



Contents

| | |
|--|----|
| Safety Information | 2 |
| Markings on the Product..... | 2 |
| Accessories Included..... | 4 |
| TV Control Switch & Operation..... | 4 |
| Inserting the Batteries into the Remote | 4 |
| Connect Power | 4 |
| Switching On/Off..... | 5 |
| Remote Control | 6 |
| Connections..... | 7 |
| About Hotel TV | 8 |
| How To Use The Hotel TV Interface | 8 |
| Internet Portal | 9 |
| HBBTV System (optional)..... | 9 |
| Using Audio Video Sharing Network Service..... | 9 |
| Smart Center | 10 |
| My Channels..... | 10 |
| TV | 10 |
| Recordings (optional) | 10 |
| EPG | 10 |
| Portal | 10 |
| Settings..... | 10 |
| Detail Page | 10 |
| FollowMe TV Feature (if available)..... | 10 |
| Media Share Page..... | 11 |
| Portal Launcher | 11 |
| Smart Remote Feature | 11 |
| Voice Recognition..... | 11 |
| Keyboard Page..... | 11 |
| Internet Browser | 11 |
| Using YouTube | 12 |
| Smart Remote | 12 |
| Controlling With An External PC..... | 12 |
| RS232/LAN Command Table | 14 |
| Supported Video File Formats for USB Mode | 21 |
| Supported Picture File Formats for USB Mode | 21 |
| Supported Audio File Formats for USB Mode | 22 |
| Supported Subtitle File Formats for USB Mode ... | 23 |
| Supported DVI Resolutions | 24 |
| PC Input Typical Display Modes..... | 24 |
| AV and HDMI Signal Compatibility | 25 |

Safety Information

| | | |
|--|---|---|
|  | CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN |  |
| <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p> | | |

In extreme weather (storms, lightning) and long inactivity periods (going on holiday) disconnect the TV set from the mains.

The mains plug is used to disconnect TV set from the mains and therefore it must remain readily operable. If the TV set is not disconnected electrically from the mains, the device will still draw power for all situations even if the TV is in standby mode or switched off.

Note: Follow the on screen instructions for operating the related features.




IMPORTANT - Please read these instructions fully before installing or operating

⚠ WARNING: Never let people (including children) with reduced physical, sensory or mental capabilities or lack of experience and / or knowledge use electrical devices unsupervised.

- Use this TV set at an altitude of less than 2000 meters above the sea level, in dry locations and in regions with moderate or tropical climates.
- The TV set is intended for household and similar general use but may also be used in public places.
- For ventilation purposes, leave at least 5cm of free space around the TV.
- The ventilation should not be impeded by covering or blocking the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.
- The power cord plug should be easily accessible. **Do not** place the TV, furniture, etc. on the power cord. A damaged power cord/plug can cause fire or give you an electric shock. Handle the power cord by the plug, **do not** unplug the TV by pulling the power cord. Never touch the power cord/plug with wet hands as this could cause a short circuit or electric shock. Never make a knot in the power cord or tie it with other cords. When damaged it must be replaced, this should only be done by qualified personnel.
- Do not expose the TV to dripping or splashing of liquids and do not place objects filled with liquids, such as vases, cups, etc. on or over the TV (e.g., on shelves above the unit).
- Do not expose the TV to direct sunlight or do not place open flames such as lit candles on the top of or near the TV.

- Do not place any heat sources such as electric heaters, radiators, etc. near the TV set.
- Do not place the TV on the floor and inclined surfaces.
- To avoid danger of suffocation, keep plastic bags out of the reach of the babies, children and domestic animals.
- Carefully attach the stand to the TV. If the stand is provided with screws, tighten the screws firmly to prevent the TV from tilting. Do not over-tighten the screws and mount the stand rubbers properly.
- Do not dispose of the batteries in fire or with hazardous or flammable materials.

Warning: Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

| | |
|--|---------------------------------|
|  Caution | Serious injury or death risk |
|  Risk of electric shock | Dangerous voltage risk |
|  Maintenance | Important maintenance component |

Markings on the Product

The following symbols are used **on the product** as a marker for restrictions and precautions and safety instructions. Each explanation shall be considered where the product bears related marking only. Note such information for security reasons.



Class II Equipment: This appliance is designed in such a way that it does not require a safety connection to electrical earth.



Class II Equipment With Functional Earthing: This appliance is designed in such a way that it does not require a safety connection to electrical earth, the earth connection is used for functional purposes.



Protective Earth Connection: The marked terminal is intended for connection of the protective earthing conductor associated with the supply wiring.



Hazardous Live Terminal: The marked terminal(s) is/are hazardous live under normal operating conditions.



Caution, See Operating Instructions: The marked area(s) contain(s) user replaceable coin or button cell batteries.



Class 1 Laser Product: This product contains Class 1 laser source that is safe under reasonably foreseeable conditions of operation.

WARNING

Do not ingest the battery, Chemical Burn Hazard
This product or the accessories supplied with the product may contain a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.

Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children.

If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

WARNING

Never place a television set in an unstable or inclined location. A television set may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as;

- Using cabinets or stands recommended by the manufacturer of the television set.
- Only using furniture that can safely support the television set.
- Ensuring the television set is not overhanging the edge of the supporting furniture.
- Not placing the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
- Not standing the television set on cloth or other materials placed between the television and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television set or its controls. If your existing television set is being retained and relocated, the same considerations as above should be applied.

