Service Manual

MVH-08UBG/XEUW5

DIGITAL MEDIA RECEIVER

MVH-08UBG/XEUW5
MVH-08UB/XEUW5
MVH-85UB/XEES
MVH-88UB/XFBR

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:**

⚠

MVH-08UBG/XEUW5

CONTENTS

1. SERVICE PRECAUTIONS

1.1 SERVICE 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.

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.

1.4 NOTES ON ADJUSTMENT

- There is not information to be shown in this chapter.

1.5 OTHERS

- **Notes on soldring**
  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......................... 2.5 mA or less

2.2 DISC/CONTENT FORMAT

Made for
iPod iPhone

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

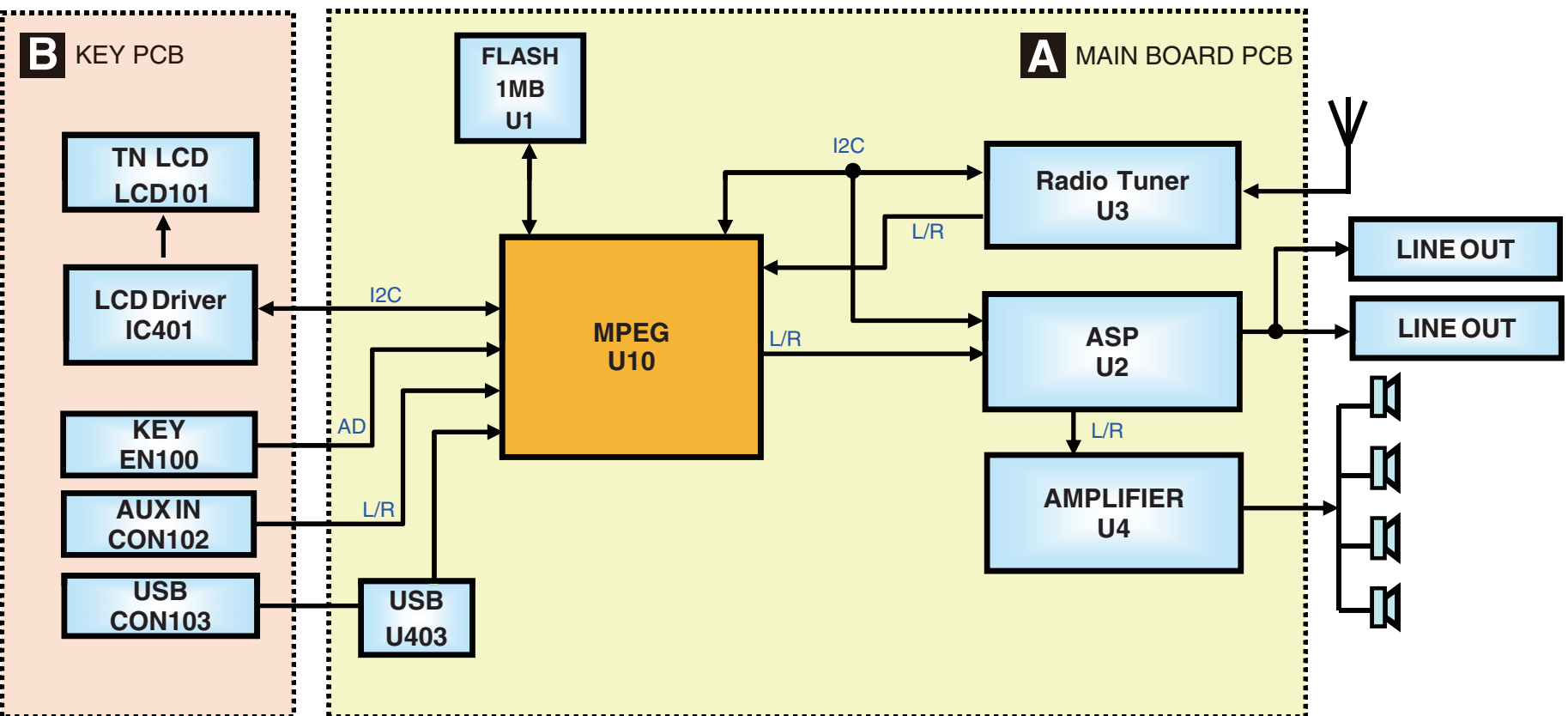To keep the product quality after servicing, please confirm following check points.

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

MVH-08UBG/XEUW5

B KEY PCB

A MAIN BOARD PCB

FLASH
1MB
U1

TN LCD
LCD101

LCD Driver
IC401

KEY
EN100

AUX IN
CON102

USB
CON103

USB
U403

MPEG
U10

Radio Tuner
U3

ASP
U2

AMPLIFIER
U4

LINE OUT

LINE OUT

I2C

I2C

AD

L/R

L/R

L/R

L/R

L/R

MVH-08UBG/XEUW5

BATT

CONT/A.ANT

AMP
U4

4558
U6

5.78V

U11

ASP
U2

EMP8965 3.3V
U5

MPEG
U10

100mA

60mA

TUNER
U3

EUP3482A(U101)

