

Panasonic[®]

OPERATING INSTRUCTIONS

TX-43FS352B

LED TV

Safety Information	2
Markings on the Product	2
Maintenance	4
Assembling / Removing the pedestal	4
When using the wall-hanging bracket	5
Environmental Information	5
Features	5
Accessories included	5
Standby Notifications	6
TV Control & Operation	6
Inserting the Batteries into the Remote	6
Connect Power	6
Antenna Connection	6
License Notification	7
Specification	8
Remote Control	10
Connections	11
Switching On/Off	12
First Time Installation	12
Media Playback via USB Input	13
Media Player Menu	13
CEC and CEC RC Passthrough	13
TV Menu Contents	14
General TV Operation	18
Using the Channel List	18
Configuring Parental Settings	18
Electronic Programme Guide (EPG)	18
Teletext Services	19
Software Upgrade	19
Troubleshooting & Tips	19
PC Input Typical Display Modes	20
AV and HDMI Signal Compatibility	20
Supported Video File Formats for USB Mode	21
Supported Picture File Formats for USB Mode	21
Supported Audio File Formats for USB Mode	21
Supported Subtitle File Formats for USB Mode	22
Supported DVI Resolutions	23
Connectivity	24
Audio Video Sharing	26
Internet Portal	27
Freeview Play Platform	27
Internet Browser	28
HBBTV System	29
Important Instruction	30

Safety Information



CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

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.

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 combination cell battery. If the combination 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 unstable or inclined locations. 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 or stand is retained and relocated, the same considerations as above should be applied.

WALL MOUNTING WARNINGS

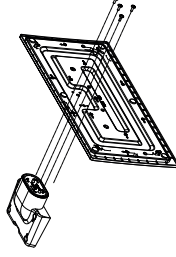
- Read the instructions before mounting your TV on the wall.
- The wall mount kit is optional. You can obtain from your local dealer, if not supplied with your TV.
- Do not install the TV on a ceiling or on an inclined wall.
- Use the specified wall mounting screws and other accessories.
- Tighten the wall mounting screws firmly to prevent the TV from falling. 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 cause a fire hazard. Consult your local electricity distribution authority for advice. If the television set is to be used in a location where electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)

WARNING

- Using other wall-hanging brackets, or installing a wall-hanging bracket by yourself have the risk of personal injury and product damage. In order to maintain the unit's performance and safety, be absolutely sure to ask your dealer or a licensed contractor to secure the wall-hanging brackets. Any damage caused by installing without a qualified installer will void your warranty.
- Carefully read the instructions accompanying optional accessories, and be absolutely sure to take steps to prevent the TV from falling off.
- Handle the TV carefully during installation since subjecting it to impact or other forces may cause product damage.
- Take care when fixing wall brackets to the wall. Always ensure that there are no electrical cables or pipes in the wall before hanging bracket.
- To prevent fall and injury, remove the TV from its fixed wall position when it is no longer in use.



Maintenance
First, remove the mains plug from the mains socket.

Display panel, Cabinet, Pedestal

Regular care:
Gently wipe the surface of the display panel, cabinet, or pedestal by using a soft cloth to remove dirt or fingerprints.

For stubborn dirt:

1. First clean the dust from the surface.
2. Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water).
3. Wring out the cloth firmly. (Please note, do not let liquid enter the TV inside as it may lead to product failure.)
4. Carefully wipe moisten and wipe away the stubborn dirt.
5. Finally, wipe away all the moisture.

Caution

Do not use a hard cloth or rub the surface too hard, otherwise this may cause scratches on the surface.

• Take care not to subject the surfaces to insect repellent, solvent, thinner or other volatile substances. This may degrade surface quality or cause peeling of the paint.

• The surface of the display panel is specially treated and may be easily damaged. Take care not to tap or scratch the surface with your fingernail or other hard objects.

• Do not allow the cabinet and pedestal to make contact with a rubber or PVC substance for a long time. This may degrade surface quality.

Mains plug

Wipe the mains plug with a dry cloth at regular intervals.

Moisture and dust may cause fire or electrical shock.

Assembling / Removing the pedestal

Preparations

Take out the pedestal(s) and the TV from the packing case and put the TV onto a work table with the screen panel down on the clean and soft cloth (blanket, etc.).

• Use a flat and firm table bigger than the TV.

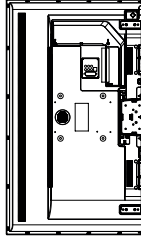
• Do not hold the screen panel part.

