



# LED TV

Chassis : U86A

Model : UN32F50\*\*AF

UN40F50\*\*AF

UN46F50\*\*AF

UN50F50\*\*AF

UN32F40\*\*AF

## ***SERVICE*** Manual

### LED TV



UN\*\*F5000AF

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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.

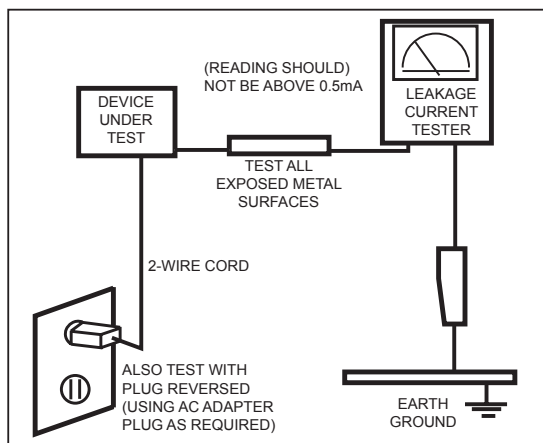
### 1-1-2. Servicing the LED TV

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.

## 2. Product Specifications

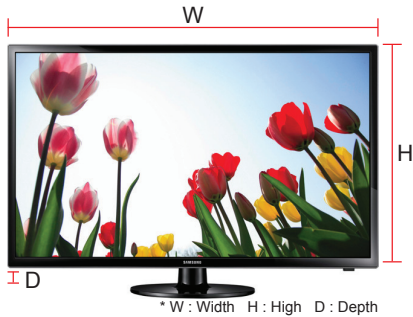


### 2-1. Product Information

#### 2-1-1. Model Comparison

Model	UN**F50**		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View			
Front Color	Black (Panel)		
Dimensions (W x H x D)	32"	Set with Stand	738.0 x 505.8 x 191.7 mm / 29.1 x 19.9 x 7.5 inches
		Set without Stand	738.0 x 445.4 x 49.4 mm / 29.1 x 17.5 x 1.9 inches
	40"	Set with Stand	928.2 x 612.2 x 235.0 mm / 36.5 x 24.1 x 9.3 inches
		Set without Stand	928.2 x 552.3 x 49.4 mm / 36.5 x 21.7 x 1.9 inches
	46"	Set with Stand	1059.6 x 686.1 x 235.0 mm / 41.7 x 27.0 x 9.3 inches
		Set without Stand	1059.6 x 626.2 x 49.4 mm / 41.7 x 24.7 x 1.9 inches
	50"	Set with Stand	1135.4 x 727.9 x 235.0 mm / 44.7 x 28.7 x 9.3 inches
		Set without Stand	1135.4 x 668.0 x 49.8 mm / 44.7 x 26.3 x 2.0 inches

## 2. Product specifications

<b>Weight</b>	32"	Set with Stand	5.6 kg / 12.3 lbs
		Set without Stand	5.0 kg / 11.0 lbs
	40"	Set with Stand	9.5 kg / 20.9 lbs
		Set without Stand	8.0 kg / 17.6 lbs
	46"	Set with Stand	12.3 kg / 27.1 lbs
		Set without Stand	10.8 kg / 23.8 lbs
	50"	Set with Stand	14.5 kg / 31.9 lbs
		Set without Stand	13.0 kg / 28.7 lbs
<b>Panel Type</b>	Anti Glare		
<b>Internal Memory</b>	128 Mbyte		
<b>DDR</b>	256 Mbyte		
<b>Feature</b>	Media Play(Movie)		

Model	UN32F4000		
Front View	 <p>* W : Width H : High D : Depth</p>		
Detail View	 		
Front Color	Black (Panel)		
Dimensions (W x H x D)	32"	Set with Stand	737.9 x 509.1 x 191.7 mm / 29.1 x 20.0 x 7.5 inches
		Set without Stand	737.9 x 435.8 x 49.5 mm / 29.1 x 17.2 x 1.9 inches
Weight	32"	Set with Stand	6.6 kg / 14.6 lbs
		Set without Stand	5.9 kg / 13.0 lbs
Panel Type	Anti Glare		
Internal Memory	128 Mbyte		
DDR	256 Mbyte		
Feature	Media Play(Movie)		

## 2-1-2. Feature & Specifications

Model	UN32F5000AF	
Feature		
<ul style="list-style-type: none"><li>• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0, Digital Sound Out(Optical)</li><li>• Brightness : 300 cd/m<sup>2</sup></li><li>• Dynamic Contrast Ratio : Mega DCR</li><li>• Response Time : 6.5 ms</li><li>• CMR : 120</li></ul>		
Specifications		
Item	Description	
LCD Panel	32 inch FHD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7M colors	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25 MHz	
Active Display (H x V)* * Horizontal x Vertical	698.4(H) X 392.9(V) (mm) / 27.5(H) X 15.5(V) (inches)	
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	75 W (Under 0.3 W, Stand by)	
Dimensions Set (W x H x D)* * Width x High x Depth	Set with Stand	738.0 x 505.8 x 191.7 mm / 29.1 x 19.9 x 7.5 inches
	Set without Stand	738.0 x 445.4 x 49.4 mm / 29.1 x 17.5 x 1.9 inches
Weight	Set with Stand	5.6 kg / 12.3 lbs
	Set without Stand	5.0 kg / 11.0 lbs
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	

Specifications	
Item	Description
Audio Specifications	MAX Internal Audio Output Power : Each 5 W(Left/Right) Equalizer : 5 Band Output Frequency : <ul style="list-style-type: none"><li>• RF : 20 Hz ~ 15.4 kHz</li><li>• AV/Componet/HDMI : 20 Hz ~ 20 kHz</li></ul>
<b>Note</b> : Dolby Digital Plus/Pulse, USB2.0, Film mode, Energy Saving, Eco sensor	

## 2. Product specifications

Model	UN40F5000AF	
Feature		
<ul style="list-style-type: none"><li>• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0, Digital Sound Out(Optical)</li><li>• Brightness : 300 cd/m²</li><li>• Dynamic Contrast Ratio : Mega DCR</li><li>• Response Time : 6.5 ms</li><li>• CMR : 120</li></ul>		
Specifications		
Item	Description	
LCD Panel	40 inch FHD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7M colors	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25 MHz	
Active Display (H x V)* * Horizontal x Vertical	885.6(H) X 498.2(V) (mm) / 34.9(H) X 19.6(V) (inches)	
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	106 W (Under 0.3 W, Stand by)	
Dimensions Set (W x H x D)* * Width x High x Depth	Set with Stand	928.2 x 612.2 x 235.0 mm / 36.5 x 24.1 x 9.3 inches
	Set without Stand	928.2 x 552.3 x 49.4 mm / 36.5 x 21.7 x 1.9 inches
Weight	Set with Stand	9.5 kg / 20.9 lbs
	Set without Stand	8.0 kg / 17.6 lbs
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M

Specifications	
Item	Description
<b>Environmental Considerations</b>	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing
<b>Audio Specifications</b>	MAX Internal Audio Output Power : Each 10 W(Left/Right) Equalizer : 5 Band Output Frequency : <ul style="list-style-type: none"> <li>• RF : 20 Hz ~ 15.4 kHz</li> <li>• AV/Componet/HDMI : 20 Hz ~ 20 kHz</li> </ul>
<b>Note</b> : Dolby Digital Plus/Pulse, USB2.0, Film mode, Energy Saving, Eco sensor	

## 2. Product specifications

Model	UN46F5000AF	
Feature		
<ul style="list-style-type: none"><li>• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0, Digital Sound Out(Optical)</li><li>• Brightness : 300 cd/m²</li><li>• Dynamic Contrast Ratio : Mega DCR</li><li>• Response Time : 6.5 ms</li><li>• CMR : 120</li></ul>		
Specifications		
Item	Description	
LCD Panel	46 inch FHD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7M colors	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25 MHz	
Active Display (H x V)* * Horizontal x Vertical	1018.1(H) X 572.7(V) (mm) / 40.1(H) X 22.5(V) (inches)	
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	112 W (Under 0.3 W, Stand by)	
Dimensions Set (W x H x D)* * Width x High x Depth	Set with Stand	1059.6 x 686.1 x 235.0 mm / 41.7 x 27.0 x 9.3 inches
	Set without Stand	1059.6 x 626.2 x 49.4 mm / 41.7 x 24.7 x 1.9 inches
Weight	Set with Stand	12.3 kg / 27.1 lbs
	Set without Stand	10.8 kg / 23.8 lb
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	

Specifications	
Item	Description
Audio Specifications	MAX Internal Audio Output Power : Each 10 W(Left/Right) Equalizer : 5 Band Output Frequency : <ul style="list-style-type: none"><li>• RF : 20 Hz ~ 15.4 kHz</li><li>• AV/Componet/HDMI : 20 Hz ~ 20 kHz</li></ul>
<b>Note</b> : Dolby Digital Plus/Pulse, USB2.0, Film mode, Energy Saving, Eco sensor	

## 2. Product specifications

Model	UN50F5000AF	
Feature		
<ul style="list-style-type: none"><li>• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0, Digital Sound Out(Optical)</li><li>• Brightness : 300 cd/m²</li><li>• Dynamic Contrast Ratio : Mega DCR</li><li>• Response Time : 6.5 ms</li><li>• CMR : 120</li></ul>		
Specifications		
Item	Description	
LCD Panel	50 inch FHD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7M colors	
Maximum Resolution	Horizontal : 1920 Pixels Vertical : 1080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25 MHz	
Active Display (H x V)* * Horizontal x Vertical	1095.8(H) X 616.4(V) (mm) / 43.1(H) X 24.3(V) (inches)	
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	134 W (Under 0.3 W, Stand by)	
Dimensions Set (W x H x D)* * Width x High x Depth	Set with Stand	1135.4 x 727.9 x 235.0 mm / 44.7 x 28.7 x 9.3 inches
	Set without Stand	1135.4 x 668.0 x 49.8 mm / 44.7 x 26.3 x 2.0 inches
Weight	Set with Stand	14.5 kg / 31.9 lbs
	Set without Stand	13.0 kg / 28.7 lbs
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	



Specifications	
Item	Description
Audio Specifications	MAX Internal Audio Output Power : Each 10 W(Left/Right) Equalizer : 5 Band Output Frequency : <ul style="list-style-type: none"><li>• RF : 20 Hz ~ 15.4 kHz</li><li>• AV/Componet/HDMI : 20 Hz ~ 20 kHz</li></ul>
<b>Note</b> : Dolby Digital Plus/Pulse, USB2.0, Film mode, Energy Saving, Eco sensor	

## 2. Product specifications

Model	UN32F4000AF	
Feature		
<ul style="list-style-type: none"><li>• Digital-TV, RF, 2-HDMI, 1-Component, 1-A/V, 1-USB2.0, Digital Sound Out(Optical)</li><li>• Brightness : 250 cd/m²</li><li>• Dynamic Contrast Ratio : Mega DCR</li><li>• CMR : 120</li></ul>		
Specifications		
Item	Description	
LCD Panel	32 inch HD 60Hz	
Scanning Frequency	Horizontal : 60 kHz ~ 73 kHz (Automatic) Vertical : 47 Hz ~ 63 Hz (Automatic)	
Display Colors	16.7M colors	
Maximum Resolution	Horizontal : 1366 Pixels Vertical : 768 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	74.25 MHz	
Active Display (H x V)* * Horizontal x Vertical	703.4(H) x 397.8(V) mm / 27.5(H) X 15.4(V) (inches)	
AC Power Voltage & Frequency	AC 110 V ~ 120 V, 60 Hz	
Power Consumption	58 W (Under 0.3 W, Stand by)	
Dimensions Set (W x H x D)* * Width x High x Depth	Set with Stand	737.9 x 509.1 x 191.7 mm / 29.1 x 20.0 x 7.5 inches
	Set without Stand	737.9 x 435.8 x 49.5 mm / 29.1 x 17.2 x 1.9 inches
Weight	Set with Stand	6.6 kg / 14.6 lbs
	Set without Stand	5.9 kg / 13.0 lbs
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	ATSC & Clear QAM
	Sound	NTSC-M
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	



Specifications	
Item	Description
Audio Specifications	MAX Internal Audio Output Power : Each 10 W(Left/Right) Equalizer : 5 Band Output Frequency : <ul style="list-style-type: none"><li>• RF : 20 Hz ~ 15.4 kHz</li><li>• AV/Componet/HDMI : 20 Hz ~ 20 kHz</li></ul>
<b>Note :</b> Dolby Digital Plus/Pulse, USB2.0, Film mode, Energy Saving	

### 2-1-3. Specification Comparison to Old Models

Model	UF5F(UN**F50**AF)		UE5L(UN**EH50*0F)	
Design				
Display Type	LED TV		LED TV	
Built-in Tuner	O		O	
Resolution	1920 x 1080		1920 x 1080	
LCD Panel	TFT LCD Panel 60 Hz		TFT LCD Panel 60 Hz	
Screen Size	32"/40"/46"/50"		32" / 37" /40" / 46"/ 50"	
Picture ratio	16 : 9		16 : 9	
Power Consumption	32"	Under 75 W (Under 0.3W, Standby)	32"	Under 70 W (under 0.3 W, Standby)
	40"	Under 106 W (Under 0.3W, Standby)	37"	Under 79 W (under 0.3 W, Standby)
	46"	Under 112 W (Under 0.3W, Standby)	40"	Under 100 W (under 0.3 W, Standby)
	50"	Under 134 W (Under 0.3W, Standby)	46"	Under 110 W (under 0.3 W, Standby)
			50"	Under 121 W (under 0.3 W, Standby)
Dimensions (W x H x V)	32"	29.1 x 19.9 x 7.5 inches / 738.0 x 505.8 x 191.7 mm_with stand	32"	29.1 x 19.6 x 7.5 inches / 738.3 x 498.2 x 191.7 mm_with stand
		29.1 x 17.5 x 1.9 inches / 738.0 x 445.4 x 49.4 mm_without stand		29.1 x 17.5 x 3.7 inches / 738.3 x 444.9 x 93.2 mm_without stand
	40"	36.5 x 24.1 x 9.3 inches / 928.2 x 612.2 x 235.0 mm_with stand	37"	34.1 x 19.6 x 9.0 inches / 866.5 x 575.5 x 227.6 mm_with stand
		36.5 x 21.7 x 1.9 inches / 928.2 x 552.3 x 49.4 mm_without stand		34.1 x 22.7 x 3.7 inches / 866.5 x 519.2 x 93.0 mm_with stand
	46"	41.7 x 27.0 x 9.3 inches / 1059.6 x 686.1 x 235.0 mm_with stand	40"	36.5 x 23.9 x 9.0 inches / 927.6 x 606.4 x 227.6 mm_with stand
		41.7 x 24.7 x 1.9 inches / 1059.6 x 626.2 x 49.4 mm_without stand		36.5 x 21.7 x 3.7 inches / 927.6 x 551.0 x 93.0 mm_without stand
	50"	44.7 x 28.7 x 9.3 inches / 1135.4 x 727.9 x 235.0 mm_with stand	46"	41.7 x 26.8 x 9.0 inches / 1059.8 x 680.7 x 227.6 mm_with stand
		44.7 x 26.3 x 2.0 inches / 1135.4 x 668.0 x 49.8 mm_without stand		41.7 x 24.6 x 3.7 inches / 1059.8 x 625.6 x 94.3 mm_without stand
			50"	44.8 x 28.5 x 9.0 inches / 1137.6 x 725.0 x 227.6 mm_with stand
				44.8 x 26.4 x 3.7 inches / 1137.6 x 669.4 x 94.5 mm_without stand

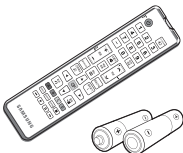


Model	UF5F(UN**F50**AF)		UE5L(UN**EH50*0F)	
Weight	32"	12.3 lbs / 5.6 kg_with stand	32"	14.55 lbs / 6.6 kg_with stand
		11.0 lbs / 5.0 kg_without stand		13.01 lbs / 5.9 kg_without stand
	40"	20.9 lbs / 9.5 kg_with stand	37"	22.5 lbs / 10.2 kg_with stand
		17.6 lbs / 8.0 kg_without stand		17.6 lbs / 8.0 kg_without stand
	46"	27.1 lbs / 12.3 kg_with stand	40"	24.25 lbs / 11.0 kg_with stand
		23.8 lbs / 10.8 kg__without stand		19.84 lbs / 9.0 kg_without stand
	50"	31.9 lbs / 14.5 kg_with stand	46"	30.86 lbs / 14.0 kg_with stand
		28.7 lbs / 13.0 kg_without stand		26.46 lbs / 12. 0 kg_without stand
			50"	40.3 lbs / 18.3 kg_with stand
				34.6 lbs / 15.7 kg_without stand
Contrast Ratio	MEGA		MEGA	
Picture Enhancer	HyperReal Engine(X13)		HyperReal Engine (X9N)	
Wide Color Enhance Plus	Wide Color Enhance Plus		Wide Color Enhance Plus	
Equalizer	5 Band		5 Band	
Auto Volume Control	O		O	
Surround Sound	Dolby Digital Plus / Pulse		Dolby Digital Plus / Pulse	
Speaker Output	32"	10 W x 10 W	32"	10 W x 10 W
	40"	10 W x 10 W	37"	10 W x 10 W
	46"	10 W x 10 W	40"	10 W x 10 W
	50"	10 W x 10 W	46"	10 W x 10 W
			50"	10 W x 10 W
PIP	X		X	
Function	Jog Function		Jog Function	
Caption	O		O	
Game Mode	O		O	
Energy Saving	O		O	
Network	X		X	
Anynet+	X		X	
Antenna	1(Cable/Air)		1(Cable/Air)	

## 2. Product specifications

Model	UF4B(UE32F40**AF)		UE4J(UN**EH40*0F)	
Design				
Display Type	LED TV		LED TV	
Built-in Tuner	O		O	
Resolution	1366 x 768		1366 x 768	
LCD Panel	TFT LCD Panel 60 Hz		TFT LCD Panel 60 Hz	
Screen Size	32"		32"	
Picture ratio	16 : 9		16 : 9	
Power Consumption	32"	58 W (Under 0.3W, Standby)	32"	60 W (Under 0.3W, Standby)
Dimensions (W x H x D)	32"	29.1 x 20.0 x 7.5 inches / 737.9 x 509.1 x 191.7 mm_with stand	32"	29.1 x 19.4 x 7.5 inches / 738.8 x 493.3 x 191.7 mm_with stand
		29.1 x 17.2 x 1.9 inches / 737.9 x 435.8 x 49.5 mm_without Stand		29.1 x 18.3 x 3.7 inches / 738.8 x 463.7 x 93.3 mm_without Stand
Weight	32"	14.6 lbs / 6.6 kg_with Stand	32"	13.9 lbs / 6.3 kg_with Stand
		13.0 lbs / 5.9 kg_without Stand		12.6 lbs / 5.7 kg_without Stand
Contrast Ratio	MEGA		MEGA	
Picture Enhancer	HyperReal Engine (X13)		HyperReal Engine (X9)	
Wide Color Enhance Plus	Wide Color Enhance Plus		Wide Color Enhance Plus	
Equalizer	5 Band		5 Band	
Auto Volume Control	O		O	
Surround Sound	Dolby Digital Plus / Pulse		Dolby Digital Plus / Pulse	
Speaker Output	32"	10 W x 10 W	32"	10 W x 10 W
PIP	Jog Function		X	
Function	O		Jog Function	
Caption	O		O	
Game Mode	O		O	
Energy Saving	O		O	
Network	X		X	
Anynet+	X		X	

<b>Model</b>	<b>UF4B(UE32F40**AF)</b>	<b>UE4J(UN**EH40*0F)</b>
<b>Antenna</b>	1(Cable/Air)	1(Cable/Air)

## 2-2. Accessories

Product	Description	Code. No	Remark
	Remote Control & Batteries (AAA x 2)	AA59-00600A	Samsung Electronics Service center
	Power Cord	3903-000853	
	Owners Manual	BN68-04801A	

### 3. Disassembly and Reassembly

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.