5V

130mA

USB

500mA

3300uF

LAMP

200mA

LCD DRIVER
IC401
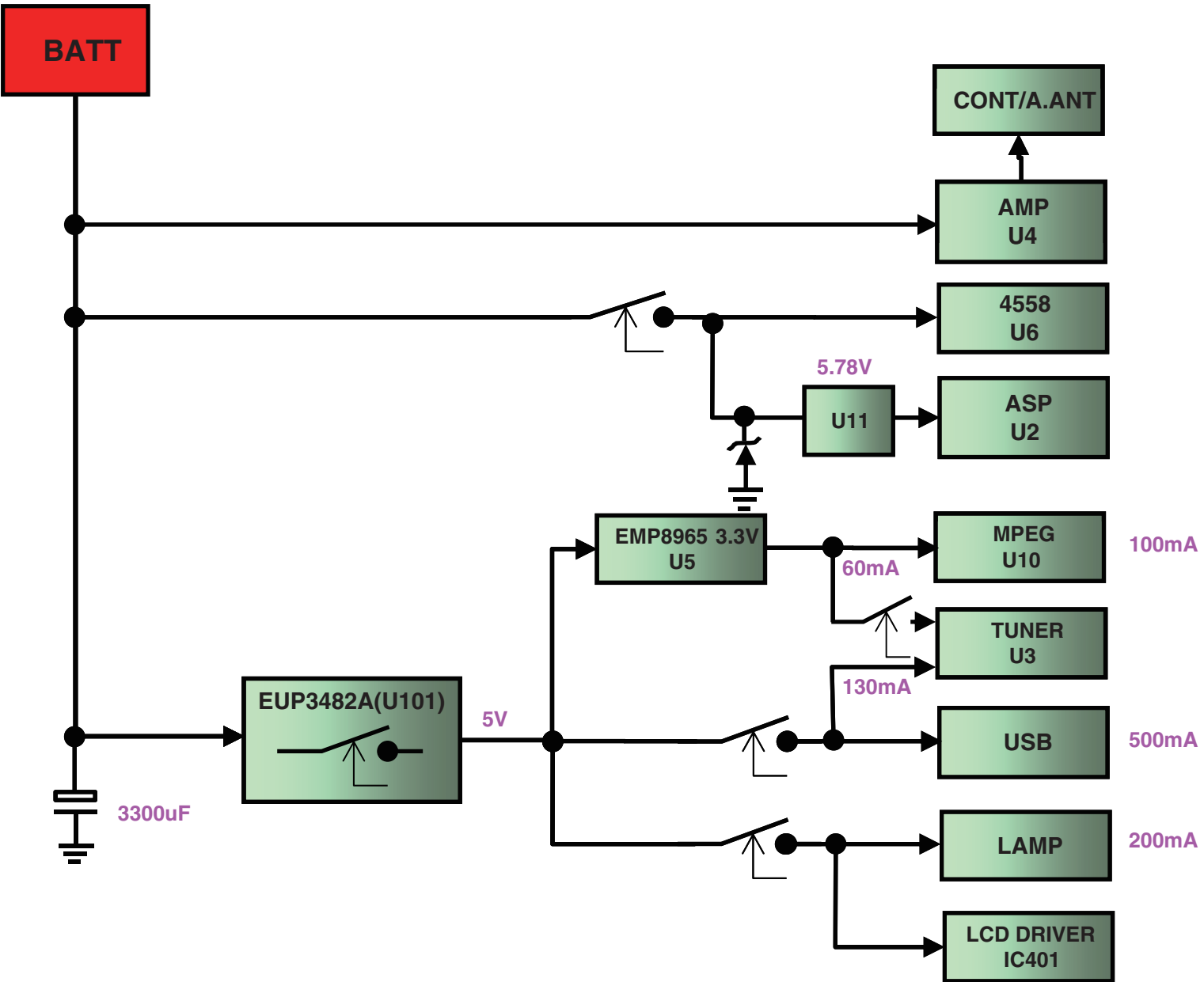
5. DIAGNOSIS
5.1 TROUBLESHOOTING

Unable to turn on the power
→ Check if the 10A blade fuse has not blown.
→ If the fuse has blown, check the voltage.
(Normal voltage)
Voltage when the source is off: 250 [mA]
Voltage at standby: 2.0 [mA]
→ If the voltage is not normal, replace MAIN BOARD PCB (completed set without front panel).
→ If you do not find any error, replace the fuse.

No sound from the speakers
→ Change the source and check if you can hear sounds.
→ If you can hear sounds in a particular source, replace MAIN BOARD PCB (completed set without front panel).
→ If you cannot hear sounds in any source, check the the signal in the input of PowerAMP IC (U4).

IN1	U4 11-pin	FL
IN2	U4 12-pin	RL
IN3	U4 15-pin	FR
IN4	U4 14-pin	RR

→ If you can find the signal, replace the PowerAMP IC.
→ If you cannot find the signal, replace MAIN BOARD PCB.

(Check Point)
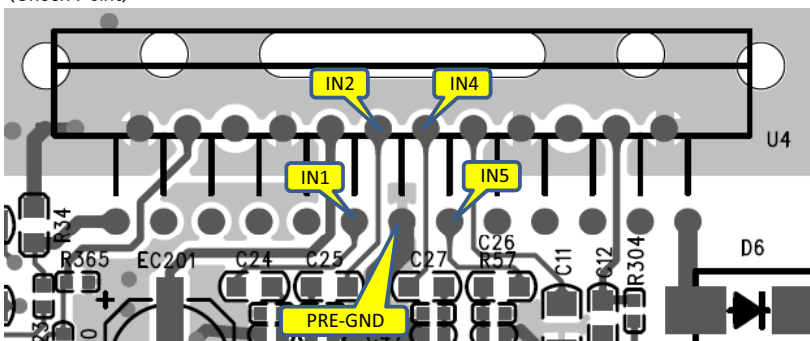
No sound from the PreOUT
→ Check the impedance between the Ground of PreOUT and the Ground of this product.
→ If the impedance is OPEN, replace the Poly Switch (FU1).
→ If the impedance is SHORT, replace MAIN BOARD PCB (Completed set without Front panel).

Detach grill does not work.
→ Check the power of MAIN BOARD PCB (Connector J9 15-pin: A5V).
→ If the detach grill does not work normally, replace the MAIN BOARD PCB (Completed set without Front panel).
→ If the detach grill works normally, replace the detach grill (Detachable Assy).

USB storage device is not recognized.
→ Check the power of MAIN BOARD PCB (Connector J9 7-pin: K5V).
→ If an error occurs in the power, replace the MAIN BOARD PCB (Completed set without Front panel).
→ If you do not find anything error, replace the detach grill (Detachable Assy).
＊ You may also check the power of the MAIN BOARD PCB by checking the LED power status in the
connected USB storage device.

Detachment is not illuminated.
→ Check the power of MAIN BOARD PCB (Connector J9 2-pin: LAMP (5V)).
→ If an error occurs in the power, replace the MAIN BOARD PCB (Completed set without Front panel).
→ If you do not find any error, replace the detach grill (Detachable Assy).

(Check Point)

MVH-08UBG/XEUW5
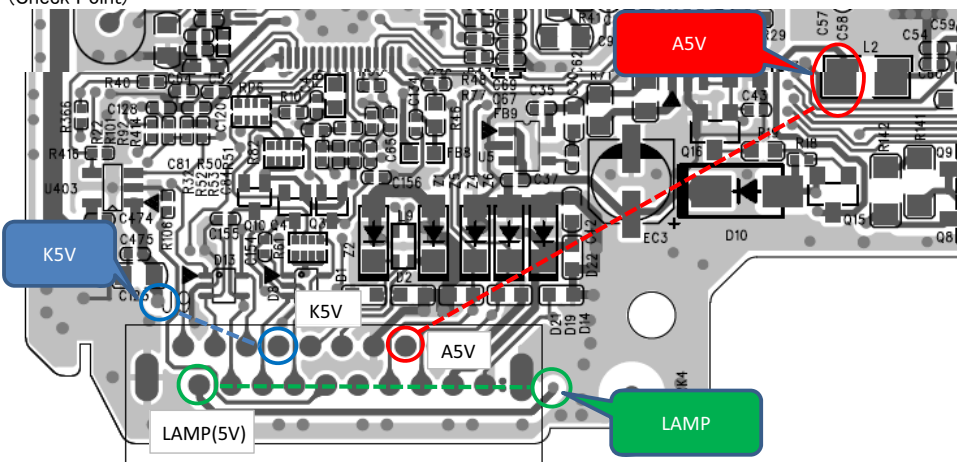
5.2 ERROR CODE LIST

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.