• Make sure not to scratch or break the TV.

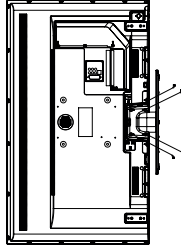
Assembling the pedestal

1. The stand of the TV consists of two pieces. Install these pieces together.

2. Place the stand(s) on the stand mounting pattern(s) on the rear side of the TV.



3. Insert the screws (M4 x 12) provided and tighten them gently until the stand is properly fitted.



Removing the pedestal from the TV

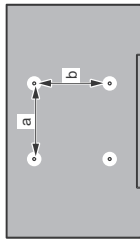
Be sure to remove the pedestal in the following way when using the wall-hanging bracket or repacking the TV.

- Put the TV onto a work table with the screen panel down on the clean and soft cloth. Leave the stand(s) protruding over the edge of the surface.
- Unscrew the screws that fixing the stand(s).
- Remove the stand(s).

When using the wall-hanging bracket

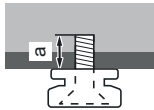
Please contact your local Panasonic dealer to purchase the recommended wall-hanging bracket. Holes for wall-hanging bracket installation;

Rear of the TV



a (mm)	200
b (mm)	200

View from the side



Depth of screw (a)	min. (mm)	10
	max. (mm)	13
Diameter	M6	

Note: The screws for fixing the TV onto the wall-hanging bracket are not supplied with the TV.

Environmental Information

This television is designed to be environment friendly. To reduce energy consumption, you can follow these steps:

If you set the **Energy Saving** to **Minimum**, **Medium**, **Maximum** or **Auto** the TV will reduce the energy consumption accordingly. If you like to set the **Energy Saving** to a fixed value set as **Custom** and adjust the **Backlight** level using the **Left** or **Right** buttons on the remote. Set as **Off** to turn this setting off.

Note: Available Energy Saving options may differ depending on the selected Mode in the Picture menu.

The **Energy Saving** settings can be found in the **Picture** menu. Note that some picture settings will be unavailable to be changed.

If pressed Right button while **Auto** option is selected or **Left** button while **Custom** option is selected, **Screen** will be off in 15 seconds. When you next switch-on the screen off immediately. If you don't press any button, the screen will be off in 15 seconds. Press any button on the remote or on the TV to turn the screen on again.

Note: Screen Off option is not available if the Mode is set to Game.

When the TV is not in use, please switch off or disconnect the TV from the mains plug. This will also reduce energy consumption.

Features

- Remote controlled colour TV
- Fully integrated digital terrestrial/cable TV (DVB-T2/C)
- HDMI inputs to connect other devices with HDMI sockets
- USB input
- OSD menu system
- Smart socket for external devices (such as DVD Players, PVR, video games, etc.)
- Stereo sound system
- Teletext
- Headphone connection
- Automatic programming system
- Manual tuning
- Automatic power down after up to eight hours.
- Sleep timer
- Child lock
- Automatic sound mute when no transmission.
- NTSC playback
- AVL (Automatic Volume Limiting)
- PLL (Frequency Search)
- PC input
- Game Mode (Optional)
- Picture off function
- Ethernet (LAN) for Internet connectivity and service
- 802.11 a/b/g/n built in WIFI Support
- Audio Video Sharing
- HbbTV

Accessories included

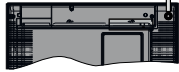
- Remote Control
- Batteries: 2 x AA
- Instruction Book
- Detachable stand
- Stand mounting screws (M4 x 12)

Standby Notifications

If the TV does not receive any input signal (e.g. from an aerial or HDMI source) for 3 minutes, it will go into standby. When you next switch-on, the following message will be displayed: "TV switched to stand-by mode automatically because there was no signal for a long time." Press **OK** to continue.

If the TV is on and it isn't being operated for a while it will go into standby. When you next switch-on, the following message will be displayed: "TV switched to stand-by mode automatically because no operation was made for a long time." Press **OK** to continue.

TV Control & Operation



Note: The position of the joystick may differ depending on the model.

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

To change volume: Increase the volume by pushing the joystick right. Decrease the volume by pushing the joystick left.

To change channel: Scroll through the stored channels by pushing the joystick up or down.

To change source: Press the centre of the joystick. The sources list will appear on the screen. Scroll through the available sources by pushing the joystick up or down.

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

To turn on the TV: Press the centre of the joystick, the TV will turn on.

