

## HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

# *SERVICE MANUAL*

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**ORIGINAL MANUAL ISSUE DATE: 3/2014**

Chassis Name : RB2TP

Segment Name : MC

Version	Date	Subject
1.0	3/2014	Original manual issue.
1.1	4/2014	Update P/N [page 13] Update RMD Model Information Serial Number Reset (India & RMD Country)

**LCD Digital Color TV**

**SONY®**

9-888-153-02

# MODEL LIST

<u>MODEL</u>	<u>COLOR</u>	<u>COMMANDER</u>	<u>DEST.</u>
<b>KLV-22P402B IN5</b>	<i>Black</i>	<i>RM-GA025</i>	<i>INDIA</i>
<b>KLV-24P412B IN5</b>	<i>Black</i>	<i>RM-GA025</i>	<i>INDIA</i>
<b>KLV-22P422B IN5</b>	<i>Black</i>	<i>RM-GA025</i>	<i>INDIA</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Myanmar]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Cambodia]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Maldives]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Nepal]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Sri Lanka]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Brunei]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Mongolia]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Papua New Guinea]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Fiji]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Vanuatu]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[Bangladesh]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[New Caledonia]</i>
<b>KLV-24P412B SP1</b>	<i>Black</i>	<i>RM-GA025</i>	<i>RMD[French Polynesia]</i>

<u>MODEL</u>	<u>COLOR</u>	<u>COMMANDER</u>	<u>DEST.</u>
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# WARNINGS AND CAUTIONS - ENGLISH

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## CAUTION

These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis.

The chassis of this receiver is directly connected to the ac power line.

## CARRYING THE TV

Be sure to follow these guidelines to protect your property and avoid causing serious injury.

- Carry the TV with an adequate number of people; larger size TVs require two or more people.
- Correct hand placement while carrying the TV is very important for safety and to avoid damages.

## SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ! mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual.

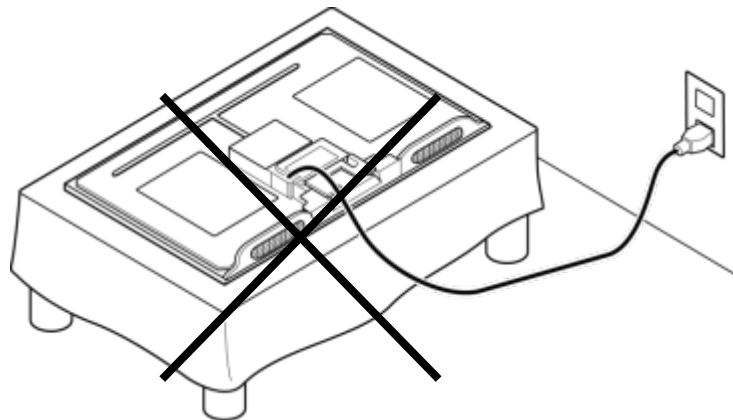
Follow these procedures whenever critical components are replaced or improper operation is suspected.

## USE CAUTION WHEN HANDLING THE LCD PANEL

When repairing the LCD panel, be sure you are grounded by using a wrist band.

When repairing the LCD panel on the wall, the LCD panel must be secured using the 4 mounting holes on the rear cover.

- 1) Do not press on the panel or frame edge to avoid the risk of electric shock.
- 2) Do not scratch or press on the panel with any sharp objects.
- 3) Do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
- 4) Do not expose the LCD panel to direct sunlight.
- 5) Avoid contact with water. It may cause a short circuit within the module.
- 6) Always clean the LCD panel with a soft cloth material.
- 7) Use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short.
- 8) Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).
- 9) It is recommended not to exceed 1 hour of Power-On nor Burn-in period with LCD panel face down condition, in repair activity.
- 10) Disconnect the AC power when replacing the parts.(FFC cable etc.).



# SAFETY CHECK-OUT

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After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

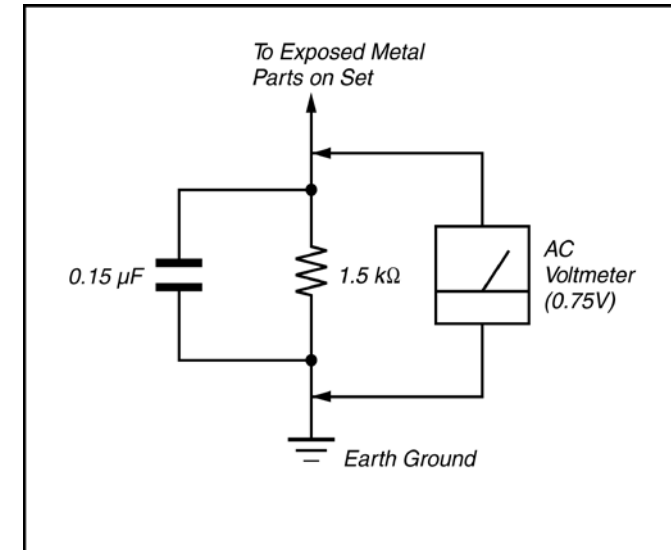
1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.
8. For safety reasons, repairing the Power board and/or Inverter board is prohibited.

### Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).



FigureA. Using an AC voltmeter to check AC leakage.

### How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground.

If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.

If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble- light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

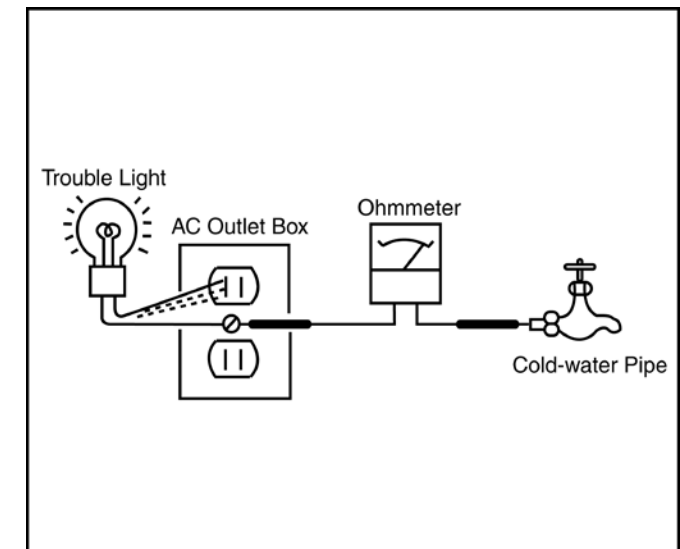


Figure B. Checking for earth ground.

# SELF DIAGNOSIS FUNCTION

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This model doesn't support Self Diagnosis Function.



# SERVICE POSITION

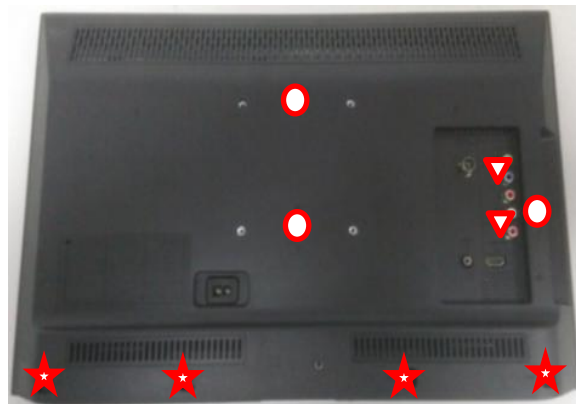
As for this model, the bottom of rear cover is installed between the stand assy and the panel.  
Therefore according to the following procedure when performing adjustment and operation check after the part replacement.

<22/24inch>

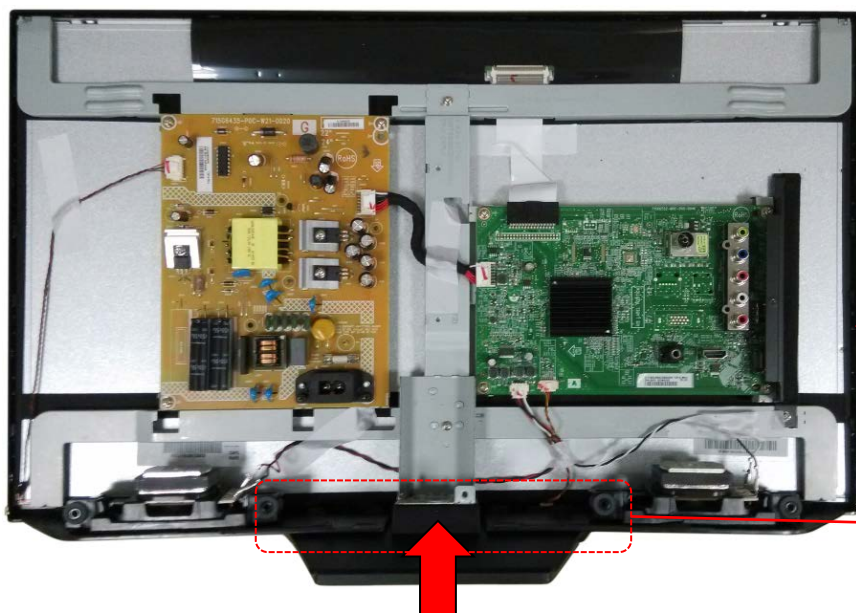
1. Remove all screws on the Stand to main unit (three screws)



2. Remove all screws on the Rear Cover to Bezel & Main Board & Bracket (nine screws)



3. After removing rear cover, lie down the main unit to a surface for following test/repair.



+	4-537-025-01	SCREW, +PSW M4X16
▽	7-685-660-79	SCREW +BVTP T3X8 TYPE2 IT-3
★	7-685-662-79	SCREW +BVTP 4X14 TYPE2 IT-3
○	2-580-592-01	SCREW, +PSW M3X8

**Attention:** This photo is based on Sony criteria for appearing standing the main unit after removing back cover and assembling the stand. But considering mechanical design of T2 models and normal service process, **it is not recommended to keep main unit standing by this status for repairing/testing at repair center.** Please pay attention for avoiding possible scratch/deformation occurred.

**Note:** Remove rear cover, then assemble the stand to main unit. This will cause the stand with main unit fit closely, scratch or deformation may occurred easily on the stand or bezel deco.

# SEC 1. DISASSEMBLY AND PARTS LIST

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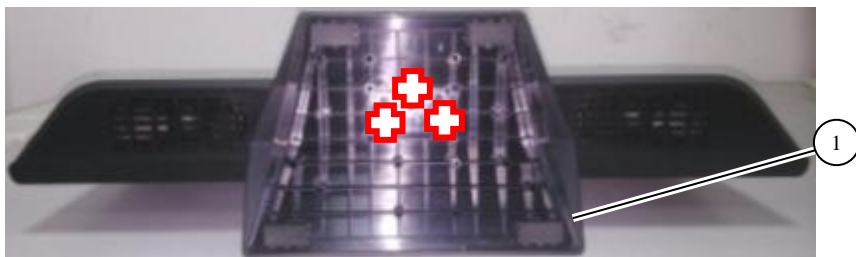
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\triangle$  are critical for safety. Replace only with part number specified.


The components identified by mark  $\square$  contain confidential information. Strictly follow the instructions whenever the components are repaired and/or replaced.