USB device

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.

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.
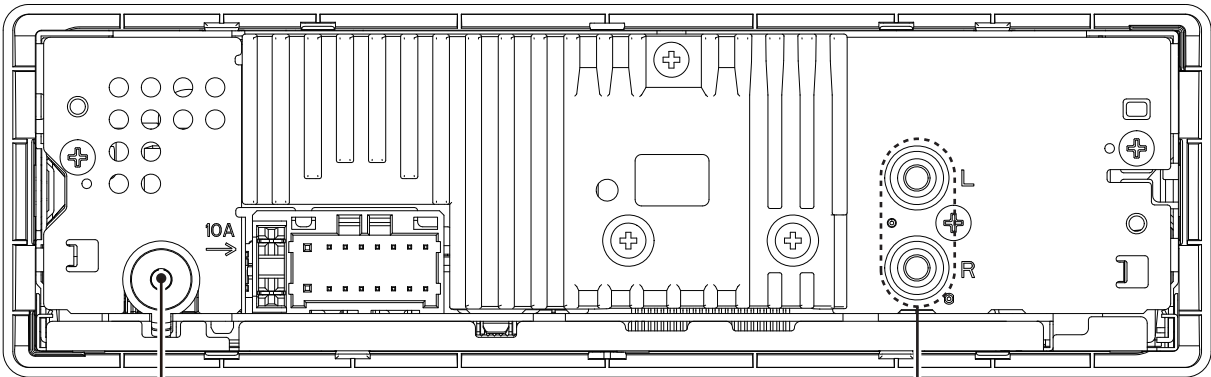
ERROR-19
→ Communication failed.
  – Perform one of the following operations, then return to the USB source.
    • Turn the ignition switch OFF and back to ON.
    • Disconnect the USB device.
    • Change t

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

5.3 CONNECTOR FUNCTION DESCRIPTION

FM/AM ANTENNA
INPUT

10A

REAR OUTPUT or
SUBWOOFER OUTPUT

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

1	FL+	9	TXD_MCU
2	FR+	10	NC
3	FL-	11	MCU_RXD
4	FR-	12	NC
5	RL+	13	ACC
6	RR+	14	B_REM
7	RL-	15	BAT+
8	RR-	16	DGND1

6. SERVICE MODE

There is not information to be shown in this chapter.

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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.

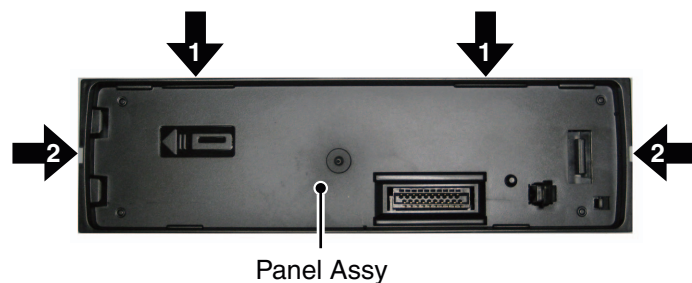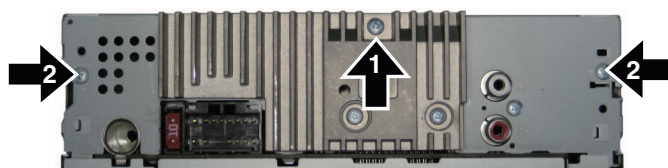**2** Release the two latches and then remove the Panel Assy.

Panel Assy

Fig.1

● **Removing the Main Board Assy (Fig.2)**

1 Remove the screw.

2 Remove the two screws.

The Frame side is made a bottom.

3 Push the area and remove the two hooks.

Heat Sink Side

4 Slide the Main Board Assy in the direction of the arrow and then remove the Main Board Assy.
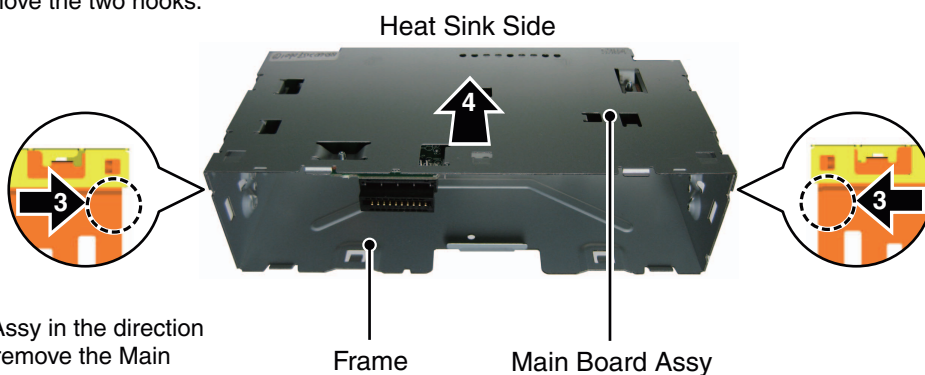
Frame   Main Board Assy

Fig.2

● **Removing the Main Board PCB (Fig.3)**

1 Remove the two screws.

2 Straighten the tab at location indicated and then remove the Main Board PCB.
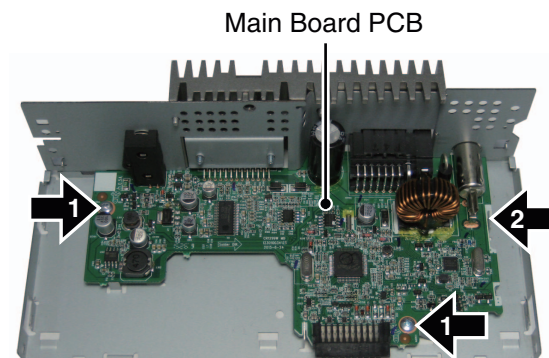
Main Board PCB

