

4-9. Factory Mode



AA81-00243A

■ Factory Remote

1. Power TV ON.
2. Select TV Source.
3. **Info** → **Factory**.
4. Use **MENU** for return.

■ Samsung IR Remote (Limited Operation)

1. TV Power Standby.
2. Press as follows.

- Remote Button

NTSC	MUTE → 1 → 8 → 2 → POWER
PAL	INFO → MENU → MUTE → POWER

- **Option** (must set Option Bytes when replacing Main Board.)
- Option → **Factory Reset** (returns TV to out of box condition. Does not reset Apps.)
- SVC → **Test Patterns**
- SVC → Info → **ER Count** (Important to check for errors.)
 - Resets to 0 with Factory Reset.

First Screen Appearing in Factory Mode

- Ex. SAMPLE Model

Home	Updates	Exit
Option		
Control		
Debug		
SVC		
ADC/WB		
Advanced		

T-KTMAKJC-0510.30
T-KTMOCTV-0043
T-KTMOCP-0043

TIZEN-3.0-MAIN2017-KantM-RELEASE_20161210.3 (Perf)

BT Version : BLUETOOTH-VER-0647
E-Manual : KTMAESC-0.0.3
Blaster Version : A61110-U61001-170201
E-POP Version : KANTMUD-12.06.1
EDID SUCCESS
HDCP SUCCESS
CALIB : AV / COMP / PC / HDMI /
Option : 65L1MUBX0M_US_BICAM_NONE

FRC-[KANT-M Vx1][120Hz][OC]HW-0x04
DIMMING-[EDGE-24X1][03]
TCON-[KANT-M] FW[8014] DATA[M65LBUQF13]
TCON-[KANT-N] FW[8224] DATA[M65LBUNF1B]

SPI Flash S/N: 1UR033AHC00061A

Model : QN65QB0CAM
Wired MAC SUCCESS
Wireless MAC SUCCESS
WiFi Version : 4.5.30.014.031.FC8

CO N0/ W/ M/ D/ H2 PO AO O S/ N/ RO SC/ SIO WS/ DL/ UO (T)
NS://
Factory Data Ver : 17031 / Fixed Ver : 1706
EERC Version : 61 / WB Ver : 1

CPLD/LD : N/A
SmartControl : 0
Board Info : NA/RC/1/NA
Factory Reset In Production : 0
SID : ?
Date of purchase : 3/26/2012

QUICK TIPS:-

- * Set value of HV Flip from shell prompt without launching factory app. For detail check Updates window
- * Launch Factory:- "org.tizen.factory"
- * Get value of any item from shell prompt without launching factory app. For detail check Updates window
- * Launch Factory:- "org.tizen.factory"
- * Set value of type localset and model from shell prompt along with factory reset :-
"launch_app org.tizen.factory type value localset value model value"
- * Use channel up/down to toggle items when at last depth
- * Use arrow right/left to toggle values when at last depth
- * Home button can be used to jump directly to home screen of factory app from any level
- * Exit button can be used to Exit factory app without launching aging app

- Slide details

Home	Updates	Exit
Option		
Control		
Debug		
SVC		
ADC/WB		
Advanced		

T-KTMUABC-XXXX.XX
 T-KTMOCTV-XXXX
 T-KTMOCJP-XXXX
 TIZEN-X.X.-MAIN2017-Kant-M-RELEASE_XXXXXXXX.X (Debug)
 Main SPI version : 0
 OCM SPI version : 0
 BT Version : BLUETOOTH-VER-XXXX
 E-Manual:----
 Blaster Version : Not support
 E-POP Version : KANTUD-XX.XX.X
 EDID SUCCESS
 HDCP SUCCESS
 CALIB : AV/COMP/PC/HDMI/
 Option : 65A1MU8XM,SELA,8CAM,NONE
 FRC-[KANT-M xxx][120Hz][HW:0x0F]
 DIMMING-[EDGE-xx1][03]
 TCON Version:[KANT-M] FW[xxxx] DATA[xxxx]
 TCON Version:[KANT-N] FW[xxxx] DATA[xxxx]
 SPL Flash S/N: xxxxxxxxxxxxxxxx
 Model : QN65Q8CAMP
 Wired MAC SUCCESS
 Wireless MAC SUCCESS
 WIFI Version : x.x.xx.xxx.xxx.xxxxxx
 CO NfO WO MO D/ HX P/ AO O S/ N/ RO SC/ SIO(P)
 NS//
 Factory Data Ver : XXX / Fixed Ver : XX
 EERC Version : 75 / WB Ver : 8
 CPLD/LD : N/A
 SmartControl : 0
 Board Info : xxxx/12/29/PV/12/BN41-02528A
 Factory Reset In Production : ----
 SID : ----
 Date of purchase : --/------

