



LED TV

Chassis : U88C

Model : UN39FH5005G
UN40FH5005G
UN46FH5005G

SERVICE Manual

LED TV



UN**FH5005G

Contents

1. Precautions
2. Product specifications
3. Disassembly and Reassembly
4. Troubleshooting
5. Wiring Diagram

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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



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

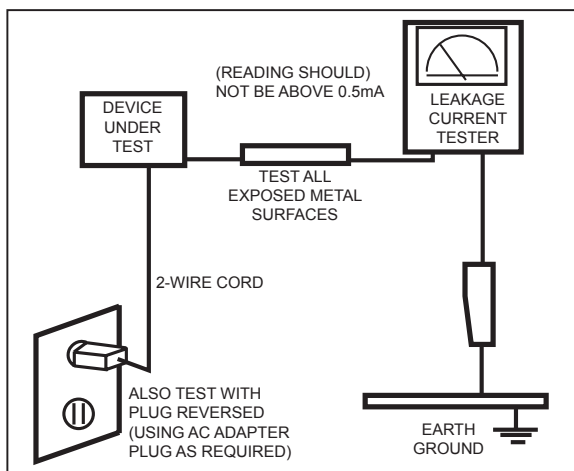
1-1-2. Servicing the LED TV

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 monitor 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 monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check:




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).

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



An electrolytic capacitor installed with the wrong polarity might explode.



Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.



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 the blades 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. Static Electricity 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 monitor.
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.



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.
8. If an equipment is provided with a replaceable battery, and if replacement by an incorrect type could result in an explosion (for example, with some lithium batteries), the following applies:

**CAUTION**

- Risk of explosion if battery is replaced by an incorrect type dispose of used batteries according to the instructions.
- Do not dispose of batteries in a fire.
- Do not short circuit, disassemble or overheat the batteries.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Do not be exposed to excessive heat such as sunshine, fire or the like.

2. Product Specifications

2-1. Product information

Model	UN**FH5005G		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View			
Front Color	Black		
Dimensions (W x H x D)	39"	Set with Stand	895.9 x 589.3 x 227.6 mm / 35.3 x 23.2 x 9.0 inches
		Set without Stand	895.9 x 532.5 x 93.2 mm / 35.3 x 21.0 x 3.7 inches
	40"	Set with Stand	927.6 x 606.4 x 227.6 mm / 36.5 x 23.9 x 9.0 inches
		Set without Stand	927.6 x 551.0 x 93.0 mm / 36.5 x 21.7 x 3.7 inches
	46"	Set with Stand	1059.8 x 680.7 x 227.6 mm / 41.7 x 26.8 x 9.0 inches
		Set without Stand	1059.8 x 625.6 x 94.3 mm / 41.7 x 24.6 x 3.7 inches
Weight	39"	Set with Stand	9.8 kg / 21.6 lbs
		Set without Stand	7.8 kg / 17.2 lbs
	40"	Set with Stand	11.0 kg / 24.3 lbs
		Set without Stand	9.0 kg / 19.8 lbs
	46"	Set with Stand	14.0 kg / 30.9 lbs
		Set without Stand	12.0 kg / 26.5 lbs
Panel Type	Anti Glare		
Internal Memory	None		
DDR	128Mbyte		
Feature	Media Play(Movie)		

2-2. Product specification

2-2-1. Detailed Specifications


NOTE

Design and specifications are subject to change without prior notice.

Item		UN**FH5005GXPR
General Information	Product	LED
	Series	5
	Country	PARAGUAY
Display	Screen Size	39/40/46
	Resolution	1920X1080
	Ultra Clear Panel	NO
Video	Picture Engine	Hyper Real Engine
	Clear Motion Rate	120
	Dynamic Contrast Ratio	Mega
	Micro Dimming	NO
	Precision Black (Local Dimming)	NO
	Wide Color Enhancer (Plus)	YES
	Wide Color Gamut	N/A
	Color Accuracy	N/A
	Auto Depth Enhancer	N/A
	Film Mode	YES
	Natural Mode Support	YES
Audio	Dolby MS10 / MS110	Dolby Digital,Dolby Digital Plus,Dolby Pulse
	DTS Studio Sound / DNSe+	DTS Studio Sound
	DTS Premium Sound / DTS Premium Sound 5.1	DTS 2.0
	3D Sound	NO
	Auto Volume Leveler	YES
	Sound Customizer	NO
	Sound Output (RMS)	10W X 2
	Speaker Type	Down Firing + Full Range
	Woofer	NO
Smart TV	Smart Hub	NO
	Samsung SMART TV	NO
	On TV	NO
	Movies & TV Shows	NO

Item		UN**FH5005GXPR
Smart TV	Multimedia	NO
	Apps	NO
	News On	NO
	Game	NO
	My Space	NO
	Social	NO
	Fitness	NO
	Kids	NO
	Multi-Screen (Dual / Quad Screen)	NO
	Skype™ on Samsung TV	NO
	Web Browser	NO
	AllShare Control	
	Search	NO
Smart Interaction	Voice Interaction	NO
	Voice Control	NO
	Camera Built-in	NO
	Face recognition	NO
	Motion control	NO
Smart Convergence	Contents Sharing	NO
	Screen Mirroring	NO
	Samsung SMART View	NO
	Smart Home	NO
	Wake On LAN	No
	WiDi	NO
Tuner/Broadcasting	DTV Tuner	ISDB-T
	Analog Tuner	Trinorma
	MHP / MHEG / HbbTV / ACAP / GINGA / OHTV	N/A
Connectivity	HDMI	1
	USB	1
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	Shared
	Ethernet (LAN)	NO
	Headphone	NO
	Audio Out (Mini Jack)	NO
	Digital Audio Out (Optical)	NO

2. Product specifications

Item		UN**FH5005GXHR
Connectivity	PC In (D-sub)	NO
	PC/DVI Audio In (Mini Jack)	NO
	RF In (Terrestrial / Cable input)	2
	Ex-Link (RS-232C)	NO
	IR Out	NO
	CI Slot	N/A
	Scart	N/A
	MHL CE 3.0	N/A
	One Connect (Jack)	N/A
	WiFi Direct	NO
	MHL	NO
	Dongle Ready (3G / LTE)	N/A
	HDMI 1.4 3D Auto Setting	NO
	HDMI 1.4 A/Return Ch. Support	NO
	InstaPort S (HDMI quick switch)	NO
	Wireless LAN Adapter Support	NO
	Wireless LAN Built-in	NO
	Anynet+ (HDMI-CEC)	NO
Design	Design	Black one design
	Bezel Type	17.5mm
	Slim Type	Normal
	Front Color	Black
	Light Effect (Deco)	No
	Stand Type	Square
	Swivel (Left/Right)	No
	Camera Type	NO
Additional Feature	Samsung 3D	NO
	3D Converter	NO
	Instant On	No
	N-KIT	No
	Quad Core+	No
	Accessibility	N/A
	Digital Clean View	YES
	Auto Channel Search	YES
	Auto Power Off	YES

Item		UN**FH5005GXPR
Additional Feature	Clock&On/Off Timer	YES
	Sleep Timer	YES
	BD Wise Plus	NO
	Caption (Subtitle)	YES
	ConnectShare™ (USB 2.0)	Movie
	AC/DC TV	N/A
	Sports Mode	Soccer Mode 2.0 (Zoom)
	Screen Capture	No
	Embedded POP	YES
	EPG	YES
	Extended PVR	NO
	Game Mode	YES
	History	NO
	Multiroom Compatible	NO
	OSD Language	Local
	Picture-In-Picture	YES
	MultiTasking	NO
	BT HID Built-in	NO
	USB HID Support	NO
	Smart Evolution Support	NO
	TV SoundConnect	NO
	Teletext (TTXT)	N/A
	Time Shift	NO
	Triple Protector	N/A
	GUI	N/A
Eco Feature	Eco Mark	Planet First
	Eco Label	N/A
	Eco Sensor	NO
	Energy Efficiency Class	N/A
Accessory	3D Active Glasses (Included)	N/A
	Remote Controller Model	TM1240
	Batteries (for Remote Control)	YES
	Samsung Smart Touch Control (Included)	No
	Electric Stand Support	N/A
	Electric Wall Mount Support	N/A

2. Product specifications

Item		UN**FH5005GXP
Accessory	Ultra Slim Wall Mount Supported	NO
	Mini Wall Mount Supported	YES
	Vesa Wall Mount Supported	YES
	Floor Stand Support	NO
	TV Camera (Included)	N/A
	IR Extender Cable (Included)	N/A
	Network Speaker (Included)	N/A
	Wireless Keyboard (Included)	N/A
	Wireless LAN Adaptor (Included)	N/A
	User Manual	YES
	E-Manual	YES
	ANT-Cable	NO
	Power Cable	YES
	Slim Gender Cable	NO

2-2-2. Feature & Specifications


■ Feature

- Digital-TV, RF, 1-HDMI1.4, 1-Component, 1-USB2.0, HyperReal Engine
- Brightness : 300cd/m²
- High Contrast Ratio : 4000 : 1
- Response Time : 6.5ms
- CMR : 120

■ Specifications


Model	UN**FH5005G		
Item	Description		
Screen Size (Diagonal)	39 inches	40 inches	46 inches
LCD Panel	HD 60Hz	FHD 60Hz	FHD 60Hz
Display Colors	16.7M color		
Display Resolution	1920 x 1080		
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		
AC Power Voltage & Frequency	AC100-240V 50/60Hz		
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%		
Sound (Output)	20W (10W X 2)		
Note : Dolby Digital Plus/Pulse, SRS-Trusurround, USB2.0, Film mode			

2-3. Accessories

 **NOTE**

- The items' colors and shapes may vary depending on the model.
- Cables not included in the package contents can be purchased separately.
- The part code for some accessories may differ depending on your region.

Product	Code. No	Product	Code. No
• Remote Control	AA59-00720A	• User Manual	BN68-05756A
• Batteries (AAA x 2)	4301-000121	• Warranty Card (Not available in some locations)	6801-001157
• Power Cord	3903-000851		

Image	Product	Code. No
	• Holder-Wire Stand	BN61-05491A

3. Disassembly and Reassemble

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



This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

3-1. Disassembly and Reassembly







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.
3. If there is no additional coment, it is same for all inches.

