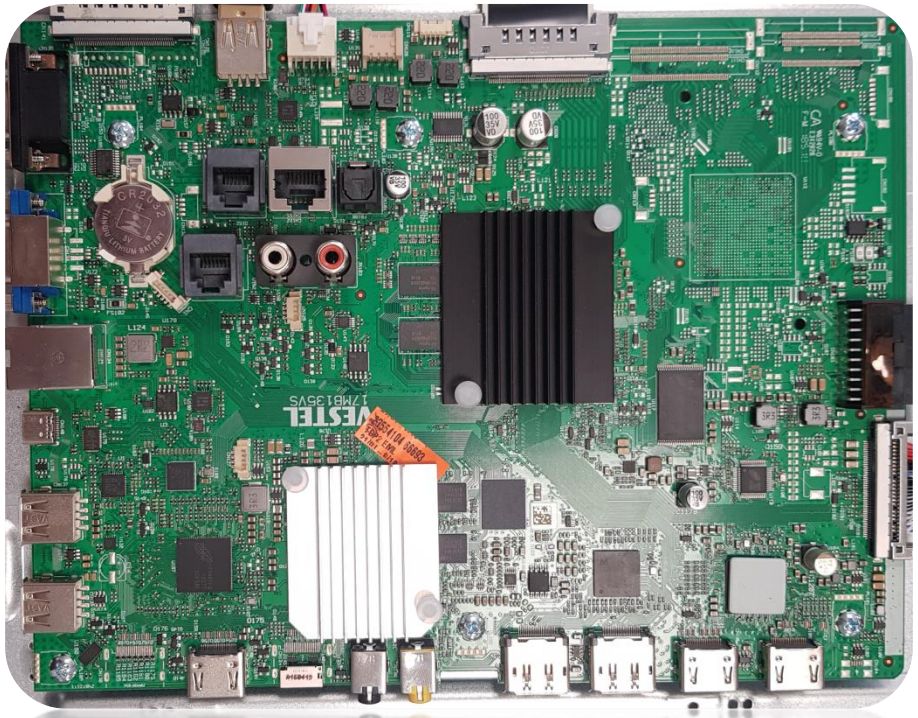
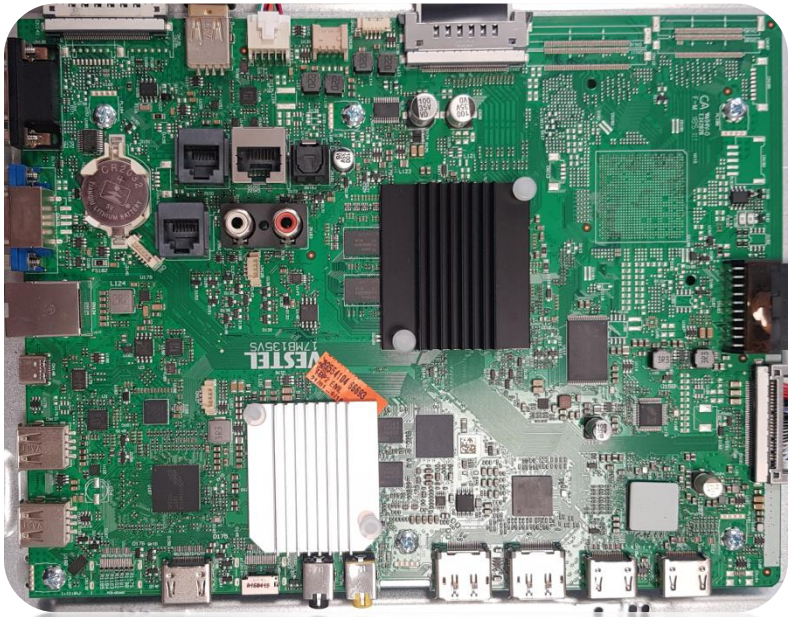
MB135VS

Main Board Presentation



MB135VS

Main Board General Features and Block Diagrams



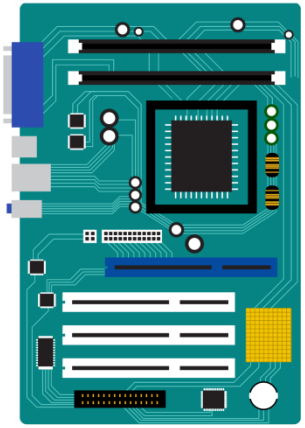
MB135VS Main Board - General Features

2019-2020 Road Map for Mainboards

MB120DS
Up to 2xHDMI (wo/OPS models +1xHDMI)
Display port daisy chain
HDMI daisy chain
IR daisy chain

MB150VS
1xHDMI
Embedded Android 7.1
Display port daisy chain
HDMI daisy chain, IR daisy chain

New mainboard MB135VS
Up to 4xHDMI
USB type C support
On board Android 7.1 option
Sensor option (proximity and light)
Pcless touch support
Display port daisy chain
HDMI daisy chain
IR daisy chain
4K browser support



MB130VS
2xHDMI
Display port daisy chain
IR daisy chain

Will continue

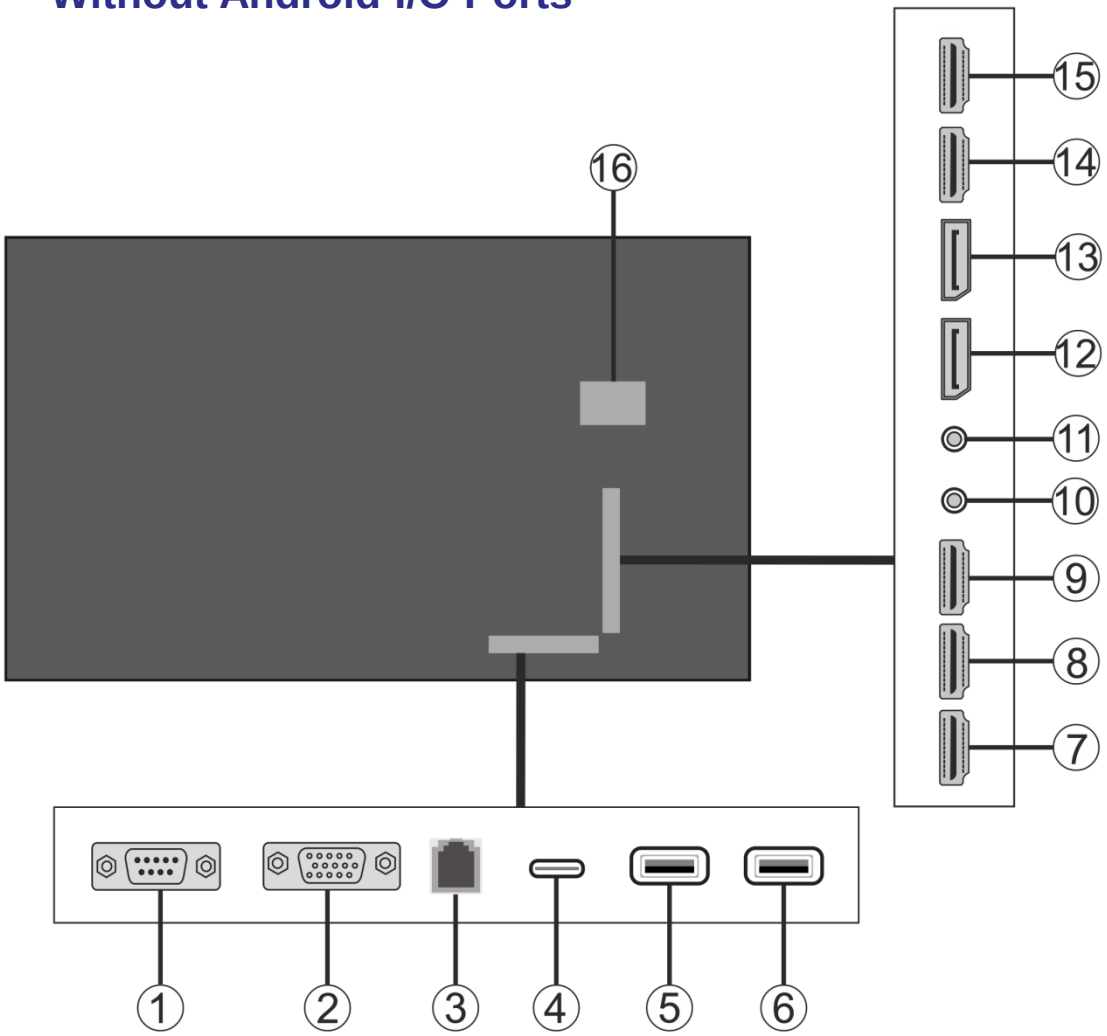
MB135VS Main Board - General Features

VESTEL

- **Main Side**
  - ✓ 1 x HDCP 2.2 / HDMI2.0 (UHD) Input/Output (Only HDMI1 Supported)
  - ✓ 3 x HDCP 2.2 / HDMI2.0 (UHD) Inputs
  - ✓ 1 x Displayport1.2a Input/Output
  - ✓ 1 x PC (VGA) input
  - ✓ 1 x Line In/ Line out
  - ✓ 1 x Optic S/PDIF output
  - ✓ 1 x USB2.0 for touchscreen (optional) & 1 x USB 3.0
  - ✓ 1 x OPS interface (optional)
  - ✓ 1 x Type-C (optional)
  - ✓ 1 x Extender IR
  - ✓ 1 x Dsub9 RS232
  - ✓ 1 x RJ45 10/100 Support Ethernet
  - ✓ 1 x RJ12 (for service only) & 1 x RJ12 for Sensors
  - ✓ 1 x Tuner ATV/DVB-T/T2/C (optional)
  - ✓ 1 x 4K2K@ 50/100Hz Vby1, FHD@ 50/100Hz LVDS interface
- **Android Side**
  - ✓ Ethernet for Android Source
  - ✓ 1 x USB 2.0 port, 1 x USB 2.0 port (optional or Main Side USB 2.0 port)
  - ✓ Micro SD (optional or HMDI2 Input)

MB135VS Main Board – I/O Ports

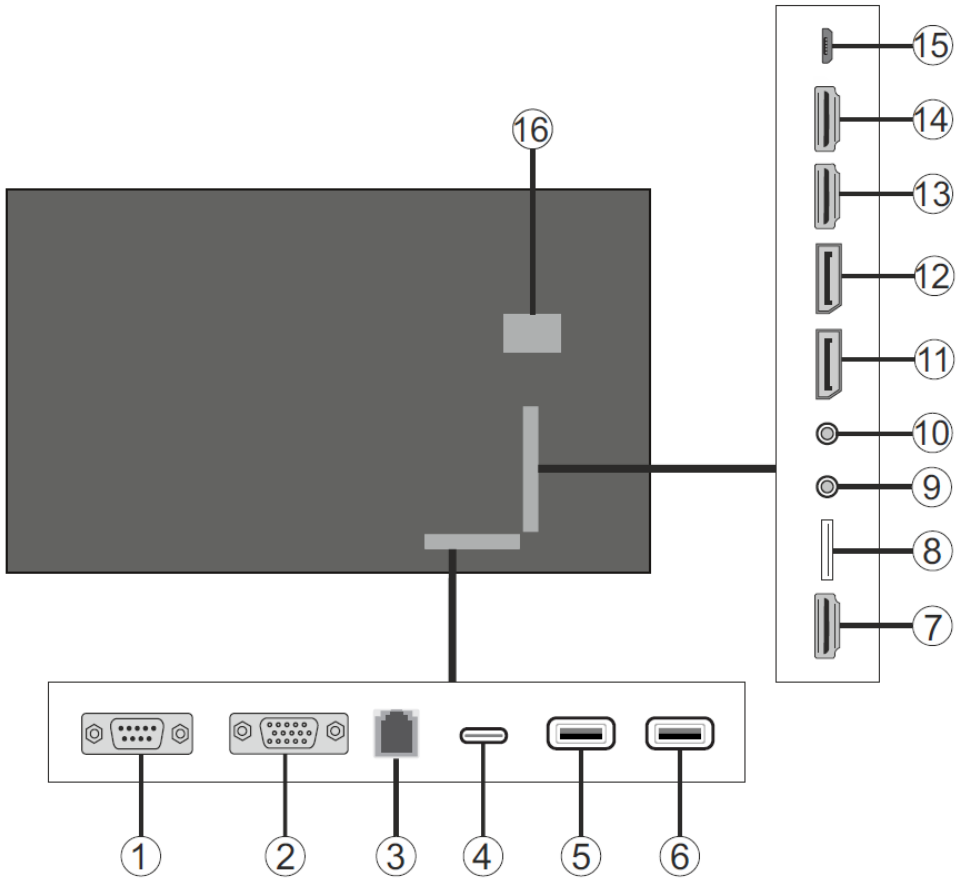
Without Android I/O Ports



1. RS232
2. VGA
3. Ethernet
4. USB Type-C
5. USB (2.0)
6. USB (2.0)
7. HDMI2 In
8. HDMI3 In
9. HDMI4 In
10. IR Input
11. Headphone/Line Out
12. DP In
13. DP Out
14. HDMI1 In
15. HDMI Out
16. Internal USB Compartment

MB135VS Main Board – I/O Ports

With Android I/O Ports

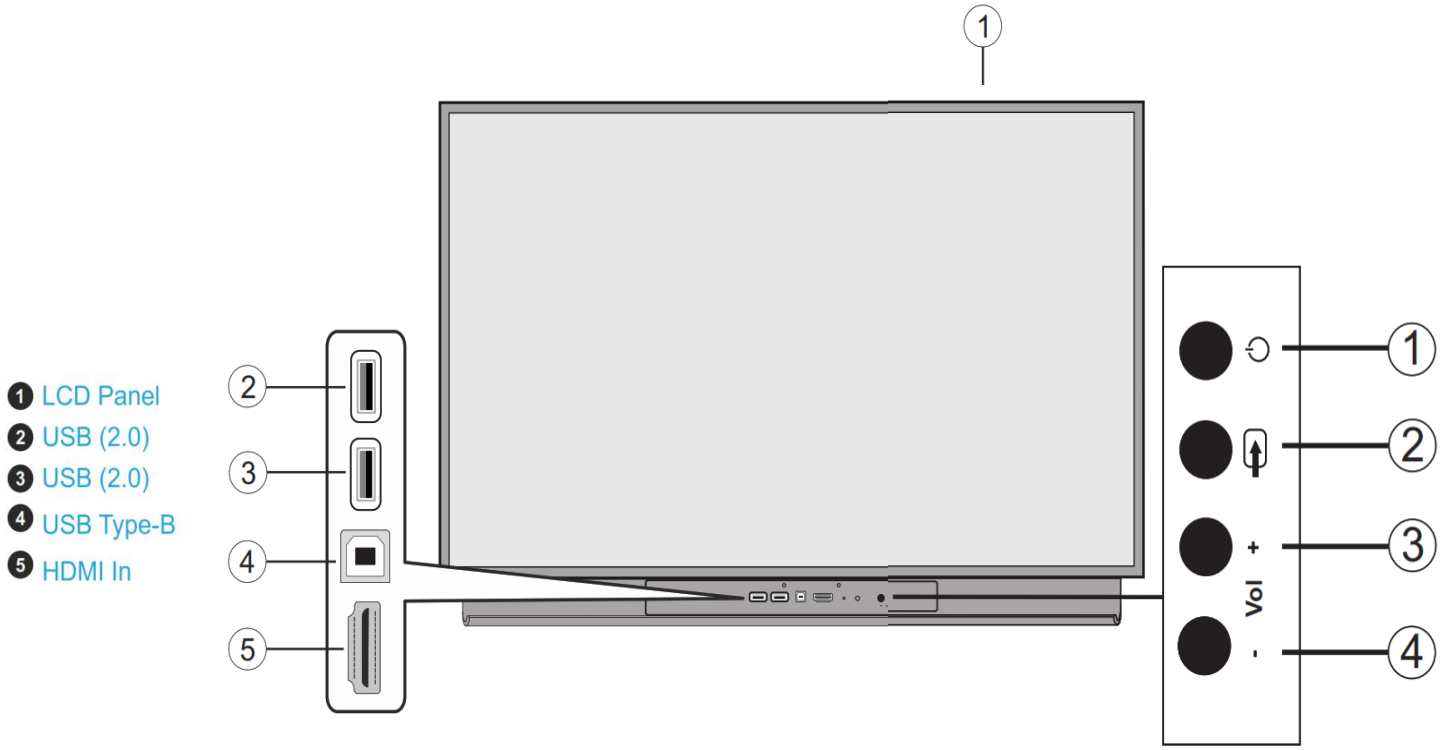


1. RS232
2. VGA
3. Ethernet
4. USB Type-C
5. USB (2.0)
7. HDMI2 In
9. IR Input
10. Headphone/Line Out
11. DP In
12. DP Out
13. HDMI1 In
14. HDMI Out
15. Micro USB
16. Internal USB Compartment

Android Sockets

6. USB (2.0)
8. Micro SD

Only IFX I/O Front Ports



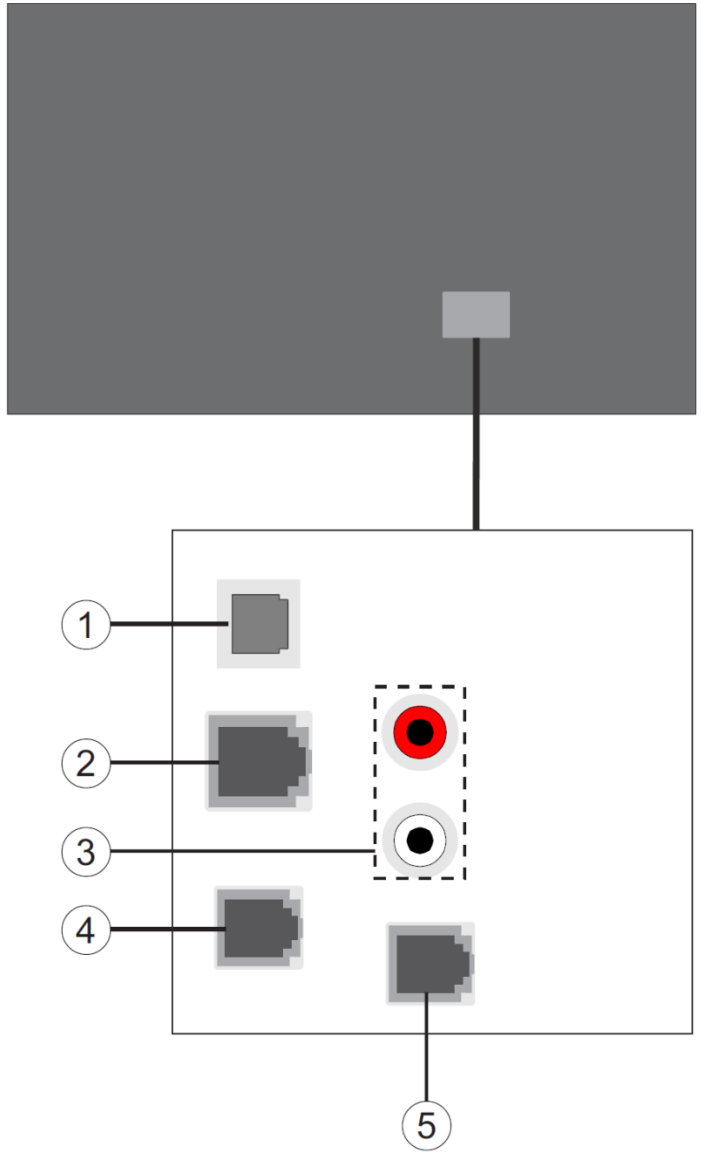
1. LCD Panel
2. USB (2.0)
3. USB (2.0)
4. USB Type-B
5. HDMI In

1. Standby/On
2. Source / Select in Display menu
3. Volume + / Move the focus right (when in Display menu)
4. Volume - / Move the focus left (when in Display menu)

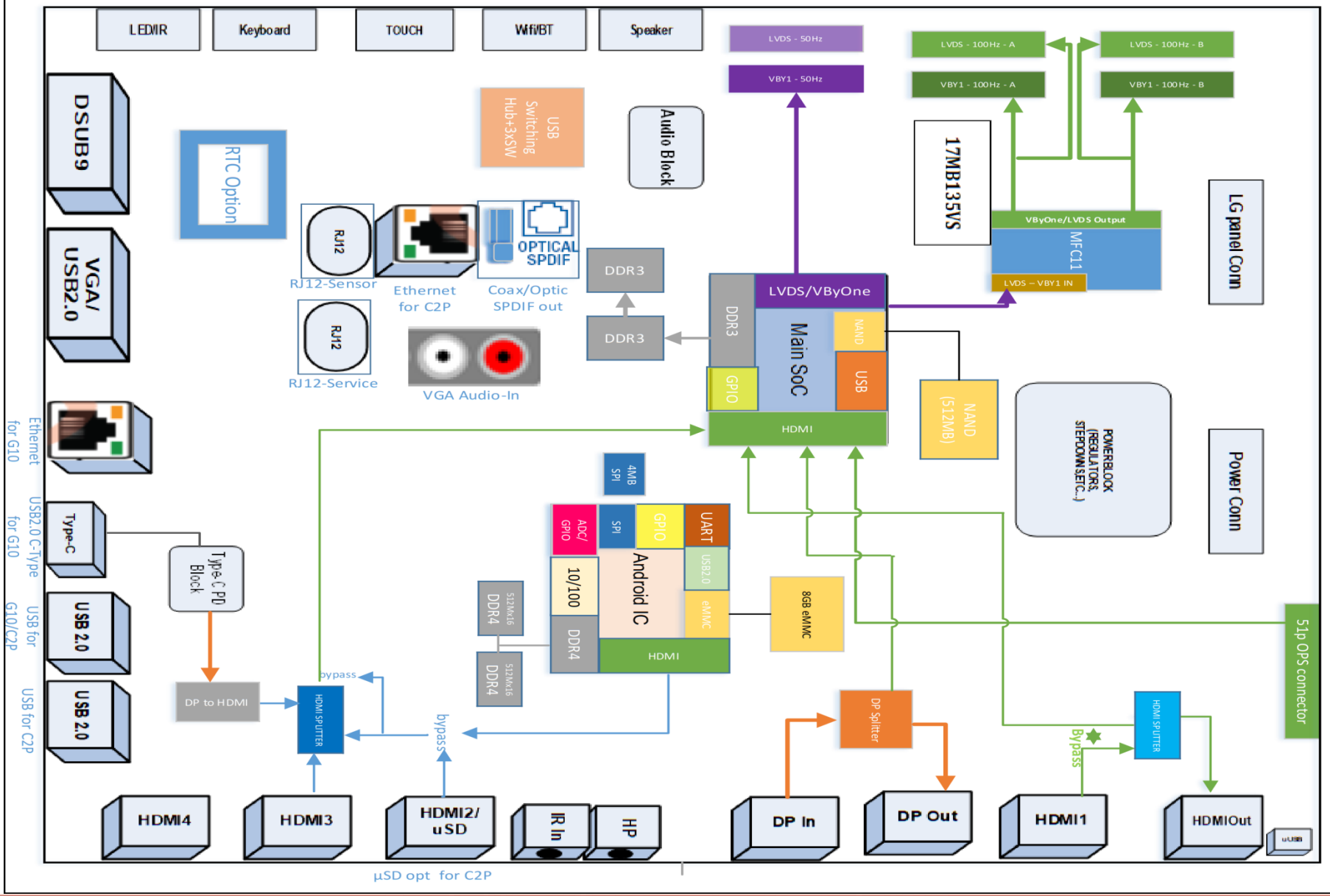
Note: *Main menu OSD cannot be displayed via joystick.*

MB135VS Main Board – I/O Ports

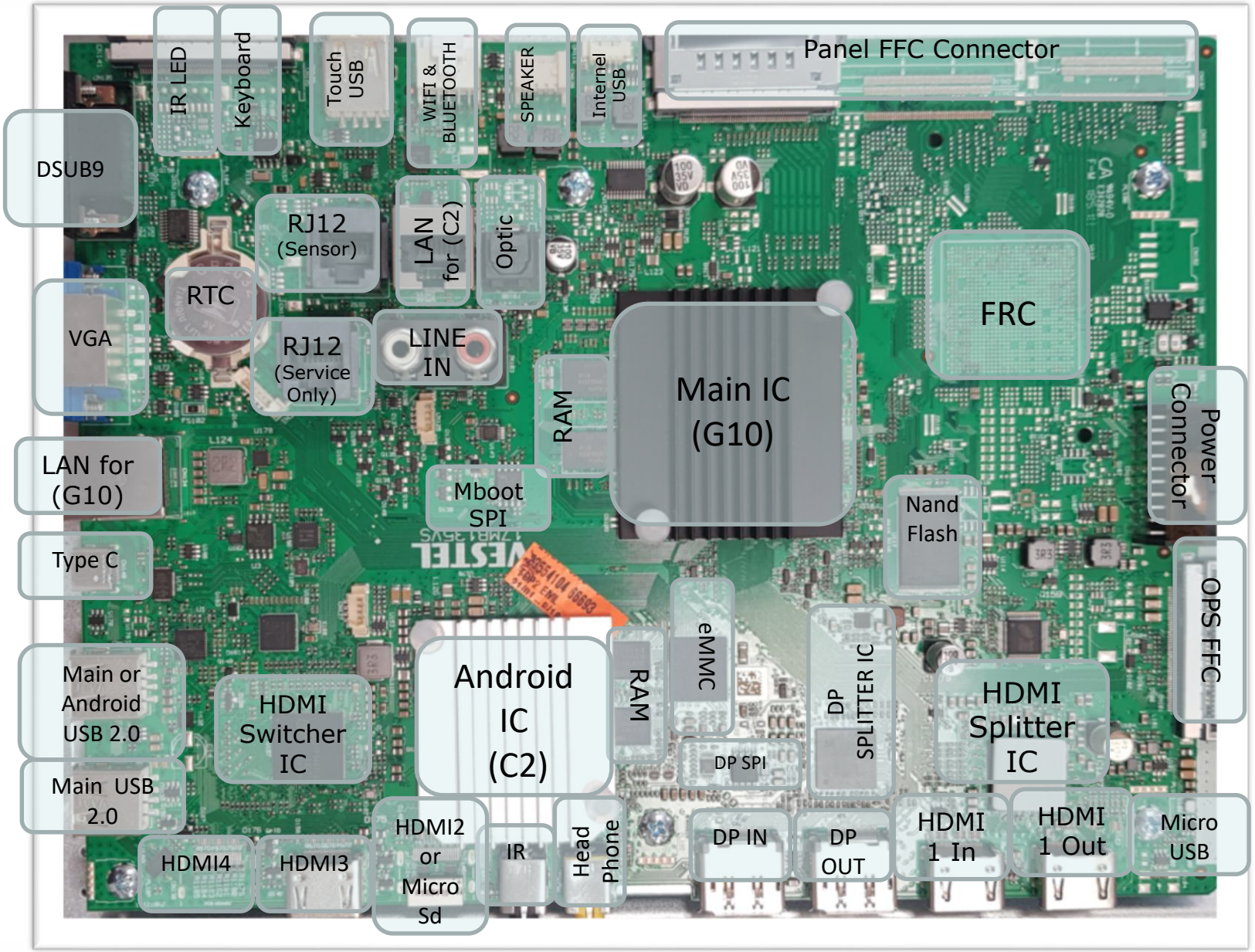
1. SPDIF Optical Out
2. Ethernet (for Android)
3. Audio In
4. RJ12 (for sensor)
5. RJ12 (service use only)



MB135VS Main Board - Detailed Block Diagram



MB135VS Chasis– Block Diagram - Top View



MB135VS Main Board – Details of Input/Output Blocks

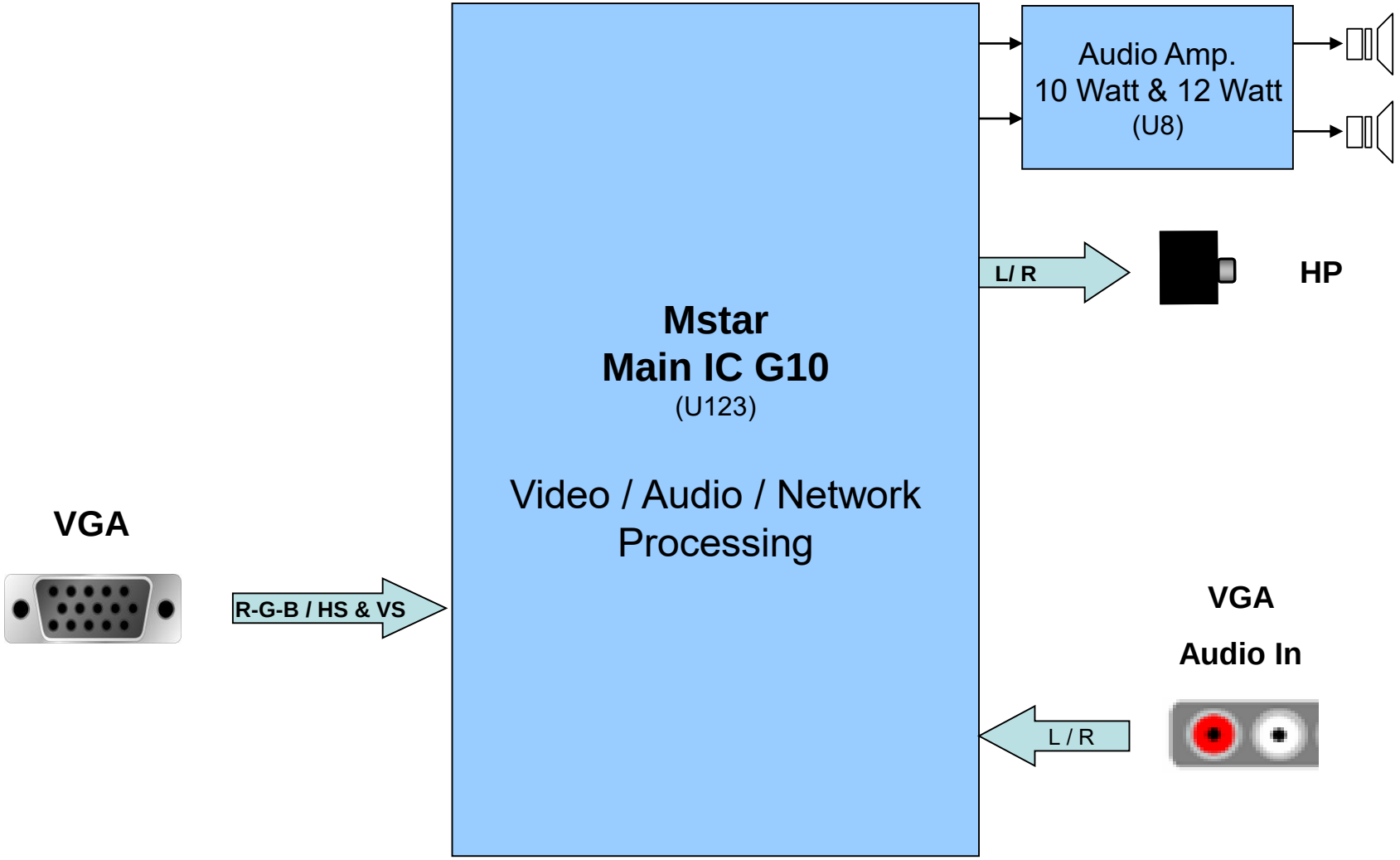
General Inputs & Outputs

- ✓ Analogue Signal Input/Output
  - VGA
  - Audio Line In/Out
- ✓ Digital Signal Input/Output
  - HDMI
  - DP
  - OPS
  - USB
  - Ethernet
  - UART (opt. RS232)

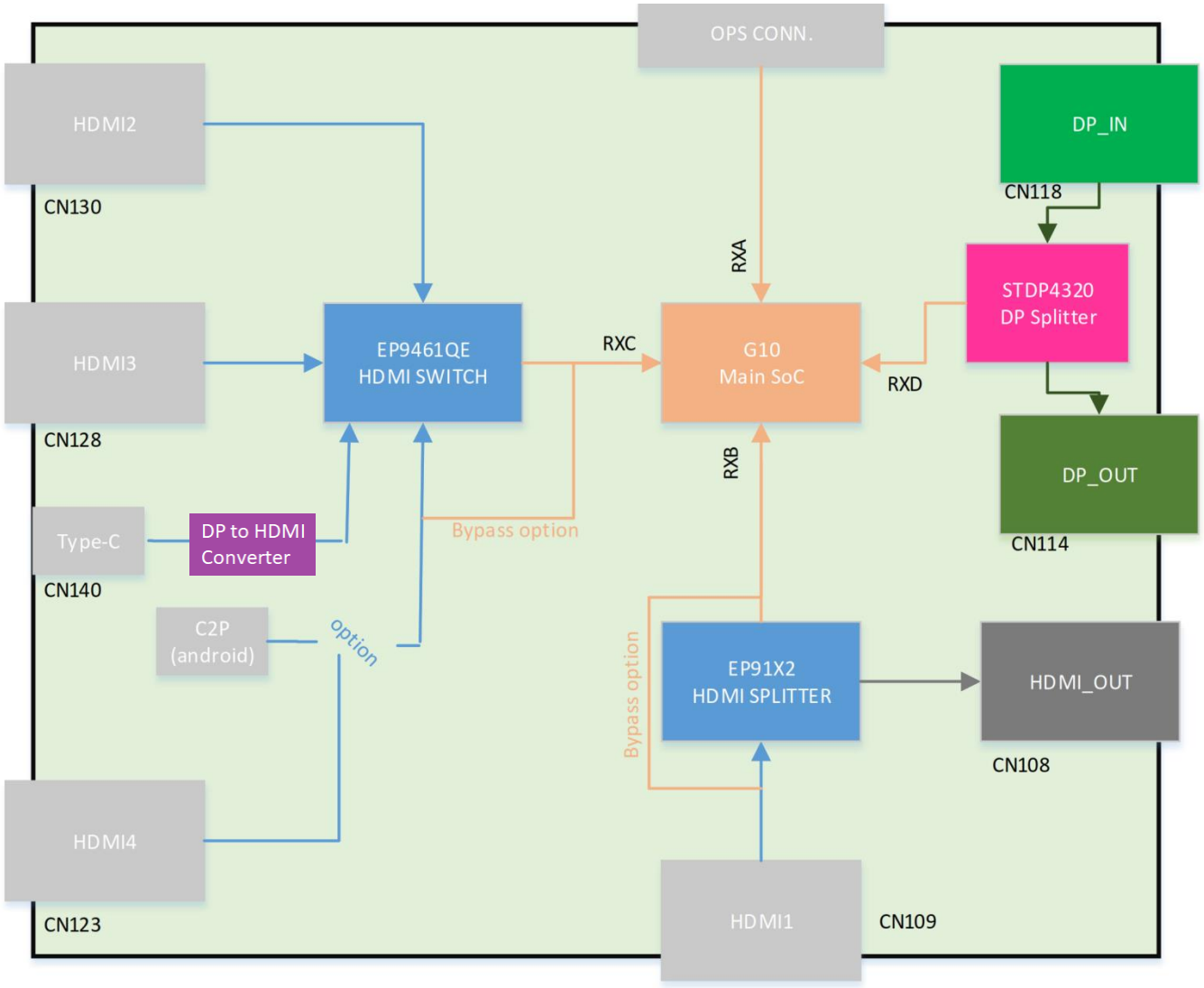
Mainboard Power Blocks

- ✓ +12Vdc
  - OPS & Panel
- ✓ +5Vdc
  - HDMI & DP & VGA
  - All USB Port
- ✓ +3.3Vdc
  - (G10) Nand & SPI Flash
  - UART (RS232)
  - IR Remote Controller
- ✓ +1.8Vdc : (C2) eMMC
- ✓ +1.5Vdc
  - (G10) DDR3 RAM
  - MFC Block
- ✓ +1.2Vdc : (C2) DDR4 RAM
- ✓ +1.0Vdc : (G10) & (C2) CPU Core