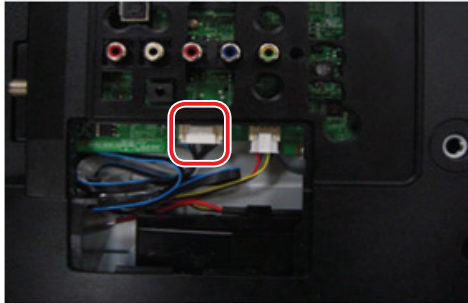
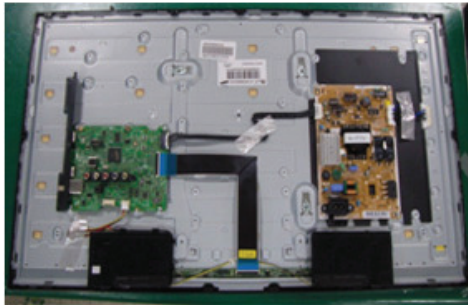
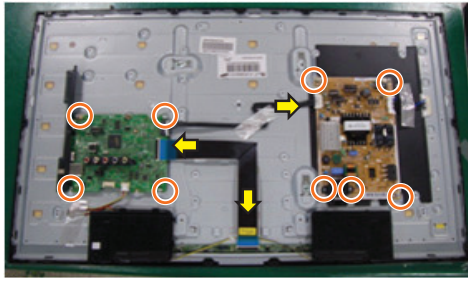

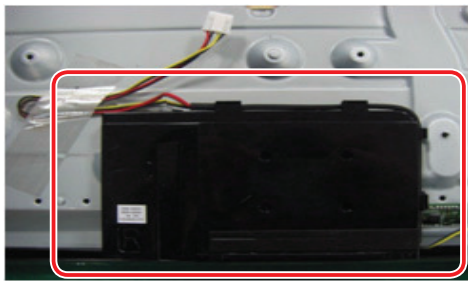

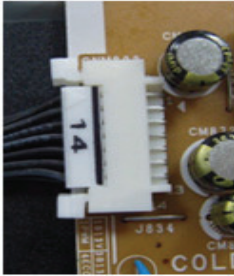
#### 3-1. Disassembly and Reassembly

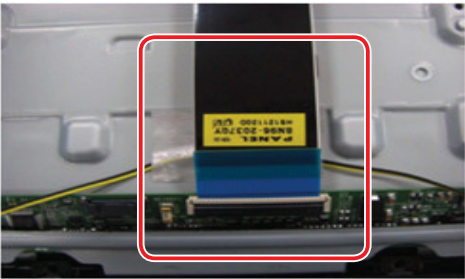
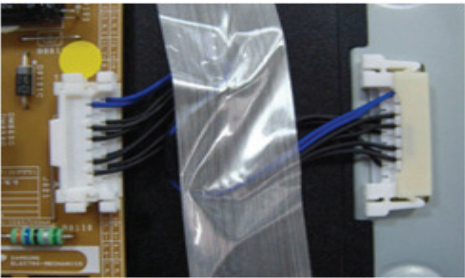
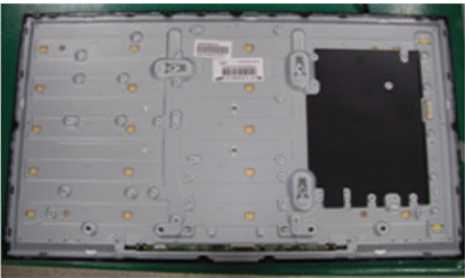


1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.

Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove screws from the Stand and Remove Stand.		 6003-001782
3 Remove 9 screws of Rear Cover.		 6003-001782  6003-002755

### 3. Disassembly and Reassemble

Description	Picture Description	Screws
<b>4</b> Remove the Cover Jack and Function Assy Cable		
<b>5</b> Remove the Rear-Cover.		
<b>6</b> Remove 9 screws of Main Board and Power Board.		 6001-002756
<b>7</b> Remove the Speakers and Power Cables.	  	

Description	Picture Description	Screws
8 Remove the LVDS Cable and Panel Drive Cable.		
		
9 Completed disassembly.		



**NOTE**

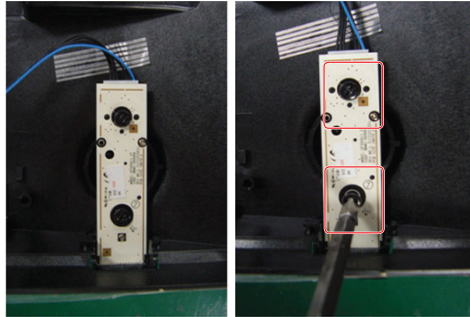
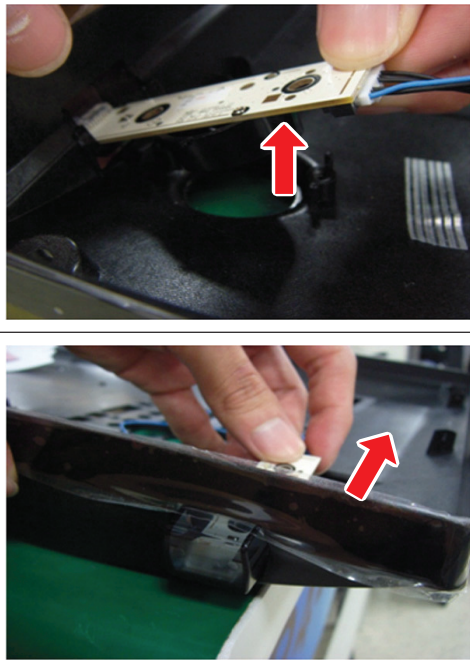
Reassembly procedures are in the reverse order of disassembly procedures.

### ■ Screw Size

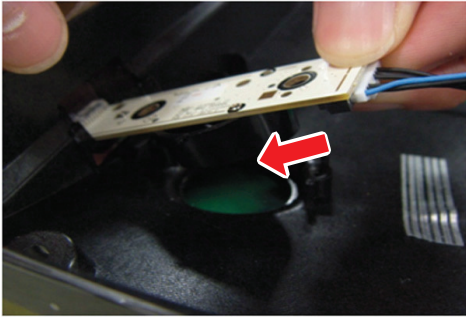
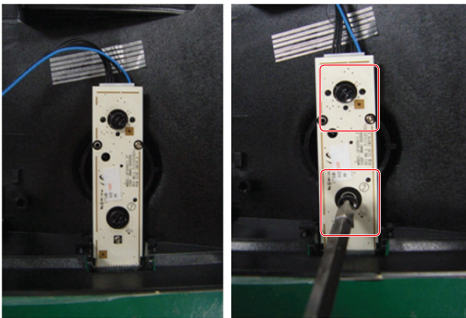
Code No.	COLOR	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Screw Image
6003-001782	BLACK	7.80~8.20	1.85~1.95	3.81~3.91	11.4~12.0	-	
6001-002755	BLACK	7.1~7.5	1.9~2.0	2.98~3.02	5.7~6.0	4.4~5.4	
6001-002756	WHITE	5.6~6.0	1.15~1.25	2.92~2.98	3.7~4.0	2.4~3.4	

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

#### ■ How to disassembly

Description	Picture Description	Refer
<b>1</b> Loosen 2 screws.		
<b>2</b> Pull out a jog function.		

## ■ How to assembly


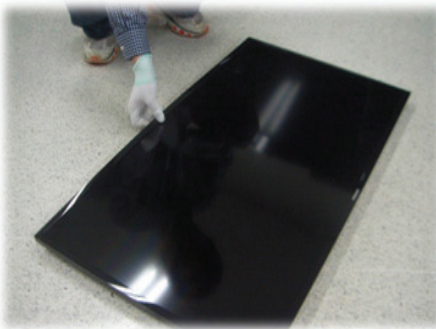

Description	Picture Description	Refer
1 Insert a jog function.		
2 Put 2 screws.		

### When you want to ignore the funtion key actions



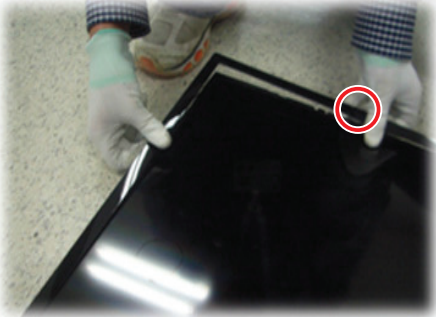
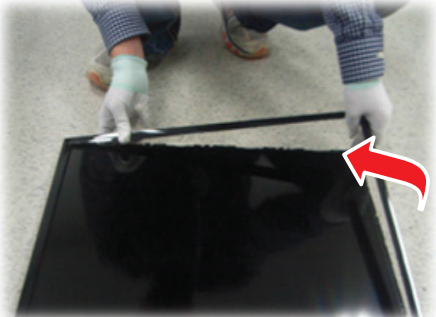
Option	Engineer Option	Type of PANEL KEY	5 way : IR + Key ➡ [ Default ] Old : Touch Function (C model) Key IR Only : Do not work Function key
Control			
Debug			
SVC			
ADC/WB			
Advanced			





### 3-3. Disassembly(PTC)

#### ■ How to disassembly

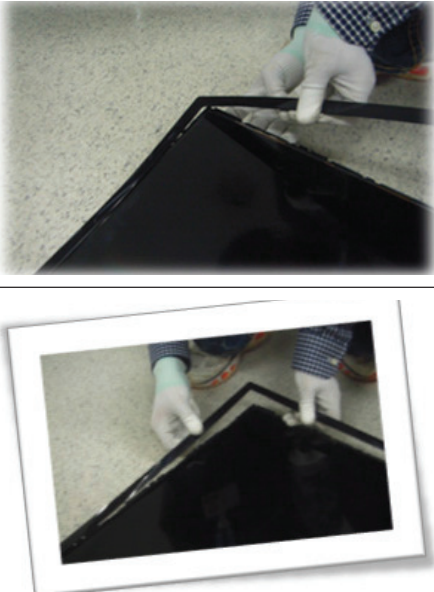
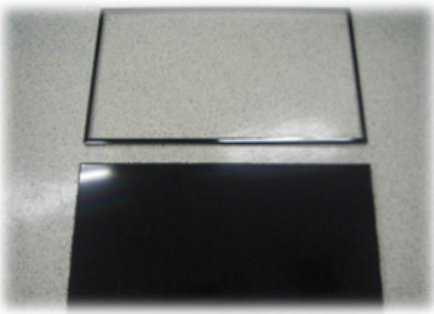
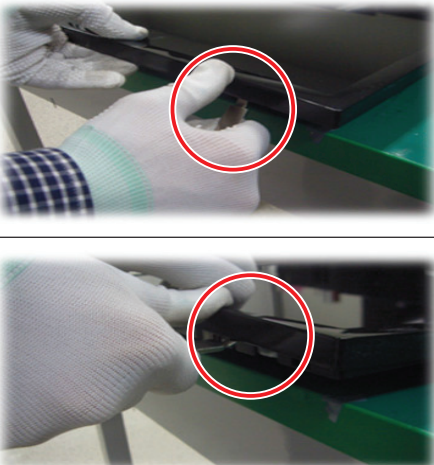
Description	Picture Description	Refer
<b>1</b> Place TV face up on cushioned table.		
<b>2</b> Products at the top of the central TOP-CHASSIS is rotated by 45 degrees outward and pulls.	 	

### 3. Disassembly and Reassemble

Description	Picture Description	Refer
<b>3</b> Pull in the same way from the center of the top.		
		
<b>4</b> Pull the left part of the product as shown while holding the raised portion on figure 3.		
<b>5</b> Pull the bottom part of the product as figure 2 while holding the raised portion on figure 4.		

Description	Picture Description	Refer
<b>6</b> As shown in the picture, Lift the bottom of the TOP-CHASSIS.		
		
<b>7</b> Pull the products at the bottom of the right side of the chassis.		
		

### 3. Disassembly and Reassemble

Description	Picture Description	Refer
<p><b>8</b> Lift the bottom of the chassis with one hand and holding the bottom of the product after you pull the right side of the product chassis.</p>		
<p><b>9</b> Disassembly is complete.</p>		
<p><b>! CAUTION</b> To use JIG : Does not lift the chassis by hand, JIG using the lift.</p>		



#### NOTE

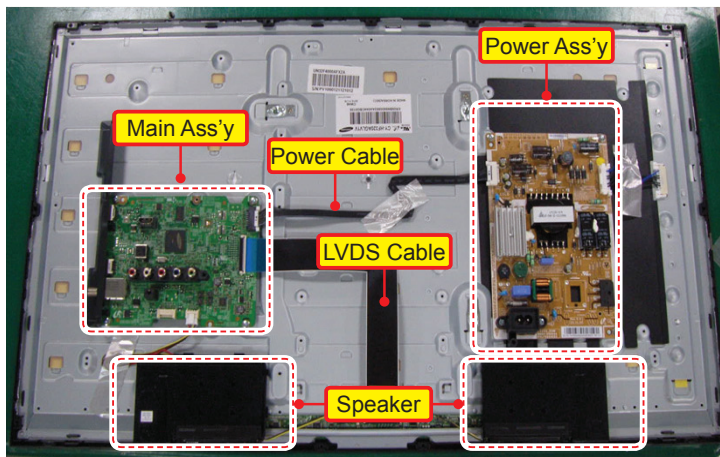
Reassembly procedures are in the reverse order of disassembly procedures.

## 4. Troubleshooting

### 4-1. Troubleshooting

#### ■ 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.



Main Board Assy (CN201)			
13	B13V	14	PWM_DIM
11	B13V	12	B13V
9	B13VS	10	SW_INV
7	B13VS	8	GND
5	GND	6	GND
3	B5.3V	4	A5.3V
1	B5.3V	2	SW_PW

Power Board Assy (CNM803)			
14	PS ON/OFF	13	B5V
12	A5V	11	B5V
10	GND	9	GND
8	GND	7	Vamp
6	BLU_ON/OFF	5	Vamp
4	ECO_ON/OFF	3	B13V
2	PWM_DIM	1	B13V

\* Change the 14Pin to PWM\_DIM(2013 years) from B13V(2012 years)

3. Check the power in & output between IP & Main Board, Main Board & Panel, IP & Panel.

### ■ How to know it is from Main Board or T-Con when some problems happen

1. No Picture : Backlight is on, but there is no picture and LED indicator in front of TV is blinking.
  - Check the LVDS Cable connection. If still problems, change the T-Con Board and then Main Board step by step.
2. Picture distortion : Enter the service mode → Choose 'SVC' → Check the 'internal pattern.'
  - Enter 'Service Mode.'
    - If you do not have Factory remote control
 

Power OFF

 → 

Info

 → 

MENU

 → 

Mute

 → 

Power On
    - If you have Factory remote control
 

INFO

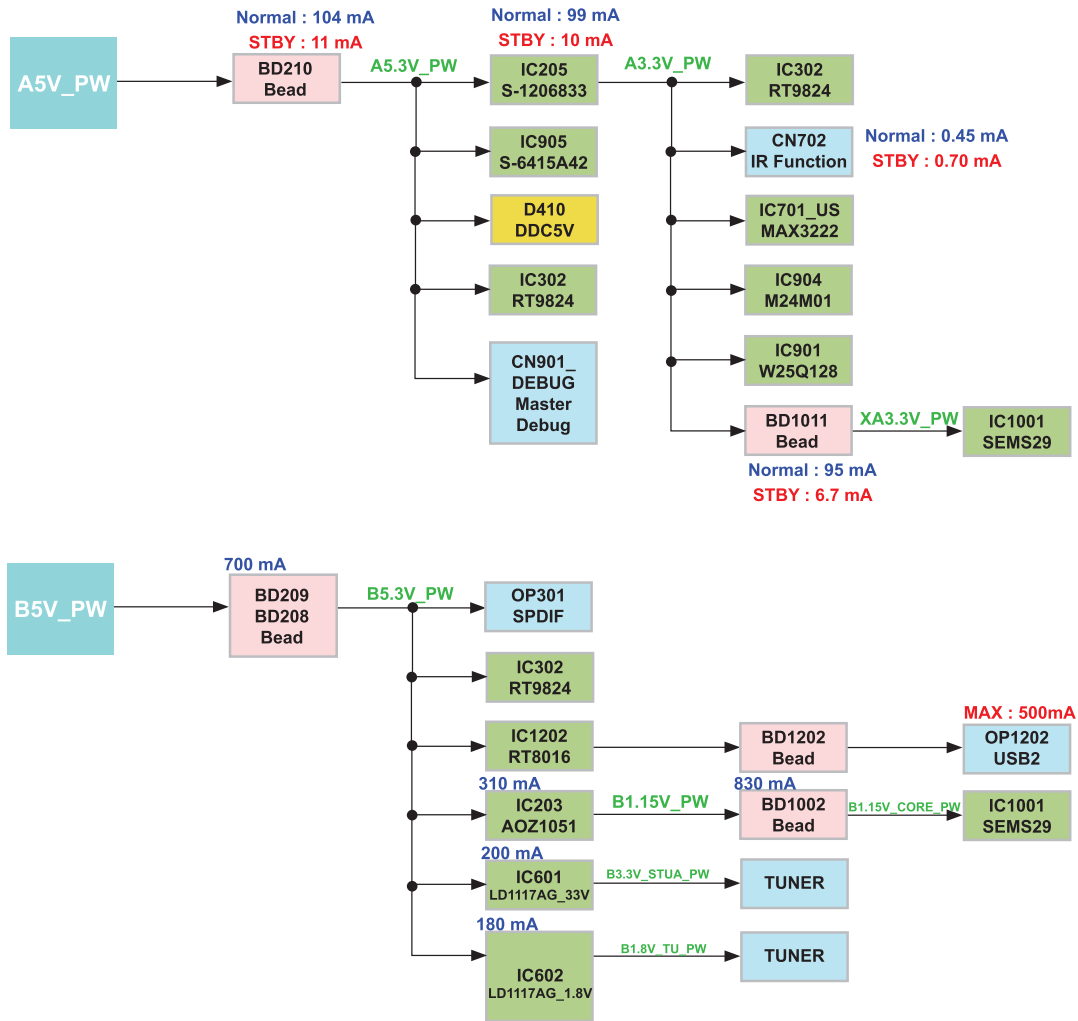
 → 

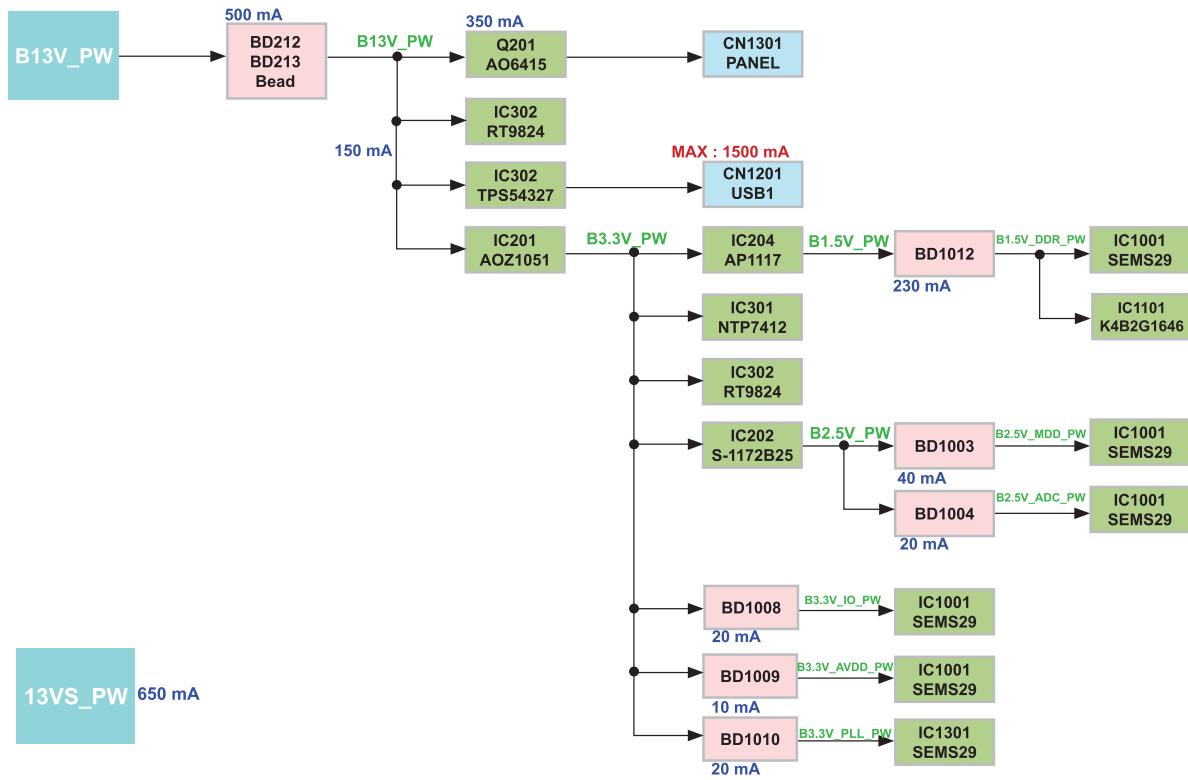
Factory
3. Choose 'SVC.'
4. Choose 'Test pattern.'
5. Select the each pattern and then check all pattern is ok or not.