WALL MOUNTING WARNINGS

- Read the instructions before mounting your TV on the wall.
- The wall mount kit is optional. You can obtain from your local dealer, if not supplied with your TV.
- Do not install the TV on a ceiling or on an inclined wall.
- Use the specified wall mounting screws and other accessories.
- Tighten the wall mounting screws firmly to prevent the TV from fall. Do not over-tighten the screws.

WARNING

Apparatus connected to the protective earthing of the building installation through the MAINS connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)

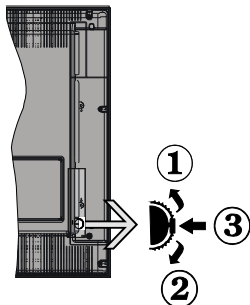
Optional

The Word 'Optional' is used in these instructions to mean a feature or function is only available on some models.

Accessories Included

- Remote Control
- Batteries: 2 x AAA
- Instruction Book
- Side AV Connection Cable
- YPbPr Connection Cable

TV Control Switch & Operation



1. Up direction
2. Down direction
3. Volume / Info / Sources List selection and Standby-On switch

The Control button allows you to control the Volume / Programme / Source and Standby-On functions of the TV.

To change volume: Increase the volume by pushing the button up. Decrease the volume by pushing the button down.

To change country: Press the middle of the button in, the country selection screen will appear. Scroll through the available options by pushing the button up or down.

To change source: Press the middle of the button in twice (for the second time in total), the source list will appear on the screen. Scroll through the available sources by pushing the button up or down.

To turn the TV off: Press the middle of the button in and hold it down for a few seconds, the TV will turn into standby mode.

To turn on the TV: Press the middle of the button in, the TV will turn on.

Note: If you turn the TV off, this circle starts again beginning with the volume setting.

Input Selection

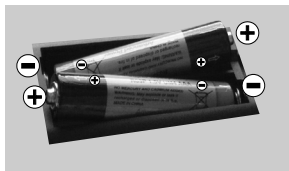
Once you have connected external systems to your TV, you can switch to different input sources. Press the **Source** button on your remote control consecutively to select the different sources.

Changing Channels and Volume

You can change the channel and adjust the volume by using the **Volume +/-** and **Programme +/-** buttons on the remote.

Inserting the Batteries into the Remote

- Remove the screw that secures the battery compartment cover on the back side of the remote control.
- Remove the cover.
- Insert two size AAA batteries. Note the correct polarity (+ or -). Do not mix old and new batteries. Replace only with same or equivalent type.
- Place the cover back on.
- Screw the cover back on.



Angle of the remote control unit

Use the remote control unit by pointing it towards the remote control sensor.

Objects between the remote control unit and sensor may prevent proper operation.

Cautions regarding the remote control unit

- Do not expose the remote control unit to shock. In addition, do not expose the remote control unit to liquids, and do not place in an area with high humidity.
- Do not install or place the remote control unit under direct sunlight. The heat may cause deformation of the unit.
- The remote control unit may not work properly if the remote control sensor of the TV is under direct sunlight or strong lighting. In such cases, change the angle of the lighting or the TV, or operate the remote control unit closer to the remote control sensor.

Connect Power

IMPORTANT: The TV set is designed to operate on **220-240V AC, 50 Hz** socket. After unpacking, allow the TV set to reach the ambient room temperature before you connect the set to the mains. Plug the power cable to the mains socket outlet.

To Switch the TV On

Connect the power cord to a power source such as a wall socket (220-240V AC, 50 Hz).

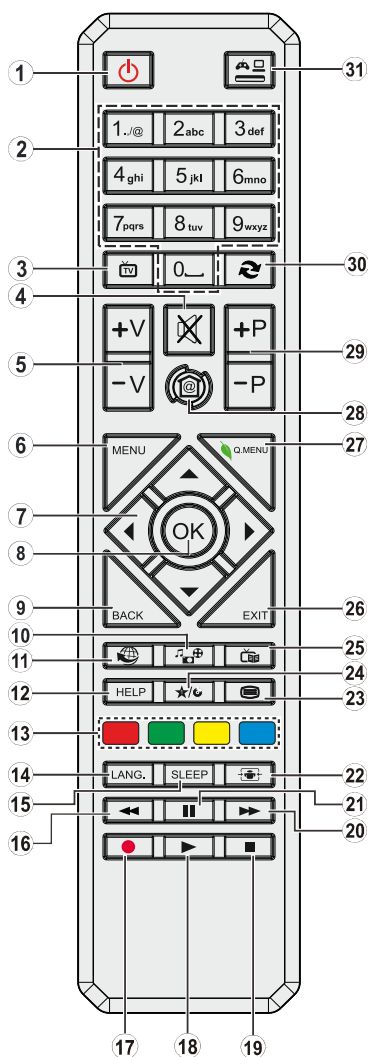
To switch on the TV from standby mode either:

- Press the **Standby** button, **Programme +/-** or a numeric button on the remote control.
- Press the the side function switch on the TV until the TV comes on from standby.

To Switch the TV Off

Press the **Standby** button on the remote control or press the side function switch on the TV until the TV switches into standby mode.

To power down the TV completely, unplug the power cord from the mains socket.








