
4-9. Factory Mode

■ Setting TV into 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

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

- Remote Button

NTSC **MUTE** → **1** → **8** → **2** → **POWER**

PAL **INFO** → **MENU** → **MUTE** → **POWER**

■ Important Items

- **Option** (must set Option Bytes when replacing Main Board.)
- Option → **Factory Reset** (returns TV to out of box condition.)
 - Must perform when replacing Main Board or Full One Connect)
 - **Factory Reset** : Select Factory Reset

Factory Reset	
Type	82A1QU9TR
Writing Type	
Local Set	ED_VIET
SW Model	QRQ90
Model Code	QA82Q90RAKXXV
TUNER	-
Ch Table	NONE

- SVC → Info → **ER Count** (Important to check for errors.)
 - Resets to 0 with Factory Reset.
 - ✓ Check before resetting TV
- SVC → **Test Patterns** (Use to check / troubleshoot) videos errors.
- Control → **EDID** (Use to Reset HDMI Operational Errors)

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 **Option**.
 4. Select each item to change.
 5. Can Use new **Writing Type** to enter model (if entered wrong it will not change.)
 6. Soft power TV Off to load.
-

Performing **Factory Reset**

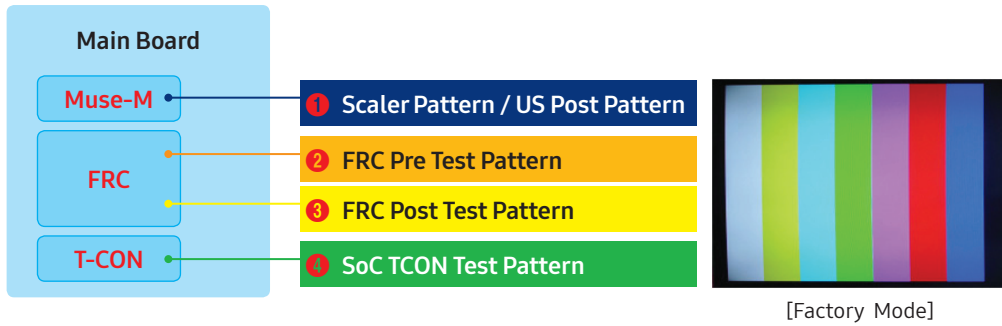
1. Enter Factory Mode.
2. Select **Option > Factory Reset**
3. TV will power off.
4. Perform ALL TV Settings. (New out of box condition)

First Screen Appearing in Factory Mode

- Sample :

Option		
Control	T-MSMAKUC-0719.20 T-MMINTV-1001	✓ Testing Items ✓ Micom Version ✓ Sub Micom
Debug	TIZEN-5.0-MAIN2019-MuseM-RELEASE_20181219.2 (Perf)	✓ Tizen Platform info
SVC	BT Version : BLUETOOTH-VER-18102323	✓ BT Version
ADC/WB	E-Manual : MUSATSCR-0.0.1	✓ E-Manual
	Blaster Version : A81106-U81101-1704A8	✓ Blaster Version
Advanced	E-POP Version : ----	✓ E-Pop Version
	EDID SUCCESS	✓ EDID Success (Status)
	HDCP SUCCESS	✓ HDCP Success (Status)
	CALIB : AV / COMP / PC / HDMI / Option : 82A1AU7TR_US_QN82Q70RAFZA_NONE DTCP : Not Supported D0 FRC-[MUSE-M USIT][120Hz][HW:07/01] DIMMING-[DIRECT-6X8][02] LD FW1 : 19800020 LD FW2 : ---- TCON-[MUSE-M] FW[9011] DATA[R82A1UQM13]	✓ FRC ✓ Dimming ✓ T-CON
Model : QN82Q70RAFZA	✓ Model	
	Wired MAC SUCCESS	✓ Wired MAC Success
	Wireless MAC SUCCESS	✓ Wireless MAC Success
	WiFi Version : mt7668u-MTKv3.3.3 20181214	✓ WiFi Version
	CO NI/ W/ MO D/ H2 PO AO O S/ N/ RO FP/ SIX WS/ DI/ UX I/ (T) NSOO,0000001c49000001,0000	✓ CO Status ("O" Operational)
	Factory Data Ver : 19106 / Fixed Ver : 19000	✓ Factory Data Version
	EERC Version : 31 / WB Ver : 1	✓ EERC Version
	CPLD/LD : N/A SmartControl : 00000000/000000 Board Info : 2018/12/13/PR/1/BN41-02695A Factory Reset In Production : 0 SID : ---- Date of purchase : --/--/----	✓ Date of Purchase - Initial set up date (Resets with Factory Reset)

