SERVICE MANUAL (COMMON)

RB2G *CHASSIS*

Segment: HE-L

Version	Date	Subject
1	01/2014	1st Issue.

LCD TV

SONY®

9-888-147-01

For SM - Unique , please refer :

9-888-147-A1 (America)

9-888-147-C1 (China)

9-888-147-E1 (Europe)

9-888-147-P1 (Pan Asia)

SERVICE MANUAL (COMMON)

RB2G *CHASSIS*

Segment: HE-L

LCD TV

SONY ®

MODEL LIST

THIS SERVICE MANUAL CONTAINS **COMMON INFORMATION** FOR BELOW REGIONS AND MODELS:

REGION

ASIA   _CHINA_   _AMERICA_   _JAPAN_   _EUROPE_

MODEL

KDL-32W700B	KDL-42W700B	KDL-42W800B	KDL-50W700B	KDL-55W790B
KDL-32W705B	KDL-42W705B	KDL-42W805B	KDL-50W790B	KDL-55W800B
KDL-32W706B	KDL-42W706B	KDL-42W807B	KDL-50W800B	KDL-55W805B
KDL-32W707B	KDL-42W707B	KDL-42W815B	KDL-50W805B	KDL-55W808B
		KDL42W817B	KDL-50W807B	KDL-55W815B
		KDL-42W828B	KDL-50W808B	KDL-55W817B
		KDL-42W829B	KDL-50W815B	KDL-55W828B
			KDL-50W817B	KDL-55W829B
			KDL-50W828B	KDL-55W855B
			KDL-50W829B	KDL-55W857B

TABLE OF CONTENTS

Please refer Service Manual – Unique for below information :

-Safety Warnings

-Wire Dressing

-Circuit Board Location

-Disassembly and Exploded View.

SECTION 1
SAFETY NOTES

1-1. Warnings and Caution

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

2) 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.

3)   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.

4) 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.

5) Components identified by shading and ⚠ mark on the 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.

1-2. Caution Handling of LCD Panel

When repairing the LCD Panel, make sure you are grounded with a wrist band. When repairing the LCD Panel on the wall, the panel must be secured using the 4 mounting holes on the rear cover.

1)   Do not press 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 temperature 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 short circuit within the module.

6) Disconnect the AC power when replacing the backlight (CCFL) or

 inverter circuit. (High voltage occurs at the inverter circuit at 650Vrms)

7) Always clean the LCD panel with a soft cloth material.

8) Use care when handling the wires or connectors of the inverter circuit.

 Damaging the wires may cause a short circuit.

9) Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).

10) During the repair, DO NOT leave the Power On or Burn-in period for more than 1 hour while the TV is face down on a cloth.
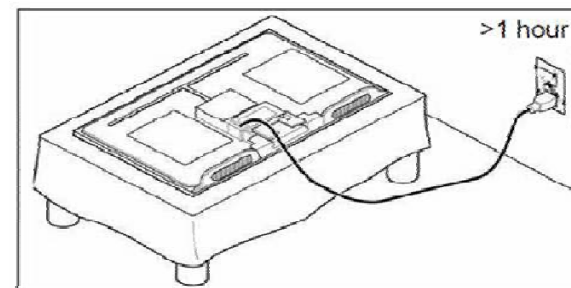
Figure 1. TV is faced down on a cloth during repair.

Safety Notes

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

1-3. Caution About the Lithium Battery

1) Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

2) Outer case broken battery should not contact to water.

1-4. Safety Check-Out

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 inter board wiring to ensure that no wires are pinched or

contact high-wattage resistors.

3)Check all control knobs, shields, covers, ground straps and mounting hardware have been replaced. Be absolutely certain 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, metalized knobs, screws and all other exposed metal parts for AC leakage. Check leakage test as described next.

8. For safety reasons, repairing the Power board and/or Inverter board is prohibited.

1-5.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 0.5mA (500 microamperes).

Leakage current can be measured by any one of the three methods:-

1) A commercial leakage tester such as the SIMPSON 229 or RCA WT540A. Follow the manufacturers instructions to use those instructions.

2) A battery-operated AC milliampmeter 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 0.75V 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 multimeter that have a 2 VAC range are suitable. (see Figure 2.)
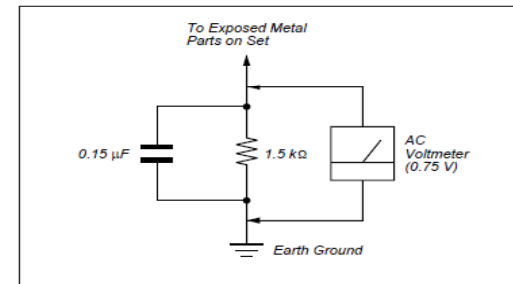
Figure 2. AC voltmeter to check AC leakage

1-6. How to Find a Good Earth Ground

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

2) 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.

3) 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 3).
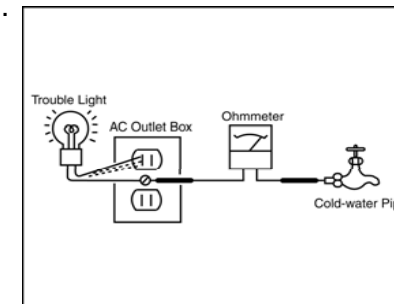
Figure B. Checking for earth ground.

Figure 3. Checking for earth ground.

Safety Notes

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

1-7. Lead Free Information

The circuit boards used in these models have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation.

Figure 4: LF Logo
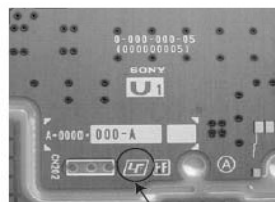
Figure 5: LF logo on circuit board

The servicing of these boards requires special precautions. It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints.

1-8. Handling the FLEXIBLE FLAT CABLE (FFC)

● When you insert / pull out FFC, please grasp a reinforcement board and main body of FFC.

Please hold reinforcement board and plunge it to depths.

Main Board

< Insertion>

Please pull out FFC while pushing the button of both ends at the same time.

Main Board

<Pull out>

Release Button of CN8001

Press and hold both Release Button at the same time pull out FFC.

FFC connector broken if pull out FFC without press and hold both Release Button of CN8001. Symptom 5X blinking will be appear due to improperly seated.

Broken

OK

Self Diagnostic Function

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

SECTION 2
SELF DIAGNOSTIC FUNCTION

2-1. Overview of Control Buttons

2-1-1. (EXCEPT CHINA)

FRONT

TV CONTROLS/ TERMINALS/ INDICATOR

1 Sensors and illumination
(Remote control sensor/Light sensor)

Example

● Illumination lights up or blinks in different
colours according to the status of the TV
(details refer to 2-2. LED Display Control)

REAR OF TV

I / ⏻ **Power**
Turn the TV on or switch to standby mode

CH+/- (Channel) / ⬆ / ⬇ ,
+/- (Volume) / ⬅ / ➡ .
Press to select the next or
previous channel.
Press to adjust the volume.
In TV Home Menu: buttons
will work as ⬆, ⬇, ⬅, ➡ .

⊷ **INPUT SELECT / ⊞**
SELECT/ CONFIRM
Press to select the next or
previous channel.
In TV Home Menu: buttons
will work as (select/confirm)

HOME
Press to display
the TV Home Menu.

2-1-2. (CHINA)

FRONT

TV CONTROLS/ TERMINALS/ INDICATOR

1 Sensors and illumination
(Remote control sensor/Light sensor)

Example

● Illumination lights up or blinks in different
colours according to the status of the TV
(details refer to 2-2. LED Display Control)

REAR OF TV

I / ⏻ **Power**
Turn the TV on or switch to standby mode

频道 +/- (Channel) / ⬆ / ⬇ ,
⊿ +/- (Volume) / ⬅ / ➡ .
Press to select the next or
previous channel.
Press to adjust the volume.
In TV Home Menu: buttons
will work as ⬆, ⬇, ⬅, ➡ .

⊷ **INPUT SELECT / ⊞**
SELECT/ CONFIRM
Press to select the next or
previous channel.
In TV Home Menu: buttons
will work as (select/confirm)

主菜单
Press to display
the TV Home Menu.

Self Diagnostic Function

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

2-2. LED Display Control

Status	White Centre LED (applicable for HSC2 only)	Side RGB LED	Side Amber LED	Remarks
Power Off (by power saving switch off and *1)	Off	Off	Off	*1 power switch off (by side key)
Power On	White	Off	Off	
STBY/i.LINK STBY/PC STBY (by remote control off only)	Off	Off	Off	
Skype Call Receive	White	White one shot	Off	
Picture Off	White looping	White one shot	Off	
Device Connection	White	Cyan one shot	Off	
Power ON Animation	White	White one shot	Off	
Sleep Timer/On Timer/Reminder/REC Timer/Photo Frame (Power On)	White	Amber One shot -> Lit*2	Off	*2 One Shot is only user action.
On Timer/Reminder/REC Timer (Deep Standby)	Off	Off	Amber	After 5 minutes, side amber LED On
Failure	Off	Red Blinking	Off	The number of LED blinking indicates cause of failure (refer to Led Error/Triage Chart)
Aging mode	White	Green Blinking	Off	Blinking:0.5sec On / 0.5sec Off
End of Aging mode	White	Green Blinking	Off	Blinking:3sec On / 3sec Off
Software Updating	White blinking	White blinking	Off	
Software Updating finish	White	Blue lit	Off	
Test Reset	White	White blinking	Amber blinking	
Error of panel ID	White	Green Blinking	Amber Blinking	Blinking:0.5sec On / 0.5sec Off
REC (SCART REC & HDD REC/LIVE PAUSE) [AEP/J only]	White	Red(Pink) One shot -> Lit*2	Off	*2 One Shot is only user action.
ePOP/ Shop Illumination	White	Cyan loop	Off	

2-3. LED Pattern

When safety shutdown occurs, Standby LED display reports the cause by using the lightning patterns as indicated below
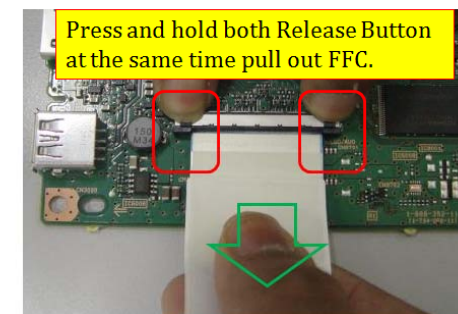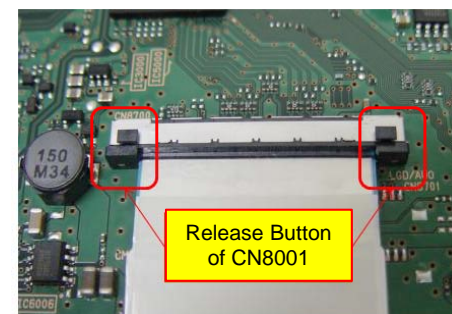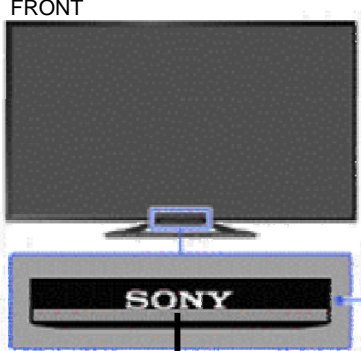

0.5sec
0.5sec
3.0sec
3.0sec
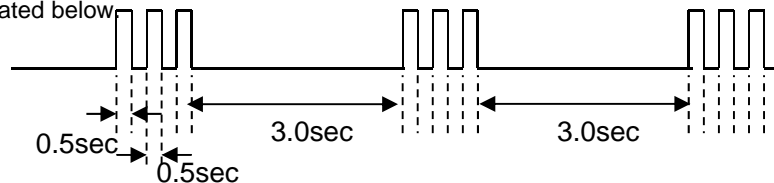
Example: The figure above shows LED display when SHUTDOWN is caused by Audio Error. It repeats flashing for a specified number of times in 0.5sec/cycle and has a 3 seconds interval of lighting off. Please note that a 3 seconds interval of lighting off is fixed regardless of abnormal state types.

2-4. Standby LED Error Display

Smart Core RED LED blinking count	Detection Items	Board Error Item
2x	Main 19.5V failure [MAIN_POWE] * This failure is not saved	▪ Power Adaptor ▪ BAXL Board Error
3x	Main 5.0/3.3/1.8/1.0/ 1.1V failure [DC_ALERT] * 5.0/1.0V failures are not saved.	▪ BAXL Board Error
3x	Audio amp. protection [AUD_ERR]	▪ BAXL Board Error ▪ Speaker
3x	HDMI equalizer/switch I2C NACK [HDMI_EQ] * There is Temp. sensor on the same I2C bus.	▪ BAXL Board Error
3x	Tuner or demodulator I2C NACK [TU_DEMOD]	▪ BAXL Board Error
3x	AFE device I2C NACK [AFE_I2C]	▪ BAXL Board Error
3x	AFE device error SPI NACK [AFE_SPI] * only for AEP,CH	▪ BAXL Board Error
5x	Panel ID EEPROM I2C NACK [P_ID_ERR] (Also panel power failure is a suspect)	▪ Panel module ▪ Tcon board ▪ BAXL Board Error
6x	LED Driver [BACKLIGHT]	▪ LED Driver (LD) Board Error
7x	Over temperature protection [TEMP_ERR] Temp. sensor I2C NACK [TEMP_ERR] * There is HDMI Eq on the same I2C bus.	▪ BAXL Board Error
8x	Software Error (Also the main board's memory or CAM module is a suspect)	▪ BAXL Board Error
9x	Tuner Board Error [TU_BOARD]	▪ Tuner Board Error

2-5. Triage Chart

Reference	Symptoms - Shutdown. Power LED blinking red diagnostics sequences									No Power	Video - missing or distorted			Remote	Network	Audio	Skype	Smart Core	Bluetooth (BT)
	2	3	4	5	6	7	8	9	10	No White Power LED & does not response to remote (Dead Set)	Stationary coloured lines or dots	No video One of Inputs	No video all Inputs	No Remote	Wireless can't connect	No Audio	Skype Can't Work	Smart Core no LED (Set is still alive)	Bluetooth / One Step Remote (OSR) can't connect
BAXL Board	▲	●		▲	▲	●	●			▲	▲	●	●	▲	▲	●	▲	▲	▲
TU* board		▲					▲	●			▲	●	●			▲			
G* Board	●	▲		▲	●					●						▲			
HIR Board (IR)				▲					●					●					
HSC2 Board (SC)														▲				●	
Speaker		▲														●			
Skype Module																	●		
Camera Module																	▲		
Mic. Module																	●		
Wifi Module						●									●		▲		
BT Module																			●
LD Board			●											▲					
LVDS FFC				▲	▲						▲		▲						
Tcon			▲	●	▲				▲		▲		▲						
LCD Panel			●	●	●	▲					●		▲						
Problem	Power	Power / Audio / Local I2C	LD	Panel (Tcon)	Panel (Backlight)	TEMP / FAN (N/A)	Software		Emitter										

● Most likely defective part

▲ Secondary possible defective part

Note :
-G*Board- Not applicable
-TUS Board (Others) / TUW Board (Japan)

SECTION 3
TROUBLESHOOTING

3-1. NO POWER
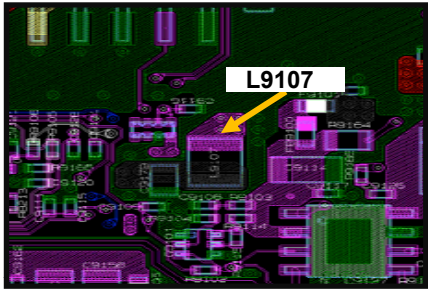
3-1-1. NO POWER→ AC ADAPTER

No Power

↓

Check STBY 3.3V **L9107** — NG → Replace Between LD Board to B* Board Harness — NG → Replace LD- Board — NG → Adapter

Check STBY 3.3V | OK → BAXL Board

Replace Between LD Board to B* Board Harness | OK → Harness

Replace LD- Board | OK → LD Board

➢ For HT, HM, change LD board.
➢ **For HE, change Panel**.
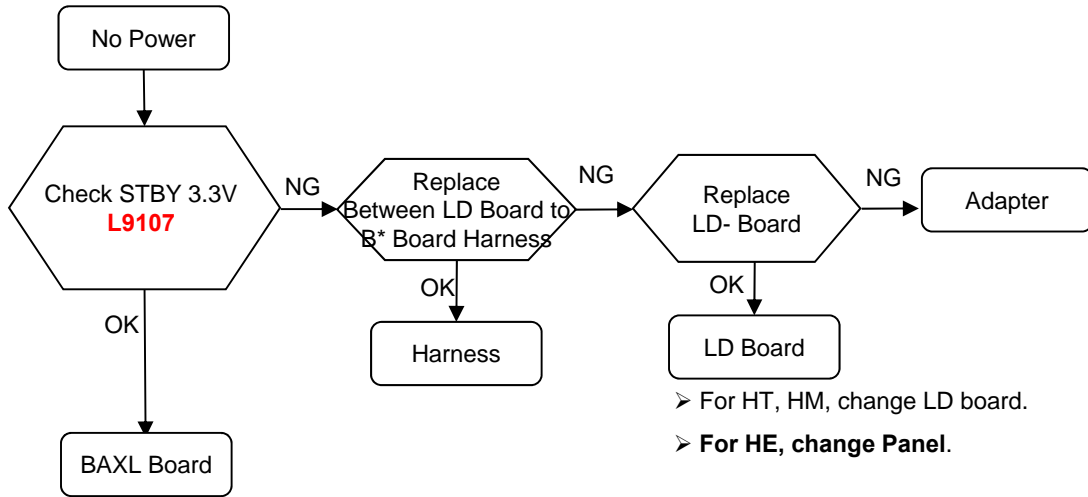
Note :
-B* Board – BAXL Board

