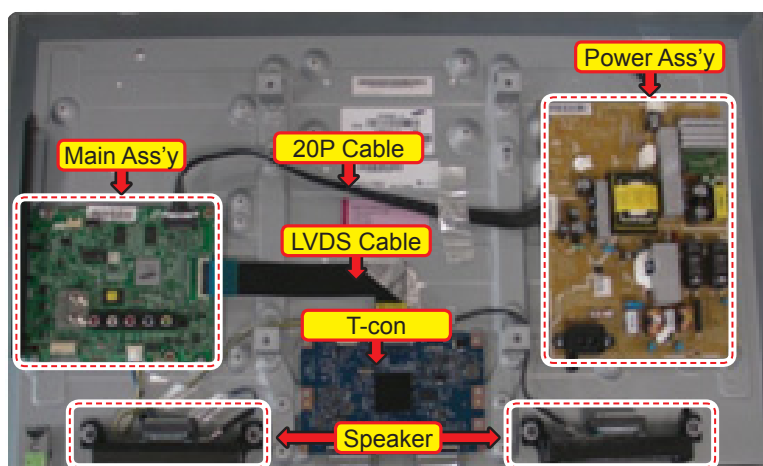


4. Troubleshooting

4-1. Troubleshooting

4-1-1. Previous Check

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



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

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

- For All mode

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

- Only for HDMI mode (additional check)

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

■ How to check inner pattern?

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

4-2. How to Check Fault Symptom

4-2-1. NO Power

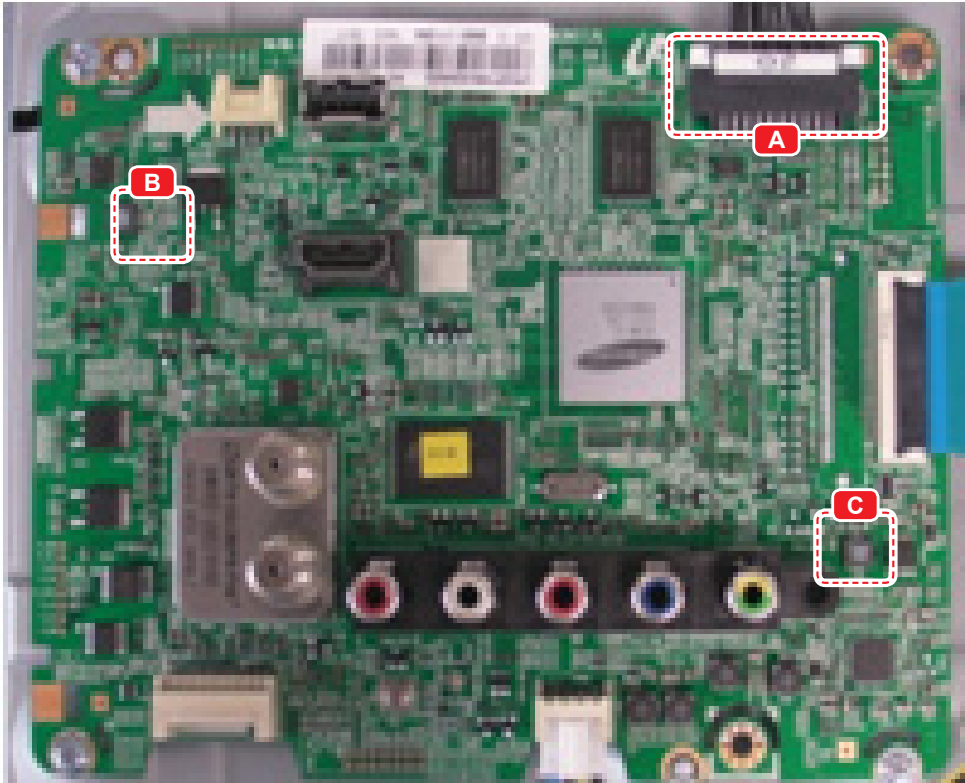
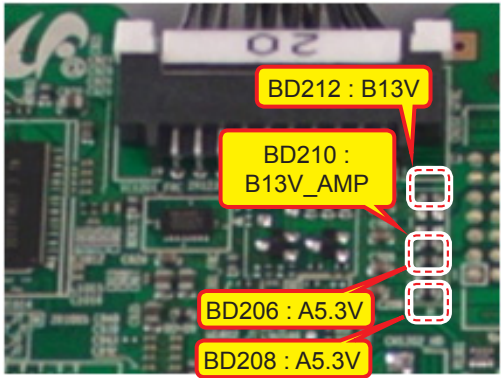
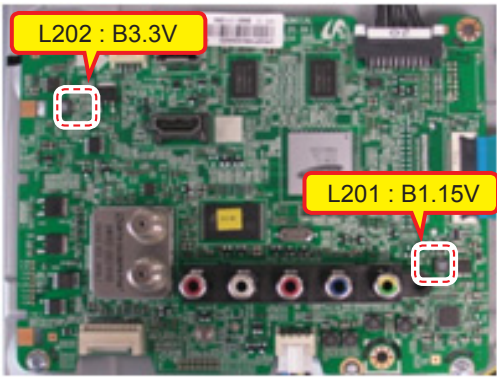