## 1-1. KLV-22P402B IN5

### 1-1-1. BASE STAND



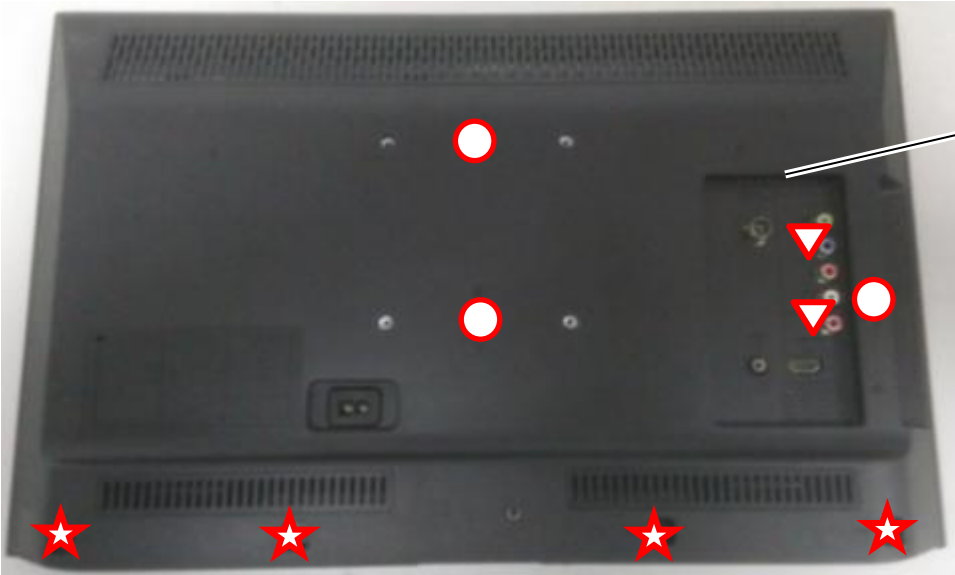
REF. No.	PART No.	DESCRIPTION	MARK
1	4-534-466-01	BASE STAND	

	4-537-025-01	SCREW, +PSW M4X16
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1-1. KLV-22P402B IN5

1-1-2. REAR COVER



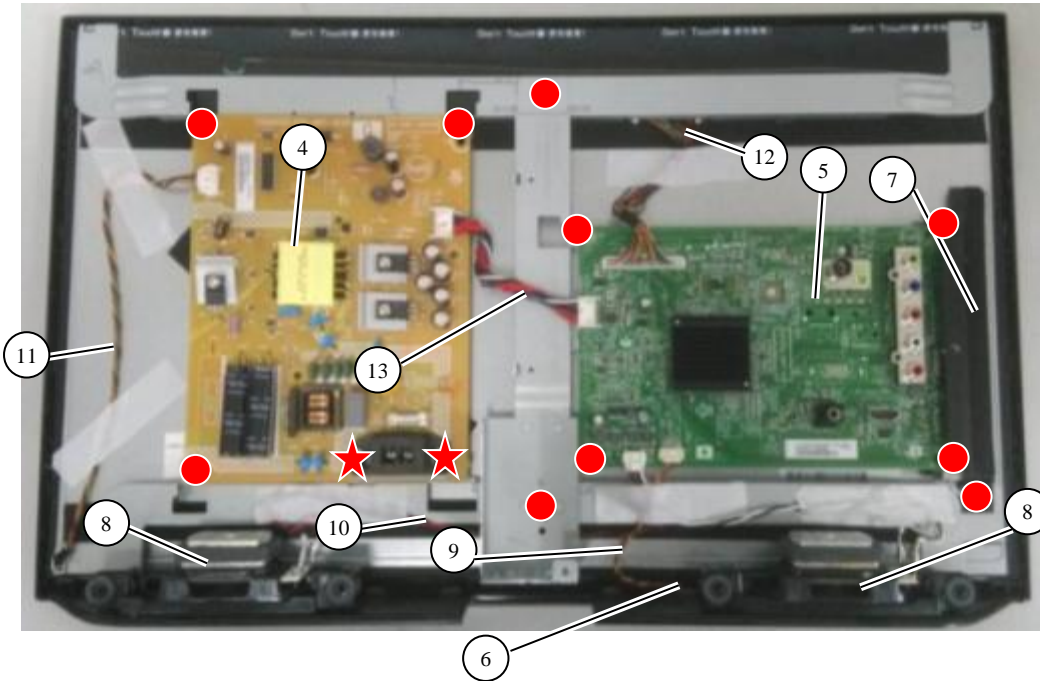
REF. No.	PART No.	DESCRIPTION	MARK
2	4-534-482-01	REAR COVER 22 (T2)	
3	4-534-478-01	BRACKET, VESA (T2)	

▽	7-685-660-79	SCREW +BVTP T3X8 TYPE2 IT-3
★	7-685-662-79	SCREW +BVTP 4X14 TYPE2 IT-3
○	2-580-592-01	SCREW, +PSW M3X8

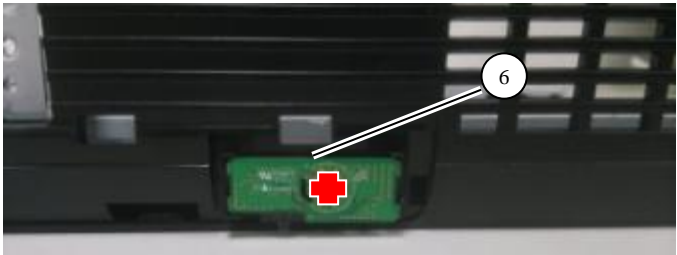


1-1. KLV-22P402B IN5

1-1-3. POWER BOARD, A BOARD AND SPEAKER



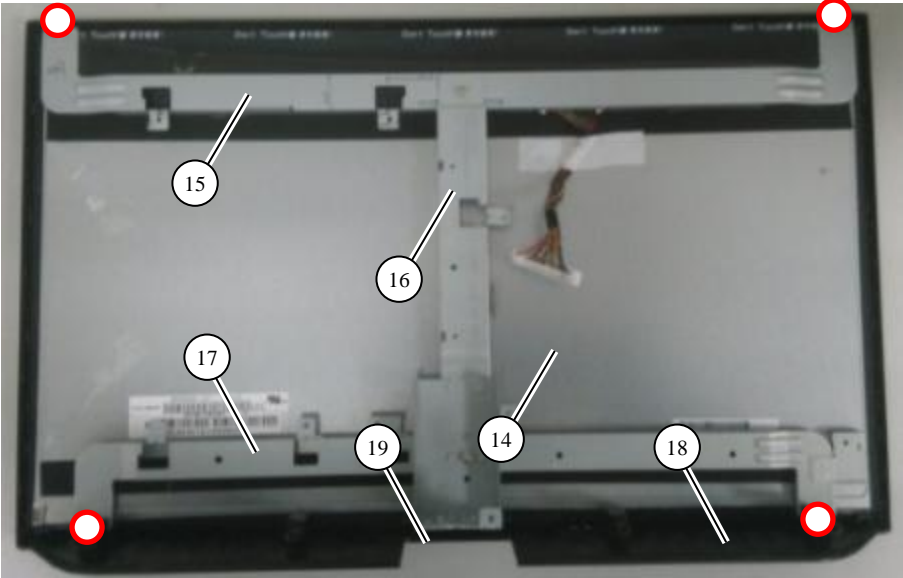
REF. No.	PART No.	DESCRIPTION	MARK
4	1-895-610-11	MOUNTED PWB POWER UNIT	
5	1-895-608-11	MOUNTED PWB A	
6	1-895-609-11	MOUNTED PWB H	
7	4-534-481-01	BRACKET, SIDE IO 22	
8	1-858-919-21	LOUDSPEAKER	
9	1-910-109-58	CONNECTOR ASSY 6P	
10	1-910-109-67	CONNECTOR ASSY 4P	
11	1-910-109-60	CONNECTOR ASSY 6P	
12	1-848-395-11	LVDS CABLE 40P	
13	1-910-109-57	CONNECTOR ASSY 14P	



- 4-679-053-01 SCREW +PS3X6
- ✚ 2-580-628-01 SCREW +BVTP S3X6 TYPE2
- ★ 2-580-592-01 SCREW +PSW M3X8

1-1. KLV-22P402B IN5

1-1-4. LCD PANEL AND BEZEL



REF. No.	PART No.	DESCRIPTION	MARK
14	1-812-009-11	LCD PANEL (M215HGE-L21)	
15	4-534-470-01	BRACKET, TOP 22	
16	4-534-472-01	BRACKET, MAIN 22	
17	N/A	BRACKET, BOTTOM 22	
18	4-534-468-01	BEZEL 22	
19	4-534-467-01	DECO	

7-682-247-09 +K 3X6 SCREW +K 3X6



## 1-1. KLV-22P402B IN5

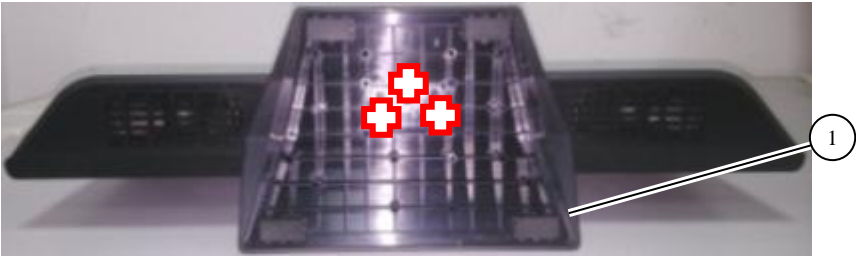
### 1-1-5. MISCELLANEOUS

PART No.	DESCRIPTION	MARK
1-492-835-11	REMOTE COMMANDER (RM-GA025)	
△ 1-846-428-31	CORD SET, POWER-SUPPLY	



1-2. KLV-24P412B IN5 /24P412B SP1

1-2-1. BASE STAND

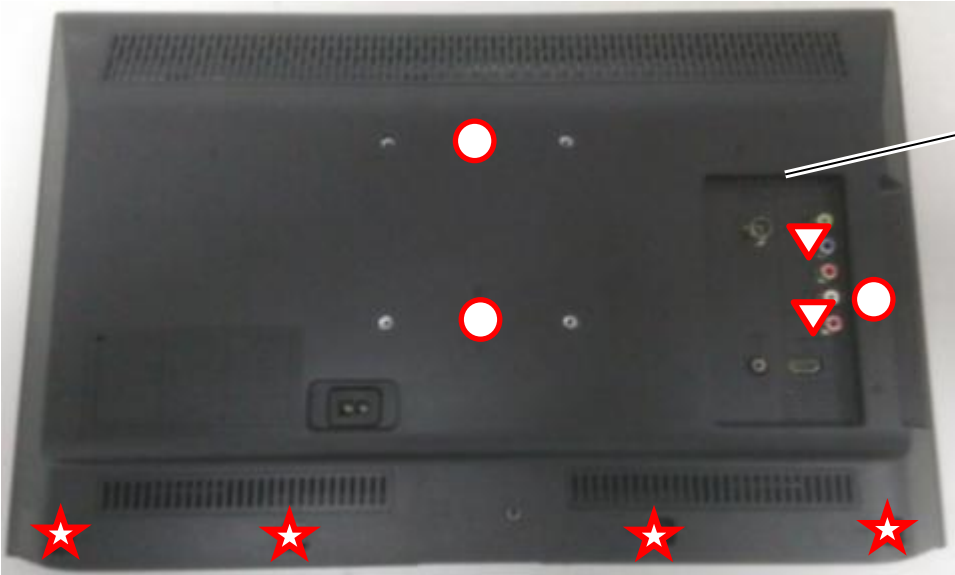


REF. No.	PART No.	DESCRIPTION	MARK
1	4-534-466-01	BASE STAND	
	+	4-537-025-01	SCREW, +PSW M4X16



1-2. KLV-24P412B IN5 /24P412B SP1

1-2-2. REAR COVER



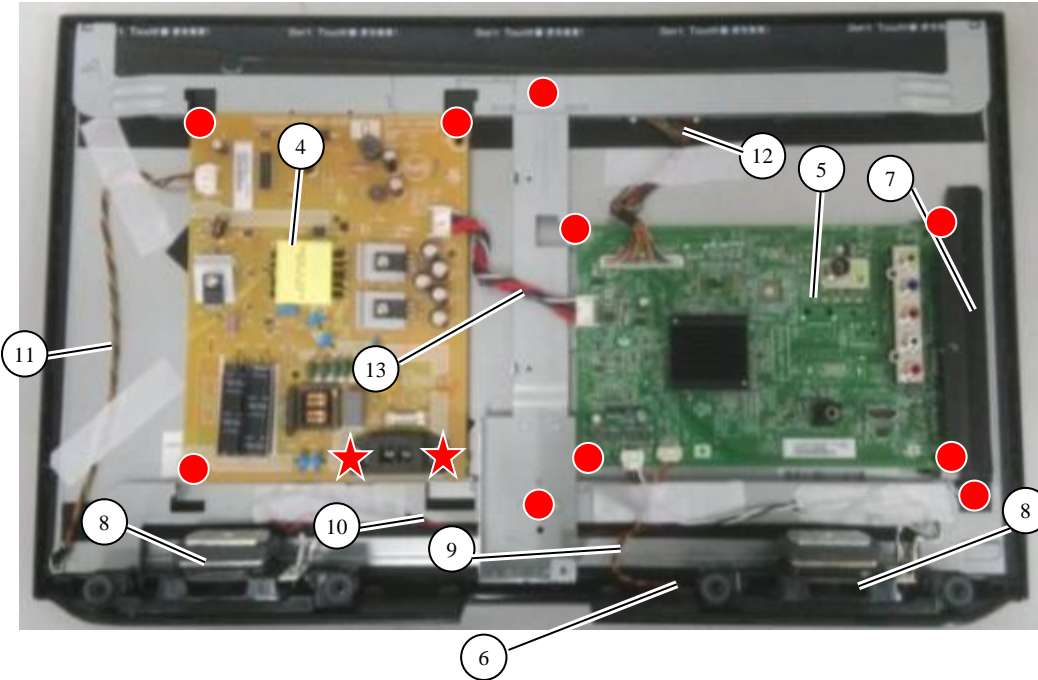
REF. No.	PART No.	DESCRIPTION	MARK
2	4-534-482-01	REAR COVER 24	
3	4-534-478-01	BRACKET, VESA (T2)	