3-1-2. NO POWER – AYU2/AYU2L failure

AYU2/L Fail Suspected

↓

eMMC / RawNAND erase

↓

Product SW rewrite

↓

Recover? — Yes → Product SW writing issue

Recover? | No

↓

Replace BAXL Board
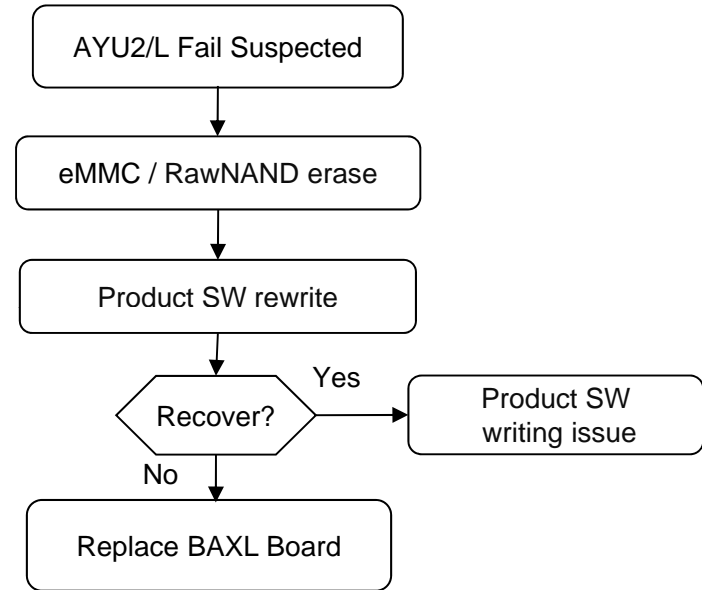
Parts	Board PWB (BAXL- A side)	Detail
(L9107)		L9107

3-2. LED BLINKING
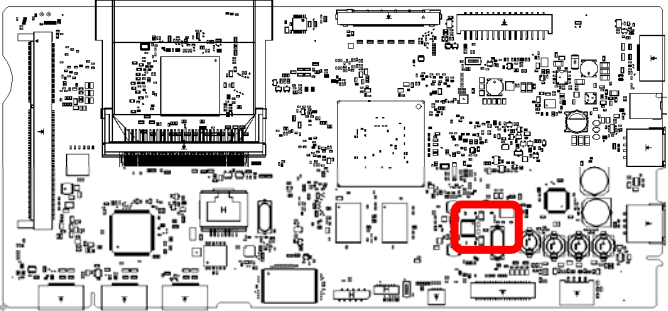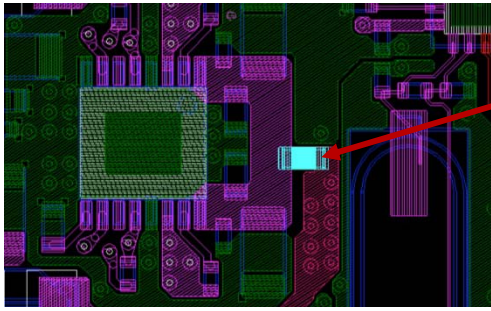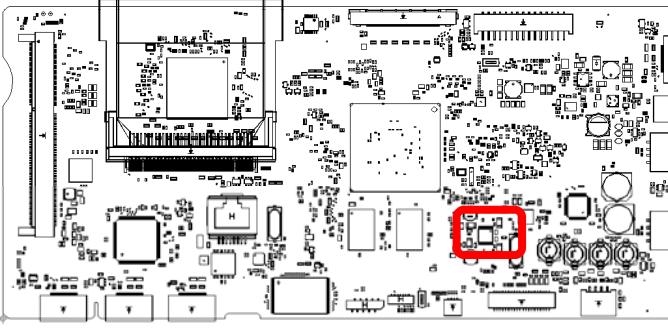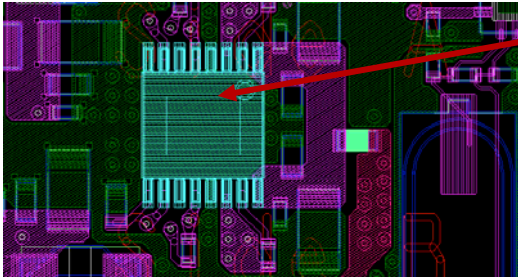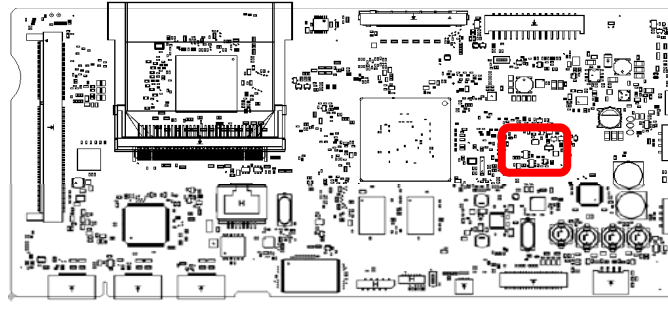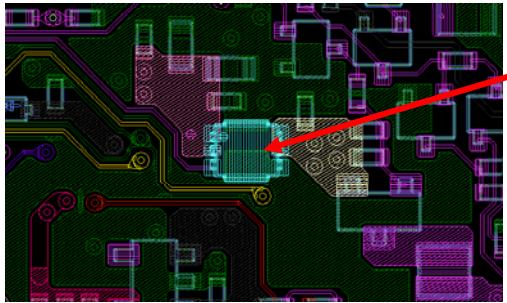
3-2-1. LED Blinking: 3x (DC Alert & Communication Error)
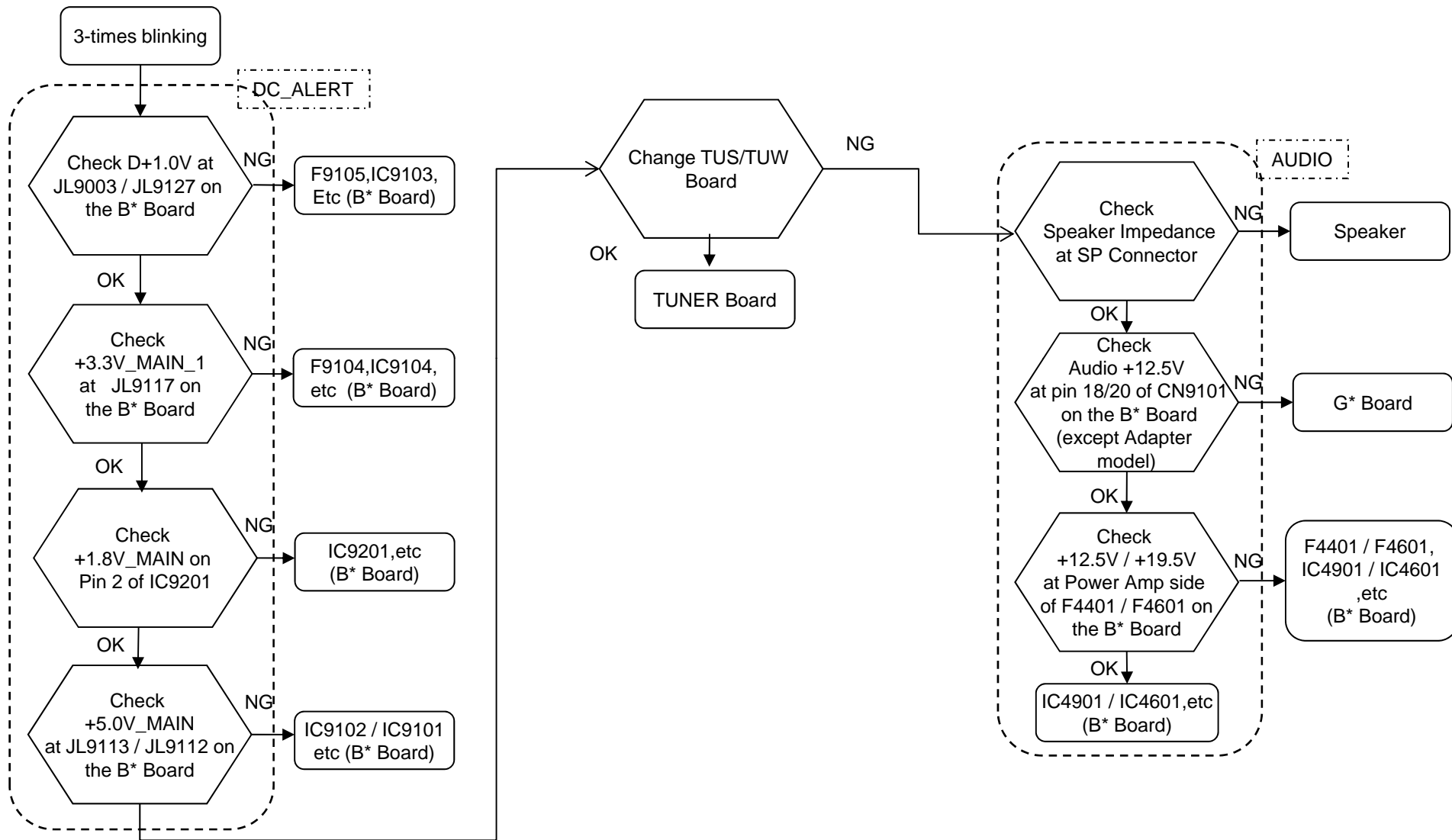
Note :
-B* Board – BAXL Board
-G*Board- Not applicable
-TUS Board (Others) / TUW Board (Japan)

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
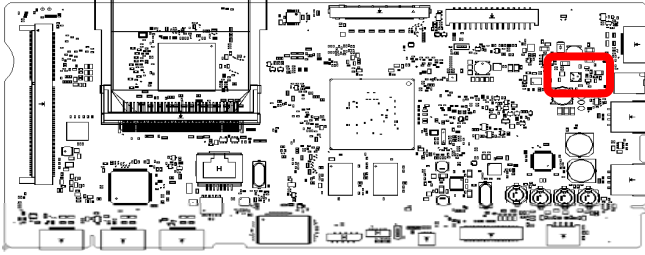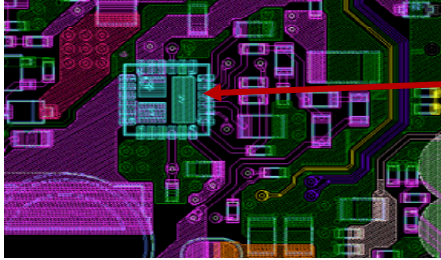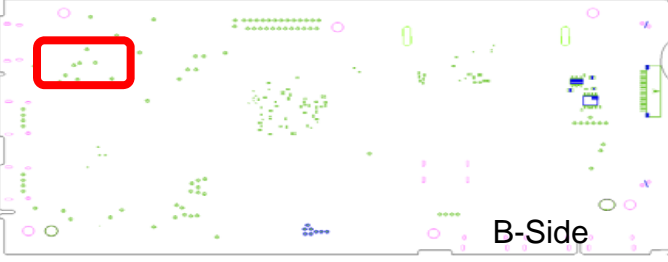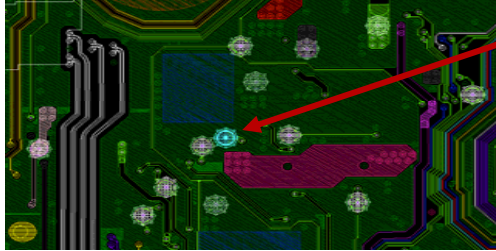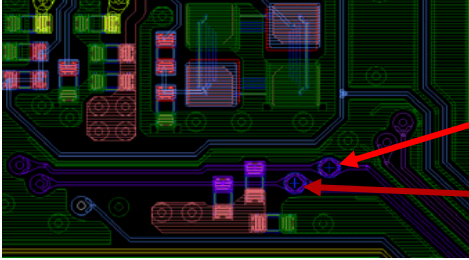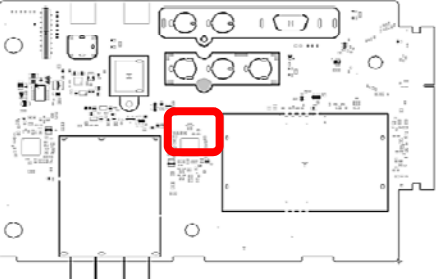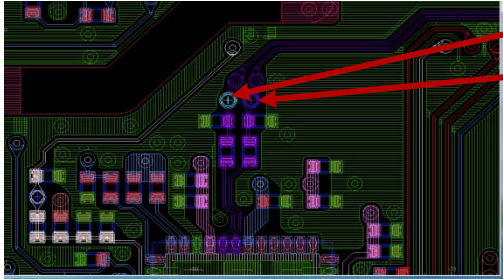
3-2-1. LED Blinking: 3x (DC Alert & Communication Error)

Troubleshooting References (a)

Board / Parts	Board PWB (A side)	Detail
BAXL (F9104)		F9104
BAXL (IC9104)		IC9104
BAXL (IC9201)		IC9201

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
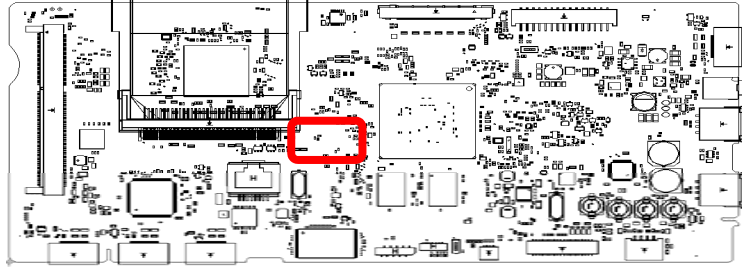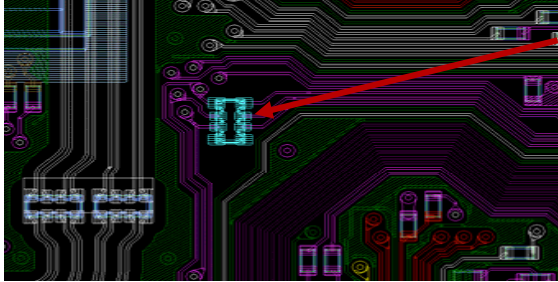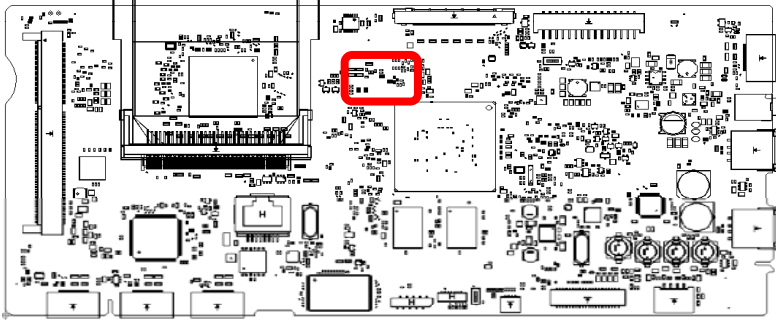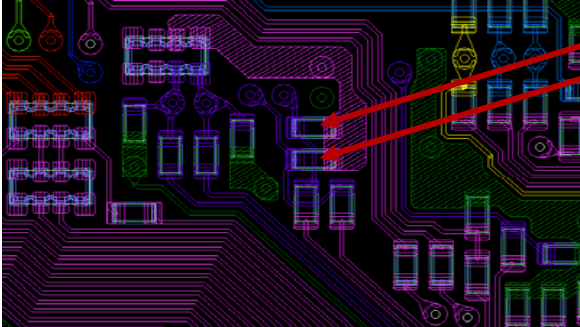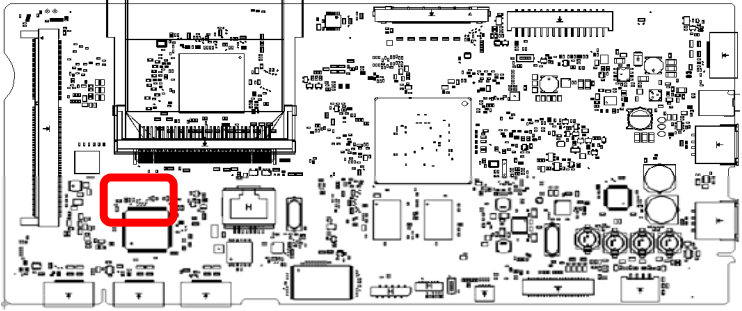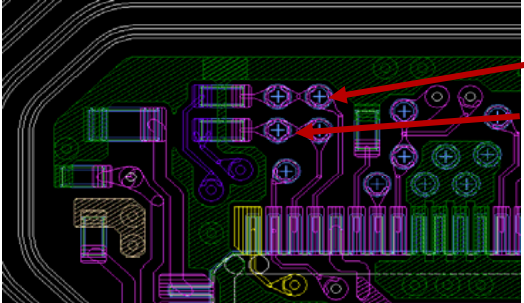
3-2-1. LED Blinking: 3x (DC Alert & Communication Error)

Troubleshooting References (b)

Board / Parts	Board PWB (A side) (B side)	Detail
BAXL (IC9101)		IC9101
BAXL (JL9112)	B-Side	JL9112
TU-S (Others) (CL2101, CL2102)		CL2102 CL2101
TU-W (Japan) (CL2318, CL2319)		CL2318 CL2319

