



LED TV

Chassis : U90A

Model : UE40F80****

UE46F80****

UE55F80****

SERVICE Manual

LED TV



UE**F80****

Contents

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

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2.1 Detailed Specifications

Item	UE**E90****
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Item		UE P80
General Information	Product	LED
	Series	8
Display	Inch	40" / 46" / 55"
	Resolution	1,920 x 1,080
	Ultra Clear Panel	Yes
Video	Picture Engine	3D HyperReal Engine
	Clear Motion Rate	1000
	Dynamic Contrast Ratio	Mega Contrast
	Micro Dimming	Micro Dimming Ultimate
	Precision Black (Local Dimming)	No
	Wide Color Enhance (Plus)	Yes
	Auto Motion Plus 120/240Hz	240Hz
	Film Mode	Yes
	Natural Mode Support	Yes
Audio	Dolby	Dolby Digital Plus / Dolby Pulse
	SRS / DNSe+	DNSe+
	dts 2.0 + Digital Out / DTS Premium Audio	DTS Premium Audio
	3D Sound	Yes
	Sound Customizer	Yes
	Speaker Type	Down Firing + Full Range
	Sound Output (RMS)	40W(10 x 2, woofer 10 x 2)
	Woofer	Yes
Smart TV 2.0	Smart Hub	Yes
	Smart Guide	17 EU Countries
	movies & TV shows	Yes (FR, DE, ES, AT, CH)
	Apps	Yes
	Social	Yes
	Photos, Clips & Music	Yes
	Family Story	Yes
	Fitness	Yes
	Kids	Yes
	Samsung Smart View	Yes
	Recommendation Bar	17 EU Countries
	Web Browser	Yes
	Web Browser	Yes

2. Product specifications

	Item	UE**F80****
Smart Interaction 2.0	Camera Built-in	Yes
	Face Recognition	Yes
	Hand Gesture Recognition	Yes
	Voice Recognition (Embedded)	Yes
	Voice Recognition (Server)	Yes
	NLU (Natural Language Understanding)	Yes (FR, DE)
	Camera App	Yes
	Smasung TV Apps supported	Yes
Feature	Samsung 3D	Yes
	3D Converter	Yes
	History	Yes
	MultiTasking	Yes
	Smart Evolution Support	Yes
	Allshare (Contents Sharing, Screen Mirroring)	Yes
	ConnectShare (USB 2.0)	Movie
	WiFi Direct	Yes
	Wireless LAN Built-in	Yes
	BT HID Built-in	Yes
	USB HID Support	Yes
	Sound Share	Yes
	OSD Language	26 European Languages
	User Interface	Golden bridge
	Digital Noise Filter	Yes
	MHL	Yes
	InstaPort 5 (HDMI Quick Switch)	Yes
	HDMI 1.4 3D Auto Setting	Yes
	HDMI 1.4 A / Return Ch. Support	Yes
	EPG	Yes
	2 Tuner	Yes
	HbbTV	Yes (CZ, PL, DE, AT, CH, BE, NL, LU, PT, FR, ES)
	Teletext(TTX)	Yes
	Anynet+ (HDMI-CEC)	Yes
	BD Wise Plus	Yes
	Auto Channel Search	Yes
	Auto Power Off	Yes
	Auto Volume Leveler	Yes
	Caption (Subtitle)	Yes
	Clock & On/Off Timer	Yes

Item		UE**F80****
Feature	Game Mode	Yes
	Soccer Mode	Advanced
	Picture-In-Picture	Yes
	Sleep Timer	Yes
	Channel List USB-Clone	Yes
	Embedded POP	Yes
System	DTV Tuner	2 * DVB-T2/C/S2(T2CS2) 2 * DVB-T/C/S2(TCS2)
	Analog Tuner	Yes
	CI / CI+	Yes
Input & Output	HDMI	4
	USB	3
	Component In (Y/Pb/Pr)	1
	Composite In (AV)	1 (1 Common Use for Component Y)
	Ethernet (LAN)	1
	Digital Audio Out (Optical)	1
	Audio Out (Mini Jack)	1
	RF In(Terrestrial/Cable input)	1
	RF In(Satellite input)	2
	RS232C (AV CONTROL)	Yes
	IR Out	Yes
	CI Slot	1
	Scart	1
Design	Design	Metal
	Bezel Type	SNB
	Slim Type	Slim 2
	Front Color	Black
	Light Effect (Deco)	Yes
	Stand Type	Arch
	Push & Pull Camera	Yes
ECO	Energy Efficiency Class	TBD
	Eco Mark	EU Ecolabel
	Eco Label	Yes
	Eco Sensor	Yes
Accessory	3D Active Glasses (Included)	2SSG-5100GB
	IR Blaster Cable (Included)	Yes
	Remote Controller Model	TM1390 / TM1240A
	Battery (for Remote Control)	Yes
	Mini Wall Mount Support	Yes

2. Product specifications

Item		UE**F80****
Accessory	Ultra Slim Wall Mount Soupport	Yes
	Vesa Wall Mount Support	Yes
	Slim Gender Cable	1AV, 1 Component(AV share), 1L/R
	Power Cable	Yes
	User manual	Yes
	E-mauaI	Yes

2-2. Other Specifications


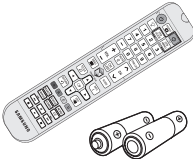



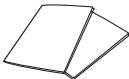

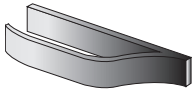



Model	UE40F80****	
Item	Description	
LCD Panel	40 inch FHD 240Hz	
Scanning Frequency	Horizontal : 67.5 kHz (TYP) Vertical : 60 Hz (TYP)	
Display Colors	Wide Color Enhancer Plus	
Maximum Resolution	Horizontal : 1,920 Pixels Vertical : 1,080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	160 MHz	
Active Display (H x V)* * Horizontal x Vertical	34.867 (H) × 19.613 (V) inches / 885.6 (H) × 498.15 (V) mm	
AC Power Voltage & Frequency	AC220-240V 50/60Hz	
Power Consumption	<ul style="list-style-type: none">Typical power : 66 WRating for including Evolution Kit : 146 W	
Dimensions (W x D x H)	Set with Stand	900.2 x 235.0 x 559.0 mm
	Set without Stand	900.2 x 34.9 x 525.0 mm
Weight	Set with Stand	11.2 kg
	Set without Stand	10.3 kg
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	<ul style="list-style-type: none">UF80** ZG/XH/ZT/XE/XU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tunerUF80** ZG(Germany only) other EU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -13°F ~ 113°F (-25°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio Specifications	MAX Internal Audio Output Power : Each 20 W (Left/Right)	
Note : 3D, MoIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

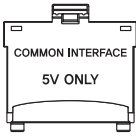


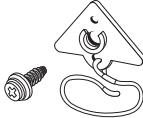

2. Product specifications

Model	UE46F80****	
Item	Description	
LCD Panel	46 inch FHD 240Hz	
Scanning Frequency	Horizontal : 67.5 kHz (TYP) Vertical : 60 Hz (TYP)	
Display Colors	Wide Color Enhancer Plus	
Maximum Resolution	Horizontal : 1,920 Pixels Vertical : 1,080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	160 MHz	
Active Display (H x V)* * Horizontal x Vertical	40.177165 (H) x 22.625984 (V) inches / 1020.5 (H) x 547.7 (V) mm	
AC Power Voltage & Frequency	AC220-240V 50/60Hz	
Power Consumption	<ul style="list-style-type: none">Typical power : 71 WRating for including Evolution Kit : 157 W	
Dimensions (W x D x H)	Set with Stand	1032.7 x 257.7 x 629.5 mm
	Set without Stand	1032.7 x 34.9 x 596.9 mm
Weight	Set with Stand	14.0 kg
	Set without Stand	12.8 kg
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	<ul style="list-style-type: none">UF80** ZG/XH/ZT/XE/XU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tunerUF80** ZG(Germany only) other EU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -13°F ~ 113°F (-25°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio Specifications	MAX Internal Audio Output Power : Each 20 W (Left/Right)	
Note : 3D, MoIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

Model	UE55F80****	
Item	Description	
LCD Panel	55 inch FHD 240Hz	
Scanning Frequency	Horizontal : 67.5 kHz (TYP) Vertical : 60 Hz (TYP)	
Display Colors	Wide Color Enhancer Plus	
Maximum Resolution	Horizontal : 1,920 Pixels Vertical : 1,080 Pixels	
Input Signal	Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated	
Input Sync Signal	H/V Separate, TTL, P. or N.	
Maximum Pixel Clock Rate	160 MHz	
Active Display (H x V)* * Horizontal x Vertical	47.716535 (H) x 26.866142 (V) inches / 1212.0 (H) x 682.4 (V) mm	
AC Power Voltage & Frequency	AC220-240V 50/60Hz	
Power Consumption	<ul style="list-style-type: none">Typical power : 76 WRating for including Evolution Kit : 182 W	
Dimensions (W x D x H)	Set with Stand	1224.2 x 310.3 x 736.7 mm
	Set without Stand	1224.2 x 34.9 x 704.6 mm
Weight	Set with Stand	18.3 kg
	Set without Stand	16.8 kg
TV System	Tuning	Frequency Synthesize (Refer to detailed Frequency Table)
	System	<ul style="list-style-type: none">UF80** ZG/XH/ZT/XE/XU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/T2/S2 tunerUF80** ZG(Germany only) other EU<ul style="list-style-type: none">1 PAL/SECAM/NIM/QAM/Cable/S2 tuner
	Sound	Dolby Digital+, SRS theater HD
Environmental Considerations	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -13°F ~ 113°F (-25°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing	
Audio Specifications	MAX Internal Audio Output Power : Each 20 W (Left/Right)	
Note : 3D, MoIP, Media Bridge, Allshare, Internet TV, Built-in Wi-Fi, Full Browser, Bluetooth		

2-3. Accessories

Product	Description	Code. No	Remark
	Smart Touch Control & Batteries (AAA x 2)	AA59-00759A	Supplied Accessories
	Remote Control & Batteries (AAA x 2)	AA59-00786A	
	Power Cord	0502-001331	
	3D Active Glasses	BN96-25616A	
	User Manual & Regulatory Guide	BN68-04794F / BN68-04972A	
	Quick Start Guide / Warranty Card	BN68-05118A / BN68-03548J	
	Scart Adapter	BN39-01154A	
	Cable Clip	BN61-08951A	
	AV Adapter	BN39-01154A	
	Component Adapter	BN39-01154C	
	Screw Cover	BN67-00427A	

Product	Description	Code. No	Remark
	CI Card Adapter	3709-001791	Supplied Accessories
	Power inlet cover	BN63-10567A	
	Wall mount adapter	BN96-27421A	
	TV-Holder Kit	BN96-26735A	
	IR Blaster Cable	BN96-26652A	

**NOTE**

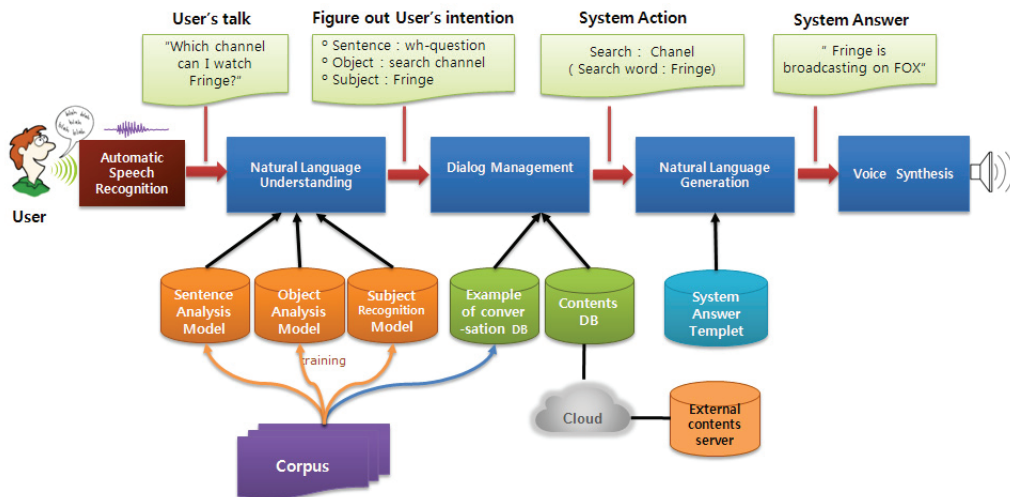
The part code for some accessories may differ depending on your region.

2-4. Viewing the Functions

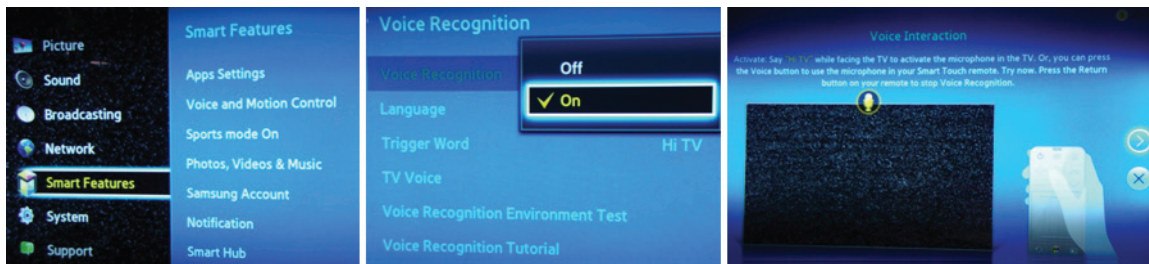
2-4-1. SMART Interaction

■ Voice Recognition

- Conversation with TV by Human Talks.
- TV answer or execute about User's Talks.