MB135VS Main Board - Analogue Signal Inputs & Outputs



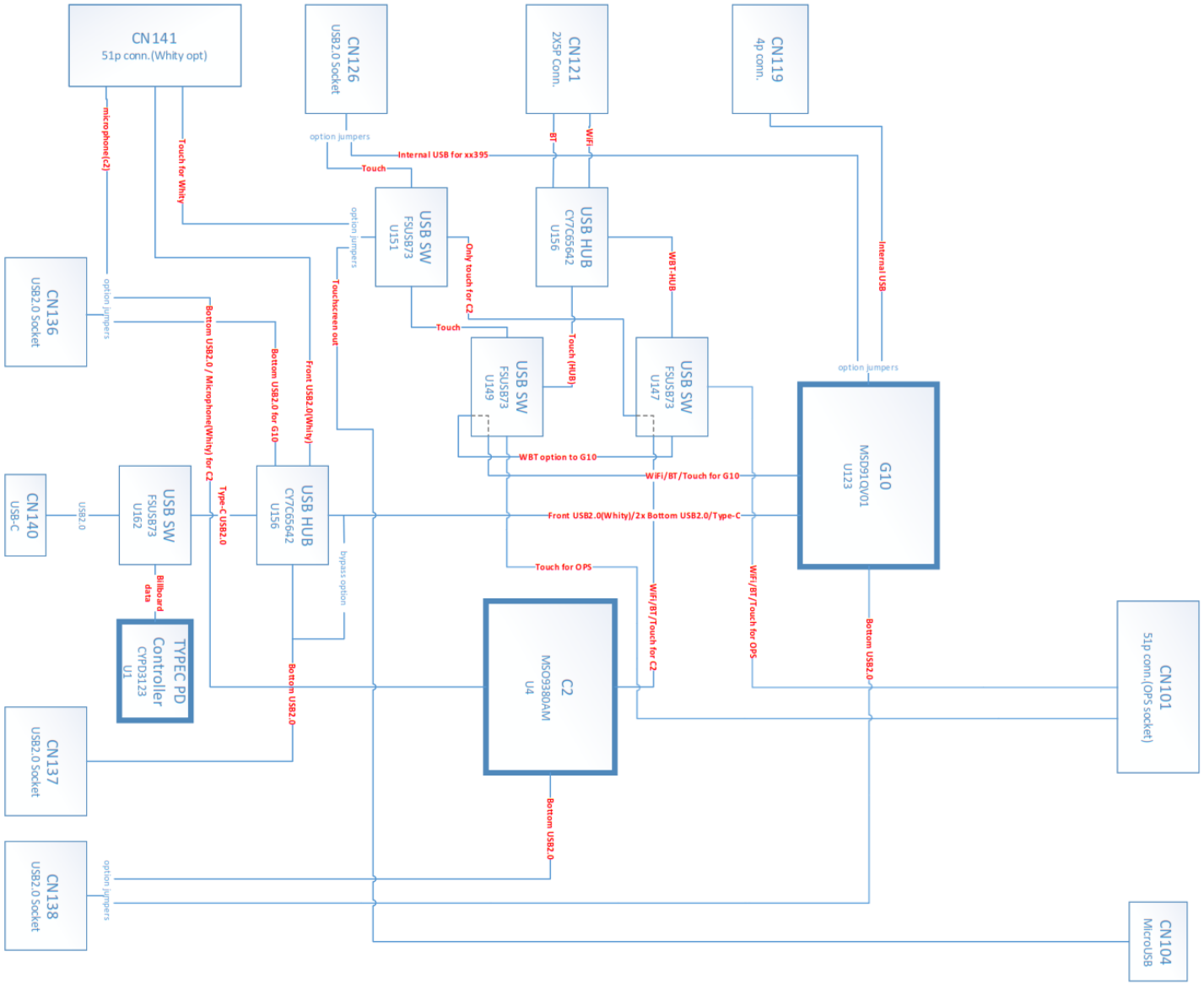
HDMI/DP/OPS/Type-C Inputs/Outputs



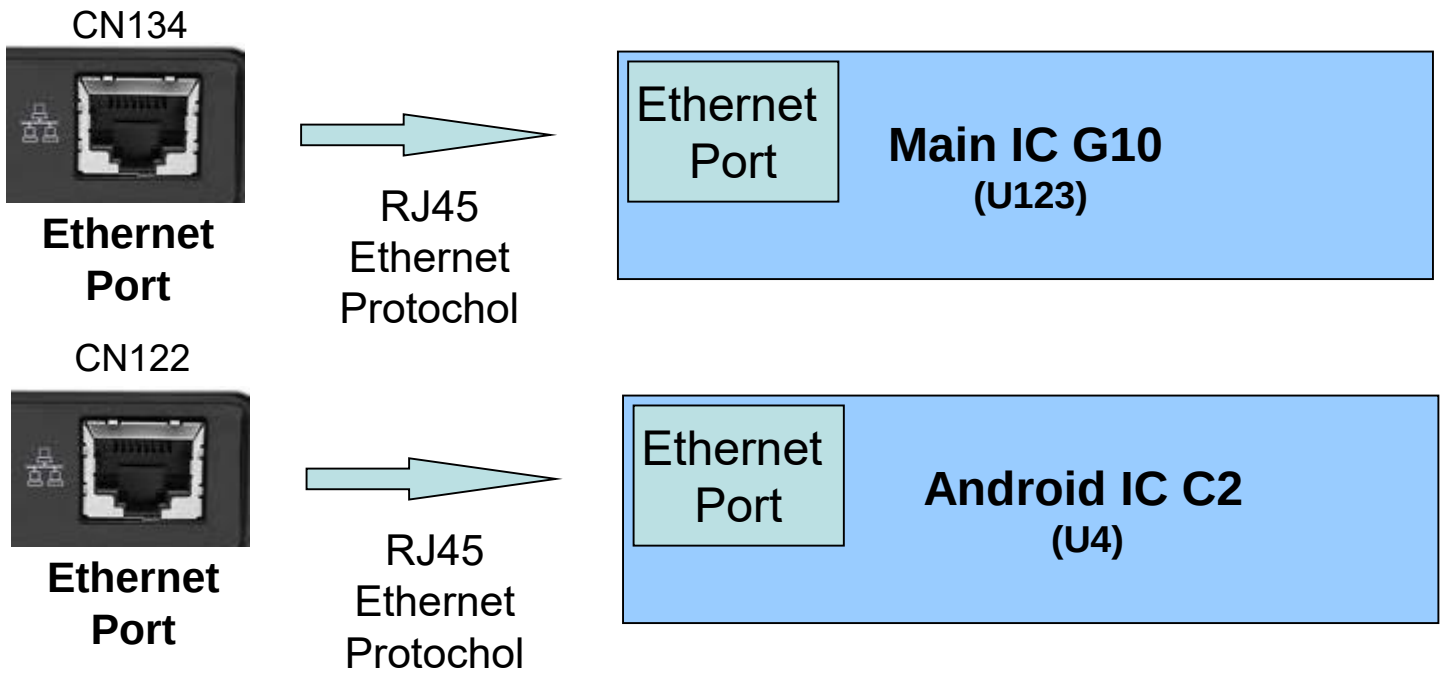
MB135VS Main Board - Digital Signal Inputs

VESTEL

USB

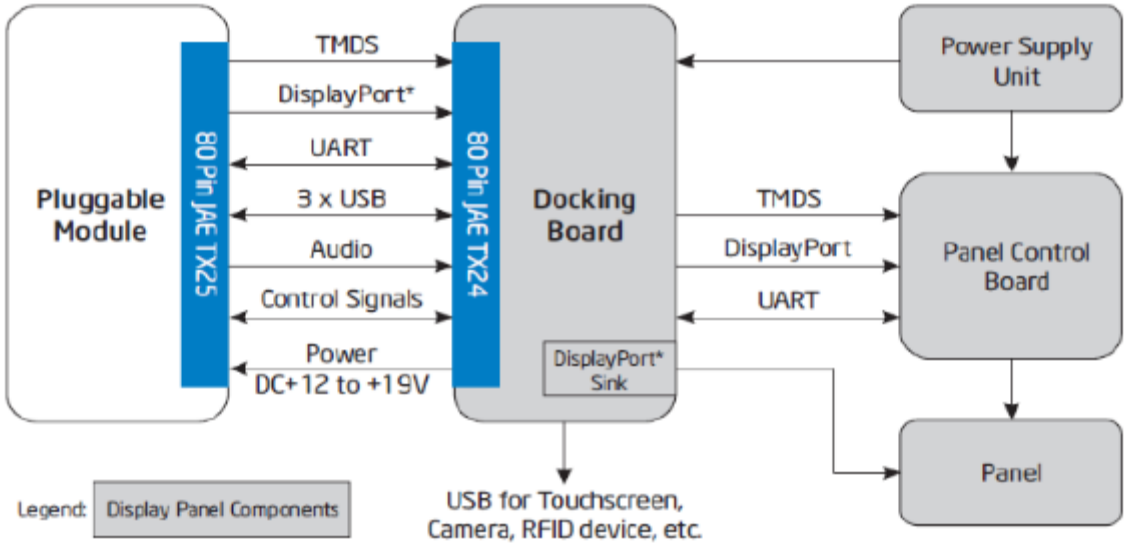


Ethernet



- **Mstar IC has integrated one ethernet interface.**
- **You can connect to interactive services like Facebook, YouTube, Flicker.**
- **SW can be updated from internet with ethernet interface.**

OPS Functional Block Diagram

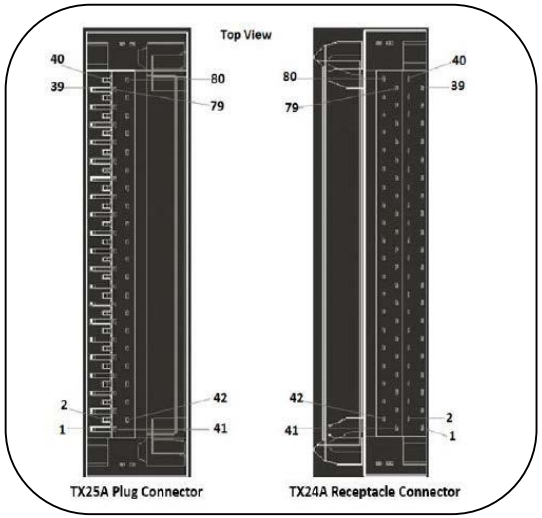


- ✓Power: DC IN +12V~+19V @ 5A max
- ✓Display Interface: DVI-D/TMDS and DisplayPort
- ✓Audio: Left and Right Channel
- ✓USB: 3*USB 2.0 (when USB3.0 is not used) or 2*USB 2.0 and 1*USB 3.0
- ✓UART: Serial communication (Tx and Rx only)
- ✓Control Signals: Pluggable Module Power Status, Power ON via display panel, Pluggable Board Detect, Consumer Electronics Control (CEC), and System Fan Control.

OPS Socket Pin Assignment

Pin No.	Signal	Description	I/O
40	+12V~+19V	Power	-
39	+12V~+19V	Power	-
38	+12V~+19V	Power	-
37	+12V~+19V	Power	-
36	+12V~+19V	Power	-
35	+12V~+19V	Power	-
34	+12V~+19V	Power	-
33	+12V~+19V	Power	-
32	GND	Ground	-
31	DVI_HPD	DVI-D	IN
30	DVI_DDC_CLK	DVI-D	I/O
29	DVI_DDC_DATA	DVI-D	I/O
28	GND	Ground	-
27	TMDS2+	DVI-D	OUT
26	TMDS2-	DVI-D	OUT
25	GND	Ground	-
24	TMDS1+	DVI-D	OUT
23	TMDS1-	DVI-D	OUT
22	GND	Ground	-
21	TMDS0+	DVI-D	OUT
20	TMDS0-	DVI-D	OUT
19	GND	Ground	-

Pin No.	Signal	Description	I/O
80	GND	Ground	-
79	GND	Ground	-
78	GND	Ground	-
77	GND	Ground	-
76	GND	Ground	-
75	GND	Ground	-
74	PWR_STATUS	PowerGood	OUT (OC)
73	PS_ON#	Pluggable Signal ON	IN
72	PB_DET	Pluggable Board Detect	OUT
71	CEC	Consumer Electronic Control	I/O
70	AZ_LINEOUT_R	Audio-Rch	OUT
69	AZ_LINEOUT_L	Audio-Lch	OUT
68	GND	Ground	-
67	USB_PP0	USB	I/O
66	USB_PN0	USB	I/O
65	GND	Ground	-
64	USB_PP1	USB	I/O
63	USB_PN1	USB	I/O
62	GND	Ground	-
61	USB_PP2	USB	I/O
60	USB_PN2	USB	I/O
59	GND	Ground	-

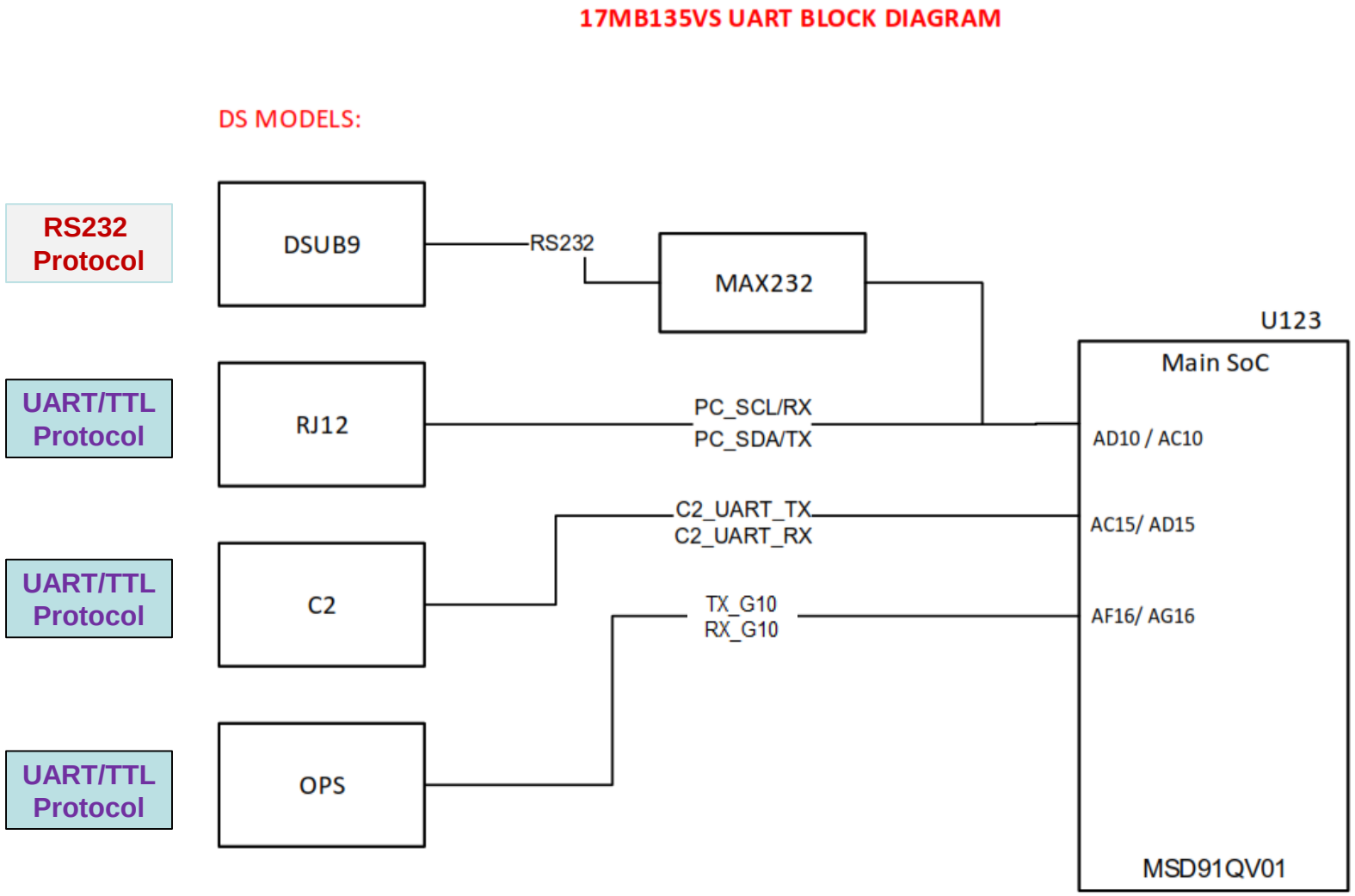


18	TMDS_CLK+	DVI-D	OUT
17	TMDS_CLK-	DVI-D	OUT
16	GND	Ground	-
15	DDP_HPD	DisplayPort	IN
14	DDP_AUXP	DisplayPort	I/O
13	DDP_AUXN	DisplayPort	I/O
12	GND	Ground	-
11	DDP_0P	DisplayPort	OUT
10	DDP_0N	DisplayPort	OUT
9	GND	Ground	-
8	DDP_1P	DisplayPort	OUT
7	DDP_1N	DisplayPort	OUT
6	GND	Ground	-
5	DDP_2P	DisplayPort	OUT
4	DDP_2N	DisplayPort	OUT
3	GND	Ground	-
2	DDP_3P	DisplayPort	OUT
1	DDP_3N	DisplayPort	OUT

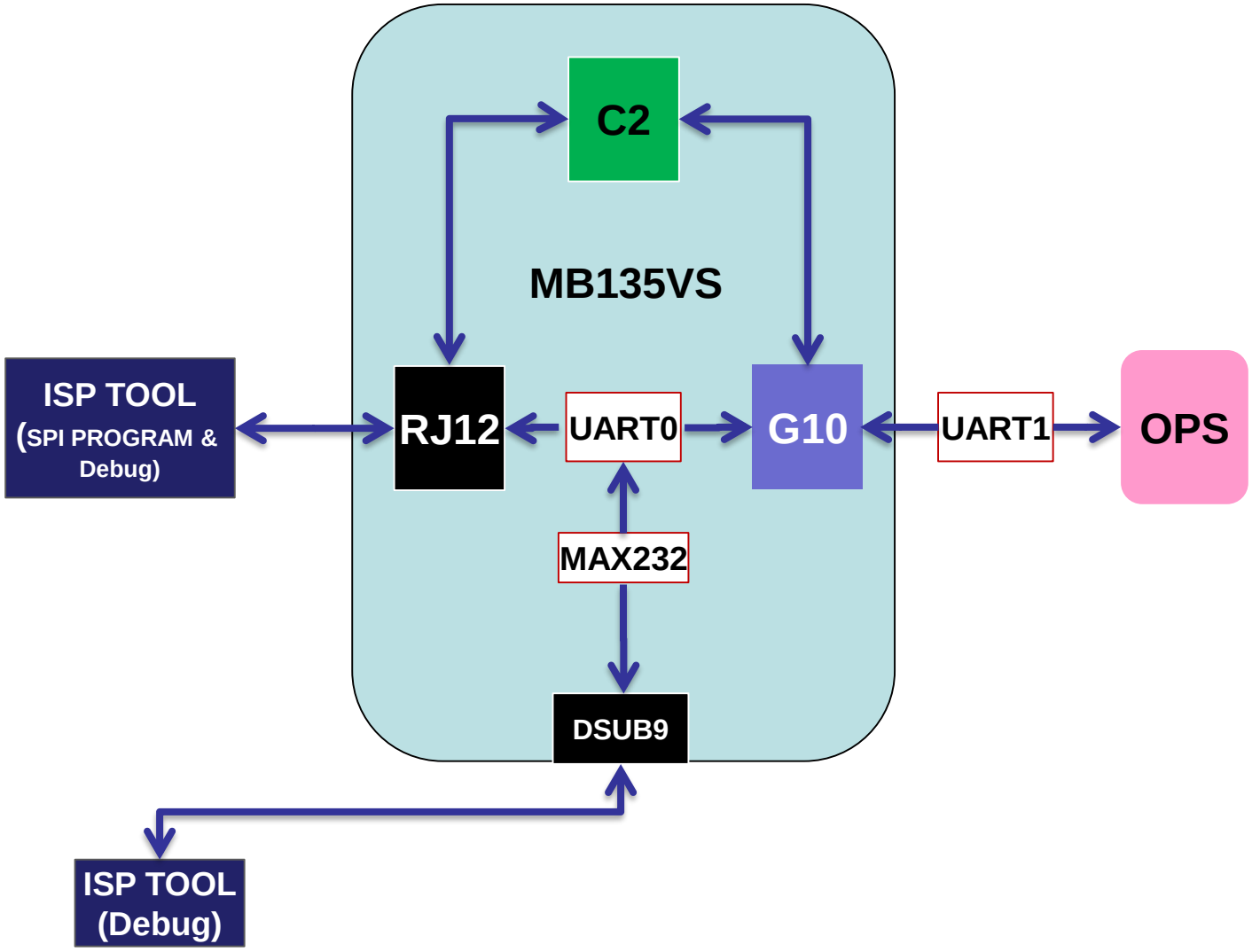
58	StdA_SSTX+	USB3.0	OUT
57	StdA_SSTX-	USB3.0	OUT
56	GND	GND	-
55	StdA_SSRX+	USB3.0	IN
54	StdA_SSRX-	USB3.0	IN
53	GND	Ground	-
52	UART_TXD	UART 3.3V	OUT
51	UART_RXD	UART 3.3V	IN
50	SYS_FAN	System Fan Control	OUT
49	RSVD	Reserved pins	-
48	RSVD	Reserved pins	-
47	RSVD	Reserved pins	-
46	RSVD	Reserved pins	-
45	RSVD	Reserved pins	-
44	RSVD	Reserved pins	-
43	RSVD	Reserved pins	-
42	RSVD	Reserved pins	-
41	RSVD	Reserved pins	-

Note 1: The I/O column definition is in reference to the pluggable board
Note 2: OC= Open Collector

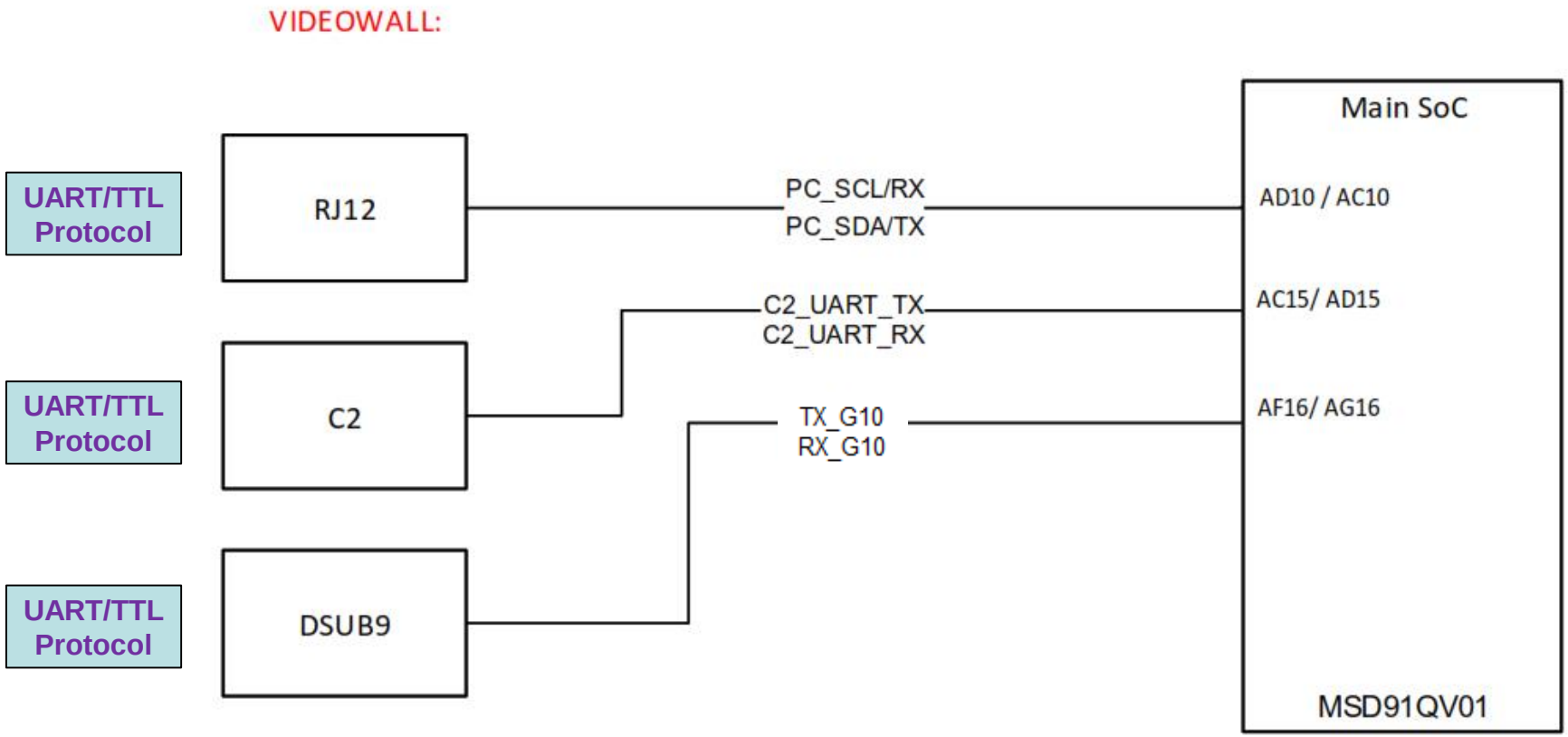
UART DS Block Diagram



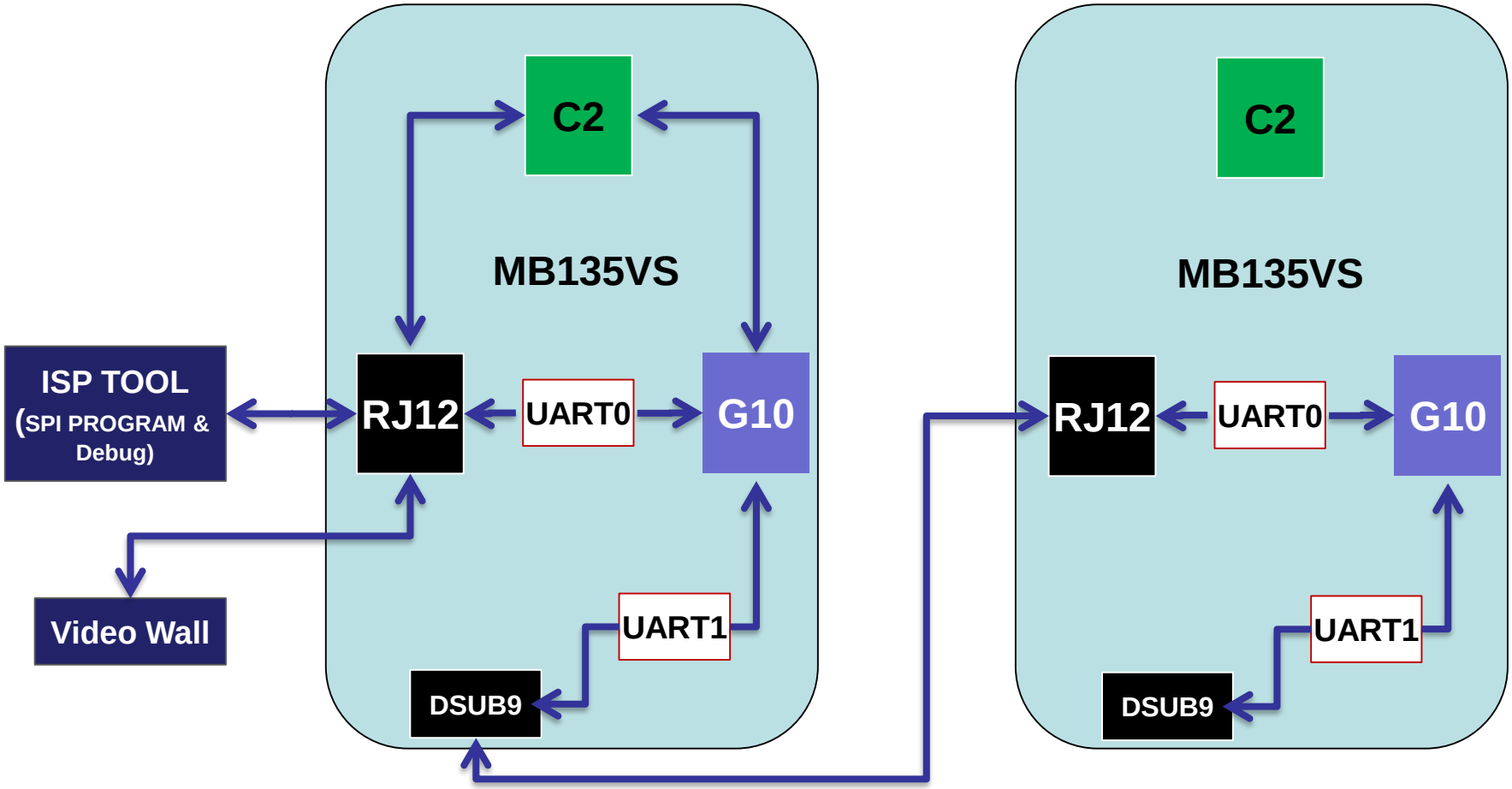
UART DS Block Diagram



UART Video Wall Block Diagram



UART Video Wall Block Diagram

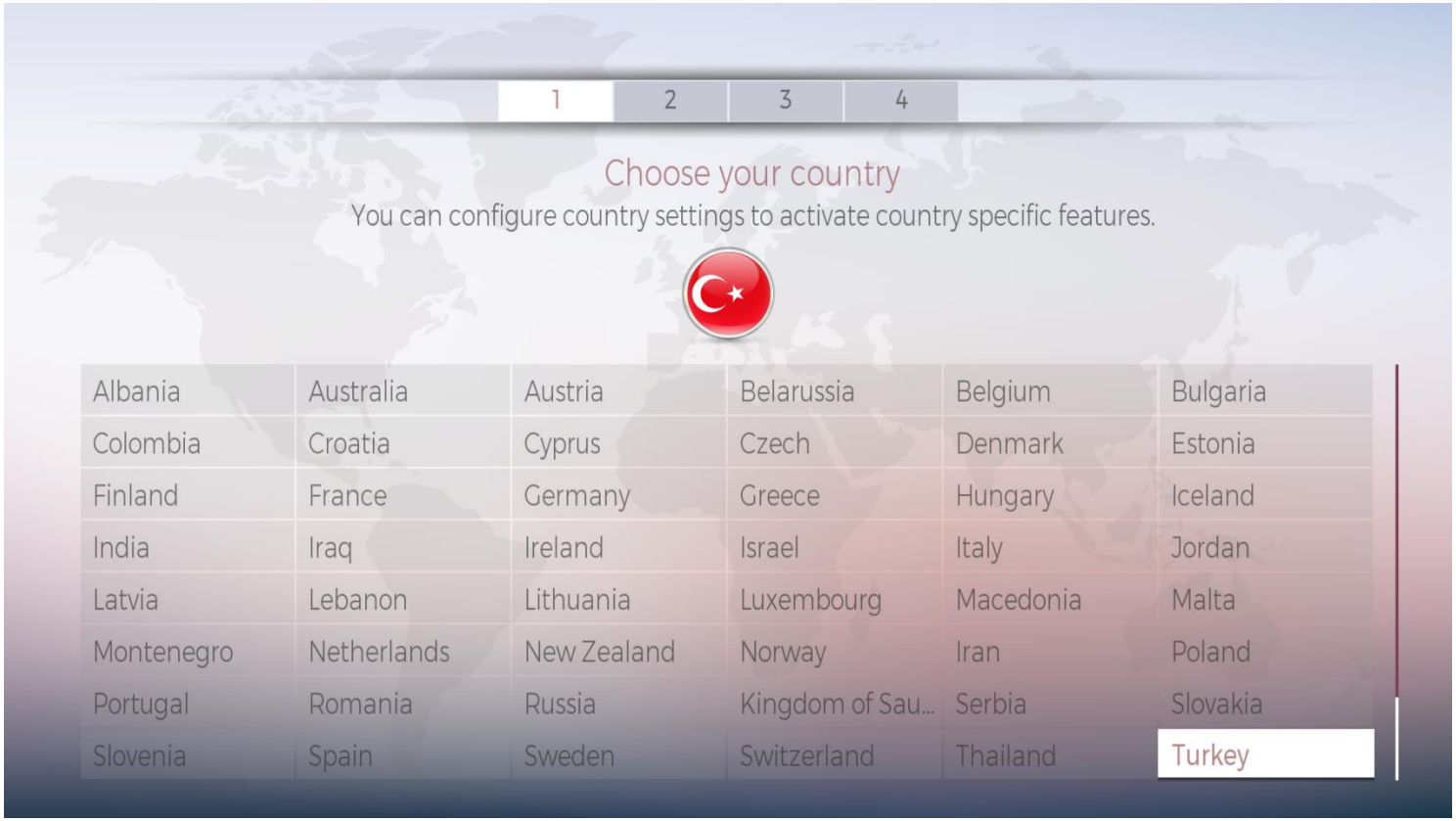


MB135VS
Menu Presentation

First Time Installation

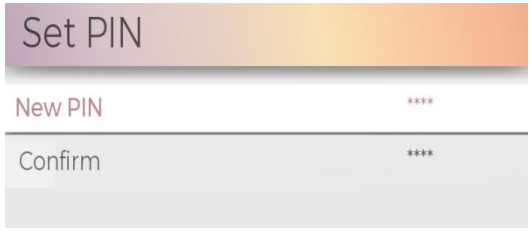
When turned on for the first time, the language selection screen will be displayed. Select the desired language and press OK.