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
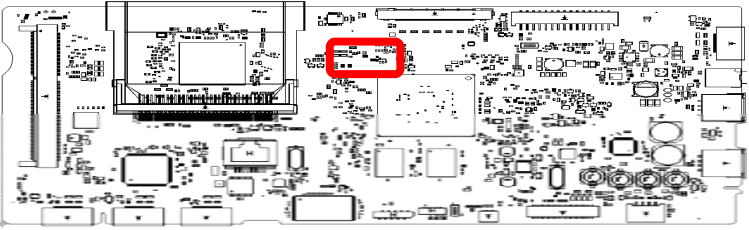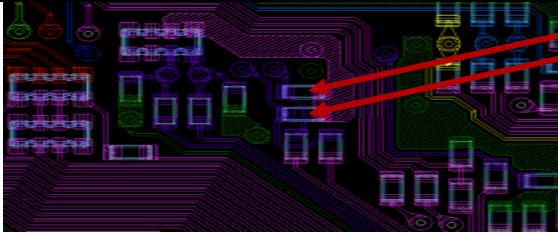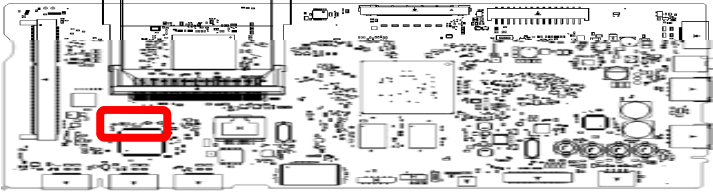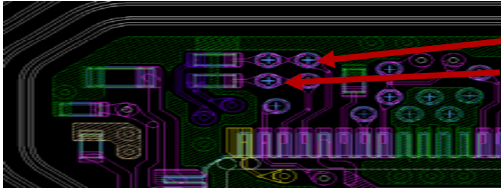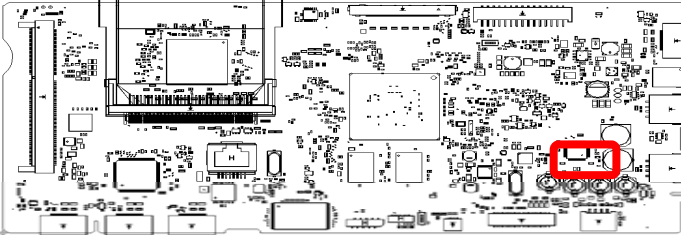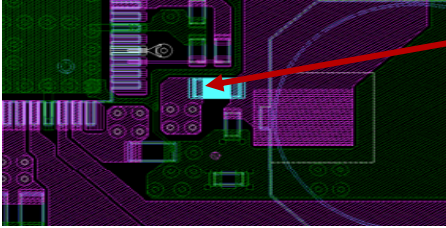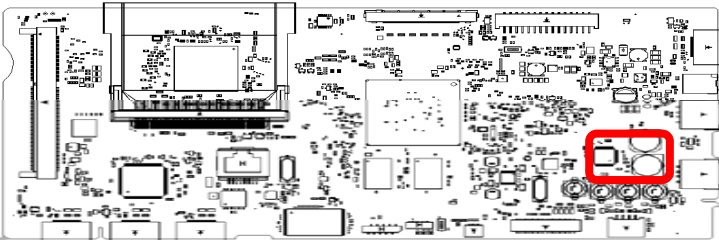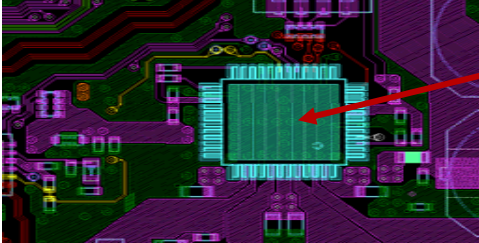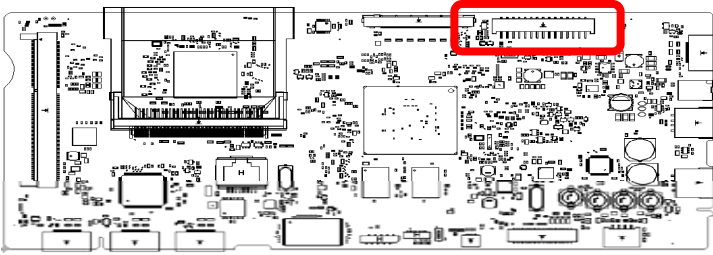
3-2-1. LED Blinking: 3x (DC Alert & Communication Error)

Troubleshooting References (c)

Board /Parts	Board PWB (A side)	Detail
BAXL (RB8517)		 **RB8517**
BAXL (R8546, R8547)		 **R8546** **R8547**
BAXL (CL5023, CL5024)		 **CL5024** **CL5023**

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
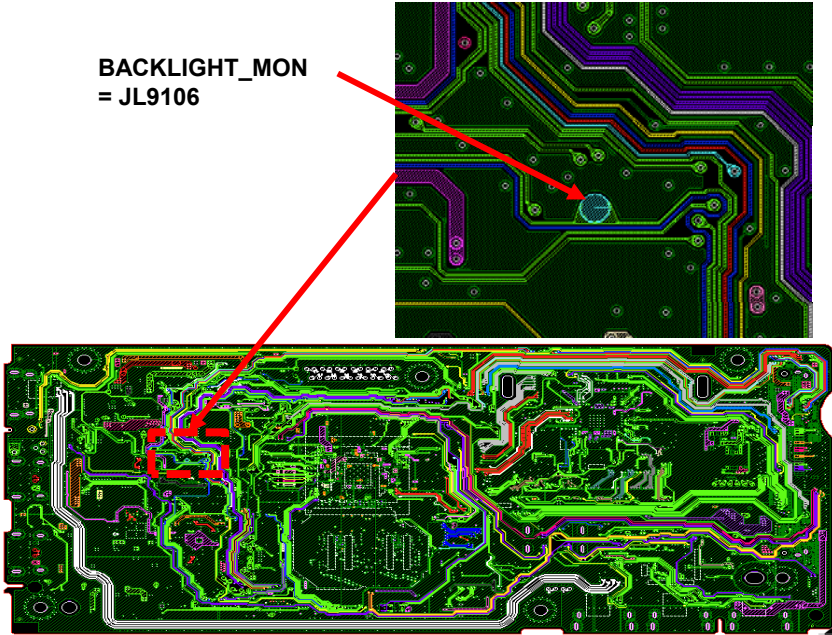
3-2-1. LED Blinking: 3x (DC Alert & Communication Error)
Troubleshooting References (d)

Board /Parts	Board PWB (A side)	Detail
BAXL (R8546, R8547)		R8546 R8547
BAXL (CL5023, CL5024)		CL5024 CL5023
BAXL (F4601)		F4601
BAXL (IC4601)		IC4601
BAXL (CN9101)		CN9101

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-2-3. LED BLINKING 4x (LED Voltage Error)

4-times blinking

Between 0.49V to 1.32V

Check BACKLIGHT_MON on the BAXL Board

LED driver
➢ For HT, HM, change LD board.
➢ **For HE, change Panel**.
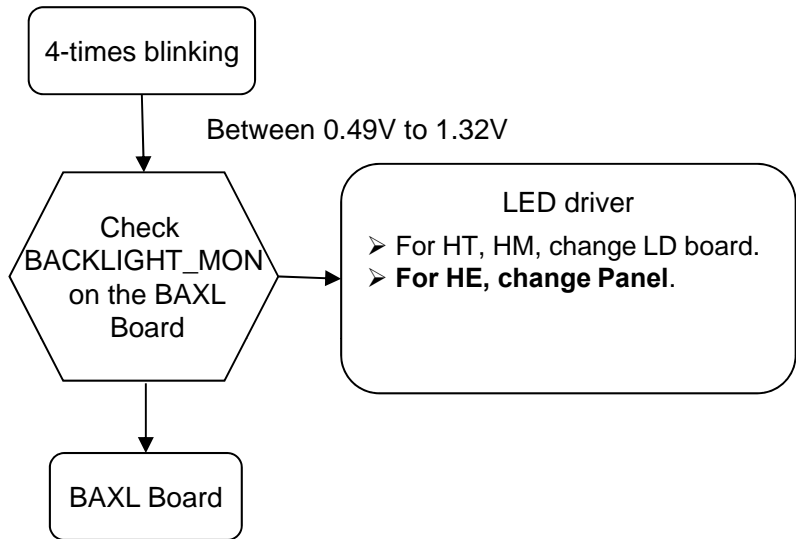
BAXL Board

Board /Parts	Board PWB (BAX-L – B SIDE)
BAXL BACKLIGHT_MON = JL9106	**BACKLIGHT_MON = JL9106**

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-2-3. LED BLINKING 5x (T-Con Error)

BAXL (B-Side)

```
┌──────────────────┐
│  5-times blinking │
└──────────────────┘
         │
         ▼
   ╱──────────────╲          NG      ┌──────────────────┐
  │     Check       │───────────────▶│ G* Board / Adaptor │
  │ PANEL_VCC 12.5V at│              └──────────────────┘
  │   CN8001 on      │
  │ on the BAXL Board │
   ╲──────────────╱
         │
  About 12.5V
     OK
         ▼
   ╱──────────────╲     Symptom
  │ Replace the Harness│  improvement   ┌──────────┐
  │ Between G* / LD board│──────────────▶│ Harness  │
  │  and BAXL board  │                 └──────────┘
   ╲──────────────╱
         │
        NG
         ▼
   ╱──────────────╲     Symptom
  │    Replace      │  improvement   ┌──────────────┐
  │ the LVDS Harness │──────────────▶│ LVDS Harness │
   ╲──────────────╱                 └──────────────┘
         │
        NG
         ▼
   ╱──────────────╲          ┌──────────────┐
  │    Change       │────────▶│   Change     │
  │  BAXL Board     │   NG    │ Panel (T-con) │
   ╲──────────────╱          └──────────────┘
         │                    Confirm Tcon 12V.
     Symptom
     improvement
         ▼
  ┌──────────────┐
  │  BAXL Board  │
  └──────────────┘
```

JL9132
(PANEL_VCC)
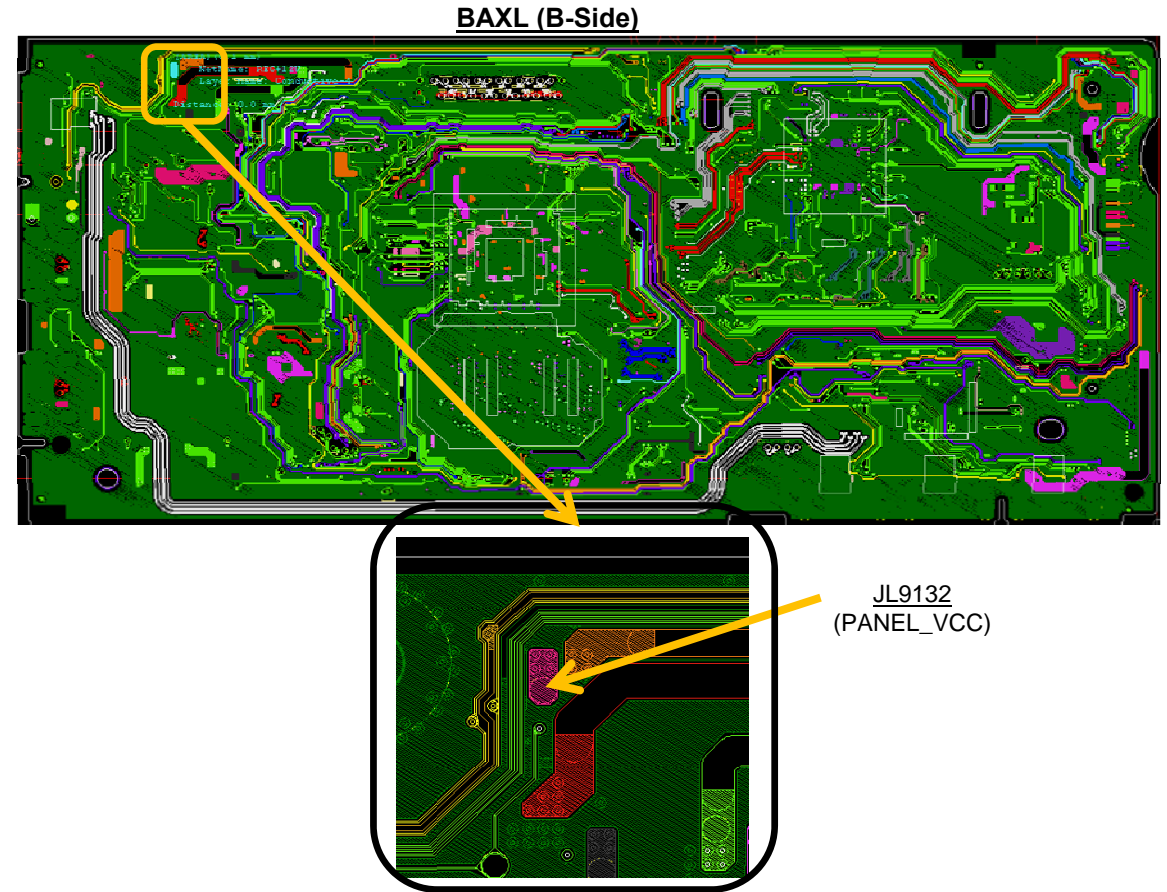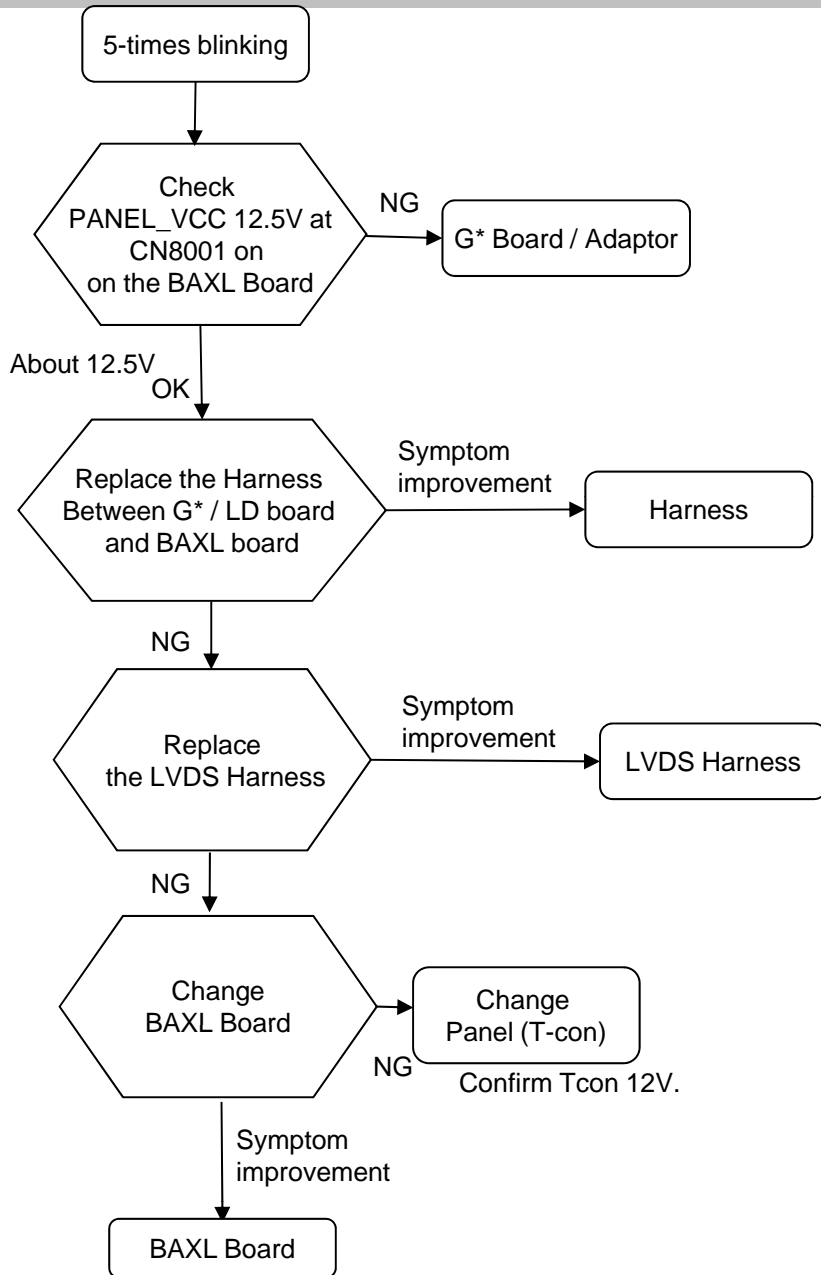
Note :
-G*Board- Not applicable

