LED-TV

Chassis: U59A

Model : UN32D5500RF
UN40D5500RF

SERVICE Manual

TFT-LED TV

Front Design : ToC Charcoal Black **Stand** : Square

UND5500RF**

Contents

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Printed in Korea

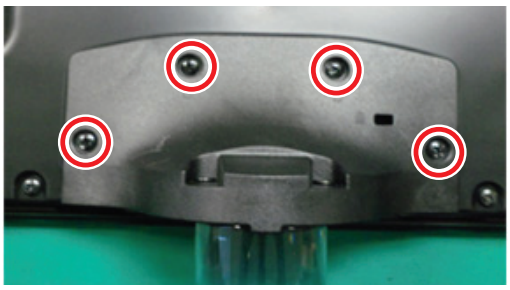
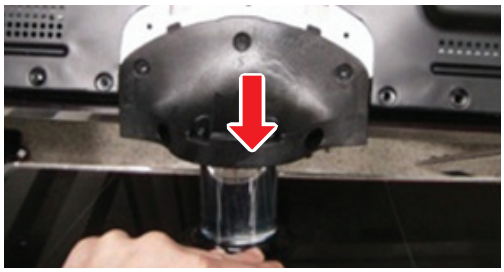
3. Disassembly and Reassembly

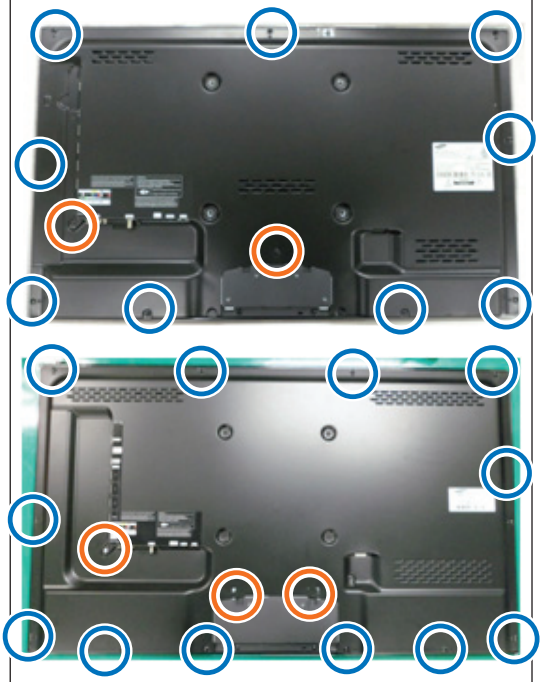
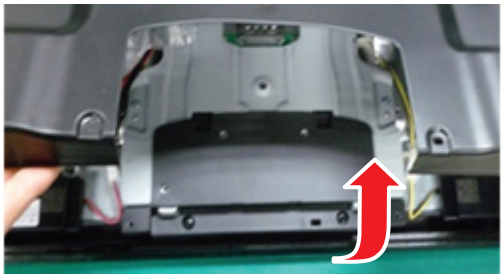
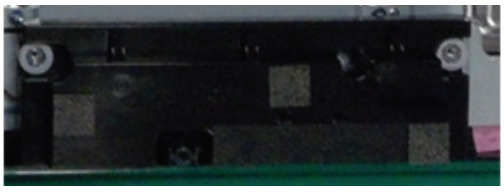
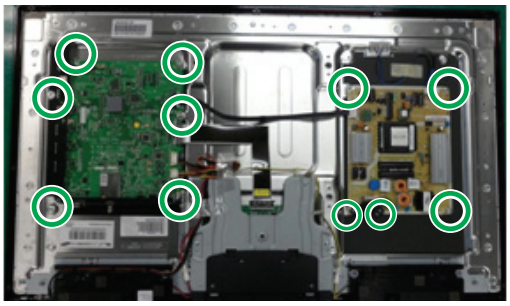
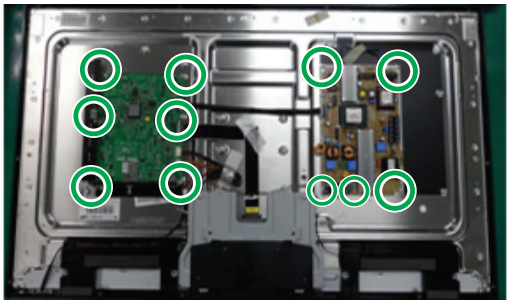
This section of the service manual describes the disassembly and reassembly procedures for the LED TV.

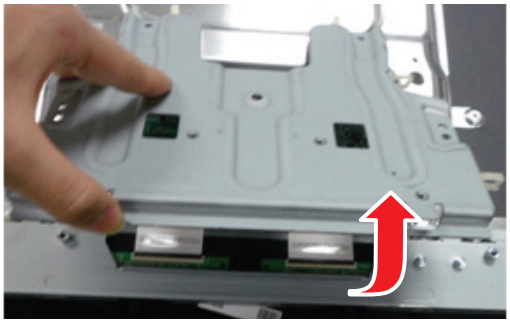
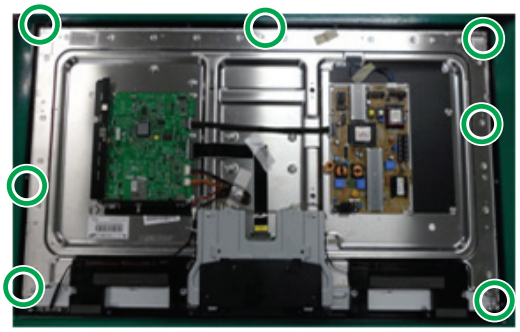
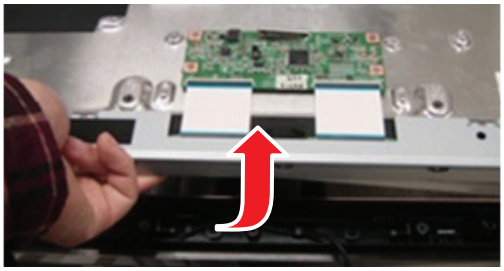
⚠ **WARNING:** This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

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.

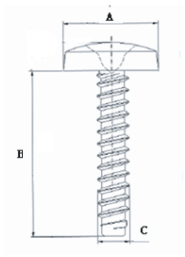
	Description	Picture Description	Screws
1	Place TV face down on cushioned table. - Remove 4 screws from the stand. - Remove stand.		
			 6001-002621 (M4xL8, MACHINE)
			

	Description	Picture Description	Screws
2	Remove the screws of Rear-cover. - 32" : 13 EA - 40" : 14 EA		 6003-001782 (M4 x L12, TAPETYPE)  6001-002671 (M3 x L6, MACHINE)
3	Lift up the Rear-cover.		
4	Remove the Left and Right Speaker.		
5	Remove the 6 screws of Main Board and 5 screws of IP Board.	 	 6001-002653 (M3 x L6, MACHINE)

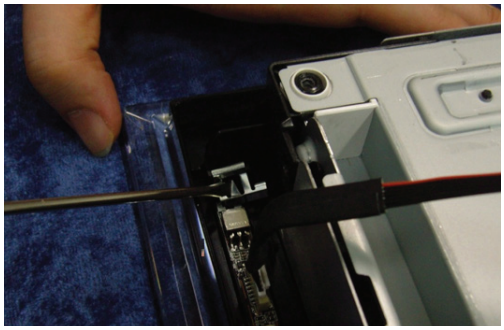
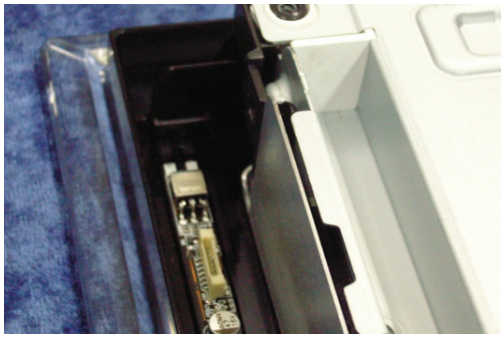
	Description	Picture Description	Screws
6	Remove the 2 screws of Stand Link Cover.		 6003-001782 (M4 x L12, TAPETYPE)
7	Remove the 4 screws of Stand Link.		 6001-002653 (M3 x L6, MACHINE)
8	Lift up the Stand Link.		
9	Detach the Pront Hook.	  	 6001-002653 (M3 x L6, MACHINE)
10	Lift up the Panel.		

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

Screw Size

Code No.	A (mm)	B (mm)	C (mm)	Q'ty	
6001-002621	7.8 ~ 8.3	7.4 ~ 8.0	7.4 ~ 8.0	4EA	
6003-001782	7.8 ~ 8.2	11.4 ~ 12.0	3.8 ~ 3.9	14 EA	
6001-002671	7.1 ~ 7.5	5.7 ~ 6.0	2.98 ~ 3.02	4 EA	
6003-001782	7.8 ~ 8.2	11.4 ~ 12.0	3.8 ~ 3.9	2EA	

■ How to disassembly Function & IR ASSY

	Description	Picture Description
1	Check the 2 Function Clips.	
2	Remove the 2 Function Clips.	
		
3	Heat the Function Assy by Heat Gun and Lift up the Function Assy.	

Touch Function Key

Control the sensitivity of function key is available in Factory mode

Option		
Control	Sub Option	KEY SENSITIVITY
SVC		FUNCTION KEY
Expert		
ADC/WB		
Advanced		

KEY SENSITIVITY

Default : 36

- **1~254 and Not Used**
- **Raising this value, the sensitivity decreases**
- **Not Used : Not use sensitivity, use Function default value**

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).

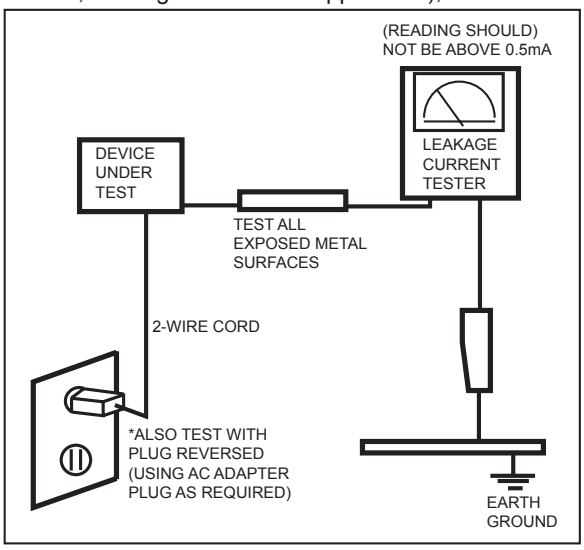


Figure 1-1. Leakage Current Test Circuit

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.

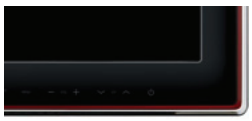
1-4. Installation Precautions

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. Specifications

2-1-1. Model Comparison

Model			UD5500		
Front View	All				
Detail View	All				
					
Front Color	All		ToC RED BLK		
Dimensions W x D x H (inches)	32"	With Stand	30.2	9.4	20.9
		Without Stand	30.2	1.2	18.4
	40"	With Stand	37.6	10.0	25.1
		Without Stand	37.6	1.2	22.6
Weight (kg / lbs)	32"	With Stand	9.96 / 21.91		
		Without Stand	7.22 / 15.88		
	40"	With Stand	14.36 / 31.59		
		Without Stand	11.08 / 24.38		
Panel Type	All		Anti Glare		
Internal Memory	All		None		
DDR	All		384 Mbtye		
Feature	All		Media Play(MOVIE), HDD, DLNA		

2-1-2. Feature & Specifications

Model	UN32D5500RF
Feature	
▶ Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 2-USB2.0, D-SUB ▶ Brightness : 450 cd/m^2 (Marketing spec : 500 cd/m^2) ▶ High Contrast Ratio : 5,000:1 (Marketing spec : 3,000,000:1) ▶ Response Time : 8 ms (Marketing spec : 8 ms)	

Specifications		
Item	**Description**	
LCD Panel	32 inch FHD 60 Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7 M 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	74.25MHz	
Active Display Horizontal/Vertical	715.4(H) x 409.5(V) mm / 29.2(H) x 16.7(V) inches	
AC power voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	Under 80 W (Under 0.3W, Stand by)	
Dimensions Set (W x D x H)	768.0 x 240.0 x 530.4(mm) / 30.2 x 9.4 x 20.9(inches) with stand	
	768.0 x 29.9 x 468.2(mm) / 30.2 x 1.2 x 18.4(inches) without stand	
Weight (Set)	9.96 (kg) / 21.912 (lbs) with stand	
	7.22 (kg) / 15.884 (lbs) without stand	
TV System	Tunning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M, Dolby Digital+
Environmental Considerations	Operating Temperature: 32˚F ~ 122˚F (0˚C ~ 50˚C) Operating Humidity: 20% ~ 90% Storage Temperature: -4˚F ~ 140˚F (-20˚C ~ 60˚C) Storage Humidity: 10% ~ 90%	
Audio Spec.	- MAX Internal Audio Output Power : Each 10W(Left/Right) - Equalizer : 5Band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	
Note: Dolby Digital +, Game Mode, Film Mode, Energy Saving, Anynet+, DLNA		

Model	UN46D5500RF
Feature	
▶ Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 2-USB2.0, D-SUB ▶ Brightness : 450 cd/m^2 (Marketing spec : 500 cd/m^2) ▶ High Contrast Ratio : 5,000:1 (Marketing spec : 3,000,000:1) ▶ Response Time : 8 ms (Marketing spec : 8 ms)	

Specifications		
Item	**Description**	
LCD Panel	40 inch FHD 60 Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7 M 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	74.25MHz	
Active Display Horizontal/Vertical	885.6(H) x 498.15(V) mm / 36.1(H) x 20.3(V) inches	
AC power voltage & Frequency	AC 110V ~ 120V, 60 Hz	
Power Consumption	Under 100 W (Under 0.3W, Stand by)	
Dimensions Set (W x D x H)	955.8 x 255.0 x 638.5(mm) / 37.6 x 10.0 x 25.1(inches) with stand	
	955.8 x 29.9 x 574.0(mm) / 37.6 x 1.2 x 22.6(inches) without stand	
Weight (Set)	14.36 (kg) / 31.59 (lbs) with stand	
	11.08 (kg) / 24.38 (lbs) without stand	
TV System	Tunning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M, Dolby Digital+
Environmental Considerations	Operating Temperature: 32˚F ~ 122˚F (0˚C ~ 50˚C) Operating Humidity: 20% ~ 90% Storage Temperature: -4˚F ~ 140˚F (-20˚C ~ 60˚C) Storage Humidity: 10% ~ 90%	
Audio Spec.	- MAX Internal Audio Output Power : Each 10W(Left/Right) - Equalizer : 5Band - Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz	
Note: Dolby Digital +, Game Mode, Film Mode, Energy Saving, Anynet+, DLNA		

2-1-3. Specification Comparison to Old Models

※ O : application, X : non-application

Model	UD5R (UA40D5500RJ)			UC5R (UA**C5000QM)		
Design						
Display Type	LED TV			LED TV		
Built-in Tuner	O			O		
Resolution	1920 X 1080			1920 X 1080		
LCD Panel	TFT LCD Panel 60 Hz			TFT LCD Panel 60 Hz		
Screen Size	32" / 40"			32" / 37" / 40" / 46"		
Picture ratio	16:9			16:9		
Power Consumption	32"	80 W (Under 0.3 W Stand by)		32"	110 W (Under 0.3 W Stand by)	
				37"	120 W (Under 0.3 W Stand by)	
	40"	100 W (Under 0.3 W Stand by)		40"	130 W (Under 0.3 W Stand by)	
				46"	130 W (Under 0.3 W Stand by)	
Dimensions (W x H x D)	32"	with stand	30.2 x 9.4 x 20.9 (Inches)	32"	with stand	30.9 x 9.4 x 21.6 (Inches)
					without stand	30.9 x 1.2 x 19.3 (Inches)
		without stand	30.2 x 1.2 x 18.4 (Inches)	37"	with stand	35.7 x 10.0 x 24.4 (Inches)
					without stand	35.7 x 1.2 x 22.1 (Inches)
	40"	with stand	37.6 x 10.0 x 25.1 (Inches)	40"	with stand	38.3 x 10.0 x 24.4 (Inches)
					without stand	38.3 x 1.2 x 23.5 (Inches)
		without stand	37.6 x 1.2 x 22.6 (Inches)	46"	with stand	43.6 x 10.8 x 28.8 (Inches)
					without stand	43.6 x 1.2 x 26.4 (Inches)
Weight	32"	with stand	9.96 (lbs)	32"	with stand	24.25 (lbs)
					without stand	18.08 (lbs)
		without stand	7.22 (lbs)	37"	with stand	31.30 (lbs)
					without stand	23.37 (lbs)
	40"	with stand	14.36 (lbs)	40"	with stand	34.61 (lbs)
					without stand	26.68 (lbs)
		without stand	11.08 (lbs)	46"	with stand	43.43 (lbs)
					without stand	34.61 (lbs)
Brightness	450(spec) / 400(marketing) cd/m^2			400(spec) / 400(marketing) cd/m^2		
Contrast Ratio	5,000(spec) / MEGA(3,000,000:1) (marketing)			5,000(spec) / 3,000,000:1 (marketing)		
Picture Enhancer	HyperReal Engine (X5)			HyperReal Engine (X4)		
Equalizer	5 Band			5 Band		
Auto Volume Control	O			O		
Surround Sound	Dolby Digital Plus			Dolby Digital Plus / Pulse		
Speaker Output	10 W X 10 W			10 W X 10 W		
PIP	O			O		
Double Window	X			X		
Caption	O			O		
Entertainment Mode	X			X		
Game Mode	O			O		
Energy Saving	O			O		
NETWORK	Internet TV			DLNA		
Anynet+	O			O		
Antena	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”.

Model Name			UN32D5500RF	UN40D5500RF
Panel		Vendor	AML CMI	AML
		CODE	BN95-00436A BN07-00989A	BN95-00434A
		SPEC	LTJ320HN01-V LD320BGC-C1	LTJ400HM03-V
SMPS		CODE	BN44-00421B	BN44-00423A
1	Factory Reset		-	-
2	Type		32A6AF0E	40A6AF0E
3	Local set		US/SA_ATV	US/SA_ATV
4	Model		UD5500	UD5500
5	TUNER		SI_ATC	SI_ATC
6	Ch Table		NONE	NONE
7	Front Color		U-T-R-BLK	U-T-R-BLK

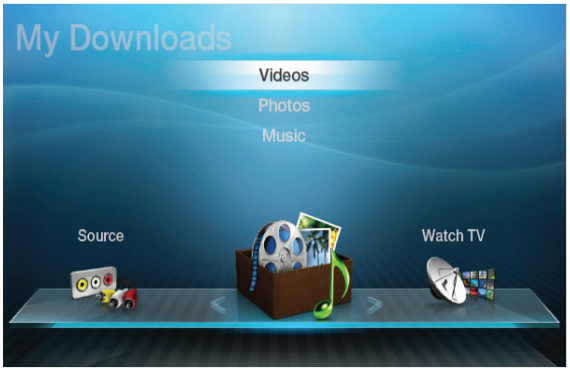
2-3. New Features explanation

2-3-1. My Contents

■ Using the My Contents

Enjoy photos, music and/or movie files saved on a USB Mass Storage Class (MSC) device and/or your PC.

