

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

GenoaS	GenoaS FRC Post	Picture	Problem
OK	OK	NG	Main Board or Signal Source
NG	OK	NG	Main Board
NG	NG	NG	Main or LVDS cable or T-con or Panel

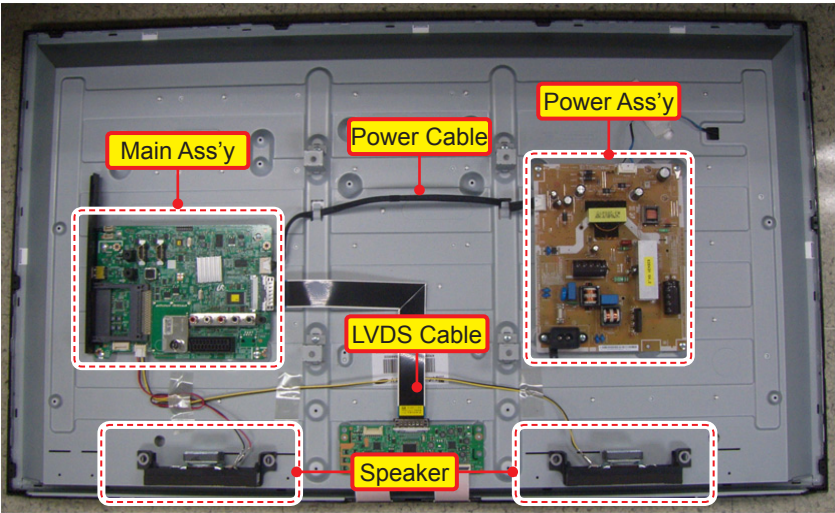
Only for HDMI mode (additional check)

HDMI	Picture	Problem
OK	NG	There is no problems after HDMI IC check HDMI source or HDMI jack.
NG	NG	There is no problems before HDMI IC check GenoaS pattern or LVDS cable or T-con.

■ How to check inner pattern?

1. Factory mode. (info → menu → mute → Power on when TV is in 'stand-by mode')
2. Move to SVC menu.
3. Move to Test Pattern.
4. Check inner patterns. (This model only support FBE, READ PRE, READ POST)

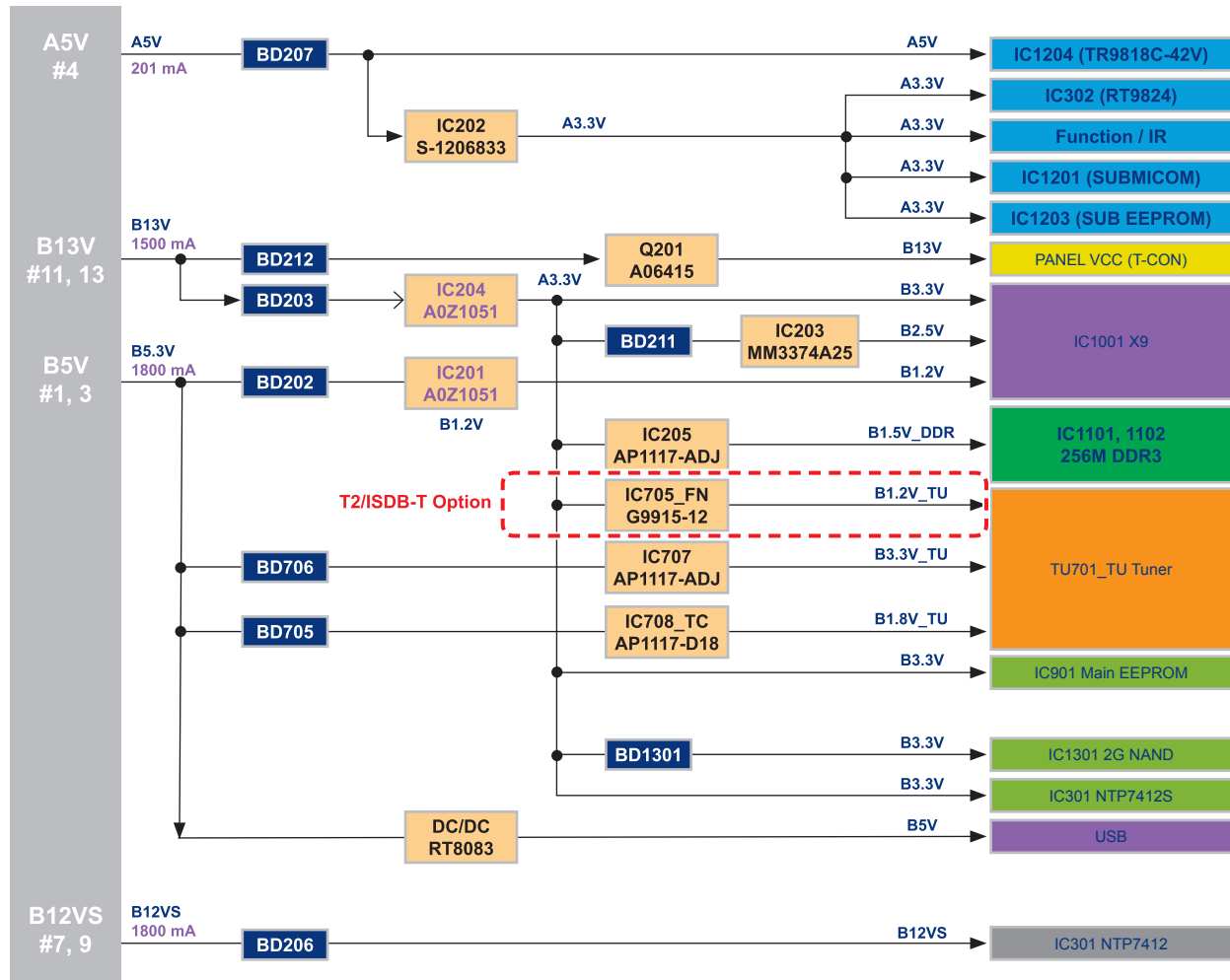
■ Inside View



Main Assy (CN201)				Power Assy (CMN803)			
1	B5.3V	2	SW_PW	1	B5.3V	2	SW_PW
3	B5.3V	4	A5.3V	3	B5.3V	4	A5.3V
5	GND	6	GND	5	GND	6	GND
7	B13VS	8	GND	7	B13VS	8	GND
9	B13VS	10	SW_INV	9	B13VS	10	SW_INV
11	B13V	12	B13V	11	B13V	12	B13V
13	B13V	14	B13V	13	B13V	14	B13V