First Time Installation

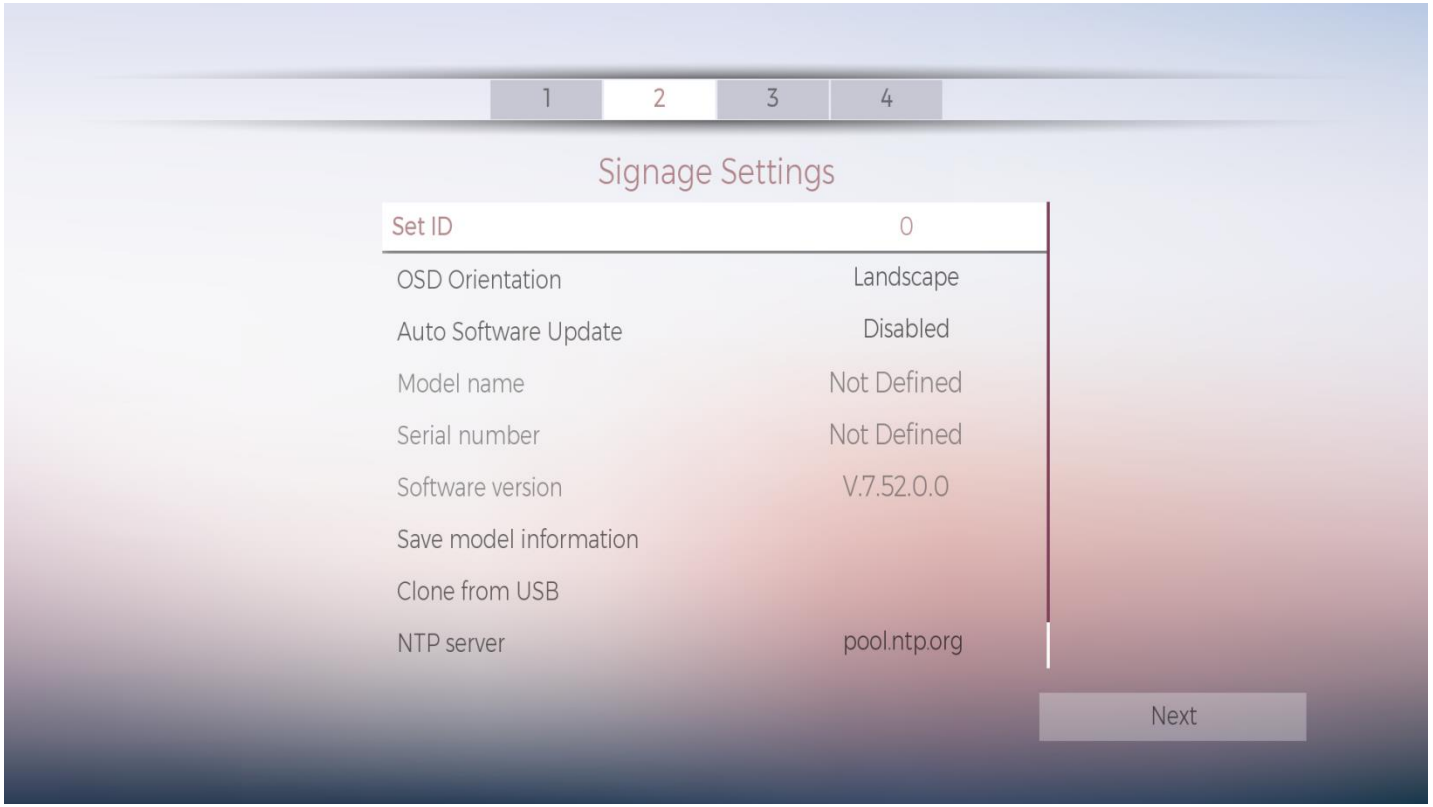


On the next screen, set your country preference and press OK to continue. (For TIME ZONE)

You will be asked to set and confirm a PIN at this point. You have to enter this PIN (For restart FTI and other Admin functions.)



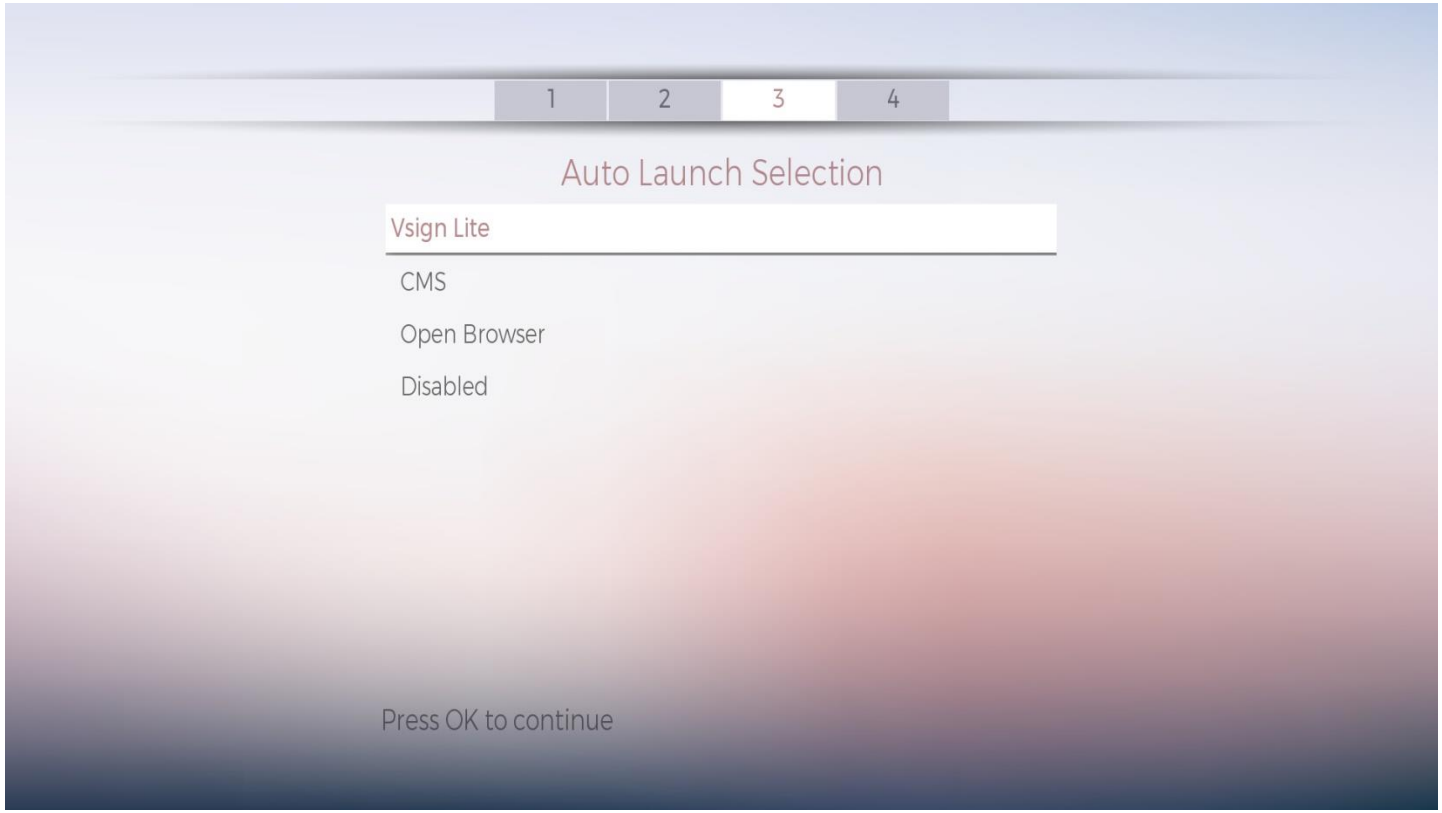
First Time Installation



The Signage Settings menu will be displayed next. Set ID, OSD Orientation, Auto Software Update options can be configured using this menu. Model name, Serial number and Software version options are for information only. They will be grayed out and not selectable.

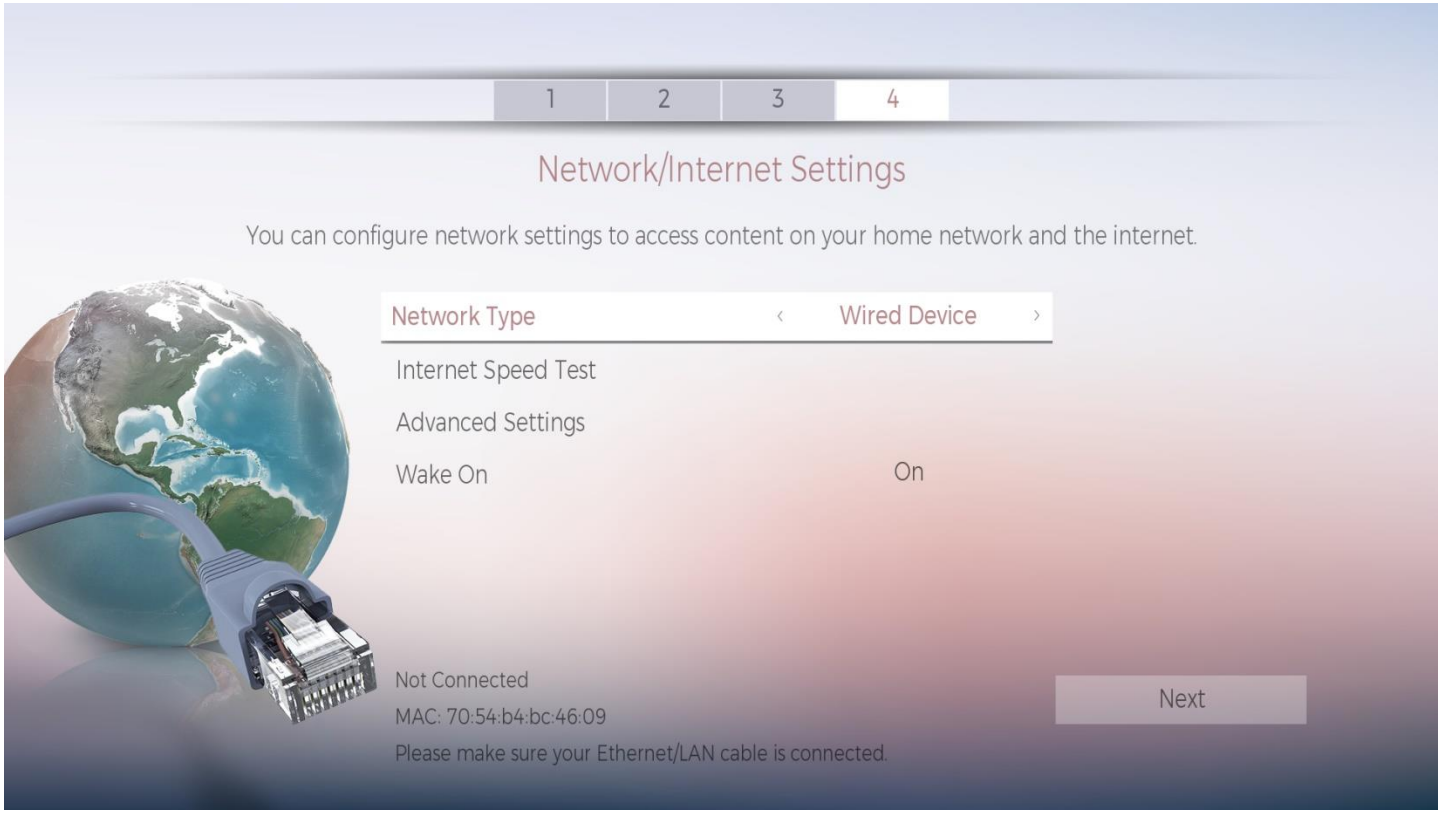
You can save the model information data of the Display to a connected USB device using the Save model information option. You can also copy database files from a connected USB device to the Display using the Clone from USB option.

First Time Installation



You can choose Vsign Lite , CMS (Start URL) , Open Browser or Disabled.

First Time Installation

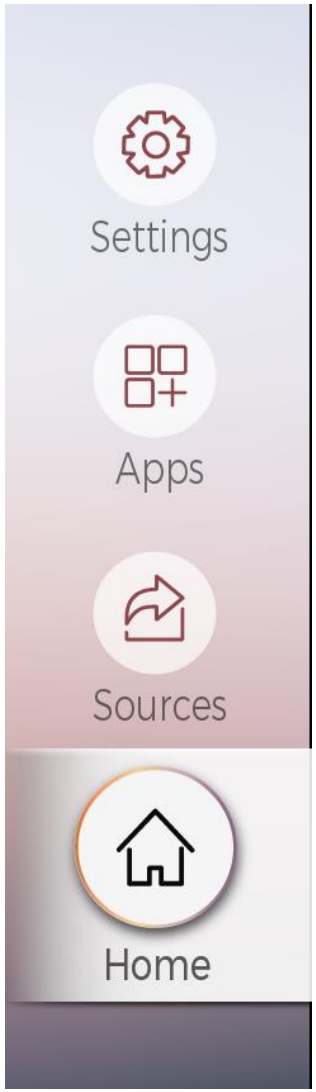


On the next screen, the Network/Internet Settings menu will be displayed. Please refer to Connectivity section to configure a wired or a wireless connection.

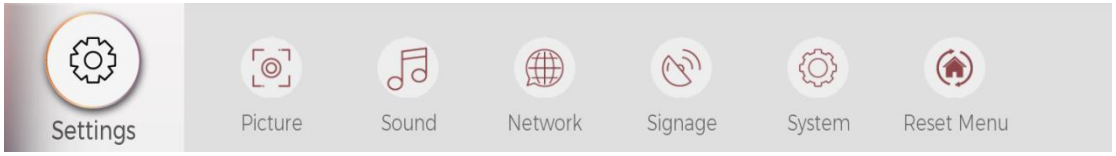
If you want your Display to consume less power in standby mode, you can disable the Wake On option by setting it as Off.

After the settings are completed highlight Next and press OK button to continue.The First Time Installation is completed.

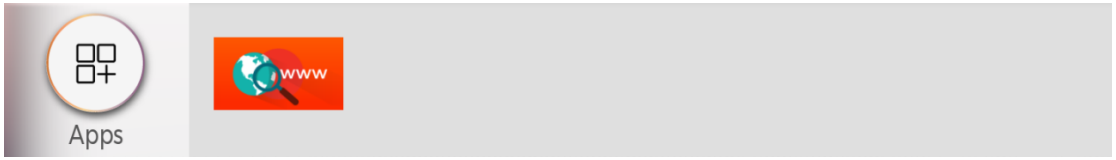
MENU



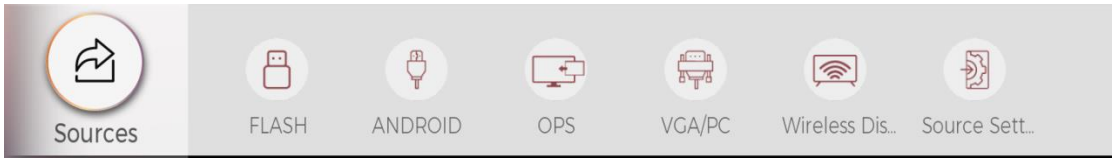
Settings: You can learn service settings and change operating settings for the product.



Apps: You can open internet browser.



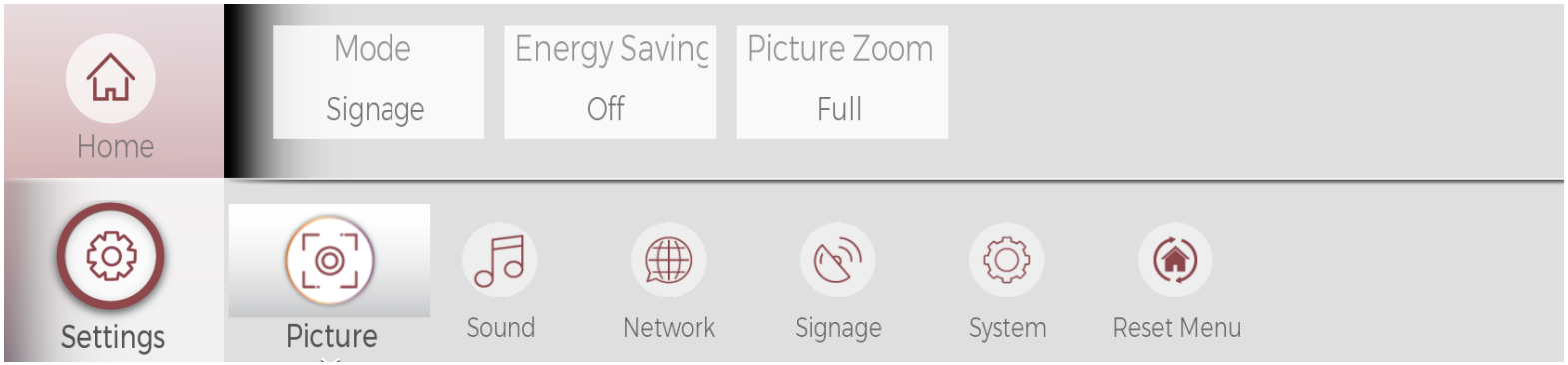
Sources : You can see the recently used source list.

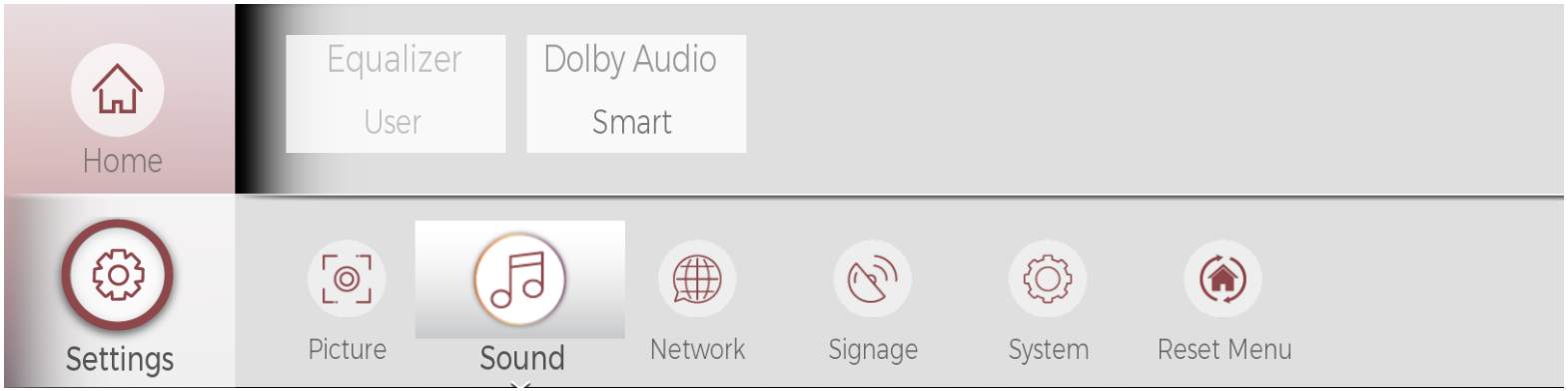


Home : You can add functions you use most recently

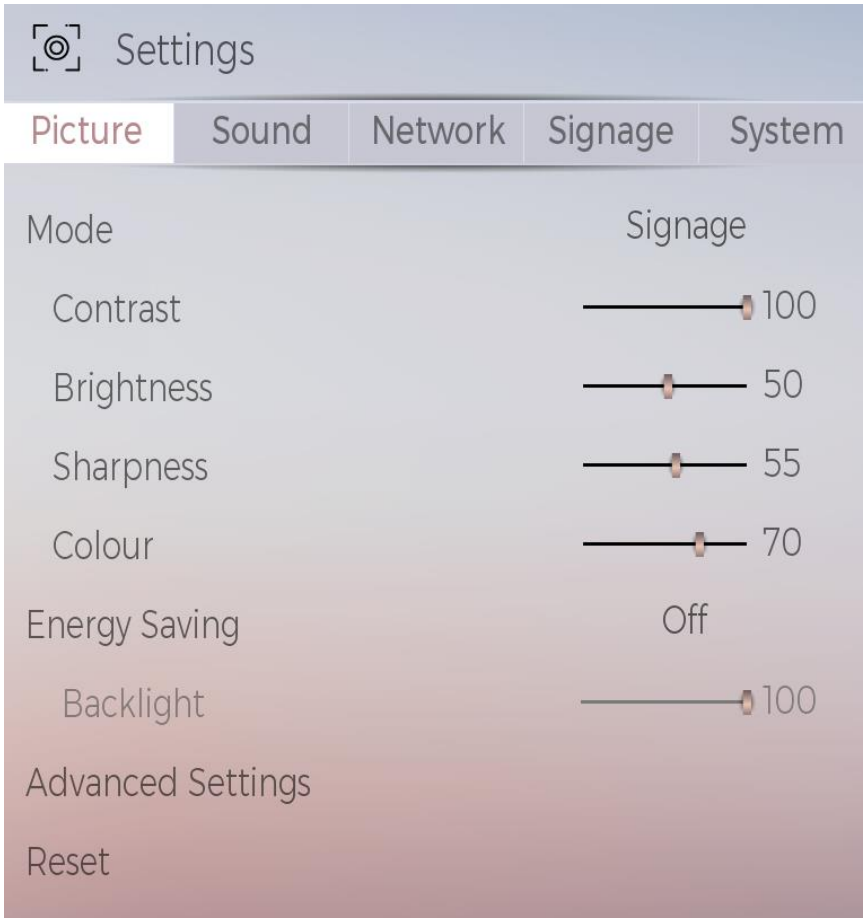
MENU➔Settings

Only Picture and Sound Options automatically appear when on it





MENU➔Settings➔Picture



Mode:

You can change the picture mode to suit your preference or requirements.
Picture mode can be set to one of these options:
Text, Game, Sports, Signage and Natural.

Contrast,Brightness,Sharpness,Colour:

You can fine-tune the default values for each picture mode.
Changed values are stored on each picture mode.

Energy Saving:

You can change backlight power of product.
If you set this option to Minimum, Medium, Maximum, Auto or Custom the Display will reduce energy consumption by regulating the backlight level accordingly.
Note: Available options may differ depending on the selected Mode

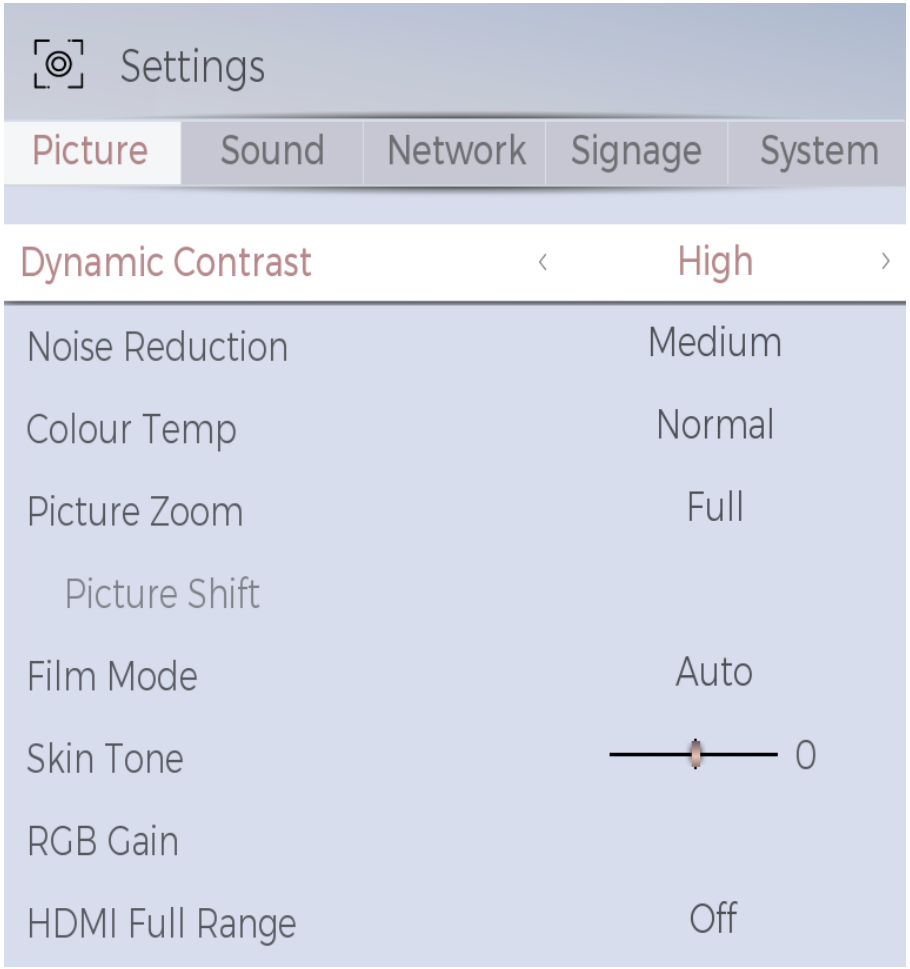
Backlight:

The backlight function will be inactive if the Energy Saving is set to an option other than Custom.

Reset:

Resets the picture settings to factory default settings

MENU➔Settings➔Picture ➔Advanced Settings



Noise Reduction:

Noise reduction is the process of removing noise from a signal. All signal processing devices, both analog and digital, have traits that make them susceptible to noise.

Colour Temp:

Warm (8500K) , Normal (9300K), Cool (13000K)

Picture Zoom:

Full (Default) , 16:9 , 14:9 , 4:3 , Cinema , Auto , as

Skin Tone:

Skin tone can be changed between -5 and 5.

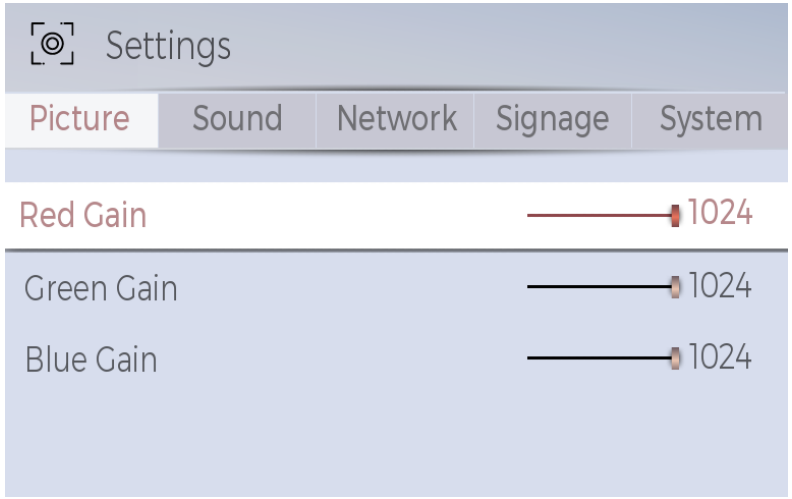
RGB Gain:

Adjust the strength of the red, green and blue colours. You can use this feature for fine adjustment of white balance in the picture.

HDMI Full Range:

While watching from a HDMI source, this feature will be visible. You can use this feature to enhance blackness in the picture.

MENU➔ Settings➔Picture ➔Advanced Settings➔RGB Gain

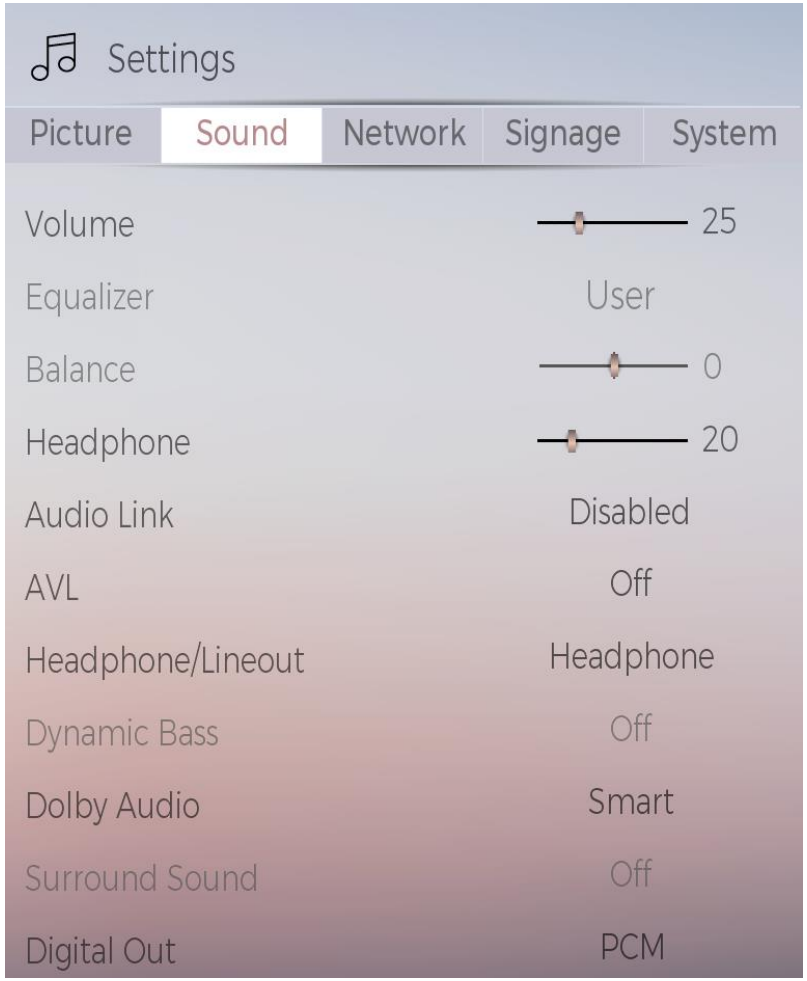


RGB Gain settings are used especially for the products used side by side.
You can easily do fine-tune on each product.

Adjust the strength of the red, green and blue colours. You can use this feature for fine adjustment of white balance in the picture.

Note: This option is important for Video Wall products

MENU➔Settings➔Sound



Audio Link:

Press OK to open the Audio Link menu screen. Using this screen you can discover and connect the sound devices to your Display wirelessly.

AVL(Automatic Volume Leveler):

Allows you to balance the volume levels between different television channels and source. In this way, abnormal sound increases and decreases are affected at the minimum level.
Options : Off (Default), Normal , Night , Auto

Headphone/Lineout:

When you connect an external amplifier to your Display using the headphone jack, you can select this option as Lineout. (Default value is Lineout.)
If you have connected headphones to the Display, set this option as Headphone.
if the headphone jack is plugged into the product, all audio is transferred via the headset only.

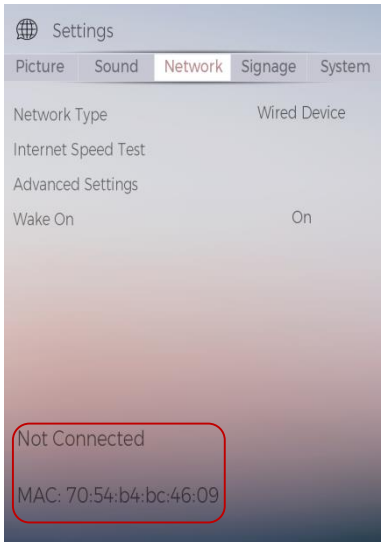
Dynamic Bass:

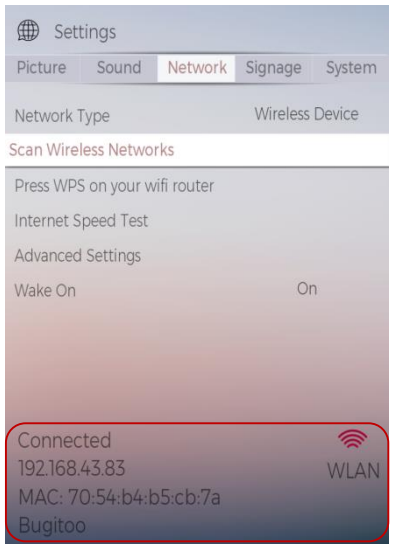
D-Bass provides powerful dynamic bass sound.

Dolby Audio:

Smart, Movie, Music, News and Off options will be available. Set as Off to disable.
Note: Some items in Sound menu will be grayed out and unavailable if set to an option other than Off.

MENU➔Settings➔Network





Network Type :

Select the type of network (Wireless or Wired)

Internet Speed Test :

You can do internet speed test easily.