Pattern Status is	Change the	Test Pattern is made by the MSTAR IC
OK	Main Board	We guess front of MSTAR IC has problem.
NG	Panel and T-Con Board	We guess back of MSATR IC has problem.

## Power-Tree



**Power-Tree**

## 4-2. How to Check Fault Symptom

### ■ NO Power and No Video

<b>Symptom</b>	<ul style="list-style-type: none"> <li>The LEDs on The front panel do not work when connecting The power cord.</li> <li>The SMPS relay does not work when connecting The power cord.</li> <li>The units appears to be dead.</li> </ul>
<b>Major checkpoints</b>	<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"> <li>Check the internal cable connection status inside the unit.</li> <li>Check the fuses of each part.</li> <li>Check the output voltage of SMPS.</li> <li>Replace the Main Board.</li> </ul>
<b>Diagnostics</b>	<pre> graph TD     Start[Power cord on.] -- Yes --&gt; Check1[Check 'Stand-By A5.3V' 5.3V appear at BD210? 5.3V (CN201 #4)]     Check1 -- No --&gt; Cause1[Cause : There did not supply the power from SMPS. Measure : Change 14p power cable and SMPS.]     Check1 -- Yes --&gt; SetOn[Set On.]     SetOn -- Yes --&gt; Check2[Check 'SW_POWER' more than 3.3V appear at CN201(#2) ? 3.3V↑ (CN201 #2)]     Check2 -- No --&gt; Cause2[Cause : Main IC(X13N) did not control the SW_Power. Measure : Change the Main Assy.]     Check2 -- Yes --&gt; Check3[Check 'Power input of Main Ass'y' ? DC B13V, B5.3V appear at CN201 #11,12,13(B13V) CN201 #1,3 (B5.3V)? 13V (CN201 #11,12,13) 5.3V (CN201 #1,3)]     Check3 -- No --&gt; Cause3[Cause : There did not supply the power from SMPS. Measure : Change 14p power cable and SMPS.]     Check3 -- Yes --&gt; Check4[Check 'Power of main IC(B1.15V)'. Check 'Power of DDR IC(B1.5V)' appear at B1.15V(L202), B1.5V(R214).]     Check4 -- No --&gt; Cause4[Cause : There is proble at DCDC(IC203) / LDO(IC204). Measure : Change the Main Assy.]     Check4 -- Yes --&gt; Check5[Check 'Power of LVDS (13V)' appear at TP-PANEL_VCC? 13V (TP-PANEL_VCC)]     Check5 -- No --&gt; Cause5[Cause : There is proble at FET(Q201_60) or Main IC(X13N) did not control the SW_PVCC. Measure : Change the Main Assy.]   </pre>

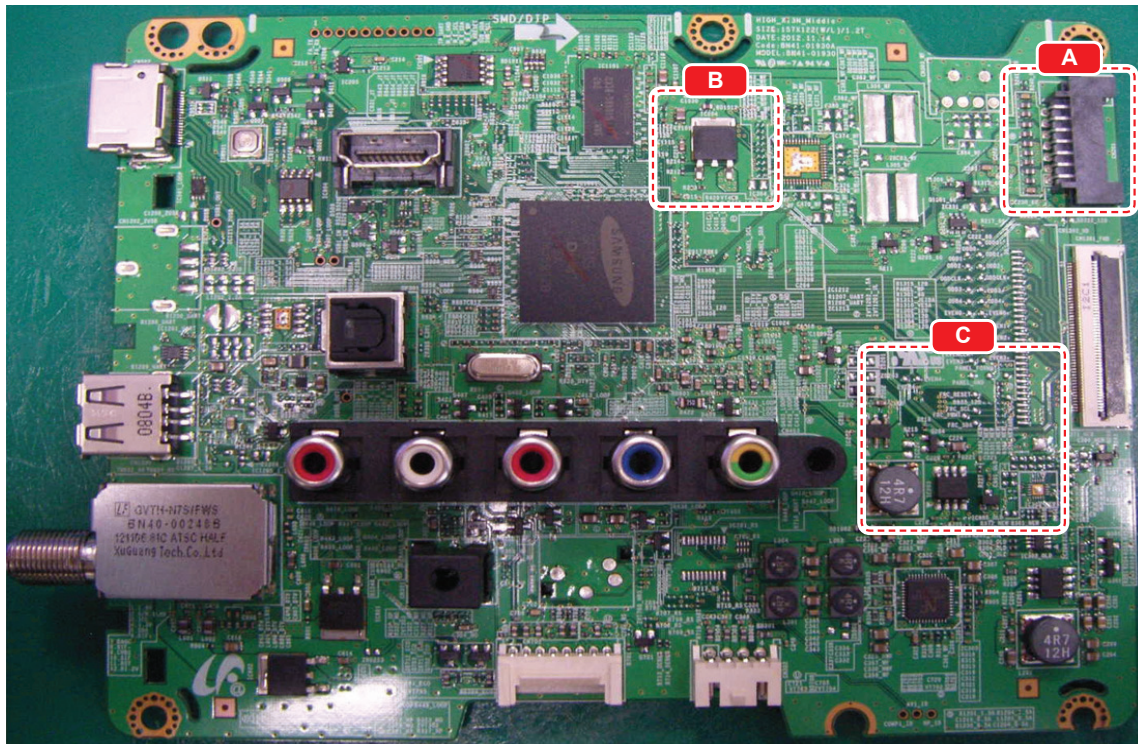
#### 4. Troubleshooting

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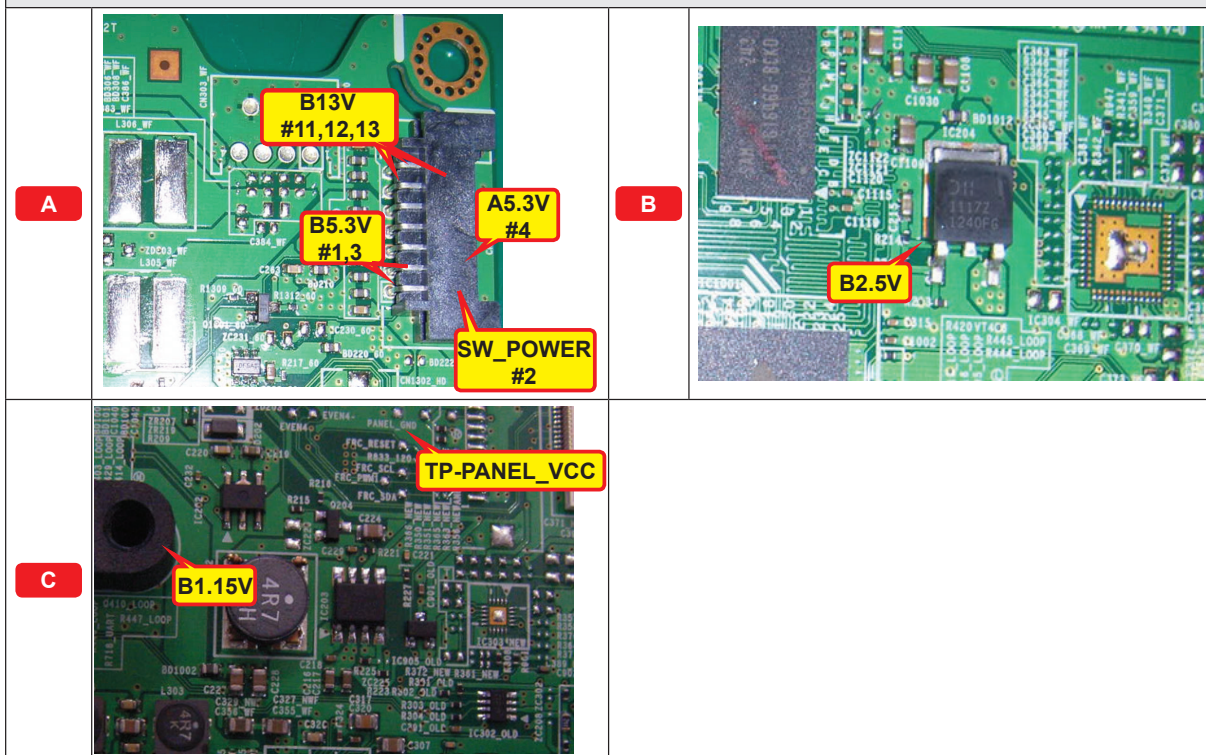
	<div><p>↓ Yes</p><div>Change the LVDS cable ?</div><p>— No →</p><div>Change the Panel.</div></div>
<b>Caution</b>	Make sure to disconnect the power before working on the IP board.

## Location of Parts

Main Board\_Front



Detail



## 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".

#### ■ 5000

Model Name		UN32F5000AF	UN40F5000AF	UN46F5000AF	UN50F5000AF
Panel	Vendor	SDC	SDC	SDC	CMI
	Code	BN95-00883A	BN95-00887A	BN95-00891A	BN07-01269A
	Spec.	LSF320HN02	LSF400HM02	LSF460HN02	HF500BGM-C1
SMPS	Vendor	SEM	SEM	SEM	HANSOL
	Code	BN44-00605A	BN44-00609A	BN44-00610A	BN44-00612B
	Spec.	L32SF_DSM	L42SF_DSM	L46SF_DSM	L55S1_DHS
MAIN ASSY	Chassis Ass'y	BN91-10321B	BN91-10321D	BN91-10321F	BN91-10321H
	PBA Ass'y code	BN94-06177B	BN94-06177D	BN94-06177F	BN94-06177H
Byte	Item				
0	Factory Reset	-	-	-	-
1	Type	32A6AF0S	40A6AF0S	46A6AF0S	50P6AF0S
2	Model	F5000	F5000	F5000	F5000
3	SVC Model	5000	5000	5000	5000
4	Local Set	Other	Other	Other	Other
5	Tuner	SI_21XX	SI_21XX	SI_21XX	SI_21XX
6	Ch Table	SAMEX	SAMEX	SAMEX	SAMEX
7	Front Color	U-S-C-5K	U-S-C-5K	U-S-C-5K	U-S-C-5K

## 4000

Model Name		UN32F4000AF
Panel	Vendor	SDC
	Code	BN95-00882A
	Spec.	LSF320AN01
SMPS	Vendor	SEM
	Code	BN44-00604A
	Spec.	L32S0_DSM
MAIN ASSY	Chassis Ass'y	BN91-10316A
	PBA Ass'y code	BN94-06172A
Byte	Item	
0	Factory Reset	-
1	Type	32A6AH0S
2	Model	F4000
3	SVC Model	4000
4	Local Set	Other
5	Tuner	SI_21XX
6	Ch Table	SAMEX
7	Front Color	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

#### ■ Initial SERVICE MODE DISPLAY State

Option	T-MX13AUSC-0224.0
Control	DTP-LP3-0278
Debug	DTP-LP3-App-0278
SVC	HDCP : SUCCESS
ADC/WB	CALIB:HDMI/COMP/PC/AV/
Advanced	OPTION:32A6AHOS,US,4000,NONE
	USB Serial:OFF
	Picture Data:**.**.
	BuildDate : **._.****
	Date Of Purchase : **/**/**

### 4-3-3. Factory Data



#### Note

- Version of the software is written in 0002.
- Black : I should not be possible to adjust or change that does not require a change item
- **Blue** : Adjustment Services for the corresponding
- **Red** : Items that are secured

#### ■ Option

Factory Menu Name	Data	Range	Remark	Key
Factory Reset	-	-		
Type	32A6AH0S	32A6AHOS is only UN32F4000AFXZA	use to change panel	
	32A6AF0S			
	40A6AF0S			
	46A6AF0S			
	50P6AF0S			
Model	UF5000	UF4000/UF5000		
SVC Model	5000			
Local Set	Other			
Tuner	SI_ATSC2		do not change	
Ch Table	SAMEX			
Front Color	NONE	NONE/U-S-C-5K		

#### ■ Control

Factory Menu Name	Data	Range	Remark	Key
<b>EDID</b>				
EDID VERSION		HDMI 1.3/HDMI1.2		
<b>Sub Option</b>				
RS-232 Jack	UART	UART/FANET/LOGIC/DEBUG		
USB Serial	Off	On/Off		
Watchdog	Off	On/Off		
Checksum	0x0000			
EEPROM RESET				
ECOIC TYPE	CT802FN			
ready	Off			
TTXLIST	Flof			
TTXGroup	LangOSD			
OPTION_NUM				

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
Anynet+	Off	on/off		
HPIdent	High	High/Low		
PCIdent	on	on/off		
OSDResolution	1920*1080			
IgnoreVCTVersion	on	on/off		
ChangeOSDLanguage				
VCRMode	off	on/off		
WallMount Calibration				
Energy Star	on	on/off		
<b>PDP Option</b>				
<b>Hotel Option</b>				
Hotel Mode	off	on/off		
Power On Channel	3			
Power On Band	STD			
Power On Source	ATV			
Power On Volume	10			
Min Volume	0			
Max Volume	100			
Panel Button Lock	Off			
Pic Menu Lock	Off			
Video Mute Ch	1			
Video Mute Ch On/Off	Off			
Music Mode(AV)	Off			
Music Mode(PC)	Off			
Music Mode(Comp)	Off			
Music Mode Backlight	Off			
Menu Display	On			
Power On Opt	Last Option			
Ch Remap On/Off	Off			
Program Ch	3			
Original Ch/Src	3			
Auto PC	Off			
Energy Saving	Off			
Clone:TVtoUSB				
Clone:USBtoTV				
<b>Shop Option</b>				
Shop Mode	off	on/off		

Factory Menu Name	Data	Range	Remark	Key
Exhibition Mode	off	on/off		
Asia Option				
<b>Sound</b>				
Carrier Mute	on	On/Off		
High Devi	off	On/Off		
Speak Delay Normal	25ms	25~150ms		
SPDIF PCM Gain	-9dB			
FM M Prescale	48			
FM Prescale	68			
AM Prescale	50			
Nicam Prescale	72			
BTSC Mono Prescale	25			
BTSC Stereo Prescale	47			
BTSC SAP Prescale	43			
Pilot Level High Thld	0x20			
Pilot Level Low Thld	0x15			
Carrier2 Amp High Thld	0x04			
Carrier2 Amp Low Thld	0x03			
Carrier2 NSR High Thld	0x10			
Carrier2 NSR Low Thld	0x50			
A2Ident High Thld	0x24			
A2Ident Low Thld	0x09			
Sig Error On	0x23			
Sig Error Off	0x29			
BTSC Stereo High Thld	0x20			
BTSC Stereo Low Thld	0x26			
Amp Model	NTP7412s	NTP7411s/NTP7412s		
Woofer Type	Both			
Main Amp Volume	199			
Center Amp Volume	199			
Woofer Amp Volume	199			
Main Amp Scale	142			
Center Ammp Scale	165			
Woofer Amp Scale	138			
Main Speaker EQ	on	On/Off		
Center Speaker EQ	on			
Woofer Speakr EQ	on			

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
Main Amp Checksum	0x0143C040			
Center Amp Checksum	0X00000000			
Woofer Amp Checksum	0X00000000			

#### ■ Debug

Factory Menu Name	Data	Range	Remark	Key
<b>Spread Spectrum</b>				
Spread Spectrum	On	On/Off		
Period	40K	40K/50K/60K		
Amplitude	1.5	0/0.5/1/1.5/2		
DDR Spread	1%	Off/1%/2%		
FRC LVDS Spread	on			
FRC LVDS Period	30k			
FRC LVDS Amplitude	1%			
FRC DDR Spread	on			
FRC DDR Period	30k			
FRC DDR Amplitude	1%			
RF Mute Time				
RF Mute Time	4			
FRC				
IIC Bus Stop				
Tuner Status				

#### ■ SVC

Factory Menu Name	Data	Range	Remark	Key
<b>Test pattern</b>	<b>Middle</b>	<b>Low/Middle/High/Strong</b>	use to solve HDMI Noise	
Mstar Test Pattern	off			
Mstar Test Pattern	off			
LOGIC Test Patten	off			
FRC Post Pattern	off			
FRC Pre Pattern	off			
Panel Display Time				
Panel Display Time	2Hr			
Delete S/N				
Delete S/N				
Upgrade				

Factory Menu Name	Data	Range	Remark	Key
<a href="#">T-CON Download</a>				
ER COUNT				
Watch Dog Count	0			
LOG				
Log View				
OPTION_HDMI				
DVI Sound				
DVI Sound	0			
HDMI Hotplug				
HDMI Hotplug	on	on/off		
HDMI Hotplug CLK Ctrl				
HDMI Hotplug CLK Ctrl	on	on/off		
HDMI Hot Plug Delay				
HDMI Hot Plug Delay	12			
<a href="#">HDMI EQ1</a>	<a href="#">Middle</a>	<a href="#">Low/Middle/High/Strong</a>		
<a href="#">HDMI EQ2</a>	<a href="#">Middle</a>	<a href="#">Low/Middle/High/Strong</a>		
<a href="#">HDMI EQ3</a>	<a href="#">Middle</a>	<a href="#">Low/Middle/High/Strong</a>		
<a href="#">HDMI EQ4</a>	<a href="#">Middle</a>	<a href="#">Low/Middle/High/Strong</a>		
<a href="#">HDMI Sync</a>	<a href="#">DE</a>	<a href="#">DE/HV</a>		