Note

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

Symptom	- 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 Q1[Power indicator LED is on?] -- No --> A1[Check the power cord connection.] Q1 -- Yes --> Q2[Check the backlight on, when 20 PIN cable unconnected ?] Q2 -- No --> A2[Change 20p cable. Change Main Power Ass'y.] Q2 -- Yes --> Q3[Check 'Stand-By 5.3V' ? - BD208 : A5.3V] Q3 -- No --> A2 Q3 -- Yes --> Q4[Check 'Power input of Main Ass'y' ? DC B13V, B5.3V appear at CN201 #11,12,13(B13V) CN201 #1,3 (B5.3V)? 0V to 13V (CN201 #11,12,13)0V to 5.3V (CN201 #1,3)] Q4 -- No --> A2 Q4 -- Yes --> Q5[Check 'Power IC output of Main Ass'y' ? - L201 : B1.15V / L202 : B3.3V] Q5 -- No --> A3[Change the Main Ass'y.] Q5 -- Yes --> Q6[Check Input power of 'T CON Board' ? - F1(T CON) : B13V] Q6 -- No --> A4[Reconnect or Change. the LVDS cable.] Q6 -- Yes --> Q7[Check Power of 'T CON Board'. - L9(T-CON) : VCC12 - TP_VCC33 : VCC33] Q7 -- No --> A5[Change the T CON Board.] </pre>

Diagnostics	Yes ↓ Please, Contact tech support.
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts

Main Board_Front		
		
Detail		
A 	B C	

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

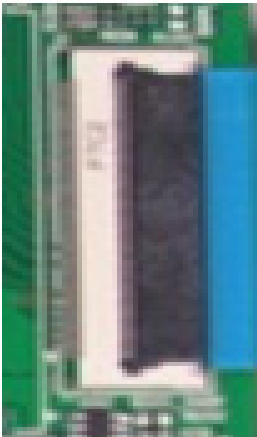


Note

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

Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the HDMI source. - Check the HDMI switch. - This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	Power indicator LED is off. Lamp(Backlight) on, no video ? No → Check a set in the 'Stand-by mode'. Yes ↓ Check the HDMI source and check the connection of HDMI cable ? No → Input the HDMI signal properly. Yes ↓ ① Check the HDMI source and check the connection of HDMI cable ? No → Check CN502_H1. Check HDMI cable. Change the Main Ass'y Yes ↓ ② Check the LVDS clk signal at output of Main Board. (TX) - ODD_TXCLK- / ODD_TXCLK+ - EVEN_TXCLK- / EVEN_TXCLK+ No → Check IC901(NT72569). Change the Main Ass'y. Yes ↓ Check the LVDS cable? Replace the T CON / LCD panel? No → Please, Contact tech support.
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts

Main Board_Front		
		
Detail		
A		

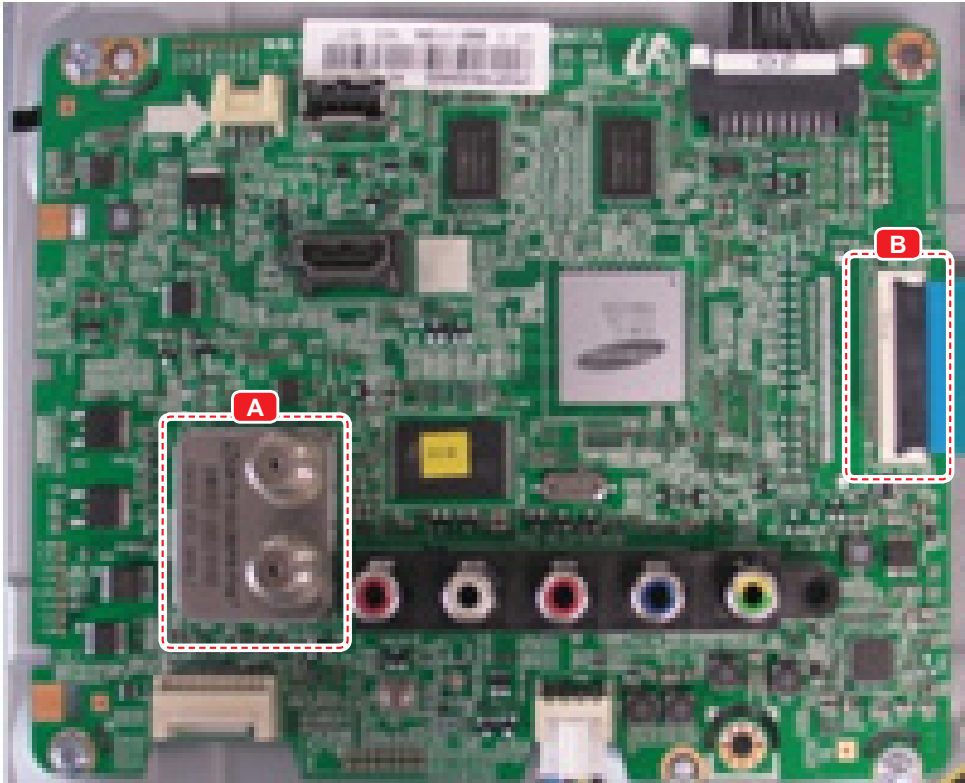
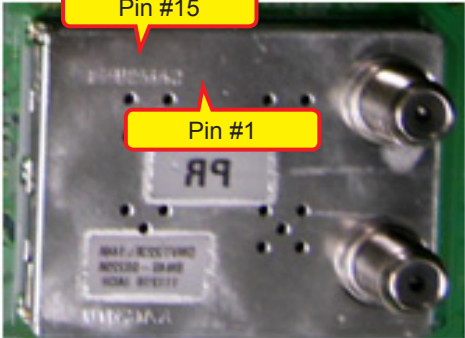
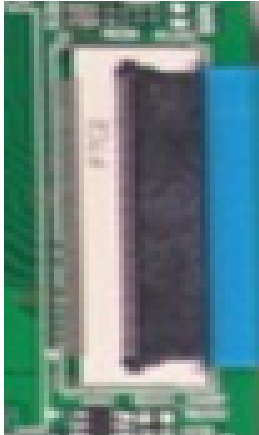
4-2-3. No Video (Tuner_CVBS)


