

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

### 1. General Remote

To Enter: **POWER OFF** → **MUTE** → **1** → **8** → **2** → **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
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 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

Troubleshooting

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	
Auto PC		
Energy Saving		
Cloning	TV to USB	
Cloning	USB to TV	

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		

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	

Troubleshooting

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		

Troubleshooting

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

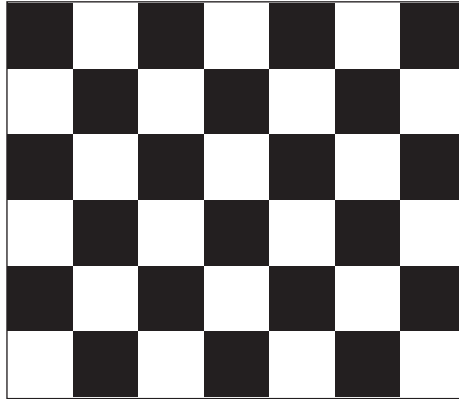
Item	Default data	Range
N / D ADJ		
SOURCE		

**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.

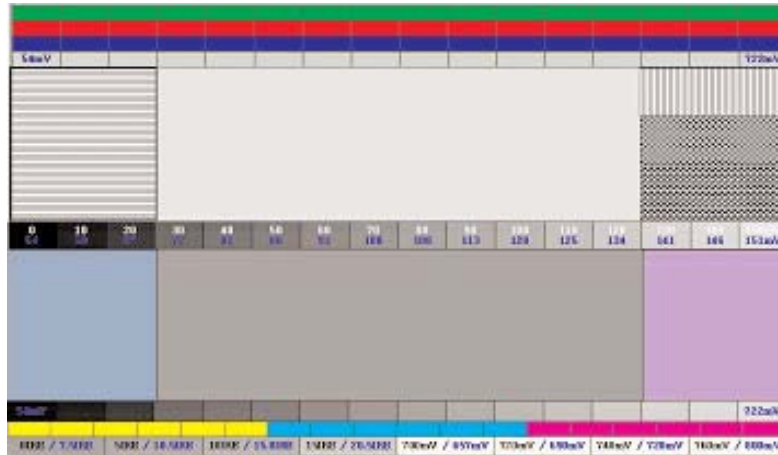
**■ Method of Color Calibration (HDMI)**

- 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.

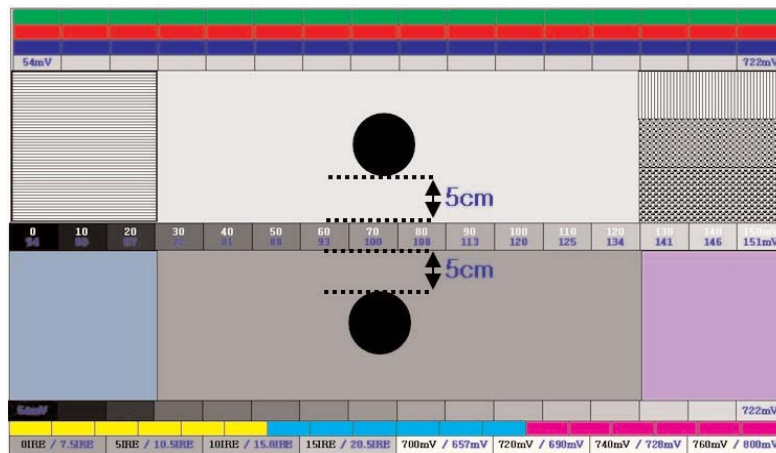
1. Source : HDMI
2. Setting Mode : 1280\*720@60Hz
3. Pattern : Pattern #92
4. Use Equipment : MIK-7256 (MSPG925L)



( 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

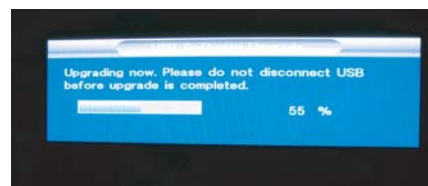
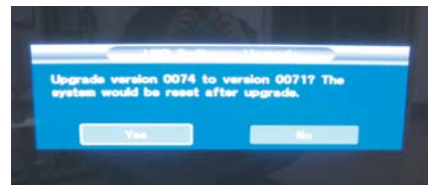
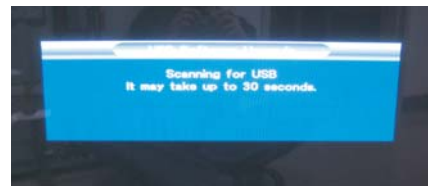
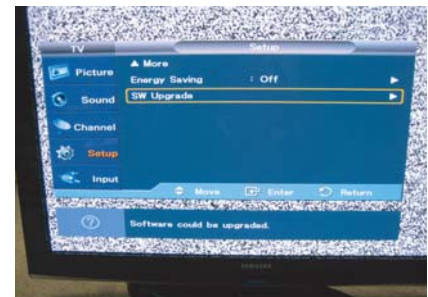
Replaced assembly items	Check Items
ASSY PCB MISC-MAIN	1) Auto Program 2) White Balance Adjust
SMPS-PDP TV	Vs, Va voltage check and adjust
ASSY PDP MODULE P-LOGIC MAIN	Not to be adjusted
ASSY PDP MODULE P-X-MAIN	
ASSY PDP MODULE P-Y-MAIN	
ASSY PDP MODULE P-Y-MAIN SCAN BUFFER	
ASSY PDP MODULE P-Y-MAIN 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.