1. Press the **CONTENT** button to select **My Contents**.
2. Press ▲/▼ button to select desired menu **(Videos, Photos, Music)**, then press the **ENTER** button.



* It may differ depending on the model.

■ Screen Display

Move to the desired file using the ◄/►/▲/▼ buttons and then press the **ENTER** or ► (Play) button.
The file is played. **My Contents** screen may differ depending on the way to enter the screen.

Information:
You can ascertain the selected device name, contents mode, folder/ file name, page and sorting list.

File List Section:
You can confirm the files and groups that are sorted by category.

Contents mode / Device name:
You can select the desired Contents mode or Device name. When **PC** is connected, you can select **PC** through PC Share Manager.

Operation Buttons:
- C Yellow (**Edit Mode**); Selects the desired music. The check box is shown in the screen to check the music you want. It is only available in Music.
- ◄◄ (**Jump Page**); Move to next or previous page.
- **Tools**; Displays the option menu.
- **Return**; Move to the previous step.

■ Videos

01. Playing Video

1. Press the ◄/►/▲/▼ button to select the desired video in the file list.
2. Press the **ENTER** button or **(Play)** button.
   - The selected file name is displayed on the top with its playing time.
   - If video time information is unknown, play time and progress bar are not displayed.
   - During video playback, you can search using ◄ and ► button.
   - You can use **(REW)** and **(FF)** buttons during playback.

In this mode, you can enjoy movie clips contained on a Game, but you cannot play the Game itself.

● 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	

02. Other Restrictions

NOTE

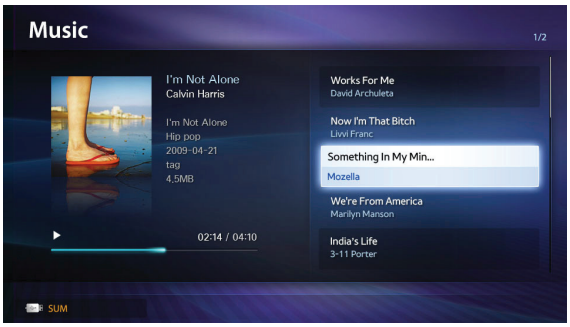
- If there are problems with the contents of a codec, the codec will not be supported.
- If the information for a Container is incorrect and the file is in error, the Container will not be able to play correctly.
- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table above.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- When playing the video through network, it may not work depending on the network status.
- The videos over 10Mbps(bit rate) may be interrupted.

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 Lossless, Voice Lossless, Voice is not supported. • WMA sampling rate 22050Hz mono is not supported.

■ Music

01. Playing Music

1. Press the ◀/▶/▲/▼ button to select the desired Music in the file list.
2. Press the **ENTER** button or **(Play)** button.
   – You can use **(REW)** and **(FF)** buttons during playback.



Only displays the files with MP3 and PCM file extension. Other file extensions are not displayed, even if they are saved on the same USB device.

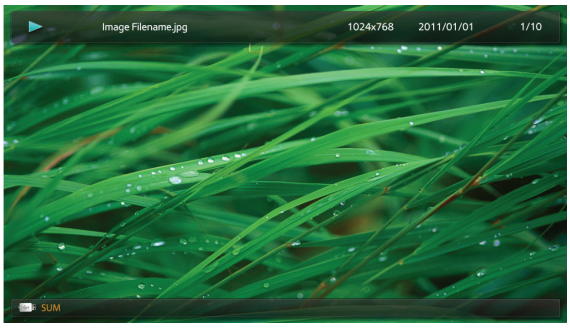
If the sound is abnormal when playing MP3 files, adjust the **Equalizer** in the **Sound** menu. (An over-modulated MP3 file may cause a sound problem.)

02. Playing selected music

1. Press the **C (Edit Mode)** button.
2. Select the desired music.
   – The check box appears to the left of the selected files.
3. Press the **TOOLS** button and select **Play Selected Contents**.
   – You can select or deselect all music pressing the **Select All/Deselect All**.

■ Photos

01. Viewing a Photo (or Slide Show)



1. Press the ◀/▶/▲/▼ button to select the desired Music in the file list.
2. Press the **ENTER** ↵ button or ► **(Play)** button.
   - When a selected photo is displayed, press the **ENTER** ↵ button to start the slide show.
   - During the slide show, all files in the file list will be displayed in order.

- When you press the ► **(Play)** button in the file list, slide show will be started immediately.
- Music files can be automatically played during the Slide Show if the **Background Music** is set to **On**.
- The **BGM Mode** cannot be changed until the BGM has finished loading.

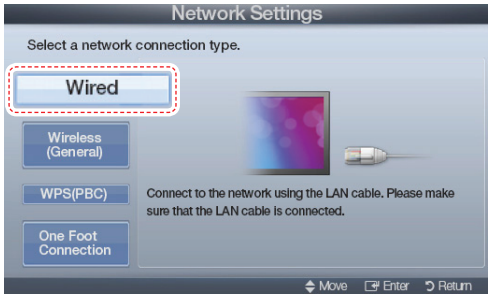
2-3-2. Setting the Network Connection

Connection Methods: You can setup the wireless network connection in four ways:

- Auto Setup (Using the Auto Network Search function)
- Manual Setup
- WPS(PBC)
- One Foot Connection

■ Network Settings

01. Wired Network Setup



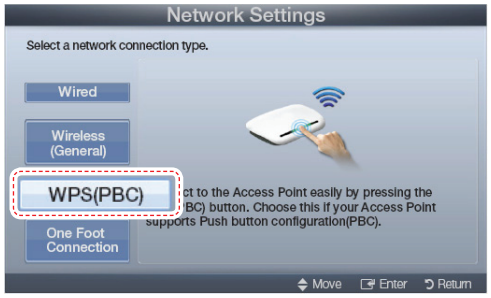
1. Go to the **Network Settings** screen.
   (**MENU** → **Network** → **Network Settings** → **ENTER**)
2. Select **Wired**, and then press **ENTER**.
3. The network connection screen appears and verifies the network connection. When the connection has been verified, the "**Internet connected successfully.**" message appears.

02. Wireless (General) Network Setup

1. Go to the **Network Settings** screen.
   (**MENU** → **Network** → **Network Settings** → **ENTER**)
2. Select **Wireless (General)**, and then press **ENTER**.
3. The Network function searches for available wireless networks. When done, it displays a list of the available networks.

03. WPS(PBC) Network Setup

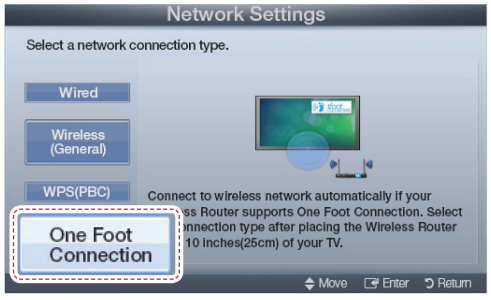
If your router has a PBC (WPS) button, follow these steps:



1. Go to the **Network Settings** screen.
   (**MENU** → **Network** → **Network Settings** → **ENTER**)
2. Select **WPS(PBC)**, and then press **ENTER**, then press **ENTER** again.
3. Press the WPS(PBC) button on your router within 2 minutes. Your TV automatically acquires all the network setting values it needs and connects to your network.
4. The network connection screen appears, and network set up is done.

04. One Foot Connection Network Setup

The One Foot connection make you easy to connect samsung TV and samsung wireless router by placing samsung wireless router within 1foot(25cm) from samsung TV. If your wireless router does not support One Foot Connection, you must connect using one of the other methods.



1. Turn on the power of wireless router and TV.
2. Go to the **Network Settings** screen.
   (**MENU** → **Network** → **Network Settings** → **ENTER**)
3. Select **One Foot Connection,**, and then press **ENTER**, then press **ENTER** again.
4. The network connection screen appears, and network set up is done.

2-3-3. e-Manual

■ How to view the e-Manual

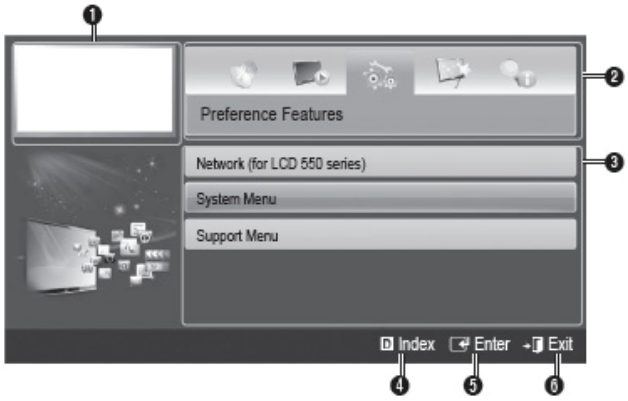
Press the E-MANUAL button on your remote. Move the cursor using up/down/right/left buttons to highlight a category, then a topic, and then press the ENTER button. The e-Manual displays page you want to see.

MENU → Support → e-Manual → ENTER

If you want to return to **e-manual**, press the E-MANUAL button on remote.

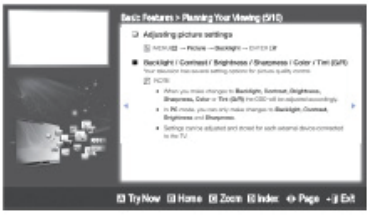
It is not available to connect **Try now** directly in the external input source.

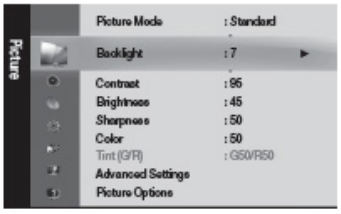
Screen Display



1. Currently displayed video, TV program, etc.
2. The category list. Press ◄ or ► button to select category you want.
3. Displays the sub-menu list. Use the arrow buttons on your remote to move the cursor. Press ENTER button to select the sub-menu you want.
4. Blue (**Index**): Displays the index screen.
5. **Enter**: Selects a category or sub-menu.
6. **Exit**: Exit the e-Manual.

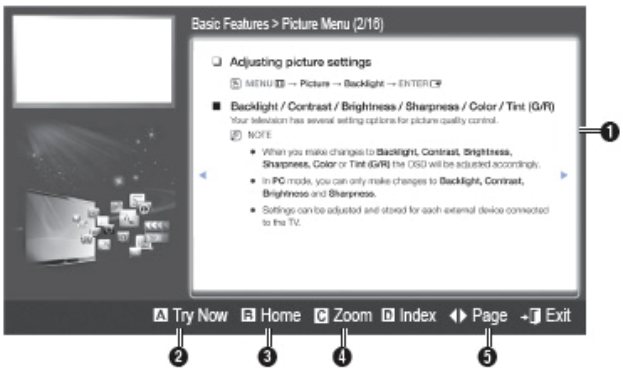
How to toggle between an e-Manual topic and the corresponding OSD menu(s).





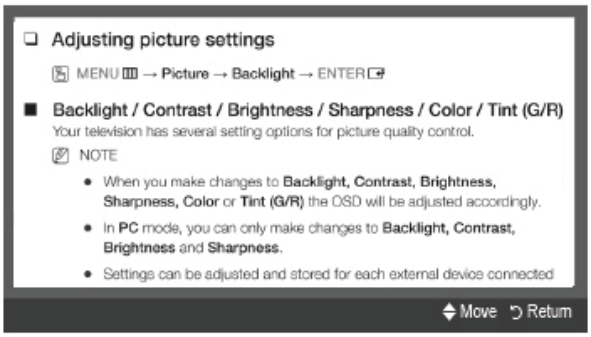
Method 1	Method 2
1. If you want to use the menu that corresponds to an e-Manual topic, press the red button to select **Try Now**. 2. To return to the e-Manual screen, press the E-MANUAL button.	1. Press the ENTER button when a topic is displayed. **"Are you sure?"** appears. Select **Yes,** and then press the ENTER button. The OSD window appears. 2. To return to the **e-Manual** screen, press the E-MANUAL button.

Viewing the Contents



1. Contents Area: Contains the topic contents, if you selected a sub-menu. To move previous or next page, press the ◄ / ► button.
2. **Try Now**: Displays the OSD menu that corresponds to the topic. To return to the e-Manual screen, press the e-Manual button.
3. **Home**: Moves to the **e-Manual** home screen.
4. **Zoom**: Magnifies a screen. You can scroll through the magnified screen by using ▲ / ▼ buttons.
5. ◆ (**Page**): Moves to previous or next page.

Using the Zoom mode



Select the **Zoom**, and then press ENTER to magnify the screen. You can scroll through the magnified screen by using the ▲ or ▼ buttons.

To return to the screen to normal size, press the RETURN button.

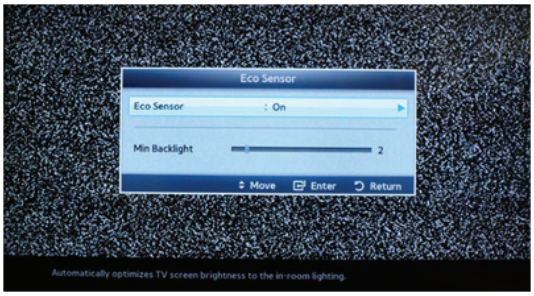
How to search for a topic on the index page

1. To search for a topic, press the left or right arrow button to select a letter, and then press ENTER. The Index displays a list of topics and keywords that begin with the letter you selected.
2. Press the up or down arrow button to select a topic or keyword, and then press the ENTER button.
3. The e-Manual page with the topic appears.

To close the **Index** screen, press the RETURN button.

2-3-5. Eco sensor

* To enhance your power savings; the

Menu → System → Eco solution → Eco Sensor	
Min Backlight: When ECO sensor is On, the minimum screen brightness can be adjusted manually.	

2-4. Accessories

Product	Description	Code. No	Remark
	Remote Control & Batteries (AAA x 2)	AA59-00443A	Supplied Accessories
	Power Cord	3903-000598	
	Warranty Card / Safety Guide Manual	BP68-00263E AA68-03242L	
	Cleaning Cloth	BN63-01798B	
	Component Adapter	BN39-01154W	

4. Troubleshooting

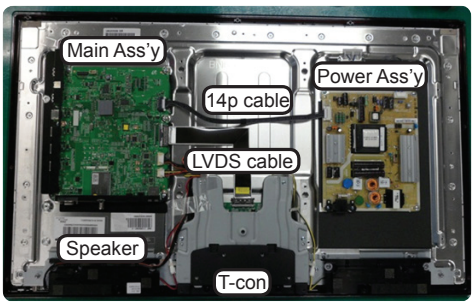
4-1. Troubleshooting

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.

4-1-2. How to check fault symptom

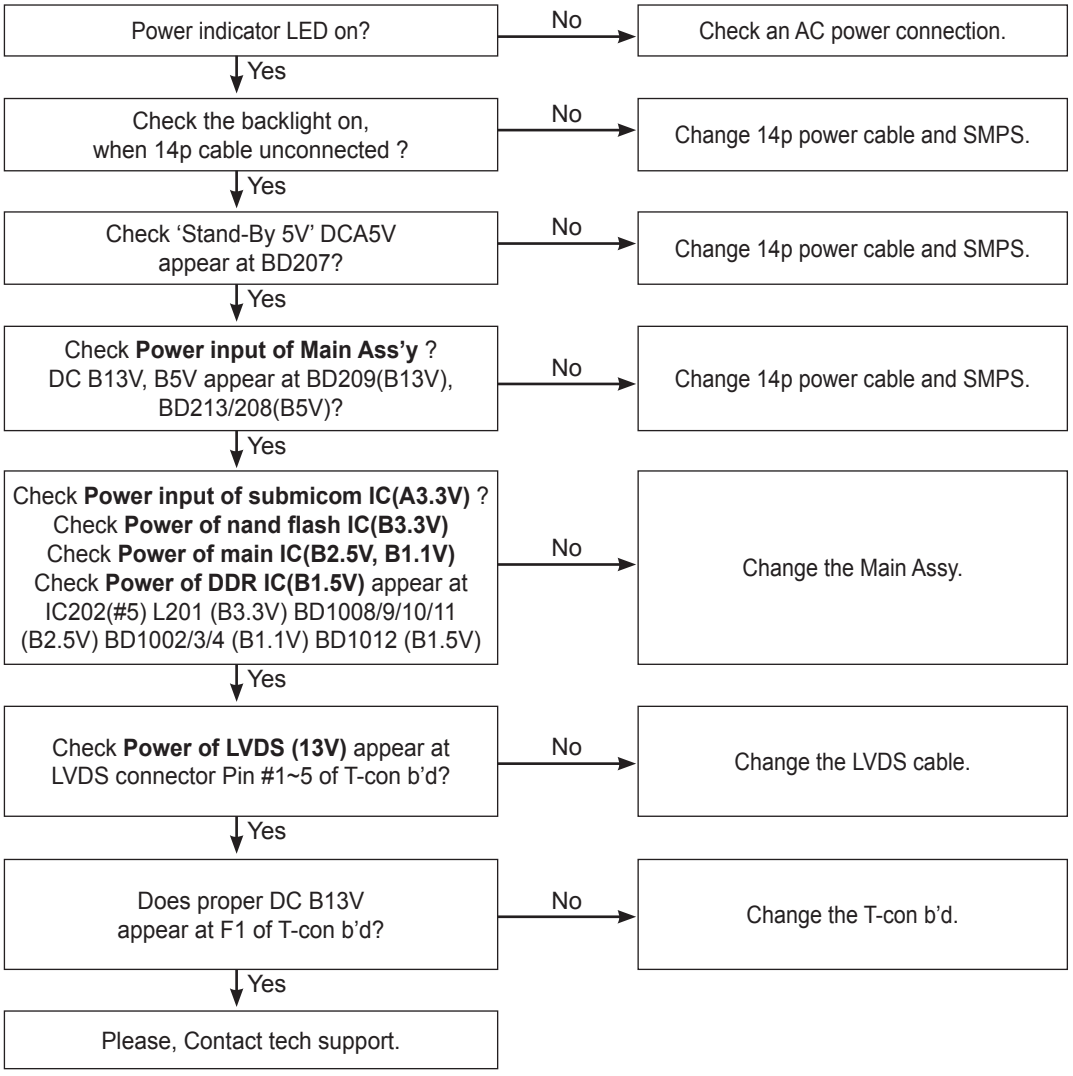
■ No Power

Symptom	– The LEDs on the front panel do not work when connecting the power cord. – The SMPS relay does not work when connecting the power cord. – The units appears to be dead.
Major checkpoints	The IP relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS 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 SMPS. – Replace the Main Board.
Diagnostics	

