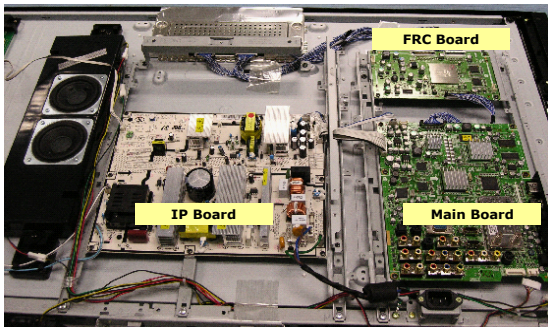
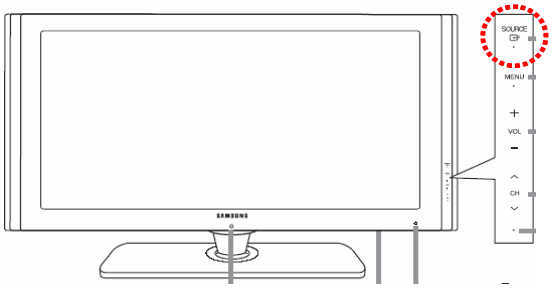
4. Troubleshooting

4-1. Troubleshooting

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. Check the Power input to the FRC(Frame Rate Conversion) Board.
   Check internal Pattern both of FRC and FBE2 if there is some picture noise.
   FRC: Factory mode(mute 1 - 8 - 2 power on)-> FRC Option-> R_PRE_PATT_SEL (FRCM: FRCM PATT_BeforeDDR) -> Press right button of Remocon.
   FBE2: Factory mode(mute 1 - 8 - 2 power on)-> FBE2-> Pattern sel-> Press right button of Remocon.
   Case1: FBE2 ok,FRC NG: change the FRC Board Case2: FBE2 NG, FRC NG: change the main Board

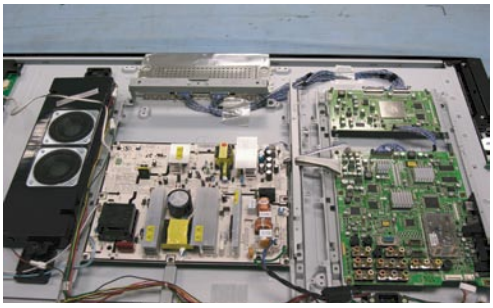
   Check the LED lamp for source button on front
   If this LED blank frequently then FRC board is defective(communication problem via Main board)
   in this case change the FRC board



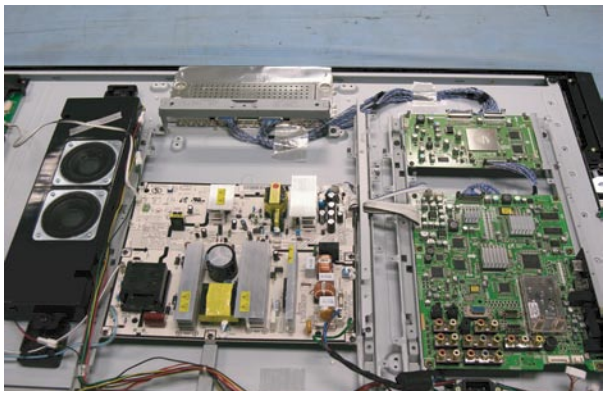


* FRCM: Micronas FRC Board - Peony model has two different FRC board, one is Samsung FRC IC (basic model) the other is Micronas FRC IC(derivative model).

4-1-1. No Power

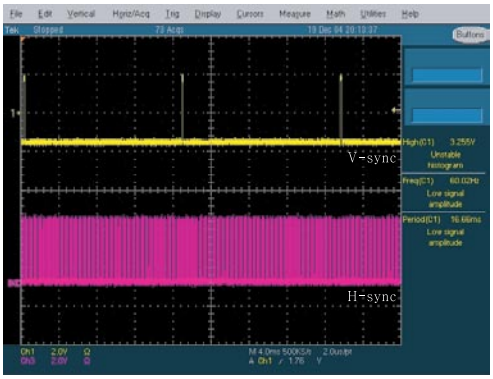
Symptom	– The LEDs on the front panel do not work when connecting the power cord. – The SMPS relay does not work when connecting the power cord. – The units appears to be dead.
Major checkpoints	The IP relay or the LEDs on the front panel does not work when connecting the power cord if the cables are 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	
Caution	Make sure to disconnect the power before working on the IP board.

4-1-2. No Video (Analog PC signal)

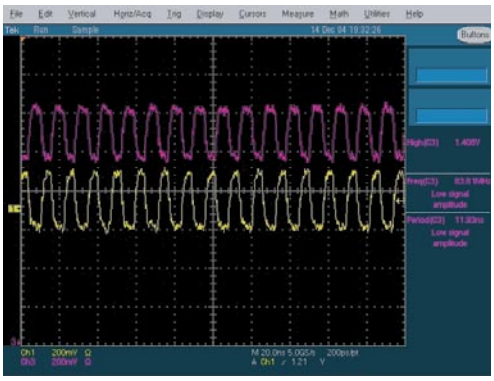
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the PC source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

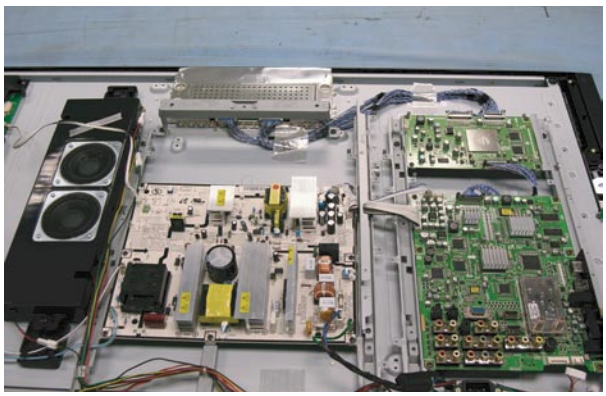
❶ ❷	PC Input (V-Sync, H-Sync)