▽	7-685-660-79	SCREW +BVTP T3X8 TYPE2 IT-3
★	7-685-662-79	SCREW +BVTP 4X14 TYPE2 IT-3
○	2-580-592-01	SCREW, +PSW M3X8

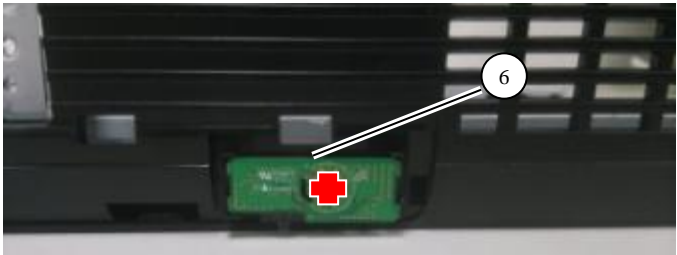


1-2. KLV-24P412B IN5 /24P412B SP1

1-2-3. POWER BOARD, A BOARD AND SPEAKER



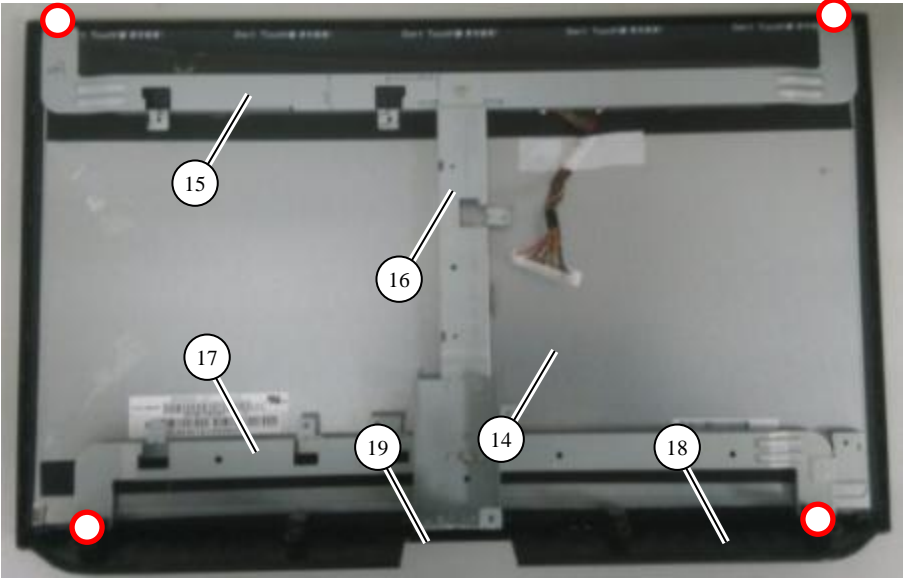
REF. No.	PART No.	DESCRIPTION	MARK
4	1-895-610-21	MOUNTED PWB POWER UNIT	
5	1-895-608-21	MOUNTED PWB A ( 24P412B IN5 )	
	1-895-608-41	MOUNTED PWB A ( 24P412B SP1 )	
6	1-895-609-11	MOUNTED PWB H	
7	4-534-476-01	BRACKET, SIDE IO 24	
8	1-858-919-21	LOUDSPEAKER	
9	1-910-109-58	CONNECTOR ASSY 6P	
10	1-910-109-59	CONNECTOR ASSY 4P	
11	1-910-109-61	CONNECTOR ASSY 6P	
12	1-848-394-11	FLEXIBLE FLAT CABLE 30P	



- 4-679-053-01 SCREW,+PS3X6
- ✚ 2-580-628-01 SCREW, +BVTP S3X6 TYPE2
- ★ 2-580-592-01 SCREW +PSW M3X8

1-2. KLV-24P412B IN5 /24P412B SP1

1-2-4. LCD PANEL AND BEZEL





REF. No.	PART No.	DESCRIPTION	MARK
14	1-812-010-11	LDV PANEL (V236BJ1-LE2)	
15	4-534-474-01	BRACKET, TOP 24	
16	4-534-477-01	BRACKET, MAIN 24	
17	N/A	BRACKET, BOTTOM 24	
18	4-534-473-01	BEZEL 24	
19	4-534-467-01	DECO	

7-682-247-09 +K 3X6 SCREW +K 3X6



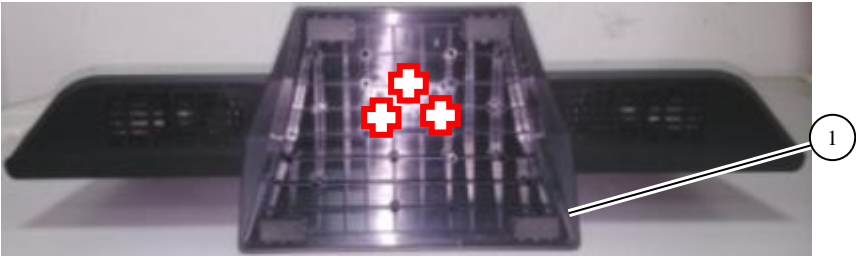
## 1-2. KLV-24P412B IN5 /24P412B SP1

### 1-2-5. MISCELLANEOUS

PART No.	DESCRIPTION	MARK
1-492-835-11	REMOTE COMMANDER (RM-GA025)	
 1-846-428-31	CORD SET, POWER-SUPPLY ( 24P412B IN5 )	
 1-846-428-52	CORD SET, POWER-SUPPLY ( 24P412B SP1 )	

1-3. KLV-24P422B IN5

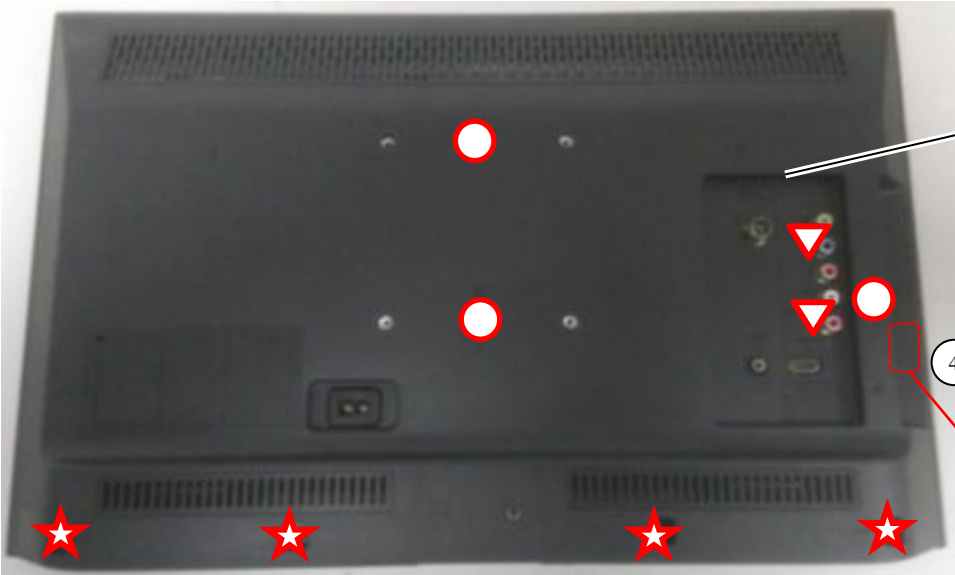
1-3-1. BASE STAND



REF. No.	PART No.	DESCRIPTION	MARK
1	4-534-466-01	BASE STAND	
	+	4-537-025-01	SCREW, +PSW M4X16

1-3. KLV-24P422B IN5

1-3-2. REAR COVER



REF. No.	PART No.	DESCRIPTION	MARK
2	4-534-482-01	REAR COVER 24	
3	4-534-478-01	BRACKET, VESA (T2)	
4	4-535-914-01	LABEL, MHL	

▽	7-685-660-79	SCREW +BVTP T3X8 TYPE2 IT-3
★	7-685-662-79	SCREW +BVTP 4X14 TYPE2 IT-3
○	2-580-592-01	SCREW, +PSW M3X8

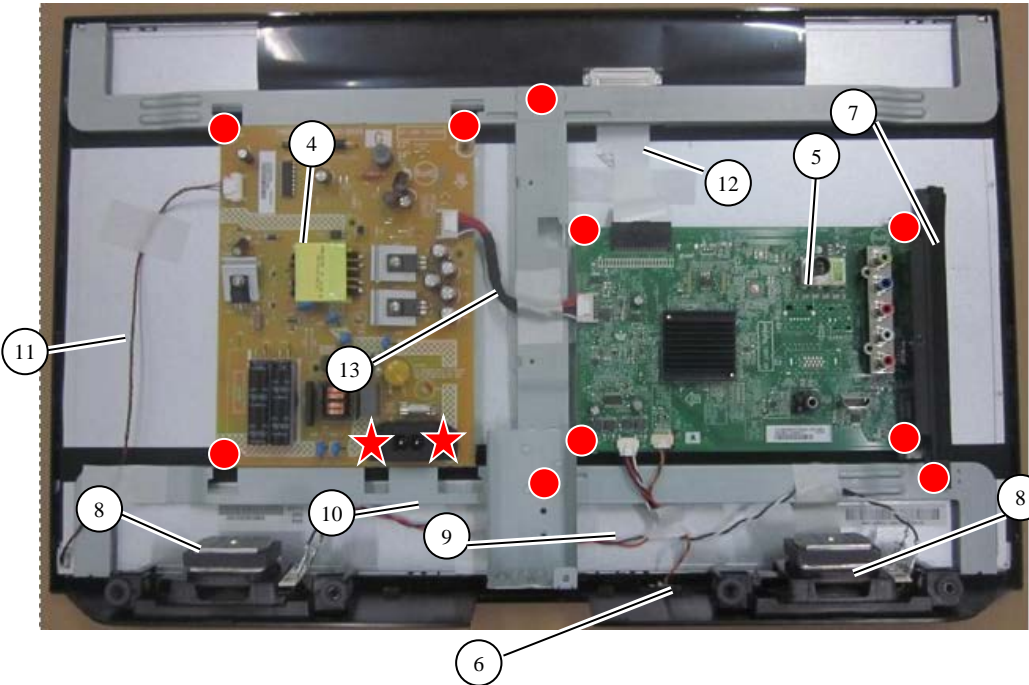


MHL label for KLV-24P422B

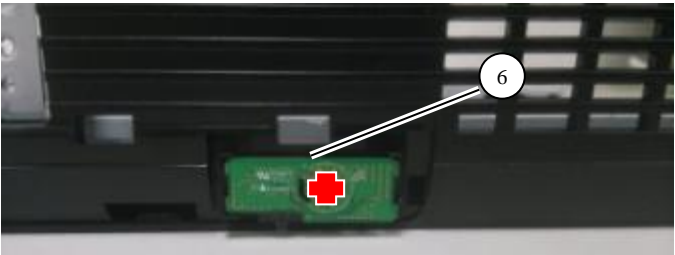


1-3. KLV-24P422B IN5

1-3-3. POWER BOARD, A BOARD AND SPEAKER



REF. No.	PART No.	DESCRIPTION	MARK
4	1-895-610-21	MOUNTED PWB POWER UNIT	
5	1-895-608-31	MOUNTED PWB A	
6	1-895-609-11	MOUNTED PWB H	
7	4-534-476-01	BRACKET, SIDE IO 24	
8	1-858-919-21	LOUDSPEAKER	
9	1-910-109-58	CONNECTOR ASSY 6P	
10	1-910-109-59	CONNECTOR ASSY 4P	
11	1-910-109-61	CONNECTOR ASSY 6P	
12	1-848-394-11	FLEXIBLE FLAT CABLE 30P	
13	1-910-109-57	CONNECTOR ASSY 14P	