Main Assy

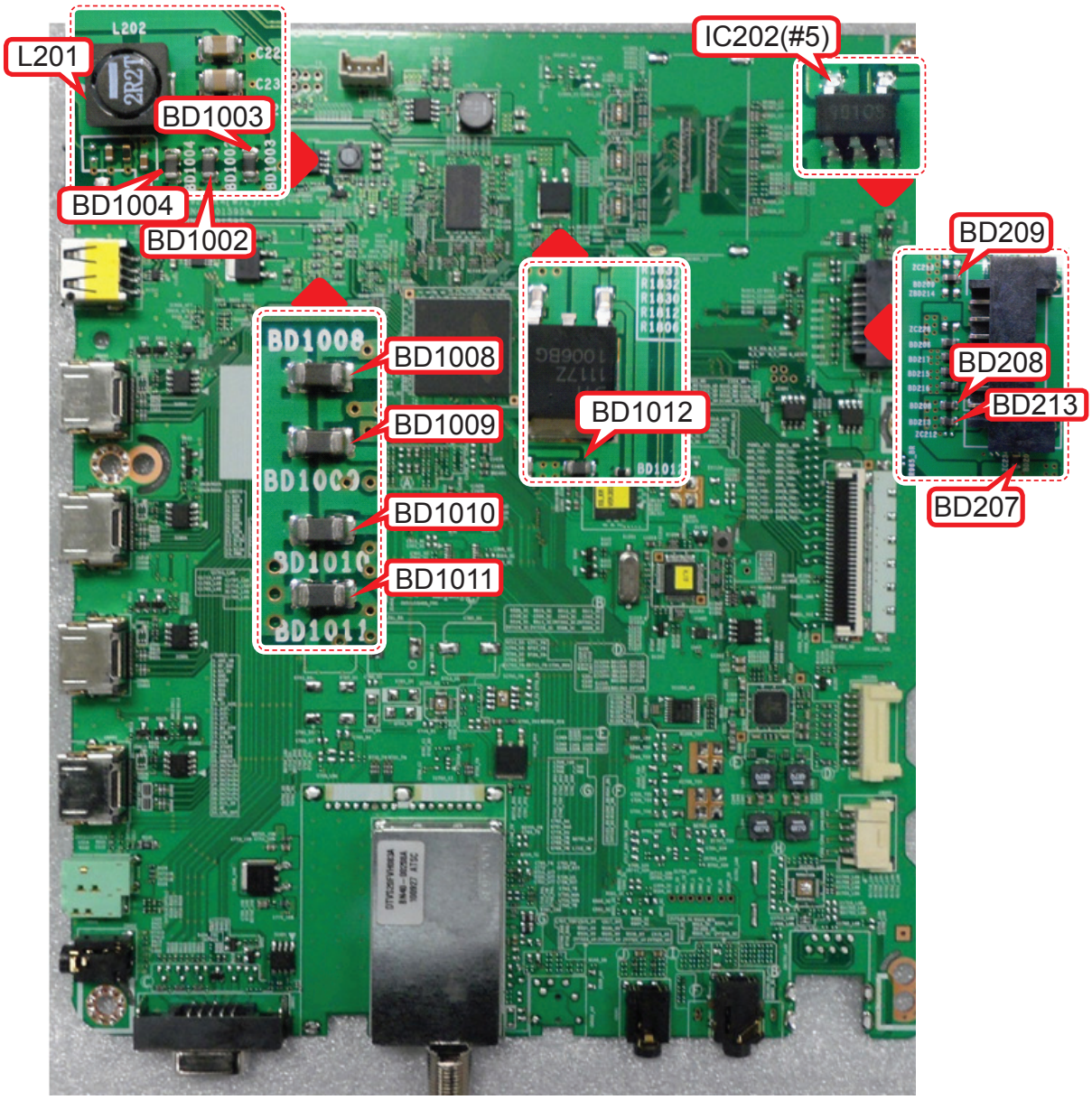
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM

Power Assy

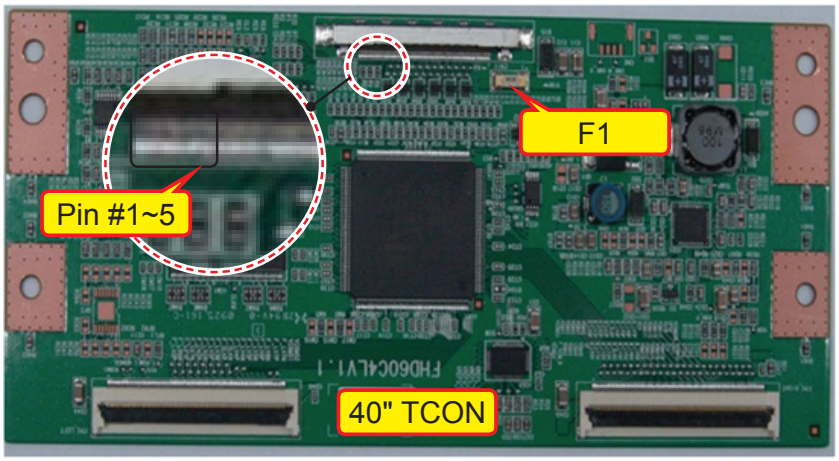


Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP



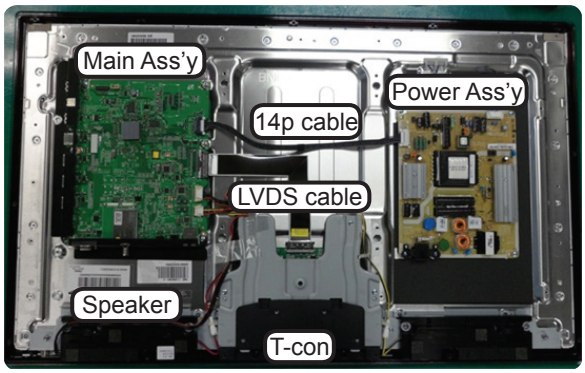
Location (T-CON) - TOP



■ No Video_Analog PC signal

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the PC source – Check the Arsenal, Check the Chelsea. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.

Diagnostics

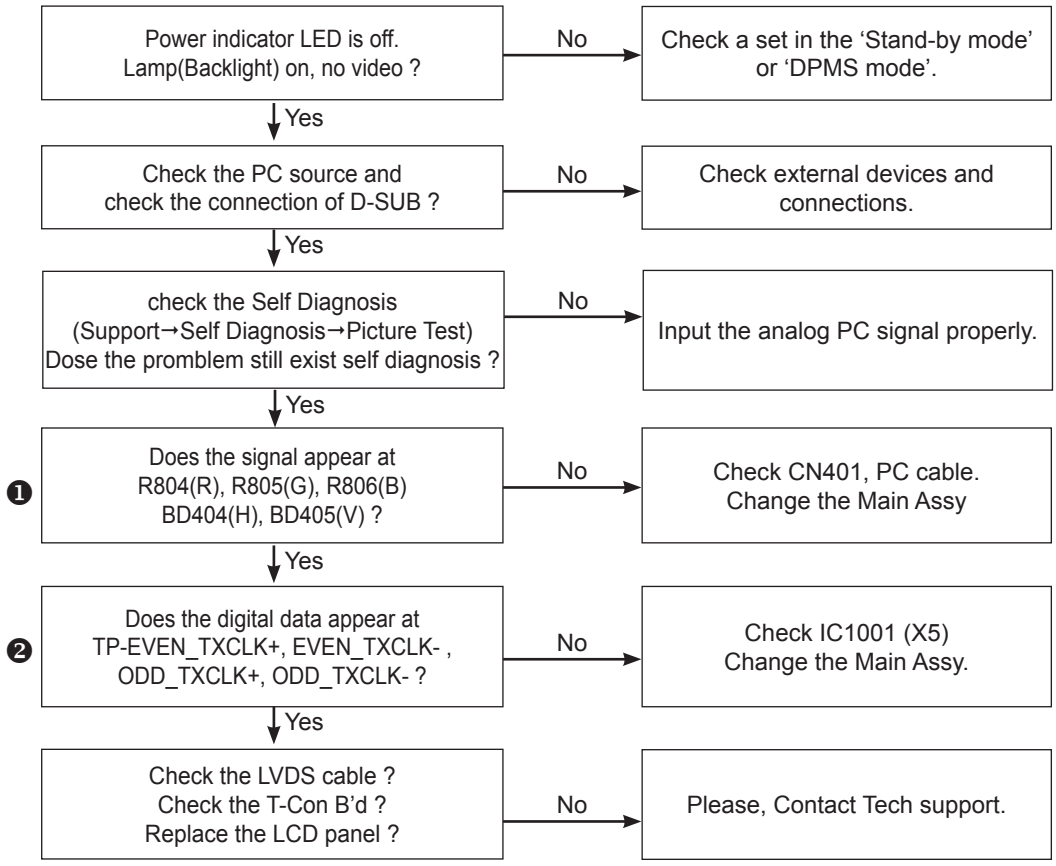


Main Assy

1	B5V	2	SW_PW
3	B5V	4	A5V
5	GND	6	GND
7	B12VS	8	GND
9	B12VS	10	SW_INV
11	B13V	12	NC
13	B13V	14	DMM

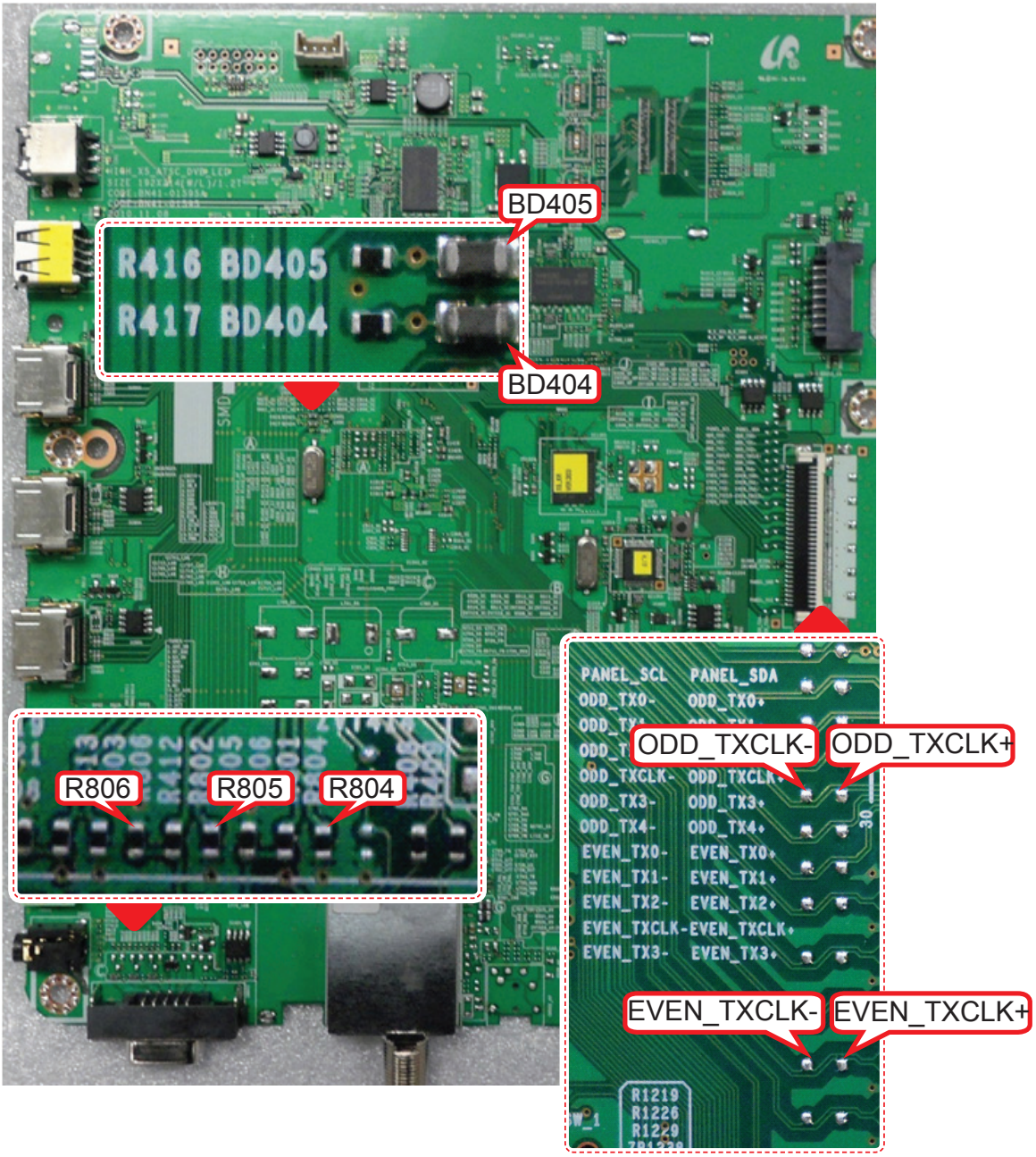
Power Assy

1	B5V	2	SW_PW
3	B5V	4	A5V
5	GND	6	GND
7	B12VS	8	GND
9	B12VS	10	SW_INV
11	B13V	12	NC
13	B13V	14	DMM



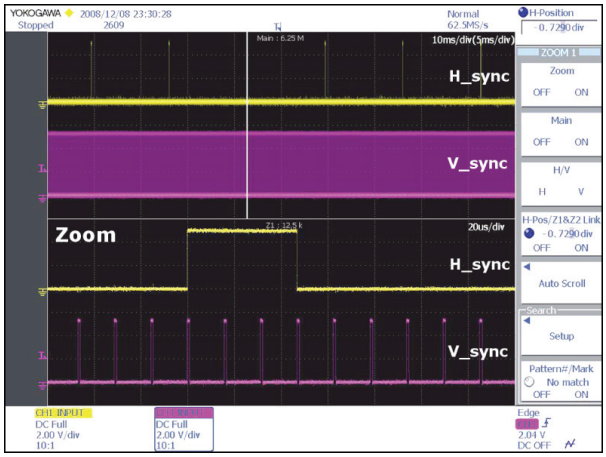
Caution	Make sure to disconnect the power before working on the IP board.

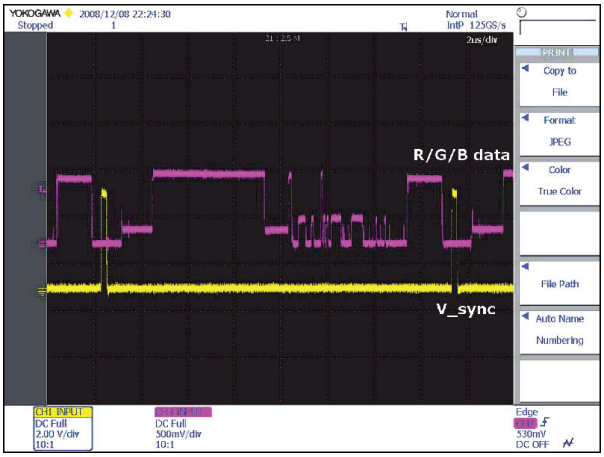
Location (Main) - TOP



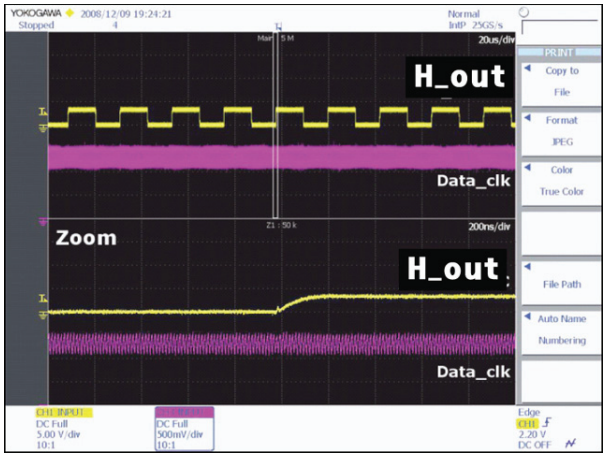
■ WAVEFORMS

❶ PC input (V-sink, H-sink, R/G/B)





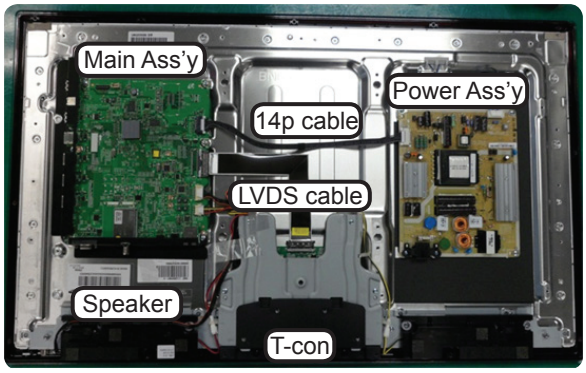
❷ LVDS output



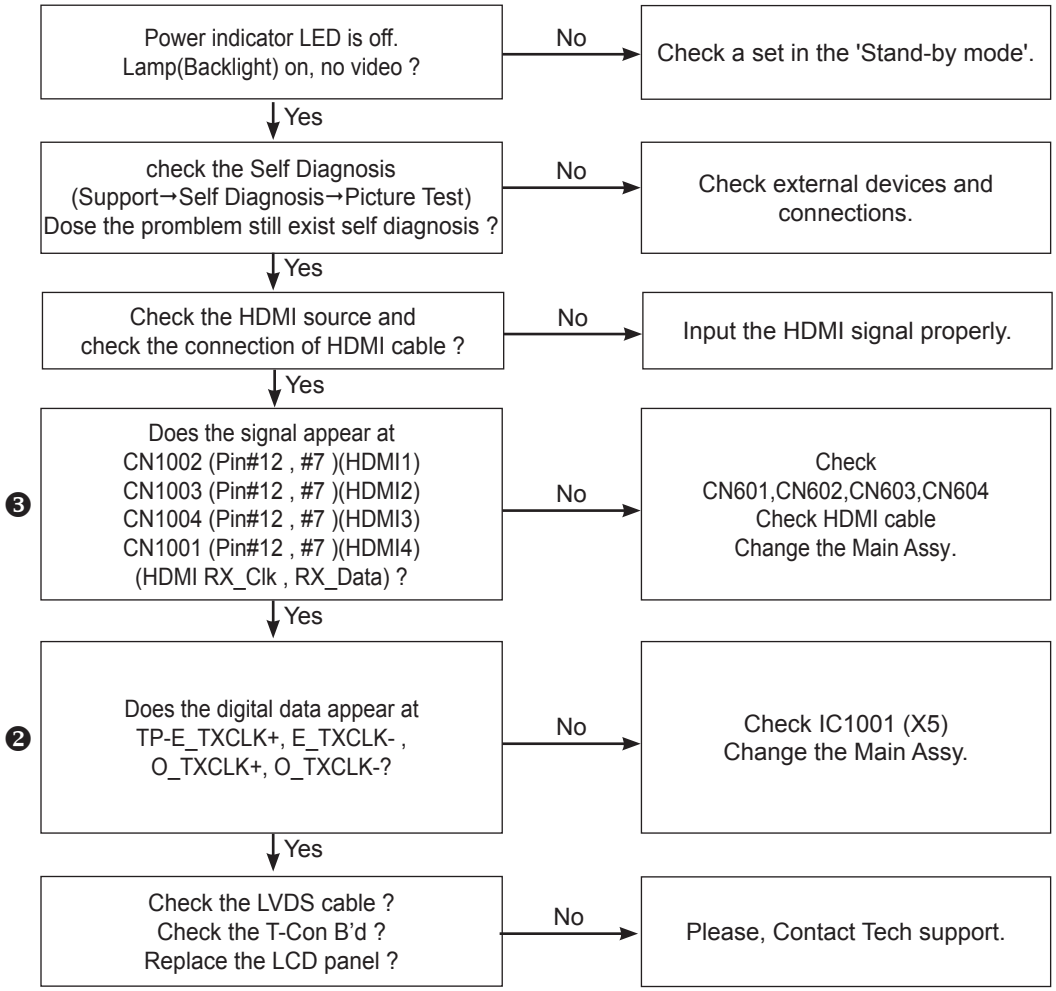
■ No video_HDMI1, 2, 3, 4 - Digital signal

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the HDMI source. – Check the HDMI switch, Check the Chelsea. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.