* Change the 12 PIN to B13V(2012) from NC(2011)

Power-Tree

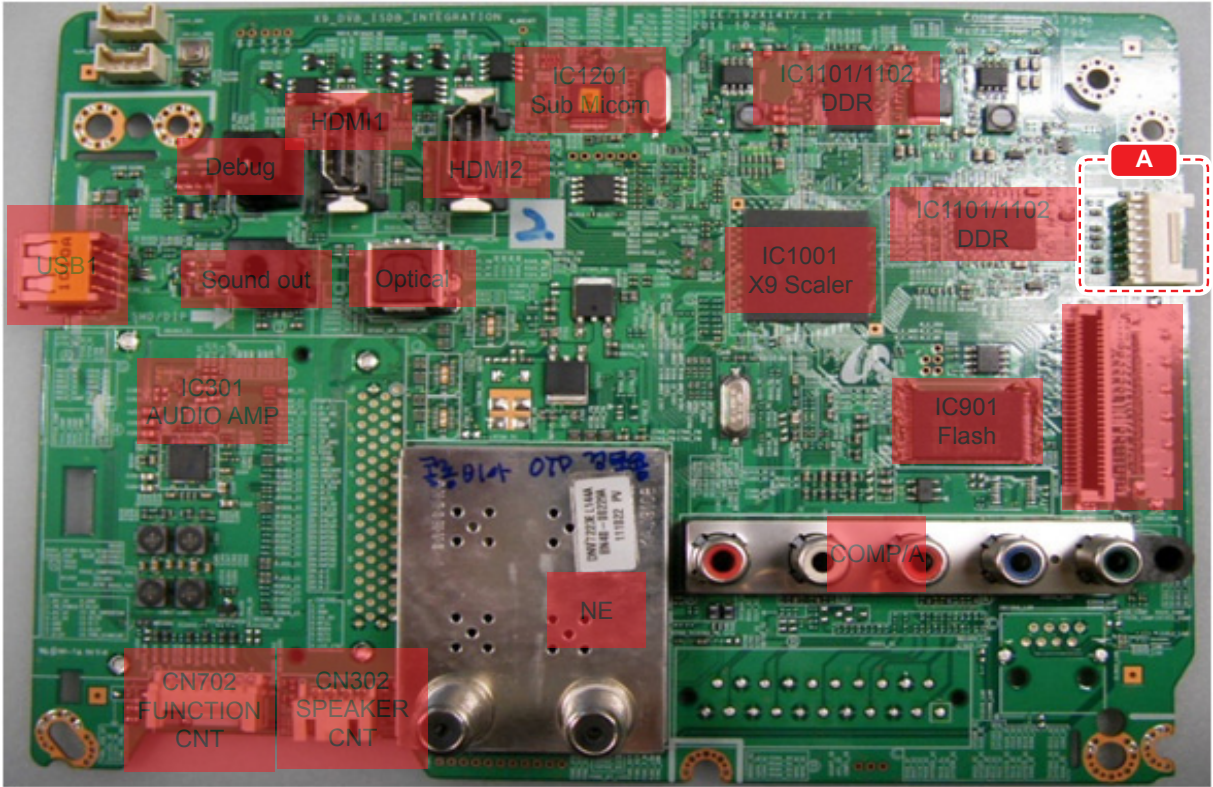
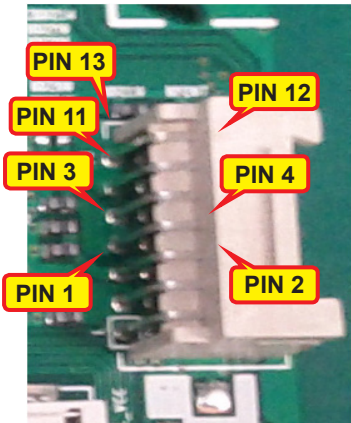