❸	LVDS Out (CLK + / -)

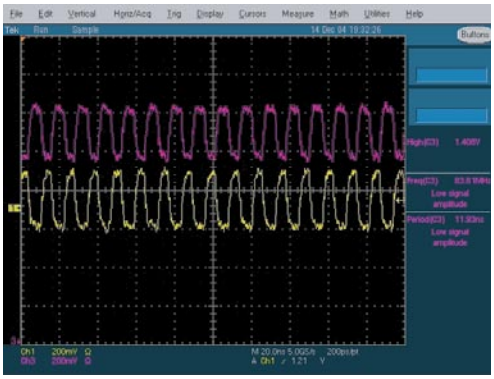


4-1-3. No Video (HDMI - Digital Signal)

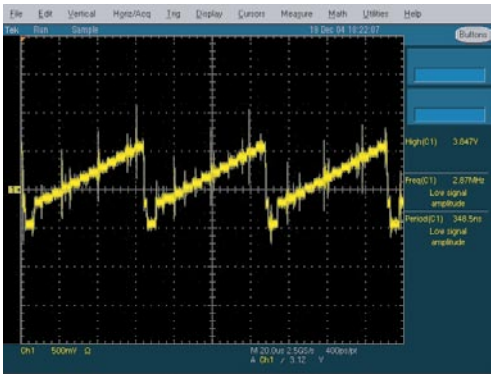
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the HDMI source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

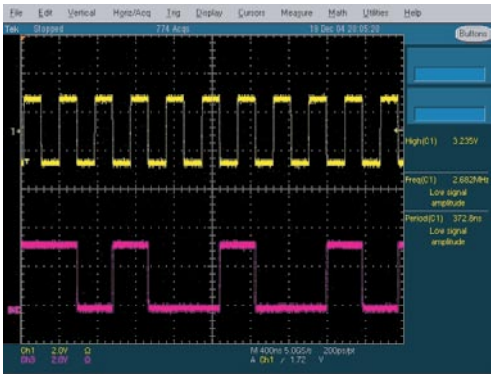
❹ ❺	**HDMI Input (CLK + / -)**



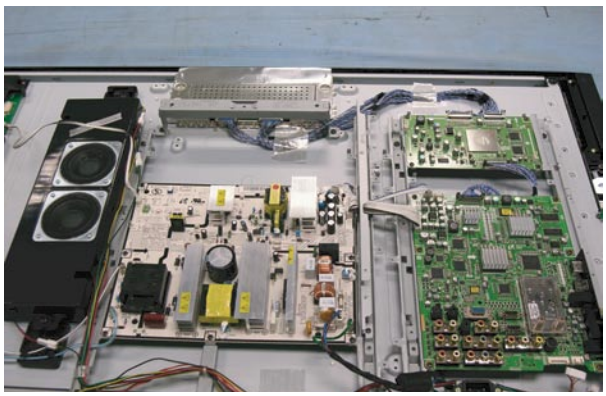
❻	**Tuner CVBS Out (Pattern: Grey Bar)**



❼	**TS DATA Out (Clk, Data [0])**

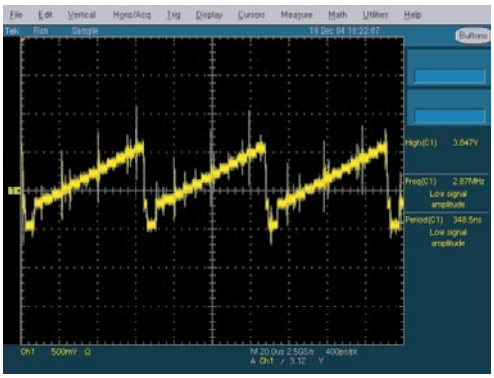


4-1-4. No Video (Tuner_CVBS)

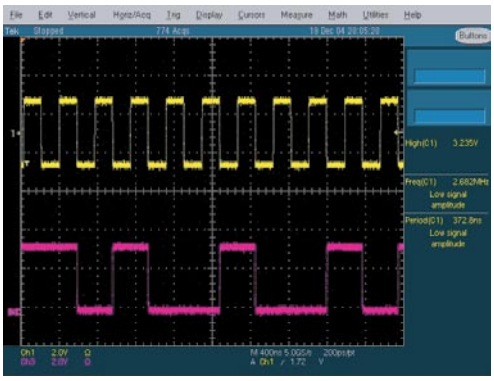
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Tuner CVBS source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

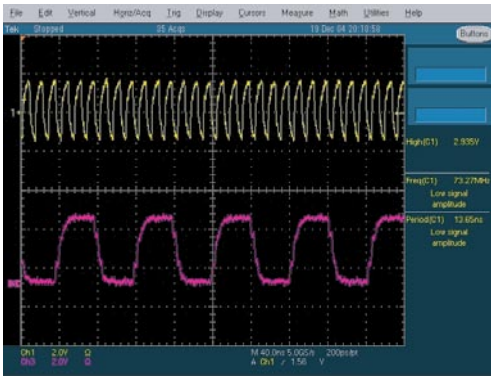
❻	**Tuner CVBS Out (Pattern: Grey Bar)**



