

## 4-2-2 How to Access Service Mode

### 1. General Remote

To Enter: **STANDBY** → **INFO** → **MENU** → **MUTE** → **POWER ON**  
(Interval between key strokes: less than 3 sec)

To Exit: **POWER OFF** → **POWER ON**

### 2. Factory Remote

To Enter: **POWER ON** → **INFO** → **FACTORY Key** (Interval between key strokes: less than 3 sec)

To Exit: **POWER OFF** → **POWER ON**

Press the Factory key twice with a key stroke interval of more than 1 second (Pressing once enters Aging Mode)

### 3. Settings when entering Factory mode

- Sharp Screen (Dynamic), Color Tone (Cool1), Factory (Dynamic CE Off), DNLe(Off)

### 4. Adjustment Procedures

- Channel ▲ ▼ Key : Select an item.
- Volume ◀ ▶ Key : Adjust the value up or down.
- MENU Key : Save the changes to the EEPROM and return to the higher-level mode.
- Using the Numeric (0~9) keys, you can select a channel.
- Using the SOURCE key, you can switch AV modes.

### 5. Initial SERVICE MODE DISPLAY State

```
Option
ADC/WB
Control
Advanced
Expert
T-STL5PAUSFC-XXXX
DTP-LP-XXXX-XX
DTP-LP-App-XXXX-XX
Option : 6110 00
ADC : HDMI O COMP O PC O AV O
EDID : SUCCESS
HDCP : SUCCESS
Build Date : XX-XX-XXXX
Date Of Purchase : XX/XX/XX
```

- ※ The version of the firmware displayed at the bottom of the screen may differ and the firmware is subject to change for the improvement of product functions.
- ※ If you have adjusted the settings in Service Mode, you have to reset the product.
- ※ If you exit Service Mode without reset, DNLe value keeps Off regardless of setting up the user.

## 4-2-3 Factory Data

### 1. Option

Item	Data	Range
Factory Reset		
Type	58FNfK1	
Model	PB550	PB560/PB550/PB530/PB450/PB430/PB540/PB420/PB410
TUNER		
Region		
DDR	Off	On / Off
Light Effect	Off	On / Off
Inch	58"	32" / 37" / 40" / 46" / 52"
LCD/PDP	PDP	LCD / PDP
Exhibition Mode	Off	On / Off

### 2. ADC/WB

#### ADC

Item	Default data	Range
AV Calibration	Success	Success / Failure
Comp Calibration	Success	Success / Failure
PC Calibration	Success	Success / Failure
HDMI Calibration	Success	Success / Failure

#### ADC Target

Item	Default data	Range
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	253	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

Factory Name	Default data				Range
	AV / RF	Component	HDMI / DTV / HDMI-PC	PC	
1st_AV_Gain	136	134	136	192	0 ~ 255
1st_AV_Offset	136	134	136	192	0 ~ 255
1st_Comp_Gain	136	134	136	192	0 ~ 255
1st_Comp_Gain_Cb	107	67	100	32	0 ~ 255
1st_Comp_Gain_Cr	107	67	100	32	0 ~ 255
1st_Comp_Offset	107	67	100	32	0 ~ 255
1st_Comp_Offset_Cb	136	134	136	192	0 ~ 255
1st_Comp_Offset_Cr	136	134	136	192	0 ~ 255
1st_PC_R_Gain	136	134	136	192	0 ~ 255
1st_PC_G_Gain	107	67	100	32	0 ~ 255
1st_PC_B_Gain	136	134	136	192	0 ~ 255
1st_PC_R_Offset	136	134	136	192	0 ~ 255
1st_PC_G_Offset	136	134	136	192	0 ~ 255
1st_PC_B_Offset	107	67	100	32	0 ~ 255
2nd_R_Offset	107	67	100	32	0 ~ 255
2nd_G_Offset	107	67	100	32	0 ~ 255
2nd_B_Offset	136	134	136	192	0 ~ 255
2nd_R_Gain	136	134	136	192	0 ~ 255
2nd_G_Gain	136	134	136	192	0 ~ 255
2nd_B_Gain	107	67	100	32	0 ~ 255

WB

Factory Name	Default data				Range
	AV / RF	Component	HDMI / DTV / HDMI-PC	PC	
Sub Brightness	128	128	128	128	
R_Offset	512	512	512	512	
G_Offset	512	512	512	512	
B_Offset	512	512	512	512	
Sub Contrast	128	128	128	128	
R_Gain	512	512	512	512	
G_Gain	512	512	512	512	
B_Gain	512	512	512	512	
Movie R Offset	128	128	128	128	
Movie B Offset	512	512	512	512	
Movie R Gain	512	512	512	512	
Movie B Gain	512	512	512	512	