✓ **Testing Items**

- ✓ Micom Version
- ✓ Sub Micom_TV
- ✓ Sub Micom_JP
- ✓ Tizen
- ✓ BT Version
- ✓ E-Manual
- ✓ Blaster Version
- ✓ Wired MAC Success
- ✓ Wireless MAC Success
- ✓ CO Status ("O" Operational)

■ Factory Reset

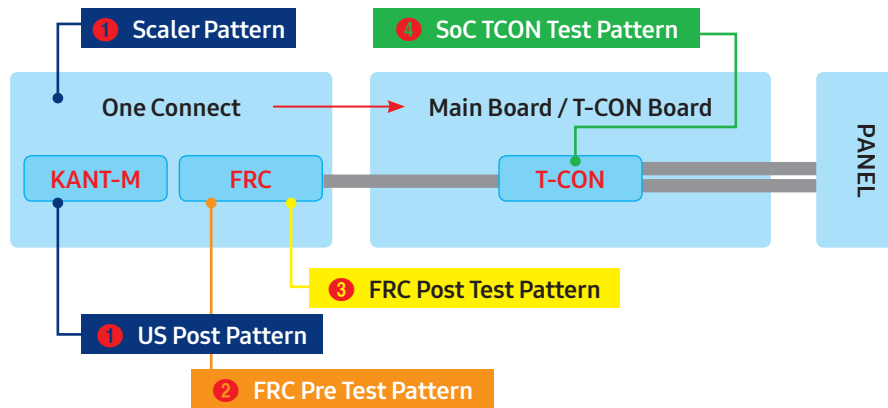
- Ex. SAMPLE Model

Factory Reset	
Type	65A1MU8XM
Local Set	SELA
SW Model	QMQ8CR
BOM Model	8CAM
TUNER	-
Ch Table	NONE

Setting Option Bytes

1. Enter Factory Mode with **Service Remote** (only).
 2. Check Option Byte Table located on **GSPN** (Fast Track or Tips).
 3. Select each item to change.
 4. Soft power TV Off to load.
-

■ SVC > Test Patterns



Check Test Patterns

Scaler Pattern	OFF
US Post Pattern	OFF
FRC Pre Pattern	0
FRC Post Pattern	0
SOC TCON Pattern	0
SOC TCON Pattern Level	255
FRC OSD Pre Pattern	0
FRC OSD Post Pattern	0
FRC2 Pre Pattern	0
FRC2 Post Pattern	0
SOC TCON2 Pattern	0
SOC TCON2 Pattern Level	255
SOC TCON3 Pattern	0
SOC TCON3 Pattern Level	255

SVC / Test Pattern

1. Verify "Scaler Pattern" and "US Post Pattern".
2. Verify "FRC Pre Test Pattern".
3. Verify "FRC Post Test Pattern".
4. Verify "SoC TCON Test Pattern".

■ SVC > Info > ER Count

WD Count	0	Serdes Error Count	2
AR Count	0	Serdes Reset Count	0
RS Count	1	Serdes WatchDog On/Off	OFF
WIFI NO DETECTION COUNT	3	AC Over-Voltage Detect	0
WIFI DETACHMENT COUNT	2	Vcc Fail Count	0
BT NO DETECTION COUNT	0	HDMI No Signal	
BT DETACHMENT COUNT	1	HDMI Blinking	
BT MGT OPEN FAIL COUNT	0	HDMI Color Space	
BT MGT DISCONNECT COUNT	0		
BT TV AUDIO DROP	0		
BT AUDIO TIMER EXP	0		
Camera ER Count			
FRC3D Emergency Reboot On/Off ON			
FRC3D ER Count	0		
Fan Error Count	0		

- **WD Count:** Watch Dog (Hardware related issue).
- **AR Count:** Auto Reset (software (i.e. Apps) related).
 - **important Error Count** Status Screen.
- Verify each item listed.