Fig.3

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

1. Remove the lock while bending the rib of the panel upward.
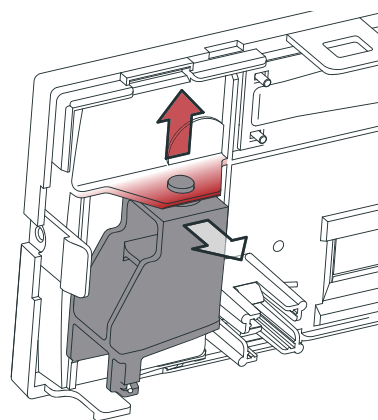
Fig.4

2. Press the upside hook and the spike side hook of the spike at the same time, and pull out the spike.
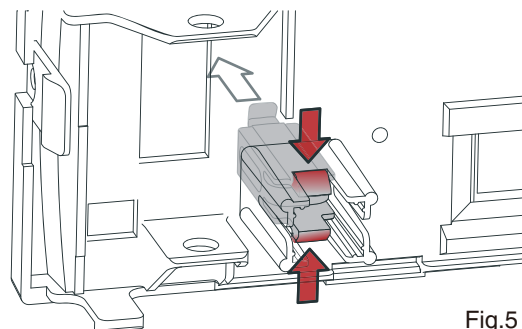
Fig.5

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

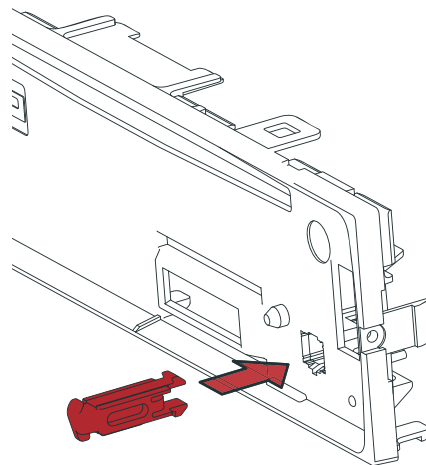1. Attach the spike from the front side of the cabinet.

Fig.6

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

The bended tip of the spring is set to this side.

Hitch the spring to the groove.

Fig.7

MVH-08UBG/XEUW5
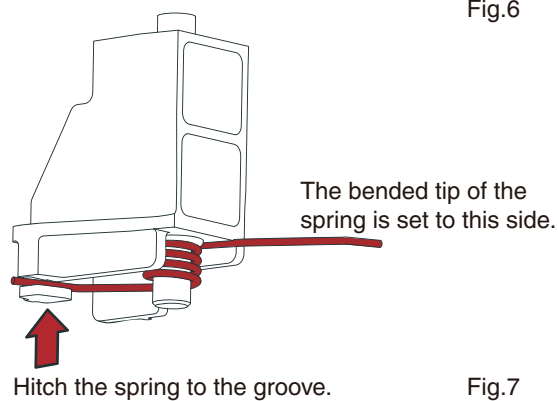
3. Fit the spring in the groove at the position shown in the figure.

4. Fit the boss on the lower side of the lock in the lower hole of the cabinet, and then warp the rib on the cabinet in the direction shown in the figure and fit the boss of the lock in the cabinet.
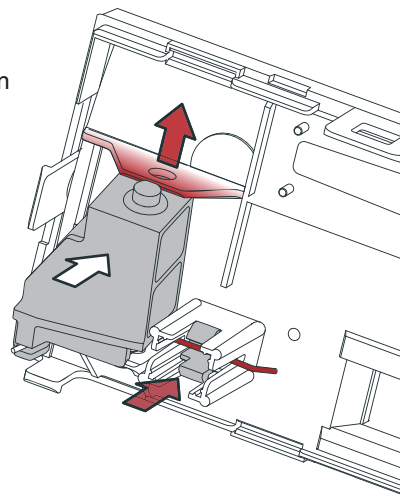
Fig.8

8. EACH SETTING AND ADJUSTMENT

There is not information to be shown in this chapter.

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

14

PACKING SECTION PARTS LIST
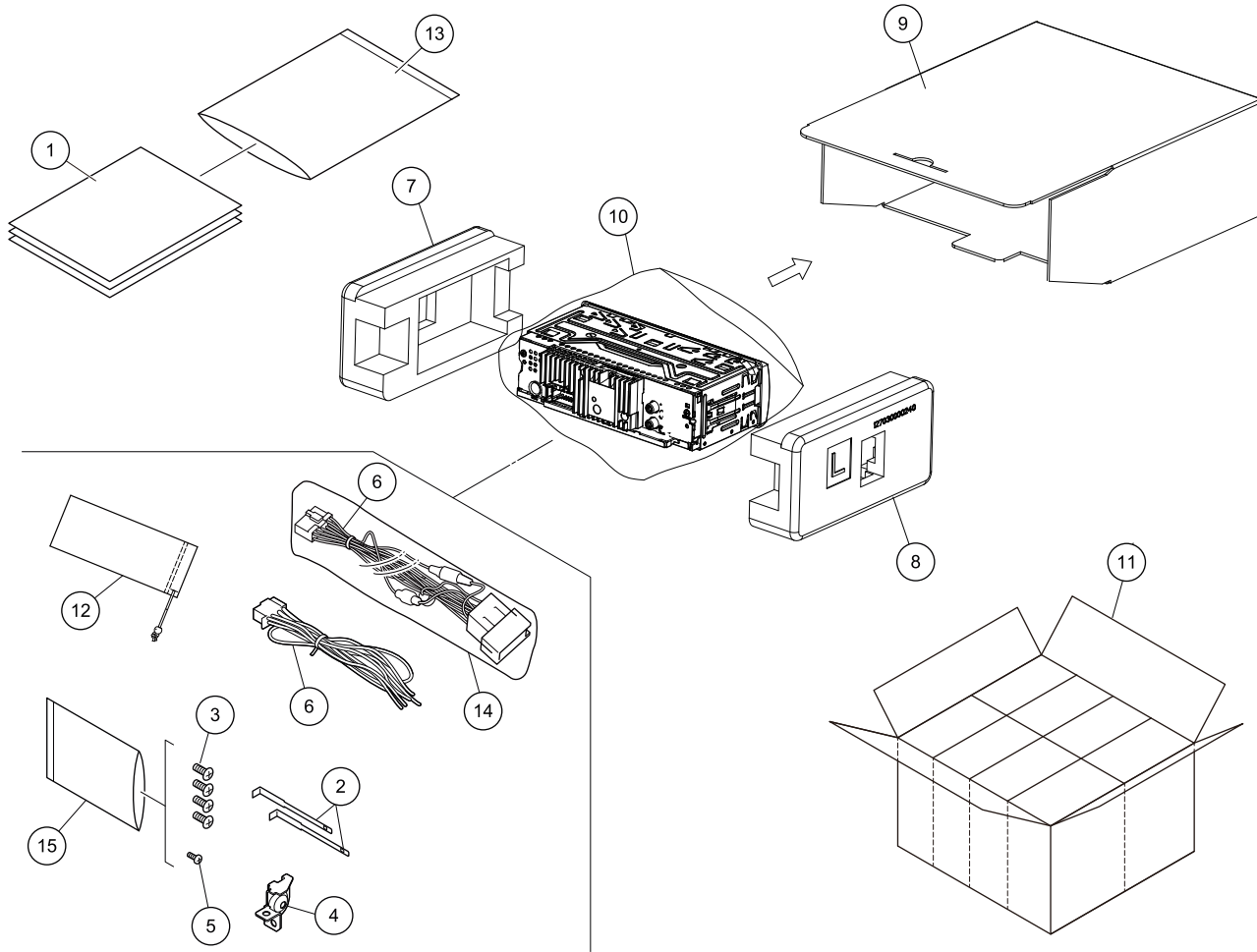
Mark	No.	Description	MVH-08UBG/XEUW5	MVH-08UB/XEUW5	MVH-85UB/XEES	MVH-88UB/XFBR
	1-1	Owner's Manual	127075006696	127075006696	127075006695	CRB4866
*	1-2	Warranty Card	127071006834	127071006834	Not used	Not used
*	1-3	Service Network	Not used	Not used	Not used	CRY1227
	2	key	121090000687	121090000687	121090000687	121090000687
	3	Screw	121102030069	121102030069	121102030069	121102030069
	4	Bracket	141000005383	141000005383	141000005383	141000005383
	5	Screw	121104070007	121104070007	121104070007	121104070007
	6	Cord Assy	CDP1480	CDP1480	CDP1480	QDP3070
	7	Protector	127030000239	127030000239	127030000239	127030000239
	8	Protector	127030000240	127030000240	127030000240	127030000240
	9	Unit Box	127020004935	127020004933	127020004932	CHG9242
	10	Polyethylene Bag	127060020025	127060020025	127060020025	127060020025
	11	Contain Box	Not used	Not used	Not used	CHL9242
	12	Detach G Case	Not used	Not used	Not used	QEG3004
	13	Polyethylene Bag	Not used	Not used	Not used	127060000019
	14	Polyethylene Bag	Not used	Not used	Not used	127060000020
*	15	Polyethylene Bag	CEG1160	CEG1160	CEG1160	CEG1160