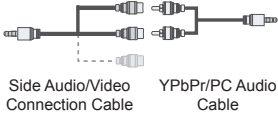








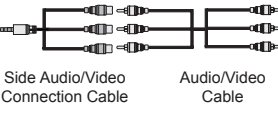









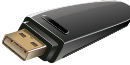
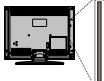







1. **Standby:** Switches On / Off the TV
2. **Numeric buttons:** Switches the channel, enters a number or a letter in the text box on the screen.
3. **TV:** Displays TV channels
4. **Mute:** Completely turns off the volume of the TV
5. **Volume +/-**
6. **Menu:** Displays TV menu
7. **Directional buttons:** Helps navigate menus, content etc. and displays the subpages in TXT mode when pressed Right or Left
8. **OK:** Confirms user selections, holds the page (in TXT mode), views channel list (DTV mode)
9. **Back/Return:** Returns to previous screen, opens index page (in TXT mode) / Displays TV channels if the main Hotel TV opening screen or country selection screen is being displayed
10. **Media browser:** Opens the media browsing screen
11. **Internet:** Opens the portal page, where you can reach many web based applications
12. **Help:** Opens the country selection screen where you can filter the channels according to their countries
13. **Coloured Buttons:** Follow the on-screen instructions for coloured button functions
14. **Language:** Switches between sound modes (analogue TV), displays and changes audio/subtitle language (digital TV, where available)
15. **Sleep:** Sets sleep timer for the TV to shut down automatically after a defined period of time.
16. **Rapid reverse:** Moves frames backwards in media such as movies
17. **Record:** Records programmes
18. **Play:** Starts to play selected media
19. **Stop:** Stops the media being played
20. **Rapid advance:** Moves frames forward in media such as movies
21. **Pause:** Pauses the media being played, starts timeshift recording
22. **Screen:** Changes the aspect ratio of the screen
23. **Text:** Displays teletext (where available), press again to superimpose the teletext over a normal broadcast picture (mix)
24. **My button (*)**
25. **EPG (Electronic programme guide):** Displays the electronic programme guide
26. **Exit:** Closes and exits from displayed menus or returns to previous screen / Returns to the main Hotel TV opening screen if the link screen is being displayed
27. **Quick Menu:** Displays a list of menus for quick access
28. **Home:** Opens the main Hotel TV opening screen
29. **Programme +/-**
30. **Swap:** Quickly cycles between previous and current channels or sources
31. **Source:** Shows all available broadcast and content sources

(*) MY BUTTON:

This button may have a default function depending on the model. However you can set a special function to this button by pressing on it for five seconds when on a desired source or channel. A confirmation message will be displayed on the screen. Now the MY BUTTON is associated with the selected function.

Connections

| Connector | Type | Cables | Device |
|---|---|--|---|
|  | Scart Connection (back) |  |  |
|  | VGA Connection (back) |  |  |
|  | PC/YpBPr Audio Connection (side) |  Side Audio/Video Connection Cable YpBPr/PC Audio Cable |  |
|  | HDMI Connection (back) |  |  |
|  | SPDIF (Coaxial Out) Connection (back) |  |  |
|  | Side AV (Audio/Video) Connection (side) |  Side Audio/Video Connection Cable Audio/Video Cable |  |
|  | Headphone Connection (side) |  |  |
|  | YPbPr Video Connection (side) |  PC to YpBPr Connection Cable |  |
|  | USB Connection (side) |  |  |
|  | CI Connection (side) |  |  |
|  | Ethernet Connection (back) |  LAN / Ethernet Cable |  |

NOTE: When connecting a device via the YPbPr or Side AV input, you must use the connection cables to enable connection. See the illustrations on the left side. | You can use YPbPr to VGA cable to enable YPbPr signal via VGA input. | You cannot use VGA and YPbPr at the same time. | To enable PC/YPbPr audio, you will need to use the SIDE AV socket with a YPbPr/ PC audio cable for audio connection, using the Side AV connection cable's RED and WHITE inputs. | If an external device is connected via the SCART socket, the TV will automatically switch to AV mode. | When using the wall mounting kit (available from third party in the market, if not supplied), we recommend that you plug all your cables into the back of the TV before mounting on the wall. | Insert or remove the CI module only when the TV is SWITCHED OFF. You should refer to the module instruction manual for details of the settings. | The/Each USB input of your TV supports devices up to 500mA. Connecting devices that have current value above 500mA may damage your TV. | By connecting an HDMI cable to your TV, you have to use only a shielded HDMI cable to guarantee a sufficient immunity against parasitic frequency radiation.



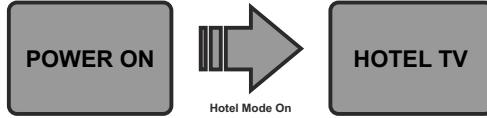
If you want to connect a device to the TV, make sure that both the TV and the device are turned off before making any connection. After the connection is done, you can turn on the units and use them.

USING THE HOTEL TV

About Hotel TV

This TV is intended to be used in hospitality facilities like hotels for demonstrating TV channels, providing information on desired issues such as information about Hotel etc. through a provided link on the main screen.

Actually it is not possible to enter or display the TV setting menus, as this may harm the pre-loaded software on the TV. In case of need only the authorised service personel should be able to access these menus. The menus are accessible by pressing a specified combination of the bottons on the remote.

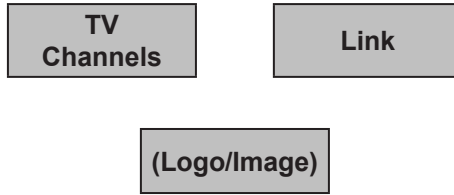


Essentially the TV should be in Hotel TV mode. If you don't see the main opening screen, like shown on the template below, please contact the service department of the Hotel.

Note: For further information on the installation and startup procedure of the DELUXE Hotel TV system refer to "<http://support.vestek.com.tr>" or "<http://vestelb2b.com/en>". You must log in by entering the user name and password provided below. (**user name:** iptv, **password:** vestel2004)

How To Use The Hotel TV Interface

The user interface of the Hotel TV consist of the following options and a logo/image under them.



