SAMSUNG

LED-TV

Chassis : U55A

Model : UE40D7000L*
UE46D7000L*
UE55D7000L*

SERVICE Manual

TFT-LCD TV

UED7000L***

Contents

Contents

Printed in Korea

1. Precautions

1-1. Safety Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock.

1-1-1. Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power and DC power jack before servicing.

1-1-2. Servicing the LED TV

1. When servicing the LED TV, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times.
   Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the LED TV to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the LED TV.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistorcapacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check (Figure 1-1):
   WARNING : Do not use an isolation transformer during this test.
   Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

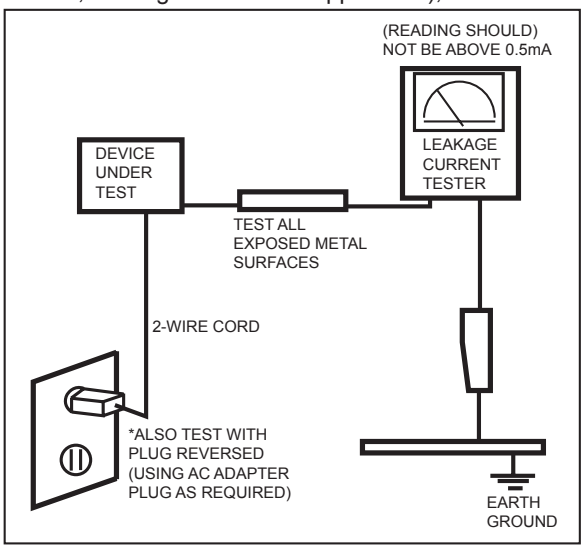


Figure 1-1. Leakage Current Test Circuit

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts.
   The current measured should not exceed 0.5 milliamp.
   Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4. Product Safety Notices

Some electrical and mechanical parts have special safetyrelated characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

1-2. Servicing Precautions

WARNING: An electrolytic capacitor installed with the wrong polarity might explode.
Caution: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.
Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Always unplug the unit's AC power cord from the AC power source and disconnect the DC Power Jack before attempting to:
   (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
2. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
3. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
4. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
5. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to theblades of the AC plug.
   The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
6. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3. Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the LED TV.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4. Installation Precautions

1. For safety reasons, more than a people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the highvoltage cable or the antenna falling over may cause fire or electric shock.
7. When installing the product, leave enough space (0.4m) between the product and the wall for ventilation purposes. A rise in temperature within the product may cause fire.

2. Product specifications

2-1. Product information

2-1-1. Model Comparison

Model			UE7000L*		
Front view	All				
Detail view	All				
	All				
Front Color	All		U-T-CL-M		
Dimensions W x D x H (mm)	40"	Without Stnand	908.6	29.7	524.9
		With Stand	908.6	241.3	600
	46"	Without Stnand	1041.1	29.7	599.4
		With Stand	1041.1	276.5	607.5
	55"	Without Stnand	1232.6	29.7	707.2
		With Stand	1232.6	309.3	789.7
Weight (lbs)	40"	Without Stnand	10.0		
		With Stand	12.0		
	46"	Without Stnand	12.4		
		With Stand	14.3		
	55"	Without Stnand	16.2		
		With Stand	18.6		
Panel Type	All		TFT LCD PANEL 240 Hz		
Internal Memory	All		128 Mbtye		
DDR	All		768 Mbtye		
Feature	All		3D, MOIP, SMART HUB, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

2-1-2. Feature & Specifications

Model	UE40D7000L*
Feature	
▶ Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 3-USB2.0(Media Play), D-SUB , LAN ▶ Brightness : Mega Contrast ▶ PIP(in HDMI 1, 2, 3, 4, Component 1, PC Mode and Sub picture is available only in TV mode(DTV/ATV)) ▶ Dolby Digital+, SRS theater HD	

Specifications		
Item	**Description**	
LCD Panel	40 inch HD 240 Hz	
Scanning Frequency	Horizontal : 67.5 KHz (typ) Vertical : 60 Hz (typ)	
Display Colors	16.7M color	
Maximum resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω , internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	160 MHz	
Active Display Horizontal/Vertical	34.867 × 19.613 inches (885.6(H) × 498.15(V) mm)	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 130 W (Under 0.1 W, Stand by)	
Dimensions Set (W x D x H)	908.6 X 241.3 X 600 mm with stand 908.6 X 29.7 X 524.9 mm without stand	
Weight Set (lbs / kg)	12.0 kg_with stand 10.0 kg_without stand	
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	**UD7000 U.K. & Nordic** :1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tuner **UD7000 other EU** :1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50˚F ~ 104˚F (10˚C ~ 40˚C) Operating Humidity : 10% ~ 80%, non-condensing Storage temperature : -13˚F ~ 113˚F (-25˚C ~ 45˚C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio spec.	- MAX Internal speaker Out : Right/Left(10 W) - Equalizer : 5 Band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	
Note: 3D, MOIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

Model	UE46D7000L*
Feature	
▶ Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 3-USB2.0(Media Play), D-SUB , LAN ▶ Brightness : Mega Contrast ▶ PIP(in HDMI 1, 2, 3, 4, Component 1, PC Mode and Sub picture is available only in TV mode(DTV/ATV)) ▶ Dolby Digital+, SRS theater HD	

Specifications		
Item	**Description**	
LCD Panel	46 inch HD 240 Hz	
Scanning Frequency	Horizontal : 67.5 KHz (typ) Vertical : 60 Hz (typ)	
Display Colors	16.7M color	
Maximum resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω , internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	160 MHz	
Active Display Horizontal/Vertical	40.08189 x 2.546063 inches (1018.08 (H) x 572.67 (V) mm)	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 150 W (Under 0.1 W, Stand by)	
Dimensions Set (W x D x H)	1041.1 X 276.5 X 607.5 mm with stand 1041.1 X 29.7 X 599.4 mm without stand	
Weight Set (lbs / kg)	14.3 kg_with stand 12.4 kg_without stand	
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	**UD7000 U.K. & Nordic** :1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tuner **UD7000 other EU** :1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50˚F ~ 104˚F (10˚C ~ 40˚C) Operating Humidity : 10% ~ 80%, non-condensing Storage temperature : -13˚F ~ 113˚F (-25˚C ~ 45˚C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio spec.	- MAX Internal speaker Out : Right/Left(10 W) - Equalizer : 5 Band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	
Note: 3D, MOIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

Model	UE55D7000L*
Feature	
▶ Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 3-USB2.0(Media Play), D-SUB , LAN ▶ Brightness : Mega Contrast ▶ PIP(in HDMI 1, 2, 3, 4, Component 1, PC Mode and Sub picture is available only in TV mode(DTV/ATV)) ▶ Dolby Digital+, SRS theater HD	

Specifications		
Item	**Description**	
LCD Panel	55 inch HD 240 Hz	
Scanning Frequency	Horizontal : 67.5 KHz (typ) Vertical : 60 Hz (typ)	
Display Colors	16.7M color	
Maximum resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω , internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock rate	160 MHz	
Active Display Horizontal/Vertical	47.622047 x 26.787402 inches (1209.6 (H) x 680.4(V) mm)	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 160 W (Under 0.1 W, Stand by)	
Dimensions Set (W x D x H)	1232.6 X 309.3 X 789.7 mm with stand 1232.6 X 29.7 X 707.2 mm without stand	
Weight Set (lbs / kg)	18.6 kg_with stand 16.2 kg_without stand	
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	**UD7000 U.K. & Nordic** :1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tuner **UD7000 other EU** :1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50˚F ~ 104˚F (10˚C ~ 40˚C) Operating Humidity : 10% ~ 80%, non-condensing Storage temperature : -13˚F ~ 113˚F (-25˚C ~ 45˚C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio spec.	- MAX Internal speaker Out : Right/Left(15 W) - Equalizer : 5 Band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	
Note: 3D, MOIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

2-1-3. Spec Comparison to the Old Models

Model	UD7X		UC7X	
Design				
Display Type	LED TV		LED TV	
Built-in Tuner	O		O	
Resolution	1920 x 1080		1920 x 1080	
LCD Panel	TFT LCD Panel 240 Hz		TFT LCD Panel 240 Hz	
Screen Size	**40" / 46" / 55"**		46" / 55"	
Picture ratio	16 : 9		16 : 9	
Dimensions (W x H x D)	**40**	**35.77 x 9.5 x 23.62(inch)_with stand** **35.77 x 1.16 x 20.66(inch)_without stand**	46	43 x 11.99 x 28.6 (inch)_with stand 43 x 1.04 x 25.71 (inch)_without stand
	46	**41.27 x 10.89 x 26.89(inch)_with stand** **41.27 x 1.01 x 23.87(inch)_without stand**	55	50.52 x 11.99 x 32.90(inch)_with stand 50.52 x 1.04 x 30.0 (inch)_without stand
	55	**48.8 x 12.2 x 31.13(inch)_with stand** **48.8 x 1.16 x 28.11(inch)_without stand**		
Weight (lbs / kg)	**40**	**22.04 lbs (10.0 kg)_with stand** **26.45 lbs (12.0 kg)_without stand**	46	49.5lbs (22.5kg)_with stand 38.94 lbs(17.7kg)_without stand
	46	**31.75 lbs (14.4 kg)_with stand** **27.55 lbs (12.5 kg)_without stand**	55	60.28lbs (27.4kg)_with stand 48.84 lbs(22.2kg)_without stand
	55	**41 lbs (18.6 kg)_with stand** **35.5 lbs (16.8 kg)_without stand**		
Contrast Ratio	MEGA CR		MEGA CR	
Equalizer	5 Band		5 Band	
Auto Volume Control	O		O	
Surround Sound	**ThearterSurround HD**		ThearterSurround	
Speaker Output	10 W + 10 W (40" / 46") 15 W + 15 W (55")		10 W + 10 W (46") 15 W + 15 W (55")	
PIP	O		O	
Double Window	X		X	
Caption	O		O	
Entertainment Mode	X		X	
Game Mode	O		O	
Energy Saving	O		O	
Anynet+	O		O	
Antenna	1(Cable/Air)		1(Cable/Air)	

2-2. Detail Factory Option

※ If you replace the main board with new one, please change the factory option as well.
The options you must change are "Type" and "Front Color".

2-2-1. UE7000L*

Model Name			UE40D7000L*	UE46D7000L*	UE55D7000L*
Panel		Vendor	AML	AML	AML
		CODE	BN95-00438A	BN95-00439A	BN95-00440A
		SPEC	LTJ400HL01-V	LTJ460HQ01-V	LTJ550HQ02-V
SMPS		Vendor			
		CODE	BN44-00427B	BN44-00427B	BN44-00428B
		SPEC			
1	Factory Reset		-	-	-
2	Type		40A2UF7E	46A2UF7E	55A2UF7E
3	Local set		-	-	-
4	Model		UD7000	UD7000	UD7000
5	Tuner		Auto	Auto	Auto
6	DDR		-	-	-
7	Light Effect		OFF	OFF	OFF
8	Ch Table		-	-	-
9	Country		EU	EU	EU
10	Front Color		U-W-Milky	U-W-Milky	U-W-Milky

2-3. New Functions Explanation

2-3-1. Smart Hub

■ '11 Smart Hub vs '10 Internet@TV

'11 Smart Hub

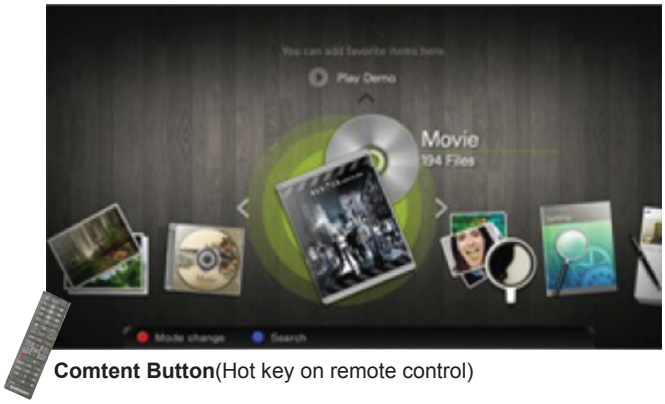
- Concepts and Features Launcher : Internet TV, Media Play, Content Button
- Search All : Provides integrated search results for a variety of areas
- Full Browser : PC's Web browser, such as access to common web site content and applications so you can see

'10 Internet@TV

- Internet TV, Media Player, content button configured separately
- Launcher - internet widget
- Gallery - Free widget download / install
- Horizontal / Vertical view modes

Internet@TV Button(Hot key on remote control)

Media. P Button(Hot key on remote control)



Comtent Button(Hot key on remote control)

■ Smart Hub Concepts

Gateway to access all type of diverse content

- It's all integrated to guide you to easier diverse entertainment choice
- Control your entertainment life with easy and simple user friends UI
- Access to driverse Apps that are adding every day
- Customize your TV, by App grouping & sorting to your taste

2-3-2. Full Browser

■ Concepts and Features

Full Browser ?

Using this App., you can contact the web site and contents just like web browser of PC.

❶ Favorite

- Show the list of sites that user frequently accessed.(text list or thumbnail)
- User can export and import favorites list using USB.

❷ History

- Show and record the list of the sites that user had accessed.

❸ Window list

- It can show the 6 windows to the max.
- User can select window list to see the windows that opened.

❹ Zooming

- User can zoom in/out the windows.

❺ Tab mode

- User can focus data that linked using 4 direction button on internet websites.

❻ Pointer mode

- If User select yellow color key on Tab mode, Change to pointer mode.
- User can select and control data that can not be selected on Tab mode(ex. Volume button on Flash contents) using pointer that control by 4 direct button.

❼ Reading tools

- If user has a hard time reading because of small font size or advertisement, select the reading tool to display only text and image.

❽ Clean site

- Users can access only to websites set as "Clean Site" for safety. (ex. children care)
  This function can be set through the below path.
  "Option" → "Setting" → Select "Clean site" When users try to first access, the password is "0000".

❾ Private Browsing

- This function can be set throug the below path.
  "Option" → "Setting" → Select "Private Browsing".
  After setting this function, all accessing sites will be stored in the user's web history.

2-3-3. Seach all

■ Function

User can access the service using direct key on remote control during TV viewing or using other App.

Supported four catecories

- Your Movie: recommended movie or TV program
- Top Application: popular Application list
- Top Searched: popular searsh list
- Search History

The application provides Web and SNS based search engine.

- YouTube
- Facebook
- Your Movie
- Samsung Apps
- AllShare
- Web

2-3-4. AllShare

■ About AllShare™

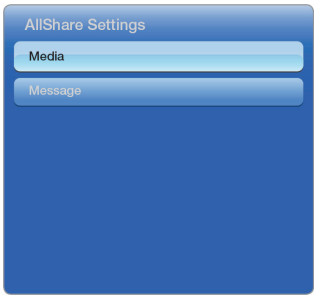
AllShare™ connects your TV and compatible Samsung mobile phones/ devices through a network. On your TV, you can view call arrivals and SMS messages, and received by your mobile phones. In addition, you can play media contents including videos, photos, and music saved on your mobile phones or the other devices (such as your PC) by controlling them on the TV via the network. Additionally, you can use your TV for browsing web pages on your mobile phones.

For more information, visit “www.samsung.com” or contact the Samsung call center. Mobile devices may need additional software installation. For details, refer to each device’s user’s guide.

■ Setting Up AllShare™

MENU → Network → AllShare Settings → ENTER

01. AllShare Settings



Media (On / Off) : Enables or disables the media function. When the media function is on, you can control Media contents play using mobile phones or other devices that support DLNA DMC.

Message (On / Off) : Enables or disables the message function. (for call arrivals, and SMS messages received by your mobile phones)

02. Media / Message

Shows a list of mobile phones or connected devices which have been set up to use the Media or Message function with this TV.

The Media function is available in all devices which support DLNA DMC.

- Allowed / Denied : Allows/Blocks the devices.
- Delete : Deletes the devices from the list.
  This function only deletes the name of the device from the list. If the deleted device is turned on or tries to connect to the TV, it may appear on the list again.

03. Using the Message Function

You can view call arrivals and SMS messages received by your mobile mobile phone, through the alarm window, while watching TV.

NOTE

- To disable the alarm window, set Message to Off in the AllShare Settings.
- Whether OK is selected or not selected after a message has appeared once, the message will be deleted from the alarm window.
- When a message from an unknown mobile phone is displayed, select the mobile phone in the Message menu in AllShare Settings, and then select Denied to block the phone.

Message View

If a new SMS message arrives while you are watching TV, the alarm window appears. If you select OK, the contents of the message are displayed.

You can configure the viewing settings for SMS messages on your mobile phones. For the procedures, refer to the mobile phone manual.

Some types of characters may be displayed as blank or broken characters.

Call Arrival Alarm

If a call arrives while you are watching TV, the alarm window appears.

Schedule Alarm

You can view scheduled events in the alarm window while you are watching TV.

You can configure viewing settings for scheduled contents on your mobile phones. For the procedures, refer to the mobile phone manual.

Some special characters may be displayed as blank or broken characters.

04. Using the Media Function

An alarm window appears informing you that media contents (videos, photos, music) sent from a mobile phone will be displayed on your TV. The contents are played automatically 3 seconds after the alarm window appears. If you press the **RETURN** or **EXIT** button when the alarm window appears, the media contents are not played.

NOTE

- The first time a device accesses your TV through the media function, a warning popup window appears. Press the **ENTER** button to select Allow. This permits the phone to access the TV freely and use the Media function to play content.
- To turn off media contents transmissions from a mobile phone, set **Media** to **Off** in the **AllShare Settings**.
- Contents may not play on your TV depending on their resolution and format.
- The **ENTER** and ◀ ▶ buttons may not work depending on the type of media content.
- Using the mobile device, you can control the media play. For details, refer to each mobile's user's guide.

■ AllShare™ setup and checklists

Problem	Possible Solution
Deleted mobile phone list showing up again.	• [Menu > Application > Content View > AllShare™ > Message] Where need to block the added mobile phone or device again. Because deleted device would be added again if that device turns on or attempt to approach.
Want to turn off the function of receiving message from the mobile phone.	• One of the setup lists of AllShare™, you need to turn 'Message' list to 'Off'.
Want to turn off the function of receiving Media from mobile phone or home network devices on TV.	• One of the setup lists of AllShare™, you need to turn 'Media' list to 'Off'.
Want to add deleted mobile phone or home network devices again.	• Power on the deleted mobile phone or home network devices. Set up the network and activate the home network function, check the connection at AllShare™.
Several same names of TV shows up on mobile phone.	• At AllShare™ set up menu, change the name of the TV.
Messages/schedules/notifications from unknown mobile phone show up on TV.	• [Menu > Application > Content View > AllShare™ > Message] Where You can block the unknown mobile phone.
SMS message notification shows up in small window.	• Besides watching TV, If some other function is activating, SMS message will show up in small icon. • You need to finish the function and exit to Watching TV mode in order to display SMS message in large window.
Received SMS message is not showing up on TV.	• Check if TV's network setup is all right according to setup guide. • Check if mobile phone's network (Wi-Fi) is activated. • Among the **AllShare™** setup lists , check if the Message is 'on'. • Check if the mobile phone number is showing up on **AllShare™ message list**. • Check if the TV's showing up on mobile phone's setup lists.
Contents that play on mobile phone doesn't play on TV.	• Contents formats play on TV is exactly same as Media Play format. That means some contents may not play according to its resolution and format
Suddenly TV display is changed, unwanted movie/picture/music is playing	• Before the device play, Block the device at AllShare™ media list. Or press 'return' or 'exit' button of remote controller so that the device may not play.
The name of the TV is not appearing while try to play media on mobile phone.	• Check the network of TV. • Activate the network (Wi-Fi) of mobile phone and connect to home network . • Check if the setup list of media on AllShare™ is 'on'. • Check if mobile phone is blocked on media list . If blocked, change it to permition.
Movie is not playing or disconnected.	• High resolution of Movie may not play when Wi-Fi network is not in good condition.

■ Troubleshooting about new functions

Problem	Possible Solution
• AllShare (General)	
I see no device connected to AllShare.	• To use a device connected to AllShare, the device must be connected to PC Share Manager which is the DLNA server for MediaPlay and to a cell phone that has the Connected Home or Screen Share function which are found on Samsung Smartphones. • Check that the PC Share Manager is enabled, the Samsung TV is set to allow connections and the ScreenShare function on the connected cell phone is enabled. • To use the cell phone's Connected Home function, check that the shared folder is set and the Share mode is 'On.'
I tried to play a video from my cell phone using the Connected Home function on the Samsung TV but the video would not display on the TV.	• When a video is transmitted from Connected Home to a TV for the first time, the settings screen that allows transfer to a TV is displayed. • Check that the transfer was not set to be rejected on this settings screen. If you have set the cell phone to 'Blocked' in the 'Media' options of the AllShare settings, please change the setting to 'Unblocked' and retry.
A video that can be played on my cell phone cannot be played on my TV.	• Please check the resolution and display format provided by MediaPlay of the TV.
I cannot resume playback of a video using Connected Home.	• The resuming function is not supported for a video played on a cell phone.
When I play a video through Connected Home, I get intermittent picture loss.	• An 801.11b/g bandwidth network is used between a cell phone and a sharing device. There may be frequent buffering for HD quality videos, this also depends on the condition of the wireless connection. • Please optimize your wireless Internet environment settings (avoid using wireless Internet or bluetooth altogether if possible) or lower the picture quality of the video.
• AllShare (Notification)	
Can all devices with the DLNA function be recognized through Notification?	• Only Samsung software and devices with the DLNA server function can be recognized through Notification.
Can I use all the services related to DLNA?	• Presently, you can only use the services related to ScreenShare and MediaPlay. We will launch a new DLNA service in the future.
The notification screen that appears after a device connects disappears within a few seconds. How can I access this connected device again?	• The DLNA Notification is only displayed when a device is first connected to a TV. To access the device again, please use the AllShare menu.
• AllShare (ScreenShare Client)	
I cannot find the RUIS on my cell phone.	1. Check that the cell phone is connected to the wireless sharing device correctly. 2. Check that the DTV is connected either using a network cable or wirelessly to the wireless sharing device correctly. 3. Confirm the IP address and subnet mask to ensure that the cell phone and DTV are connected to the same network. 4. Check that the RUIS on the cell phone is enabled. 5. If the RUIS on the cell phone is enabled, please disable it and then enable it again.

Problem	Possible Solution
• **AllShare (ScreenShare Server)**	
I cannot find the remote control service provided by the ScreenShare Server from the ScreenShare Client.	1. Check that the ScreenShare Client device is correctly connected to the network of the sharing device that the DTV is connected to. 2. Run network test in the network setup menu and confirm that MAC Address, IP Address, Subnet, Gateway, DNS Server and Gateway Ping each shows a success message. 3. In the network setup menu, check that the ScreenShare Client and ScreenShare Server are on the same subnet. - You can confirm they are on the same subnet by checking the IP address, subnet mask and gateway address of the TV and ScreenShare Client as follows: - If the IP address of the DTV is 10.88.83.4 and the subnet mask is 255.255.255.0, the first six digits of the ScreenShare Client's IP address must be the same (10.88.83) as that of the DTV, and the subnet mask and gateway address must be the same as the DTV. - If the IP address of the DTV is 10.88.83.4 and the subnet mask is 255.255.0.0, the first four digits of the ScreenShare Client's IP address must be the same (10.88) as that of the DTV, and the subnet mask and gateway address must be the same as the DTV. 4. Move from the Allshare screen to the Setup screen, and open the Setup menu to check if the ScreenShare Client is connected to the same ScreenShare Server as the TV name shown in the Setup options. 5. Move from the Allshare screen to the Setup screen, and open ScreenShare to check that the device, ScreenShare Client, is found on the list at the right side and is set to "Allowed."
The DTV did not update after pressing buttons on the remote control that uses the remote control service on the ScreenShare Client.	• Check that the TV is turned on. You cannot turn on the TV using the remote control service (on the ScreenShare) when the TV is turned off.

2-3-5. Media Play

■ Media Play

01. Functions that are not supported when connecting to a PC through a network:

- Sorting files by preference in the Photos, Music, and Videos folders.
- The ◄◄ **(REW)** or ►► **(FF)** button while a movie is playing.
- Divx DRM, Multi-audio, embedded captions are not supported.

02. When you use Media Play mode through a network connection, depending on the functions of the provided server

- The sorting method may vary.
- The scene search function may not be supported.
- The Play Continuously function, which resumes playing of a video, may not be supported.
- The Play Continuously function does not support multiple users. (It will have only memorized the point where the most recent user stopped playing.)
- The ◄ or ► buttons may not work depending on the content information.

– If you experience any file stuttering issue while playing a video over a wireless network, we recommend using a wired network."