4-2. How to Check Fault Symptom

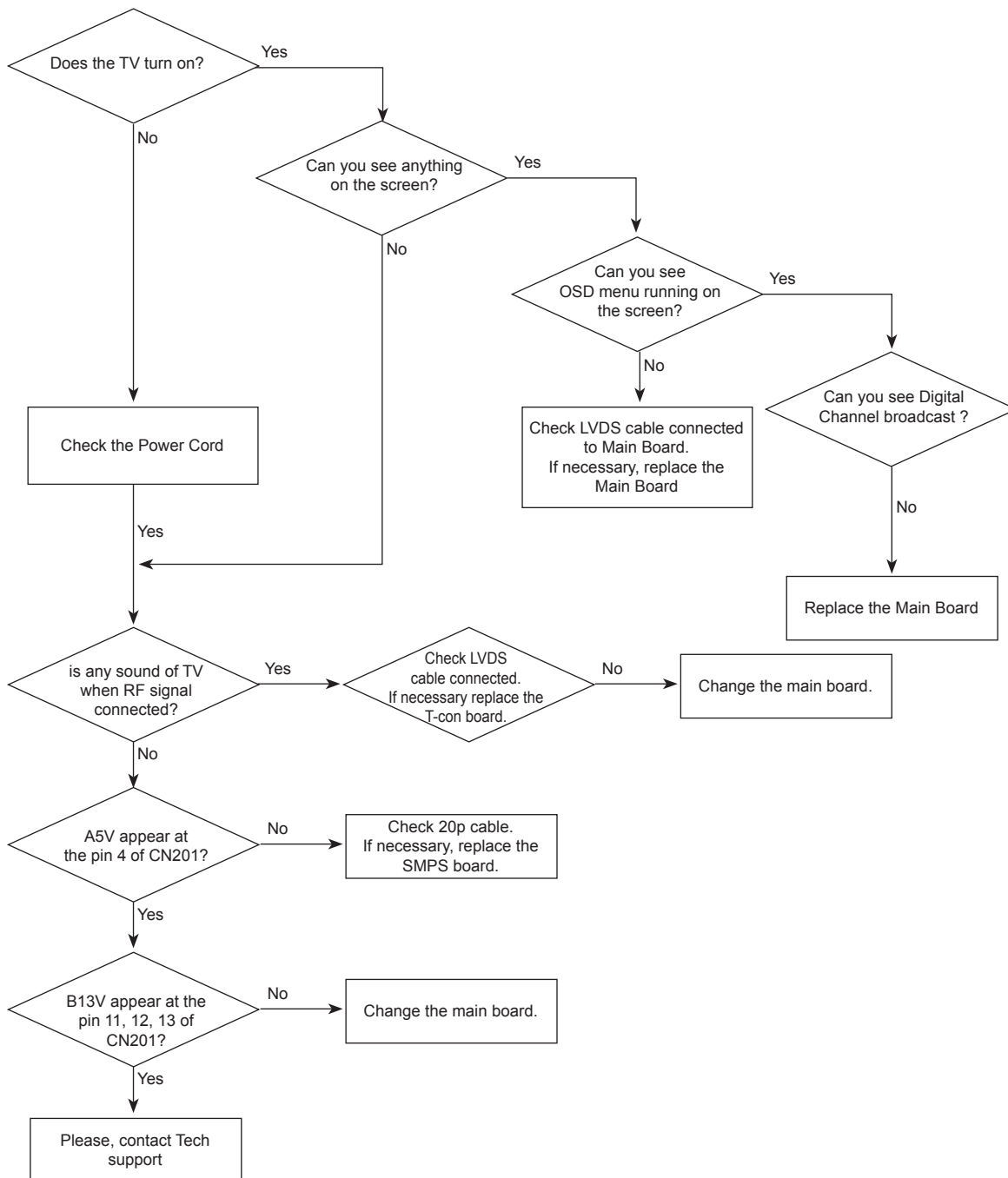
■ NO Power and No Video

Symptom	- The LEDs on The front panel do not work when connecting The power cord. - The SMPS relay does not work when connecting The power cord. - The units appears to be dead.
Major checkpoints	The IP relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS is not functioning. In this case, check the following: - Check the internal cable connection status inside the unit. - Check the fuses of each part. - Check the output voltage of SMPS. - Replace the Main Board.
Diagnostics	<pre> graph TD Start[Power cord on.] -- Yes --> Check1[Check 'Stand-By A5.3V' 5.3V appear at BD210? 0V to 5.3V (CN201 #4)] Check1 -- No --> Cause1[Cause : There did not supply the power from SMPS. Measure : Change 14p power cable and SMPS.] Check1 -- Yes --> SetOn[Set On.] SetOn -- Yes --> Check2[Check 'SW_POWER' more than 3.3V appear at CN201(#2) ? 0V to 3.3V↑ (CN201 #2)] Check2 -- No --> Cause2[Cause : Main IC(X9) did not control the SW_Power. Measure : Change the Main Assy] Check2 -- Yes --> Check3[Check 'Power input of Main Ass'y' ? DC B13V, B5.3V appear at CN201 #11,12,13(B13V) CN201 #1,3 (B5.3V)? 0V to 13V (CN201 #11,12,13) 0V to 5.3V (CN201 #1,3)] Check3 -- No --> Cause3[Cause : There did not supply the power from SMPS. Measure : Change 14p power cable and SMPS.] Check3 -- Yes --> Check4[Check 'Power of main IC(B1.2V/B2.5V)' Check 'Power of DDR IC(B1.5V)' appear at TP-1.2V, TP-B2.5V, TP-B1.5V(1.5V) 0V to 1.2V (TP-1.2V) 0V to 2.5V (TP-2.5V) 0V to 1.5V (TP-1.5V)] Check4 -- No --> Cause4[Cause : There is proble at DCDC(IC203)/LDO(IC204). Measure : Change the Main Assy.] Check4 -- Yes --> Check5[Check 'Power of LVDS (13V)' appear at TP-PANEL_VCC? 0V to 13V (TP-PANEL_VCC)] Check5 -- No --> Cause5[Cause : There is proble at FET(Q201) or Main IC(X9) did not control the SW_PVCC. Measure : Change the Main Assy.] Check5 -- Yes --> Check6[Change the LVDS cable ?] Check6 -- No --> End[Change the Panel.] </pre>
Caution	Make sure to disconnect the power before working on the IP board.

Location of Parts

Main Board_Front		
		
Detail		
A		

■ Simple flow chart of malfunction



4-3. Factory Mode Adjustments

4-3-1. Entering Factory Mode

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

- If you do not have Factory remote control



- 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-NVTF6USAC-****.*
Control	T-NVTFAUSS-****
Debug	E-Manual : X9ISDBE-****
SVC	E-Manual : NVISDBBRF2-****
ADC/WB	HDCP : SUCCESS
Advanced	CALIB : AV / COMP / PC / HDMI /
	OPTION:**
	USB RS232C
	RFS : NT13 ****
	Onboot : ***
	TCON version
	20**-**-**

4-3-2. 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	32A6AH0D	-	use to change panel	
	39P1AF0D			
	40A6AF0D	-		
	46P6AF0D	-		
Model	UF5003	UF4003 / UF5003		
SVC Model	5003			
Local Set	BRA_DTV			info+ factory
Tuner	SI_ISDB		do not change	
Ch Table	-			
Front Color	U-S-C-5K	NONE/S-C-BLK/S-R-BLK/S-BLK/T-R-BLK/T-C-BLK/S-B-BLK		