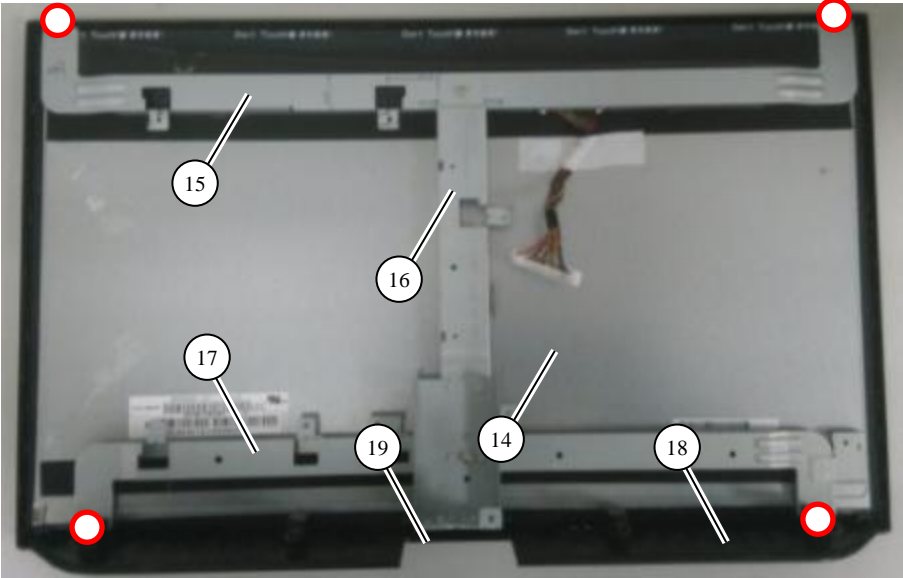


- 4-679-053-01 SCREW,+PS3X6
- ✚ 2-580-628-01 SCREW, +BVTP S3X6 TYPE2
- ★ 2-580-592-01 SCREW +PSW M3X8



1-3. KLV-24P422B IN5

1-3-4. LCD PANEL AND BEZEL




REF. No.	PART No.	DESCRIPTION	MARK
14	1-812-010-11	LDV PANEL (V236BJ1-LE2)	
15	4-534-474-01	BRACKET, TOP 24	
16	4-534-477-01	BRACKET, MAIN 24	
17	N/A	BRACKET, BOTTOM 24	
18	4-534-473-01	BEZEL 24	
19	4-534-467-11	DECO	

7-682-247-09 +K 3X6 SCREW +K 3X6



## 1-3. KLV-24P422B IN5

### 1-3-5. MISCELLANEOUS

PART No.	DESCRIPTION	MARK
1-492-835-11	REMOTE COMMANDER (RM-GA025)	
 1-846-428-31	CORD SET, POWER-SUPPLY	

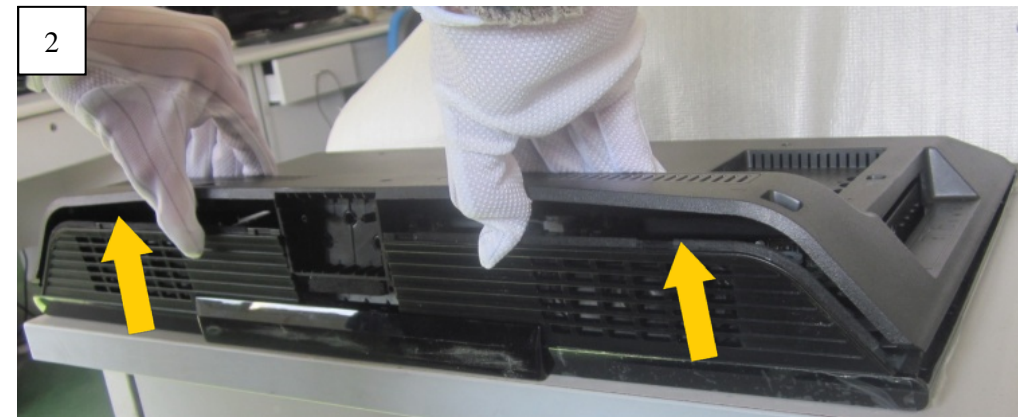
## 1-4. How to disassemble rear cover [KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1]

### PROCEDURE TO REMOVAL OF REAR COVER

1. Remove all screws on Rear Cover and AC Cover.
2. Open Rear Cover in order as below.



Hold the panel from the middle of bezel, and lift rear cover in the direction of the arrow.



Hold the panel from the middle of bezel, and lift rear cover in the direction of the arrow.

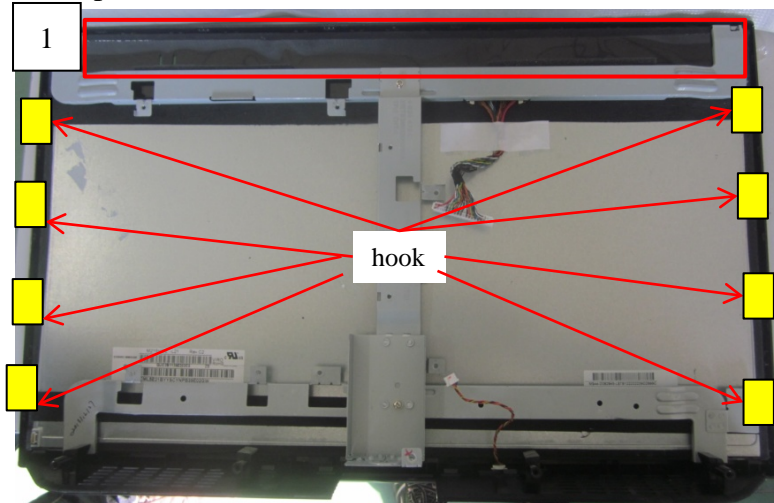
## 1-5. How to disassemble front bezel

[KLV-22P402B IN5 /24P412B IN5 /24P422B IN5 /24P412B SP1]

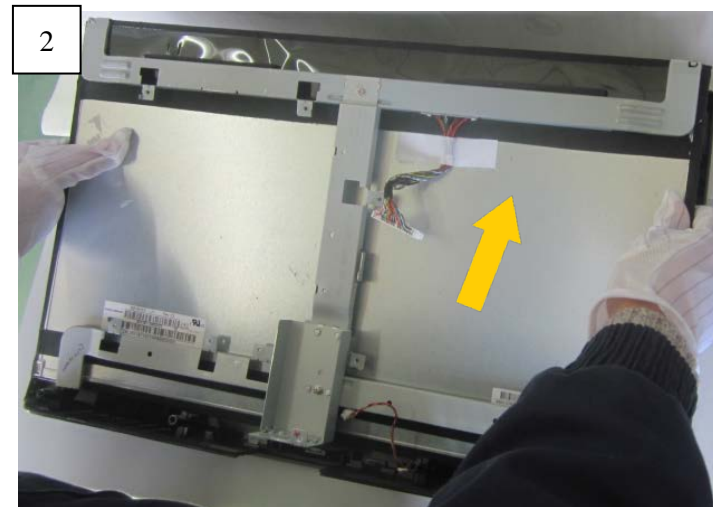
### PROCEDURE TO REMOVAL OF FRONT BEZEL

1. Remove all screws on Rear Cover and AC Cover.

2. Open Rear Cover in order as below.

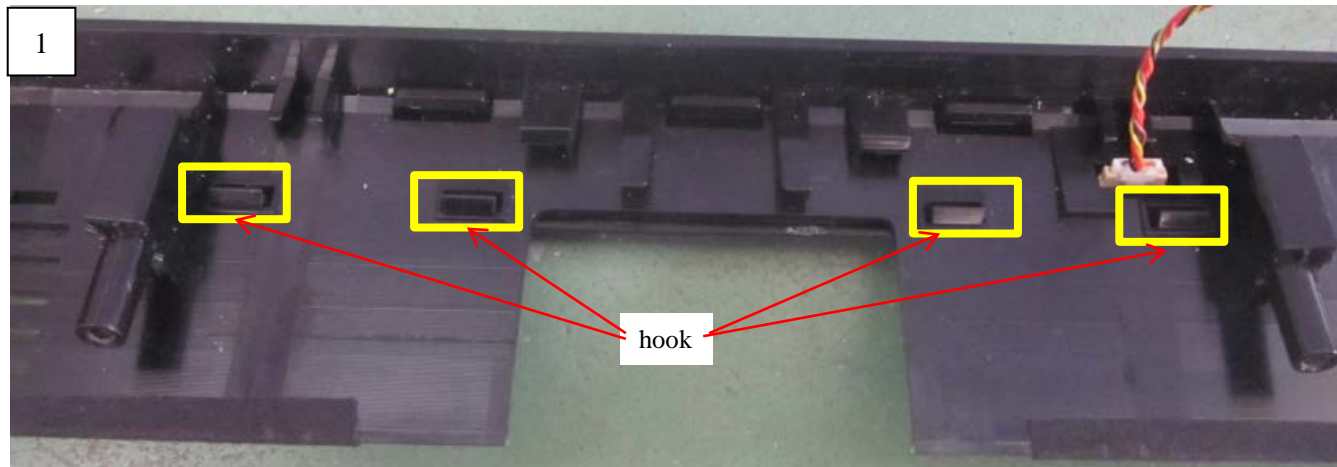


Lift up top of panel , then release the of panel from hook of panel



Then remove panel in the direction of the arrow

## 1-6. How to disassemble Deco [KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1] PROCEDURE TO REMOVAL OF DECO



Release deco from hook of bezel



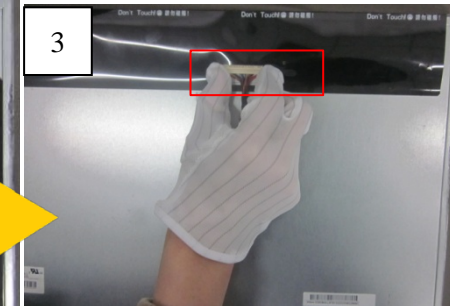
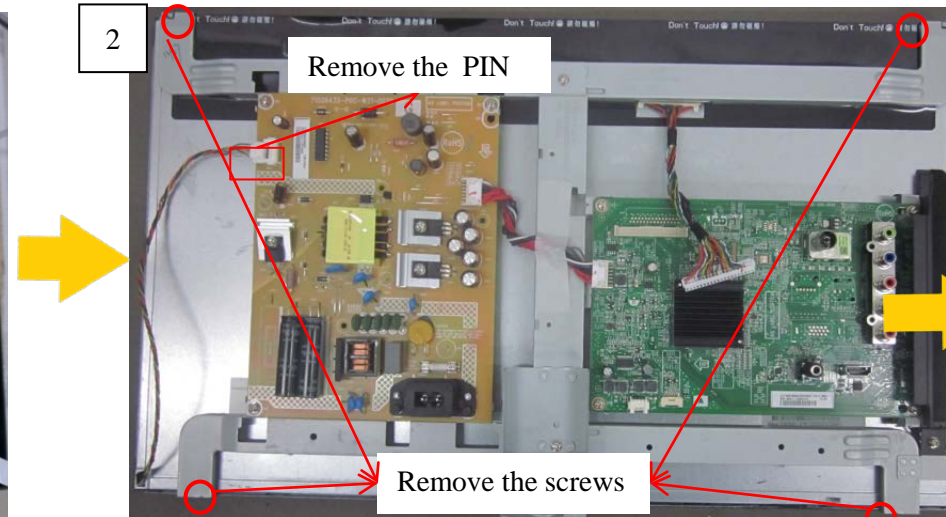
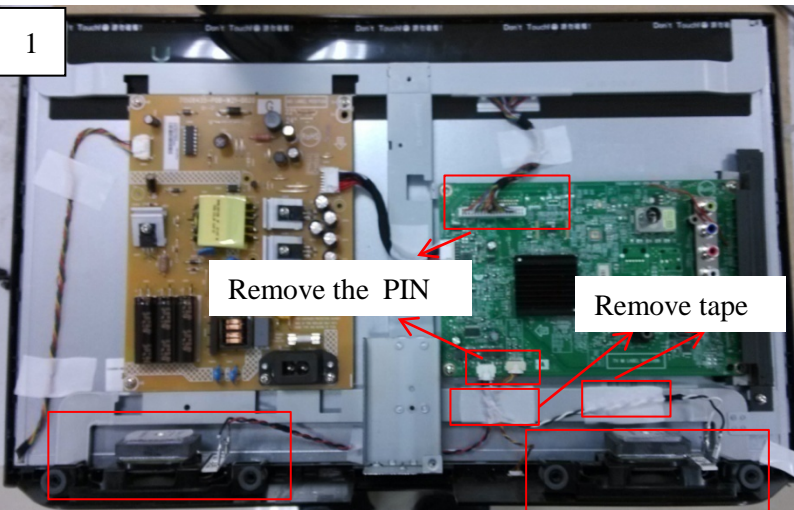
Remove deco from bezel



## 1-7. How to disassemble LVDS cable

[KLV-22P402B IN5/KLV-24P412B IN5/24P422B IN5/24P412B SP1]