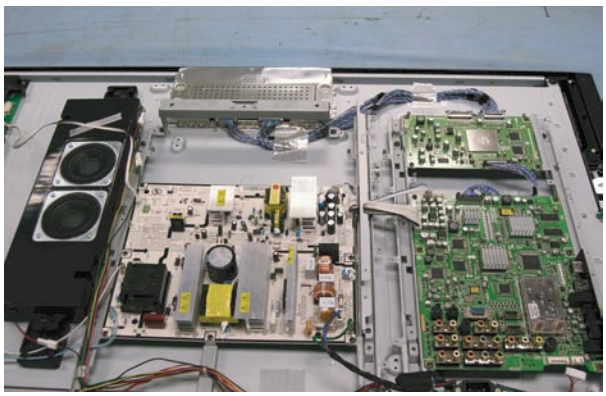
❼	**TS DATA Out (Clk, Data [0])**



❽	**Eagle+ Out (Clk, H-Sync)**

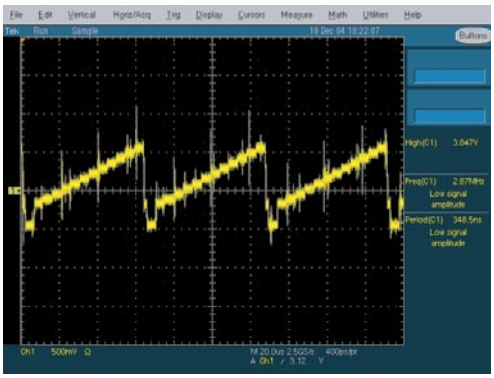


4-1-5. No Video (Tuner DTV)

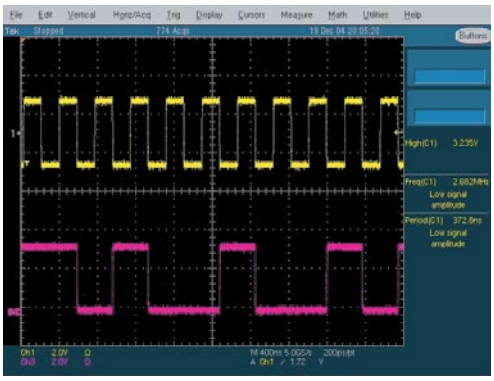
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the DTV source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

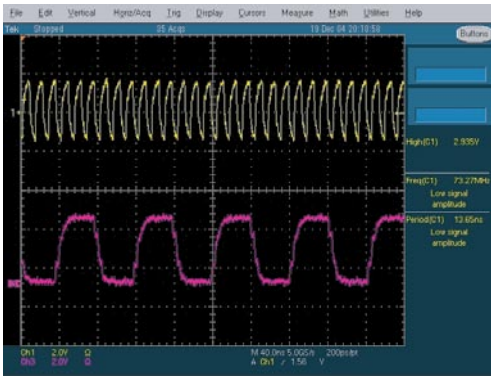
❻	**Tuner CVBS Out (Pattern: Grey Bar)**



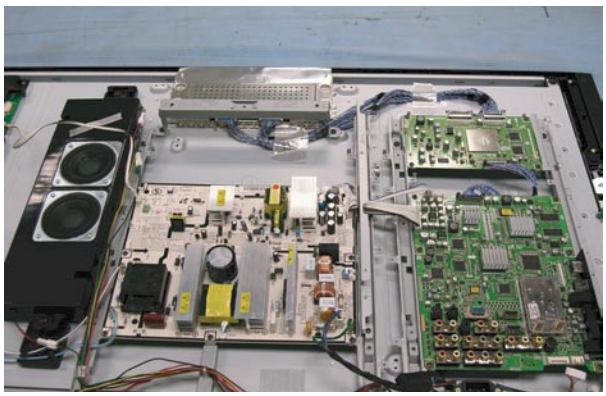
❼	**TS DATA Out (Clk, Data [0])**



❽	**Eagle+ Out (Clk, H-Sync)**

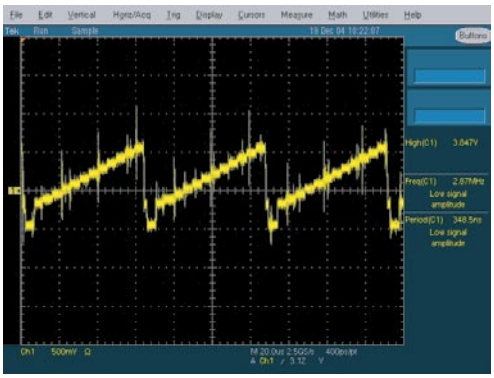


4-1-6. No Video (Video CVBS)

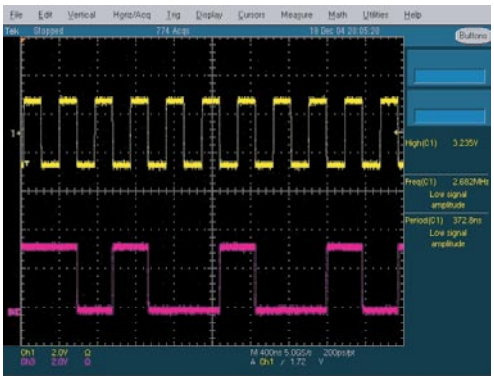
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Video CVBS source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

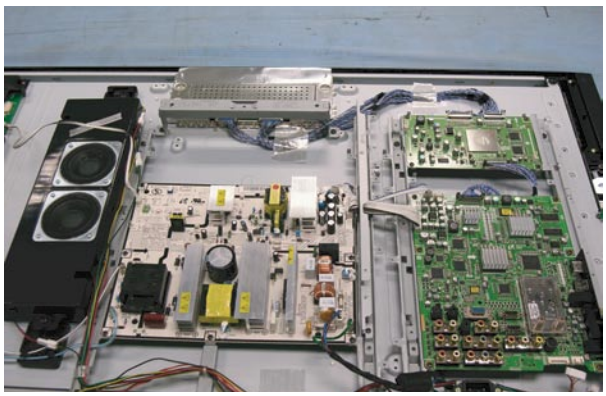
❻	Tuner CVBS Out (Pattern: Grey Bar)



❼	TS DATA Out (Clk, Data [0])