TV Channels

To watch TV, highlight **TV Channels** using directional buttons on the remote control and press the **OK** button.

The country selection screen will be displayed. You can filter the channels according to their countries/ languages. Select the desired country flag/s and press the **OK** button. To select all listed countries at once highlight 'Select All' and then press the **OK** button. Highlight 'Next' and press the **OK** button again to proceed.

On the next screen you can filter the channels according their genres such as News, Music, Movie, Sports etc. You can select all available genres at once by highlighting the 'Select All' option and then pressing the **OK** button. Highlight 'Next' and press the **OK** button again to proceed.

The first channel on the channel list will be displayed.

Link

To display the linked image, website or the like, highlight **Link** and press the **OK** button. This linked image, website or the like will be provided for information purposes only and will not be functional. You can only display, scroll up/down/left/right if possible.

ADDITIONAL FEATURES

Internet Portal

Press the **Internet** button on the remote to access internet portal of the Hotel. You can find various popular applications including most commonly used on-line services such as YouTube, Twitter, Facebook etc. on the portal.

This feature allows you to connect to a portal on the internet and view the content provided by this portal over the internet connection. You can view the music, video or other web contents with defined short-cuts. You will see icons of the available applications and services on the portal screen. Use the directional buttons on your remote to select the desired one. You may view the desired content by pressing the **OK** button after selecting. Press **Back/Return** button to return back to the previous screen. Moreover, you can access some features using the short-cut feature defined for the coloured or numeric buttons of your remote.

Press the **Exit** button to quit the Internet portal mode.

PIP Window

Current source content will be displayed in the PIP window, if you switch to portal mode while on any active source. If you switch to portal mode while watching TV channels, current programme will be displayed in the PIP window.

Notes: Possible application dependent problems may be caused by the content service provider. Portal service content and the interface may be changed at any time without prior notice. Third party internet services may change, be discontinued or restricted at any time.

Press the **Home** button on the remote to return back to main opening screen.

HBBTV System (optional)

HbbTV (Hybrid Broadcast Broadband TV) is a standard that seamlessly combines TV services delivered via broadcast with services delivered via broadband and also enables access to Internet only services for consumers using connected TV's. Services delivered through HbbTV include traditional broadcast TV channels, catch-up services, video-on-demand, EPG, interactive advertising, personalisation, voting, games, social networking and other multimedia applications.

HbbTV applications are available on channels where they are signalled by the broadcaster. The applications are generally launched with a small red button icon to notify the user that there is an HbbTV application on that channel. The user then should press the red button to open the application page. To close the application press the red button again. It should be noted that the operation and control of the applications may differ depending on the application.

Using Audio Video Sharing Network Service

The Audio Video Sharing standard allows you to view and play photos, music and videos stored in a compliant media server connected to the same network with your TV.

Press **Media Browser** button on the remote, **Media Browser** menu screen will be displayed. Select the desired media type and press the **OK** button. On the next screen available media servers will be listed. Select the one you want to connect and press the **OK** button. You can browse the contents in the media server and play/display the desired media on your TV.

Note: Subtitle files do not work if you watch videos from your network through Audio Video Sharing feature. Trick mode and jump are not supported with the Audio Video Sharing function.

Smart Center

Smart Center is a mobile application running on iOS and Android platforms. With your handheld device, you can easily stream your favourite live shows and programmes from your TV. Also; you can launch your portal applications, use your tablet as a remote control for your TV and share media files.

Note: Being able to use all functions of this application depends on the features of your TV.

Install the **Smart Center** application onto your mobile device.

Start the smart center application. You will see your TV's name on your mobile device. If your TV's name doesn't appear on the list, wait a while and tap on the **Refresh** widget. Select your TV from the list.

On the main screen you can find tabs to access various features.

The application retrieves actual channel list from TV first when it starts.

My Channels

The programmes of first four channels from the channel list retrieved from the TV are shown. You can change the listed channels. Press on the channel thumbnail and hold. A list of channels will be displayed and you can choose your desired channel to be replaced.

TV

You can watch content through the TV tab. In this mode you can navigate through the channel list retrieved from your TV and click on thumbnails to view the detail pages.

Recordings (optional)

You can view your active recordings(if available) and reminders through this tab. To delete any item, simply press on the delete icon found on each row.

EPG

You can view the broadcast schedules of selected channel lists through this tab. You can also navigate through channels by pressing on the selected channel on the EPG grid. Please note that updating / refreshing the EPG information may take a while depending on your network and web service quality.

Note: Internet connection is required for WEB based EPG informations.

Portal

This tab displays the Portal applications in scrollable view. Unless **FollowMeTV** (if available) is active, the selected application will be displayed on your TV screen.

Note: Internet connection is required. This tab is enabled if a portal page is in use.

Settings

Configure the application to your liking.

Detail Page

To open detail page tap on a programme. On the detail page screen you can get detailed information of the programmes you select. There are "Details", "Cast&Crew" and "Videos" tabs to find on this page.

Details: This tab provides summary and information about the selected programme. Also there are links to facebook and twitter pages of the programme selected.

Cast&Crew: Shows all the people contributed to the current programme.

Videos: Provides videos on Youtube related to the selected programme.

Note: For some functions an internet connection may be required.

FollowMe TV Feature (if available)

Tap on the **FOLLOW ME TV** widget located at the bottom left of the screen of your mobile device to change the layout for **FollowMe TV** feature.

Tap the play icon to start streaming of the content from the TV to your mobile device. Available if your device is in your routers operation range.