Note: Main menu OSD cannot be displayed via joystick.

Operation with the Remote Control

Press **Menu** button on your remote control to display main menu screen. Use the directional buttons to select a menu item and press **OK** to enter. Use the directional buttons again to select or set an item. Press **Return** Back button or **Menu** button to quit a menu screen.

Input Selection

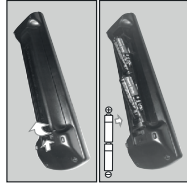
Once you have connected external systems to your TV, you can switch to different input sources. Press **Source** button on your remote control consecutively to select the different sources.

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 back cover to reveal the battery compartment. Insert two size AA batteries. Make sure the (+) and (-) signs match (insert correct polarity). Do not mix old and new batteries. Replace only with same or equivalent type. Place the cover back on.



Connect Power

IMPORTANT: The TV set is designed to operate on 230-240V 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.

Antenna Connection

Connect the aerial or cable TV plug to the AERIAL INPUT (ANT) socket located on the back of the TV.



License Notification

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing/Administrator, Inc. in the United States and other countries.



Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio and the double-D symbol are trademarks of Dolby Laboratories.



YouTube and the YouTube logo are trademarks of Google Inc.

This product contains technology subject to certain intellectual property rights of Microsoft. Use or distribution of this technology outside of this product is prohibited without the appropriate license(s) from Microsoft.

Content owners use Microsoft PlayReady™ content access technology to protect their intellectual property, including copyrighted content. This device uses PlayReady technology to access PlayReady-protected content and/or WMDRM-protected content. If the device fails to properly enforce restrictions on content usage, content owners may require Microsoft to revoke the device's ability to consume PlayReady-protected content. Revocation should not affect unprotected content or content protected by other content access technologies. Content owners may require you to upgrade PlayReady to access their content. If you decline an upgrade, you will not be able to access content that requires the upgrade.

Disposal of Old Equipment and Batteries

Only for European Union and countries with recycling symbols

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must not be mixed with general household waste, for proper treatment, recovery and recycling of old products and used batteries please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Note for the battery symbol (bottom symbol):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for chemical involved.

Declaration of Conformity (DoC)

Hereby, Panasonic Marketing Europe GmbH, declares that this TV is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU.

If you want to get a copy of the original DoC of this TV, please visit the following website:

<http://www.ptc.panasonic.eu/doc>

Authorized Representative:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergstr. 15, 22525 Hamburg, Germany

Web Site: <http://www.panasonic.com>

Sales and Support Information

Customer Communication Centre

- For customers within the UK: 0344 844 3899
- For customers within Ireland: 01289 8333
- Monday - Friday 9:00am - 5:00pm. (Excluding public holidays).
- For further support on your product, please visit our website: www.panasonic.co.uk

Direct Sales at Panasonic UK

- Order accessory and consumable items for your product and request to play using our Customer Communications Centre Monday - Friday 9:00am - 5:00pm. (Excluding public holidays), or go on line through our internet accessory ordering application at www.pas-europe.com.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products. Take a browse on our website for further details.

Specification	
TV Broadcasting	PAL BG/DK SECAM BG/DK
Receiving Channels	VHF (BAND III) - UHF (BAND U) - HYPERBAND
Digital Reception	Fully integrated digital terrestrial-cable TV (DVB-T-C)
Number of Preset Channels	1 000
Channel Indicator	On Screen Display
RF Aerial Input	75 Ohm (unbalanced)
Operating Voltage	220-240V AC, 50Hz.
Audio	A2 Stereo+Nicam Stereo
Headphone	3.5 mm mini stereo jack
Audio Output Power (WRMS.) (10% THD)	2 x 8 W
Power Consumption (W)	75 W
Networked Standby (W)	< 3
Weight (kg)	9.7 Kg
TV Dimensions D x L x H (with foot) (mm)	235 x 970 x 612
TV Dimensions D x L x H (without foot) (mm)	43/74 x 970 x 567
Display	16.9" 43"
Operation temperature and operation humidity	0°C up to 40°C, 85% humidity max.

Wireless LAN Transmitter Specifications

Frequency Ranges	Max Output Power
2400 - 2483.5 MHz (CH1-CH13)	< 100 mW
5150 - 5250 MHz (CH36 - CH48)	< 200 mW
5250 - 5350 MHz (CH52 - CH64)	< 200 mW
5470 - 5725 MHz (CH100 - CH140)	< 200 mW

Country Restrictions

This device is intended for home and office use in all EU countries (and other countries following the relevant E.U. directives) with the following limitation except for the countries mentioned below.