## ■ Expert

### ■ ADC/WB

Factory Menu Name	Data	Range	Remark	Key
<b>ADC</b>				
AV Calibration	Success	Success / Failure		
Comp Calibration				
PC Calibration				
HDMI Calibration				
<b>ADC Target</b>				
1st_AV_Low	16	0~255		
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	251	0~255		

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
1st_PC_Delta	1	0~255		
2nd_Low	1	0~255		
2nd_High	235	0~255		
2nd_Delta	1	0~255		
<b>ADC Result</b>				
1st_AV_Gain	126			
1st_AV_Offset	153			
1st_Comp_Gain	143			
1st_Comp_Gain_Cb	142			
1st_Comp_Gain_cr	142			
1st_Comp_Offset	128			
1st_Comp_Offset_Cb	128			
1st_Comp_Offset_Cr	128			
1st_PC_R_Gain	166			
1st_PC_G_Gain	166			
1st_PC_B_Gatin	166			
1st_PC_R_Offset	128			
1st_PC_G_Offset	128			
1st_PC_B_Offset	128			
2nd_R_Offset	132	0~255		
2nd_G_Offset	132	0~255		
2nd_B_Offset	132	0~255		
2nd_R_Gain	70	0~255		
2nd_G_Gain	70	0~255		
2nd_B_Gain	144	0~255		
<b>WB</b>				
Sub Brightness	128	0~255		
R_Offset	128	0~255		
G_Offset	128	0~255		
B_Offset	128	0~255		
Sub Contrast	128	0~255		
R_Gain	128	0~255		
G_Gain	128	0~255		
B_Gain	128	0~255		
W2_R_Offset	128	0~255		
W2_B_Offset	128	0~255		
W2_R_Gain	160	0~255		

Factory Menu Name	Data	Range	Remark	Key
W2_B_Gain	66	0~255		
N_R_Offset	128	0~255		
N_B_Offset	128	0~255		
N_R_Gain	147	0~255		
N_B_Gain	108	0~255		
<b>MGA</b>				
MGA On/Off	off	on/off		

## ■ Advanced

Factory Menu Name	Data	Range	Remark	Key
<b>Sub setting</b>				info+ factory
PWM(Video)				
Dynamic Dimming				
LED Peak OnOff				
Delete alt.ver				
OTA				
Power Key Protects				
1080p 48hz				
HDCP Download				
Media Play(USB)				
<b>WB Movie</b>				
W/B MOVIE	off			
Mode	Movie			
Color Tone	Cool			
MultiAcc	off			
Sub Brightness	128			
Sub Contrast	135			
M Sub Brightness	126			
M Sub Contrast	118			
W2_RGAIN	32			
W2_BGAIN	-62			
W2_ROFFS	0			
W2_BOFFS	0			
N_RGAIN	19			
N_BGAIN	-20			
N_ROFFS	0			
N_BOFFS	0			

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
M_N_RGAIN	0			
M_N_BGAIN	0			
M_N_ROFFS	0			
M_N_BOFFS				
M_W2_RGAIN	0			
M_W2_BGAIN	0			
M_W2_ROFFS	0			
M_W2_BOFFS	0			
Movie Contr	100			
Movie Brigh	45			
Movie Color				
Movie Sharp	55			
Movie Tint	0			
Movie BkLight	20			
Movie Gamma	OFF			
M Sub Gamma	0			
HDMI Black Level	Normal			
Gamma	0.93			
<b>EPA Standard</b>				
Std Contr	100			
Std Bright	45			
Std Sharp	50			
Std Color	50			
Std Tint	50			
Std Backlight	12			
<b>COLOR MAPPING</b>				
A_Red_R	44			
A_Red_G	0			
A_Red_B	0			
A_Green_R	0			
A_Green_G	58			
A_Green_B	0			
A_Blue_R	0			
A_Blue_G	0			
A_Blue_B	50			
A_Yellow_R	55			
A_Yellow_G	50			

Factory Menu Name	Data	Range	Remark	Key
A_Yellow_B	0			
A_Cyan_R	0			
A_Cyan_G	47			
A_Cyan_B	40			
A_Magenta_R	52			
A_Magenta_G	0			
A_Magenta_B	62			
N_Red_R	50			
N_Red_G	0			
N_Red_B	0			
N_Green_R	0			
N_Green_G	50			
N_Green_B	5			
N_Blue_R	0			
N_Blue_G	0			
N_Blue_B	50			
N_Yellow_R	55			
N_Yellow_G	45			
N_Yellow_B	0			
N_Cyan_R	0			
N_Cyan_G	50			
N_Cyan_B	50			
N_Magenta_R	50			
N_Magenta_G	0			
N_Magenta_B	50			
S_Red_R	50			
S_Red_G	0			
S_Red_B	0			
S_Green_R	0			
S_Green_G	50			
S_Green_B	5			
S_Blue_R	0			
S_Blue_G	0			
S_Blue_B	50			
S_Yellow_R	55			
S_Yellow_G	45			

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
S_Yellow_B	0			
S_Cyan_R	0			
S_Cyan_G	50			
S_Cyan_B	50			
S_Magenta_R	50			
S_Magenta_G	0			
S_Magenta_B	50			
<b>WCE</b>				
WRHue	64			
WRSat	17			
WYHue	74			
WYSat	16			
WGHue	57			
WGSat	16			
WCHue	62			
WCSat	17			
WBHue	64			
WBSat	17			
WMHue	64			
WMSat	17			
S_WRHue	64			
S_WRSat	16			
S_WYHue	69			
S_WYSat	16			
S_WGHue	61			
S_WGSat	16			
S_WCHue	63			
S_WCSat	16			
S_WBHue	64			
S_WBSat	16			
S_WMHue	64			
S_WMSat	16			
<b>VDEC</b>				
AGC_Manual_Gain	78			
Saturation	145			
SecamFilterSel	0			

Factory Menu Name	Data	Range	Remark	Key
RGB_Delay	6			
COM PHASE	128			
<b>SHARPNESS</b>				
Post_H1	26			
Post_H2	28			
Post_H3	20			
Post_H4	16			
Post_V1	26			
Post_V2	26			
D_Tot_Gain	44			
S_Tot_Gain	44			
<b>ENHANCE</b>				
BLE_Gain	15			
D_Sub_Color	75			
D_Skin_Hue	102			
D_Skin_Sat	17			
S_Sub_Color	65			
S_Skin_Hue	102			
S_Skin_Sat	17			
M_Sub_Color	59			
M_Skin_Hue	64			
M_Skin_Sat	16			
D Sub Tint	50			
S Sub Tint	50			
M Sub Tint	50			
CE_H_Left_Gain	30			
CE_H_Right_Gain	30			
CE_H_Normal_Gain	-10			
CE_M_Left_Gain	20			
CE_M_Right_Gain	20			
CE_L_Left_Gain	10			
CE_L_Right_Gain	10			
CE_Off_Left_Gain	0			
CE_Off_Right_Gain	0			
<b>LNA_Plus</b>				
SyncTip_Noise	214			

#### 4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
dB0	3			
dB1	4			
dB2	5			
dB3	7			
dB4	9			
dB5	12			
dB6	16			
dB7	28			
LNA+_Yfilter	10			
<b>NR</b>				
Dyn_Off_NR_EN	1			
MOV_Off_NR_EN	0			
PreFilter	0			
<b>FCC</b>				
FCC2_Cb_Target_F	0			
FCC2_Cr_Target_F	0			
FCC2_Gain	4			
FCC3_Cb_Target_F	0			
FCC3_Cr_Target_F	0			
FCC3_Gain	3			
FCC4_Cb_Target_F	0			
FCC4_Cr_Target_F	0			
FCC4_Gain	4			
FCC5_Cb_Target_F	0			
FCC5_Cr_Target_F	0			
FCC5_Gain	4			
FCC6_Cb_Target_F	0			
FCC6_Cr_Target_F	0			
FCC6_Gain	4			
Clear White	6			
<b>PC_Contrast</b>				
PC_Contrast_Cool	128			
PC_Contrast_Normal	128			
PC_Contrast_Warm1	128			
PC_Contrast_Warm2	128			
<b>YC_Delay</b>				

Factory Menu Name	Data	Range	Remark	Key
RF PAL BG	12			
RF PAL DK	12			
RF PAL I	12			
RF PAL M	8			
RF PAL N	10			
RF SECAM BG	6			
RF SECAM DK	6			
RF SECAML	6			
RF NTSC 358	13			
RF NTSC 443	6			
AV PAL	9			
AV PAL M	9			
AV PAL N	8			
AV SECAM	4			
AV NT358	9			
AV NT443	6			
AV PAL60	8			
<b>PQ Others</b>				
7.5 IRE NTSC	OFF	ON/OFF		
7.5 IRE OFFSET	60	0~60		

## 4-4. White Balance

### 4-4-1. Calibration

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



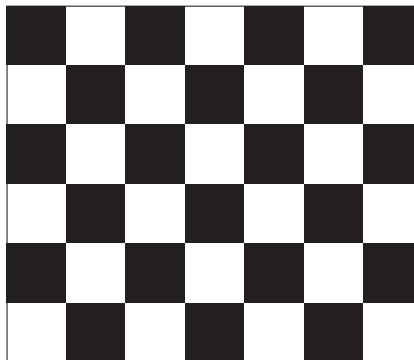
### 4-4-2. Service Adjustment

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)

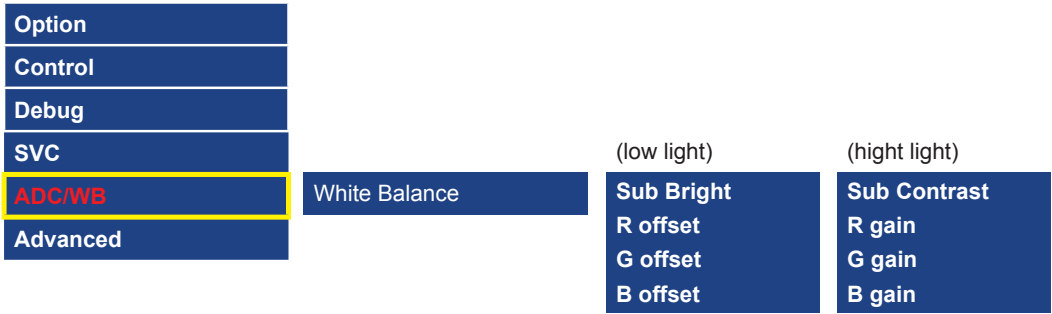
1. Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
2. Press the Source key to switch to "Component1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "Comp Calibration" menu.
6. In "Comp Calibration Off" status, press the "▶" key to perform Calibration.
7. 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 (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.

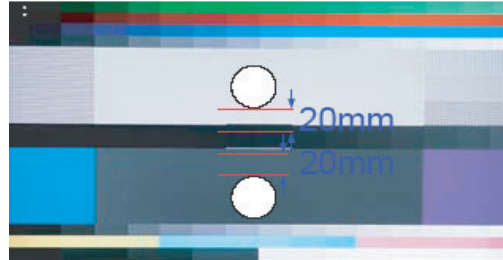
4-4-3. Adjustment

- 1. Into the Factory Mode.
- 2. Select **SVC** Menu.
- 3. Select **ADC/WB** menu.
- 4. 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.

### White Balance Manual adjustment

- UN32F40\*\*AF, UN\*\*F50\*\*AF

Type
LED_LOW

RGB Measurement		
Levels	Code	Check
10 IRE	0x01	O
20 IRE	0x02	O
30 IRE	0x03	X
40 IRE	0x04	O
50 IRE	0x05	X
60 IRE	0x06	X
70 IRE	0x07	O
80 IRE	0x08	X
90 IRE	0x09	X
100 IRE	0x0A	O

Panel Inspection Spec.				
Levels	Check	x(±)	y(±)	Gamma(±)
10 IRE	O	0.020	0.020	0.35
20 IRE	O	0.020	0.020	0.35
30 IRE	O	0.020	0.020	0.35
40 IRE	O	0.020	0.020	0.35
50 IRE	O	0.020	0.020	0.35
60 IRE	O	0.020	0.020	NA
70 IRE	O	0.020	0.020	NA
80 IRE	O	0.020	0.020	NA
90 IRE	O	0.020	0.020	NA
100 IRE	O	NA	NA	NA

#### 4. Troubleshooting

Gray Check			Adjust Spec(xyL)			2nd Adjust Spec(xyL)		
Levels	Code	Check	x(±)	y(±)	L(±)	x(±)	y(±)	L(±)
10 IRE	0x01	X	0.007	0.007	0.11	0.007	0.007	0.11
20 IRE	0x02	O	0.007	0.007	0.08	0.007	0.007	0.08
30 IRE	0x03	X	0.007	0.007	0.06	0.007	0.007	0.06
40 IRE	0x04	O	0.005	0.005	0.05	0.005	0.005	0.05
50 IRE	0x05	X	0.005	0.005	0.04	0.005	0.005	0.04
60 IRE	0x06	X	0.005	0.005	0.03	0.005	0.005	0.03
70 IRE	0x07	O	0.004	0.004	0.02	0.004	0.004	0.02
80 IRE	0x08	X	0.004	0.004	0.01	0.004	0.004	0.01
90 IRE	0x09	X	0.004	0.004	0.01	0.004	0.004	0.01
100 IRE	0x0A	X	NA	NA	NA	NA	NA	NA

Target Gamma		2.30	
Black	x	y	Contrast
	0.231	0.208	300000
Target xy	Option	x	y
	Auto	0.282	0.299

Panel Spec.		±	
Gamma	2.2	0.30	20~128
x	0.281	0.030	255
y	0.288	0.030	
ACC x	255 white	0.015	26~255
ACC y	x,y value	0.015	

Color Tone Target			Spec.	
High	x	y	x(±)	y(±)
COOL	0.274	0.286	0.004	0.004
NORMAL	0.293	0.307		
WARM2	0.328	0.353		
Low	x	y	x(±)	y(±)
COOL	NA	NA	NA	NA
NORMAL	NA	NA		
WARM2	NA	NA		

10IRE Gamma target	2.30
RetryCount	3

## 4-6. Detail Specifications

### 4-6-1. UN32F40\*\*AF

#### • General Information

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Product	LED	LED	LED
Cabinet Basic Code	FB	FB	FB
Series	4	4	4
Series Name	LED F4000	LED F4000	LED F4000
Country	CANADA,UNITED STATES	MEXICO,PANAMA	CANADA,UNITED STATES
Tools Support	Non-OS Platform Not support	Non-OS Platform Not support	Non-OS Platform Not support
Platform(TV)	Mstar   X13 Non-OS	Mstar   X13 Non-OS	Mstar   X13 Non-OS

#### • Display

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Inch	32	32	32
Resolution	1,366 x 768	1,366 x 768	1,366 x 768
Ultra Clear Panel	No	No	No
Cell Light Series	N/A	N/A	N/A
Real Black Pro Panel	N/A	N/A	N/A
Clear Image Panel	N/A	N/A	N/A
Lvds Format	JEIDA	JEIDA	JEIDA
HV Flip	ON	ON	ON

#### • Video

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Picture Engine	HyperReal Engine	HyperReal Engine	HyperReal Engine
OLED Motion Rate	N/A	N/A	N/A
Clear Motion Rate	120	120	120
600Hz Subfield Motion	N/A	N/A	N/A
Dynamic Contrast Ratio	Mega Contrast	Mega Contrast	Mega Contrast
New Picture Differentiation	N/A	N/A	N/A
Micro Dimming	No	No	No
Cinema Smooth	N/A	N/A	N/A
Precision Black (Local Dimming)	No	No	No
Wide Color Enhancer (Plus)	Yes	Yes	Yes
Auto Motion Plus 120/240Hz	No	No	No
Motion Judder Canceller	N/A	N/A	N/A
Film Mode	Yes	Yes	Yes
Brightness	250nits	250nits	250nits
Contrast Ratio	3000:1	3000:1	3000:1

#### 4. Troubleshooting

Picture	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level
Detail Resolution	60Hz	60Hz	60Hz
Response Time	6.5	6.5	6.5
Viewing Angle (H/V)	178/178	178/178	178/178
Natural Mode Support	No	No	No
Relax Mode Support	N/A	N/A	N/A

#### • Audio

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Dolby	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse
SRS / DNSe+	DTS Studio Sound	DTS Studio Sound	DTS Studio Sound
dts 2.0+Digital Out / DTS Premium Audio	DTS Premium Audio	DTS Premium Audio	DTS Premium Audio
3D Sound	No	No	No
Sound Customizer	No	No	No
Speaker Type	Down Firing + Full Range	Down Firing + Full Range	Down Firing + Full Range
Sound Output (RMS)	10W x 2	10W x 2	10W x 2
Woofer	No	No	No
Sound	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround
Sound Amp IC	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S
Speaker Volume	10W x 2	10W x 2	10W x 2
Woofer Speaker Volume	N/A	N/A	N/A
Analog	2Ch	2Ch	2Ch
Digital	N/A	N/A	N/A

#### • SMART TV Functionality

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Samsung SMART TV	N/A	N/A	N/A
Smart Guide	No	No	No
Family Story	No	No	No
Movie & TV Shows	No	No	No
Fitness	No	No	No
Apps	No	No	No
Kids	No	No	No
Social	No	No	No
Automated Content Recognition (ACR)	N/A	N/A	N/A
Music, Photos & Clip	No	No	No
Samsung SMART View	No	No	No
Smart Hub	No	No	No

Search All	N/A	N/A	N/A
Your Video	No	No	No
Social TV	N/A	N/A	N/A
Samsung Sports Experience (SSE)	No	No	No
Samsung Apps	N/A	N/A	N/A
Smart Scene	No	No	No
Skype™ on Samsung TV	N/A	N/A	N/A
Web Browser	No	No	No
AllShare Control	No	No	No
Recommendation Bar	No	No	No

- VESA Standard**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Samsung SMART TV	M8	M8	M8

- Smart Interaction**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Camera Built-in	No	No	No
Face Recognition	No	No	No
Hand Gesture Recognition	No	No	No
Voice Recognition (Embedded)	No	No	No
Voice Recognition (Server)	No	No	No
VM App	N/A	N/A	N/A
NLU (Natural Language Understanding)	No	No	No
Camera App	No	No	No
HM App	N/A	N/A	N/A
Samsung TV Apps supported	No	No	No

- Feature**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Samsung 3D	No	No	No
3D Converter	No	No	No
Dual View	N/A	N/A	N/A
Samsung One Line	N/A	N/A	N/A
History	No	No	No
MultiTasking	No	No	No
Smart Phone Remote support	No	No	No
Smart Evolution Support	No	No	No
Extended PVR	No	No	No
Time Shift	No	No	No

#### 4. Troubleshooting

Allshare Play	No	No	No
AllShare Cloud Storage	N/A	N/A	N/A
ConnectShare™ (USB2.0)	Movie	Movie	Movie
AllShare Cast	No	No	No
RUI	No	N/A	No
RVU	No	N/A	No
WiFi Direct	No	No	No
Wireless LAN Built-in	No	No	No
Wireless LAN Adaptor Support	No	No	No
ISP Bound Service	No	No	No
BT HID Built-in	No	No	No
USB HID Support	No	No	No
OSD Language	English, Spanish, French	English, Spanish, French	English, Spanish, French
Samsung IR Blaster Support	N/A	N/A	N/A
User Interface	Single	Single	Single
Digital Noise Filter	Yes	Yes	Yes
Analog Signal Booster	N/A	N/A	N/A
Network Speaker Support	No	No	No
MHL	No	No	No
Sound Share	No	No	No
WiDi	No	No	No
Regional EQ	N/A	N/A	N/A
InstaPort S (HDMI quick switch)	No	No	No
HDMI 1.4 3D Auto Setting	No	No	No
HDMI 1.4 A/Return Ch. Support	No	No	No
EPG	No	No	No
Analog Clean View	N/A	N/A	N/A
HbbTV	N/A	N/A	N/A
Teletext (TTX)	No	No	No
Triple Protector	N/A	N/A	N/A
Miracast	No	No	No
Anynet+ (HDMI-CEC)	No	No	No
BD Wise Plus	No	No	No
Auto Channel Search	Yes	Yes	Yes
Auto Power Off	Yes	Yes	Yes
Auto Volume Leveler	Yes	Yes	Yes
Caption (Subtitle)	Yes	Yes	Yes
2 Tuner	No	No	No
Clock&On/Off Timer	Yes	Yes	Yes