Start to use Voice Recognition



Voice Recognition

Voice Recognition On

Voice Recognition Tutorial

Example of Broadcasting & Contents

- Search Program title (on air) "What's the title?"
- Recommend/Search Program (Channel) "Something interesting program?"
- Search the specific Genre of contents "Which channel is on NEWS?"
- Search the specific Program title "Find "American Idols"
- Search the program by performer "Find channel which Oprah Winfrey appear"
- Change Channel by calling the channel "FOX, USA Network, CWTY, NBC, ..."



NOTE

- Support Genre

DRAMA	MOVIE	CARTOON	ENTERTAINMENT
SPORTS	HOBBY	MUSIC	EDUCATION
SHOPPING	NEWS	CURRENT EVENTS	CULTURE

■ Motion Recognition

- One-Hand Motion Control



Slightly shake the hand forward to TV

Degree : front/left/right 45 degree

- Two-Hand Motion Control

[Case 1] Recognize one hand



Slightly shake the hand forward to TV

[Case 2] Recognize two hands



Slightly shake two hands forward to TV

Motion Recognition

- Pointing Mode Command Set



Slap : Free Pointing



Grab : Execute



Grab & Move : Panning



CCW Rotation : Back



Same as "Return" key on remote.

- Special Command Set ('13 New Functions)



Slap : Move SMART HUB Window, Photo



Two-Handed : Zoom In/Out



Slap : Move SMART HUB Window, Photo



Rotation : Rotating Photo



2-4-2. Smart Control

The Smart Touch Control makes it easier and more convenient to use the TV. For example, you can use the remote control's built-in touchpad to move the focus and make selections as you would on a computer using a mouse. In addition, you can use the virtual control panel displayed on the screen to change channels, play media files, and access favorites.

■ Connecting to the TV

In order to operate the TV using a Smart Touch Control unit, you must first pair it to the TV via Bluetooth.

1. To turn on the TV, point the Smart Touch Control at the remote control receiver of the TV and press the TV button. The remote control receiver's location may vary depending on the model.
2. A Bluetooth icon will appear at the bottom left of the screen as shown below. The TV will then attempt to connect to the Smart Touch Control unit automatically



<Attempting to connect and completion icons>

■ Reconnecting the Smart Touch Control Unit

If you need to reestablish the connection between the TV and the Smart Touch Control unit, press the pairing button at the back of the Smart Touch Control unit.



<The Smart Touch Control unit's pairing button>

The pairing button can be accessed by removing the control unit's battery cover. Pressing the pairing button automatically reestablishes the connection between the control unit and the TV.












■ Buttons and Descriptions



Touchpad

Drag your finger on the touchpad as you would on the touchpad of a laptop to move the focus displayed on the screen. To select item, press the touchpad.

<The Smart Touch Control>

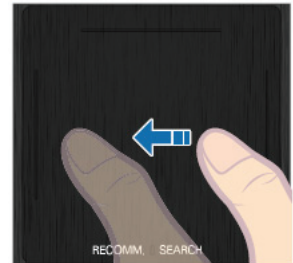
 TV Turns the TV on/off.	 ^ P v Changes the channel.
 SOURCE Changes the source.	MORE Displays a virtual remote control on the screen. The virtual remote control consists of a number panel, a playback control panel, and a quick access panel. Use the touchpad to select numbers and buttons.
 STB Turns on and off the satellite or cable set-top box connected to the TV. For this, the Smart Touch Control must be configured as a universal remote control.	 The colour buttons work differently, depending on the function that the TV is currently performing.
 VOL Adjusts the volume.	 RETURN/EXIT Returns to the previous menu.
 VOICE Run Voice Recognition. To speak a voice command, press and hold the VOICE button and say a voice command.	 SMART HUB Launch Smart Hub. While an application is running, pressing the Smart Hub button terminates the application.
 MUTE / AD Turns the TV sound on/off.	 GUIDE Check the digital channel broadcasting schedule.

■ Reconnecting the Smart Touch Control Unit

Use the touchpad to perform various commands. Navigate to Guide (**System** → **Device Manager** → **Smart Touch Control Settings** → **Guide**) to view an on-screen guide to using the Smart Touch Control.

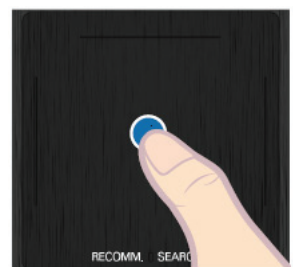
- Dragging

Drag on the touchpad in the desired direction. Move the focus or the pointer in the direction the finger is dragging.



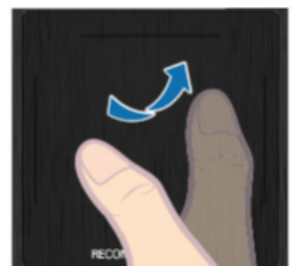
- Tap

Tap on the touchpad. This selects the focused item.



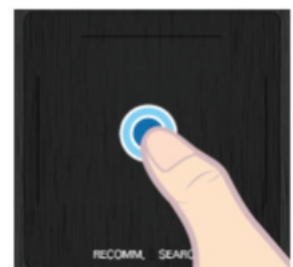
- Flicking

Flick on the touchpad in the desired direction. This moves the focus or scrolls the screen based on the direction and speed of the flick.



- Tapping and Holding

Tap and hold on the touchpad for at least 3 seconds. This gives you access to hidden features included in certain applications.



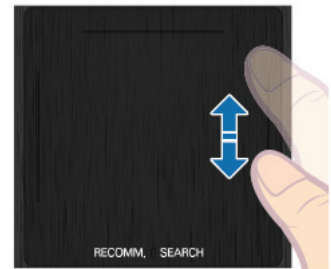
- Tapping and Dragging

Tap on the touchpad, drag and release. This moves the selected web item in a webpage or your current location on a map.



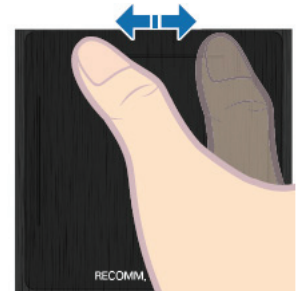
- Scrolling Up/Down

Scroll up/down the line on either the left or right edge of the touchpad. This scrolls a webpage or a list up/down. This scrolling feature easily accommodates both right-handed and left-handed users.



- Scrolling Left/Right

Scroll left/right on the line at the top or bottom edge of the touchpad. This scrolls a horizontal webpage or the Smart Hub panel to the left/right.



2-4-3. SMART HUB

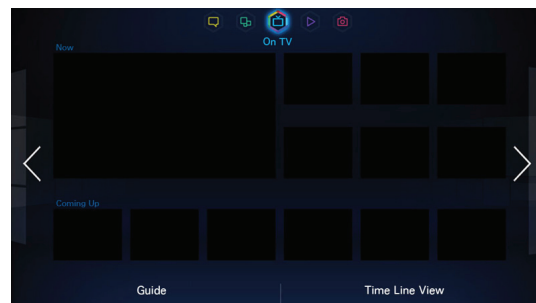
This TV features Smart Hub, a multi-purpose entertainment and family center. With Smart Hub, users can surf the web, download applications, and stay in touch with family and friends through social networking services. In addition, you can enjoy photo, video, and music files stored on external storage devices.



On TV

This functions is only available on U.S and Canada.

While you watch TV, a list of recommended programs on other channels appears on the screen. You can use this list to change the channel and find out more information about the recommended programs including how much time is left until they air.



Movies & TV Shows

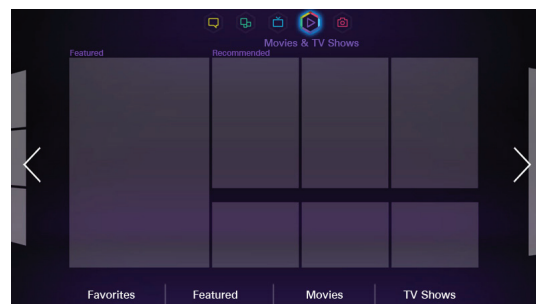
Purchase and watch movies and series without a separate external device.

This functions is only available on U.S and Canada.

Users can buy movies and TV shows online.

Open Smart Hub and select Movies & TV Shows.

This service may be not available depending on the country or region.

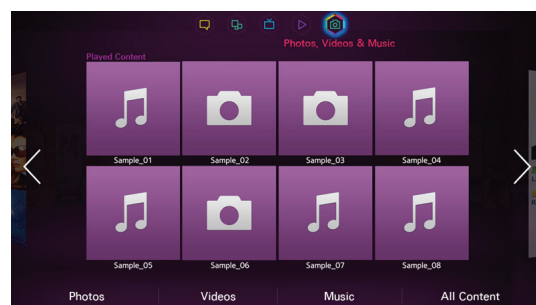


Movies & TV Shows

Play back photo, video, and music files from an external storage device.

Open Smart Hub and select Photos, Videos & Music.

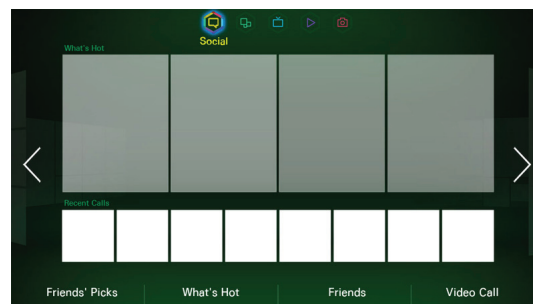
Enjoy photo, video and music files from an external storage device directly on your TV. Back up important files before connecting an external storage device to the TV. Samsung will not be held responsible for damaged or lost files.



Social



Watch the latest YouTube videos and you and your friends' video posts on Facebook and Twitter. You can also make video calls to friends by connecting the TV to a camera (sold separately).

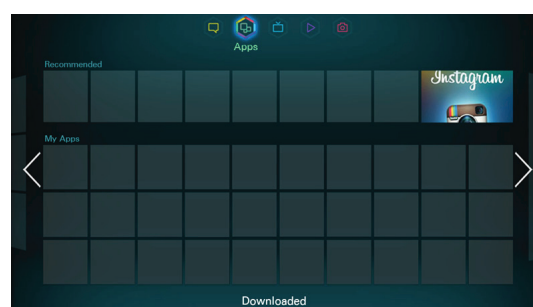


Apps



Download and install applications such as WebBrowser and Family Tree.

Samsung Apps offers an extensive collection of free and paid news, sports, weather, and gaming content you can directly download to and enjoy on your TV. First, check the network and make sure the TV is connected to the Internet. Your TV needs to be connected to the Internet in order to use Apps.



- Samsung Apps**
 Samsung Apps offers various free and paid news, sports, weather, and gaming applications. Samsung Apps lets you search for applications and install them directly on your TV. Read and agree to the terms and conditions of use and then browse through the categories or directly search for applications.
- Fitness**
 Fitness is an application that helps you stay fit. Create a profile, set up an exercise plan, and start exercising according to a structured regimen. Read and agree to the terms and conditions before using Fitness.
- Family Story**
 Family Story allows people to share photos, messages and events with family and friends. Family Story is available on TVs, computers, and mobile devices, allowing you to stay connected with your friends and loved ones at home, at the office, and even while on the go. Read and agree to the terms and conditions before using Family Story.
- Kids**
 This is a quick launcher and recommended list for applications and content that is suitable for children and even provides services not currently installed on your TV. Using Kids, you can download applications and content for your children to your TV. Certain services, however, are fee-based.
- WebBrowser**
 WebBrowser is a web-browsing application. Using WebBrowser, you can browse the Internet on your TV as you would on your computer and even watch TV while you surf the web. The browsing experience, however, may not be the same as it is on your computer. Use a keyboard and mouse for a more convenient web browsing experience.
- Social Networks**
 Share your thoughts and comments about a program on the air through social networking services. Social Networks displays social network services such as Twitter, Facebook, Google Talk, and NateOn on a single screen. You can even post messages and comments in the same manner as you would using a computer. You must first link your Samsung account to the respective SNS accounts before you can access them using Social Networks.