### 3. Control

#### EDID

Item	Default data	Range
EDID ON/OFF	Off	On / Off
EDID WRITE ALL	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID WRITE	Success	Success / Failure
EDID VERSION	HDMI 1.3	HDMI 1.2 / HDMI 1.3

Sub Option

Item	Default data	Range
Mute Time(VIDEO)	4	0 ~ 10
ready	Failure	Success / Failure
Hotplug	On	On / Off
Hotplugcontrol	On	On / Off
Spread Spectrum		
Auto Power	On	On / Off
DDR		
Arab	Off	On / Off
NT Conversion	Off	On / Off
Mirror	On	On / Off
HDMI EQ1	Middle	Low / Middle / High / Strong
HDMI EQ2	Middle	Low / Middle / High / Strong
HDMI EQ3	Middle	Low / Middle / High / Strong
HDMI EQ4	Middle	Low / Middle / High / Strong
EER Count		
WM Calib		
Panel Enter Key		
Panel Display Time	0Hr	
CHECKSUM	0x0000	
View Log		
Font Data Viewer		
Dimm Type	EXT	INT / EXT / INT_NEG / INT_POS
Gamma	Off	Off / 0.85 / 0.88 / 0.90 / 0.93 / 0.95 / 0.98
Carrier Mute	on	On / Off
Anynet+	On	On / Off
HPD Polarity		
High Devi	Off	On / Off
Volum Curve	NT	NT / EU / EA
HotPlug Delay	9	0 ~ 63
HP Ident	Low	Low / High
PC Ident	On	On / Off
Language	China	
Info Live		
Watchdog	On	On / Off
LVDS Format	VESA	JEDIA / VESA
OSD Resolution	1920*1080	
Bus Stop		
OTA Code		
Panel Auto Setting		
OTA Duration Test		
Alternate Del		
Ignore VCT Version	Off	On / Off

PDP Option

Item	Default data	Range
PIXEL SHIFT TEST	Off	on/off
LOGIC CONNECT	off	on/off
PATTERN SELECT (Logic Board)	0	
PANEL VERSION	UF1A	
PANEL INCH	58FHD	
PANEL TYPE	92H	
PANEL TEMPERATURE	31	
LOGIC SW VERSION	xx-xx-xx	
LOGIC SW CHECKSUM	371H	
SAPC_Timer	On	on/off
APC_Speed	Slow	Slow/Fast
LOGIC USB D/L	off	

Hotel option

Item	Default data	Range
Hotel Mode	Off	On / Off
Power On Channel	3	
Power On Band	Air	Air/STD/HRC/IRC
Power On Source	TV	TV/COMP/HDMI1/HDMI2/HDMI3/HDMI4
Power On Volume	0	0~100
Min Volume	0	0~100
Max Volume	100	0~100
Panel Button Lock	Off	On / Off / Power
Pic Menu Lock	Off	On / Off
Music Mode (AV)	Off	On / Off
Music Mode (PC)	Off	On / Off
Music Mode (Comp)	Off	On / Off
Music Mode BLU	Off	On / Off
Menu Display	off	On / Off
Power On Option	Power on	Power on/last option/standby
Program Ch		
Original Ch/Src		

Auto PC

Energy Saving

Cloning: TV to USB

Cloning: USB to TV

Shop Option

Item	Default data	Range
Shop Mode	Off	On / Off
USB DEMO ON (SEC)		
USB DEMO OFF (SEC)		

4. Advanced Enter '0'key four times.

FBE

Item	Default data	Range
Pattern Select	0	
B-Slope Gain	50	
B-Tilt Min	40	
B-Tilt Max	140	
Lfunc-Basis	80	
Hfunc-Basis	85	
Mean-Offset1	30	
Mean-Offset2	235	
Mean Slope	112	
ACR Offset	15	
ACR Th1	10	
ACR Th2	110	
Skin Enable	1	
Skin Uv	138	
Mskin Uv	140	
Sub Color	128	
Msub Color	112	