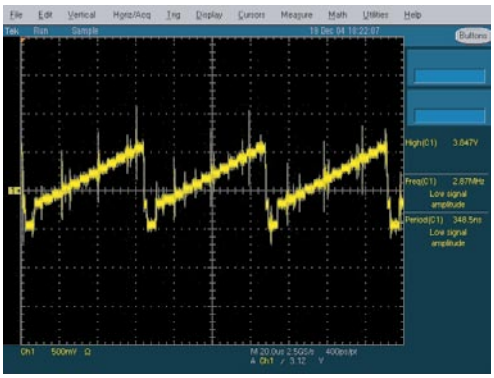


4-1-7. No Video (S-Video 1, 2)

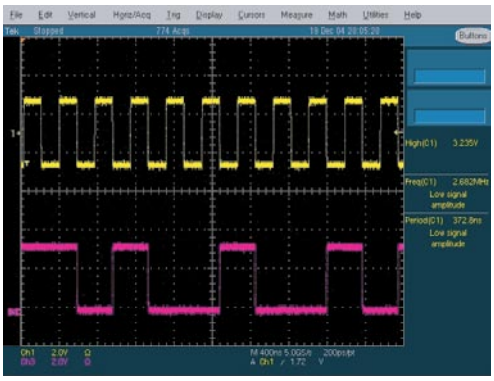
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the S-Video source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

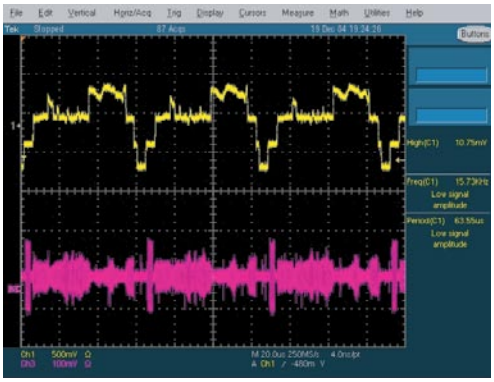
❻	**Tuner CVBS Out (Pattern: Grey Bar)**



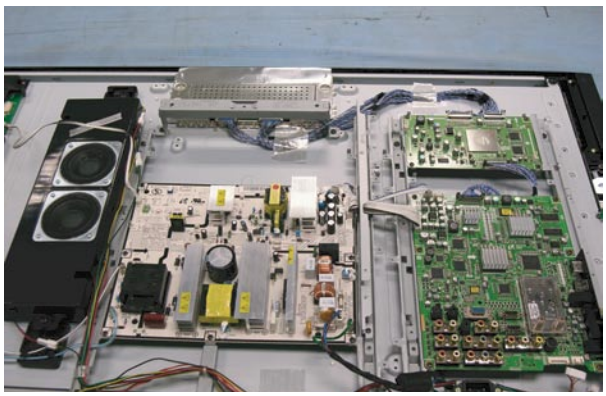
❼	**TS DATA Out (Clk, Data [0])**



❾	**S-VIDEO Input (Y/C)**

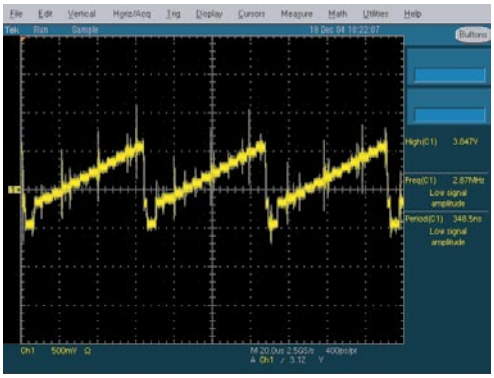


4-1-8. No Video (Component 1, 2)

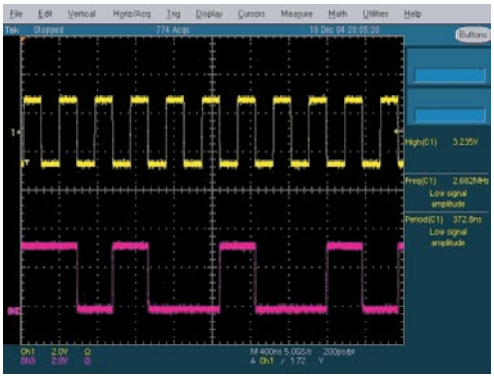
Symptom	– Audio is normal but no picture is displayed on the screen.
Major checkpoints	– Check the Component source – Check the SVP-LX – This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected.
Diagnostics	
Caution	Make sure to disconnect the power before working on the IP board.

WAVEFORMS

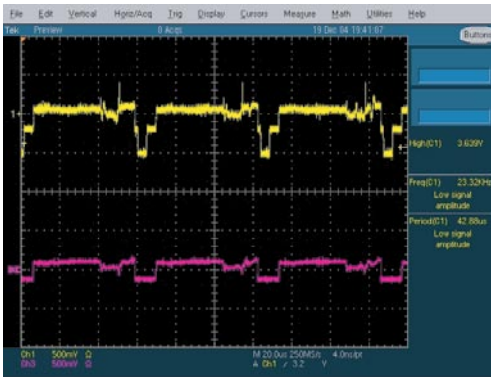
❻	**Tuner CVBS Out (Pattern: Grey Bar)**