■ Control

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

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

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Factory Menu Name	Data	Range	Remark	Key
Shop Option				
Shop Mode	Off	On/Off		
USB DEMO ON(SEC)				
USB DEMO OFF(SEC)				
Exhibition Mode	Off	On/Off		
Sound				
Audio Amp	NTP7412s	NTP7412s/NTP7411s	do not change	info+ factory
Volume Curve	NT	NT/EU/EA	do not change	info+ factory
A2K Prescale	20	0~40		info+ factory
BTSC Mono Prescale	25	0~40		info+ factory
BTSC stereo Prescale	47	0~40		info+ factory
SAP Prescale	43	0~40		info+ factory
BTSC M2S Threshold	0x20	0xA0~0x9F		info+ factory
BTSC S2M Threshold	0x15	0xA0~0x9F		info+ factory
BTSC Stereo On Thr	0x20	0xA0~0x9F		info+ factory
BTSC Stereo Off Thr	0x26	0xA0~0x9F		info+ factory
SAP Amp On Thr	0x56	0xA0~0x9F		info+ factory
SAP Amp Off Thr	0x48	0xA0~0x9F		info+ factory
SAP NSR On Thr	0x35	0xA0~0x9F		info+ factory
SAP NSR Off Thr	0x7F	0xA0~0x9F		info+ factory
Carrier NSR On Thr	0x20	0xA0~0x9F		info+ factory
Carrier NSR Off Thr	0x29	0xA0~0x9F		info+ factory
MP3 Level	-6dB	-12dB~0dB		info+ factory
Audio Delay	20ms	0~150ms		
Main Amp Master Vol	199			info+ factory
Center Amp Master Vol				info+ factory
Main Amp PWM Mod	142			info+ factory
Center Amp PWM Mod	103			info+ factory
Woofer Amp PWM Mod	103			info+ factory
Woofer Type				info+ factory
Main Speaker EQ	On			
Center Speaker EQ				
Main EQ CheckSum	-			info+ factory
Center EQ CheckSum	-			info+ factory
Woofer EQ CheckSum	-			info+ factory
Config Option				info+ factory
Num of AV	1	0~3		info+ factory
Num of SVIDEO	0	1~3		info+ factory
Num of Comp	1	1~3		info+ factory
Num of HDMI	2	0~4		info+ factory

Factory Menu Name	Data	Range	Remark	Key
Num of SCART	0			info+ factory
DVI Sound	0	0~1		info+ factory
Number of HeadPhone	0	0~1		info+ factory
Num of USB Port				info+ factory
Num of SPDIF OUT	1	0~1		info+ factory
LNA SUPPORT	Off	On/Off		info+ factory
Navigation Key Func	0	0 : New function(Navigation jog) Key		info+ factory
		1 : Old function (Touch) Key		info+ factory
		2 : don't work function		info+ factory
Eco Sensor Support	Off	On/OFF		info+ factory
MFT OFFSET				info+ factory

■ SVC

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

■ ADC/WB

Factory Menu Name	Data	Range	Remark	Key
ADC				
AV Calibration	Success	Success / Failure		
Comp Calibration	Success	Success / Failure		
PC Calibration	Success	Success / Failure		
HDMI Calibration	Success	Success / Failure		
ADC Target				
1st_AV_Low	18	0~255		
1st_AV_High	220	0~255		
1st_AV_Delta	1	0~255		
1st_COMP_Low	16	0~255		
1st_COMP_High	235	0~255		
1st_COMP_Delta	1	0~255		
1st_PC_Low	2	0~255		
1st_PC_High	235	0~255		
1st_PC_Delta	1	0~255		
2nd_Low	1	0~255		
2nd_High	235	0~255		
2nd_Delta	1	0~255		
ADC Result				
1st_AV_Gain	121			

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
1st_AV_Offset	141			
1st_Comp_Gain	70			
1st_Comp_Gain_Cb	70			
1st_Comp_Gain_cr	70			
1st_Comp_Offset	127			
1st_Comp_Offset_Cb	127			
1st_Comp_Offset_Cr	127			
1st_PC_R_Gain	94			
1st_PC_G_Gain	93			
1st_PC_B_Gatin	94			
1st_PC_R_Offset	127			
1st_PC_G_Offset	127			
1st_PC_B_Offset	127			
2nd_R_Offset	113	0~255		
2nd_G_Offset	113	0~255		
2nd_B_Offset	113	0~255		
2nd_R_Gain	144	0~255		
2nd_G_Gain	144	0~255		
2nd_B_Gain	144	0~255		
WB				
Sub Brightness	128	0~255		
R_Offset	128	0~255		
G_Offset	128	0~255		
B_Offset	128	0~255		
Sub Contrast	128	0~255		
R_Gain	128	0~255		
G_Gain	128	0~255		
B_Gain	128	0~255		
Movie R Offset	133	0~255		
Movie B Offset	129	0~255		
Movie R Gain	131	0~255		
Movie B Gain	64	0~255		

■ Advanced

Factory Menu Name	Data	Range	Remark	Key
PBE				info+ factory
WM Movie				info+ factory
Mode	Off	On/Off		info+ factory
Color Mode	Movie			info+ factory
Color Tone	Cool			info+ factory
Msub Brigh	128			info+ factory
Msub Contr	128			info+ factory
W1_RGAIN	138			info+ factory
W1_BGAIN	104			info+ factory
W1_ROFFS	130			info+ factory
W1_BOFFS	127			info+ factory
W2_RGAIN	131			info+ factory
W2_BGAIN	64			info+ factory
W2_ROFFS	133			info+ factory
W2_BOFFS	129			info+ factory
W3_RGAIN	128			info+ factory
W3_BGAIN	128			info+ factory
W3_ROFFS	128			info+ factory
W3_BOFFS	128			info+ factory
N_RGAIN	131			info+ factory
N_BGAIN	122			info+ factory
N_ROFFS	128			info+ factory
N_BOFFS	129			info+ factory
Movie Countr	100			info+ factory
Movie Brigh	45			info+ factory
Movie Color	55			info+ factory
Movie Sharp	55			info+ factory
Movie Tint	50			info+ factory
Movie BkLight	10			info+ factory
M.Gamma	Off			info+ factory
M_Sub Gamma	0			info+ factory
EPA Standard				info+ factory
Std Contr	100	0~100		info+ factory
Std Bright	45	0~100		info+ factory
Std Sharp	50	0~100		info+ factory
Std Color	50	0~100		info+ factory
Std Tint	50	0~100		info+ factory
Std Backight	8	0~10		info+ factory