Advanced Settings:

Select type of IP and DNS Configuration. You can set IP & DNS settings Automatic or Manuel

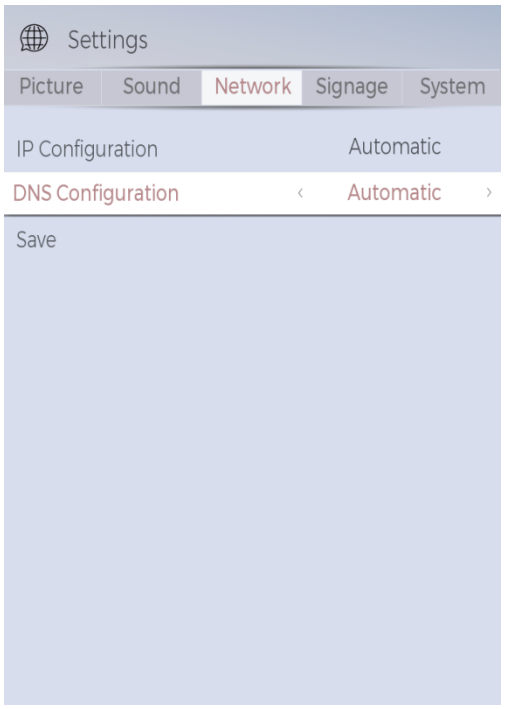
Pres WPS on your WIFI Router:

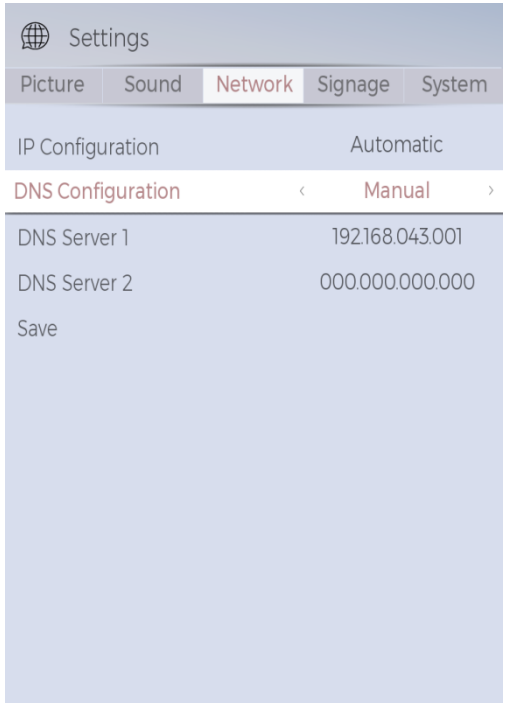
If your modem/router device has WPS, you can directly connect to it using this option. Highlight this option and press OK. Go to your modem/router device and press the WPS button on it to make the connection. This option will be available if the Network Type is set as Wireless Device.

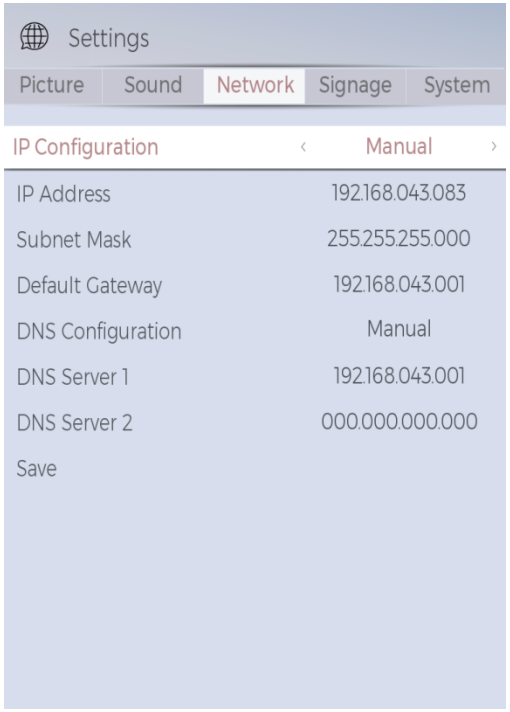
Red Circle:

The IP address appears, when connected to the internet. Also shows the MAC address of the device (Ethernet LAN or WIFI) connected to the Internet.

MENU➔Settings➔Network➔ Advanced Settings



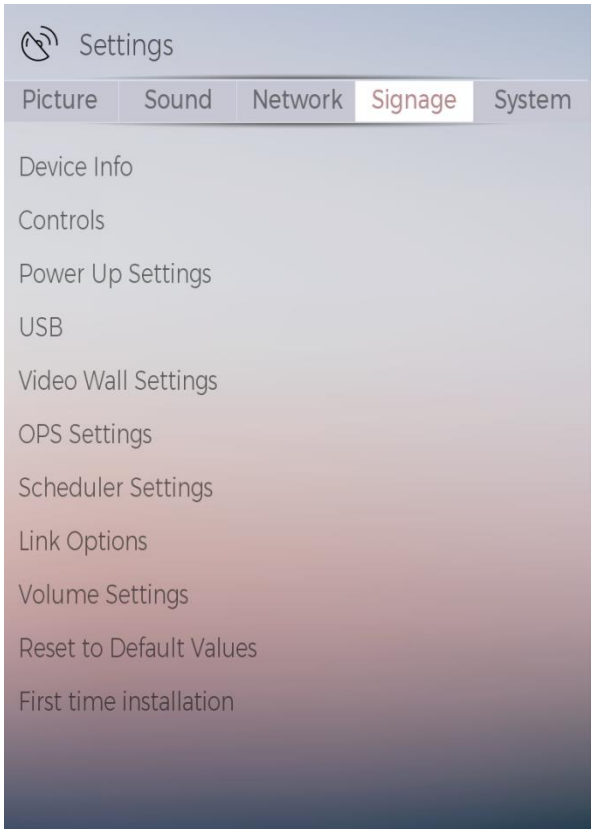




Note:

The IP address appears, when connected to the internet. Also shows the MAC address of the device (Ethernet LAN or WIFI) connected to the Internet.

MENU➔Settings➔Signage



Device Info,Control, Power Up Settings, USB, Video Wall Settings , Scheduler Settings, Link Options, Volume Settings:

Press OK to see available menu options.

Reset to Default Values:

Highlight this option and press the OK button on the remote to return the Display to default settings.

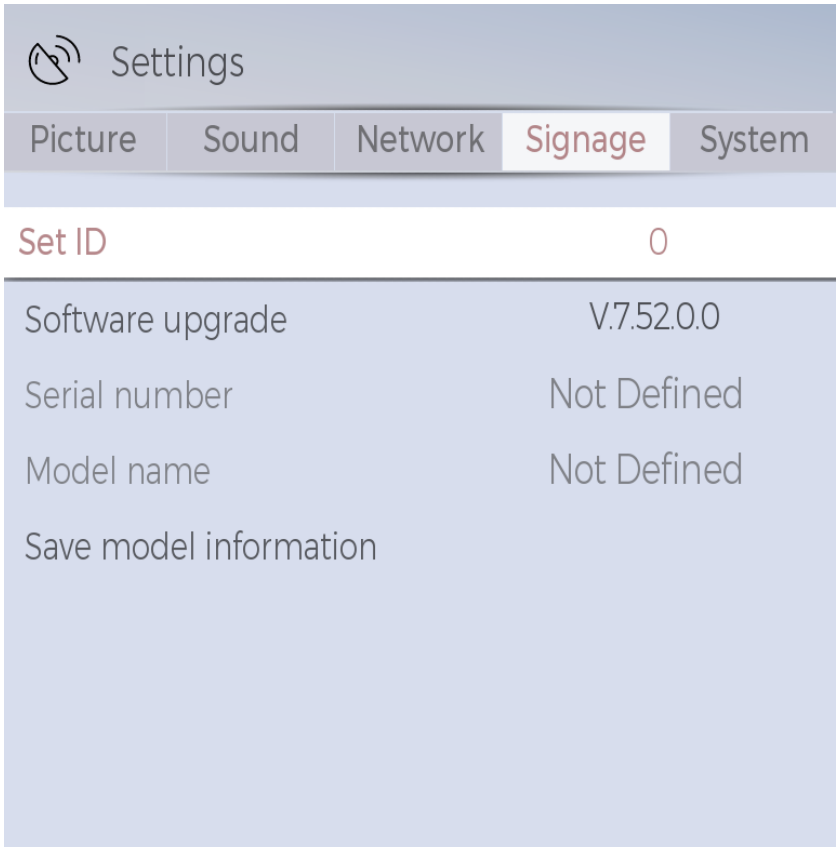
First Time Installation:

Highlight and press OK to perform First Time Installation and reset all settings to factory settings.
You will need to enter the correct PIN to carry out this operation.

Note: Enter the PIN you have defined during the First Time Installation process the desired time for the Display to automatically go into standby mode when not being operated.

If you have forgotten the pin code, you can also make FTI without the pin code in the service menu. (MENU 4+7+2+5)

MENU➔ Settings➔Signage➔Device Info



Set ID:

Product ID in the system. It is used in RS232 communication and communication with the product is performed by using this ID if any product in the system is to be commanded. You can select a value between 0-99 using the numeric buttons on the remote in order to identify your Display

Software Upgrade :

Displays current software version. Press OK to see the Upgrade options menu. You can use these options to start a manual search for software updates and set your automatic scan preference.

Save Model Information:

Copies the model information data of the unit to a connected USB device.

Display Life Time:

It shows the working time of the panel after the product is produced.

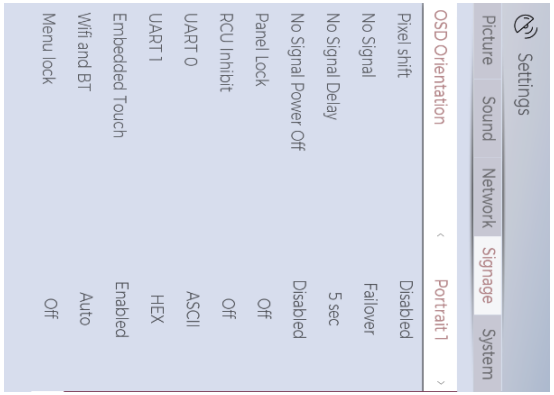
Serial Number:

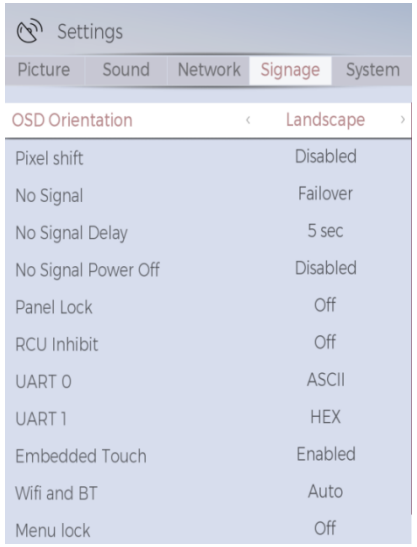
The serial number of the product which is written in production line. (Cannot changed by user)

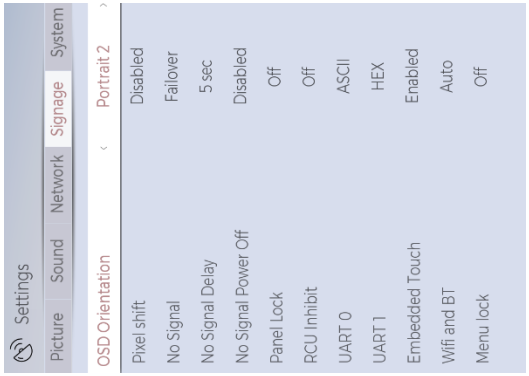
Model Name:

Model name of the product which is written in production line. (Cannot changed by user)

MENU➔ Settings➔Signage➔Controls





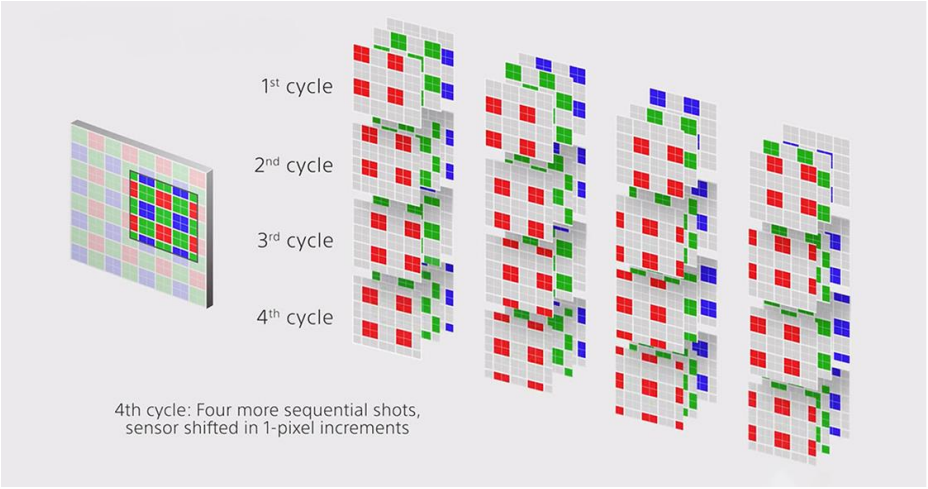


OSD Orientation:

Sets the only OSD (On Screen Display) rotation of your Display. Landscape and Portrait options are available.

Pixel Shift:

This option can be used to avoid image retention (after image effects) that can occur when displaying fixed patterns or still images for a long periods of time. If enabled, the picture and OSD (On-Screen Display) will be shifted at specified time intervals.



MENU➔ Settings➔Signage➔Controls

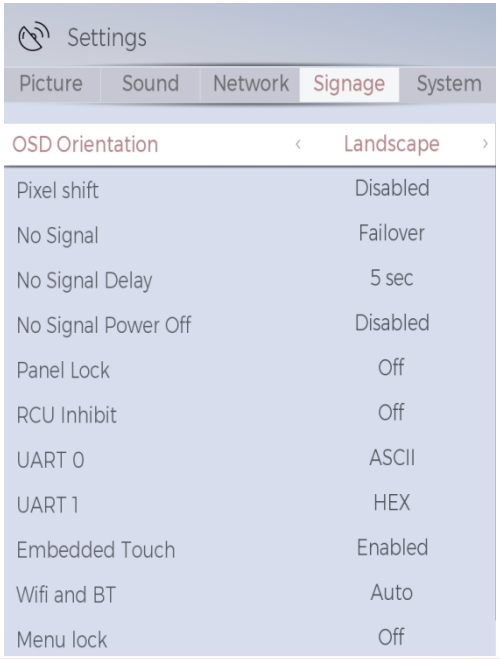
No Signal:

Sets the behavior preference of the Display, when no signal is detected from the currently set input source. Failover and Input Search options are available.

If Failover is selected the Display checks the connected USB device for available files to play. If no playable files are available or there is no USB device connected to the Display, the No Signal image will be displayed. If there isnât any No Signal Image available, No Signal OSD will be displayed on the screen.

Note:The setting of the USB Auto Play option in the Settings>System>More menu is not important, in Failover mode it will function anyway.

If Input Search is selected the Display will search all available input sources consecutively to find signal.
If no signal is detected from other available sources, No Signal OSD will be displayed and the Display will turn itself off after a period of 30 seconds.



No Signal Delay:

Sets a delay value to the ‘No Signal’ preferences when the Display is in No Signal state. Options : 5s , 10s ,…, max 60s

Note: If the No Signal option is set as Input Search, this option will not be available.

No Signal Power Off:

When enabled the Display will turn itself off after a period of 5 minutes, if no signal is received from the selected source.

This feature will only work if all of the following circumstances occur:

- **No Signal option is set as Failover.**
- **USB device is not connected to the Display / USB device is connected but there are no playable files installed in the USB device.**

Note: If the No Signal option is set as Input Search, this option will not be available.

MENU➔ Settings➔Signage➔Controls

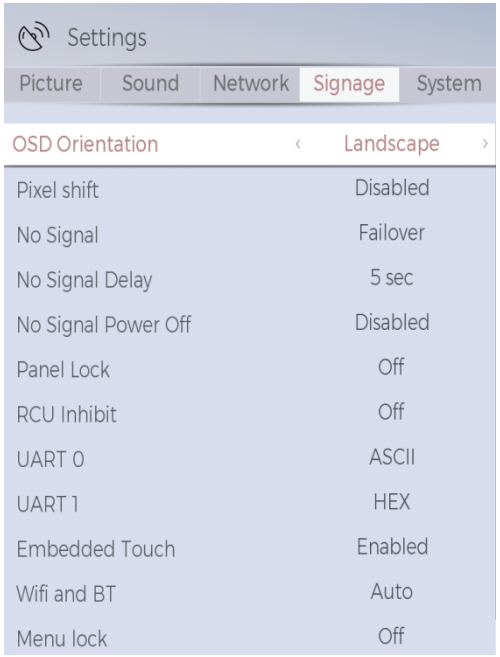
Panel Lock:

Set as On to inhibit the use of the joystick buttons on the Display.

RCU Inhibit:

Set as On to inhibit the use of the remote. Remote control will function in Stand-By mode independently from the setting of this option.

To turn this option off and be able to use the remote again, press MENU-1-9-7-3 buttons on the remote consecutively. Signage Settings menu will appear. Enter the Controls menu and set this option as Off.
Note: Only work volume up/down function on RC in RCU inhibit mode ON.



UART 0:

Default value is ASCII. If it is wrongly changed to HEX while debug logs are enabled, revert the selection to ASCII and reboot the Display in order to correct the debug logs and the ASCII protocol behaviour.

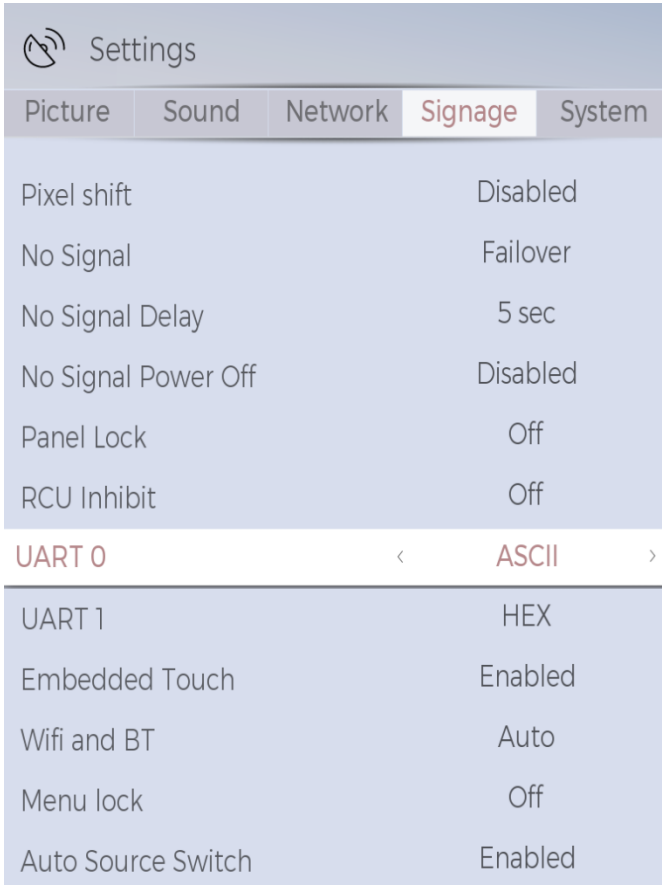
Communication ports between
For DS: RJ12-G10-DSUB9 / For VW: RJ12-G10
Note: Also note that HEX protocol will work with the baud rate value 19200 for UART 0.

UART 1:

Default value is HEX. Note that ASCII/HEX selection is always working as expected. It does not matter if the debug logs are enabled or not.

Communication ports between:
For DS: G10-OPS / For VW: G10-DSUB9
Note: Also note that HEX protocol will work with the baud rate value 9600 for UART 0.

MENU➔ Settings➔Signage➔Controls



Embedded Touch:

This option is only available for IFPD products and Overlay Touch KIT

Note: if touch cable is inserted from the internal USB zone on Overlay TK.

WIFI and BT:

Sets the source option for these funtions. Auto, Display and Android options will be available.

Note: BT will not be functional for Android source.

Menu Lock:

You can block the usage of the menu button on the remote by setting this item as All menus. When you press the menu button, you will be asked to enter the PIN that you have defined in the First Time Installation. Set as Off to disable this function.

Auto Source Switch:

If this option is enabled the Display will switch to the currently active HDMI source automatically when a device is connected to the Display through the HDMI1 or HDMI2 input socket. Set as Enabled to enable this feature.

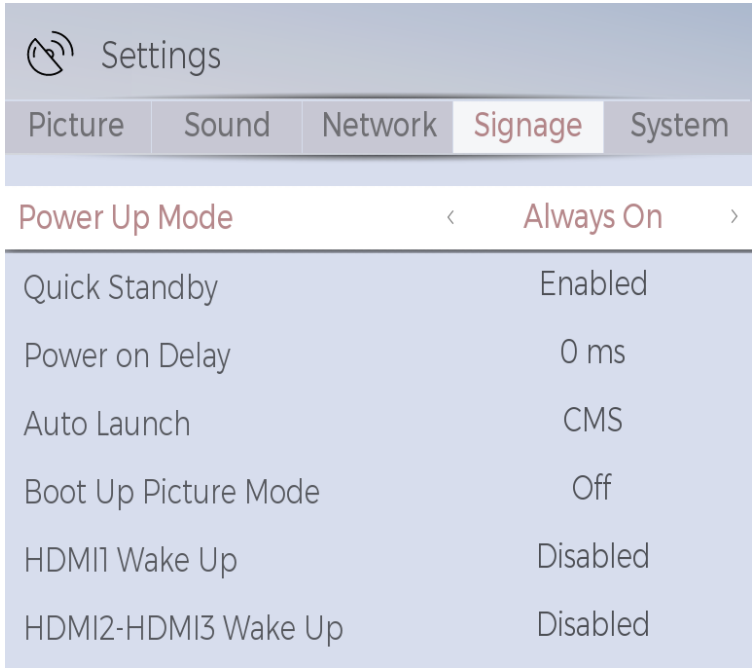
When the HDMI source is removed the Display will switch to other active HDMI source. If there isn't any other device connected to the Display:

- ✓ **If HDMI Wake UP option for the related HDMI source is enabled the Display will switch into the standby mode.**
- ✓ **If HDMI Wake UP option for the related HDMI source is disabled the Display will pass 'No Signal'and 'No Signal Power Off ' functions.**

Note: This feature applies for HDMI1 and HDMI2 input sockets only. Refer to the General View section to see the HDMI inputs.

There is also a 3- second restriction for the successive connected HDMI sources.

MENU➔ Settings➔Signage➔Power Up Settings



Power Up Mode:

Configures the power up mode preference when the power is gone. Last State, Always On (Standby OFF) and Standby ON options are available.

Quick Standby:

If this feature is enabled the Display can be turned on again with the RS232 and Lan commands if it is turned off through it. Press Left or Right button to enable or disable the feature.

Power On Delay:

Sets a delay value at power on. This value can be set from 0 to 2000 ms in steps of 100 ms. The Display will turn on after the set delay time is expired.

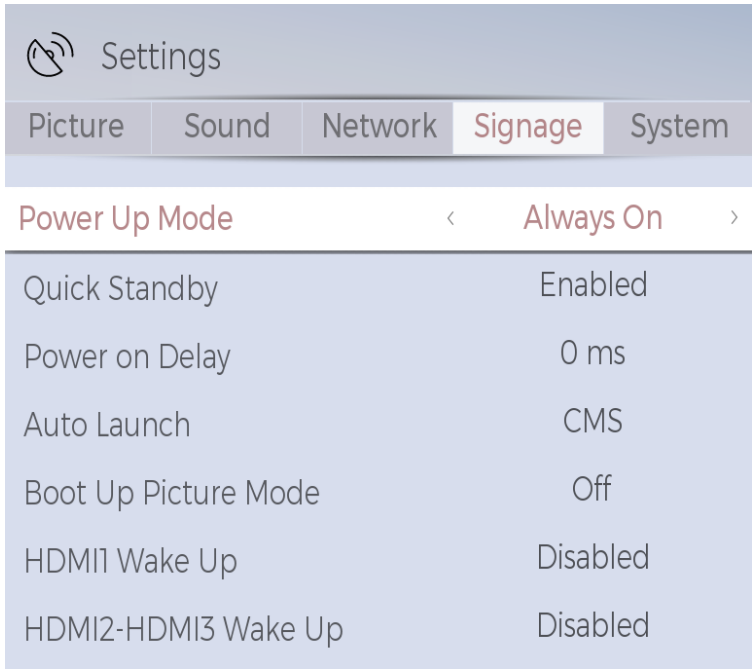
Auto Launch:

Configures the auto launch preference.
Vsign Lite , CMS(Start url), Open Browser(Open Browser initial page) and Disabled options are available.

Boot Up Picture Mode:

Configures the picture mode preference at power on. If set as Off the last set picture mode will be used at power on.
Options : Signage ,Natural ,Text ,Game ,Sports ,Off

MENU➔ Settings➔Signage➔Power Up Settings



HDMI1 Wake Up:

If this option is set as Enabled, the Display will turn on with the HDMI1 input source, when it is switched on. This feature works based on HDMI 5V signal. When this signal is active the Display wakes up and when the signal is inactive the Display shuts down. You can disable this option by setting as Disabled.

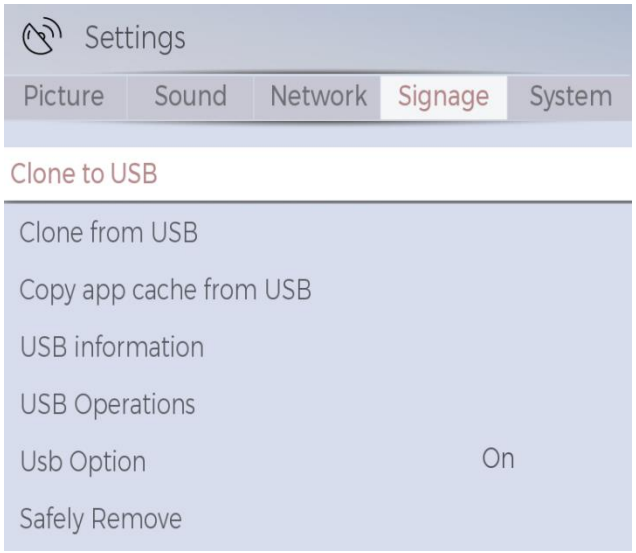
HDMI2, HDMI3, HDMI4 Wake Up(optional):

If this option is set as Enabled, the Display will turn on with the HDMI2 input source, when it is switched on. This feature works based on HDMI 5V signal. When this signal is active the Display wakes up and when the signal is inactive the Display shuts down. You can disable this option by setting as Disabled.

Note: If any Scheduler is set or an OPS unit is connected to the Display, this option will be inactive and can not be set as Enabled.

Note: This feature or HDMI3 and HDMI4 options may not be available depending on the model of your unit.

MENU➔ Settings➔Signage➔USB



Clone to USB:
Copies the USER settings database files from the unit to a connected USB device.

Clone from USB:
Copies the USER settings database files from a connected USB device to the unit.

Copy app cache from USB:
Copies app cache data from a connected USB device to the unit.
Note: This feature may not be available depending on the model of your unit.

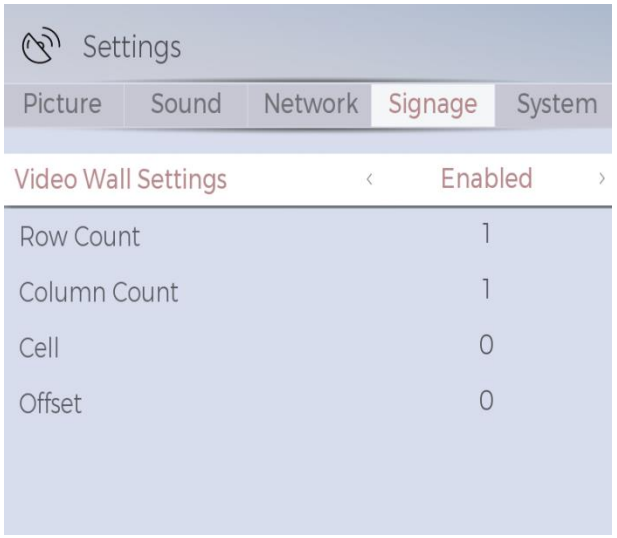
USB Operations:
Product software update function. See software upgrade prosedure.

USB Information:
Press OK to open the USB information menu screen. Current Total space and Free space information of the connected USB device will be displayed. You can also format the connected USB device using the Format Disk option in this menu (FAT32 format only).app cache data from a connected USB device to the unit.

USB Option:
Set as Off to disable the USB ports on the Display. You can also set this option as 5V to provide 5 volts power over USB. In this case it will still not be available to browse the USB content via Media Browser feature of the Display.

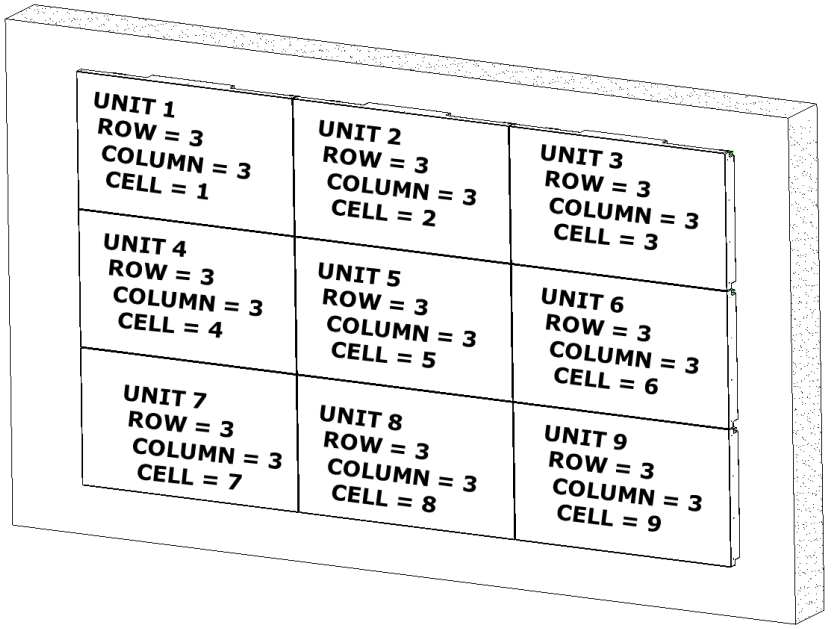
Safely Remove:
You can use this option to remove the devices connected to the USB inputs oft he Display safely. Highlight this option and press OK. Wait for the message to be displayed on the screen indicating that you can remove your device and then remove your device. Failure to do so, may cause problems when you connect your USB device to other devices and you might have to format your USB device.

MENU➔ Settings➔Signage➔Video Wall Settings



Press OK to open the Video Wall Settings menu screen. Video Wall Settings, Row Count, Column Count, Cell and Offset options are available.

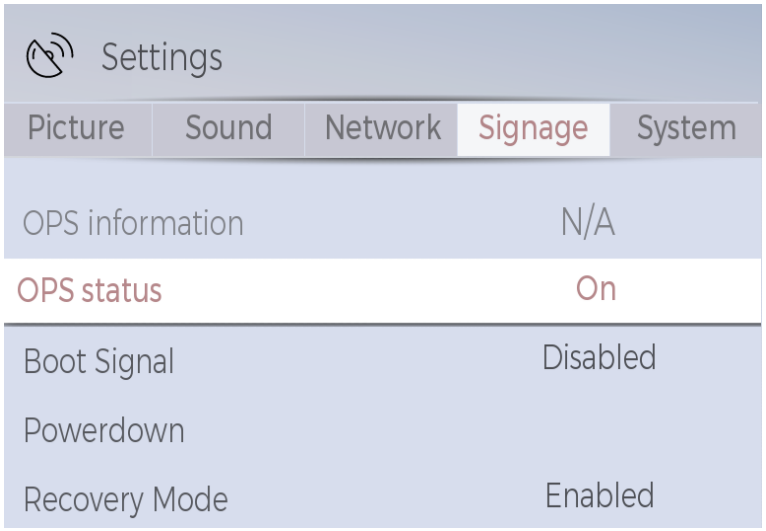
You can enable or disable Video Wall function by setting the Video Wall Settings option accordingly.



Offset:

Offset setting is used to adjust the refractions at the sides of the picture depending on the bezel thickness between Video Wall units (Cells). The maximum number that can be set is 50.

MENU➔ Settings➔Signage➔OPS Settings



OPS Information: **Displays read-only information about the OPS unit, if supported.**

OPS Status: **Displays whether the OPS module is on or off.**

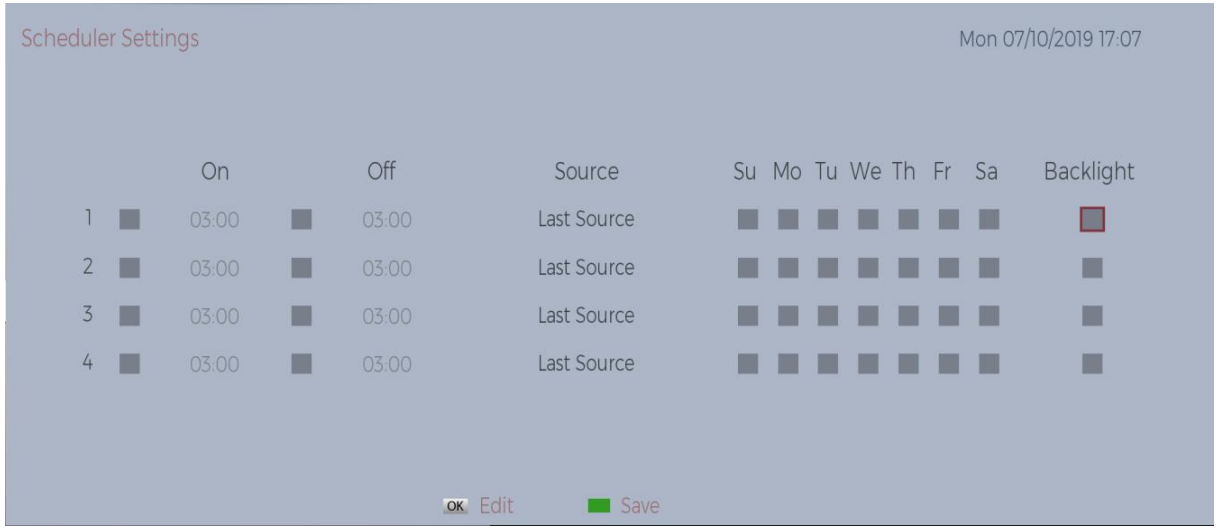
Boot Signal: **Enables or disables sending of a PSON signal. The Display checks the status signal of the OPS at bootup in order to turn it on by sending a PSON signal if it is off. Some OPS's send incorrect information on their status during the bootup of the Display, so they seem to be on even though they are off. For such non-standard OPS's, this option must be enabled. In this case, a PSON signal will be send for the OPS regardless of the received status information at bootup.**

Powerdown: **Turns the OPS off via hard PSON signal (5s)**

Recovery Mode: **Turns the OPS on via hard PSON signal (0.5s) When the product is energized, it automatically sends a PSon signal regardless of the OPS status information.**

Note: This menu will not be available if OPS is not supported or not connected to the unit.