Notes:

Note that only digital(DVB-T/C/S) SD channels are supported.

Multilanguage audio support and subtitle on/off features are not functional.

The streaming performance may change depending on the quality of your connection.


Media Share Page

To access the **Media Share** widget tap on the **Up-arrow** on the bottom left side of the screen.

If the Media Share widget is pressed, a screen is displayed where you can select the media file type to share with your TV.

Note: Not all image file formats are supported. This function will not work if Audio Video Sharing feature is not supported.

Portal Launcher

To access the **Portal Launcher**  widget tap on the **Up-arrow** on the bottom left side of the screen.


You can access the portal page by tapping on the **Portal Launcher** widget.

Note: Internet connection is required. This function will not work if a portal page is not in use.

Smart Remote Feature


You can use your mobile device as a remote control for your TV once it has connected to the TV. To use smart remote's full features tap on the **Up-arrow** on the bottom left side of the screen.

Voice Recognition

You can tap on the **Microphone**  widget and manage your application, giving voice commands such as "Portal!", "Volume Up/Down!", "Programme Up/Down!".

Note: This feature is only for android based devices available.

Keyboard Page

The keyboard page can be opened in two ways; by pressing the **Keyboard**  widget on the application screen or automatically by receiving a command from the TV.

Requirements

1. Mobile Device based on Android or iOS platform (Android OS 4.0 or higher; IOS 6 or higher version)
2. Smart Center app.(to be found on online application stores based on Android and iOS platforms)
3. USB storage device in FAT32 format (required for PVR feature, if available)

Notes:


- For Android devices, Normal(mdpi), Large(hdpi) and Extra Large(xhdpi) screen sizes are supported. Devices with 3" or smaller screen sizes are not supported.
- For iOS devices, all screen sizes are supported.
- User interface of the Smart Center application is subject to change according to version installed on your device.
- The TV and the handheld device should be connected to the same network wirelessly. The TV's IP number should be provided in order to be able to connect to it. If you don't know the IP address of your TV, please contact the service department of the Hotel.

Internet Browser

Internet Browser is one of the applications on the portal that provides access to internet. Select the internet browser logo on the portal page and press the **OK** button to launch the browser.

In the initial screen of the browser, the thumbnails of the predefined (if any) links to web sites available will be displayed as **Speed Dial** options along with the **Edit Speed Dial** and the **Add to Speed Dial** options.

To navigate the web browser, use the directional buttons on the remote or a connected mouse. To see the browser options bar, move the cursor to the top of the page or press the **Back/Return** button. **History**, **Tabs** and **Bookmarks** options and the browser bar which contains previous/next buttons, the refresh button, the address/search bar, the **Speed Dial** and the **Opera** buttons are available.

You can also use the **Opera** menu options to manage the browser. Highlight the **Opera**  button and press the **OK** button to see available page specific and general options.

There are various ways to search or visit websites using the web browser.

Enter the address of a website(URL) into the search/address bar and highlight the **Submit** button on the virtual keyboard and press the **OK** button to visit the site.

Enter keyword/s into the search/address bar and highlight the **Submit** button on the virtual keyboard and press the **OK** button to start a search for the related websites.

Highlight a Speed Dial thumbnail and press the **OK** button to visit the related website.

Note: All sites on the internet might not be supported. According to the site; content problems may occur. In some circumstances video contents might not be able to be played.

Using YouTube

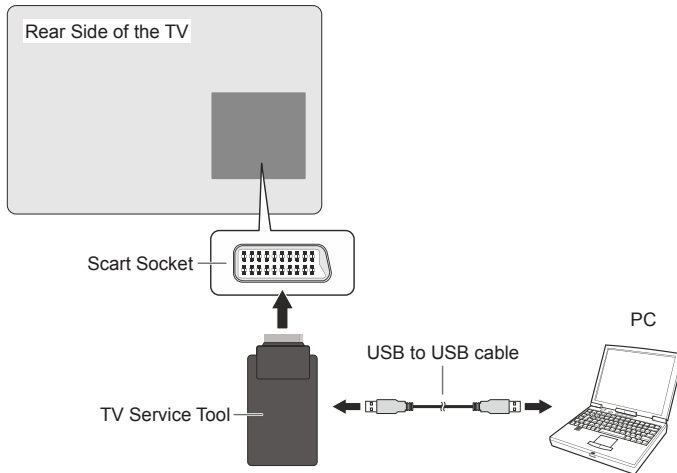
YouTube is one of the applications on the portal, allows you to view Youtube content. Enter the portal first by pressing the **Internet** button on the remote. Launch the YouTube application on the portal to access YouTube.

Smart Remote

You can install a compatible Smart Remote application onto your handheld device in order to control your TV. Follow the instructions provided with the application to connect and learn more about using the application.

Note: The TV and the handheld device should be connected to the same network wirelessly. The TV's IP number should be provided in order to be able to connect to it. If you don't know the IP address of your TV, please contact the service department of the Hotel.

Controlling With An External PC



You can control the product from an external PC via RS-232 (Scart port) or LAN (Ethernet port) on the PC. For instance, system source can be changed with an RS-232 command sent by external 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:

- USB to USB cable and TV Service Tool or LAN cable/s (connected via router)
- Notebook or PC which has USB or LAN port
- Installed program on remote PC to send commands:

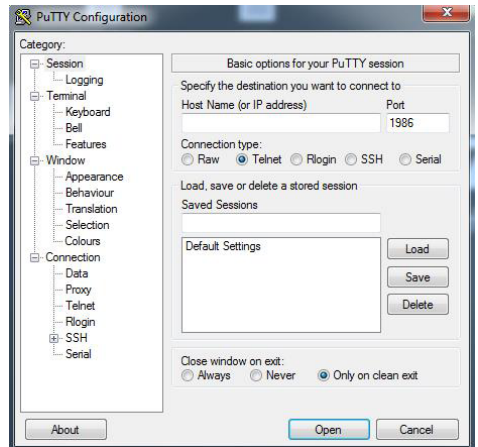
In general, the RS-232 commands are sent for operating the implemented functions via serial port and utility. A suitable utility can be used such as described below.