Note

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

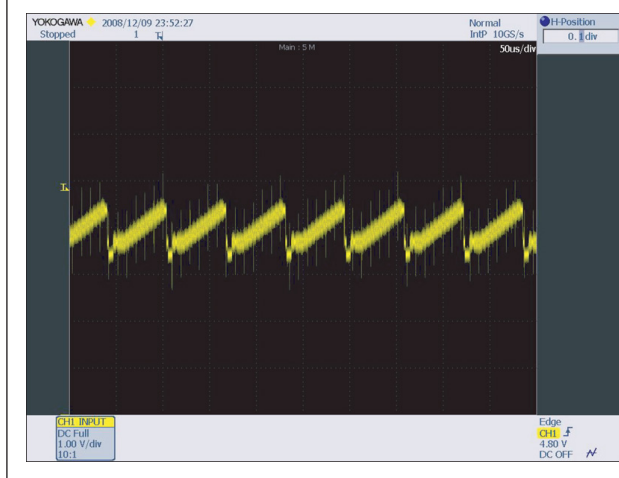
Symptom	Audio is normal but no picture is displayed on the screen.
Major checkpoints	- Check the Tuner CVBS source. - Check the Tuner. - This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	<pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video ?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the RF source and check the connection of RF cable.] Q2 -- No --> A2[Input the RF source properly.] Q2 -- Yes --> Q3[Check the Power of Tuner ? - Pin #5 of Tuner : B3.3V_Tuner - Pin #3 of Tuner : B1.8V_Tuner] Q3 -- No --> A3[Change the Main Ass'y.] Q3 -- Yes --> Q4[Check the CVBS data out of IC901 ? C917 : Tuner CVBS] Q4 -- No --> A4[Check IC901(NT72569). Change the Main Ass'y.] Q4 -- Yes --> Q5[Check the LVDS clk signal at output of Main board. (TX) - ODD_TXCLK- / ODD_TXCLK+ - EVEN_TXCLK- / EVEN_TXCLK+] Q5 -- No --> A5[Check IC901(NT72569). Change the Main Ass'y.] Q5 -- Yes --> Q6[Check the LVDS cable? Replace the T CON / LCD panel?] Q6 -- No --> A6[Please, Contact tech support.] </pre>
Caution	Make sure to disconnect the power before working on the IP Board.

■ Location of Parts

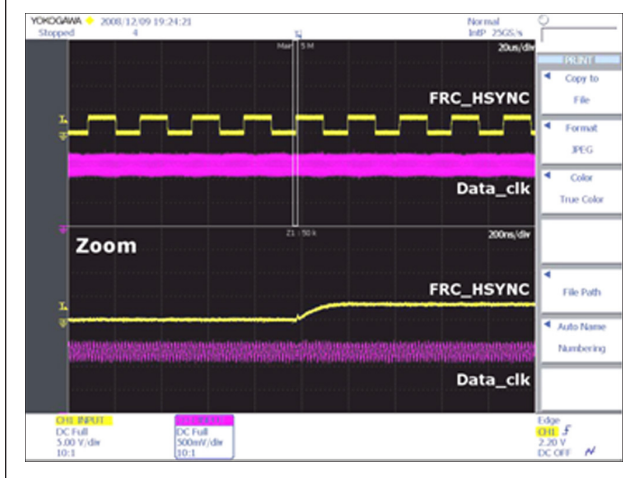
Main Board_Front			
			
Detail			
A		B	

■ Waveforms

① CVBS OUT (Grey Bar)