## WB Movie

Item	Default data	Range
WB Movie	Off	On / Off
Color Mode	---	Dynamic / Standard / Movie
Color Tone	---	Cool / Normal / Warm1 / Warm2
Msub Brigh	---	0 ~ 255
Msub Contr	---	0 ~ 255
W1_RGAIN	---	0 ~ 255
W1_BGAIN	---	0 ~ 255
W1_ROFFS	---	0 ~ 255
W1_BOFFS	---	0 ~ 255
W2_RGAIN	---	0 ~ 255
W2_BGAIN	---	0 ~ 255
W2_ROFFS	---	0 ~ 255
W2_BOFFS	---	0 ~ 255
N_RGAIN	---	0 ~ 255
N_BGAIN	---	0 ~ 255
N_ROFFS	---	0 ~ 255
N_BOFFS	---	0 ~ 255
Movie Contr	---	3 ~ 100
Movie Brigh	---	2 ~ 100
Movie Color	---	1 ~ 100
Movie Sharp	---	0 ~ 100
Movie Tint	---	0 ~ 50
Movie BkLight	---	0 ~ 10
M.Gamma	---	Off / 0.85 / 0.88 / 0.90 / 0.93 / 0.95 / 0.98 / M1 / M2 / M3 / M4
M_Sub Gamma	---	-3 ~ +3



EPA Standard

Item	Default data	Range
Std Contr	95	0 ~ 100
Std Bright	45	0 ~ 100
Std Sharp	50	0 ~ 100
Std Color	50	0 ~ 100
Std Tint	50	0 ~ 100
Std Backlight	7	0 ~ 10

ADJUST

Item	Default data	Range
Dynamic Dimming	Off	On / Off
LNA Plus		
Power Key Protect	Off	On / Off
Uart Select	Auto Wall	
Debug Mode	Debug Off	
Back End Mute		
PDP FRC		
Visual Test	Disable	
Standby Mode Time	45 Min	
Delete alt.ver	2 Flash	
OTA confirm Time	90 Min	2 Min / 90 Min
OTA limit Time	3 Hour	3 Min / 3 Hour
Dynamic CE	Off	On / Off
FWC		
1080p 48Hz	On	On / Off
PWM Max	100	1 ~ 100
Quick Start	Off	On / Off
DTV LNA	Auto	Auto / On / Off
HDCP Download		
Test Pattern		

## YC\_Delay

Item	Default data	Range
PAL BG	1	0 ~ 3
PAL DK	1	0 ~ 3
PAL I	1	0 ~ 3
SECAM BG	4	0 ~ 7
SECAM DK	4	0 ~ 7
SECAM I	4	0 ~ 7
NTSC 358	1	0 ~ 3
NTSC 443	1	0 ~ 3
AV PAL	1	0 ~ 3
AV SECAM	4	0 ~ 7
AV NT358	1	0 ~ 3
AV NT443	1	0 ~ 3
AV PAL60	1	0 ~ 3

Factory Name	Data										Range
	RF	CVBS	component		HDMI		DTV		"comp/HDMI/ DTV720p"	PC / HDMI PC	
			SD	HD (720p)	SD	HD(720)	SD	HD(720)			
H1 Gain	25	25	25	20	25	20	25	20	20	8	0 ~ 3F
H2 Gain	12	12	12	8	12	8	12	8	8	8	0 ~ 3F
H3 Gain	10	10	C	8	8	8	C	8	8	8	0 ~ 3F
H4 Gain	8	8	8	8	8	8	8	8	8	8	0 ~ 3F
V1 Gain	20	20	20	20	20	20	20	20	20	8	0 ~ 3F
V2 Gain	12	12	12	8	12	8	12	8	8	8	0 ~ 3F
H overshoot	20	20	20	FF	20	FF	20	FF	FF	0	0 ~ FF
V overshoot	20	20	20	20	20	20	20	20	20	0	0 ~ FF
H undershoot	20	20	20	FF	20	FF	20	FF	FF	0	0 ~ FF
V undershoot	20	20	20	20	20	20	20	20	20	0	0 ~ FF
Coring TH2	1	1	1	1	1	1	1	1	1	0	0 ~ F
Coring TH1	1	1	1	1	1	1	1	1	1	0	0 ~ F



## EEPROM RESET

Item	Default data	Range
EEPROM RESET	off	On / Off
NVR ALL Clear	off	On / Off

## LNA Plus

Item	Default data	Range
RF dB1 Level	0	0 ~ 255
RF dB2 Level	3	0 ~ 255
RF dB3 Level	6	0 ~ 255
RF dB4 Level	12	0 ~ 255

## 5. Expert

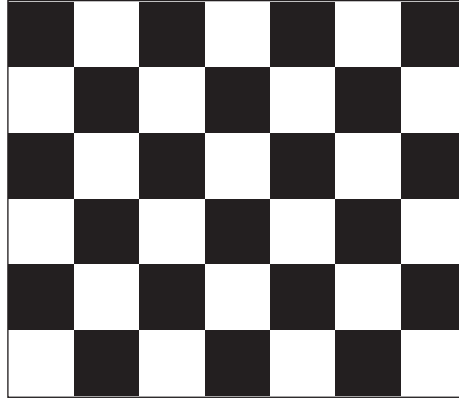
Item	Default data	Range
N / D ADJ		
SOURCE		

#### 4-2-4 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 (NO. 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 (NO. 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 (NO. 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.