2-4-4. Supported Formats

■ Supported Subtitle Formats

Exterminal

Name	File Extension
MPEG-4 Timed text	.txt
SAMI	.smi
SubRip	.srt
SubViewer	.sub
Micro DVD	.sub or .txt
SubStation Alpha	.ssa
Advanced SubStation Alpha	.ass
Powerdivx	.psb

Internal

Name	File Extension
Xsub	AVI
SubStation Alpha	MKV
Advanced SubStation Alpha	MKV
SubRip	MKV
MPEG-4 Timed text	MP4

■ Supported Music File Formats

File Extension	Type	Codec	Comments
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a	MPEG4	AAC	
*.mpa			
*.aac			
*.flac	FLAC	FLAC	Supports up to 2 channel
*.ogg	OGG	Vorbis	Supports up to 2 channel
*.wma	WMA	WMA	WMA 10 Pro supports up to 5.1 channel. WMA lossless audio is not supported. Supports up to M2 profile (except LBR mode)
*.wav	wav	wav	
*.mid *.midi	midi	midi	type 0, type 1 are supported.
*.ape	ape	ape	

■ Supported Video Formats

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.avi *.mkv *.asf *.wmv *.mp4 *.3gp *.vro *.mpg *.mpeg *.ts *.tp *.trp *.mov *.flv *.vob *.svi *.m2ts *.mts *.divx	AVI MKV ASF MP4 3GP MOV FLV VRO VOB PS TS SVAIF	Divx 3.11 / 4 / 5 / 6	1920 x 1080	6~30	30	AC3 LPCM ADPCM(IMA, MS) AAC HE-AAC WMA DD+ MPEG(MP3) G.711(A-Law, μ-Law)
		MPEG4 SP/ASP				
		H.264 BP/MP/HP				
		Motion JPEG				
		Microsoft MPEG-4 v3	1280 x 720			
		Window Media Video v7,v8				
		Window Media Video v9	1920x1080			
		MPEG2				
		MPEG1				
		MVC	640 x 480		4	
		VP6		24/25/30	60	
		*.webm	WebM	VP8	1920 x1080	

■ Other Restrictions

Codecs may not function properly if there is a problem with the content data. Video content does not play or does not play correctly if there is an error in the content or container. "Sound or video may not work if they have standard bit rates/ frame rates above the TV's compatibility ratings." If the Index Table is wrong, the Seek (Jump) function does not work. "When playing video over a network connection, the video may not play smoothly because of data transmission speeds." Some USB/digital camera devices may not be compatible with the player.

■ Video Decoders

- Supports up to H.264, Level 4.1 (does not support FMO/ASO/RS)
- VC1 AP L4 is not supported.
- All video codecs excluding WMV v7, v8, MSMPEG4 v3, MVC, and VP6:
 - Below 1280 x 720: 60 frame max
 - Above 1280 x 720: 30 frame max
- GMC is not supported.
- Supports SVAF top/bottom and left/right only.
- Supports Blu-ray/DVD MVC specs only.

■ Audio Decoders

- WMA 10 Pro supports up to 5.1 channels. Supports up to M2 profile. (Excluding M0 LBR mode)
- WMA lossless audio is not supported.
- Vorbis is supported for up to 2 channels.
- DD+ is supported for up to 5.1 channels.

2-4-5. Satellite System Guide

Screen Menu > Broadcasting > Channel Settings > Satellite System

A set of satellite dish settings must be configured for each wanted satellite before performing a channel scan. Satellite System is available when Aerial is set to Satellite.



NOTE

The PIN input screen appears. Enter your 4 digit PIN number.

- **Satellite Selection:** You can choose the satellites for this TV.
- **LNB Power:** Enables or disables the power supply for the LNB.
- **LNB Settings:** Configures the outdoor equipment.
 - Satellite:** Selects the satellite for receiving digital broadcasts.
 - Transponder:** Selects a transponder from the list or adds a new transponder.
 - DiSEqC Mode:** Selects DiSEqC mode for the selected LNB.
 - Lower LNB Oscillators:** Sets the LNB oscillators to a lower frequency.
 - Upper LNB Oscillators:** Sets the LNB oscillators to a higher frequency.
 - Tone 22 kHz:** Selects the Tone 22 kHz depending on the LNB type. For a universal LNB it should be Auto.
- **SatCR/Unicable Settings:** Configure single cable installation.



NOTE

- SatCR is short for satellite channel router.
- This function may not support depending on the country.

SatCR/Unicable: Enables or disable single cable installation support.

Slot Number (Tuner 1), Slot Number (Tuner 2): Select the SatCR user slot number for this receiver.

Slot Frequency (Tuner 1), Slot Frequency (Tuner 2): Enter the appropriate frequency to receive the signal from SatCR.

Detect Slot Frequency: Auto-detect the signal frequency for the selected slot number.

Verify Slot Frequency: Verify that the frequency entered corresponds to the selected slot.

- **Positioner Settings:** Configures the aerial positioner.
 - Positioner:** Enables or disables the positioned control.
 - Positioner Type:** Sets the positioned type between DiSEqC 1.2 and USALS (Universal Satellite Automatic Location System).
 - My Longitude: Sets the longitude for my location.
 - My Latitude: Sets the latitude for my location.
 - Satellite Longitude Settings: Sets the longitude of user defined satellites.
 - User Mode:** Sets the position of satellite aerial according to each satellite.

If you store the current position of satellite aerial according to a certain satellite, when the signal of that satellite is needed, the satellite aerial can be moved to pre-populated position.

- **Satellite:** Selects the satellite to set the position for.
- **Transponder:** Selects a transponder from the list for signal reception.
- **Moving Mode:** Selects the movement mode between discrete and continuous movement.
- **Step Size:** Adjusts the step size degrees for the aerial rotation. Step Size is available when Moving Mode is set to Step.
- **Go To Stored Position:** Rotates the aerial to the stored satellite position.
- **Aerial Position:** Adjusts and stores the aerial position for the selected satellite.
- **Store Current Position:** Stores current position as the selected positioner limit.

- **Installer Mode:** Sets limits to the scope of movement of satellite aerial or reset the position. Generally, installation guide uses this function.
 - Limit Position: Selects the direction of the positioner Limit.
 - Aerial Position: Adjusts and stores the aerial position for the selected satellite.
 - Store Current Position: Stores the current position as the selected positioner Limit.
 - Go to zero: Moves the aerial to the reference position.
 - Reset positioner limit: Allows the aerial to rotate over the full arc.
- Reset All Settings: All satellite settings will be reset to the initial values.

■ Scanning for Satellite Channels

Screen Menu > Broadcasting > Channel Settings > Manual Tuning

Press Scan after setting the items below.

- **Transponder**
Selects the transponder.
- **Scan Mode**
Selects either free or all channels to store.
- **Network Search**
Enable / Disable network search.
- **Signal Quality**
Display the current status of broadcasting signal.
- **Network Name**
This displays the name of the network that is found.



NOTE

- Information on a satellite and its transponder is subject to change depending on the broadcasting conditions.
- When setting is completed, move to Search. Channel scan is started.

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

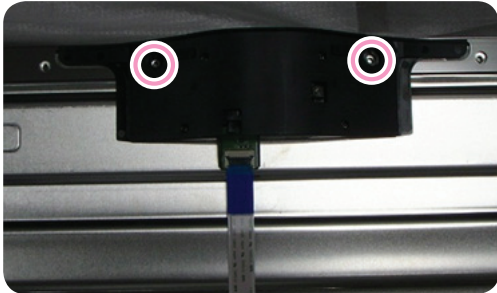

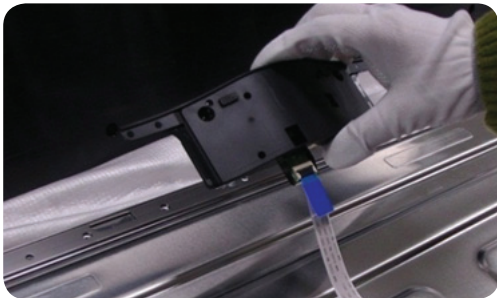
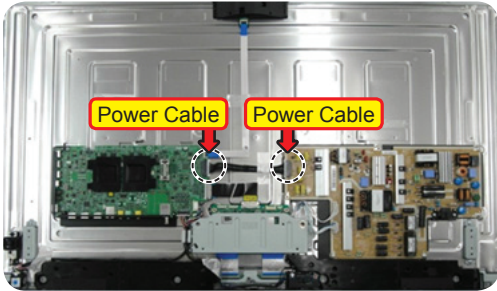
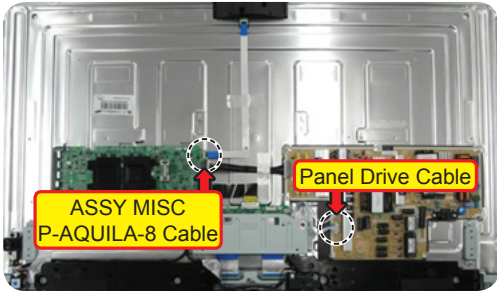
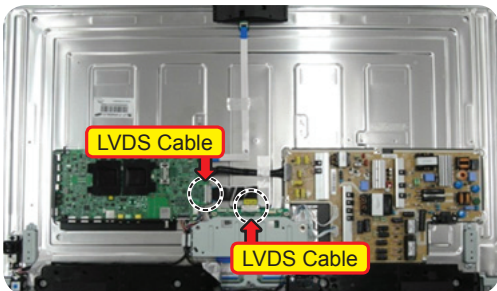


1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.



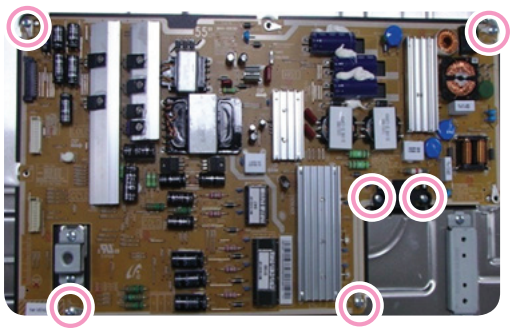

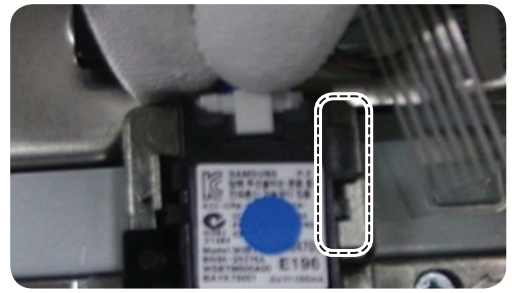
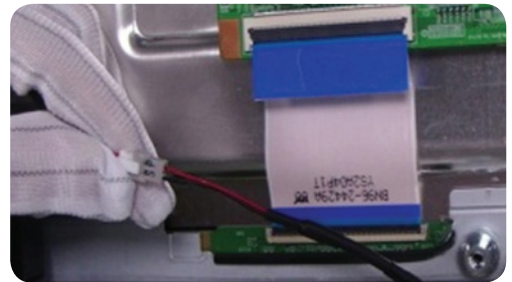

Description	Picture Description	Screws
1 Place TV face down on cushioned table.		
2 Remove 4 screws from the ASSY STAND P-BAS.		
3 Remove ASSY STAND P-BASE. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> CAUTION Becareful when you remove ASSY STAND P-BASE, It could be sharp as a metal parts. </div>		

3. Disassembly and Reassemble

Description	Picture Description	Screws
<p>4 Remove the screws of ASSY COVER P-REAR.</p> <ul style="list-style-type: none"> 40 inch : TBD EA 46 inch : 19 EA 55 inch : 20 EA 		<p>Torque : 4~ 5Kgf.cm.</p>  <p>6001-002996</p>
<p>5 Lift up and remove the ASSY COVER P-REAR.</p> <p>! CAUTION</p> <p>Becareful when you lift up the ASSY COVER P-REAR, It's really sharp.</p>		
<p>6 Remove the ASSY BOARD P-SWITCH FUNCTION Cable and Speaker Cable.</p> <p>NOTE</p> <p>Remove the ASSY BOARD P-SWITCH FUNCTION Cable, before removing the Speaker.</p>		
<p>7 Remove the ASSY SPEAKER (L/R).</p>		

Description	Picture Description	Screws
8 Remove the 2 screws of ASSY MISC P-AQUILA-8.		 6001-003016
		
9 Remove cable of the ASSY PCB MAIN and DC VSS-LED TV PD BD, before removing the SSY PCB MAIN and DC VSS-LED TV PD BD.		
		
		

3. Disassembly and Reassemble

Description	Picture Description	Screws
10 Remove the 4 screws of ASSY PCB MAIN.		<div data-bbox="1321 297 1417 353" style="background-color: orange; color: black; padding: 2px; font-size: 0.8em;">Torque : 7~ 8Kgf.cm</div>  <div data-bbox="1257 488 1401 521" style="text-align: center;">6001-003016</div>
11 Remove the 6 screws of DC VSS-LED TV PD BD.		<div data-bbox="1321 627 1417 683" style="background-color: orange; color: black; padding: 2px; font-size: 0.8em;">Torque : 7~ 8Kgf.cm</div>  <div data-bbox="1257 817 1401 851" style="text-align: center;">6001-003016</div>
12 Remove cable of the ASSY BOARD P-RF-MODULE, ASSY BOARD P-SWITCH FUNCTION, before removing the ASSY BOARD P-RF-MODULE and ASSY BOARD P-SWITCH FUNCTION.	 	
13 Completed disassembly. <ul style="list-style-type: none"> Panel 		



NOTE

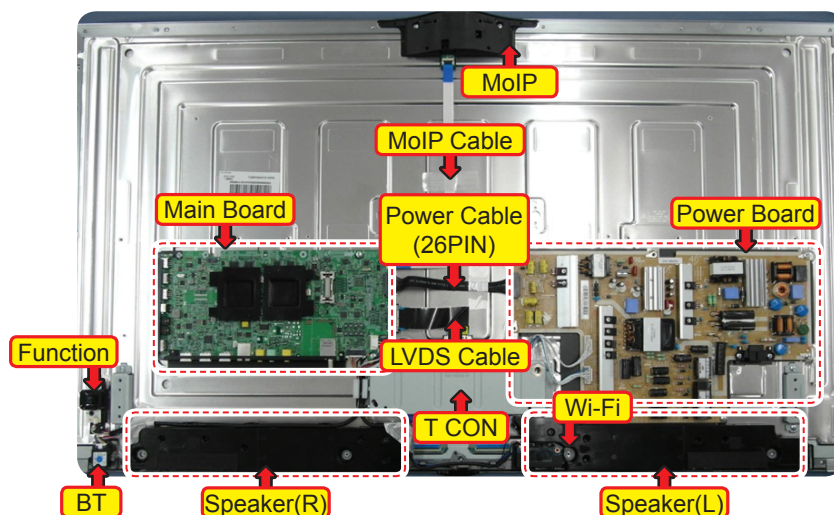
Reassembly procedures are in the reverse order of disassembly procedures.