Country	Restriction
Bulgaria	General authorization required for outdoor use and public service
France	In-door use only for 2454-2483.5 MHz
Italy	If used outside of own premises, general authorization is required
Greece	In-door use only for 5470 MHz to 5725 MHz band
Luxembourg	General authorization required for network and service supply(not for spectrum)
Norway	Radio transmission is prohibited for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation	In-door use only

The requirements for any country may change at any time. It's recommended that user checks with local authorities for the current status of their national regulations for both 2.4 GHz and 5 GHz wireless LAN s.

Standard

IEEE 802.11 ab/g/n

Host Interface

USB 2.0

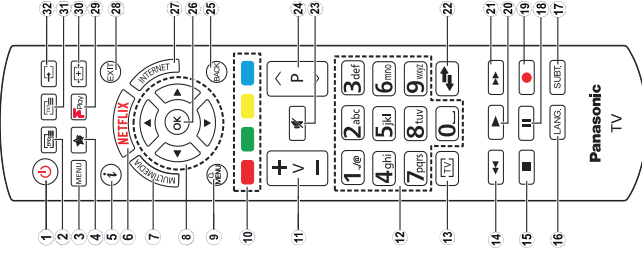
Security

WEP 64/128, WPA, WPA2, TKIP, AES, WAPI

Notice for DVB / Data broadcasting / IPTV/functions

- This TV is designed to meet the standards (as of August, 2017) of DVB-T / T2 (MPEG2, MPEG4-AVCH(264) and HEVCH(265)) digital terrestrial services and DVB-C (MPEG2, MPEG4-AVCH(264) and HEVCH(265)) digital cable services. Consult your local dealer for availability of DVB-T / T2 services in your area.
- Consult your cable service provider for availability of DVB-C services with this TV.
- This TV may not work correctly with the signal which does not meet the standards of DVB-T / T2 or DVB-C.
- Not all the features are available depending on the country, area, broadcaster, service provider and network environment.
- Not all CI modules work properly with this TV. Consult your service provider about the available CI module.
- This TV may not work correctly with CI module that is not approved by the service provider.
- Additional fees may be charged depending on the service provider.
- The compatibility with future services is not guaranteed.

Remote Control



(*) 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 and the MY BUTTON is associated with the selected function.

Note that if you perform **First Time Installation**, MY BUTTON will return to its default function.

- Standby:** Switches On / Off the TV
- EPG (Electronic programme guide):** Displays the electronic programme guide
- Menu:** Displays TV menu
- My button 1 (*)**
- Info:** Displays information about on-screen content, shows hidden information (reveal - in TXT mode)
- Netflix:** Launches the Netflix application, if this feature is supported by your TV
- Media player:** Opens the media player screen
- Directional buttons:** Helps navigate menus, content etc. and displays the subpages in TXT mode when pressed Right or Left
- Quick Menu:** Displays a list of menus for quick access
- Coloured Buttons:** Follow the on-screen instructions for coloured button functions
- Volume +/-**
- Numeric buttons:** Switches the channel, enters a number or a letter in the text box on the screen, switches the TV on when in standby mode.
- TV: Switches to TV Source**
- Rapid reverse:** Moves frames backwards in media such as movies
- Stop:** Stops the media being played
- Language:** Switches between sound modes (analogue TV), displays and changes audio/subtitle language (digital TV, where available)
- Subtitles:** Turns subtitles on and off (where available)
- Pause:** Pauses the media being played
- No function**
- Play:** Starts to play selected media
- Rapid advance:** Moves frames forward in media such as movies
- Sweep:** Quickly cycles between previous and current channels or sources
- Mute:** Completely turns off the volume of the TV
- Programme +/-:** Programme up-down, Page up-down (in TXT mode), switches the TV on when in standby mode
- Back/Return:** Returns to previous screen, opens index page (in TXT mode)
- OK:** Confirms user selections, holds the page (in TXT mode), views channel list (DTV mode)
- Internet:** Opens the portal page, where you can reach many web based applications
- Exit:** Closes and exits from displayed menus or returns to previous screen
- Freeview Play:** Connects to the Freeview Play platform where you can access available catch-up TV services
- Screen:** Changes the aspect ratio of the screen
- Text:** Displays teletext (where available), press again to superimpose the teletext over a normal broadcast picture (mix)
- Source:** Shows all available broadcast and content sources

Connections			See the illustrations on the left side. You can use YpBPr to VGA cable to enable YpBPr signals via your TV. You can use YpBPr to PC and YpBPr at the same time.	
Connector	Type	Cables	Device	
	VGA Connection (back)			
	PC/YpBPr Audio Connection (back)			
	HDMI Connection (side&back)			
	SPDIF (Optical Out) Connection (back)			
	Back AV (Audio/Video) Connection (back)			
	Headphone Connection (side)			
	YpBPr Video Connection (back)			
	USB Connection (side)			
	CI Connection (side)			
	Ethernet Connection (back)			

 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.