■ Factory Mode > Control > EDID

1. Remove ALL **HDMI** connections.
2. Factory Mode → Control → **EDID**. (→ **Enter** Key)

Option	EDID
Control	Sub Option
Debug	Hotel Option
SVC	Shop Option
ADC/WB	Asia Option
Advanced	Sound

3. Select EDID/OFF to ON. (→ **Right Arrow** Key)

EDID ON/OFF	ON
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4. Select EDID WRITE ALL. (→ **Enter** Key)

EDID WRITE ALL	Success
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5. Wait to Success. (→ **Right Arrow** Key)

EDID WRITE ALL	Wait
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6. Confirm EDID WRITE ALL Success. (→ **Menu** Key)

EDID WRITE ALL	Success
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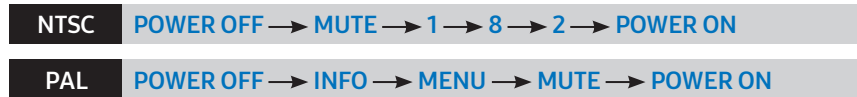
4-10. Factory Mode Adjustments

4-10-1. Entering Factory Mode

1. To enter [Service Mode] press the remote-control keys in this sequence :

- With Consumer Remote (IR Remote)

✓ Remote Button :

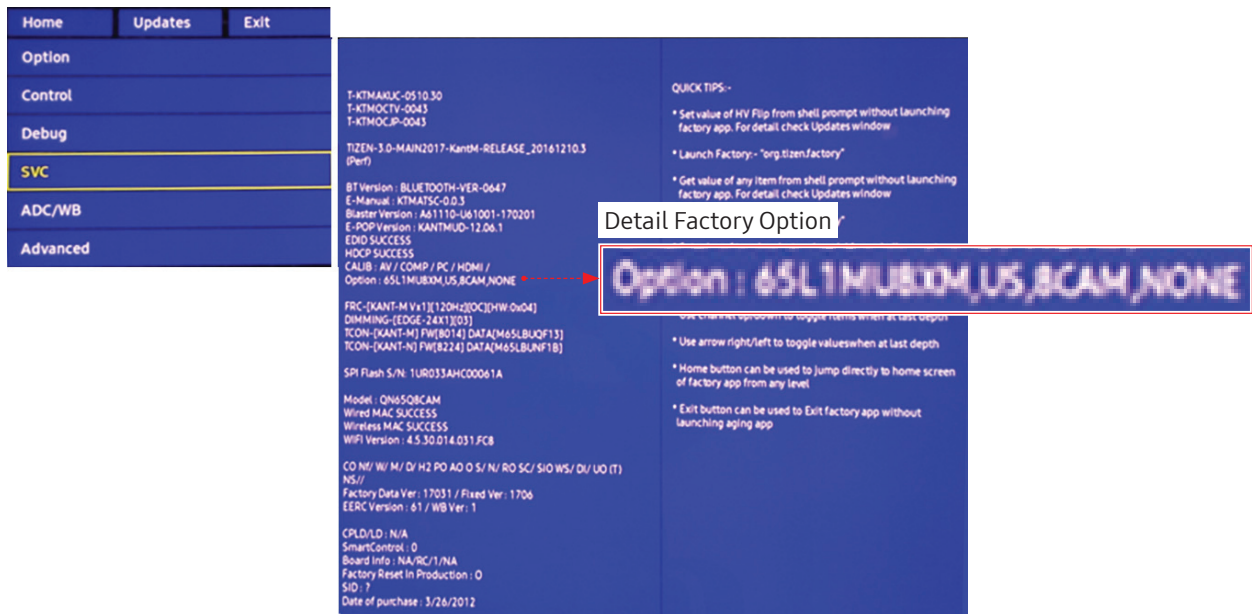


- With Factory Remote



2. The following screen appears.

- Please refer to "[Detail Factory Option](#) page" for details.



4-10-2. 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".

■ QN65Q8CAMPXPA

- PANEL / SMPS / LD / MAIN / Assy One Connetor Information

Multi BOM			FA02			
PANEL			SMPS		LD	
Vendor	SDC		Vendor	HANSOE	Vendor	SOLUM
Code	Spec	Type	Code	Spec	Code	Spec
BN95-03849B	CY-XM065FLLV3V/H	65A1MU8XM	BN44-00901A	L65E8NA_MHS	BN44-00902A	L65E8NC_MSM
MAIN			Assy One Connetor			
ASSY CHASSIS		ASSY PCB MAIN	Assy One Connetor		ASSY PCB OC	
BN91-18486M		BN94-11488M	BN91-19383U		BN94-12493S	

- Factory Option

Local Set	BOM Model	Front Color	S/W Model
SELA	8CAM	Q8C-65	QM8CR

4-10-3. Factory Data

■ Option

Factory Menu Name	Data	Range
Factory Reset	-	
Type	65" 65A1MU8XM	
Local set	SELA	
SW Model	QMQ8CR	
BOM Model	8CAM	
TUNER	-	DVB-T/ISDB-T/ATSC
Ch Table	NONE	
MRT Option		
Engineer Option		