② LVDS output



4-2-4. No Sound (Speaker)



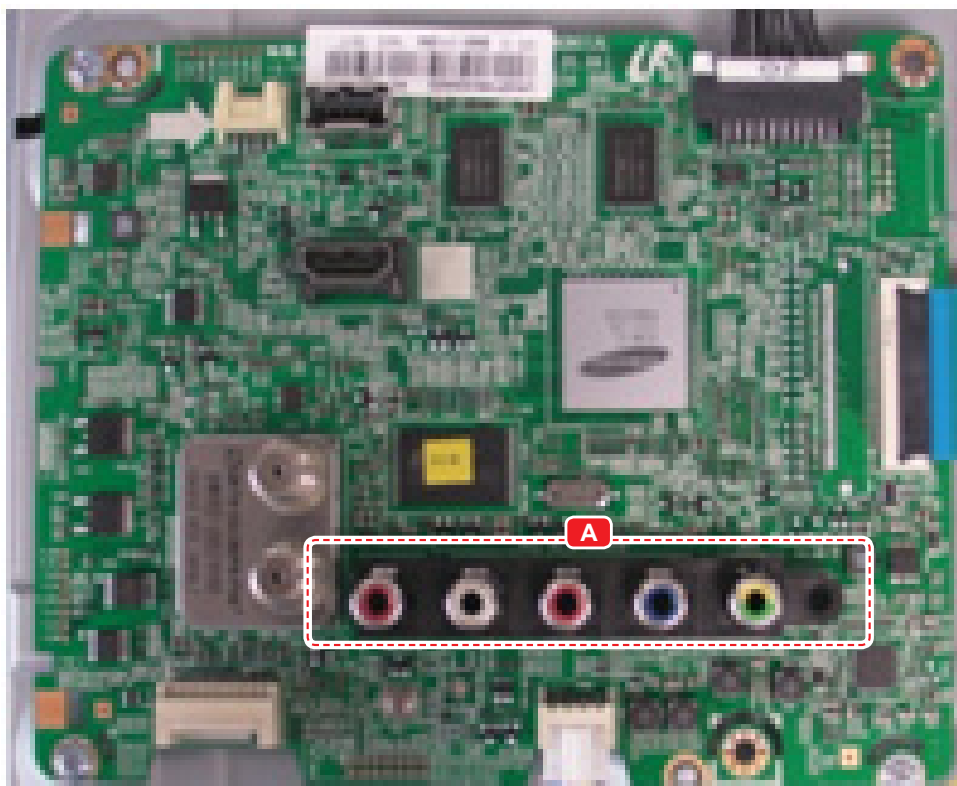
Note

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

Symptom	Video is normal but there is no sound.
Major checkpoints	- When the speaker connectors are disconnected or damaged. - When the sound processing part of the Main Board is not functioning. - Speaker defect.
Diagnostics	Check the source and check the connection of sound cable ? No → Input the sound source properly. Yes ↓ Check the signal at input of Main Board? AV, COMP R : R426 / L : R427 No → Check CN302, CN401. Change the Main Ass'y. Yes ↓ ① Check the DATA between the Audio IC's ? - Pin #4 of IC303 : LRclk - Pin #3 of IC303 : I2C_DATA No → Check IC303. Change the Main Ass'y. Yes ↓ ② 1. Check the Speaker sound data at ? - CN302 2. Check the Monitor out sound data at ? - CN302 No → Check IC303. Change the Main Ass'y. Yes ↓ Replace speaker ? No → Please, Contact Tech support.
Caution	Make sure to disconnect the power before working on the IP Board.

