

4. Troubleshooting

4-1. Troubleshooting

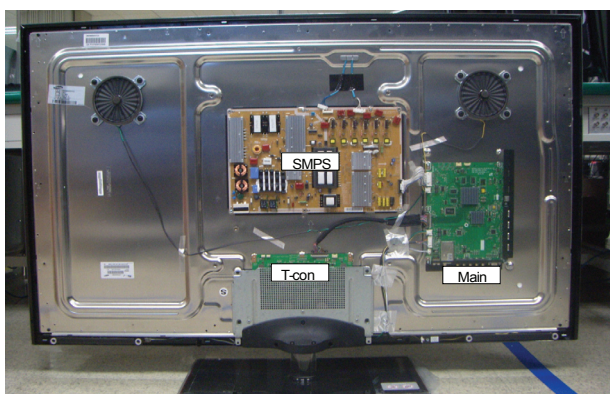
1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.
3. Check the internal patterns from both the FRC and FBE3 options.

FRC: Factory mode(mute 1 - 8- 2 power on when TV is "standby on ") -> Control -> Test Pattern -> FRC PATT_ BeforeDDR / AfterDDR

* FRCQ pattern is created by FRCQ IC(T-con)

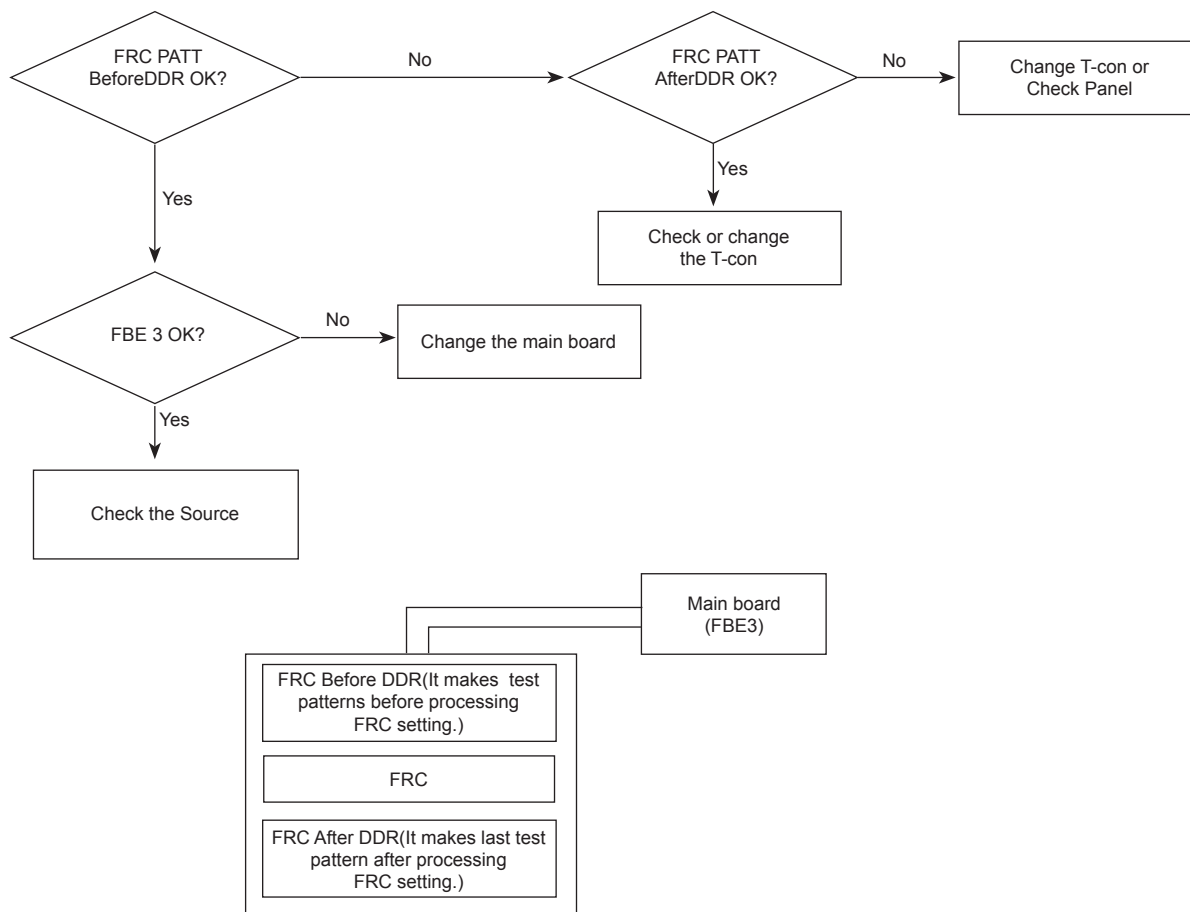
FBE3: Factory mode(mute 1 - 8- 2 power on when TV is "standby on ") -> Control -> Test Pattern ->FBE Pattern Sel

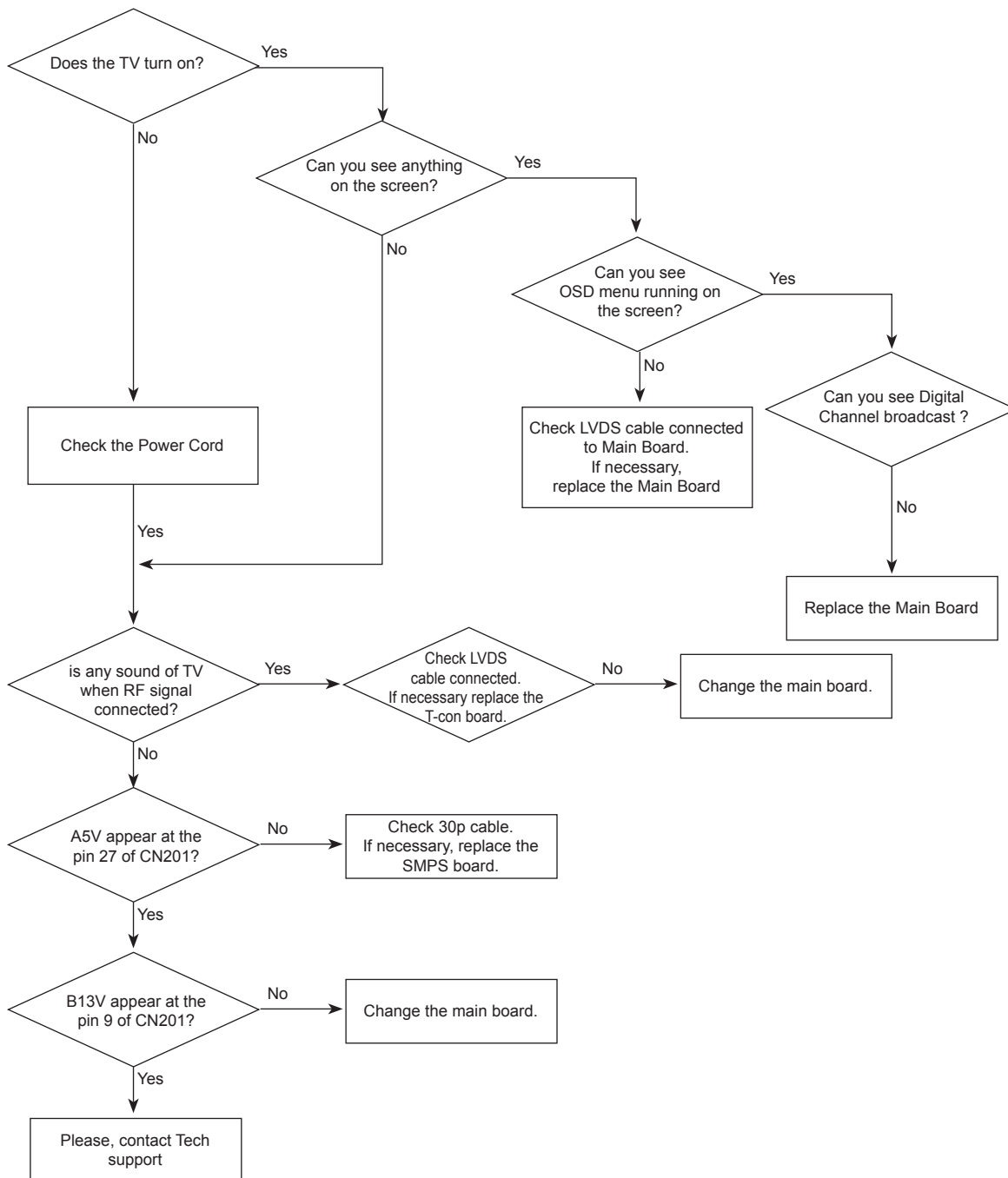
* Main pattern is created by Main IC(Chelsea)

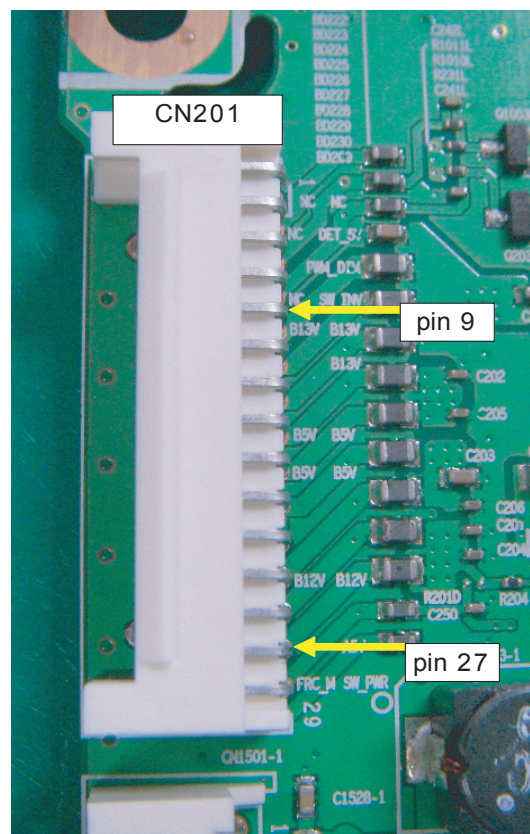
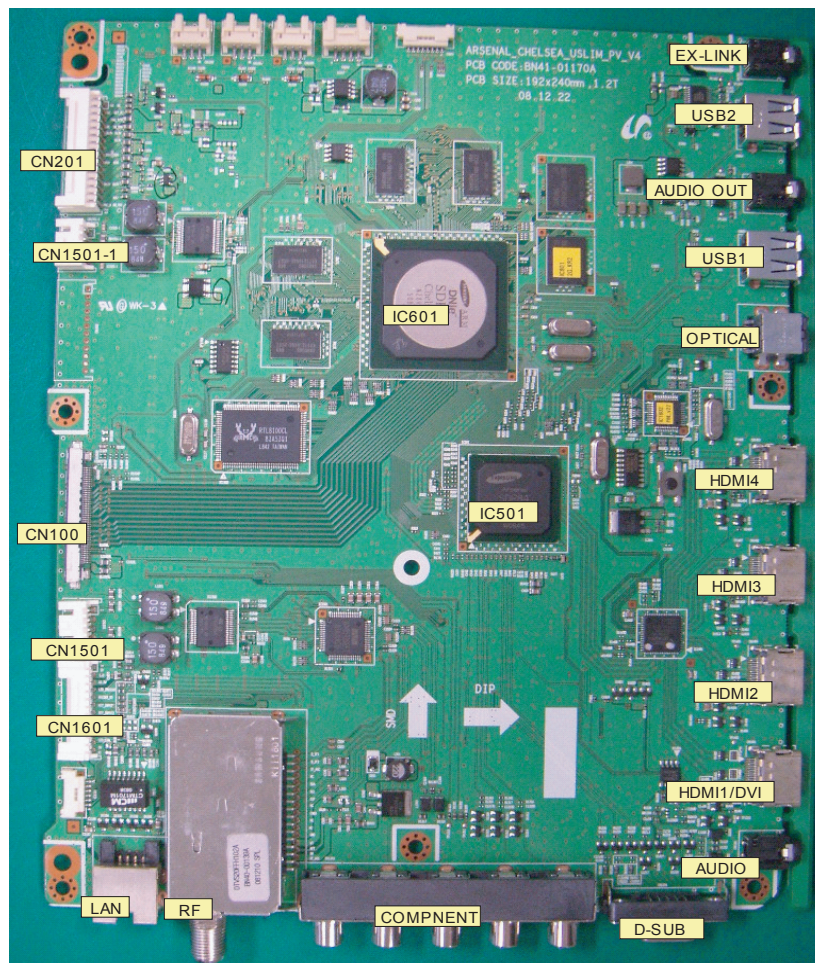


< 46inch model >

* FRC : frame rate conversion chip It is for 240hz.