Diagnostics

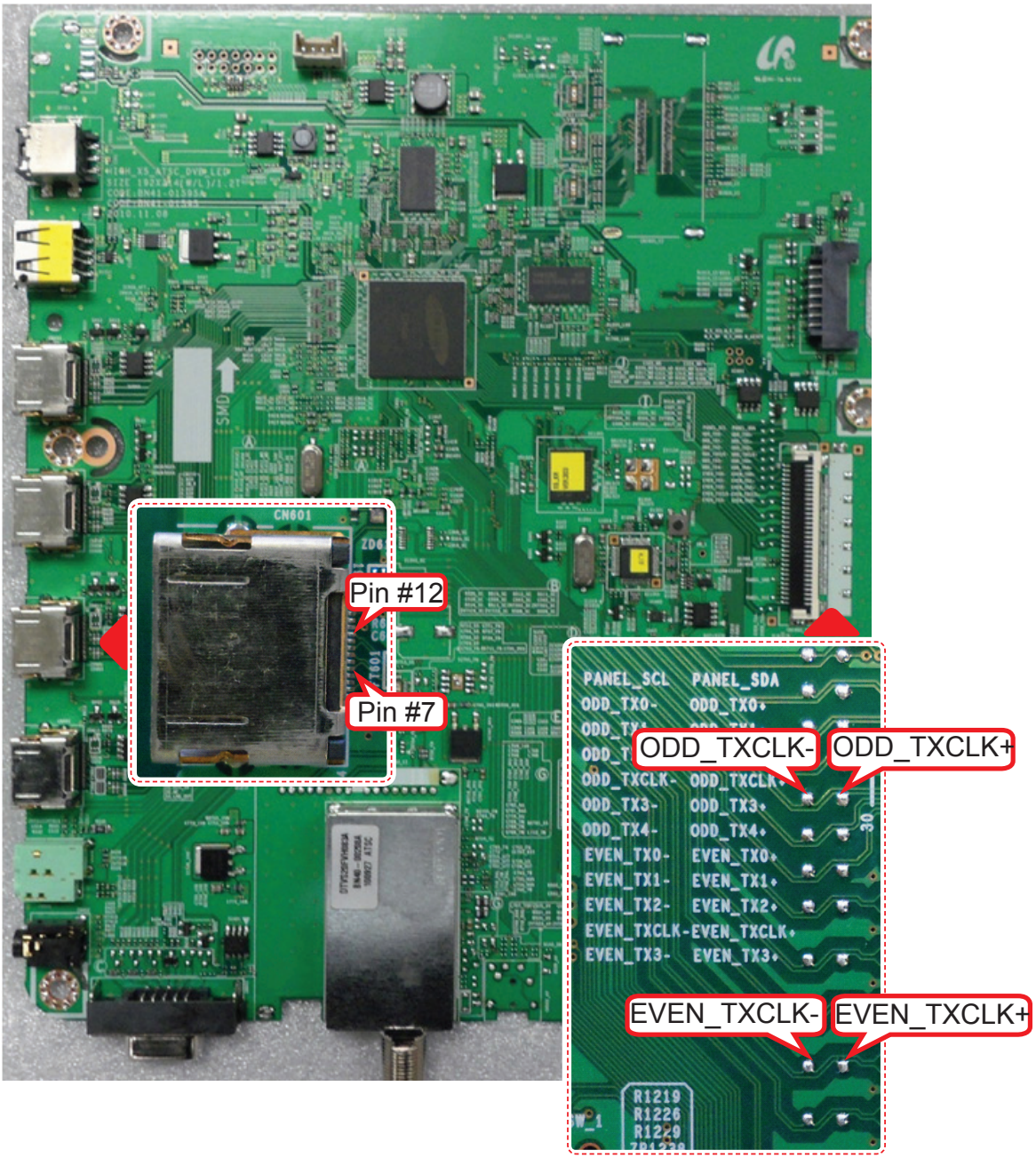


Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM



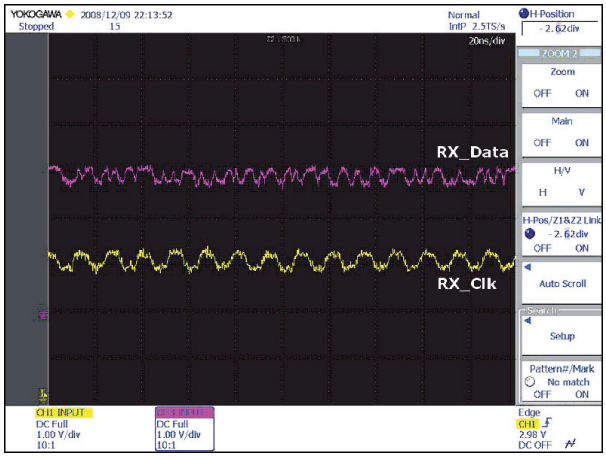
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP

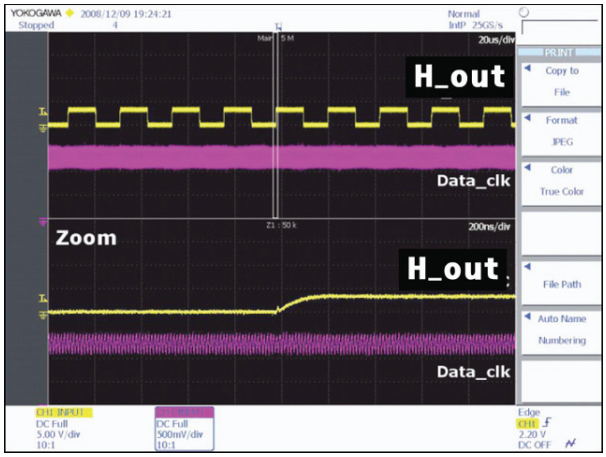


■ WAVEFORMS

❸ PC input (V-sink, H-sink, R/G/B)



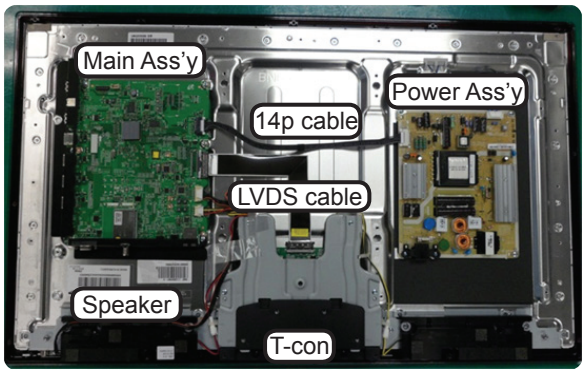
❷ LVDS output



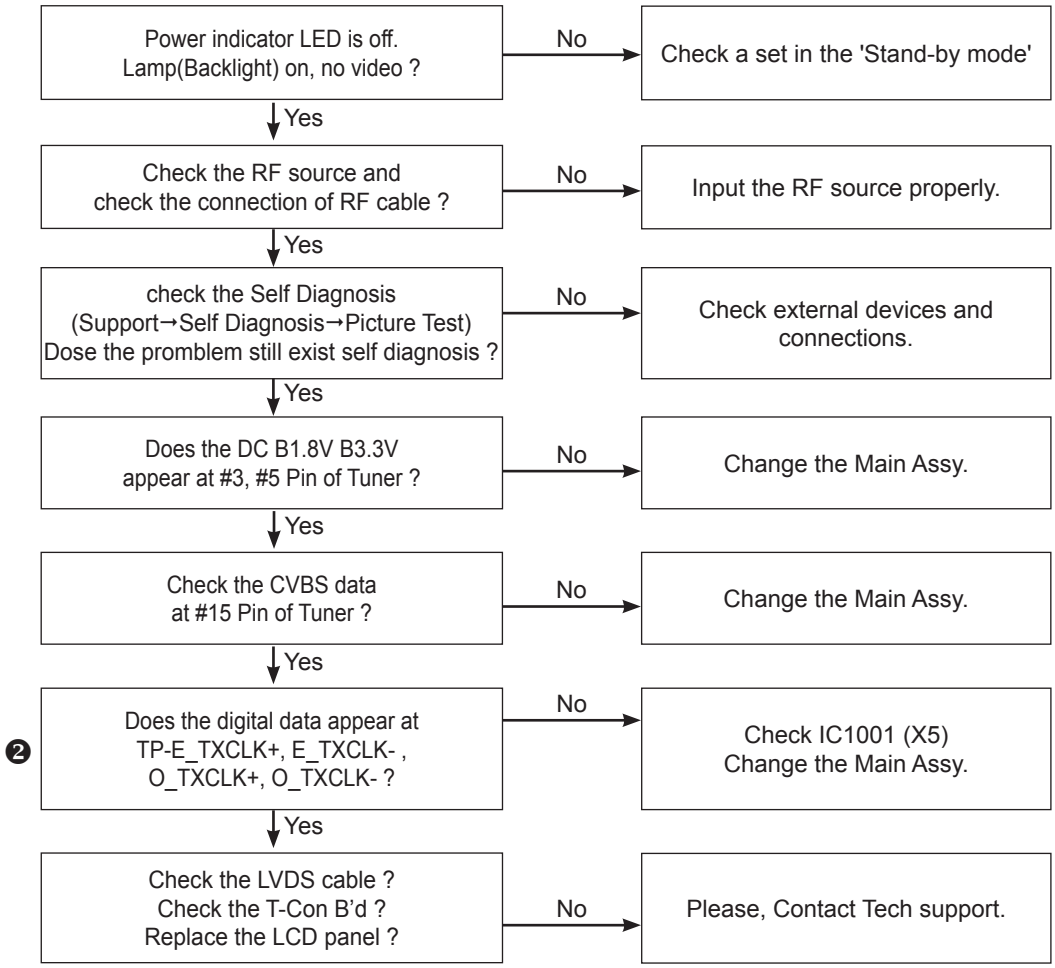
■ No Video_Tuner - CVBS

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Tuner CVBS source. – Check the Tuner, Check the Chelsea. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.