Owner's Manual, Installation Manual

Part No.	Language
127075006696	English, Russian
127075006695	English, Spanish(Espanol), Portuguese(B)
CRB4866	Portuguese(B)

MVH-08UBG/XEUW5
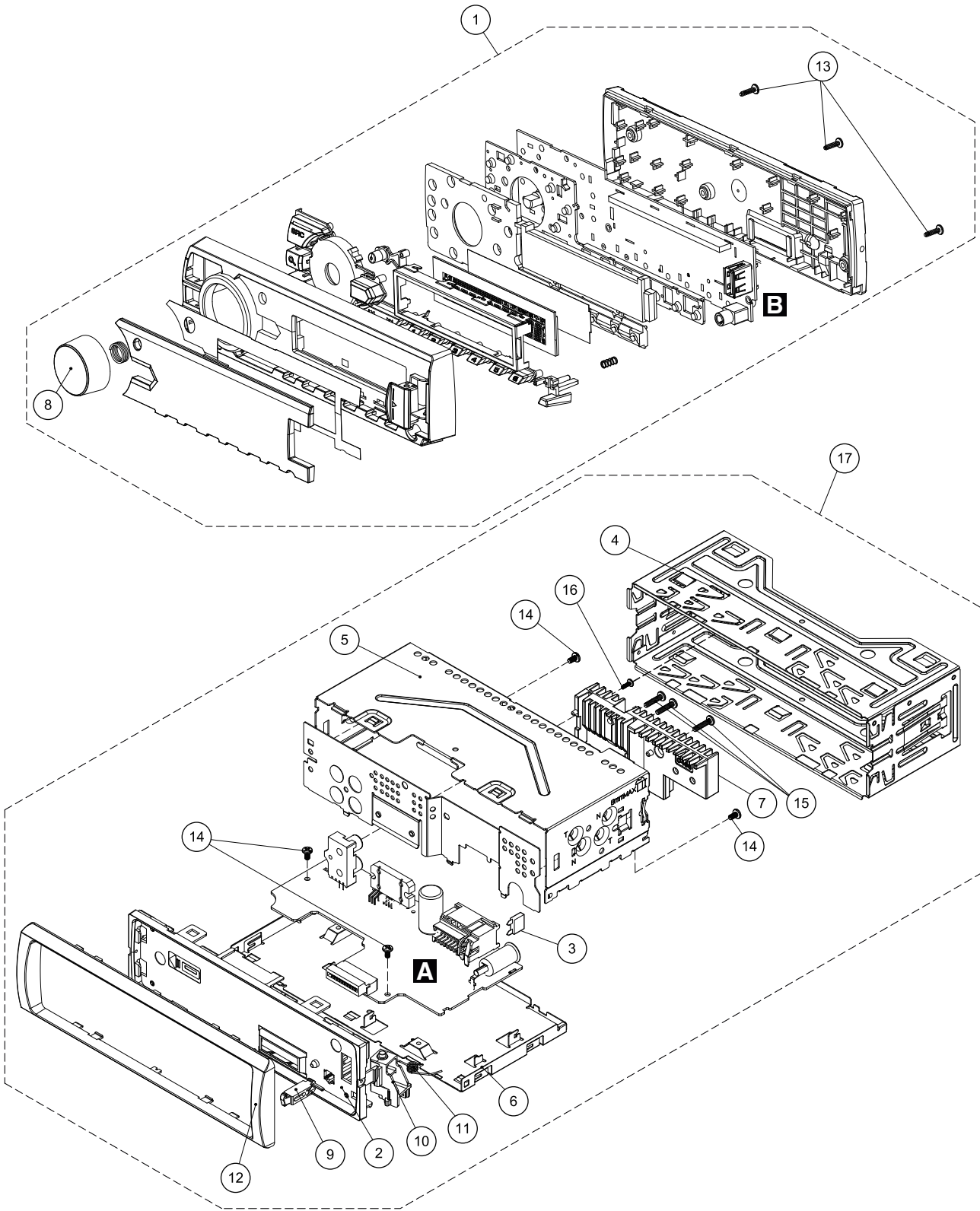
(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Detachable Assy	See Contrast table (2)
	2	Cabinet	121240002183000
⚠	3	Fuse(10 A)	YEK5001
	4	Holder	See Contrast table (2)
	5	Frame	See Contrast table (2)
	6	Cover	See Contrast table (2)
	7	Heat Sink	121015000509
	8	Knob	121230005747000
	9	Spike	121200001032000