MENU➔ Settings➔Signage ➔Scheduler Settings



✓ **ON time:**

- **If product is off, turns on and pass the specified source that you set.**
- **If product is on, pass the specified source that you set directly.**

✓ **OFF time:**

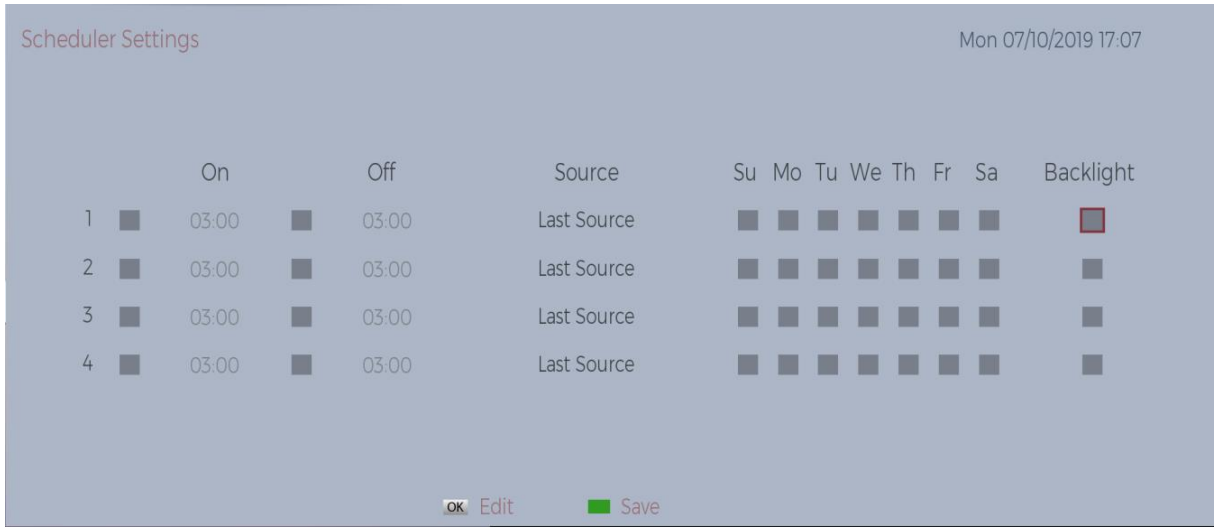
- **If product is on, product goes off (Standby ON)**
- **If product is off, product keeps off (Standby ON).**

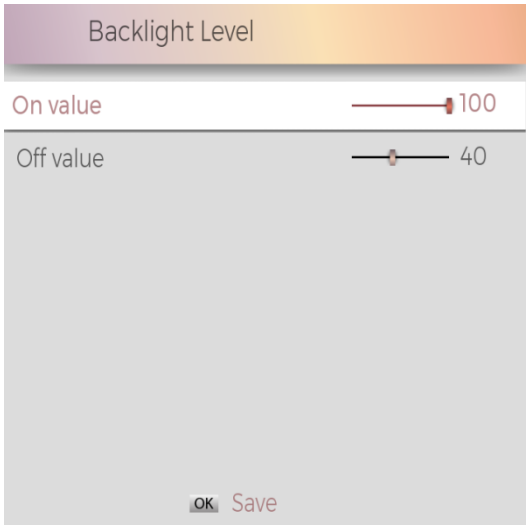
✓ **If the Source option is set as Last Source, the input source will not be changed at the power-up.**

✓ **If the Source option is set as USB, the media files in the connected USB device will be played back automatically as explained in the section entitled 'USB Auto Play Feature'.**

✓ **Press the Green button to save settings when complete.**

Note: Displays date and time must be correct and same for scheduler works perfectly.
RTC option is default on MB135VS (Not Optional)

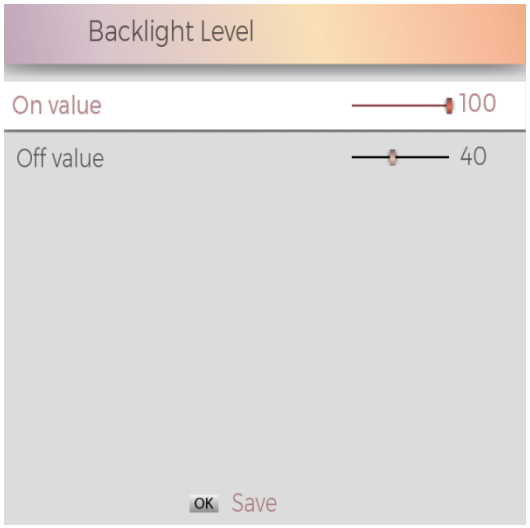




- ✓ **You can also set a backlight scheduler.**
- ✓ **After setting the On, Off, Source and day options highlight the checkbox under the Backlight column and press OK.**
- ✓ **The checkbox will be checked and backlight level setting screen will be displayed.**
- ✓ **Set On value and Off value using the sliders and then press OK to save.**

Note: Mind that, in case you set a backlight scheduler, the display will not be turned on or off, only the backlight values will be changed at defined time interval.

If Source option is set as Last Source the backlight settings will be applied to all sources, otherwise the settings will be applied to the selected source only.



- **1 . Scheduler :**

✓ **At 8.00 o'clock, If product is off, turns on and open the HDMI1**
✓ **At 8.00 o'clock, If product is on, continue from HDMI1**

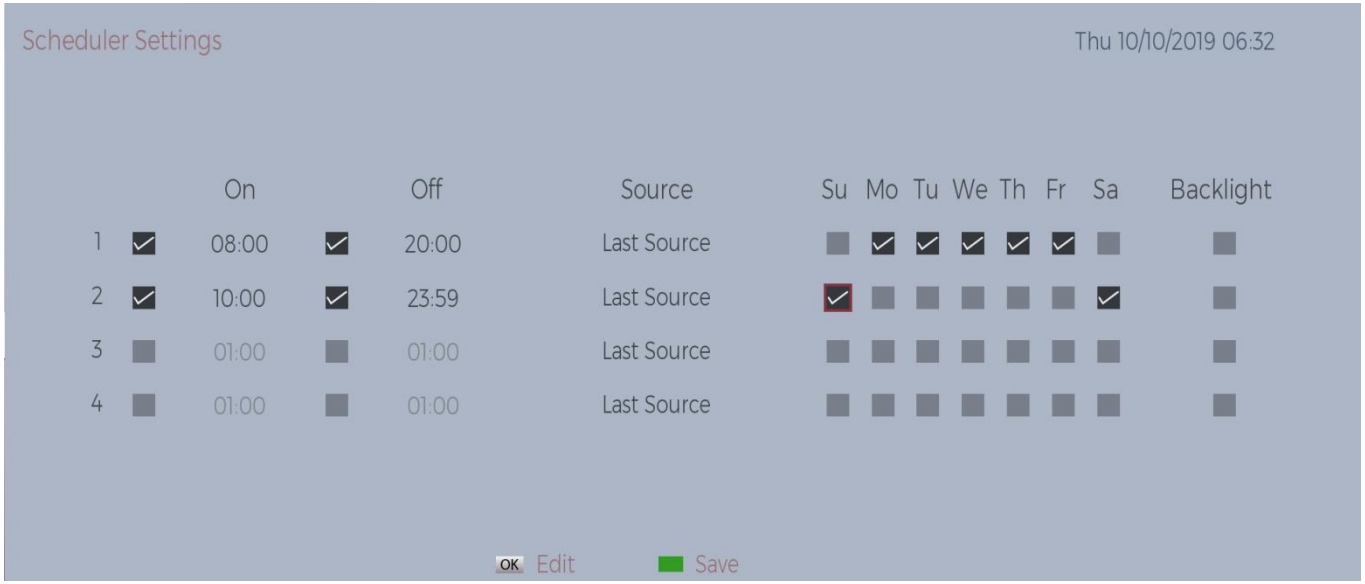
- **2 . Scheduler :**

✓ **At 8.20 o'clock, All source backlight set %100.**
✓ **At 8.50 o'clock, All source backlight set %40.**

- **3 . Scheduler :**

✓ **At 9.20 o'clock, Only DP source backlight set %100 but product is still HDMI source so can not see that changing.**
✓ **At 10.00 o'clock, Only DP source backlight set %100 but product is still HDMI source so can not see that changing.**

Note: If you set a backlight scheduler, the display will not be turned on or off, only the backlight values will be changed at defined time interval.



- **1 . Scheduler :**

✓ **At 8.00 o'clock, If product is off, turns on and open the last source that product was off before.**
✓ **At 8.00 o'clock, If product is on, continue from last source.**

✓ **At 20.00 o'clock, If product is on, goes off (Standby ON).**
✓ **At 20.00 o'clock, If product is off, keeps last state that is off (Standby ON).**

✓ **This scheduler works without Sunday and Saturday in week.**
✓ **Scheduler repeats every week.**

- **2 . Scheduler :**

✓ **At 10.00 o'clock, If product is off, turns on and open the last source that product was off before.**

✓ **At 10.00 o'clock, If product is on, continue from last source.**

✓ **At 23.59 o'clock, If product is on, goes off.**
✓ **At 23.59 o'clock, If product is off, keeps last state that is off (Standby ON).**

✓ **This scheduler works Sunday and Saturday everyweek.**
✓ **Scheduler repeats everyweek.**

- **On Wednesday**

✓ **At 8.00 o'clock, If product is off, turns on and open the HDMI Source (1. Scheduler)**
✓ **At 8.00 o'clock, If product is on, continue from HDMI source. (1. Scheduler)**

✓ **Product works all day on Wednesday from HDMI Source. (1. Scheduler)**

✓ **2. & 3. &4 Scheduler is passive on Wednesday.**

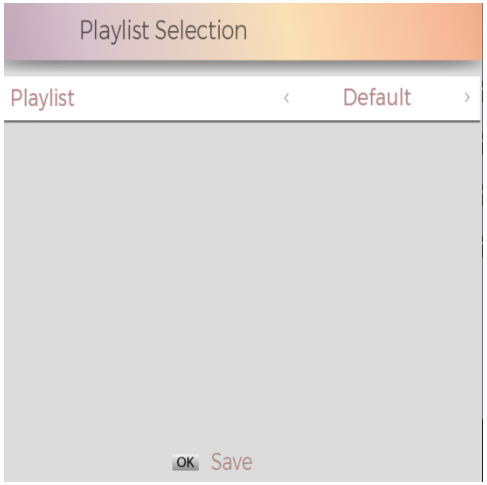
- **On other days (without Wednesday)**

✓ **At 8.00 o'clock, If product is off, turns on and open the HDMI Source (1. Scheduler)**
✓ **At 8.00 o'clock, If product is on, continue from HDMI source. (1. Scheduler)**

✓ **At 10.00 o'clock, switch the HDMI to DP source. (2. Scheduler)**
✓ **At 12.00 o'clock, product goes off (Standby ON)(2. Scheduler)**

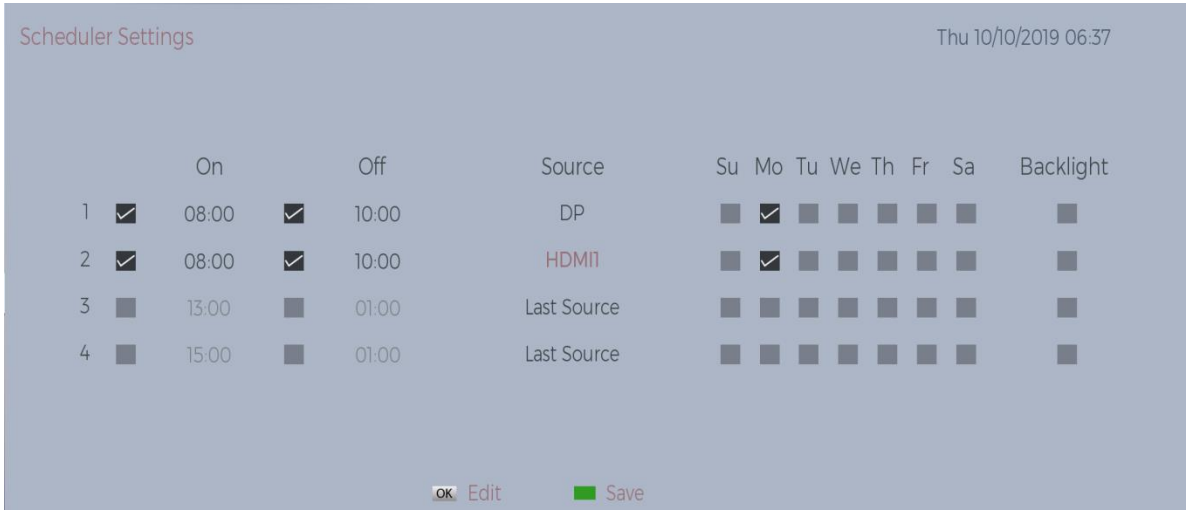
✓ **At 13.00 o'clock, product goes on (Standby Off) from Last source= DP Source (3. Scheduler)**

✓ **At 15.00 o'clock, switch the DP to USB and continue at 8.00 o'clock after day, (4. Scheduler ends and 1.Scheduler starts)**



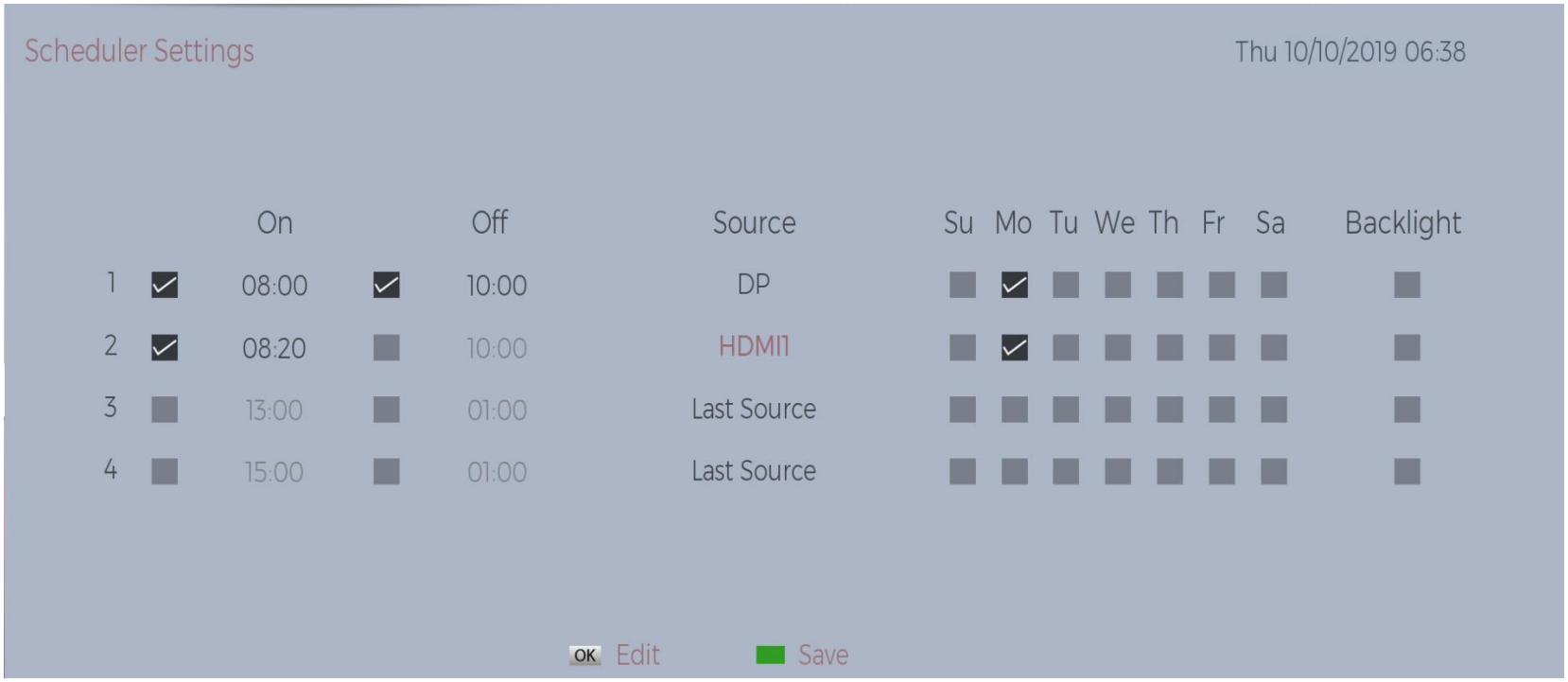
- **USB (4. Scheduler)**

✓ **If the Source option is set as USB, the media files in the connected USB device will be played back automatically. (Playlist = Default, Playlist 1,Playlist 2)**



✓ **Note: Don't set one more scheduler in the same time interval. Only previous scheduler works fine. (for example works 1. Scheduler between them.)**

Settings



- **Should be considered in the nested times of schedulers.**

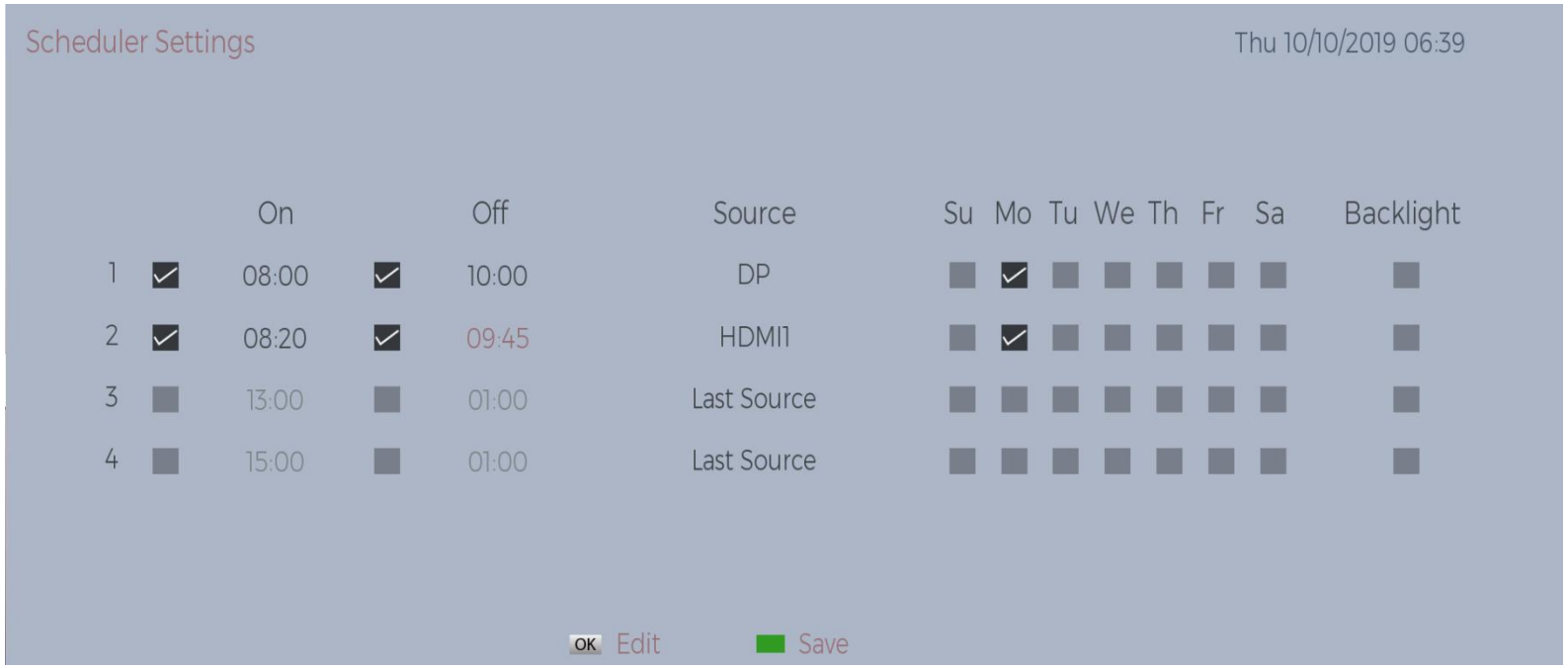
✓ **For example ‘On Monday ‘**

✓ **At 8.00 o’clock, If product is off, turns on and open the DP Source (1. Scheduler)**
✓ **At 8.00 o’clock, If product is on, continue from DP source. (1. Scheduler)**

✓ **At 08.20 o’clock, switch the DP to HDMI source. (2. Scheduler)**

✓ **At 10.00 o’clock, product goes off (Standby ON) (1. Scheduler)**

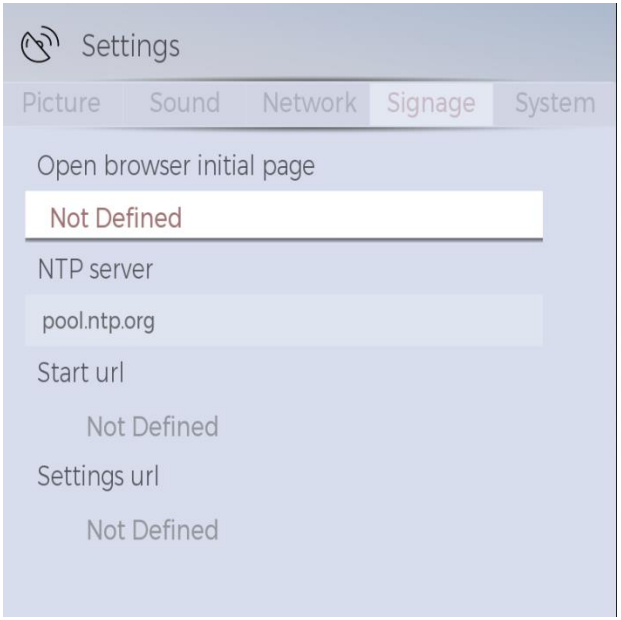
Signage Settings



- ✓ **For example ‘On Monday ‘**
- ✓ **At 8.00 o’clock, If product is off, turns on and open the DP Source (1. Scheduler)**
- ✓ **At 8.00 o’clock, If product is on, continue from DP source. (1. Scheduler)**
- ✓ **At 08.20 o’clock, switch the DP to HDMI source. (2. Scheduler)**
- ✓ **At 09.45 o’clock, product goes off (Standby ON)(2. Scheduler)**
- ✓ **At 10.00 o’clock, Product is still off (Standby ON) so continue last state. (1. Scheduler)**

Signage Settings

MENU➔ Settings➔Signage➔Link Options



Open Browser Initial Page:

If you open the internet browser , internet brower intial page what you set. (for example, 'www.vestel.com.')

NTP Server:

The Network Time Protocol (NTP) is a networking protocol for clock synchronization between the product.

Settings Url:

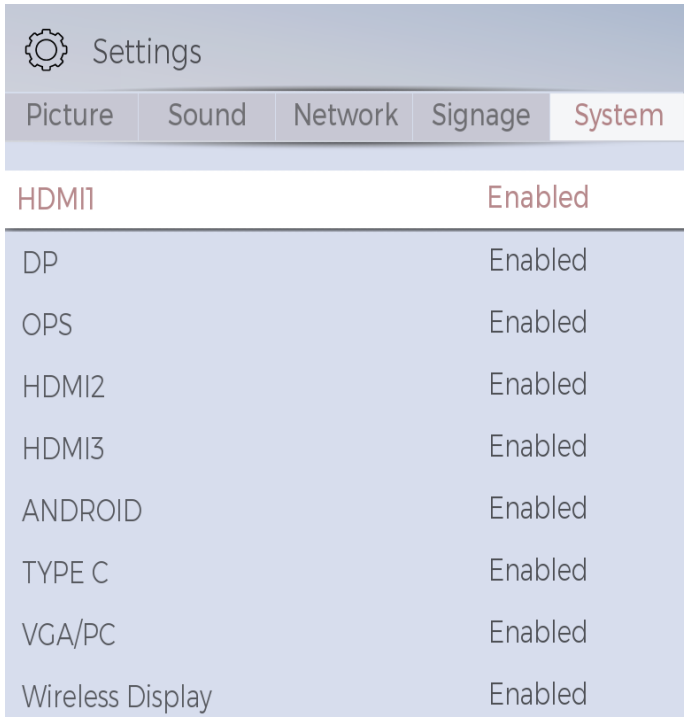
Configures the auto launch preference. CMS(Start url), Open Browser(Open Browser initial page) and Disabled options are available.

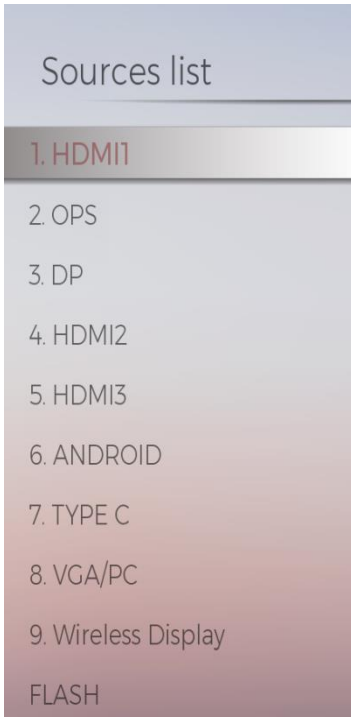
Start Url:

You can check if the Start URL have the desired link from the Signage >Link Options menu. You can not set from this. Only set below prosedure.

- ✓ **RS232 or LAN Command 'SETSTARTURL www.vestel.com'**
- ✓ **Usb update**
  - **Create a file named "starturl.txt" in the root directory of any USB storage device. Make sure that the extension is "txt".**
  - **Open this file with a text editor software such as Notepad.**
  - **Write the desired URL (for example, 'www.google.com') in the file and save changes.**
  - **Connect the USB strorage device to the Display. Highlight USB Operations option in the Signage >USB menu and press OK.**
  - **Switch the Display off and then switch it on again.**

MENU➔System➔Settings➔Source Settings



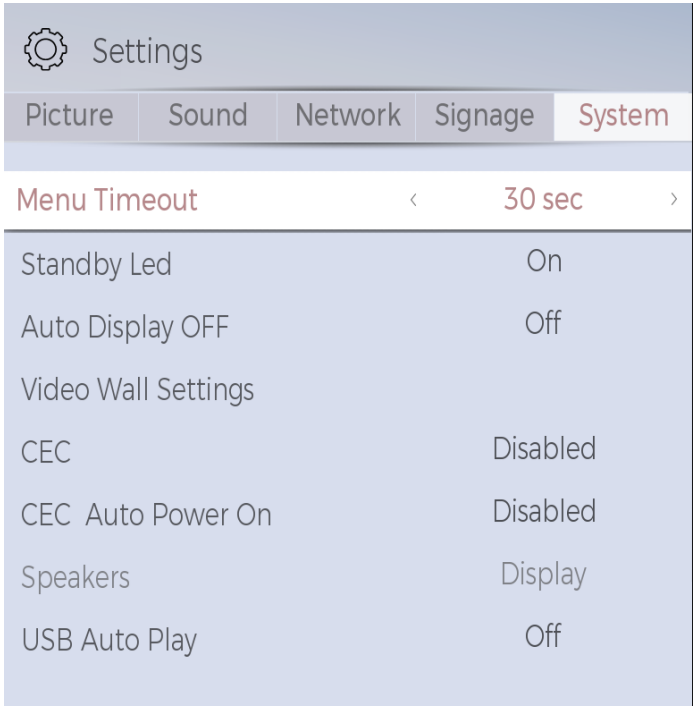


Enables or disables selected source options.
There will be Regular, Enhanced and Disabled options available for HDMI sources, if your Display supports Ultra HD. Regular and Enhanced options are affecting the colour settings of the selected HDMI source.

To be able to watch 4K images from an HDMI source related source setting should be set as Enhanced if the connected device is HDMI 2.0 compatible.

Set as Regular if the connected device is HDMI 1.4 compatible. Set accordingly or disable the related HDMI source by setting as Disabled.

MENU➔ Settings➔System➔More



Menu Timeout: Automatic shut-off time when no entry in the menu.

Standby Led:
ON ➔ Standby Led is active on Standby On.
OFF➔ Standby Led doesn't work on Standby On.
Note: Always No Light on Standby LED When product open(Standby OFF).

Auto Display OFF: Sets the desired time for the Display to automatically go into standby mode when not being operated with RC or Joystick Buttons.

Audio Video Sharing: Audio Video Sharing feature allows you to share files stored on your smartphone or tablet pc. If you have a compatible SP or tablet pc and the appropriate software is installed , you can share/play photos on your Display. (DLNA)

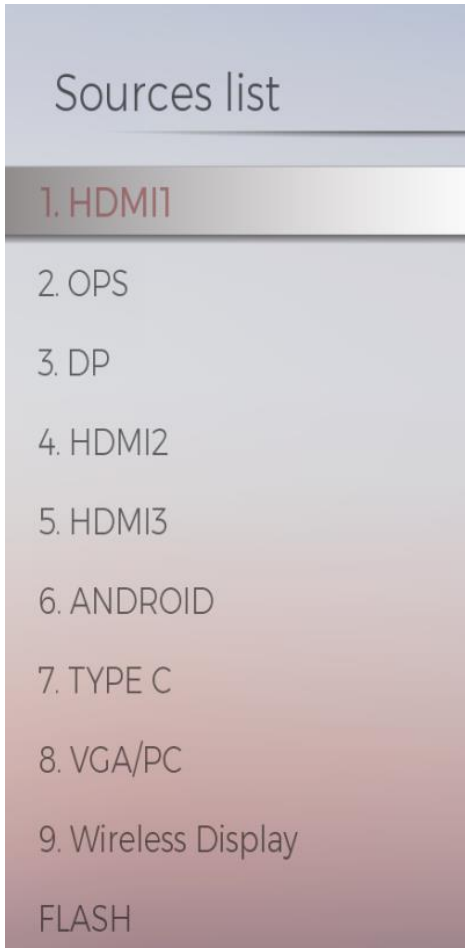
Video Wall Settings: Same function Settings➔Signage➔Video Wall Settings

CEC: With this setting you can enable and disable CEC functionality completely. If CEC is enabled , Speakers function will open. You can choose Display or Amplifier .
Note: If you choose Amplifier , The Display speakers will be muted and the sound of the watched source will be provided from the connected sound system.

CEC Auto Power On: This function allows the connected HDMI-CEC compatible device to turn on the Display and switch to its input source automatically. Press Left or Right button to enable or disable the feature.

Media Browser

MENU➔ Source➔Flash



- ✓ **You can connect 2.5” and 3.5” inch (hdd with external power supply) external hard disk drives or USB memory stick to your Display by using the USB input/s of the Display.**
- ✓ **Certain types of USB devices (e.g. MP3 Players) or USB hard disk drives/memory sticks may not be compatible with this Display. The Display supports FAT32 and NTFS disk formatting.**
- ✓ **Wait a little while before each plugging and unplugging as the player may still be reading files. Failure to do so may cause physical damage to the USB player and the USB device itself. Do not pull out your drive while playing a file.**
- ✓ **You can use USB hubs with your Display’s USB input/s. External power supplied USB hubs are recommended in such a case. It is recommended to use the Display’s USB input/s directly, if you are going to connect a USB hard disk.**

Note: When viewing image files the Media Browser menu can only display 1000 image files stored on the connected USB device.

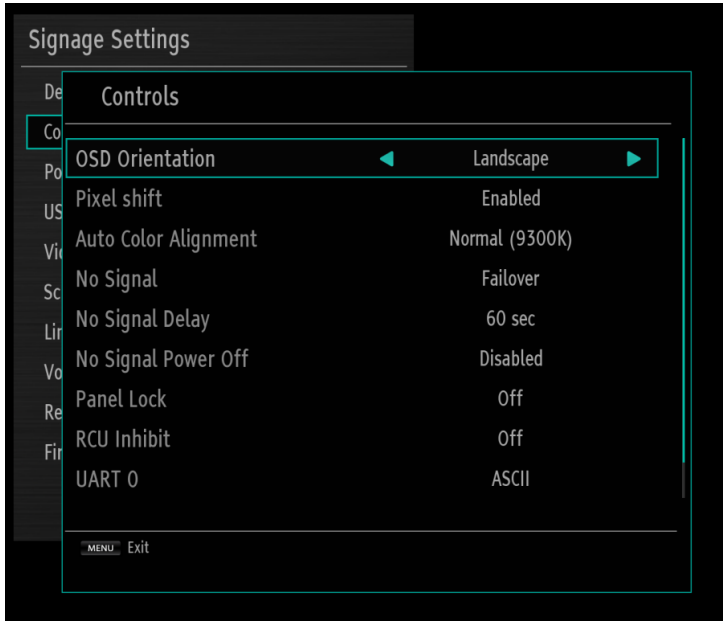
X-Rite White-Balance

Calibration

X-Rite WB Calibration

Attentions : **Only one model of X-rite Calibration tool (SKU: EODIS3-DCOE) works Vestel Product .**

MENU➔Settings ➔Signage ➔ Controls:



When "Colorimeter Support" is enabled at profile, "Auto Color Alignment" menu item becomes visible in the Signage Settings / Controls menu dialog.

X-Rite WB Calibration

MENU➔Signage Settings➔Controls:

When the menu item is focused, pressing left and right arrow keys of remote controller enables setting target color temperature to one of the possible color temperatures:

"Warm (6500K)", "Normal (9300K)", and "Cool (13000K)".

After setting the target color temperature, auto white balance adjustment operation starts by pressing OK button of remote controller on the "Auto Color Alignment" menu item.