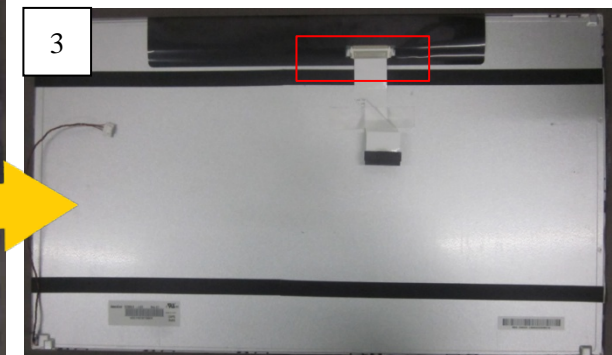
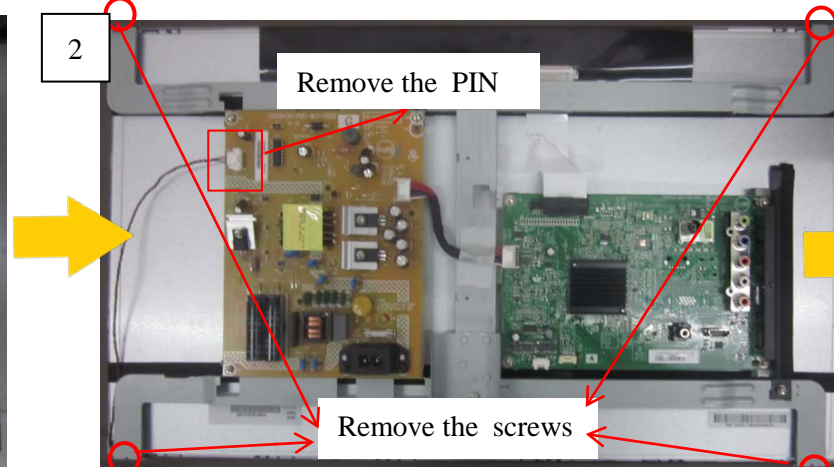
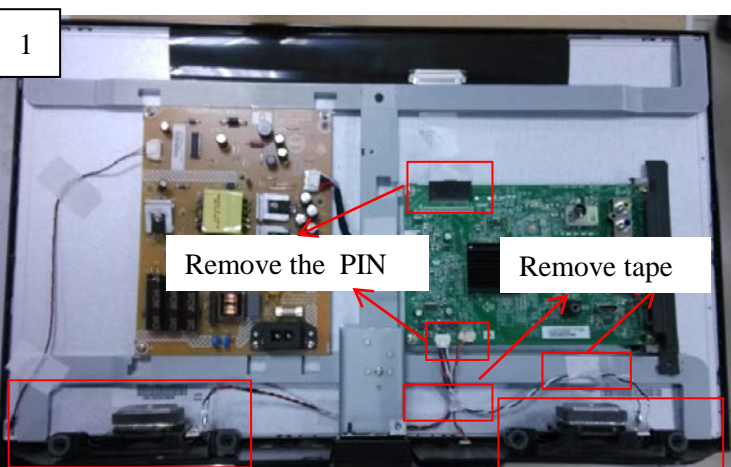
### 1-7-1. PROCEDURE OF REMOVING LVDS CABLE ON KLV-22P402B IN5



Press the 2 sides of LVDS, then pull in the direction of the arrow

Remove screws, remove metal bracket and boards ass'y. The metal bracket and boards ass'y is a whole, no need to disassembly .

### 1-7-2. PROCEDURE OF REMOVING LVDS CABLE ON KLV-24P412B IN5/24P422B IN5



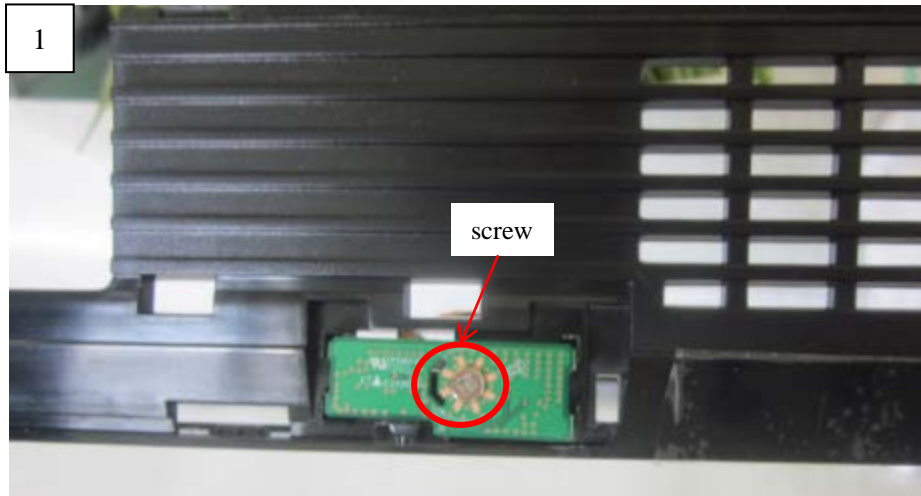
Press the 2 sides of LVDS, then pull in the direction of the arrow

Remove screws, remove metal bracket and boards ass'y. The metal bracket and boards ass'y is a whole, no need to disassembly .

## 1-8. How to disassemble IR Board

[KLV-22P402B IN5 /24P412B IN5/24P422B IN5 /24P412B SP1]

### PROCEDURE TO REMOVAL OF IR Board



Disassemble deco  
Then disassemble the screw

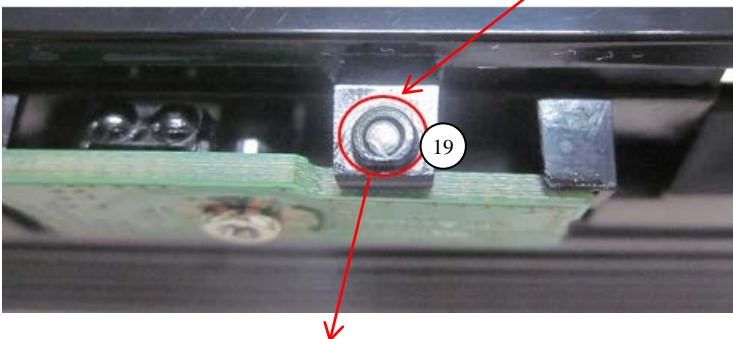


Remove the IR cable

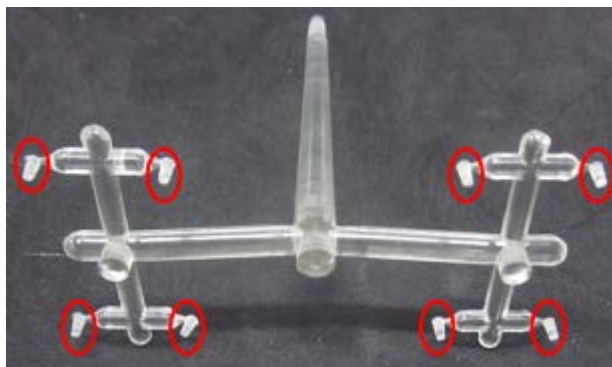
## 1-9. How to ass'y the LED lens

[KLV-22P402B IN5 /24P412B IN5 /24P422B IN5 /24P412B SP1]

1



The LED lens is installed in the hole



The LED lens is remarked with red circle

2



Press the LED lens in the hole

REF. No.	PART No.	DESCRIPTION	MARK
19	4-541-595-01	LENS, LED (T2)	

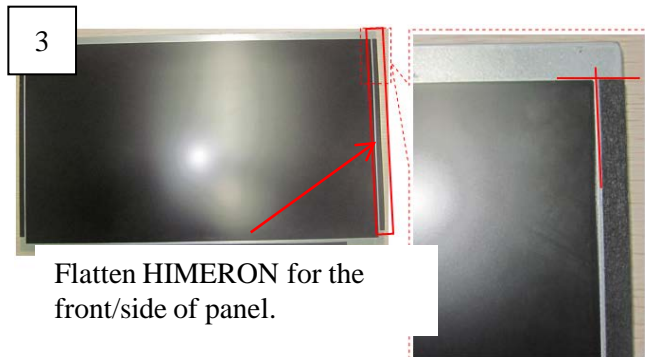
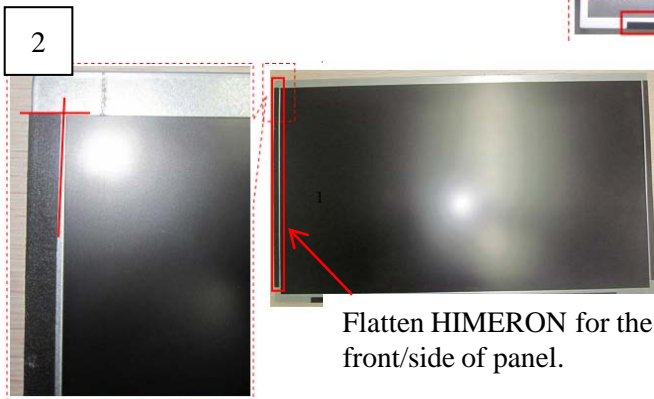
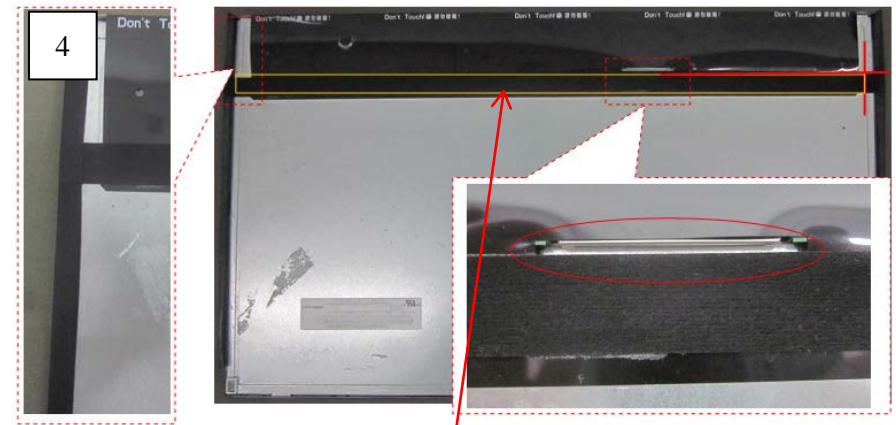
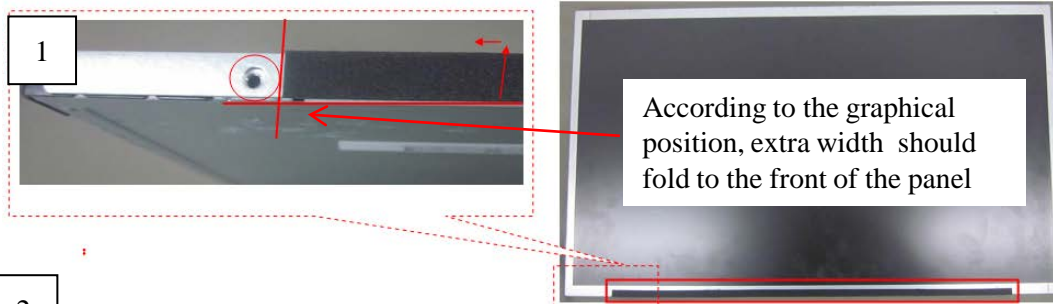


## 1-10. How to assemble the **Himeron Countermeasure** of panel [KLV-22P402B IN5/24P412B IN5 /24P422B IN5/24P412B SP1]

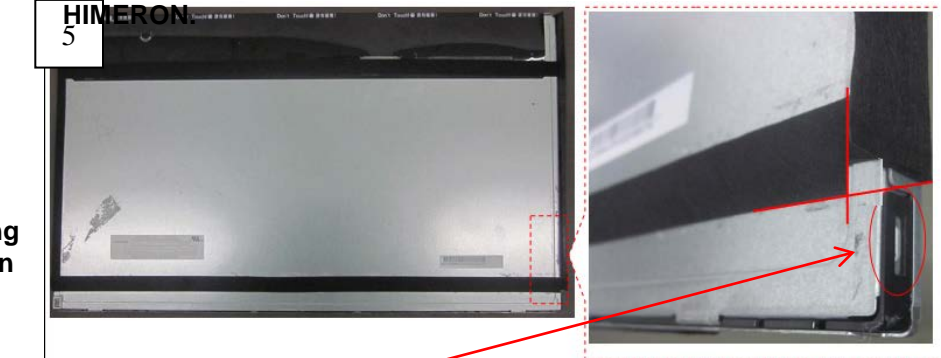
### 1-10-1. KLV-22P402B IN5

1. Stick **HIMERON (Part Number :4-541-809-01)** to the bottom side of the panel.

REF. No.	PART No.	DESCRIPTION	MARK
	4-541-809-01	CUSHION, 400 x15	
	4-541-811-01	CUSHION, 260 x12	
	4-541-808-01	CUSHION, 480 x17	



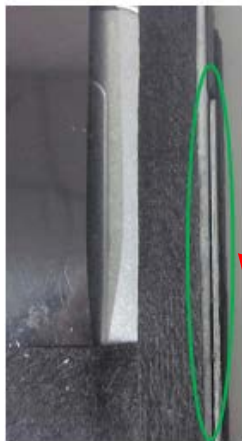
4. The above of HIMERON (Part Number :4-541-808-01) close to the connector of LVDS, and the right of HIMERON is pasted along the panel edge steps. Flatten the side of HIMERON.