■ FH5005G

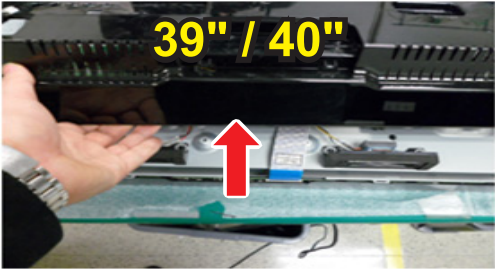
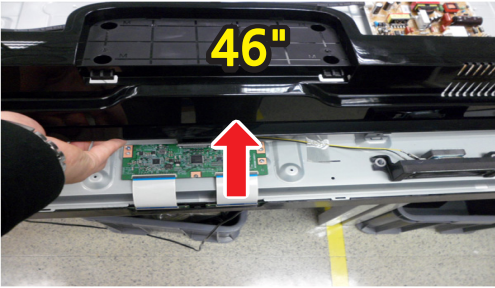
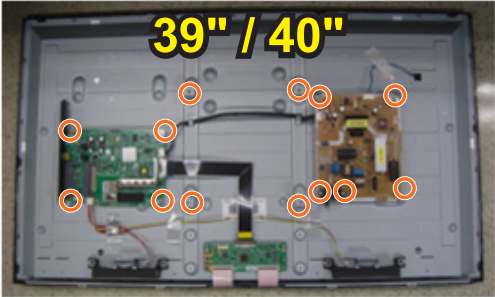

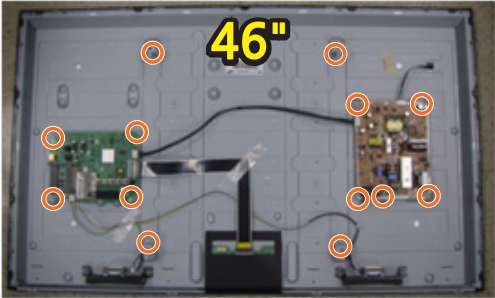
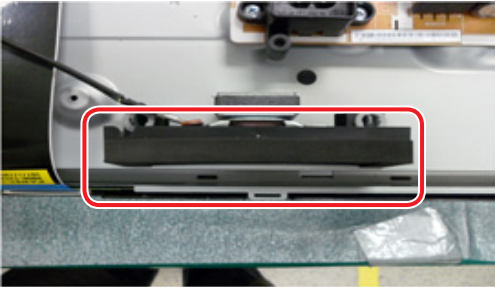
Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove 4 screws from the Stand.		<div><div>Torque : 7~ 8Kgf.cm</div> 6003-001782</div>
3 Remove Stand.		

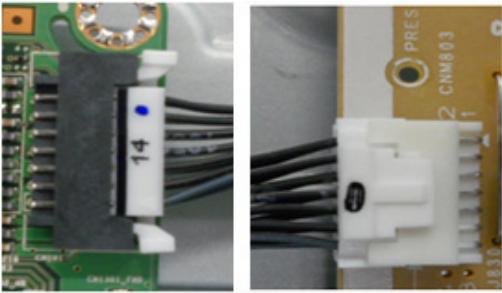
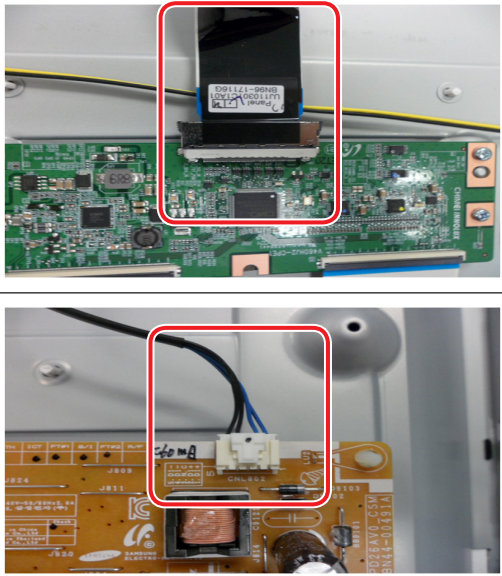

3. Disassembly and Reassemble


Description	Picture Description	Screws
<div>4</div> <div>Remove the screw of Cover Jack.</div> <div><div>• 39" / 40" : 13 EA</div><div>• 46" : 11 EA</div></div>	<div>39" / 40"</div> <div></div>	<div><div>Torque : 7~ 8Kgf.cm</div><div></div><div>6003-001782</div></div>
	<div>46"</div> <div></div>	
<div>5</div> <div>Remove the Cover Jack.</div> <div>Remove the rear cover.</div>	<div>39" / 40"</div> <div></div>	
	<div>46"</div> <div></div>	

Description	Picture Description	Screws
<div>6</div> <div>Disconnect the Function Assy Cable.</div>	<div><div>39" / 40"</div></div>	
	<div><div>46"</div></div>	
<div>7</div> <div>Remove the screws of Rear-Cover.</div> <div><div>• 39" / 40" : 13 EA</div><div>• 46" : 15 EA</div></div>	<div><div><div>39" / 40"</div></div></div>	<div><div><div><div>Torque : 7~ 8Kgf.cm</div></div><div>6003-001782</div></div><div><div><div>Torque : 7~ 8Kgf.cm</div></div><div>6003-002755</div></div></div>
	<div><div><div>46"</div></div></div>	

3. Disassembly and Reassemble

Description	Picture Description	Screws
8 Remove the Rear-Cover.	 A hand is shown pulling the rear cover of a 39" / 40" monitor away from the main board. A red arrow points upwards, indicating the direction of removal.	
	 A hand is shown pulling the rear cover of a 46" monitor away from the main board. A red arrow points upwards, indicating the direction of removal.	
9 Remove the screws of Main Board and IP Board and Panel. <ul style="list-style-type: none">39" / 40" : 13 EA46" : 13 EA	 A top-down view of the main board and IP board for a 39" / 40" monitor. 13 screws are highlighted with orange circles. The text "39" / 40"" is overlaid in yellow.	 <div>Torque : 7~ 8Kgf.cm</div> <div>001-002756</div>
	 A top-down view of the main board and IP board for a 46" monitor. 13 screws are highlighted with orange circles. The text "46"" is overlaid in yellow.	
10 Remove the Speakers and Power Cables.	 A close-up view of the bottom of the monitor showing the speakers and power cables. A red rectangle highlights the area where these components are located.	

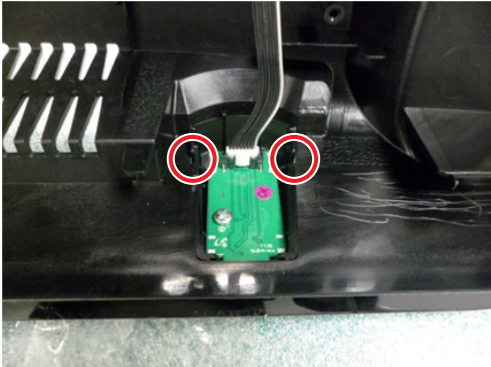
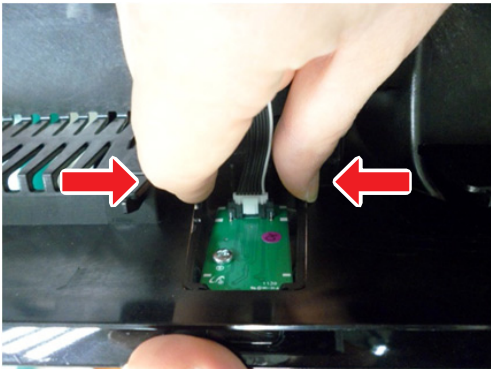
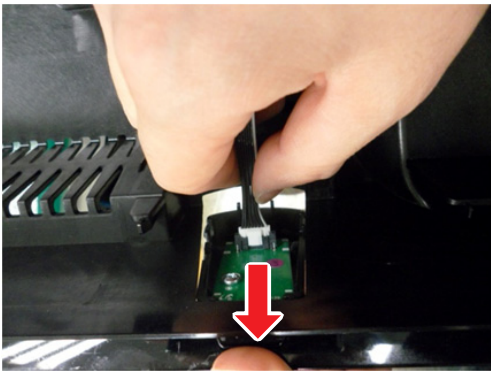
Description	Picture Description	Screws
		
11 Remove the LVDS Cable and Panel Drive Cable.		
12 Completed disassembly.		

**NOTE**

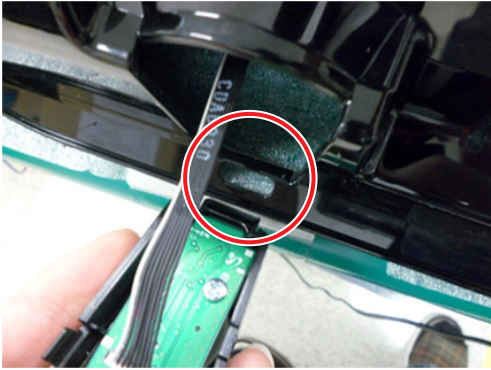
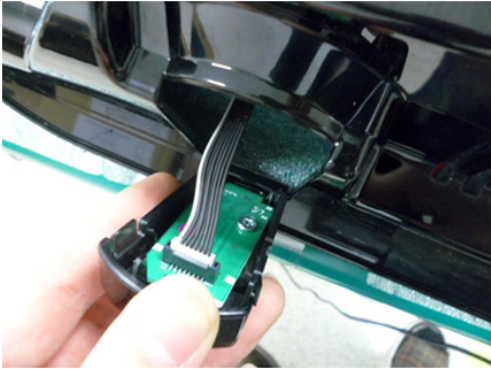

Reassembly procedures are in the reverse order of disassembly procedures.

3-2. Assy Board P-Jog Switch & Ir

■ How to disassembly

Description	Picture Description	Refer
1 Check the 2 Locking Holders.		
2 Press both holders.		
3 Remove the Function Assy.		

■ How to assembly

Description	Picture Description	Refer
1 Check the locking hole.		
2 Combine the function assy to locking hole.		
3 Press the function assy to TV.		