Connecting to the TV (LAN port)

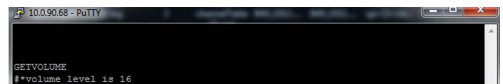
Make sure that the external computer is connected to the same network as the TV. Download and install the PuTTY software on the external computer from the following link first: <http://www.putty.org/>.

Run the software and enter the TV'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 TV to a network and displaying the IP address of the TV.



Use the commands in the **RS232/LAN 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;

Volume level can be changed by using "VOLUME" command. After sending this command, you can verify the changes from the TV.



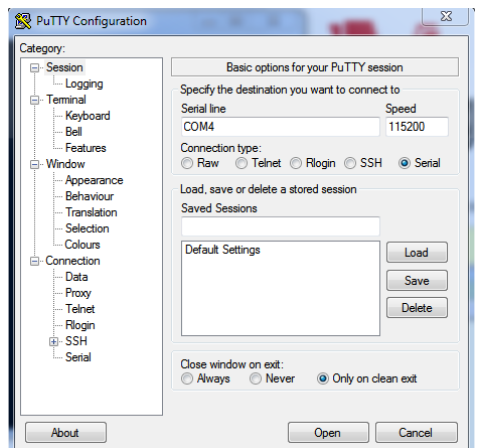
The last example ;

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



Connecting to the TV (Scart port)

Run the software and select **Serial** as **Connection Type**. Enter the TV'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.



(*) Figures and illustrations in this User Manual are provided for reference only and may differ from actual product appearance. Product design and specifications may be changed without notice.

RS232/LAN Command Table

AUDIO COMMANDS

| Command | Description | Parameter | Return |
|---------------------------|---|---|--|
| GETVOLUME | Volume level information. | no parameter | **volume level is ... |
| HEADPHONEVOLUME | "Set headphone volume level." | integer n ($0 \leq n \leq 100$) | **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. SETEQUUSERFREQ 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 |
| SETEQUUSERFREQ | Set equalizer user freq. value for any band. | "string n (120Hz, 500Hz, 1.5KHz, 5KHz, 10KHz) integer n $-13 < n < 13$ Example: SETEQUUSERFREQ 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 | "Increase 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 ... " |

| | | | |
|---------------------------|---|---|---|
| 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 ... " |

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 TV 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. |

| | | | |
|------------------------|---|---|--|
| 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 TV 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=YpPr, 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 |

| | | | |
|------------------------|---|--|---|
| 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 = Ukrainian, 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 written... This may take over 10 minutes. |

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 Successful ##*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." |

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), panoromic, 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" |
| GETWB | Get white balance value. | str-int type (type = redgain, greengain, bluegain, redoffset, greenoffset, blueoffset) | #* type ... |
| CONTRASTUP | Increase 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 TV screen | no parameter | The pattern is ... |

** Please note that some of these commands may not be supported by your TV model*

Supported Video File Formats for USB Mode

| Extension | Video Codec | SPEC (Resolution) & Bit Rate |
|--|---|--|
| .dat, vob | MPEG1/2 | 1080P@30fps - 40 Mbps |
| .mpg, .mpeg | MPEG1/2, MPEG4 | |
| .ts, .trp, .tp | MPEG1/2, H.264, AVS, MVC | H.264: 1080Px2@30fps - 62.5 Mbps, 1080P@60fps - 62.5 Mbps MVC: 1080P@30fps - 62.5 Mbps Other: 1080P@30fps - 40Mbps |
| .mp4, .mov, .3gpp, .3gp | MPEG1/2, MPEG4, H.263, H.264, Motion JPEG | H.264: 1080Px2@30fps - 62.5 Mbps, 1080P@60fps - 62.5 Mbps Motion JPEG: 640x480@30fps - 10 Mbps Other: 1080P@30fps - 40 Mbps |
| .avi | MPEG1/2, MPEG4, Sorenson H.263, H.263, H.264, WMV3, Motion JPEG | |
| .mkv | MPEG1/2, MPEG4, H.263, H.264, WMV3, Motion JPEG | |
| .asf | Sorenson H.263, H.264, WMV3, Motion JPEG | |
| .flv | WMV3 | 1080P@30fps - 40 Mbps |
| .swf | RV30/RV40 | 1080P@30fps - 40 Mbps |
| .wmv | | |
| .mp4, .mov, .3gpp, .3gp, MPEG transport stream, .ts, .trp, .tp, .mkv | HEVC/H.265 | 1080P@60fps - 50Mbps |