Switching On/Off

To Switch the TV On

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

- Press the **Standby** button, **Programme** +/-, or a numeric button on the remote control.
- Press the centre of the joystick on the TV in or push it up/down until the TV comes on from standby.

To Switch the TV Off

Press the **Standby** button on the remote control or press the centre of the joystick on the TV in and hold it down for a few seconds, the TV will switch into standby mode.

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

Note: When the TV is switched into standby mode, the standby LED can blink to indicate that features such as Standby Search, Over-Air Download or Timer is active. The LED can also blink when you switch on the TV from standby mode.

First Time Installation

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

On the next screen, set your preferences using the directional buttons.

Note: Depending on the Country selection you may be asked to select a time zone. The time zone you select must be 0000. You have to enter it if you are asked to enter a PIN for any menu operation later.

About Selecting Broadcast Type

Digital Aerial: If **Digital Aerial** broadcast search option is turned on, the TV will search for digital terrestrial broadcasts after other initial settings are completed.

Digital Cable: If **Digital Cable** broadcast search option is turned on, the TV will search for digital cable broadcasts after other initial settings are completed. According to your other preferences a confirmation message may be displayed before starting to search. Select **YES** and press **OK** to proceed. To cancel operation, select **NO** and press **OK**. You can select **Network** or set values such as **Frequency**, **Network ID** and **Search Step**. When finished, press **OK** button.

Note: Searching duration will change depending on the selected Search Step.

Analogue:

If **Analogue** broadcast search option is turned on, the TV will search for analogue broadcasts after other initial settings are completed. Additionally you can set a broadcast type as your favourite one. Priority will be given to the selected broadcast type during the search process and the

channels of it will be listed on the top of the **Channel List**. When finished, press **OK** to continue.

You can activate **Store Mode** option at this point. This option will **configure** your TV's settings for store environment and depending on the TV model being used, the supported features of it may be displayed on the top of the screen as an info banner. This option is intended only for store use. It is recommended to select **Remote Mode** for home use. This option will be available in **Setup>More** menu and can be turned on/off later.

Depending on the model of your TV and the country selection **Privacy Settings** menu may appear at this point. Using this menu you can set your privacy privileges. Highlight a feature and use Left and Right directional buttons to enable or disable. Read the related explanations displayed on the screen for each highlighted feature before making any changes. You can also **Programme** buttons to skip up and down the menu. You will be asked to select your preferences at any time later from the **Setup>Privacy Settings** menu. If the **Internet Connection** option is disabled **Network/Internet Settings** screen will be skipped and not displayed.

Press **OK** button on the remote control to continue and the **Network/Internet Settings** menu will be displayed. If you confirm the previously displayed message, pressing **OK** button will lead you to the **Network/Internet Settings** screen. Refer to **Connectivity** section to configure or check a wireless connection. If you want your TV to consume less power in standby mode, you can disable the **Wake On** option by setting it as **Off**. After the settings are completed press **OK** button to continue. To skip to the next step without doing anything select **No** and press the **OK** button when the message is displayed asking whether you want to do the network settings.

On the next screen you need to agree to the terms and conditions of Freeview Play to make use of the related services. Scroll the page to read the entire text using the up/down directional buttons or **Programme** +/- buttons. Highlight **Yes** and press **OK** on the remote to confirm and proceed. Highlight **No** and press **OK** to proceed without confirmation. For further requirements for Freeview Play services refer to the **Freeview Play Platform** section.

After the initial settings are completed TV will start to search for available broadcasts of the selected broadcast types.

After all the available stations are stored, scan results will be displayed. Press **OK** to continue. The **Edit Channel List** menu will be displayed next. You can edit the channel list according to your preferences or press the **Menu** button to quit and watch TV.

While the search continues a message may appear, asking whether you want to sort channels according to the LCN(*). Select **Yes** and press **OK** to confirm.