■ Control

Factory Menu Name	Data	Range
EDID		
EDID ON/OFF	OFF	
EDID WRITE ALL	...	
EDID WRITE HDMI	...	
EDID WRITE PC	...	
HDMI EDID Ver	...	
HDMI EDID Port	...	
Sub Option		
RS-232 Jack	UART	RS-232 mode setting
EXT Link Support	ON	
Serial Log On/Off	OFF	
Watchdog	ON	
FRC Monitoring	OFF	
Checksum	0x0000	
Fast Boot In Production	ON	
USB Serial	OFF	
ECO IC TYPE	MC8121	
Info Link Server Type	development	
Info Link Country	None	
TTX Group	UserOSD	
Visual Test	Diabile	
OPTION_SWU		

Factory Menu Name	Data	Range
RF Remocon Support	OFF	
CDD mode	...	
DPMS Support	OFF	
T-CON Device	Kant N	
RM Server Type	Operating	
LMF LEAVE THRESHOLD	160	
LMF TRIM THRESHOLD	120	
LMF TERM THRESHOLD	80	
EOS Click	OFF	
BP PMS Reset	1	
FAnet Thread	2	
CI CPLD Version	1	
ACM_MC	ON	
UNIQUE TRIPLET	ON	
FS_FAV	OFF	
Private Range USE	ON	
SCSA Support	OFF	
OCM Reboot	ON	
SPI Protection		
FKP Server Type	Default	
OCM Support	ON	
Preloading Support	ON	
Multitasking Support	ON	
Browser preloading Support	FULL	
EXT IR Boot Support	OFF	
APP BOOTING SUPPORT	ON	
NagSam Support	OFF	
EWBS Support	OFF	
MVPD MBR Provider	COMCAST	
cloudscan Always Upload	OFF	
FirstScreen Cach Size	300	
Hotel Option		
Hospitality Mode	OFF	
Power On		
Menu OSD		
Operation		
Music Mode		

Factory Menu Name	Data	Range
External Source		
Eco Solution		
Cloning		
Shop Option		
Exhibition Mode	OFF	
Peak Mode	ON	
Metadata	ON	
Shopmode Picture Reset	ON	
Asia Option		
Unbalance	OFF	
AF Level adjust	0	
TX Power Level	0	
Mono Last Memory	OFF	
H Shaking	0	
SOUND		
High Devi	OFF	*If the broadcast signal is not good, TV will complement the characteristics of the signal (most use when weak signal comes from the growing area countries)
Carrier_Mute	ON	*If the noise comes from weakness-electromagnetic field, TV will be set Mute automatically (Only default on in North America)
Pilot Level High Thld	0x20h	* The High threshold value of stereo signal(If Pilot level is greater than High threshold value, recognize Stereo signal)
Pilot Level Low THLD	0x10h	* The Low threshold value of stereo signal(If Pilot level is less than Low threshold value, recognize Mono signal)
Carrier2 Amp High ThLD	9	
Carrier2 Amp Low THLD	6	
Amp Volume	0xc4h	
Amp Scale	0x3ch	
Amp EQ Check Sum	0x000057B5	
Subwoofer Support	3	
Woofer Type	0	
Woofer Volume	0xc7h	
Woofer Scale	0x3fh	
Woofer Check sum	0x0000A273	
PEQ Inx	76	
PEQ Test	Ready	
Speaker EQ	ON	

Factory Menu Name	Data	Range
Bottom Checksum	NONE	
Wall Filter Type	3	
SRS Tuning Parm	0	
SPDIF PCM Gain	-9	
AudioDock BT Delay	NONE	
3D_Glass BT delay	NONE	
Mic Scale	OFF	
India Sound	0	
Speaker Delay Normal	0	
NTV CU Delay	NORMAL	
Lipsync Inx	1	
Lipsync Checksum	0x4972	
Lipsync USB Test	Ready	
Lipsync BT Checksum	0x0000	
TP volume	0xc4h	
TP Scale	0x6ch	
TP EQ CheckSum	NONE	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
LVDS Spread	0	
DDR Spread	0	
Period	0	
Amplitude	0	
HD DDR SSC ON OFF	OFF	
HD DDR SSC Value	0	
FHD DDR SSC ON OFF	OFF	
FHD DDR SSC Value	4	
UHD DDR SSC ON OFF	ON	
UHD DDR SSC Value	0	
PeBus SSC ON/OFF	OFF	
PeBus Value	0	
LVDS SSC ON/OFF	OFF	
LVDS SSC Value	0	
AP Vx1 SSC ON/OFF	ON	
AP Vx1 Value	12	