● Supported Subtitle Formats

Name	File extension	Format
MPEG-4 time-based text	.ttxt	XML
SAMI	.smi	HTML
SubRip	.srt	string-based
SubViewer	.sub	string-based
Micro DVD	.sub or .txt	string-based

● Supported Video Formats

File Extention	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.avi *.mkv	AVI MKV	Divx 3.11/4.x/5.1/6.0	1920 x 1080	6 ~ 30	8	MP3/AC3 /LPCM /ADPCM /DTS Core
		XviD	1920 x 1080	6 ~ 30	8	
		H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
		Motion JPEG	640 x 480	6 ~ 30	8	
*.asf	ASF	Divx 3.11/4.x/5.1/6.0	1920 x 1080	6 ~ 30	8	MP3/AC3 /LPCM /ADPCM /WMA
		XviD	1920 x 1080	6 ~ 30	8	
		H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
		Motion JPEG	640 x 480	6 ~ 30	8	
*.wmv	ASF	Window Media Video v9	1920 x 1080	6 ~ 30	25	WMA
*.mp4	MP4	H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	MP3/ADPCM /AAC
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
		XVID	1920 x 1080	6 ~ 30	8	
*.3gp	3GPP	H.264 BP/MP/HP	1920 x 1080	6 ~ 30	25	ADPCM/AAC /HE-AAC
		MPEG4 SP/ASP	1920 x 1080	6 ~ 30	8	
*.vro	VRO VOB	MPEG2	1920 x 1080	24/25/30	30	AC3/MPEG /LPCM
		MPEG1	1920 x 1080	24/25/30	30	
*.mpg *.mpeg	PS	MPEG1	1920 x 1080	24/25/30	30	AC3/MPEG /LPCM/AAC
		MPEG2	1920 x 1080	24/25/30	30	
		H.264	1920 x 1080	6 ~ 30	25	
*.ts *.tp *.trp	TS	MPEG2	1920 x 1080	24/25/30	30	AC3/AAC /MP3/DD+ /HE-AAC
		H.264	1920 x 1080	6 ~ 30	25	
		VC1	1920 x 1080	6 ~ 30	25	

03. Other Restrictions

NOTE

- If there are problems with the contents of a codec, the codec will not be supported.
- If the information for a Container is incorrect and the file is in error, the Container will not be able to play correctly.
- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table above.

Video Decoder	Audio Decoder
• Supports up to H.264, Level 4.1 • H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported. • XVID, MPEG4 SP, ASP: – Below 1280 x 720: 60 frame max – Above 1280 x 720: 30 frame max • GMC is not support.	• Supports up to WMA 7, 8, 9, STD, 9 PRO • WMA 9 PRO is not supported the 2 channel excess multi channel or the lossless audio • WMA sampling rate 22050Hz mono is not supported. ReadlAudio 10 lossless is not supported

2-3-6. 3D Display

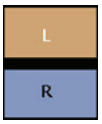
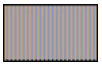
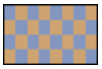
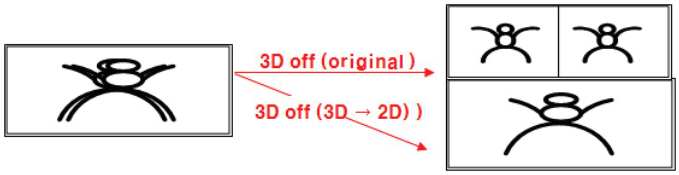
■ What is 3D Display?

- A system that display 3D images artificially
- How ? ➙ Using binocular time delay
  ❶ Left eye recognizes left image, right eye recognizes right image.
  ❷ Human eyes be far away each other 65mm horizontally.
  So each eye feels a little bit of time delay of left and right information.
  Human brain merges those images and can feel three-dimensional.

Side by side ◄

■ 3D OSD terms

3D Format : There are several 3D formats existing on how to merge Left and Right images.

Format	Input images	explanation	Input source	notes
Frame Packing		• Inserting Blink Active Space between Left and Right images. * Full resolution : 1920 x 1080 x 2 (Left and Right each) + Blink = 1920 x 2205	HDMI 1.4	1. HDMI 1.4 standard format 2. Automatically activating (Not in the menu or UI) 3. BD format
Top & Bottom		• In 1 frame, Left image on the upper half, Right image on the bottom half. * Vertically half resolution	HDMI, USB, DTV(VOD), PC	3D Broadcasting Format
Side by Side		• In 1 frame, Left image on the left half, Right image on the right half. * Horizontally half resolution	HDMI, USB, DTV(VOD), PC	3D Broadcasting Format
Line by Line		• In 1 frame, every horizontal line, Left and Right image in turn. * Vertically half resolution	PC	1. MPEG encoding impossible 2. Only in PC
Vertical Stripe		• In 1 frame, every vertical line, Left and Right image in turn. * Horizontally half resolution	PC	1. MPEG encoding impossible 2. Only in PC
Checker Board		• In 1 frame, every pixel, Left and Right image in turn. * Half resolution both vertically and horizontally	PC	1. MPEG encoding impossible 2. Only in PC
Frame Sequential		• Left And Right image in turn in every frame. • Full resolution spatially but Half resolution timely.	PC	
2D → 3D	Extract Left and Right images artificially from normal 2D contents input and show it in 3D. (a function of TV)			
3D → 2D	When watching 3D TV (input is 3D source) , if a viewer feels tired of watching 3D TV, a viewer can change the TV into 2D. (In this case , TV only displays one of Left and Right images)			
Depth	Only activating in '2D → 3D Mode' Control the depth of 3D. 1~10 steps, Tiredness goes higher as depth goes higher.			
L/R correction	Switch the position of Left and Right images so that correspond with 3D glasses.			
3D Disable (3D off)	'3D off' has below meanings according to present modes .			
	(1) In 2D → 3D Mode : coming back to 2D 			
	(2) In 3D mode 			

■ 3D Supporting Formats

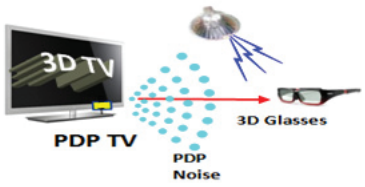
	DTV	Internet VOD	ATV/AV	Comp.	A.PC	HDMI	USB_PC	USB (Photo)	USB (Video)
Top-Bottom	Over 720P	All Resolution		Over 720P	-	Over 720P	Over 720P	All Resolution	All Resolution
Side by Side	Over 720P	All Resolution		Over 720P	-	Over 720P	Over 720P	All Resolution	All Resolution
Line by line	-	-			-	-	PC Resolution	-	-
Vertical Stripe	-	-			-	-	PC Resolution	-	-
Frame Seq.	-	-			-	-	PC Resolution	-	-
Checker BD	-	-			-	-	PC Resolution * 60Hz only	-	-
2D → 3D	All Resolution								
MPO	-	-	-	-	-	-	-	All Resolution	-
SAVE(SS.TB)	-	-	-	-	-	-	-	-	All Resolution
HDMI 1.4a	-	-	-	-	-	-	-	-	-
M2TS(3D)	-	-	-	-	-	-	-	-	All Resolution

Be Supported Only LED/PDP 7000/8000/9000(Genoa-P)

- ■ : If the resolution is below 1920 x1080,PC Format(LL, VS, ChBD)and USB photo support only original size
- ■ : The edge of the Side by Side and Top-Bottom images are processed by Black (only component)
- USB photo : If the resolution is below 1920x1080, L/R images must be placed in the center of the screen

■ 3D Glasses Enhancement in 2011

3D Format : There are several 3D formats existing on how to merge Left and Right images.

Item	RF	Auto On / Off
Purpose		
	To avoid external IR nois interference	No power key
Improvement		
Remarks	Dual Direction Communication	Wear glasses → Turn on Take off glasses → Turn off Automatically

2-3-7. Built in Wi-Fi

■ Built in Wi-Fi

Gives more convenient set-up and optimize to use Ethernet.

01. Smart TV Accessory - Wireless Router

Easy Set-up & Optimized Solution for using Ethernet

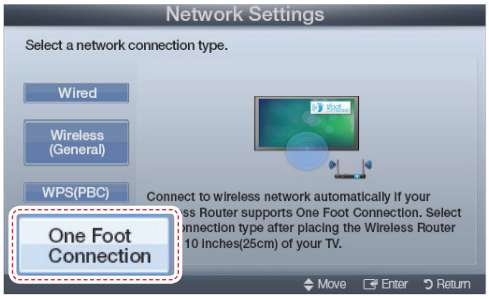
- **One Foot Connection**
  Establish a Wi-Fi connection to any compatible device placed within 25 cm distance (Samsung Patent pending)
- **USB configuration**
  Insert USB to router Insert USB to Samsung TV
  Configurations is safely stored on USB drive and restored on TV

■ Network Settings (OFC, One Foot Connection

The One Foot Connection function lets you connect your Samsung TV automatically to Samsung wireless APs.
If your non-Samsung AP does not support One Foot Connection, you must connect using one of the other methods.

01. How to set up using One Foot Connection

1. Go to Network Settings screen.
   To enter it, follow the directions of Network Settings.
2. Select the One Foot Connection.
3. Place the AP in parallel with the Samsung Wireless LAN Adapter giving a gap no larger than 25 cm.
4. Wait until the connection is automatically established.
5. The network test screen appears, and network setting is done.
6. Place the AP in a desired location.



■ Network Settings (Plug & Access)

Plug & Access function lets you connect your Samsung wireless Router to Samsung TV easily by using USB memory. If your non-Samsung AP does not support **Plug & Access**, you must connect using one of the other methods.

* You can check for equipment that supports Plug & Access on www.samsung.com.

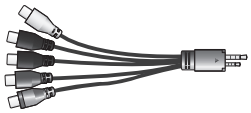
How to set up using Plug & Access Function

1. Turn on the power of AP and TV.
   Insert USB memory stick into our Samsung wireless APs and checking AP's LED status (blinking on).
2. Then take USB memory out and insert your USB memory into Samsung TV.
3. Wait until the connection is automatically established.
4. If **Plug & Access** does not connect your TV to your AP, a pop-up window appears on the screen notifying you of the failure. If you want to try using Plug&Access again, reset the AP, disconnect the Samsung Wireless LAN Adapter and then try again from **Step 1**. You can also choose one of the other connection setup methods.
5. The network test screen appears, and network setting is done.
6. Place the AP in a desired location.
7. If the AP settings change or you install a new AP, you must perform the **Plug & Access** procedure again, beginning from **Step 1**.

Problem	Possible Solution
• Network Setup	
How do I setup the network?	• Click the [Menu] button and open [Setup] to select [Network]. Configure wired or wireless network settings. For details, please refer to the IB.
How do I check the network status?	• Select [Menu] → [Setup] → [Network] and run [Network Test] to see test results and check the network status.
In a network test over a wired connection, the second items which include the IP address, subnet, gateway and DNS server fail.	• If the IP address, subnet mask and gateway address were typed in manually, check that valid values were entered. (For example, 0.0.0.0 is not valid for an IP address, subnet mask or gateway address.) If the IP address the user entered in is invalid, change it to a valid IP address.
In a network test over a wired connection, the third item, gateway ping fails.	1. Check that the network cable is connected to the TV correctly. 2. If the TV is connected correctly, check whether the IP address is automatic or manual. 3. If the IP is automatic and connected to a sharing device, check the settings of the sharing device (AP) that is using a cable connection, or consult the corresponding Internet service provider. 4. If the IP is manual, check if the IP address is entered correctly. (Here, the user should confirm if the manual IP address entered in is valid.)
cannot connect to a wireless network.	1. If an encryption key must be entered in to connect to a sharing device, please check that the correct password set for the sharing device is entered. 2. Search surrounding sharing devices to see if there is a sharing device with the same SSID by selecting [Wireless Network Setup] and [Select Network]. If there is a sharing device with the same SSID, try to connect to this device. 3. If the IP address is set to automatic and you cannot connect to the sharing device using option 1 or 2, check the settings of the sharing device to see if the DHCP server function on the sharing device is enabled. If disabled, activate the function. (For details on how to set up the sharing device, see the manual for the corresponding sharing device.) 4. If you still cannot connect to the sharing device after confirming options 1, 2 and 3, reset the sharing device and try again.
When using a wireless network, the user's wireless sharing device cannot connect to the PBC (WPS).	1. Check if the sharing device of the user supports WPS. (Refer to the manual of the sharing device.) 2. Check if the user pressed the PBC button on the sharing device. 3. If there is another sharing device with WPS running nearby, a connection cannot be made. Please retry after 2 minutes. 4. Reset the sharing device and retry. 5. If the sharing device of the user is not Wi-Fi certified, it may not be able to connect using WPS.
The auto-configuring sharing device cannot be connected to automatically through a wireless dongle. (Here, the user's sharing device must support auto-configuration.)	1. Check if the sharing device of the user supports auto configuration. (For a list of sharing devices, refer to the IB or website.) 2. If the sharing device of the user supports auto configuration, place the sharing device as close as possible to the wireless dongle on the TV and try to re-establish the connection. (Must be placed close to the TV to establish a connection.)
Although the TV is placed close to the AP and the dongle is inserted into the TV, the sharing device cannot be connected to using auto-configuration.	• Select [Menu] → [Setup] → [Network] and check if SWL is Off.
Although the TV is placed close to the AP and the dongle is inserted into the TV, the sharing device cannot be connected to using auto-configuration and a message that it is connecting is displayed only.	• Check if the AP is not turned off during connection. If the AP is turned off, the TV will try to re-establish a connection for 2 minutes.

Problem	Possible Solution
Although the TV is placed close to the AP and the dongle is inserted into the TV, the sharing device cannot be connected to using auto-configuration and a message that it is connecting is displayed only.	• If Samsung Wireless Link is On, a 5G-bandwidth wireless sharing device may not be found in a search (restriction). • If Samsung Wireless Link is Off or the product does not have the Samsung Wireless Link function, please retry searching to find the sharing device. (May not be found in a search depending on the settings of the wireless connection.)
In a network test over a wireless connection, the second items which include the IP address, subnet, gateway and DNS server fail.	• If the IP address, subnet mask and gateway were typed in manually, check that valid values were entered. (For example, 0.0.0.0 is not valid for an IP address, subnet mask or gateway address.) • If the IP address the user entered in is invalid, change it to a valid IP address.
In a network test over a wireless connection, the third item, gateway ping fails.	1. If the IP address is automatic and connected to a sharing device, check the settings of the sharing device (AP) that is using a cable connection, or consult the corresponding Internet service provider. 2. If the IP address is manual, check that the IP address is entered in correctly. (Here, the user should confirm if the manual IP entered in is valid.)
In a network test over a wireless connection, the fourth item, Internet service test fails.	• Please consult the corresponding Internet service provider (an Internet network service provider the user has subscribed to such as KT).

2-4. Accessories

Product	Description	Code. No	Remark
	Warranty Card / Registration Card / Safety Guide Manual (Not available in all location)	-	Samsung Electronics Service center
	Cleaning Cloth	BN63-01798B	
	Holder-Wire stand	BN61-05596A	
	Holder-Ring (4ea)	BN61-07295A	
	Scart Adaptor	BN39-01154A	
	Component Gender	BN39-01154W	
	CI Card Adaptor	3709-001663	

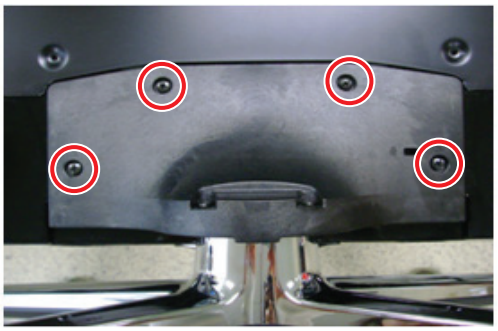
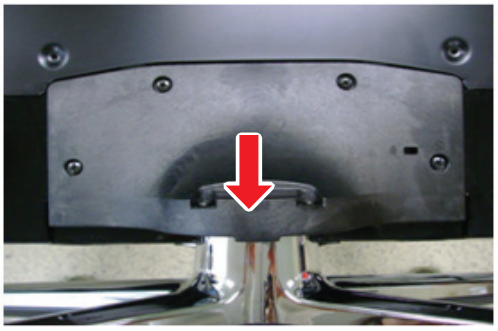
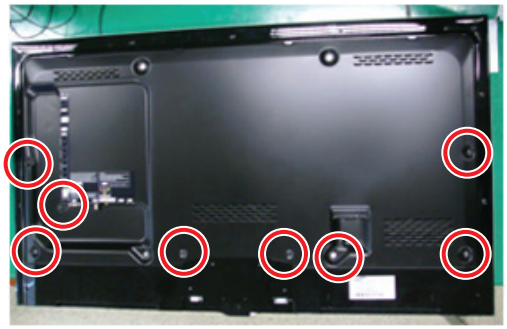
3. Disassembly and Reassembly

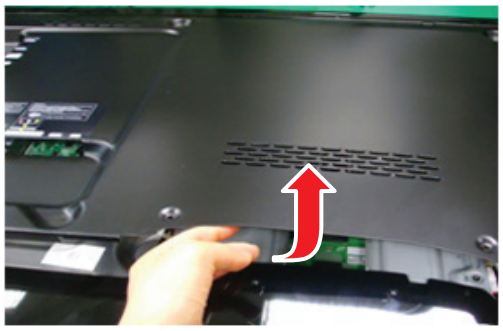
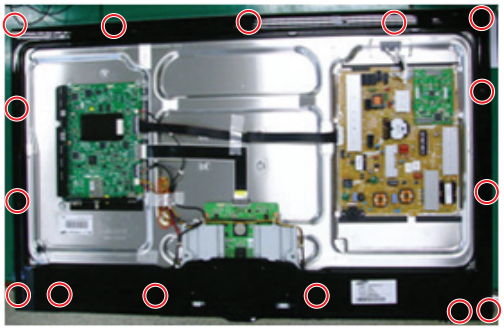
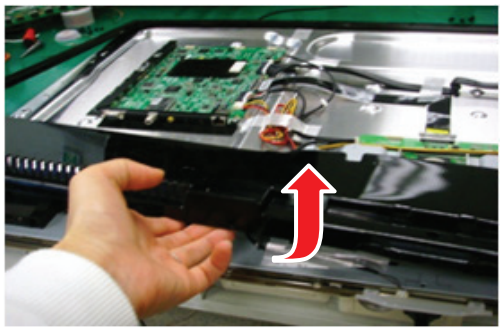
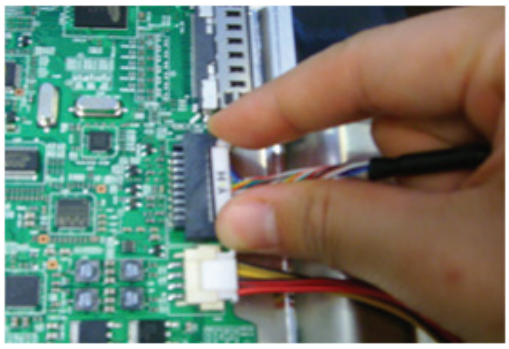
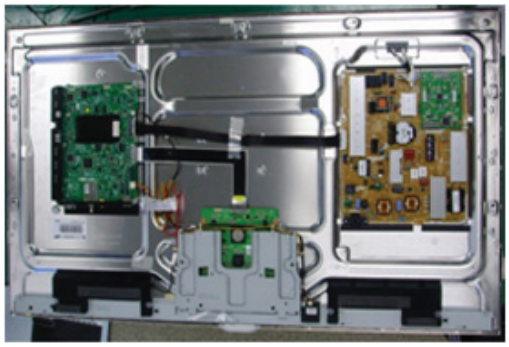
This section of the service manual describes the disassembly and reassembly procedures for the LED TV.

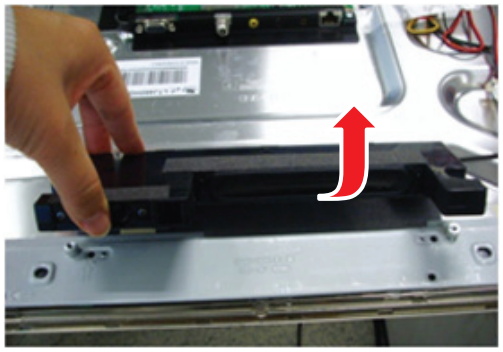
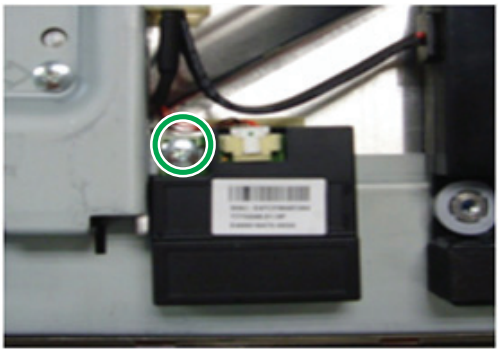
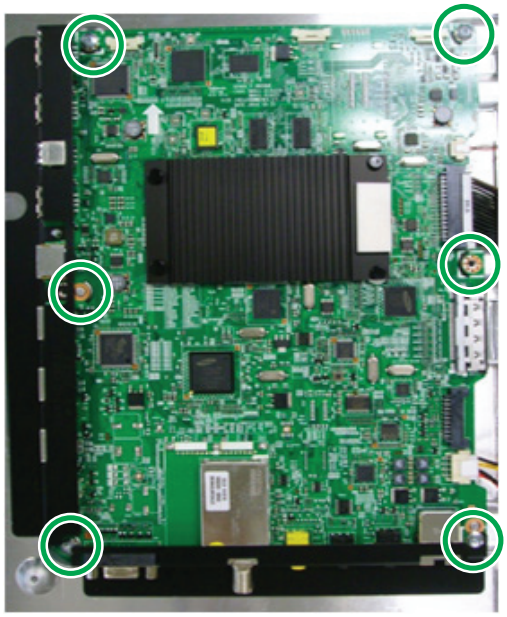
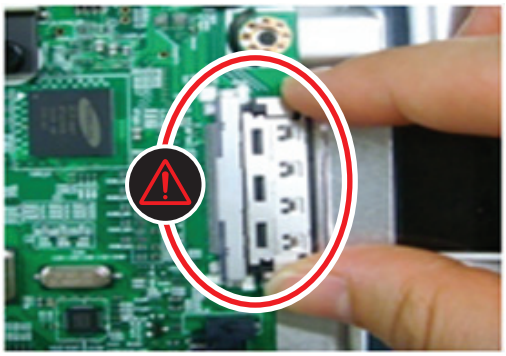
⚠ **WARNING:** This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

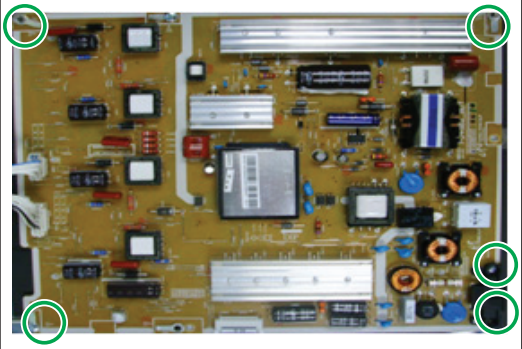
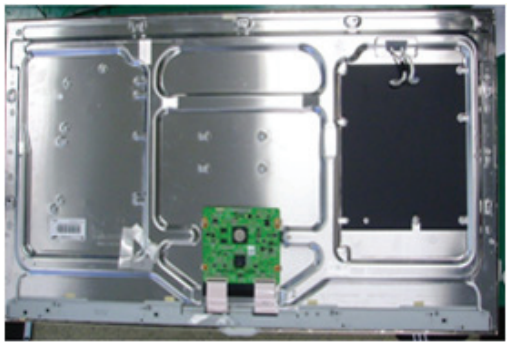
3-1. Disassembly and Reassembly

⚠ **Cautions:** 1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

	Description	Picture Description	Screws
1	Place TV face down on cushioned table. Remove screws from the Stand. Remove stand.		
			 6001-002621 (M4, L8, Tapping)
			
2	Remove the screws of rear-cover.		 6001-002621 (M4, L8, Tapping)

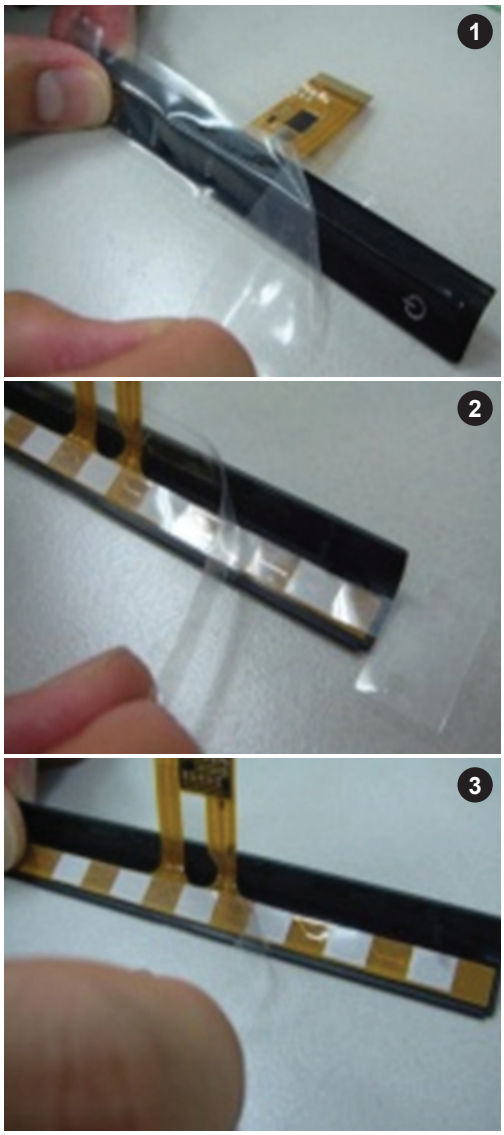
	Description	Picture Description	Screws
3	Lift up and remove the rear-cover. * **Caution** : Becareful when you lift up the rear-cover, It's really sharp.		
4	Remove the screws of middle-cover.		 6001-002621 (M4, L8, Tapping)
5	Lift up and remove the middle-cover.		
	* **Caution**: Remove the function cable before removing the middle cover.		
	- Rear view of 46" / 55"		

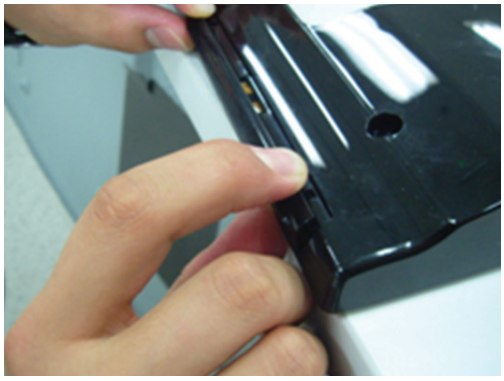
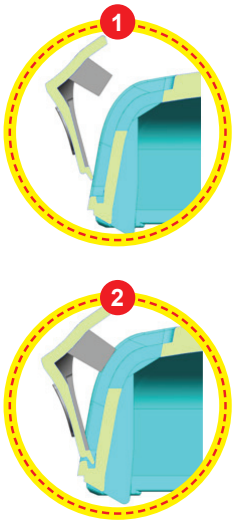
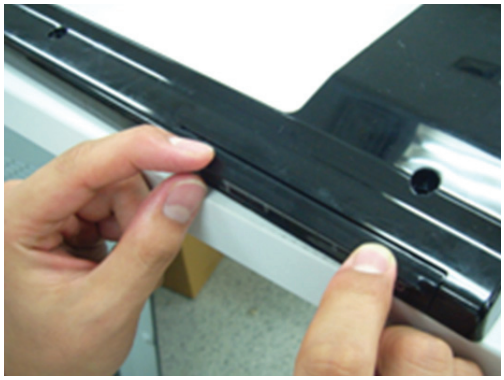
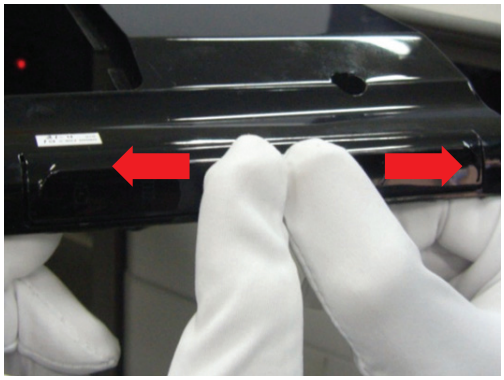
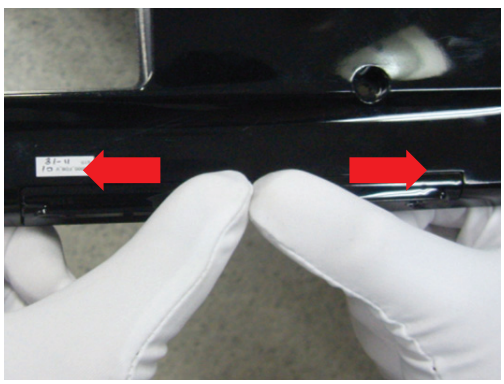
	Description	Picture Description	Screws
6	Remove the Speakers(R/L).		
7	Remove the Wi-Fi Module.		 6001-002653 (M3,L6,Machine)
8	Remove the screws of Main Board.		 6001-002653 (M3,L6,Machine)
	* **Caution** : Disconnect all cable connectors before removing any board.		