Simple flow chart of malfunction



■ Troubleshooting about new functions

I tried to set up BGM in Media play. I can select a file but I cannot configure the Mood settings.	An explanation of Media play	The BGM shuffle and Mood settings are only available when the Music DB configuration is complete. Enter the Music category and complete the Music DB configuration first.
I cannot enter Photos, Music or Movie after running Media play.	An explanation of Media play	Check if the USB memory contains MP3 or JPEG files.
Photo thumbnails are not displayed in the Photo category.	An explanation of Media play	This may occur when the photo format is not supported by the TV or the JPEG files do not include thumbnails.
Video thumbnails are not displayed in the Movie category.	An explanation of Media play	A video thumbnail is only displayed when the video has been played at least once.
The JPEG files on the USB memory are not in the list.	An explanation of Media play	Files with a path longer than 256 characters will not be displayed.
I have connected a digital camera, but I cannot browse the folders.	An explanation of Media play	When a device is connected in PTP mode, a browsing folder is not supported.
I cannot play the currently highlighted file.	An explanation of Media play	Check if another file is selected (checked). The selected file will be played
I want to know about supported photo color formats.	An explanation of Media play	The RGB, YUV, YCbCr, CMYK, YCCK, GRAY formats are supported.
I want to know about the maximum supported photo resolution.	An explanation of Media play	The maximum resolution is 15360x8640 pixels.
I want to know about supported music sampling frequencies.	An explanation of Media play	Supported frequencies are 8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48 Khz
I cannot play MP3 files downloaded from websites. (Paid MP3 download sites such as Melon)	An explanation of Media play	Playing DRM files (used to protect content) is not supported.
I want to know about supported USB devices.	An explanation of Media play	The TV only supports devices that do not support the Mass Storage Class or PTP Class. Devices are not supported when they are connected to the TV via a USB hub. Supporting USB devices that require an additional device driver installation is not guaranteed.
The supported photo play is slow.	An explanation of Media play	Since the TV does not use caching unlike for a PC, it may take some time to display a high-resolution photo.
I cannot play paid MP3 files.	An explanation of Media play	If the MP3 file is a DRM (Copy Protected) file, the file will not be played.
I cannot play a digital camera that supports PTP.	An explanation of Media play	Check the PTP mode of the digital camera. It will not work in Printer Connection mode.
I cannot use the morning call function with a digital camera that supports PTP.	An explanation of Media play	A morning call cannot be set with a PTP device.
I have changed the device settings to MSC connection mode after connecting PTP or during an operation, but the device is not recognized.	An explanation of Media play	Switching the connection mode between MSC and PTP after a connection is made or during an operation is not supported. You can only change the digital camera connection mode after disconnecting it.
The WLAN does not work.	An explanation of Media play	Equipment other than the WLAN USB stick supplied by Samsung Electronics (as a bundle) will not work. The sharer must support IEEE 801.11 g/b. IEEE 801.11 n is supported.

I cannot find Internet Sharer in the Wlan settings menu.	An explanation of Wiselink Pro	Only InfraStructure mode of the sharer is supported. Ad-Hoc mode is not supported. If multiple sharers are being used, configure them so that they do not use the same channel. Set up the sharer to not control the ICMP so that it answers the Ping test.
The WLAN data rate is slow.	An explanation of Wiselink Pro	If the distance from the sharer is too far, the operation may slow or the sharer may not be found. If there is an obstacle, wall or electronic device between the TV and the sharer, the operation may slow or the sharer may not be found due to a difficulty in communication.
The DLNA server that I could see on the TV has suddenly disappeared. What should I do?	PC Share Manager Search	1.Check if the PC is turned off. 2. Check if the Samsung TV is set to reject connections in the access control menu of the Samsung PC Share Manager. If so, change the setting to allow connections. 3.Check if the LAN cable is connected to the PC and the TV.
Although the Samsung PC server is on, a message pops up informs you that the Samsung server is off.	PC Share Manager Search	When the shared folder of the server is reconfigured, the DLNA server function stops temporarily and then resumes after the reconfiguration is completed. When the server is renamed, the DLNA server function also temporarily stops and then resumes .
I have registered a file with the Samsung PC Share Manager to watch it on the TV, but I cannot find the file on the TV. What should I do?	Content Sharing	1. The Share function is not provided for every file. Files in a format that is not supported by DLNA are not displayed on the TV even if they are displayed on a PC. Please accept our apologies, we are working on this. 2. Check if the folder with the files registered to Samsung PC Share Manager is shared. The folder should be also shared. 3. Check if you have clicked the Apply button after sharing the folder including the file. If you are unsure about this, please click the button again and recheck if the file is displayed after a while.
I can see the folders shared through the PC Share Manager, but I cannot see the files.	Content Sharing	Since it shows only files corresponding to the Image, Music, and Movie categories, files that do not correspond to these categories may not be displayed.
The 2x and 3x Fast Forward video function on the PC connected to the network does not work.	DLNA Video Play	The function that supports playing a video on a PC connected over the network does not support the 2x and 3x Fast Forward functions.
Video is played intermittently.	DLNA Video Play	Check if the network is stable. Check if the network cable is properly connected and if the network is not overloaded. If there is a wireless network section between the server and the DTV, the communications environment may be unstable.
Pressing the Pause key while a video or music file is playing does not work. The Seek function does not work either.	DLNA Video Play	The Pause function may not be supported depending on the content provided by the DLNA server or the server. The Seek function is also not supported.
I cannot move folders and files or cannot copy them by Dragging & Dropping them in the PC Share Manager program.	PC Share Manager function	The PC Share Manager program provides file sharing with a PC and the TV and does not provide those functions.
I changed New DTV replacing older one. However, after changing the DTV, I can not discover PC Server, though I use same IP address which I used before.	Access control function runs based solery on MAC address of target device.	You should set new DTV as "accept" in PC share manager Menu->SHARE->Set Device Policy
I cannot play a video file.	DLNA Video Play	Only videos recorded by specific Samsung camcorders and digital cameras can be played. Other videos may or may not be played depending on the resolution and format.
I can see visuals but I cannot hear audio when playing a video.	DLNA Video Play	If the audio format is not supported or the file is a non-interleaved file, only video is played.

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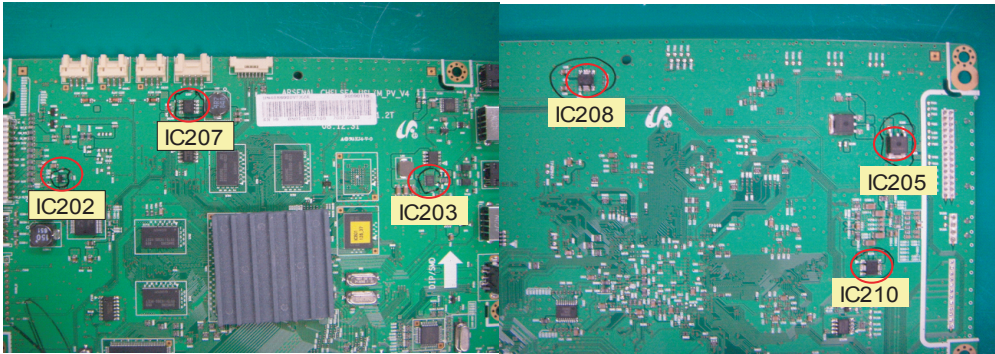
I cannot play files with the wmv or flv extension.	DLNA Video Play	The video play function is not supported for files with these extensions.
I cannot use the 20 second Seek function while playing at 2x Fast Forward.	DLNA Video Play	To use the Seek function while playing at 2x Fast Forward, press the Play button to first make the playing speed normal. After that, you will be able to use the Seek function.
Although I can play some files, I cannot play others even if they have the same resolution and format.	DLNA Video Play	For unsupported videos, some videos at a certain resolution and format may be played.
I can run Trick and Seek with a USB device, but I cannot run Trick and Seek with DLNA.	DLNA Video Play	For DNLA, Trick is not supported. And only Seek is supported for PS and TS.
How can I show captions?	DLNA Video Play	Only the first language is displayed.
When I enter Internet@TV, the "Connecting to the service..." warning message box appears where I can select either Retry or Cancel, and I cannot enter Internet@TV. (The Panel Bar is not displayed.)	An explanation of Internet@TV	This happens when normal information is not received from the Internet@TV after purchasing the TV. In this case, connect the Internet cable and then try again.
Although I can enter Internet@TV, I cannot connect to the service.	An explanation of Internet@TV	This happens when Internet@TV has been properly connected at least once but the Internet is not currently connected. In this case, connect the Internet cable and try again.
When the network is connected, I cannot connect to some of the information.	An explanation of Internet@TV	This happens when the CP sends incomplete information. In this case, reconnect to the Internet and try again.
Photos are not displayed or are displayed intermittently in the Detailed News View.	An explanation of Internet@TV	This may occur due to a slow Internet speed. Retry and ask your Internet Service Provider about the low data rate problem.
The Mode information of the News changes. (E.g. 'Entertainment' was in the News mode list, but it has been removed from the list.)	An explanation of Internet@TV	The Mode information of the News is simply displayed as it is provided by the CP and is not relevant to the TV.
The displayed stock price is different from the current price.	An explanation of Internet@TV	The corresponding information is supplied by CP and is not relevant to the TV. The information provided by the CP is delayed information and the announcement informing the viewer that the information is delayed information is displayed in the service.

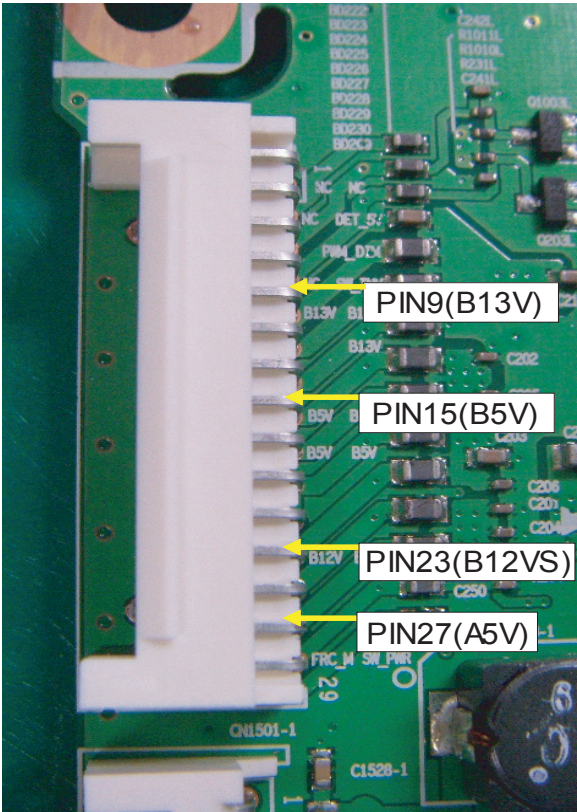
I want to know how to enter the main screen.	An explanation of content Library	Press the [Menu] button, move to [Application] and select [content Library] from the sub menu to enter the main screen. Alternatively, press the [CONTENT] button from among the remote control hot keys to enter the main screen of the corresponding service.
I want to know how to delete, copy or move the contents saved on the TV to an external device.	An explanation of content Library	Copying and Moving the default built-in contents is not supported.
I have heard that the TV has a built-in 2GB Flash memory. How can I access the memory?	An explanation of Content Library	The built-in flash memory within the TV is only installed to support various TV features, and is not installed for users to save content. However, you can connect an external-type USB memory device to the TV and play the contents on the USB memory.
I want to perform a SlideShow with personal photos using the Gallery function. How can I do this?	An explanation of Content Library	Images provided by Samsung.com or a 3rd party content provider linked to Samsung.com will not be played in the [content Library]. However, you can use the SlideShow function of WiseLink Pro.
When I play a game for the second time, I want to resume from the last scene in the previous run. How can I do this?		The built-in games in the [content Library] are basic casual games that do not support the game saving function.
Pressing a remote control button while playing content terminates the current service and shows the TV Source screen.		Pressing a channel related button on the remote control shows the TV Source screen. Take care to not press the Ch Up/Down, Pre. Ch, and Fav. Ch buttons by mistake.
I have heard that the default built-in content is played by the Adobe flash player. Therefore, I have downloaded Flash content from the Internet and tried to play it from the USB memory device, but it does not play. What is the problem?		The [content Library] does not support playing files other than the files authorized for playback by Samsung Electronics or files officially provided by a 3rd party content provider authorized by Samsung Electronics.
I want to know how to download and play new content other than the default built-in content.	An explanation of Content Library	New content will be supplied via Samsung.com. The content supplied by a 3rd party content provider will be supplied under the responsibility of the corresponding content provider.
I have downloaded content onto a USB memory device and inserted the USB memory into the TV to play the content, but the TV does not work at all.	An explanation of Content Library	Check if the USB device has been properly connected. If nothing appears on the screen even if the connection has been properly connected, enter the main screen of the Content Library and move to the USB content search screen by pressing the "Red" color button. If the TV fails to recognize the USB device, turn the TV off and then on again, reinsert the USB memory and repeat the above procedures.
Playing fails while playing content on an external-type USB memory device.	An explanation of Content Library	Check the USB connection and try again.
I can see tiny amounts of alien substances when I look at the product edge closely.	An explanation of appearance	This product has been designed so that the color appears faint by coating the blank edges with transparent matter. The substances you see is due to the design and is not a defect of the product.