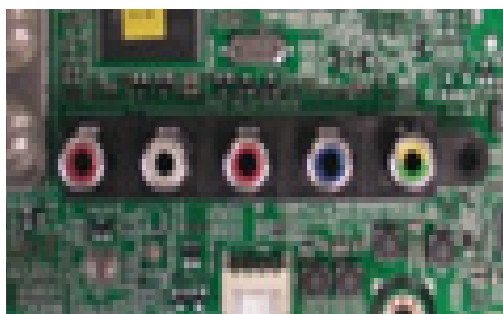
■ Location of Parts

Main Board_Front

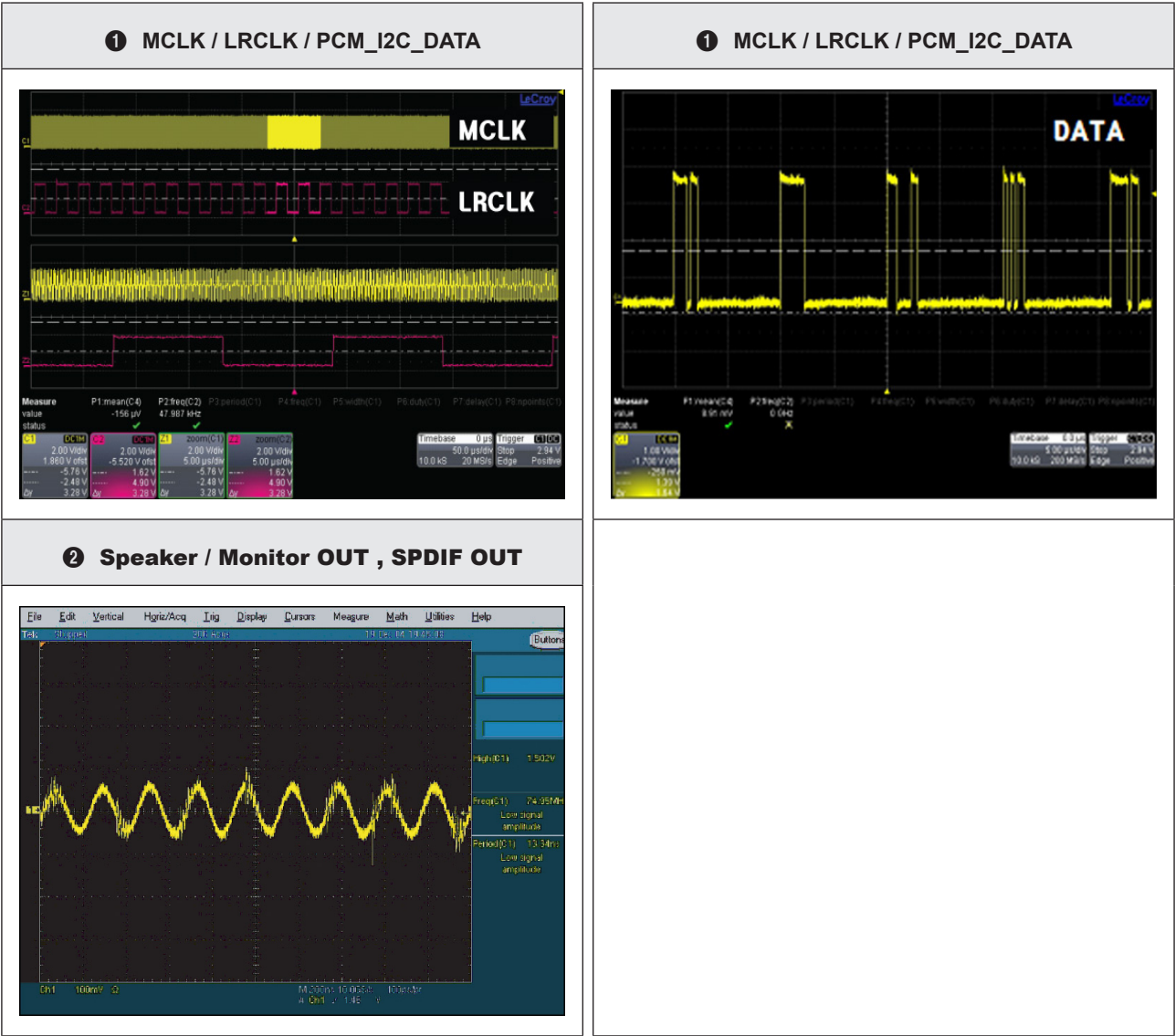


Detail

A



■ Waveforms



4-3. Factory Mode Adjustments

4-3-1. Detail Factory Option



NOTE

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

■ UN**FH5205GXZD

Inches		39"	40"	46"
PANEL	Vendor	SDC	AUO	SDC
	Code	BN95-01173A	BN95-01277A	BN95-01279A
	Spec.	CY-DF390BGAV2G	CY-DF400BGLV2G	CY-DF460BGLV2G
SMPS BOARD	Vendor	SEM	SEM	DYREL
	Code	BN44-00666E	BN44-00666E	BN44-00667B
	Spec.	L40GF_ESM	L40GF_ESM	L46GFB_DDY
MAIN BOARD	Chassis Ass'y	BN91-11968J	BN91-11968K	BN91-11968L
	PBA Ass'y	BN94-07162J	BN94-07162K	BN94-07162L
Byte	Item			
0	Factory Reset	-	-	-
1	Type	39L6AF0D	40A6AF1D	46A6AF1D
2	Local set	BRA_DTV	BRA_DTV	BRA_DTV
3	Basic Model	UE5200	UE5200	UE5200
4	SVC Model	5205	5205	5205
5	Tuner	SI_ISDB	SI_ISDB	SI_ISDB
6	Ch table	-	-	-
7	Front Color	U-S-C-5K	U-S-C-5K	U-S-C-5K