	Description	Picture Description	Screws
9	Remove the screws of IP board. - Remove the IP board.		 6001-002653 (M3,L6,Machine)
10	Remove the T-CON Bracket. - Panel 46", 55"	 	 6001-002653 (M3,L6,Machine)

※ Reassembly procedures are in the reverse order of disassembly procedures.

■ Assembly of Touch Function

	Description	Picture Description	Screws
1	Remove the cover sheet from Assy p-cover function(❶~❸)		
2	Firmly put ASSY P-Cover Function to the designated GUIDE RIBS.		

Description		Picture Description	Screws
			
3	Assy P-Cover Function Hook into square hole in the Middle.		
4	Rubing the ASSY P-COVER Function until double face tape.		
			

4. Troubleshooting

4-1. Troubleshooting

4-1-1. Previous check

1. Check the various cable connections first.
   • Check to see if there is a burnt or damaged cable.
   • Check to see if there is a disconnected or loose cable connection.
   • Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.
3. How to distinguish if the problem is caused by Main board or T-Con.
   a. No Video : If the problem is No Video but BLU is on and Indication LED is blinking repeatedly and faster than nomal booting, replace the T-Con board.
   b. Distorted Picture : Check the inner patterns.

• For All mode

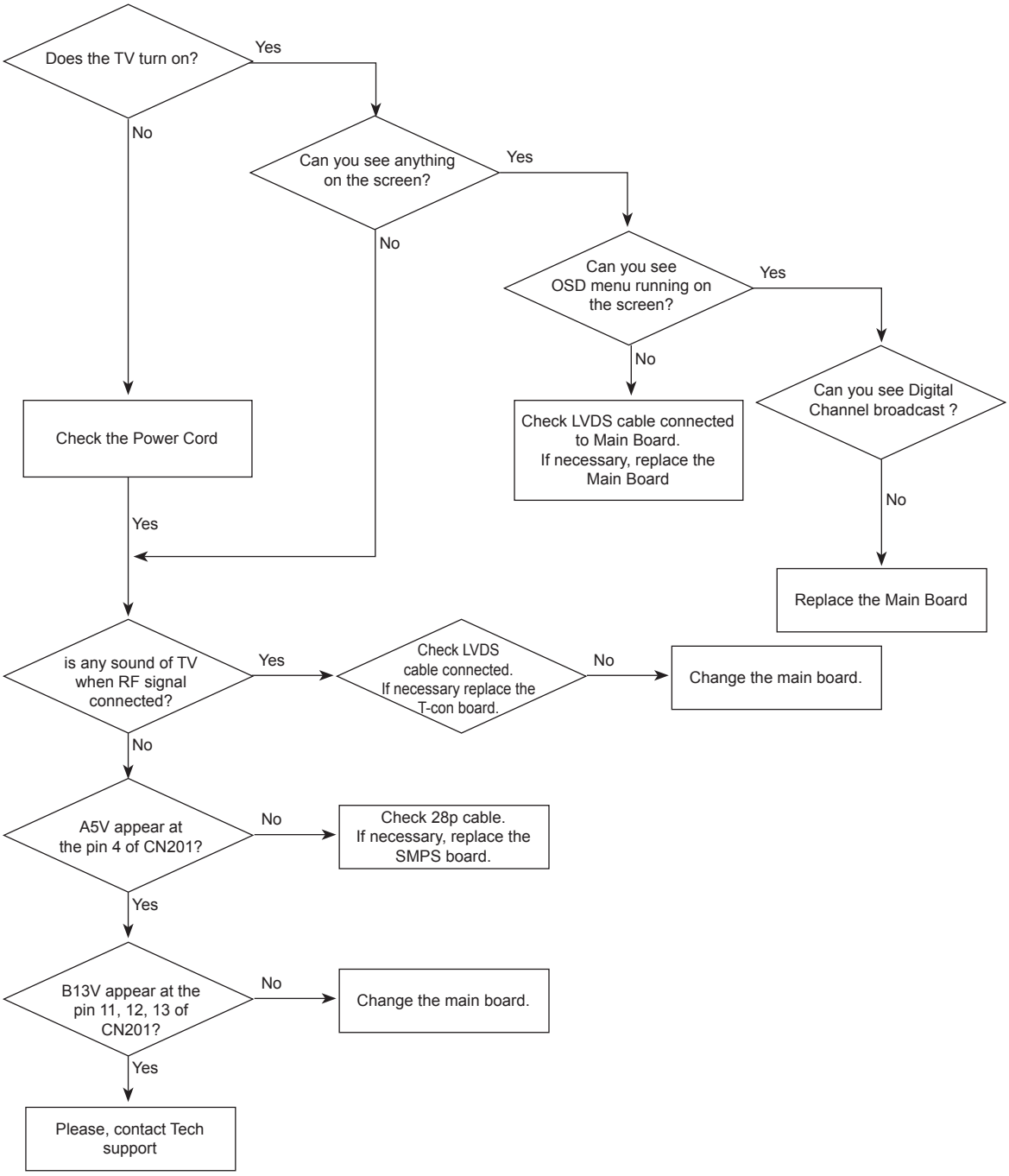
GenoaP	Napoli Pre	Napoli post	Piocture	Problem
OK	OK	OK	NG	Main board or Signal Source
NG	OK	OK	NG	Main board
NG	NG	OK	NG	Main board or FRC setting
NG	NG	NG	NG	Main or LVDS cable or T-con or Panel

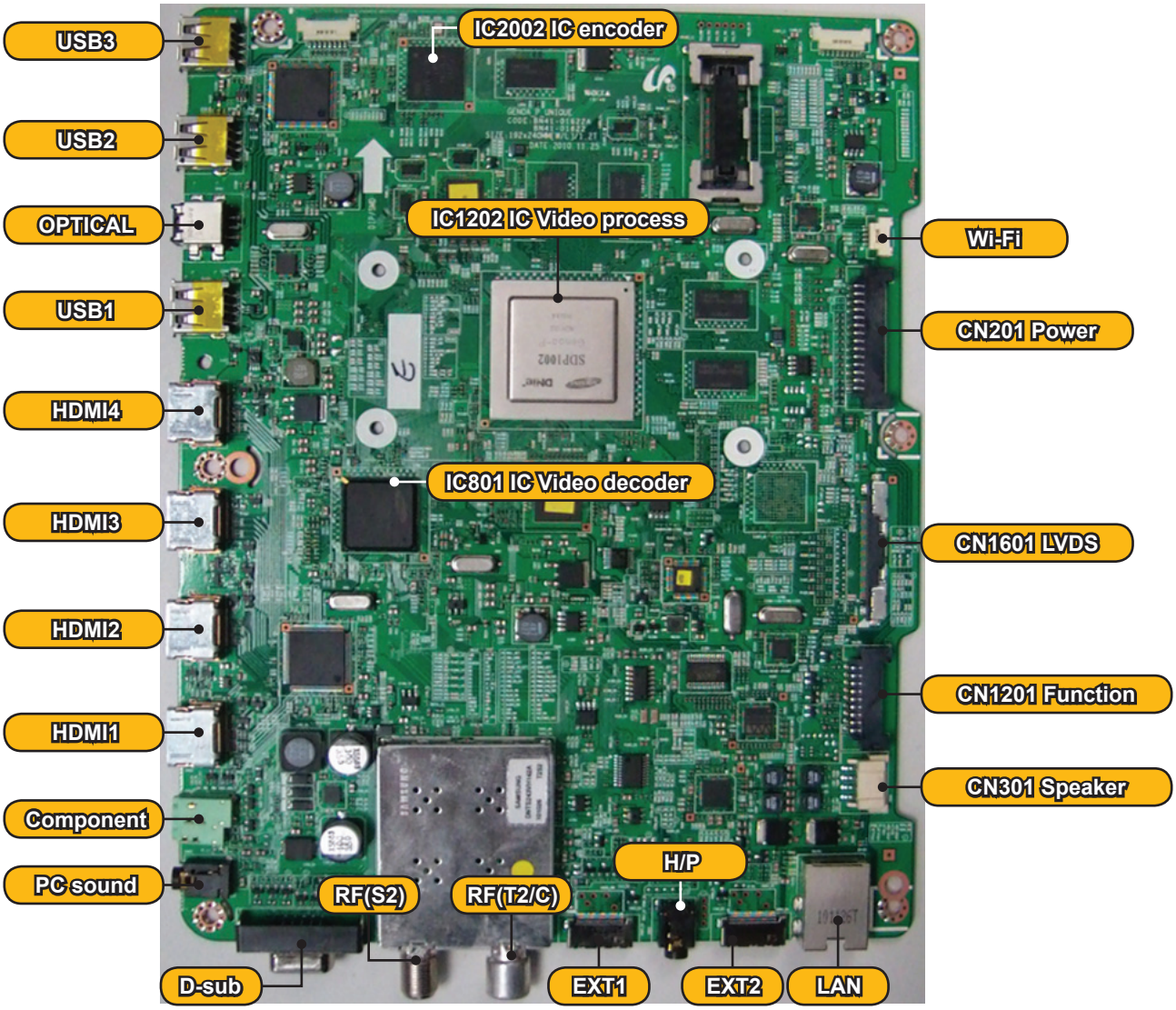
• Only for HDMI mode (additional check)

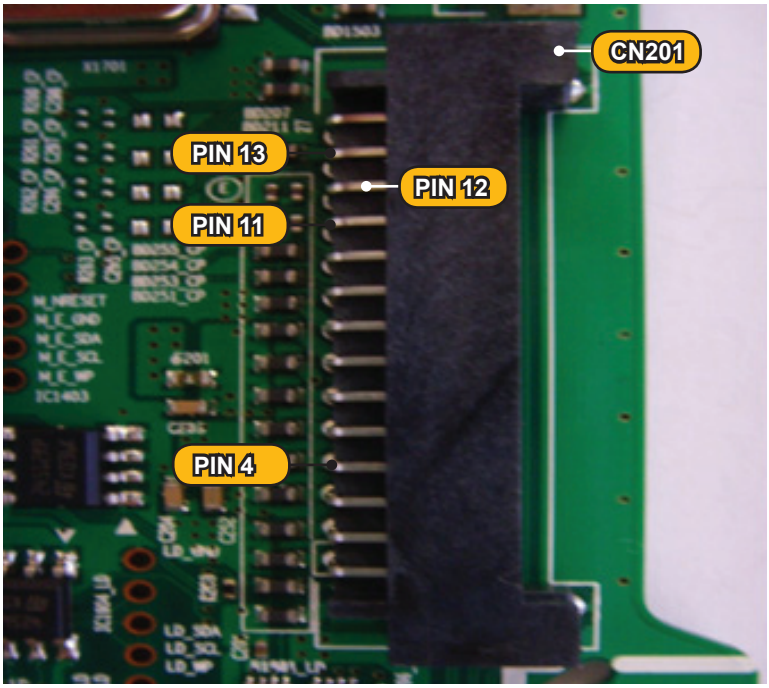
HDMI	Picture	Problem
OK	NG	There is no problems after HDMI IC check HDMI source or HDMI jack.
NG	NG	There is no problems before HDMI IC check GenoaS pattern or LVDS cable or T-con.

• ***How to check inner pattern?***
   1. Factory mode(***Mute*** → ***1*** → ***8*** → ***2*** → ***Power on*** when TV is in '***Stand-by mode***')
   2. Move to SVC menu.
   3. Move to Test Pattern.
   4. Check inner patterns.
      (This model only support FBE, READ PRE, READ POST)

■ Simple flow chart of malfunction



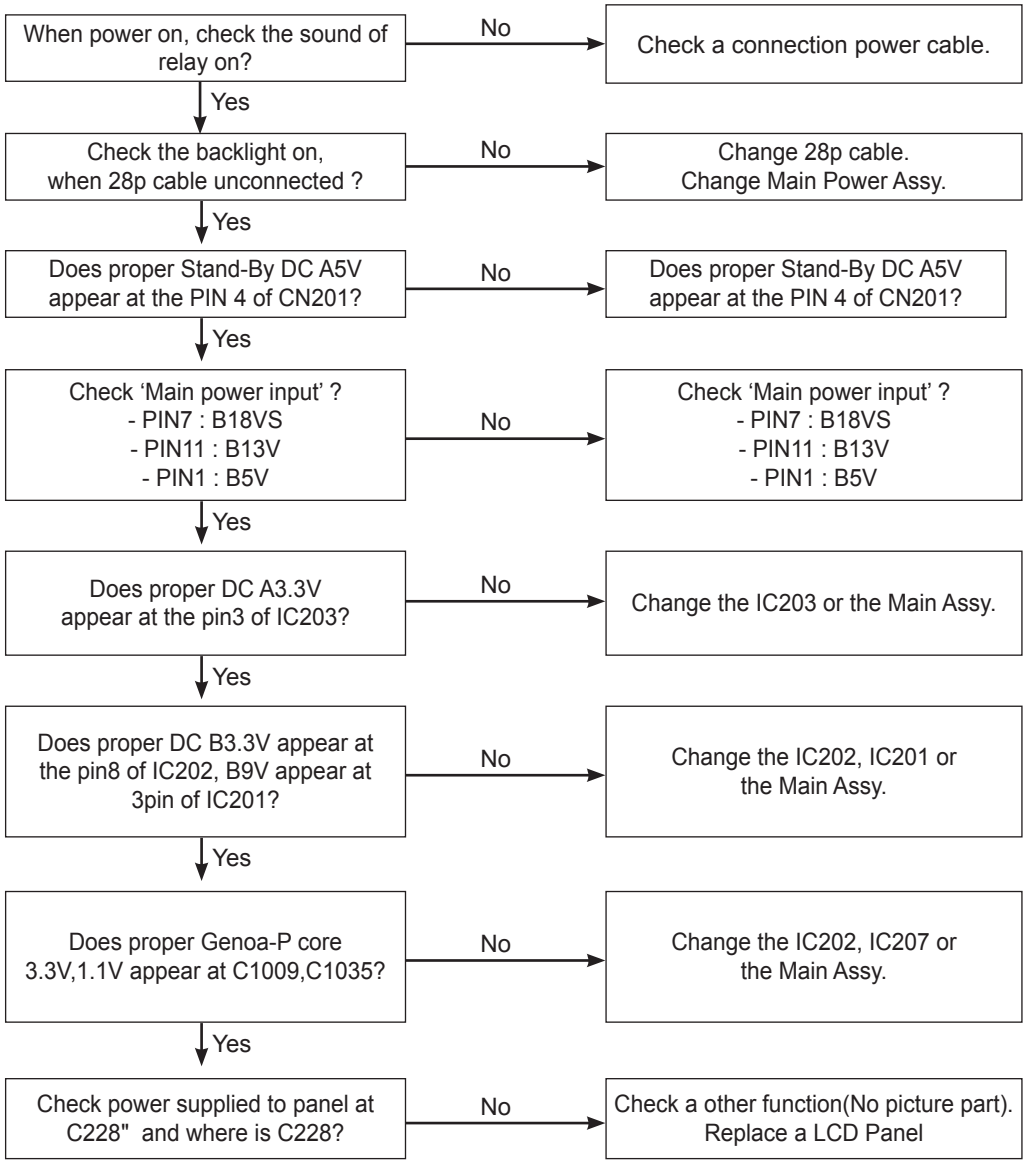

USB3
USB2
OPTICAL
USB1
HDMI4
HDMI3
HDMI2
HDMI1
Component
PC sound
D-sub
IC2002 IC encoder
IC1202 IC Video process
IC801 IC Video decoder
RF(S2)
RF(T2/C)
H/P
EXT1
EXT2
LAN
Wi-Fi
CN201 Power
CN1601 LVDS
CN1201 Function
CN301 Speaker


CN201
PIN 13
PIN 12
PIN 11
PIN 4

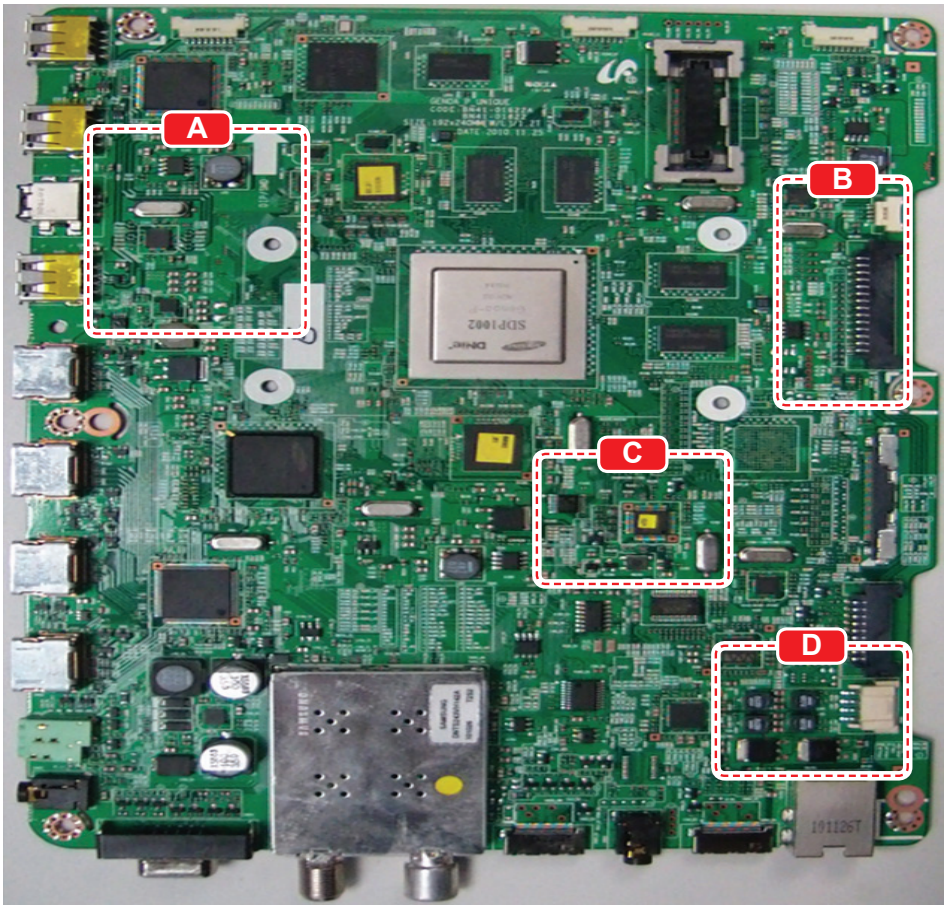
4-1-2. How to check fault symptom

■ No Power Genoa-P

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

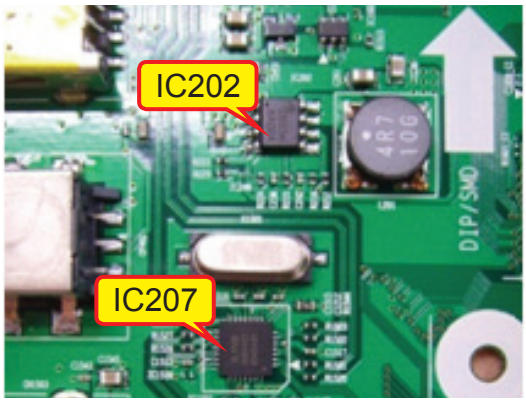
Symptom	– The PD board relay does not work when connecting the power cord. – The units appears to be dead.
Major checkpoints	The PD relay does not work when connecting the power cord if the cables are improperly connected or the Main Board or PD is not functioning. In this case, check the following: Check the internal cable connection status inside the unit. Check the fuses of each part. Check the output voltage of PD. Replace the Main Board.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main)