4. Troubleshooting

4-1. Troubleshooting

4-1-1. Previous Check

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



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

- No Video

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

- Distorted Picture

Check the inner patterns.

- For All mode

X12	FOX_FT1 FRC Post	Picture	Problem
OK	OK	NG	Main Board or Signal Source
NG	OK	NG	Main Board
NG	NG	NG	Main Board or LVDS cable or T CON or Panel

- Only for HDMI mode (additional check)

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

■ How to check inner pattern?

1. Enter the service mode → Choose 'SVC' → Check the 'internal pattern.'

2. Enter 'Service Mode.'

- If you do not have Factory remote control



- If you have Factory remote control

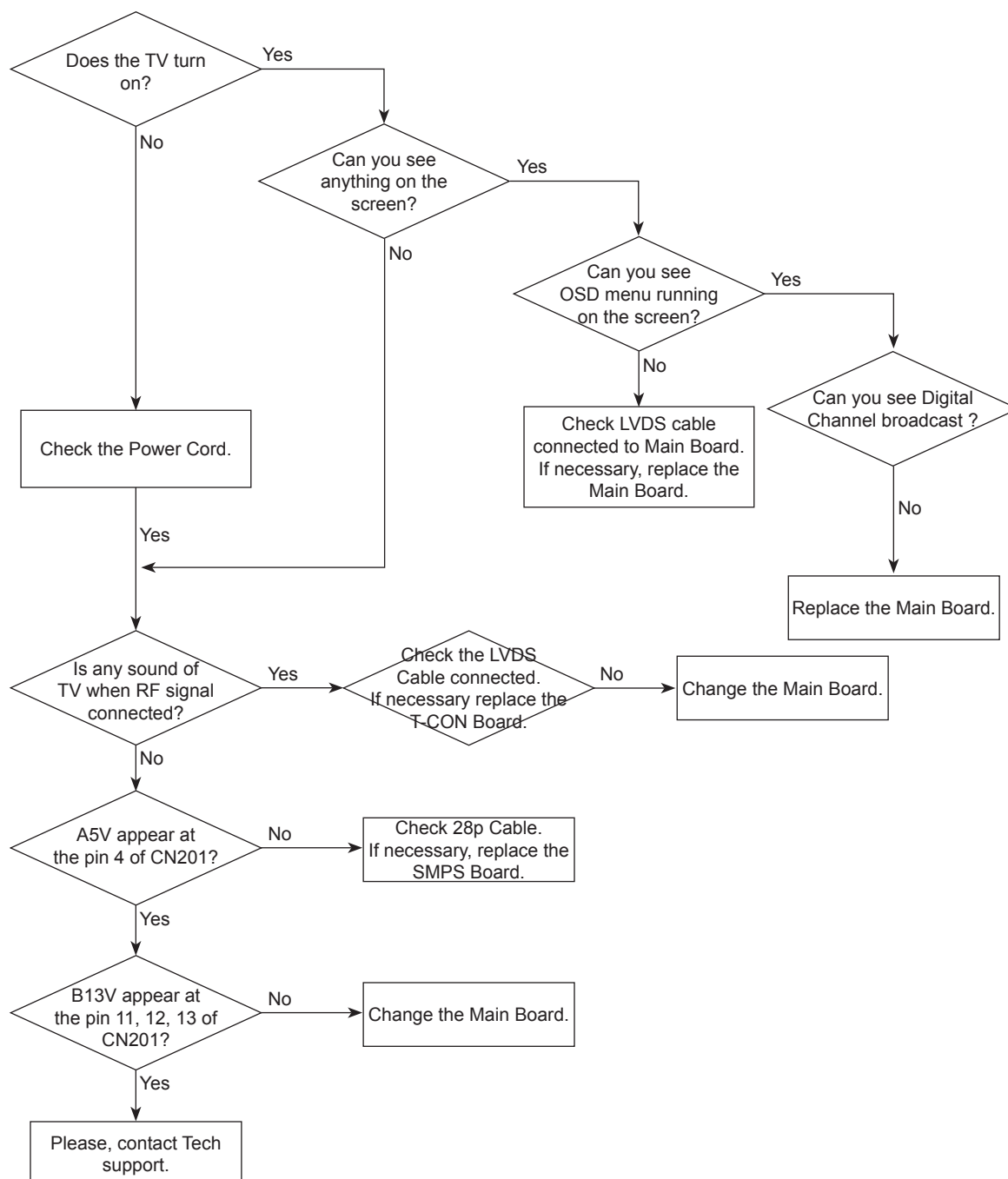


3. Choose 'SVC → Test pattern'.

Option	Test Pattern	Mstar Test Pattern
Control		
Debug		
SVC		
ADC/WB		
Advanced		

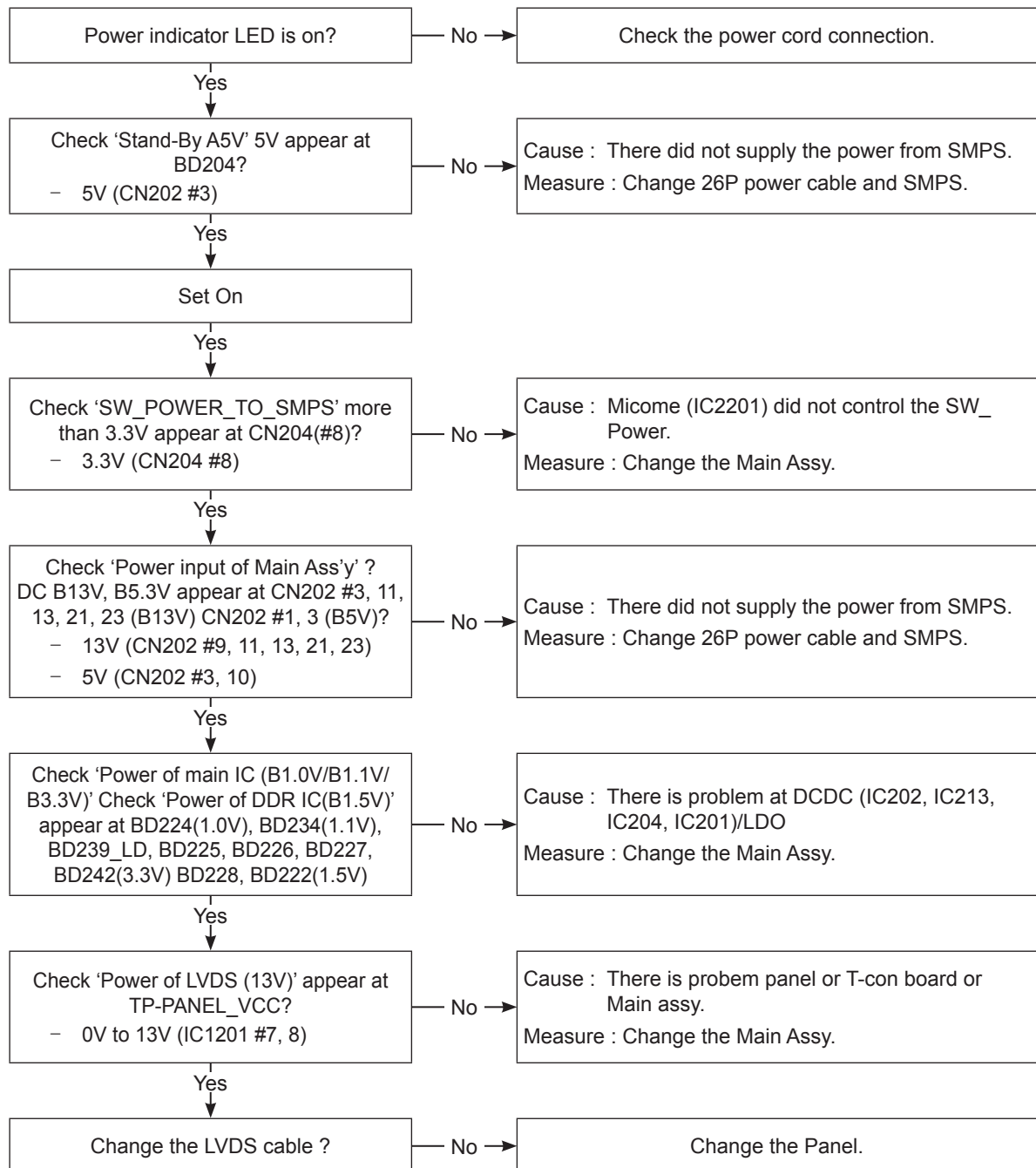
4. Check inner patterns.

4-1-2. Simple flow chart of malfunction

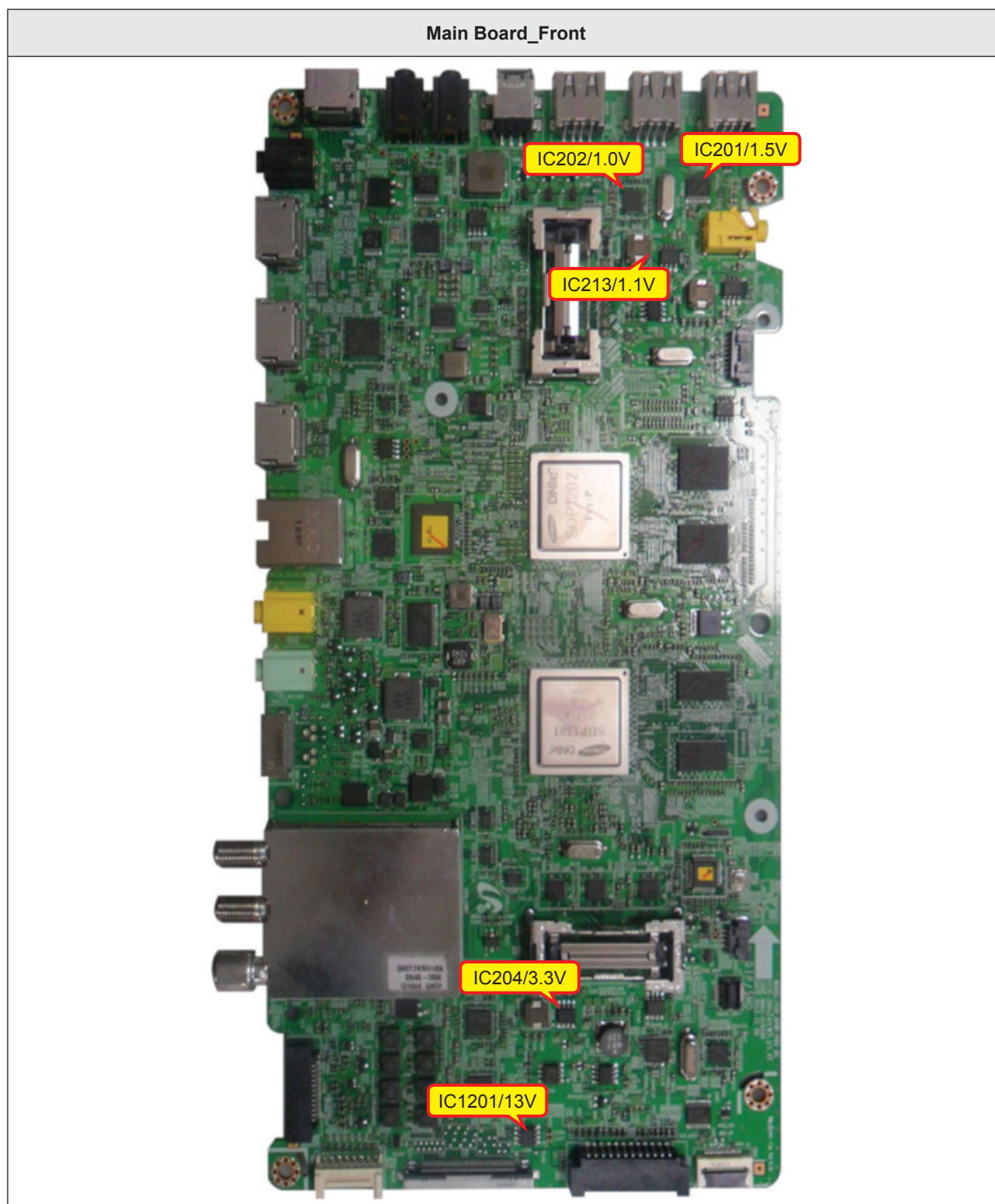


4-2. How to Check Fault Symptom

4-2-1. NO Power and No Video



■ Location of Parts



4-2-2. Problems and Solutions

■ Apps

There is something wrong with the TV.	Try this!
Some application content only appears in English. How can I change the language?	<ul style="list-style-type: none">• The application content language may be different from the user interface language.• The ability to change the language depends on the service provider.
Some application services do not work.	<ul style="list-style-type: none">• Check with the service provider.• Refer to the help section on the application service provider's website.