X-Rite WB Calibration

Operation Details:

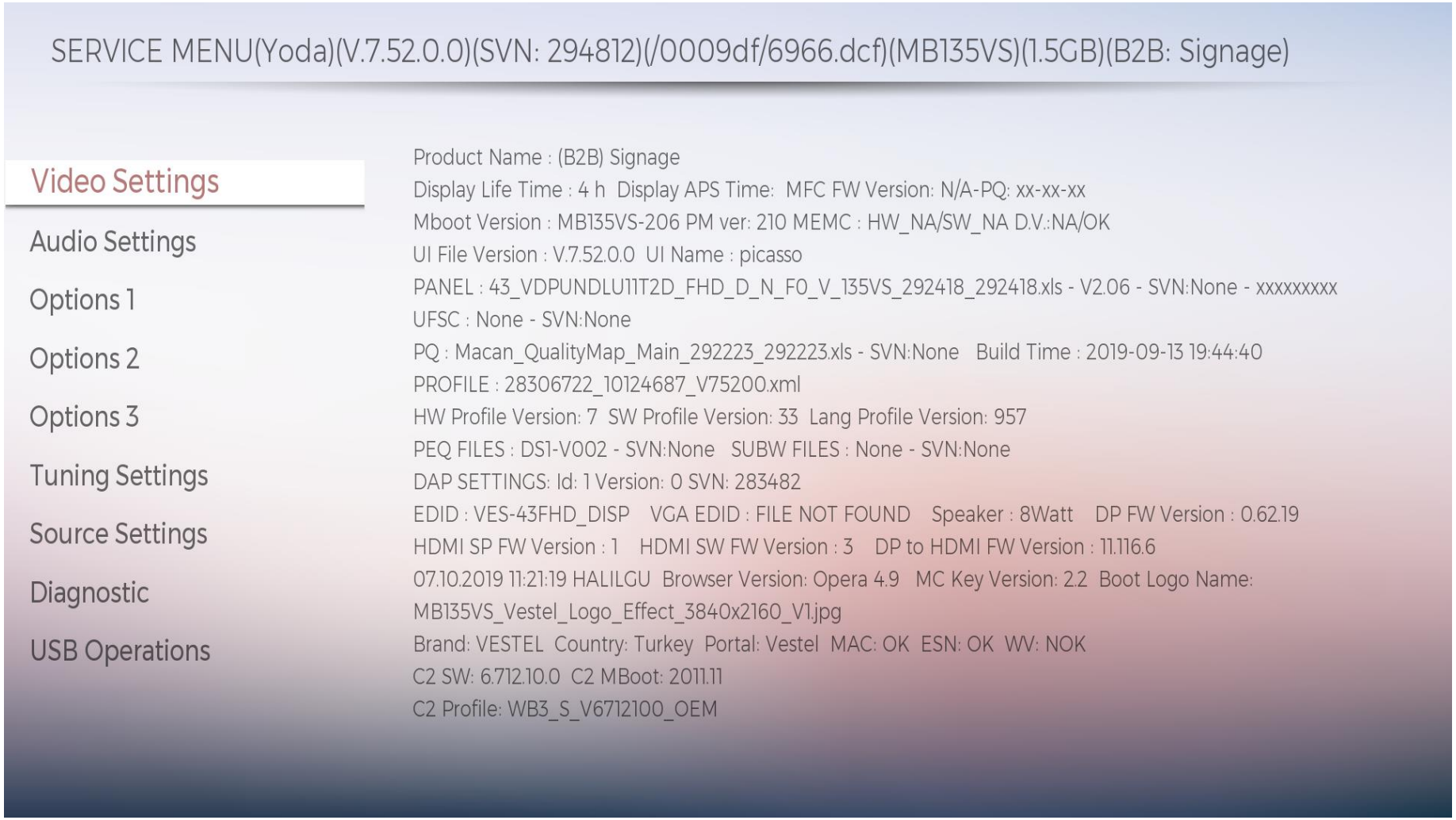
As auto white balance adjustment operation is started,

1) **All of the menu dialogs are hided.**
2) **Current color temperature is set to the selected target color temperature.**
3) **Red color pattern is applied to the TV screen.**
4) **Green color pattern is applied to the TV screen.**
5) **Blue color pattern is applied to the TV screen.**
6) **White color pattern is applied to the TV screen.**
7) **You can see luminance and backlight values on the screen**
8) **Press the back button on the Remote Controller**
9) **You should do same-steps other colour temperature options (Cool-Normal-Warm)**
10) **At the end of the operation, white balance setting for the selected target color temperature gets updated.**

Note: For application video: https://yadi.sk/i/knRYNdc83Z5xhS

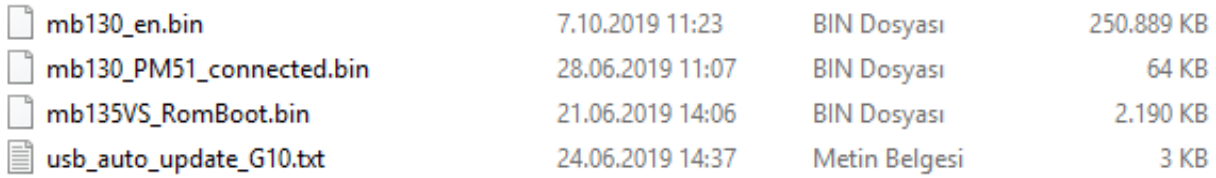
MB135VS
Software Update

MB135VS Main Board – Service Menu (MENU+4+7+2+5)



MB135VS Main Board – Full SW Update Procedure

1-First of All, make sure you have all these files; "mb130_en.bin" , "usb_auto_update_G10.txt", "mb135VS_Romboot.bin'' , ''mb130_PM51.bin''.



mb130_en.bin	7.10.2019 11:23	BIN Dosyası	250.889 KB
mb130_PM51_connected.bin	28.06.2019 11:07	BIN Dosyası	64 KB
mb135VS_RomBoot.bin	21.06.2019 14:06	BIN Dosyası	2.190 KB
usb_auto_update_G10.txt	24.06.2019 14:37	Metin Belgesi	3 KB

2- Copy all files to USB stick (to the root, not to subfolder).

3- Turn the DS off and unplug from main.

4- Plug the USB stick to DS's USB Port (MB135VS).

5- When you are pressing OK button on the remote control, Plug DS(MB135VS) to power cable at the same time. (Reset the DS and press the OK button immediately)

6- The update shall be processing while system booting up.

7- Led will be blinking quickly. then led blinks normally and First time installation menu will come to screen.

8- After installation, you should do Power off/on for once. then it will be ready.

Note: This will erase all the settings and channels you previously available on DS. DS will come on FTI screen

MB135VS Main Board – Core Software Update

1- First of all, make sure you have this file; "upgrade_mb130.bin"

2- Copy this file to USB stick (to the root, not to subfolder).

3- Plug the USB stick to DS's USB Port (MB135VS).

4- If Media Browser menu is opened, close it.

5- Press MENU button, then press 1-5-0-5 digits sequentually on the remote control.

6- Choose "Yes" on prompt displaying "Do you want to update software?".

7- Download screen is splashed in order to update software.

8- The update shall be processing while downloading.

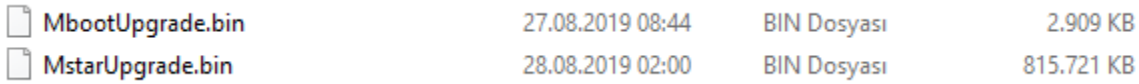
9- When downloading is completed, system will reboot.

10- Backlight will be closed, led will be blinking quickly. Current source will be last used source after led blinks normally. Then, it will be ready.

Note: This update will keep your previous settings and channels on DS. Sw version can be controlled from other settings or service menu.

MB135VS Main Board – C2 Android SW Update

1-First of All, make sure you have all these files; " MbootUpgade.bin " and " MstarUpgrade.bin ".



2- Copy all files to USB stick (to the root, not to subfolder).

3- Turn the DS off.

4- Plug the USB stick to Android's USB Port on DS(MB135VS).

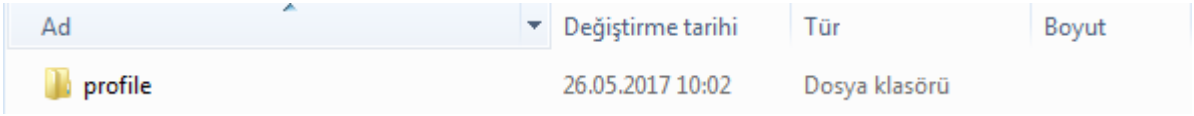
5- Turn the DS on.

6- The update shall be processing while system booting up.

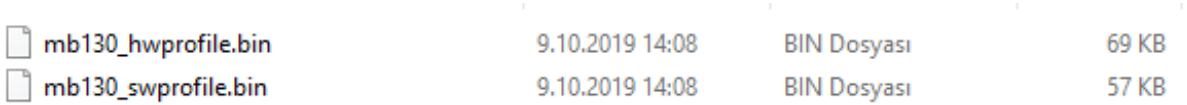
7- First time installation of Android menu will come to screen.

MB135VS Main Board – Profile Update

1- Create "profile" folder into the USB root.



2- Copy mb130_swprofile.bin and mb130_hwprofile.bin files into the "profile" folder which is located on USB. (if you need you may update mb130_devprofile.bin)



3-Plug the USB to DS's USB Port.

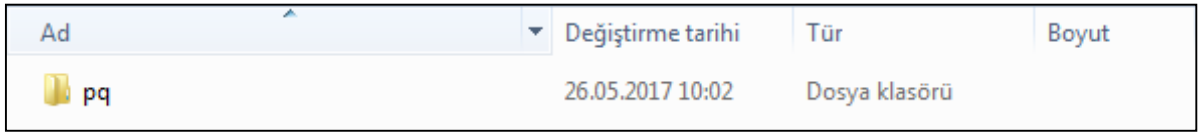
4-From service menu (Menu+4725) or from command line (USBOPERATIONS command) start usb operations menu.

5-New files will be updated after power off/on.

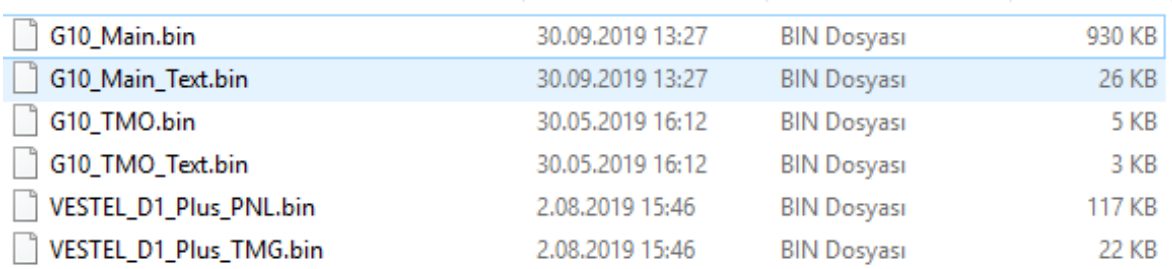
6- Set FTI on menu to active.

MB135VS Main Board – Panel Files Update

1- Create "pq" folder into the USB root.



2- G10_Main.bin and G10_Main_Text.bin / Timing files / pcf files can be copied into the "pq" folder which is located on USB.



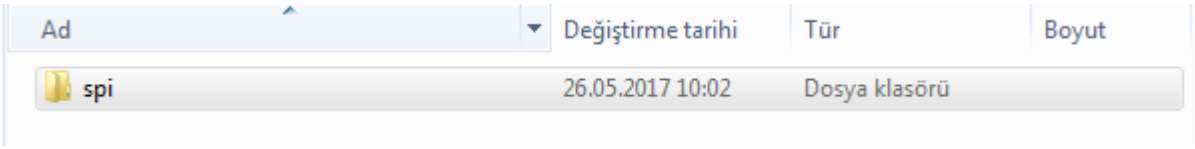
3. Plug the USB to DS's USB port.

4. From service menu (Menu+4725) or from command line (USBOPERATIONS command) start usb operations menu.

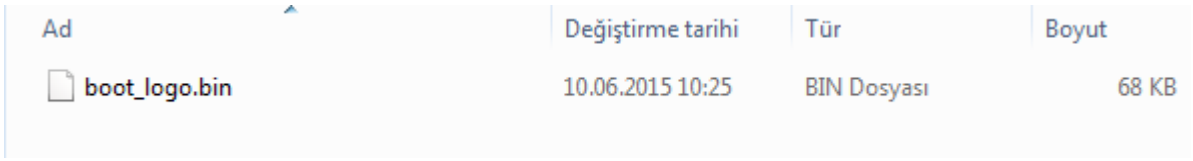
5. New files will be updated after power off/on.

MB135VS Main Board – Boot Logo Update

1- Create "spi" folder into the USB root.



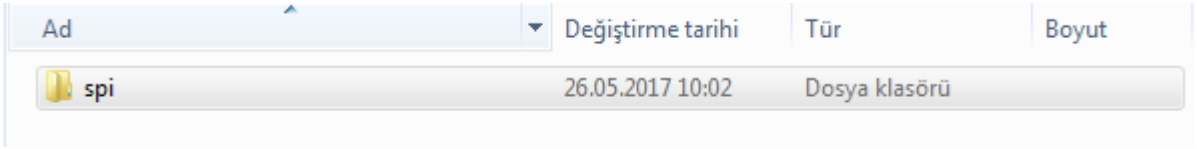
2- Copy your jpeg format file into the "spi" folder which is located on USB, and rename this file as "boot_logo.bin". (Jpeg is natively supported as boot logo. So, you do not need to convert jpeg with any external tool.)



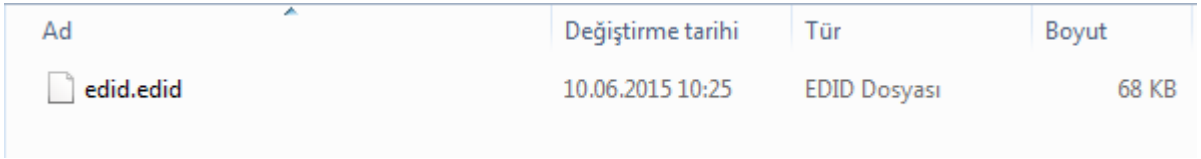
3. Plug the USB to DS's USB port.
4. From service menu (Menu+4725) or from command line (USBOPERATIONS command) start usb operations.
5. New files will be updated after power off/on.

MB135VS Main Board – EDID File Update

1- Create "spi" folder into the USB root.



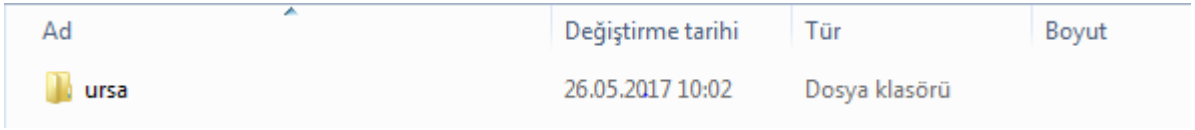
2- Copy edid.edid file into the "spi" folder which is located on USB.



3. Plug the USB to DS's USB port.
4. From service menu (Menu+4725) or from command line (USBOPERATIONS command) start usb operations.
5. New files will be updated after power off/on.

MB135VS Main Board – MFC FW Update

1- Create "ursa" folder inside USB.



2- Put mb130_ursa_firmware_file.bin into ursa folder in USB

3. Plug the USB to DS's USB-1 port.

4. From service menu (Menu+4725) or from command line (USBOPERATIONS command) start usb operations. ursa FW should start update. You may observe prints Bank 0, Bank 1 etc.

- Be sure or observe debug print outs: "MFC ISP: done" will be writen... This may take over 10 minutes.

5. New files will be updated after power off/on.

MB135VS Main Board – ANDROID SW UPDATE

For updating C2 Software, there are two way.

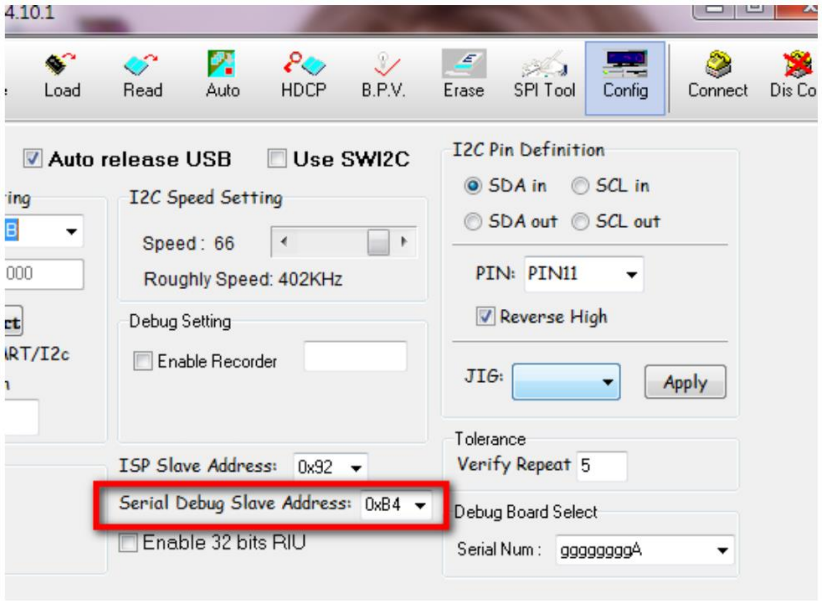
Step 1- Updating with USB connection: (If Android works correctly)

✓ **MstarUpgrade.bin and MbootUpgrade.bin documents should be copied directly inside of a flash memory (not in a folder).**

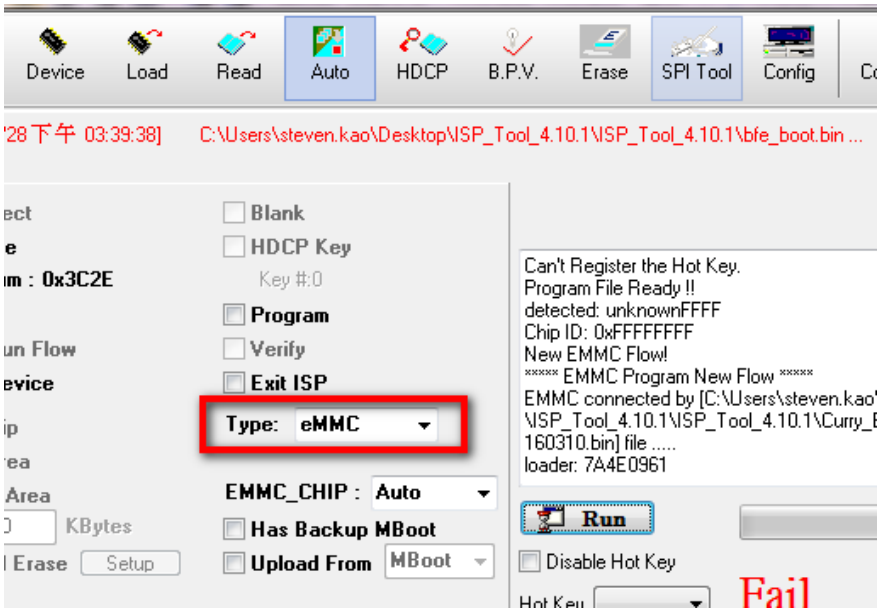
✓ **When TV is reset, TV will be upgraded by itself.**

Step 2- Updating with MSTAR tool via RJ12 service socket: If Android doesn't work (No Image on DS)

✓ **You have to do these settings (Picture 1 /2 /3 /4)**



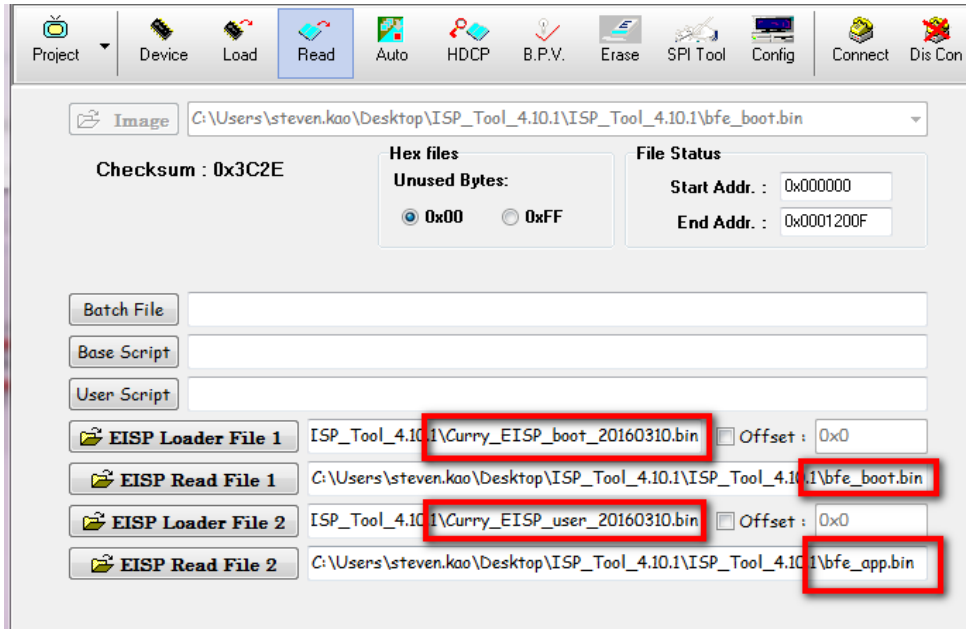
Picture 1



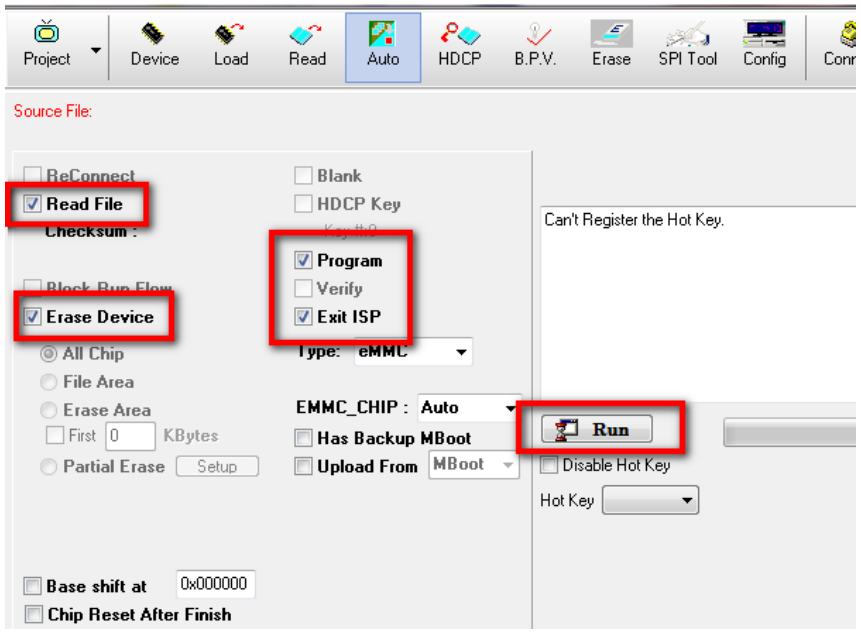
Picture 2

Note: These settings are required each time it opens.

MB135VS Main Board – ANDROID SW UPDATE

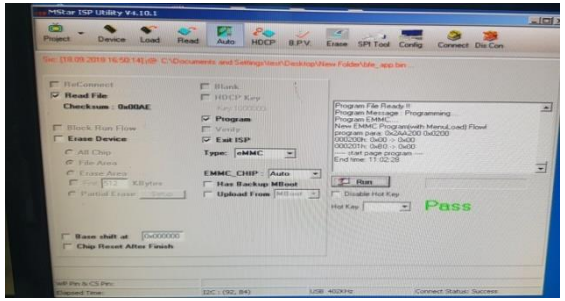


Picture 3



Picture 4

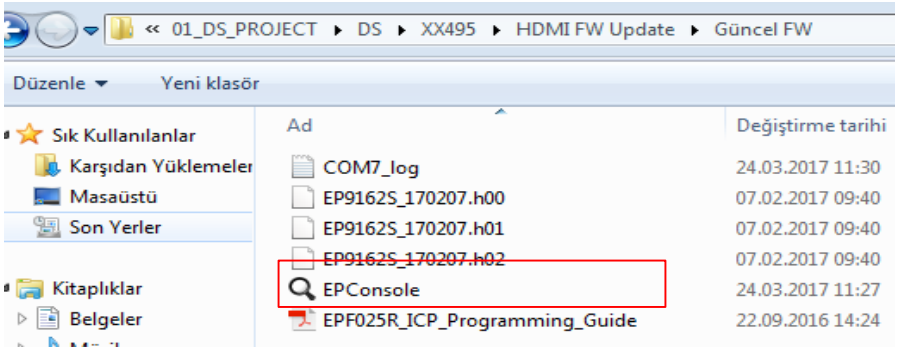
In Picture 4, firstly press "connect" and then "run" to wait for the process to finish. (It takes 5 minutes.)
If PASS does not appear or fails, you can update again.



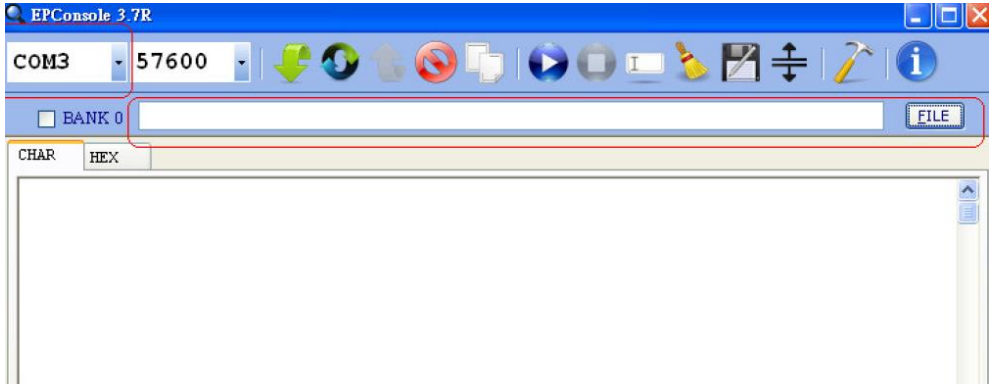
Note: All update files and tool will be shared by Customer Support.
!!! After this process you have to follow step 1

MB135VS Main Board – HDMI SPLITTER FW UPDATE

1. Connect Mstar tool via RJ12 service socket with HDMI fw cable.
2. Run EPConsole program on PC after power on the MB120DS.

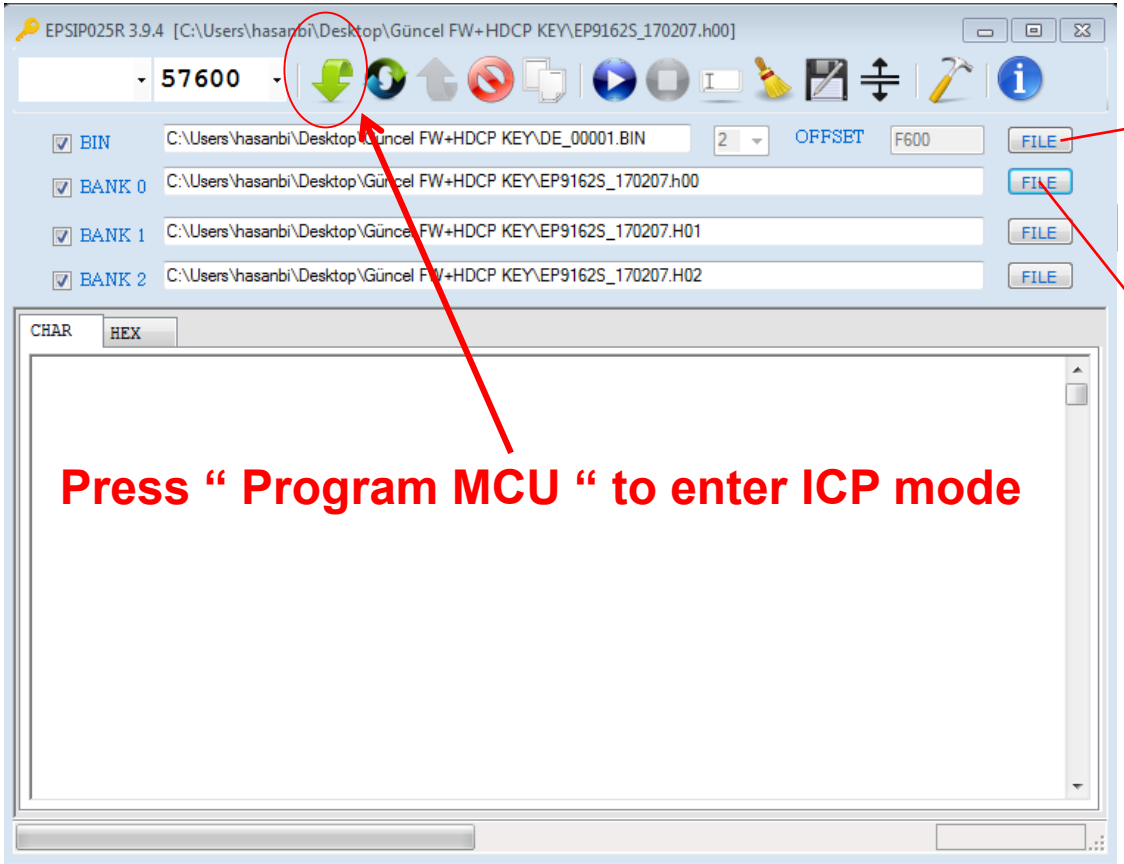


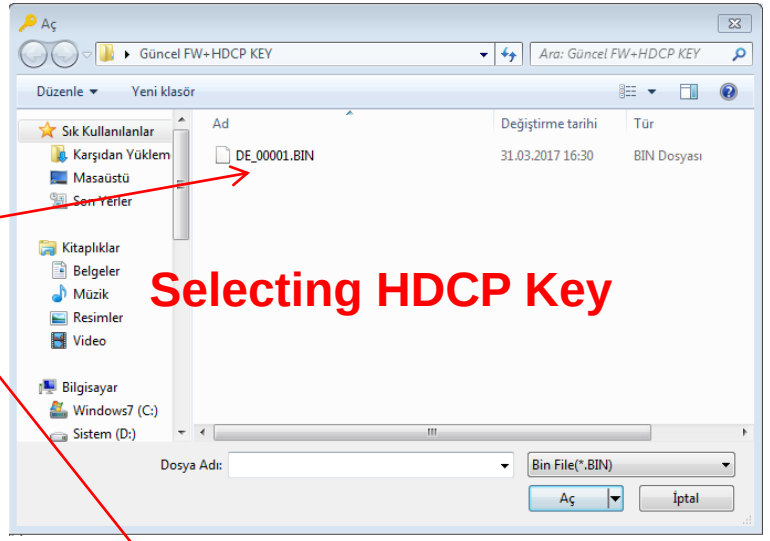
3. Select the corresponding COM port and click File to load the fw hex file.

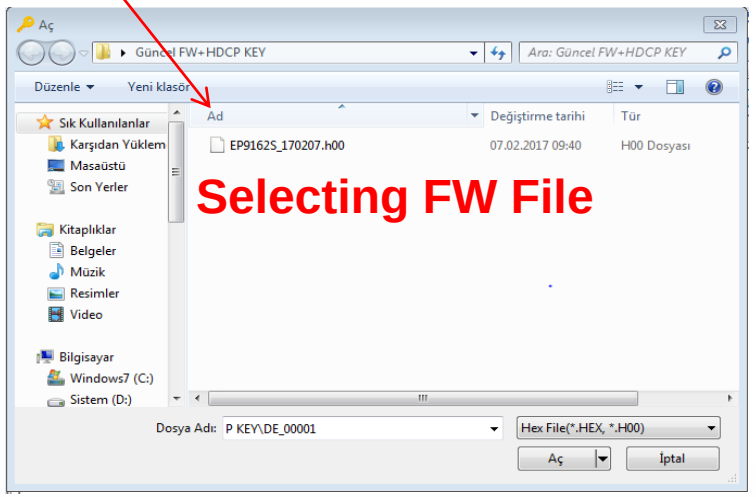


MB135VS Main Board – HDMI SPLITTER FW UPDATE

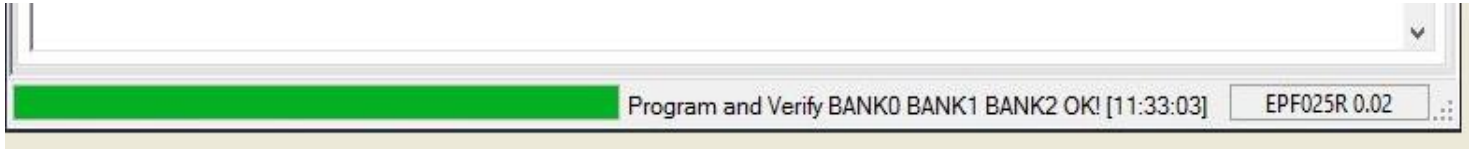
4. Selecting HDCP Key and FW file, push «Program MCU» button shown below to run program.