Mark	No.	Description	Part No.
	10	Lock	121200001033000
	11	Spring	121035001071
	12	Panel	121270001313000
	13	Screw	121045000013
	14	Screw	121104070007
	15	Screw	121104070012
	16	Screw	121106070013
	17	Completed set without Front panel	See Contrast table (2)

(2) CONTRAST TABLE

MVH-08UBG/XEUW5, MVH-08UB/XEUW5, MVH-85UB/XEES and MVH-88UB/XFBR are constructed the same except for the following:

Mark	No.	Description	MVH-08UBG/XEUW5	MVH-08UB/XEUW5	MVH-85UB/XEES	MVH-88UB/XFBR
	1	Detachable Assy	843CR1299WDKB004	843CR1299WUKB004	843CR1299WEKB004	CXE9468
	4	Holder	141000005098	141000005098	141000005098	121000005098
	5	Frame	141000005386	141000005386	141000005386	121000005386
	6	Holder	141000005384	141000005384	141000005384	121000005384
	17	Completed set without Front panel	845CR1299WDAS000	845CR1299WUAS000	845CR1299WEAS000	Not used

10. SCHEMATIC DIAGRAM

Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" .
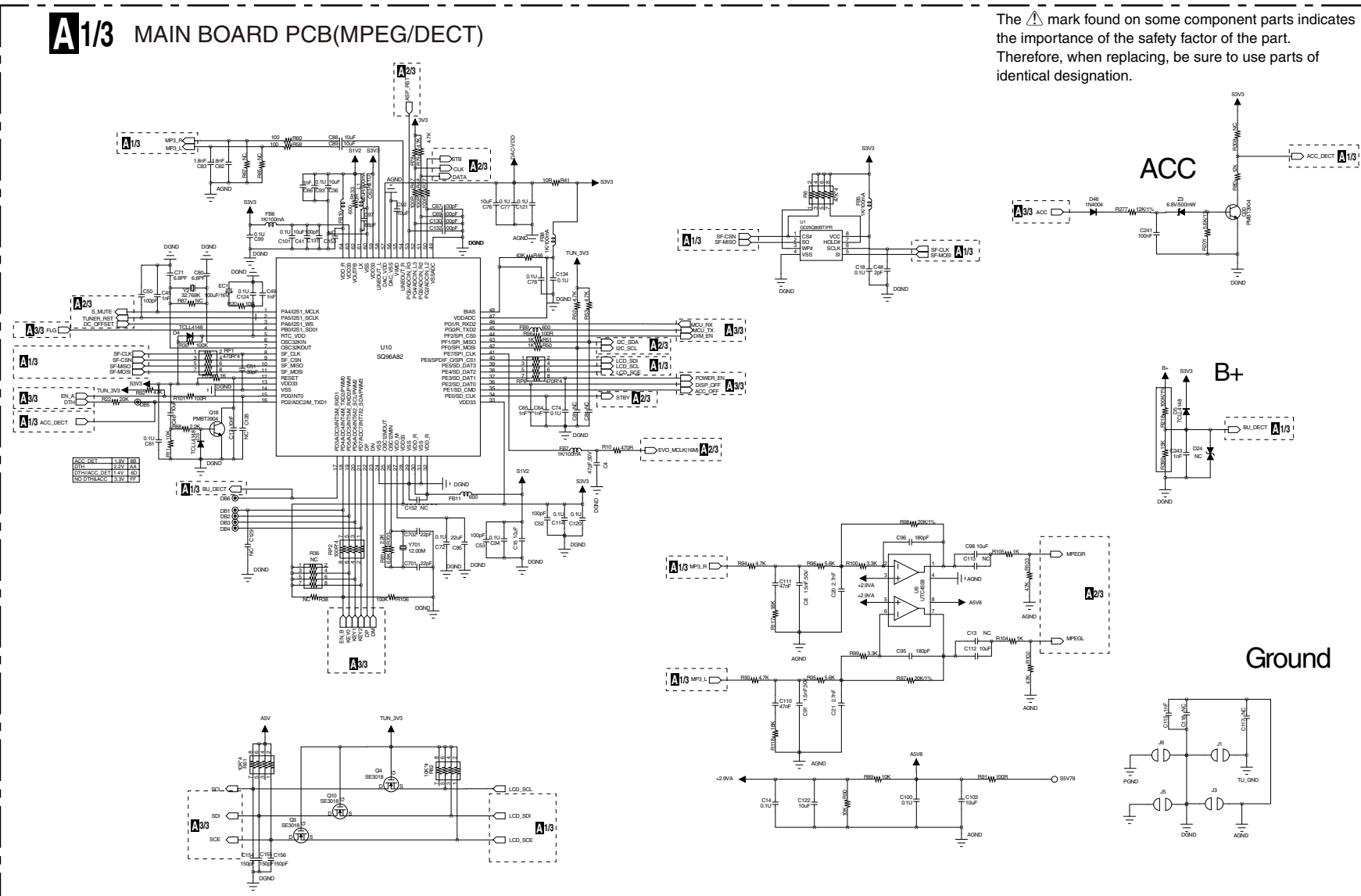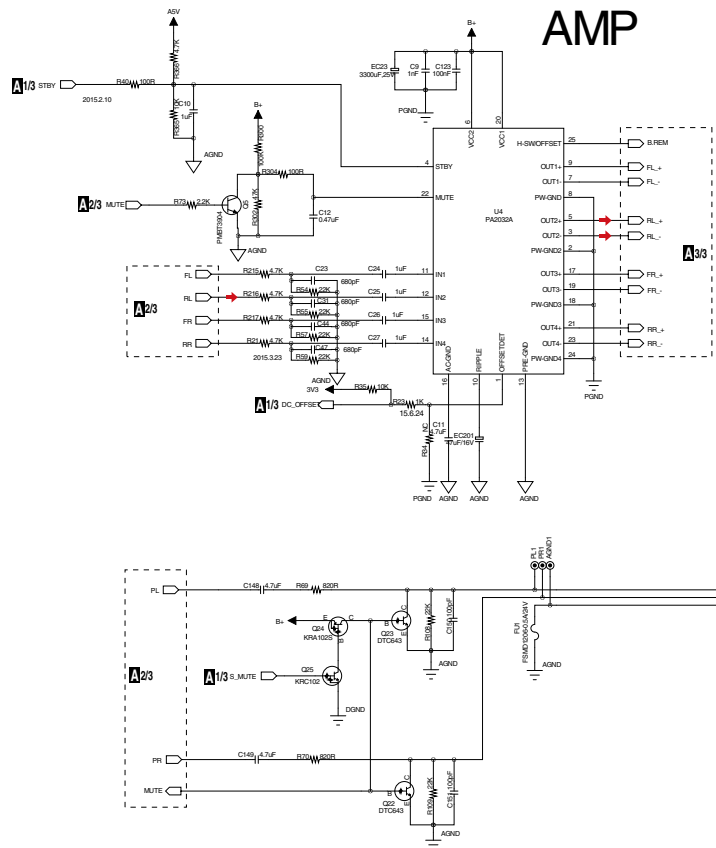
A1/3 MAIN BOARD PCB(MPEG/DECT)