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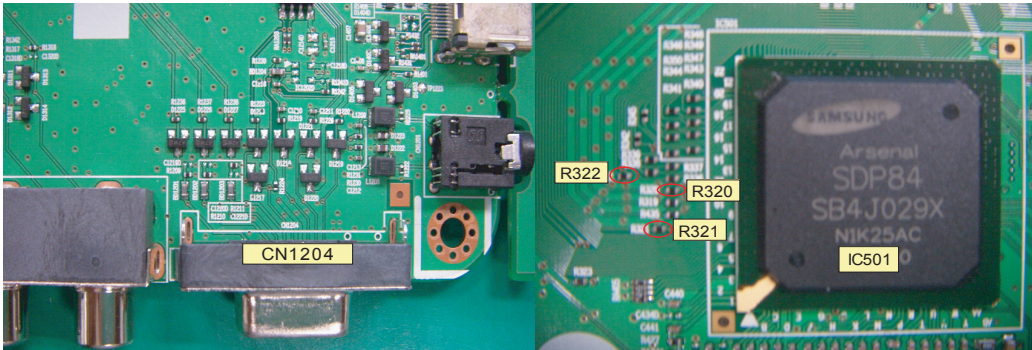
Pairing the remote control failed.	RF Remote Control	1. The remote control must be less than 1 meter from the TV. 2. Check if the TV power cord is connected. 3. Check if the following pairing procedures are kept. 1) Press the Pairing key on the remote control. 2) Set the Picture OFF setting of the TV to Picture ON. 3) When the TV OSD is displayed, press the OK button.
The remote control does not work after pairing is completed.		1. Press the Reset button at the bottom of the remote control. 2. Replace the batteries. (When replacing them, make sure to insert them according to the correct polarities.)
The find remote control function does not work.		1. Check if find remote control mode has been set. 2. Press the Reset button at the bottom of the remote control. (If you press the Reset button, you have to set it to find remote control mode again.) 3. Replace the batteries. (If you have pressed the Reset button, you have to set it to find remote control mode again.)

4-1-1. No Power

Symptom	- The PD board(SMPS) 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(SMPS).
Diagnostics	 <pre> graph TD Q1[When power on, check the sound of relay on?] -- No --> A1[Check a connection power cable. P/N: BN96-09873A] Q1 -- Yes --> Q2[Does proper Stand-By DC A5V appear at the PIN 27 of CN201?] Q2 -- No --> A2[Change the Main Power assembly 40" / 46" : BN44-00269A 55" : BN44-00271A] Q2 -- Yes --> Q3[Does proper Main DC B12VS, B5V, B13V appear at the the PIN23, PIN15, PIN9 of CN201?] Q3 -- No --> A2 Q3 -- Yes --> Q4[Does proper DC A3.3V appear at the Pin5 of IC202?] Q4 -- No --> A3[Change the IC202 or the Main Assy] Q4 -- Yes --> Q5[Does proper DC B3.3V appear at 1pin of IC208 and IC210, B9V appear at 3pin of IC205?] Q5 -- No --> A4[Change the IC205, IC208, IC210 or the Main Assy] Q5 -- Yes --> Q6[Does proper chelsea core 1.2V, 1.8V appear at C246, C236?] Q6 -- No --> A5[Change the IC203, 207 or the Main Assy] Q6 -- Yes --> Q7[A power is supplied to panel appear at C1019L?] Q7 -- No --> A6[Check a other function (No picture part) Replace a LCD Panel 40" : BN07-00700B 46" : BN07-00701B 55" : BN07-00702B] </pre>



4-1-2. 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 IC601(chelsea) - 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(SMPS).
Diagnostics	 <pre> graph TD Start[No video] -- Yes --> Q1[Check the PC source and check the connection of DSUB?] Q1 -- No --> A1[Input an analog PC signal. Check the connected cable.] Q1 -- Yes --> Q2[1 Does the signal appear at pin1,2,3,13,14 (R,G,B,H,V) of CN1204?] Q2 -- No --> A2[PC cable. Change the PC cable. Change the main PCB assembly] Q2 -- Yes --> Q3[2 Does the digital data appear at output of IC501?] Q3 -- No --> A3[Change the IC501 or the main PCB assembly] Q3 -- Yes --> Q4[Check the LVDS cable? Replace the LCD panel?] Q4 -- No --> A4[Please, contact Tech support] </pre> The diagnostic flowchart for 'No video' on an analog PC signal is as follows: - Start with 'No video'. - Check the PC source and check the connection of DSUB? - If No: Input an analog PC signal. Check the connected cable. - If Yes: Proceed to step 1. 1 Does the signal appear at pin1,2,3,13,14 (R,G,B,H,V) of CN1204? - If No: PC cable. Change the PC cable. Change the main PCB assembly. - If Yes: Proceed to step 2. 2 Does the digital data appear at output of IC501? - If No: Change the IC501 or the main PCB assembly. - If Yes: Proceed to step 3. - Check the LVDS cable? Replace the LCD panel? - If No: Please, contact Tech support.

WAVEFORMS

1

2

PC Input (V-Sync, H-Sync)

File Edit Vertical Horiz/Acq Trig Display Cursors Measure Math Utilities Help

Tek Stop 78 Acq 19 Dec 04 20:13:37

Buttons

V-sync

H-sync

High(C1) 3.255V
Unstable histogram
Freq(C1) 60.02Hz
Low signal amplitude
Period(C1) 16.66ms
Low signal amplitude

Ch1 2.0V Q
Ch2 2.0V Q

M 4.0ms 500kS/s 2.0us/div
A Ch1 1.76 V

3

LVDS Out (CLK + / -)

File Edit Vertical Horiz/Acq Trig Display Cursors Measure Math Utilities Help

Tek Run Sample 14 Dec 04 19:22:26

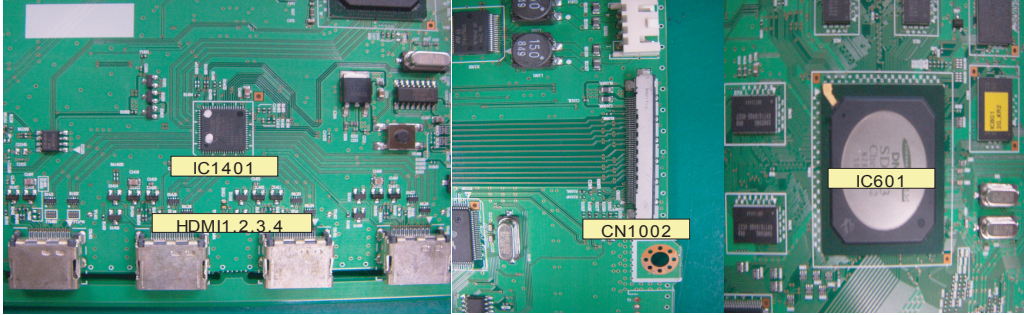
Buttons

High(C3) 1.408V
Freq(C3) 63.87MHz
Low signal amplitude
Period(C3) 11.58ns
Low signal amplitude

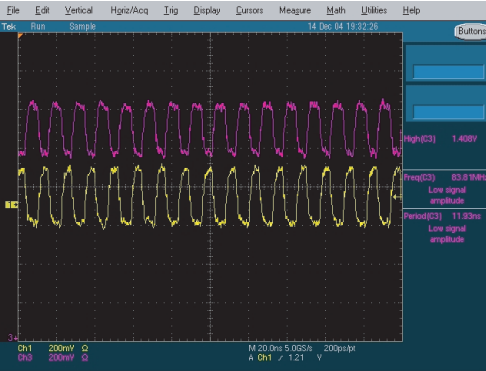
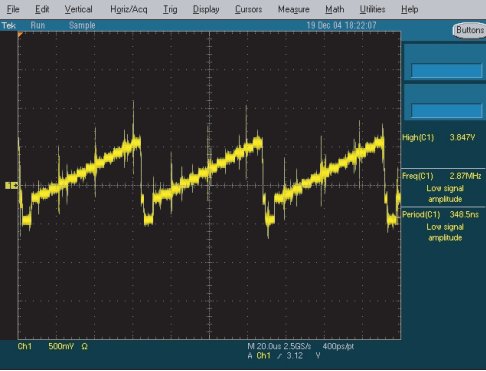
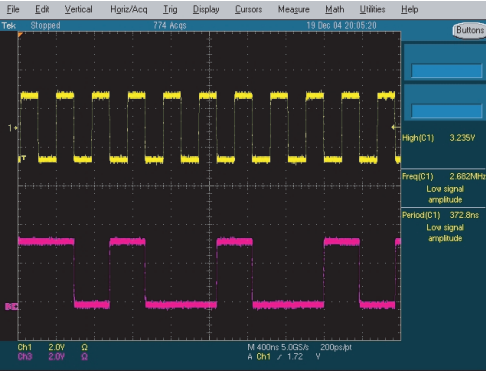
Ch1 200mV Q
Ch2 200mV Q

M 20.0ns 5.00S/s 200ps/div
A Ch1 1.21 V

4-1-3. No Video (HDMI - Digital Signal)