Diagnostics

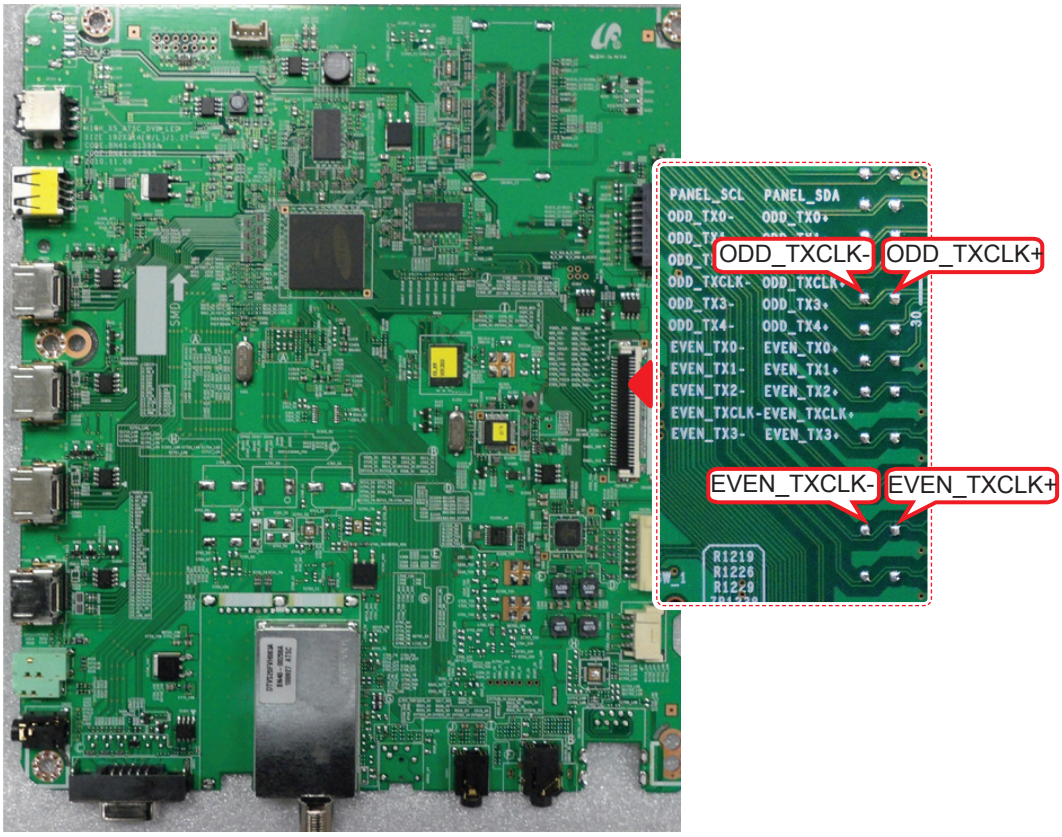


Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM

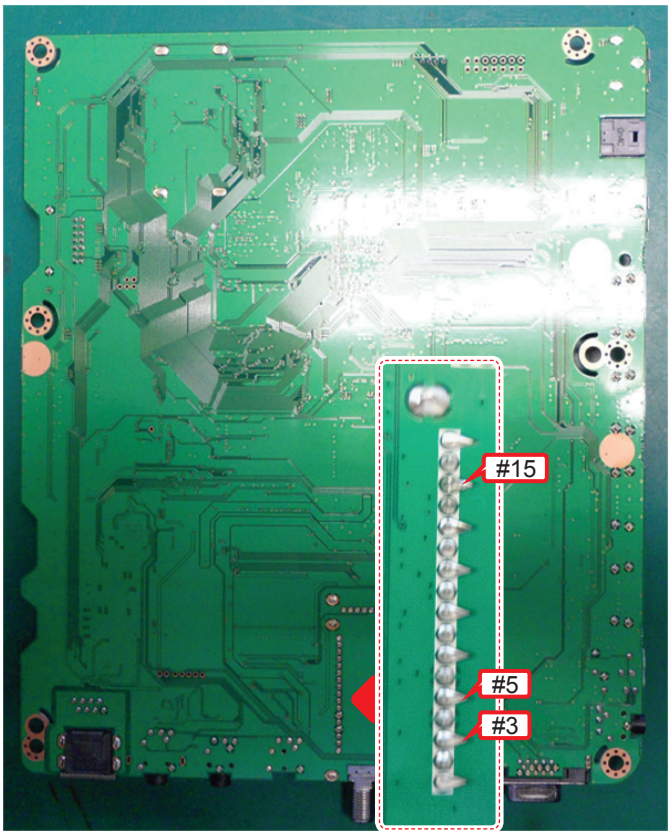


Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP

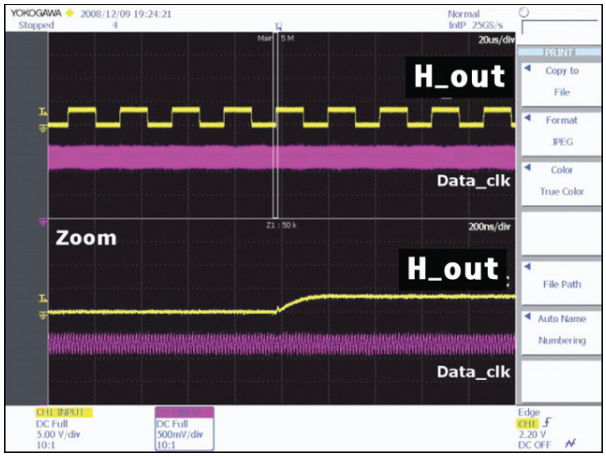


Location (Main) - BOTTOM

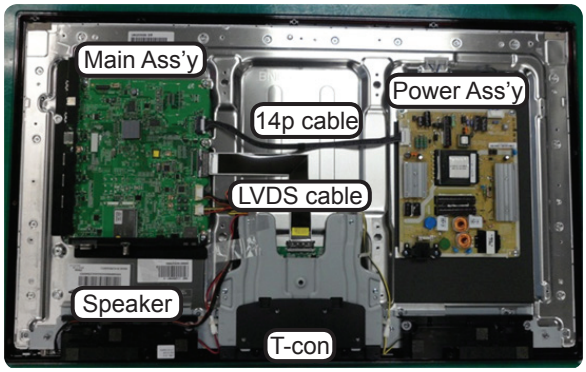


■ WAVEFORMS

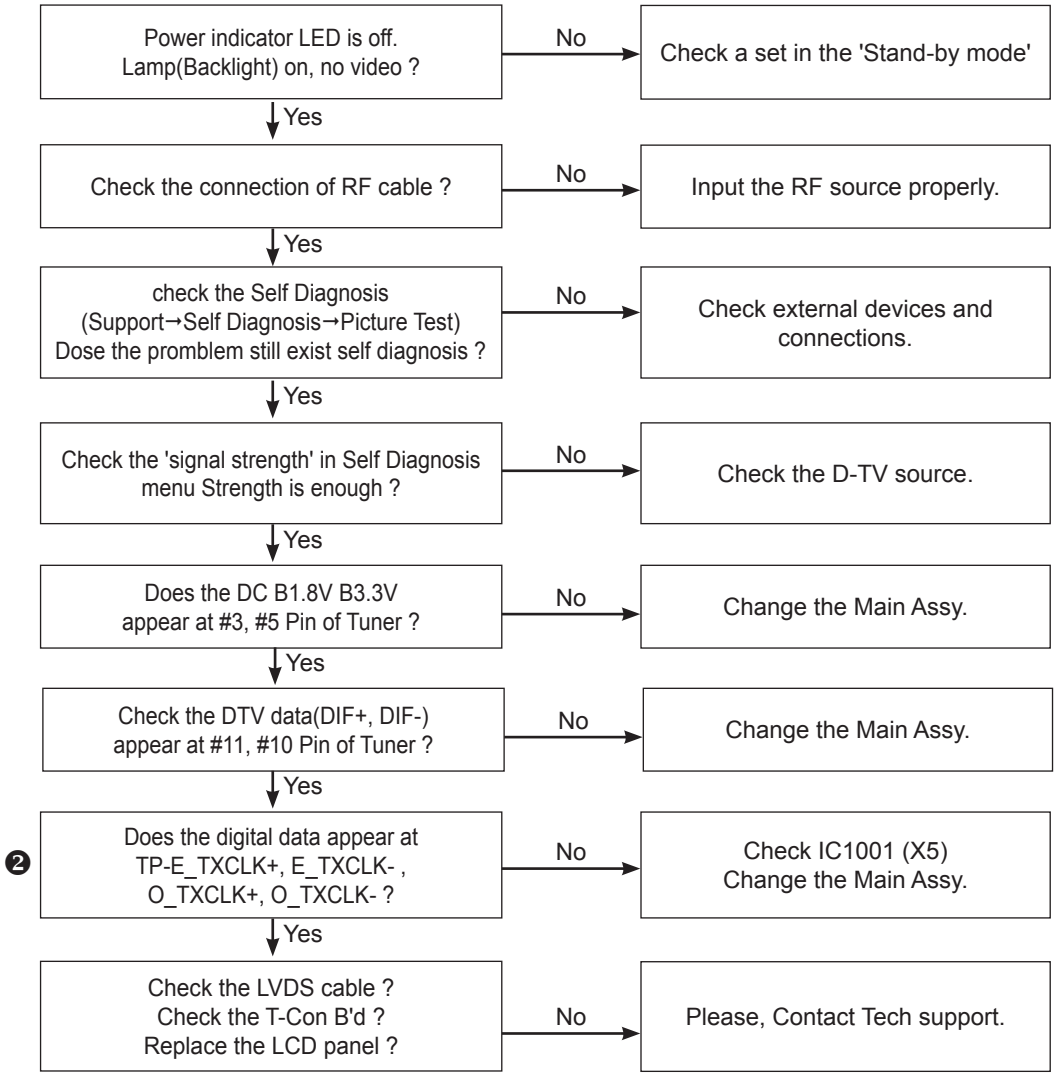
❷ LVDS output



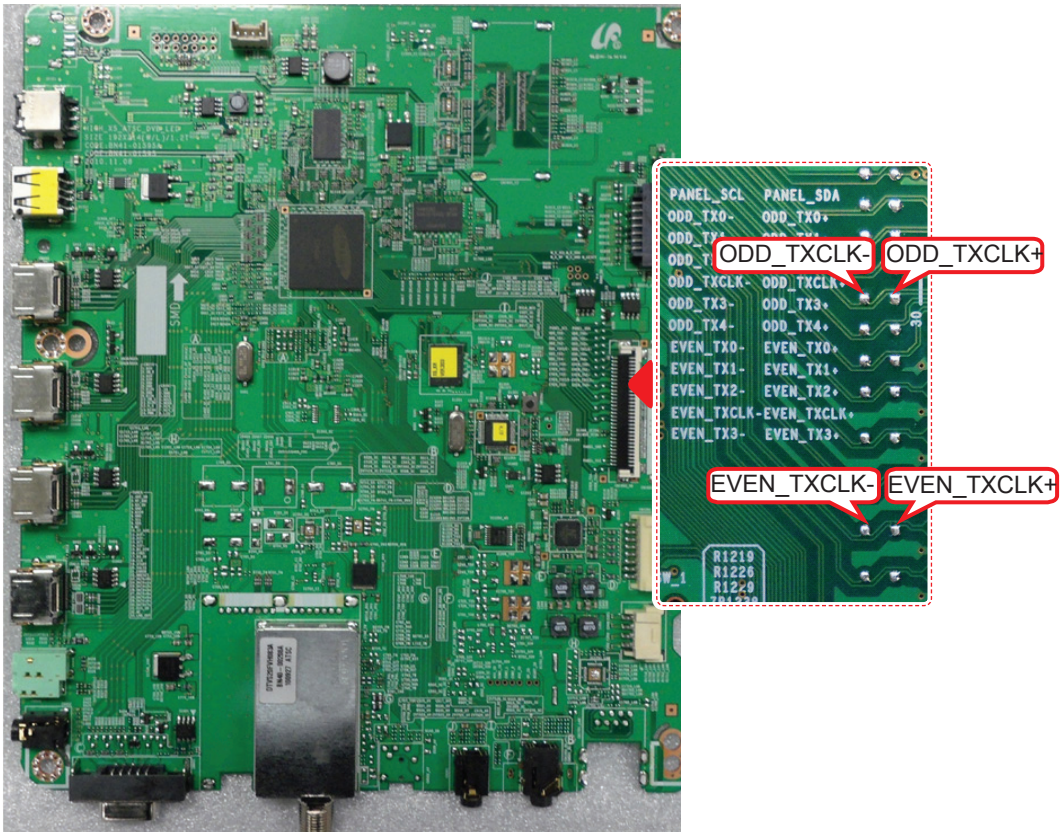
■ No Video_Tuner DTV

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

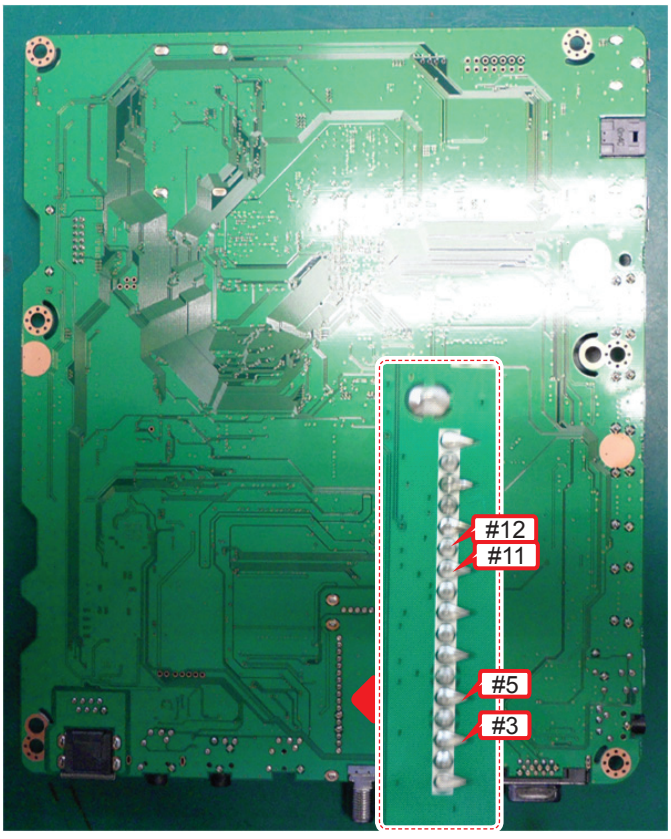
Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM



Location (Main) - TOP

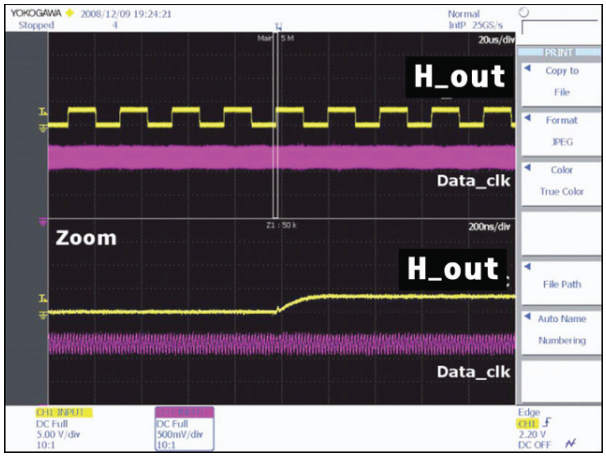


Location (Main) - BOTTOM



■ WAVEFORMS

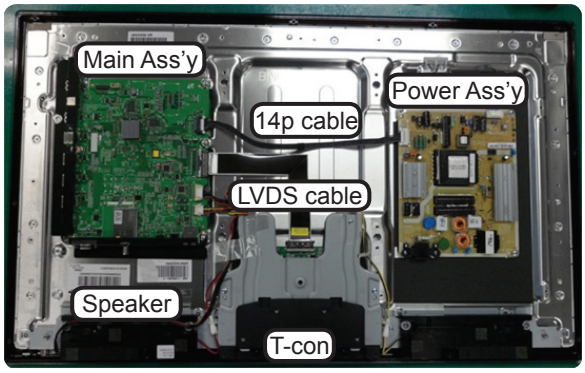
❷ LVDS output



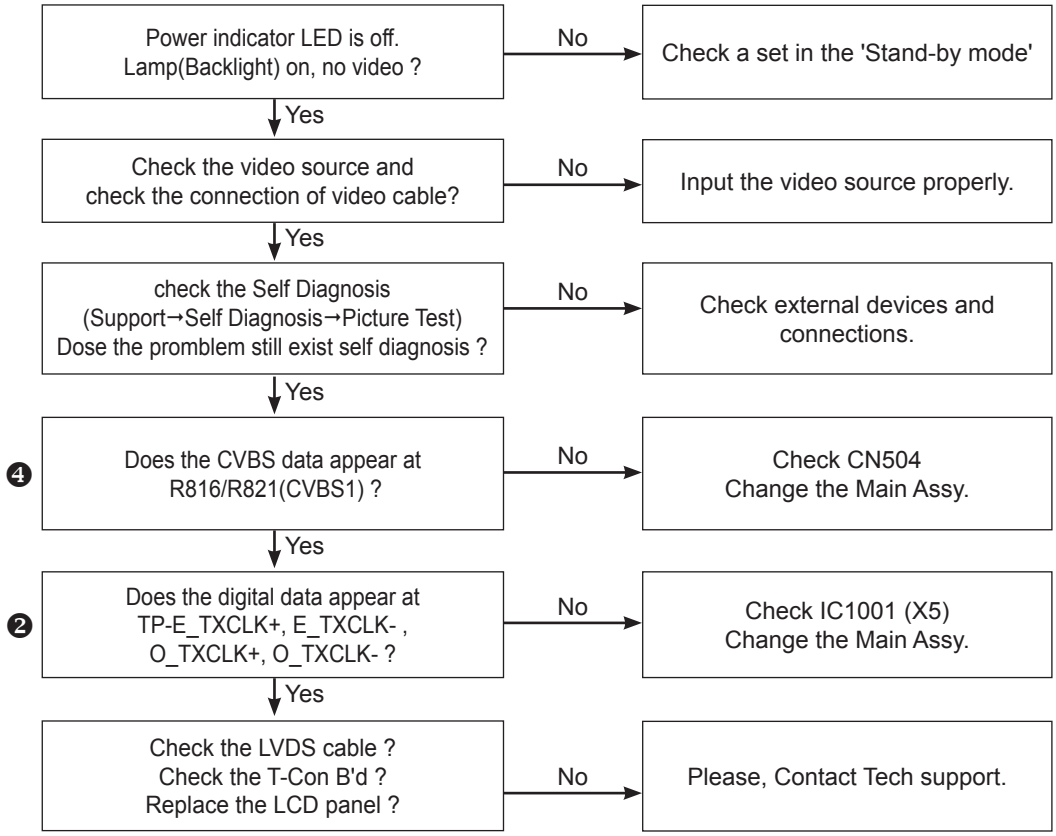
■ No Video_Video CVBS

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Video CVBS source – Check the Chelsea. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.

Diagnostics

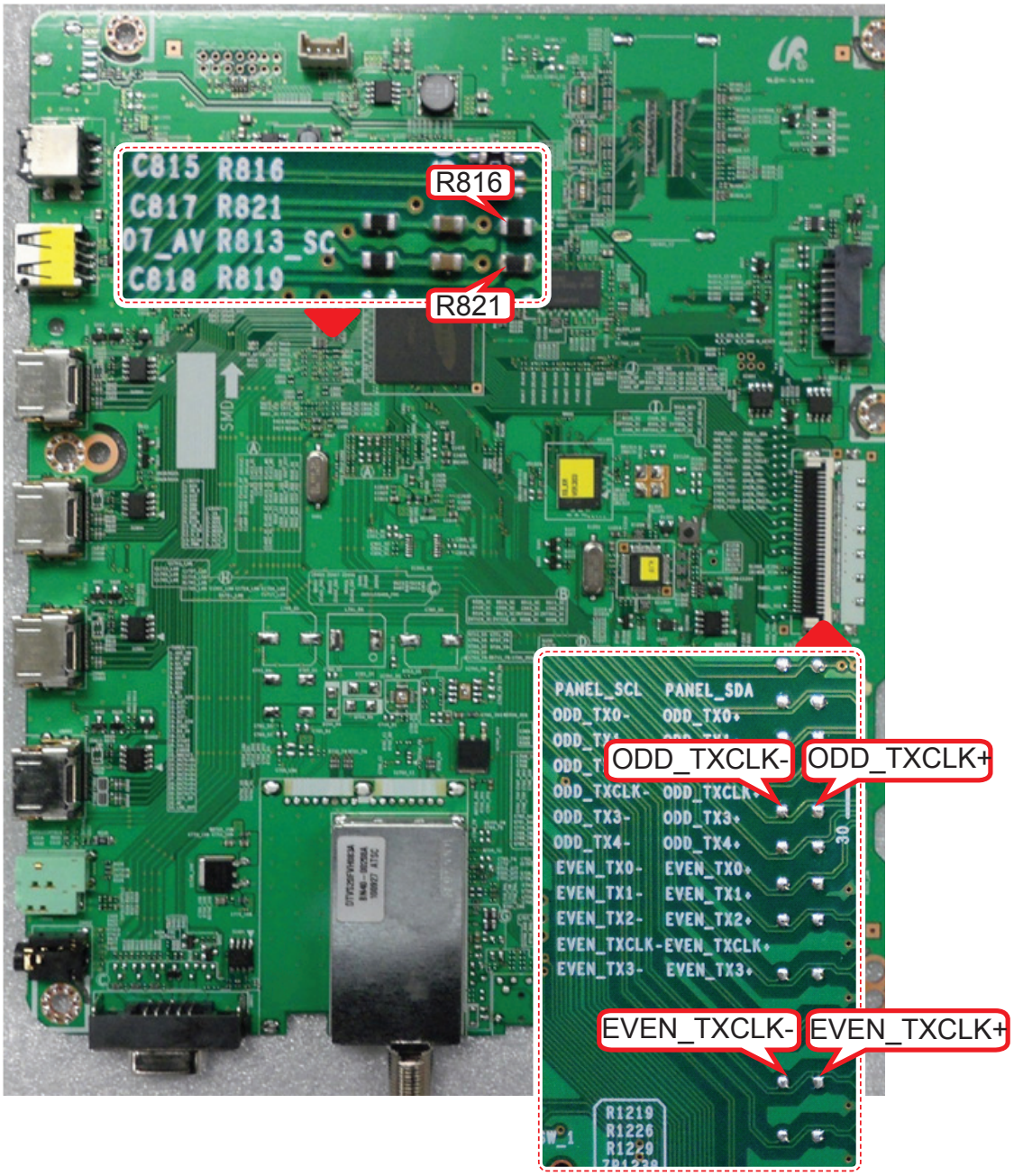


Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM



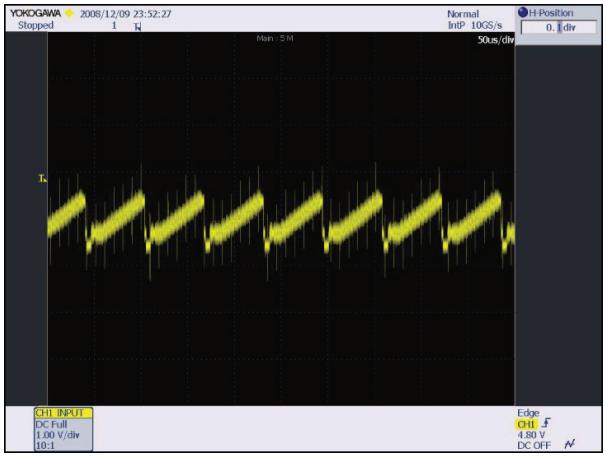
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP

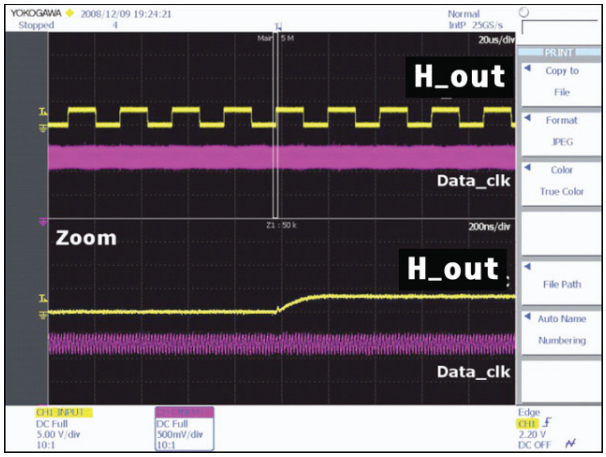


■ WAVEFORMS

❹ CVBS OUT (Grey Bar)