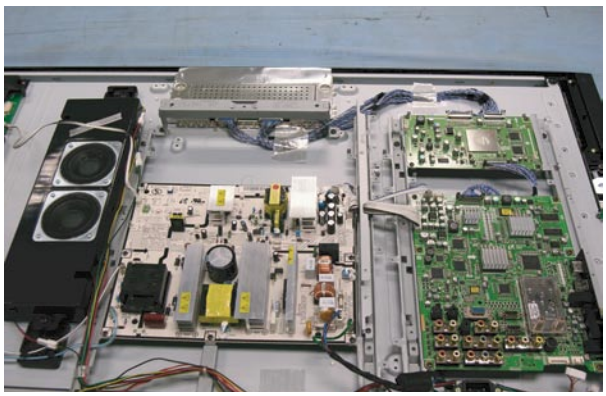
❼	**TS DATA Out (Clk, Data [0])**

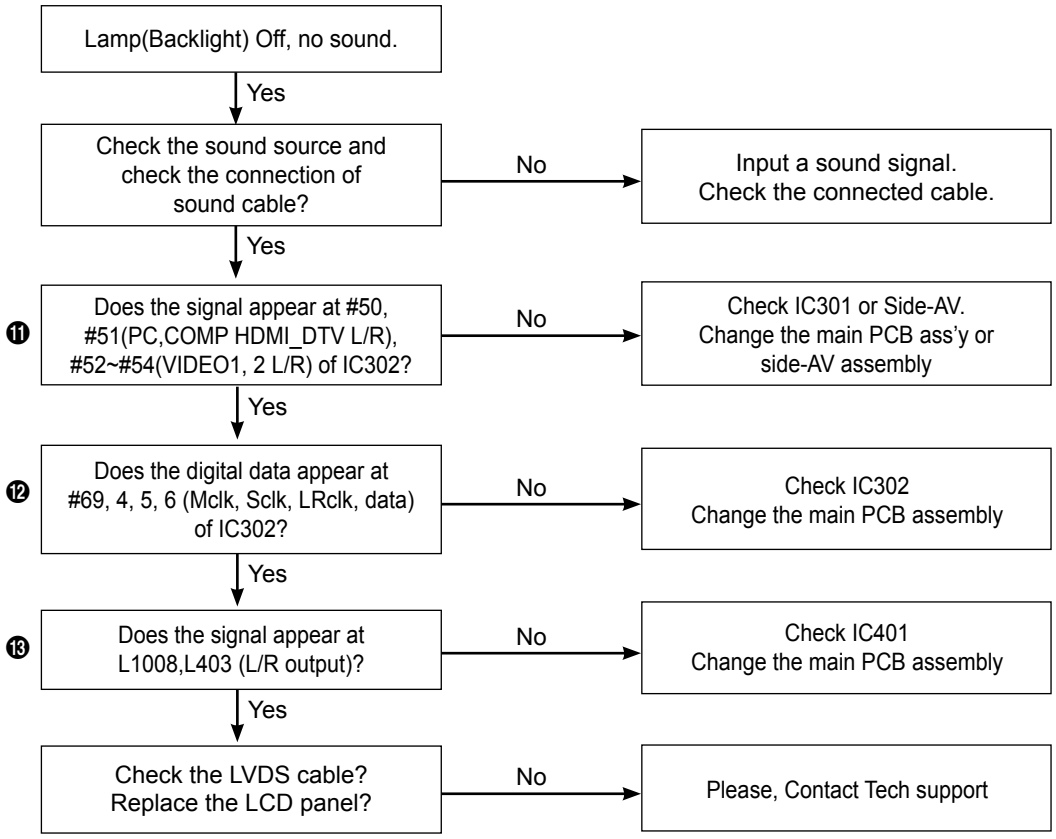


❿	**Component Input (Y/Pb)**



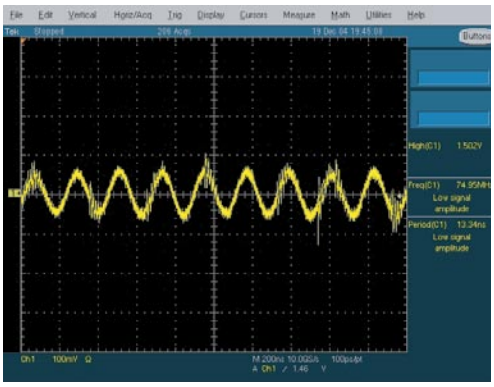
4-1-9. No Sound

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	
Caution	Make sure to disconnect the power before working on the IP board.



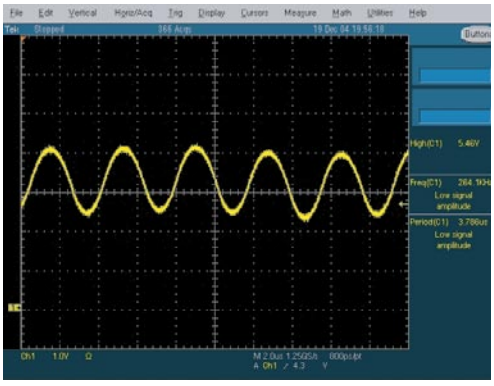
WAVEFORMS

⓫	Audio Input (Sign Wave)



⓬	12S Input (Clk, Data)

⓭	Audio Amp Out (Sign Wave)



4-2. Alignments and Adjustments

4-2-1. General Alignment Instuction

1. Usually, a color LCD-TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync.
2. Use the specified test equipment or its equivalent.
3. Correct impedance matching is essential.
4. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test result.
5. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
6. Do not attempt to connect or disconnect any wire while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
7. To protect against shock hazard, use an isolation transformer.

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

Power OFF → MUTE → 1 → 8 → 2 → Power On

4-3-2 How to Access Service Mode

Using the Customer Remote

1. Turn the power off and set to stand-by mode
2. Press the remote buttons in this order; POWER OFF-MUTE-1-8-2-POWER ON to turn the set on.
3. The set turns on and enters service mode. This may take approximately 20 seconds.
4. Press the Power button to exit and store data in memory.
   - If you fail to enter service mode, repeat steps 1 and 2 above.
5. Initial SERVICE MODE DISPLAY State

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

- "T-PEONAUSC-1000" and "T-PEONASS-1000" are firmware.....
  over version 2000 means Micronas FRC firmware.

