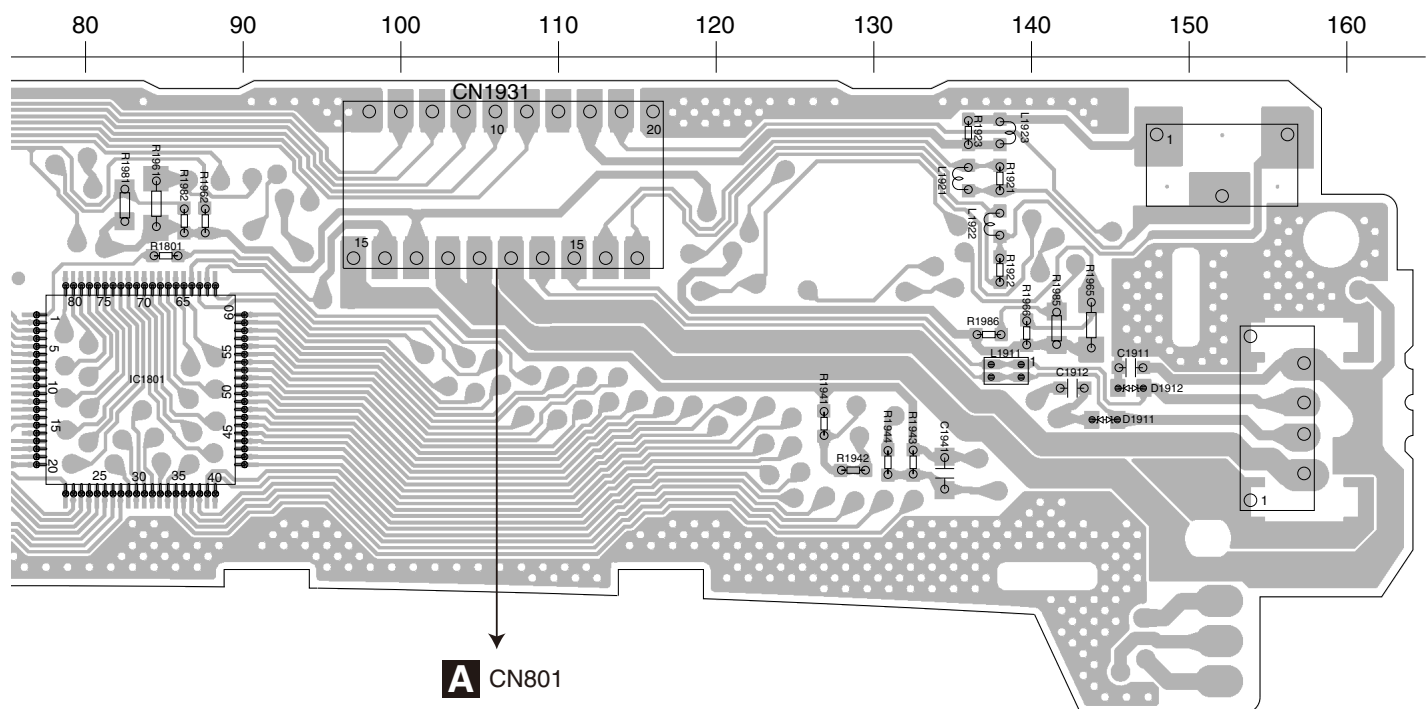
B KEYBOARD UNIT



B KEYBOARD UNIT



B

SIDE A**SIDE B****A** CN801**B**

12. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

- 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.
- Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

- The expression of the unit in this manual is shown by u instead of μ . Please do not make a mistake.