5. The bottom of HIMERON (Part Number :4-541-808-01) close to the top of the red circle marked black rectangle. and the right of HIMERON is pasted along the panel edge steps. Flatten the side of HIMERON.



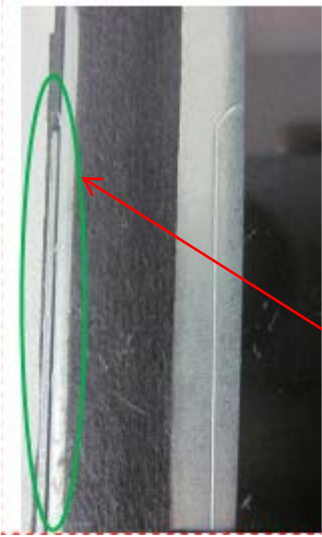
6



6. Stick HIMERON (Part Number :4-541-810-01) along the top and the inside edge of the panel .

HIMERON can't blot out the iron edge of the panel .

7



7. Stick HIMERON (Part Number :4-541-810-01) along the top and the inside edge of the panel .

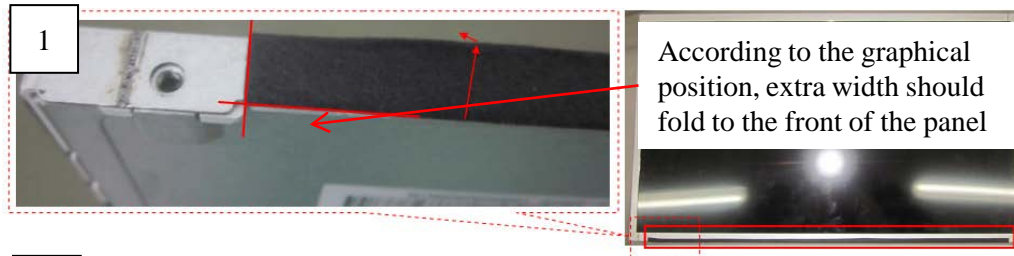
HIMERON can't blot out the iron edge of the panel .

REF. No.	PART No.	DESCRIPTION	MARK
	4-541-810-01	CUSHION, 270 x8	

## 1-10. How to assemble the **Himeron Countermeasure** of panel [KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1]

1-10-2. KLV-24P412B IN5/24P422B IN5/24P412B SP1

1. Stick **HIMERON (Part Number :4-541-813-01)** to the bottom side of the panel.



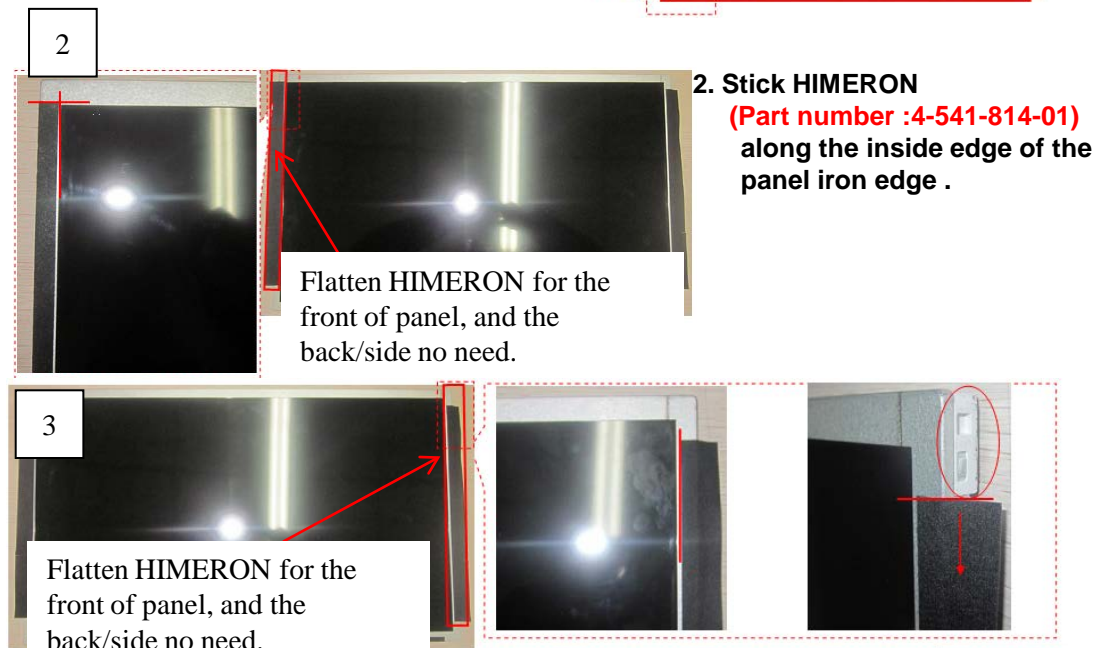
REF. No.	PART No.	DESCRIPTION	MARK
	4-541-813-01	CUSHION, 480 x17	
	4-541-814-01	CUSHION, 275 x25	
	4-541-812-01	CUSHION, 525 x20	



4. The above of HIMERON (PN:4-541-812-01) close to the connector of LVDS, and the right of HIMERON is pasted along the panel edge steps. Flatten the side of HIMERON.



5. The bottom of HIMERON (PN:4-541-812-01) close to the top of the red circle marked black rectangle. and the right of HIMERON is pasted along the panel edge steps. Flatten the side of HIMERON.



3. Stick **HIMERON (Part Number :4-541-814-01)** along the inside edge of the panel iron edge .

## SEC 2. ADJUSTMENT

### HOW TO ENTERING SERVICE MODE

- 1) Turn on the main power switch to place this set in standby mode.
- 2) Press the buttons on the remote commander as follows, and entering service mode.

Info → Channel 5 → Volume + → TV POWER

- 3) Service mode display.

Or 1) Turn on the TV and switch to TV source.

- 2) Press the buttons on the remote commander as follows, and entering service mode.

Left ⇨ Right ⇨ Mute ⇨ Enter ⇨ Mute ⇨ Volume +

- 3) Service mode display.

```
Service Mode

Status Information                >>
Self diagnosis history           >>
NO_SIGNAL_MUTE                   <[ Off ]>
TUNING SYSTEM                    <[ AUTO ]>
Low of HPD                       <[ 5 ]>
SERIAL NUMBER EDIT                0000001
MODEL NAME EDIT                   KLV-24P422B
Test Reset                       <[ Off ]>

[</>]Set[Home]Exit
```

When replace Main Board or panel, please confirm " SERIAL NUMBER EDIT " and "MODEL NAME EDIT" in service mode.  
If they are different, please select a suitable thing.

4) How to use the remote commander.

Function	The flow of control
Service mode on	<Info><5><Vol Up><Power>
Service mode off	<Home> / <Power off + on>
Adjustment Item up / down	↑ / ↓
Data Value up / down	← / →

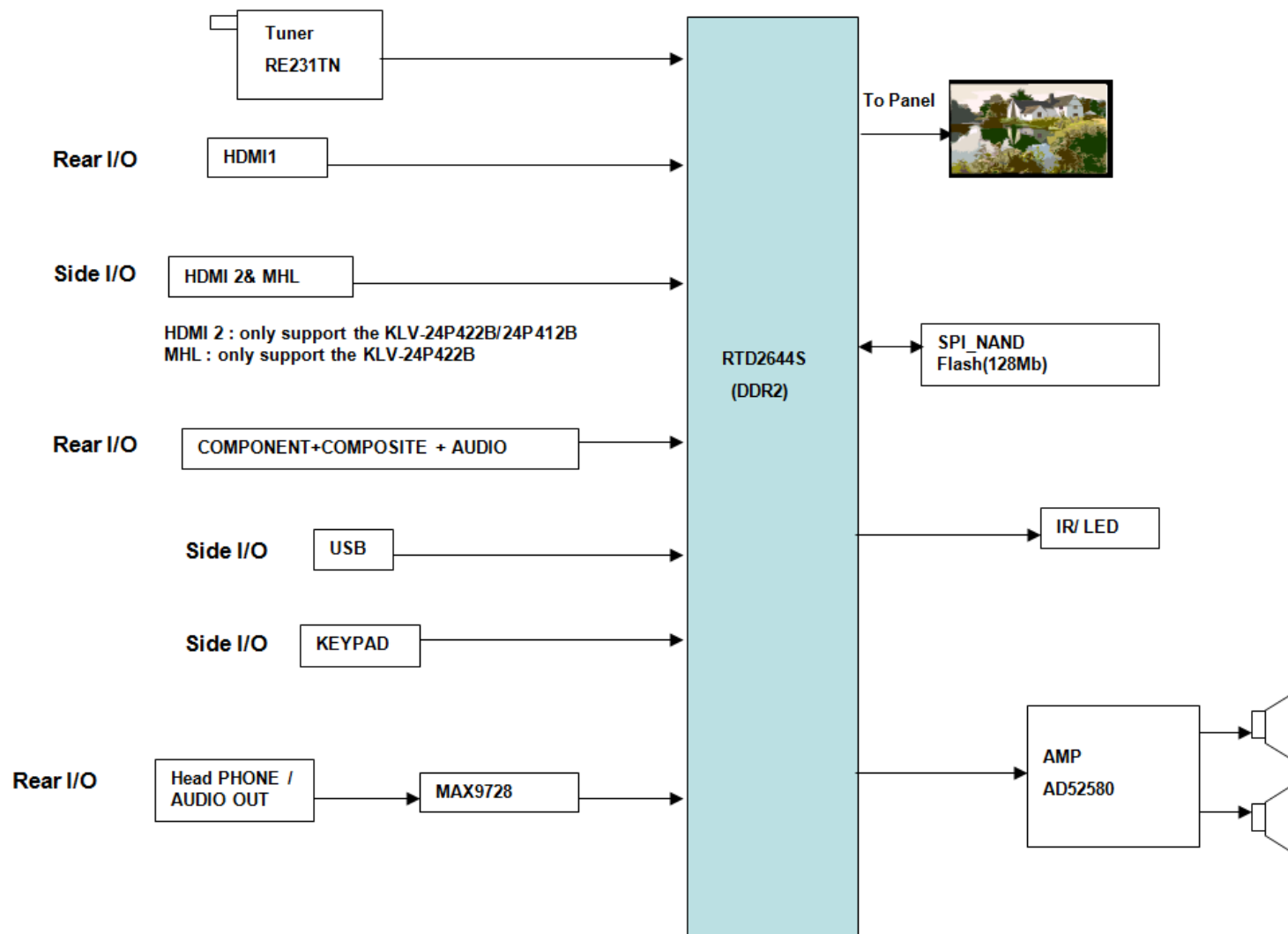
5) After entering service mode, then turn off the power switch.