Game Mode	Yes	Yes	Yes
Battery Ready	N/A	N/A	N/A
Picture-In-Picture	No	No	No
Sleep Timer	Yes	Yes	Yes
Screen Burn Protection	N/A	N/A	N/A
Channel List USB-Clone	N/A	N/A	N/A
V-Chip	Yes	Yes	Yes
Embedded POP	Yes	Yes	Yes
Calibration Mode	N/A	N/A	N/A
Channel	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune
Plug&Play	Yes	Yes	Yes
Child Lock	Yes	Yes	Yes
Sports Mode	No	Basic	No
Paratal Lock	No	No	No
Kids Lock	N/A	N/A	N/A
Media Play(USB & DLNA)	Yes	Yes	Yes
Bluetooth	No	No	No
Home Network Centre	No	No	No
Zero Stand-By Power	N/A	N/A	N/A
USB Copy	N/A	N/A	N/A
ACS	N/A	N/A	N/A
IP Video Closed Caption	No	N/A	No

• **Additional Feature**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Self Diagnosis	Yes	Yes	Yes
Software Upgrade	Yes	Yes	Yes
HD Connection Guide	Yes	Yes	Yes
Contact Samsung	Yes	Yes	Yes

• **S/W**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
MCU	X13 (SEMS29)	X13 (SEMS29)	X13 (SEMS29)
OS	N/A	N/A	N/A

• **System**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
DTV Tuner	ATSC / Clear QAM	ATSC / Clear QAM	ATSC / Clear QAM
Analog Tuner	Yes	Yes	Yes
CI/CI+	N/A	N/A	N/A

#### 4. Troubleshooting

MHP / MHEG (version) / ACAP	N/A	No	N/A
NTSC 3.58	Yes	Yes	Yes
NTSC 4.43, VIT	N/A	N/A	N/A
PAL-B/G, D/K, I, I/I'	N/A	N/A	N/A
Scan Type	N/A	N/A	N/A
SECAM-B/G, D/K	N/A	N/A	N/A
SECAM-B/G, D/K, L/L'	N/A	N/A	N/A
Trinorma (PAL M,N)	N/A	N/A	N/A
Broadcast System	N/A	N/A	N/A
ATV Sound System	M	M	M
DTV Video System	ATSC	ATSC	ATSC
DTV Sound System	Dolby	Dolby	Dolby
Tuner Vendor & Model	Xuguang   BN40-00270A	Xuguang   BN40-00270A	Xuguang   BN40-00270A

#### • Core Component

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
DDR SDRAM	Samsung	Samsung	Samsung
Nand Flash Memory	N/A	N/A	N/A
OneNand Flash Memory	N/A	N/A	N/A
FlexOneNand Flash Memory	N/A	N/A	N/A
Serial Flash Memory	WINBOND	WINBOND	WINBOND
HDMI Switch	N/A	N/A	N/A
Display Device Vender	AMLCD	AMLCD	AMLCD

#### • Input & Output

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
HDMI	2	2	2
Resolution	640 x 480p, 1280 x 720p 60, 1366 x 768p	640 x 480p, 1280 x 720p 60	640 x 480p, 1280 x 720p 60
DVI Port	Port1 Type	Port1 Type	Port1 Type
PC Resolution	1360 x 768   60 Hz	1360 x 768   60 Hz	1360 x 768   60 Hz
MHL Port	N/A	N/A	N/A
HDMI/DVI SEL	N/A	N/A	N/A
USB	1	1	1
Port 1 Type	Host	Host	Host
Port 2 Type	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A
OS	N/A	N/A	N/A

Component In (Y/Pb/Pr)	1	1	1
Composite In (AV)	1 (Common Use for Component Y)	1 (Common Use for Component Y)	1 (Common Use for Component Y)
Ethernet (LAN)	No	No	No
Headphone	No	No	No
Digital Audio Out (Optical)	1	1	1
Audio Out (Mini Jack / LR)	1	1	1
PC In (D-sub)	No	No	No
PC Audio In (Mini Jack)	No	No	No
DVI Audio In (Mini Jack)	No	No	No
RF In (Terrestrial/Cable Input)	1	1	1
RF In (Satellite Input)	No	No	No
RS232C (AV CONTROL)	No	No	No
CI Slot	N/A	N/A	N/A
Scart	N/A	N/A	N/A
Port 1 Type	N/A	N/A	N/A
Port 2 Type	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A
Coaxial	N/A	N/A	N/A
EX-Link	N/A	N/A	N/A
Monitor Output	Yes	Yes	Yes
DVI			
Resolution	N/A	N/A	N/A
DVI Port	N/A	N/A	N/A
PC Resolution	N/A   N/A	N/A   N/A	N/A   N/A
D-Sub Resolution	N/A   N/A	N/A   N/A	N/A   N/A

- **Design**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Design	RHCM	RHCM	RHCM
Bezel Type	NNB	NNB	NNB
Slim Type	Slim 1	Slim 1	Slim 1
Front Color	Black	Black	Black
Light Effect (Deco)	No	No	No
Stand Type	Round	Round	Round
Swivel (Left/Right)	No	No	No
Push & Pull Camera	N/A	N/A	N/A
Design Name	N/A	N/A	N/A

#### 4. Troubleshooting

Design	Steam Mold	Steam Mold	Steam Mold
Front Resin	PC+ABS-GF15%	PC+ABS-GF15%	PC+ABS-GF15%
Stand Packing Type	Bundle	Bundle	Bundle

##### • Eco

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Energy Efficiency Class	TBD	TBD	TBD
Eco Mark	Energy Star	Energy Star	Energy Star
Eco Label	N/A	N/A	N/A
Eco Sensor	No	No	No

##### • Power

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Power Supply (V)	AC110-120V 60Hz	AC100-240V 50/60Hz	AC110-120V 60Hz
Power Consumption (Max)	TBD	TBD	TBD
Power Consumption (Energy Saving Mode)	TBD	TBD	TBD
Power Consumption (Stand-by)	TBD	TBD	TBD
Power Consumption (IEC 62087 Edition 2)	N/A	N/A	N/A
Peak Luminance Ratio	N/A	N/A	N/A
Yearly Power Consumption (EU standard)	N/A	N/A	N/A
AC Power Voltage & Frequency	60Hz	60Hz	60Hz
SMPS/IP Board	SEM	SEM	SEM

##### • Security

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Kensington Lock	Yes	Yes	Yes

##### • Dimension (WxHxD)

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Set Size without Stand (mm)	737.9*435.8*49.5	737.9*435.8*49.5	737.9*435.8*49.5
Set Size with Stand (mm)	737.9*479.0*252.6	737.9*479.0*252.6	737.9*479.0*252.6
Package Size (mm)	985.0*514.0*143.0	985.0*514.0*143.0	985.0*514.0*143.0

##### • Weight

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Set Weight without Stand (kg)	5	5	5
Set Weight with Stand (kg)	6.5	6.5	6.5
Package Weight (kg)	8.5	8.5	8.5

- **Loading Quantity**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
20/40Ft	320/672	320/672	320/672

- **Accessory**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
3D Active Glasses (Included)	No	No	No
IR Blaster (Included)	No	No	No
Wireless LAN Adaptor (Included)	No	No	No
Network Speaker (Included)	No	No	No
MOIP Camera (Included)	No	No	No
Wireless Keyboard (Included)	No	No	No
Battery Pack (for Battery Ready TV)	N/A	N/A	N/A
Remote Controller Model	TM1240B	TM1240	TM1240B
Battery (for Remote Control)	Yes	Yes	Yes
Mini Wall Mount Support	Yes	Yes	Yes
Ultra Slim Wall Mount Support	No	No	No
VESA Wall Mount Support	Yes	Yes	Yes
Electric Wall Mount Support	N/A	N/A	N/A
Electric Stand Support	N/A	N/A	N/A
Slim Gender Cable	No	No	No
ANT-Cable	No	No	No
Power Cable	Yes	Yes	Yes
User Manual	Yes	Yes	Yes
E-Manual	No	No	No
Floor Stand Support	No	No	No

- **License**

Item	UN32F4000AFXZA	UN32F4000AFXZX	UN32F4050AFXZA
Oracle JAVA	NO	NO	NO
Universal Remote Control	NO	NO	NO
MS DRM	NO	NO	NO
Movie Codec	DivX	DivX	DivX

## 4-6-2. UN\*\*F50\*\*AF\_1

- **General Information**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Product	LED	LED	LED	LED
Cabinet Basic Code	FF	FF	FF	FF
Series	5	5	5	5

#### 4. Troubleshooting

Series Name	LED F5000	LED F5000	LED F5000	LED F5000
Country	CANADA,UNITED STATES	MEXICO,PANAMA	CANADA,UNITED STATES	CANADA,UNITED STATES
Tools Support	Non-OS Platform Not Support	Non-OS Platform Not Support	Non-OS Platform Not Support	Non-OS Platform Not Support
Platform(TV)	Mstar   X13 Non-OS	Mstar   X13 Non-OS	Mstar   X13 Non-OS	Mstar   X13 Non-OS

##### • Display

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Inch	32	32	40	46
Resolution	1,920 x 1,080	1,920 x 1,080	1,920 x 1,080	1,920 x 1,080
Ultra Clear Panel	No	No	No	No
Cell Light Series	N/A	N/A	N/A	N/A
Real Black Pro Panel	N/A	N/A	N/A	N/A
Clear Image Panel	N/A	N/A	N/A	N/A
Lvds Format	JEIDA	JEIDA	JEIDA	JEIDA
HV Flip	ON	ON	ON	ON

##### • Video

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Picture Engine	HyperReal Engine	HyperReal Engine	HyperReal Engine	HyperReal Engine
OLED Motion Rate	N/A	N/A	N/A	N/A
Clear Motion Rate	120	120	120	120
600Hz Subfield Motion	N/A	N/A	N/A	N/A
Dynamic Contrast Ratio	Mega Contrast	Mega Contrast	Mega Contrast	Mega Contrast
New Picture Differentiation	N/A	N/A	N/A	N/A
Micro Dimming	No	No	No	No
Cinema Smooth	N/A	N/A	N/A	N/A
Precision Black (Local Dimming)	No	No	No	No
Wide Color Enhancer (Plus)	Yes	Yes	Yes	Yes
Auto Motion Plus 120/240Hz	No	No	No	No
Motion Judder Canceller	N/A	N/A	N/A	N/A
Film Mode	Yes	Yes	Yes	Yes
Brightness	300nits	300nits	300nits	300nits
Contrast Ratio	4000:1	4000:1	4000:1	4000:1

Picture	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level
Detail Resolution	60Hz	60Hz	60Hz	60Hz
Response Time	6.5	6.5	6.5	6.5
Viewing Angle (H/V)	178/178	178/178	178/178	178/178
Natural Mode Support	Yes	Yes	Yes	Yes
Relax Mode Support	N/A	N/A	N/A	N/A

• **Audio**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Dolby	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse
SRS / DNSe+	DTS Studio Sound	DTS Studio Sound	DTS Studio Sound	DTS Studio Sound
dts 2.0+Digital Out / DTS Premium Audio	DTS Premium Audio	DTS Premium Audio	DTS Premium Audio	DTS Premium Audio
3D Sound	No	No	No	No
Sound Customizer	No	No	No	No
Speaker Type	Down Firing + Full Range	Down Firing + Full Range	Down Firing + Full Range	Down Firing + Full Range
Sound Output (RMS)	10Wx2	10Wx2	10Wx2	10Wx2
Woofer	No	No	No	No
Sound	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround
Sound Amp IC	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S
Speaker Volume	10W x 2	10W x 2	10W x 2	10W x 2
Woofer Speaker Volume	N/A	N/A	N/A	N/A
Analog	2Ch	2Ch	2Ch	2Ch
Digital	N/A	N/A	N/A	N/A

• **SMART TV Functionality**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Samsung SMART TV	N/A	N/A	N/A	N/A
Smart Guide	No	No	No	No
Family Story	No	No	No	No
Movie & TV Shows	No	No	No	No
Fitness	No	No	No	No
Apps	No	No	No	No
Kids	No	No	No	No
Social	No	No	No	No

#### 4. Troubleshooting

Automated Content Recognition (ACR)	N/A	N/A	N/A	N/A
Music, Photos & Clip	No	No	No	No
Samsung SMART View	No	No	No	No
Smart Hub	No	No	No	No
Search All	N/A	N/A	N/A	N/A
Your Video	No	No	No	No
Social TV	N/A	N/A	N/A	N/A
Samsung Sports Experience (SSE)	No	No	No	No
Samsung Apps	N/A	N/A	N/A	N/A
Smart Scene	No	No	No	No
Skype™ on Samsung TV	N/A	N/A	N/A	N/A
Web Browser	No	No	No	No
AllShare Control	No	No	No	No
Recommendation Bar	No	No	No	No

#### • VESA Standard

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Screw Size	M8	M8	M8	M8e

#### • Smart Interaction

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Camera Built-in	No	No	No	No
Face Recognition	No	No	No	No
Hand Gesture Recognition	No	No	No	No
Voice Recognition (Embedded)	No	No	No	No
Voice Recognition (Server)	No	No	No	No
VM App	N/A	N/A	N/A	N/A
NLU (Natural Language Understanding)	No	No	No	No
Camera App	No	No	No	No
HM App	N/A	N/A	N/A	N/A

Samsung TV Apps supported	No	No	No	No
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• **Feature**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Samsung 3D	No	No	No	No
3D Converter	No	No	No	No
Dual View	N/A	N/A	N/A	N/A
Samsung One Line	N/A	N/A	N/A	N/A
History	No	No	No	No
MultiTasking	No	No	No	No
Smart Phone Remote support	No	No	No	No
Smart Evolution Support	No	No	No	No
Extended PVR	No	No	No	No
Time Shift	No	No	No	No
AllShare Play	No	No	No	No
AllShare Cloud Storage	N/A	N/A	N/A	N/A
ConnectShare™ (USB2.0)	Movie	Movie	Movie	Movie
AllShare Cast	No	No	No	No
RUI	No	N/A	No	No
RVU	No	N/A	No	No
WiFi Direct	No	No	No	No
Wireless LAN Built-in	No	No	No	No
Wireless LAN Adaptor Support	No	No	No	No
ISP Bound Service	No	No	No	No
BT HID Built-in	No	No	No	No
USB HID Support	No	No	No	No
OSD Language	English, Spanish, French	English, Spanish, French	English, Spanish, French	English, Spanish, French
Samsung IR Blaster Support	N/A	N/A	N/A	N/A
User Interface	Single	Single	Single	Single
Digital Noise Filter	Yes	Yes	Yes	Yes
Analog Signal Booster	N/A	N/A	N/A	N/A
Network Speaker Support	No	No	No	No
MHL	No	No	No	No
Sound Share	No	No	No	No
WiDi	No	No	No	No

#### 4. Troubleshooting

Regional EQ	N/A	N/A	N/A	N/A
InstaPort S (HDMI quick switch)	No	No	No	No
HDMI 1.4 3D Auto Setting	No	No	No	No
HDMI 1.4 A/ Return Ch. Support	No	No	No	No
EPG	No	No	No	No
Analog Clean View	N/A	N/A	N/A	N/A
HbbTV	N/A	N/A	N/A	N/A
Teletext (TTX)	No	No	No	No
Triple Protector	N/A	N/A	N/A	N/A
Miracast	No	No	No	No
Anynet+ (HDMI-CEC)	No	No	No	No
BD Wise Plus	No	No	No	No
Auto Channel Search	Yes	Yes	Yes	Yes
Auto Power Off	Yes	Yes	Yes	Yes
Auto Volume Leveler	Yes	Yes	Yes	Yes
Caption (Subtitle)	Yes	Yes	Yes	Yes
2 Tuner	No	No	No	No
Clock&On/Off Timer	Yes	Yes	Yes	Yes
Game Mode	Yes	Yes	Yes	Yes
Battery Ready	N/A	N/A	N/A	N/A
Picture-In-Picture	No	No	No	No
Sleep Timer	Yes	Yes	Yes	Yes
Screen Burn Protection	N/A	N/A	N/A	N/A
Channel List USB-Clone	N/A	N/A	N/A	N/A
V-Chip	Yes	Yes	Yes	Yes
Embedded POP	Yes	Yes	Yes	Yes
Calibration Mode	N/A	N/A	N/A	N/A
Channel	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune
Plug&Play	Yes	Yes	Yes	Yes
Child Lock	Yes	Yes	Yes	Yes
Sports Mode	No	Basic	No	No
Paratal Lock	No	No	No	No
Kids Lock	N/A	N/A	N/A	N/A

Media Play(USB & DLNA)	Yes	Yes	Yes	Yes
Bluetooth	No	No	No	No
Home Network Centre	No	No	No	No
Zero Stand-By Power	N/A	N/A	N/A	N/A
USB Copy	N/A	N/A	N/A	N/A
ACS	N/A	N/A	N/A	N/A
IP Video Closed Caption	N/A	N/A	N/A	N/A

• **Additional Feature**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Self Diagnosis	Yes	Yes	Yes	Yes
Software Upgrade	Yes	Yes	Yes	Yes
HD Connection Guide	Yes	Yes	Yes	Yes
Contact Samsung	Yes	Yes	Yes	Yes

• **S/W**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
MCU	X13 (SEMS29)	X13 (SEMS29)	X13 (SEMS29)	X13 (SEMS29)
OS	N/A	N/A	N/A	N/A

• **System**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
DTV Tuner	ATSC / Clear QAM	ATSC / Clear QAM	ATSC / Clear QAM	ATSC / Clear QAM
Analog Tuner	Yes	Yes	Yes	Yes
CI/CI+	N/A	N/A	N/A	N/A
MHP / MHEG (version) / ACAP	N/A	No	N/A	N/A
NTSC 3.58	Yes	Yes	Yes	Yes
NTSC 4.43, VIT	N/A	N/A	N/A	N/A
PAL-B/G, D/K, I, I/1'	N/A	N/A	N/A	N/A
Scan Type	N/A	N/A	N/A	N/A
SECAM-B/G, D/K	N/A	N/A	N/A	N/A
SECAM-B/G, D/K, L/L'	N/A	N/A	N/A	N/A
Trinorma (PAL M,N)	N/A	N/A	N/A	N/A
Broadcast System	N/A	N/A	N/A	N/A

#### 4. Troubleshooting

ATV Sound System	M	M	M	M
DTV Video System	ATSC	ATSC	ATSC	ATSC
DTV Sound System	Dolby	Dolby	Dolby	Dolby
Tuner Vendor & Model	Xugang   BN40-00270A	Xugang   BN40-00270A	Xugang   BN40-00270A	Xugang   BN40-00270A

##### • Core Component

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
DDR SDRAM	Samsung	Samsung	Samsung	Samsung
Nand Flash Memory	N/A	N/A	N/A	N/A
OneNand Flash Memory	N/A	N/A	N/A	N/A
FlexOneNand Flash Memory	N/A	N/A	N/A	N/A
Serial Flash Memory	WINBOND	WINBOND	WINBOND	WINBOND
HDMI Switch	N/A	N/A	N/A	N/A
Display Device Vender	AMLCD	AMLCD	AMLCD	AMLCD