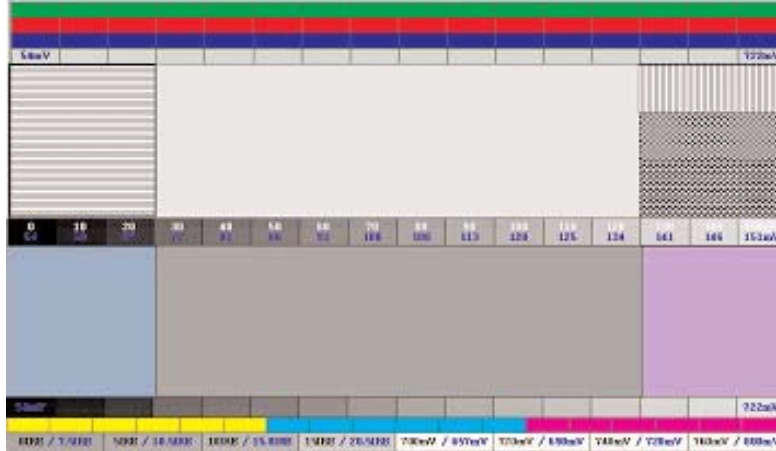
■ Method of Color Calibration (HDMI)

- 1) Apply the 720p Lattice (NO. 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.

## ■ White Balance

Adjust spec.

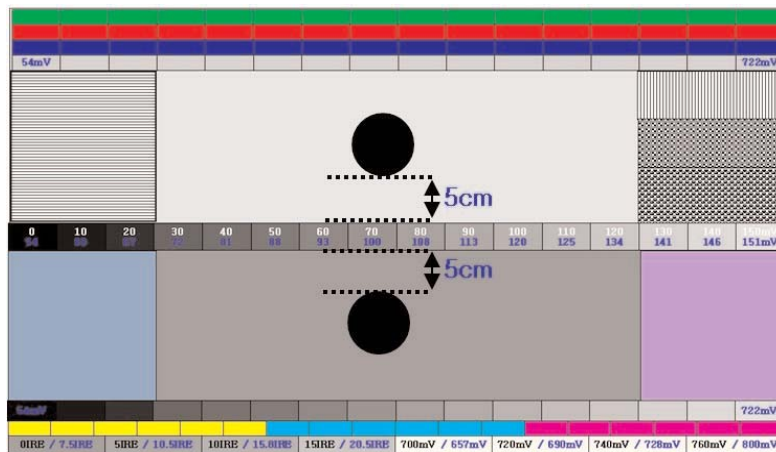
1. Source : HDMI
2. Setting Mode : 1280\*720@60Hz
3. Pattern : Pattern #92
4. Use Equipment : MIK-7256 (MSPG925L)



( SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD )

5. Work order

- ① Connect HDMI (DVI) output terminal of MIK-7256 (MSPG925L) to the HDMI input in main set
- ② Set the input to HDMI mode
- ③ Enter the White Balance menu of service mode
- ④ Contact CA-210 sensor to glass filter



( Fixed Position of CA210 Probe )

- ⑤ Adjust the low light
  - Adjust Sub-Bright (LBE) to set the 'Y' value
  - Adjust R-Offset ('x') and B-Offset ('y') to the color coordinates.
  - \* Do not adjust G-Offset data
- ⑥ Adjust the high light.
  - Adjust Sub-Contrast (LBE) to set the 'Y' value
  - Adjust R-Gain ('x') and B-Gain ('y') to the color coordinates.
  - \* Do not adjust the G-gain data



Input mode		(CA-210)		
		x	Y(L)	T(K), MPCD
CVBS (NTSC)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.5 cd/m <sup>2</sup>	11,000 (-3)
			(3.0 Ft)	
COMP (720P)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.3 cd/m <sup>2</sup>	11,000 (-6)
			(3.0 Ft)	
HDMI (720P)	H/L	278	FIX	10,500 (± 0)
			(Sub_CT:128)	
	L/L	278	10.3 cd/m <sup>2</sup>	10,500 (± 0)
			(3.0 Ft)	