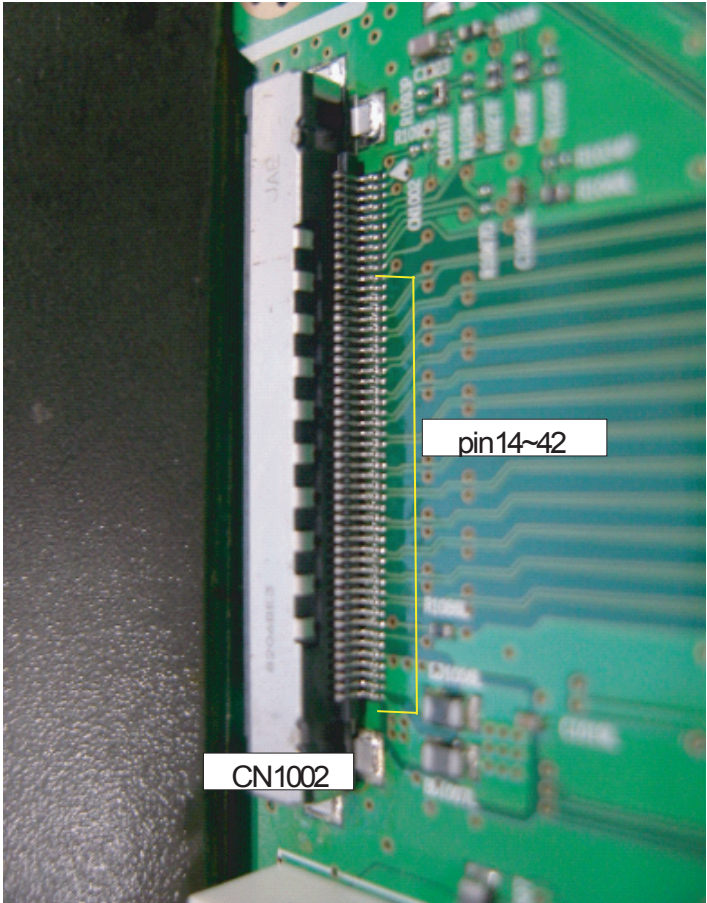
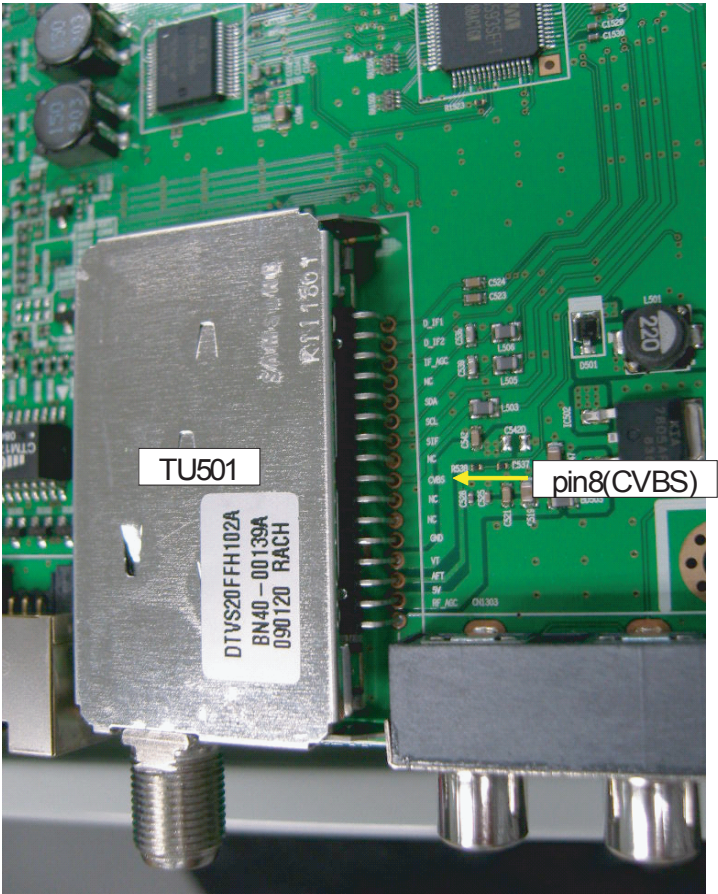
Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the HDMI source - Check the IC601(chelsea) - This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board(SMPS).
Diagnostics	 <pre> graph TD Start([No video]) -- Yes --> Q1[Check the HDMI source and check the connection of HDMI cable?] Q1 -- No --> A1[Input an HDMI signal. Check the connected cable.] Q1 -- Yes --> Q2[4 Does the signal appear at IC1401 pin2~12(HDMI1), pin14~24(HDMI2), pin27~37(HDMI3), pin39~49(HDMI4)?] Q2 -- No --> A2[Change the HDMI cable, Chagne the main PCB assembly.] Q2 -- Yes --> Q3[5 Dose the digital data appear at output of IC1401 pin89~99(HDMI output)?] Q3 -- No --> A3[Change the IC1401 or the main PCB assembly] Q3 -- Yes --> Q4[7 Does the digital data appear at pin 14~42 of CN1002?] Q4 -- No --> A4[Change the IC601 or the main PCB assembly] Q4 -- Yes --> Q5[Check the LVDS cable? Check the T-con board? Replace the LCD panel?] Q5 -- No --> A5[Please, contact Tech support] </pre> The diagnostic flowchart for 'No video' starts with a 'No video' box. If 'Yes', it leads to 'Check the HDMI source and check the connection of HDMI cable?'. If 'No', the action is 'Input an HDMI signal. Check the connected cable.'. If 'Yes', it leads to question 4: 'Does the signal appear at IC1401 pin2~12(HDMI1), pin14~24(HDMI2), pin27~37(HDMI3), pin39~49(HDMI4)?'. If 'No', the action is 'Change the HDMI cable, Chagne the main PCB assembly.'. If 'Yes', it leads to question 5: 'Dose the digital data appear at output of IC1401 pin89~99(HDMI output)?'. If 'No', the action is 'Change the IC1401 or the main PCB assembly'. If 'Yes', it leads to question 7: 'Does the digital data appear at pin 14~42 of CN1002?'. If 'No', the action is 'Change the IC601 or the main PCB assembly'. If 'Yes', it leads to the final check: 'Check the LVDS cable? Check the T-con board? Replace the LCD panel?'. If 'No', the action is 'Please, contact Tech support'.

WAVEFORMS

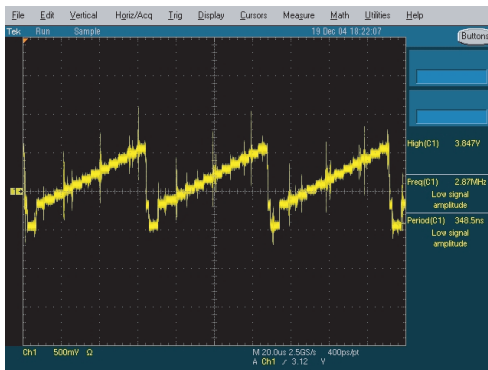
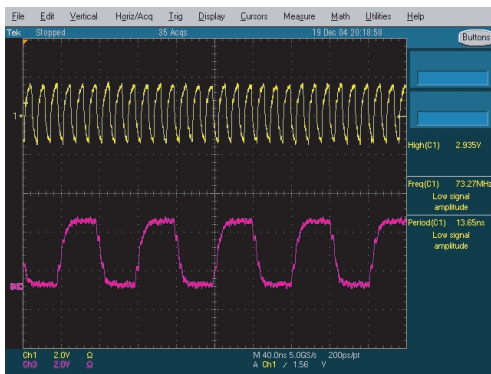
4 5	HDMI Input (CLK + / -)
	
6	Tuner CVBS Out (Pattern: Grey Bar)
	
7	TS DATA Out (Clk, Data [0])
	

4-1-4. No Video (Tuner_CVBS)

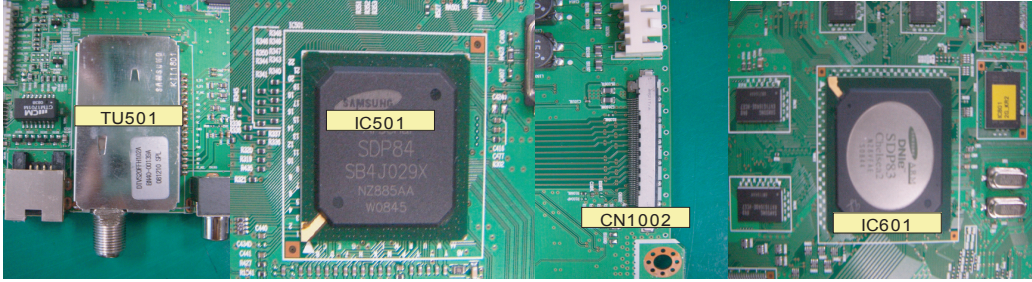
Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the Tuner CVBS source - Check the Chelsea - This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board(SMPS).
Diagnostics	 <pre> graph TD Start[No video] -- Yes --> Q1{Check the RF source and check the connection of RF cable?} Q1 -- No --> A1[Input the RF signal. Check the connected cable.] Q1 -- Yes --> Q2{6 Does the signal appear at pin8 of TU501?} Q2 -- No --> A2[Change the TU501 or the main PCB assembly.] Q2 -- Yes --> Q3{5 Does the digital data appear at pin14~42 of CN1002?} Q3 -- No --> A3[Change the IC601 or the main PCB assembly] Q3 -- Yes --> Q4{Check the LVDS cable? Replace the LCD panel?} Q4 -- No --> A4[Please, contact Tech support] </pre>

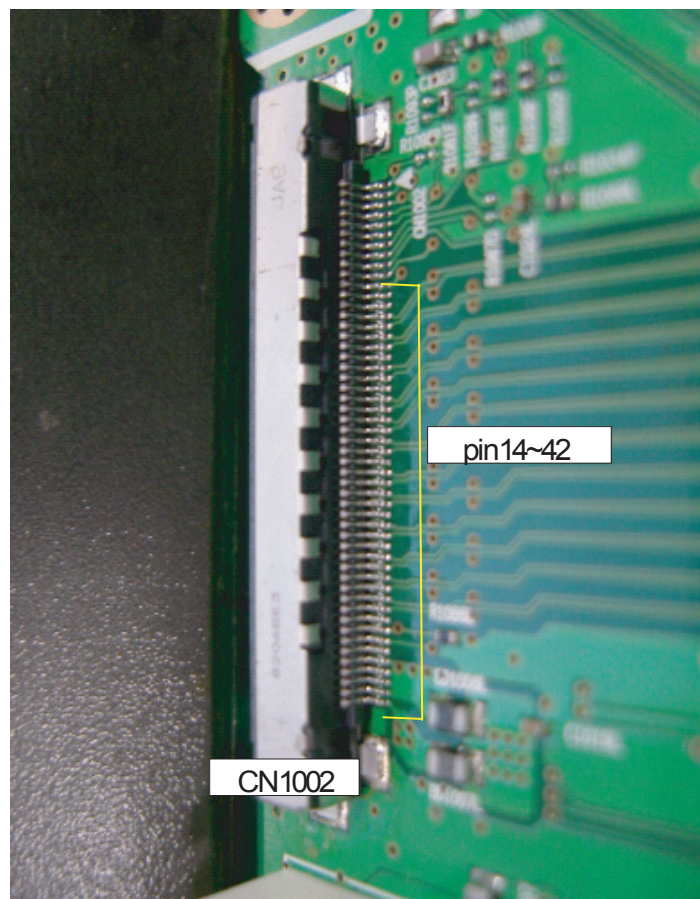
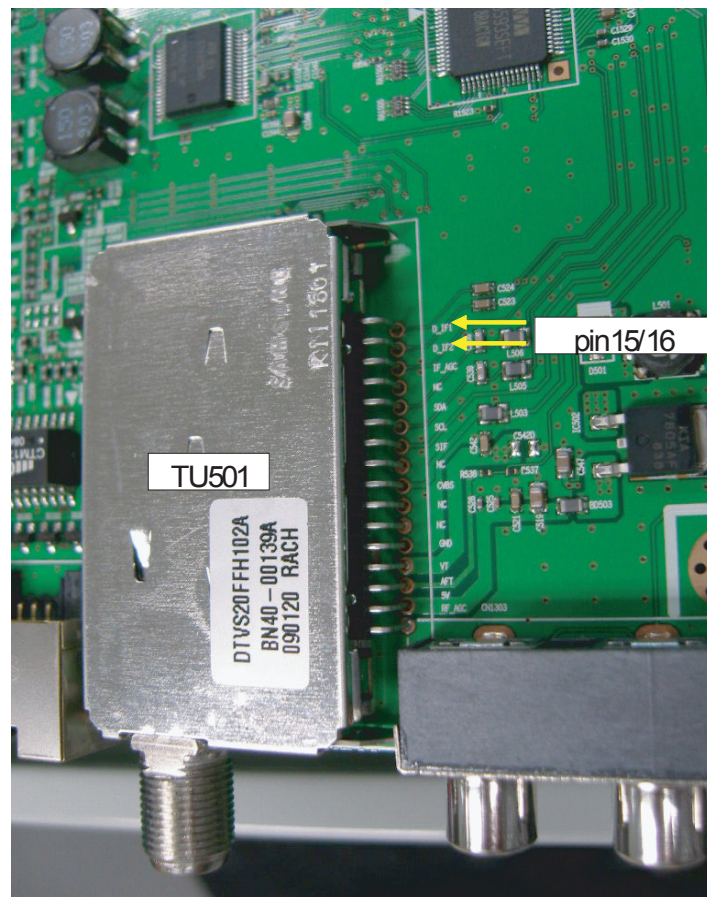


WAVEFORMS

5**Tuner CVBS Out (Pattern: Grey Bar)****6****Eagle+ Out (Clk, H-Sync)**

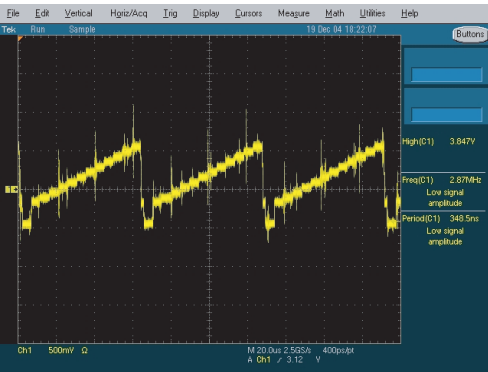
4-1-5. No Video (Tuner DTV)

Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the DTV source - Check the Chelsea - 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(SMPS).
Diagnostics	 <pre> graph TD Start([No video]) -- Yes --> Q1{Check the RF source and check the connection of RF cable?} Q1 -- No --> A1[Input the RF signal. Check the connected cable.] Q1 -- Yes --> Q2{7 Does the digital data appear at pin15, 16 of TU501?} Q2 -- No --> A2[Change the TU501 or the main PCB assembly] Q2 -- Yes --> Q3{5 Does the digital data appear at pin14~42 of CN1002?} Q3 -- No --> A3[Change the IC601 or the main PCB assembly] Q3 -- Yes --> Q4{Check the LVDS cable? Replace the LCD panel?} Q4 -- No --> A4[Please, contact Tech support] </pre>