## 4-3 Upgrade

### 4-3-1 USB Download Method

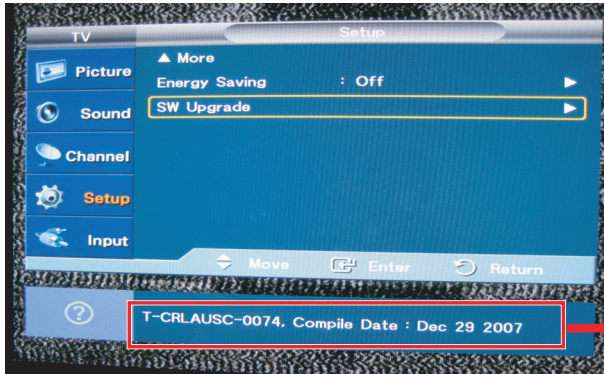
1. Copy the Upgrade Files into the path "T-CRLAUSC" in USB flash driver.
2. USB Download
  - ① Insert the USB Memory Stick to the USB port in Stand-by mode.
  - ② Turn the power on.
  - ③ Press "MENU" and find "SW Upgrade" in Menu "SETUP".
  - ④ Select the "SW Upgrade" from the menu.
  - ⑤ Select "USB" from the menu.
  - ⑥ The banner OSD "Scanning for USB..." is displayed.
  - ⑦ The banner OSD "Upgrade version \*\*\*\* to version \*\*\*\*\*" is displayed. Select "Yes".
  - ⑧ The banner OSD "Upgrade version \*\*\*\* to version \*\*\*\*\*" is displayed. It takes about 30 sec.  
(Warning: Don't remove USB flash driver during upgrade.)
  - ⑨ The banner OSD "Upgrade is completed" is displayed when the upgrade is completed.
  - ⑩ Remove the USB flash driver from PDP TV and check the program version.



### 4-3-2 How to Check the Version of the Program

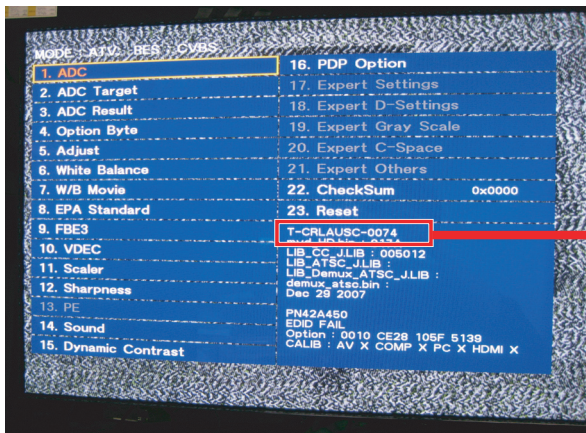
1. Procedures for checking in the User Menu

- ① Select the "Setup" menu in the Menu screen
- ② Place the cursor over the "SW Upgrade" of "Setup" and press the "info" key on the remote control.
- ③ The version of the program is displayed at the bottom of the Menu screen



PROGRAM VERSION

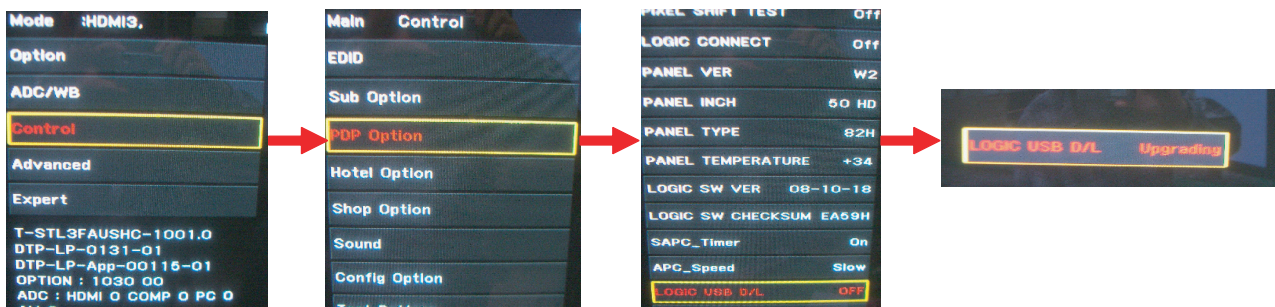
2. How to check Program Version on factory mode.



PROGRAM VERSION

### 4-3-3 Logic SW Download(USB)

1. After inserting USB, start Factory mode by using mute+182+power. And follow the process order as below.



※ Shortcut to the Factory mode LOGIC USB D/L.  
mute + 737 + enter