(PLN) is the Logical Channel Number system that organizes available broadcast channels in accordance with a recognizable channel number sequence (if available).

Note: Do not turn off the TV while initializing first time installation. Note that, some options may not be available depending on the country location.

Media Playback via USB Input

You can connect 2.5" and 3.5" inch hard disk with external power supply (external hard disk drives or USB memory stick) to your TV by using the USB inputs of the TV.

IMPORTANT! Backup up the files on your storage devices before connecting them to the TV. Manufacturers will not be responsible for any file damage or data loss. Certain types of USB drives (e.g. MP3 Players) or USB hard disk drives/memory sticks may not be compatible with this TV. The TV 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 TV's USB inputs. External power supplied USB hubs are recommended in such a case.

It is recommended to use the TV's USB input(s) directly. If you are going to connect a USB hard disk.

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

Media Player Menu

You can play photo, music and movie files stored on a USB disk by connecting it to your TV. Connect a USB disk to one of the USB inputs located on the side of the TV. Pressing the **Menu** button while in the **Media Player** mode will access the **Picture**, **Sound** and **Settings** menu options. Pressing the **Menu** button again will exit from this screen. You can set your **Media Player** preferences by using the **Settings** menu.

Loop/Shuffle Media Operation	
Start playback with the Play button and activate OK	All files in the list will be continuously played in original order
Start playback with the OK button and activate OK	The same file will be played continuously (repeat)
Start playback with the Play button and activate OK	All files in the list will be played once in random order
Start playback with the Play button and activate OK	All files in the list will be continuously played in the same random order

CEC and CEC RC Passthrough

This function allows to control the CEC-enabled devices, that are connected through HDMI ports by using the remote control of the TV.

The **CEC** option in the **Setup>More** menu should be set as **Enabled** at first. Press the **Source** button and select the HDMI input of the connected CEC device from the **Sources** list menu. When new CEC source device is connected, it will be listed in source menu with its own name instead of the connected HDMI ports name (such as DVD Player, Recorder 1 etc.).

The TV remote is automatically able to perform the main functions after the connected HDMI source has been selected.

To terminate this operation and control the TV via the remote again, press **Quick Menu** button on the remote, highlight the **CEC RC Passthrough** and set as **Off** by pressing Left or Right button. This feature can also be enabled or disabled under the **Setup>More** menu.

The TV supports also ARC (Audio Return Channel) feature. This feature is an audio link meant to replace other cables between the TV and the audio system (AV receiver or speaker system).

When ARC is active, TV does not mute its other audio outputs automatically. So you need to decrease TV volume to zero manually, if you want to hear audio from connected audio device only (same as other optical or co-axial digital audio outputs). If you want to change connected device's volume level, you should select that device from the source list. In that case volume control keys are directed to connected audio device.

Note: ARC is supported only via the **HDMI2** input.

System Audio Control

Allows an Audio Amplifier/Receiver to be used with the TV. The volume can be controlled using the remote control of the TV. To activate this feature, set the **Speakers** option in the **Setup>More** menu as **Amplifier**. The TV speakers will be muted and the sound of the watched source will be provided from the connected sound system.

Note: The audio device should support System Audio Control feature and CEC option should be set as **Enabled**.

TV Menu Contents

Picture Menu Contents	
Mode	You can change the picture mode to suit your preference or requirements. Picture mode can be set to one of these options: cinema , Game (optional), Sports , Dynamic and Natural .
Contrast	Adjusts the light and dark values on the screen.
Brightness	Adjusts the brightness values on the screen.
Sharpness	Sets the sharpness value for the objects displayed on the screen.
Colour	Sets the colour value, adjusting the colours.
Energy Saving	For setting the Energy Saving to Custom , Minimum , Medium , Maximum , Auto , Screen Off or Off . Note: Available options may differ depending on the selected Mode .
Backlight	This setting controls the backlight level. The backlight function will be inactive if the Energy Saving is set to an option other than Custom .
Advanced Settings	
Dynamic Contrast	You can change the dynamic contrast ratio to desired value.
Noise Reduction	If the signal is weak and the picture is noisy, use the Noise Reduction setting to reduce the amount of noise.
Colour Temp	Sets the desired colour temperature value. Cool , Normal , Warm and Custom options are available.
White Point	If the Colour Temp option is set as Custom , this setting will be available. Increase the warmth or coolness of the picture by pressing left or right buttons.
Picture Zoom	Sets the desired image size format.
Film Mode	Films are recorded at a different number of frames per second to normal television programmes. Turn this feature on when you are watching films to see the last motion scenes clearly.
Skin Tone	Skin tone can be changed between S and 5 .
Colour Shift	Adjust the desired colour tone.
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.
PC Position	Appears only when the input source is set to VGA/PC .
Autoposition	Automatically optimizes the display. Press OK to optimize.
H Position	This item shifts the image horizontally to the right hand side or left hand side of the screen.
V Position	This item shifts the image vertically towards the top or bottom of the screen.
Dot Clock	Dot Clock adjustments correct the interference that appear as vertical banding in dot intensive presentations like spreadsheets or paragraphs or text in smaller fonts.
Phase	Depending on the input source (computer etc.) you may see a hazy or noisy picture on the screen. You can use phase to get a clearer picture by trial and error.
Reset	Resets the picture settings to factory default settings (except Game mode).