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.
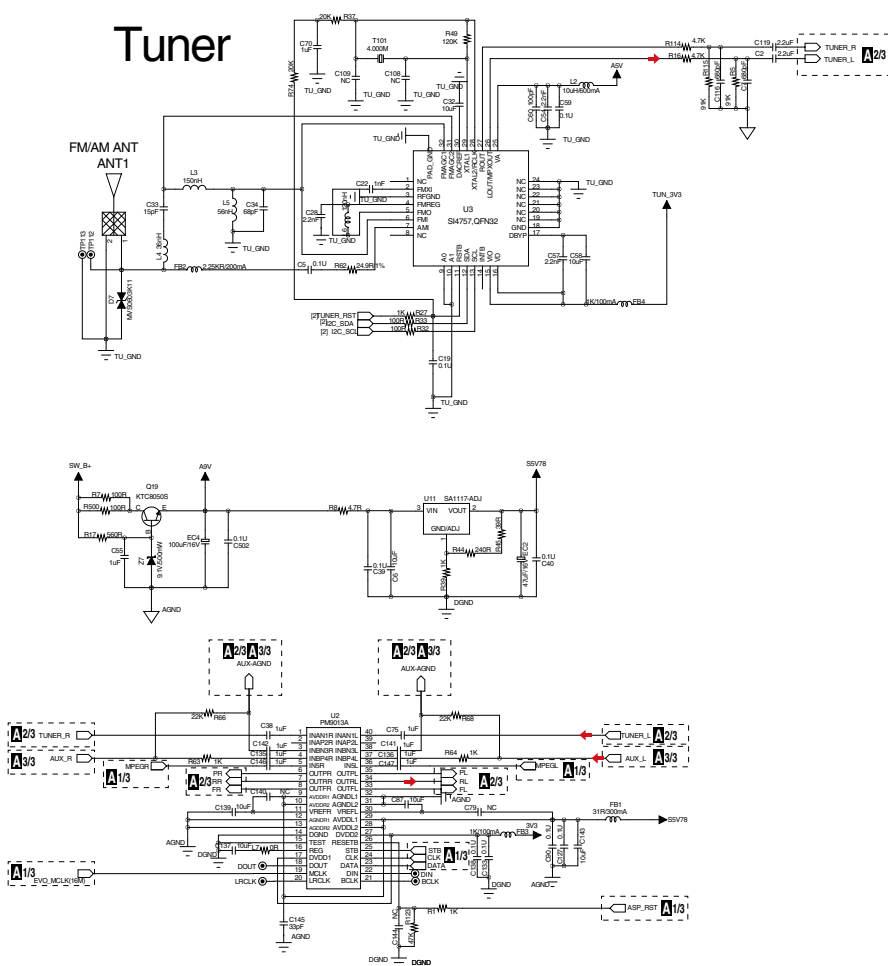
ACC

B+

Ground

MVH-08UBG/XEUW5

A 2/3 MAIN BOARD PCB (TUN/ASP/AMP)

Tuner

AMP

FM/AM ANT
ANT1

A 3/3 MAIN BOARD PCB (POWER/INTERFACE)