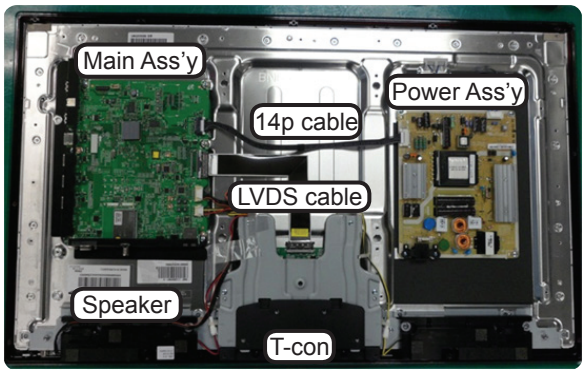


❷ LVDS output

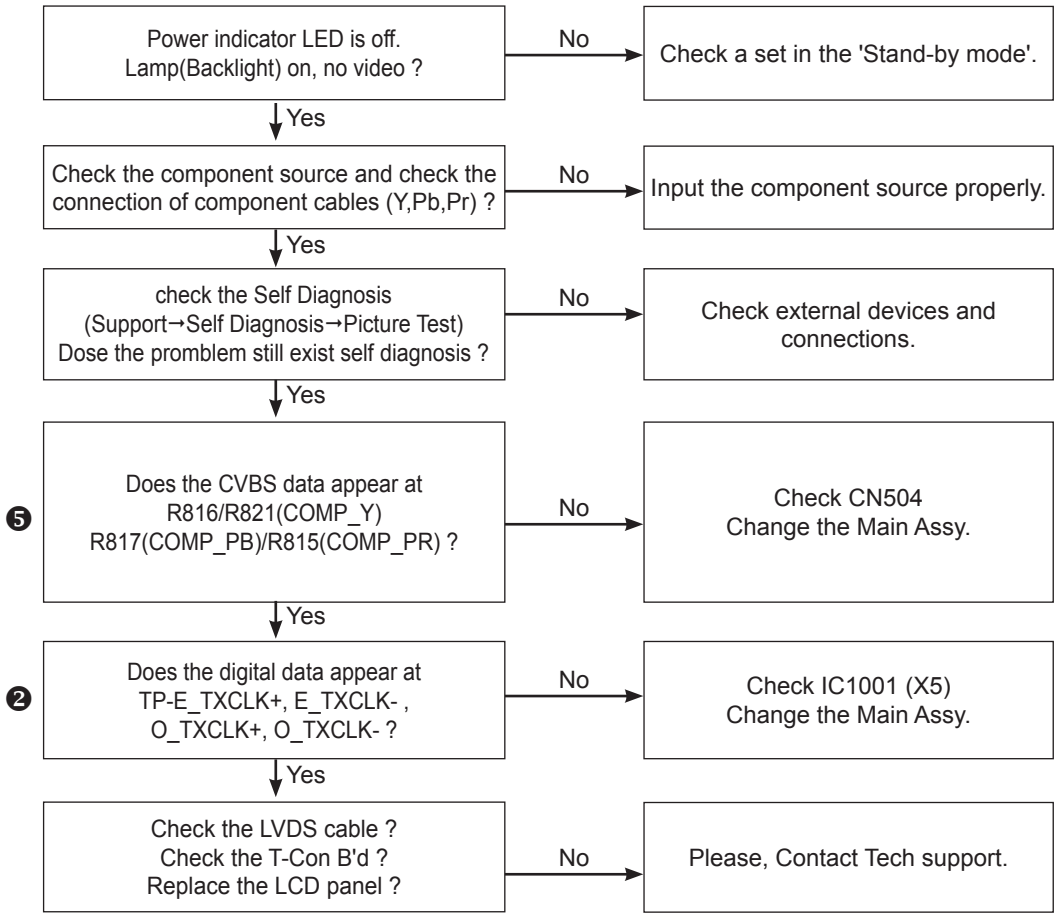


■ No Video_Component

Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Component source – Check the chelsea. – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	

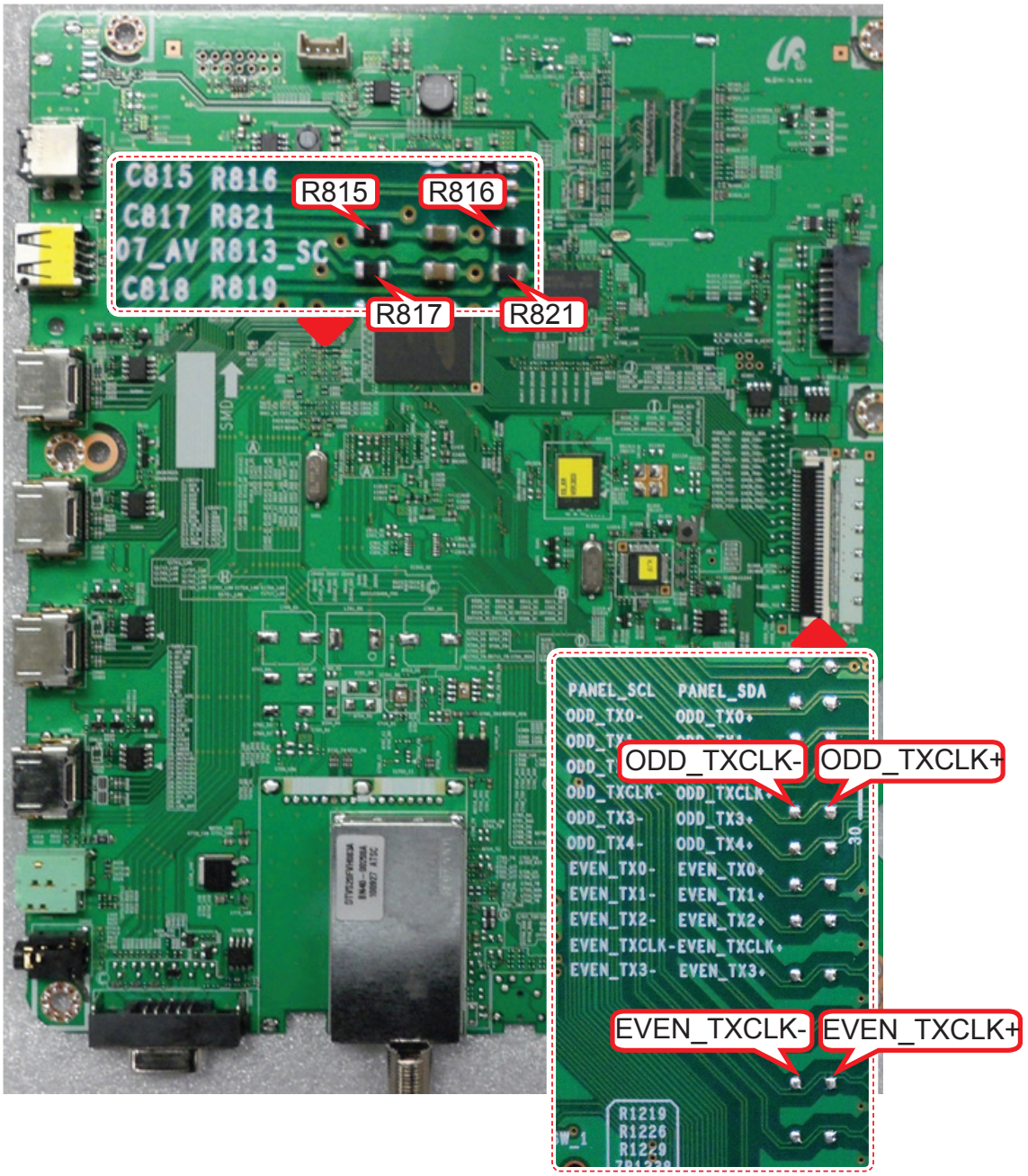


Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM



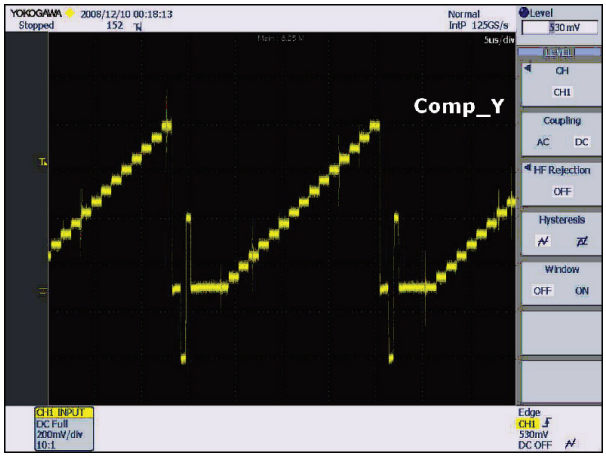
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP

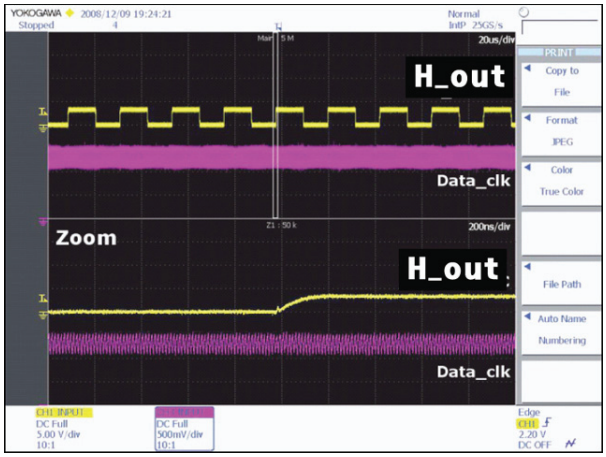


■ WAVEFORMS

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



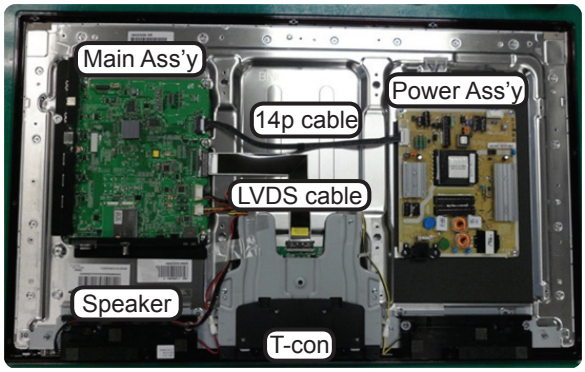
❷ LVDS output



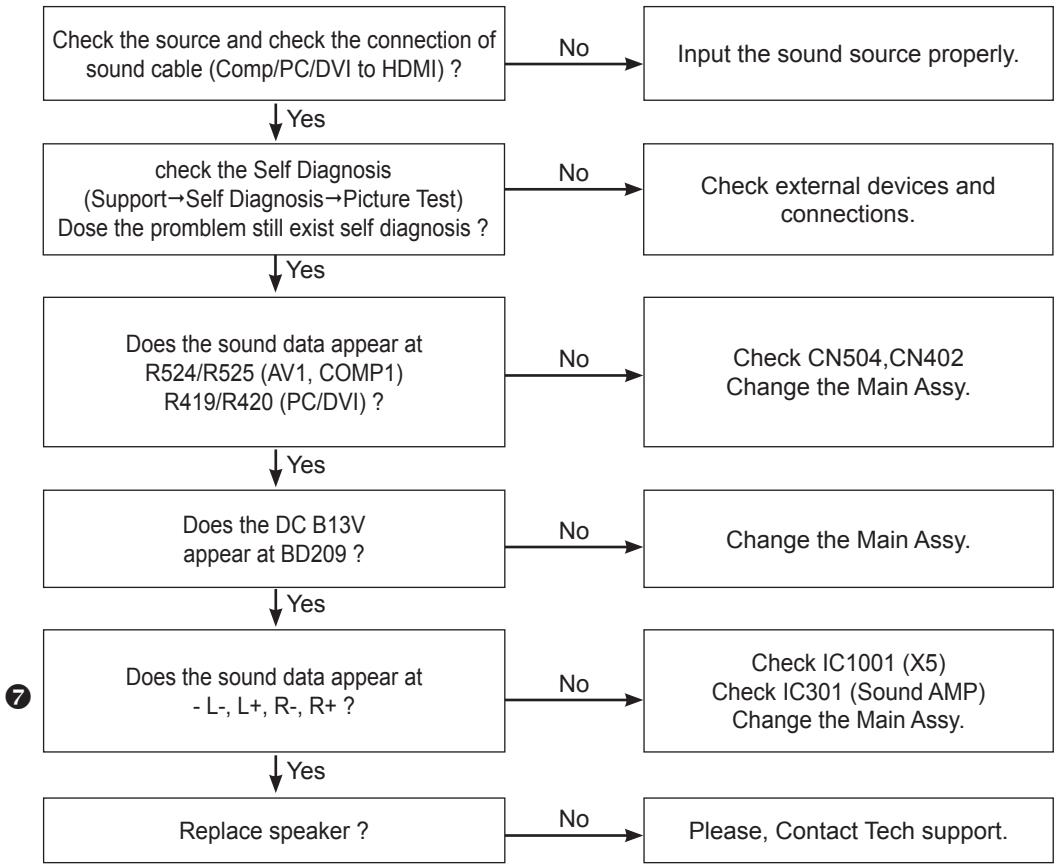
■ No Sound

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..

Diagnostics

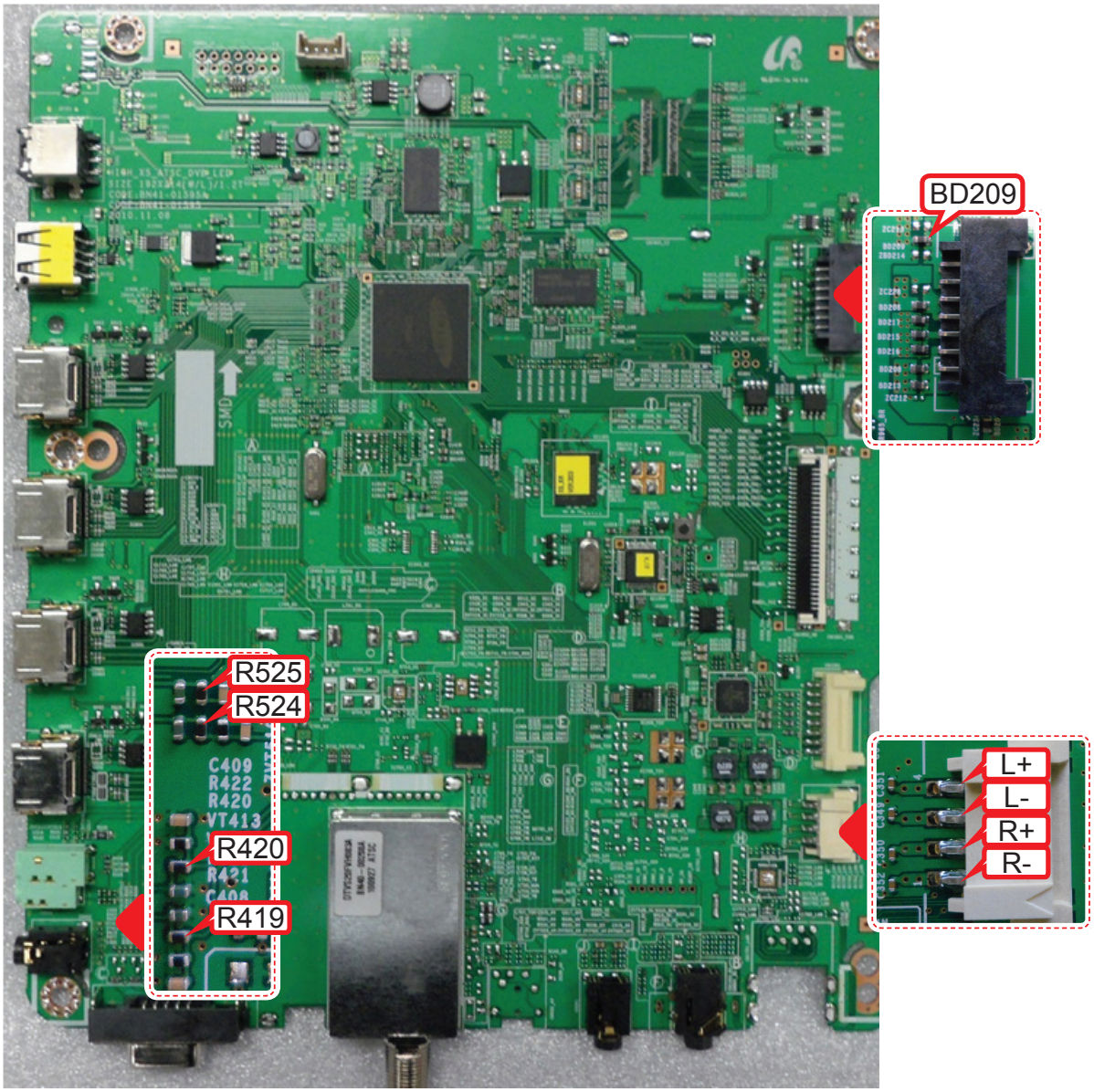


Main Assy				Power Assy			
1	B5V	2	SW_PW	1	B5V	2	SW_PW
3	B5V	4	A5V	3	B5V	4	A5V
5	GND	6	GND	5	GND	6	GND
7	B12VS	8	GND	7	B12VS	8	GND
9	B12VS	10	SW_INV	9	B12VS	10	SW_INV
11	B13V	12	NC	11	B13V	12	NC
13	B13V	14	DMM	13	B13V	14	DMM



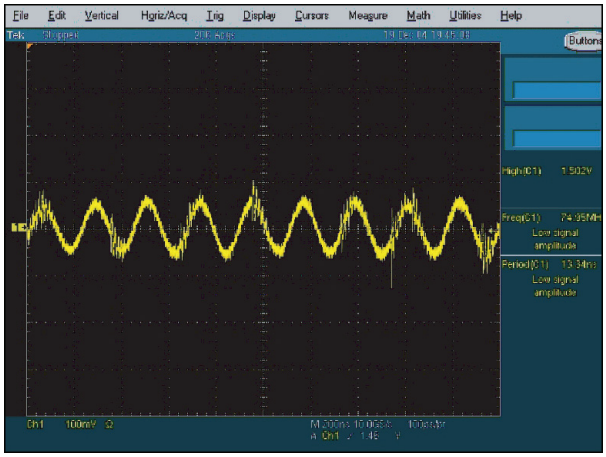
Caution	Make sure to disconnect the power before working on the IP board.