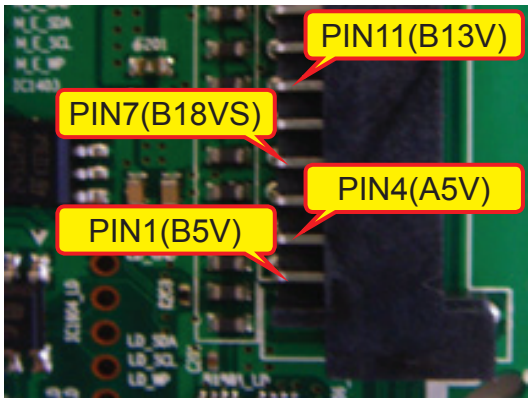


Detail

A

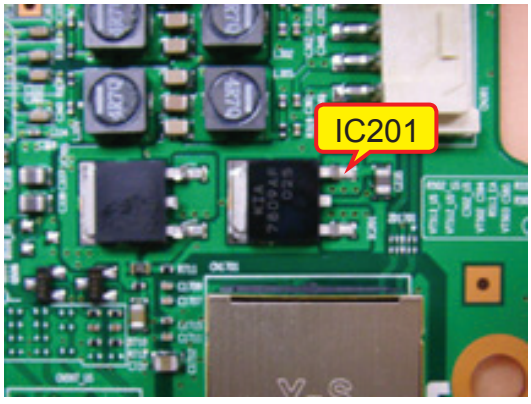


B



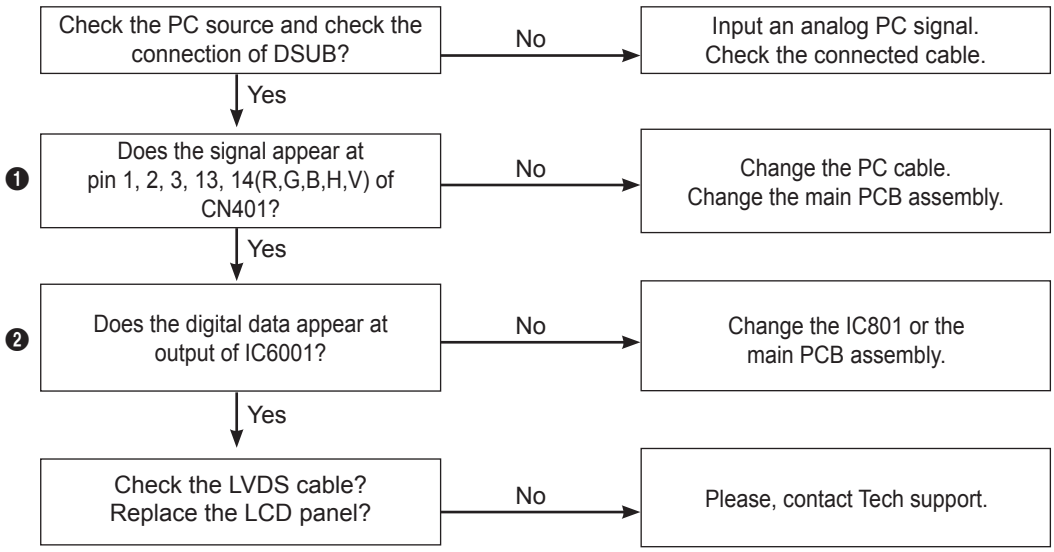
C

D

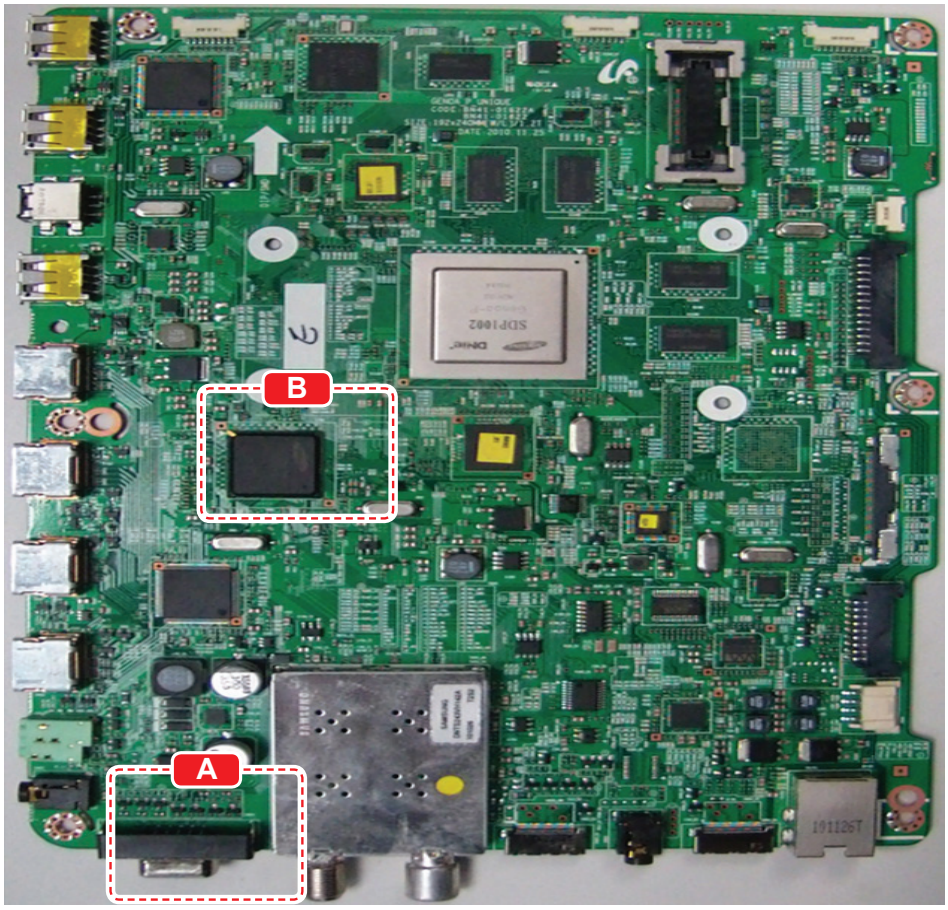


■ No Video (Analog PC signal) Genoa-P

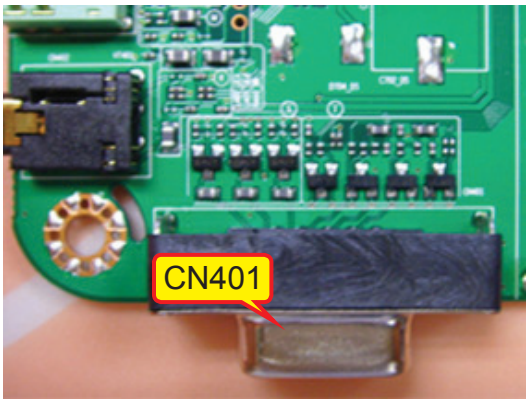
Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the PC source – Check the Genoa-P – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main)

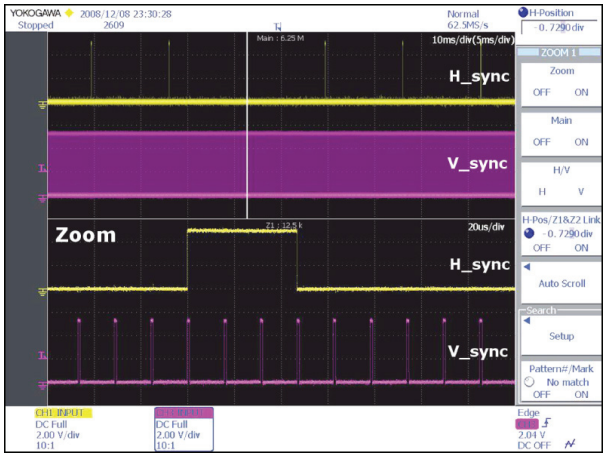


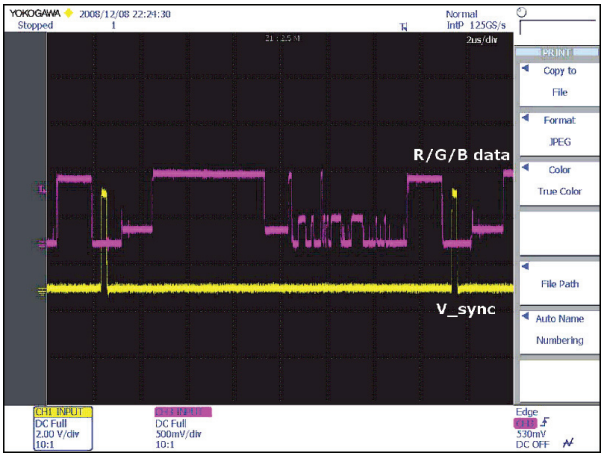
Detail

A		B	

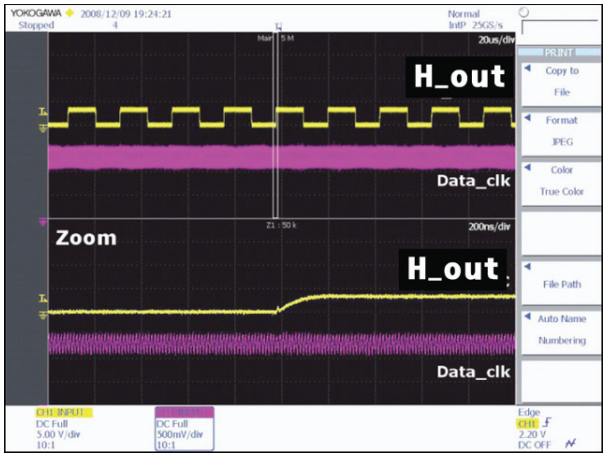
■ WAVEFORMS

❶ PC input (V-sink, H-sink, R/G/B)



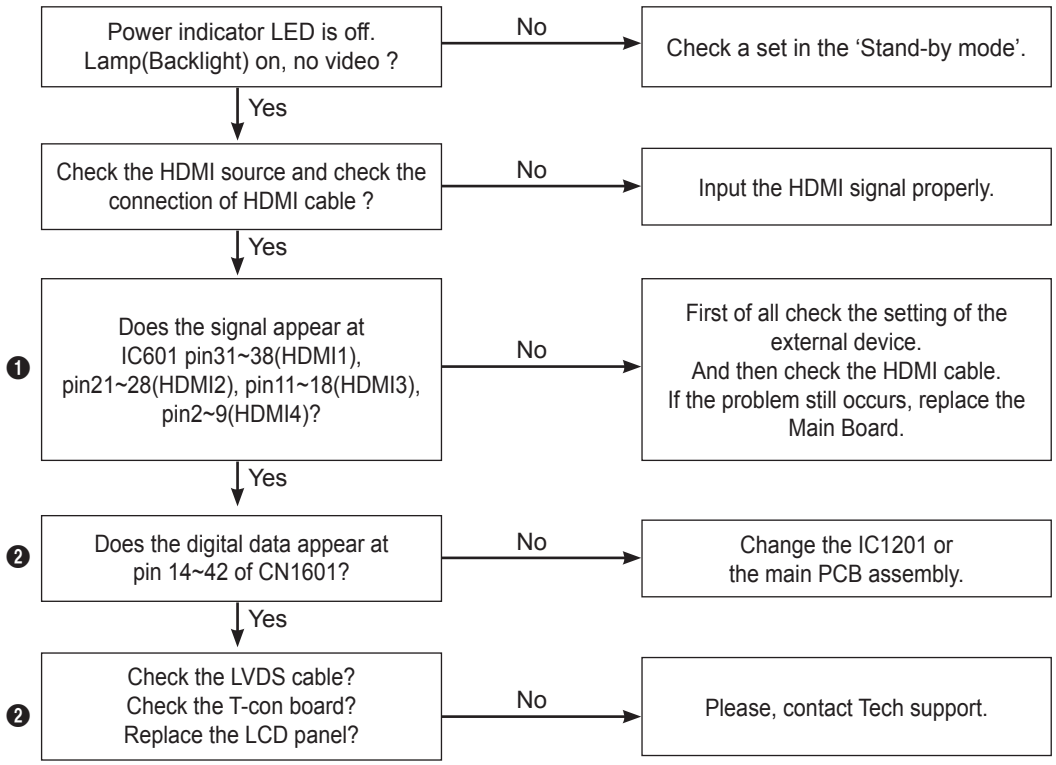


❷ LVDS output

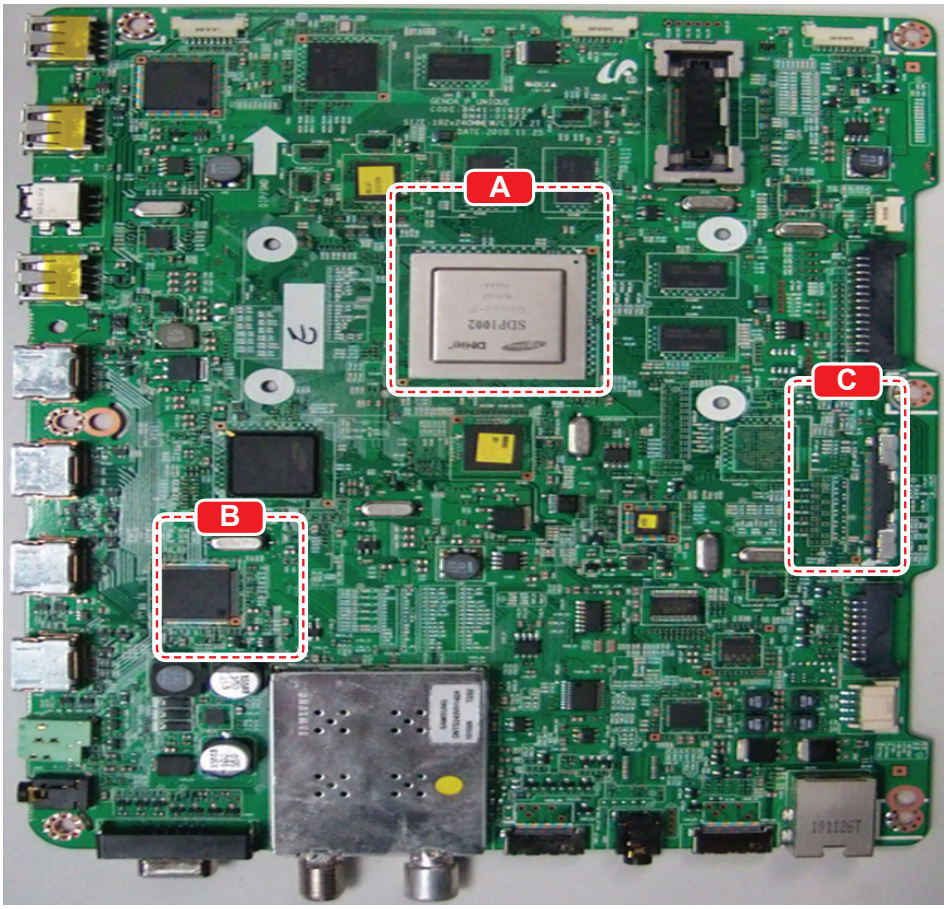


■ No Video (HDMI - Digital Signal) Valencia

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the HDMI source – Check the Valencia – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main)

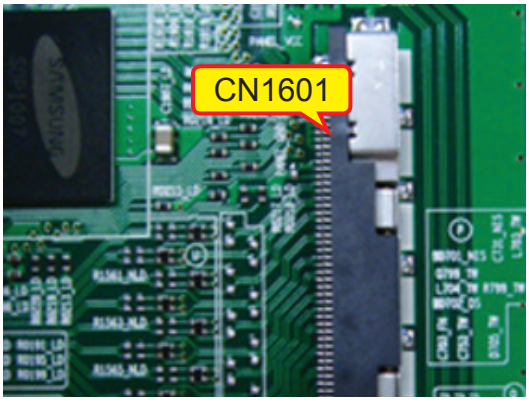


Detail

A

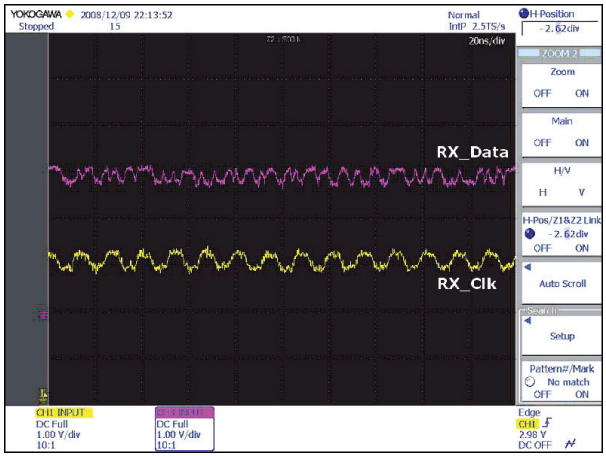
B

C

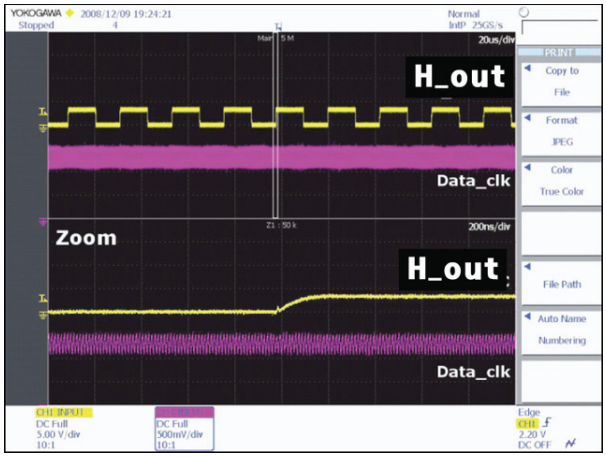


■ WAVEFORMS

❶ PC input (V-sink, H-sink, R/G/B)

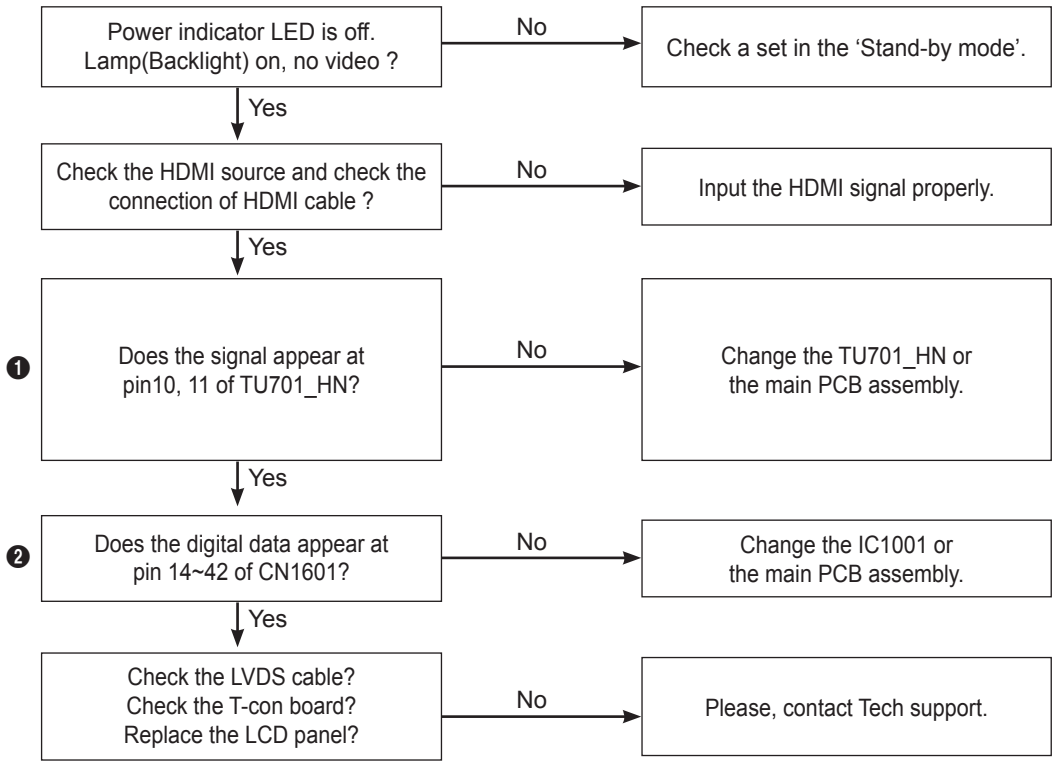


❷ LVDS output

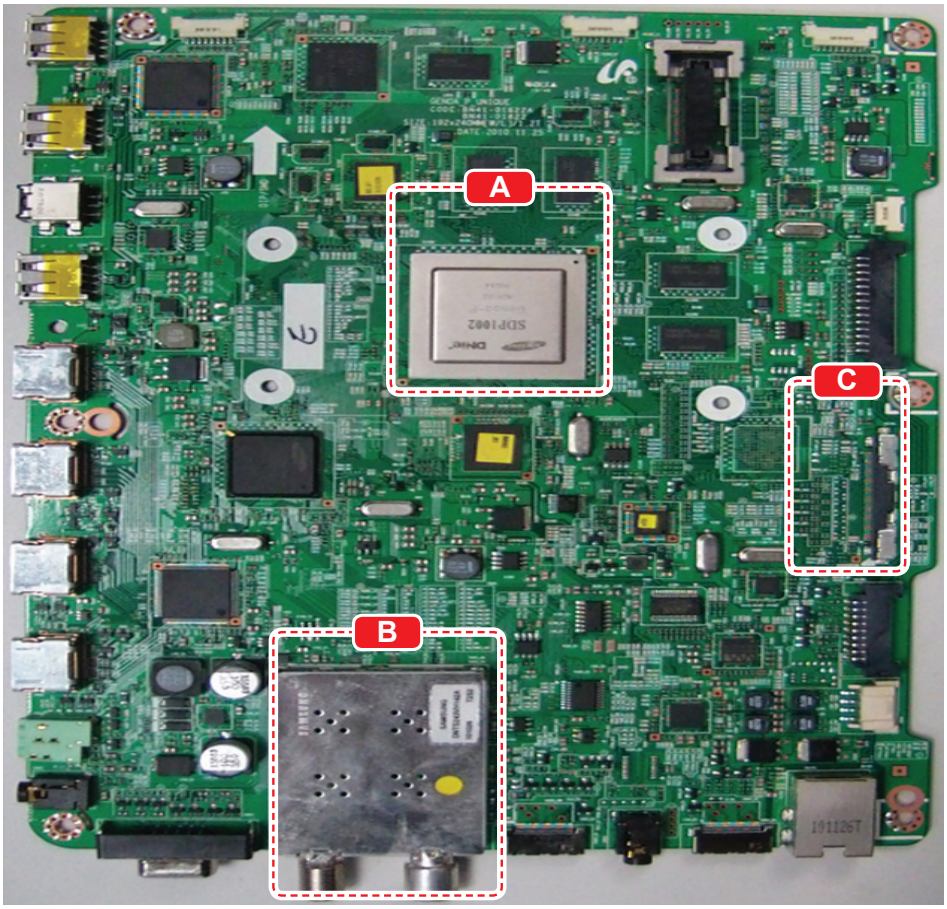


■ No Video (Tuner_CVBS) Genoa-P

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Tuner CVBS source – Check the Genoa-P – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

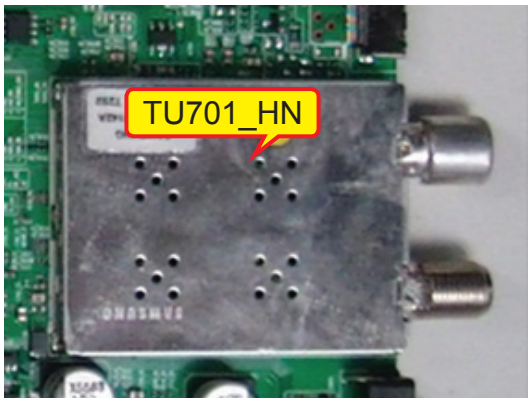
Location (Main)



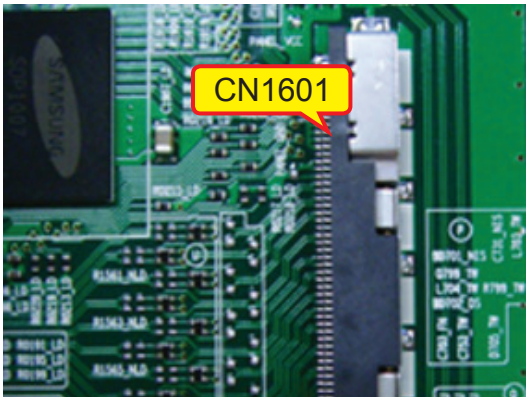
Detail

A

B

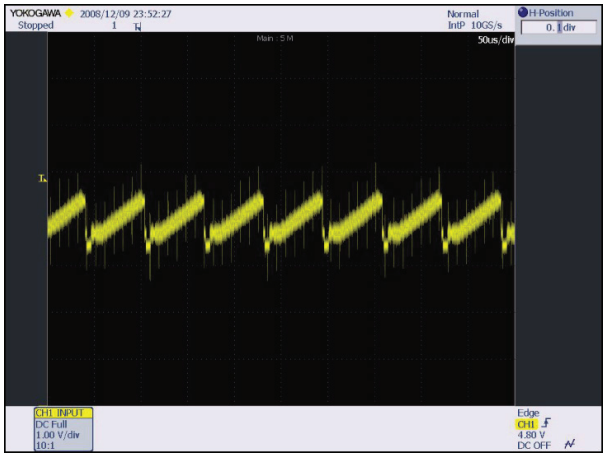


C

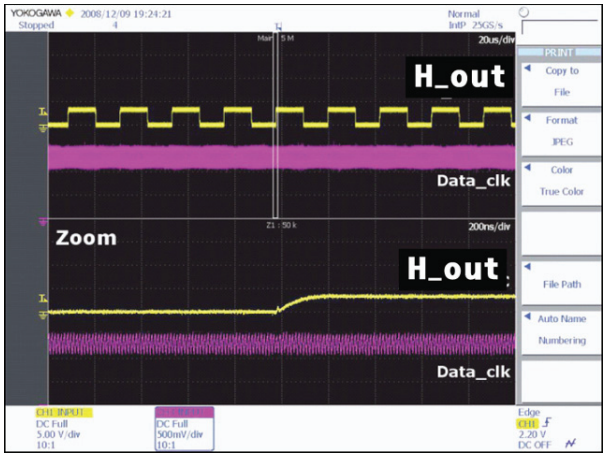


■ WAVEFORMS

❶ CVBS OUT (Grey Bar)