Factory Menu Name	Data	Range
N Vx1 SSC ON/OFF	ON	
N Vx1 Value	0	
FRC Vx1 SSC ON/OFF	OFF	
FRC Vx1 SSC Period	0	
FRC Vx1 SSC Modulation	0	
FRC LVDS ON/OFF	ON	
FRC LVDS SSC MFR	3	
FRC LVDS SSC MRR	2	
FRC DDR SSC ON/OFF	ON	
FRC DDR SSC Period	1	
FRC DDR SSC Modulation	2	
ADV7619 Data strength	1	
ADV7619 Clock strength	1	
ADV7619 H_V_DE strength	1	
AP DDR SSC ON/OFF	OFF	
AP DDR SSC Value	0	
AP USIT SSC ON/OFF	ON	
AP USIT SSC Value	13	
OCM Vx1 SSC ON/OFF	OFF	
OCM Vx1 SSC Value	0	
TCON USIT SSC ON/OFF	BYPASS	
DDR Margin		
A CTRL_OFFSET_0_3	0	
A CTRL_OFFSET_D	0	
B CTRL_OFFSET_0_3	0	
B CTRL_OFFSET_D	0	
BT_ON_OFF	OFF	
RF Mute Time	600ms	
Tuner Margin	3	European specifications
FRC		
FRC FDISPLAY ON/OFF	OFF	
3D FDISPLAY ON/OFF	OFF	
PC Mode ON/OFF	OFF	
FRC VX1 RX EQ SETTING	OFF	
FRC VX1 TX Pre_emphasis setting	0	
Netflix OSD Threshold	179	
TCON		

Factory Menu Name	Data	Range
TCON_TEMP READ	34	
TEMP LAST	6000	
DCC VERSION	0x0	
TCON Demura Bypass	OFF	
TCON FDisplay	OFF	
Panel Code 1		
Panel Code 2		
Panel Revision		
Panel Menu Week		
Panel S/N 1		
Panel S/N 2		
Panel S/N 3		
Panel S/N 4		
MPEG Margin	20	
H.264 Margin	15	
CAM Wait Time	15	
Voice Debug	OFF	
Power Management		
Cert Option	Waiting	
RM_BIST_DTV	0	
RM_BIST_ATV	0	
RM_BIST_CABLE	0	
SerDES Check		
SerDES Tuner	Failure	
HDMI SW	Failure	
HDMI Rx	Failure	
MP	Failure	
Main SerDES	Failure	
Jack SerDES	Failure	
Stress Mode	OFF	
Log Analyzer	ON	
Error Popup On/Off	OFF	
DeadLock KILL	OFF	
CES Option	OFF	
CES Convergence Option	OFF	
CES ATSC 3_0	OFF	

Factory Menu Name	Data	Range
CES OOB E MVPD SUPPORT	OFF	
BT DUT	OFF	
BT Throughput	Failure	
Reproduce Module	ON	
21_9		
L-DETECT STABLE TIME	7	
L-DETECT UNSTABLE TIME	3	
L-DETECT CAPTION THRESHOLD	720	
L-DETECT RAGION THRESHOLD	720	
L-DETECT B-LEVEL THRESHOLD	32	
L-DETECT USB SUPPORT	0	
DB Download		
MRT Option Dump	Failure	
Picture Data Dump	Failure	
VCONF Dump	Failure	
Read Eco Sensor Data	0	
No Signal Power OFF	ON	
Alert Option	ON	
Default HDMI1 Booting	OFF	

■ SVC

Factory Menu Name	Data	Range
Self Test(for HW)		* the Output of test pattern from each IC
Info		
Reset		
Apps Reset		
SVC Reset		
SPI Flash Reset		
Data Sync Reset		
Factory Data Reset		
OPTION_HDMI		
DVI/HDMI SOUND	Auto	
HDMI HOT PLUG	Disable	
HOTPLUG SWITCHING	Auto	
HOT PLUG DURATION	800ms	
CLK TERM DURATION	300ms	