*When in VGA (PC) mode, some items in **Picture** menu will be unavailable. Instead, **VGA** mode settings will be added to the **Picture Settings** while in PC mode.*

Sound Menu Contents	
Volume	Adjusts the volume level.
Equalizer	Selects the equalizer mode. Custom settings can be made only when in User mode.
Balance	Adjusts whether the sound comes from the left or right speaker.
Headphone	Sets headphone volume. Please ensure before using headphones that the headphone volume is set to a low level, to prevent damage to your hearing.
Sound Mode	You can select a sound mode (if the viewed channel supports).
AVL (Automatic Volume Limiting)	Sets the sound to obtain fixed output level between programmes.
Headphone/Lineout	When you connect an external amplifier to your TV using the headphone jack, you can select this option as Lineout . If you have connected headphones to the TV, set this option as Headphone . Please ensure before using headphones that this menu item is set to Headphone . If it is set to Lineout , the output from the headphone socket will be set to maximum which could damage your hearing.
Dynamic Bass	Enables or disables the Dynamic Bass.
Surround sound	Surround sound mode can be changed as On or Off .
Digital Out	Sets digital out audio type.

Setup Menu Contents	
Conditional Access	Controls conditional access modules when available.
Language	You may set a different language depending on the broadcaster and the country.
Privacy Settings (*)	Manage your privacy privileges for smartTV related applications. Press OK to enter the menu and set according to your preferences.
Parental	Enter correct password to change parental settings. You can easily adjust Menu Lock , Maturity Lock , Child Lock or Guidance in this menu. You can also set a new PIN or change the Default OCAM PIN using the related options. <i>Note: Some menu options may not be available depending on the country selection in the first time installation. Default PIN can be set to 0000 or 1234. If you have defined the PIN, you can change the PIN in the country selection during the first time installation use the PIN that you have defined.</i>
Timers	Sets sleep timer to turn off the TV after a certain time. Sets timers for selected programmes.
Date/Time	Sets date and time.
Sources	Enables or disables selected source options.
Network/Internet Settings	Displays network/Internet settings.
Accessibility	Displays accessibility options of the TV.
Hard of Hearing	Enables any special feature sent from the broadcaster.
Audio Description	A narration track will be played for the blind or visually impaired audience. Press OK to see all available Audio Description menu options. This feature is available only if the broadcaster supports it.
Netflix	You can view your ESN(*) number and deactivate Netflix. (*) ESN number is an unique ID number for Netflix, created especially to identify your TV.
More	Displays other setting options of the TV.
Menu Timeout	Changes timeout duration for menu screens.
Standby LED	If set as Off the standby LED will not light up when the TV is in standby mode.
HBTV (*)	You can enable or disable this feature by setting it as On or Off .
Software Upgrade	Ensures that your TV has the latest firmware. Press OK to see the menu options.
Application Version	Displays current software version.
Subtitle Mode	This option is used to select which subtitle mode will be on the screen (DVB subtitle / Teletext subtitle) if both is available. Default value is DVB subtitle. This feature is available only for the country option of Norway.
Auto TV OFF	Sets the desired time for the TV to automatically go into standby mode when not being operated.
Store Mode	Select this mode for store display purposes. Whilst Store Mode is enabled, some items in the TV menu may not be available.
Audio Video Sharing	Audio Video Sharing feature allows you to share files stored on your smartphone or tablet pc. If you have a compatible smartphone or tablet pc and the appropriate software is installed, you can share/play photos on your TV. See instructions of your sharing software for more information. Audio Video Sharing mode will not be available with internet portal feature.