##### • Input & Output

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
HDMI	2	2	2	2
Resolution	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60
DVI Port	Port1 Type	Port1 Type	Port1 Type	Port1 Type
Optimal PC Resolution	1920 x 1080   60 Hz	1920 x 1080   60 Hz	1920 x 1080   60 Hz	1920 x 1080   60 Hz
MHL Port	N/A	N/A	N/A	N/A
HDMI/DVI SEL	N/A	N/A	N/A	N/A
USB	1	1	1	1
Port 1 Type	Host	Host	Host	Host
Port 2 Type	N/A	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A	N/A
OS	N/A	N/A	N/A	N/A
Component In (Y/Pb/Pr)	1	1	1	1
Composite In (AV)	1 (Common Use for Component Y)	1 (Common Use for Component Y)	1 (Common Use for Component Y)	1 (Common Use for Component Y)
Ethernet (LAN)	No	No	No	No
Headphone	No	No	No	No

Digital Audio Out (Optical)	1	1	1	1
Audio Out (Mini Jack / LR)	1	1	1	1
PC In (D-sub)	No	No	No	No
PC Audio In (Mini Jack)	No	No	No	No
DVI Audio In (Mini Jack)	No	No	No	No
RF In (Terrestrial/Cable Input)	1	1	1	1
RF In (Satellite Input)	No	No	No	No
RS232C (AV CONTROL)	No	No	No	No
CI Slot	N/A	N/A	N/A	N/A
Scart	N/A	N/A	N/A	N/A
Port 1 Type	N/A	N/A	N/A	N/A
Port 2 Type	N/A	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A	N/A
Coaxial	N/A	N/A	N/A	N/A
EX-Link	N/A	N/A	N/A	N/A
Monitor Output	N/A	N/A	N/A	N/A
DVI				
Resolution	N/A	N/A	N/A	N/A
DVI Port	N/A	N/A	N/A	N/A
PC Resolution	N/A   N/A	N/A   N/A	N/A   N/A	N/A   N/A
D-Sub Resolution	N/A   N/A	N/A   N/A	N/A   N/A	N/A   N/A

• **Design**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Design	RHCM	RHCM	RHCM	RHCM
Bezel Type	NNB	NNB	NNB	NNB
Slim Type	Slim 1	Slim 1	Slim 1	Slim 1
Front Color	Black	Black	Black	Black
Light Effect (Deco)	No	No	No	No
Stand Type	Square	Square	Square	Square
Swivel (Left/ Right)	No	No	No	No
Push & Pull Camera	N/A	N/A	N/A	N/A
Design Name	N/A	N/A	N/A	N/A

#### 4. Troubleshooting

Design	Steam Mold	Steam Mold	Steam Mold	Steam Mold
Front Resin	PC+ABS+GF15%	PC+ABS+GF15%	PC+ABS+GF15%	PC+ABS+GF15%
Stand Packing Type	Bundle	Bundle	Bundle	Bundle

##### • Eco

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Energy Efficiency Class	TBD	TBD	TBD	TBD
Eco Mark	Energy Star	Energy Star	Energy Star	Energy Star
Eco Label	N/A	N/A	N/A	N/A
Eco Sensor	Yes	Yes	Yes	Yes

##### • Power

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Power Supply (V)	AC110-120V 60Hz	AC100-240V 50/60Hz	AC110-120V 60Hz	AC110-120V 60Hz
Power Consumption (Max)	TBD	TBD	TBD	TBD
Power Consumption (Energy Saving Mode)	TBD	TBD	TBD	TBD
Power Consumption (Stand-by)	TBD	TBD	TBD	TBD
Power Consumption (IEC 62087 Edition 2)	N/A	N/A	N/A	N/A
Peak Luminance Ratio	N/A	N/A	N/A	N/A
Yearly Power Consumption (EU standard)	N/A	N/A	N/A	N/A
AC Power Voltage & Frequency	60Hz	60Hz	60Hz	60Hz
SMPS/IP Board	SEM	SEM	SEM	SEM

##### • Security

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Kensington Lock	Yes	Yes	Yes	Yes

##### • Dimension (WxHxD)

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
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Set Size without Stand (mm)	738.2*445.4*49.0	738.2*445.4*49.0	928.2*552.3*49.4	1059.6*626.2*49.4
Set Size with Stand (mm)	738.0*505.8*191.7	738.0*505.8*191.7	928.2*612.2*235.0	1059.6*686.1*235
Package Size (mm)	919*514*143	919*514*143	1160*616*147	1309*721*158

- Weight**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Set Weight without Stand (kg)	5.8	5.8	8.7	12.5
Set Weight with Stand (kg)	6.5	6.5	10	14.3
Package Weight (kg)	8	8	12.5	16.4

- Loading Quantity**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
20/40Ft	354/704	354/704	198/414	165/345

- Accessory**

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
3D Active Glasses (Included)	No	No	No	No
IR Blaster (Included)	No	No	No	No
Wireless LAN Adaptor (Included)	No	No	No	No
Network Speaker (Included)	No	No	No	No
MOIP Camera (Included)	No	No	No	No
Wireless Keyboard (Included)	No	No	No	No
Battery Pack (for Battery Ready TV)	N/A	N/A	N/A	N/A
Remote Controller Model	TM1240B	TM1240	TM1240B	TM1240B
Battery (for Remote Control)	Yes	Yes	Yes	Yes
Mini Wall Mount Support	Yes	Yes	Yes	Yes
Ultra Slim Wall Mount Support	No	No	No	No
VESA Wall Mount Support	Yes	Yes	Yes	Yes

#### 4. Troubleshooting

Electric Wall Mount Support	N/A	N/A	N/A	N/A
Electric Stand Support	N/A	N/A	N/A	N/A
Slim Gender Cable	No	No	No	No
ANT-Cable	No	No	No	No
Power Cable	Yes	Yes	Yes	Yes
User Manual	Yes	Yes	Yes	Yes
E-Manual	No	No	No	No
Floor Stand Support	No	No	No	No

##### • License

Item	UN32F5000AFXZA	UN32F5000AFXZX	UN40F5000AFXZA	UN46F5000AFXZA
Oracle JAVA	NO	NO	NO	NO
Universal Remote Control	NO	NO	NO	NO
MS DRM	NO	NO	NO	NO
Movie Codec	DivX	DivX	DivX	DivX

### 4-6-3. UN\*\*F50\*\*AF\_2

##### • General Information

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Product	LED	LED	LED
Cabinet Basic Code	FF	FF	FF
Series	5	5	5
Series Name	LED F5000	LED F5000	LED F5000
Country	CANADA,UNITED STATES	MEXICO,PANAMA	CANADA,UNITED STATES
Tools Support	Non-OS Platform Not Support	Non-OS Platform Not Support	Non-OS Platform Not Support
Platform(TV)	Mstar   X13 Non-OS	Mstar   X13 Non-OS	Mstar   X13 Non-OS

##### • Display

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Inch	32	40	40
Resolution	1,920 x 1,080	1,920 x 1,080	1,920 x 1,080
Ultra Clear Panel	No	No	No
Cell Light Series	N/A	N/A	N/A
Real Black Pro Panel	N/A	N/A	N/A
Clear Image Panel	N/A	N/A	N/A
Lvds Format	JEIDA	JEIDA	JEIDA

HV Flip	ON	ON	ON
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• **Video**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Picture Engine	HyperReal Engine	HyperReal Engine	HyperReal Engine
OLED Motion Rate	N/A	N/A	N/A
Clear Motion Rate	120	120	120
600Hz Subfield Motion	N/A	N/A	N/A
Dynamic Contrast Ratio	Mega Contrast	Mega Contrast	Mega Contrast
New Picture Differentiation	N/A	N/A	N/A
Micro Dimming	No	No	No
Cinema Smooth	N/A	N/A	N/A
Precision Black (Local Dimming)	No	No	No
Wide Color Enhancer (Plus)	Yes	Yes	Yes
Auto Motion Plus 120/240Hz	No	No	No
Motion Judder Canceller	N/A	N/A	N/A
Film Mode	Yes	Yes	Yes
Brightness	300nits	300nits	300nits
Contrast Ratio	4000:1	4000:1	4000:1
Picture	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level
Detail Resolution	60Hz	60Hz	60Hz
Response Time	6.5	6.5	6.5
Viewing Angle (H/V)	178/178	178/178	178/178
Natural Mode Support	Yes	Yes	Yes
Relax Mode Support	N/A	N/A	N/A

• **Audio**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Dolby	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse
SRS / DTS+ / DTS	DTS Studio Sound	DTS Studio Sound	DTS Studio Sound
dtc 2.0+Digital Out / DTS Premium Audio	DTS Premium Audio	DTS Premium Audio	DTS Premium Audio
3D Sound	No	No	No
Sound Customizer	No	No	No
Speaker Type	Down Firing + Full Range	Down Firing + Full Range	Down Firing + Full Range
Sound Output (RMS)	10Wx2	10Wx2	10Wx2

#### 4. Troubleshooting

Woofer	No	No	No
Sound	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround
Sound Amp IC	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S
Speaker Volume	10W x 2	10W x 2	10W x 2
Woofer Speaker Volume	N/A	N/A	N/A
Analog	2Ch	2Ch	2Ch
Digital	N/A	N/A	N/A

#### • SMART TV Functionality

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Samsung SMART TV	N/A	N/A	N/A
Smart Guide	No	No	No
Family Story	No	No	No
Movie & TV Shows	No	No	No
Fitness	No	No	No
Apps	No	No	No
Kids	No	No	No
Social	No	No	No
Automated Content Recognition (ACR)	N/A	N/A	N/A
Music, Photos & Clip	No	No	No
Samsung SMART View	No	No	No
Smart Hub	No	No	No
Search All	N/A	N/A	N/A
Your Video	No	No	No
Social TV	N/A	N/A	N/A
Samsung Sports Experience (SSE)	No	No	No
Samsung Apps	N/A	N/A	N/A
Smart Scene	No	No	No
Skype™ on Samsung TV	N/A	N/A	N/A
Web Browser	No	No	No
AllShare Control	No	No	No
Recommendation Bar	No	No	No

#### • VESA Standard

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Screw Size	M8	M8	M8

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**• Smart Interaction**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Camera Built-in	No	No	No
Face Recognition	No	No	No
Hand Gesture Recognition	No	No	No
Voice Recognition (Embedded)	No	No	No
Voice Recognition (Server)	No	No	No
VM App	N/A	N/A	N/A
NLU (Natural Language Understanding)	No	No	No
Camera App	No	No	No
HM App	N/A	N/A	N/A
Samsung TV Apps supported	No	No	No

**• Feature**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Samsung 3D	No	No	No
3D Converter	No	No	No
Dual View	N/A	N/A	N/A
Samsung One Line	N/A	N/A	N/A
History	No	No	No
MultiTasking	No	No	No
Smart Phone Remote support	No	No	No
Smart Evolution Support	No	No	No
Extended PVR	No	No	No
Time Shift	No	No	No
Allshare Play	No	No	No
AllShare Cloud Storage	N/A	N/A	N/A
ConnectShare™ (USB2.0)	Movie	Movie	Movie
AllShare Cast	No	No	No
RUI	No	N/A	No
RVU	No	N/A	No
WiFi Direct	No	No	No
Wireless LAN Built-in	No	No	No
Wireless LAN Adaptor Support	No	No	No
ISP Bound Service	No	No	No

#### 4. Troubleshooting

BT HID Built-in	No	No	No
USB HID Support	No	No	No
OSD Language	English, Spanish, French	English, Spanish, French	English, Spanish, French
Samsung IR Blaster Support	N/A	N/A	N/A
User Interface	Single	Single	Single
Digital Noise Filter	Yes	Yes	Yes
Analog Signal Booster	N/A	N/A	N/A
Network Speaker Support	No	No	No
MHL	No	No	No
Sound Share	No	No	No
WiDi	No	No	No
Regional EQ	N/A	N/A	N/A
InstaPort S (HDMI quick switch)	No	No	No
HDMI 1.4 3D Auto Setting	No	No	No
HDMI 1.4 A/Return Ch. Support	No	No	No
EPG	No	No	No
Analog Clean View	N/A	N/A	N/A
HbbTV	N/A	N/A	N/A
Teletext (TTX)	No	No	No
Triple Protector	N/A	N/A	N/A
Miracast	No	No	No
Anynet+ (HDMI-CEC)	No	No	No
BD Wise Plus	No	No	No
Auto Channel Search	Yes	Yes	Yes
Auto Power Off	Yes	Yes	Yes
Auto Volume Leveler	Yes	Yes	Yes
Caption (Subtitle)	Yes	Yes	Yes
2 Tuner	No	No	No
Clock&On/Off Timer	Yes	Yes	Yes
Game Mode	Yes	Yes	Yes
Battery Ready	N/A	N/A	N/A
Picture-In-Picture	No	No	No
Sleep Timer	Yes	Yes	Yes
Screen Burn Protection	N/A	N/A	N/A
Channel List USB-Clone	N/A	N/A	N/A
V-Chip	Yes	Yes	Yes
Embedded POP	Yes	Yes	Yes

Calibration Mode	N/A	N/A	N/A
Channel	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune
Plug&Play	Yes	Yes	Yes
Child Lock	Yes	Yes	Yes
Sports Mode	No	Basic	No
Paratal Lock	No	No	No
Kids Lock	N/A	N/A	N/A
Media Play(USB & DLNA)	Yes	Yes	Yes
Bluetooth	No	No	No
Home Network Centre	No	No	No
Zero Stand-By Power	N/A	N/A	N/A
USB Copy	N/A	N/A	N/A
ACS	N/A	N/A	N/A
IP Video Closed Caption	N/A	N/A	N/A

• **Additional Feature**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Self Diagnosis	Yes	Yes	Yes
Software Upgrade	Yes	Yes	Yes
HD Connection Guide	Yes	Yes	Yes
Contact Samsung	Yes	Yes	Yes

• **S/W**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
MCU	X13 (SEMS29)	X13 (SEMS29)	X13 (SEMS29)
OS	N/A	N/A	N/A

• **System**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
DTV Tuner	ATSC / Clear QAM	ATSC / Clear QAM	ATSC / Clear QAM
Analog Tuner	Yes	Yes	Yes
CI/CI+	N/A	N/A	N/A
MHP / MHEG (version) / ACAP	N/A	No	N/A
NTSC 3.58	Yes	Yes	Yes
NTSC 4.43, VIT	N/A	N/A	N/A
PAL-B/G, D/K, I, I/I'	N/A	N/A	N/A
Scan Type	N/A	N/A	N/A
SECAM-B/G, D/K	N/A	N/A	N/A
SECAM-B/G, D/K, L/L'	N/A	N/A	N/A

#### 4. Troubleshooting

Trinorma (PAL M,N)	N/A	N/A	N/A
Broadcast System	N/A	N/A	N/A
ATV Sound System	M	M	M
DTV Video System	ATSC	ATSC	ATSC
DTV Sound System	Dolby	Dolby	Dolby
Tuner Vendor & Model	Xugang   BN40-00270A	Xugang   BN40-00270A	Xugang   BN40-00270A

#### • Core Component

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
DDR SDRAM	Samsung	Samsung	Samsung
Nand Flash Memory	N/A	N/A	N/A
OneNand Flash Memory	N/A	N/A	N/A
FlexOneNand Flash Memory	N/A	N/A	N/A
Serial Flash Memory	WINBOND	WINBOND	WINBOND
HDMI Switch	N/A	N/A	N/A
Display Device Vender	AMLCD	AMLCD	AMLCD

#### • Input & Output

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
HDMI	2	2	2
Resolution	640 x 480p,1920 x 1080i 60,1280 x 720p 60	640 x 480p,1920 x 1080i 60,1280 x 720p 60	640 x 480p,1920 x 1080i 60,1280 x 720p 60
DVI Port	Port1 Type	Port1 Type	Port1 Type
Optimal PC Resolution	1920 x 1080   60 Hz	1920 x 1080   60 Hz	1920 x 1080   60 Hz
MHL Port	N/A	N/A	N/A
HDMI/DVI SEL	N/A	N/A	N/A
USB	1	1	1
Port 1 Type	Host	Host	Host
Port 2 Type	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A
OS	N/A	N/A	N/A
Component In (Y/Pb/Pr)	1	1	1
Composite In (AV)	1 (Common Use for Component Y)	1 (Common Use for Component Y)	1 (Common Use for Component Y)
Ethernet (LAN)	No	No	No
Headphone	No	No	No

Digital Audio Out (Optical)	1	1	1
Audio Out (Mini Jack / LR)	1	1	1
PC In (D-sub)	No	No	No
PC Audio In (Mini Jack)	No	No	No
DVI Audio In (Mini Jack)	No	No	No
RF In (Terrestrial/ Cable Input)	1	1	1
RF In (Satellite Input)	No	No	No
RS232C (AV CONTROL)	No	No	No
CI Slot	N/A	N/A	N/A
Scart	N/A	N/A	N/A
Port 1 Type	N/A	N/A	N/A
Port 2 Type	N/A	N/A	N/A
Port 3 Type	N/A	N/A	N/A
Port 4 Type	N/A	N/A	N/A
Port 5 Type	N/A	N/A	N/A
Coaxial	N/A	N/A	N/A
EX-Link	N/A	N/A	N/A
Monitor Output	N/A	N/A	N/A
DVI			
Resolution	N/A	N/A	N/A
DVI Port	N/A	N/A	N/A
PC Resolution	N/A   N/A	N/A   N/A	N/A   N/A
D-Sub Resolution	N/A   N/A	N/A   N/A	N/A   N/A

- Design

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Design	RHCM	RHCM	RHCM
Bezel Type	NNB	NNB	NNB
Slim Type	Slim 1	Slim 1	Slim 1
Front Color	Black	Black	Black
Light Effect (Deco)	No	No	No
Stand Type	Square	Square	Square
Swivel (Left/Right)	No	No	No
Push & Pull Camera	N/A	N/A	N/A
Design Name	N/A	N/A	N/A
Design	Steam Mold	Steam Mold	Steam Mold
Front Resin	PC+ABS+GF15%	PC+ABS+GF15%	PC+ABS+GF15%
Stand Packing Type	Bundle	Bundle	Bundle

#### 4. Troubleshooting

##### • Eco

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Energy Efficiency Class	TBD	TBD	TBD
Eco Mark	Energy Star	Energy Star	Energy Star
Eco Label	N/A	N/A	N/A
Eco Sensor	Yes	Yes	Yes

##### • Power

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Power Supply (V)	AC110-120V 60Hz	AC100-240V 50/60Hz	AC110-120V 60Hz
Power Consumption (Max)	TBD	TBD	TBD
Power Consumption (Energy Saving Mode)	TBD	TBD	TBD
Power Consumption (Stand-by)	TBD	TBD	TBD
Power Consumption (IEC 62087 Edition 2)	N/A	N/A	N/A
Peak Luminance Ratio	N/A	N/A	N/A
Yearly Power Consumption (EU standard)	N/A	N/A	N/A
AC Power Voltage & Frequency	60Hz	60Hz	60Hz
SMPS/IP Board	SEM	SEM	SEM

##### • Security

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Kensington Lock	Yes	Yes	Yes

##### • Dimension (WxHxD)

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Set Size without Stand (mm)	738.2*445.4*49.0	928.2*552.3*49.4	928.2*552.3*49.4
Set Size with Stand (mm)	738.0*505.8*191.7	928.2*612.2*235.0	928.2*612.2*235.0
Package Size (mm)	919*514*143	1160*616*147	1160*616*147