4. Troubleshooting

Factory Menu Name	Data	Range	Remark	Key
ADJUST				info+ factory
Dynamic Dimming	Off	On/Off		info+ factory
Power Key Protects	Off	On/Off		info+ factory
UART Select	Auto Wall	Auto Wall/Debug/MDC/On1/On2		info+ factory
Debug Mode	Debug Off	Debug Off/Debug Smart/Debug RunTime		info+ factory
Back End Mute				info+ factory
PDP FRC				info+ factory
VisualTEST Plus	Disable			info+ factory
Standby Mode Time	45 Min	2 Min/45 Min		info+ factory
Delete alt.ver	1 Flash			info+ factory
OTA confirm Time	90 Min	3 Min/90 Min		info+ factory
OTA limit Time	3 Hour	3 Min/3Hour		info+ factory
Dynamic CE	Off	On/Off		info+ factory
FWC	Off	On/Off		info+ factory
1080p 48Hz	On	On/Off		info+ factory
PWM Max	100	1~100		info+ factory
PWM Max2	95	1~100		info+ factory
PWM Mid	10	0~10		info+ factory
PWM Min	0	0~10		info+ factory
COMP PHASW	110			info+ factory
Quick Start				info+ factory
DTV LNA	Auto	On/Off		info+ factory
HDCEP Download	Off	On/Off		info+ factory
USB Download	Off	On/Off		info+ factory
LED Peak OnOFF				info+ factory
COLOR MAPPING				info+ factory
WCE				info+ factory
SHARPNESS				info+ factory
ENHANCE				info+ factory
LNA_Plus				info+ factory
FCC				info+ factory
PC_Picture				info+ factory
FRC				info+ factory
PQ OTHERS				info+ factory
7.5 IRE NTSC	OFF	ON/OFF		info+ factory
7.5 IRE OFFSET	16	0~60		info+ factory
PQ Others				info+ factory
YC_Delay				info+ factory
PAL BG	1	0~3		info+ factory

Factory Menu Name	Data	Range	Remark	Key
PAL DK	1	0~3		info+ factory
PAL I	1	0~3		info+ factory
SECAM BG	4	0~3		info+ factory
SECAM DK	4	0~3		info+ factory
SECAML	4	0~3		info+ factory
NTSC 358	1	0~3		info+ factory
NTSC 443	0	0~3		info+ factory
AV PAL	1	0~3		info+ factory
AV SECAM	4	0~3		info+ factory
AV NT358	1	0~3		info+ factory
AV NT443	1	0~3		info+ factory
AV PAL60	1	0~3		info+ factory
EEPROM RESET				info+ factory
EEPROM RESET	OFF	ON/OFF		info+ factory
NVR ALL CLEAR	OFF	ON/OFF		info+ factory

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.



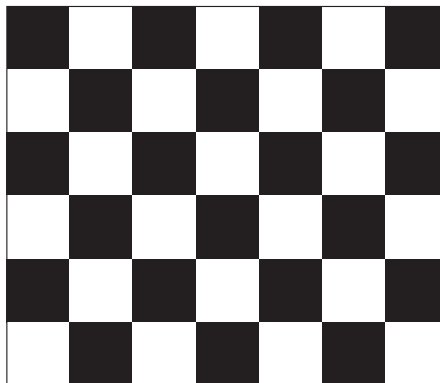
4-4-2. Service Adjustment

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 (PC)

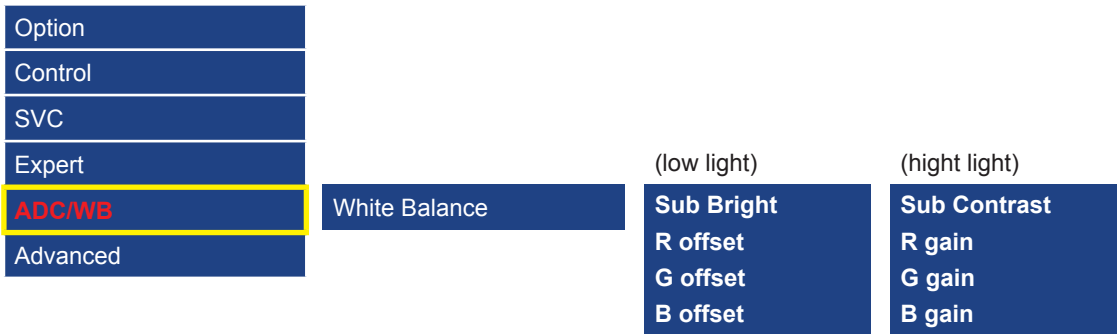
1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration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

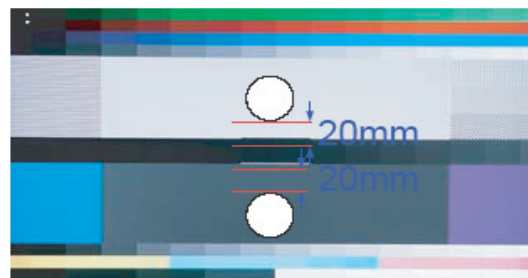
4-4-3. Adjustment

- 1. Into the Factory Mode.
- 2. Select **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

P-Mode Input source	Section		Adjustment Coordinate CA-210					
HDMI COMP VIDEO	W/B High		Hx	264	Hy	274	HY	-
	W/B Low		Lx	-	Ly	-	LY	-
MOVIE	W/B High		Hx	318	Hy	340	HY	-
	W/B Low		Lx	-	Ly	-	LY	-

Sub Contrast	135	Sub Bright	128		
R-Gain	ADJ	G-Gain	128	B-Gain	ADJ
R-Offset	128	G-Offset	128	B-Offset	128