■ SVC > Test Patterns



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".

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 > 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
-------------	----

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 :

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

- With Factory Remote

INFO	→	FACTORY
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2. The following screen appears.

- Please refer to "**Detail Factory Option** page" for details.

MODE : DTV, RES : NOTSUPPORT

Home Updates Exit

Option

Control

Debug

SVC

ADC/WB

Advanced

T-KTM2AKUC-0824.20
T-KTM2OCTV-0043_D
T-KTM2OCIP-1030_D

TIZEN-4.0-MAIN2018-KantM2-RELEASE_20180224.2 (Debug)

BT Version : BLUETOOTH-VER-1302
E-Manual : KMJATSCH-1.0.5
Blaster Version : A70504-U61001-170201
E-POP Version : KANTMUD-0.2.5
EDID FAIL
HDCP SUCCESS
CALIB : AV / ACOMP / PC / HDMI /
Option : 82A1QU9TR,ED_VIET,QA82
DIP3 : Not Supported 00
FRC-[KANT-M2 USIT][120Hz][HW07/01]
DIMMING-[DIRECT-30x16][04]
TCOM-[KANT-M2] FW[0914] DATA[N55ABUQM1B]

Model : QN65Q9PNA
Wired MAC SUCCESS
Wireless MAC SUCCESS
WiFi Version : 4.5.30.016.068.fw11

CO MI / W / MO / H2 / HZ / PO / AO / S / N / RO / SC / SIO / WS / DJ / UX / I / P)
N500,000000007000002,0000
Factory Data Ver : 18141 / Fixed Ver : 1804
EDRC Version : 79 / WB Ver : 1

CPLD/LD : N/A
SmartControl : A7810300
Board Info : 2018/01/02/PR/PR/BN41-02634A
Factory Reset In Production : ----
SID : others
Date of purchase : 2/27/2018

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
- * 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

Detail Factory Option

Option : 82A1QU9TR,ED_VIET,QA82

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**".

■ QA65Q90RAKXXV

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

Side Version	AA04					
PANEL			LD/SMPS			
Vendor	AUO		Vendor	HANSOE	Vendor	HANSOE
Code	Spec	Type	Code	Spec	Code	Spec
BN95-05487A	CY-TR065FLAV1V/H	65L1QU9TR	BN44-00980C	L65S9NRA_RHS	BN44-00980D	L65S9NRB_RHS
MAIN			Assy One Connetor			
ASSY CHASSIS		ASSY PCB MAIN	Assy One Connetor		ASSY PCB OC	
BN91-20682N		BN94-14008N	BN91-21121D		BN94-14012E	

- Factory Option

Local Set	BOM Model	Front Color	S/W Model
ED_VIET	90RA	Q-F-RQ90-OC-65	QRQ90

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
65L1QU9TR	AD_AU2	QRQ90	Follow S/W Model

■ QA75Q90RAKXXV

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

Side Version	FA01					
PANEL			LD/SMPS			
Vendor	SDC		Vendor	HANSOE	Vendor	HANSOE
Code	Spec	Type	Code	Spec	Code	Spec
BN95-05484A	CY-TR075FLLV1V/H	75A1QU9TR	BN44-00980E	L75S9NRA_RHS	BN44-00980F	L75S9NRB_RHS
MAIN			Assy One Connetor			
ASSY CHASSIS		ASSY PCB MAIN	Assy One Connetor		ASSY PCB OC	
BN91-21386A		BN94-14717A	BN91-21121D		BN94-14012E	