Supported Picture File Formats for USB Mode

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

Supported Audio File Formats for USB Mode

| Extension | Audio Codec | Bit Rate | Sample rate |
|---|---------------------|------------------|-----------------------|
| .mp3, | MPEG1/2 Layer1 | 32Kbps ~ 448Kbps | 16KHz ~ 48KHz |
| | MPEG1/2 Layer2 | 8Kbps ~ 384Kbps | |
| | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | |
| .avi | MPEG1/2 Layer1 | 32Kbps ~ 448Kbps | 16KHz ~ 48KHz |
| | MPEG1/2 Layer2 | 8Kbps ~ 384Kbps | |
| | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | |
| | AC3 | 32Kbps ~ 640Kbps | 32KHz, 44.1KHz, 48KHz |
| | AAC, HEAAC | | 8KHz ~ 48KHz |
| | WMA | 128bps ~ 320Kbps | 8KHz ~ 48KHz |
| | WMA 10 Pro M0 | < 192kbps | 48KHz |
| | WMA 10 Pro M1 | < 384kbps | 48KHz |
| | WMA 10 Pro M2 | < 768kbps | 96KHz |
| | LPCM | 64Kbps ~ 1.5Mbps | 8KHz ~ 48KHz |
| .asf | IMA-ADPCM, MS-ADPCM | 384Kbps | 8KHz ~ 48KHz |
| | G711 A/mu-law | 64Kbps ~ 128Kbps | 8KHz |
| | MPEG1/2 Layer1 | 32Kbps ~ 448Kbps | 16KHz ~ 48KHz |
| | MPEG1/2 Layer2 | 8Kbps ~ 384Kbps | |
| | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | |
| | WMA | 128bps ~ 320Kbps | 8KHz ~ 48KHz |
| | WMA 10 Pro M0 | < 192kbps | 48KHz |
| | WMA 10 Pro M1 | < 384kbps | 48KHz |
| | WMA 10 Pro M2 | < 768kbps | 96KHz |
| | .mkv, .mka | LPCM | 64Kbps ~ 1.5Mbps |
| VORBIS | | | Up to 48KHz |
| MPEG1/2 Layer1 | | 32Kbps ~ 448Kbps | 16KHz ~ 48KHz |
| MPEG1/2 Layer2 | | 8Kbps ~ 384Kbps | |
| MPEG1/2 Layer3 | | 8Kbps ~ 320Kbps | |
| AC3 | | 32Kbps ~ 640Kbps | 32KHz, 44.1KHz, 48KHz |
| AAC, HEAAC | | | 8KHz ~ 48KHz |
| WMA | | 128bps ~ 320Kbps | 8KHz ~ 48KHz |
| WMA 10 Pro M0 | | < 192kbps | 48KHz |
| WMA 10 Pro M1 | | < 384kbps | 48KHz |
| WMA 10 Pro M2 | | < 768kbps | 96KHz |
| IMA-ADPCM, MS-ADPCM | | 384Kbps | 8KHz ~ 48KHz |
| G711 A/mu-law | 64Kbps ~ 128Kbps | 8KHz | |
| FLAC | < 1.6Mbps | 8KHz ~ 96KHz | |
| .ts, .trp, .tp, .dat, .vob, .mpg, .mpeg | LPCM | 64Kbps ~ 1.5Mbps | 8KHz ~ 48KHz |
| | AAC, HEAAC | | 8KHz ~ 48KHz |
| | EAC3 | 32Kbps ~ 6Mbps | 32KHz, 44.1KHz, 48KHz |
| | AC3 | 32Kbps ~ 640Kbps | 32KHz, 44.1KHz, 48KHz |
| | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | 16KHz ~ 48KHz |
| | MPEG1/2 Layer2 | 8Kbps ~ 384Kbps | |
| | MPEG1/2 Layer1 | 32Kbps ~ 448Kbps | |

| Extension | Audio Codec | Bit Rate | Sample rate |
|-------------------------------------|------------------------|------------------|---------------------------------------|
| .wav | MPEG1/2 Layer1 | 32Kbps ~ 448Kbps | 16KHz ~ 48KHz |
| | MPEG1/2 Layer2 | 8Kbps ~ 384Kbps | |
| | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | |
| | LPCM | 64Kbps ~ 1.5Mbps | 8KHz ~ 48KHz |
| | IMA-ADPCM, MS-ADPCM | 384Kbps | 8KHz ~ 48KHz |
| | G711 A/mu-law | 64Kbps ~ 128Kbps | 8KHz |
| .3gpp, .3gp, .mp4, .mov, .m4a | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | 16KHz ~ 48KHz |
| | AC3 | 32Kbps ~ 640Kbps | 32KHz, 44.1KHz, 48KHz |
| | EAC3 | 32Kbps ~ 6Mbps | 32KHz, 44.1KHz, 48KHz |
| | AAC, HEAAC | | 8KHz ~ 48KHz |
| | VORBIS | | Up to 48KHz |
| | LPCM | 64Kbps ~ 1.5Mbps | 8KHz ~ 48KHz |
| | IMA-ADPCM, MS-ADPCM | 384Kbps | 8KHz ~ 48KHz |
| | G711 A/mu-law | 64Kbps ~ 128Kbps | 8KHz |
| .flv | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | 16KHz ~ 48KHz |
| | AAC, HEAAC | | 8KHz ~ 48KHz |
| .ac3 | AC3 | 32Kbps ~ 640Kbps | 32KHz, 44.1KHz, 48KHz |
| | AAC, HEAAC | | 8KHz ~ 48KHz |
| .swf | MPEG1/2 Layer3 | 8Kbps ~ 320Kbps | 16KHz ~ 48KHz |
| .ec3 | EAC3 | 32Kbps ~ 6Mbps | 32KHz, 44.1KHz, 48KHz |
| .rm, .rmvb, .ra | AAC, HEAAC | | 8KHz ~ 48KHz |
| | LBR (cook) | 6Kbps ~ 128Kbps | 8KHz, 11.025KHz, 22.05KHz, 44.1KHz |
| .wma, .wmv | WMA | 128bps ~ 320Kbps | 8KHz ~ 48KHz |
| | WMA 10 Pro M0 | < 192kbps | 48KHz |
| | WMA 10 Pro M1 | < 384kbps | 48KHz |
| | WMA 10 Pro M2 | < 768kbps | 96KHz |
| .webm | VORBIS | | Up to 48KHz |