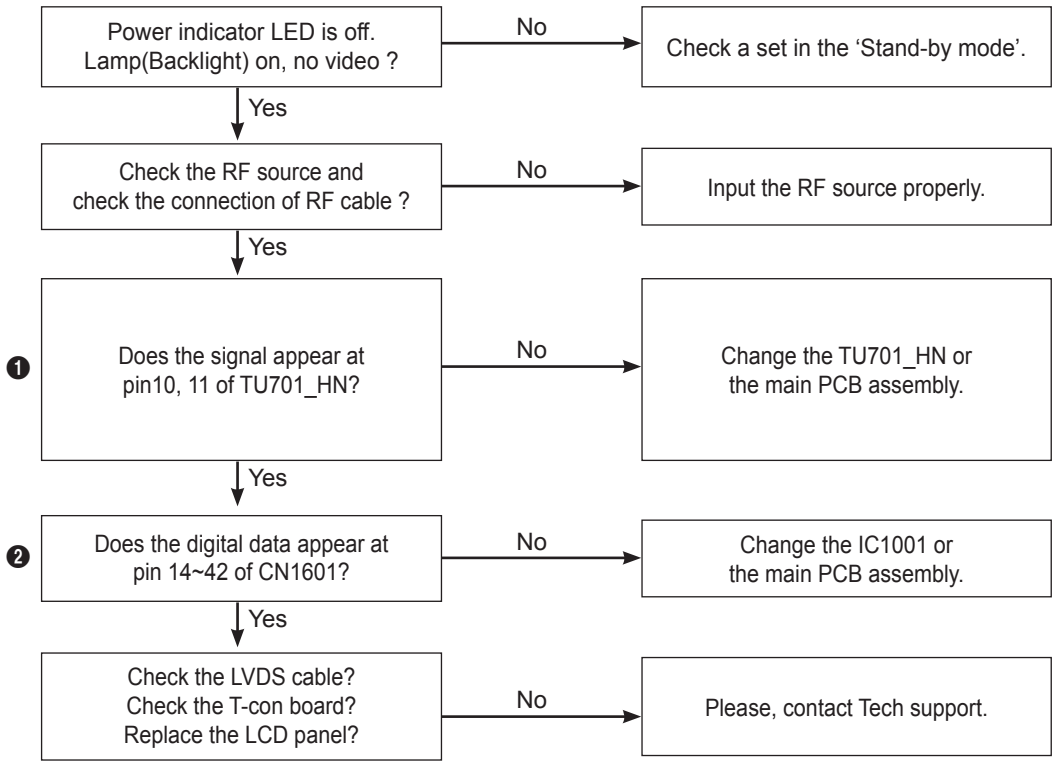


❷ LVDS output

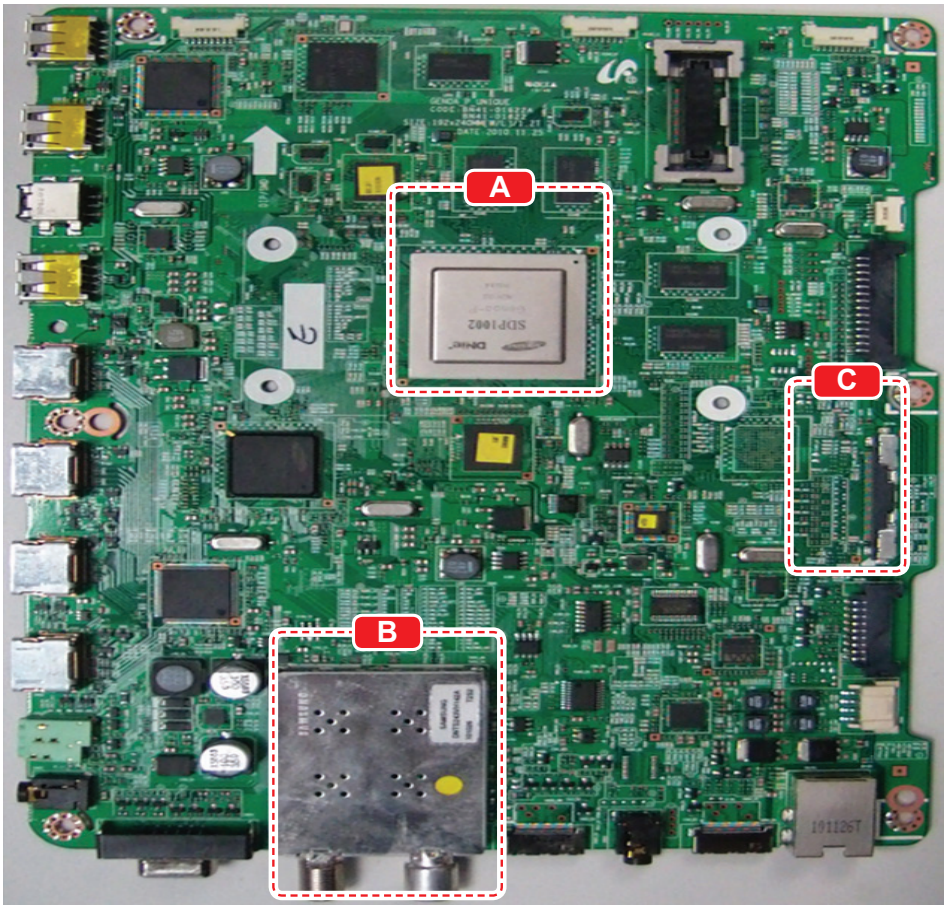


■ No Video (Tuner DTV) Genoa-P

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the DTV source. – Check the Tuner, Check the Valencia. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

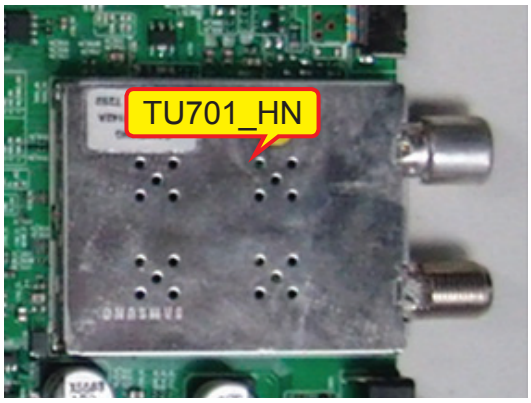
Location (Main)



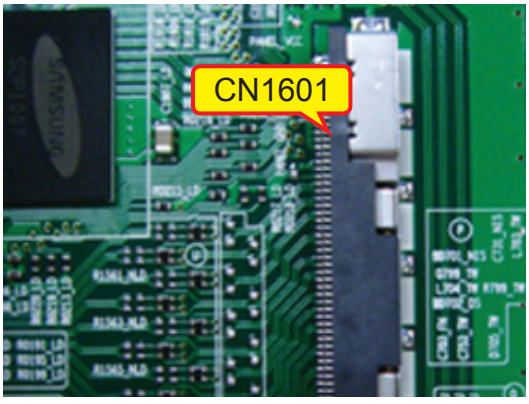
Detail

A

B

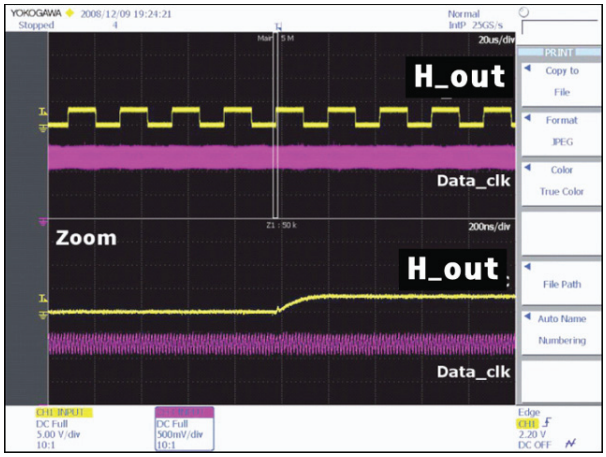


C

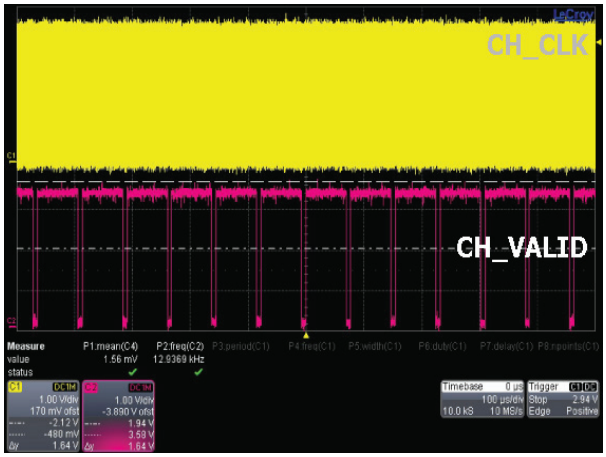


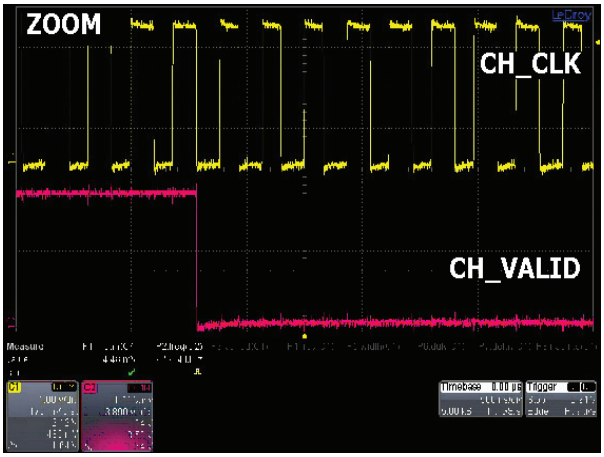
■ WAVEFORMS

❶ LVDS output



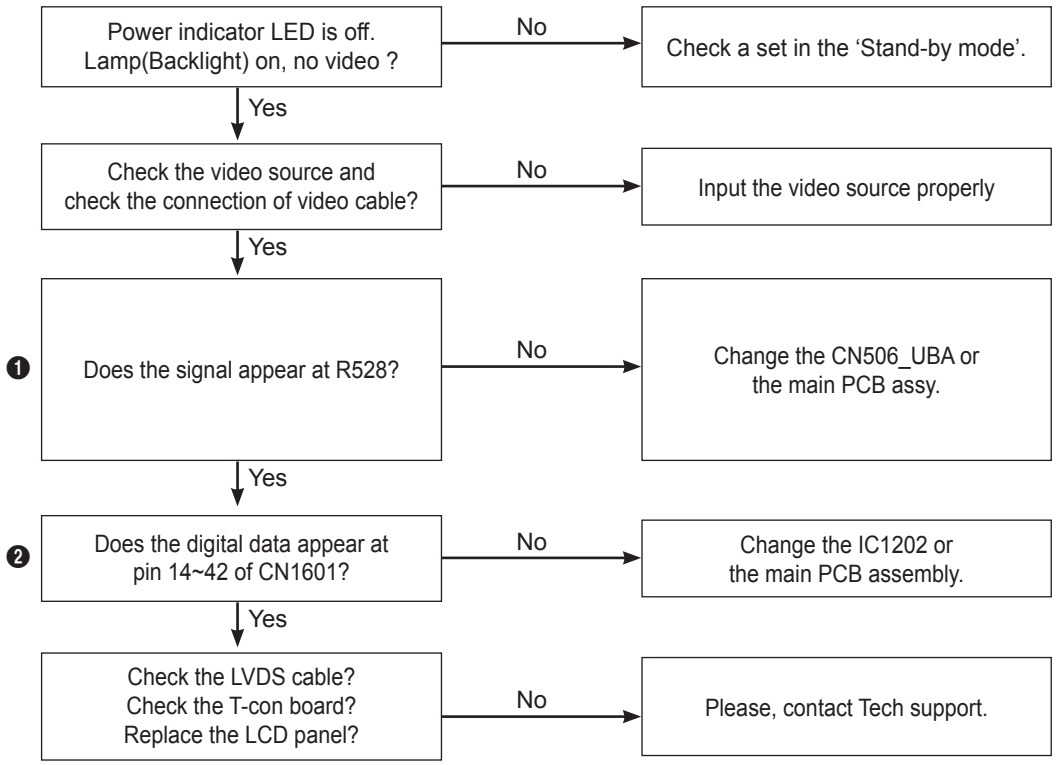
❷ CH_CLK, CH_VALID



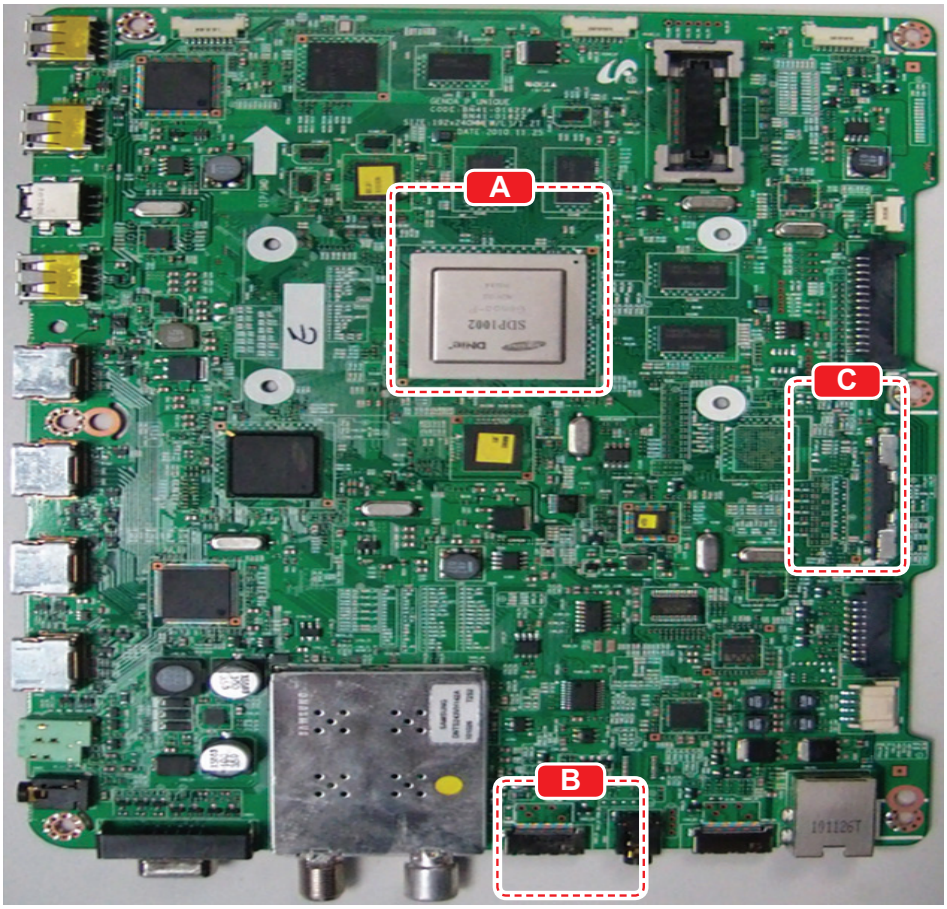


■ No Video (Video CVBS 1, 2) Valencia

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Video CVBS source. – Check the Tuner, Check the Valencia. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

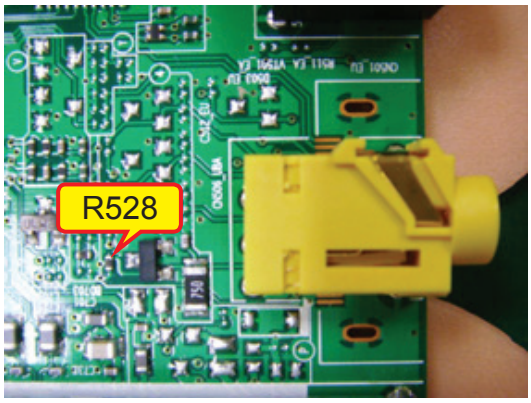
Location (Main)



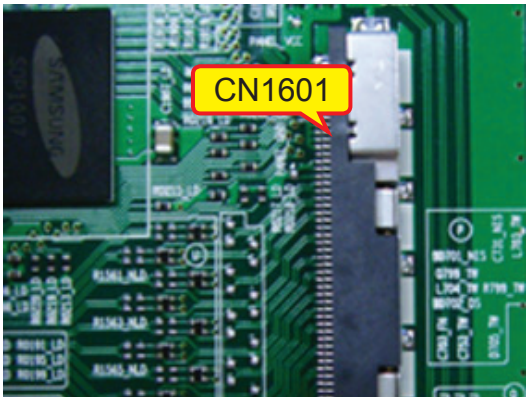
Detail

A

B

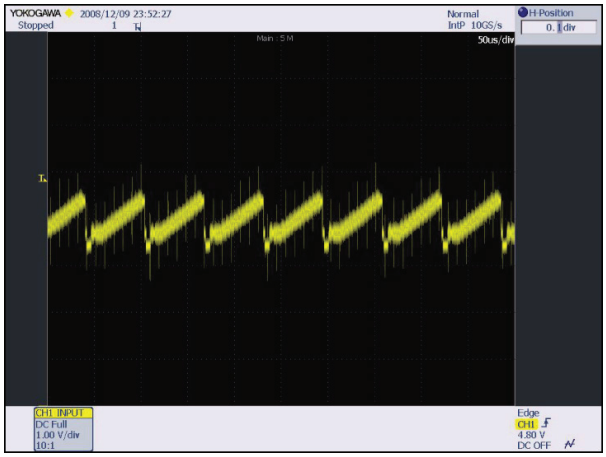


C

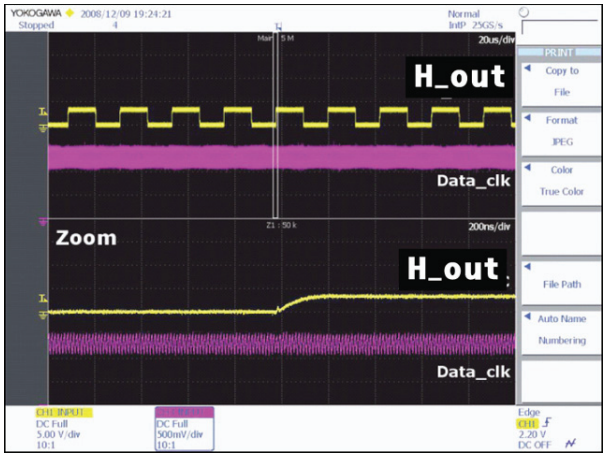


■ WAVEFORMS

❶ CVBS OUT (Grey Bar)

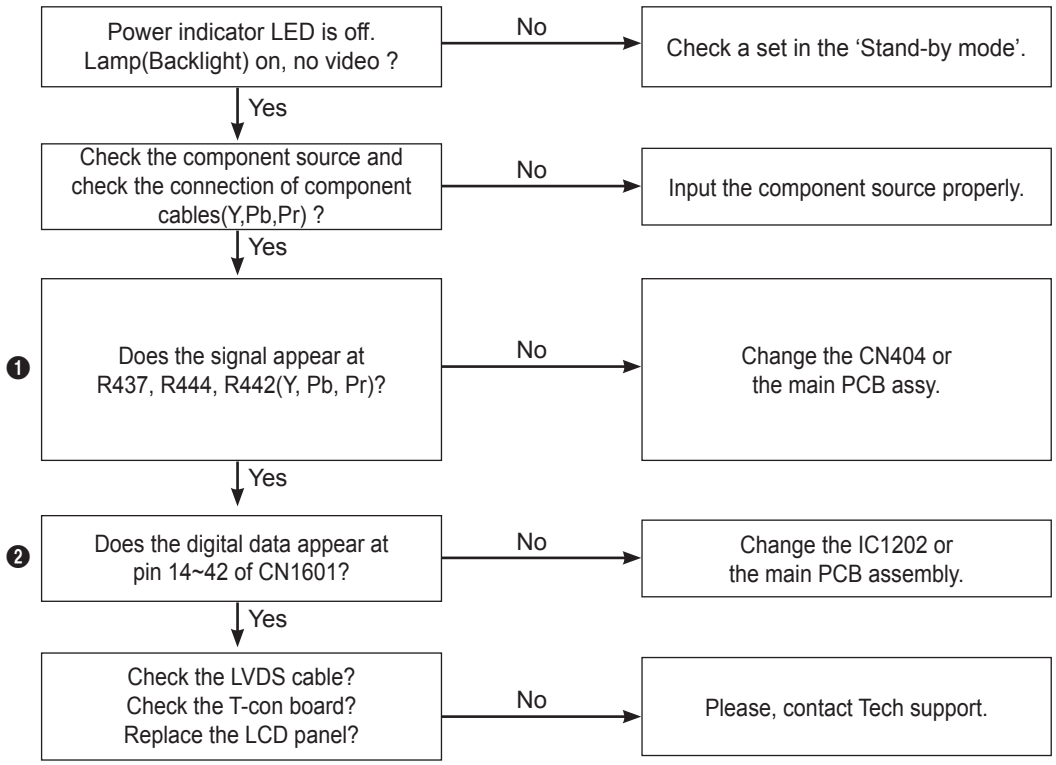


❷ LVDS output

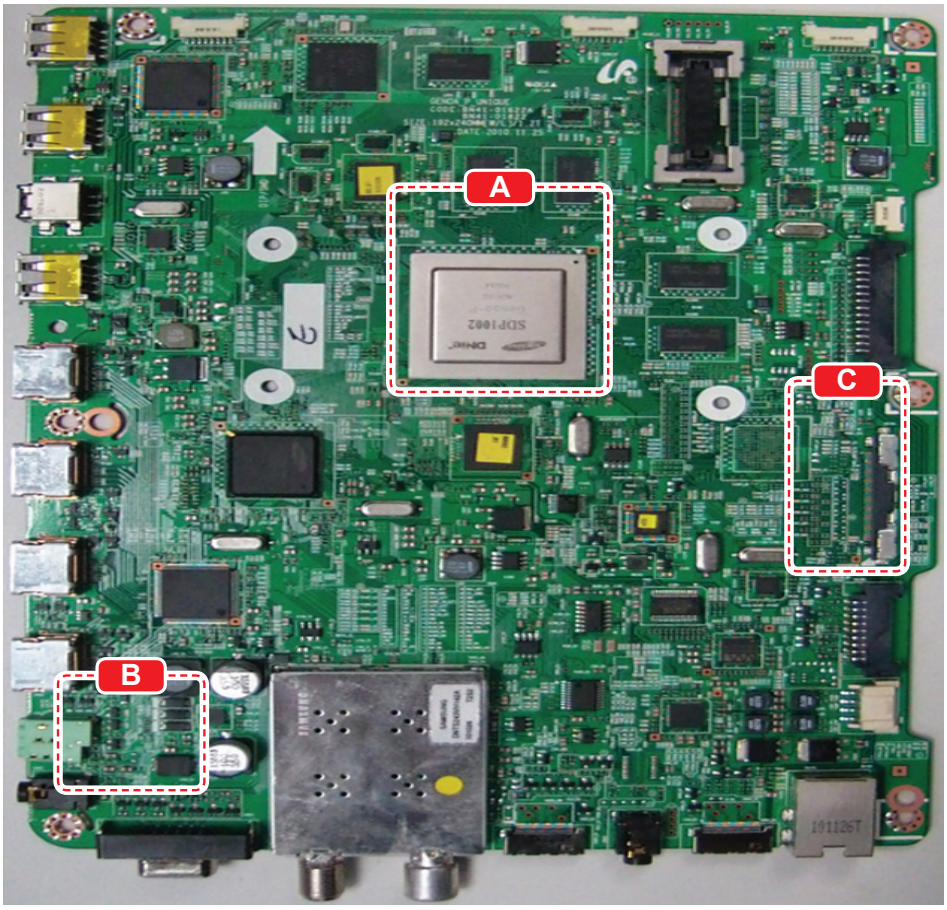


■ No Video (Component) Genoa-P

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Component source – Check the Genoa-P – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

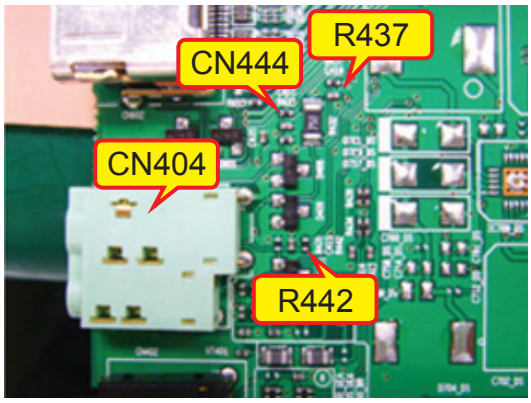
Location (Main)



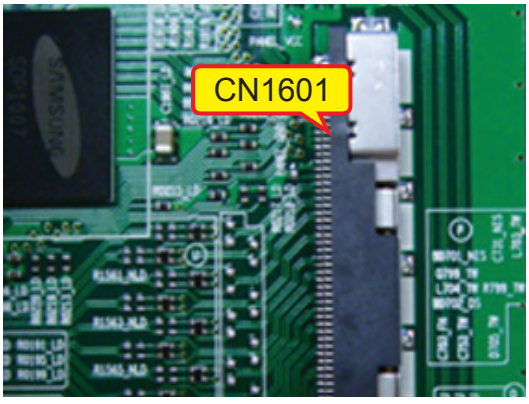
Detail

A

B

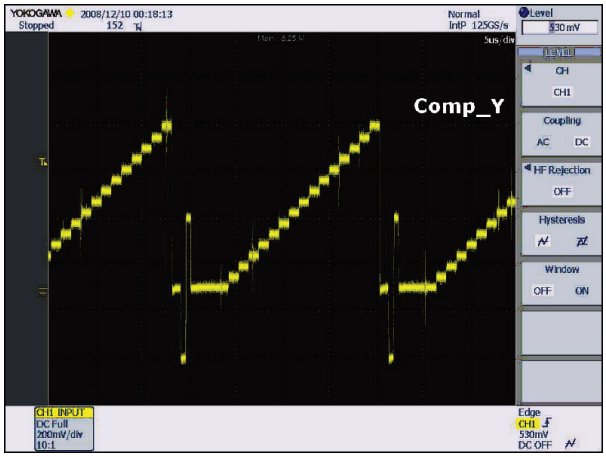


C

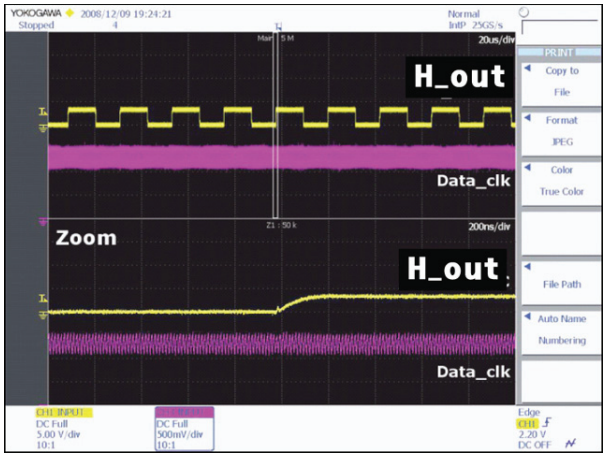


■ WAVEFORMS

❶ Compnent_Y (Gray scale) / Pb / Pr (Color bar)