6. Buttons operations withn Service Mode

Menu	Full Menu Display/Move to Parent Menu
Direction Keys ▲/▼	Item Selection by Moving the Cursor
Direction Keys ◄/►	Data Increase / Decrease for the Selected Item
Source	Cycles through the active input source that are connected to the unit

4-3-3 Factory Data

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

AV Calibration
Comp Calibration
PC Calibration
HDMI Calibration

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Caption Level	**10**
Watchdog Enable	1
Spread Spectrum	>>
MODEL	PEONY
Panel Option	40AMWM
PWM Dimming	EXT_PWM
NIM Version	KS1410
AUTO WALL	On
RS-232 JACK	Product
Gamma	OFF
HSCB	WCG2
LVDS_TX_Fmt	VESA
LVDS_TX_Bit	10Bit

Panel Display Time	0Hr
Mute Time [RF]	2
CH Memory	SAMEX
shop mode	off
Downloadable RRT	on
PC Mode ident	Auto
IRE	Off
IRE Offset	60
HDMI Hot plug	Enable
HDMI Delay Time	1200
HDMI Mode Ident	Auto
Select CC Size	CC 1x
WM_Calibration	0

SVP Caption Level	16
MGT Case Enable	Off
Hotel Mode	Off
Panel Button Lock	Off
Power On Channel	3
Power On volume	10
Power On Band	Air
Max Volume	100
Power On Source	RF

* Panel Option is different depend on each model: 40”: 40AMWM, 46”: 46AMWM, 52”: 52AMWM

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Sub Brightness	128
R-Offset	512
G-Offset	512
B-Offset	512
Sub Contrast	128
R-Gain	512
G-Gain	512
B-Gain	512

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

W/B MOVIE ON/OFF	**Off**	Nor_Rgain	0	Movie Backlight	5
MODE	Dynamic	Nor_Bgain	0	Movie Gamma	OFF
Color Tone	Cool1	Nor_Roffset	0		
Msub Contrast	128	Nor_Boffset	0		
Msub Bright	128	C2_Rgain	0		
W1_Rgain	0	C2_Bgain	0		
W1_Bgain	0	C2_Roffset	0		
W1_Roffset	0	C2_Boffset	0		
W1_Boffset	0	Movie Contrast	80		
W2_Rgain	0	Movie Bright	50		
W2_Bgain	0	Movie Color	55		
W2_Roffset	0	Movie Sharpness	20		
W2_Boffset	0	Movie Tint	0		

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Sharpness	**>>**
LNA PLUS	>>
UV Delay	>>
PGA	>>
Calibration Target	>>
CLK_A	16
CLK_B	133
CLK_C	8
Roffset	62
Goffset	62
Boffset	62
RGain	295
GGain	295

BGain	**295**
DP_A7	295
D0_A15	0
DP_A23	0

H2gain	**20**
H4gain	20
V2gain	20
V4gain	20
Sr2gain	2
Sr4gain	0
Sl2gain	2
Sl4gain	0
Peakth1	4
Peakth2	47
Sub_Color	65

Sharpness	>>
LNA PLUS	**>>**
UV Delay	>>
PGA	>>
Calibration Target	>>
CLK_A	16
CLK_B	133
CLK_C	8
Roffset	67
Goffset	67
Boffset	67
RGain	274
GGain	274
BGain	274

dB0_Peaking_th1	**2**
dB0_Vpeaking_th1	4
dB1_NoiseAmount	3
dB1_Peaking_th1	12
dB1_Vpeaking_th1	12
dB2_NoiseAmount	6
dB2_Peaking_th1	24
dB2_Vpeaking_th2	24
dB3_NoiseAmount	10
dB3_Peaking_th1	128
dB3_Vpeaking_th1	80

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Sharpness	>>
LNA PLUS	>>
UV Delay	**>>**
PGA	>>
Calibration Target	>>
CLK_A	16
CLK_B	133
CLK_C	8
Roffset	67
Goffset	67
Boffset	67
RGain	274
GGain	274
BGain	274

U Delay	**0**
V Delay	0

Sharpness	>>
LNA PLUS	>>
UV Delay	>>
PGA	**>>**
Calibration Target	>>
CLK_A	16
CLK_B	133
CLK_C	8
Roffset	67
Goffset	67
Boffset	67
RGain	274
GGain	274
BGain	274

TCD3_Contrast	**111**
TCD3_Bright	46
TCD3_YC_Delay	0
ANALOG_Y_Offset	64
ANALOG_PB_Offset	128
ANALOG_PR_Offset	128
ANALOG_Y_Gain	183
ANALOG_PB_Gain	128
ANALOG_PR_Gain	128

Sharpness	>>
LNA PLUS	>>
UV Delay	>>
PGA	>>
Calibration Target	**>>**
CLK_A	16
CLK_B	133
CLK_C	8
Roffset	67
Goffset	67
Boffset	67
RGain	274
GGain	274
BGain	274

1st_AV_LOW	**0x10**
1st_AV_High	0xDC
1st_AV_Delta	0x4
1st_COMP_LOW	0x10
1st_COMP_High	0xEB
1st_COMP_Delta	0x4
1st_PC_LOW	0x4
1st_PC_High	0xEB
1st_PC_Delta	0x4
NONE	
NONE	
NONE	
2st_AV_LOW	0x1

2st_AV_High	0xEB
2st_AV_Delta	0x8
2st_COMP_LOW	0x1
2st_COMP_High	0xEB
2st_COMP_Delta	0x8
2st_PC_LOW	0x1
2st_PC_High	0xEB
2st_PC_Delta	0x8
2st_HDMI_LOW	0x1
2st_HDMI_High	0xEB
2st_HDMI_Delta	0x8

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Patt-Sel	**0**	Skin-Enable	1
B-Slope Gain	30	Skin-Tu	128
B-Tilt Min	30	Skin-Tv	128
B-Tilt Max	130	Sub Color	128
Lfunc Basis	70	M-Skin-Tu	128
Hfunc Basis	75	M-Skin-Tv	128
Mean offset1	30	M-Au-Sub color	128
Mean offset2	235	MW_Skin Tu	128
Mean slope	112	MW_Skin Tv	128
Input Offset	128	M-Wi-Sub color	128
Acr Offset	20		
Arc Th1	20		
Acr th2	110		