MVH-08UBG/XEUW5

USB

AUTO TEST

CON101

POWER SUPPLY

CN102
CKMI624-A

B KEY PCB

LCD101
LCD-TN-N82207MS-CM1299-56P-AA

IC401
BU97510KV

MARK

MARK1 MARK3 MARK4 MARK5 MARK7 MARK8

CON101
CK56451-A-17PK

A 3/3
J9

PANEL_DET

CON102
CON-AUX-4P-DIP-AA

AUX

CON103

USB

Red LED:330R
Green LED:150R

LAMP
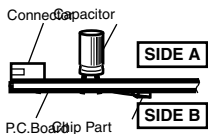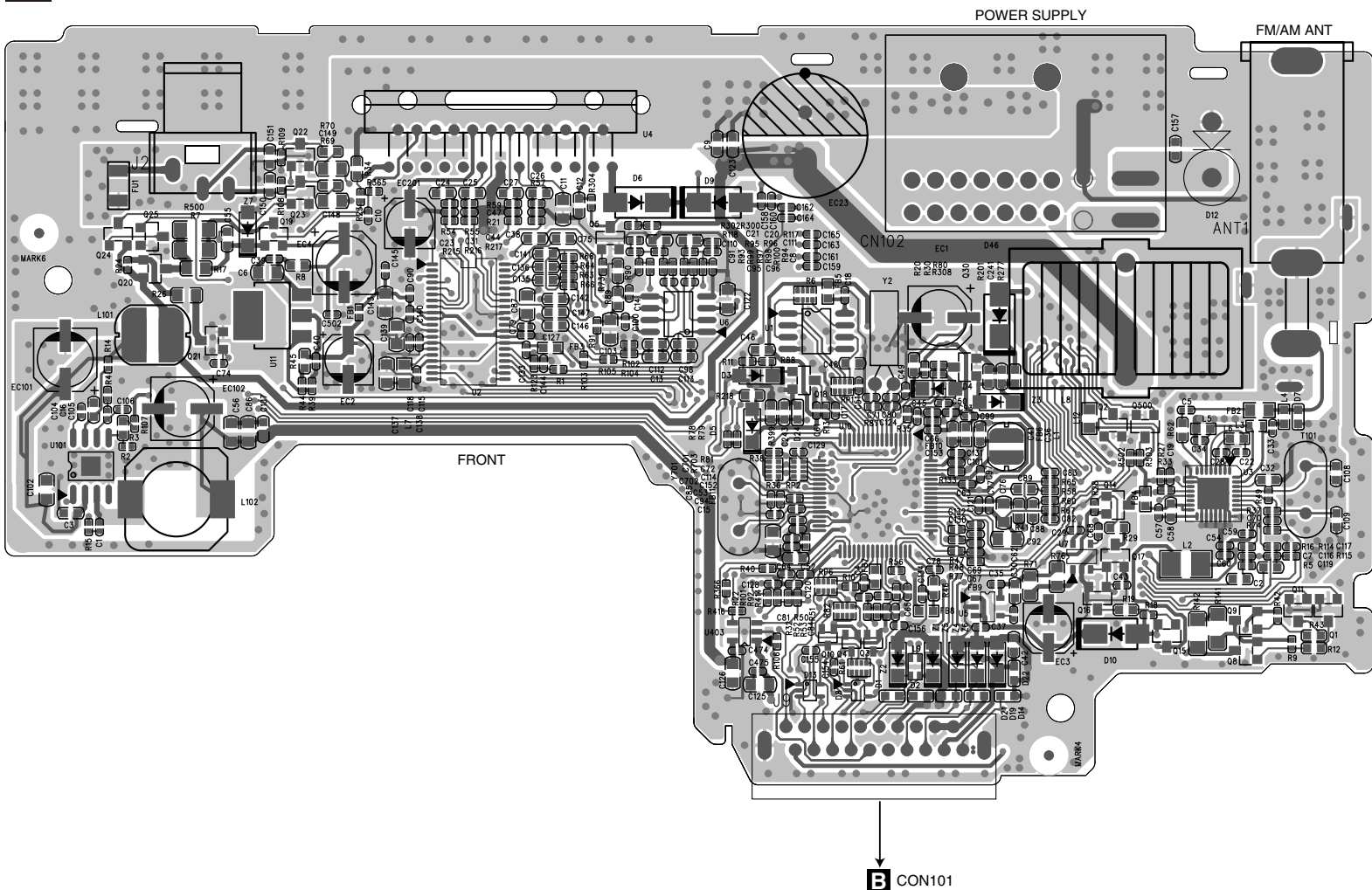
11. PCB CONNECTION DIAGRAM

SIDE A

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.
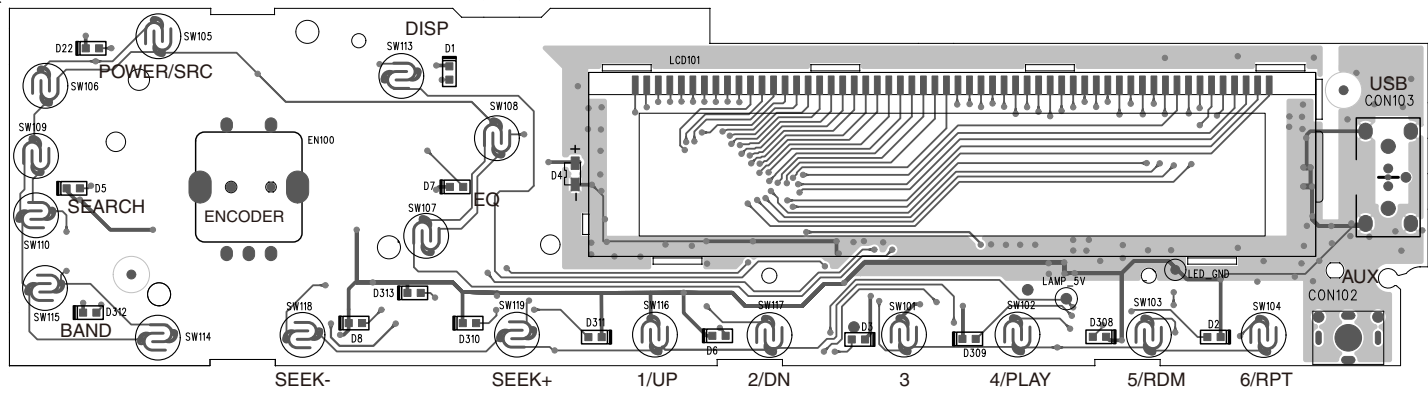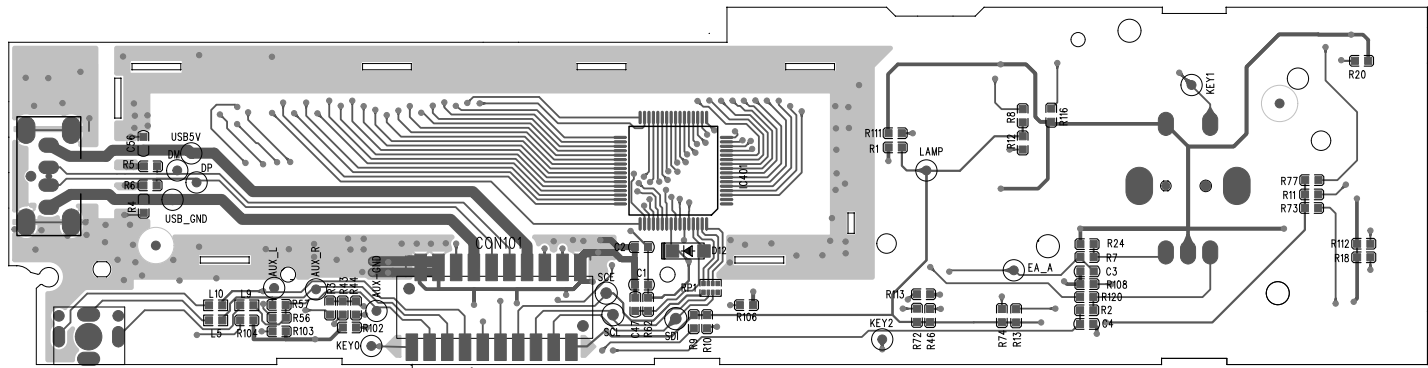2. Viewpoint of PCB diagrams

Connector / Capacitor

SIDE A
SIDE B

P.C.Board / Chip Part

A MAIN BOARD PCB

POWER SUPPLY

FM/AM ANT

FRONT

B CON101

A

A

A MAIN BOARD PCB

B KEY PCB

MVH-08UBG/XEUW5

B KEY PCB

A J9

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 ⚠ 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.*

Circuit Symbol and No.　　　Part No.

A

Unit Number :
Unit Name　:　MAIN BOARD PCB

MISCELLANEOUS

U 4	Power Amp IC	PA2032A
FU1	Poly Switch	144800010012
EN100	Rotary Encoder	121658000198