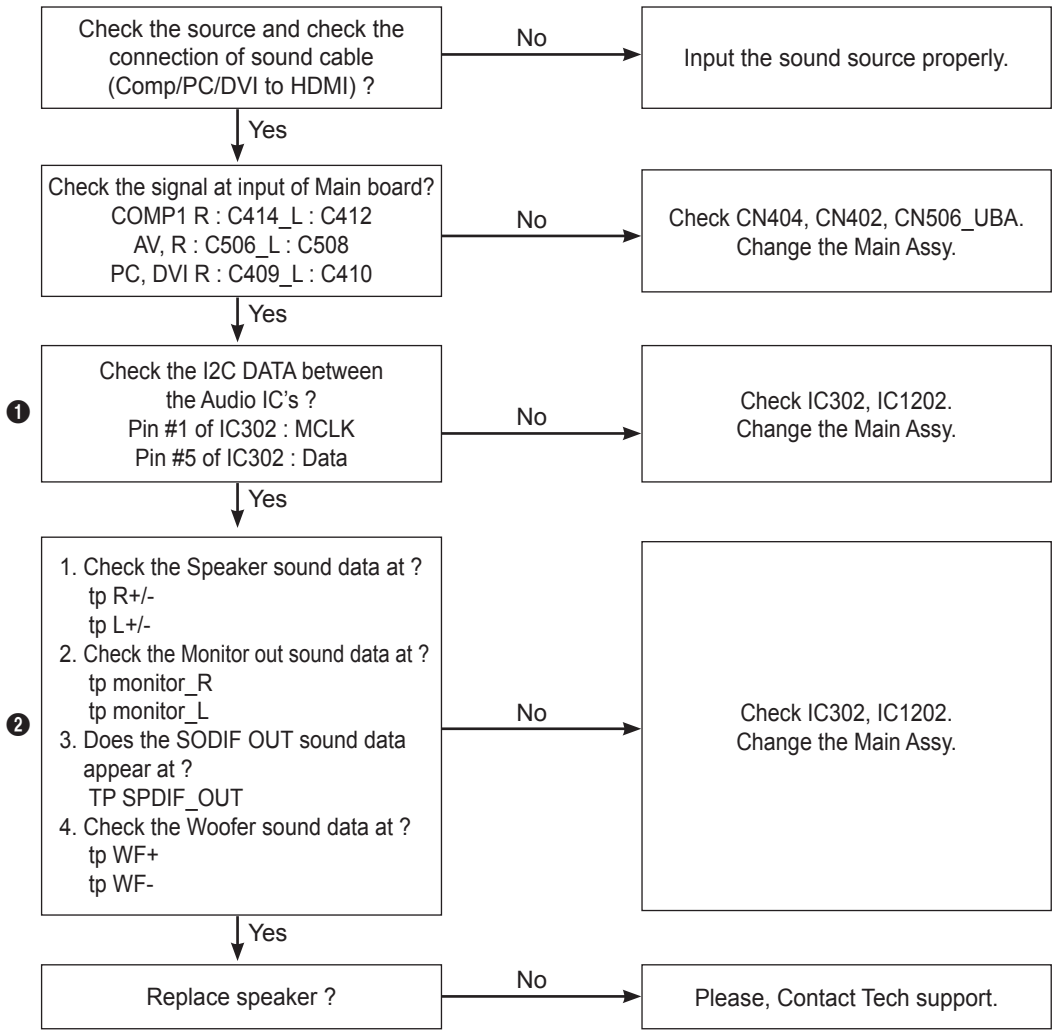
❷ LVDS output



■ No Sound (1.Speaker 2.Monitor_out, 3.Optical) Genoa-P

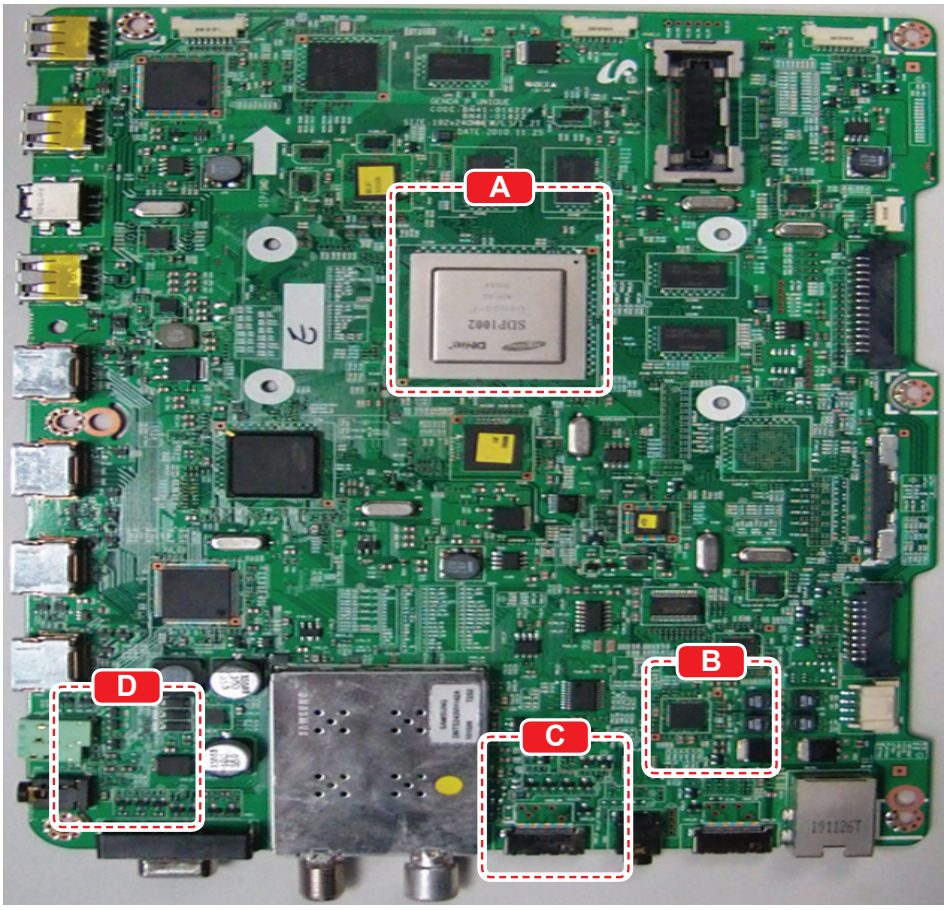
Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

Symptom	– Video is normal but there is no sound..
Major checkpoints	– When the speaker connectors are disconnected or damaged. – When the sound processing part of the Main Board is not functioning. – Speaker defect..
Caution	Make sure to disconnect the power before working on the PD board.
Diagnostics	



Caution	Make sure to disconnect the power before working on the IP board.

Location (Main)

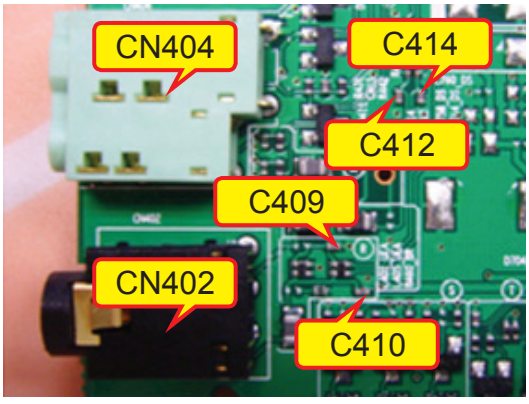


Detail

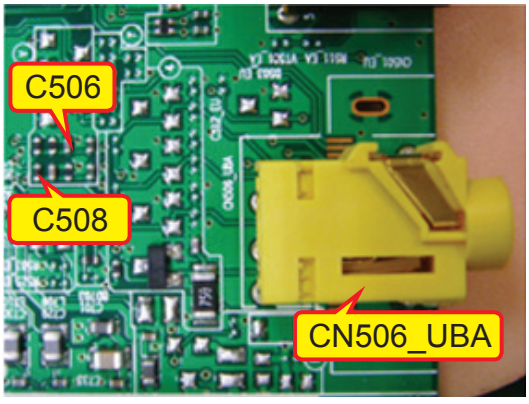
A

B

C

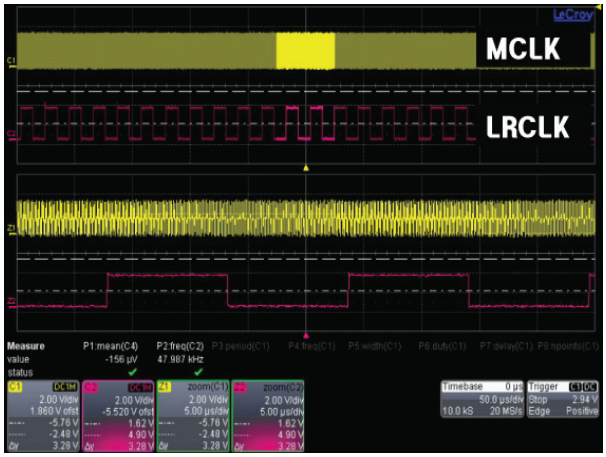


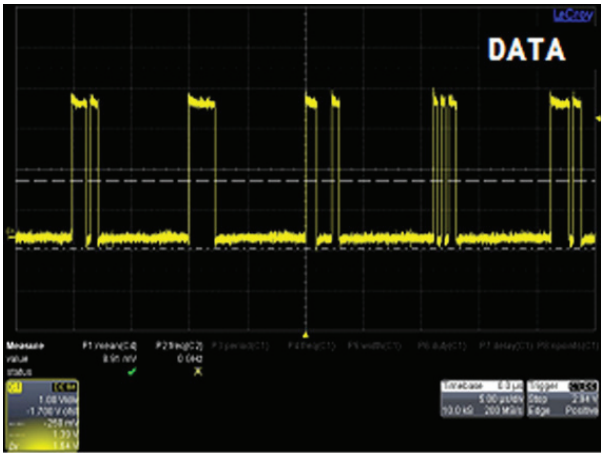
D



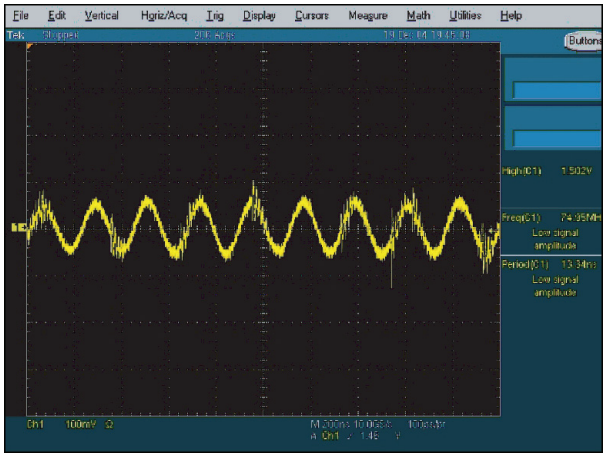
■ WAVEFORMS

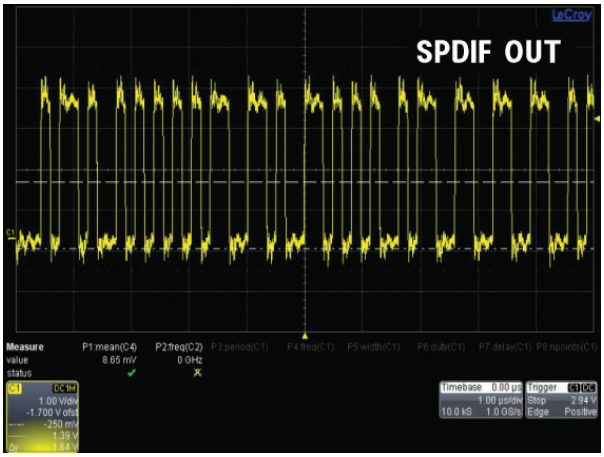
❶ MCLK / LRCLK / PCM_I2C_DATA





❷ Speaker / Monitor OUT , SPDIF OUT





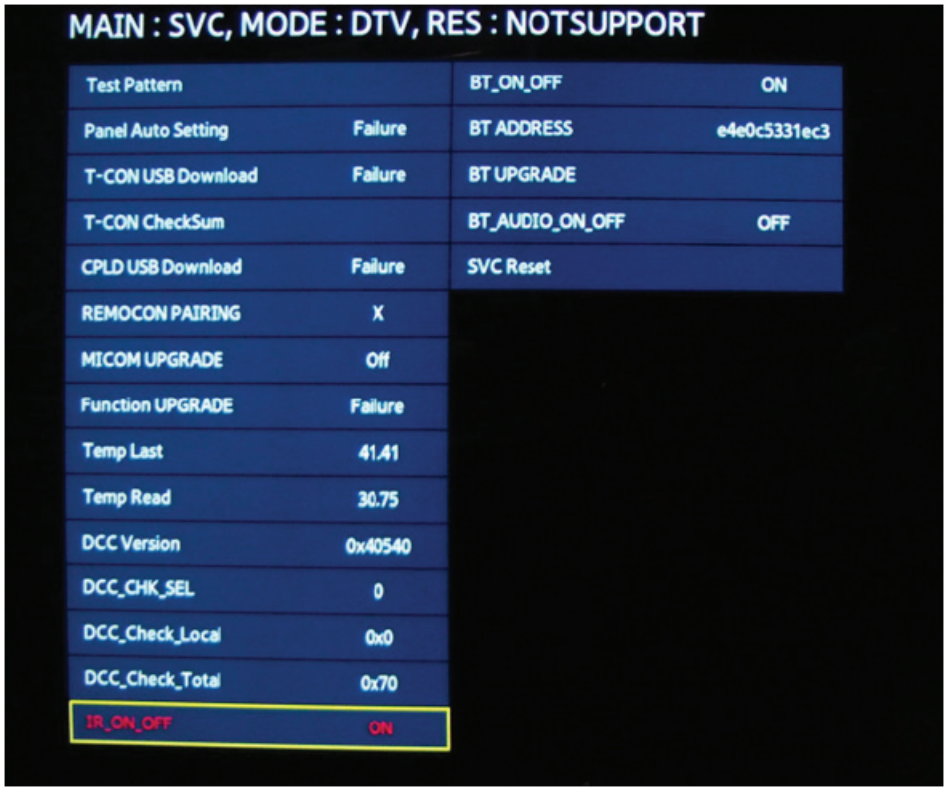
■ If User want to use 3D Glasses in 2010(IR 3D Glasses, not Bluetooth 3D Glasses)

If user want to use 3D Glasses in 2010 models(SSG-2100 and etc), We can change SET Factory option.

1. Run Factory Mode by pressing keys when the SET is Stand-by mode.

Info → Menu → Mute → Power

2. Contact **SVC** → **IR_ON_OFF** and change value from **OFF** to **ON** Then, user can use IR 3D Glasses in 2010 samsung models.



4-2. Alignments and Adjustments

4-2-1. General Alignment instruction

1. Usually, a color LED-TV needs only slight touch-up adjustment upon installation.
   Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV.
   When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on.
   Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transformer.

4-3. Factory Mode Adjustments

4-3-1. Entering Factory Mode

To enter 'Service Mode' Press the remote -control keys in this sequence :

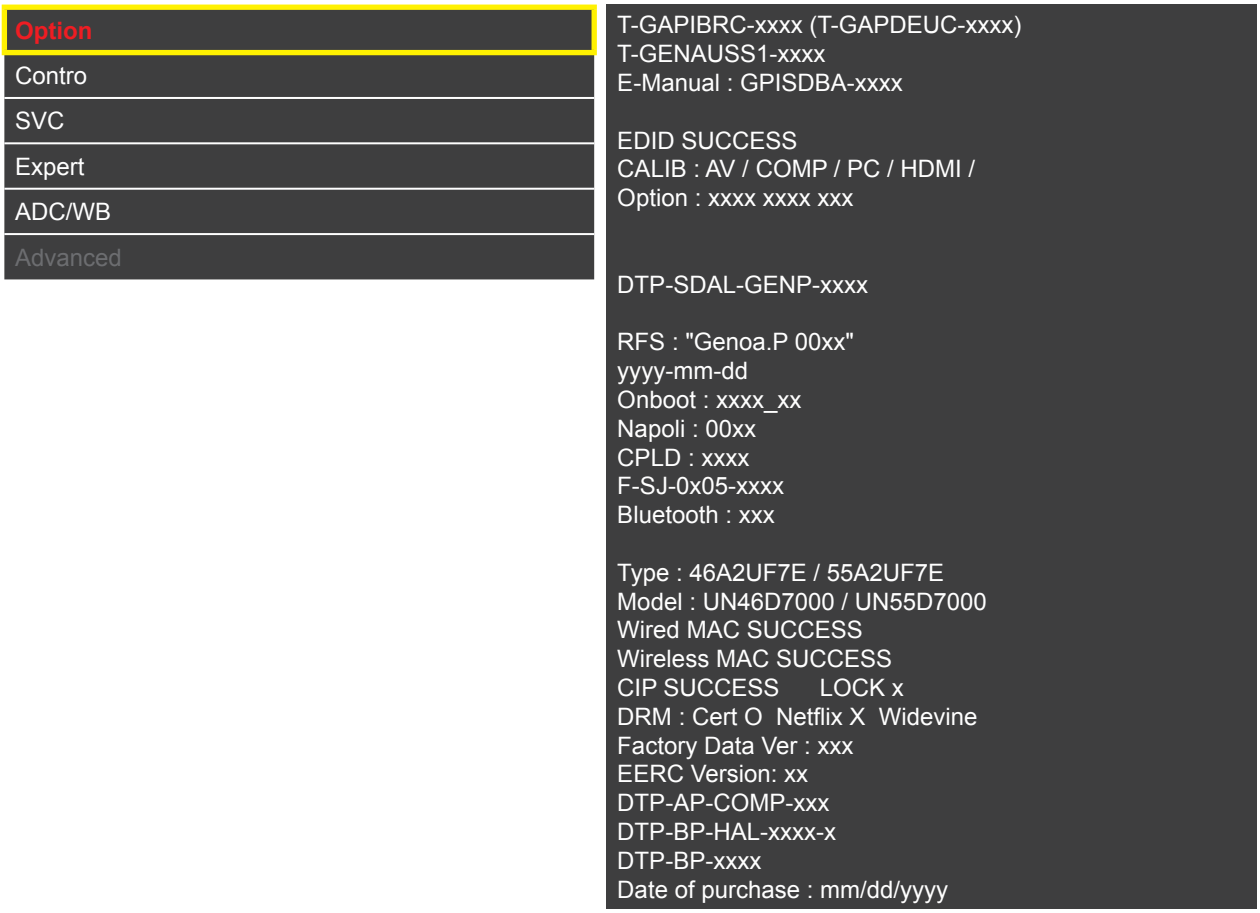
- If you do not have Factory remote - control

Power OFF → INFO → MENU → MUTE → Power ON

- If you have Factory remote-control

INFO → Factory

Some items are not available without a factory remote



4-4. Factory Data

Option			
Factory Menu Name	***Data***	***Range***	***Remark***
Factory Reset	-		
Type	40A2UF7E / 46A2UF7E / 55A2UF7E		
Local set	EU		
Model	UD7000		
TUNER	Auto UK/Nordic : SEC_T2S2, EU : SEC_TCS2)		
DDR			
Light Effect	ON		
Ch table	…		
Country			
Front Color	U-W-Milky		

Control			
Factory Menu Name	***Data***	***Range***	***Remark***
EDID			
EDID ON/OFF	Off		
EDID WRITE ALL	…		
EDID WRITE HDMI	…		
EDID WRITE PC	…		
HDMI EDID Ver	…		
HDMI EDID Port	…		
Sub Option			
Region	BRA (CHILE, PERU, COL)		
PnP Language	ENG_US		
RF Mute Time	700ms		
RS-232 Jack	UART		
Watchdog	OFF		
WD COUNT	0		
Dimm Type	EXT		
LVDS FORMAT	VESA		
Language_Arabic	S_AMERICA		
TOOLS Support	LAST POWER		
LNA Support	121		
CI Support	OFF		
NETWORK Support	Int-Wifi		
IPERF	Stopped		
Info Link Country	None		

Info Link Server Type	development		
TTX List	…		
TTX Group	…		
ND ADJ Support	ON		
24Px4 Support	OFF		
Power Indicator Support	ON		
BD Wise Support	ON		
RF Remocon Support	OFF		
Data Service Support	OFF		
PVR Support	OFF		
3D Support	ON		
Gemstar Support	OFF		
WSS Support	…		
ColorSpace Support	RGB Type		
OTA Support	OFF		
OTA Duration Test	OFF		
Alternate Del	OFF		
OTN			
OTN Server Type	*operating*		
OTN Test Server	*OFF*		
OTN Support	*ON*		
OTN Reset	*-*		
OTN Duration	*OFF*		
OTN Fail Test	*OFF*		
Cable Modulation	QAM		
PC Auto Ident	Enable		
IIC BUS STOP	OFF		
Visual Test	Diable		
Emergency Log Copy			
View Log			
Select Log Type	*IR KEY*		
Log View			
Delete Log			
Spread Spectrum			
HD SSC ON/Off	*OFF*		
LVDS SSC ON/OFF	*ON*		
LVDS SSC Value	*10*		
DDR SSC ON/Off	*ON*		
DDR SSC Value	*4*		
Napoli LVDS SSC On/Off	*ON*		
Napoli LVDS SSC MFR	*0*		

Napoli LVDS SSC MRR	*31*		
Napoli DDR SSC ON/OFF	*ON*		
Napoli DDR SSC MFR	*0*		
Napoli DDC SSC MRR	*26*		
DDR Margin	PN		
A CTRL_OFFSET_0_3	*0*		
A CTRL_OFFSET_D	*0*		
B CTRL_OFFSET_0_3	*0*		
B CTRL_OFFSET_D	*0*		
H.264 Margin	8		
MPEGMargin	1000		
TunerMargin	10		
SST			
Y0 TH	*218*		
Y1 TH	*150*		
Y2 TH	*122*		
Y3 TH	*105*		
Y4 TH	*78*		
Y5 TH	*62*		
Y6 TH	*34*		
Y7 TH	*113*		
Cb0 TH	*127*		
Cb1 TH	*51*		
Cb2 TH	*152*		
Cb3 TH	*79*		
Cb4 TH	*177*		
Cb5 TH	*103*		
Cb6 TH	*204*		
Cb7 TH	*128*		
Cr0 TH	*127*		
Cr1 TH	*139*		
Cr2 TH	*54*		
Cr3 TH	*66*		
Cr4 TH	*189*		
Cr5 TH	*201*		
Cr6 TH	*116*		
Cr7 TH	*128*		
S.DEV0	*100*		
S.DEV1	*80*		
Checksum	0x0000		
EEPROM RESET			

EER RESET			
NVR All Clear	*Off*		
KEY SENSITIVITY	NotUsed		
PDP Option			
LOGIC CONNECT			
PIXEL SHIFT TEST			
PANEL VERSION			
PANEL INCH			
PANEL TYPE			
PANEL TEMPERATURE			
LOGIC SW VERSION			
LOGIC SW CHECKSUM			
SAPC TIMER			
APC SPEED			
Real 100 Hz Support			
PLG_SHOP			
Hotel Option			
HOTEL MODE			
POWER ON CHANNEL			
CHANNEL TYPE			
POWER ON VOLUME			
MIN VOLUME			
MAX VOLUME			
PANEL BUTTON LOCK			
POWER ON SOURCE			
Shop Option			
Shop Mode	OFF		
Exhibition Mode	OFF		
3D_Emiton	ON		
3D_EmitShowMoe	OFF		
3D_GLASS PULSE_S	5		
3D_GLASS PULSE_H	3		
3D CUBE	OFF		
Asia Option			
TTX	OFF		
China HD	OFF		
NT Conversion	OFF		
Mono Last Memory	OFF		
Unbalance	OFF		
IF AGC	7		
D AGC	0		