<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
A: MVH-180UB/XINEW5		Q 301 (A,73,52) Transistor	EMD52
B: MVH-180UBG/XINEW5		Q 691 (A,104,47) Chip Transistor	HN1C01FU
C: MVH-181UB/XINEW5		Q 851 (A,121,36) Transistor	2SCR514PGZE
Unit Number : QWM4096(A)		Q 853 (A,116,36) Transistor	EMD52
Unit Number : QWM4097(B)		Q 861 (A,163,61) Transistor	X1049AG-TF2
Unit Number : QWM4098(C)			
Unit Name : Tuner Amp Unit		Q 862 (A,155,56) Transistor	EMD52
Unit Number : QWM4135(A)		Q 876 (A,121,27) Transistor	2SAR502UB
Unit Number : QWM4137(B)		Q 877 (A,118,25) Transistor	LTC143EUB
Unit Number : QWM4136(C)		D 531 (A,138,31) Diode	RB056L-40
Unit Name : Keyboard Unit		D 532 (A,146,36) Diode	CMS30I30A
A			
Unit Number : QWM4096(A)		D 691 (A,103,52) Diode	DZ2J075M0
Unit Number : QWM4097(B)		D 692 (A,108,57) Diode	DZ2J075M0
Unit Number : QWM4098(C)		D 802 (A,95,12) Diode	DZ2S068C
Unit Name : Tuner Amp Unit		D 803 (A,113,12) Diode	DZ2S068C
		D 807 (A,114,12) Diode	DZ2S068C
		D 808 (A,119,12) Diode	DZ2S068C
		D 809 (A,116,12) Diode	DZ2S068C
		D 810 (A,117,12) Diode	DZ2S068C
		D 851 (A,118,32) Diode	DZ2J100M0
		D 861 (A,146,40) Diode	D1F60-5053
		D 862 (A,157,61) Diode	DZ2J068M0
		D 863 (A,117,40) Diode	CRG03
		D 901 (A,142,60) Diode	D1F60-5053
		D 902 (A,142,64) Diode	D1F60-5053
		D 982 (A,94,60) Diode	CRG03
MISCELLANEOUS			
IC 201 (A,55,42) E-VOL SYS LSI	PM9013A	L 202 (A,59,35) Inductor	CTF1793
IC 301 (A,84,71) Power AMP IC	PA2032A	L 402 (A,11,28) Inductor	LCTAW150J2520
IC 401 (A,17,23) Tuner IC	TEF6686HN	L 404 (A,8,35) Inductor	CTF1389
IC 451 (A,31,15) Regulator IC	MM3571A33P	L 408 (A,20,41) Inductor	LCMAR27J1608
IC 531 (A,138,26) DC/DC CONV IC	KBD9876EFJ	L 531 (A,130,33) SMD SPL Inductor	CTH1584
IC 532 (A,105,16) PO Supply IC	BD2232G-G	L 801 (A,114,16) Inductor	CTF1713
IC 601 (A,72,25) Flash Blank UC IC	R5S726A0D216FP	L 901 (A,139,51) Choke Coil	CTH1621
IC 671 (A,89,18) IC	S-80827CNMC-B8M	T 401 (A,18,35) Variable Coil	CTC1215
IC 801 (A,95,24) L-MOS And Gate	TC7SET08FUS1	X 401 (A,28,23) Crystal Resonator	CSS1867
		X 601 (A,87,24) Crystal Resonator 12.0 MHz	CSS1847
IC 821 (A,107,27) Regulator IC	NJM2831F53	X 603 (A,79,38) Resonator 16.93 MHz	CSS1794
IC 881 (A,102,36) Regulator IC	S-1170B33UC-OTS	△P253 (A,63,66) Fuse 3.0 A	CEK1404
IC 882 (A,99,30) Regulator IC	S-1155B12-U5	P 401 (A,9,43) Surge Absorber	IMSA-6803-01Y900
IC 991 (A,94,47) Regulator IC	BD00GA3EEFJ	VA801 (A,111,15) SMD Varistor	MLV0402ES012V0010N
Q 252 (A,48,60) Transistor	EMH53	VA802 (A,103,12) SMD Varistor	MLV0402ES012V0010N

5		6		7		8	
Circuit Symbol and No.		Part No.		Circuit Symbol and No.		Part No.	