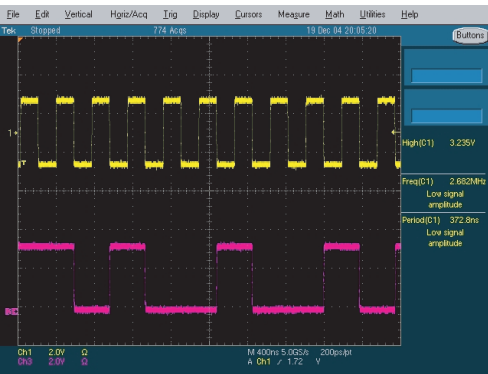


WAVEFORMS

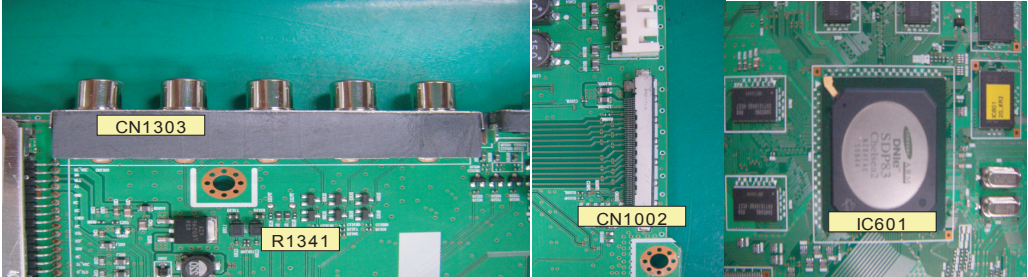
5 Tuner CVBS Out (Pattern: Grey Bar)

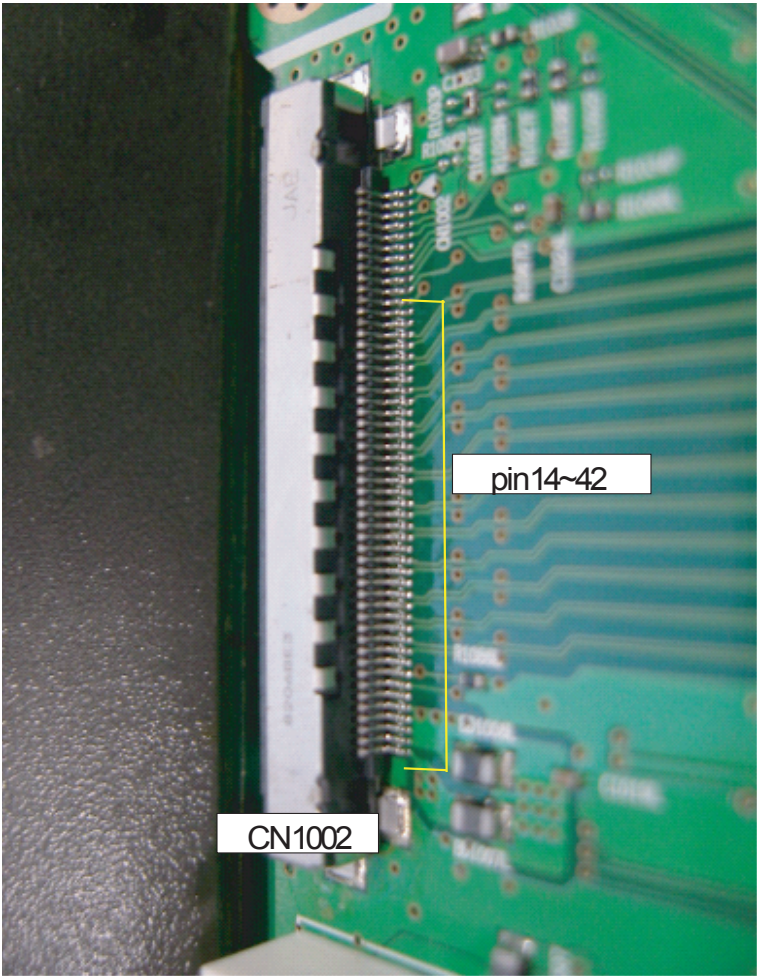
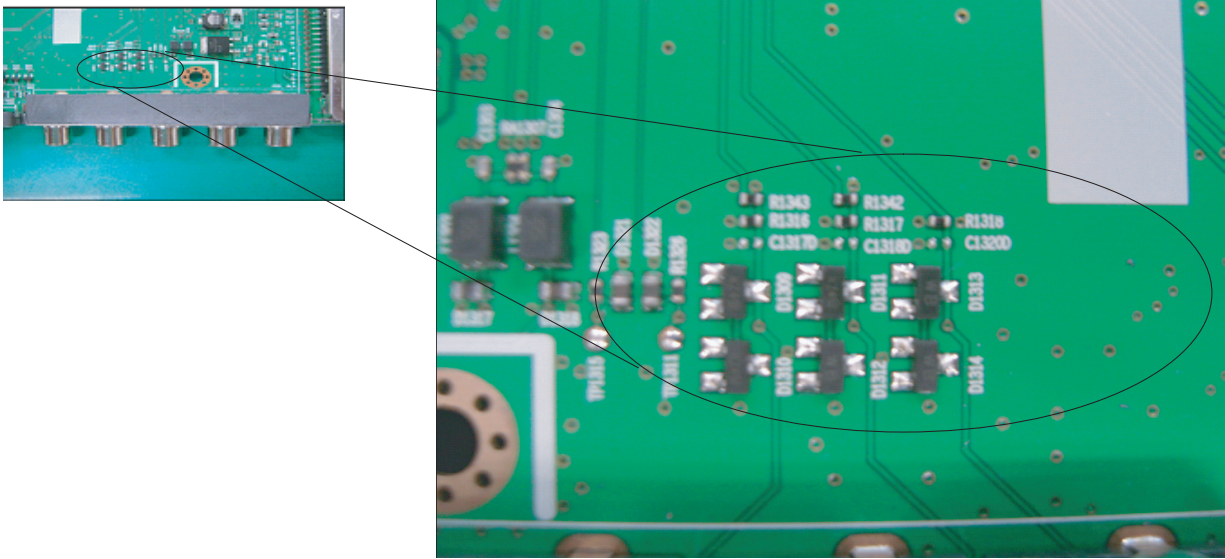


7 TS DATA Out (Clk, Data [0])



4-1-6. No Video (Video CVBS)

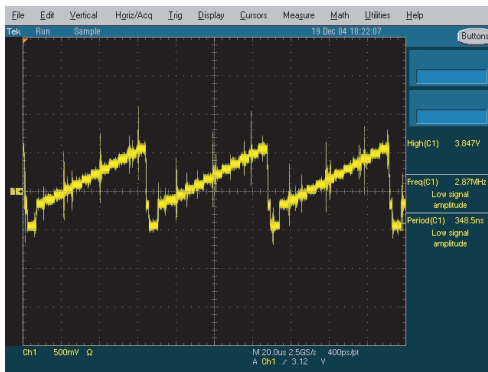
Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the Video CVBS source - Check the Chelsea - This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Caution	Make sure to disconnect the power before working on the PD board(SMPS).
Diagnostics	 <pre> graph TD Start([No video]) -- Yes --> Q1{Check the video source and check the connection of video cable?} Q1 -- No --> A1[Input a video signal. Check the connected cable.] Q1 -- Yes --> Q2{5 Does the signal appear at R1342, R1343?} Q2 -- No --> A2[Change the CN1303 or the main PCB assy] Q2 -- Yes --> Q3{5 Does the digital data appear at pin14~42 of CN1002?} Q3 -- No --> A3[Change the IC601 or the main PCB assembly] Q3 -- Yes --> Q4{Check the LVDS cable? Replace the LCD panel?} Q4 -- No --> A4[Please, contact Tech support] </pre>



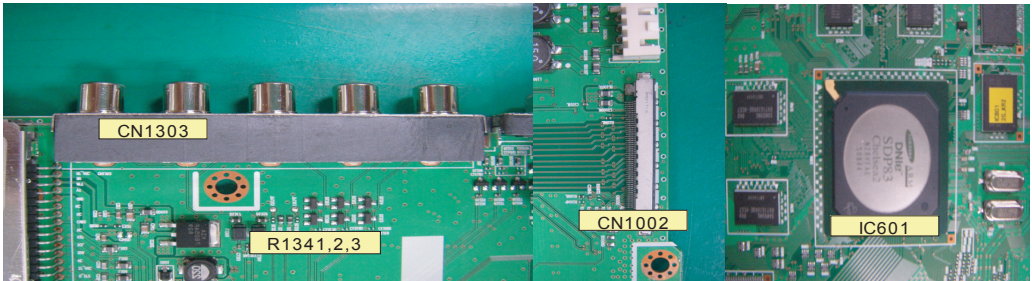
WAVEFORMS

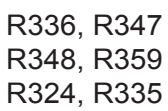
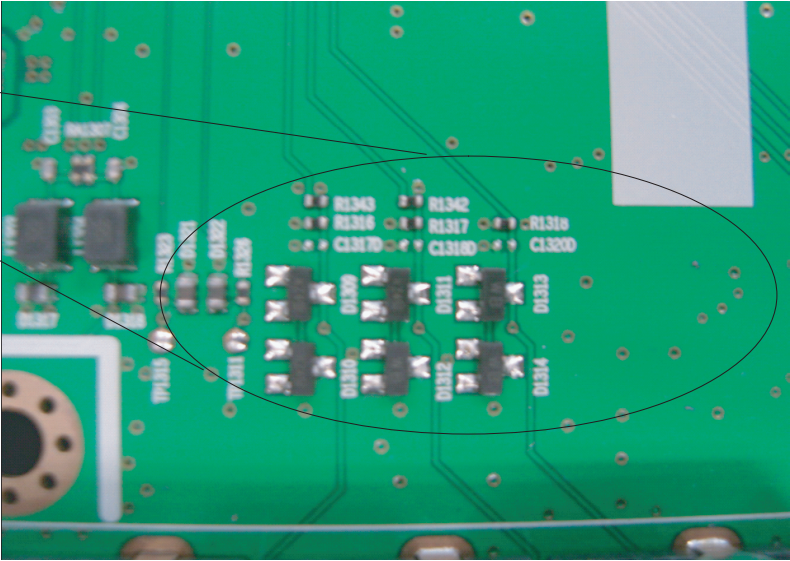
5

Tuner CVBS Out (Pattern: Grey Bar)

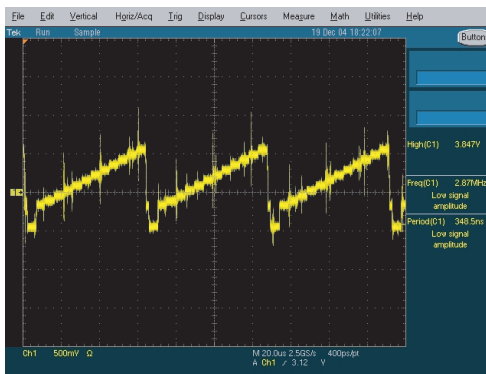
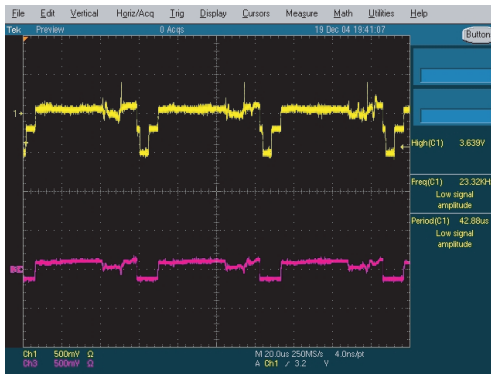


4-1-7. No Video (Component)

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.
Caution	Make sure to disconnect the power before working on the PD board(SMPS).
Diagnostics	 <pre> graph TD Start([No video]) -- Yes --> Q1{Check component source and check the connection of component cable ?} Q1 -- No --> A1[Input a component signal. Check the connected cable.] Q1 -- Yes --> Q2{9 Does the signal appear at R1341, R1342, R1342(Y, Pb, Pr)?} Q2 -- No --> A2[Change the CN1303 or the main PCB assy] Q2 -- Yes --> Q3{Does the digital data appear at R336, R347(Rout) R348, R359(Gout) R324, R335(Bout)?} Q3 -- No --> A3[Change the IC501 or the main PCB assembly] Q3 -- Yes --> Q4{5 Does the digital data appear at pin14~42 of CN1002?} Q4 -- No --> A4[Change the IC601 or the main PCB assembly] Q4 -- Yes --> Q5{Check the LVDS cable? Replace the LCD panel?} Q5 -- No --> A5[Please, contact Tech support] </pre>