When you want to ignore the funtion key actions

- Option
- Control**
- SVC
- Expert
- ADC/WB
- Advanced



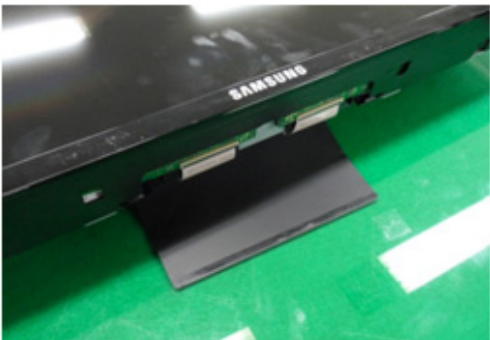

Config Option





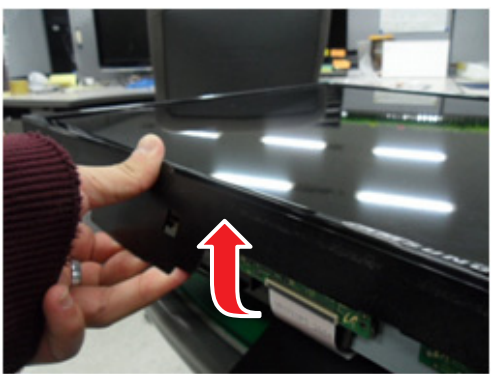
Navigation Key Func

- 0 : New Function (Naviagtion) Key ➡ [Default]
- 1 : Old Function (Touch) Key
- 2 : Do not work Function key

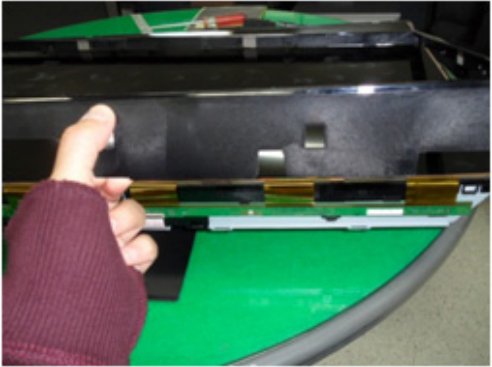
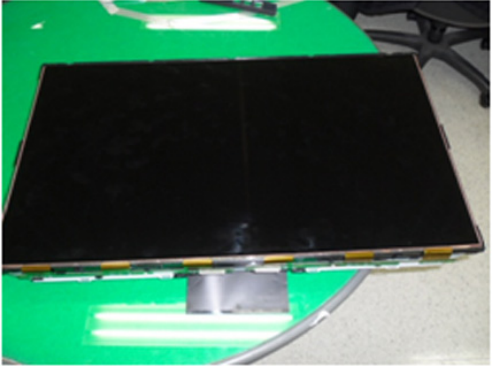
3-3. Disassembly(PTC)

■ How to disassembly




Description	Picture Description	Refer
1 Place TV face up on cushioned table.		
2 Remove the T-CON Cover		
		
3 First spread the PTC upper.		


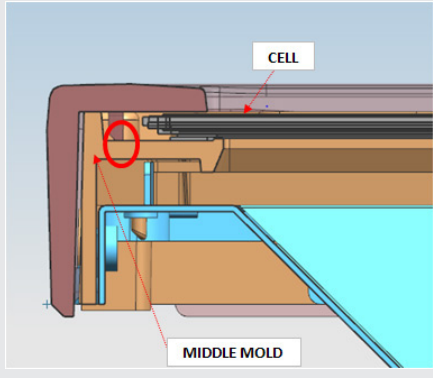





Description	Picture Description	Refer
<div data-bbox="172 286 209 338">4</div> <div data-bbox="236 286 627 344">Spread the both sides of PTC upper (marked "▼") by use the tool.</div> <div data-bbox="247 365 421 412"><div data-bbox="247 365 311 412">!</div> CAUTION</div> <div data-bbox="247 430 675 488">Do not scratch on both side by use tool. Gate Cof will be damaged.</div> <div data-bbox="247 495 684 658"></div>	<div data-bbox="729 286 1222 658"></div> <div data-bbox="729 680 1222 1052"></div>	
<div data-bbox="172 1075 209 1126">5</div> <div data-bbox="236 1075 592 1104">Apart left and right sides of PTC.</div>	<div data-bbox="729 1075 1222 1447"></div>	
<div data-bbox="172 1469 209 1520">6</div> <div data-bbox="236 1469 517 1498">Raise up the PTC bottom.</div>	<div data-bbox="729 1469 1222 1841"></div>	


3. Disassembly and Reassemble

Description	Picture Description	Refer
7 Disassembly is complete.		
		

■ How to reassembly

Description	Picture Description	Refer
<div>1</div> <div>Cover the PTC bottom.</div>		
		
<div>2</div> <div>Combine the hook of left and right side.</div>		

Description	Picture Description	Refer
<div data-bbox="172 280 655 338">3 Check to combine the top and bottom.</div> <div data-bbox="245 338 694 844"><div data-bbox="245 338 421 389"> CAUTION</div><div data-bbox="245 405 655 463">Combine to stick the PTC Rib into the middle mold.</div><div data-bbox="245 468 679 844"></div></div>		
		
		
		
		

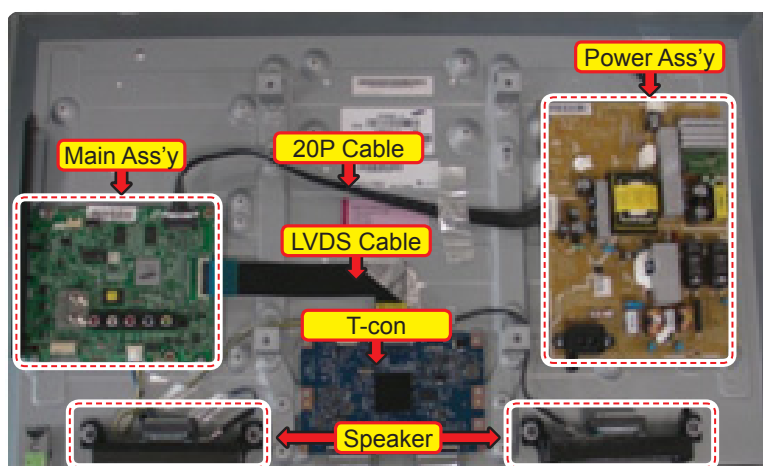
Description	Picture Description	Refer
4 Disassembly is complete.		

4. Troubleshooting

4-1. Troubleshooting

4-1-1. Previous Check

1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.



3. How to distinguish if the problem is caused by **Main Board** or **T CON**

- No Video

If the problem is No Video but BLU is on and Indication LED is blinking repeatedly and faster than normal booting, replace the T-CON board.

- Distorted Picture

Check the inner patterns.

- For All mode

Novatek	Picture	Problem
OK	NG	Main Board or Signal Source
NG	NG	Main Board
NG	NG	Main or LVDS cable or T-con or Panel

- Only for HDMI mode (additional check)

HDMI	Picture	Problem
OK	NG	There is no problems after HDMI IC check HDMI source or HDMI jack.
NG	NG	There is no problems before HDMI IC check X10+ pattern or LVDS cable or T CON

■ How to check inner pattern?

1. Factory mode. (info → menu → mute → Power on when TV is in 'stand-by mode')
2. Move to SVC menu.
3. Move to Test Pattern.
4. Check inner patterns.

4-2. How to Check Fault Symptom

4-2-1. NO Power

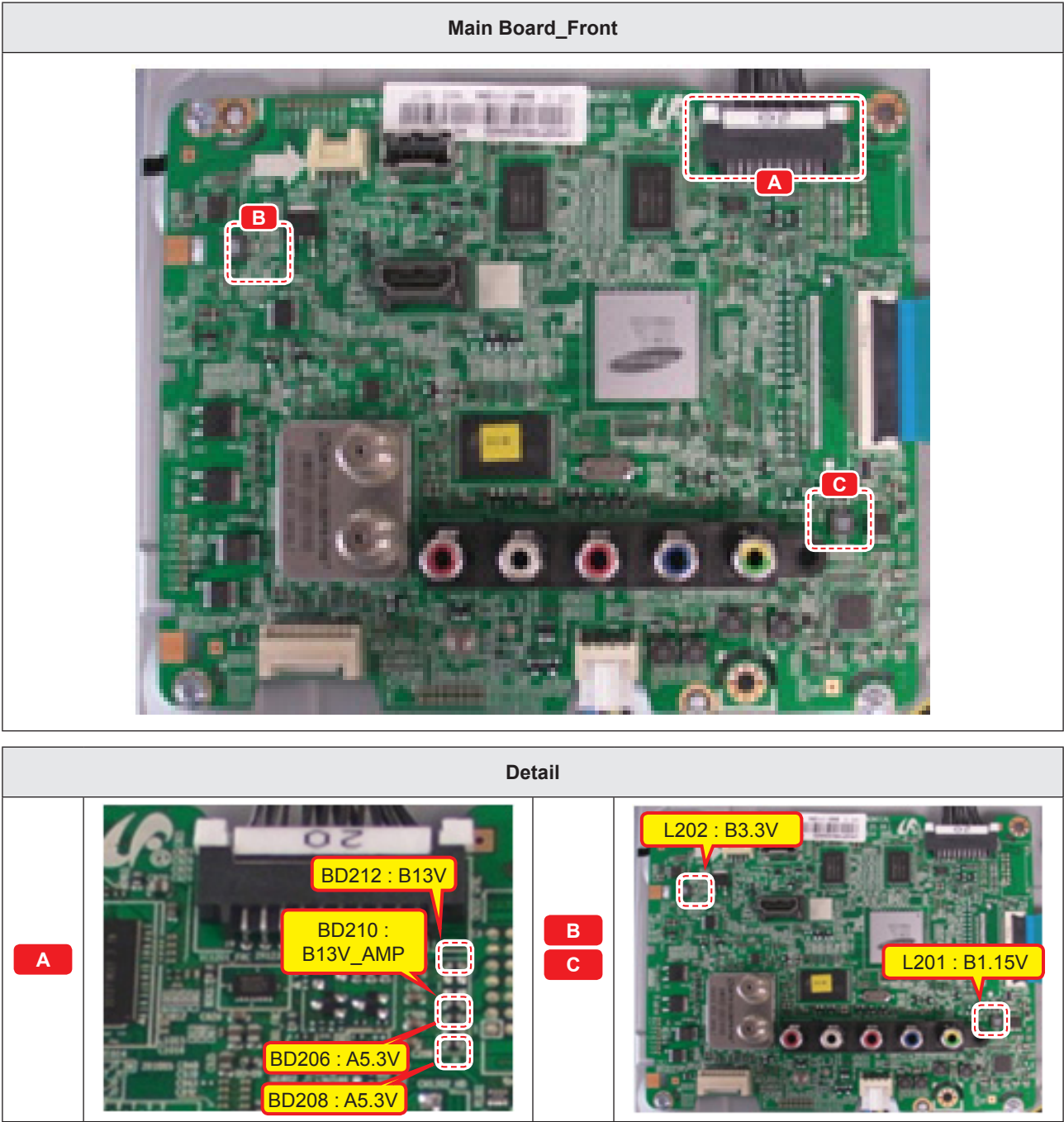

Note

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

Symptom	<ul style="list-style-type: none"> 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	<p>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:</p> <ul style="list-style-type: none"> 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	<pre> graph TD Q1[Power indicator LED is on?] -- No --> A1[Check the power cord connection.] Q1 -- Yes --> Q2[Check the backlight on, when 20 PIN cable unconnected ?] Q2 -- No --> B1[Change 20p cable. Change Main Power Ass'y.] Q2 -- Yes --> Q3[Check 'Stand-By 5.3V' ? - BD208 : A5.3V] Q3 -- No --> B1 Q3 -- Yes --> Q4[Check 'Power input of Main Ass'y' ? DC B13V, B5.3V appear at CN201 #11,12,13(B13V) CN201 #1,3 (B5.3V)? 0V to 13V (CN201 #11,12,13)0V to 5.3V (CN201 #1,3)] Q4 -- No --> B1 Q4 -- Yes --> Q5[Check 'Power IC output of Main Ass'y' ? - L201 : B1.15V / L202 : B3.3V] Q5 -- No --> A2[Change the Main Ass'y.] Q5 -- Yes --> Q6[Check Input power of 'T CON Board' ? - F1(T CON) : B13V] Q6 -- No --> A3[Reconnect or Change. the LVDS cable.] Q6 -- Yes --> Q7[Check Power of 'T CON Board'. - L9(T-CON) : VCC12 - TP_VCC33 : VCC33] Q7 -- No --> A4[Change the T CON Board.] </pre>