CN801	(A,106,3) Connector	CKS6452		R 628	(A,82,46)	RS1/16SS473J	
JA251	(A,45,69) RCA Jack	CKB1115		R 629	(A,57,32)	RS1/16SS473J	
JA401	(A,9,61) Antenna Jack	YKS5041		R 631	(A,57,26)	RS1/16SS104J	
JA901	(A,121,71) Plug	CKM1624		R 632	(A,60,27)	RS1/16SS101J	A
⚠	Fuse 10 A	YEK5001		R 633	(A,61,25)	RS1/16SS101J	
RESISTORS				R 635	(A,60,24)	RS1/16SS101J	
R 255	(A,52,58)	RS1/16SS821J		R 636	(A,57,24)	RS1/16SS102J	
R 256	(A,43,58)	RS1/16SS821J		R 637	(A,59,22)	RS1/16SS102J	
R 257	(A,52,59)	RS1/16SS223J		R 638	(A,57,21)	RS1/16SS102J	
R 258	(A,43,59)	RS1/16SS223J		R 639	(A,50,22)	RS1/16SS473J	
R 305	(A,75,50)	RS1/16SS103J		R 640	(A,60,18)	RS1/16SS222J	
R 306	(A,76,55)	RS1/16SS221J		R 641	(A,61,16)	RS1/16SS103J	
R 307	(A,76,52)	RS1/16SS223J		R 643	(A,81,15)	RS1/16SS473J	
R 308	(A,69,65)	RS1/16SS103J		R 644	(A,82,16)	RS1/16SS473J	B
R 403	(A,9,28)	RS1/16SS391J		R 645	(A,83,16)	RS1/16SS473J	
R 404	(A,10,37)	RS1/16SS105J		R 646	(A,88,33)	RS1/16SS473J	
R 405	(A,10,40)	RS1/16SS105J		R 647	(A,84,32)	RS1/16SS473J	
R 406	(A,19,19)	RS1/16SS101J		R 648	(A,65,36)	RS1/16SS473J	
R 407	(A,20,19)	RS1/16SS101J		R 650	(A,93,17)	RS1/16SS473J	
R 408	(A,23,19)	RS1/16SS103J		R 651	(A,91,27)	RS1/16SS153J	
R 410	(A,22,19)	RS1/16SS103J		R 652	(A,91,29)	RS1/16SS153J	
R 417	(A,15,31)	RS1/16SS0R0J		R 653	(A,57,28)	RS1/16SS473J	
R 430	(A,15,14)	RS1/10SR0R0J		R 661	(A,78,36)	RS1/16SS222J	
R 437	(A,21,16)	RS1/16SS472J		R 664	(A,48,24)	RS1/16SS473J	
R 438	(A,17,16)	RS1/16SS472J		R 665	(A,58,19)	RS1/16SS222J	C
R 439	(A,25,24)	RS1/16SS0R0J		R 667	(A,73,14)	RS1/16SS103J	
R 509	(A,55,30)	RS1/16SS473J		R 668	(A,95,16)	RS1/16SS473J	
R 510	(A,49,34)	RS1/16SS473J		R 671	(A,84,20)	RS1/16SS104J	
R 531	(A,131,26)	RS1/16SS0R0J		R 681	(A,72,46)	RS1/16SS473J	
R 532	(A,132,25)	RS1/16SS1803D		R 682	(A,72,39)	RS1/16SS473J	
R 533	(A,132,27)	RS1/16SS4302D		R 683	(A,76,44)	RS1/16SS473J	
R 534	(A,136,19)	RS1/10SR471J		R 684	(A,65,42)	RS1/16SS473J	
R 535	(A,133,27)	RS1/16SS682J		R 685	(A,69,46)	RS1/16SS473J	
R 603	(A,71,14)	RS1/16SS473J		R 691	(A,105,48)	RS1/16SS103J	
R 604	(A,98,17)	RS1/16SS473J		R 692	(A,109,46)	RS1/16SS104J	
R 605	(A,87,35)	RS1/16SS473J		R 693	(A,106,48)	RS1/16SS473J	D
R 607	(A,84,25)	RS1/16SS152J		R 694	(A,107,48)	RS1/16SS473J	
R 608	(A,87,47)	RS1/16SS473J		R 695	(A,106,57)	RS1/10SR333J	