4-6. RS-232C

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

1. RS232C Control

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

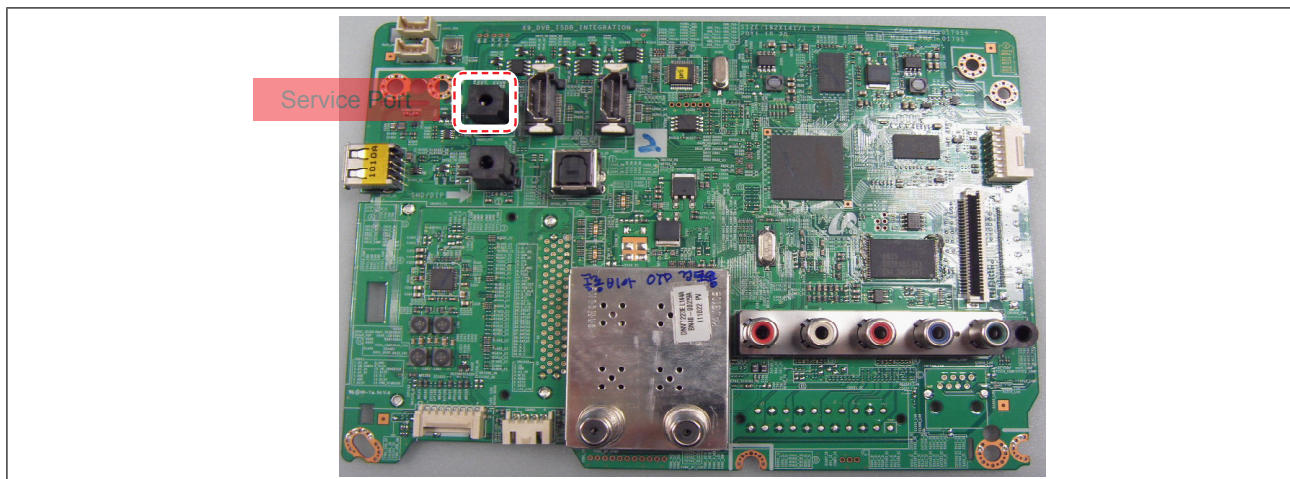
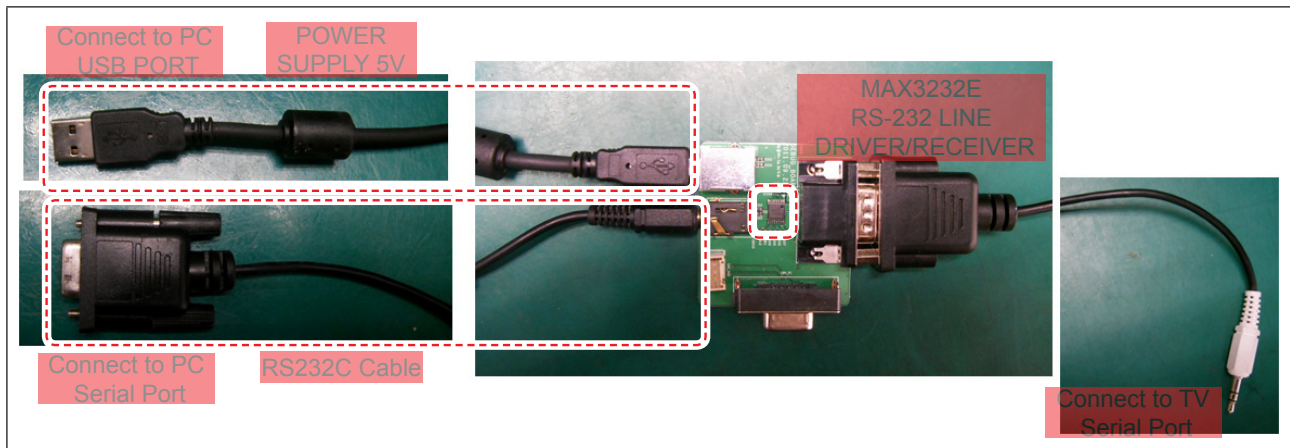
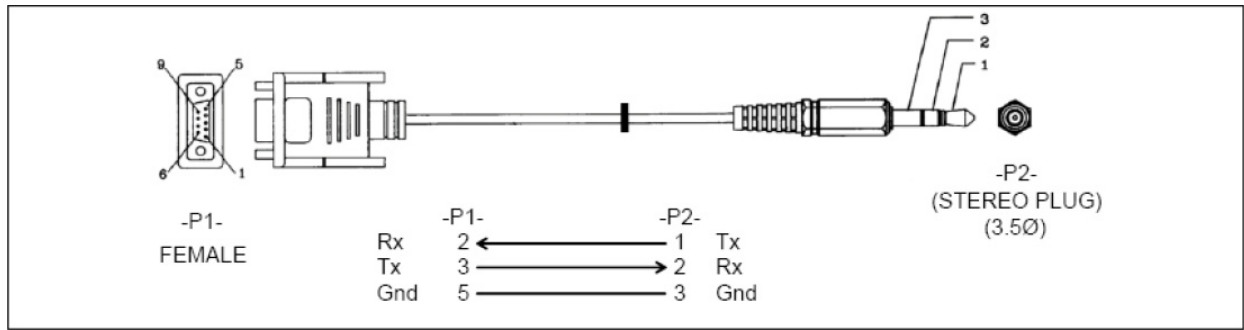
2. How to connect to TV set

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

Refer to below picture and description.

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

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



4-7. AV Control Table

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		0x0a	0x00	0x00	0x00
		AV	AV1			0x01	0x00
			AV2				0x01
			AV3				0x02
		S-Video	S-Video1			0x02	0x00
			S-Video2				0x01
			S-Video3				0x02
		Component	Component1			0x03	0x00
			Component2				0x01
			Component3				0x02
		PC	PC1			0x04	0x00
			PC2				0x01
			PC3				0x02
		HDMI	HDMI1			0x05	0x00
			HDMI2				0x01
			HDMI3				0x02
			HDMI4				0x03
		DVI	DVI1			0x06	0x00
			DVI2				0x01
			DVI3				0x02

Not Support

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

Control Item				Cmd1	Cmd2	Cmd3	Value	
		CAL-NIGHT					0x04	Not Support only PDP (2012)
		CAL-DAY					0x05	
		BD Wise					0x06	
		Relax					0x07	
	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	Not Support
			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	