- Factory Option

Local Set	BOM Model	Front Color	S/W Model
ED_VIET	90RA	Q-F-RQ90-OC-75	QRQ90

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
75L1QU9TR	AD_AU2	QRQ90	Follow S/W Model

■ QA82Q90RAKXXV

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

Side Version	FA01					
PANEL			LD/SMPS			
Vendor	SDC		Vendor	HANSOE	Vendor	HANSOE
Code	Spec	Type	Code	Spec	Code	Spec
BN95-05483A	CY-TR082FLLV1V/H	82A1QU9TR	BN44-00981A	L82S9NA_RHS	BN44-00981B	L82S9NB_RHS
MAIN			Assy One Connetor			
ASSY CHASSIS		ASSY PCB MAIN	Assy One Connetor		ASSY PCB OC	
BN91-20787H		BN94-14077H	BN91-21171G		BN94-14012E	

- Factory Option

Local Set	BOM Model	Front Color	S/W Model
ED_VIET	90RA	Q-F-RQ90-OC-82	QRQ90

- PBA Factory Option

Panel Type	Local Set	S/W Model	BOM Model
82A1QU9TR	AD_AU2	QRQ90	Follow S/W Model

4-10-3. Factory Data

■ Option

Factory Menu Name		Data	Range
Factory Reset		-	
Type	65"	65L1QU9TR	AA04
	75"	75A1QU9TR	FA01
	82"	82A1QU9TR	FA01
Writing Type			
Local set		ED_VIET	
SW Model		QRQ90	
Model Code		QA82Q90RAKXXV	65/75/82
TUNER		-	PAL,DVB-T2/C
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		OFF	
FRC Monitoring		OFF	
Checksum		0x0000	
Fast Boot In Production		OFF	
USB Serial		OFF	
ECO IC TYPE		NOT_DETECT	
COLOR IC TYPE		RISF315	
Info Link Server Type		development	

Factory Menu Name	Data	Range
TTX Group	UserOSD	
OPTION_SWU		
LMF LEAVE THRESHOLD	160	
LMF TRIM THRESHOLD	120	
LMF TERM THRESHOLD	80	
FAnet Thread	2	
CI CPLD Version	1	
ACM_MC	ON	
UNIQUE TRIPLET	ON	
T-CON Device	KANT-M2	
SPI Protection		
FKP Server Type	Default	
Preloading Support	ON	
Multitasking Support	ON	
Browser preloading Support	FULL	
EXT IR Boot Support	ON	
APP BOOTING SUPPORT	ON	
Cloudscan Always Upload	OFF	
STB Power Sync Support	ON	
OOM Panic Burst Interval	60	
OOM Panic Burst Number	8	
APP Boot Support after Reset	1	
Long press Power off Reset	OFF	
Perf Mode	0	
Inhouse App upgrader	OFF	
Hotel Option		
Hospitality Mode	OFF	
Power On		
Menu OSD		
Operation		
Music Mode		
External Source		
Eco Solution		
Cloning		
Shop Option		
Exhibition Mode	OFF	
Peak Mode	ON	
Metadata	ON	

Factory Menu Name	Data	Range
Shopmode Picture Reset	ON	
Game Motion Demo	OFF	
Asia Option		
Mono Last Memory	OFF	
SOUND		
High Devi	OFF	<ul style="list-style-type: none"> 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	OFF	<ul style="list-style-type: none"> If the noise comes from weakness-electromagnetic field, TV will be set Mute automatically (Only default on in North America)
Pilot Level High Thld	0x70h	<ul style="list-style-type: none"> The High threshold value of stereo signal(If Pilot level is greather than High threshold value, recognize Stereo signal)
Pilot Level Low	0x20h	<ul style="list-style-type: none"> The Low threshold value of stereo signal(If Pilot level is less than Low threshold value, recognize Mono signal)
Amp Volume	0xc4h	
Amp Scale	0x3dh	
Amp EQ Check Sum	0x0000BEEE	
Subwoofer Support	3	
Woofer Type	0	
Woofer Volume	0xc7h	
Woofer Scale	0x3dh	
Woofer Check sum	0x0000F167	
PEQ Inx	88	
PEQ Test	Ready	
Speaker EQ	ON	
Amp Recovery	ON	
Bottom Checksum	0x00004326	
SPDIF PCM Gain	-9	
NTV CU Delay	NORMAL	
Lipsync Inx	4	
Lipsync Checksum	0x1332	
Lipsync USB Test	Ready	
Lipsync BT Checksum	0x00BE	
TP volume	0xc4h	
TP Scale	0x35h	
TP EQ CheckSum	NONE	