Diagnostics	<div data-bbox="598 224 646 291">↓ Yes ↓</div> <div data-bbox="392 293 857 356">Please, Contact tech support.</div>
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts



4-2-2. No Video (HDMI 1, 2, 3 - Digital Signal)


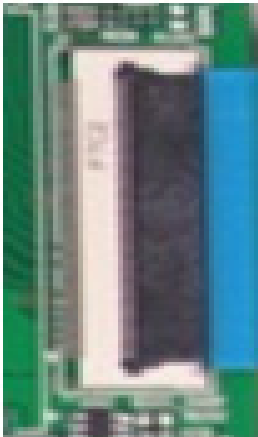


Note

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

Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the HDMI source. Check the HDMI switch. This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<div> <div> <div>Power indicator LED is off. Lamp(Backlight) on, no video ?</div> <div>No → Check a set in the 'Stand-by mode'.</div> <div>Yes ↓</div> </div> <div> <div>Check the HDMI source and check the connection of HDMI cable ?</div> <div>No → Input the HDMI signal properly.</div> <div>Yes ↓</div> </div> <div> <div>① Check the HDMI source and check the connection of HDMI cable ?</div> <div>No → Check CN502_H1. Check HDMI cable. Change the Main Ass'y</div> <div>Yes ↓</div> </div> <div> <div>② Check the LVDS clk signal at output of Main Board. (TX) - ODD_TXCLK- / ODD_TXCLK+ - EVEN_TXCLK- / EVEN_TXCLK+</div> <div>No → Check IC901(NT72569). Change the Main Ass'y.</div> <div>Yes ↓</div> </div> <div> <div>Check the LVDS cable? Replace the T CON / LCD panel?</div> <div>No → Please, Contact tech support.</div> </div> </div>
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts

Main Board_Front		
		
Detail		
A		

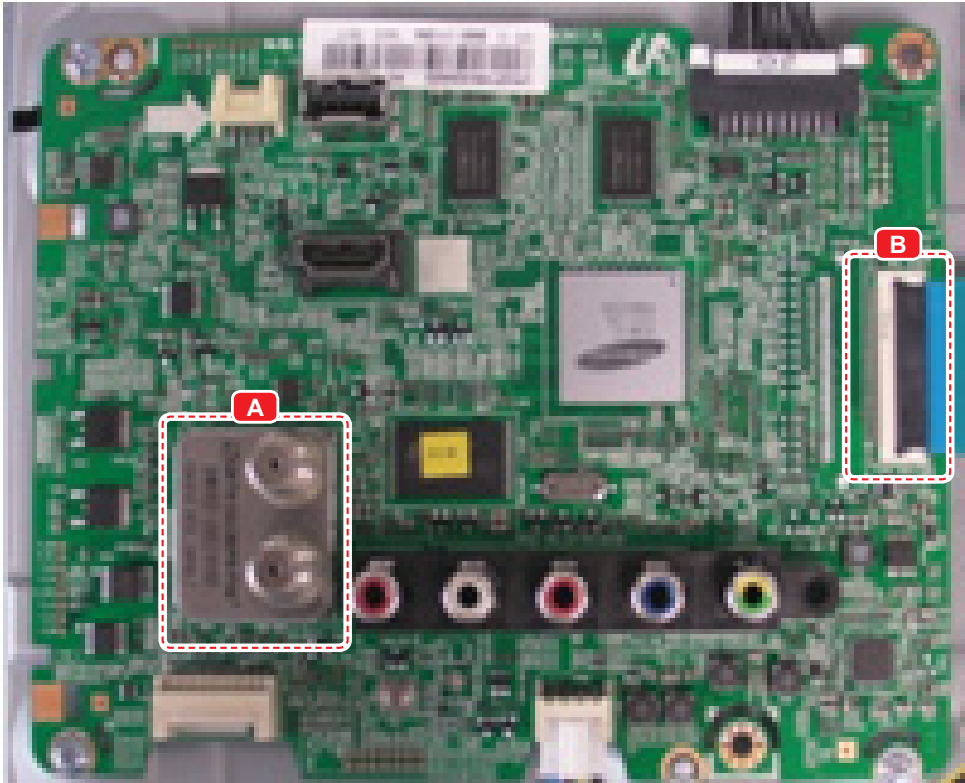
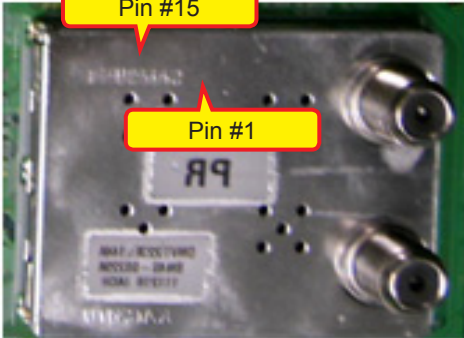
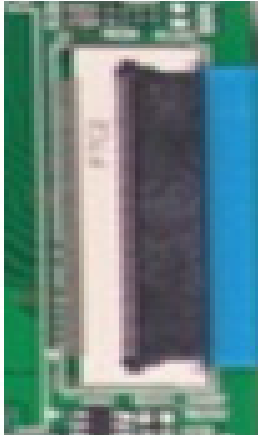
4-2-3. No Video (Tuner_CVBS)


Note

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

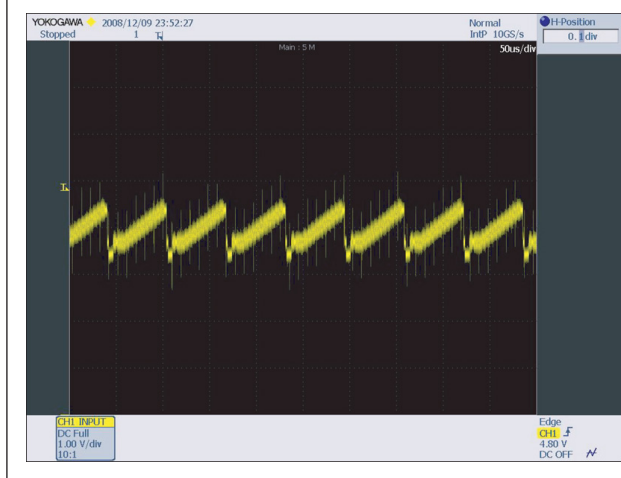
Symptom	<ul style="list-style-type: none"> Audio is normal but no picture is displayed on the screen.
Major checkpoints	<ul style="list-style-type: none"> Check the Tuner CVBS source. Check the Tuner. This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video ?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the RF source and check the connection of RF cable.] Q2 -- No --> A2[Input the RF source properly.] Q2 -- Yes --> Q3[Check the Power of Tuner ? - Pin #5 of Tuner : B3.3V_Tuner - Pin #3 of Tuner : B1.8V_Tuner] Q3 -- No --> A3[Change the Main Ass'y.] Q3 -- Yes --> Q4[Check the CVBS data out of IC901 ? C917 : Tuner CVBS] Q4 -- No --> A4[Check IC901(NT72569). Change the Main Ass'y.] Q4 -- Yes --> Q5[Check the LVDS clk signal at output of Main board. (TX) - ODD_TXCLK- / ODD_TXCLK+ - EVEN_TXCLK- / EVEN_TXCLK+] Q5 -- No --> A5[Check IC901(NT72569). Change the Main Ass'y.] Q5 -- Yes --> Q6[Check the LVDS cable? Replace the T CON / LCD panel?] Q6 -- No --> A6[Please, Contact tech support.] </pre>
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts

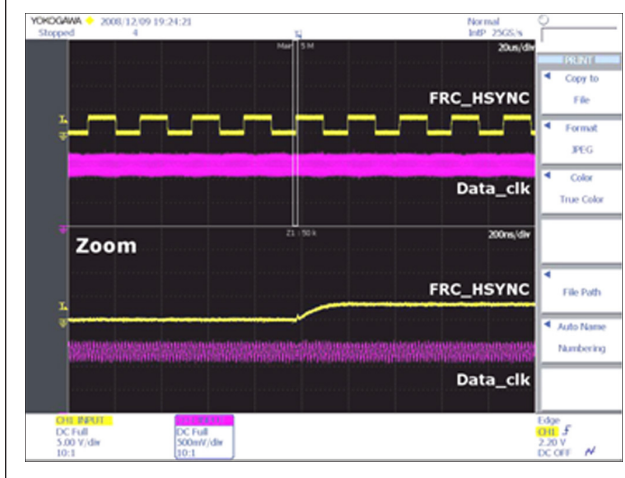
Main Board_Front			
			
Detail			
A		B	

■ Waveforms

① CVBS OUT (Grey Bar)



② LVDS output



4-2-4. No Sound (Speaker)