3-2-4. LED BLINKING 6x (Backlight Error)

```
┌─────────────────┐
│ 6-times blinking │
└─────────────────┘
         │
         ▼
  ╱───────────────╲
 │ Check JL9106* at │────────►┌──────────────┐
 │ (BACKLIGHT_MON)  │         │  BAXL Board  │
 │   of CN9101      │         └──────────────┘
 │ on the BAXL Board│
  ╲───────────────╱
         │
     1.3 -1.8 V
         │
  ╱───────────────╲      Yes    ┌──────────┐   Symptom      ┌──────────┐
 │  Have G board?   │──────────►│ Change   │──improvement──►│ G* Board │
  ╲───────────────╱            │ G* board │                └──────────┘
         │                      └──────────┘
        No
         │           Symptom
         ▼        improvement
  ╱───────────────╲            ┌──────────┐
 │ Change LD Board  │─────────►│ LD Board │
  ╲───────────────╱            └──────────┘
```
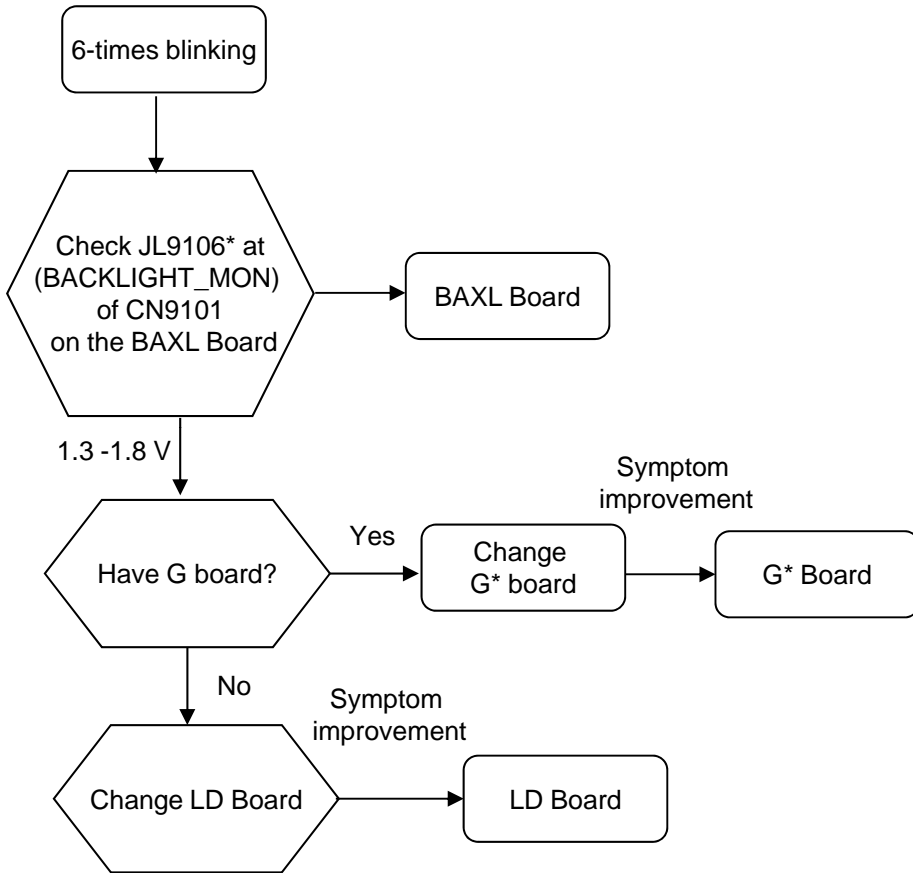
Parts	Board PWB (BAXL- B side)
(JL9106)	

(Labels visible on board image: AYU2, JL9106)

Note :
-G*Board- Not applicable

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-2-5. LED BLINKING 7x (Temperature Error)

```
          ┌──────────────────┐
          │ 7-times blinking │
          └──────────────────┘
                   │
                   ▼
          ╱───────────────────╲
         ╱   Setting            ╲        No      ┌─────────────────┐
        ╱ circumstance  is OK?    ╲────────────▶ │ Set to another  │
        ╲ Temperature,           ╱               │ location, etc.  │
         ╲ Ventilation, etc.    ╱                └─────────────────┘
          ╲───────────────────╱
                   │ Yes
                   ▼
          ╱───────────────────╲
         ╱ Change BAXL Board,   ╲        NG      ┌─────────────────┐
        ╱  and Aging a few        ╲────────────▶ │      Panel      │
         ╲ hours                 ╱                └─────────────────┘
          ╲───────────────────╱
                   │ Symptom
                   │ improvement
                   ▼
          ┌──────────────────┐
          │      BAXL        │
          │      Board       │
          └──────────────────┘
```

3-3. No Sound

```
   ┌──────────┐
   │ No Sound │
   └──────────┘
        │
        ▼
   ╱──────────────╲   "Audio System"   ┌─────────────┐
  ╱  Check the     ╲─────────────────▶ │ Change to   │
  ╲ "Speakers setting" ╱               │ "TV Speaker"│
   ╲──────────────╱                    └─────────────┘
        │ "TV Speakers"
        ▼
   ╱──────────────╲   NG   ╱──────────────╲  Symptom improvement  ┌─────────────┐
  ╱  Change        ╲─────▶╱  Replace       ╲────────────────────▶ │ BAXL Board  │
  ╲ the Speaker     ╱      ╲ the BAXL        ╱                     └─────────────┘
   ╲ Harness       ╱        ╲ Board        ╱                            │
    ╲──────────────╱         ╲──────────────╱                          ▼  ▼  ▼
        │ Symptom             │ NG
        │ improvement         ▼
        ▼              ┌────────────┐
  ┌────────────┐       │  Speaker   │
  │  Speaker   │       └────────────┘
  │  Harness   │
  └────────────┘
```

From BAXL Board:
- No Sound: Audio
- No Sound: Tuner
- No Sound: HDMI

3-4.. NO PICTURE

3-4-1. NO PICTURE: LD Models only

```
                    ┌──────────────┐
                    │  No Picture  │
                    └──────────────┘
                            │
                            ▼
   ┌──────────────────┐   No   ┌───────────────┐  OK  ┌──────────────┐  NG  ┌──────────────┐  NG
   │ All blue picture │──────▶ │ Check the G*- │────▶ │ Replace      │────▶ │ Change B*    │─────▶
   │ is on?           │        │ LD* Harness   │      │ the B-Tcon,  │      │ Board        │
   │ Factory SW is    │        │               │      │ Tcon-LD* FFC │      │              │
   │ booted.)         │        │               │      │              │      │              │
   └──────────────────┘        └───────────────┘      └──────────────┘      └──────────────┘
            │ Yes                     │ NG          Symptom │           Symptom │
            ▼                         ▼          improvement▼       improvement▼
   ┌──────────────────┐        ┌───────────────┐      ┌──────────────┐      ┌──────────────┐
   │   BAXL Board     │        │   Harness     │      │ B-Tcon,      │      │   B* Board   │
   └──────────────────┘        └───────────────┘      │ Tcon-LD* FFC │      └──────────────┘
                                                      └──────────────┘
```

**Tuner
No Picture**

**HDMI
No Picture**

**EXT. Video Input
No Picture**

Change G* Board   — NG →   LCD Panel (T-con, LD*)

Symptom improvement → G* Board

Note :
-B* Board – BAXL Board
-G*Board- Not applicable

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-4-2. NO PICTURE: (All Model)

```
No Picture
   │
   ▼
Is blue picture        No      Check            No
on display?    ──────────►  PANEL_VCC    ──────────►  G-Board or
(Factory SW                 at JIG LAND              Adaptor NG
is booted)                  on the B* Board
   │                            │ Yes
   │ Yes                        ▼
   ▼                        Check              BL_ON : H    Replace         NG    LCD Panel
BAXL                    ◄── BL_ON at JIG LAND ──────────►  the LVDS FFC  ──────►  (T-CON)
Board is OK.                on the B* Board             Harness
Check:                          │                           │
                           BL_ON : L                  Symptom
   ├──► Tuner –                 │                      improvement
   │    No Picture              ▼                           ▼
   │                        Replace Harness    Symptom    LVDS FFC
   ├──► HDMI –             between G-Board/   improvement  Harness
   │    No Picture          LD-Board      ──────────►  Replace G-Board/LD-Board to
   │                        to B-Board                 B-Board Harness
   └──► Ext. Video              │ NG
        Input -                 ▼
        No Picture          Change         NG    Change G-Board
                            B-Board     ──────►   / LD board
                                │
                           Symptom
                           improvement
                                ▼
                            BAXL Board NG
```

PANEL_VCC = +12V
HE,HM (BAX-L): **JL9132**

BL_ON (L or H): **JL9105**

Note :
-B* Board – BAXL Board
-G*Board- Not applicable

\<BAXL- B SIDE\>

Parts Location/Parts	Detail
(1) (JL9132 (PANEL_VCC)	JL9132 (PANEL_VCC)
(2) JL9105 (BL_ON)	JL9105 (BL_ON)

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-5. SIDE BUTTONS MALFUNCTION

```
Side Key button          Change Switch      OK
malfunction       →      Unit            →      Switch unit issue
                              │
                              │ NG
                              ↓
                  Harness on Switch Unit      OK
                  and BAXL Board properly  →      Harness connection
                  connected                       issue
                              │
                              │ NG
                              ↓
                  Change                      OK
                  Switch unit-BAXL board   →      Harness issue
                  Harness
                              │
                              │ NG
                              ↓
                  Change BAXL
                  Board
```

3-6. IR REMOTE COMMANDER MALFUNCTION

```
IR do not response to    Center white LED         Check whether center         Remote control battery
Remote Commander    →    lit up when          →   white LED blink ,when     →  could be weak.
                         remote is control        using commander near        Change battery.
                         is pressed               the sensor windows
                              │
                              ↓
                  Harness on H-board          Harness
                  and BAXL Board          →   connection
                  properly connected          issue
                              │
                              ↓
                  Change H-BAXL               H-BAXL board harness
                  board Harness           →   issue
                              │
                              ↓
                  Change Smart Core or    OK  Smart core issue or
                  H-board                 →   H-board issue
                              │
                              │ NG
                              ↓
                  Change BAXL Board
```

Note: Blue line/font for HM segment

3-7. Light Sensor Error

```
Backlight doesn't change      Check UI setting for light        Change the UI setting to    OK   User did not activate light
when ambient lighting     →   Sensor. Make sure it is "on"  →   ":ON"                    →   sensor function
level changed
                                                                     │
                                                                     │ NG
                                                                     ↓
                                                          Harness on H-board and     OK   Harness connection
                                                          B* Board properly connected →  issue
                                                                     │
                                                                     │ NG
                                                                     ↓
                                                          Change                     OK
                                                          H-BAXL board Harness    →      Smart Core issue
                                                                     │
                                                                     │ NG
                                                                     ↓
                                                          Change Smart Core          OK   H-BAXL board harness
                                                                                  →      issue
                                                                     │
                                                                     │ NG
                                                                     ↓
                                                          Change BAXL  Board
```

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-8. Network Malfunction: Ethernet (Wired)

```
┌─────────────────┐
│ [Network Set-up] │
│  >[Wired Set-up] │
│   on the TV      │
└─────────────────┘
        │
        ▼
  ⬡ Connection          OK      ⬡ Connection        OK      ⬡ Connection        OK    ┌──────────┐
    Results      ────────────▶    Results     ──────────▶    Results     ─────────▶  │  BAXL    │
    Cable                         Local Access                Internet                │  board   │
    Connection                                                Access                  └──────────┘
        │                             │                           │
     Failed                        Failed                      Failed
        │                             │                           │
        ▼                             ▼                           ▼
  ⬡ Check cable    OK   ┌────────┐   ⬡ Wired Set-up   Auto   ┌──────────┐        ┌──────────┐
              ────────▶ │ BAXL   │     IP address    ──────▶ │ Check    │        │ Proxy    │
                        │ board  │     setting               │ Local    │        │ setting  │
        │               └────────┘        │                  │ router   │        └──────────┘
       NG                              Manual                 │ DHCP     │
        │                                 │                   │ server   │
        ▼                                 ▼                   └──────────┘
  ┌──────────────┐               ┌──────────────┐
  │ Ethernet Cable│              │  Check IP    │
  └──────────────┘               │  address     │
                                 │     &        │
                                 │  Local router│
                                 │  setting     │
                                 └──────────────┘
```

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-9. 3D-Glasses(Active) malfunction

*(2) BT Active 3D glasses doesn't work

Check 3D-Glasses Battery voltage is >2.8V?

<2.8V → Replace to New Battery and try again. (use CR2025 only.)

Restart TV. Power-off 3D-Glasses and TRY registration again with 50cm distance.

Registered → Interference from other devices. → Check if 2.4GHz devices are used or not?(ex. WiFi, other bluetooth devices, microwave, cordless phone,....)

Cannot Register

Check another 3D-Glasses and re-register.

NG → Change to another environment and try registration again.

NG → Confirm BT (Bluetooth) malfunction trouble shooting flow.

OK

3D-Glasses NG.

OK

Very strong interference on that spot.

Troubleshooting

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

3-10. Wireless Network malfunction

1) Internal Wireless Network malfunction

Wireless Network on the TV

Error Message appear when the Wireless Network is selected?

No → Is the radio field Strength too weak or even No signal?

No → BAXL Board

Yes ↓

*1 Hardware defect suspected. Go to the next

Yes ↓

Change WiFi module

NG → Access Point

OK ↓

WiFi module

From *1

Check harness connection is OK between WiFi and BAXL

NG → Connect properly

OK → Loose harness

OK ↓ / NG

Change Wi-Fi module

NG → Change harness between BAXL board and WiFi

NG → Change BAXL board

OK ↓

Wi-Fi module

OK ↓

Main Harness
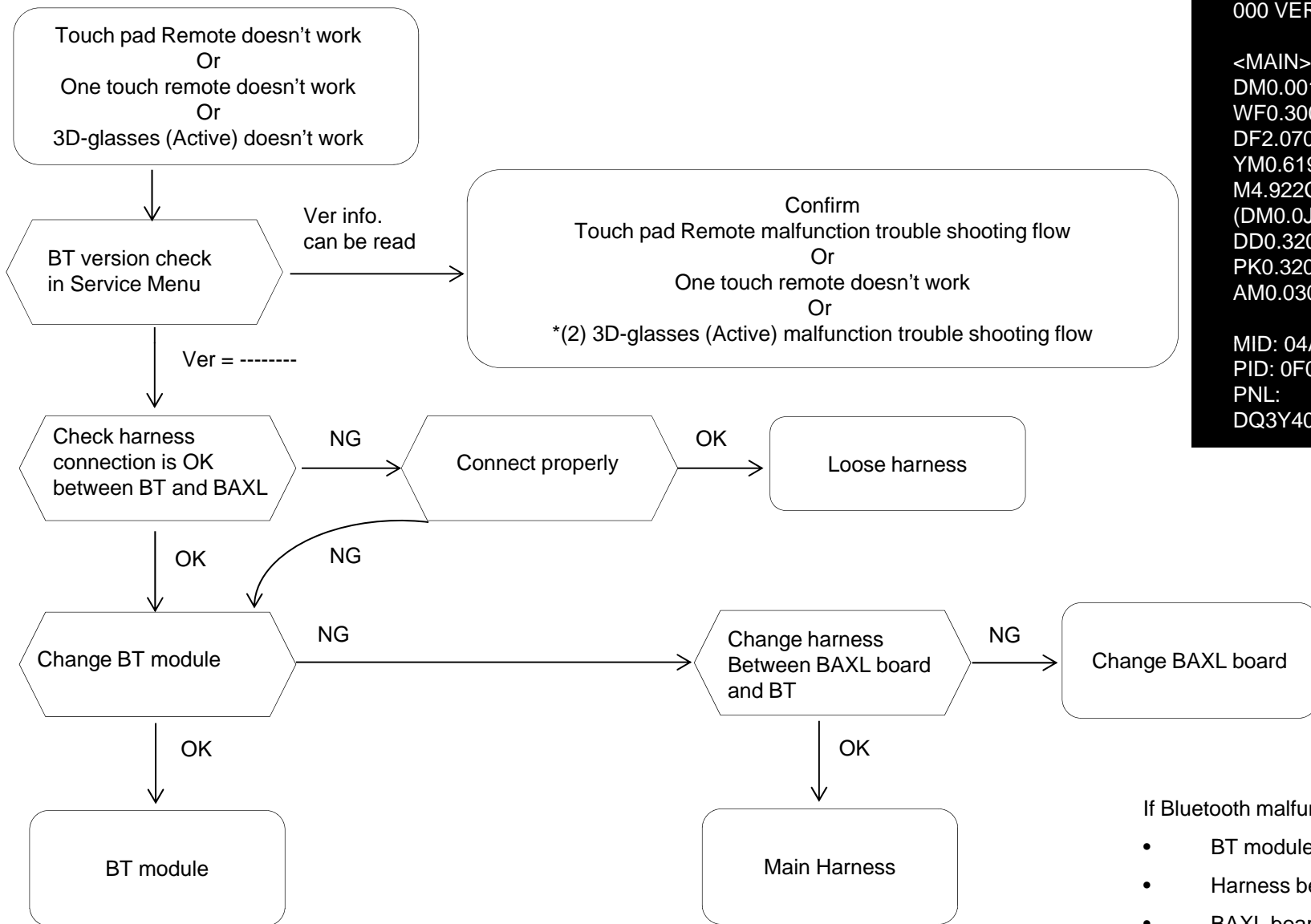
If Wi-Fi malfunction happens,

- Wi-Fi module
- Harness between WiFi and BAXL
- BAXL board are suspected.

3-11.Bluetooth malfunction

```
001 OP
000 VERS

<MAIN>          <EXT>
DM0.001JPA      WF: 3.0.0.1021
WF0.300W00AA    WF: --------
DF2.070W00AA    FD: 0.003
YM0.619W00AA                BT:
M4.922C         1.2.14.848
(DM0.0J00AA)    BT Version info.
DD0.320W00AA
PK0.320W00AA    EFR:----------
AM0.030JP

MID: 04A3B50F
PID: 0F051040
PNL:
DQ3Y400LN0101
```

Touch pad Remote doesn't work
Or
One touch remote doesn't work
Or
3D-glasses (Active) doesn't work

↓

BT version check in Service Menu — Ver info. can be read → **Confirm Touch pad Remote malfunction trouble shooting flow Or One touch remote doesn't work Or *(2) 3D-glasses (Active) malfunction trouble shooting flow**

↓ Ver = --------

Check harness connection is OK between BT and BAXL — NG → **Connect properly** — OK → **Loose harness**

↓ OK   NG

Change BT module — NG → **Change harness Between BAXL board and BT** — NG → **Change BAXL board**

↓ OK   ↓ OK

BT module   **Main Harness**
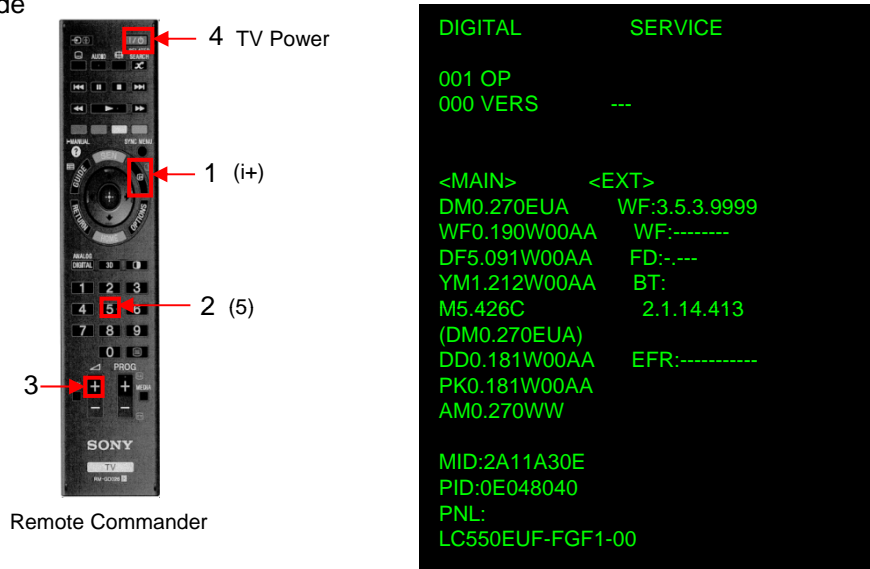
If Bluetooth malfunction happens,

- BT module
- Harness between BT module and BAXL
- BAXL board are suspected.