Location (Main) - TOP



■ WAVEFORMS

❼ Speaker OUT



4-2. Factory Mode Adjustments

■ Entering Factory Mode

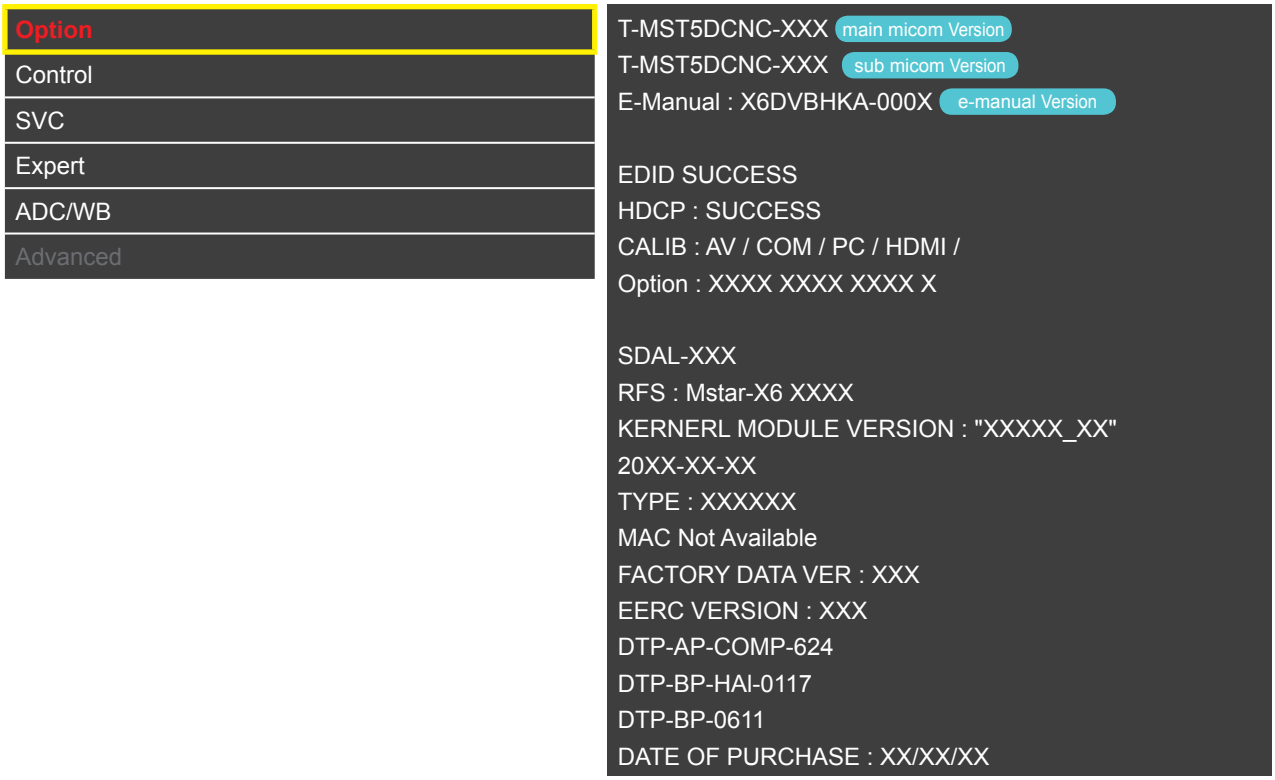
• If you do not have Factory remote - control

Power OFF → MUTE → 1 → 8 → 2 → Power ON

• If you do not have Factory remote - control

INFO → Factory

If you don't have Factory remote control, can't control some menu.



■ Factory Data

RED - Not adjusted I BLUE - Adjustable

Option			
Factory Menu Name	***Data***	***Range***	***Remark***
Factory Reset	-		
Type	32A6AF0E / 40A6AF0E	NONE/19A6TH0C/19I6TH0C/22D6AF0C/22I6AF0C/26A6AH0C/26D6AH0C/32A6AF0C/32A6AH0C/32D6AF0C/32L6AH0C/37L6AF0C/40A6AF0C/40L6AF0C/46A6AF0C/46D6AF0C/19A6AH0E/19P6AH0E/22D6UF0E/22P6UF0E/23A6UF0E/24P6UF0E/27A6UF0E/32A6AH0E/32A6UF0E/32D6AH0E/32D6UF0E/40A6UF0E/40H6UF0E/46A6UF0E/46D6UF0E/46DHHcD/51DFHcD/51DHHcD/5-1DSArD/51DSCrD/59DFHcD/59DSArD	
Local set	US	NONE/US/KOR/SA_ATV	
Model	UD5500	LD400/LD450/LD480/LD550/LD570/LD580/UD4000/UD4010/UD5000/UD5500/UD5550/PD450/PD451/PD460/PD490/PD491PD540/PD541/PD550/PD551/PD570/PD6400/PD6500/PD6900/PD7000	
TUNER	Si_ATC	SEC_ATSC/SEC_TC/ALPS_TC/SI_TCS/SI_T2/SEC_ISDB/SEC_ATV/SI_ATC/	
Ch table	NONE	NONE/SUWON/SAMEX	
Front Color	U-T-R-BLK	NONE/P-S-C-BK/P-S-R-BK/P-S-BK/P-S-B-BK/P-T-R-BK/P-T-C-BK/P-T-W-Bn/P-T-W-Gy/P-T-M-Bn/P-T-C-Gy/P-T-R-Gy/P-W-Milk/P-W-M-Wt/P-W-D-Gy/P-W-Vio/L-S-C-BK/L-S-R-BK/L-S-BK/L-S-B-BK/L-T-R-BK/L-T-C-BK/L-T-W-Bn/L-T-W-Gy/L-T-M-Bn/L-T-C-Gy/L-T-R-Gy/L-W-Milk/L-W-M-Wt/L-W-D-Gy/L-W-Vio/U-S-C-BK/U-S-R-BK/U-S-BK/U-S-B-BKU-T-R-BK/U-T-C-BK/U-T-W-Bn/U-T-W-Gy/U-T-M-Bn/U-T-C-Gy/U-T-R-Gy/U-T-BL-M/U-T-CL-M/U-W-Milk/U-W-M-Wt/U-W-D-Gy/U-W-Vio/	

Control			
Factory Menu Name	***Data***	***Range***	***Remark***
EDID			
EDID ON/OFF	On/Off		
EDID WRITE ALL	Success/Failure		
EDID WRITE PC	Success/Failure		
EDID WRITE HDMI1	Success/Failure		
EDID WRITE HDMI2	Success/Failure		
EDID WRITE HDMI3	Success/Failure		
EDID WRITE HDMI4	Success/Failure		
EDID 1.2 PORT	NONE/Not Support/HDMI2/HDMI3/HDMI4		
EDID WRITE DVI			

Sub Option			
RF Mute Time	600ms	0ms~1000ms	
RS-232 Jack	UART	Debug/Login/UART	
Watchdog	ON	ON/OFF	
WD Count	0	0~255	
Dimm Type	EXT	fixed	
Lvds Format	JEIDA	JEIDA/VESA/19INCH	
Language_Arbic	KR	KR	
TOOLS Support	32	0~255	
LNA Support	0	0~255	
MediaPlay DB	On whth 5MB	fixed	
MediaPlay Movie	chapterinMedia	fixed	
MediaPlay DLNA	OFF	fixed	
MediaPlay PlayList	OFF	fixed	
NETWORK Support	EXT_WIFI	Not Support/Cable/EXT_WIFI	
Info Link Server Type	development	operationg/development/developing	
Info Link Country	USA	None/USA	
TTX List	…	fixed	
TTX Group	…	fixed	
24Px4 Support	OFF	ON/OFF	
Power Indicator Support	OFF	ON/OFF	
BD Wise Support	OFF	ON/OFF	
Data Service Support	OFF	ON/OFF	
Alternate Del	OFF	ON/OFF	
OTN Server Type	operationg	operation/development	
OTN Test Server	OFF	OFF/ A/B/C/D/E Zone	
OTN Support	ON	ON/OFF	
OTN Reset			
OTN Duration	OFF	ON/OFF	
OTN Fail Test	OFF	ON/OFF	
IIC Bus Stop	OFF	ON/OFF	
Visual Test	Disable	fixed	
Emergency Log Copy			
Checksum	0x0000		
View Log *Select Log Type* *Log View* *Delete Log*	*IR Key*	*NVRAM / DIAGNOSIS / IR KEY*	
ColorSpace Support	RGB Type	RGB Type / HueSate Type	
Gemstar On/Off	OFF	ON/OFF	
WSS Support	OFF	ON/OFF	

PVR Support	OFF	ON/OFF	
CI Support	OFF	ON/OFF	
Eeprom Reset			
EER Reset			
NVR All Clear	*OFF*		
Spread Spectrum			
LVDS Spread	*ON*	*ON/OFF*	
Period	*40K*	*30K/40K/50K/60K*	
Amplitude	*1.5*	*0.0/0.5/1.0/1.5/2.0/2.5/3.0*	
DDR Spread	*1%*	*0.1~2.0%*	
DDR Margin			
A CTRL_OFFSET_0_3	*0X0*		
A CTRL_OFFSET_D	*0X0*		
B CTRL_OFFSET_0_3	*0X0*		
B CTRL_OFFSET_D	*0X0*		
H.264 Margin	8	0~2000	
MPEG Margin	1000	0~2001	
Tuner Margin	10	0~2002	
SST			
Y0 Ref	*166*	*0~255*	
Y1 Ref	*148*	*0~255*	
Y2 Ref	*119*	*0~255*	
Y3 Ref	*101*	*0~255*	
Y4 Ref	*76*	*0~255*	
Y5 Ref	*60*	*0~255*	
Y6 Ref	*31*	*0~255*	
Y7 Ref	*0*	*0~255*	
Cb0 Ref	*128*	*0~255*	
Cb1 Ref	*64*	*0~255*	
Cb2 Ref	*148*	*0~255*	
Cb3 Ref	*85*	*0~255*	
Cb4 Ref	*171*	*0~255*	
Cb5 Ref	*108*	*0~255*	
Cb6 Ref	*194*	*0~255*	
Cb7 Ref	*0*	*0~255*	
Cr0 Ref	*128*	*0~255*	
Cr1 Ref	*137*	*0~255*	
Cr2 Ref	*64*	*0~255*	
Cr3 Ref	*74*	*0~255*	
Cr4 Ref	*181*	*0~255*	
Cr5 Ref	*192*	*0~255*	

Cr6 Ref	*118*	*0~255*	
Cr7 Ref	*0*	*0~255*	
SST_Th			
Y0 TH	*20*	*0~255*	
Y1 TH	*20*	*0~255*	
Y2 TH	*20*	*0~255*	
Y3 TH	*20*	*0~255*	
Y4 TH	*20*	*0~255*	
Y5 TH	*20*	*0~255*	
Y6 TH	*20*	*0~255*	
Y7 TH	*20*	*0~255*	
Cb0 TH	*20*	*0~255*	
Cb1 TH	*20*	*0~255*	
Cb2 TH	*20*	*0~255*	
Cb3 TH	*20*	*0~255*	
Cb4 TH	*20*	*0~255*	
Cb5 TH	*20*	*0~255*	
Cb6 TH	*20*	*0~255*	
Cb7 TH	*20*	*0~255*	
Cr0 TH	*20*	*0~255*	
Cr1 TH	*20*	*0~255*	
Cr2 TH	*20*	*0~255*	
Cr3 TH	*20*	*0~255*	
Cr4 TH	*20*	*0~255*	
Cr5 TH	*20*	*0~255*	
Cr6 TH	*20*	*0~255*	
Cr7 TH	*20*	*0~255*	
2nd mips	ON	ON/OFF	
2nd mips count	0	0~255	
Region	KOR	fixed	
PnP Language	ENG_US	ENG_US/SPA_US/FRA_US	
PC Auto Ident	Enable	Auto/Enable	
OTP Lock	…	fixed	
Auto Power	ON	ON/OFF	
Key Sensitivity	27	0~255	
FANET	OFF	ON/OFF	
S-Micom Upgrade	OFF	ON/OFF	

Hotel Option			
Hotel Mode	OFF	ON/OFF	
SI Vender	Samsung	Samsung/2M/Locatel/VDA/VDA-S/Acentic/ Premiere/Sustinere/Quadriga/ETV/Ibahn/ Magilink/Otrum/PeninsulaSiemens/OCC/MTI/ MstreamsDAWNXTV/Enseo/Cardinal/Guestek/ OFF/Movielink/Swisscom	
Power On Channel	3	1~135	
Channel Type	ATV	ATV/DTV/CATV/CDTV	
Power On Volume	10	0~100	
Min Volume	0	0~100	
Max Volume	100	0~100	
Panel Button Lock	Unlock	Unlock/Lock/OnlyPower	
Power On Source	TV	TV/AV/Comp/PC/HDMI1/HDMI2/HDMI3/ HDMI4	
Shop Option			
Shop Mode	OFF	ON/OFF	
Exhibition Mode	OFF	ON/OFF	
Asia Option			
TTX	OFF	ON/OFF	
China HD	OFF	ON/OFF	
NT Conversion	OFF	ON/OFF	
Sepco 120Hz	OFF	ON/OFF	
Unbalance	OFF	ON/OFF	
FMTransmitter Support	OFF	ON/OFF	
FMTransmitter Carrier	OFF	ON/OFF	
AF Level adjust	3	0~7	
TX Power Level	0	0~3	
Mono Last Memory	OFF	ON/OFF	
Sound			
High Devi	OFF	ON/OFF	
Carrier_Mute	ON	ON/OFF	
Volume Curve	Type2	Type1/Type2/error	
Speaker Delay Normal	10	0~255	
Pilot Level High Thld	0x08h	0x00~0xff	
Pilot Level Low Thld	0x05h	0x00~0xff	
FM Prescale	17	0~255	
AM Prescale	10	0~255	
NICAM Prescale	33	0~255	
Amp Volume	0x10h	0x00~0xff	
Amp Scale	0x78h	0x00~0xff	
Amp Check Sum	0x0000a820	fixed	
Woofer Type	4	1~7	

Woofer Scale	0x7Fh	0x00~0xff	
Woofer Check Sum			
Speaker EQ	ON	ON/OFF	
PEQ Test	0	0~7	
Amp Model	NTP7300	SAT369B/TAS5715/NPT7300	
Speaker cut-off Freq	4	0~16	
SPDIF PCM Gain	-9dB	-10dB~0dB	
BTSC Mono Prescale	0	-10~10	
BTSC streo Prescale	0	-10~10	
SAO Prescale	0	-10~10	
A2 Ident High Thld	0	-10~10	
A2 Ident Low Thld	0	-10~10	
Carrier2 Amp High Thld	0	-10~10	
Carrier2 Amp Low Thld	0	-10~10	
Carrier2 SNR High THR	0	-10~10	
Carrier2 SNR Low THR	0	-10~10	
Config Option			
Num of ATV	1	1~2	
Num of DTV	1	0~2	
Num of AV	2	0~3	
Num of SVIDEO	0	1~3	
Num of Comp	2	1~3	
Num of HDMI	4	0~4	
Num of PC	1	0~1	
Num of SCART	0	0~2	
Num of DVI	0	0~1	
Num of OPTICAL Link	0	fixed	
Num of MEDIA	1	0~1	
Num of PANEL KEY	6	0~8	
Num of USB Port	2	0~2	
Num of HeadPhone	0	0~1	
MFT Offset	62.5	50/62.5	
Select LCD/PDP	LCD	LCD/PDP	
HDMI/DVI SEL	1	1~4	
Indicator Led	OFF	ON/OFF	
Wall Mount	OFF	ON/OFF	
HV Flip	ON	ON/OFF	
Num of Display	2	1~2	
DVI/HDMI SOUND	Auto	Auto/DVI	
HDMI HOT PLUG	Disable	Enable/Disable	
HOTPLUG SWITCHING	Boot	Disable/Boot/Source	

HOTPLUG DURATION	1200ms	0~2000ms	
CLK TERM DURATION	1200ms	0~2000ms	
HDMI FLT CNT SIG	200ms	0~1000ms	
HDMI FLT CNT LOS	600ms	0~1000ms	
UNSTABLE BAN CNT	3500ms	0~100000ms	
HDMI Err Cnt	5	0~10	
HDMI ROBIN	ON	ON/OFF	
HDMI Callback	OFF	ON/OFF	
HDMI CTS Thld	8	0~15	
HDMI CTS Cnt1	1	0~15	
TMDS_EQ2_Boost	1	0~7	
TMDS_EQ2_Gain	0	0~3	
TMDS_PLL_Loop	3	0~3	
TMDS_CPREG_BLEED	1	0~1	
HDMI EQ	AUTO	AUTO/Low/Middle/High/Strong	
HDMI Write Type	Combine	Combine/Separate	
HDMI Switch	SIL9287	NONE/SIL9287/TMDS461	
DVI SET TIME	300ms	0~1000ms	
Type Of PANEL KEY	Horizontal	Horzontal/Vertical/PDPVertical/Nne	
EcoSensor Support	ON	ON/OFF	
LEDMotionPlus Support	OFF	ON/OFF	
Natural Mode Support	ON	ON/OFF	
All Share Support	ON	ON/OFF	
Relax Mode Support	OFF	ON/OFF	
DVI-I Support	…	fixed	
Melfas Function Support	…	fixed	
Light Level Support	…	fixed	
SCC			
SCC Mode	Dynamic	Dynamic/Movie	
SCC ON/OFF	OFF	ON/OFF	
SCC Input Data			
Hx	*272*	*0~512*	
Hy	*273*	*0~512*	
Lx	*274*	*0~512*	
Ly	*275*	*0~512*	
sSCC Const			
sSCC Hx	*550*	*0~1024*	
sSCC Hy	*566*	*0~1024*	
sSCC Lx	*598*	*0~1024*	
sSCC Ly	*550*	*0~1024*	

pSCC Const			
pSCC Hx	*550*	*0~1024*	
pSCC Hy	*566*	*0~1024*	
pSCC Lx	*598*	*0~1024*	
pSCC Ly	*550*	*0~1024*	
SCC Source Data	PBA	PBA/PANEL	
SWAP	PBA	PBA/PANEL	

SVC			
Factory Menu Name	***Data***	***Range***	***Remark***
Test Pattern			
Pattern Sel	OFF	OFF/ White/Grey/Black/Red/Green/Blue	
Logic Pattern Sel	…	fixed	
Logic Level Sel	…	fixed	
Panel Auto Setting	**Success**		
Panel Display Time	**22Hr**		
Logic Usb D/L	**Off**		
Tuner Status			
DVB			
SNR			
BER			
Singal Strength			
Bandwidth			
Frequency			
LNA Status			
FFT			
Modulation			
Code Rate			
GI			
Hier Modulation			
Frequency Offset			
Timing Offset			
AGC			
UCB			
PLL Type			
DEMOD Type			
TPS LOCK			
RS Lock			
SSI			
SQI			