■ Photos, Videos & Music

There is something wrong with the TV.	Try this!
Some files can't be played back.	<ul style="list-style-type: none">• This problem may occur with high-bitrate files. Most files can be played back, but you might experience problems with high-bitrate files.

■ Web Browser

1. Select Web Browser. The browsing screen may differ from the one on your computer.
2. The web browser is not compatible with Java applications.
3. You cannot download files. If you attempt to download a file, you will receive an error message instead.
4. The web browser may not be able to access certain websites.
5. Playing Flash videos may be restricted.
6. E-commerce for online purchases is not supported.
7. With websites that have scrollable windows, scrolling through such a window can result in corrupted characters.
8. ActiveX is not supported.
9. Certain options are not accessible in Link Browsing mode. (Switch to Pointer Browsing to activate this.)
10. Only a limited number of fonts are supported. Certain symbols and characters may not be displayed properly.
11. The response to remote commands and the resulting on-screen display may be delayed while a webpage is loading.
12. Loading a webpage may be delayed or suspended completely with certain operating systems.
13. The copy and paste operations are not supported.
14. When composing an email or a simple message, certain functions such as the font size and color selection may not be available.
15. There is a limit to the number of bookmarks and the size of the log file that can be saved.
16. The number of windows that can be opened concurrently varies depending on the search conditions and the TV model.
17. The web browsing speed will vary depending on the network environment.
18. Playing embedded video automatically disables PIP. Video playback may not commence after PIP is disabled. In this case, you will have to reload the page.
19. The web browser supports .mp3 audio files only.
20. The web browser supports a specific file format for importing and exporting bookmarks. (Compatible Format: Netscape-bookmarkfile- 1)
21. The folder tree information is not included when importing and exporting bookmarks.

- 22.** Exporting bookmarks to a USB device connected to the TV saves the bookmarks under a folder named "Samsung SmartTV Bookmark".
- 23.** If Clock (System > Time > Clock) has not been enabled, the browsing history will not be saved.
- 24.** The browsing history is saved in the order of latest to oldest, with the oldest entries being overwritten first.
- 25.** Depending on the types of video/audio codecs supported, it might not be possible to play back certain video and audio files during Flash playback.
- 26.** A sudden change in the picture brightness inside a video window may affect the brightness of the screen. This problem applies to PDP TVs only.
- 27.** Video sources from PC-optimized streaming service providers may not play properly on our proprietary web browser.
- 28.** Using the on-screen QWERTY keyboard automatically disables PIP. (Except when entering a URL.)

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**".

Model Name		UE40F80****	UE46F80****	UE55F80****
PANEL	Vendor	SDC	SDC	SDC
	Code	BN95-00898A	BN95-00902A	BN95-00902A
	Spec.	LSF400HL01	LSF550HQ01	LSF550HQ01
SMPS	Vendor	SEM	HANSOE	HANSOE
	Code	BN44-00635A	BN44-00635B	BN44-00636B
	Spec.	L46U2P_DSM	L46U2P_DHS	L55U2P_DHS
MAIN ASSY	Chassis Ass'y	Depending on Region, Chassis Ass'y is different.		
	PBA Ass'y	Depending on Region, PBA Ass'y code is different.		
Byte	Item			
0	Factory Reset	-	-	-
1	Type	40A2UF8E	46A2UF8E	55A2UF8E
2	Local set	EU	EU	EU
3	SW Model	UF8000 UF8005 UF8080 UF8090	UF8000 UF8005 UF8080 UF8090	UF8000 UF8005 UF8080 UF8090
4	BOM Model	8000 8005 8080 8090	8000 8005 8080 8090	8000 8005 8080 8090
5	Tuner	TC	SI_ADI	
		T2C	FOX_T2C	
		TCS2	SI_TCS2	
6	Ch table	NONE	NONE	NONE

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. (Expert, Advanced menu)

Option	T-FXPDEUC-xxxx	Main SW Version
Control	T-FOXDEUS2-xxxx	Sub micom Version
Debug	BT Version :	Bluetooth Version
SVC	E-Manual : FPDVBEUF-xxxx	E-Manual Version
ADC/WB	Camera Version : x.xx	Camera Version
Advanced	Mic Version : x.xx	Camera(Mic) Version
	Blaster-Version : x.xx	IR Blaster Version
	EDID SUCCESS	
	CALIB : AV / COMP / PC / HMDI /	
	Option : xxxx xxxx xxx	
	CPLD/LD : T-FOXCPD 0003	LD Version
	SDAL-FOXP-MAIN-xxxx-xxxx	
	RFS : "Fox.P 00xx" / 201x-xx-xx	
	KERNEL : xxx.xxxx, / Onboot : xxxx	
	DTP-DTVTD-xxxx	
	Backend IC[1], Data Ver : xxxx	FRC SW Version
	TCON Version: xxxx	TCON Version
	Model : xxxxxxxx	
	Wired MAC----	Condition of Wired Mac
	Wireless MAC----	Condition of Wireless Mac
	DRM : Crt O,Nf O,Wv O, Hc O, Dc O, Mx O, MI O	
	Factory Data Ver : xx	
	EERC Version : xx	
	DTP-BP-HAL-xxxx	
	DTP-BP-MW-xxxx	
	DTP-BP-APP-xxxx	
	Date of purchase : mm/dd/yyyy	

4-3-3. Factory Data

■ Option

Factory Menu Name	Data	Range
Factory Reset	-	
Type	40A2UF8E/46A2UF8E/55A2UF8E/ 60A2UF8E/75A2UF8E	
Local Set	EU	EU / EU_ITALY / EU_GER / EU_FRANCE / EU_BENELUX / EU_SPAIN / EU_UK / CIS_ CA_MS / NORDIC / CIS_RUSSIA / CIS_UKR / EU_TURKEY / EU_AFRICA / EU_ALGERIA / EU_S_AFR / EU_POLAND
SW Model	UF8000	UF8005 / UF8080 / UF8090
BOM Model	8000	
TUNER	SI2190	
Ch Table	NONE	
MRT Option		
Front Color	U-MOIP	
LVDS FORMAT	JEIDA	
Language_Arabic	EU	
Region	USA	
PnP Language	ENG_US	
WIFI REGION	S	
OTN Support	ON	
OTA Support	OFF	
TTX	OFF	
China HD	OFF	
NT Conversion	OFF	
Num of DTV	1	
Num of AV	1	
Num of COMP	1	
Num of HDMI	4	
Num of SCART	0	
Num of USB Port	3	
Num of HeadPhone	0	
Num of RVU	1	
Num of Display	2	
Num of IPTV	0	
Num of RUI	0	
Num of PVR RECORD	0	
TOOLS Support	40	

Factory Menu Name	Data	Range
LNA Support	OFF	
24Px4 Support	OFF	
BD Wise Support	ON	
Data Service Support	OFF	
PVR Support	OFF	
CI Support	OFF	
LEDMotionPlus Support	ON	
Natural Mode Support	ON	
Relax Mode Support	OFF	
HDMI/DVI SEL	4	
Select LCD/PDP	LCD	
Wall Mount	OFF	
HV Flip		HV Flip / H Filp / OFF
Light Effect	OFF	
e-Pop Default	1	
CAMERA Support	OFF	
NETWORK Support	3	
EcoSensor Support	ON	
3D Support	ON	
BT Support	ON	
BT ADDRESS		
Engineer Option		
Auto Power	MEMORY	
Type Of PANEL KEY	None	
5 Way Function Key	R BACK	
Contents Bar	OFF	
Cable Modulation	QAM	
Standby led on/off	OFF	
Recognition Support		
IF AGC	0	
D AGC	0	
PH BW	0	
FQ BW	0	
PH RATE	0	
PD EN	0	
PEQ Inx	0	
WF Scale		

4. Troubleshooting

Factory Menu Name	Data	Range
WF Type	0	
Nu of Network Stream	1	
DP V Size	0	
Backend Device	FOX-FT1	
BT_AUDIO_ON_OFF	OFF	
Config_AV_PATH		
ECO Standby	OFF	
Fast Logo Delay	0	
Num of PANEL KEY	6	

■ Control

Factory Menu Name	Data	Range
EDID		
EDID ON/OFF	OFF	
EDID WRITE ALL	...	
EDID WRITE HDMI	...	
EDID Ver	...	
EDID Port		
Sub Option		
RS-232 Jack	UART	Debug/UART
Watchdog	OFF	
Checksum	0x0000	
Fast Boot in Production	OFF	
USB Serial	OFF	
Eeprom Reset		
ECO IC TYPE	NONE	
Info Link Server Type	development	
Info Link Country	None	
TTX Group	-	
Visual Test	-	
MediaPlayDB	-	
OPTION_SWU		
OTN Server Type	operating	
OTN Test Server	OFF	
SWU Reset		
SWU Duration	OFF	
SWU Fail Test	OFF	

Factory Menu Name	Data	Range
OPTION_NUM		
Num of ATV	1	
Num of SVIDEO	0	
Num of PC	0	
Num of DVI	0	
Num of OPTICAL Link	1	
Num of MEDIA	1	
Num of Tuner	1	
Num of ISP	1	
RF Remocon Support	OFF	
CDD mode	-	
DPMS Support	OFF	
Num of IPTV CIP	0	
Num of CI	0	
Num of DECODER	0	
T-CON Device		
BOARD CONTROL	OFF	
HP LINE	LineOut	
RM		
Server Type	Operating	
RTS Mode	OFF	
PSA		
FKP Download1	0	
FKP Download2	0	
LMK threshold	3	
Low threshold	10	
High threshold	15	
CSB	ON	
CLB	ON	
PDP Option		
Pixel Shift Test	OFF	
Logic SW	0	
Panel Temperature	0	
LOGIC Waveform Day	0	
Logic CheckSum	0	
MRT	0	
SAPC Timer		

4. Troubleshooting

Factory Menu Name	Data	Range
APC Speed		
Hotel Option		
Hospitality Mode	OFF	
Power On	...	
Menu OSD	...	
Operation	...	
Music Mode	...	
External Source	...	
Eco Solution	...	
Cloning	...	
Shop Option		
Shop Mode	OFF	
Exhibition Mode	OFF	
3D Cube	OFF	
Asia Option		
Unbalance	OFF	
AF Level adjust	3	
TX Power Level	0	
Mono Last Memory	OFF	
H Shaking	OFF	
SOUND		
Carrier_Mute	OFF	
High Devi	OFF	
Speaker Delay Normal	0x6Eh	
SPDIF PCM Gain	-9dB	
FM M Prescale	0x30h	
FM Prescale	0x00h	
AM Prescale	0x32h	
NICAM Prescale	0x48h	
BTSC Mono Prescale	0x19h	
BTSC stereo Prescale	0x2Fh	
BTSC SAP Prescale	0x2Bh	
A2Ident High THID	31	
A2Ident Low THID	0	
Pilot Level High Thld	0x28h	
Pilot Level Low Thld	0x10h	
Carrier2 Amp High THID	4	

Factory Menu Name	Data	Range
Carrier2 Amp Low THID	3	
Carrier2 SNR High THR	16	
Carrier2 SNR Low THR	80	
Sig Error On	35	
Sig Error Off	41	
Amp Model	TAS5745	
Amp Volume	0xcbh	
Amp Scale	0x35h	
Amp Check Sum	0x000821B2	
Woofer Type	0	
Woofer Scale	0	
Woofer Check Sum	0x8ah	
Woofer Local EQ Checksum	0	
Speaker EQ	ON	
PEQ Test	Ready	
Local Speaker EQ	0	
Local EQ Checksum	0	
Speaker cut-off Ferq	4	
Audio-IP Test		
SRS Tuning Parm	0	
TruBass-CheckSum	0	
Mic Scale	0	
Subwoofer Support	0	
India Sound	OFF	
AudioDock BT delay	50	
Wall Filter Type	0	
Wiselink Delay Menu	90	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
LVDS Spread	ON	
DDR Spread	1.0% Spectrum	
Period	30K	
Amplitude	1	
HD SSC ON/Off	ON	
HD SSC Value	1	