4. Troubleshooting

Control Item				Cmd1	Cmd2	Cmd3	Value	
			On				0x01	
		xvYCC	Off			0x10	0x00	
			On				0x01	
		Motion Lighting	Off			0x11	0x00	
			On				0x01	
		LED Motion Plus	Off		0x0a	0x07	0x00	
			On(Normal)				0x01	
			Cinema				0x02	Not Support
			Ticker				0x03	
	Picture Option	Color Tone	Cool		0x0a	0x00	0x00	
			Standard				0x01	Normal -> Standard
			Warm1				0x02	
			Warm2				0x03	
		Digital Noise Filter	Off			0x02	0x00	
			Low				0x01	
			Medium				0x02	
			High				0x03	
			Auto				0x04	
			Auto Visualization				0x05	Not Support
		MPEG Noise Filter	Off			0x03	0x00	
			Low				0x01	
			Medium				0x02	
			High				0x03	
			Auto				0x04	
		HDMI Black Level	Normal			0x04	0x00	
			Low				0x01	
		Film Mode	Off			0x05	0x00	
			Auto1				0x01	
			Auto2				0x02	
			Cinema Smooth				0x03	Not Support only PDP (2012)
		Auto Motion Plus	Off			0x06	0x00	
			Clear				0x01	
			Standard				0x02	
			Smooth				0x03	

Control Item				Cmd1	Cmd2	Cmd3	Value	
			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	Not Support only DVB (2012)
			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	Not Support
			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	
			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

4. Troubleshooting

Control Item				Cmd1	Cmd2	Cmd3	Value	
	Equalizer	Amplify					0x04	
		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	Not Support
	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	
	Sound Select	Main			0x08	0x00	0x00	
		Sub					0x01	
	Sound Reset	Sound Reset			0x09	0x00	0x00	

Control Item				Cmd1	Cmd2	Cmd3	Value	
	3D Audio	Off			0x0a	0x00	0x00	Not Support add 2012
		Low					0x01	
		Medium					0x02	
		High					0x03	
	Auto Stereo	Manual			0x0b	0x00	0x00	Not Support only KOREA (2012)
		Auto					0x01	

Control Item				Cmd1	Cmd2	Cmd3	Value	
KEY	Key Generation			0x0d	0x00	0x00	refer to table	
OSD	Show/Hide Control	Show		0x0e	0x00	0x00	0x00	add 2012
		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)	Not Support
Enter(OK)	104 (0x68)	
EXIT	45 (0x2D)	

4-8. Software Upgrade

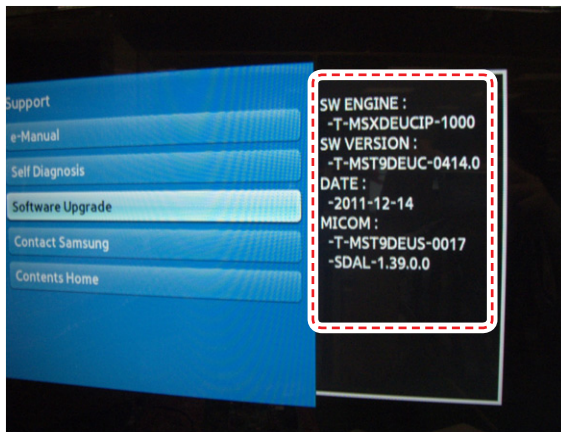
Software Upgrade can be performed by downloading the latest firmware from samsung.com to a USB memory device.

- Current Version - The software already installed in the TV.
- Software is represented as 'Year/Month/Day_Version'.

4-8-1. 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
Contro
SVC
Expert
ADC/WB
Advanced

T-NVTF6USAC-****.*
 T-NVTFAUSS-****
 E-Manual : NVISDBBRF2-****
 EDID : SUCCESS
 HDCP : SUCCESS
 CALIB : AV / COMP / PC / HDMI /
 OPTION.**
 USB RS232C
 RFS : NT13 ****
 Onboot : ***
 TCON version
 20**_**_**

4-8-2. How to Upgrade Software and Micom

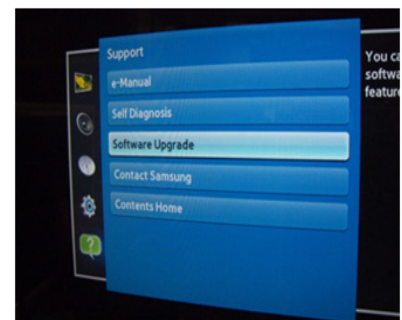
Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV. Please be careful not to disconnect the power or remove the USB drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the firmware upgrade. Please check the firmware 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. Store the sw program named "T-NVTF6USAC" in USB memory stick.
 - Connect the USB.



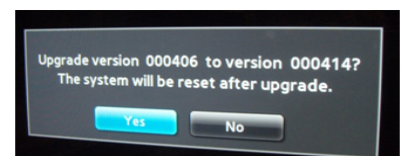
2. Click the "MENU" key in Remote Controller.
3. Select "Support" menu.
 - Locate the menu cursor "Software Upgrade" menu.