4-3-2. Entering Factory Mode

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

- If you do not have Factory remote control



- If you have Factory remote control



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

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

4-3-3. Factory Data

■ Option

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

■ Control

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

4. Troubleshooting

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

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

4. Troubleshooting

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

■ SVC

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

■ ADC/WB

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

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

4. Troubleshooting

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

■ Advanced

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

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

4. Troubleshooting

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

4-4. White Balance

4-4-1. Calibration

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

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

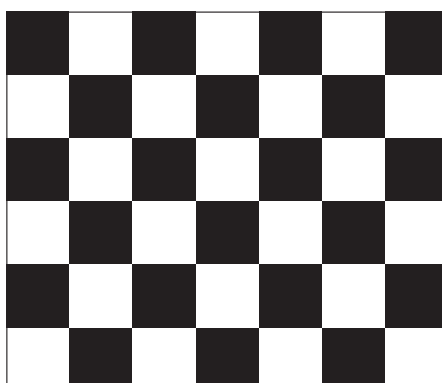
4-4-2. Service Adjustment

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

■ Color Calibration

- Adjust Specification

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



(Chess Pattern)

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

Input mode	Calibration	Pattern
CVBS IN (Model_#1)	Perform in NTSC B&W Pattern #24	Lattice
Component IN (Model_#6)	Perform in 720p B&W Pattern #24	Lattice
PC Analog IN (Model_#21)	Perform in VESA XGA (1024x768) B&W Pattern #24	Lattice
HDMI IN	Perform in 720p B&W Pattern #24	Lattice

Method of Color Calibration (AV)

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

Method of Color Calibration (Component)

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

Method of Color Calibration (PC)

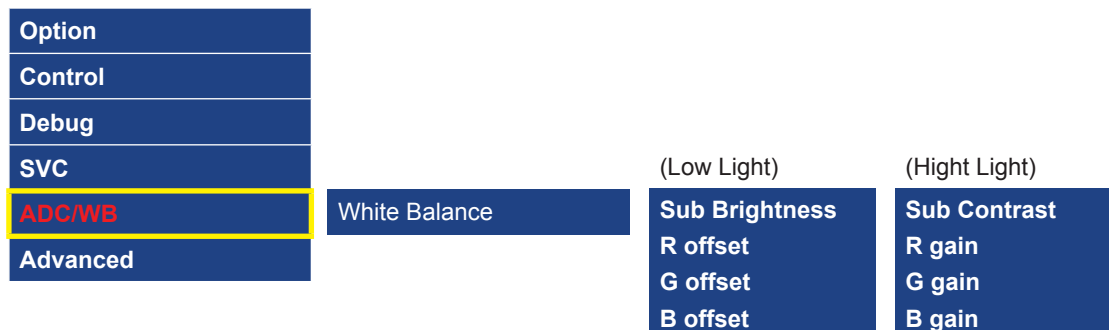
1. Apply the VESA XGA Lattice (N0. 21) pattern signal to the PC IN port.
2. Press the Source key to switch to "PC" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "PC Calibration" menu.
6. In "PC Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration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

Method of Color Calibration (HDMI)

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

4-4-3. Adjustment

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



4-5. White Ratio (Balance) Adjustment

1. You can adjust the white ratio in factory mode (1:Calibration, 3:White-Balance).
2. Since the adjustment value and the data value vary depending on the input source, you have to adjust these in CVBS, Component 1 and HDMI 1 modes.
3. The optimal values for each mode are configured by default. It varies with Panel's size and Specification.
 - Equipment : CS-210
 - Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard
 - Alternate Equipment : CA200& anyone Master supported pattern#92(refer to right photo)
 - Use other Equipment only after comparing the result with that of the Master equipment.
 - Set Aging time : 60 min



Calibration and Manual setting for WB adjustment

- HDMI : Calibration at #24 Chessboard Pattern Manual adjustment at #92 pattern (720p)
- COMP: Calibration at #24 Chessboard Pattern Manual adjustment at #92 pattern (720p)
- CVBS: Calibration at #24 Chessboard Pattern Manual adjustment at #92 pattern (NTSC)