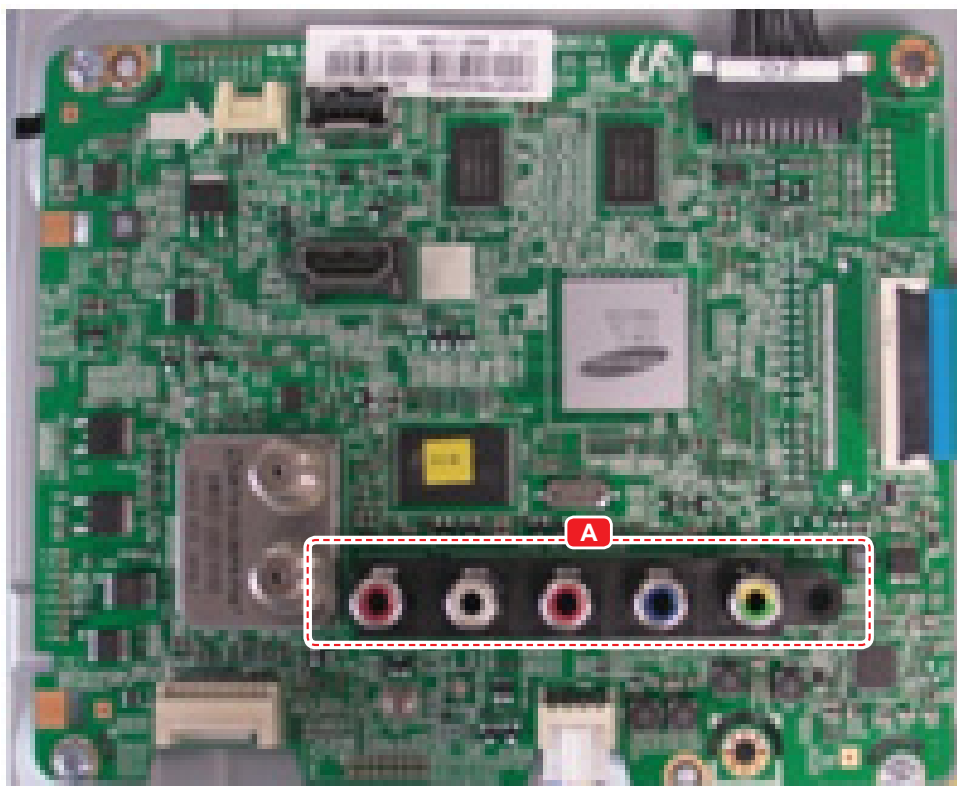
Note

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

Symptom	<ul style="list-style-type: none"> Video is normal but there is no sound.
Major checkpoints	<ul style="list-style-type: none"> When the speaker connectors are disconnected or damaged. When the sound processing part of the Main Board is not functioning. Speaker defect.
Diagnostics	<div> <div> Check the source and check the connection of sound cable ? </div> <div> No → Input the sound source properly. </div> <div> Yes ↓ </div> <div> Check the signal at input of Main Board? AV, COMP R : R426 / L : R427 </div> <div> No → Check CN302, CN401. Change the Main Ass'y. </div> <div> Yes ↓ </div> <div> 1 Check the DATA between the Audio IC's ? - Pin #4 of IC303 : LRclk - Pin #3 of IC303 : I2C_DATA </div> <div> No → Check IC303. Change the Main Ass'y. </div> <div> Yes ↓ </div> <div> 2 1. Check the Speaker sound data at ? - CN302 2. Check the Monitor out sound data at ? - CN302 </div> <div> No → Check IC303. Change the Main Ass'y. </div> <div> Yes ↓ </div> <div> Replace speaker ? </div> <div> No → Please, Contact Tech support. </div> </div>
Caution	Make sure to disconnect the power before working on the IP Board.

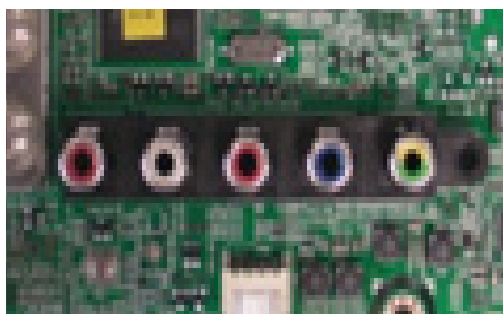
■ Location of Parts

Main Board_Front

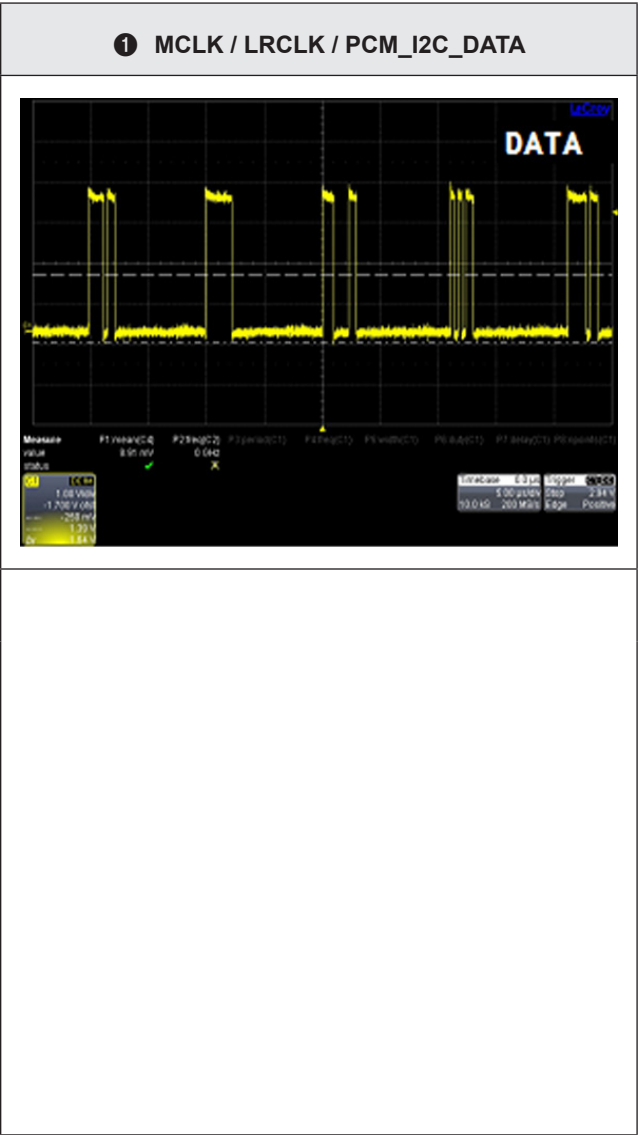
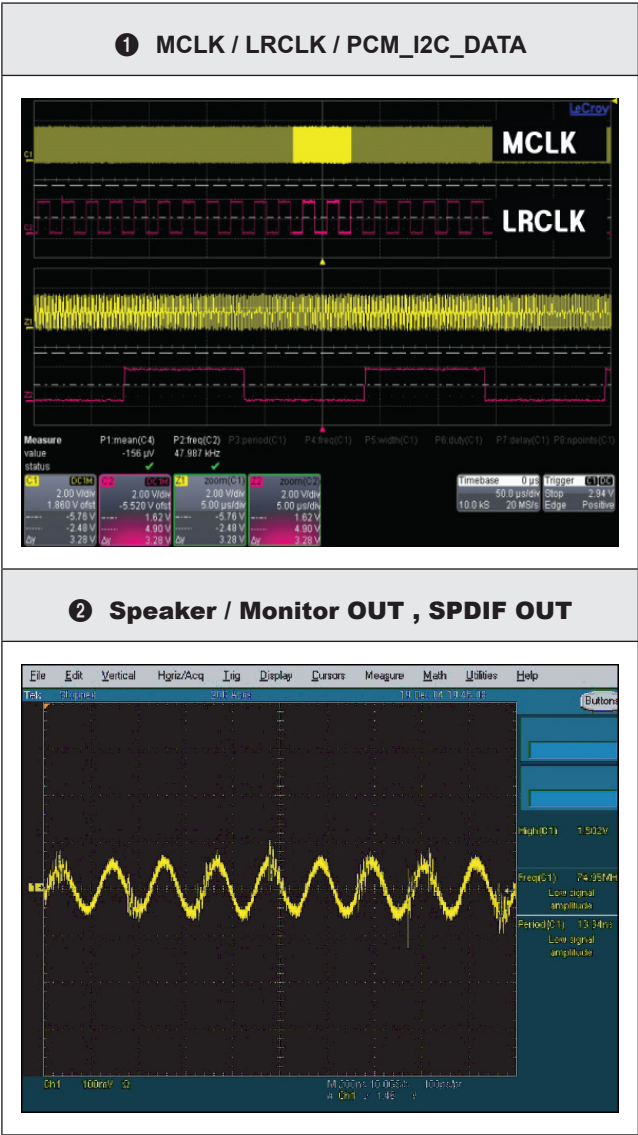


Detail

A



■ Waveforms



4-3. Factory Mode Adjustments

4-3-1. Detail Factory Option



NOTE

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

■ UN**FH5005GXPR

Inches		39"	40"	46"
PANEL	Vendor	AUO	SDC	SDC
	Code	BN95-01448A	BN95-01276A	BN95-01278A
	Spec.	CY-DF390BGAV3V	CY-DF400BGLV2V	CY-DF460BGLV2V
SMPS BOARD	Vendor	SEM	SEM	DYREL
	Code	BN44-00666E	BN44-00666E	BN44-00667A
	Spec.	L40GF_ESM	L40GF_ESM	L46GF_DDY
MAIN BOARD	Chassis Ass'y	BN91-11597V	BN91-12045Z	BN91-11598H
	PBA Ass'y	BN94-06190T	BN94-07225A	BN94-07223H
Byte	Item			
0	Factory Reset	-	-	-
1	Type	39L6AF0D	40A6AF1D	46A6AF1D
2	Local set	PAR_DTV	PAR_DTV	PAR_DTV
3	Basic Model	UF5005	UF5005	UF5005
4	SVC Model	5005	5005	5005
5	Tuner	ISDB-T	ISDB-T	ISDB-T
6	Ch table	-	-	-
7	Front Color	U-S-C-5K	U-S-C-5K	U-S-C-5K

4-3-2. Entering Factory Mode

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

- If you do not have Factory remote control



- If you have Factory remote control



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

Option	T-NT13IBRC-****.*
Control	T-NVTFAUSS-****
Debug	E-Manual : NVISDBBRF2-****
SVC	EDID : SUCCESS
ADC/WB	CALIB : AV / COMP / PC / HDMI /
Advanced	OPTION:**
	USB RS232C
	RFS : NT13 ****
	Onboot : ***
	TCON version

4-3-3. Factory Data

■ Option

Factory Menu Name	Data	Range	Remark	info+ factory
Factory Reset	-			
Type	32A6AH2D	-	use to change panel	
	39L6AF0D			
	40A6AF1D			
	46A6AF1D			
Model	UF4005/UF5005			
SVC Model	4005/5005			
Local Set	BRA_DTV/SELA/ COLOMBIA/MEXICO			info+ factory
TUNER	SI_ISDB		do not change	
Ch Table	-			
Front Color	U-S-C-5K	NONE/S-C-BLK/S- R-BLK/S-BLK/T-R- BLK/T-C-BLK/S- B-BLK		

■ Control

Factory Menu Name	Data	Range	Remark	info+ factory
EDID				
EDID ON/OFF	Off	On/Off		
EDID WRITE ALL		Success/Failure	use to write the EDID	
EDID WRITE PC		Success/Failure		
EDID WRITE DVI		Success/Failure		
EDID WRITE HDMI1		Success/Failure		
EDID WRITE HDMI2		Success/Failure		
EDID WRITE HDMI3		Success/Failure		
EDID WRITE HDMI4		Success/Failure		
EDID VERSION		HDMI 1.3/HDMI1/2		
Sub Option				
Mute Time(VIDEO)	4	0~10		info+ factory
ready	Off	On/Off		info+ factory
HotPlug	On			info+ factory
Hotplugcontrol	On			info+ factory
Spread Spectrum				info+ factory
Spread Spectrum	On	On/Off		info+ factory