# SEC 3. DIAGRAMS AND CHASSIS STRUCTURE

## 3-1. BLOCK DIAGRAM

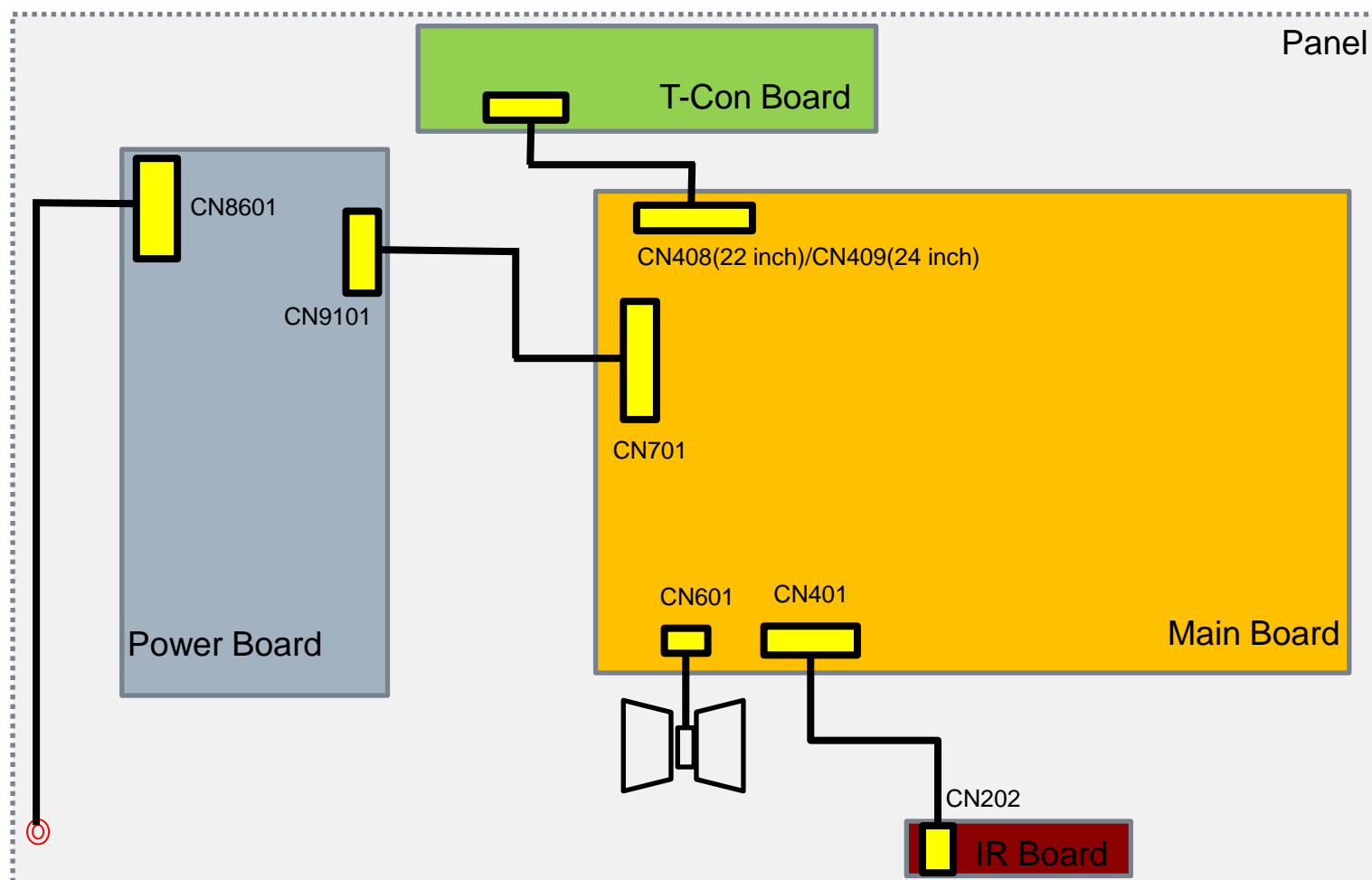
### 3-1-1. KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1

#### RTD2644S Block Diagram



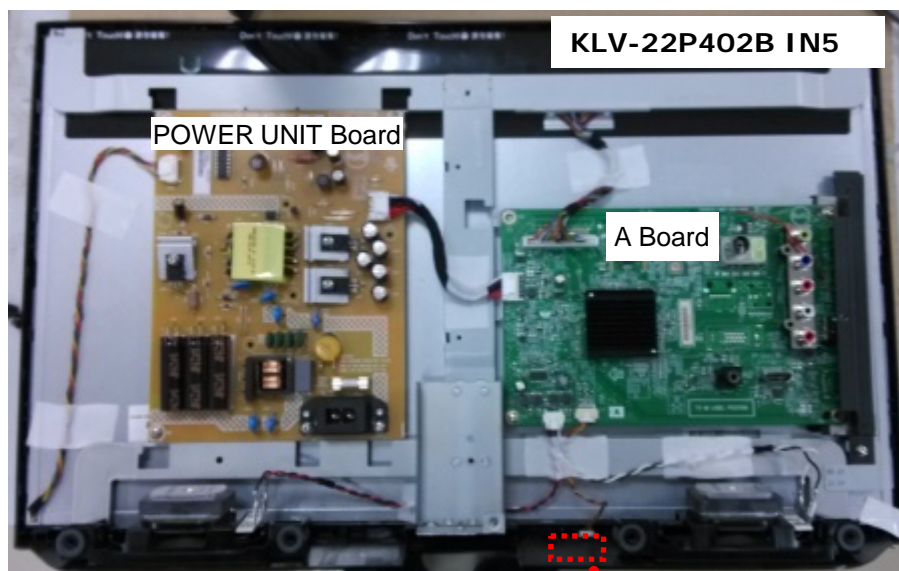
## 3-2. CONNECTOR DIAGRAM

### 3-2-1. KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1

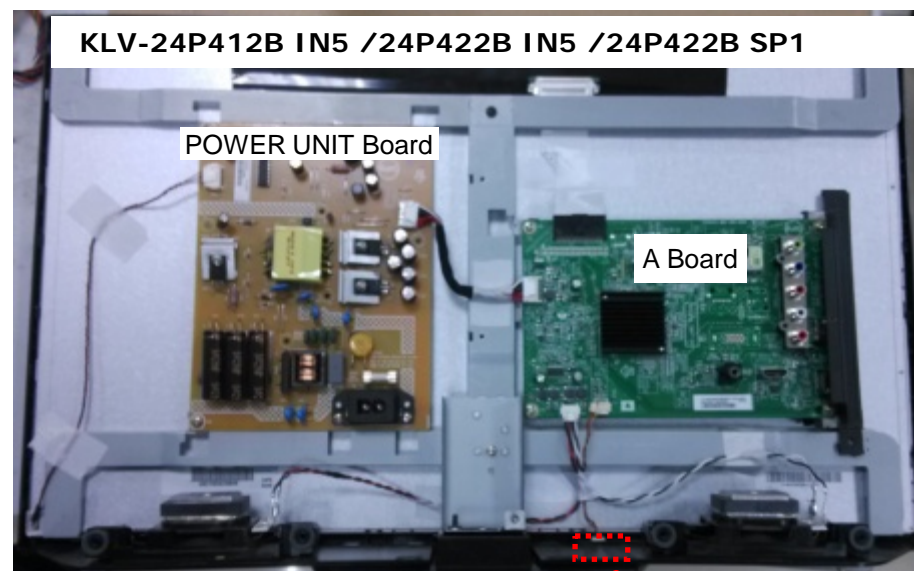


### 3-3. CIRCUIT BOARDS LOCATION

#### 3-3-1. KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1



H Board

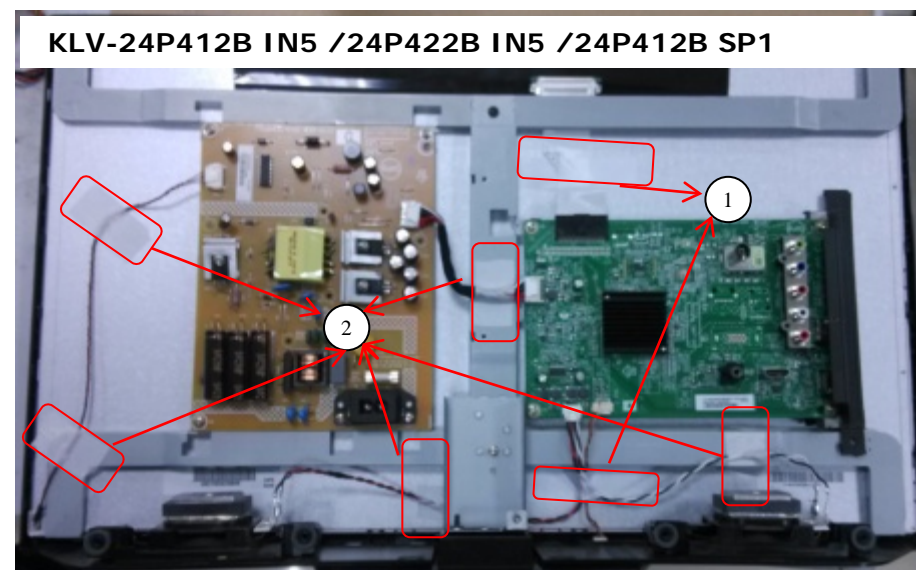
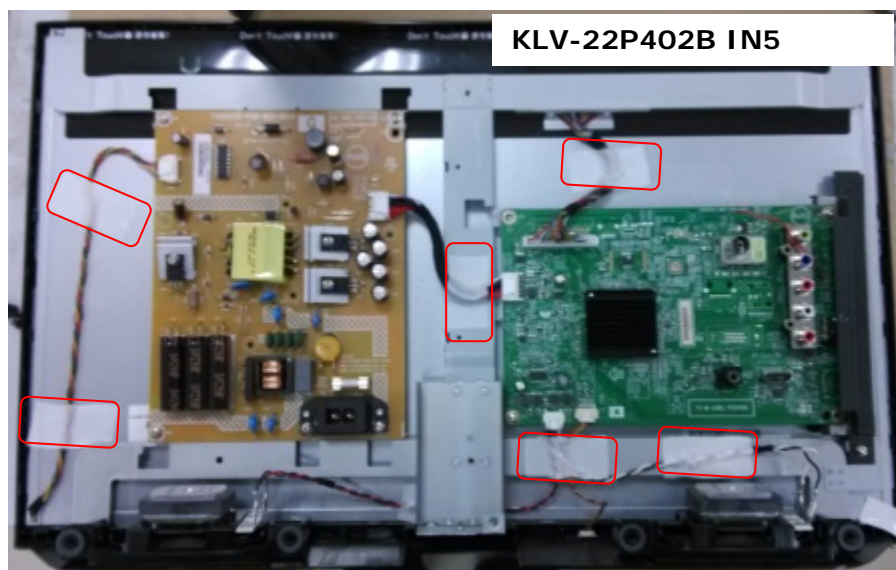


H Board



### 3-4. Tape location

#### 3-4-1. KLV-22P402B IN5/24P412B IN5/24P422B IN5/24P412B SP1



#### TAPE SIZE:

KLV-22P402B: 25MM\*50MM

KLV-24P412B/24P422B/24P412B SP1: 1. 20MM\*80MM  
2. 25MM\*50MM

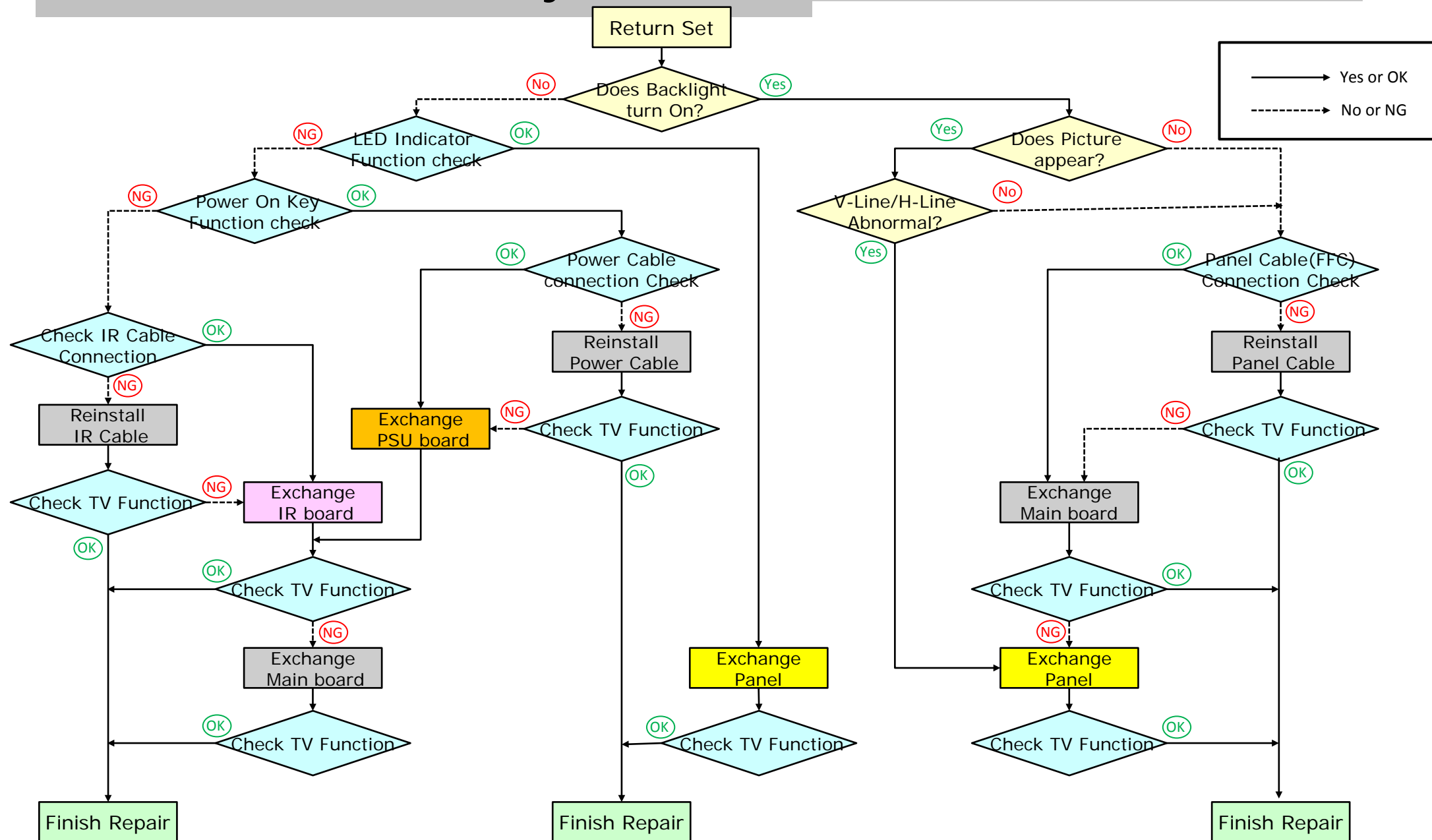
The purpose for the tape stick is to make the cables fixed.