Note

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

4-6. RS-232C

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

1. RS232C Control

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

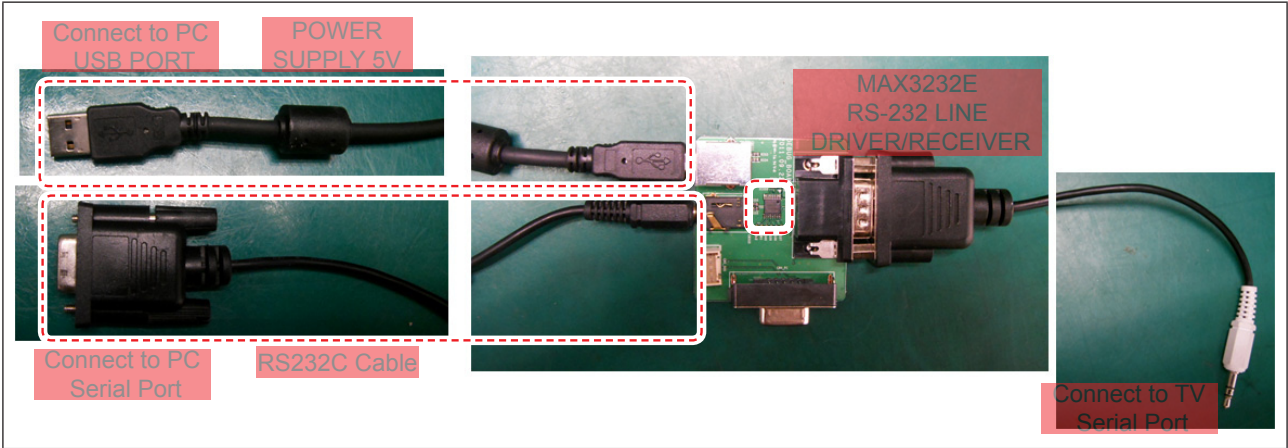
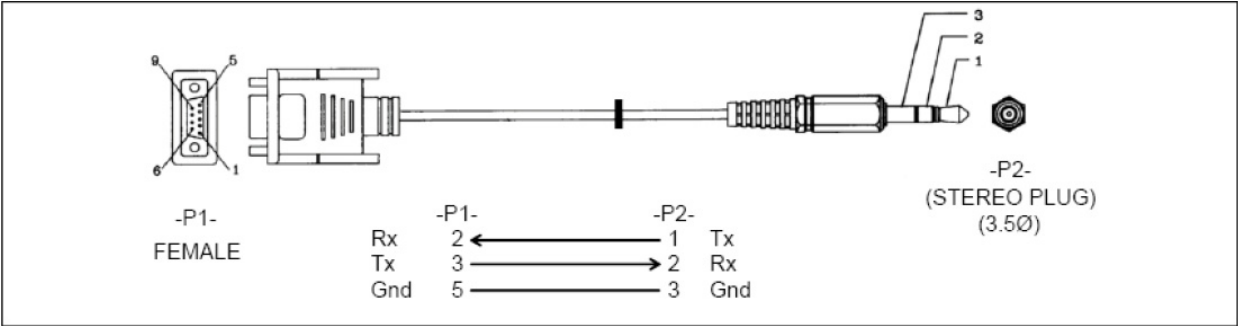
2. How to connect to TV set

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

Refer to below picture and description.

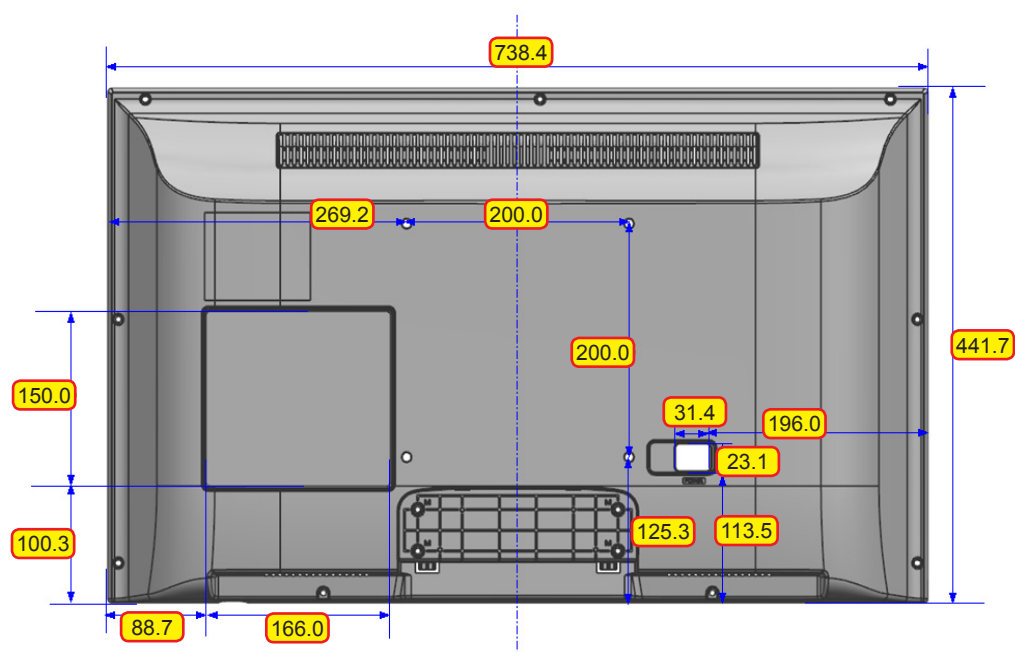
1 Gender to connect with JIG Board and TV SET.		
2 Power supply Cable (5V).		
3 RS232C Cable.		