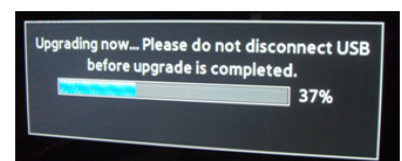
4. Locate the menu cursor "By USB" menu



5. Click the "ENTER" key.

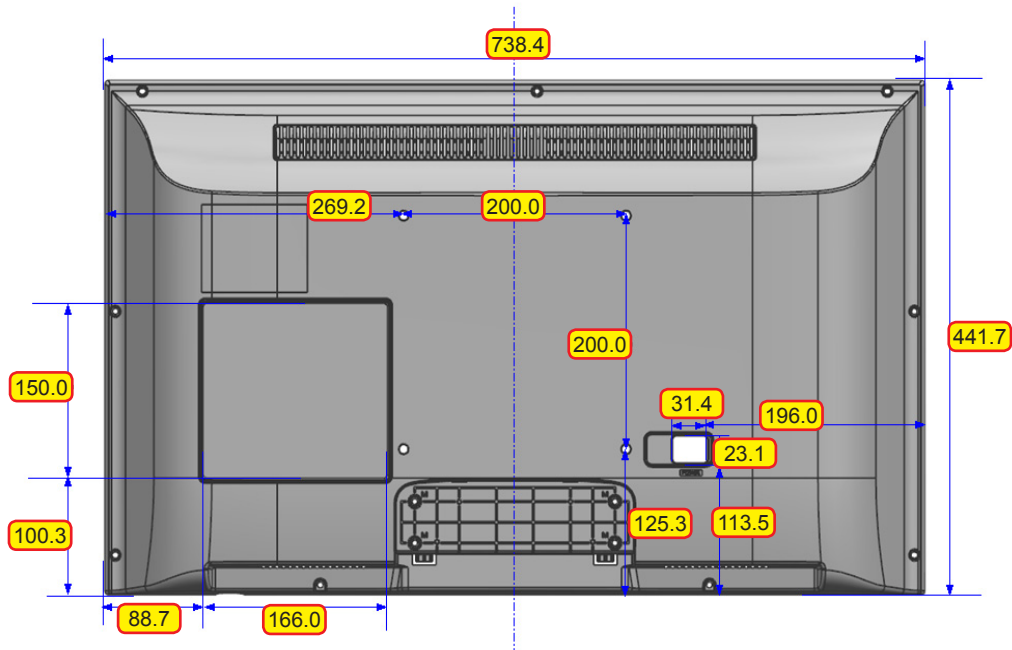


6. Click the "ENTER" key.
 - Wait for upgrade complete.
 - Check the Software Version.

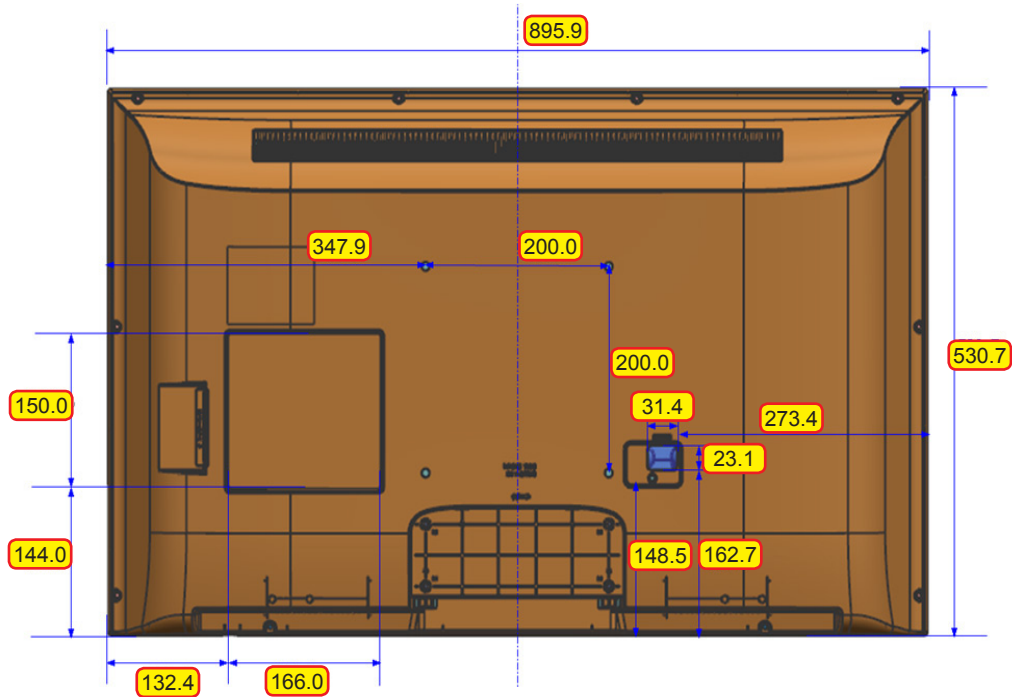


4-9. Rear Cover Dimension

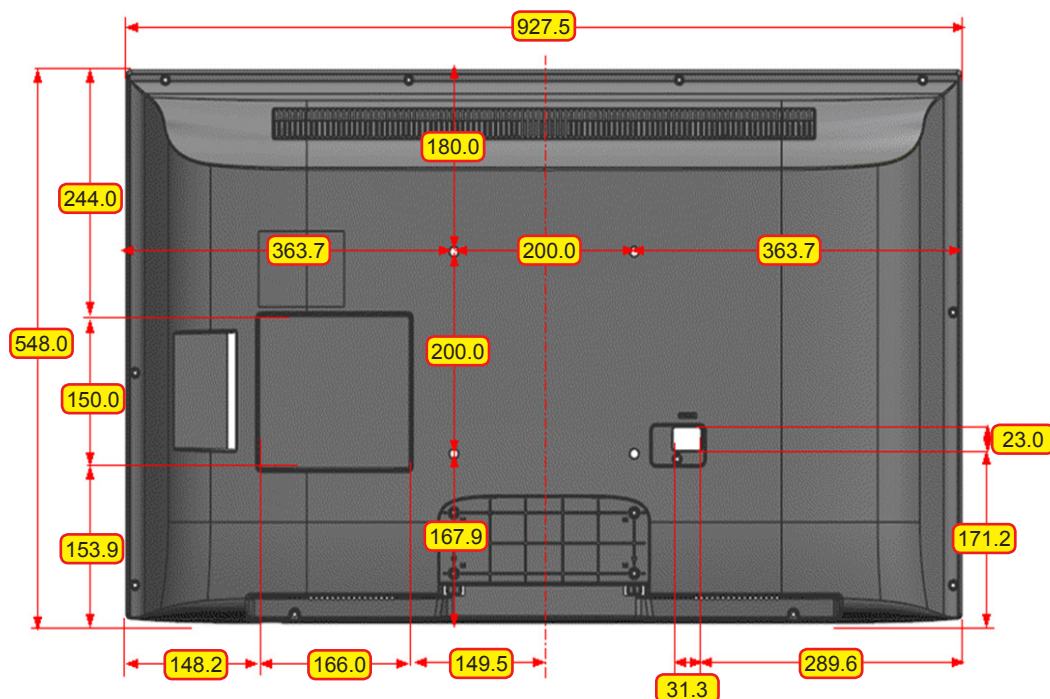
■ UN32FH4003



■ UN39FH5003



■ UN40FH5003



■ UN46FH5003