SECTION 4
SERVICE ADJUSTMENTS

4-1. Accessing Service Mode

1) Go to TV standby condition by remote commander.
2) Press "i+ (info)", "5", "Volume +" then "TV power" on remote.
3) You can see Service Mode on display.
* The above operation should be finished within 15 seconds after the set go to STBY mode

4 TV Power
1 (i+)
2 (5)
3

Remote Commander

```
DIGITAL              SERVICE

001 OP
000 VERS          ---


<MAIN>          <EXT>
DM0.270EUA        WF:3.5.3.9999
WF0.190W00AA      WF:--------
DF5.091W00AA      FD:-.---
YM1.212W00AA      BT:
M5.426C              2.1.14.413
(DM0.270EUA)
DD0.181W00AA      EFR:-----------
PK0.181W00AA
AM0.270WW

MID:2A11A30E
PID:0E048040
PNL:
LC550EUF-FGF1-00
```

Screen Sample

4-2. Transition of Each Micro's Service Mode

1. First of all, when you enter Service Mode, you can see "Digital" service mode.

2. Whenever you press "OPTIONS" on remote, service mode is changed according to the flow below:
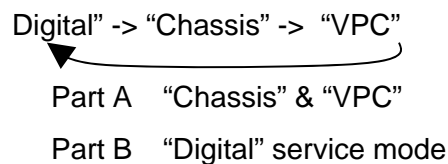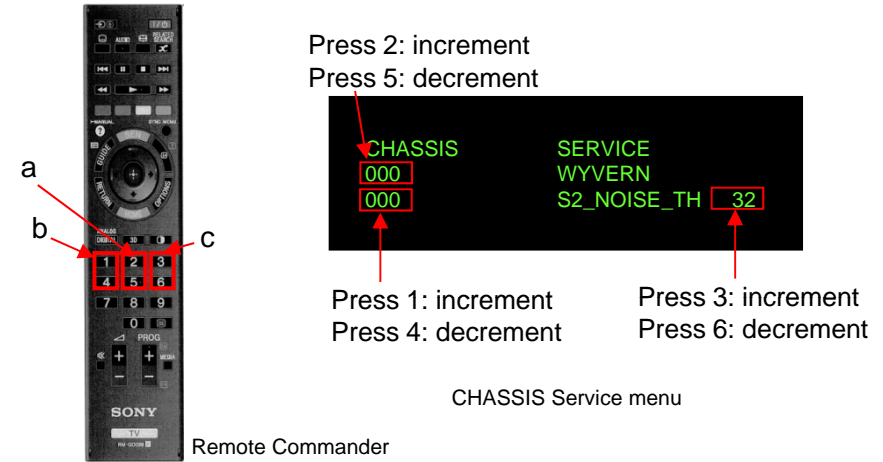
OPTIONS

Remote Commander

Digital" -> "Chassis" -> "VPC"

Part A   "Chassis" & "VPC"

Part B   "Digital" service mode

4-3. Change Data by Service Mode 1 (Part A)

1. Change Data of **"Chassis"** or **"VPC"** service mode
   a. Press "2 / 5" on remote to select (up / down) category.
   b. Press "1 / 4" on remote to select (up / down) Item.
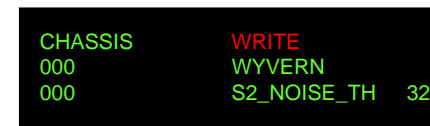   c. Press "3 / 6" on remote to change (up / down) data.

Press 2: increment
Press 5: decrement

```
CHASSIS          SERVICE
000              WYVERN
000              S2_NOISE_TH    32
```

a
b   c

Press 1: increment
Press 4: decrement

Press 3: increment
Press 6: decrement

CHASSIS Service menu

Remote Commander

Save Changing Data by Service Mode 1

2. Write data for **"Chassis"** or **"VPC"** service mode.
   a. Press "Mute" on remote.
      It shows green "SERVICE" changes to green "WRITE".
   b. Press "0" on remote. Green "WRITE" changes to red "WRITE". It indicate writing is processing.
   c. After a while, red "WRITE" changes to green "SERVICE". Writing process is done at this point.
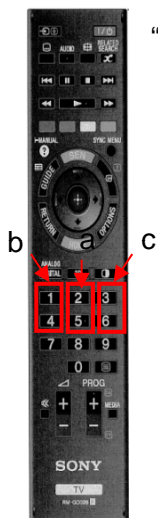3. TV reboot is necessary for applying data change.

```
CHASSIS          WRITE
000              WYVERN
000              S2_NOISE_TH    32
```

CHASSIS Service menu

b
a

Remote Commander

28

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
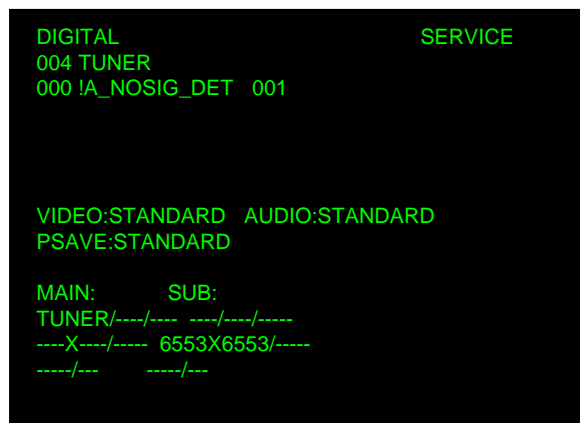W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

4-4. Change Data by Service Mode 2 (Part B)

1. Change Data of **"Digital"** service mode (except "003 DIG_SRV_MODE" category)
   a. Press "2 / 5" on remote to select (up / down) category.
   b. Press "1 / 4" on remote to select (up / down) Item.
   c. Press "3 / 6" on remote to change (up / down) data.

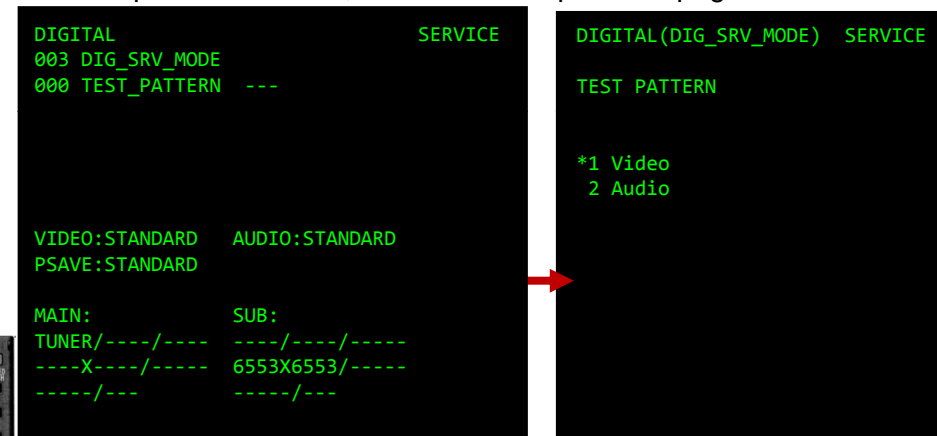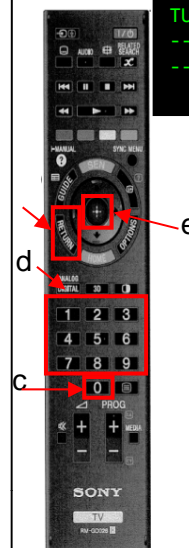   "Digital" service mode don't have to Save. (except "002 MODEL")

Remote Commander

```
DIGITAL                        SERVICE
004 TUNER
000 !A_NOSIG_DET  001



VIDEO:STANDARD  AUDIO:STANDARD
PSAVE:STANDARD


MAIN:         SUB:
TUNER/----/----  ----/----/-----
----X----/-----  6553X6553/-----
-----/---      -----/---
```

DIGITAL Service menu

2. Change Data of **"Digital"** service mode ("003 DIG_SRV_MODE" category). "003 DIG_SRV_MODE" is one category of "Digital" service mode. Please note because this operation is special.
   a. Press "2 / 5" on remote to select "003 DIG_SRV_MODE".
   b. Press "1 / 4" on remote to select (up / down) Item.
   c. Press "0 / 10" on remote to select item.
   d. Press number key "1"~"9" directly. "*" stamp move.
   e. Press "12 / enter / select" to decide and advance to the next step. Press "return", to return to the previous page.

```
DIGITAL                        SERVICE      DIGITAL(DIG_SRV_MODE)  SERVICE
003 DIG_SRV_MODE
000 TEST_PATTERN  ---                       TEST PATTERN



                                            *1 Video
                                             2 Audio

VIDEO:STANDARD   AUDIO:STANDARD
PSAVE:STANDARD


MAIN:         SUB:
TUNER/----/----  ----/----/-----
----X----/-----  6553X6553/-----
-----/---        -----/---
```

DIGITAL Service menu

Remote Commander

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

Checking Board Information

1. In **"Digital"** service mode ("002 MODEL" category)
2. Press "0 / 10" on remote to select item.

```
DIGITAL                    SERVICE


 002 MODEL
 000 BOARD CHECK
```

```
DIGITAL  (MODEL)                    SERVICE


Board Check


 1. REPLACE MAIN BOARD (and TUNER BOARD)

 2. REPLACE TUNER BOARD ONLY
```
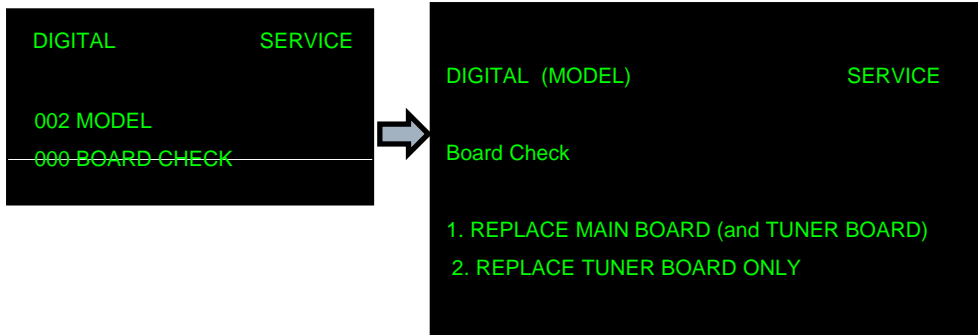
3. Press "1" on Remote.
   Note : Check the Result. Result 1 : NG ,
   Result 2: OK, Result 3 : OK (With "TUNER BOARD OPTION
   is changed correctly") comment

```
DIGITAL  (MODEL)                    SERVICE

Board Check

NG

 WRONG COMBINATION of MAIN BOARD and  TUNER BOARD
```

This case is NG. The main board is mismatch to the tuner board.
The value of Tuner Board Option was kept.

This value is below;
・Standard
・C4
・PCA
・HTL
・PCA/Dsub
・PCA/Dsub/HTL
・Dsub
・PCA/HTL

```
 DIGITAL  (MODEL)                    SERVICE

 Board Check

 OK
 TUNER BOARD OPTION : STANDARD
```

This case is OK.
The value of Tuner Board Option was kept..

```
DIGITAL  (MODEL)                    SERVICE

Board Check

 OK

 TUNER BOARD OPTION : PCA/HTL

 TUNER BOARD OPTION is changed correctly
```
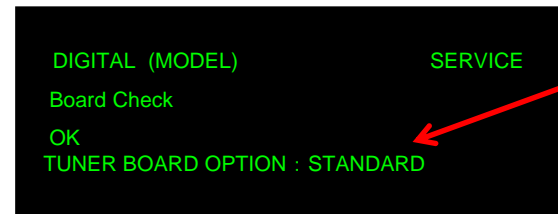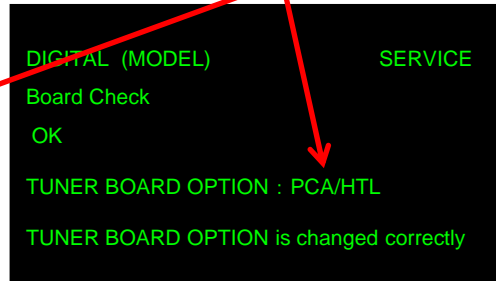
This case is OK.
-Only when TUNER BOARD OPTION part of
model ID has been changed
-The value of Tuner Board Option was changed
automatically.

4. Press "Return" on Remote
5. Press "2" on Remote.
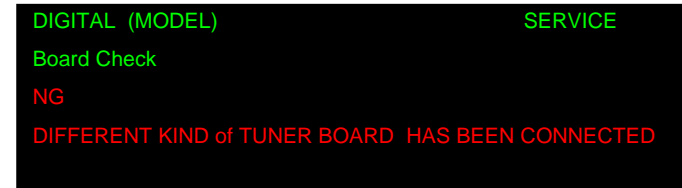
```
DIGITAL  (MODEL)                    SERVICE

Board Check

NG

DIFFERENT KIND of TUNER BOARD  HAS BEEN CONNECTED
```

This case is NG.
The main board is mismatch to
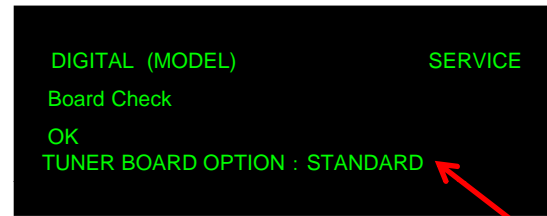the tuner board.
The value of Tuner Board Option
was kept.

```
 DIGITAL  (MODEL)                    SERVICE

 Board Check

 OK
 TUNER BOARD OPTION : STANDARD
```

This case is OK.
The value of Tuner Board Option was kept.
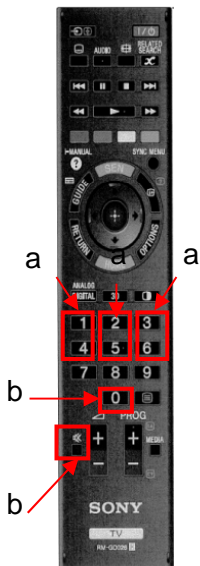In this case, The value of Tuner Board Option is
never changed automatically.

.

This value is below;
・Standard
・C4
・PCA
・HTL
・PCA/Dsub
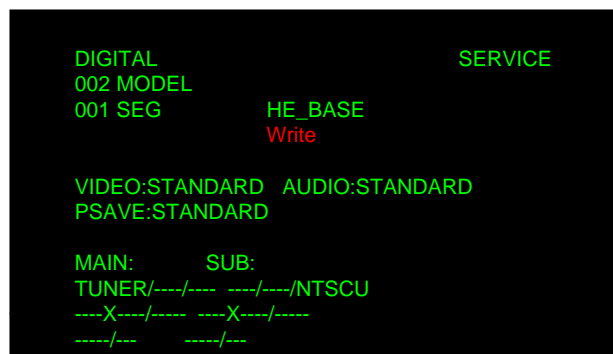・PCA/Dsub/HTL
・Dsub
・PCA/HTL

6. Press "Return" on Remote.

IF "**OK**" Go to
Save Changing Data by Service Mode 2.

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

Save Changing Data by Service Mode 2 | Only when B* board is replaced.

1. In **"Digital"** service mode ("002 MODEL" category)
   001 SEG Select segment information
   002 DEST Select destination information
   003 MODELNAME Select Model Name
   004 SERIAL Can be set Only Once for the new board
   005 SHIP_CONFIRM...Can set correct Product Code
   006 VAR_TYPE Select variable information

   a. Change data for each model. (Refer to 4-4 Part B)

   b. Press "Mute", "0" on remote sequentially. Red "WRITE" is shown. This indicates writing is in process.

   c. After a while, red "WRITE" disappears. Green Done will be displayed for a while, which means writing process is done.

   d. For the items SEG, DEST, MODELNAME after changing each item, service save ("mute"+"0") is required. For the item SERIAL, after inputting the serial number, press key "12" or "Enter" to save the data.

   – Please save the items according to the sequence "SEG -> DEST -> MODELNAME-> VAR_TYPE"

   – When Saving the item "SEG", sometimes instead of "Writing", the word "Pending" will appear. In this case, skip "SEG", saving "DEST" , "MODELNAME" and "VAR_TYPE" is OK.
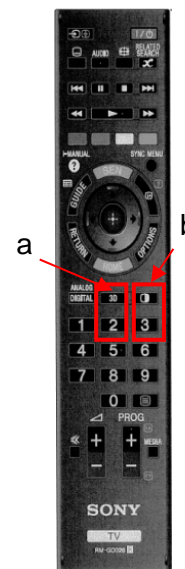

Remote Commander


```
DIGITAL                        SERVICE
002 MODEL
001 SEG        HE_BASE
               Write

VIDEO:STANDARD   AUDIO:STANDARD
PSAVE:STANDARD

MAIN:        SUB:
TUNER/----/----  ----/----/NTSCU
----X----/-----  ----X----/-----
-----/---        -----/---
```
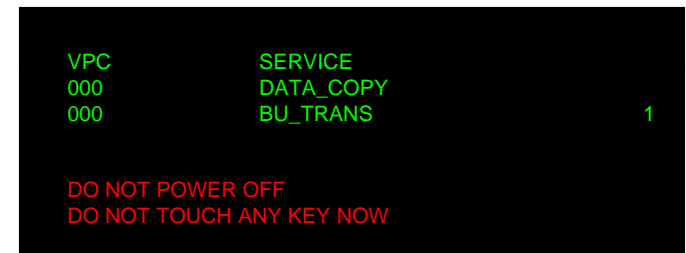
DIGITAL Service menu

4-5. Restore WB / Gamma Adj. Data to B board.