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	info+ factory
Period	60K	40K/50K/60K		info+ factory
Amplitude	2	0/0.5/1/1.5/2		info+ factory
DDR Spread	2%	Off/1%/2%		info+ factory
Auto Power	On			
Mirror	ON	ON/ OFF		
HDMI EQ1	Middle	Low/Middle/High/ Strong	use to solve HDMI Noise	info+ factory
HDMI EQ2	Middle	Low/Middle/High/ Strong		info+ factory
HDMI EQ3	Middle	Low/Middle/High/ Strong		info+ factory
HDMI EQ4	Middle	Low/Middle/High/ Strong		info+ factory
EER Count	-			info+ factory
WM Calib				info+ factory
Panel Enter Key				info+ factory
Panel Display Time	9Hr			
Checksum	XXXX			info+ factory
View Log				info+ factory
Font Data Viewer				info+ factory
Dimm Type	EXT			info+ factory
Carrier Mute	Off			info+ factory
Anynet+	Off			info+ factory
HPD Polarity				info+ factory
High Devi	Off	On/Off		info+ factory
HotPlug Delay	12	0~63		
HP Ident	High	High/Low		
PC Ident	On	On/Off		
Watchdog	On	On/Off		
LVDS Format	JEIDA	JEIDA / VESA		
OSD Resolution	1366*768			info+ factory
Bus Stop				info+ factory
OTA Code				info+ factory
OTA Duration Test				info+ factory
Alternate Del				info+ factory
Ignore VCT Version	On	On/Off		info+ factory
HDMI Sync	DE	DE/HV	use to solve HDMI problem	info+ factory

Factory Menu Name	Data	Range	Remark	info+ factory
Watch Dog Count	0	-		info+ factory
PDP Option				
Hotel Option				
Shop Option				
Shop Mode	OFF	ON/OFF		
USB DEMO ON(SEC)				
USB DEMO OFF(SEC)				
Exhibition Mode	OFF	ON/OFF		
Sound				
Audio Amp	NTP7412s	NTP7412s/ NTP7411s	do not change	info+ factory
Volume Curve	NT	NT/EU/EA	do not change	info+ factory
A2K Prescale	20	0~40		info+ factory
BTSC Mono Prescale	25	0~40		info+ factory
BTSC stereo Prescale	47	0~40		info+ factory
SAP Prescale	43	0~40		info+ factory
BTSC M2S Threshold	0x20	0xA0~0x9F		info+ factory
BTSC S2M Threshold	0x15	0xA0~0x9F		info+ factory
BTSC Stereo On Thr	0x20	0xA0~0x9F		info+ factory
BTSC Stereo Off Thr	0x26	0xA0~0x9F		info+ factory
SAP Amp On Thr	0x56	0xA0~0x9F		info+ factory
SAP Amp Off Thr	0x48	0xA0~0x9F		info+ factory
SAP NSR On Thr	0x35	0xA0~0x9F		info+ factory
SAP NSR Off Thr	0x7F	0xA0~0x9F		info+ factory
Carrier NSR On Thr	0x20	0xA0~0x9F		info+ factory
Carrier NSR Off Thr	0x29	0xA0~0x9F		info+ factory
MP3 Level	-6dB	-12dB~0dB		info+ factory
Audio Delay	20ms	0~150ms		
Main Amp Master Vol	199			info+ factory
Center Amp Master Vol				info+ factory
Main Amp PWM Mod	142			info+ factory
Center Amp PWM Mod	103			info+ factory
Woofer Amp PWM Mod	103			info+ factory
Woofer Type				info+ factory
Main Speaker EQ	On			
Center Speaker EQ				

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	info+ factory
Main EQ CheckSum	-			info+ factory
Center EQ CheckSum	-			info+ factory
Woofer EQ CheckSum	-			info+ factory
Config Option				info+ factory
Num of AV	1	0~3		info+ factory
Num of SVIDEO	0	1~3		info+ factory
Num of Comp	1	1~3		info+ factory
Num of HDMI	2	0~4		info+ factory
Num of SCART	0			info+ factory
DVI Sound	0	0~1		info+ factory
Number of HeadPhone	0	0~1		info+ factory
Num of USB Port				info+ factory
Num of SPDIF OUT	1	0~1		info+ factory
LNA SUPPORT	Off	On/Off		info+ factory
Navigation Key Func	0	0 : New function(Navigation jog) Key		info+ factory
		1 : Old function (Touch) Key		info+ factory
		2 : don't work function		info+ factory
Eco Sensor Support	On	On/OFF		info+ factory
MFT OFFSET				

■ SVC

Factory Menu Name	Data	Range	Remark	info+ factory
Test pattern				info+ factory
T-CON Usb Download				info+ factory

■ ADC/WB

Factory Menu Name	Data	Range	Remark	info+ factory
ADC				
AV Calibration	Success	Success / Failure		
Comp Calibration	Success	Success / Failure		
PC Calibration	Success	Success / Failure		
HDMI Calibration	Success	Success / Failure		
ADC Target				
1st_AV_Low	18	0~255		

Factory Menu Name	Data	Range	Remark	info+ factory
1st_AV_High	220	0~255		
1st_AV_Delta	1	0~255		
1st_COMP_Low	16	0~255		
1st_COMP_High	235	0~255		
1st_COMP_Delta	1	0~255		
1st_PC_Low	2	0~255		
1st_PC_High	235	0~255		
1st_PC_Delta	1	0~255		
2nd_Low	1	0~255		
2nd_High	235	0~255		
2nd_Delta	1	0~255		
ADC Result				
1st_AV_Gain	121			
1st_AV_Offset	141			
1st_Comp_Gain	70			
1st_Comp_Gain_Cb	70			
1st_Comp_Gain_cr	70			
1st_Comp_Offset	127			
1st_Comp_Offset_Cb	127			
1st_Comp_Offset_Cr	127			
1st_PC_R_Gain	94			
1st_PC_G_Gain	93			
1st_PC_B_Gatin	94			
1st_PC_R_Offset	127			
1st_PC_G_Offset	127			
1st_PC_B_Offset	127			
2nd_R_Offset	113	0~255		
2nd_G_Offset	113	0~255		
2nd_B_Offset	113	0~255		
2nd_R_Gain	144	0~255		
2nd_G_Gain	144	0~255		
2nd_B_Gain	144	0~255		
WB				
Sub Brightness	128	0~255		
R_Offset	128	0~255		
G_Offset	128	0~255		
B_Offset	128	0~255		

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	info+ factory
Sub Contrast	128	0~255		
R_Gain	128	0~255		
G_Gain	128	0~255		
B_Gain	128	0~255		
Movie R Offset	133	0~255		
Movie B Offset	129	0~255		
Movie R Gain	131	0~255		
Movie B Gain	64	0~255		

■ Advanced

Factory Menu Name	Data	Range	Remark	info+ factory
PBE				info+ factory
WM Movie				info+ factory
Mode	Off	On/Off		info+ factory
Color Mode	Movie			info+ factory
Color Tone	Cool			info+ factory
Msub Brigh	128			info+ factory
Msub Contr	128			info+ factory
W1_RGAIN	138			info+ factory
W1_BGAIN	104			info+ factory
W1_ROFFS	130			info+ factory
W1_BOFFS	127			info+ factory
W2_RGAIN	131			info+ factory
W2_BGAIN	64			info+ factory
W2_ROFFS	133			info+ factory
W2_BOFFS	129			info+ factory
W3_RGAIN	128			info+ factory
W3_BGAIN	128			info+ factory
W3_ROFFS	128			info+ factory
W3_BOFFS	128			info+ factory
N_RGAIN	131			info+ factory
N_BGAIN	122			info+ factory
N_ROFFS	128			info+ factory
N_BOFFS	129			info+ factory
Movie Countr	100			info+ factory
Movie Brigh	45			info+ factory
Movie Color	55			info+ factory

Factory Menu Name	Data	Range	Remark	info+ factory
Movie Sharp	55			info+ factory
Movie Tint	50			info+ factory
Movie BkLight	10			info+ factory
M.Gamma	Off			info+ factory
M_Sub Gamma	0			info+ factory
EPA Standard				info+ factory
Std Contr	100	0~100		info+ factory
Std Bright	45	0~100		info+ factory
Std Sharp	50	0~100		info+ factory
Std Color	50	0~100		info+ factory
Std Tint	50	0~100		info+ factory
Std Backlight	8	0~10		info+ factory
ADJUST				info+ factory
Dynamic Dimming	Off	On/Off		info+ factory
Power Key Protects	Off	On/Off		info+ factory
UART Select	Auto Wall	Auto Wall/Debug/ MDC/On1/On2		info+ factory
Debug Mode	Debug Off	Debug Off/Debug Smart/Debug RunTime		info+ factory
Back End Mute				info+ factory
PDP FRC				info+ factory
VisualTEST Plus	Disable			info+ factory
Standby Mode Time	45 Min	2 Min/45 Min		info+ factory
Delete alt.ver	1 Flash			info+ factory
OTA confirm Time	90 Min	3 Min/90 Min		info+ factory
OTA limit Time	3 Hour	3 Min/3Hour		info+ factory
Dynamic CE	Off	On/Off		info+ factory
FWC	Off	On/Off		info+ factory
1080p 48Hz	On	On/Off		info+ factory
PWM Max	100	1~100		info+ factory
PWM Max2	95	1~100		info+ factory
PWM Mid	10	0~10		info+ factory
PWM Min	0	0~10		info+ factory
COMP PHASW	110			info+ factory
Quick Start				info+ factory
DTV LNA	Auto	On/Off		info+ factory
HDCP Download	Off	On/Off	HDCP	info+ factory
USB Download	Off	On/Off		info+ factory

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	info+ factory
LED Peak OnOFF				info+ factory
COLOR MAPPING				info+ factory
WCE				info+ factory
SHARPNESS				info+ factory
ENHANCE				info+ factory
LNA_Plus				info+ factory
FCC				info+ factory
PC_Picture				info+ factory
FRC				info+ factory
PQ OTHERS				info+ factory
7.5 IRE NTSC	OFF	ON/OFF		info+ factory
7.5 IRE OFFSET	16	0~60		info+ factory
PQ Others				info+ factory
YC_Delay				info+ factory
PAL BG	1	0~3		info+ factory
PAL DK	1	0~3		info+ factory
PAL I	1	0~3		info+ factory
SECAM BG	4	0~3		info+ factory
SECAM DK	4	0~3		info+ factory
SECAML	4	0~3		info+ factory
NTSC 358	1	0~3		info+ factory
NTSC 443	0	0~3		info+ factory
AV PAL	1	0~3		info+ factory
AV SECAM	4	0~3		info+ factory
AV NT358	1	0~3		info+ factory
AV NT443	1	0~3		info+ factory
AV PAL60	1	0~3		info+ factory
EEPROM RESET				info+ factory
EEPROM RESET	OFF	ON/OFF		info+ factory
NVR ALL CLEAR	OFF	ON/OFF		