4. Troubleshooting

Factory Menu Name	Data	Range
LVDS SSC ON/Off	ON	
LVDS SSC Value	0	
DDR SSC ON/Off	ON	
DDR SSC Value	1	
FRC LVDS SSC ON/OFF	ON	
FRC LVDS SSC MRR	10	
FRC LVDS SSC MFR	1	
FRC LVDS SSC Period	1	
FRC LVDS SSC Modulation	1	
FRC DDR SSC ON/OFF	ON	
FRC DDR SSC MRR	15	
FRC DDR SSC MFR	1	
FRC DDR SSC Period	1	
FRC DDR SSC Modulation	1	
DDR Margin		
A CTRL_OFFSET_0_3	0x0	
A CTRL_OFFSET_D	0x0	
B CTRL_OFFSET_0_3	0x0	
B CTRL_OFFSET_D	0x0	
ND ADJ Support	OFF	
MICOM POWER OFF	OFF	
RF Mute Time	6ms	
CI+1.3	OFF	
FRC		
FRC FDISPLAY ON/OFF	0	
3D FDISPLAY ON/OFF	OFF	
PC Mode ON/OFF	OFF	
Tuner Margin	10	
MPEG Margin	1000	
H.264 Margin	8	
CAM Wait Time		
TS Clock deldy	0	
TCON_TEMP READ	0	
TEMP LAST	60	
DCC VERSION	0x0	
DCC CHK SEL	0	
DCC CHECK LOCAL	0x0	

Factory Menu Name	Data	Range
DCC CHECK TOTAL	0x0	
MultACC Checksum	0	
IIC Bus stop	OFF	
Tuner Status		
DVB		
SNR		
BER		
Signal Strength		
Bandwidth		
Frequency		
LNA Status		
FFT		
Modulation		
Code Rate		
GI		
Hier Modulation		
Frequency offset		
Timing offset		
AGC		
UCB		
PLL Type		
DEMOD Type		
TPS Lock		
RS Lock		
SSI		
SQI		
Firmware Version		
ISDB-T		
FFT Size_1		
Guard Interval_1		
Freq. Offset_1		
SNR_1		
IF AGC_1		
TMCC Lock_1		
TS Packer_1		
Master Lock_1		
A_Modulation_1		

4. Troubleshooting

Factory Menu Name	Data	Range
A_Code Rate_1		
A_Timer InterLeave_1		
A_Segments Num_1		
A_BER_1		
B_Modulation_1		
B_Code Rate_1		
B_Timer InterLeave_1		
B_Segments Num_1		
B_BER_1		
C_Modulation_1		
C_Code Rate_1		
C_Timer InterLeave_1		
C_Segments Num_1		
C_BER_1		

■ SVC

Factory Menu Name	Data	Range
Test Pattern		
Pattern Sel	OFF	
Logic Pattern Sel	...	
Logic Level Sel	...	
FRC Pre Test Pattern	0	
FRC Post Test Pattern	0	
FRC3D Fdisplay	OFF	
FRC3D PC Mode	OFF	
SOC TCON Test Pattern	0	
SOC TCON Pattern Level	255	
SOC TCON FRC Pattern	0	
HDMI WB Pattern	OFF	
HDMI Pattern Sel	0	
Parma Pre Test Pattern	0	
Parma Post Test Pattern	0	
Panel Display Time	0Hr	
SVC Info	0	
Delete S/N	0	
Upgrade		
T-CON Usb Download	Failute	

Factory Menu Name	Data	Range
T-CON CheckSum	Error	
Logic Usb D/L	...	
SUBMICOM UPGRADE	Failute	
BT UPGRADE		
BT FREPAIRING	ON	
Function Upgrade	Failute	
FRC3D FW Upgrade		
Camera Upgrade		
Mic Upgrade		
CPLD USB Download		
JP MICOM UPGRADE	Failute	
DP MICOM UPGRADE	Failute	
Jump Upgrade	Failute	
Smart Hub Reset	0	
ER Count		
WD Count	0	
AR Count	0	
WIFI ER Count	0	
BT ER Count	0	
HDMI Err Cnt	0	
Camera ER Count	0	
LOG(View Log)		
Select Log Type	NVRAM	
Log View	0	
Delete Log		
Debug Log Down		
Emergency Log Copy		
Self Diagnosis		
Loop Back		
LAN Test		
AV Audio Test		
DVIN Audio Test		
CVBS Test		
COMP Test		
USB HUB Test		
HDMI Test		
SCART Audio Test		

4. Troubleshooting

Factory Menu Name	Data	Range
SCART CVBS Test		
SCART RGB Test		
CPU		
DDR		
FLASH		
EEPROM		
Sound AMP		
HDMI Switch IC		
USB HUB IC		
WIFI		
LVDS		
T-CON/FRC		
PCB Test		
MOIP		
App Self Test		
Device self Test		
Voltage		
EcoSensor		
BT		
EXT Sound Inspection		
Woofer Sound Inspection	NONE	
ATV CH Inspection		
DTV CH Inspection		
Satellite CH Inspection		
IPERF	Stopped	
OPTION HDMI		
Expert		
DVB CI		
CAL Data Backup	...	
CAL Data Restore	...	

■ ADC/WB

Factory Menu Name	Data	Range
ADC		
AV Calibration	Success	
Comp Calibraion	Success	
PC Calibration	Success	

Factory Menu Name	Data	Range
HDMI Calibration	Success	
ADC Result		
1st_Y_GH	258	
1st_Y_GL	128	
1st_Cb_BH	...	
1st_Cb_BL	...	
1st_Cr_RH	...	
1st_Cr_RL	...	
2nd_R_L	132	
2nd_G_L	132	
2nd_B_L	132	
2nd_R_H	70	
2nd_G_H	70	
2nd_B_H	70	
White Balance		
R-Offset	128	
G-Offset	128	
B-Offset	128	
R-Gain	128	
G-Gain	128	
B-Gain	128	
WB_W2_R_Offset	128	
WB_W2_B_Offset	128	
WB_W2_R_Gain	164	
WB_W2_B_Gain	63	
WB_N_R_Offset	128	
WB_N_B_Offset	128	
WB_N_R_Gain	151	
WB_N_B_Gain	108	
MGA		
MGA On/Off	OFF	
R1_Gain	...	
B1_Gain	...	
G1_Gain	...	
R2_Gain	...	
B2_Gain	...	
G2_Gain	...	

4. Troubleshooting

Factory Menu Name	Data	Range
R3_Gain	...	
B3_Gain	...	
G3_Gain	...	
R4_Gain	...	
B4_Gain	...	
G4_Gain	...	
R5_Gain	...	
B5_Gain	...	
G5_Gain	...	
R6_Gain	...	
B6_Gain	...	
G6_Gain	...	
R7_Gain	...	
B7_Gain	...	
G7_Gain	...	
R8_Gain	...	
B8_Gain	...	
G8_Gain	...	
R9_Gain	...	
B9_Gain	...	
G9_Gain	...	
R10_Gain	...	
B10_Gain	...	
G10_Gain	...	

4-4. White Balance

4-4-1. Calibration

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

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

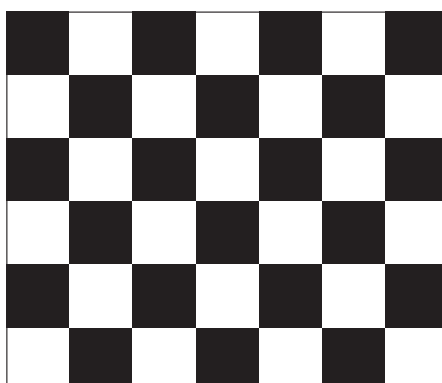
4-4-2. Service Adjustment

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

■ Color Calibration

- Adjust Specification

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



(Chess Pattern)

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

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

Method of Color Calibration (AV)

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

Method of Color Calibration (Component)

1. Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
2. Press the Source key to switch to "Component1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "Comp Calibration" menu.
6. In "Comp Calibration Off" status, press the "►" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "Comp Calibration" status from Failure to Success.

Method of Color Calibration (PC)

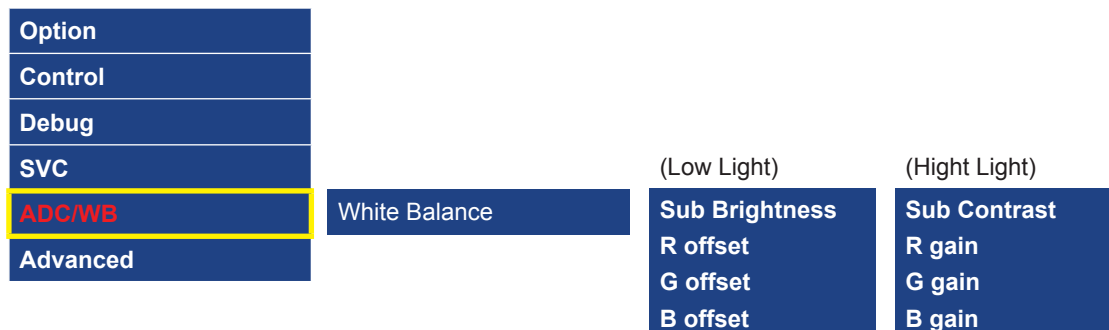
1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the "►" key to perform Calibration.
7. When Calibration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

Method of Color Calibration (HDMI)

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

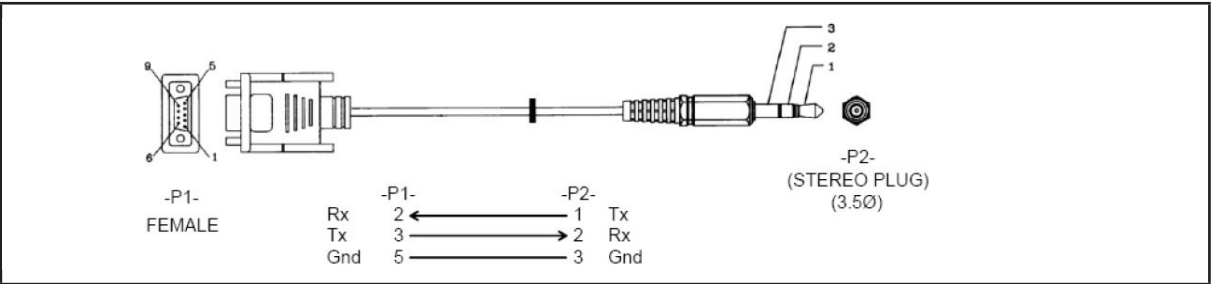
4-4-3. Adjustment

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



4-5. RS-232C

- **RS232C Control**
 - Port : COM#(Serial)
 - Bit rate : 115200
 - Data Bit : 8 bit
 - Parity : None
 - Stop Bits : 1
 - Flow Control : None



- **Description of RS232C**

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

4-6. AV Control Tab

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

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

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	Mode	Dynamic(Entertain)		0x0b	0x00	0x00	0x00
		Standard					0x01
		Movie					0x02
		Natural					0x03

4. Troubleshooting

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Mode	CAL-NIGHT					0x04	
		CAL-DAY					0x05	
		BD Wise					0x06	
		Relax					0x07	Only for PDP
	BackLight (CellLight)		0~20		0x01	0x00	(0~20)	
	Contrast		0~100		0x02	0x00	(0~100)	
	Brightness		0~100		0x03	0x00	(0~100)	
	Sharpness		0~100		0x04	0x00	(0~100)	
	Color		0~10		0x05	0x00	(0~100)	
	Tint	G/R			0x06	0x00	(0~100)	
	Advanced Settings	Black Tone	Off		0x07	0x00	0x00	
			Dark				0x01	
			Darker				0x02	
			Darkest				0x03	
		Dynamic Contrast	Off			0x01	0x00	
			Low				0x01	
			Medium				0x02	
			High				0x03	
		Shadow Detail	-2 ~ 2			0x02	(-2~2)	Not support
		Gamma	-3 ~ 3			0x03	(-3~3)	
		RGB Only Mode	Off			0x05	0x00	
			Red				0x01	
			Green				0x02	
			Blue				0x03	
		Color Space	Auto			0x06	0x00	
			Native				0x01	
			Custom				0x02	
		White Balance	R-Offset(LCD)			0x07	(0~50)	
		White Balance	G-Offset(LCD)			0x08	(0~50)	
		White Balance	B-Offset(LCD)			0x09	(0~50)	
		White Balance	R-Gain(LCD)			0x0a	(0~50)	
		White Balance	G-Gain(LCD)			0x0b	(0~50)	
		White Balance	B-Gain(LCD)			0x0c	(0~50)	
		White Balance	Reset(LCD)			0x0d	0x00	
		Flesh Tone	-15 ~ 15			0x0e	(-15~15)	
		Edge Enhancement	Off			0x0f	0x00	Not support
			On				0x01	