R 609	(A,89,31)	RS1/16SS473J		R 696	(A,112,59)	RS1/4SA122J	
R 610	(A,89,35)	RS1/16SS103J		R 801	(A,121,21)	RS1/10SR222J	
R 611	(A,86,36)	RS1/16SS103J		R 803	(A,122,18)	RS1/10SR222J	
R 612	(A,83,38) (B)	RS1/16SS103J		R 806	(A,100,24)	RS1/10SR222J	
	(A,83,38) (C)	RS1/16SS473J		R 807	(A,90,14)	RS1/10SR222J	
R 613	(A,83,37) (A,B)	RS1/16SS473J		R 808	(A,88,13)	RS1/16SS822J	
	(A,83,37) (C)	RS1/16SS103J		R 809	(A,101,15)	RS1/10SR222J	
R 614	(A,83,44)	RS1/16SS473J		R 810	(A,99,15)	RS1/10SR222J	
R 615	(A,86,45)	RAB4CQ473J		R 811	(A,118,18)	RS1/10SR223J	E
R 616	(A,74,37)	RS1/16SS221J		R 812	(A,116,18)	RS1/10SR223J	
R 617	(A,74,36)	RS1/16SS221J		R 813	(A,118,21)	RS1/10SR101J	
R 618	(A,73,37)	RS1/16SS221J		R 814	(A,116,21)	RS1/10SR101J	
R 619	(A,72,37)	RS1/16SS221J		R 815	(A,117,21)	RS1/10SR101J	
R 620	(A,67,39)	RS1/16SS221J		R 816	(A,113,21)	RS1/10SR220J	
R 621	(A,70,36)	RS1/16SS221J		R 817	(A,114,21)	RS1/10SR220J	
R 622	(A,68,37)	RS1/16SS473J		R 852	(A,117,37)	RS1/10SR102J	
R 623	(A,66,45)	RS1/16SS473J		R 854	(A,122,25)	RS1/10SR473J	
R 624	(A,64,38)	RS1/16SS101J		R 861	(A,155,52)	RS1/10SR122J	
R 625	(A,60,33)	RS1/16SS102J		R 862	(A,157,52)	RS1/10SR223J	
R 627	(A,83,46)	RS1/16SS473J		R 880	(A,118,28)	RS1/16SS103J	F
				R 881	(A,117,28)	RS1/16SS272J	
				R 882	(A,120,29)	RS1/16SS473J	

1 <u>Circuit Symbol and No.</u>		2 <u>Part No.</u>	3 <u>Circuit Symbol and No.</u>		4 <u>Part No.</u>
R 883	(A,103,32)	RS1/16SS473J			
R 991	(A,89,47)	RS1/16SS2702D	C 532	(A,129,21)	CEVQW221M6R3
R 992	(A,89,46)	RS1/16SS4301D	C 534	(A,127,28)	CKSRYB105K10
A	CAPACITORS		C 535	(A,136,21) 10 uF	CCG1192
			C 536	(A,133,25)	CKSSYB682K25
			C 539	(A,143,29) 4.7 uF	CCG1222
C 201	(A,55,48)	CCSSCH151J50			
C 202	(A,53,52) 10 uF	CCG1192	C 540	(A,145,29) 1 uF	CCG1393
C 203	(A,56,48)	CKSSYB104K10	C 541	(A,152,27)	XCEVW221M16
C 204	(A,57,48)	CKSSYB104K10	C 542	(A,108,19)	CKSRYB105K10
C 205	(A,59,48)	CKSSYB104K10	C 545	(A,108,13)	CKSRYB105K10
			C 601	(A,61,15)	CKSSYB104K10
C 206	(A,59,54)	XCEVW470M16			
C 207	(A,66,54) 10 uF	CCG1192	C 602	(A,70,14)	CKSSYB102K50
C 210	(A,65,50)	CKSSYB104K16	C 603	(A,73,13)	CKSSYB104K10
C 215	(A,46,47)	CKSRYB105K10	C 604	(A,83,11)	CKSSYB102K50
B C 216	(A,47,47)	CKSRYB105K10	C 605	(A,83,14)	CKSSYB104K10
			C 606	(A,86,22)	CCSSCH120J50
C 217	(A,46,42)	CKSRYB105K10			