5. If loading process is successful , 'Program and Verify BANK0 BANK1 BANK2 OK' message appears like below.



6. Finally restart the DS product.
If you see fail, please reset monitor and try program again.

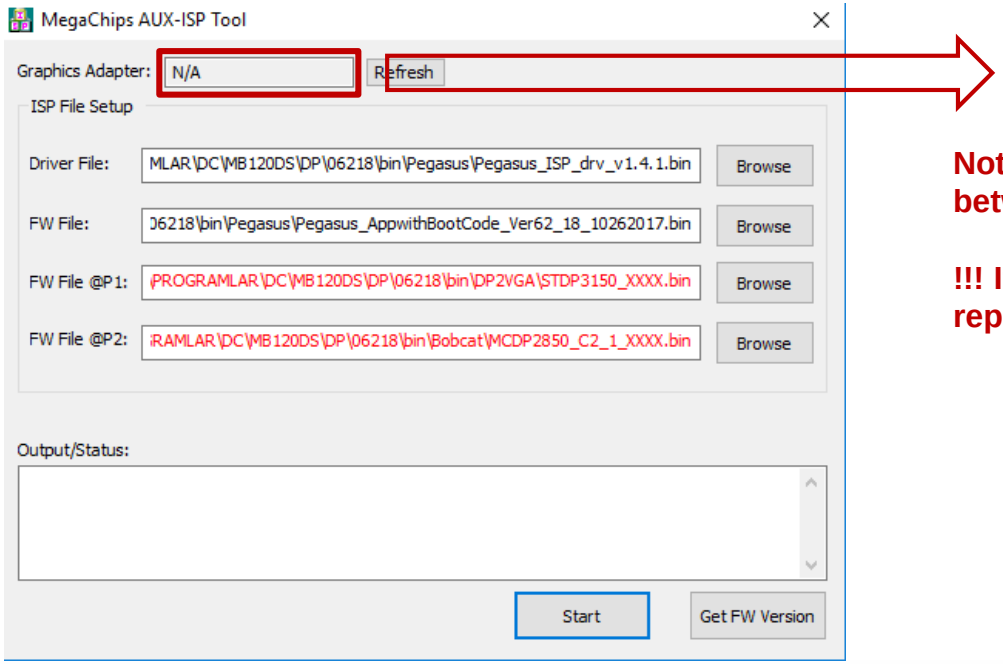
Note: All update files and tool will be shared by Customer Support.

MB135VS Main Board – DISPLAY PORT FW UPDATE

1. Connect DP source with DP input port of 17MB135VS.
2. Run McdpAuxISPTool on source.

bin	14.11.2017 14:41	Dosya klasörü	
Config.ini	3.11.2017 10:08	Yapılandırma ayarl...	3 KB
libeay32.dll	22.05.2015 10:59	Uygulama uzantısı	1.175 KB
McdpAuxISPTool.exe	16.06.2016 11:00	Uygulama	2.012 KB
McdpAuxISPTool.log	23.09.2019 08:22	Metin Belgesi	1 KB
McdpISP.exe	16.06.2016 11:22	Uygulama	1.885 KB

3. Choose the correct “Driver File” and “FW File”, then click to start.
4. After update process, new version could be check with “Get FW Version” button on tool.



Note: If you see N/A , you should check DP kablo between PC➔ DS and DS source select will be DP

!!! If the N/A status is still exist, mainboard replacement is required.

MB135VS

1- DS is working but there is no picture

Defining the problem:

- **Led is off,**
- **Sound is ok,**
- **You can change source with remote control**
- **But no picture, no backlight**

Think about:

- **How does the picture occur on the panel?**
- **What does panel need to show picture?**

- **Check these parts you think about the questions which is above.**

1- Update mainboard software with ''FULL USB UPDATE''. See software update chapter. Is the problem solved?

- ❑ **If Yes, You found the problem. Contact CS for feedback.**
- ❑ **If No, Proceed to section 2.**

2- Replacement Powerboard /Converter Board. Is the problem solved?

- ❑ **If Yes, You found the problemetic part. Contact CS for feedback.**
- ❑ **If No, Proceed to section 3.**

3- Raplacement Panel- Backlight- LEDBAR. Is the problem solved?

- ❑ **If Yes, You found the problemetic part. Contact CS for feedback.**
- ❑ **If No, Proceed to section 4.**

4- Replacement Mainboard. (Contact CS for spare parts.)

2- DS is not working, led is blinking

Defining the problem:

- When TV is in stand-by mode, led is on.
- When you want to open the tv, led turns off.
- After a few seconds later, led starts to blink and take itself to stand-by mode again.

Think about:

- When does led blink, what is indicated by this way?
- What does main IC do during opening sequence?
- What does the system needs to work properly?

- Check these parts you think about the questions which is above.

1- Firstly, disconnect all cables to the motherboard one by one. Is the problem solved?

- ❑ If Yes, You quickly found the problemetic part. Contact CS for spare parts.
- ❑ If No, Proceed to section 2.

2- Update mainboard software with ‘’FULL USB UPDATE’’. See software update chapter. Is the problem solved?

- ❑ If Yes, You found the problem. Contact CS for feedback.
- ❑ If No, Proceed to section 3.

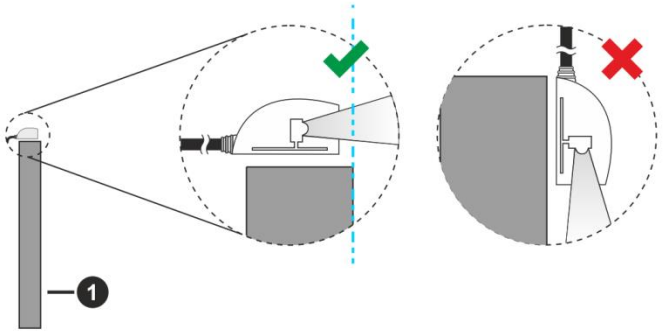
3 - Replacement mainboard (Contact CS for spare parts.) Is the problem solved?

- ❑ If Yes, You found the problem. Contact CS for feedback.
- ❑ If No, Proceed to section 3.

4- Replacement power board (Contact CS for spare parts.)

3- Extender LED or IR not working

• Check these parts you think about the questions which is below.



1 Front side of the Display

1- In case your Display has touch screen feature and if the IR receiver is going to be placed on the Display it shouldn't be placed facing the inside of the screen, otherwise the signals of the touch screen and the remote may interfere with each other. To improve the performance of your remote control place the IR receiver as shown in the drawing below. Is the problem solved?

- ❑ If Yes, You quickly found the problem.
- ❑ If No, Proceed to section 2.

2- Replacement external IR. Is the problem solved?

- ❑ If Yes, You found the problemetic part. Contact CS for spare parts.
- ❑ If No, Proceed to section 3.

3- Update mainboard software with ''FULL USB UPDATE''. See software update chapter. Is the problem solved?

- ❑ If Yes, You found the problem. Contact CS for feedback.
- ❑ If No, Proceed to section 4.

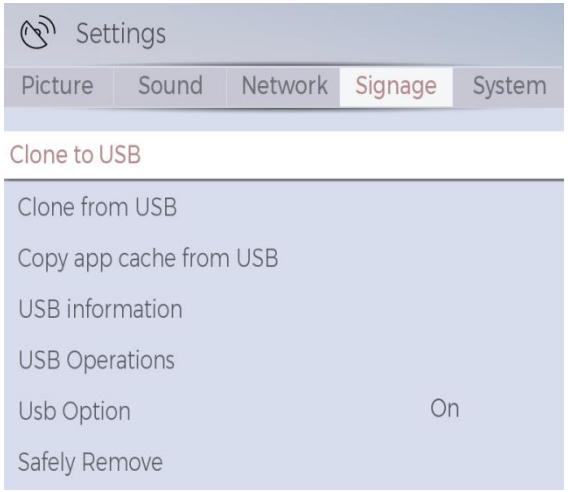
4 - Replacement mainboard (Contact CS for spare parts.).

4- USB is not working when USB inserted

Defining the problem:

- **When USB is plugged in the DS, USB MENU doesn't appear on the screen.**
- **On the MENU, when clicking the « Media Browser » icon, « No Removable Drive is Connected » information appear on the screen.**
- **The LED on the USB is not blinking when it is plugged in.**

- **Control you think about the questions which is above.**



1- Check the USB Option On. (MENU➔ Settings➔Signage➔USB)

- ❑ **If No, You quickly found the problem.**
- ❑ **If Yes, Proceed to section 2.**

2- Check the DS's USB port. Maybe you plugged Android's USB Port. Be sure right DS's USB Port for see 'With Android I/O Ports'

- ❑**If Yes, You quickly found the problem**
- ❑**If No, Proceed to section 3.**

3 - Replacement mainboard (Contact CS for spare parts.).

5- No signal in OPS mode

- Check these parts you think about the questions which is below

TOP VIEW

1- Firstly, check OPS new one. Is the problem solved?

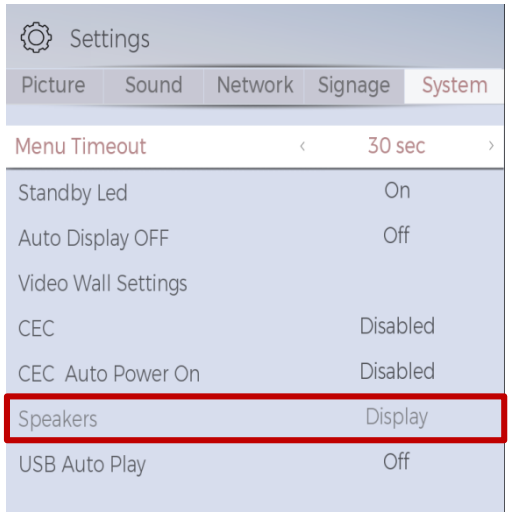
- ❑If Yes, You quickly found the problemetic part. See for OPS Troubleshooting Guide.
- ❑If No, Proceed to section 2.

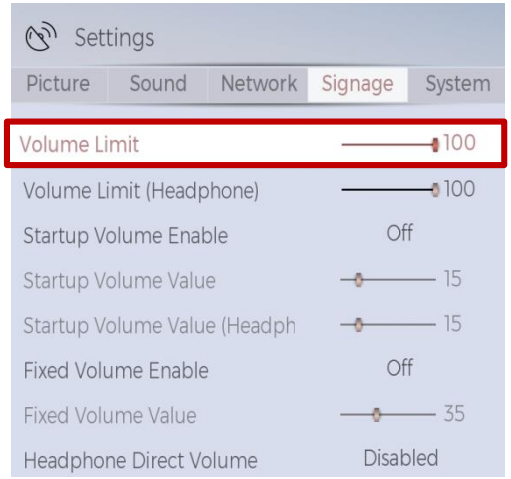
2 - Replacement OPS Daughter Board (Contact CS for spare parts.) Is the problem solved? See for OPS Troubleshooting Guide.

- ❑If Yes, You found the problemetic part. (Contact CS for spare parts.)
- ❑If No, Proceed to section 3.

3- Replacement OPS Daughter Board to Mainboard LVDS Cable. (Contact CS for spare parts.)

6- No Sound Problem





1- Firstly, check the MENU➔ Settings➔System➔More

If you choose Amplifier,The Display speakers will be muted and the sound of the watched source will be provided from the connected sound system.

If CEC is enabled. Speakers option can be selectable. Is the problem solved?

- ❑ **If Yes, You quickly found the problem.**
- ❑ **If No, Proceed to section 2.**

2 - Check the MENU➔ Settings➔Signage➔Volume Settings Maybe Volume Limit setted ‘’0” Is the problem solved?

- ❑ **If Yes, You found the problem**
- ❑ **If No, Proceed to section 3.**

3- Check the other source (HDMI 1,2,3 ,DP, OPS) If there is sound in one source, it is not the speaker. Is there any sound in one source?

- ❑ **If Yes, Replacement Mainboard on DS**
- ❑ **If No, Replacement Speakers on DS**

Spare Part Replacement

General Information and Warnings

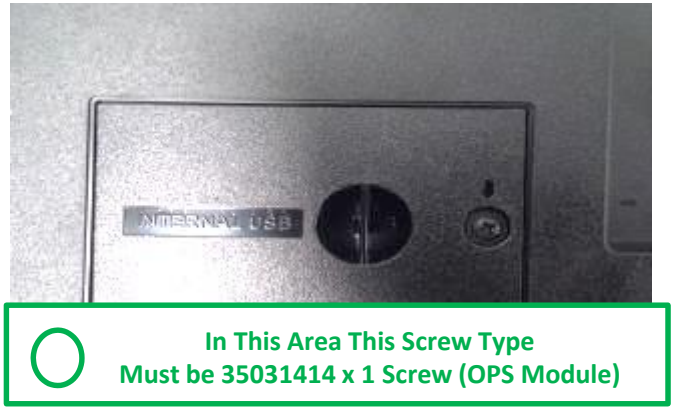
Please make sure to be complete following operations before disassembling DS or IFPD:

1. Close operating system and pull the power plug.
2. Close all system and peripherals.
3. Remove AC power and all signal cables.

If device is running do not disassemble the device for part replacement.

4. Use grounding wrist strap .
5. Obey ESD conditions.
6. Do not use sharp-tipped pen while cleaning touch screen and its glass

CHANGING OPS MODULE & INTERNAL USB



RE-CONNECTING THE OPS MODULE

Cooler must look to backside of the product

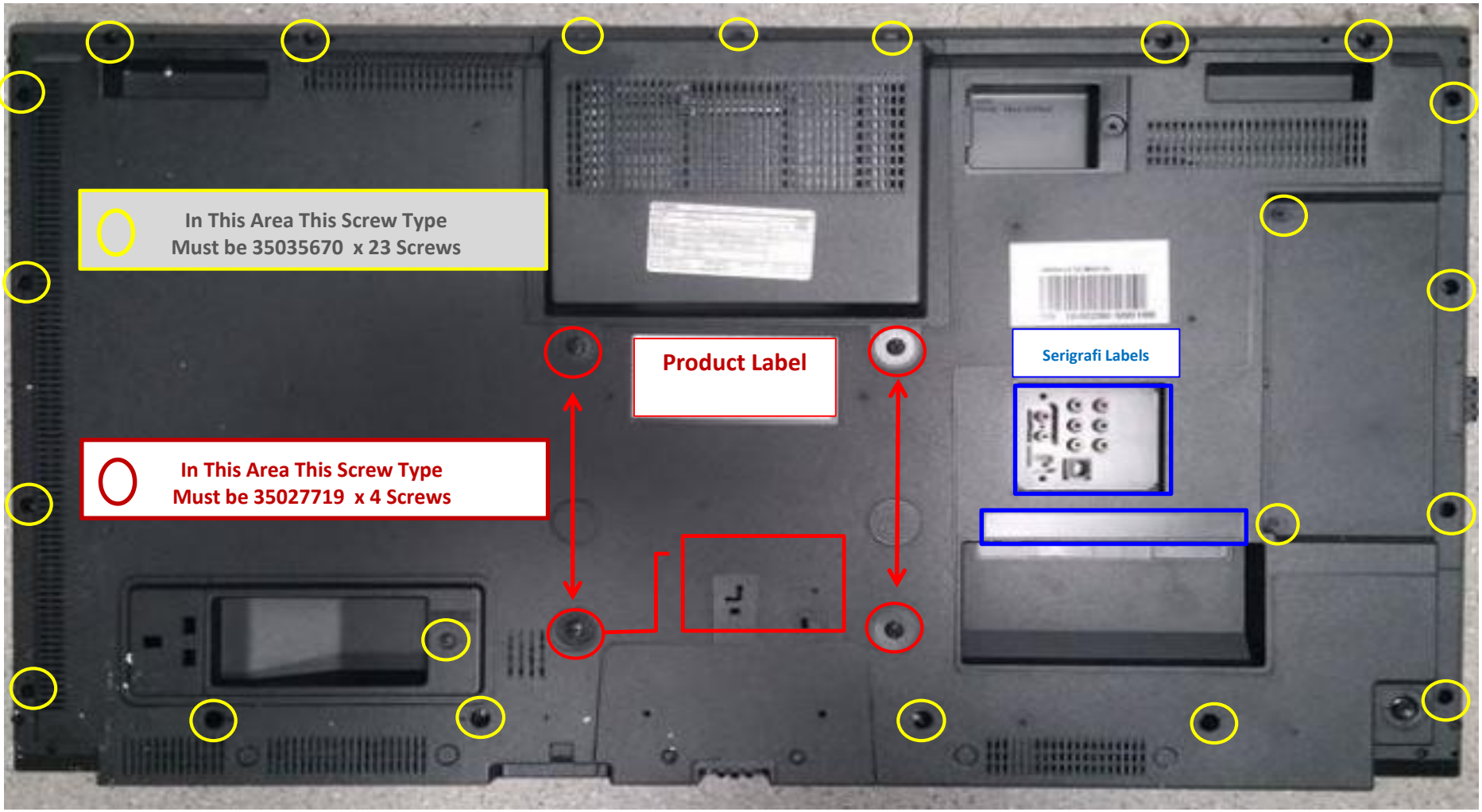
OK

NOK

OPS Fan which is located on the OPS module must be at same side with ventilation holes on the back cover.

This label shows how connect the ops module on products.

REMOVE BACK COVER

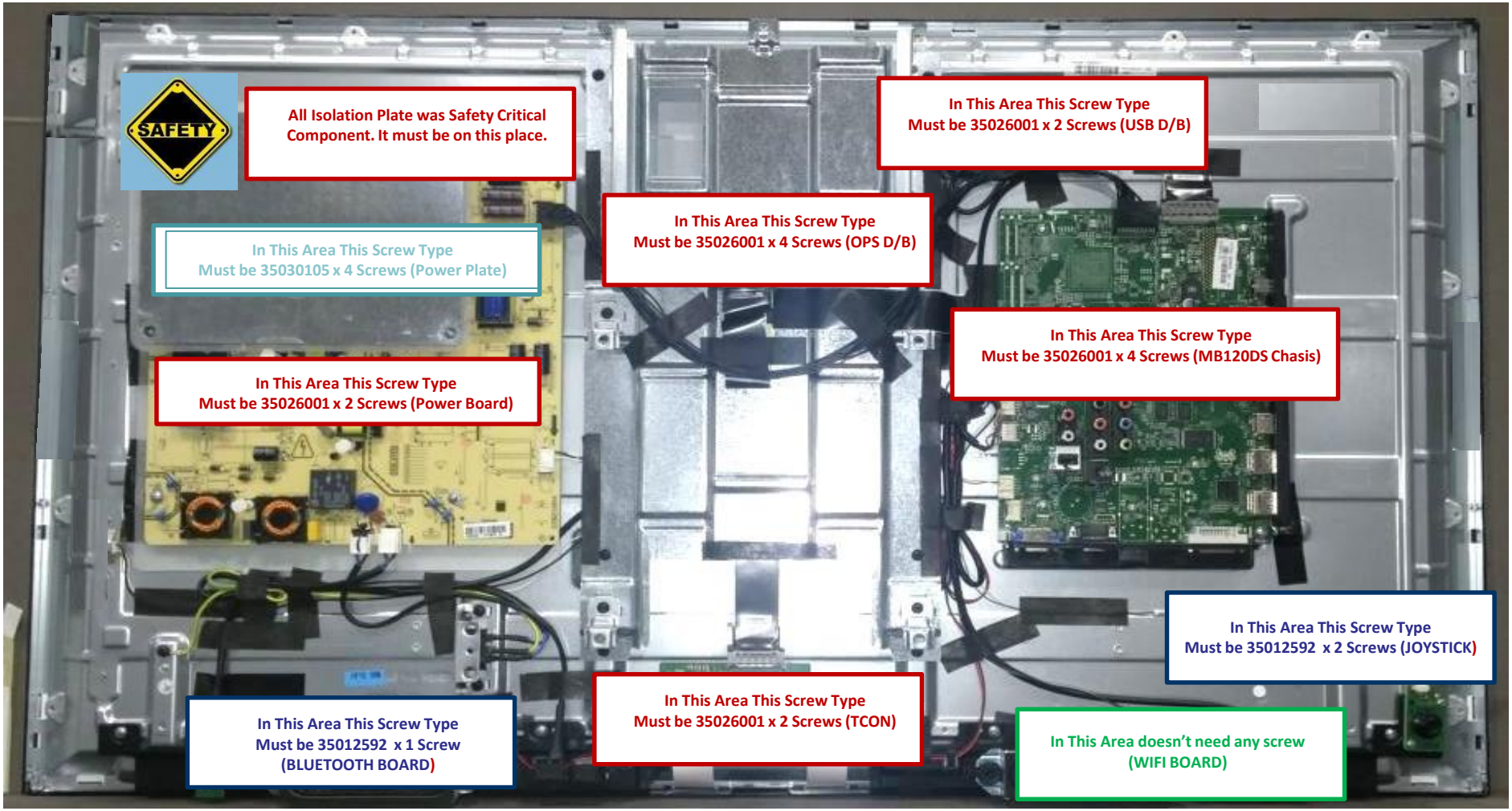


REMOVE BACK COVER

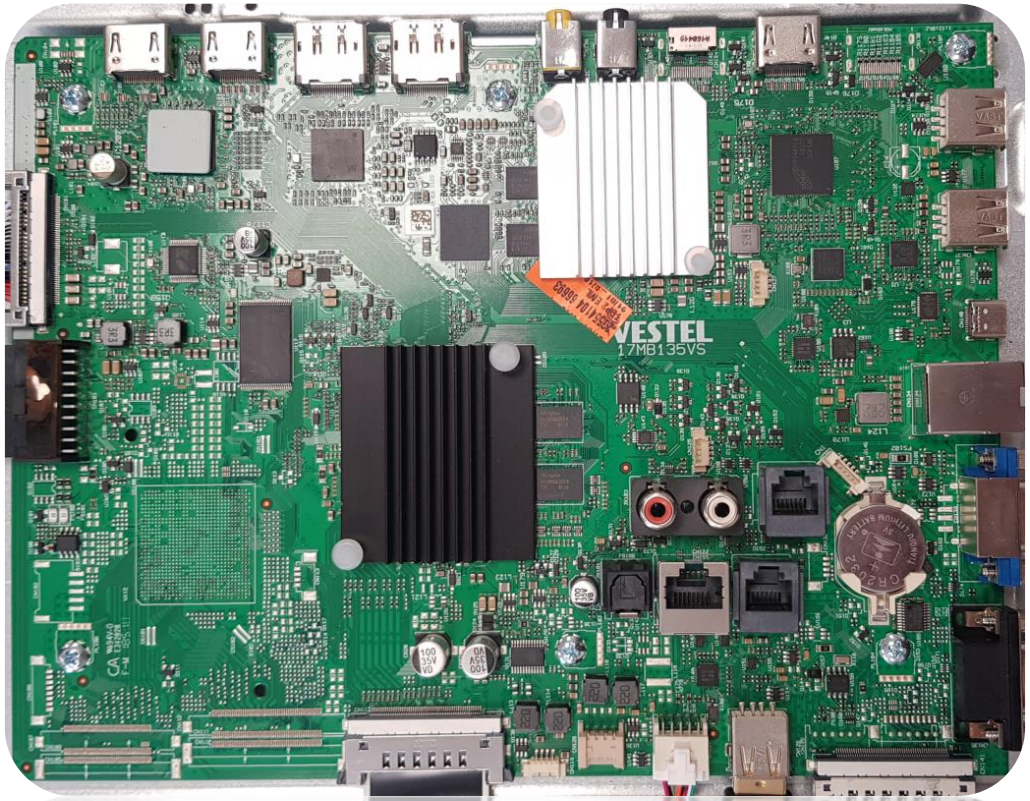
In This Area This Screw Type
Must be 35033266 x 7 Screws

In This Area This Screw Type
Must be 35031414 x 1 Screw (Logo Plate)

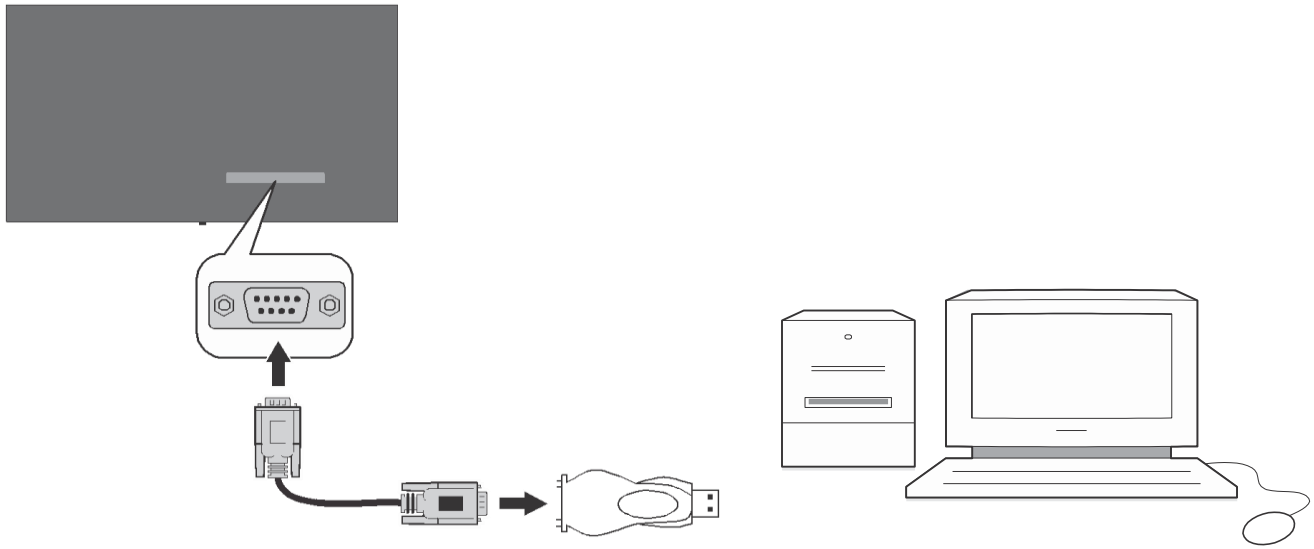
CHANGE BOARDS



MB135VS LAN/COM COMMANDS



Controlling With An External PC



RS-232 straight cable (commercially available)

You can control the product from an external PC via RS-232 (COM port) or LAN (Ethernet port) on the PC.

For instance, system source can be changed by RS-232 from remote computer. When a command is sent from the PC to the product, the product operates according to the received command and sends a response message to the PC.

•Equipment/Tools

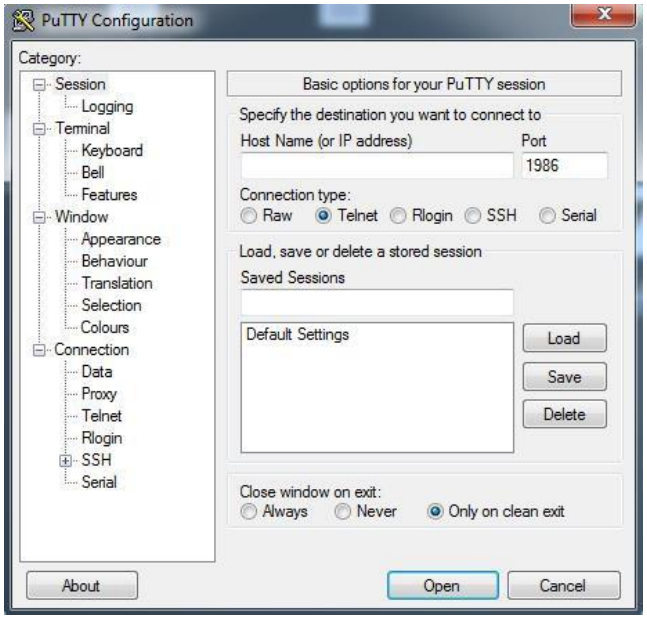
- RS-232 (female) to RS-232(male) cable or LAN cable (connected via router)
- USB to RS-232(male) cable
- Notebook or PC which has USB or LAN port
- Installed program on remote PC to send commands:

In general, the RS-232 commands are sent for operating the implemented functions via serial port and utility. A suitable utility can be used such as described below.

Connecting to the Display (LAN port)

Download and install the PuTTY software from the following link first: http://www.putty.org/.

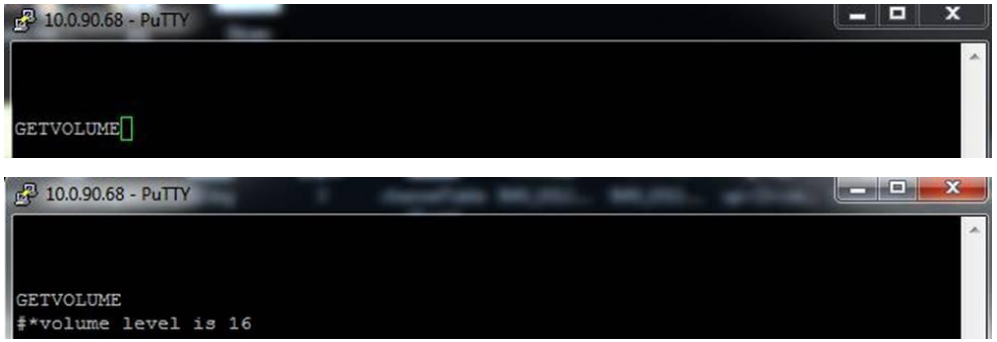
Run the software and enter the Display's IP address in the field Host Name. Enter "1986" as a default value in the field Port. Then select "Telnet" as Connection type and click the Open button.



Note: Refer to the Connectivity section of this manual for information on connecting the Display to a network and displaying the IP address of the Display.

Connecting to the Display (LAN port)

Use the commands in the RS232 Command Table. For example, if “GETVOLUME” command is entered, current volume level should be displayed on the putty window as shown in the pictures below.

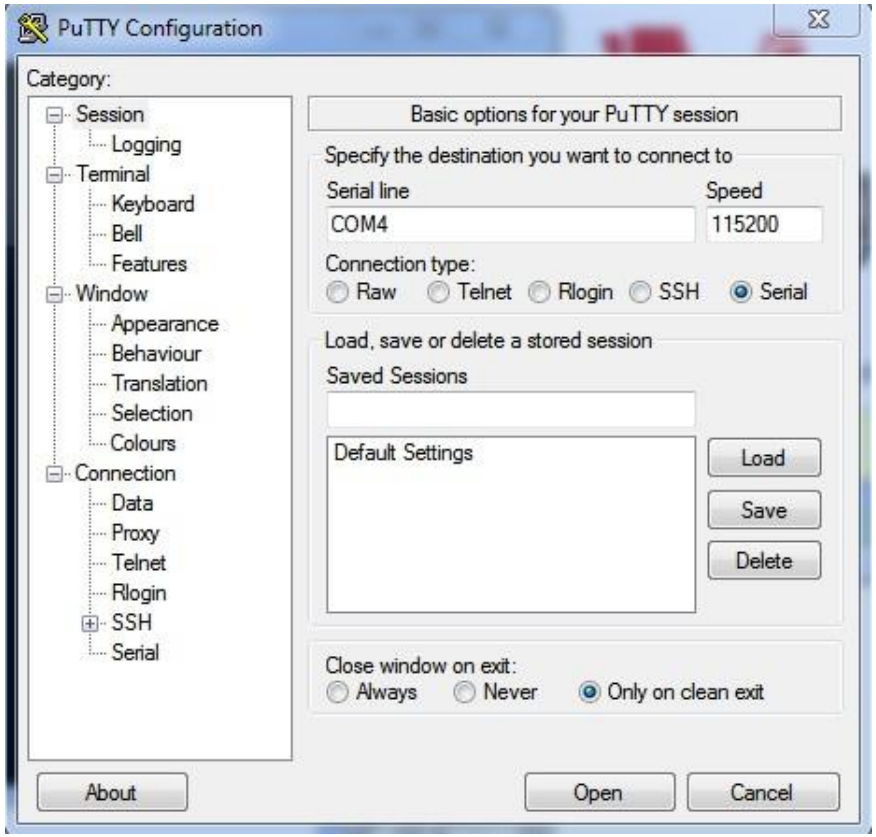


Another example;

When “GETSOURCE” command is entered, current source should be displayed on the putty window as shown in the picture below.

Connecting to the Display (RS232 port)

Run the software and select Serial as Connection Type. Enter the Display's serial port in the field Serial Line (in the following example it is COM4) and "115200" in the field Speed. Then click the Open button.



GENERAL DISPLAY COMMANDS

BROWSER COMMANDS			
Command	**Description**	**Parameter**	**Return**
OPENURL	Starts the given URL and returns web page load status directly.	string-integer n <load url='n' />	#*status= ... url=n
GETURL	Gets URL of the current page if the portal is active.	no parameter	#*URL : ...
GETUSERAGENT	Gets portal user agent.	no parameter	#*Current UA : ...
GETCURSORPOSITION	Gets cursor position in the browser.	no parameter	#*X: ... Y: ...
SETCURSORPOSITION	Sets cursor position in the browser.	string-integer a,b	#*X: a Y: b
SETSETTINGSURL	Sets the settings URL	string	#*Setting URL is set
GETSETTINGSURL	Gets the settings URL	no parameter	#*Setting URL is ...
SETSTARTURL	Sets the start URL	string	#*Start URL is set
GETSTARTURL	Gets the start URL	no parameter	#*Start URL is ...

GENERAL DISPLAY COMMANDS			
Command	**Description**	**Parameter**	**Return**
SETRC	Enables/disables remote control commands.	string-integer n (n = ON, n = OFF)	set remote state On or set remote state OFF
SETSOURCE	Set source as enable/ disable.	"string n, integer b (n = SCART1, n = SCART2, n = FAV, n = SVHS, n = HDMI1, n = HDMI2, n = HDMI3, n = HDMI4, n = YPBPR, n = VGA, n = SCART1S, n = SCART2S) (b = 1(enable), b = 0(disable))"	"#*Selected source n #*Enable/Disable state : b"
GETSOURCE	Gets source.	no parameter	#*source is ...
GETCOUNTRY	Get country in channels state.	no parameter	#*COUNTRY IS : ...
GETSWVERSION	Returns the software version of tv.	no parameter	#*V...
KEY	Send key to Eclipse.	string-integer n (n = 0, n = 1, ..., n = up, ..., n = menu, ...ext.)	n key send to Eclipse
RESET	Reset the device.	no parameter	Reset process was successfully accomplished. You need to establish the connection again.