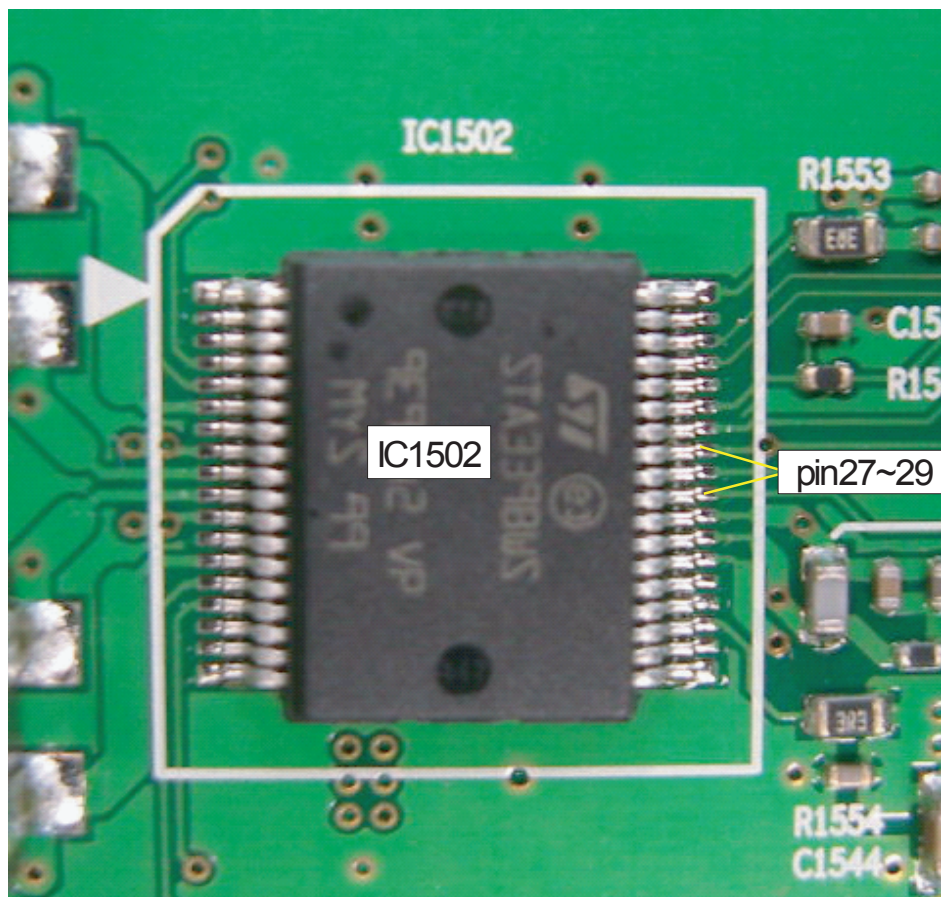
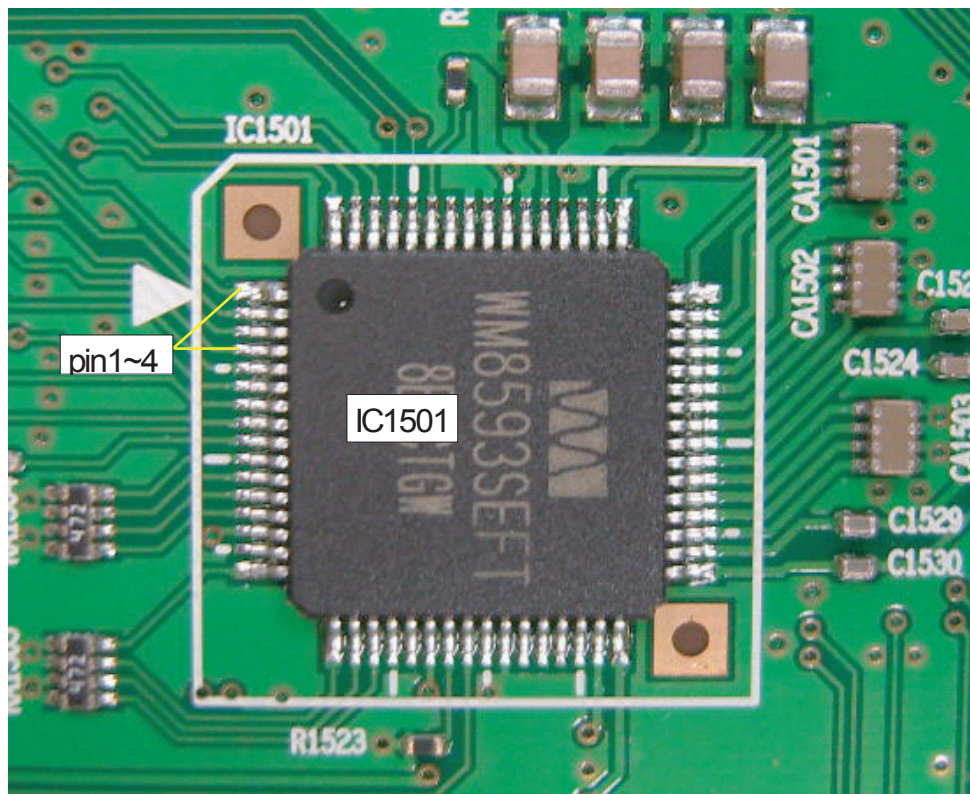


WAVEFORMS

5**Tuner CVBS Out (Pattern: Grey Bar)****9****Component Input (Y/Pb)**

4-1-8. 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..
Caution	Make sure to disconnect the power before working on the PD board(SMPS).
Diagnostics	<pre> graph TD Start[No sound] -- Yes --> Q1[Check the sound source and check the connection of sound cable?] Q1 -- No --> A1[Input a sound signal. Check the connected cable.] Q1 -- Yes --> Q10[10 Does the signal appear at RA1307?] Q10 -- No --> A10[Change the CN1303 or the main PCB assy] Q10 -- Yes --> Q11[11 Does the digital data appear at pin27,28,29 of IC1502?] Q11 -- No --> A11[Change IC1501 or the main PCB assembly] Q11 -- Yes --> Q12[12 Does the signal appear at pin1~4 of CN1501?] Q12 -- No --> A12[Change IC1502 or the main PCB assembly] Q12 -- Yes --> Q13[Check the LVDS cable? Replace the speaker?] Q13 -- No --> A13[Please, contact Tech support] </pre> The diagnostic flowchart for 'No sound' starts with 'No sound'. If the user answers 'Yes' to 'Check the sound source and check the connection of sound cable?', it leads to 'Input a sound signal. Check the connected cable.'. If 'No', it leads to 'Input a sound signal. Check the connected cable.'. If 'Yes', it leads to step 10: 'Does the signal appear at RA1307?'. If 'No', it leads to 'Change the CN1303 or the main PCB assy'. If 'Yes', it leads to step 11: 'Does the digital data appear at pin27,28,29 of IC1502?'. If 'No', it leads to 'Change IC1501 or the main PCB assembly'. If 'Yes', it leads to step 12: 'Does the signal appear at pin1~4 of CN1501?'. If 'No', it leads to 'Change IC1502 or the main PCB assembly'. If 'Yes', it leads to 'Check the LVDS cable? Replace the speaker?'. If 'No', it leads to 'Please, contact Tech support'.



WAVEFORMS

10	Audio Input (Sign Wave)
11	I2S Input (Clk, Data)
12	Audio Amp Out (Sign Wave)

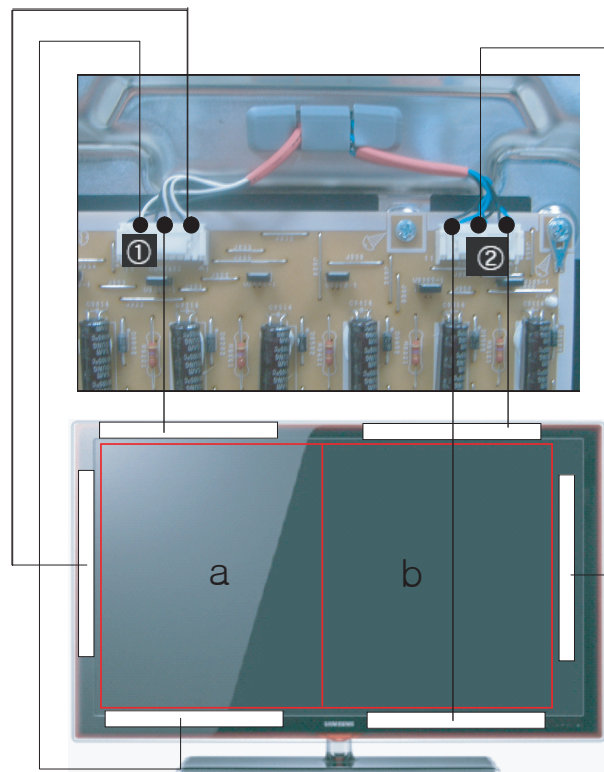
4-1-10. Reference

Output CNT which run Edge Led
(Is unrelated even if right and left changes)

If one side of the screen appears to be darker than the other side, swap connectors ❶ and ❷.
If the same problem exists, panel is defective.
If the dark side switches to opposite side, then the power supply is at fault.

Refer to the picture for matching each LED part of connector .

however, when pull out pair pins in connector, there is hardly different, so we recommend to change (❶) itself or (❷) itself.



Connecting a PC

Using the D-sub cable

1. Connect a D-Sub Cable between PC IN [PC] connector on the TV and the PC output connector on your computer
2. Connect a PC Audio Cable between the PC IN [AUDIO] jack on the TV and the Audio Out jack of the sound card on your computer.

Using the HDMI/DVI Cable

1. Connect an HDMI/DVI cable between the HDMI1/DVI jack on the TV and the PC output jack on your computer.
2. Connect a PC audio cable between the PC in [AUDIO] jack on the TV and the Audio Out jack of the sound card on your computer.
3. In case of Connecting a 3.5 mm Stereo mini-plug/2RCA Cable from the Audio Out jack of the sound card on your computer. Use 'BN39-001154G(separate sale).

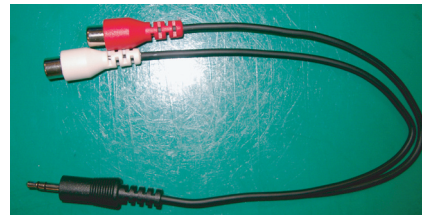
Connecting a DVI

1. Connect an HDMI/DVI cable between the HDMI1/DVI jack on the TV and the PC output jack on your device.
2. Connect a DVI audio cable between the DVI in [AUDIO] jack on the TV and the Audio Out jack of the sound on you Device . In case of Connecting a 3.5 mm Stereo mini-plug/2RCA Cable from the Audio Out jack of the sound on your device . Use 'BN39-001154G(separate sale).

* Each PC has a different back panel configuration.

* When connecting a PC, match the color of the connection terminal to the cable, and PC sound cable from sound card on your computer.

* When using an HDMI/DVI cable connection, you must use the HDMI IN 1 terminal and DVI sound cable from your DVI device.



4-2. Alignments and Adjustments

4-2-1. General Alignment instruction

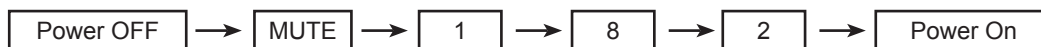
1. Usually, a color LCD-TV needs only slight touch-up adjustment upon installation.
Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from 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



4-3-2 How to Access Service Mode

Using the Customer Remote

1. Turn the power off and set to stand-by mode
2. Press the remote buttons in this order; POWER OFF-MUTE-1-8-2-POWER ON to turn the set on.
3. The set turns on and enters service mode. This may take approximately 20 seconds.
4. Press the Power button to exit and store data in memory.
- If you fail to enter service mode, repeat steps 1 and 2 above.
5. Initial SERVICE MODE DISPLAY State

Mode: CDTV . RES : 480I

Option	T-CHE7AUSC-0062
ADC/WB	T-CHE7AUSS-1006
Control	SDAL-LB650-4.2.27-016
Expert	RFS:25_2G_64_512-26 T-CHE7AUSC
Advanced	2009-03-09
	FRCQ FW : 1008, CONFIG : 4900
	ZIG BEE VER : 502
	Type : 46A2UF0E
	Model: UN46B8000
	EDID OK
	CALIV : AV O COMP O PC 0 HDMO O
	Option : 0938 2011 0
	Factory Data Ver : 292
	DTP-AP-COMP-119-0017
	DTP-HIIG-0114-13
	TLIB 8000 US 2G 2009-02-13-02
	DTP-BP-0122-02-0013
	Date of purchase : 2/20/2009

6. Buttons operations withn Service Mode

Menu	Full Menu Display/Move to Parent Menu
Direction Keys ▲/▼	Item Selection by Moving the Cursor
Direction Keys ◀/▶	Data Increase / Decrease for the Selected Item
Source	Cycles through the active input source that are connected to the unit

4-3-3 Factory Data

■ Option

Main: Opiton, Mode : CDTV, RES :480I

Option	Factory Reset	
	Type	46A2UF0E / 55A2UF0E
	Model	UB8000
	TUNER	SEC_Custom
	Region	USA
	DDR	0
	Light Effect	ON
	Media Link Type	America
	PDP GROUP	...