■ Debug

Factory Menu Name	Data	Range
Spread Spectrum		
MAIN DDR SSC ON OFF	ON	
MAIN DDR SSC Value	0	
MAIN Vx1 SSC ON/OFF	OFF	
MAIN Vx1 SSC Value	1	
TCON-B DDR SSC ON/OFF	ON	
TCON-B DDR SSC Period	0	
TCON-B DDR SSC Modulation	0	
MAIN USIT SSC ON/OFF	BYPASS	
MAIN USIT SSC MF	0	
MAIN USIT SSC MR	0	
OCL Serdes SSC ON OFF	ON	
OCL Serdes SSC Value	0	
TCON-B USIT SSC ON/OFF	2	
TCON-B USIT SSC Period	0	
TCON-B USIT SSC Modulation	0	
RF Mute Time	600ms	
Tuner Margin	3	
FRC		
FRC 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		
TCON_TEMP READ	52	
TEMP LAST	6000	
DCC VERSION	0	
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	**	

Factory Menu Name	Data	Range
Panel S/N 3	[Invalid UTF-8]	
Panel S/N 4	[Invalid UTF-8]	
MPEG Margin	20	
H.264 Margin	15	
Voice Debug	OFF	
Power Management		
Cert Option	Waiting	
RM_BIST_DTV	0	
RM_BIST_ATV	0	
RM_BIST_CABLE	0	
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	
CES OOB MYPD SUPPORT	OFF	
BT DUT	OFF	
BTEU DUT		
BT Throughput	Failure	
Reproduce Module	ON	
21_9		
L-DETECT STABLE TIME	7	
L-DETECT UNSTABLE TIME	3	
L-DETECT USB SUPPORT	0	
DB Download		
MRT Option Dump	Failure	
Sub Option Dump	Failure	
Engineer Option Dump	Failure	
Picture Data Dump	Failure	
VCONF Dump	Failure	
Read Eco Sensor Data	0	
No Signal Power OFF	ON	
Default HDMI1 Booting	OFF	
Run EW	720h	

■ SVC

Factory Menu Name	Data	Range
Self Test(for HW)		<ul style="list-style-type: none"> 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		
HOT PLUG DURATION	600ms	
HDMI FLT CNT SIG	0ms	
HDMI FLT CNT LOS	0ms	
HDMI MUTE TIME	0ms	
HDMI NFST UNMUTE TIME	500ms	
HdmiRx EQ	0	
HDMI TMDS ERR DET	1	
Auto EQ sweep	READY	
VMD OPT	0	
DVB CI		
TS Clock delay TC	0	
TS Clock delay S	0	
CI Control Buf ON	ON	
TS Clock delay CPU	2	
EW Diagnosis	Failure	
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	

Factory Menu Name	Data	Range
SOC TCON2 Pattern Level	255	
SOC TCON3 Pattern	0	
SOC TCON3 Pattern Level	255	
Upgrade		
T-CON DATA UPGRADE		
T-CON FW UPGRADE		
T-CON CheckSum		
T-CON2 DATA UPGRADE		
T-CON2 FW UPGRADE		
T-CON2 CheckSum		
PANEL EEPROM UPGRADE		
PANEL FLASH UPGRADE		
Logic Usb D/L		
SUBMICOM UPGRADE		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Upgarde Camera module(There is upgrade program in Main-Image)
Mic Upgrade		<ul style="list-style-type: none"> Upgarde MIC in Camera module(There is upgrade program in Main-Image)
Jump UPGRADE		
IR Blaster Upgrade		
Pic Data USB Update		
Eco Data USB Update		
SC ADK Upgrade		
Other Setting		
Delete S/N		
IPERF	Stopped	
Expert		
CAL Data Backup	...	
CAL Data Restore		
MICOM POWER OFF	ON	