C 218	(A,46,43)	CKSRYB105K10	C 607	(A,86,26)	CCSSCH120J50
C 220	(A,61,34) 10 uF	CCG1192	C 608	(A,83,22)	CKSSYB104K10
C 221	(A,61,36)	CKSSYB104K10	C 609	(A,83,23)	CKSSYB104K10
C 222	(A,63,47) 10 uF	CCG1192	C 610	(A,83,26)	CKSSYB104K10
			C 611	(A,82,34)	CKSSYB104K10
C 229	(A,46,38)	CKSRYB105K10			
C 230	(A,46,41)	CKSRYB105K10	C 612	(A,82,33)	CKSSYB104K10
C 232	(A,53,36)	CKSSYB104K10	C 613	(A,75,36)	CKSSYB104K10
C 233	(A,53,35)	CKSSYB104K10	C 614	(A,69,37)	CKSSYB104K10
C 234	(A,56,34) 10 uF	CCG1192	C 615	(A,63,38)	CCSSCH220J50
			C 616	(A,64,37)	CKSSYB104K10
C 235	(A,55,36)	CCSSCH151J50			
C 239	(A,64,50) 1 uF	DCH1246	C 617	(A,64,35)	CKSSYB104K10
C 255	(A,51,57) 10 uF	CCG1192	C 618	(A,58,33)	CKSSYB104K10
C 256	(A,44,57) 10 uF	CCG1192	C 619	(A,61,28)	CKSSYB104K10
C 257	(A,52,60)	CCSSCH101J50	C 620	(A,58,23)	CKSSYB104K10
			C 621	(A,59,21)	CKSSYB104K10
C 258	(A,43,60)	CCSSCH101J50			
C 259	(A,30,63)	CCSRCH102J50	C 628	(A,83,19)	CKSSYB104K10
C 260	(A,29,65)	CKSSYB104K10	C 629	(A,61,30)	CCSSCH220J50
C 261	(A,29,66)	CKSSYB103K16	C 630	(A,59,27)	CCSSCH220J50
C 301	(A,78,60)	CKSRYB474K10	C 631	(A,59,24)	CCSSCH220J50
			C 632	(A,81,38)	CCSSCH120J50
D C 302	(A,89,60)	CKSRYB474K10			
C 303	(A,81,60)	CKSRYB474K10	C 633	(A,76,38)	CCSSCH120J50
C 304	(A,86,60)	CKSRYB474K10	C 638	(A,63,41)	CKSSYB104K10
C 309	(A,66,66) 2.2 uF	CCG1205	C 641	(A,46,27)	CCSSCH330J50
C 312	(A,70,60) 10 uF/16 V	DCH1263	C 672	(A,89,20)	CKSRYB105K10
			C 681	(A,79,44)	CKSSYB104K10
C 316	(A,79,54)	CKSRYB105K10			
C 324	(A,91,58)	CKSRYB104K16	C 683	(A,76,41)	CCSSCJ3R0C50
C 325	(A,115,52) 2 200 uF/16 V	CCH1405	C 691	(A,106,59)	CKSRYB104K50
C 405	(A,24,28)	CKSSYB102K50	C 693	(A,78,51)	CCSSCH101J50
C 409	(A,20,29)	CKSSYB224K6R3	C 801	(A,124,14)	CCSRCH102J50
			C 805	(A,122,13)	CKSRYB104K16
C 410	(A,18,40)	CCSSCH220J50			
C 411	(A,17,40)	CCSSCH331J50	C 806	(A,100,12)	CCSRCH221J50
C 414	(A,11,25)	CKSSYB102K50	C 807	(A,98,12)	CCSRCH221J50
C 420	(A,9,39)	CCSSCH471J50	C 810	(A,108,12)	CKSRYB104K16
C 422	(A,12,24)	CKSSYB152K50	C 811	(A,117,16)	CKSRYB105K10
			C 813	(A,100,25)	CKSSYB104K10
C 425	(A,23,26)	CCSSCH390J50			
C 428	(A,15,28)	CKSSYB104K10	C 841	(A,111,26) 10 uF	CCG1192
C 430	(A,19,29)	CKSSYB102K50	C 842	(A,103,26) 10 uF	CCG1192
C 434	(A,14,42)	CCSSCH100D50	C 852	(A,122,23)	CCSRCH101J50