## 4-2-5 Replacements & Calibration

\* PDP 42" Check items listed after changing each

Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-ADDRESS E BUFFER	
ASSY PDP MODULE P-ADDRESS F BUFFER	
ASSY BOARD P-SIDE HDMI A/V	

\* PDP 50" Check items listed after changing each

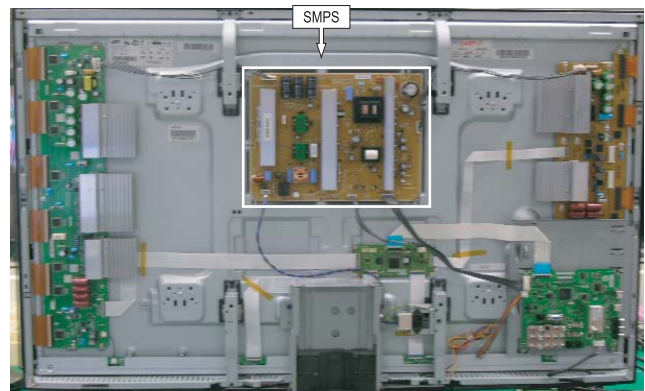
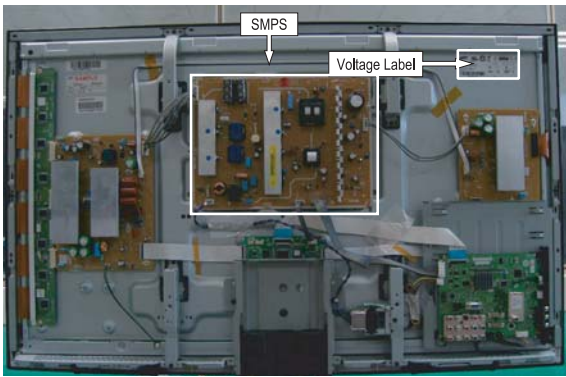
Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-ADDRESS E BUFFER	
ASSY PDP MODULE P-ADDRESS F BUFFER	
ASSY BOARD P-SIDE HDMI A/V	

※ When replacing the SMPS or PDP panel, you have to check the voltage printed on the panel sticker and adjust it.

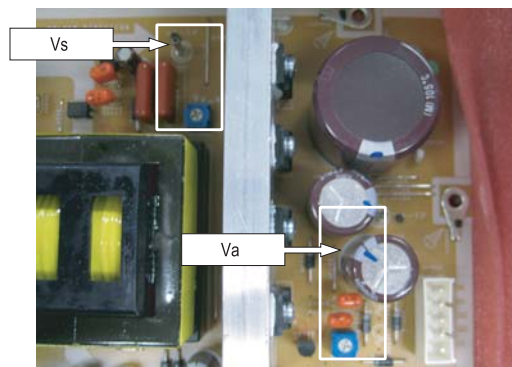
## ■ Voltage Adjustment

1. After replacing the SMPS or PDP panel, you must adjust the voltage referring to the voltage label printed on the panel.  
(If you do not adjust the voltage, an abnormal discharge symptom may appear.)

	Value	Board Adjustment
Vs	207	SMPS
Va	54	
Vset	-	
Ve	95	
Vscan	-190	



2. A point of adjusting SMPS-MAIN voltage.



## 4-3 Upgrade

### 4-3-1 USB Download Method

1. Copy the Upgrade Files into the path "T-CRLAUSC" in USB flash driver.

2. USB Download

- ① Standby mode
- ② Enter factory mode (INFO→MENU→MUTE→POWER ON)
- ③ Select "CONTROL" from the menu.
- ④ Select "sub option" from the menu.
- ⑤ Change "usb upgrade" off → on.
- ⑥ Insert the usb memory stick to the service port
- ⑦ The banner OSD "Upgrade version \*\*\*\* to version \*\*\*\*\*" is displayed. Select "Yes".
- ⑧ Probably usb memory stick and ir led twinkle slowly. (that means erasing old file) and then they twikle fastly. (start upgrading) after 2minute, automatically turn the power off and on.
- ⑨ On factory mode, check the s/w version. select "option" from the menu.
- ⑩ Select "pdp group" P45A\_42SP or P45A\_50SP. select "Factory Reset" and remove the usb memory stick