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

FM_Precale	**31**
NICAM_Prescale	7
SpdifDely	0
InternalDelayDtv	0
InternalDelayAnalog	45
Carrier Mute	1
Pilot High	10
Pilot Low	5
Scart1 Out Volume	109
Scart2 Out Volume	115

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Amp Volume	25
PWM MOD	243
Drc Thresh	20
Speaker EQ	1

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	**Submicom Download** Checksum KS1410 Dynamic Contrast LED Option FFRC Option (FRCM Option) EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Submicom Download	**0**

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	Submicom Download **Checksum** KS1410 Dynamic Contrast LED Option FRC Option (FRCM Option) EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

Checksum	[0000]

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	Submicom Download Checksum **KS1410** Dynamic Contrast LED Option FRC Option (FRCM Option) EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONASS-1000 [Sec : 08]	

RF_AGC	**0x8A**	VSB_EQ_STEP	0x6111
VSB-CR_GAIN	0x2E	VSB_PTL_STEP	0x522
VSB-CR_K1_1_NARROW	0xE	VSB_PTL_ALPHA	0x55
VSB-CR_K1_1_WIDE	0xC	QAM_AGC	0x2A38
VSB-CR_K1_2_NARROW	0xD	QAM_EQ_STEP1	0x312F
VSB-CR_K1_2_WIDE	0xC	QAM+EQ_STEP2	0xA8B0
VSB-CR_K2_1_NARROW	0x12	QAM_PTL_K1	0X37
VSB-CR_K2_1_WIDE	0x10	QAM_PTL_K2	0x2D
VSB-CR_K2_2_NARROW	0x11		
VSB-CR_K2_2_WIDE	0x10		
VSB_EQ_CTRL1	0x30E		
VSB_EQ_CTRL2	0x104		
VSB_EQ_INIT_STEP	0x3161		

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	Submicom Download Checksum KS1410 **Dynamic Contrast** LED Option FRC Option (FRCM Option) EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONAUSS-1000 [Sec: 08]	

Dynamic CE	Off
Dynamic Dimming	Off
FBE2 Y_MEAN READ	

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	Submicom Download Checksum KS1410 Dynamic Contrast **LED Option** FRC Option (FRCM Option) EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONAUSS-1000 [Sec: 08]	

*Peony does not use LED Option

R_LD_SW	ON
R_BC_LEVEL_THR	4
E_SF_ON	ON
R_SF_Option	1
R_TF_ON	ON
R_Thr_TF_Ratio	4
R_APC_SEL	OFF
R_APC_TH	216
R_APC_TF_RATIO	10
R_LIMIT_COE	255
R_L3DD_ON	ON
R_L3DD_RATIO	8
R_L3DD_LD2_OR_LD3	LD3

R_L3DD_SATURATION_LE	4
R_VSYNC_START	25000
R_AS_TH	4
R_LVDS_SEL	JEIDA
R_SHIFT_SEL	10bit
R_OUT_LVDS_SEL	JEIDA
R_OUT_SHIFT_SEL	10bit
R_MOTION_SW	ON
R_TH	960
R_WHITE	OFF
R_TP_SEL	16
R_BLU_TEST	OFF

NTSC-RF	
Calibration Option Byte White Balance W/B MOVIE SVP-LX FBE2 MSP44XX NTP3000	Submicom Download Checksum KS1410 Dynamic Contrast LED Option **FRC Option (FRCM Option)** EEPROM Access Count RESET
T-PEONAUSC-1000 Jun 21 2007 T-PEONAUSS-1000 [Sec: 08]	

R_LVDS_RX_FMT	1
R_PRE_PATT_SEL	0
R_SP_SPMODE	3
R_FD_ON	1
R_FALLBACK_ON	1
R_ENABLE_CONDITION_B	0
R_ENABLE_CONDITION_C	1
R_ENABLE_CONDITION_c	1
R_ENABLE_CONDITION_p	1
R_ENABLE_CONDITION_H	1
R_ENABLE_CONDITION_V	0
R_POST_FILTER_MODE	1
R_S_WINDOW1_ON	0

R_DBLK_ON	1
R_PERIODIC_PROC_ON	1
FRC ONOFF	OFF
FRC SSC	0
PANEL OPTION	JEIDA

FRCM SSC_OnOff	**ON**	FRCM HDFilmLow22Jud	12
FRCM SSC_Width[%]	2.0	FRCM HDFilmLow32Jud	12
FRCM SSC_Freq[KHz]	60	FRCM HDFilmMed22Jud	6
FRCM 120HzMotion_Low	4	FRCM HDFilmMed32Jud	6
FRCM 120HzMotion_Medi	2	FRCM SDFilmHigh22Jud	0
FRCM PATT_BeforeDDR	0	FRCM SDFilmHigh32Jud	0
FRCM PATT_AfterDDR	0	FRCM HDFilmHigh22Jud	0
FRCM FMD_Demo	OFF	FRCM HDFilmHigh32Jud	0
FRCM Video_Judder	0		
FRCM SDFilmLow22Jud	20		
FRCM SDFilmLow32Jud	20		
FRCM SDFilmMed22Jud	10		
FRCM SDFilmMed32Jud	10		

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	**EEPROM Access Count**
NTP3000	RESET
TT-PEONAUSC-1000 Jun 21 2007 T-PEONAUSS-1000 [Sec: 08]	

Addr:2DAA, Cnt:	**7**	Addr:329E, Cnt:	3
Addr:32A5, Cnt:	5	Addr:32A0, Cnt:	3
Addr:2DA8, Cnt:	4	Addr:329D, Cnt:	3
Addr:2D58, Cnt:	3	Addr:329C, Cnt:	3
Addr:2D5A, Cnt:	3	Addr:329B, Cnt:	3
Addr:2DA9, Cnt:	3	Addr:329A, Cnt:	3
Addr:2D5B, Cnt:	3	Addr:3299, Cnt:	3
Addr:2D59, Cnt:	3	Addr:3298, Cnt:	3
Addr:2DAB, Cnt:	3	Addr:3297, Cnt:	3
Addr:732E, Cnt:	3	Addr:2581, Cnt:	3
Addr:7331, Cnt:	3	Addr:329F, Cnt:	2
Addr:2A19, Cnt:	3		
Addr:737F, Cnt:	3		