4-4. White Balance

4-4-1. Calibration

1. Into the Factory Mode.
2. Select **ADC/WB** menu.
3. Select **ADC** menu.

Option	AV Calibration
Control	Comp Calibration
Debug	PC Calibration
SVC	HDMI Calibration
ADC/WB	
Advanced	

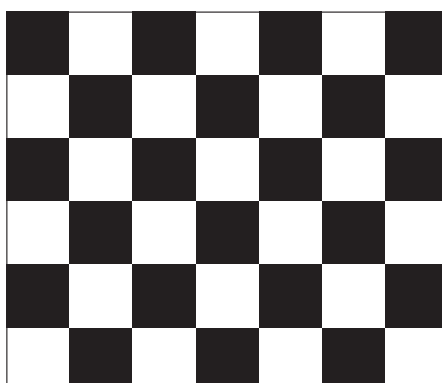
4-4-2. Service Adjustment

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

■ Color Calibration

- Adjust Specification

Source	Setting Mode	Pattern	Use Equipment
HDMI	1280 x 720@60 Hz	Pattern #24 (Chess Pattern)	CA210 & Master MSPG925 Generator



(Chess Pattern)

- 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

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)

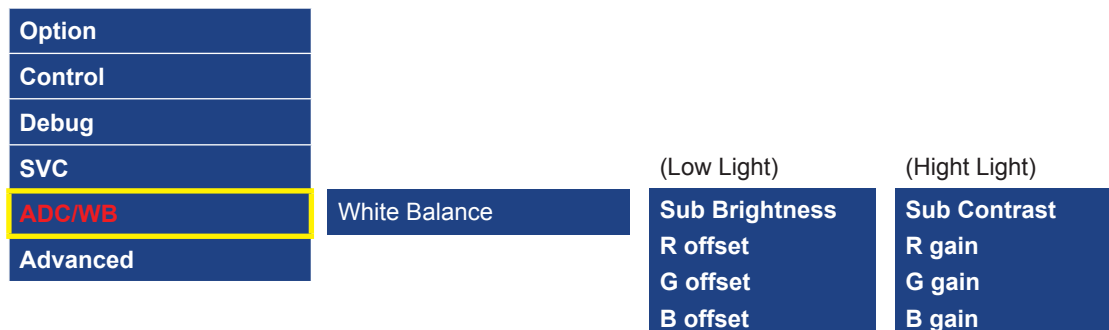
1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration 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.

4-4-3. Adjustment

1. Into the Factory Mode.
2. Select **ADC/WB** menu.
3. Select **White Balance** menu.



4-5. 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. It varies with Panel's size and Specification.
 - Equipment : CS-210
 - Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard
 - Alternate Equipment : CA200& anyone Master supported pattern#92(refer to right photo)
 - Use other Equipment only after comparing the result with that of the Master equipment.
 - Set Aging time : 60 min



Calibration and Manual setting for WB adjustment

- HDMI : Calibration at #24 Chessboard Pattern Manual adjustment at #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)



Note

If finishing in HDMI mode, adjustment coordinate is almost same in AV/COMP mode.

4-6. RS-232C

*RS-232C : For S/W Debug cable




1. RS232C Control

- Port : COM#(Serial)
- Bit rate : 38400
- Data Bit : 8 bit
- Parity : None
- Stop Bits : 1
- Flow Control : None

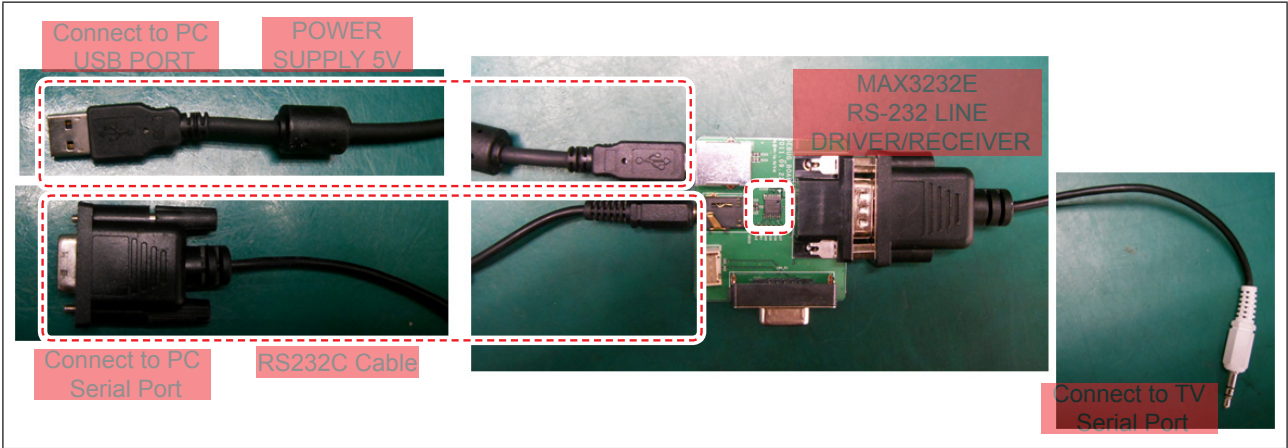
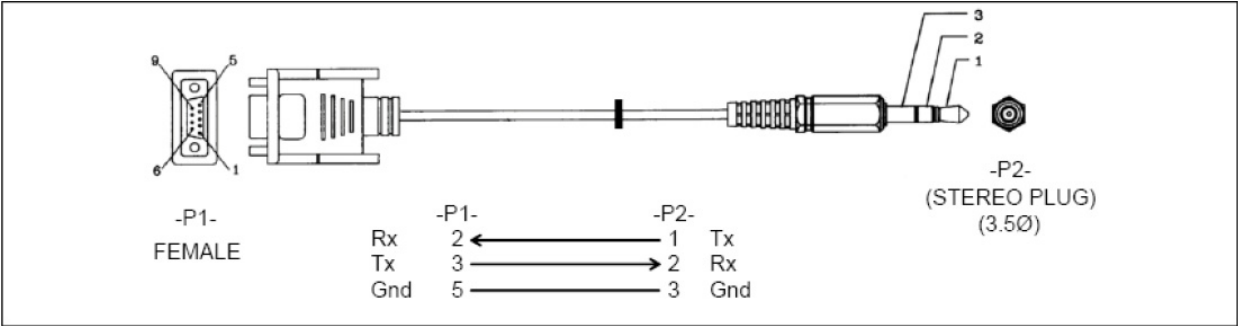
2. How to connect to TV set

If TV set do not have MAX3232E circuit, you need Jig board and cables.

Refer to below picture and description.

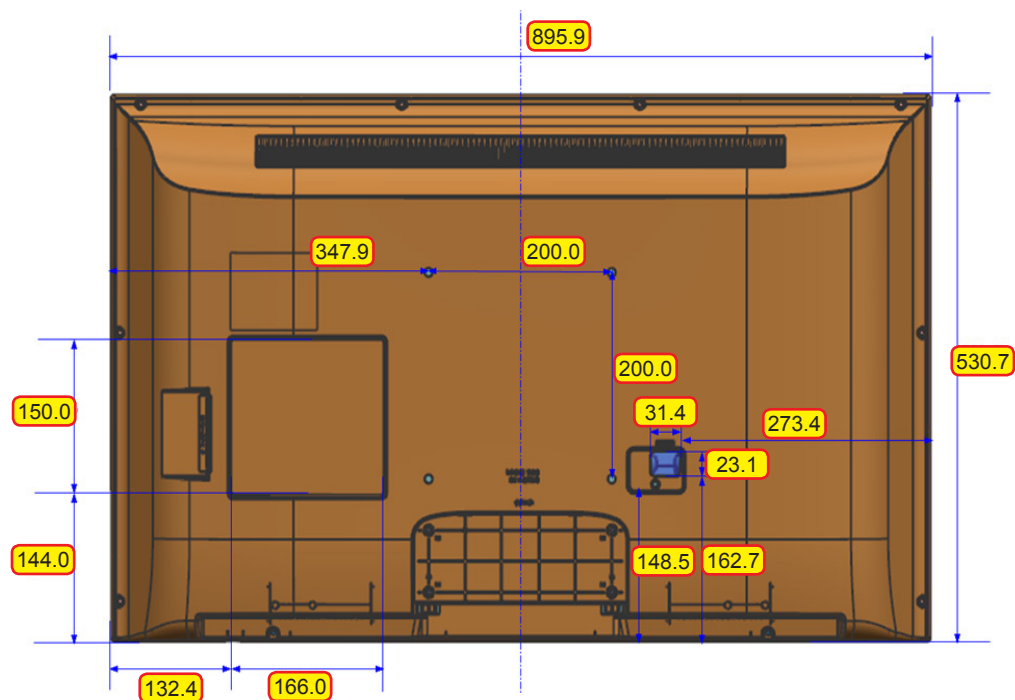
1 Gender to connect with JIG Board and TV SET.		
2 Power supply Cable (5V).		
3 RS232C Cable.		