Please apply after USB-DL when B board is replaced. | HE,HS Models

1.in **"VPC"** service mode
   a.Select "000 DATA_COPY" category by pressing "2 / 5" on remote.
   b.Change data from "0" to "1" by pressing "3 / 6" on remote.
   c.Wait until data is changed from 1 to 3.
   d.When data is changed from 1 to 3, restoring process is finished.
   e.In case data is changed from 1 to 2, keep default setting. (No more process is needed.)

Remote Commander


```
VPC              SERVICE
000              DATA_COPY
000              BU_TRANS                    1


DO NOT POWER OFF
DO NOT TOUCH ANY KEY NOW
```

Restore process


```
VPC              SERVICE
000              DATA_COPY
000              BU_TRANS                    3



DATA TRANSFER SUCCESS
```

End restore process

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

4-6. WB Adjustment by Service Mode

1. in **"VPC"** service mode ("004 WB" category)

   a. Press "1" or "4" on remote to select WB adjustment menu.

   b. Change data by pressing "3" or "6". Each range of these items is 0~1023.

   c. Press "mute" ＋"0" on remote to save the data. "SERVICE" comment is changed to "WRITE", indicating writing process.

   d. After a while, "WRITE" comment returns to "SERVICE", which means writing process is done. (takes about a couple of seconds)

VPC	SERVICE	
003	WB	
000	R_DRV	128

VPC	SERVICE	
003	WB	
003	R_BKG	128

VPC	SERVICE	
003	WB	
001	G_DRV	128

VPC	SERVICE	
003	WB	
004	G_BKG	128

VPC	SERVICE	
003	WB	
002	B_DRV	128

VPC	SERVICE	
003	WB	
005	B_BKG	128

VPC Service menu

a
b
c

Remote Commander

4-7. VCOM Adjustment (NFR-AUO/SDC/FXC Panel)

4-7-1. STEP1

1. in "Digital" service mode

   a. Select "003 DIG_SRV_MODE" category by pressing "2 / 5" on remote.

   b. Press "0" to go to "TEST PATTERN" Mode.

   c. Press "Enter" or "12" to go into Video TEST PATTERN.

   d. Press "7" or "8" to select the test pattern

   e. Press "Enter" or "12" twice to show the VCOM TEST PATTERN.

```
DIGITAL (DIG_SRV_MODE)   SERVICE

TEST  PATTERN
  --> 1  Video

  *1  White
   2  Ramp
   3  R Raster
   4  G Raster
   5  B Raster
   6  Color Bar
   7  VCOM Pattern1
   8  VCOM Pattern2
   9  Off
```

4-7-2. STEP2

2. in "VPC" service mode

   a. Select "002 VCOM" category by pressing "2 / 5" on remote.

   b. Select "000 ENABLE" item by pressing "1 / 4" on remote.

   c. Change ENABLE from "0" to "1" by pressing "3" to enable VCOM adjustment.

VPC	SERVICE	
002	VCOM	
000	ENABLE	0

4-7-3. STEP3

3. in "VPC" service mode

   a. Select "002 VCOM" category by pressing "2 / 5" on remote.

   b. Select "001 ADJUST" item by pressing "1 / 4" on remote.

   c. Change data by pressing "3 / 6" on remote.

VPC	SERVICE	
002	VCOM	
001	ADJUST	64

4-7-4. STEP4

4. in "Digital" service mode
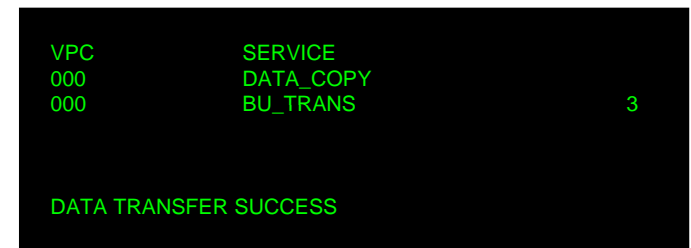
   a. Select "007 VCOM" category by pressing "2 / 5" on remote.

   b. Change data from "1" to "0" by pressing "3 or 6 " on remote.

   c. Confirm the final result of the VCOM adjustment .

   d. If OK, Finish the VCOM adjustment. If NG, pressing "3 or 6" to show the OSD again and go back to VCOM adjustment Step 3.
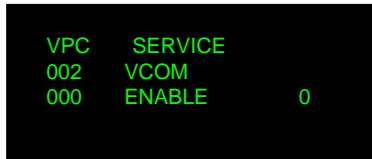
```
DIGITAL              SERVICE

007  VCOM
000  SRV_OSD_EN   1


VIDEO:STANDARD   AUDIO:STANDARD
PSAVE:STANDARD

MAIN:          SUB:
TUNER/----/----  ----/----/NTSCU
----X----/-----  ----X----/-----
-----/---      -----/---
```

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

4-8. VCOM Adjustment (HFR-AUO/FXC Panel)

4-8-1. STEP1

1. in "VPC" service mode

```
VPC     SERVICE
002     VCOM
000     ENABLE       0
```

a. Select "002 VCOM" category by pressing "2 / 5" on remote.
b. Select "000 ENABLE" item by pressing "1 / 4" on remote..
c. Change ENABLE from "0" to "1" by pressing "3" to enable VCOM adjustment.
  -The Picture is change Vcom Pattern and you can't see OSD

4-8-2. STEP2

2. in "VPC" service mode (There is no OSD.)
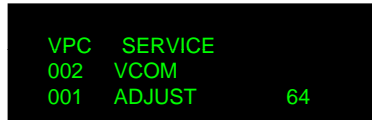
```
VPC     SERVICE
002     VCOM
001     ADJUST       64
```

a. Select "002 VCOM" category by pressing "2 / 5" on remote.
b. Select "001 ADJUST" item by pressing "1 / 4" on remote.
c. Change data by pressing "3 / 6" on remote.
d. Finish the adjustment when the picture seems OK.
e. Select "000 ENABLE" item by pressing "1 / 4" on remote.
f. Change ENABLE from "1" to "0" by pressing "6" to disable VCOM adjustment. and you can see OSD.
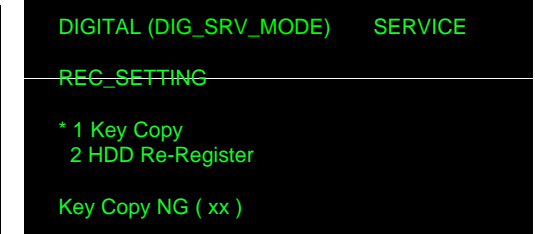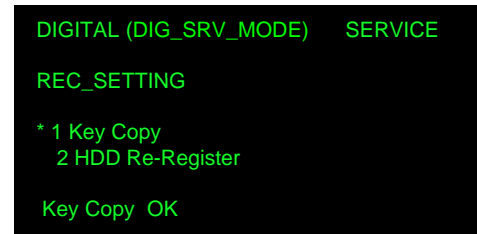
4-9. REC Setting

4-9-1. STEP1

```
DIGITAL (DIG_SRV_MODE)          SERVICE

REC_SETTING

* 1 Key Copy
  2 HDD Re-Register
```

1. in "Digital" service mode
   a. Select "003 DIG_SRV_MODE" category by pressing "2 / 5" on remote.
   b. Select "006 REC_SETTING" item by pressing "1 / 4" on remote.
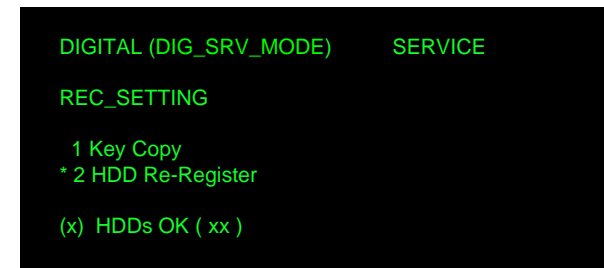   c. Press "0" or "10" to go to detailed REC Setting screen.

4-9-2. STEP2

2. in detailed REC setting screen
   a. Press "1" to select "Key Copy" item
   b. Press "Enter" or "12" twice to execute the command.
   c. If OK, show the message "Key Copy OK". If NG, show the message "Key Copy NG (= xx)".
   d. Press "Return" to return to previous page.

```
DIGITAL (DIG_SRV_MODE)     SERVICE

REC_SETTING

* 1 Key Copy
  2 HDD Re-Register

 Key Copy  OK
```

```
DIGITAL (DIG_SRV_MODE)     SERVICE

REC_SETTING

* 1 Key Copy
  2 HDD Re-Register

 Key Copy NG ( xx )
```

xx value representation	
0	copy success
1	decrypt error
2	file acquisition error
3	other

4-9-3. STEP3

3. in detailed REC setting screen
   a. Press "2" to select "HDD Re-Register" Item.
   b. Press "Enter" or "12" twice to execute the command.
   c. If OK, xx= x+1. If NG, xx=x.
   d. Press "Return" to return to previous page.

```
DIGITAL (DIG_SRV_MODE)        SERVICE

REC_SETTING

  1 Key Copy
* 2 HDD Re-Register

(x)  HDDs OK ( xx )
```

xx value representation	
0	register success
1	HDD repetition
2	file acquisition error
3	HDD info miss-match
4	other

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

4-10. Reset Panel Operation Time

> Only when Panel is replaced.

1. In Self Diagnosis Display (*refer to How to Enter Self Diagnosis Display*)
   a. Reset Panel Operation Time `<7>` -> `<0>`

```
SELF CHECK


002 MAIN_POWE   ----------- ----------- ----------- 00 Model Name    : KDL-RB2

003 AFE_I2C     ----------- ----------- ----------- 00 Serial Number  : 1000008

003 DC_ALERT    ----------- ----------- ----------- 00 Package Number : PKG0.270EUA

003 AUD_ERR     ----------- ----------- ----------- 00  Device ID     : B0:00:01:EF:4B:C6

003 HDMI_EQ     ----------- ----------- ----------- 00 Wired MAC      : D8:D4:3C:17:84:3E

003 TU_DEMOD    ----------- ----------- ----------- 00 Wireless MAC   : N/A

003 AFE_SPI     ----------- ----------- ----------- 00 USB dongle     : N/A

004 VLED        ----------- ----------- ----------- 00

004 LD_ERR      ----------- ----------- ----------- 00 <MAIN>            <EXT>

005 TCON_ERR    120823132523 ---------- ----------- 01 DM0.270EUA        WF:3.5.3.99

005 P_ID_ERR    ----------- ----------- ----------- 00 WF0.190W0AA       WF:--------

005 FRCTC_I2C   ----------- ----------- ----------- 00 DF5.091W00AA      FD:-.---

006 BACKLIGHT   ----------- ----------- ----------- 00 YM1.212W00AA      BT:2.1.14.413

007 TEMP_ERR    ----------- ----------- ----------- 00 M5.426C

007 FAN_ERR     ----------- ----------- ----------- 00 (DM0.270EUA)      EFR : -----------

008 VPC_WDT     ----------- ----------- ----------- 00 DD0.181W00AA

008 MEPS_WDT    ----------- ----------- ----------- 00 PK0.181W00AA

008 HOST_WDT    ----------- ----------- ----------- 00 AM0.270WW

008 STBY_WDT    ----------- ----------- ----------- 00

008 AFE_WDT     ----------- ----------- ----------- 00 MID:2A11A30E
                                ◄── PANEL OPERATION TIME
009 TU_BOARD    ----------- ----------- ----------- 00 PID:0E048040

                                            PNL:LC550EUF-FGF1

00021-10573-00025   0000000000000600-0000000000000000
```

Diagnosis Display

4-11. Set to Shipping Condition

1. How to do shipping condition.
   a. Move to **"Digital"** service mode.
   b. Press "8" on remote. It shows green "SERVICE" changes to green "RST-".
   c. Press "mute" on remote. Added green "EXE" after green "RST-" .
   d. Press "0" on remote. Green "EXE-RST" changes to red "EXE-RST". It indicate writing is processing.
   e. After a while, red "EXE-RST" changes to green "SERVICE".
   f. And blink Smart Core WHITE LED. Writing process is done at this point.

SONY

<Another way>
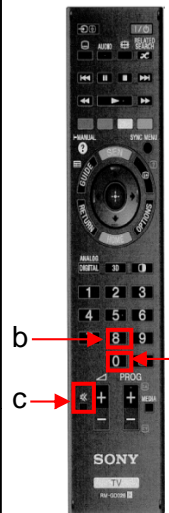
You can set to shipping condition w/o entering Service Mode.
-> "Cursor Up" + "Power Key" on remote.

Remote Commander

4-12. Summary of Service Control

Function	The flow of control
Service mode on	`<Test>+<TV>/<Display><5><Vol Up><Power>`
Service mode off	`<Other>` / `<Power off + on>`
Item up / down	`<1>/<4>`
Category up / down	`<2>/<5>`
Data up / down	`<3>/<6>`
Test reset (テストリセット)	`<8>` + `<Mute>` + `<0>`
HDD Deregistration (HDD登録削除)	From UI Menu: HDD登録削除 (JPモデル) HDD Deregistration (AEP Model)
Execute (実行)	`<10 or 0>`
Write data (書込み)	`<Mute>` + `<0>`
Change module (モジュール変更)	`<Jump>` / `<Option>`

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
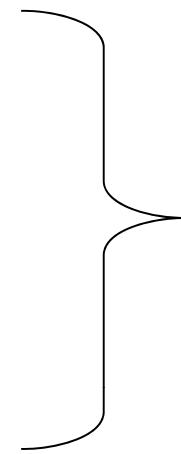W855B/ W857B

4-13. Service Menu Tree

4-13-1. Tree 1

"Digital"

- 001 OP
  - 000 VERS …Software version
- 002 MODEL
  - 000 BOARD CHECK ...Check the main board and tuner board combination
  - 001 SEG ...Select segment information
  - 002 DEST ...Select destination information
  - 003 MODELNAME ...Select Model Name
  - 004 SERIAL ...Can be set Only Once for the new board
  - 005 SHIP_CONFIRM ...Can set correct Product Code
  - 006 VAR_TYPE
- 003 DIG_SRV_MODE
  - 000 TEST_PATTERN …Main Chip Test Pattern
  - 001 MONITOR_MODE …Tuner Monitor
  - 002 FACT_SETTING …Factory shipment settings
  - 003 MODEL_DATA
  - 004 NETWORK
  - 005 TT84 …Only for AEP
  - 006 REC_SETTING
- 004 TUNER
  - 000 A_NOSIG_DET …Analog-RF No signal detection
  - 001 SCAN_COPY …Copy the scan data to USB.
  - 003 ASCOT
  - 004 WYVERN_1
- 007 VCOM …Service item for VCOM Adjustment
  - 000 SRV_OSD_EN
- 008 WIFI …Service item for WIFI (only WiFi model)
  - 000 PING
  - 001 MONITOR
- 009 BT MODE
  - 000 MONITOR

4-13-2. Tree 2

"Chassis"

- 000 WYVERN
  - <omission>
- 001 TUNING
  - <omission>
- 002 D_DEMOD
  - <omission>
- 003 SATELLITE
  - <omission>
- 004 AUDIO
  - 000 MPEG_LV …Level OFFSET for MPEG1-L1/L2.
  - 001 HEAAC_LV …Level OFFSET for HE-AAC.
- 005 TEMPSEN No Use for Service
  - <omission>
- 006 DL
  - 000 PID_DATA_MISMAT
- 007 BT_MODE … Service Item for BT (only BT model)
  - 000 FEATURE
  - 001 FIRST_DIS_CH
  - 002 LAST_DIS_CH
  - 003 3D_BEACON_ENABLE1
  - 004 BT_DEBUG
- 008 CAM … Service Item for CI (only AEP/CH/HK model)
 - 000 CAM_TS_FORMAT
- 009 OBI
  - 000 RSTBOT

No use for Service.