Factory Menu Name	Data	Range
HDMI FLT CNT SIG	0ms	
HDMI FLT CND SIG2		
HDMI FLT CNT LOS	0ms	
UNSTABLE BAN CNT	1250ms	
HDMI ROBIN	0	
HDMI Callback	ON	
HDMI CTS Thld	0	
HDMI CTS Cnt1	0	
HDMI EQ	0	
HDMI Write Type	0	
HDMI Switch	0	
DVI SET TIME	0	
H Write	0	
HDMI Sync	0	
HDMI 3D DET	1	
HOT PLUG OFF HOLD TIME	600ms	
HDMI MUTE TIME	0ms	
HDMI NFST UNMUTE TIME	800ms	
HDMI FST UNMUTE TIME	0ms	
REPEA AUDIO PKT	OFF	
HDMI Stable Count	3	
HDMI HDCP EN	OFF	
HDMI HDCP EN FLAG	85	
POWER ON FLT CNT LOS		
HDCP UPDATE SPI	READY	
SPI VERSION	0	
HdmiRx EQ	0	
HDMI TMDS ERR DET	1	
DVB CI		
TS Clock delay TC	0	
TS Clock delay S	0	
CI Control Buf ON	ON	
TS Clock delay CPU	1	
TS Clock delay TC2	0	
TS Clock delay S2	0	
CI Control Buf ON2	1	
TS Clock delay CPU2	0	

Factory Menu Name	Data	Range
Test Pattern		
Scaler Pattern	OFF	
US Post Pattern	OFF	
FRC Pre Pattern	0	
FRC Post Pattern	0	
SOC TCON Pattern	0	
SOC TCON Pattern Level	255	
FRC OSD Pre Pattern	0	
FRC OSD Post Pattern	0	
FRC2 Pre Pattern	0	
FRC2 Post Pattern	0	
SOC TCON2 Pattern	0	
SOC TCON2 Pattern Level	255	
Upgrade		
T-CON DATA UPGRADE		
T-CON FW UPGRADE		
T-CON CheckSum		
T-CON2 Usb Download		
T-CON2 CheckSum		
PANEL EEPROM UPGRADE		
PANEL FLASH UPGRADE		
Logic Usb D/L		
SUBMICOM UPGRADE		* Upgrade Sub-Micom Program
SUBMICOM JP USB UPGRADE		
BT UPGRADE		
BT FREEPAIRING		
Function Upgrade		
FRC3D FW UPGRADE		
FRC3D SRP UPGRADE		
FRC3D LD UPGRADE		
FRC2 3D FW UPGRADE		
Camera Upgade		* Upgarde Camera module(There is upgrade program in Main-Image)
Mic Upgrade		* Upgarde MIC in Camera module(There is upgrade program in Main-Image)
Jump UPGRADE		
IR Blaster Upgrade		
IR Blaster delay time		

Factory Menu Name	Data	Range
NTV CU UPDATE		
UD LDC PROFILE UPGRADE		
Pic Data USB Update		
Audio Data USB Update		
Eco Data USB Update		
CI CPLD Upgrade		
SC ADK Upgrade		
Other Setting		
Delete S/N		
IPERF	Stopped	
Expert		
CAL Data Backup	...	
CAL Data Restore		
MICOM POWER OFF	ON	
NTV CU FW VER	0	
ATV IF AGC SPEED	0	
Upgrade UHD OSD Test	0	
Main USB Path		
JackP USB Path		
Source Direct On/Off	OFF	
Apps Update		
Auto Power	LAST POWER	
SMCE Control		
Motor Test		
Cube Test		
V APP	OFF	
Picture Direct On/Off	OFF	
SVC Panel	ORIGINAL	
S/N		
Serial number		
Writing S/N		

■ ADC/WB

Factory Menu Name	Data	Range
ADC		
AV Calibaration		
Comp Calibration		

Factory Menu Name	Data	Range
PC Calibration		
HDMI Calibration		
ADC Result		
1st_Y_GH	0	
1st_Y_GL	0	
1st_Cb_BH	0	
1st_Cb_BL	0	
1st_Cr_RH	0	
1st_Cr_RL	0	
2nd_R_L	128	
2nd_G_L	128	
2nd_B_L	128	
2nd_R_H	69	
2nd_G_H	69	
2nd_B_H	69	
White Balance		
R-Offset	128	
G-Offset	128	
B-Offset	128	
R-Gain	128	
G-Gain	128	
B-Gain	128	
WB-W2_R_Offset	128	
WB_W2_B_Offset	128	
WB_W2_R_Gain	136	
WB_W2_B_Gain	76	
WB_N_R_Offset	128	
WB_N_B_Offset	128	
WB_N_R_Gain	131	
WB_N_B_Gain	119	
MGA		
MGA On/Off	OFF	
R1_Gain		
G1_Gain		
B1_Gain		
R2_Gain		
G2_Gain		