C 442	(A,14,19) 10 uF	CCG1192	C 853	(A,115,30)	CKSSYB104K16
			C 861	(A,157,40)	XCEAT102M16
C 452	(A,25,16)	CKSRYB104K16			
F C 453	(A,36,14)	CKSRYB105K10	C 862	(A,158,61)	CKSSYB104K16
C 458	(A,9,20)	CCSSCH102J50	C 864	(A,157,65) 10 uF	CCG1192
C 459	(A,26,33)	CKSRYB105K10	C 883	(A,107,37) 10 uF	CCG1192
C 531	(A,144,27)	CKSSYB103K16	C 884	(A,95,29) 10 uF	CCG1192
			C 885	(A,98,33) 10 uF	CCG1192

5	6	7	8
<u>Circuit Symbol and No.</u>	<u>Part No.</u>	<u>Circuit Symbol and No.</u>	<u>Part No.</u>
C 886 (A,99,37) 10 uF	CCG1192	JA1921 (A,152,6) Jack	CKN1090
C 914 (A,151,66)	CKSSYB102K50	V 1801 (A,137,31)	CAW2056
C 970 (A,26,6)	CKSSYB104K10		
C 971 (A,30,47)	CKSRYB103K50		
C 991 (A,98,48)	CKSRYB105K16		
C 992 (A,87,50)	CKSRYB105K16		
B			
Unit Number : QWM4135(A)			
Unit Number : QWM4137(B)			
Unit Number : QWM4136(C)			
Unit Name : Keyboard Unit			
MISCELLANEOUS			
IC 1801 (B,84,21) Flash Written UC IC PD6586A8			
IC 1941 (A,158,37) IR RC REC Module(C) SIR8440B5			
D 1951 (A,60,21) White LED CSL0401WBHCW1(A)			
D 1953 (A,35,9) LED(B) SML-D12P8W(KL)			
D 1954 (A,49,13) LED(B) SML-D12P8W(KL)			
D 1955 (A,49,23) LED(B) SML-D12P8W(KL)			
D 1956 (A,59,3) LED(B) SML-D12P8W(KL)			
D 1957 (A,70,4) LED(B) SML-D12P8W(KL)			
D 1958 (A,87,4) LED(B) SML-D12P8W(KL)			
D 1959 (A,94,4) LED(B) SML-D12P8W(KL)			
D 1960 (A,109,4) LED(B) SML-D12P8W(KL)			
D 1961 (A,116,4) LED(B) SML-D12P8W(KL)			
D 1962 (A,131,4) LED(B) SML-D12P8W(KL)			
D 1963 (A,138,4) LED(B) SML-D12P8W(KL)			
D 1964 (A,34,27) LED(B) SML-D12P8W(KL)			
D 1966 (A,37,18) LED(B) SML-D12P8W(KL)			
D 1968 (A,38,18) LED (RED)(A) SML-D12V8W(PQ)			
(A,38,18) LED (RED)(C) FC-1608SXXK630D08			
D 1969 (A,49,11) LED (RED)(A) SML-D12V8W(PQ)			
(A,49,11) LED (RED)(C) FC-1608SXXK630D08			
D 1970 (A,49,25) LED (RED)(A) SML-D12V8W(PQ)			
(A,49,25) LED (RED)(C) FC-1608SXXK630D08			
D 1971 (A,34,29) LED (RED)(A) SML-D12V8W(PQ)			
(A,34,29) LED (RED)(C) FC-1608SXXK630D08			
D 1973 (A,71,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,71,4) LED (RED)(C) FC-1608SXXK630D08			
D 1974 (A,57,3) LED (RED)(A) SML-D12V8W(PQ)			
(A,57,3) LED (RED)(C) FC-1608SXXK630D08			
D 1975 (A,111,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,111,4) LED (RED)(C) FC-1608SXXK630D08			
D 1976 (A,93,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,93,4) LED (RED)(C) FC-1608SXXK630D08			