Factory Menu Name	Data	Range
ATV IF AGC SPEED	0	
Upgrade UHD OSD Test	0	
Main USB Path		
JackP USB Path		
Apps Update		
Picture Direct	OFF	
Source Banner Hide	OFF	
Auto Detection Group	0	
V APP	OFF	
SWI	OFF	
KantS Cutoff PEQ	0	
Restart No	0	
SVC Panel	ORIGINAL	
S/N		
Serial number		
Writing S/N		

■ ADC/WB

Factory Menu Name	Data	Range
ADC		
AV Calibration		
Comp Calibration		
PC Calibration		
HDMI Calibration		
ADC Result		
1st_Y_GH	255	
1st_Y_GL	246	
1st_Cb_BH		
1st_Cb_BL		
1st_Cr_RH		
1st_Cr_RL		
2nd_R_L	129	
2nd_G_L	129	
2nd_B_L	129	
2nd_R_H	109	
2nd_G_H	109	
2nd_B_H	109	

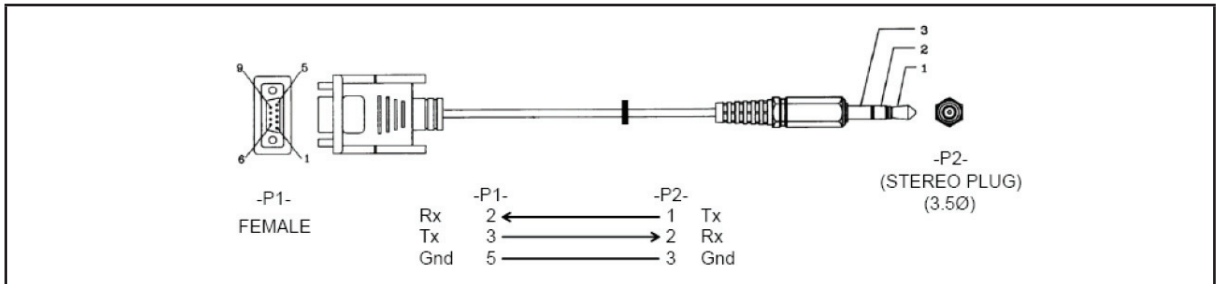
Factory Menu Name	Data	Range
White Balance		
R-Offset	128	
G-Offset	128	
B-Offset	128	
R-Gain	141	
G-Gain	128	
B-Gain	154	
WB-W2_R_Offset	128	
WB_W2_B_Offset	128	
WB_W2_R_Gain	157	
WB_W2_B_Gain	93	
WB_N_R_Offset	128	
WB_N_B_Offset	128	
WB_N_R_Gain	146	
WB_N_B_Gain	145	
MGA		
MGA On/Off	OFF	
R1_Gain		
G1_Gain		
B1_Gain		
R2_Gain		
G2_Gain		
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		

Factory Menu Name	Data	Range
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		
SPI W2 Rgain		
SPI W2 Bgain		
SPI W2 Roffset		
SPI W2 Boffset		
SPI MGA		
WB Data to SPI	0	

■ **Advanced**

4-11. RS-232C

- **RS232C Control**
 - Port : COM#(Serial)
 - Bit rate : 115200
 - Data Bit : 8 bit
 - Parity : None
 - Stop Bits : 1
 - Flow Control : None



- Description of RS232C

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

4-12. 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
			High					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	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
		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	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)

4-13. Updating the TV's Software

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



CAUTION

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. Video and audio settings will be reset to their defaults after a software update.

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

■ 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 device, 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.