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

4-13-3. Tree 3

"VPC"

000 DATA_COPY	…WB Data Restore Function (Tcon board-to-B board).
000 BU_TRANS	
001 DATA_BAKUP	...WB Data Backup Function (B board-to-Tcon board).
000 BU_FLASH	
002 DATA_INIT	...WB Data initialization (B board-to-Tcon board).
000 WB_INIT	
001 ADJUST	
003 VCOM	…VCOM Adjustment Function.
000 ENABLE	
001 ADJUST	
004 WB	…W/B adjustment
<omission>	
005 TEST_PTN	
<omission>	
006 PANEL	
<omission>	

4-14. How to Enter Self Diagnosis Display

1. Go to TV standby condition by remote commander.
2. Press "i+ (info)", "5", "Volume-" then "TV power" on remote.
3. You can see Self Diagnosis Display.
4. To Exit , Press Power Off and On.
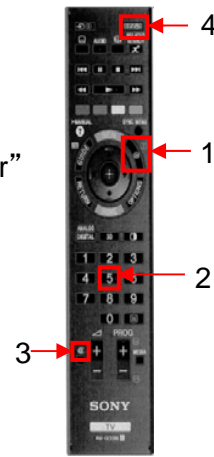
Remote Commander

```
SELF CHECK              Description on Part i          Description on Part ii


002 MAIN_POWE   ----------- ----------- ----------- 00 Model Name     : KDL-46W90AA
003 AFE_I2C     ----------- ----------- ----------- 00 Serial Number  : --------
003 DC_ALERT    ----------- ----------- ----------- 00 Package Number : PKG0.280JPA
003 AUD_PROT    ----------- ----------- ----------- 00 Wired MAC      : 30:F9:ED:04:2C:17
003 HDMI_EQ     ----------- ----------- ----------- 00 Wireless MAC   : F0:F0:02:AA:82:DA
003 TU_DEMOD    ----------- ----------- ----------- 00 USB dongle     : N/A
003 AFE_SPI     ----------- ----------- ----------- 00
004 VLED        ----------- ----------- ----------- 00 <MAIN>          <EXT>
004 LD_ERR      ----------- ----------- ----------- 00 DM1.301JPA      WF:2.0.0.99
005 TCON_ERR    ----------- ----------- ----------- 00 WF1.003W00AA    WF:0B
005 P_ID_ERR    ----------- ----------- ----------- 00 DF1.001W00AA    FD:-.---
006 BACKLITE    ----------- ----------- ----------- 00 YM1.010W00AA    BT:1.2.14.848
007 TEMP_ERR    120823132523 ----------- ----------- 01 M4.992C
007 FAN_ERR     ----------- ----------- ----------- 00 (DM1.301W00AA)
008 VPC_WDT     ----------- ----------- ----------- 00 DD1.016W00AA
008 MEPS_WDT    ----------- ----------- ----------- 00 PK1.016W00AA
008 HOST_WDT    ----------- ----------- ----------- 00 AM01.300JP
008 STBY_WDT    ----------- ----------- ----------- 00
008 AFE_WDT     ----------- ----------- ----------- 00 MID:1C117081
009 TU_BOARD    ----------- ----------- ----------- 00 PID:04020000
010 EMIT_ERR    ----------- ----------- ----------- 00 PNL:LC470EUF-FFP1


00081-000671-00088    0000000000000000570-00000000000002000132
```

Self Diagnosis Display

Service Adjustment

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

Self Diagnosis Display [Part i]

Format of error time stamps
 YYMMDDhhmmss (in UTC)
 Example:
  120823132523 -> Aug 23 2012 13:25:23 UTC
* Only when time is set, an error timestamp is saved.

*Following error is invalid in RB1.
- FAN_ERR
- EMIT_ERR
- TCON_ERR

Error history clear
 <8> -> <0>
Panel operation time clear
 <7> -> <0>

Smart Core Red
LED blinking count

Total Operation Time
[hr] – Boot Count –
Panel Operation Time
[hr]

Error Naming   Error count

```
SELF CHECK
002 MAIN_POWE                                          00
003 AFE_I2C    Error       Error       Error          00
003 DC_ALERT   timestamp   timestamp   timestam       00
003 AUD_PROT   for last    for second  p for 3rd      00
003 HDMI_EQ    recorded    last        last           00
003 TU_DEMOD   error       recorded    recorded       00
003 AFE_SPI                error       error          00
004 VLED       ----------- ----------- -----------    00
004 LD_ERR     ----------- ----------- -----------    00
005 TCON_ERR   ----------- ----------- -----------    00
005 P_ID_ERR   ----------- ----------- -----------    00
006 BACKLITE   ----------- ----------- -----------    00
007 TEMP_ERR   120823132523 ----------- -----------   01
007 FAN_ERR    ----------- ----------- -----------    00
008 VPC_WDT    ----------- ----------- -----------    00
008 MEPS_WDT   ----------- ----------- -----------    00
008 HOST_WDT   ----------- ----------- -----------    00
008 STBY_WDT   ----------- ----------- -----------    00
008 AFE_WDT    ----------- ----------- -----------    00
009 TU_BOARD   ----------- ----------- -----------    00
010 EMIT_ERR   ----------- ----------- -----------    00

00081-000671-00088    0000000000000570-0000000000000132
```

•Panel Operation Time is recorded every 30 min, but Total Operation Time is recorded every 1 hr. Therefore, the panel op. time might become larger than the total op. time.

Count of writing to NAND device:
As vfat partition– As ext4 partition

Self Diagnosis Display (Part ii)

USB dongle:
1. When no Wi-Fi USB dongle is connected, NA is displayed.
2. If you insert/disconnect Wi-Fi USB Dongle during Self Diagnosis Display, press <1> -> <4> on remote commander to refresh MAC address displayed on "USB dongle".
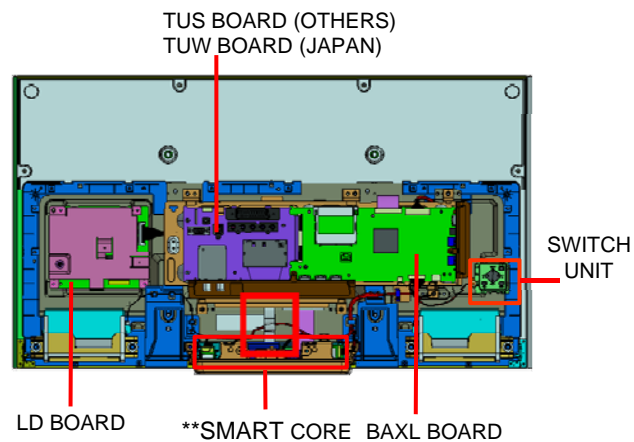- Alternatively, you can re-display Self Diagnosis Display to update the information.

```
Model Name      : KDL-46W90AA
Serial Number   : --------
Package Number  : PKG0.280JPA
Wired MAC       : 30:F9:ED:04:2C:17
Wireless MAC    : F0:F0:02:AA:82:DA
USB dongle      : N/A

<MAIN>          <EXT>
DM1.301JPA      WF:2.0.0.99
WF1.003W00AA    WF:0B
DF1.001W00AA    FD:-.---
YM1.010W00AA    BT:1.2.14.848
M4.992C
DM1.301W00AA
DD1.016W00AA
PK1.016W00AA
AM01.300JP
MID:1C117081
PID:04020000
PNL:LC470EUF-FFP1
```
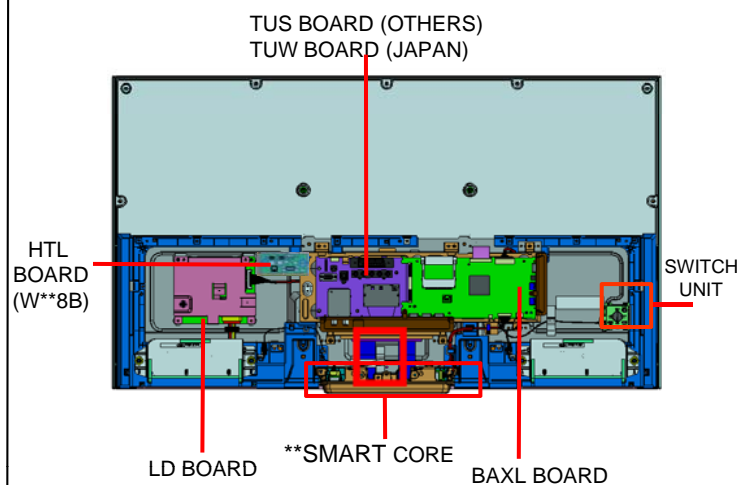
MAC address of Wi-Fi USB dongle.

Main CPU information

External module information

SECTION 2
DIAGRAMS

2-1.CIRCUIT BOARD LOCATION

2-1-1. KDL- 32W*B

TUS BOARD (OTHERS)
TUW BOARD (JAPAN)

SWITCH
UNIT

LD BOARD   **SMART CORE   BAXL BOARD

2-1-2. KDL-42W*B

TUS BOARD (OTHERS)
TUW BOARD (JAPAN)

HTL
BOARD
(W**8B)

SWITCH
UNIT

LD BOARD   **SMART CORE

BAXL BOARD

2-1-3. KDL-50W*B

TUS BOARD (OTHERS)
TUW BOARD (JAPAN)

HTL
BOARD
(W**8B)

LD BOARD   **SMART CORE

BAXL BOARD

SWITCH
UNIT

5-1-4. KDL-55"

TUS BOARD (OTHERS)
TUW BOARD (JAPAN)

HTL
BOARD
(W**8B)