ISDB-T			
FFT Size_1			
Guard Interval_1			
Freq. Offset_1			
SNR_1			
IF AGC_1			
TMCC Lock_1			
TS Packet_1			
Master Lock_1			
A_Modulation_1			
A_Code Rate_1			
A_Timer InterLeave_1			
A_Segments Num_1			
A_Ber_1			
B_Modulation_!			
B_Code Rate_1			
B_Timer InterLeave_1			
B_Segments Num_1			
B_BER_1			
C_Modulation_1			
C_Code Rate_1			
C_Timer InterLeave_1			
C_Segments Num_1			
C_BER_1			
T-CON Usb Download	**Failire**		

ADC/WB

Factory Menu Name	***Data***	***Range***	***Remark***
ADC			
AV Calibration	Success	Success / Failure	
Comp Calibraion	Success	Success / Failure	
PC Calibration	Success	Success / Failure	
HDMI Calibration	Success	Success / Failure	
ADC Target			
1st_AV_Low	64	0 ~ 1020	
1st_AV_High	880	0 ~ 1020	
1st_AV_Delta	2	0 ~ 7	
1st_COMP_Y_Low	64	0 ~ 1020	
1st_COMP_Cb_Low	…		
1st_COMP_Cr_Low	…		
1st_COMP_Y_High	940	0 ~ 1020	
1st_COMP_Cb_High	…		

1st_COMP_Cr_High	…		
1st_COMP_Delta	2	0~7	
1st_PC_R_Low	16	0 ~ 1020	
1st_PC_G_Low	…		
1st_PC_B_Low	…		
1st_PC_R_High	1004	0 ~ 1020	
1st_PC_G_Low	…		
1st_PC_B_Low	…		
1st_PC_Delta	2	0~7	
2nd_AV_R_Low	4	fixed	
2nd_AV_G_Low	4	fixed	
2nd_AV_B_Low	4	fixed	
2nd_AV_R_High	940	fixed	
2nd_AV_G_High	940	fixed	
2nd_AV_B_High	940	fixed	
2nd_AV_Delta	2	0~7	
2nd_COMP_R_Low	4	fixed	
2nd_COMP_G_Low	4	fixed	
2nd_COMP_B_Low	4	fixed	
2nd_COMP_R_High	940	fixed	
2nd_COMP_G_High	940	fixed	
2nd_COMP_B_High	940	fixed	
2nd_COMP_Delta	2	0~7	
2nd_PC_R_Low	4	fixed	
2nd_PC_G_Low	4	fixed	
2nd_PC_B_Low	4	fixed	
2nd_PC_R_High	940	fixed	
2nd_PC_G_High	940	fixed	
2nd_PC_B_High	940	fixed	
2nd_PC_Delta	2	0~7	
2nd_HDMI_R_Low	4	fixed	
2nd_HDMI_G_Low	4	fixed	
2nd_HDMI_B_Low	4	fixed	
2nd_HDMI_R_High	940	fixed	
2nd_HDMI_G_High	940	fixed	
2nd_HDMI_B_High	940	fixed	
2nd_HDMI_Delta	2	0~7	
ADC Result			
1st_Y_GH	0	fixed	
1st_Y_GL	0	fixed	
1st_Cb_BH	0	fixed	

1st_Cb_BL	0	fixed	
1st_Cr_RH	0	fixed	
1st_Cr_RL	0	fixed	
2nd_R_L	134	0 ~ 255	
2nd_G_L	134	0 ~ 255	
2nd_B_L	134	0 ~ 255	
2nd_R_H	49	0 ~ 255	
2nd_G_H	49	0 ~ 255	
2nd_B_H	49	0 ~ 255	
White Balance			
Sub Brightness	128	0 ~ 1023	
R-Offset	512	0 ~ 1023	
G-Offset	512	0 ~ 1023	
B-Offset	512	0 ~ 1023	
Sub Contrast	128	0 ~ 1023	
R-Gain	512	0 ~ 1023	
G-Gain	512	0 ~ 1023	
B-Gain	512	0 ~ 1023	
Movie R-Offset	…	fixed	
Movie B-Offset	…	fixed	
Movie R-Gain	…	fixed	
Movie B-Gain	…	fixed	

4-3. White Balance - Calibration

4-3-1. White Balance -Calibration

Factory

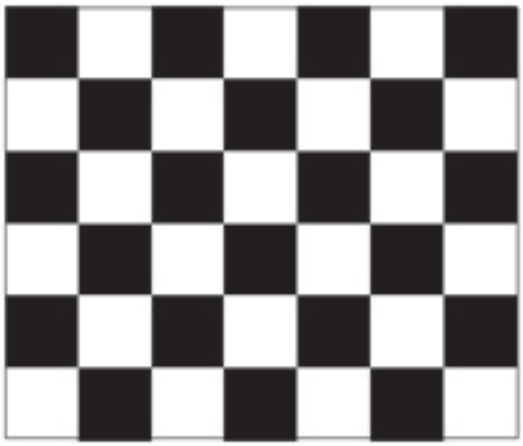
ADC / WB	→	AV Calibration Comp Calibration PC Calibration HDMI Calibration

4-3-2. 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*720@60Hz
3. Pattern : Pattern #24 (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

4-3-3. White Balance - Adjustment

Factory

		(Low light)	(High light)
ADC / WB - White Balance	→	Sub Bright R offset G offset B offset	Sub Contrast R gain G gain B gain

■ 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” 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 “Component1” mode.
3) Enter Service mode.
4) Select the “ADC” 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” 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” 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.

4-4. White Ratio (Balance) Adjustment

1. You can adjust the white ratio in factory mode (1:Calibration, 3:White-Balance).
2. Since the adjustment value and the data value vary depending on the input source, you have to adjust these in CVBS, Component 1 and HDMI 1 modes.
3. The optimal values for each mode are configured by default. (Refer to Table 1, 2)
   It varies with Panel's size and Specification.
   - Equipment : CS-210
   - Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard.
   - Use other equipment only after comparing the result with that of the Master equipment.
   - Set Aging time : 60min
   - Calibration and Manual setting for WB adjustment.
     HDMI : Calibration at #24 Chessboard Pattern → Manual adjustment #92 pattern (720p)
     COMP: Calibration at #24 Chessboard Pattern → Manual adjustment at #92 pattern (720p)
     CVBS: Calibration at #24 Chessboard Pattern → Manual adjustment at #92 pattern (NTSC)
   - If finishing in HDMI mode, adjustment coordinate is almost same in AV/COMP mode.
   - White Balance Manual Adjustment

• UN32D5500RF (AMLCD)

P-Mode		Adjustment Coordinate CA-210			
		x	y	Y(Luminance)	T(K)+MPCD
[Dynamic Cool1] HDMI Comp CVBS	H/L	272	278	45.6 fL (Sub_CT : 128 Fix)	12,000(+-0)
	L/L	272	278	3.2fL (Sub_Brt : 128 Fix)	12,000(+-0)
[Movie Warm2] HDMI Comp CVBS	H/L	313	329	20.8 fL (M_Sub_CT : 128 Fix)	6,500(+-0)
	L/L	329	329	1.4 fL (M_Sub_Brt : 128 Fix)	6,500(+-0)

• UN32D5500RF (CMI)

P-Mode		Adjustment Coordinate CA-210			
		x	y	Y(Luminance)	T(K)+MPCD
[Dynamic Cool1] HDMI Comp CVBS	H/L	264	274	41 fL (Sub_CT : 134 Fix)	16,000(+-0)
	L/L	-	-	2.8fL (Sub_Brt : 128 Fix)	16,000(+-0)
[Movie Warm2] HDMI Comp CVBS	H/L	313	329	32 fL (M_Sub_CT : 128 Fix)	6,500(+-0)
	L/L	-	-	1.8 fL (M_Sub_Brt : 128 Fix)	6,500(+-0)

• UN40D5500RF

P-Mode		Adjustment Coordinate CA-210			
		x	y	Y(Luminance)	T(K)+MPCD
[Dynamic Cool1] HDMI Comp CVBS	H/L	272	278	48.6 fL (Sub_CT : 128 Fix)	12,000(+-0)
	L/L	272	278	2.9fL (Sub_Brt : 128 Fix)	12,000(+-0)
[Movie Warm2] HDMI Comp CVBS	H/L	313	329	22.3 fL (M_Sub_CT : 128 Fix)	6,500(+-0)
	L/L	329	329	1 fL (M_Sub_Brt : 128 Fix)	6,500(+-0)

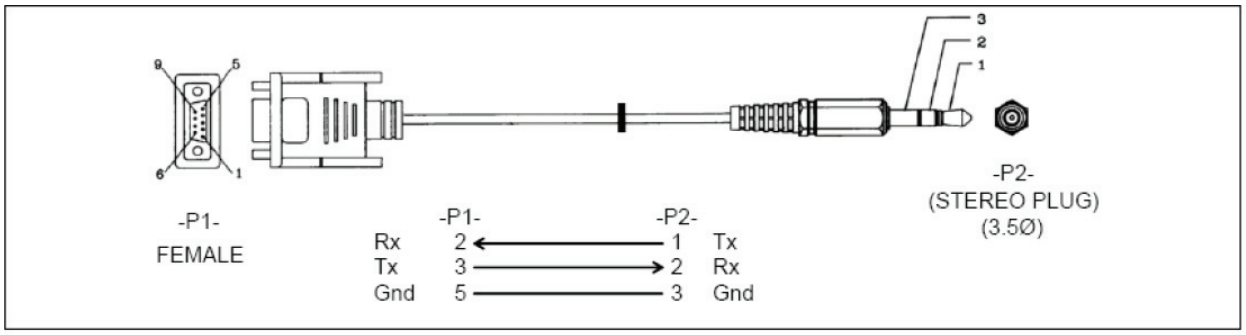
4-5. RS-232C

1. 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



4-6. 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)

4-7. Software Upgrade

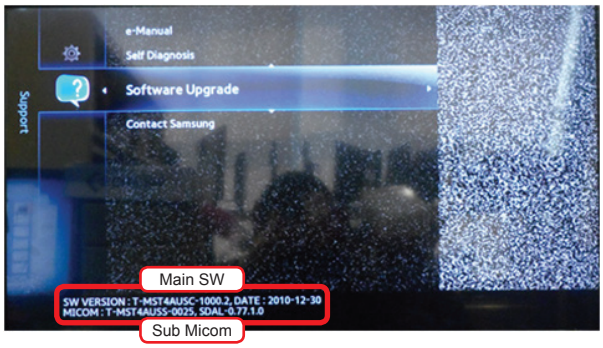
Software Upgrade can be performed by downloading the latest firmware from samsung.com to a USB memory device.
Current Version - the software already installed in the TV.

❖ **Note :** Software is represented as 'Year/Month/Day_Version'.

4-7-1. How to check the SW version

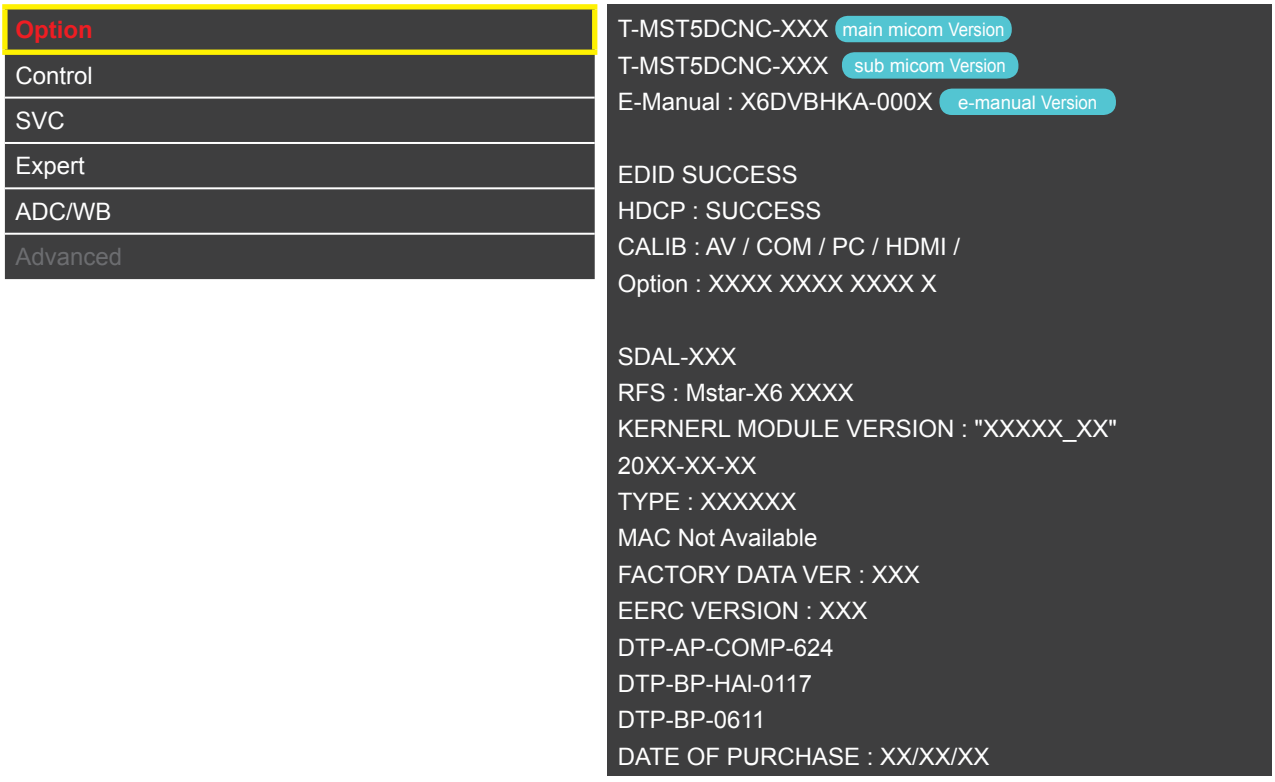
Use the main menu

1. Click the "menu" key in remote controler.
2. Select Support menu.
3. Locate the menu cursor "Software Upgrade" menu.
4. Click the "info" key.
5. Check the Main SW and Micom version.



Use the factory mode

• Access the factory mode



4-7-2. How to Upgade SW and Micom

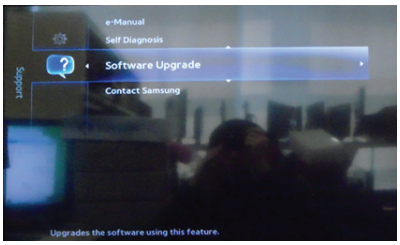
Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV.
Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete (the new version will have a higher number than the older version). When software is upgraded, video and audio settings you have When software is upgraded, video and audio settings you have you write down your settings so that you can easily reset them after the upgrade.

■ Main SW upgrade

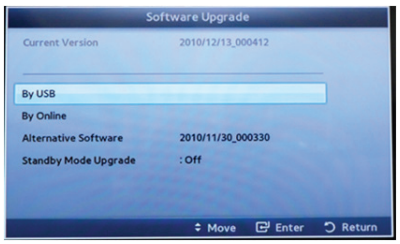
1. Store the sw program named “T-MST5IBRC” in USB memory stick.
   - Connect the USB.
   - Connect TV and online line.

2. Click the **MENU** key in remote controler.

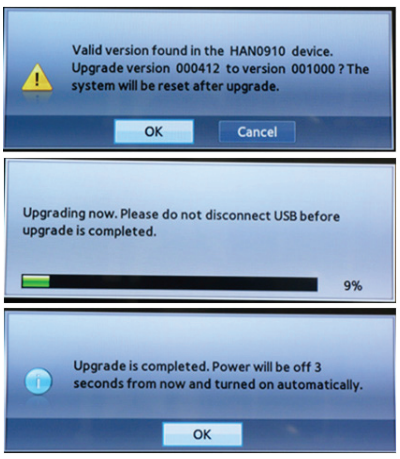
3. Select **Support** menu.
   - Locate the menu cursor **Software Upgrade** menu.



4. Click the **ENTER** key.
   - You can upgrade **By USB** or **Online**.



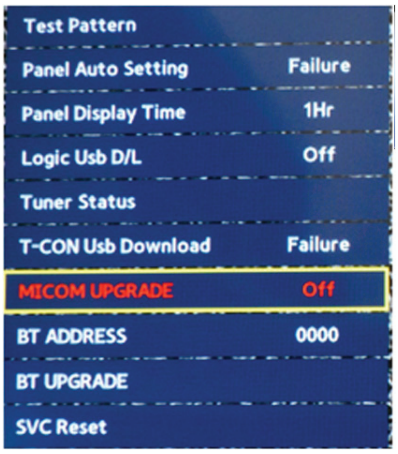
5. Click the **ENTER** key.
   - Wait for upgrade complete and check the SW version.



■ Sub micom upgrade

You can upgarde sub micom in factory mode without DDC program.
But it take long time about 5 minuites.

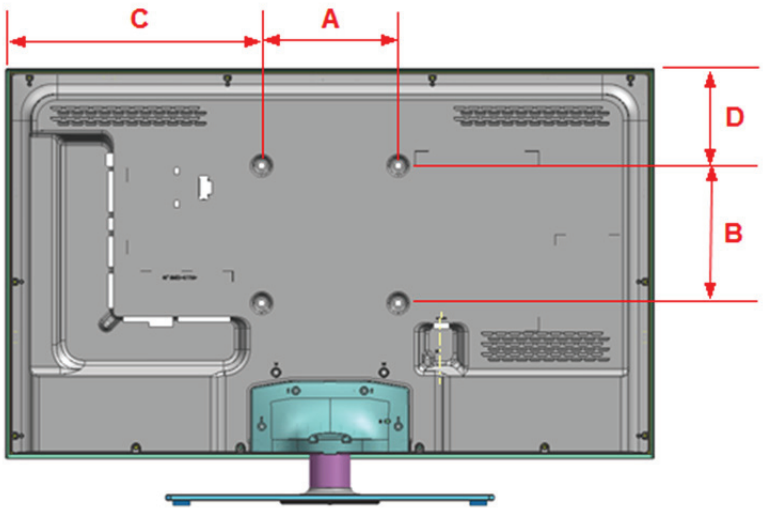
1. Access the fatory mode.
   - Select the **SVC** menu and locate the cursor **MICOM UPGRADE** menu.



2. Click the **ENTER** key.
   - Click the **right** key.
   - Wait for upgrade complete and check the Micom version.

4-8. Rear Cover Dimension

Cover-Rear Area



UD5500	A	B	C	D
32"	200	200	284.2	100.9
40"	200	200	377.9	144.2