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

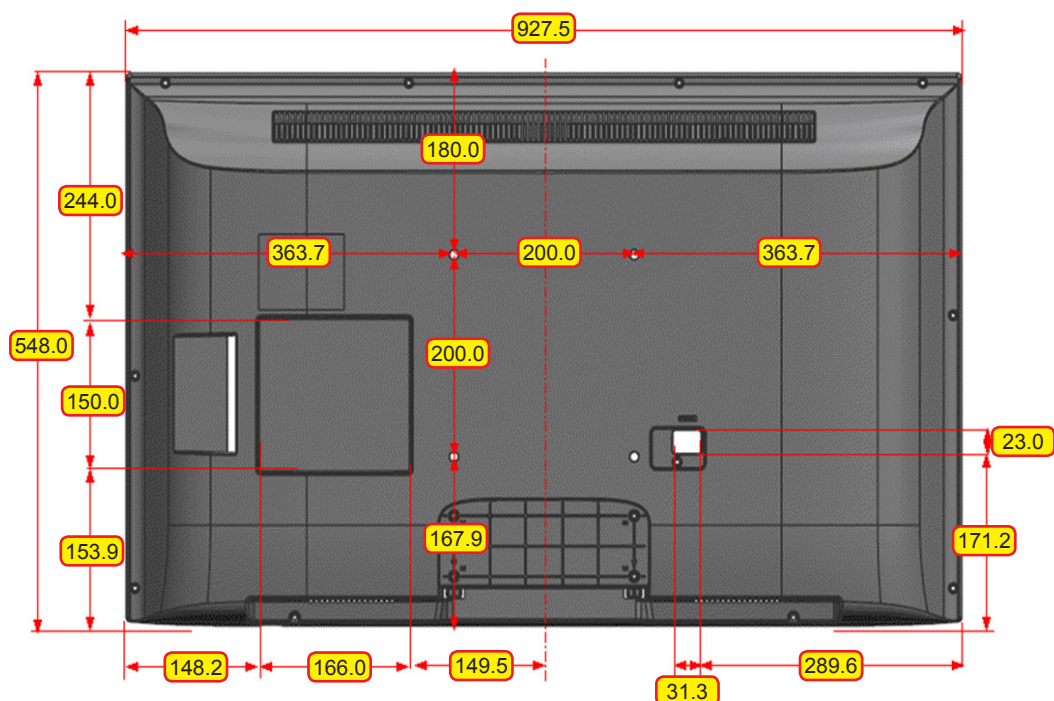


4-7. Rear Cover Dimension

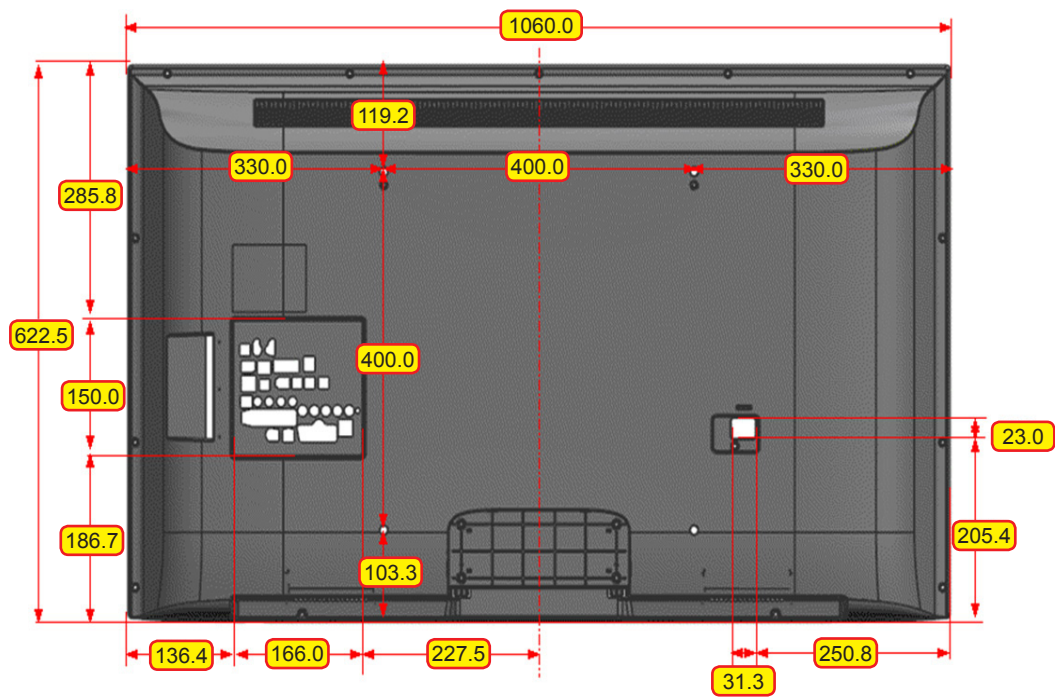
■ UN39FH5005



■ UN40FH5005

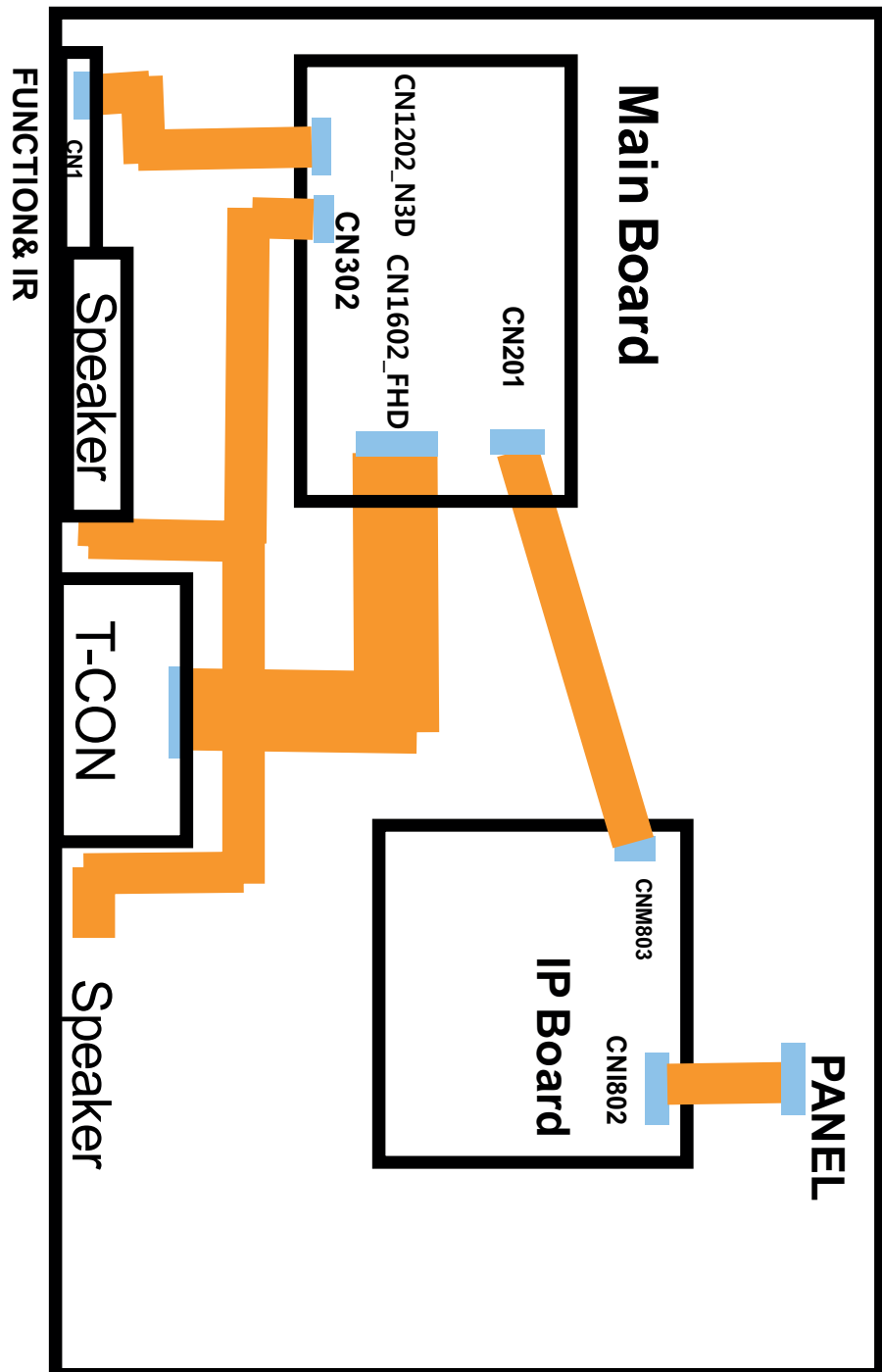


■ UN46FH5005



5. Wiring Diagram

5-1. Wiring Diagram



5-2. Connector

① CN1201_FHD			
1	NC	27	EVEN_TX0-_LVDS
2	GND	28	GND
3	NC	29	ODD_TX4+_LVDS
4	NC	30	ODD_TX4-_LVDS
5	NC	31	ODD_TX3+_LVDS
6	NC	32	ODD_TX3-_LVDS
7	GND	33	GND
8	TCON_SDA	34	ODD_TXCLK+_LVDS
9	PANEL_I2C_EN	35	ODD_TXCLK-_LVDS
10	NC	36	GND
11	NC	37	ODD_TX2+_LVDS
12	TCON_SCL	38	ODD_TX2-_LVDS
13	GND	39	ODD_TX1+_LVDS
14	EVEN_TX4+_LVDS	40	ODD_TX1-_LVDS
15	EVEN_TX4-_LVDS	41	ODD_TX0+_LVDS
16	EVEN_TX3+_LVDS	42	ODD_TX0-_LVDS
17	EVEN_TX3-_LVDS	43	GND
18	GND	44	GND
19	EVEN_TXCLK+_LVDS	45	GND
20	EVEN_TXCLK-_LVDS	46	NC
21	GND	47	Panel_13V_PW
22	EVEN_TX2+_LVDS	48	Panel_13V_PW
23	EVEN_TX2-_LVDS	49	Panel_13V_PW
24	EVEN_TX1+_LVDS	50	Panel_13V_PW
25	EVEN_TX1-_LVDS	51	Panel_13V_PW
26	EVEN_TX0+_LVDS		

② CN201 (to Powr board)			
1	B5.3V	11	B13V
2	SW_POWER_OUT	12	B13V
3	B5.3V	13	B13V
4	A5.3V	14	PWM_DIMM
5	GND	15	GND
6	GND	16	FRC_PWM2
7	B12VS	17	OVD_ON_OFF
8	GND	18	FRC_PWM3
9	B12VS	19	OVD_LEVEL
10	SW_INVERTER	20	FRC_PWM4

③ CN1202 (FUNCTION)			
1	IR	4	KEY_INPUT1
2	GND	5	KEY_INPUT2
3	A3.3V_PW	6	A3.3V_PW

④ CN302 (SPEAKER)			
1	R+	3	L+
2	R-	4	L-

⑤ TU603_BR			
1	1.8V	7	DAGC
2	NC	8	DIF-
3	SCL	9	CVBS
4	3.3V	10	SIF
5	SDA	11	RST
6	DIF+	12	NC

⑥ CN401_COMP(COMPONENT)			
1	GND	9	COMP2_PR
2	COMP2_Y_CVBS	10	GND
3	IDENT_VIDEO2	11	COMP2_AV2_SL_IN
4	GND	12	COMP2_AV2_SR_IN
5	COMP2_PB	13	GND
6	IDENT_COMP2	14	COMP2_AV2_SR_IN
7	GND	15	COMP2_AV2_SL_IN
8	COMP2_PR		

5-3. Connector Functions

Connector	Function
CN201 ↔ IP CN	Supply main power and dimming signal from IP Board to Main Board.
CN1301_FHD ↔ T-CON CNF1	The LVDS signal transfered from Main Board to Panel.
CN1302_HD ↔ T-CON CNF1	The LVDS signal transfered from Main Board to Panel.