LD BOARD   **SMART CORE

BAXL BOARD

SWITCH
UNIT

** SMART CORE BLOCK <SIDE VIEW>

HSC2-S MOUNT

BT MODULE

CARD, WIRELESS LAN

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B

2-2. Block Diagram
2-2-1. HE model (AEP based)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
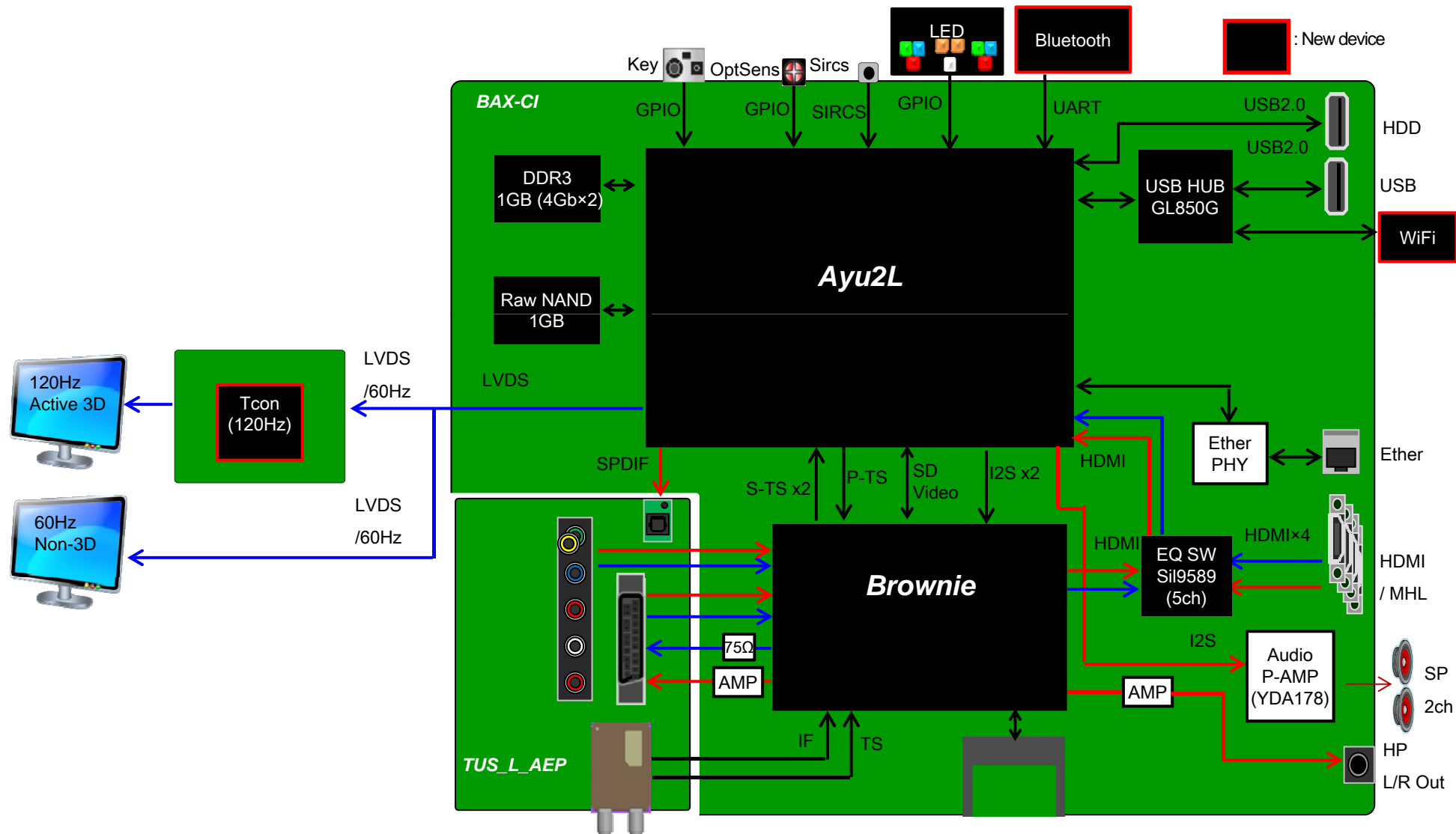
2-2. Block Diagram
2-2-2. HE model (LA_ISDB)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
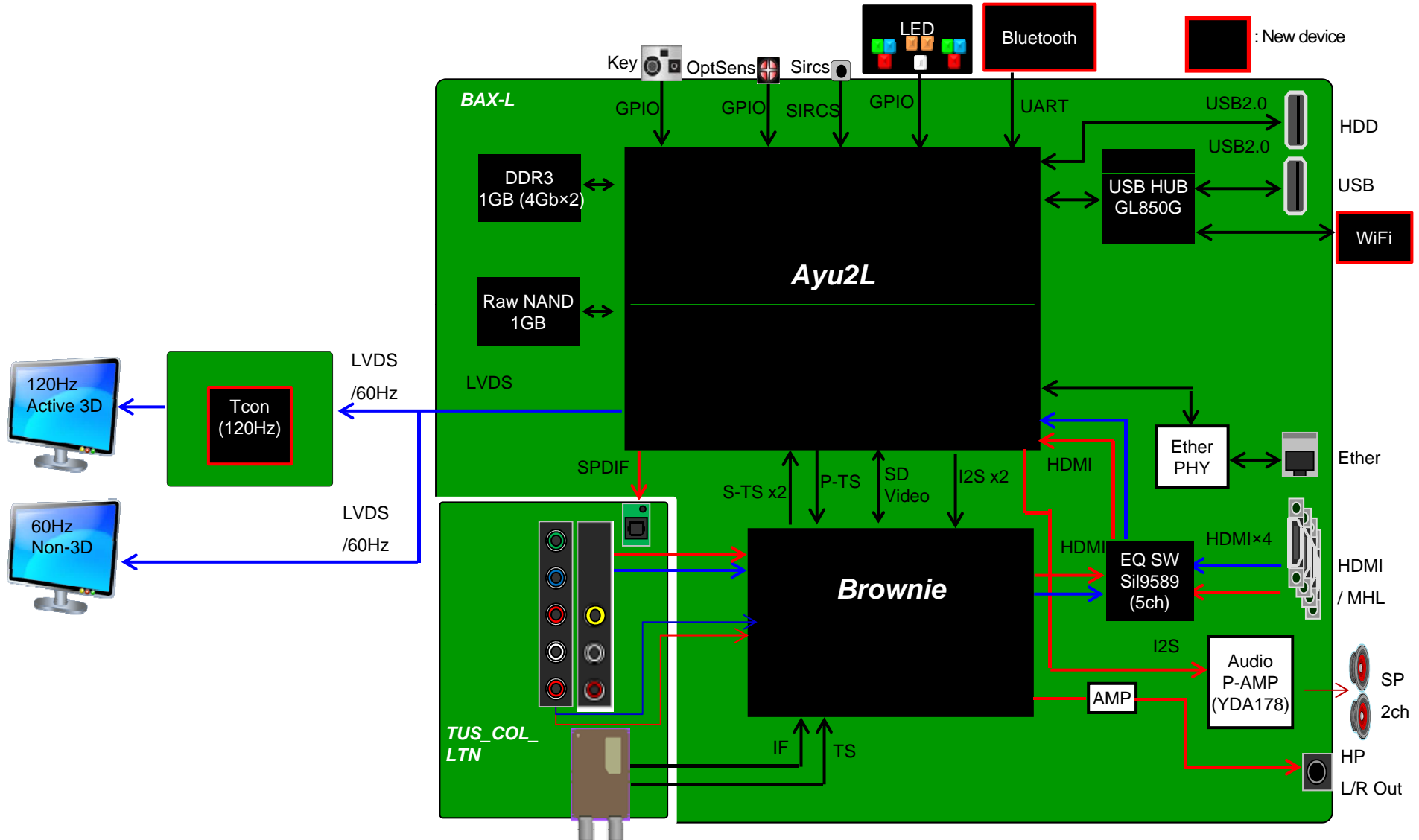
2-2. Block Diagram
2-2-3. HE model (BR)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
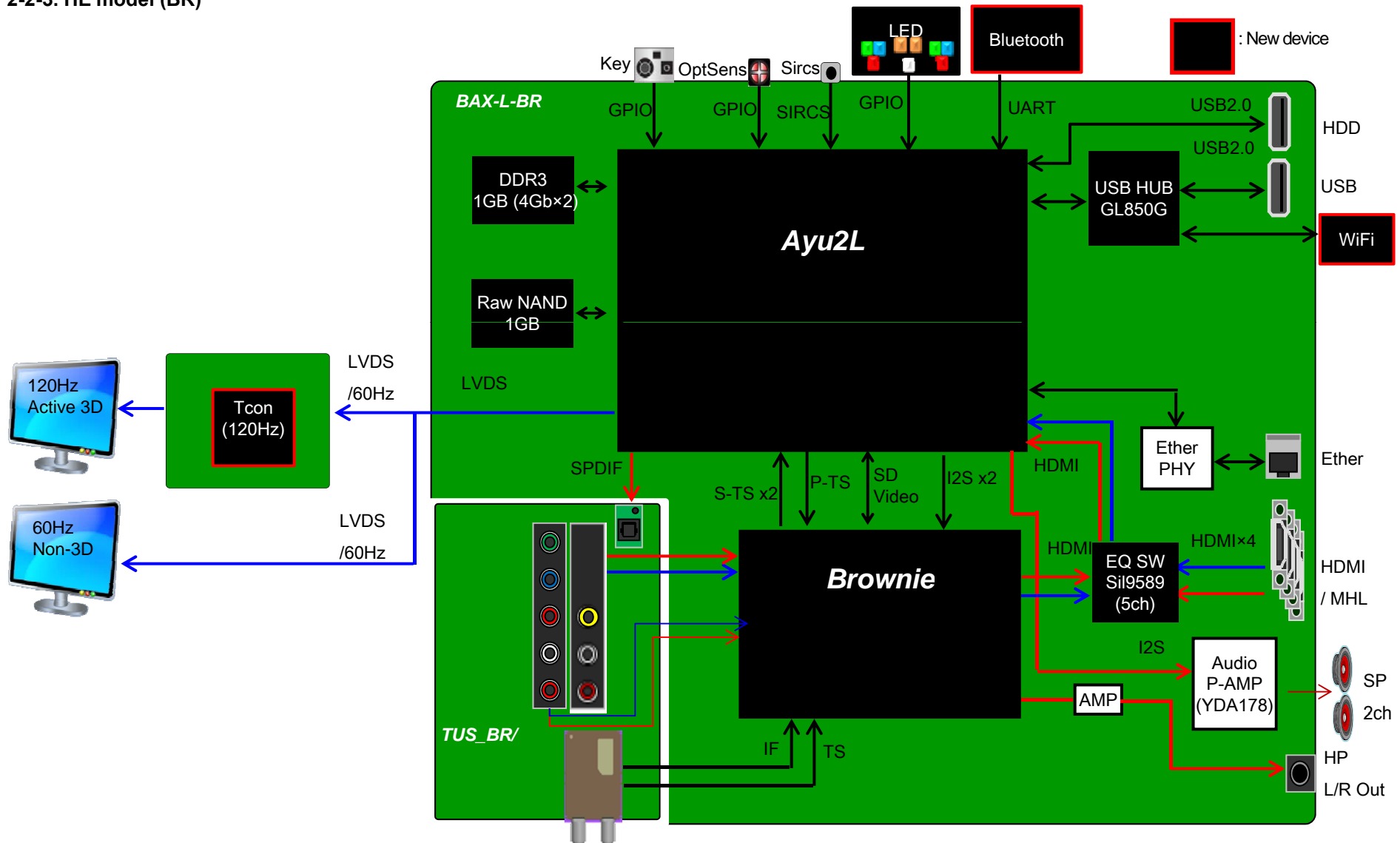
2-2. Block Diagram
2-2-4. HE model (JP)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
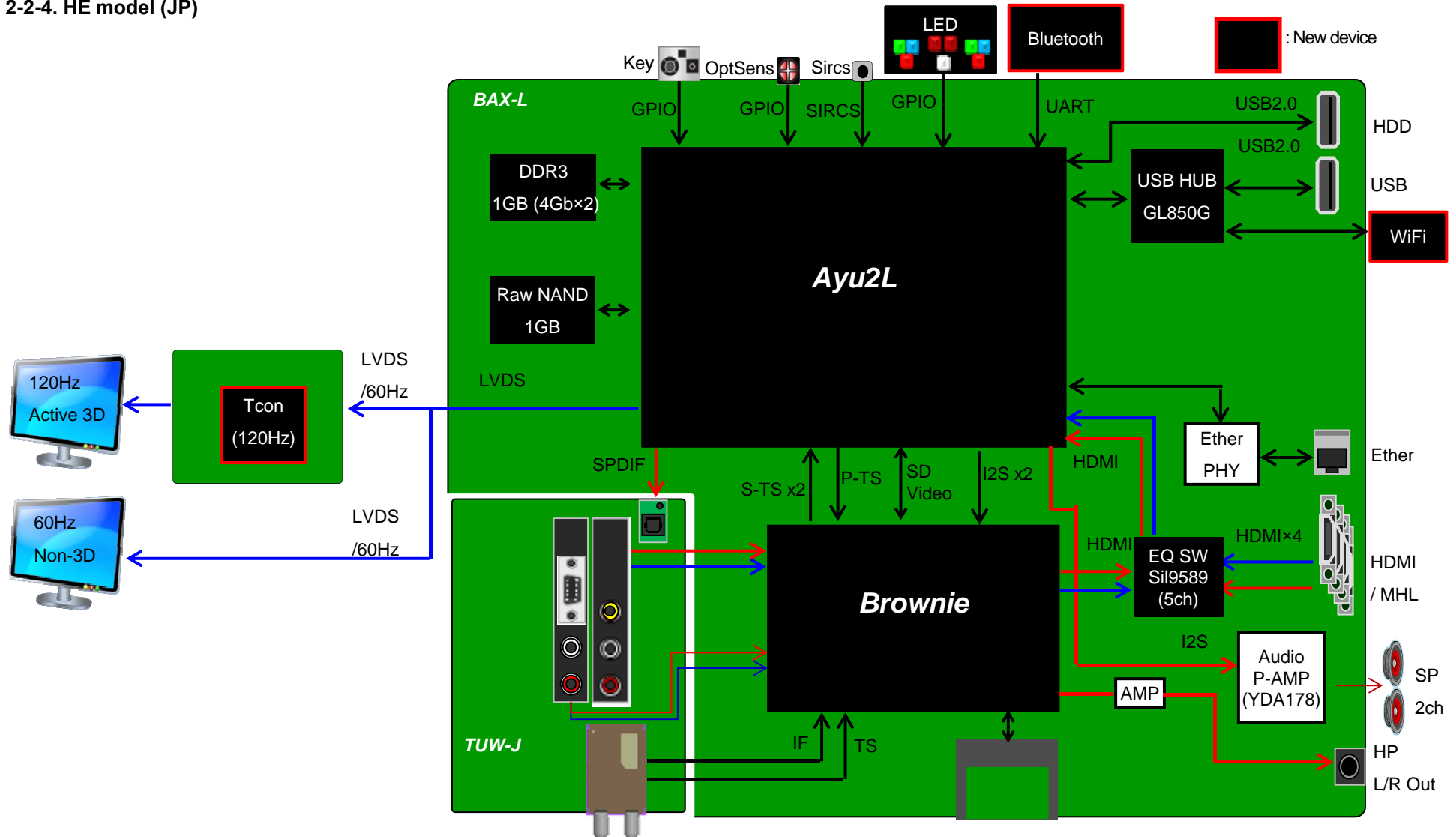
2-2. Block Diagram
2-2-5 HE model (TW)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
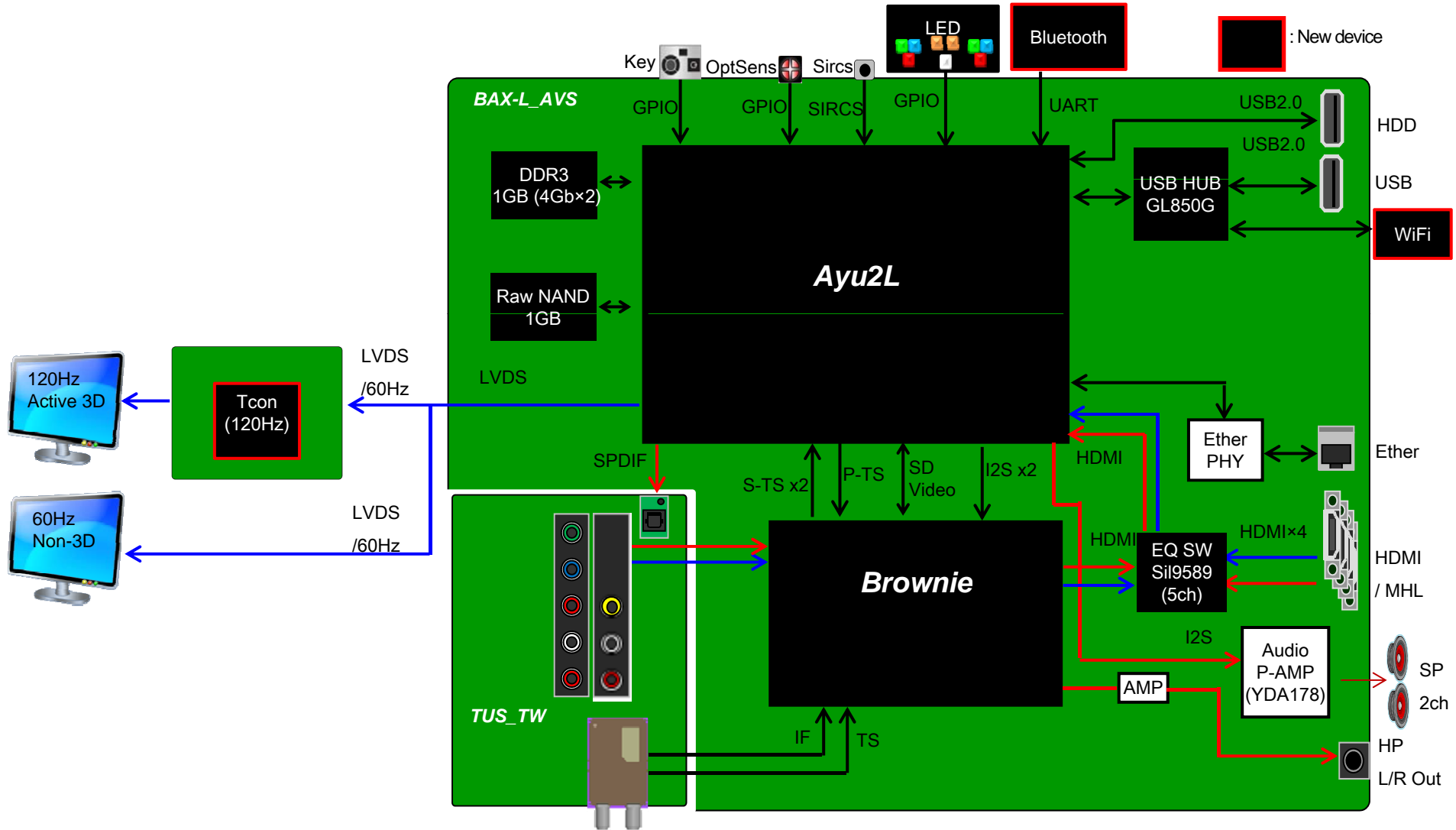
2-2. Block Diagram
2-2-6 HE model (CH,HK)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
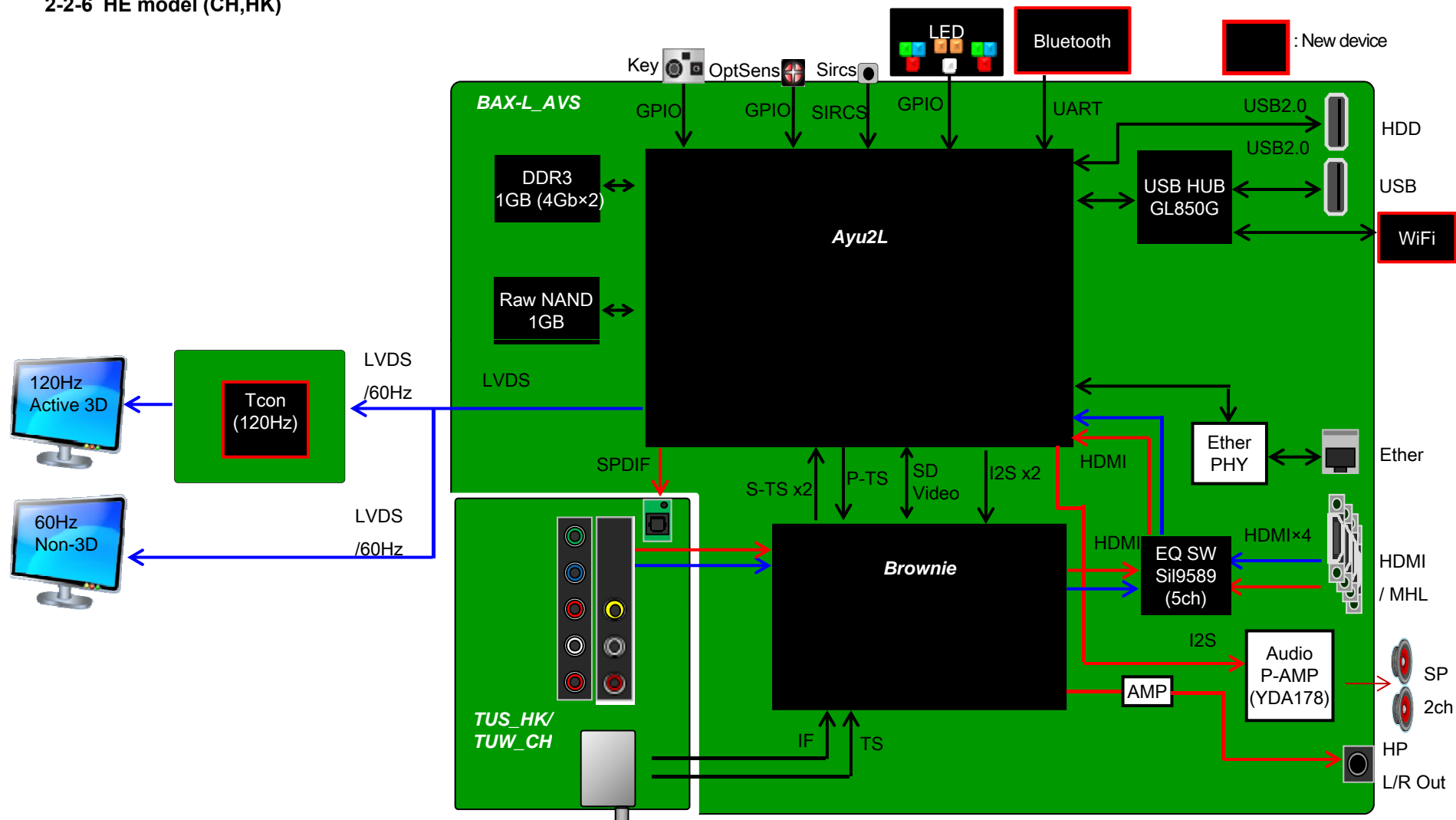
2-2. Block Diagram
2-2-7. HE model (PA)

Diagrams

RB2G *CHASSIS*
W700B/ W705B/ W706B/ W707B/ W708B/ W790B
W800B/ W805B/ W807B/ W808B/ W815B/ W817B/ W828B/ W829A
W855B/ W857B
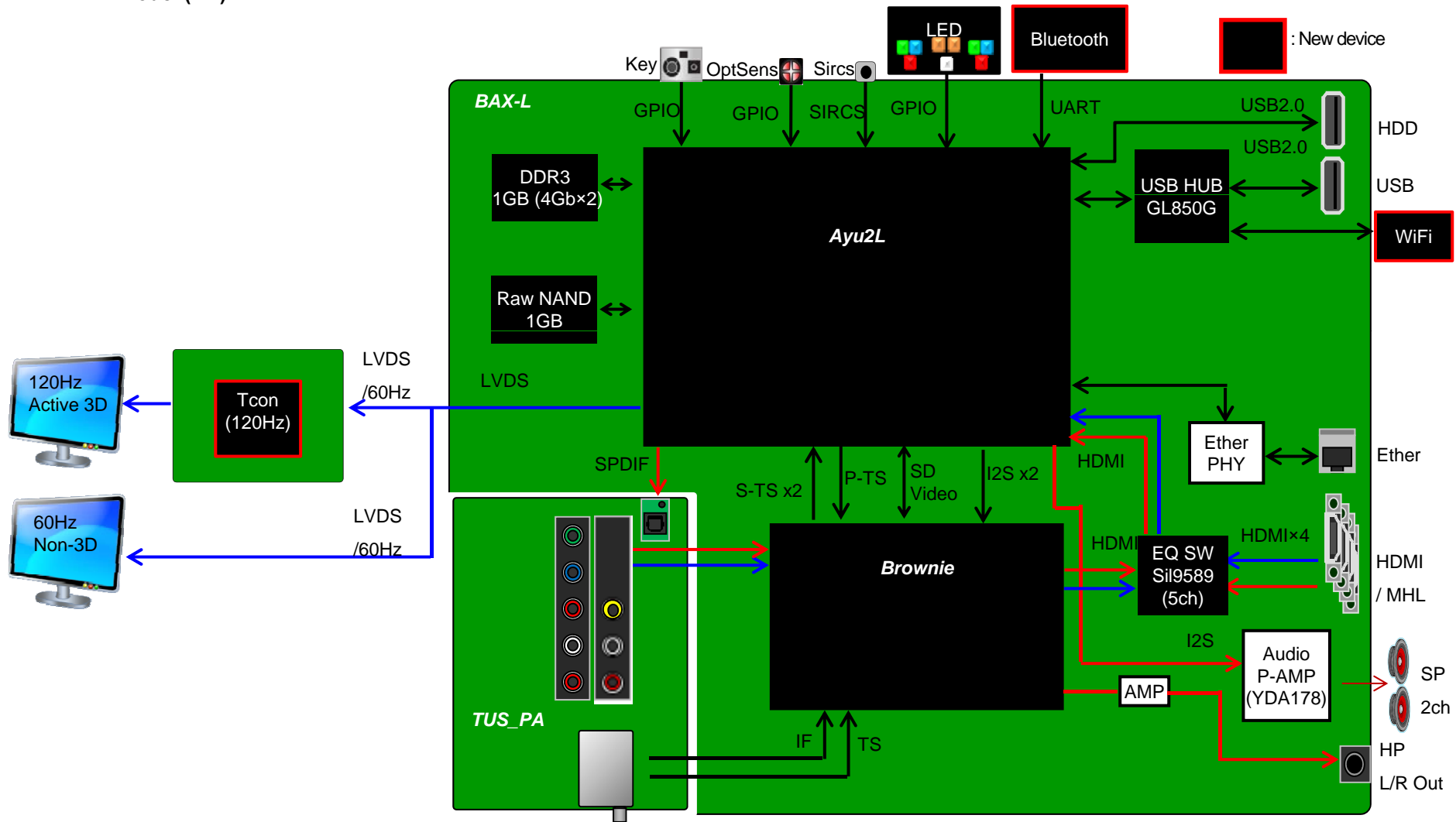
2-2. Block Diagram
2-2-8. HE model (UC)

2-3. Connector Diagram

9-888-147-01

English

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