NTSC-RF	
Calibration	Submicom Download
Option Byte	Checksum
White Balance	KS1410
W/B MOVIE	Dynamic Contrast
SVP-LX	LED Option
FBE2	FRC Option (FRCM Option)
MSP44XX	EEPROM Access Count
NTP3000	**RESET**
T-PEONAUSC-1000 Jun 21 2007 T-PEONAUSS-1000 [Sec: 08]	

All user setting reset (picture,sound etc)

4-4. White Balance - Calibration

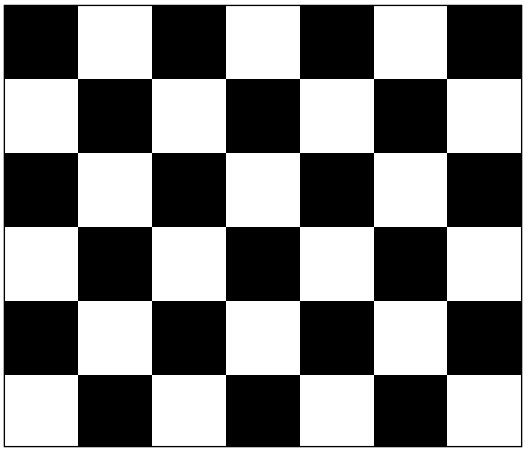
4-4-1 White Balance -Calibration

1. Calibration	→ AV Calibration Comp Calibration PC Calibration HDMI Calibration

4-4-2 Service Adjustment - You must perform Calibration in the Lattice Pattern before adjusting the White Balance.

■ Color Calibration

Adjust spec.
1. Source : HDMI
2. Setting Mode : 1280*720@60Hz
3. Pattern : Pattern #24 (Chess Pattern)



(Chess Pattern)

4. Use Equipment : CA210 & Master MSPG925 Generator

- 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

<Table 1>

■ 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 “Calibration” 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 “Calibration” 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 “Calibration” 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 “Calibration” 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 White Balance - Adjustment

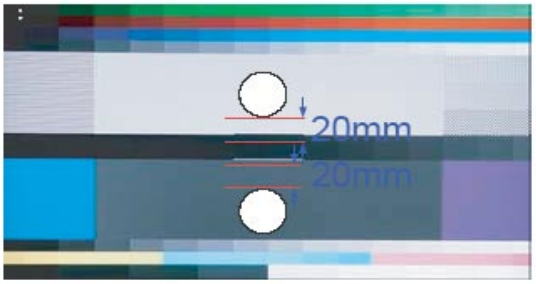
		(low light)	(hight light)
3. W/B	→	Sub Bright R offset G offset B offset	Sub Contrast R gain G gain B gain

(W/B adjustment Condition refer next page)

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. (Refer to Table 1, 2)
   It varies with Panel's size and Specification.

- Equipment : CS-210
- Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard
- Use other equipment only after comparing the result with that of the Master equipment.
- Set Aging time : 60min



- Calibration and Manual setting for WB adjustment.

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

- If finishing in HDMI mode, adjustment coordinate is almost same in AV/COMP mode.
- White Balance Manual Adjustment

	Adjustment Coordinate				
		x	y	Y(L)	T(K) + MPCD
CVBS (NTSC)	H/L	272	287	- (Sub_CT:132)	11,000 (+10)
	L/L	272	287	12.0cd/m² (3.5 Ft)	11,000 (+10)
COMP (720P)	H/L	272	287	- (Sub_CT:132)	11,000 (+10)
	L/L	272	287	12.0cd/m² (3.5 Ft)	11,000 (+10)
HDMI (720P)	H/L	272	287	- (Sub_CT:132)	11,000 (+10)
	L/L	272	287	12.0cd/m² (3.5 Ft)	11,000 (+10)

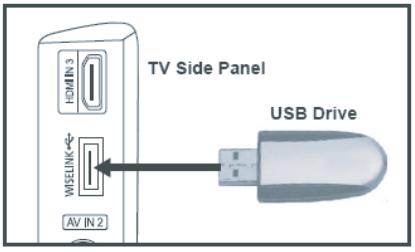
- Adjustment Specification
  White Balance : High light (±2), Low light (±3)
  Luminance : High light (Don't care), Low light (±0.2 Ft/L)

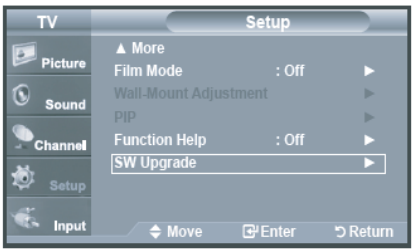
4-6. Servicing Information

4-6-1 USB Download Method

Samsung may offer upgrades for TV's firmware in the future. Please contact the Samsung call center at 1-800-SAMSUNG (7267864) to receive information about downloading upgrades and using a USB drive. Upgrades will be possible by connecting a USB drive to the USB port located on located on the back of your TV.

1. Insert a USB drive containing the firmware upgrade into the WISELINK port on the side of the TV.
2. Press the **MENU** button to display the menu.
   Press the ▲ or ▼ button to select Setup, then press the **ENTER** button.
3. Press the ▲ or ▼ button to select Software upgrade, then press the **ENTER** button.
4. Press the ▲ or ▼ button to select USB Upgrade, then press the **ENTER** button.
   The message Scanning for USB...
   It may take up to 30 seconds is displayed.
   Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.
   The TV will shut off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete.





* How to check Program Version

1. Press "MENU"
2. Select "SETUP"
3. Select "INFORMATION HELP"
4. Highlight "ON" option
5. Press "INFO" button on the remote control

Memo