■ ADC/WB

ADC	AV Calibration	Success
	Comp Calibration	Success
	PC Calibration	Success
	HDMI Calibration	Success

ADC Target	1st_AV_Low	64	1st_PC_B_High	...	2nd_COMP_Delta	1
	1st_AV_High	880	1st_PC_Delta	1	2nd_PC_R_Low	4
	1st_AV_Delta	1	2nd_AV_R_Low	4	2nd_PC_G_Low	4
	1st_COMP_Y_Low	64	2nd_AV_G_Low	4	2nd_PC_B_Low	4
	1st_COMP_Cb_Low	...	2nd_AV_B_Low	4	2nd_PC_R_High	940
	1st_COMP_Cr_Low	...	2nd_AV_R_High	940	2nd_PC_G_High	940
	1st_COMP_Y_High	940	2nd_AV_G_High	940	2nd_PC_B_High	940
	1st_COMP_Cb_High	...	2nd_AV_B_High	940	2nd_PC_Delta	1
	1st_COMP_Cr_High	...	2nd_AV_Delta	1	2nd_HDMI_R_Low	4
	1st_COMP_Delta	1	2nd_COMP_R_Low	4	2nd_HDMI_G_Low	4
	1st_PC_R_Low	16	2nd_COMP_G_Low	4	2nd_HDMI_B_Low	4
	1st_PC_G_Low	...	2nd_COMP_B_Low	4	2nd_HDMI_R_High	940
	1st_PC_B_Low	...	2nd_COMP_R_High	940	2nd_HDMI_G_High	940
	1st_PC_R_High	1004	2nd_COMP_G_High	940	2nd_HDMI_B_High	940
	1st_PC_G_High	...	2nd_COMP_B_High	940	2nd_HDMI_Delta	1

ADC Result	1st_Y_GH	128
	1st_Y_GL	128
	1st_Cb_BH	128
	1st_Cb_BL	128
	1st_Cr_RH	128
	1st_Cr_RL	128
	2nd_R_L	131
	2nd_G_L	131
	2nd_B_L	131
	2nd_R_H	67
	2nd_G_H	67
	2nd_B_H	67

White Balance	Sub Brightness	128
	R-Offset	512
	G-Offset	512
	B-Offset	512
	Sub Contrast	128
	R-Gain	512
	G-Gain	512
	B-Gain	512
	Movie R-Offset	...
	Movie B-Offset	...
	Movie R-Gain	...
	Movie B-Gain	...

■ Contol

EDID	EDID ON/OFF	ON
	EDID WRITE ALL	Success
	EDID WRITE PC	Success
	EDID WRITE HDMI	Success
	EDID WRITE HDMI1	...
	EDID WRITE HDMI2	...
	EDID WRITE HDMI3	...
	EDID WRITE HDMI4	...
	EDID 1.2 PORT	None

Sub Option

RF Mute Time	600ms	TOOLS Support	9	ND ADJ Support	ON
SUB U-COM	OFF	LNA Support	0	24Px4 Support	OFF
RS-232 Jack	UART	Wiselink WithOut DB	with DB	Power Indicator Support	ON
Watchdog	ON	WiseLink Movie	ON	BD Wise Support	ON
WD COUNT	0	WiseLink DLNA	ON	RF Remocon Support	ON
SSC ON/Off	ON	WiseLink Write	ON	Data Service Support	OFF
SSC MRR	2	NETWORK Support	Wireless	OTA Duration Test	OFF
SSC MFR	2	High Devi	OFF	Alternate Del	OFF
SSC QLC	4	Carrier Mute	ON	OTN Server Type	operating
Gamma	0.95	Volume Curve	ASIA_SA	OTN Test Server	OFF
PANEL DISPLAY TIME	7Hr	PWM MAX	256	OTN Support	ON
Dimm Type	EXT	DVOUT CD	0	OTN Reset	
LVDS FORMAT	VESA	CVBS CD	0	OTN Duration	OFF
Language	...	EDID Jack Ident	OFF	OTN Fail Test	OFF
UI COLOR	BLUE	Info Link Server Type	operating	IIC BUS STOP	OFF

Visual Test	Disable
Panel Auto Setting	Failure
Checksum	0x0000
View Log	
Font Data Viewer	

PDP Option

Hotel Option	HOTEL MODE	OFF
	POWER ON CHANNEL	...
	POWER ON BAND	...
	POWER ON VOLUME	...
	MIN VOLUME	...
	MAX VOLUME	...
	PANEL BUTTON LOCK	...
	POWER ON SOURCE	...

Shop Option	Shop Mode	OFF
	USB DEMO ON(SEC)	OFF
	USB DEMO OFF(SEC)	OFF
	Exhibition Mode	OFF
	PLG_MAX_SHOP	140

Sound	SAP High Threshold	0x1ah	Pilot Level Low Thld	0x10h
	SAP Low Threshold	0x9h	A2 Pilot AM Carr High Thld	...
	Speaker Delay Normal	0x59h	A2 Pilot AM Carr Low Thld	...
	Auxout Delay Normal	0x59h	NICAM Error High Thld	...
	Spdif Delay Normal	0x0h	NICAM Error Low Thld	...
	Speaker Delay Game	0x28h	FM1 CarrMute High Thld	0x02h
	Auxout Delay Game	0x28h	FM1 CarrMute Low Thld	0x01h
	Spdif Delay Game	0x0h	DRC H Thresh	0x35h
	STA Amp Vol.	0x28h	DRC L Thresh	0x30h
	STA Post Scale	0 x7fh	DRC SW Thresh	0x3dh
	STA Speaker EQ	ON	Chattering Cnt	5
	STA Sub Woofer	2	FM Prescale	...
	Mono to Stereo Thld	0x08h	AM Prescale	...
	Stereo to Mono Thld	0x04h	NICAM Prescale	...
	Pilot Level High Thld	0X30h	BTSC Mono Prescale	0x14h
			BTSC Stereo Prescale	0x14h
			BTSC Sap Prescale	0x14h
			A2K Prescale	...
			M Prescale	...

Config Option	Num of ATV	1	HDMI/DVI SEL	1
	Num of DTV	1	Indicator Led	ON
	Num of AV	1	Wall Mount	OFF
	Num of SVIDEO	0	Chelsea HV Flip	ON
	Num of COMP	1	Num of DISPLAY	2
	Num of HDMI	4	HDMI AV MUTE TIME	40
	Num of PC	1	DVI/HDMI SOUND	Auto
	Num of SCART	0	HDMI HOT PLUG	Disable
	Num of DVI	0	HOTPLUG SWITCHING	Boot
	Num of OPTICAL Link	0	HOT PLUG OFF HOLD TIME	1200ms
	Num of MEDIA	1	HDMI FLT CNT SIG	100ms
	Num of PANEL KEY	6	HDMI FLT CNT LOS	600ms
	Num of USB Port	2	UNSTABLE BAN CNT	2500ms
	MFT Offset	62.5	HDMI Err Cnt	2
	Select LCD/PDP	LCD	HDMI ROBIN	ON
			HDMI Callback	OFF
			HDMI CTS Thld	14
			HDMI CTS Cnt1	1
			TMDS_EQ2_Boost	1
			TMDS_EQ2_Gain	0
			TMDS_PLL_Loop	3
			TMDS_CPREG_BLEED	1
			HDMI EQ	AUTO
			HDMI Switch	SIL9287
			DVI SET TIME	300ms

Test Pattern	FPE Pattern Sel	0
	FRC PATT_BeforeDDR	0
	FRC PATT_AfterDDR	0
	LOGIC Pattern Sel	...

■ Expert (It is just for experts. The service man doesn't have to change option.)

Expert	N/D ADJ	OFF
	Source	...

■ Advanced (Press the 0 button four times on advanced to enter hidden menu)

FBE3	BM_slope1	19	Skin-Enable	ON
	BM_slope2	36	Skin-UV	121
	BM_slope3	56	FBE Sub color	140
	BM_slope4	75	M-Skin-UV	...
	BM_start	68	M-Sub Color	...
	BM_start_max	110		
	Lfunc_basis	70		
	Hfunc_basis	80		
	Mean-Offset1	30		
	Mean-Offset2	235		
	Mean-Slope	112		
	ACR-Offset	10		
	ACR-th1	10		
	ACR-th2	110		

WB Movie	WB Movie	OFF	W2_Roffset	...
	W/B MOVIE ON/OFF	...	W2_Boffset	...
	MODE	...	W3_Rgain	...
	Color Tone	...	W3_Bgain	...
	MSub Brightness	...	W3_Roffset	...
	MSub Contrast	...	W3_Boffset	...
	N_Rgain	...	Movie Contrast	...
	N_Bgain	...	Movie Bright	...
	N_Roffset	...	Movie Color	...
	N_Boffset	...	Movie Sharpness	...
	W1_Rgain	...	Movie Tint	...
	W1_Bgain	...	Movie Backlight	...
	W1_Roffset	...	Movie Gamma	...
	W1_Boffset	...	M_Sub_Gamma	...
	W2_Rgain	...		
	W2_Bgain	...		

4. Troubleshooting

EPA Standard	Standard Contrast	95
	Standard Brightness	45
	Standard Sharpness	50
	Standard Color	50
	Standard Tint	0
	Standard Backlight	7

CH_VDEC	AGC_mode	1	CTI_level	15
	Gain_VCR	0	ST_Beg_NTSC	0
	Y_Gain_Man	880	VS_Slice_Level	4
	Saturation	128	HS_Slice_Level	3
	Hue	0	FB_Delay_adj	0
	Y_Shape_sel	13	RGB_Delay_adj	0
	Y_Shape_SCM	29	h_pk_gain	0
	C_Shape_sel	4	v_pk_gain	0
	C_Shape_SCM	4	h_pk_band	0
	If_iir	0	2d_pk_gain	0
	If_filt_sel	6	2d_pk_band	0
	LTI_en	OFF	slice_mod_fine	0
	LTI_level	100	scm_fdet_lvl	150
	CTI_en	OFF	bl_range	3
	SCM_STI_EN	OFF		

YC_Delay	V_Delay_adj	0
	U_Delay_adj	0

AR_ADC	RED_CUTOFF	0
	GREEN_CUTOFF	0
	BLUE_CUTOFF	0
	RED GAIN	0
	GREEN GAIN	0
	BLUE GAIN	0
	PHASE	16
	SOG_BW	3
	SSC_PC	6
	RGB_DLY	0

CH_DP	MNR	ON	MJC_DBG	0
	DCR	ON	MB_STEPS	100
	SD2HD_DCR	ON	LIMIT_MV_STEP	100
	SD2HD_DE	ON	GLOBAL_FALLBACK	36
	SD2HD_SCL	ON	LOCAL_FALLBACK	2
	SD2HD_LTI	ON		
	SD2HD_NARS	2		
	SD2HD_DUR	50		
	SD2HD_Metric	131220		
	Coring_ON_OFF	ON		
	SD_CSC	7094		
	HD_CSC	7438		
	M_SD_CSC	7094		
	M_HD_CSC	7438		
	PC_SD_CSC	7094		

NR	OFF_Y	20	HIGH_Y	90
	OFF_C	4	HIGH_C	18
	OFF_Noise_bias	4	HIGH_Noise_bias	4
	OFF_YMAX	128	HIGH_YMAX	160
	OFF_FADER	180	HIGH_FADER	150
	LOW_Y	70		
	LOW_C	16		
	LOW_Noise_bias	4		
	LOW_YMAX	140		
	LOW_FADER	150		
	MED_Y	80		
	MED_C	18		
	MED_Noise_bias	4		
	MED_YMAX	150		
	MED_FADER	152		