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE		xvYCC	Off			0x10	0x00
			On				0x01
		Motion Lighting	Off			0x11	0x00
			On				0x01
		Color Space Custom Color	Red			0x12	0x00
			Green				0x01
			Blue				0x02
			Yellow				0x03
			Cyan				0x04
			Magenta				0x05
		Color Space Custom Color Red Value	0~100			0x13	0~100
		Color Space Custom Color Green Value	0~100			0x14	0~100
		Color Space Custom Color Blue Value	0~100			0x15	0~100
		LED Motion Plus	Off		0x0a	0x07	0x00
			On(Normal)				0x01
			Cinema				0x02
			Ticker				0x03
	Picture Option	Color Tone	Cool		0x0a	0x00	0x00
			Standard				0x01
			Warm1				0x02
			Warm2				0x03
		Digital Noise Filter	Off			0x02	0x00
			Low				0x01
			Medium				0x02
			High				0x03
			Auto				0x04
			Auto Visualization				0x05
		MPEG Noise Filter	Off			0x03	0x00
			Low				0x01
			Medium				0x02
			High				0x03
			Auto				0x04
		HDMI Black Level	Normal			0x04	0x00
			Low				0x01

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE		Film Mode	Off			0x05	0x00
			Auto1				0x01
			Auto2				0x02
			Cinema Smooth				0x03
		Auto Motion Plus	Off			0x06	0x00
			Clear				0x01
			Standard				0x02
			Smooth				0x03
			Custom				0x04
			Demo				0x05
	Screen Adjustment	Picture Size	16:9	0x0b	0x0a	0x01	0x00
			Zoom1				0x01
			Zoom2				0x02
			Wide Fit				0x03
			4:3				0x04
			Screen Fit				0x05
			Smart View I				0x06
			Smart View II				0x07
			Auto Wide				0x08
			Wide Zoom				0x09
			Zoom				0x0a
	Reset Picture	Reset Picture		0x0b	0x0b	0x00	0x00
	3D	3D Mode	Off	0x0b	0x0c	0x00	0x00
			2D ↔ 3D				0x01
			Side By Side				0x02
			Top Bottom				0x03
			Line By Line				0x04
			Vertical Line				0x05
			Checker BD				0x06
			Frame Sequence				0x07
		3D ↔ 2D	Off			0x01	0x00
			On				0x01
		3D View Point				0x02	(-5~5)
		Depth				0x03	(1~10)
		3D Auto View	Off			0x05	0x00

Only for PDP

Only for DVB

Control Item				Cmd1	Cmd2	Cmd3	Value
		3D Auto View	Message Notice				0x01
			On				0x02

Control Item				Cmd1	Cmd2	Cmd3	Value
Sound	Sound Mode	Standard		0x0c	0x00	0x00	0x00
		Music					0x01
		Movie					0x02
		Clear Voice					0x03
		Amplify					0x04
Sound	Equalizer	Balance			0x01	0x00	(0~20)
		100hz				0x01	(0~20)
		300hz				0x02	(0~20)
		1khz				0x03	(0~20)
		3khz				0x04	(0~20)
		10khz				0x05	(0~20)
		Reset				0x06	0x00
	SRS TruSurround HD (echo)	Off			0x02	0x00	0x00
	Virtual Surround (echo)	On					0x01
	SRS TruDialog (echo)	Off			0x03	0x00	0x00
	Dialog Clarify (X9)	On					0x01
	Preferred Language	English			0x04	0x00	0x00
		Spanish					0x01
		French					0x02
		Korean					0x03
		Japanese					0x04
	Multi-Track Sound	Mono			0x05	0x00	0x00
		Stereo					0x01
		SAP					0x02
	Auto Volume	Off			0x06	0x00	0x00
		ON					0x01
		Night					0x02
	Speaker Select	TV Speaker			0x07	0x00	0x00
		External Speaker					0x01

4. Troubleshooting

Control Item				Cmd1	Cmd2	Cmd3	Value
	Sound Select	Main			0x08	0x00	0x00
		Sub					0x01
	Sound Reset	Sound Reset			0x09	0x00	0x00
	3D Audio	Off			0x0a	0x00	0x00
		Low					0x01
		Medium					0x02
		High					0x03
	Auto Stereo	Manual			0x0b	0x00	0x00
		Auto					0x01

Only for korea model

Control Item				Cmd1	Cmd2	Cmd3	Value
KEY	Key Generation			0x0d	0x00	0x00	refer to table
OSD	Show/Hide Control	Show		0x0e	0x00	0x00	0x00
		Hide					0x01
Get Status	Power (On/Off)			0xf0	0x00	0x00	0x00
	Volume(0~100)			0xf0	0x01	0x00	0x00
	Mute (On/Off)			0xf0	0x02	0x00	0x00
	Channel Number			0xf0	0x03	0x00	0x00
	Source (TV/AV/.../HDMI/...)			0xf0	0x04	0x00	0x00
	Picture Size			0xf0	0x05	0x00	0x00
	3D (On/Off)			0xf0	0x06	0x00	0x00
	Picture Mode			0xf0	0x07	0x00	0x00
	Sound Mode			0xf0	0x08	0x00	0x00

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

4-7. Software Upgrade

Software Upgrade can be performed by downloading the latest firmware from samsung.com to a USB memory device.

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

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
Control
Debug
SVC
ADC/WB
Advanced

```

T-FXPDEUC-xxxx
T-FOXDEUS2-xxxx
BT Version :
E-Manual : FPDVBEUF-xxxx
Camera Version : x.xx
Mic Version : x.xx
Blaster-Version : x.xx
EDID SUCCESS
CALIB : AV / COMP / PC / HDMI /
Option : xxxx xxxx xxx
CPLD/LD : T-FOXCPLD 0003

```

4-7-2. How to Upgrade Software

1. Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV.



NOTE

Please be careful not to disconnect the power or remove the USB drive while upgrades are being applied.

2. The TV will turn off and turn on automatically after completing the firmware upgrade.
3. Please check the firmware version after the upgrades are complete.
 - the new version will have a higher number than the older version.



NOTE

- 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.

4. After update is completed, restore your previous settings.

■ Main Software Upgrade

1. Store the sw program named "T-FXPDEUC" in USB memory stick.
2. Click the "MENU" key in Remote Controller.
3. Select "Support > Software Update > Update Now" menu.
4. Click the "ENTER" key.
 - Wait for upgrade complete.
 - Check the Software Version.

■ Sub Software Upgrade

USB Download

1. After Main Software upgrade, Enter the Factory menu by below method.

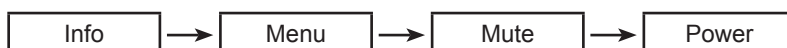
– Factory Remocon

- Click the Remocon button continuedly. (Info key+ Factory key)



– Nomal Remocon

- ❶ Turn off the TV. → ❷ Click the Remocon button continuedly.



2. Select the “SVC”.

Option
Control
Debug
SVC
ADC/WB
Advanced

3. Select the “SUBMICOM UPGRADE”.

Test pattern		DCC CHK SEL	0
Panel Display Time	1Hr	DCC CHECK LOCAL	0x0
Tuner Status		DCC CHECK TOTAL	
T-CON Usb Download	Failure	Fuction Upgrade	off
T-CON CheckSum	Error	Smart Hub Reset	off
Tuner Margin	10	WIFI ER COUNT	0
TS Clock delay	0	BT ER COUNT	0
SUBMICOM UPGRADE	off	Debug Log Down	
BT ADDRESS	0000	MulitACC Checksum	Error
BT UPGRADE		SVC Info	
BT FREEPAIRING	ON	TS Clock delay TC	0
SVC Reset		TS Clock delay S	0
TCON_TEMP READ	0.00	CAL Data Backup
TEMP LAST	60.00	CAL Data Restore
DCC VERSION	0x0		

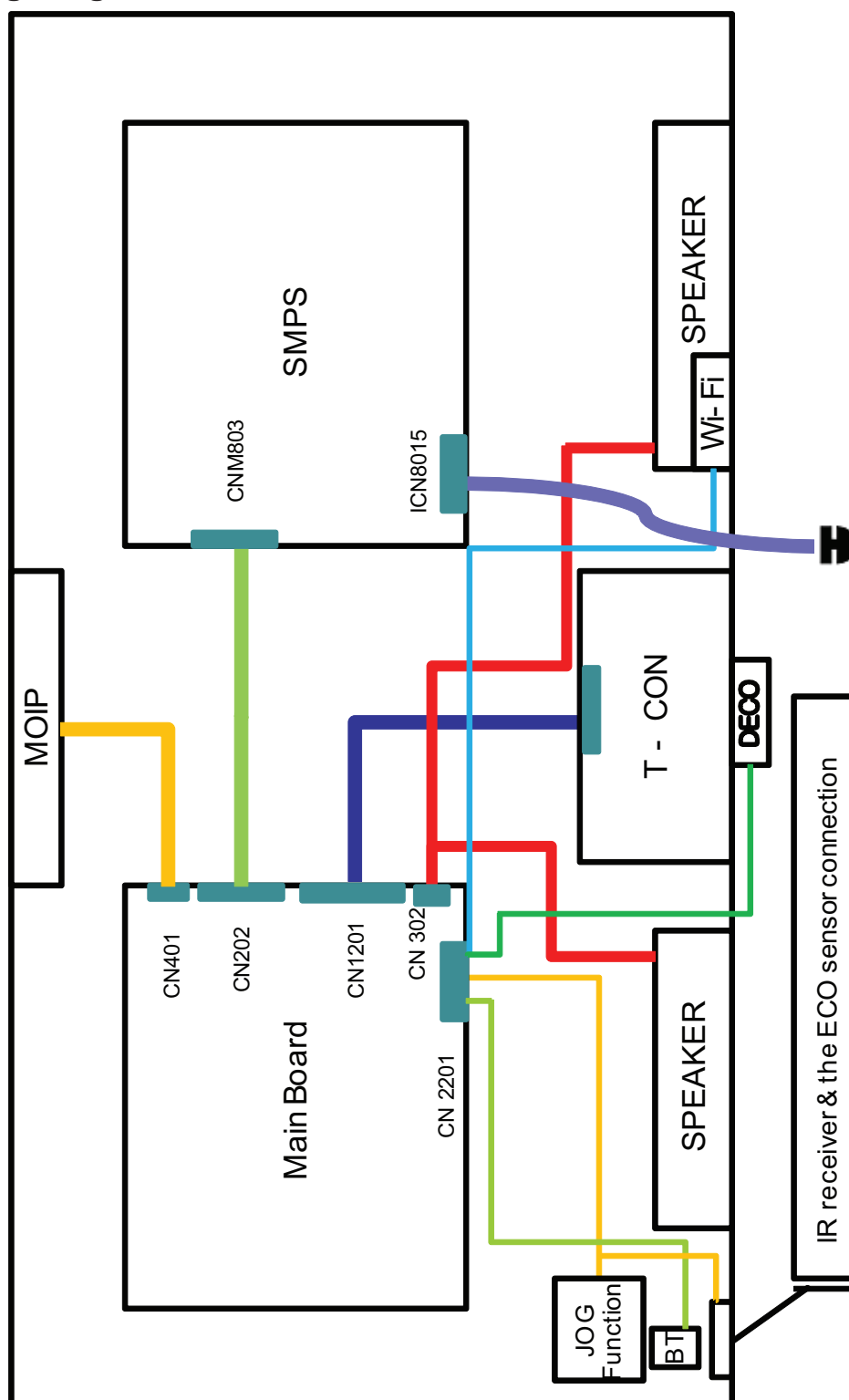
4. Click the “→” remocon key.

SUBMICOM UPGRADE	Wait
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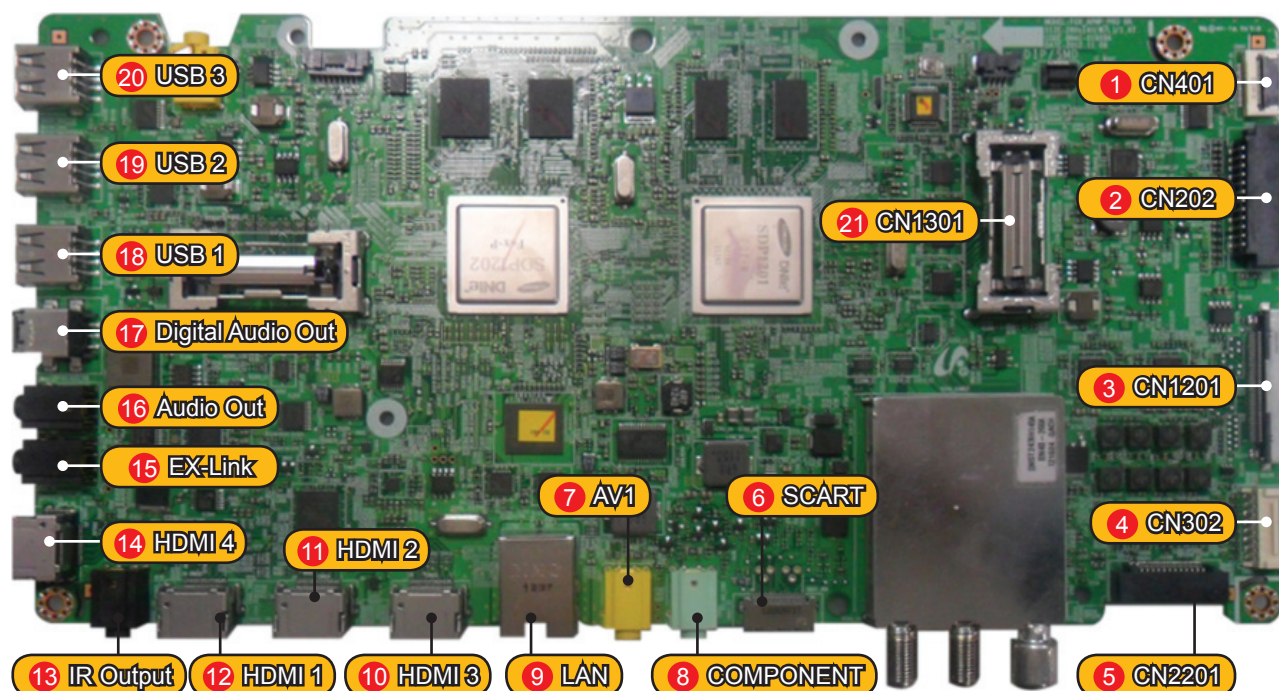
- Wait for upgrade complete.
- Check the Software version.