Supported Subtitle File Formats for USB Mode

| 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 |

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

Supported DVI Resolutions

When connecting devices to your TV's connectors by using DVI converter cable(DVI to HDMI cable - not supplied), you can refer to the following resolution information.

| | 56Hz | 60Hz | 66Hz | 70Hz | 72Hz | 75Hz |
|-----------|------|------|------|------|------|------|
| 640x400 | | | | ☑ | | |
| 640x480 | | ☑ | ☑ | | ☑ | ☑ |
| 800x600 | ☑ | ☑ | | ☑ | ☑ | ☑ |
| 832x624 | | | | | | ☑ |
| 1024x768 | | ☑ | ☑ | ☑ | ☑ | ☑ |
| 1152x864 | | ☑ | | ☑ | | ☑ |
| 1152x870 | | | | | | ☑ |
| 1280x768 | | ☑ | | | | ☑ |
| 1360x768 | | ☑ | | | | |
| 1280x960 | | ☑ | | | | ☑ |
| 1280x1024 | | ☑ | | | | ☑ |
| 1400x1050 | | ☑ | | | | ☑ |
| 1440x900 | | ☑ | | | | ☑ |
| 1600x1200 | | ☑ | | | | |
| 1680x1050 | | ☑ | | | | |
| 1920x1080 | | ☑ | | | | |
| 1920x1200 | | ☑ | | | | |

PC Input Typical Display Modes

The following table is an illustration of some of the typical video display modes. Your TV may not support all resolutions.

| Index | Resolution | Frequency |
|-------|------------|-----------|
| 1 | 640x350 | 85Hz |
| 2 | 640x400 | 70Hz |
| 3 | 640x480 | 60Hz |
| 4 | 640x480 | 66Hz |
| 5 | 640x480 | 72Hz |
| 6 | 640x480 | 75Hz |
| 7 | 640x480 | 85Hz |
| 8 | 800x600 | 56Hz |
| 9 | 800x600 | 60Hz |
| 10 | 800x600 | 70Hz |
| 11 | 800x600 | 72Hz |
| 12 | 800x600 | 75Hz |
| 13 | 800x600 | 85Hz |
| 14 | 832x624 | 75Hz |
| 15 | 1024x768 | 60Hz |
| 16 | 1024x768 | 66Hz |
| 17 | 1024x768 | 70Hz |
| 18 | 1024x768 | 72Hz |
| 19 | 1024x768 | 75Hz |
| 20 | 1024x768 | 85Hz |
| 21 | 1152x864 | 60Hz |
| 22 | 1152x864 | 70Hz |

| | | |
|----|-----------|------|
| 23 | 1152x864 | 75Hz |
| 24 | 1152x864 | 85Hz |
| 25 | 1152x870 | 75Hz |
| 26 | 1280x768 | 60Hz |
| 27 | 1360x768 | 60Hz |
| 28 | 1280x768 | 75Hz |
| 29 | 1280x768 | 85Hz |
| 30 | 1280x960 | 60Hz |
| 31 | 1280x960 | 75Hz |
| 32 | 1280x960 | 85Hz |
| 33 | 1280x1024 | 60Hz |
| 34 | 1280x1024 | 75Hz |
| 35 | 1280x1024 | 85Hz |
| 36 | 1400x1050 | 60Hz |
| 37 | 1400x1050 | 75Hz |
| 38 | 1400x1050 | 85Hz |
| 39 | 1440x900 | 60Hz |
| 40 | 1440x900 | 75Hz |
| 41 | 1600x1200 | 60Hz |
| 42 | 1680x1050 | 60Hz |
| 43 | 1920x1080 | 60Hz |
| 44 | 1920x1200 | 60Hz |

AV and HDMI Signal Compatibility

| Source | Supported Signals | | Available |
|----------------|-------------------|--|-----------|
| EXT (SCART) | PAL | | O |
| | NTSC4.43 | | O |
| | NTSC3.58 | | O |
| | RGB 50/60 | | O |
| | SECAM | | O |
| Side AV | PAL | | O |
| | NTSC4.43 | | O |
| | NTSC3.58 | | O |
| | SECAM | | O |
| YPbPr | 480i, 480p | 60Hz | O |
| | 576i, 576p | 50Hz | O |
| | 720p | 50Hz,60Hz | O |
| | 1080i | 50Hz,60Hz | O |
| HDMI | 480i | 60Hz | O |
| | 480p | 60Hz | O |
| | 576i, 576p | 50Hz | O |
| | 720p | 50Hz,60Hz | O |
| | 1080i | 50Hz,60Hz | O |
| | 1080p | 24Hz, 25Hz, 30Hz, 50Hz, 60Hz | O |

(X: Not Available, O: Available)

In some cases a signal on the TV may not be displayed properly. The problem may be an inconsistency with standards from the source equipment (DVD, Set-top box, etc.). If you do experience such a problem please contact your dealer and also the manufacturer of the source equipment.

Information for Users on Disposal of Old Equipment and Batteries

[European Union only]

Equipment bearing these symbols should not be disposed as general household waste.

You should look for appropriate recycling facilities and systems for the disposal of these products.

Notice: The sign Pb below the symbol for batteries indicates that this battery contains lead.