Sharpness	Pre_GainH1	12	SD_LTIH	16
	Pre_GainH2	25	SD_LTIV	24
	Pre_GainH3	20	PRE_CORING	2
	Post_GainH1	20	POST_CORING_H	2
	Post_GainH2	40	POST_CORING_V	2
	Post_GainH3	30	Pre_TOT	32
	Post_GainV1	30	Post_TOT	32
	Post_GainV2	50	SP Sub Color	59
	Post_GainV3	30		
	CTI_Gain	15		
	Pre_LTIH	8		
	SD_TH	100		
	HD_TH	132		
	NORMAL_LTIH			
	NORMAL_LTIV			

Sharpness_LNA	S1_Pre_GainH1	7	S3_Pre_GainH1	2
	S1_Pre_GainH2	11	S3_Pre_GainH2	3
	S1_Pre_GainH3	7	S3_Pre_GainH3	2
	S1_Post_GainH1	7	S3_Post_GainH1	2
	S1_Post_GainH2	11	S3_Post_GainH2	3
	S1_Post_GainH3	7	S3_Post_GainH3	2
	S1_Post_GainV1	30	S3_Post_GainV1	10
	S1_Post_GainV2	37	S3_Post_GainV2	12
	S1_Post_GainV3	30	S3_Post_GainV3	10
	S2_Pre_GainH1	5		
	S2_Pre_GainH2	7		
	S2_Pre_GainH3	5		
	S2_Post_GainH1	5		
	S2_Post_GainH2	7		
	S2_Post_GainH3	5		
	S2_Post_GainV1	20		
	S2_Post_GainV2	25		
	S2_Post_GainV3	20		

CE_DIMMING	Contrast Dimming	OFF
	Dimming in Standard	ON
	Dimming in Movie	ON

LNA_Plus	Synctip_Noise	0
	dB01_th	16
	dB12_th	48
	dB23_th	73
	dB34_th	185
	dB45_th	318

FRCQ Option	SSC_OnOff	ON	Film_Low_SD	31
	SSC_Width	96	Film_Medium_SD	6
	SSC_Freq	240	Film_High_SD	0
	FMD_Demo	0	Film_Low_HD	31
	CSB Vertical	ON	Film_Medium_HD	6
	CSB Horizontal	ON	Film_High_HD	0
	X_VStabStatVid	7	Video_Judder_Low	10
	X_VStabStatF	0	Video_Judder_Med	5
	X_VStabCorF	8	Video_Judder_High	0
	X_VStabSensF	48	Hangup Detection	ON
	X_HaloSizStatVid	7	Q LVDS Sequence	0-1-2-3
	X_HaloSizStatF	0	Q LVDS Format	JEIDA
	X_HaloSizCorF	12	Q LVDS bit width	10bit
	X_HaloSizSensF	32	PC_Mode_OnOff	

FRCQ Fallback	SensD_Film_Low	31	V_Len_Slope_Video	1
	SensD_Film_Medium	31		
	SensD_Film_High	31		
	Rel_Start_Film	20		
	Rel_Slope_Film	3		
	H_Len_Start_Film	127		
	H_Len_Slope_Film	1		
	V_Len_Start_Film	40		
	V_Len_Slope_Film	1		
	SensD_Video	0		
	Rel_Start_Video	20		
	Rel_Slope_Video	1		
	H_Len_Start_Video	127		
	H_Len_Slope_Video	1		
	V_Len_Start_Video	40		

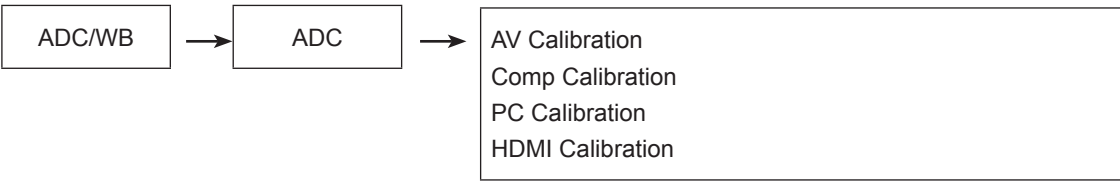
PQ Others	7.5 IRE NTSC	...
	7.5 IRE OFFSET	...
	HDMI 48Hz Enable	OFF
	HDMI Black Level	Normal

DDR margin	A CTRL_OFFSET_0_3	0x42424141
	A CTRL_OFFSET_D	0x41
	B CTRL_OFFSET_0_3	0x41410101
	B CTRL_OFFSET_D	0x42

EEPROM RESET	EER RESET	
	NVR All Clear	OFF

4-4. White Balance - Calibration

4-4-1 White Balance -Calibration

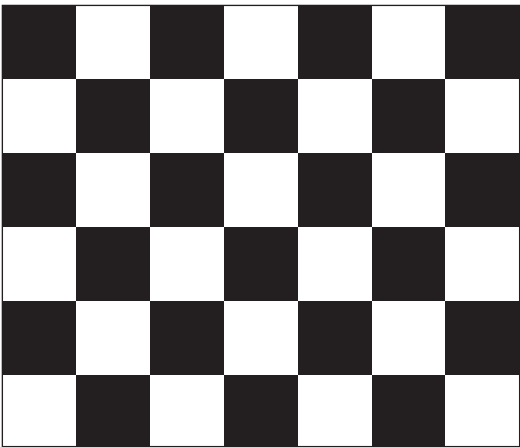


4-4-2 Service Adjustment - You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

Adjust spec.

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



(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.

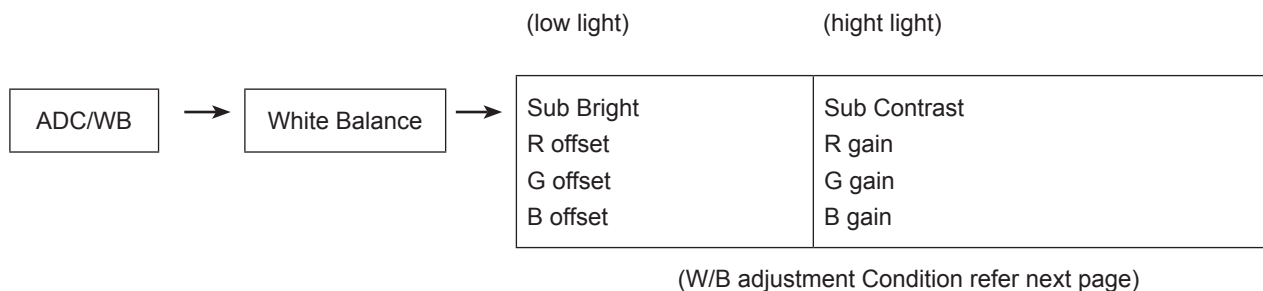
■ Method of Color Calibration (PC)

- 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.

4-4-3 White Balance - Adjustment



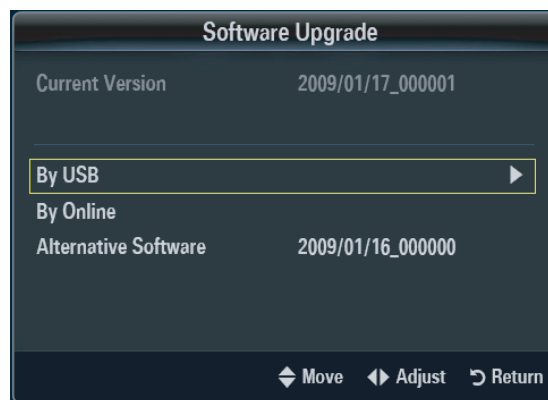
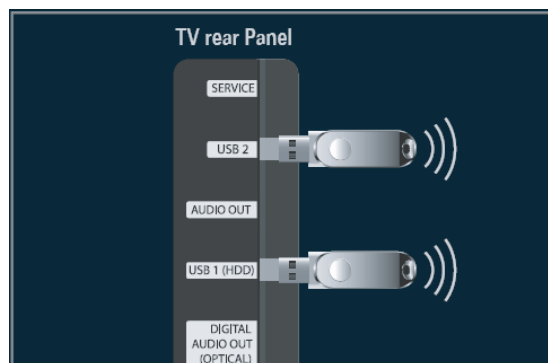
4-5. Servicing Information

4-5-1 Upgrading the Software

Samsung may offer upgrades for TV's firmware in the future. Please contact the Samsung call center at 1-800-SAMSUNG (726-7864) to receive information about downloading upgrades and using a USB drive. Upgrades will be possible by connecting a USB drive to the USB port located on your TV.

1. Insert a USB drive containing the firmware upgrade into the Wiselink Pro port on the side of the TV.
2. If pop up is showed, press the exit or press the No button. (If you press Yes button, display is changed to Wiselink Pro Menu)
3. Press the **MENU** button to display the menu. Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
4. Press the **▲** or **▼** button to select "SW Upgrade", then press the **ENTER** button.
5. Press the **ENTER** button.
The message "Scanning for USB... It may take up to 30 seconds." is displayed.
6. The message "Upgrade version XXXX to version XXXX?"
The system will be reset after upgrade." is displayed.
Press the **◀** or **▶** to select the "OK", then press the **ENTER** button.

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. When software is upgraded, video and audio settings you have made will return to their default (factory) settings. We recommend you write down your settings so that you can easily reset them after the upgrade.

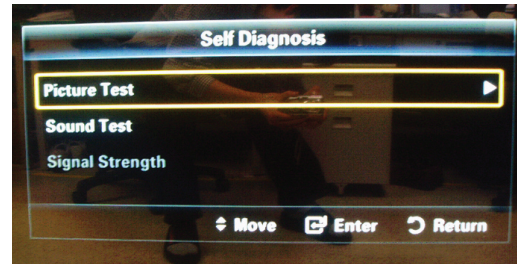


4-5-2 Self Diagnostic

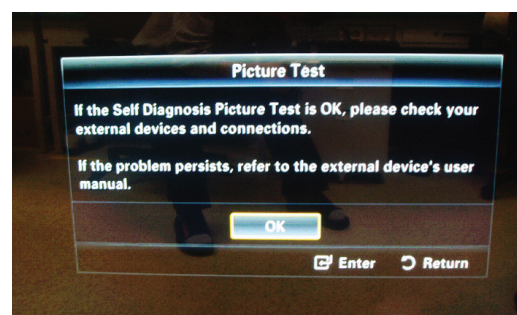
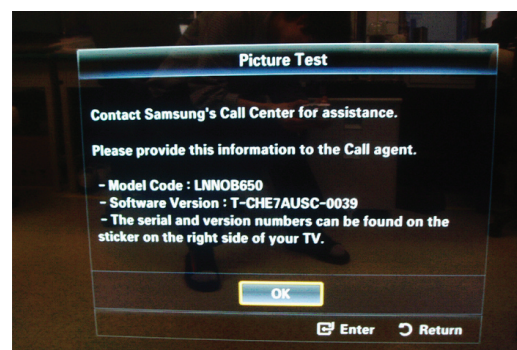
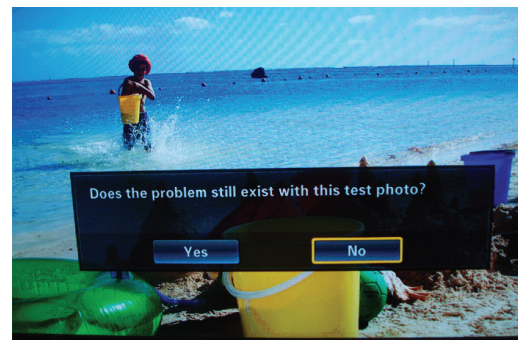
This is simple test function that judge whether is TV SET's problem or not.

There are two self-test. Picture and Sound.

1. Press "Menu -> Support -> Self Diagnosis"
The message "Picture Test / Sound Test" is displayed.



2. Picture Test
 - 1) The message "Does the problem still exist with this test pattern?" is displayed.
 - 2) Press "Yes". This is a TV SET problem.
The message "Contact Samsung's call center at 1-800-SAMSUNG for assistance." is displayed.
 - 3) Press "No".
This is not a TV SET problem.
The message "If the self diagnosis picture is OK, picture distortion may caused by your external device. Please check connection. If the problem still persists, refer to the external device's user manual." is displayed.



4. Troubleshooting

3. Sound Test

1) The message “Does the problem still exist with this sound test?” is displayed.

2) Press “Yes”. This is a TV SET problem.

The message “Contact Samsung’s call center at 1-800-SAMSUNG for assistance.” is displayed

3) Press “No”.

This is not a TV SET problem.

The message “If the self diagnosis picture is OK, picture distortion may caused by your external device.

Please check connection. If the problem still persists, refer to the external device’s user manual.” is displayed.