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

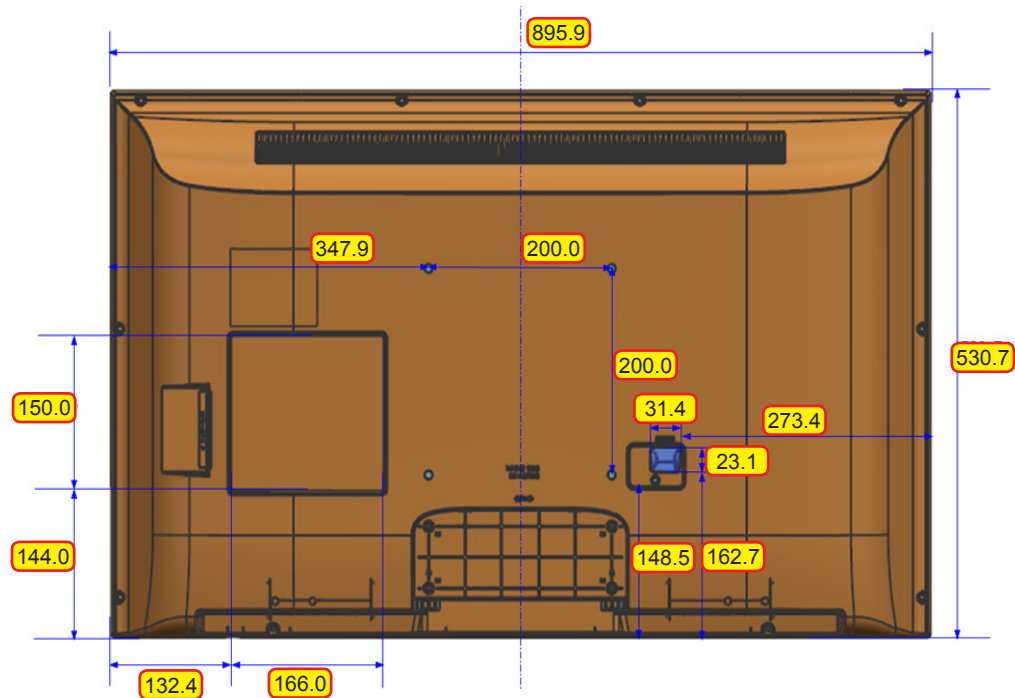


4-7. Rear Cover Dimension

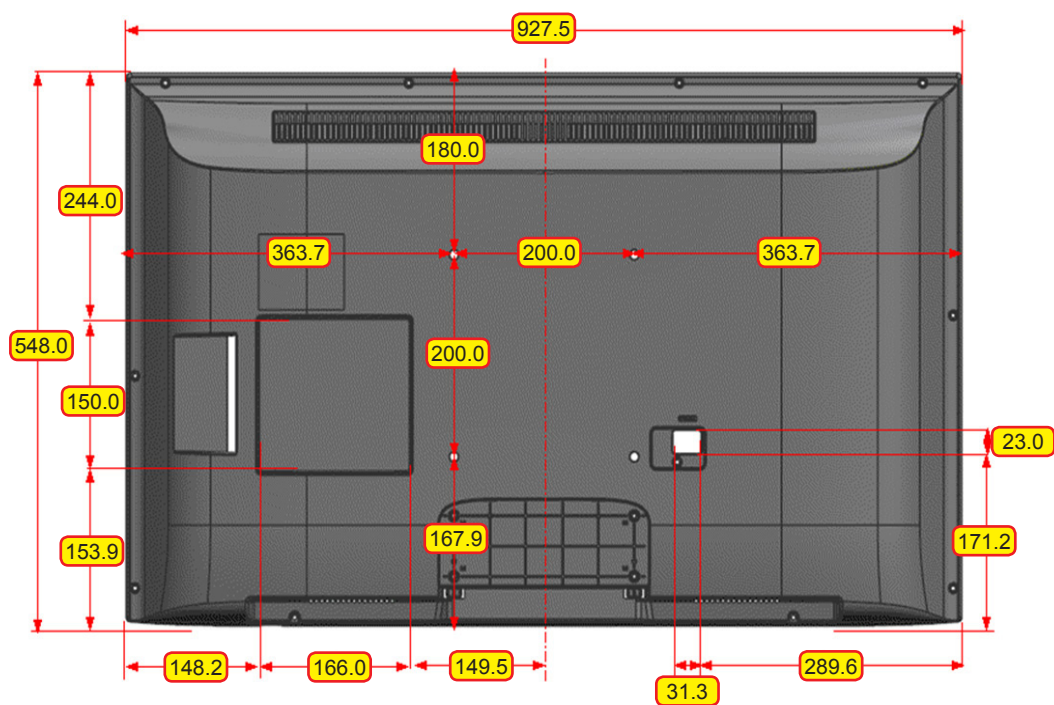
■ UN32FH4205



■ UN39FH5205



■ UN40FH5205



■ UN46FH5205