Factory Menu Name	Data	Range
B2_Gain		
R3_Gain		
G3_Gain		
B3_Gain		
R4_Gain		
G4_Gain		
B4_Gain		
R5_Gain		
G5_Gain		
B5_Gain		
R6_Gain		
G6_Gain		
B6_Gain		
R7_Gain		
G7_Gain		
B7_Gain		
R8_Gain		
G8_Gain		
B8_Gain		
R9_Gain		
G9_Gain		
B9_Gain		
R10_Gain		
G10_Gain		
B10_Gain		
SPI White Balance		
SPI White Balance On/Off		
SPI R-Offset		
SPI G-Offset		
SPI B-Offset		
SPI R-Gain		
SPI G-Gain		
SPI B-Gain		
SPI N Rgain		
SPI N Bgain		
SPI N Roffset		
SPI N Boffset		

Factory Menu Name	Data	Range
SPI W2 Rgain		
SPI W2 Bgain		
SPI W2 Roffset		
SPI W2 Boffset		
SPI MGA		
WB Data to SPI		

■ **Advanced**

4-11. AV Control Tab

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	Up	0x03	0x00	0x01	0x00		
			Down			0x02	0x00		
Input	Source List	TV	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		
		RVU	RVU			0x07	0x00		
		PICTURE	Mode	Dynamic(Entertain)		0x0b	0x00	0x00	0x00
				Standard					0x01
Movie							0x02		
Natural							0x03		
CAL-NIGHT							0x04		
CAL-DAY							0x05		
BD Wise							0x06		
Relax							0x07		

Control Item			Cmd1	Cmd2	Cmd3	Value		
PICTURE	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
			Hlgh					0x03
		Gamma		-3 ~ 3			0x03	(-3~3)
		RGB Only Mode	Off				0x05	0x00
			Red					0x01
			Green					0x02
			Blue					0x03
		Color Space	Auto				0x06	0x00
			Native					0x01
			Custom					0x02
		White Balance		R-Offset(LCD)			0x07	(-50~50)
		White Balance		G-Offset(LCD)			0x08	(-50~50)
		White Balance		B-Offset(LCD)			0x09	(-50~50)
		White Balance		R-Gain(LCD)			0x0a	(-50~50)
		White Balance		G-Gain(LCD)			0x0b	(-50~50)
		White Balance		B-Gain(LCD)			0x0c	(-50~50)
		White Balance		Reset(LCD)			0x0d	0x00
		Flesh Tone		-15 ~ 15			0x0e	(-15~15)
		xvYCC	Off				0x10	0x00
			On					0x01
Motion Lighting		Off				0x11	0x00	
	On					0x01		
Color Space Custom Color	Red				0x12	0x00		
	Green					0x01		
	Blue					0x02		
	Yellow					0x03		

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE	Advanced Settings	Color Space Custom Color	Cyan				0x04
			Magenta				0x05
		Color Space Custom Color Red Value	0~100			0x13	0~100
		Color Space Custom Color Green Value	0~100			0x14	0~100
		Color Space Custom Color Blue Value	0~100			0x15	0~100
		Color Space Custom Reset				0x1c	0x00
		LED Motion Plus	Off		0x0a	0x07	0x00
			On(Normal)				0x01
			Cinema				0x02
			Ticker				0x03
		10p White Balance	Off		0x07	0x16	0x00
			On		0x07	0x16	0x01
			Interval		0x07	0x17	(1~10)
			Red		0x07	0x18	(-50~50)
			Green		0x07	0x19	(-50~50)
			Blue		0x07	0x1a	(1~10)
			Reset		0x00	0x1b	0x00
		Picture Option	Color Tone	Cool		0x0a	0x00
	Standard						0x01
	Warm1						0x02
	Warm2						0x03
	Digital Noise Filter		Off			0x02	0x00
			Low				0x01
			Medium				0x02
			High				0x03
			Auto				0x04
			Auto Visualization				0x05
	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

Control Item				Cmd1	Cmd2	Cmd3	Value
PICTURE		Film Mode	Auto2				0x02
			Cinema Smooth				0x03
		Auto Motion Plus	Off			0x06	0x00
			Clear				0x01
			Standard				0x02
			Smooth				0x03
			Custom				0x04
			Blur Reduction		0x0b	0x01	value
		Judder Reduction			0x02	value	
		LED Clear Motion	Off		0x03	0x00	
		LED Clear Motion	On			0x01	
		HDMI1 UHD Color Mode	Off		0x04	0x00	
			On			0x01	
		HDMI2 UHD Color Mode	Off		0x05	0x00	
			On			0x01	
		HDMI3 UHD Color Mode	Off		0x06	0x00	
			On			0x01	
		HDMI4 UHD Color Mode	Off		0x07	0x00	
			On			0x01	
		Analog Clean View	On		0x08	0x00	
	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
			Smart View II				0x07
			Auto Wide				0x08
			Wide Zoom				0x09
			Zoom				0x0a
			Fit to Screen	Off		0x0b	0x00
		Zoom	Zoom1		0x0c	0x00	0x00
Zoom2						0x01	
Zoom3						0x02	
Zoom4						0x03	
Position		Position1			0x01	0x00	
		Position2				0x01	