GENERAL DISPLAY COMMANDS

STANDBY	"Switch box to Standby mode. (Attention: Television cannot be opened with standby command. You should open it with remote control. If you use STANDBY command, you will need to establish the connection again. Tv state :HARD- STANDBY)"	no parameter	"#*enterLowPowerMode() returns successfully. or #*enterLowPowerMode() returns unsuccessfully! or #*enterStandbyMode() returns successfully. or #*enterStandbyMode() returns unsuccessfully! "
MENUTIMEOUT	Set menu time out mode.	integer n (n = 0 , n = 15, n = 30, n = 60)	"#*set menu timeout mode to OFF or #*set menu timeout mode to 60 or #*Invalid menu timeout mode "
GETMODELNO	Get model no.	no parameter	#*Model no: ...
GETSERIALNO	Get serial no.	no parameter	#*Serial no: ...
GETLED	Get led on/off state.	no parameter	"#*LED is on #*LED is off"
GETRC	Get remote control commands enabled status	no parameter	"#*remote control commands are on #*remote control commands are off"
USBOPERATIONS	Perform USB Operations	no parameter	You may observe prints Bank 0, Bank 1 etc. Be sure or observe debug print outs: "MFC ISP: done" will be writen... This may take over 10 minutes.
GETMENUTIMEOUT	Get menu time out mode	no parameter	"#*menu timeout mode is OFF #*menu timeout mode is n #*can not get menu timeout mode Note: Above n is one of (15, 30, 60)"
GETTVLIFETIME	Prints Monitor life time in minutes.	no parameter	#*Monitor Life Time: n
SETPOWERONDELAY	Set poweron delay level	integer n (0<=n<=20, delay is calculated as 100ms*n)	"#*Poweron delay set to ... Ms #*NACK"
GETPOWERONDELAY	Get poweron delay level	no parameter	#*The power on delay is … ms
SIGNAGERESET	Set all items in the signage settings menu to their default values.	no parameter	#*All signage settings set to default values
SELECTSOURCE	Select source. (0=TV, other source indexes(some of them are not enabled))	integer n (5=FAV, 7=HDMI1, 8=HDMI2, 11=YPbPr, 12=Vga, 18=DVI , 19=DP , 20=OPS)	" #*select TV source or #*select External source …"
KEY standby	Switch box to Standby mode. (For quick standby)	no parameter	standby key send to Eclipse

GENERAL DISPLAY COMMANDS

TIME	Display the current date and time.	no parameter	Time = ...
GETSTANDBY	Get standby on/off.	no parameter	"#*standby off or #*standby on"
STARTFTI	Start First Time Installation.	no parameter	#*FTI was initialising.
CHANGELNG	Change active language.	"integer-integer x y x = language type (0 = System Language, 1 = Event Language, 2 = Primary Audio Language, 3 Secondary Audio Language, 4 = Primary Subtitle Language, 5 = Secondary Subtitle Language, 6 = Primary Teletext Language, 7 = Secondary Teletext Language) y = language (0 = Danish, 1 = German, 2 = Estonian, 3 = English, 4 = Spanish, 5 = Greek, 6 = French, 7 = Gaelic, 8 = Croatian, 9 = Italian, 10 = Latvian, 11 = Lithuanian, 12 = Hungarian, 13 = Dutch, 14 = Norwegian, 15 = Polish, 16 = Portuguese, 17 = Russian, 18 = Romanian, 19 = Albanian, 20 = Slovenian, 21 = Slovak, 22 = Serbian, 23 = Finnish, 24 = Swedish, 25 = Turkish, 26 = Czech, 27 = Ukranian, 28 = Bulgarian, 29 = Arabic, 30 = Persian, 31 = Hebrew , 32 = Belarussian, 33 = Macedonian, 34 = Montenegrin, 35 = Kazakh, 36 = Thai) Example: CHANGELNG 0 25 (To set system language to Turkish) "	"#*Active language was changed or #*Incorrect item parameter entered"
SETCOUNTRY	Set country in no channels state.	string-integer n(TURKEY, GERMANY, ...)	"#* setCountry() set to n or #*Country should be set only in the FTI mode (no channels state)"
SETQUICKSTANDBY	SETQUICKSTANDBY n, where n is one of (off, on).	string-integer n (n = ON, n = OFF)	"#*Set Quick Standby on or #*Set Quick Standby off or #*Quick Standby is not enabled"
GETQUICKSTANDBY	Returns Quick Standby state n (on or off)	no parameter	#*Quick Stanby is n
USBOPERATIONS	Perform USB Operations	no parameter	You may observe prints Bank 0, Bank 1 etc. Be sure or observe debug print outs: "MFC ISP: done" will be writen... This may take over 10 minutes.

AUDIO COMMANDS

AUDIO COMMANDS			
Command	**Description**	**Parameter**	**Return**
GETVOLUME	Volume level information.	no parameter	#*volume level is …
HEADPHONEVOLUME	"Set headphone volume level."	integer n (0 ≤ n ≤ 100)	#*set headphone volume to n
GETHEADPHONEVOLUME	"Headphone volume level information."	no parameter	#*headphone volume is …
GETMUTE	Get mute value on/off.	no parameter	"#*MUTE OFF or #*MUTE ON"
SETMUTE	Set mute value on/off.	no parameter	"#*MUTE OFF or #*MUTE ON"
SETSOUNDMODE	"Set sound mode. SETEQUSERFREQ 100Hz 10"	"integer n (0 = mono, 1 = stereo, 2 = dual I, 3 = dual II, 4 = mono left, 5 = mono right)"	"#*setSoundMode() set to n or #*Invalid sound mode entered"
SETBALANCE	Set balance value.	integer n (-50 < n < 50)	"#*set balance level to n or #*invalid balance level entered"
GETBALANCE	Get balance value.	no parameter	#*balance level is …
SETAVL	Set AVL state.	integer n (0 = off, 1 = on)	#*set avl state to n
GETAVL	Get AVL state.	no parameter	#*avl state is …
SETDYNAMICBASS	Set dynamic bass state.	integer n (0 = off, 1 = on)	#*set dynamic bass state to n
SETEQUSERFREQ	Set equalizer user freq. value for any band.	"string n (120Hz, 500Hz, 1.5KHz, 5KHz, 10KHz) integer n -13 < n < 13 Example: SETEQUSERFREQ 120Hz 10"	"#*setEQUserFreq() set to n or #*Incorrect sound system parameter entered or #*Incorrect equalizer mode. It should be USER mode"
GETDIGITALOUT	Get digital out.	no parameter	#*digital out is pcm or #*digital out is compressed
SETEQMODE	Set equalizer mode.	string n (Music, Movie, Speech, Flat, Classic, User)	"#*setEQMode() set to n or #*Incorrect equalizer parameter entered"
SETDIGITALOUT	Set digital out.	string n (compressed, pcm)	#*setDigitalOut() set to n OR #*Incorrect digital out mode parameter entered
VOLUMEUP	"Inrease Volume Level by 1 step (Until max volume) "	no parameter	"#*volume LEVEL is increased to ... or #*You can NOT increase volume LEVEL further. Confirmed Max Volume Level is …"
VOLUMEDOWN	Decrease Volume Level by 1 step	no parameter	"#*volume LEVEL is decreased to .. or #*You can NOT decrease volume LEVEL further. Current Volume level is ... "

AUDIO COMMANDS

SETHEADPHONEOUTPUT	Set headphone output	string n (headphone,lineout)	"#*set headphone output to n or #*Invalid Parameter"
GETHEADPHONEOUTPUT	Get headphone output	no parameter	#*LINEOUT or #*HEADPHONE
GETDYNAMICBASS	Get dynamic bass state.	no parameter	#*the dynamic bass state is ... (0 = off, 1= on)
GETBASSGAIN	Get bass gain	no parameter	"#*the bass gain level is n Note: Above n is -6 <= n <= 6"
GETEQUSERFREQ	Get equalizer user freq. value of specified band	string n (120Hz, 500Hz, 1.5KHz, 5KHz, 10Khz)	"#*the equalizer value for the band is n or #*Incorrect sound system parameter entered Note: Above n is -13 < n < 13"
GETEQMODE	Get equalizer mode	no parameter	"#*the equalizer mode is n Note: Above n is one of Music, Movie, Speech, Flat, Classic, User"
SOUNDRESET	Reset sound settings	no parameter	"#*Fixed Volume is set to ... #*Fixed volume availability is set to ... #*Headphone volume control availability is set to ... #*Start volume availability is set to ... #*Start volume limit is set to ... #*Start headphone volume limit is set to ... #*Lower volume limit is set to ... #*Upper volume limit is set to ... #*Headphone volume limit is set to ... #*Wakeup time volume is set to ... #*All equalizer bands are set to ... #*Volume is set to ... #*Headphone volume is set to ... #*Headphone balance is set to ... #*Headphone bass is set to ... #*Headphone treble is set to ... #*Digital audio out is set to ... #*Audio output description path is set to ... #*Audio description is ... #*Audio description relative volume is set to ... #*Audio description language is set to ... #*Sound Loudness is set to ... #*Sound mode digital is set to ... #*Sound mode is set to ... #*Sound subwoofer is set to ... #*SPDIF out is ... #*DTS is ... #*Bass gain is set to .. or #*Dynamic bass is ... "

NETWORK COMMANDS

NETWORK COMMANDS			
Command	**Description**	**Parameter**	**Return**
set_IP_address	Set static IP address of eth0 network interface.	str-int n Example: set_IP_ address 192.168.0.15	"#*IP address setting Succesfull #*IP address setting NOK"
get_IP_address	Get IP address of eth0 network interface. Usage: get_IP_address	no parameter	#*IPaddr: ...
SETNETWORKTYPE	set network type (eg. SETNETWORKTYPE value) (value should be 'wired', 'wireless' or 'disabled' as string)	string n ('wired', 'wireless' or 'disabled')	#*Network type is set to: <network- type>
GETNETWORKTYPE	get network type (eg. GETNETWORKTYPE)	no parameter	#*the network type is <network- type>
SETSUBNETMASK	set subnet mask (subnet mask value should be of format nnn.nnn.nnn.nnn) (eg. SETSUBNETMASK nnn.nnn.nnn.nnn)	string "nnn.nnn.nnn.nnn"	"#*set subnet mask: nnn.nnn.nnn. nnn #*setting subnet mask is failed"
GETSUBNETMASK	get subnet mask (eg. GETSUBNETMASK)	no parameter	#*the subnet mask is nnn.nnn. nnn.nnn
SETDEFAULTGATEWAY	set default gateway (default gateway value should be of format nnn.nnn.nnn.nnn) (eg. SETDEFAULTGATEWAY nnn.nnn.nnn.nnn)	string "nnn.nnn.nnn.nnn"	"#*set default gateway: nnn.nnn. nnn.nnn #*setting default gateway is failed"
GETDEFAULTGATEWAY	get default gateway (eg. GETDEFAULTGATEWAY)	no parameter	#*the default gateway is nnn.nnn. nnn.nnn
GETDNS1	get DNS server 1 (eg. GETDNS1)	no parameter	#*DNS server 1 is nnn.nnn.nnn. nnn
GETDNS2	get DNS server 2 (eg. GETDNS2)	no parameter	#*DNS server 1 is nnn.nnn.nnn. nnn
INTERNETSPEED	start internet speed test	no parameter	" Speed test is started. Prints ""No internet connection found"" message if fails."

VGA/PC COMMANDS

VGA/PC COMMANDS			
Command	**Description**	**Parameter**	**Return**
HPOS	Set horizontal position.	int n (-25 ≤ n ≤ 25)	"set horizontal position to ... (percentage in the range) #*invalid value entered"
VPOS	Set vertical position.	int n (-25 ≤ n ≤ 25)	"#*set vertical position to ... (percentange in the range) #*invalid value entered"
DOTCLOCK	Set dot clock.	int n (-50 ≤ n ≤ 50)	"#*set dot clock to ... (percentange in the range) #*invalid value entered"
AUTOPOS	Set auto position	no parameter	#*set auto position
GETOSDORIENTATION	Get OSD orientation	no parameter	#*The OSD orientation ...
GETHPOS	Get horizontal position.	no parameter	#*The horizontal position is ...
GETVPOS	Get vertical position.	no parameter	#*The vertical position is ...
GETDOTCLOCK	Get dot clock.	no parameter	#*The dot clock is ...
SETOPSPOWER	Set OPS power status	string parameter "on" or "off"	"#*Turning OPS on #*Turning OPS off #*The OPS is already on #*The OPS if already off #*The OPS is not enabled #*The OPS is not plugged in #*invalid value entered"

PICTURE COMMANDS

PICTURE COMMANDS			
Command	**Description**	**Parameter**	**Return**
COLOURTEMP	Set colour temperature.	str-int n (n = normal, warm, cool)	#*setColourTemp() set to n
GETPICTUREMODE	Get picture mode.	no parameter	#*Picture Mode is ... for current source
PICTUREMODE	Select picture mode.	int n (1 = dynamic, 2 = natural, 3 = cinema, 4 = game)	"#*setPictureMode() set to n #*Incorrect picture mode paramater entered"
GETCONTRAST	Get picture contrast value.	no parameter	#*THE CONTRAST VALUE : ...
SETCONTRAST	Set picture contrast value.	int n (0 ≤ n ≤ 100)	"#*Picture contrast value is set to n #*Same value is set. Do nothing. #*Incorrect value must between defined ranges 0-100"
GETBRIGHTNESS	Get picture brightness value.	no parameter	#*THE BRIGHTNESS VALUE : ...
SETBRIGHTNESS	Set picture brightness value.	int n (0 ≤ n ≤ 100)	"#*Picture brightness value is set to n #*Same value is set. Do nothing. #*Incorrect value must between defined ranges 0-100"
GETSHARPNESS	Get picture sharpness value.	no parameter	#*THE SHARPNESS VALUE : ...
SETSHARPNESS	Set picture sharpness value.	int n (0 ≤ n ≤ 100)	"#*Picture brightness value is set to n #*Same value is set. Do nothing. #*Incorrect value must between defined ranges 0-100"
GETCOLOUR	Get picture colour value.	no parameter	#*THE COLOUR VALUE : ...
SETCOLOUR	Set picture colour value.	int n (0 ≤ n ≤ 100)	"#*Picture colour value is set to n #*Same value is set. Do nothing. #*Incorrect value must between defined ranges 0-100"
SETSKINTONE	Set picture skin tone value.	int n (-5 ≤ n ≤ 5)	"#*Picture skin tone value is set to n #*Same value is set. Do nothing. #*Incorrect value must between defined ranges -5-5"
PICTUREZOOM	Set picture zoom mode.	str-int n (n = auto, 16:9, subtitle, 14:9, 14:9zoom, 4:3, full(only for HD channels), panaromic, cinema)	"#*setPictureZoomMode() set to n #*Incorrect picture zoom mode parameter entered"
SETWB	Set white balance value.	str-int type, value (type = redgain, greengain, bluegain, redoffset, greenoffset, blueoffset) (0 ≤ value ≤250)	"#*White Balance is set to value Invalid value for White Balance (0-255) Invalid type for White Balance"

PICTURE COMMANDS

GETWB	Get white balance value.	str-int type (type = redgain, greengain, bluegain, redoffset, greenoffset, blueoffset)	#* type ...
SET3DMODE	Set 3D mode values (values are off, auto, side by side, top bottom and game)	int n (n = off, auto, side by side, top bottom, game)	"#*set3DMode() set to n #*Incorrect 3d mode parameter entered"
SETVIRTUAL3D	Set virtual 3d values.	int n (0 = off, 1 = low, 2 = medium, 3 = high)	"seMonitorirtual3D() set to n Incorrect virtual 3d mode paramater entered "
CONTRASTUP	Inrease Contrast Level by 1 step	no parameter	Picture contrast value is set to …
CONTRASTDOWN	Decrease Contrast Level by 1 step	no parameter	Picture contrast value is set to …
GETENERGYSAVING	Get energy saving mode. (if enabled from profile)	no parameter	#*The energy saving mode is ...
GETPOWERSAVE	Get power save mode	no parameter	"#*Powersavemode is ON #*Powersavemode is OFF"
GETCOLOURTEMP	Get colour temperature.	no parameter	#*Colour temp is ...
GETHUE	Get picture hue value.	no parameter	#*Hue level is ...
GETSKINTONE	Get picture skin tone value.	no parameter	#*Picture skin tone is ...
GETPATTERN	Get selected pattern of the Monitor screen	no parameter	The pattern is ...

VIDEO WALL COMMANDS

VIDEO WALL COMMANDS			
Command	**Description**	**Parameter**	**Return**
SETROWCOUNT	Set row count.	integer n (0 ≤ n ≤ 100)	#*set row count to n
GETROWCOUNT	Get row count.	no parameter	#*row count is ...
SETCOLUMNCOUNT	Set column count.	integer n (0 ≤ n ≤ 100)	#*set column count to n
GETCOLUMNCOUNT	Get column count.	no parameter	#*column count is ...
SETCELL	Set cell.	integer n (0 ≤ n ≤ 100)	#*set cell to n
GETCELL	Get cell.	no parameter	#*cell is ...
SETOFFSET	Set offset.	integer n (0 ≤ n ≤ 100). n is the number of pixels which will be cropped from all four sides.	#*set offset to n
GETOFFSET	Get offset.	no parameter	#*offset is ...
SETVIDEOWALL	Set videowall parameters	"parameters for items in following format: RowCount-ColumnCount- Cell-Offset"	#*set row count to ..., set column count to ..., set cell to ..., set offset to …
GETVIDEOWALL	Get videowall parameters	no parameter	#*row count is ..., column count is ..., cell is ..., offset is …
SETALLVIDEOWALL	Set all videowall parameters	"parameters for items in following format: picture_mode-contrast- brightness-sharpness- color-powesave_mode-backlight_mode-colortemp- zoom_mode-hdmi_trueblack-picture_hue-volume- headphone_volume"	#*... ("set to" for each parameter in order)
GETALLVIDEOWALL	Get all videowall parameters	no parameter	#*picture_mode-contrast- brightness-sharpness-color-powesave_mode-backlight_mode- colortemp-zoom_mode-hdmi_ trueblack-picture_hue-volume- headphone_volume
SETPIXELSHIFT	Set pixel shift is enabled or not	string-integer n (n = on, n = off)	"#*ACK #*NACK"
GETPIXELSHIFT	Get pixel shift	no parameter	#*Pixel Shift is ...
SETSIGNAGEID	Set Signage ID	integer n (1 ≤ n ≤ 100). n is the Signage ID	"#*ACK #*NACK"
GETSIGNAGEID	Get Signage ID	no parameter	"#*The signage ID is … (If return value is 0, then it means no signage id is assigned. 0 is the default value.)"

MEDIA BROWSER COMMANDS

MEDIA BROWSER COMMANDS			
Command	**Description**	**Parameter**	**Return**
SETVIEWSTYLE	set view style (Flat or Folder)	string n (Flat, Folder)	#*The view style is set to ... (Flat or Folder)
GETVIEWSTYLE	get view style (Flat or Folder)	no parameter	#*The view style is ... (Flat or Folder)
SETSLIDESHOWINTERVAL	set slide show interval	integer n (5, 10, 15, 20, 25, 30)	#*The slideshow interval is set to ... seconds
GETSLIDESHOWINTERVAL	get slide show interval	no parameter	#*The slideshow interval is ... seconds
SETUSBAUTOPLAY	set usb autoplay mode	string n (ON, OFF)	#*The USB autoplay is set to ... (ON, OFF)
GETUSBAUTOPLAY	get usb autoplay mode	no parameter	#*The USB autoplay is ... (ON, OFF)

ADMIN PANEL COMMANDS

ADMIN PANEL COMMANDS			
Command	**Description**	**Parameter**	**Return**
RST	Restart	no parameter	#Monitor will be restarted
STV	Sets Monitor Volume, parameter value will ve set for volume level	integer (volume level)	#Volume set level= ...
STL	Set Monitor Language	string-int (please look at abbreviations of languages)	#Language changed to ...
STWA	Stop wake up alarm	no parameter	#WakeupAlarm stopped !!!
STEA	Stop emergency alarm	none	#Emergency Alarm is stopped !!!
UNP	Send Message	"string-int (message text - 0) [message content should be ""word1+ word2+word3 ..."""]"	#Message Sent in SUCCESS !!!
GTSURL	Get Monitor Portal URL	none	#StartUp url is ....

SIGNAGE SETTINGS COMMANDS

SIGNAGE SETTINGS COMMANDS			
Command	**Description**	**Parameter**	**Return**
GETTOTALSPACE	get total usb space (in MB)	no parameter	#*The total space is ... MB
GETFREESPACE	get free usb space (in MB)	no parameter	#*The total space is ... MB
SAVEMODELINFO	saves model name and sw version to a removable device	no parameter	#*Model info is saved OR #*No Removable drive is connected (If there is no device connected)
SETSCHEDULER	enables/disables scheduler	string n (ON, OFF)	#*The scheduler is set to .... (ON, OFF)
GETSCHEDULER	get scheduler enabled/ disabled	no parameter	#*The scheduler is .... (ON, OFF)
SETSCHEDULEOP	set scheduler parameters	string n (on time_off time_ source in format: hh:mm_ hh:mm_source)	#*Schedule parameters are ... (set/ not set).
GETSCHEDULEOP	get scheduler parameters	no parameter	#*Scheduler on/off time and source is: ..... (hh:mm_hh:mm_source)

RS232 HEX COMMANDS

Protocol Test Steps

• Before testing, please know the board type you have. There are two types of board. The UART 0 and UART 1 connections of the these boards are explained below:

1. RJ12 is connected to UART 0, DSUB9 is connected to UART 1. Therefore, UART 0 and UART 1 could be tested separately in this type of the board
2. RJ12 and DSUB9 both are connected to UART 0. UART 1 is supported for OPS module but not reachable. Therefore, only UART 0 could be tested in this type of the board.

• Activate HEX protocol on TV.
a. Enter Signage Settings Menu.
b. Change ASCII option to HEX in UART 0 or UART 1 sub-menu item

• Open any serial port communications program (e.g Realterm). Configure serial communication settings as below:

Baud Rate	: 19200 for UART0, 9600 for UART1
Parity	: None
Data Bits	: 8
Stop Bits	: 1
Handshake	: None

Note that UART0 default value: ASCII, UART1 default value: HEX In the tables given below, XY represents are variable byte.
All byte values are hexadecimal.

Error Responses

• NAK reply: 15 — When the display cannot understand the received command, it returns this value. In such a case, check the sending code and send the same command again.

• Error reply: 1C 00 00 — When the display cannot execute the received command for any reasons, it returns this value. In such a case, check the sending code and the setting status of the display.

RS232 HEX COMMANDS

Command received by display																Reply sent by display for successful operation			
Byte Number		0	1	2	3	4	5	6	7	8	9	10	11	12				
		Header							Data									
		Header code		Packet	Data Size		CRC flag		Action		Type		Setting code		0	1	2	Notes
Name	Operation	L	H		L	H	L	H	L	H	L	H	L	H				
Monitor	ON	BE	EF	03	06	00	19	D3	02	00	00	60	02	00	06			
	OFF	BE	EF	03	06	00	19	D3	02	00	00	60	01	00	06			
	GET	BE	EF	03	06	00	19	D8	03	00	00	60	07	00	1D	00	XY	XY can be either 00 or 01. 00 means OFF, 01 means ON.
Mute	ON	BE	EF	03	06	00	D6	D2	01	00	02	20	01	00	06			
	OFF	BE	EF	03	06	00	46	D3	01	00	02	20	00	00	06			
	GET	BE	EF	03	06	00	75	D3	02	00	02	20	00	00	1D	00	XY	XY can be either 00 or 01. 00 means OFF, 01 means ON.
Screen	ON	BE	EF	03	06	00	6B	D9	01	00	20	30	01	00	06			
	OFF	BE	EF	03	06	00	FB	D8	01	00	20	30	00	00	06			
	GET	BE	EF	03	06	00	C8	D8	02	00	20	30	00	00	1D	00	XY	XY can be either 00 or 01. 00 means OFF, 01 means ON.
Source	OPS	BE	EF	03	06	00	FE	D2	01	00	00	20	00	00	06			
	HDMI	BE	EF	03	06	00	0E	D2	01	00	00	20	03	00	06			
	VGA	BE	EF	03	06	00	6E	D2	01	00	00	20	01	00	06			
	SCART2(CVBS)	BE	EF	03	06	00	00	00	01	00	00	20	04	00	06			
	FAV	BE	EF	03	06	00	00	00	01	00	00	20	05	00	06			
	S-Video	BE	EF	03	06	00	00	00	01	00	00	20	06	00	06			
Source	HDMI2	BE	EF	03	06	00	00	00	01	00	00	20	08	00	06			
	HDMI3	BE	EF	03	06	00	00	00	01	00	00	20	09	00	06			
	HDMI4	BE	EF	03	06	00	00	00	01	00	00	20	0A	00	06			
	YPbPr	BE	EF	03	06	00	00	00	01	00	00	20	0B	00	06			
	SCART2 (S-Video)	BE	EF	03	06	00	00	00	01	00	00	20	0D	00	06			
	TV	BE	EF	03	06	00	00	00	01	00	00	20	0E	00	06			
	SCART1(CVBS)	BE	EF	03	06	00	00	00	01	00	00	20	0F	00	06			
	SCART1 (S-Video)	BE	EF	03	06	00	00	00	01	00	00	20	10	00	06			
	DVD	BE	EF	03	06	00	00	00	01	00	00	20	11	00	06			
	DVI	BE	EF	03	06	00	00	00	01	00	00	20	12	00	06			
	DP	BE	EF	03	06	00	00	00	01	00	00	20	13	00	06			
	WIDI	BE	EF	03	06	00	00	00	01	00	00	20	15	00	06			
	GET	BE	EF	03	06	00	CD	D2	02	00	00	20	00	00	1D	00	XY	XY can be one of the following: 01: OPS, 02: HDMI, 03: VGA, 04: SCART2(CVBS), 05: FAV, 06: S-Video, 08: HDMI2, 09: HDMI3, 0A: HDMI4, 0B: YPbPr, 0D: SCART2(S-Video), 0E: TV, 0F: SCART1(CVBS), 10: SCART1(S-Video), 11: DVD, 12: DVI, 13: DP, 15: WIDI Note that all of the sources are not enabled.
Volume	GET	BE	EF	03	06	00	31	D3	02	00	01	20	00	00	1D	00	XY	
	INCREMENT	BE	EF	03	06	00	57	D3	04	00	01	20	00	00	06			
	DECREMENT	BE	EF	03	06	00	86	D2	05	00	01	20	00	00	06			
	SET	BE	EF	03	06	00	31	D3	03	00	01	20	01	XY	06			XY can take 00 as a minimum and 1D as a maximum.

MB135VS
SUPPORTED VIDEO/AUDIO FORMATS

Supported Video/Picture Formats for USB Files

Video Codec	Resolution	Bit Rate	Container
MPEG1/2	1080Px2@30fps, 1080P@60fps	40Mbps	MPEG program stream (.DAT, .VOB, .MPG, .MPEG), MPEG transport stream (.ts, .trp, .tp), MP4 (.mp4, .mov), 3GPP (.3gpp, .3gp), AVI (.avi), MKV (.mkv), ASF (.asf)
MPEG4			MPEG program stream (.MPG, .MPEG), MP4 (.mp4, .mov), 3GPP (.3gpp, .3gp), AVI (.avi), MKV (.mkv), ASF (.asf)
XviD			MP4 (.mp4, .mov), AVI (.avi), MKV (.mkv), ASF (.asf)
Sorenson H.263			FLV (.flv), AVI (.avi)
H.263			MP4 (.mp4, .mov), 3GPP (.3gpp, .3gp), AVI (.avi), MKV (.mkv)
H.264	3840x2160@30fps, 1080P@60fps	135Mbps	FLV (.flv), MP4 (.mp4, .mov), 3GPP (.3gpp, .3gp), MPEG transport stream (.ts, .trp, .tp), ASF (.asf), AVI (.avi), MKV (.mkv)
Motion JPEG	720P@30fps	10Mbps	AVI (.avi), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov), MKV (.mkv), ASF (.asf)
VP8	1080P@30fps	20Mbps	MKV (.mkv), WebM (.webm)
HEVC/H.265	4K2K@60fps	100Mbps	MP4 (.mp4, .mov), MKV (.mkv), MPEG transport stream (.ts, .trp, .tp)
	1080P@60fps	50Mbps	MP4 (.mp4, .mov), MKV (.mkv), MPEG transport stream (.ts, .trp, .tp), 3GPP (.3gpp, .3gp)
VP9	4K2K@30fps	100Mbps	MKV (.mkv), WebM (.webm)

Image	Photo	Resolution (width x height)	Remark
JPEG	Base-line	15360x8640	The limit for max resolution depends on DRAM size
	Progressive	1024x768	
PNG	non-interlace	9600x6400	
	interlace	1200x800	
BMP		9600x6400	

Supported Audio Formats for USB Files

Audio Codec	Sample rate	Bit Rate	Container
MPEG1/2 Layer1	16KHz ~ 48KHz	32Kbps ~ 448Kbps	MP3 (.mp3), AVI (.avi), ASF (.asf), Matroska (.mkv, .mka), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG), WAV (.wav)
MPEG1/2 Layer2	16KHz ~ 48KHz	8Kbps ~ 384Kbps	MP3 (.mp3), AVI (.avi), ASF (.asf), Matroska (.mkv, .mka), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG), WAV (.wav)
MPEG1/2 Layer3	16KHz ~ 48KHz	8Kbps ~ 320Kbps	MP3 (.mp3), AVI (.avi), ASF (.asf), Matroska (.mkv, .mka), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov, m4a), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG), FLV (.flv), WAV (.wav)
AC3	32KHz, 44.1KHz, 48KHz	32Kbps ~ 640Kbps	AC3 (.ac3), AVI (.avi), Matroska (.mkv, .mka), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov, m4a), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG)
EAC3	32KHz, 44.1KHz, 48KHz	32Kbps ~ 6 Mbps	EAC3 (.ec3), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov, m4a), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG)
AAC, HEAAC	8KHz ~ 48KHz		AAC (.aac), AVI (.avi), Matroska (.mkv, .mka), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov, m4a), MPEG transport stream (.ts, .trp, .tp), MPEG program stream (.DAT, .VOB, .MPG, .MPEG), FLV (.flv), RM (.ra)
WMA	8KHz ~ 48KHz	128bps ~ 320Kbps	ASF (.wma, .asf), AVI (.avi), Matroska (.mkv, .mka)
WMA 10 Pro M0	48KHz	< 192kbps	
WMA 10 Pro M1	48KHz	< 384kbps	
WMA 10 Pro M2	96KHz	< 768kbps	
G711 A/mu-law	8KHz	64Kbps ~ 128Kbps	WAV (.wav), AVI (.avi), Matroska (.mkv, .mka), 3GPP (.3gpp, .3gp), MP4 (.mp4, .mov, m4a)
LBR (cook)	8KHz, 11.025KHz, 22.05KHz, 44.1KHz	6Kbps ~ 128Kbps	RM (.ra)
FLAC	8KHz~96KHz	< 1.6Mbps	Matroska (.mkv, .mka)

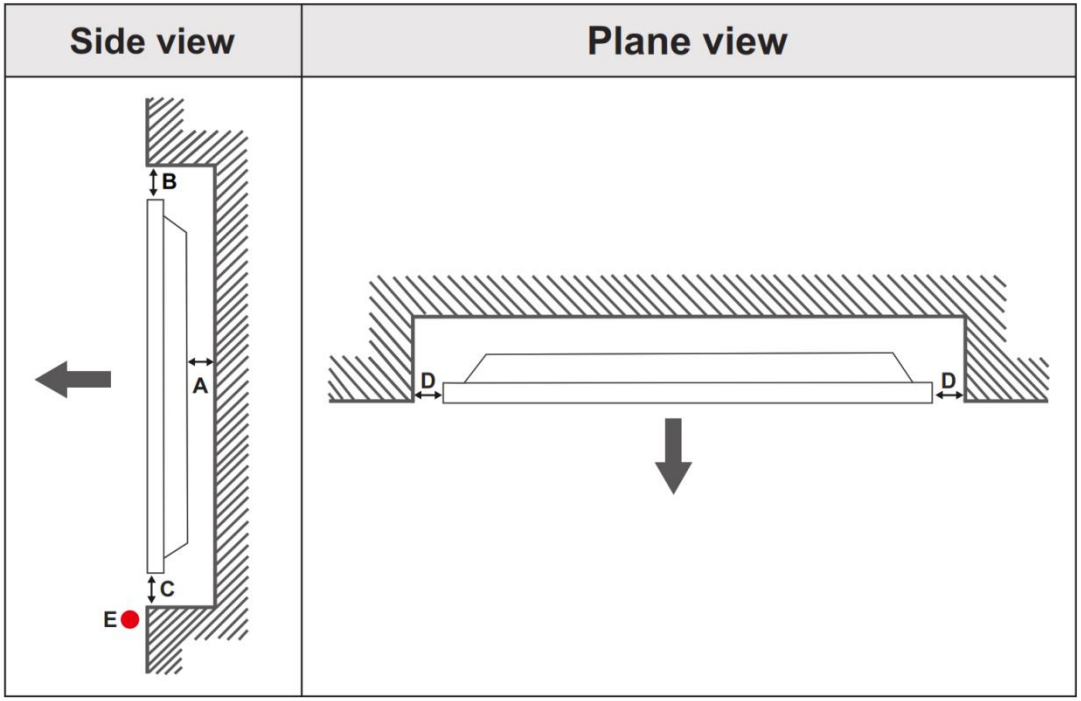
Supported Subtitle File Formats for USB Files

Internal Subtitles		
Extension	**Container**	**Subtitle Code**
dat, mpg, mpeg, vob	MPG, MPEG	DVD Subtitle
ts, trp, tp	TS	DVB Subtitle
mp4	MP4	DVD Subtitle UTF-8 Plain Text
mkv	MKV	ASS SSA UTF-8 Plain Text VobSub DVD Subtitle
avi	AVI (1.0, 2.0), DMF0,1, 2	XSUB XSUB+

External Subtitles		
Extension	**Subtitle Parser**	**Remark**
.srt	Subrip	
.ssa/ .ass	SubStation Alpha	
.smi	SAMI	
.sub	SubViewer MicroDVD DVDSusbtitleSystem SubIdx (VobSub)	SubViewer 1.0 & 2.0 Only
.txt	TMPlayer	

MB135VS
Installation On An Indented Wall

Installation On An Indented Wall



A	Minimum 50 mm
B	Minimum 70 mm
C	Minimum 50 mm
D	Minimum 50 mm
E	Ambient temperature range: 0-35ºC

When installing the product on an indented wall, allow at least the space specified above between the product and wall for ventilation and ensure that the ambient temperature is kept between 0ºC-35ºC.

Do not expose the product to direct sunlight.

We will take no responsibility for any damages or failures in case our products are not being used subject to these recommendations and/or instructions for use.