D 1977 (A,89,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,89,4) LED (RED)(C) FC-1608SXXK630D08			
D 1978 (A,137,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,137,4) LED (RED)(C) FC-1608SXXK630D08			
D 1979 (A,133,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,133,4) LED (RED)(C) FC-1608SXXK630D08			
D 1980 (A,115,4) LED (RED)(A) SML-D12V8W(PQ)			
(A,115,4) LED (RED)(C) FC-1608SXXK630D08			
D 1981 (A,35,7) LED (RED)(A) SML-D12V8W(PQ)			
(A,35,7) LED (RED)(C) FC-1608SXXK630D08			
X 1801 (B,68,23) Ceramic Resonator 5.00 MHz CSS1547			
S 1839 (A,15,18) Encoder (MULTI-CONTROL) CSD1193			
CN1931 (B,107,8) Connector CKS6451			
JA 1911 (A,157,23) Connector CKS6443			
		RESISTORS	
		R 1801 (B,85,13)	RS1/10SR473J
		R 1802 (B,63,20)	RS1/10SR473J
		R 1803 (B,73,22)	RS1/10SR222J
		R 1805 (B,62,21)	RS1/10SR473J
		R 1806 (B,54,26)	RS1/10SR473J
		R 1807 (B,55,26)	RS1/10SR473J
		R 1808 (B,52,26)	RS1/10SR473J
		R 1823 (B,51,26)	RS1/10SR273J
		R 1921 (B,138,8)	RS1/10SR0R0J
		R 1922 (B,138,14)	RS1/10SR0R0J
		R 1923 (B,136,5)	RS1/10SR0R0J
		R 1931 (B,35,8)	RS1/10SR222J
		R 1932 (B,37,7)	RS1/10SR222J
		R 1941 (B,127,23) (A,B)	RS1/10SR473J
		R 1944 (B,131,26) (C)	RS1/10SR101J
		R 1951 (B,51,21)	RS1/4SA181J
		R 1952 (B,55,23)	RS1/4SA101J
		R 1957 (B,32,13) (B)	RS1/4SA391J
		R 1959 (B,51,11) (B)	RS1/4SA471J
		R 1961 (B,85,9) (B)	RS1/4SA471J
		R 1963 (B,53,14) (B)	RS1/4SA471J
		R 1965 (B,144,17) (B)	RS1/4SA471J
		R 1967 (B,24,28) (B)	RS1/4SA391J
		R 1970 (B,27,25) (B)	RS1/4SA681J
		R 1971 (B,36,19) (B)	RS1/10SR0R0J
		R 1975 (B,31,19) (A)	RS1/10SR182J
		(B,31,19) (C)	RS1/10SR562J
		R 1976 (B,41,20) (A)	RS1/10SR0R0J
		R 1977 (B,35,15) (A)	RS1/8SQ561J
		R 1978 (B,35,13) (C)	RS1/10SR102J
		R 1979 (B,34,26) (A)	RS1/4SA561J
		R 1980 (B,31,28) (C)	RS1/10SR102J
		R 1982 (B,86,10) (A)	RS1/10SR821J
		(B,86,10) (C)	RS1/10SR152J
		R 1983 (B,63,12) (A)	RS1/8SQ561J
		R 1984 (B,63,14) (C)	RS1/10SR102J
		R 1985 (B,142,17) (A)	RS1/8SQ561J
		R 1986 (B,137,18) (C)	RS1/10SR102J
		R 1987 (B,34,29) (A)	RS1/4SA561J
		R 1988 (B,49,23) (C)	RS1/10SR102J
		R 1991 (B,49,7) (B)	RS1/10SR0R0J
		R 1996 (B,59,7) (A)	RS1/10SR0R0J
		CAPACITORS	
		C 1806 (B,66,22)	CKSRYB104K16
		C 1807 (B,64,22)	CKSRYB105K10
		C 1912 (B,143,21)	CKSRYB102K50
		C 1941 (B,135,26)	CKSRYB102K50