Control Item				Cmd1	Cmd2	Cmd3	Value	
PICTURE	Screen Adjustment	Position	Position3				0x02	
			Position4				0x03	
	Reset Picture	Reset Picture		0x0d	0x0b	0x00	0x00	
	3D	3D Mode	Off	0x0e	0x0c	0x00	0x00	
			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
			Auto1					0x03
			Auto2					0x04
		3D Light Control	Low				0x06	0x00
			High					0x01
		L/R Change	L to R				0x07	0x00
			R to L					0x01
		3D Perspective					0x08	value
		Optimize					0x09	value
	Factory-SVB	Expert-N/D Adj	On	0x0b	0x0d	0x00	0x00	
			Off				0x01	
			Fix				0x02	
	Apply Picture Mode	All Sources		0x0f	0x00	0x00	0x00	
		Current Source					0x01	
	Pip	PIP	Off	0x0b	0x08	0x00	0x00	
			On				0x01	
			Antenna				0x01	0xff
			Size				0x02	0xff
			Position				0x03	0xff
			Sound_Select_Main				0x04	0x00

Control Item			Cmd1	Cmd2	Cmd3	Value	
PICTURE	Pip	Sound_Select_Sub				0x01	
		Channel_Up			0x05	0x00	
		Channel_Down				0x01	
Sound	Sound Mode	Standard	0x0c	0x00	0x00	0x00	
		Music				0x01	
		Movie				0x02	
		Clear Voice				0x03	
		Amplify				0x04	
	Equalizer	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	Off			0x02	0x00	0x00
	Virtual Surrond	On					0x01
	SRS TruDialog	Off			0x03	0x00	0x00
	Dialog Clarify	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
		Normal					0x01
		Night					0x02
	Speaker Select	TV Speaker			0x07	0x00	0x00
		External Speaker					0x01
		Audio Out					0x01
	Sound Select	Main			0x08	0x00	0x00
		Sub					0x01
Sound Reset	Sound Reset			0x09	0x00	0x00	
3D Audio	Off			0x0a	0x00	0x00	
	Low					0x01	
	Medium					0x02	
	High					0x03	

Control Item				Cmd1	Cmd2	Cmd3	Value
Sound	TV Installation Type	Stand			0x0c	0x00	0x00
		Wallmount					0x01
	Audio Delay	Dealy Value (0~250)			0x0d	0x00	0~250 (0x00~0xFA)
KEY	Key Generation			0x0d	0x00	0x00	*Refer for Table
OSD	Show/Hide Control	Show		0x0e	0x00	0x00	0x00
		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	

* Refer for Table

KEY	Value
Up	96 (0x60)
Down	97 (0x61)
Left	101 (0x65)
Right	98 (0x62)
Menu	26 (0x1A)
Enter(OK)	104 (0x68)
EXIT	45 (0x2D)

4-12. Updating the TV's Software

View your TV's software version and update it if necessary.

-  >  [Settings](#) > [Support](#) > [Software Update](#)

■ Updating the TV's software to the latest version



DO NOT turn off the TV's power until the update is complete. The TV will turn off and on automatically after completing the software update. All video and audio settings return to their default settings after a software update.

CAUTION

■ Updating through the Internet

-  >  [Settings](#) > [Support](#) > [Software Update](#) > [Update Now](#)

- Updating from the Internet requires an active Internet connection.

■ Updating through a USB device

-  >  [Settings](#) > [Support](#) > [Software Update](#) > [Update Now](#)

After downloading the update file from the Samsung website and storing it on a USB device, connect the USB device to the TV to update.

- To update using a USB flash drive, download the update package from Samsung.com to your computer. Then, save the update package in the USB device's top-level folder. Otherwise, the TV will not be able to locate the update package.

■ Updating the TV automatically

-  >  [Settings](#) > [Support](#) > [Software Update](#) > [Auto Update](#)

If the TV is connected to the Internet, you can have the TV update its software automatically while you are watching the TV. When the background update is completed, it is applied the next time the TV is turned on.

If you agree to the Smart Hub terms and conditions, [Auto Update](#) is set to **On** automatically. If you want this function disabled, use the Select button to turn it off.

- This function may take a longer time if another network function is running concurrently.
 - This function requires an Internet connection.
-