##### • Weight

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Set Weight without Stand (kg)	5.8	8.7	8.7
Set Weight with Stand (kg)	6.5	10	10
Package Weight (kg)	8	12.5	12.5

- **Loading Quantity**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
20/40Ft	354/704	198/414	198/414

- **Accessory**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
3D Active Glasses (Included)	No	No	No
IR Blaster (Included)	No	No	No
Wireless LAN Adaptor (Included)	No	No	No
Network Speaker (Included)	No	No	No
MOIP Camera (Included)	No	No	No
Wireless Keyboard (Included)	No	No	No
Battery Pack (for Battery Ready TV)	N/A	N/A	N/A
Remote Controller Model	TM1240B	TM1240	TM1240B
Battery (for Remote Control)	Yes	Yes	Yes
Mini Wall Mount Support	Yes	Yes	Yes
Ultra Slim Wall Mount Support	No	No	No
VESA Wall Mount Support	Yes	Yes	Yes
Electric Wall Mount Support	N/A	N/A	N/A
Electric Stand Support	N/A	N/A	N/A
Slim Gender Cable	No	No	No
ANT-Cable	No	No	No
Power Cable	Yes	Yes	Yes
User Manual	Yes	Yes	Yes
E-Manual	No	No	No
Floor Stand Support	No	No	No

- **License**

Item	UN32F5050AFXZA	UN40F5000AFXZX	UN40F5050AFXZA
Oracle JAVA	NO	NO	NO
Universal Remote Control	NO	NO	NO
MS DRM	NO	NO	NO
Movie Codec	DivX	DivX	DivX

## 4-6-4. UN\*\*F50\*\*AF\_3

### • General Information

Item	UN46F5000AFXZX	UN46F5050AFXZA
Product	LED	LED
Cabinet Basic Code	FF	FF
Series	5	5
Series Name	LED F5000	LED F5000
Country	MEXICO,PANAMA	CANADA,UNITED STATES
Tools Support	Non-OS Platform Not Support	Non-OS Platform Not Support
Platform(TV)	Mstar   X13 Non-OS	Mstar   X13 Non-OS

### • Display

Item	UN46F5000AFXZX	UN46F5050AFXZA
Inch	46	46
Resolution	1,920 x 1,080	1,920 x 1,080
Ultra Clear Panel	No	No
Cell Light Series	N/A	N/A
Real Black Pro Panel	N/A	N/A
Clear Image Panel	N/A	N/A
Lvds Format	JEIDA	JEIDA
HV Flip	ON	ON

### • Video

Item	UN46F5000AFXZX	UN46F5050AFXZA
Picture Engine	HyperReal Engine	HyperReal Engine
OLED Motion Rate	N/A	N/A
Clear Motion Rate	120	120
600Hz Subfield Motion	N/A	N/A
Dynamic Contrast Ratio	Mega Contrast	Mega Contrast
New Picture Differentiation	N/A	N/A
Micro Dimming	No	No
Cinema Smooth	N/A	N/A
Precision Black (Local Dimming)	No	No
Wide Color Enhancer (Plus)	Yes	Yes
Auto Motion Plus 120/240Hz	No	No
Motion Judder Canceller	N/A	N/A
Film Mode	Yes	Yes
Brightness	300nits	300nits
Contrast Ratio	4000:1	4000:1

Picture	Film Mode,HDMI Black Level	Film Mode,HDMI Black Level
Detail Resolution	60Hz	60Hz
Response Time	6.5	6.5
Viewing Angle (H/V)	178/178	178/178
Natural Mode Support	Yes	Yes
Relax Mode Support	N/A	N/A

- Audio**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Dolby	Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse
SRS / DNSe+	DTS Studio Sound	DTS Studio Sound
dts 2.0+Digital Out / DTS Premium Audio	DTS Premium Audio	DTS Premium Audio
3D Sound	No	No
Sound Customizer	No	No
Speaker Type	Down Firing + Full Range	Down Firing + Full Range
Sound Output (RMS)	10Wx2	10Wx2
Woofer	No	No
Sound	Mono,Stereo,Auto volume,SRS-Trusurround	Mono,Stereo,Auto volume,SRS-Trusurround
Sound Amp IC	NeoFidelity   NTP7412S	NeoFidelity   NTP7412S
Speaker Volume	10W x 2	10W x 2
Woofer Speaker Volume	N/A	N/A
Analog	2Ch	2Ch
Digital	N/A	N/A

- SMART TV Functionality**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Samsung SMART TV	N/A	N/A
Smart Guide	No	No
Family Story	No	No
Movie & TV Shows	No	No
Fitness	No	No
Apps	No	No
Kids	No	No
Social	No	No
Automated Content Recognition (ACR)	N/A	N/A
Music, Photos & Clip	No	No
Samsung SMART View	No	No
Smart Hub	No	No
Search All	N/A	N/A

#### 4. Troubleshooting

Your Video	No	No
Social TV	N/A	N/A
Samsung Sports Experience (SSE)	No	No
Samsung Apps	N/A	N/A
Smart Scene	No	No
Skype™ on Samsung TV	N/A	N/A
Web Browser	No	No
AllShare Control	No	No
Recommendation Bar	No	No

#### • VESA Standard

Item	UN46F5000AFXZX	UN46F5050AFXZA
Screw Size	M8	M8

#### • Smart Interaction

Item	UN46F5000AFXZX	UN46F5050AFXZA
Camera Built-in	No	No
Face Recognition	No	No
Hand Gesture Recognition	No	No
Voice Recognition (Embedded)	No	No
Voice Recognition (Server)	No	No
VM App	N/A	N/A
NLU (Natural Language Understanding)	No	No
Camera App	No	No
HM App	N/A	N/A
Samsung TV Apps supported	No	No

#### • Feature

Item	UN46F5000AFXZX	UN46F5050AFXZA
Samsung 3D	No	No
3D Converter	No	No
Dual View	N/A	N/A
Samsung One Line	N/A	N/A
History	No	No
MultiTasking	No	No
Smart Phone Remote support	No	No
Smart Evolution Support	No	No
Extended PVR	No	No
Time Shift	No	No

Allshare Play	No	No
AllShare Cloud Storage	N/A	N/A
ConnectShare™ (USB2.0)	Movie	Movie
AllShare Cast	No	No
RUI	N/A	No
RVU	N/A	No
WiFi Direct	No	No
Wireless LAN Built-in	No	No
Wireless LAN Adaptor Support	No	No
ISP Bound Service	No	No
BT HID Built-in	No	No
USB HID Support	No	No
OSD Language	English, Spanish, French	English, Spanish, French
Samsung IR Blaster Support	N/A	N/A
User Interface	Single	Single
Digital Noise Filter	Yes	Yes
Analog Signal Booster	N/A	N/A
Network Speaker Support	No	No
MHL	No	No
Sound Share	No	No
WiDi	No	No
Regional EQ	N/A	N/A
InstaPort S (HDMI quick switch)	No	No
HDMI 1.4 3D Auto Setting	No	No
HDMI 1.4 A/Return Ch. Support	No	No
EPG	No	No
Analog Clean View	N/A	N/A
HbbTV	N/A	N/A
Teletext (TTX)	No	No
Triple Protector	N/A	N/A
Miracast	No	No
Anynet+ (HDMI-CEC)	No	No
BD Wise Plus	No	No
Auto Channel Search	Yes	Yes
Auto Power Off	Yes	Yes
Auto Volume Leveler	Yes	Yes
Caption (Subtitle)	Yes	Yes
2 Tuner	No	No
Clock&On/Off Timer	Yes	Yes
Game Mode	Yes	Yes

#### 4. Troubleshooting

Battery Ready	N/A	N/A
Picture-In-Picture	No	No
Sleep Timer	Yes	Yes
Screen Burn Protection	N/A	N/A
Channel List USB-Clone	N/A	N/A
V-Chip	Yes	Yes
Embedded POP	Yes	Yes
Calibration Mode	N/A	N/A
Channel	Auto Store,Signal Level,Fine Tune	Auto Store,Signal Level,Fine Tune
Plug&Play	Yes	Yes
Child Lock	Yes	Yes
Sports Mode	Basic	No
Parental Lock	No	No
Kids Lock	N/A	N/A
Media Play(USB & DLNA)	Yes	Yes
Bluetooth	No	No
Home Network Centre	No	No
Zero Stand-By Power	N/A	N/A
USB Copy	N/A	N/A
ACS	N/A	N/A
IP Video Closed Caption	N/A	N/A

#### • Additional Feature

Item	UN46F5000AFXZX	UN46F5050AFXZA
Self Diagnosis	Yes	Yes
Software Upgrade	Yes	Yes
HD Connection Guide	Yes	Yes
Contact Samsung	Yes	Yes

#### • S/W

Item	UN46F5000AFXZX	UN46F5050AFXZA
MCU	X13 (SEMS29)	X13 (SEMS29)
OS	N/A	N/A

#### • System

Item	UN46F5000AFXZX	UN46F5050AFXZA
DTV Tuner	ATSC / Clear QAM	ATSC / Clear QAM
Analog Tuner	Yes	Yes
CI/CI+	N/A	N/A
MHP / MHEG (version) / ACAP	No	N/A
NTSC 3.58	Yes	Yes

NTSC 4.43, VIT	N/A	N/A
PAL-B/G, D/K, I, I/I'	N/A	N/A
Scan Type	N/A	N/A
SECAM-B/G, D/K	N/A	N/A
SECAM-B/G, D/K, L/L`	N/A	N/A
Trinorma (PAL M,N)	N/A	N/A
Broadcast System	N/A	N/A
ATV Sound System	M	M
DTV Video System	ATSC	ATSC
DTV Sound System	Dolby	Dolby
Tuner Vendor & Model	Xugang   BN40-00270A	Xugang   BN40-00270A

- **Core Component**

Item	UN46F5000AFXZX	UN46F5050AFXZA
DDR SDRAM	Samsung	Samsung
Nand Flash Memory	N/A	N/A
OneNand Flash Memory	N/A	N/A
FlexOneNand Flash Memory	N/A	N/A
Serial Flash Memory	WINBOND	WINBOND
HDMI Switch	N/A	N/A
Display Device Vender	AMLCD	AMLCD

- **Input & Output**

Item	UN46F5000AFXZX	UN46F5050AFXZA
HDMI	2	2
Resolution	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60	640 x 480p, 1920 x 1080i 60, 1280 x 720p 60
DVI Port	Port1 Type	Port1 Type
Optimal PC Resolution	1920 x 1080   60 Hz	1920 x 1080   60 Hz
MHL Port	N/A	N/A
HDMI/DVI SEL	N/A	N/A
USB	1	1
Port 1 Type	Host	Host
Port 2 Type	N/A	N/A
Port 3 Type	N/A	N/A
Port 4 Type	N/A	N/A
Port 5 Type	N/A	N/A
OS	N/A	N/A
Component In (Y/Pb/Pr)	1	1
Composite In (AV)	1 (Common Use for Component Y)	1 (Common Use for Component Y)
Ethernet (LAN)	No	No

#### 4. Troubleshooting

Headphone	No	No
Digital Audio Out (Optical)	1	1
Audio Out (Mini Jack / LR)	1	1
PC In (D-sub)	No	No
PC Audio In (Mini Jack)	No	No
DVI Audio In (Mini Jack)	No	No
RF In (Terrestrial/Cable Input)	1	1
RF In (Satellite Input)	No	No
RS232C (AV CONTROL)	No	No
CI Slot	N/A	N/A
Scart	N/A	N/A
Port 1 Type	N/A	N/A
Port 2 Type	N/A	N/A
Port 3 Type	N/A	N/A
Port 4 Type	N/A	N/A
Port 5 Type	N/A	N/A
Coaxial	N/A	N/A
EX-Link	N/A	N/A
Monitor Output	N/A	N/A
DVI		
Resolution	N/A	N/A
DVI Port	N/A	N/A
PC Resolution	N/A   N/A	N/A   N/A
D-Sub Resolution	N/A   N/A	N/A   N/A

#### • Design

Item	UN46F5000AFXZX	UN46F5050AFXZA
Design	RHCM	RHCM
Bezel Type	NNB	NNB
Slim Type	Slim 1	Slim 1
Front Color	Black	Black
Light Effect (Deco)	No	No
Stand Type	Square	Square
Swivel (Left/Right)	No	No
Push & Pull Camera	N/A	N/A
Design Name	N/A	N/A
Design	Steam Mold	Steam Mold
Front Resin	PC+ABS+GF15%	PC+ABS+GF15%
Stand Packing Type	Bundle	Bundle

- **Eco**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Energy Efficiency Class	TBD	TBD
Eco Mark	Energy Star	Energy Star
Eco Label	N/A	N/A
Eco Sensor	Yes	Yes

- **Power**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Power Supply (V)	AC100-240V 50/60Hz	AC110-120V 60Hz
Power Consumption (Max)	TBD	TBD
Power Consumption (Energy Saving Mode)	TBD	TBD
Power Consumption (Stand-by)	TBD	TBD
Power Consumption (IEC 62087 Edition 2)	N/A	N/A
Peak Luminance Ratio	N/A	N/A
Yearly Power Consumption (EU standard)	N/A	N/A
AC Power Voltage & Frequency	60Hz	60Hz
SMPS/IP Board	SEM	SEM

- **Security**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Kensington Lock	Yes	Yes

- **Dimension (WxHxD)**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Set Size without Stand (mm)	1059.6*626.2*49.4	1059.6*626.2*49.4
Set Size with Stand (mm)	1059.6*686.1*235	1059.6*686.1*235
Package Size (mm)	1309*721*158	1309*721*158

- **Weight**

Item	UN46F5000AFXZX	UN46F5050AFXZA
Set Weight without Stand (kg)	12.5	12.5
Set Weight with Stand (kg)	14.3	14.3
Package Weight (kg)	16.4	16.4

- **Loading Quantity**

Item	UN46F5000AFXZX	UN46F5050AFXZA
20/40Ft	165/3454	165/3454

#### 4. Troubleshooting

##### • Accessory

Item	UN46F5000AFXZX	UN46F5050AFXZA
3D Active Glasses (Included)	No	No
IR Blaster (Included)	No	No
Wireless LAN Adaptor (Included)	No	No
Network Speaker (Included)	No	No
MOIP Camera (Included)	No	No
Wireless Keyboard (Included)	No	No
Battery Pack (for Battery Ready TV)	N/A	N/A
Remote Controller Model	TM1240	TM1240B
Battery (for Remote Control)	Yes	Yes
Mini Wall Mount Support	Yes	Yes
Ultra Slim Wall Mount Support	No	No
VESA Wall Mount Support	Yes	Yes
Electric Wall Mount Support	N/A	N/A
Electric Stand Support	N/A	N/A
Slim Gender Cable	No	No
ANT-Cable	No	No
Power Cable	Yes	Yes
User Manual	Yes	Yes
E-Manual	No	No
Floor Stand Support	No	No

##### • License

Item	UN46F5000AFXZX	UN46F5050AFXZA
Oracle JAVA	NO	NO
Universal Remote Control	NO	NO
MS DRM	NO	NO
Movie Codec	DivX	DivX

## 4-7. Software Upgrade

Software Upgrade can be performed by downloading the latest firmware from [samsung.com](http://samsung.com) to a USB memory device.

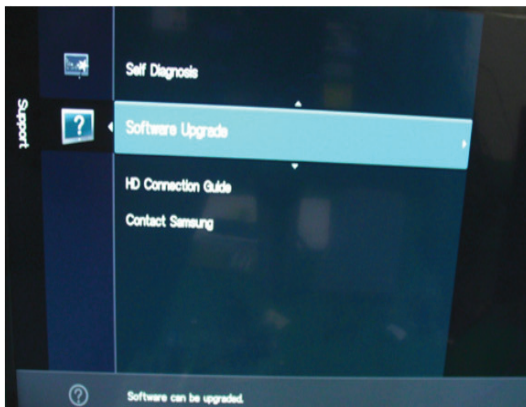
- Current Version - The software already installed in the TV.

Software is represented as 'Year/Month/Day\_Version'.

### 4-7-1. How to Check the Software Version

#### ■ Use the Main Menu

1. Click the "MENU" key in remote controller.
2. Select "Support" menu.
3. Locate the menu cursor "Software Upgrade" menu.
4. Click the "INFO" key.
  - Check the Main SW and Micom version.



#### ■ Use the Factory Mode

Option	T-MX13AUSC-0224.0
Control	DTP-LP3-0278
Debug	DTP-LP3-App-0278
SVC	HDCP : SUCCESS
ADC/WB	CALIB:HDMI/COMP/PC/AV/
Advanced	OPTION:32A6AHOS,US,4000,NONE
	USB Serial:OFF
	Picture Data:**.**.**
	BuildDate : **_**_****
	Date Of Purchase : **/**/**

## 4-7-2. How to Upgrade Software and Micom

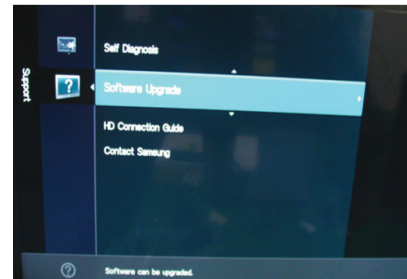
Insert a USB drive containing the firmware upgrade downloaded from [samsung.com](http://samsung.com) into the TV. Please be careful not to disconnect the power or remove the USB drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete (the new version will have a higher number than the older version). When software is upgraded, video and audio settings you have made will return to their default (factory) settings. We recommend you write down your settings before beginning firmware update. After update is completed, restore your previous settings.

### ■ Main Software Upgrade

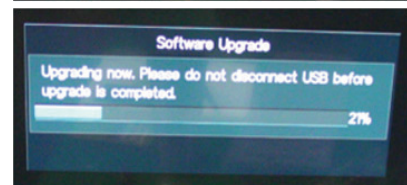
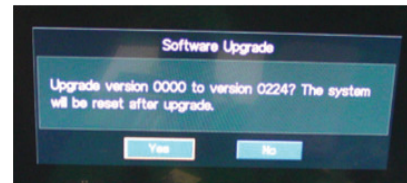
1. Save the firmware(T-MX13AUSC) folder to the root directory of a USB drive.
  - Connect the USB.