5. Wiring Diagram

5-1. Wiring Diagram



5-2. Connector



① CN401(MOIP)

1	NC	11	DGND
2	DGND	12	KITE_I2STX_BCLK
3	A5V_MOIP_PW	13	DGND
4	NC	14	KITE_I2STX_LRCLK
5	DGND	15	KITE_I2STX_DATA1
6	USB_MOIP_DM	16	DGND
7	USB_MOIP_DP	17	KITE_I2STX_DATA2
8	DGND	18	DGND
9	WOV	19	DGND
10	AIT_RESET	20	DGND

② CN201(POWER)

1	B5V_PW	13	B13V_PW
2	SW_POWER_OUT	14	PWM_DIMMING_TCON1_CPLD
3	B5V_PW	15	POWER_GND
4	GND	16	PWM_DIMMING_TCON2_CPLD
5	GND	17	OVD_ON_OFF(LD_SCL)
6	GND	18	PWM_DIMMING_TCON3_CPLD
7	B13VS_PW	19	OVD_LEVEL(LD_SDA)
8	GND	20	PWM_DIMMING_TCON4_CPLD
9	B13VS_PW	21	B13V_PW
10	B5V_PW	22	PWM_DIMMING_TCON5_CPLD
11	B13V_PW	23	B13V_PW
12	NC	24	B13VS_PW

3 CN1201(LVDS)

1	NC	27	LVDS_EVEN_TX0-
2	DGND	28	DGND
3	SDA_3D_FRC	29	LVDS_ODD_TX4+
4	PWM_DIMMING_TCON1	30	LVDS_ODD_TX4-
5	SCL_3D_FRC	31	LVDS_ODD_TX3+
6	PWM_DIMMING_TCON3	32	LVDS_ODD_TX3-
7	PWM_DIMMING_TCON2	33	DGND
8	SDA_PANEL	34	TLVDS_ODD_TXCLK+
9	PANEL_I2C_SW	35	LVDS_ODD_TXCLK-
10	EMITTER_BT_SYNC_OUT	36	DGND
11	REF_SYNC_IN	37	LVDS_ODD_TX2+
12	SCL_PANEL	38	LVDS_ODD_TX2-
13	DGND	39	LVDS_ODD_TX1+
14	LVDS_EVEN_TX4+	40	LVDS_ODD_TX1-
15	LVDS_EVEN_TX4-	41	LVDS_ODD_TX0+
16	LVDS_EVEN_TX3+	42	LVDS_ODD_TX0-
17	LVDS_EVEN_TX3-	43	DGND
18	DGND	44	DGND
19	LVDS_EVEN_TXCLK+	45	DGND
20	LVDS_EVEN_TXCLK-	46	PWM_DIMMING_TCON4
21	DGND	47	PANEL_VCC_13V
22	LVDS_EVEN_TX2+	48	PANEL_VCC_13V
23	LVDS_EVEN_TX2-	49	PANEL_VCC_13V
24	LVDS_EVEN_TX1+	50	PANEL_VCC_13V
25	LVDS_EVEN_TX1-	51	PANEL_VCC_13V
26	LVDS_EVEN_TX0+		

4 CN302(SPEAKER)

1	R1+	5	L1+
2	R1-	6	L1-
3	R2+	7	L2+
4	R2-	8	L2-

5 CN2201(KEY FUNCTION/BLUETOOTH/WIFI)

1	BT_NRESET	14	EMITTER_BT_SYNC_OUT
2	WAKE_BT	15	DSCL_3.3V
3	POWER_DET	16	GND
4	A5V_PW	17	DSDA_3.3V
5	A3.3V_PW	18	B5V_USB_OP_WIFI_CI_PW
6	USB_BT_DP	19	KEY_INPUT1
7	LED_CNTR	20	USB_WIFI_DM_HUB2
8	USB_BT_DM	21	KEY_INPUT2
9	IR	22	USB_WIFI_DP_HUB2
10	GND	23	A3.3V_PW
11	GND	24	GND
12	EMITTER_BT_SYNC_BUFF	25	GND
13	A3.3_PW	26	GND

6 CN503(SCART1)

1	DGND	13	NC
2	DGND	14	SC1_G
3	DGND	15	DGND
4	DGND	16	NC
5	SC1_AV2_CVBS_IN	17	IDENT_SC1_AV
6	DGND	18	DGND
7	SC1_CVBS_OUT	19	DGND
8	DGND	20	SC1_AB2_SL_IN
9	SC1_FB	21	SC1_AB2_SR_IN
10	DGND	22	DGND
11	DGND	23	SC1_SL_OUT
12	DGND	24	SC1_SR_OUT

7 CN404(COMPONENT)

1	DGND	5	TEST_PB
2	COMP_Y	6	TEST_PR
3	COMP_PB	7	COMP_PR
4	TEST_CVBS_Y3		

8 CN405(AV-LINK)

1	DGND	5	TEST_SR
2	AV1_CVBS	6	TEST_SL
3	COMP_AV1_SR_IN	7	COMP_AV1_SL_IN
4	IDENT_AV1		

5. Wiring Diagram

9 CN1701(LAN)			
1	TX+	5	DGND
2	DGND	6	RX-
3	TX-	7	NC
4	RX+	8	LAN_GND

10 CN602(HDMI 1/STB)			
1	HDMI1_RX2+	11	DGND
2	DGND	12	HDMI1_RXCLK-
3	HDMI1_RX2-	13	HDMI_CEC
4	HDMI1_RX1+	14	DGND
5	DGND	15	HDMI1_DDC_SCL
6	HDMI1_RX2-	16	HDMI1_DDC_SDA
7	HDMI1_RX0+	17	DGND
8	DGND	18	HDMI1_5V
9	HDMI1_RX0-	19	HDMI1_HPD
10	HDMI1_RXCLK+		

11 CN604(HDMI 2/DVI_PC)			
1	HDMI4_RX2+	11	DGND
2	DGND	12	HDMI4_RXCLK-
3	HDMI4_RX2-	13	HDMI_CEC
4	HDMI4_RX1+	14	DGND
5	DGND	15	HDMI4_DDC_SCL
6	HDMI4_RX2-	16	HDMI4_DDC_SDA
7	HDMI4_RX0+	17	DGND
8	DGND	18	HDMI4_5V
9	HDMI4_RX0-	19	HDMI4_HPD
10	HDMI4_RXCLK+		

12 CN603(HDMI 3/ARC)			
1	HDMI2_RX2+	11	DGND
2	DGND	12	HDMI2_RXCLK-
3	HDMI2_RX2-	13	HDMI_CEC
4	HDMI2_RX1+	14	DGND
5	DGND	15	HDMI2_DDC_SCL
6	HDMI2_RX2-	16	HDMI2_DDC_SDA
7	HDMI2_RX0+	17	DGND
8	DGND	18	HDMI2_5V
9	HDMI2_RX0-	19	HDMI2_HPD
10	HDMI2_RXCLK+		

13 CN2402_IRB(IR_OUT)			
1	DGND	5	NC
2	IRB_IR_TX	6	IRB_JACK_ID
3	NC	7	DGND
4	NC		

14 CN601(HDMI 4/MHL)			
1	HDMI3_RX2+	11	DGND
2	DGND	12	HDMI3_RXCLK-
3	HDMI3_RX2-	13	HDMI_CEC
4	HDMI3_RX1+	14	DGND
5	DGND	15	HDMI3_DDC_SCL
6	HDMI3_RX2-	16	HDMI3_DDC_SDA
7	HDMI3_RX0+	17	DGND
8	DGND	18	HDMI3_5V
9	HDMI3_RX0-	19	HDMI3_HPD
10	HDMI3_RXCLK+		

15 CN502_US(AV_LINK)			
1	DGND	5	NC
2	FA_TX	6	IDENT_FANET
3	FA_RX	7	DGND
4	NC		

16 CN301(HEADPHONE / LR_OUT)			
1	DGND	5	TEST_SR
2	HP_AUD_SL_OUT	6	IDENT_HP
3	HP_SUD_SR_OUT	7	DGND
4	TEST_SL		

17 U301(OPTICAL)			
1	FOX_SPDIF_OUT	3	DGND
2	B5V_USB_OP_WIFI_CI_PW		

16 CN2102(USB1)			
1	USB1_VCC_5V_PW	3	USB1_DP
2	USB1_DM	4	DGND

19 CN2103(USB2)			
1	USB2_VCC_5V_PW	3	USB2_DP
2	USB2_DM	4	DGND

20 CN2104(USB3)			
1	USB3_VCC_5V_PW	3	USB3_DP
2	USB3_DM	4	DGND

21 CN1301(UPGRADE TV MODULE)							
1	UP_SSRXP	24	FOX_LVDS_EVEN_TX1+	47	UP_SSTXP	70	LVDS_EVEN_TX1+
2	UP_SSRXM	25	FOX_LVDS_EVEN_TX2-	48	UP_SSTXM	71	LVDS_EVEN_TX2-
3	NC	26	FOX_LVDS_EVEN_TX2+	49	NC	72	LVDS_EVEN_TX2+
4	B13V_UP_PW	27	DGND	50	B13V_UP_PW	73	DGND
5	B13V_UP_PW	28	FOX_LVDS_EVEN_TXCLK-	51	B13V_UP_PW	74	LVDS_EVEN_TXCLK-
6	NC	29	FOX_LVDS_EVEN_TXCLK+	52	NC	75	LVDS_EVEN_TXCLK+
7	FOX_LVDS_ODD_TX0-	30	DGND	53	LVDS_ODD_TX0-	76	DGND
8	FOX_LVDS_ODD_TX0+	31	FOX_LVDS_EVEN_TX3-	54	LVDS_ODD_TX0+	77	LVDS_EVEN_TX3-
9	FOX_LVDS_ODD_TX1-	32	FOX_LVDS_EVEN_TX3+	55	LVDS_ODD_TX1-	78	LVDS_EVEN_TX3+
10	FOX_LVDS_ODD_TX1+	33	FOX_LVDS_EVEN_TX4-	56	LVDS_ODD_TX1+	79	LVDS_EVEN_TX4-
11	FOX_LVDS_ODD_TX2-	34	FOX_LVDS_EVEN_TX4+	57	LVDS_ODD_TX2-	80	LVDS_EVEN_TX4+
12	FOX_LVDS_ODD_TX2+	35	DGND	58	LVDS_ODD_TX2+	81	FOX_I2STX1_LRCLK
13	DGND	36	HUB2CPU_USB_DP	59	DGND	82	FOX_I2STX1_BCLK
14	FOX_LVDS_ODD_TXCLK-	37	HUB2CPU_USB_DM	60	LVDS_ODD_TXCLK-	83	FOX_I2STX1_SPK_SDATA
15	FOX_LVDS_ODD_TXCLK+	38	DGND	61	LVDS_ODD_TXCLK+	84	UP_MODULE_SYNC
16	DGND	39	FOXAP_USB3_DP	62	DGND	85	EXT_GPIO0_NRESET
17	FOX_LVDS_ODD_TX3-	40	FOXAP_USB3_DM	63	LVDS_ODD_TX3-	86	B3.3V_PW
18	FOX_LVDS_ODD_TX3+	41	DGND	64	LVDS_ODD_TX3+	87	EXT_GPIO1_WAKEUP
19	FOX_LVDS_ODD_TX4-	42	EXT_UART_RX	65	LVDS_ODD_TX4-	88	UP_MODULE_SPDIF
20	FOX_LVDS_ODD_TX4+	43	EXT_UART_TX	66	LVDS_ODD_TX4+	89	A5V_PW
21	FOX_LVDS_EVEN_TX0-	44	CPU2CPU_USB_DP	67	LVDS_EVEN_TX0-	90	CPU2CPU_USB_DM
22	FOX_LVDS_EVEN_TX0+	45	SBB_MDI0_TX+	68	LVDS_EVEN_TX0+	91	SBB_MDI1_RX+
23	FOX_LVDS_EVEN_TX1-	46	SBB_MDI0_TX-	69	LVDS_EVEN_TX1-	92	SBB_MDI1_RX-

5-3. Connector Functions

Connector	Function
CN201 ↔ IP CN801	Supply main power and dimming signal from IP Board to Main Board.
CN401 ↔ MoIP	Control Moip & IR from Main Board.
CN1601_FHD ↔ T-CON CNF1	The LVDS signal transfered from Main Board to Panel.