# END

---

# APPENDIX-1 Trouble analysis flow



# APPENDIX-2 Software data update

Chassis Name: RB2TP Segment Name: MC

## The confirmation of the software version of the TV set.

product information of setting menu.

[HOME] , [Settings] , [Set-up] , [Product Information]

Please use the latest software.

1: KLV-22P402B  
2: 0123450  
3: 1.00

1. Model Name
2. Serial Number
3. Software Version

When change Main board,  
1 and 2 are not displayed.

## Software Down load

store the software Package to USB memory. (Applicable USB memory : Format by FAT32, USB2.0 type )

If the software file is compressed(.zip), please unzip it.

For USB, please store **only one file** for software update.

**KLV-22P402B IN5/24P412B IN5 / 24P422B IN5**

**sony\_fw\_2014\_XXXX\_apas2.pkg (IND)**

**KLV- 24P412B SP1**

**sony\_fw\_2014\_XXXX\_apas3.pkg (RMD)**

## Software update by USB memory

1. Turn on the TV.
2. Unplug the AC power cord.
3. Connect USB memory.



Do not connect USB memory in standby mode.

4. Plug the AC power cord then start update automatically.

- 1) Lights up Green LED. (no picture)



- 2) Starting update  
Orange LED is flushing. (2-3min)



- 3) Finish update  
Lights up Green LED again and TV is turned on.



5. Unplug AC power cord and disconnect USB memory.
6. Plug the AC power cord then turn on the TV.

### Confirm Software version

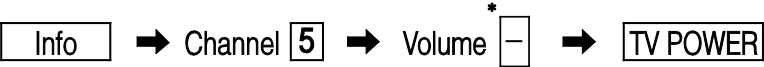
**Please confirm whether it is the latest software.  
product information of setting menu.**

[HOME] , [Settings] , [Set-up] , [Product Information]

# APPENDIX-3 Operation Time, Boot Count, Panel Operation Time

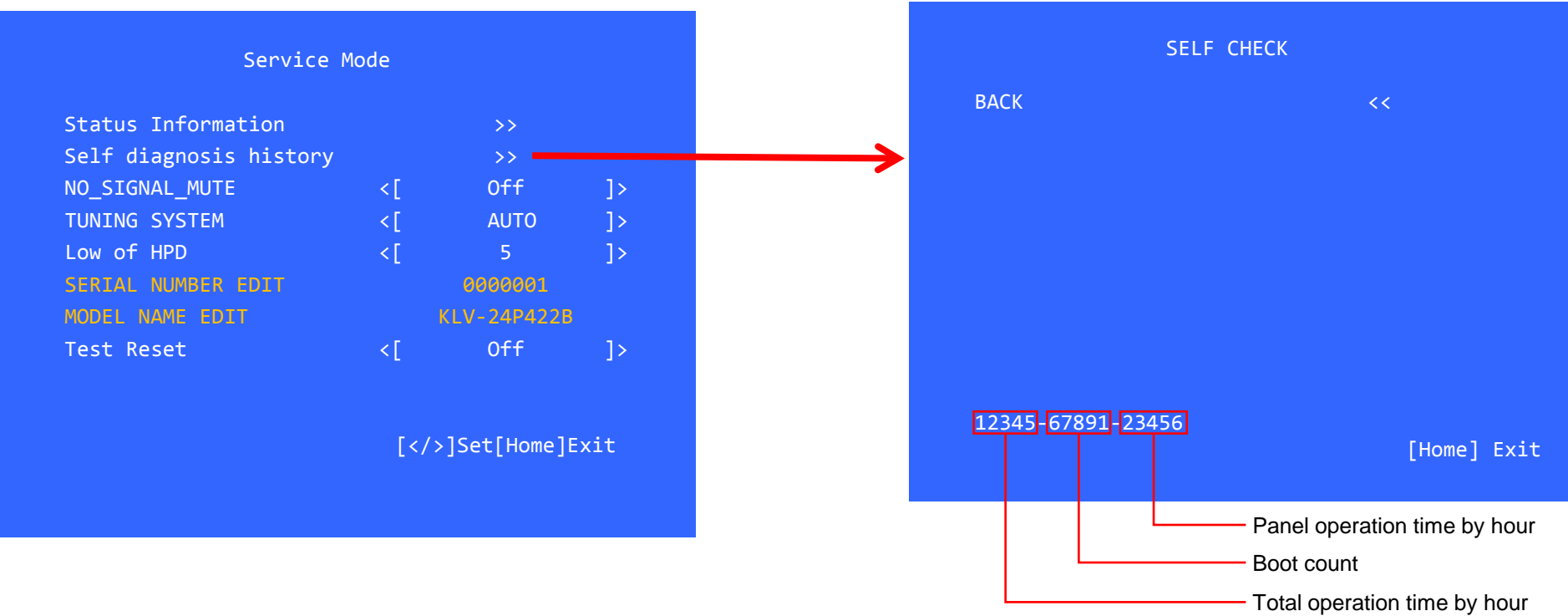
## [To Bring Up Self Diagnostic(SELF CHECK)]

In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:



\* : Note that this differs from entering the service mode (volume +)

## [Operation Time, Boot Count, Panel Operation Time Screen]



You can check the TV set operation time, boot count and panel operation time in service menu although this model doesn't support self-diagnostics. After you have completed the repairs, clear the result display to "0".

## Exiting the Self-diagnostic screen

To exit the Self Diagnostic screen, turn off the power to the TV by pressing the POWER button on the remote or the POWER button on the TV.

# APPENDIX-4 Reset and Edit Serial Number

**Reset: Operation Time, Boot Count, Panel Operation Time**

**Edit: Serial Number**

You can use the Test Reset which is the Last item in the Service mode to reset the Operation Time, Boot Count, Panel Operation Time.

You can use the use the remote commander Left, Right, Up and Down to edit the Serial Number.

## Edit Serial Number method:

When you select the SERIAL NUMBER EDIT item in the service mode, use right key to enter edit mode.

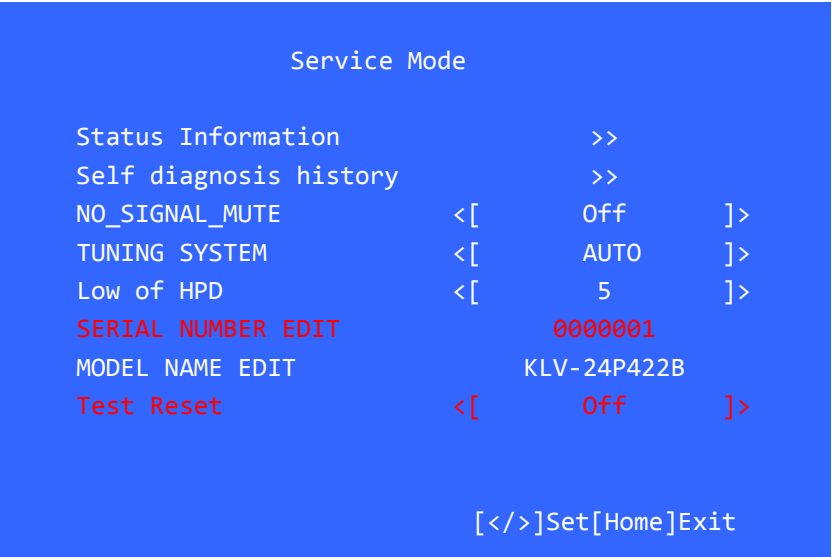
SERIAL NUMBER EDIT                   **0000001**

Use the up and down key to edit the first bit of the SERIAL NUMBER (0~9)。

Use the left and right key to switch bit.

SERIAL NUMBER EDIT                   **0000001**

( When Serial Number is "orange color in service mode after edited", pls reset the "SN Reset" item in Factory model for next "Serial Number Edit" pls refer to next page )



Function	The flow of control
Service mode on	<Info><5><Vol Up><Power>
Service mode off	<RETURN> / <Power off + on>
Adjustment Item up / down	⬆ / ⬇
Data Value up / down	⬅ / ➡

## Reset Serial Number in Factory mode:

For IND Model, SN can be reset on the condition that the software is upgraded to or higher than 1.07 version ( RMD : 1.01version) if any.

1. Turn on TV. Press remote key 'Home' > '1' > '9' > '9' > '9' > 'RETURN'.

We can see Factory menu as below.



2. Press "Enter" key to reset SN on "SN Reset" item. Default value is "1111111".

3. Press "return" key to exit factory mode.

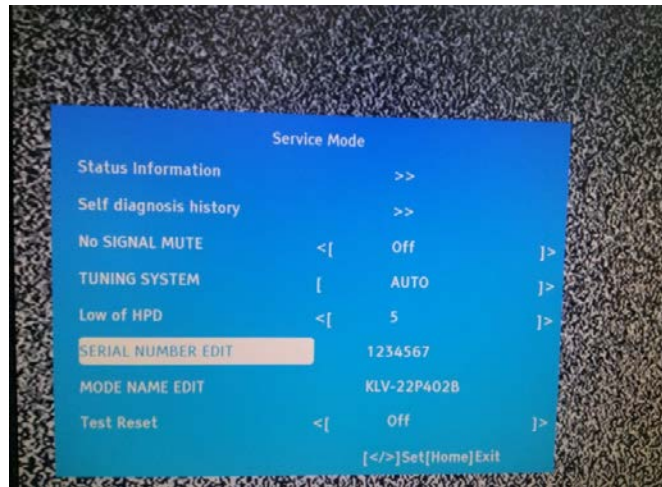


## Edit Serial Number in Service Mode:

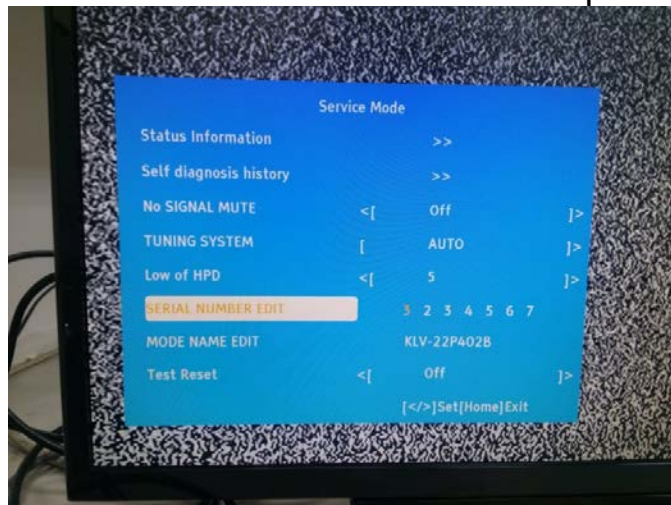
For IND Model, SN can be reset on the condition that the software is upgraded to or higher than 1.07 version ( RMD : 1.01version) if any.

### 1. Enter service mode

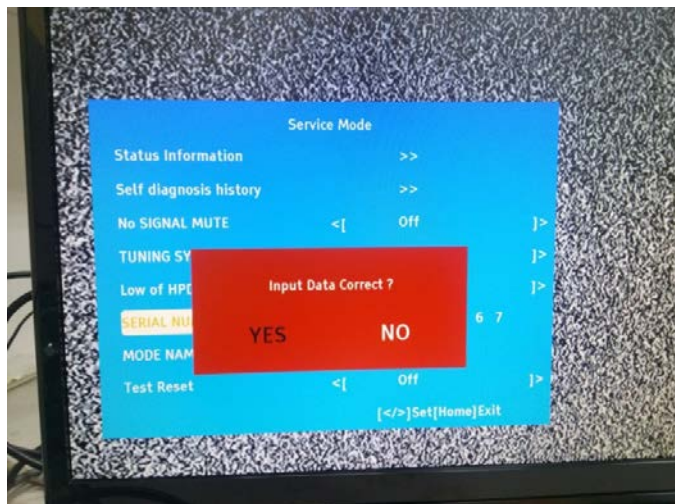
Power on then, <Left> + <Right> + <Mute> + <Enter> + <Mute> + <Vol+>



### 2. Select "SERIAL NUMBER EDIT" and press <Enter> to edit. Press <Up> or <Down> to change number.



3. Press <Enter> to finish and Select "YES" to save.



4. The "SERIAL NEMBER" will not edit again when "SERIAL NUMBER" became orange color.



5. Press <HOME> to exit "Service mode".