2. Click the "MENU" key in Remote Controller.
3. Select "Support" menu.  
Select "Software Upgrade"

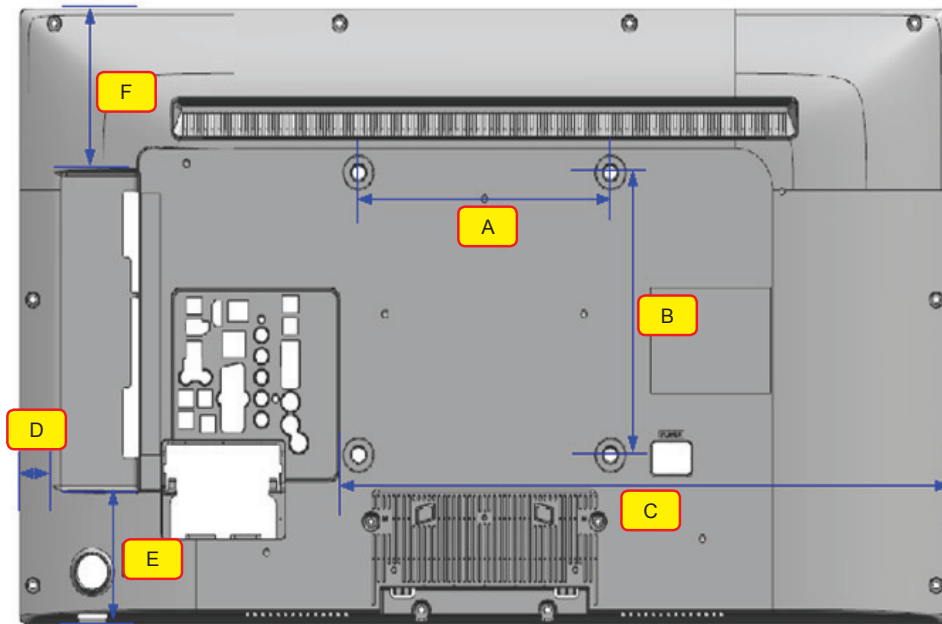


4. Click the "ENTER" key.
5. Click the "ENTER" key.
  - Wait for upgrade complete.
  - Check the Software Version.



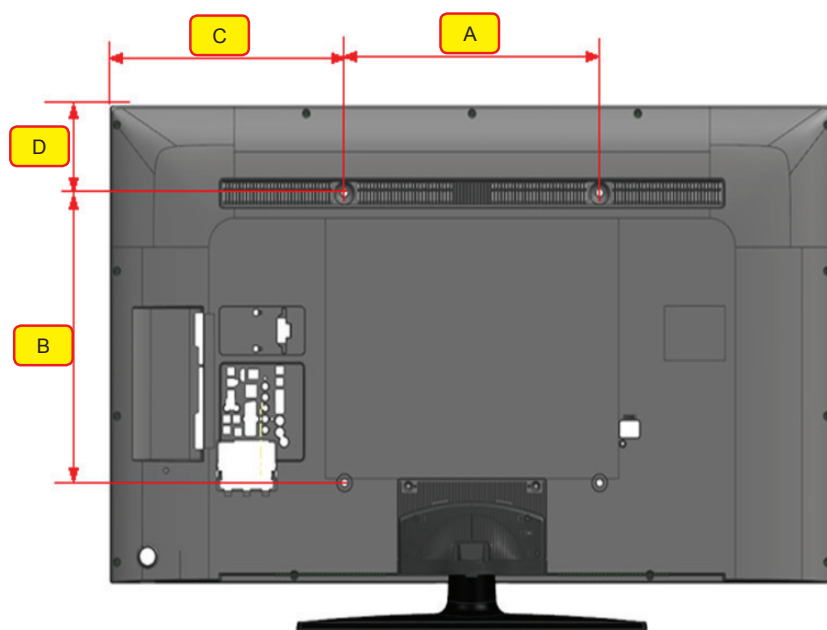
## 4-8. Rear Cover Dimension

### ■ UN32F40\*\*AF



A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
200	200	483.5	25.8	112.4	93.8

## ■ UN\*\*F50\*\*AF

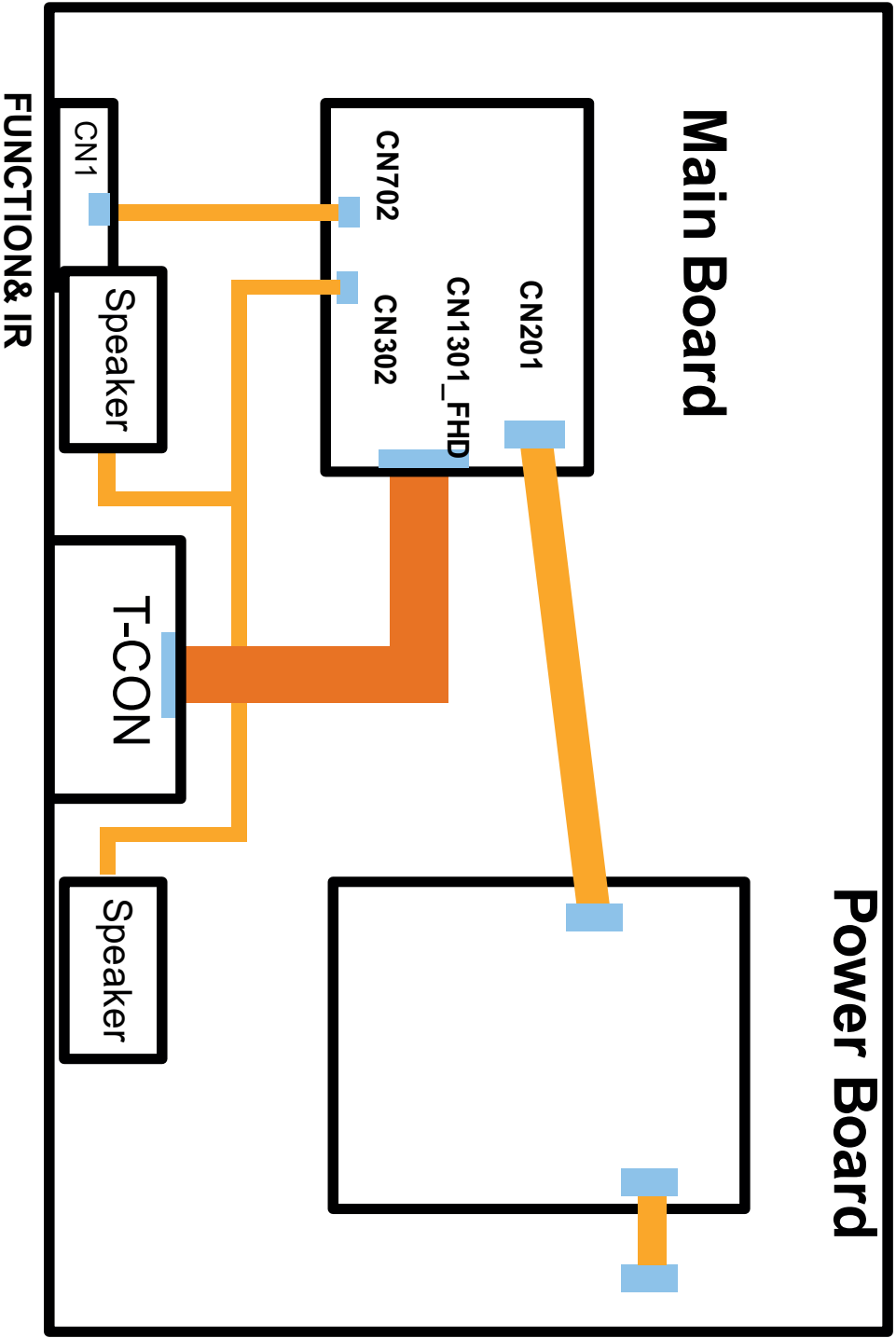


UF5000	32"	40"	46"	50"
WALL MOUNT (A X B)	200 X 200	200 X 200	400 X 400	400 X 400
C	269	364.1	329.8	367.7
D	116.2	170.4	78.1	120

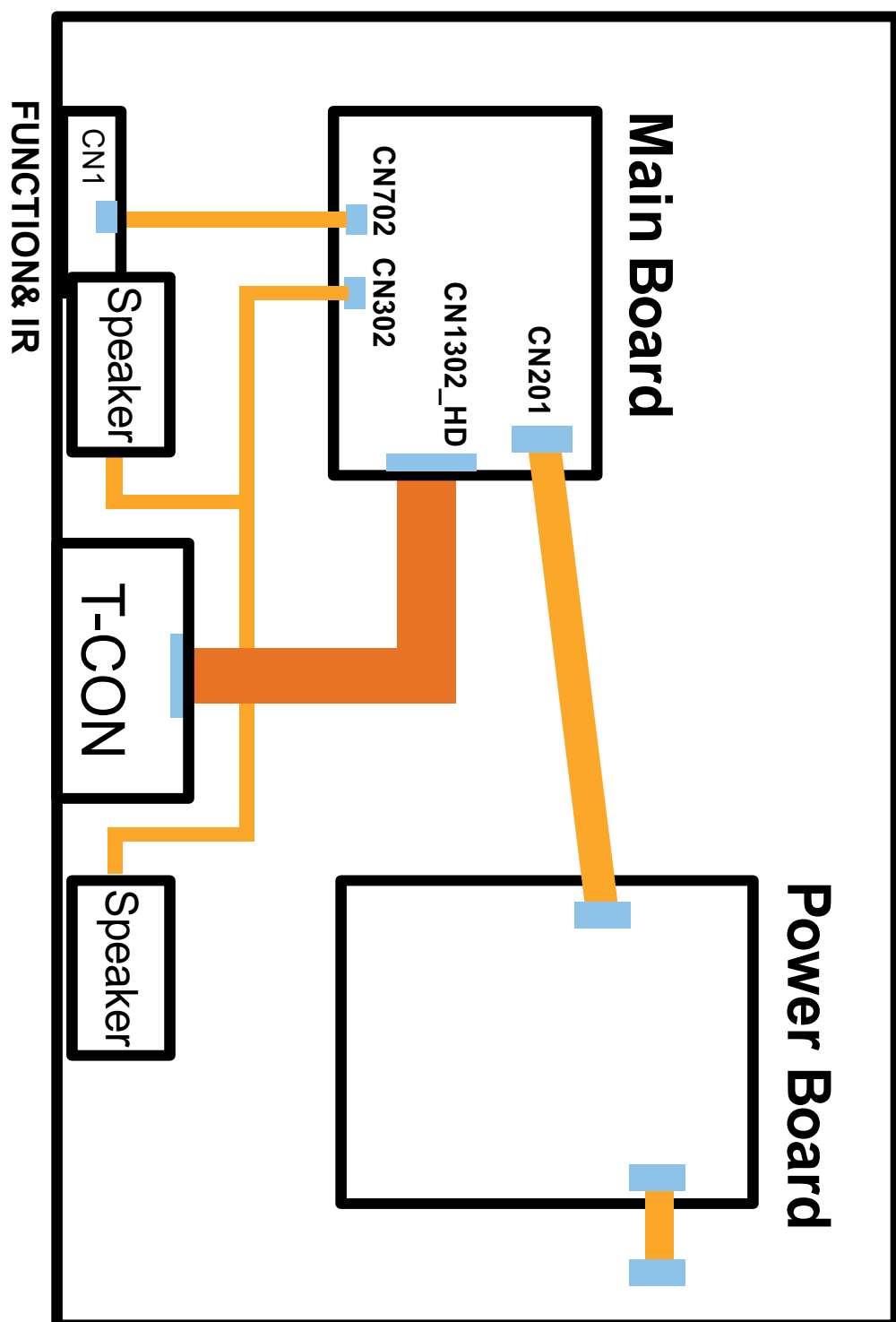
## 5. Wiring Diagram

### 5-1. Wiring Diagram

■ U86A\_FHD

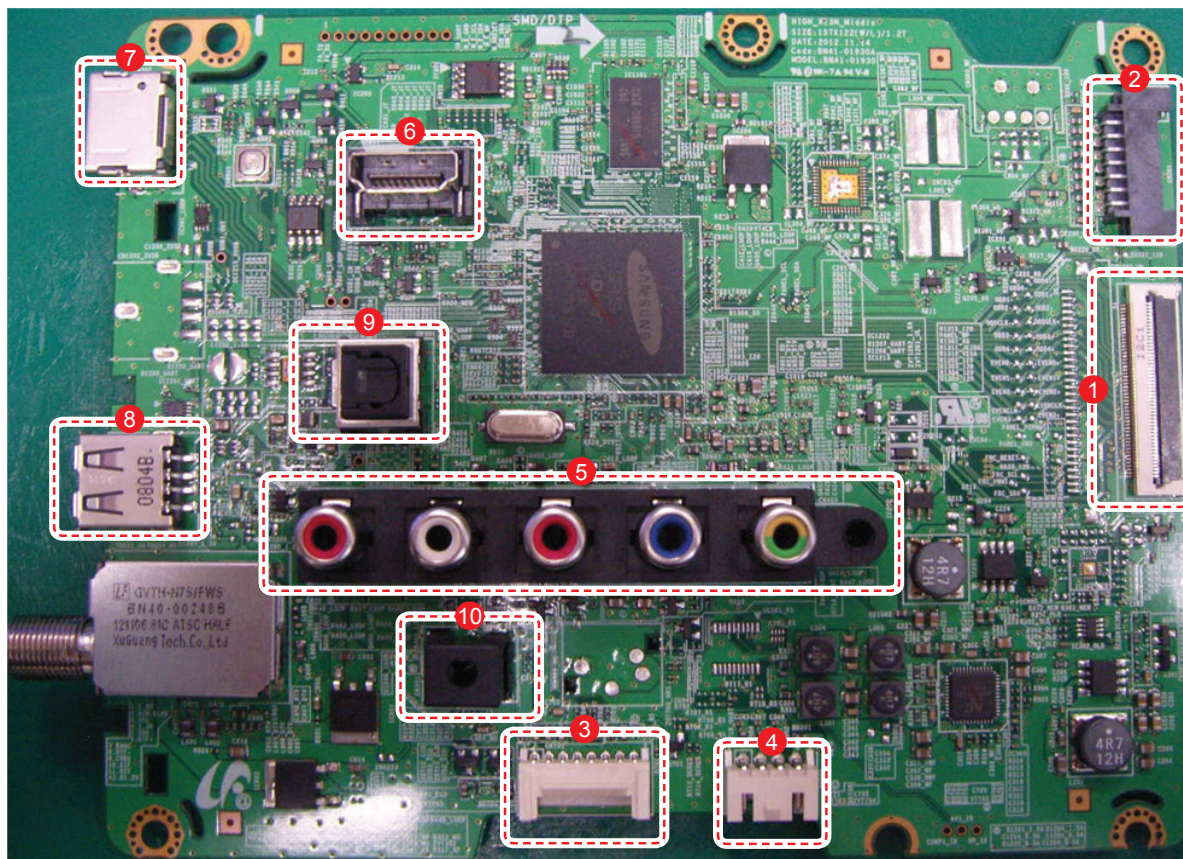


■ U86A\_HD



## 5-2. Connector

### ■ Main Board



**① CN1302\_HD (to Panel)**

1	Panel_VCC	16	EVENCLK+
2	Panel_VCC	17	EVENCLK-
3	Panel_VCC	18	GND
4	Panel_VCC	19	EVEN[2]+
5	Panel_VCC	20	EVEN[2]-
6	GND	21	GND
7	GND	22	EVEN[1]+
8	GND	23	EVEN[1]-
9	TCON_WP	24	GND
10	LVDS_FORMAT	25	EVEN[0]+
11	NC	26	EVEN[0]-
12	GND	27	GND
13	EVEN[3]+	28	SDA_Panel
14	EVEN[3]-	29	SCL_Panel
15	GND	30	NC

**② CN201 (to Powr board)**

1	B5.3V	8	GND
2	SW_POWER	9	B13VS
3	B5.3V	10	SW_INVERTER
4	A5.3V	11	B13V
5	GND	12	B13V
6	GND	13	B13V
7	B13VS	14	PWM_DIMM

**③ CN702 (FUNCTION)**

1	IR	5	MSDA
2	GND	6	KEY1
3	A3.3V	7	KEY2
4	MSCL	8	GND

## 5. Wiring Diagram

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

⑤ CN403 (COMPONENT)			
1	GND	9	TEST_COMP_PR
2	COMP1_Y_CVBS	10	GND
3	IDENT_VIDEO1	11	COMP1_SL_IN
4	GND	12	TEST_SL
5	COMP1_PB	13	GND
6	IDENT_COMP1	14	COMP1_SR_IN
7	GND	15	TEST_SR
8	COMP1_PR		

⑥ CN501 (HDMI1)			
1	HDMI1_RX2+	11	GND
2	GND	12	HDMI1_RXCLK-
3	HDMI1_RX2-	13	HDMI_CEC
4	HDMI1_RX1+	14	GND
5	GND	15	SCL
6	HDMI1_RX1-	16	SDA
7	HDMI1_RX0+	17	GND
8	GND	18	5V
9	HDMI1_RX0-	19	HPD
10	HDMI1_RXCLK+		

⑦ CN502 (HDMI2)			
1	HDMI2_RX2+	11	GND
2	GND	12	HDMI2_RXCLK-
3	HDMI2_RX2-	13	HDMI_CEC
4	HDMI2_RX1+	14	GND
5	GND	15	SCL
6	HDMI2_RX1-	16	SDA
7	HDMI2_RX0+	17	GND
8	GND	18	5V
9	HDMI2_RX0-	19	HPD
10	HDMI2_RXCLK+		

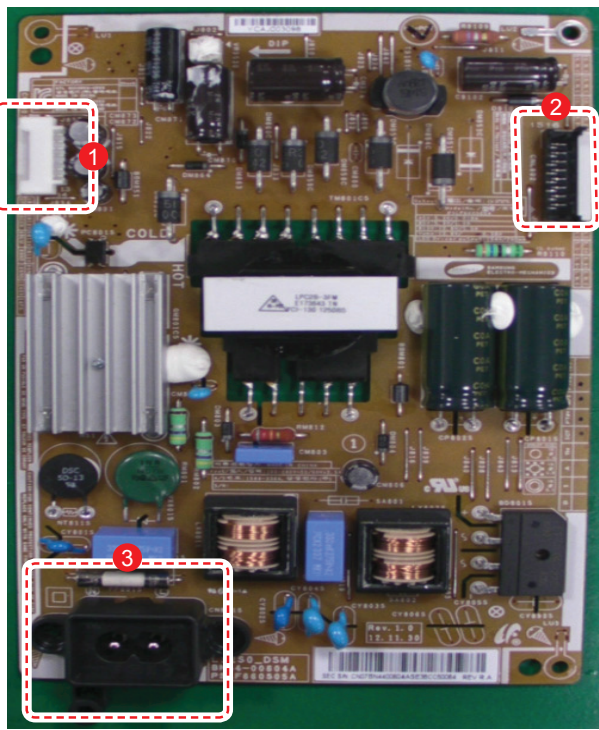
⑧ CN1201 (USB1)			
1	USB_VCC	3	USB_DP
2	USB_DM	4	GND

⑨ OP301 (OPTICAL)			
1	SPDIF_OUT	3	GND
2	GND		

⑩ CN301 (MONITOR OUT)			
1	GND	5	NC
2	SL_OUT	6	IDENT
3	SR_OUT	7	GND
4	NC		

⑪ CN1301_FHD (to Panel)			
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		

■ SMPS



① CNM803 (to MAIN board)			
1	B13V	8	GND
2	PWM_DIM	9	GND
3	B13V	10	GND
4	ECO_ON/OFF	11	B5V
5	Vamp	12	A5V
6	BLU_ON/OFF	13	B5V
7	Vamp	14	PS ON/OFF

② CNL802			
1	NC	9	2-
2	NC	10	2+
3	4-	11	1-
4	4+	12	1+
5	3-	13	NC
6	3+	14	NC
7	NC	15	IF2
8	NC	16	IF1

③ CN801S			
1	N	2	L

### 5-3. Connector Functions

Connector	Function
CN201 ↔ IP CN	Supply main power and dimming signal from IP board to Main Board.
CN1302_HD (CN 1301_FHD) ↔ T-CON CNF1	The LVDS signal transfered from Main Board to Panel.

5-4. Cables

Use	LEAD (Main-IP 14P)	LVDS CALBE (Main - Panel 30P)
Code No.	UN32F4000AF : BN39-01455W UN32F5000AF : BN39-01455W UN40F5000AF : BN39-01455C UN46F5000AF : BN39-01455X UN50F5000AF : BN39-01455S	UN32F4000AF : BN96-20370Y UN32F5000AF : BN96-24278E UN40F5000AF : BN96-24278F UN46F5000AF : BN96-24278G UN50F5000AF : BN96-26699K
Image		