PHBW	3		
FQ BW	3		
PH RATE	4		
PD EN	1		
SOUND			
High Devi	OFF		
Carrier Mute	ON		
Volume Curve	Type1		
Pilot Level High Thld	0x30h		
Pilot Level Low Thld	0x10h		
Chattering Cnt	5		
FM Prescale	0x14h		
AM Prescale	0x1Ah		
NICAM Prescale	0x14h		
Amp Volume	0xCBh		
Amp Scale	0x3Dh		
AMP Speaker EQ	ON		
AMP EQ CheckSum	0xBCC084		
AMP PEQ Test	Ready		
AMP PEQ Dump			
SPDIF PCM Level	-9		
DNSe-IP Test	Ready		
DNSe-IP CheckSum	0x0000		
Config Option			
Num of ATV	1		
Num of DTV	2		
Num of AV	0		
Num of SVIDEO	1		
Num of COMP	4		
Num of HDMI	1		
Num of PC	0		
Num of SCART	0		
Num of DVI	0		
Num of OPTICAL Link	1		
Num of MEDIA	6		
Num of PANEL KEY	2		
Num of USB Port	0		
MFT Offset	62.5		
Select LCD/PDP	LCD		
Num of DECODER	2		
Num of TUNER	1		

HDMI/DVI SEL	1		
Indicator Led	ON		
Wall Mount	OFF		
HV Flip	ON		
Num Of Display	2		
DVI/HDMI SOUND	Auto		
HDMI HOT PLUG	Disable		
HOTPLUG SWITCHING	Boot		
CLK TERMDURATION	300ms		
HOT PLUG OFF HOLD TIME	1200ms		
HDMI FLT CNT SIG	100ms		
HDMI FLT CNT LOS	100ms		
UNSTABLE BAN CNT	1250ms		
HDMI Err Cnt	1		
HDMI ROBIN	ON		
HDMI Callback	ON		
HDMI CTS Thld	0		
HDMI CTS Cnt1	0		
HDMI 3D Det	1		
TMDS_EQ2_Boost	1		
TMDS_EQ2_Gain	0		
TMDS_PLL_Loop	3		
TMDS_CPREG_BLEED	1		
HDMI EQ	AUTO		
HDMI EDID CTRL Type	Combine		
DVI SET TIME	300ms		
Type Of PANEL KEY	Vertical		
LD CTRL SELECT	FULL_CTRL		
PVR Record NUM	1		
Backend Device	NAPOLI		
ENCORDER	NXC1000		
BPARD CONTROL	ON		
All Share Support	ON		
SCC			
SCC Mode	Dynamic		
SCC ON/OFF	Off		
SCC Input Data			
Hx	*272*		
Hy	*278*		
Lx	*272*		
Ly	*278*		

sSCC Const			
sSCC Hx	*545*		
sSCC Hy	*571*		
sSCC Lx	*544*		
sSCC Ly	*572*		
pSCC Const			
pSCC Hx	*545*		
pSCC Hy	*571*		
pSCC Lx	*544*		
pSCC Ly	*572*		
SCC Source Data	PBA		
SWAP	PBA		

SVC

Factory Menu Name	***Data***	***Range***	***Remark***
Test Pattern			
LOGIC Pattern Sel	*0*		
LOGIC Level Sel	*255*		
LDAsic Pattern Sel	*0*		
GenaoP Pattern Sel	*0*		
GenoaS Pattern Sel	*0*		
Napoli Pre Test Pattern	*0*		
Napoli Post Test Pattern	*0*		
Napoli FDISPLAY ON/OFF	*OFF*		
Napoli PC Mode ON/OFF	*OFF*		
HDMI WB Pattern	OFF		
HDMI Pattern Sel	0		
GenoaS FRC Post Test Pattern	0		
GenoaS FRC FDISPLAY ON/OFF	OFF		
GenoaS FRC PC Mode ON/OFF	OFF		
Panel Auto Setting			
PANEL DISPLAY TIME	3Hr		
T-CON USB Download			
T-CON CheckSum			
CPLD USB Download			
REMOCON PAIRING			
TC905x7			
FFT Size_0	0		
Guard Interval_0	0		
Freq. Offset_0	0		
SNR_0	0		
IF AGC_0	0		

TMCC Lock_0	0		
TS Packet_0	0		
Master Lock_0	0		
A_Modulation_0	0		
A_Code Rate_0	0		
A_Timer InterLeave_0	0		
A_Segments Num_0	0		
A_BER_0	0		
B_Modulation_0	0		
B_Code Rate_0	0		
B_Timer InterLeave_0	0		
B_Segments Num_0	0		
B_BER_0	0		
C_Modulation_0	0		
C_Code Rate_0	0		
C_Timer InterLeave_0	0		
C_Segments Num_0	0		
C_BER_0	0		
MICOM UPGRADE			
Temp Last			
Temp Read			
DDC Version	0x40519		
DDC_CHK_SEL	0		
DDC_Check_Total	0x0		
IR_ON_OFF	0xaa		
BT ADDRESS	ON		
BT UPGRADE			
SVC Reset			

Expert

Factory Menu Name	***Data***	***Range***	***Remark***
N/D ADJ			
Source			

ADC/WB

Factory Menu Name	***Data***	***Range***	***Remark***
ADC			
AV Calibration			
Comp Calibraion			
PC Calibration			
HDMI Calibration			
ADC Target			

1st_AV_Low	64		
1st_AV_High	880		
1st_AV_Delta	2		
1st_COMP_Y_Low	64		
1st_COMP_Cb_Low	512		
1st_COMP_Cr_Low	512		
1st_COMP_Y_High	940		
1st_COMP_Cb_High	512		
1st_COMP_Cr_High	512		
1st_COMP_Delta	2		
1st_PC_Low	16		
1st_PC_High	1004		
2nd_AV_Low	4		
2nd_AV_High	940		
2nd_PC_Low	4		
2nd_PC_High	940		
2nd_Delta	2		
ADC Result			
1st_Y_GH	248		
1st_Y_GL	245		
1st_Cb_BH			
1st_Cb_BL			
1st_Cr_RH			
1st_Cr_RL			
2nd_R_L	131		
2nd_G_L	131		
2nd_B_L	131		
2nd_R_H	107		
2nd_G_H	107		
2nd_B_H	107		
White Balance			
Sub Brightness	128		
R-Offset	128		
G-Offset	128		
B-Offset	128		
Sub Contrast	128		
R-Gain	128		
G-Gain	128		
B-Gain	128		
Movie R-Offset			
Movie B-Offset			

Movie R-Gain			
Movie B-Gain			

Advanced

Factory Menu Name	*Data*	*Range*	*Remark*
Picture_2D			
FBE3			
BM_slope			
BM_start			
BM_start_max			
Lfunc_gain			
Hfunc_gain			
ACR-Offset			
Skin-UV			
FBE Sub color			
M-Skin-UV			
M-Sub Color			
N_Skin_UV			
N_Sub_Gamma			
Color Gamut			
LFUNC_TH1			
LFUNC_TH2			
LFUNC_TH3			
LFUNC_OUT2			
LFUNC_OUT3			
LFUNC_OUT4			
LFUNC_OUT5			
UFUNC_TH1			
UFUNC_TH2			
UFUNC_TH3			
UFUNC_OUT2			
UFUNC_OUT3			
UFUNC_OUT4			
UFUNC_OUT5			
PPHC_Red			
PPHC_Green			
PPHC_Blue			
PPHC_Cyan			
PPHC_Magenta			
PPHC_Yellow			
WB Movie			
W/B MOVIE ON/OFF			

MODE			
Color Tone			
MSub Brightness			
MSub Contrast			
N_Rgain			
N_Bgain			
N_Roffset			
N_Boffset			
W1_Rgain			
W1_Bgain			
W1_Roffset			
W1_Boffset			
W2_Rgain			
W2_Bgain			
W2_Roffset			
W2_Boffset			
Movie Contrast			
Movie Bright			
Movie Color			
Movie Sharpness			
Movie Tint			
Movie Backlight			
Movie Gamma			
M_Sub_Gamma			
HDMI Black Level			
SubSetting			
Gamma	0.95		
PWM Max			
PWM Mid			
PWM Min			
Contrast Dimming			
7.5 IRE NTSC			
7.5 IRE OFFSET			
48Hz Enable			
Peak Dimming			
Dynamic CE			
ColorMapping			
Auto_Red_R			
Auto_Red_G			
Auto_Red_B			
Auto_Green_R			

Auto_Green_G			
Auto_Green_B			
Auto_Blue_R			
Auto_Blue_G			
Auto_Blue_B			
Auto_Yellow_R			
Auto_Yellow_G			
Auto_Yellow_B			
Auto_Cyan_R			
Auto_Cyan_G			
Auto_Cyan_B			
Auto_Magenta_R			
Auto_Magenta_G			
Auto_Magenta_B			
EPA 3D			
Standard Contrast			
Standard Brightness			
Standard Sharpness			
Standard Color			
Standard Tint			
Standard Backlight			
3D Contrast			
3D Brightness			
V_3D PWM Delay_60			
V_3D ANA Delay_60			
V_3D PWM Delay_50			
V_3D ANA Delay_50			
Motion plus Delay			
Home Delay			
Shop Delay			
CH_VDEC			
AGC_mode			
Gain_VCR			
Y_Gain_Man			
Y_Shape_sel			
Y_Shape_SCM			
C_Shape_sel			
C_Shape_SCM			
If_iir			
If_filt_sel			
ST_Beg_NTSC			

VS_Slice_Level			
HS_Slice_Level			
FB_Delay_adj			
RGB_Delay_adj			
slice_mod_fine			
scm_fdet_lvl			
bl_range			
AR_ADC			
PHASE			
SOG_BW			
SSC_PC			
RGB_DLY			
YC_Delay			
PAL_BG			
PAL_DK			
PAL_I			
PAL_M			
PAL_N			
SECAM_BG			
SECAM_DK			
SECAM_L			
NTSC_358			
NTSC_443			
AV_PAL			
AV_PAL_M			
AV_PAL_N			
AV_SECAM			
AV_NT358			
AV_NT443			
AV_PAL60			
CH_DP			
BD_MAX_PERCENT_X			
BD_MAX_PERCENT_Y			
BD_DETAIL_AMT_MAX			
BD_TOUCH_SUPP			
BD_TOUCH_SUP_INV			
DR_SIGMA_FIL_GAIN			
DR_GAIN_IN_ETE			
SD2HD_Metric			
Sharpness			
Pre_GainH1			

Pre_GainH2			
Pre_GainH3			
Pre_GainV1			
Pre_GainV2			
Pre_GainV3			
Post_GainH1			
Post_GainH2			
Post_GainH3			
Post_GainV1			
Post_GainV2			
Post_GainV3			
Post_GainPE1			
Post_GainPE2			
Post_GainPV1			
Post_GainPV2			
CTI_Gain			
Pre_LTIH			
LTI_H			
LTI_V			
PRE_CORING_H			
PRE_CORING_V			
POST_CORING			
Pre_TOT			
Post_TOT			
SH Sub Color			
Sharpness_LNA			
S1_Pre_GainH1			
S1_Pre_GainH2			
S1_Pre_GainH3			
S1_Pre_GainV1			
S1_Pre_GainV2			
S1_Pre_GainV3			
S1_Post_GainH1			
S1_Post_GainH2			
S1_Post_GainH3			
S1_Post_GainV1			
S1_Post_GainV2			
S1_Post_GainV3			
S1_Post_GainPE1			
S1_Post_GainPE2			
S1_Post_GainPV1			

S1_Post_GainPV2			
S2_Pre_GainH1			
S2_Pre_GainH2			
S2_Pre_GainH3			
S2_Pre_GainV1			
S2_Pre_GainV2			
S2_Pre_GainV3			
S2_Post_GainH1			
S2_Post_GainH2			
S2_Post_GainH3			
S2_Post_GainV1			
S2_Post_GainV2			
S2_Post_GainV3			
S2_Post_GainPE1			
S2_Post_GainPE2			
S2_Post_GainPV1			
S2_Post_GainPV2			
S3_Pre_GainH1			
S3_Pre_GainH2			
S3_Pre_GainH3			
S3_Pre_GainV1			
S3_Pre_GainV2			
S3_Pre_GainV3			
S3_Post_GainH1			
S3_Post_GainH2			
S3_Post_GainH3			
S3_Post_GainV1			
S3_Post_GainV2			
S3_Post_GainV3			
S3_Post_GainPE1			
S3_Post_GainPE2			
S3_Post_GainPV1			
S3_Post_GainPV2			
LNA_Plus			
Synctip_Noise			
dB0			
dB1			
dB2			
dB3			
dB4			
dB5			

dB6			
dB7			
dB8			
dB9			
LNA+_Yfilter			
FRCS			
FRCS LVDS Format			
FRCS LVDS BitWidth			
FRCS LVDS Sequence			
FRCS Hangup Detection			
FRCS FMD Demo			
LDAsic			
R_LD4_L3DD_RATIO			
R_LD4_LD_ON			
R_DELAY			
R_ALL_READ			
R_LVDS_TX_FMT			
R_LVDS_SW			
3D			
EmitOn			
EmitStartPosi60			
EmitStartPosi50			
EmitStartPosi48			
3DSyncVstart60			
3DSyncVend60			
3DSyncVstart50			
3DSyncVend50			
3DSyncVstart48			
3DSyncVend48			
2D3D Focus			
2D3D Depth1			
2D3D Depth2			
2D3D Depth3			
2D3D Depth4			
2D3D Depth5			
2D3D Depth6			
2D3D Depth7			
2D3D Depth8			
2D3D Depth9			
2D3D Depth10			
N240 PWM Delay_60			

N240 ANA Delay_60			
N240 PWM Delay_50			
N240 ANA Delay_50			
N240 PWM Delay_48			
N240 ANA Delay_48			
Reading			
POST_FDISPLAY			
RAMP_SPEED			
POST_RAMP_SPEED			
LVDS_RX_FMT			
LVDS_TX_FMT			
LVDS_RX_BIT			
LVDS_TX_BIT			
POST_OUT1_ORDER			
POST_OUT2_ORDER			
POST_OUT3_ORDER			
POST_OUT4_ORDER			
CROSS_PATTERN			
EnableFB			
HMVSRMargin_2X_H			
HMVSRMargin_2X_M			
HMVSRMargin_2X_L			
VMVSRMargin_2X			
HSADPercentT1_2X			
HSADPercentT2_2X			
HMVSRMargin_FILM_H			
HMVSRMargin_FILM_M			
HMVSRMargin_FILM_L			
VMVSRMargin_FILM			
HSADPercentT1_FILM			
HSADPercentT2_FILM			
LEDDriver			
VSYNC_DELAY_3D_50			
VSYNC_DELAY_3D_60			
FRC			
FRCQ Option *SSC_OnOff* *SSC_Width* *SSC_Freq* *FMD_Demo*			
CSB Vertical			

CSB Horizontal			
X_VStabStatVid			
X_VStabStatF			
X_VStabCorF			
X_VStabSensF			
X_HaloSizStatVid			
X_HaloSizStatF			
X_HaloSizCorF			
X_HaloSizSensF			
Film_Low_SD			
Film_Medium_SD			
Film_High_SD			
Film_Low_HD			
Film_Medium_HD			
Film_High_HD			
Video_Judder_Low			
Video_Judder_Med			
Video_Judder_High			
Hangup Detection			
Q LVDS Sequence			
Q LVDS Format			
Q LVDS bit width			
PC_Mode_OnOff			
FRCQ Fallback			
SensD_Film_Low			
SensD_Film_Medium			
SensD_Film_High			
Rel_Start_Film			
Rel_Slope_Film			
H_Len_Start_Film			
H_Len_Slope_Film			
V_Len_Start_Film			
V_Len_Slope_Film			
SensD_Video			
Rel_Start_Video			
Rel_Slope_Video			
H_Len_Start_Video			
H_Len_Slope_Video			
V_Len_Start_Video			
V_Len_Slope_Video			

Picture Update

4-5. White Balance

4-5-1. Calibration

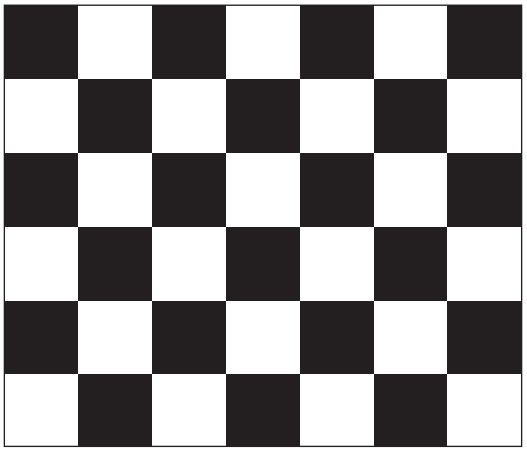
ADC/WB → AV Calibration
Comp Calibration
PC Calibration
HDMI Calibration

4-5-2. Service Adjustment

You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

Adjust spec.
1. Source : HDMI
2. Setting Mode : 1280 x 720@60Hz
3. Pattern : Pattern #24 (Chess Pattern)



(Chess Pattern)

4. Use Equipment : CA210 & Master MSPG925 Generator

- Use other equipment only after comparing the result with that of the Master equipment.

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

<Table 1>

■ Method of Color Calibration (AV)

1) Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port
2) Press the Source key to switch to "AV1" mode
3) Enter Service mode
4) Select the "ADC/WB" and "ADB" menu
5) Select the "AV Calibration" menu.
6) In "AV Calibration Off" status, press the "►" key to perform Calibration.
7) When Calibration is complete, it returns to the high-level menu.
8) You can see the change of the "AV Calibration" status from Failure to Success.

■ Method of Color Calibration (Component)

1) Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port
2) Press the Source key to switch to "component" mode
3) Enter Service mode
4) Select the "ADC/WB" and "ADB" menu
5) Select the "Comp Calibration" menu.
6) In "Comp Calibration Off" status, press the "►" key to perform Calibration.
7) When Calibration is complete, it returns to the high-level menu.
8) You can see the change of the "Comp Calibration" status from Failure to Success.

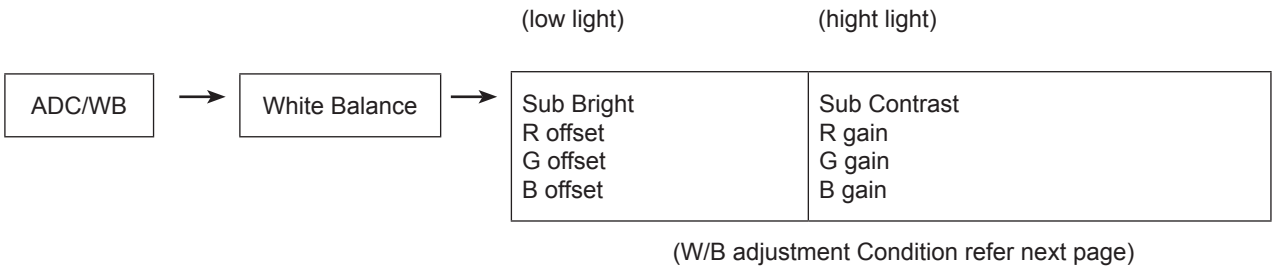
■ Method of Color Calibration (PC)

1) Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port
2) Press the Source key to switch to "PC" mode
3) Enter Service mode
4) Select the "ADC/WB" and "ADB" menu
5) Select the "PC Calibration" menu.
6) In "PC Calibration Off" status, press the "►" key to perform Calibration.
7) When Calibration is complete, it returns to the high-level menu.
8) You can see the change of the "PC Calibration" status from Failure to Success.

■ Method of Color Calibration (HDMI)

1) Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port
2) Press the Source key to switch to "HDMI1" mode
3) Enter Service mode
4) Select the "ADC/WB" and "ADB" menu
5) Select the "HDMI Calibration" menu.
6) In "HDMI Calibration Off" status, press the "►" key to perform Calibration.
7) When Calibration is complete, it returns to the high-level menu.
8) You can see the change of the "HDMI Calibration" status from Failure to Success.

4-5-3. Adjustment



(W/B adjustment Condition refer next page)

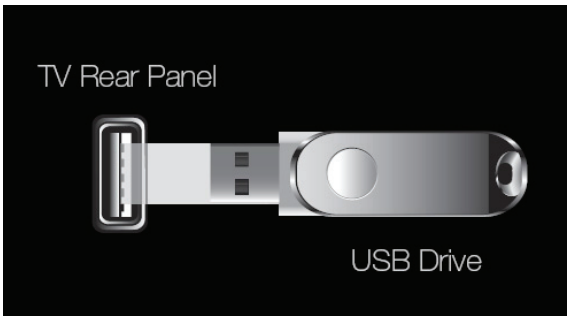
4-6. Software Upgrade

Software Upgrade can be performed by network connection or downloading the latest firmware from "***www.samsung.com***" to a USB memory device.

■ By USB

Insert a USB drive containing the firmware upgrade file, downloaded from "***www.samsung.com***" into the TV.

Please be careful not to disconnect the power or remove the USB drive until upgrades are complete. The TV will be turned off and on automatically after completing the firmware upgrade. When software is upgraded, video and audio settings you have made will return to their default settings. We advise you to to write down your settings so that you can easily reset them after the upgrade.



** The displayed menu may differ depending on the model.*

■ By Online

Upgrades the software using the Internet.

- First, configure your network. For detailed procedures on using the Network Setting, refer to the 'Setting the Network' instructions.
- If The internet connection doesn't operate properly, connection can be broken, please retry downloading.

If the problem still happens, download by USB and upgrade.

■ Stanby mode upgrade(Off/On)

A manual upgrade will be automatically performed at selected time. Since the power of the unit is turned on internally, the screen may be turned on slightly for the LED product. This phenomenon may continue for more than 1 hour until the software upgrade is complete.

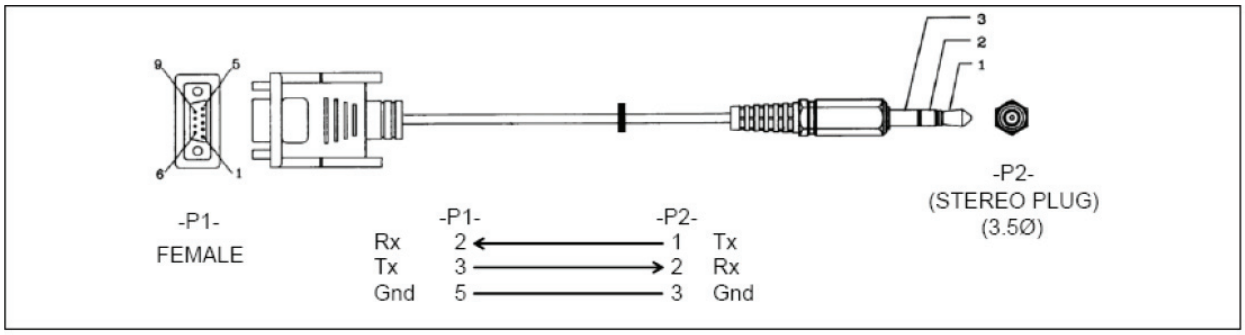
4-7. RS-232C

1. To RS232C Control

Port : COM#(Serial)
Bit rate : 115200
Data Bit : 8 bit
Parity : None
Stop Bits : 1
Flow Control : None

2. Description of RS232C

Pin#	Name	Full Name
1	CD	Carrier Detect
2	RxD	Received Data
3	TxD	Transmitted Data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicator



4-8. AV control code

Control Item					Cmd1	Cmd2	Cmd3	Value
General	**Power**	Power			0x00	0x00	0x00	0x00
		Off						0x01
		On						0x02
	Volume	Direct			0x01	0x00	0x00	(0~100)
		Up					0x01	0x00
		Down					0x02	0x00
	Mute				0x02	0x00	0x00	0x00
		Ch.	Direct		0x04	-		
			Continuous	Up	0x03	0x00	0x01	0x00
				Down			0x02	0x00

Control Item				Cmd1	Cmd2	Cmd3	Value
Input	**Source List**	TV	TV	0x0a	0x00	0x00	0x00
		AV	AV1			0x01	0x00
			AV2				0x01
			AV3				0x02
		S-Video	S-Video1			0x02	0x00
			S-Video2				0x01
			S-Video3				0x02
		Component	Component1			0x03	0x00
			Component2				0x01
			Component3				0x02
		PC	PC1			0x04	0x00
			PC2				0x01
			PC3				0x02
		HDMI	HDMI1			0x05	0x00
			HDMI2				0x01
			HDMI3				0x02
			HDMI4				0x03
		DVI	DVI1			0x06	0x00
			DVI2				0x01
			DVI3				0x02

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	**Mode**	Dynamic(Entertain)		0x0b	0x00	0x00	0x00
		Standard					0x01
		Movie					0x02
		Natural					0x03
		CAL-NIGHT					0x04
		CAL-DAY					0x05
		BD Wise					0x06
	BackLight				0x01	0x00	(0~20)
	Contrast				0x02	0x00	(0~100)
	Brightness				0x03	0x00	(0~100)
	Sharpness				0x04	0x00	(0~100)
	Color				0x05	0x00	(0~100)
	Tint	G/R			0x06	0x00	(0~100)
	Advanced Settings	Black Tone			0x07	0x00	0x00
							0x01
							0x02
							0x03
		Dynamic Contrast	Off			0x01	0x00
			Low				0x01
			Medium				0x02
			HIgh				
		Shadow Detail	-2 ~ 2			0x02	(-2~2)
		Gamma	-3 ~ 3			0x03	(-3~3)
		RGB Only Mode	Off			0x05	0x00
			Red				0x01
			Green				0x02
			Blue				0x03
		Color Space	Auto			0x06	0x00
			Native				0x01
			Custom				0x02
		White Balance	R-Offset(LCD)			0x07	(0~50)
		White Balance	G-Offset(LCD)			0x08	(0~50)
		White Balance	B-Offset(LCD)			0x09	(0~50)
		White Balance	R-Gain(LCD)			0x0a	(0~50)
		White Balance	G-Gain(LCD)			0x0b	(0~50)
		White Balance	B-Gain(LCD)			0x0c	(0~50)
		White Balance	Reset(LCD)			0x0d	0x00
		Flesh Tone	-15 ~ 15			0x0e	(-15~15)
		Edge Enhancement	Off			0x0f	0x00
			On				0x01

		xvYCC	Off			0x10	0x00
			On				0x01
		Motion Lighting	Off			0x11	0x00
			On				0x01
		LED Motion Plus	Off			0x07	0x00
			On(Normal)				0x01
			Cinema				0x02
			Ticker				0x03
	Picture Option	Color Tone	Cool		0x0a	0x00	0x00
			Normal				0x01
			Warm1				0x02
			Warm2				0x03
		Digital Noise Filter	Off			0x02	0x00
			Low				0x01
			Medium				0x02
			High				0x03
			Auto				0x04
			Auto Visualization				0x05
		MPEG Noise Filter	Off			0x03	0x00
			Low				0x01
			Medium				0x02
			High				0x03
			Auto				0x04
		HDMI Black Level	Normal			0x04	0x00
			Low				0x01
		Film Mode	Off			0x05	0x00
			Auto1				0x01
			Auto2				0x02
		Auto Motion Plus	Off			0x06	0x00
			Clear				0x01
			Standard				0x02
			Smooth				0x03
			Custom				0x04
			Demo				0x05
	Screen Adjustment	Picture Size	16:9	0x0b	0x0a	0x01	0x00
			Zoom1				0x01
			Zoom2				0x02
			Wide Fit				0x03
			4:3				0x04
			Screen Fit				0x05
			Smart View I				0x06

			Smart View II				0x07
	Reset Picture	Reset Picture		0x0b	0x0b	0x00	0x00
	3D	3D Mode	Off	0x0b	0x0c	0x00	0x00
			2D->3D				0x01
			Side By Side				0x02
			Top Bottom				0x03
			Line By Line				0x04
			Vertical Line				0x05
			Checker BD				0x06
			Frame Sequence				0x07
		3D ➞2D	Off			0x01	0x00
			On				0x01
		3D View Point				0x02	(-5~5)
		Depth				0x03	(1~10)
		Picture Correction				0x04	0x00
		3D Auto View	Off			0x05	0x00
			Message Notice				0x01
			On				0x02

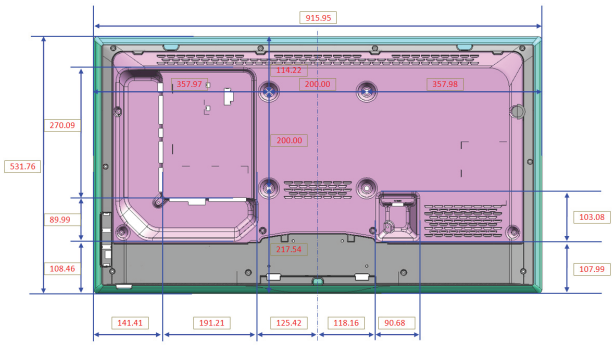
Control Item			Cmd1	Cmd2	Cmd3	Value
Sound	**SRS TheaterSound(Genoa)**	Standard	0x0c	0x00	0x00	0x00
	Sound Mode(X6)	Music				0x01
		Movie				0x02
		Clear Voice				0x03
		Amplify				0x04
	Equalizer	Balance		0x01	0x00	(0~20)
		100hz			0x01	(0~20)
		300hz			0x02	(0~20)
		1khz			0x03	(0~20)
		3khz			0x04	(0~20)
		10khz			0x05	(0~20)
		Reset			0x06	0x00
	SRS TruSurround HD(Genoa)	Off		0x02	0x00	0x00
	Virtual Surrond(X6)	On				0x01
	SRS TruDialog(Genoa)	Off		0x03	0x00	0x00
	Dialog Clarify(X6)	On				0x01
	Preferred Language	English		0x04	0x00	0x00
		Spanish				0x01
		French				0x02
		Korean				0x03
		Japanese				0x04

	Multi-Track Sound	Mono		0x05	0x00	0x00
		Stereo				0x01
		SAP				0x02
	Auto Volume	Off		0x06	0x00	0x00
		Normal				0x01
		Night				0x02
	Speaker Select	TV Speaker		0x07	0x00	0x00
		External Speaker				0x01
	Sound Select	Main		0x08	0x00	0x00
		Sub				0x01
	Sound Reset	Sound Reset		0x09	0x00	0x00
KEY	**Key Generation**		0x0d	0x00	0x00	refer to the table of below

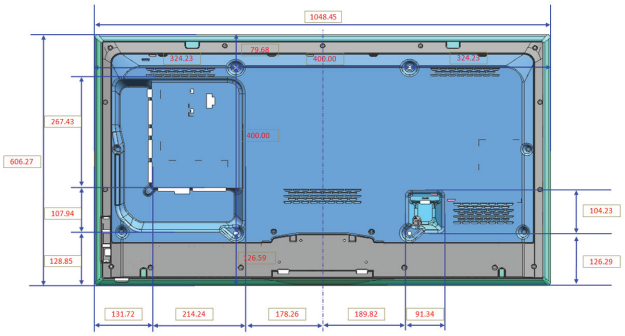
Key value	Value
Up	96 (0x60)
Down	97 (0x61)
Left	101 (0x65)
Right	98 (0x62)
Menu	26 (0x1A)
Internet	147 (0x93)
Enter(OK)	104 (0x68)
EXIT	45 (0x2D)

4-9. Rear Cover Dimension

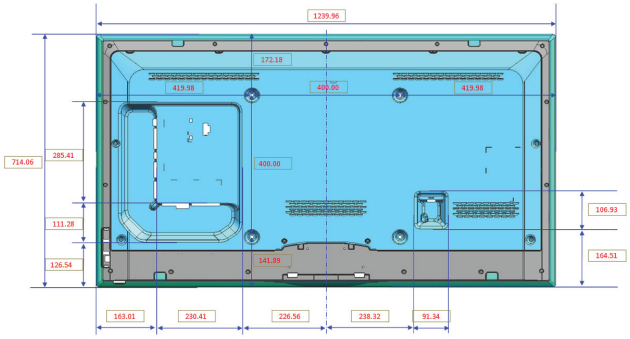
40" Cover MEDDLE & Rear Dimmension



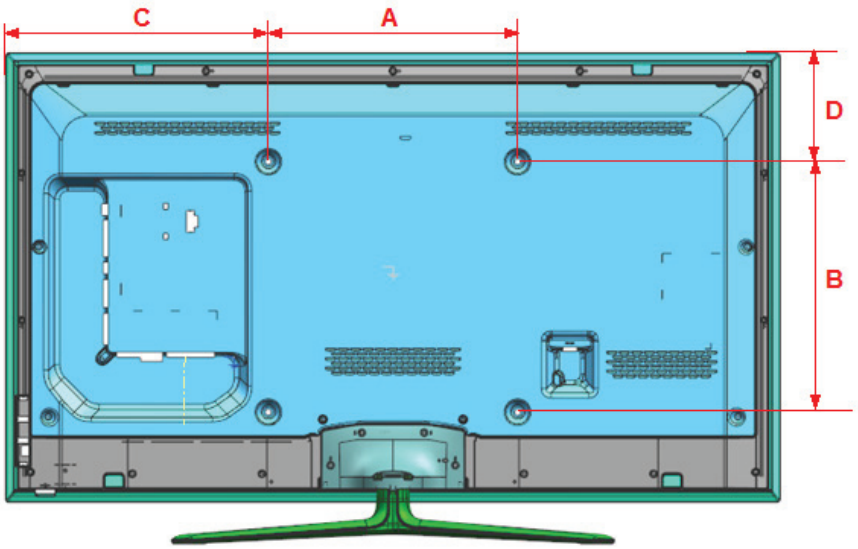
46" Cover MEDDLE & Rear Dimmension



55" Cover MEDDLE & Rear Dimmension

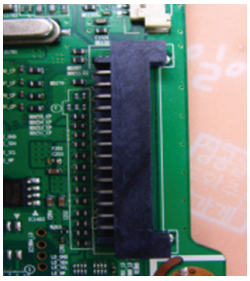
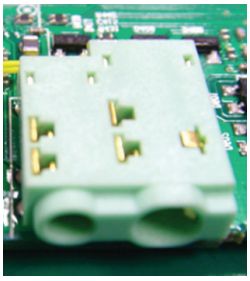


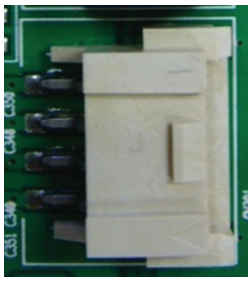
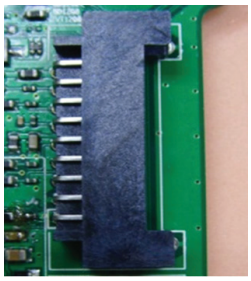
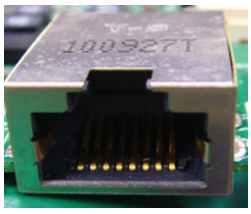
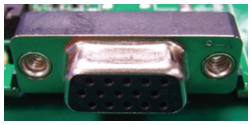
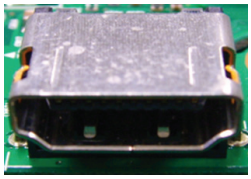
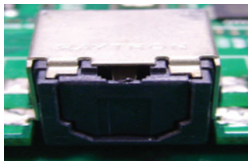
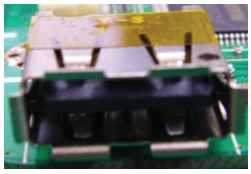
Cover-Rear Area

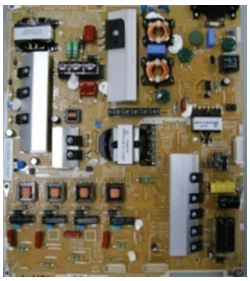
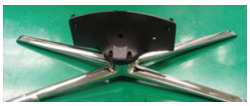
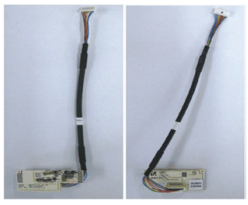


UD7000 (Wall Mount)	40"	46"	55"
A x B	200 x 200	400 x 400	400 x 400
C x D	358.0 x 114.2	324.2 x 79.7	420.0 x 172.2

4-10. Service Item

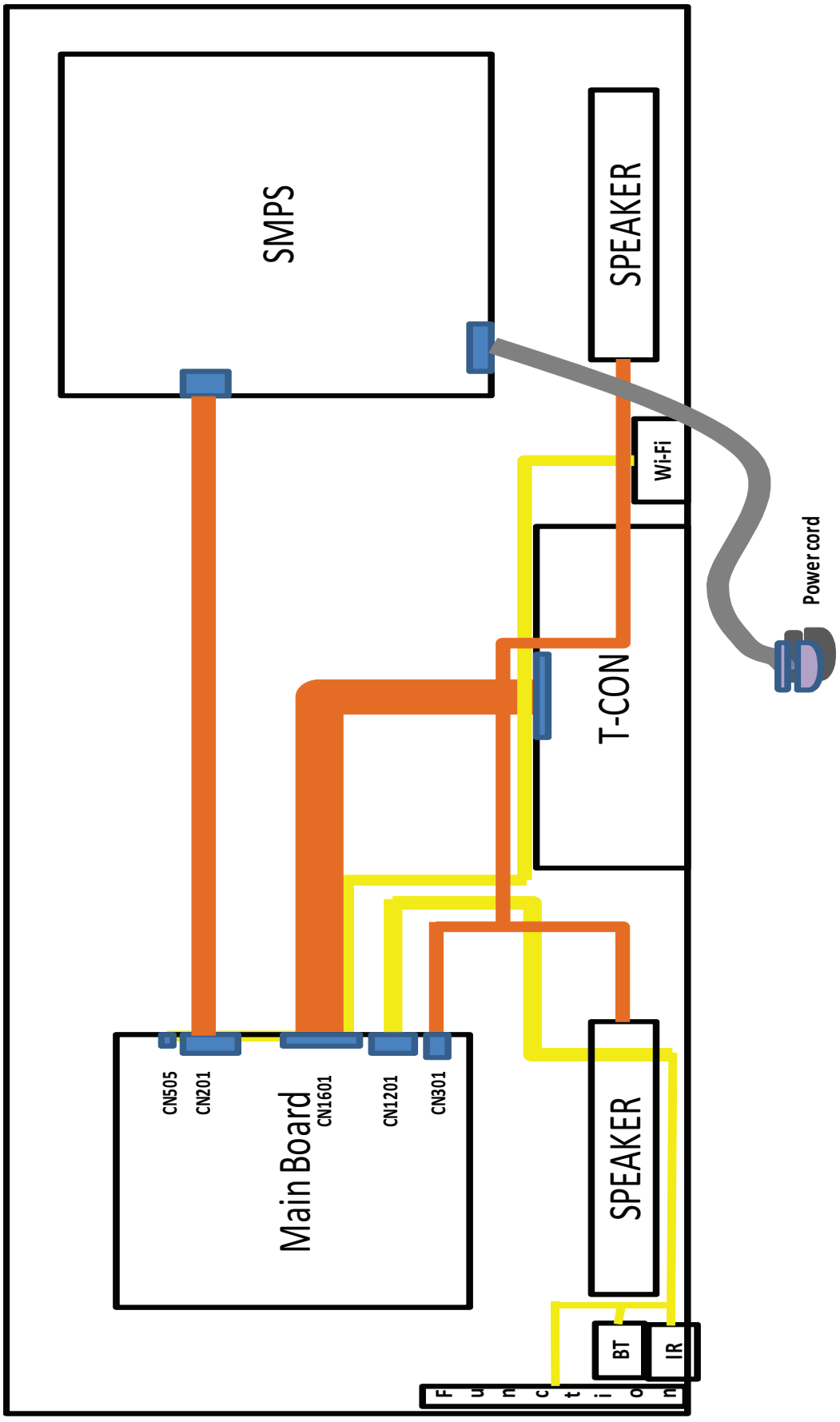
ITEM	LOCATION	VIEW
HEADER-BOARD TO BOARD	CN201	
CONNECTOR-FPC/FFC/PIC	CN1601	
JACK-PHONE	CN402 CN502 CN507_US	
JACK-PHONE	CN506_UBA	
JACK-PHONE	CN404	
TUNER	TU702_FN	

ITEM	LOCATION	VIEW
HEADER-BOARD TO CABLE	CN301	
HEADER-BOARD TO CABLE	CN701	
JACK-MODULAR	CN1701	
CONNECTOR-DSUB	CN401	
CONNECTOR-HDMI	CN601 CN604 CN618 CN602	
CONNECTOR-OPTICAL	OP401	
JACK-USB	CN1501 CN1502 CN1503	
ASSY PCB MAIN	-	

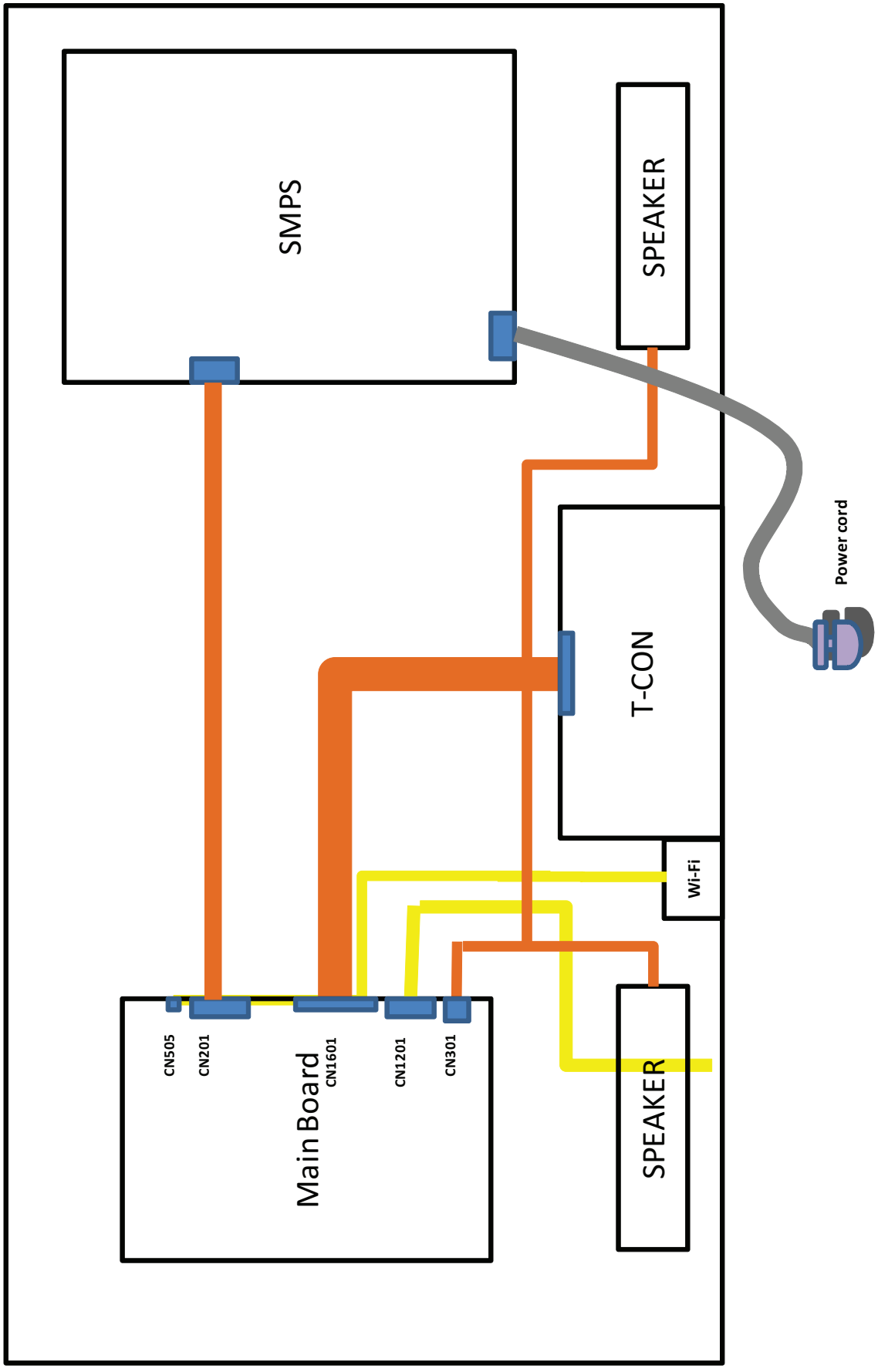
ITEM	LOCATION	VIEW
IP Board	-	
T-CON	-	
ASSY STAND	-	
FUNCTION IR & 3D Board	-	
Touch function	-	
BT RF-Module	-	
Lead connector (Function & IR & 3D & BT RF Module)	-	

5. Wiring Diagram

5-1. Wiring Diagram For 40 inches



For 46_55 inches



5-2. Connector

CN1405_FHD (to Panel)			
1	NC	27	Ch3[0]-
2	GND	28	GND
3	SDA_NAPOLI	29	Ch1[4]+
4	NAPOLI_PWM1	30	Ch1[4]-
5	SCL_NAPOLI	31	Ch1[3]+
6	NC	32	Ch1[3]-
7	NAPOLI_PWM2	33	GND
8	SDA_PANEL	34	Ch1CLK+
9	PANEL_I2C_SW	35	Ch1CLK-
10	EMITTER SYNC	36	GND
11	NAPOLI_VSYNC	37	Ch1[2]+
12	SCL_PANLE	38	Ch1[2]-
13	GND	39	Ch1[1]+
14	Ch3[4]+	40	Ch1[1]-
15	Ch3[4]-	41	Ch1[0]+
16	Ch3[3]+	42	Ch1[0]-
17	Ch3[3]-	43	GND
18	GND	44	GND
19	Ch3CLK+	45	GND
20	Ch3CLK-	46	NC
21	GND	47	GND
22	Ch3[2]+	48	PANEL_VCC
23	Ch3[2]-	49	PANEL_VCC
24	Ch3[1]+	50	PANEL_VCC
25	Ch3[1]-	51	PANEL_VCC
26	Ch3[0]+		

CN602(to HDMI1)			
1	HDMI1_RX2+	10	HDMI1_RX2+
2	GND	11	GND
3	HDMI1_RX2-	12	HDMI1_RX2-
4	HDMI1_RX1+	13	HDMI1_RX1+
5	GND	14	GND
6	HDMI1_RX1-	15	HDMI1_RX1-
7	HDMI1_RX0+	16	HDMI1_RX0+
8	GND	17	GND
9	HDMI1_RX0-	18	HDMI1_RX0-

CN603(to HDMI2)			
1	HDMI2_RX2+	10	HDMI2_RXCLK+
2	GND	11	GND
3	HDMI2_RX2-	12	HDMI2_RXCLK-
4	HDMI2_RX1+	13	HDMI_CEC
5	GND	14	GND
6	HDMI2_RX1-	15	HDMI2_DDC_SCL
7	HDMI2_RX0+	16	HDMI2_DDC_SDA
8	GND	17	GND
9	HDMI2_RX0-	18	HDMI2_5V

CN604(to HDMI3)			
1	HDMI3_RX2+	10	HDMI3_RXCLK+
2	GND	11	GND
3	HDMI3_RX2-	12	HDMI3_RXCLK-
4	HDMI3_RX1+	13	HDMI_CEC
5	GND	14	GND
6	HDMI3_RX1-	15	HDMI3_DDC_SCL
7	HDMI3_RX0+	16	HDMI3_DDC_SDA
8	GND	17	GND
9	HDMI3_RX0-	18	HDMI3_5V

CN601(to HDMI3)			
1	HDMI3_RX2+	10	HDMI3_RXCLK+
2	GND	11	GND
3	HDMI3_RX2-	12	HDMI3_RXCLK-
4	HDMI3_RX1+	13	HDMI_CEC
5	GND	14	GND
6	HDMI3_RX1-	15	HDMI3_DDC_SCL
7	HDMI3_RX0+	16	HDMI3_DDC_SDA
8	GND	17	GND
9	HDMI3_RX0-	18	HDMI3_5V

CN601(to PC)			
1	PC_RED	9	PC_5V
2	PC_GREEN	10	IDENT_PC
3	PC_BLUE	11	NC
4	NC	12	SDA_DOWN
5	GND	13	PC_H_SYNC
6	GND	14	PC_V_SYNC
7	GND	15	SCL_DOWN
8	GND		

CN402(to PC Sound)			
1	GND	5	NC
2	PC_SR_IN	6	NC
3	PC_SL_IN	7	NC
4	NC		

CN301(to Speaker)			
1	R+	3	L+
2	R-	4	L-
3	PC_SL_IN	7	NC
4	NC		

OP401(to Optical Jack)			
1	VIN	3	GND
2	VCC		

CN1503(USB1)			
1	USB1_VCC_PW	3	USB1_DP
2	USB1_DM	4	GND

CN1502(USB2)			
1	USB2_VCC_PW	3	USB2_DP
2	USB2_DM	4	GND

CN1501(USB3)			
1	USB3_VCC_PW	3	USB3_DP
2	USB3_DM	4	GND

CN502(to Monitor OUT)			
1	GND	4	NC
2	MONITOR_SL_OUT	5	NC
3	MONITOR_SR_OUT	6	NC

CN401(to Function/IR)			
1	IR	10	USB_BT_DM
2	FRAME_SYNC_IN	11	ENTER_INPUT
3	GND	12	GND
4	EMITTERSYNC	13	A3.3V
5	A3.3V	14	BLUETOOTH_ NRESET
6	GND	15	A5V
7	MSCL_A5V	16	LED_CNTR
8	USB_BT_DP	17	A3.3V
9	MSDA_A55V	18	LED_CNTR

CN404(to Component1)			
1	GND	5	COMP_PR
2	COMP_Y_AV1	6	GND
3	COMP_PB	7	IDENT_COMP
4	IDENT_AV1		

CN201(to Power board)			
1	B5V	15	DGND
2	SW_POWER_OUT	16	PWM_DIM2_CPLD_ OUT
3	B5V	17	OVD_ON_OFF
4	A5V	18	PWM_DIM3_CPLD_ OUT
5	DGND	19	OVD_LEVEL
6	DGND	20	PWM_DIM4_CPLD_ OUT
7	B18VS	21	SSTT_LEFT
8	DGND	22	SDATA_LEFT
9	B18VS	23	VSYNC_IN_LEFT
10	SW_INVERTER	24	SEN0_LEFT
11	B13V	25	SCLK_LEFT
12	B13V	26	DGND
13	B13V	27	SDA_LDRX
14	PWM_DIM1_CPLD_ OUT	28	SCL_LDRX

5-3. Connector Functions

Connector	Functions
CN201 ⟷ CNM802	Supply power from SMPS to Main Board.
CN1601 ⟷ CN505	The LVDS signal transfered from Main Board to Panel.

5-4. Cables

Use	Main-SMPS	Main-Tcon
Code	40" : BN39-01478A 46" : BN39-01478B 55" : BN39-01479A	40" : BN96-17116H 46" : BN96-17116J 55" : BN96-17116K
Photo