Power Up Mode	This setting configures the power up mode preference. Last Standby and Standby options are available.
Virtual Remote	Enable or disable the virtual remote feature.
CEC	With this setting you can enable and disable CEC functionality completely. Press Left or Right button to enable or disable the feature.
CEC Auto Power On	This function allows the connected HDMI-CEC compatible device to turn on the TV and switch to its input source automatically. Press Left or Right button to enable or disable the feature.
Speakers	To hear the TV audio from the connected compatible audio device set as Amplifier . You can use the remote control of the TV to control the volume of the audio device.
Show All Cookies (*)	Displays all saved cookies.
Delete All Cookies (*)	Deletes all saved cookies.
OSS	Displays Open Source Software license information.

(*) These features may not be available depending on the model of your TV and the selected country in the First Time Installation.

Installation Menu Contents	
Automatic channel scan (Return)	Displays automatic tuning options. Digital Aerial : Searches and stores aerial DVB stations. Digital Cable : Searches and stores cable DVB stations. Analogue : Searches and stores analogue stations.
Manual channel scan	This feature can be used for direct broadcast entry.
Network	Searches for the linked channels in the broadcast system. Digital Aerial : Searches for aerial network channels. Digital Cable : Searches for cable network channels.
Analogue fine tune	You can use this setting for fine tuning analogue channels. This feature is not available if no analogue channels are stored.
Installation Settings (Optional)	Displays installation settings menu. Standby Search (*) : Your TV will search for new missing channels while in standby. Any new found broadcasts will be shown. Dynamic Channel Update (*) : If this option is set as Enabled , the changes on the broadcasts such as frequency, channel name, subtitle language etc., will be applied automatically while watching. (*) Availability depends on model.
Clear Service List	Use this setting to clear channels stored. This setting is visible only when the Country option is set to Denmark, Sweden, Norway or Finland.
Select Active Network	This setting allows you to select only the broadcasts within the selected network to be listed in the channel list. This feature is available only for the Country option of Norway.
First time installation	Deletes all stored channels and settings, resets TV to factory settings.

General TV Operation

Using the Channel List

The TV sorts all stored stations in the **Channel List**. You can edit this channel list, set favourites or set active stations to be listed by using the **Channel List** options. Press the **OK** button to open the **Channel List**. You can filter the listed channels by pressing the **Blue** button or open the **Edit Channel List** menu by pressing the **Green** button in order to make advanced changes in the current list.

Managing the Favourite Lists

You can create four different lists of your favourite channels. Enter the **Channel List** in the main menu or press the **Green** button while the **Channel List** is displayed on the screen in order to open the **Edit Channel List** menu. Select the desired channel on the list. You can make multiple choices by pressing the **Yellow** button. Then press the **OK** button to open the **Channel Edit Options** menu and select **Add/Remove Favourites** option. Press the **OK** button again. Set the desired list option to **On**. The selected channel/s will be added to the list. In order to remove a channel or channels from a favourite list follow the same steps and set the desired list option to **Off**.

You can use the **Filter** function in the **Edit Channel List** menu to filter the channels in the **Channel List** permanently according to your preferences. Using **Filter** option, you can set one of your favourite lists to be displayed everytime the **Channel List** is opened. The filtering function in the **Channel List** menu will only filter the currently displayed **Channel List** in order to find a channel and tune in to it. These changes will not remain the next time the **Channel List** is opened if you don't save them. To save the changes on the list press the **Red** button after filtering while the **Channel List** is displayed on the screen.

Configuring Parental Settings

The **Parental Settings** menu options can be used to prohibit users from viewing of certain programmes, channels and using of menus. These settings are located in the **Setup-Parental** menu.

To display parental lock menu options, a PIN number should be entered. After coding the correct PIN number, **Parental Settings** menu will be displayed.

Menu Lock: This setting enables or disables access to all menus or installation menus of the TV.

Guidance: This setting enables or disables access some of the MHEG applications. Disabled applications can be released by entering the right PIN.

Internet Lock: If this option is set to **ON**, the open browser application in the portal will be disabled. Set to **OFF** to release the application again.

Set PIN: Defines a new PIN number.

Default CICAM PIN: This option will appear as greyed out if no CI module is inserted into the CI slot of the TV. You can change the default PIN of the CI CAM using this option.

Note: Default PIN can be set to 0000 or 1234. If you have inserted the CI module, the PIN will be started on the next section) during the First Time Installation use the PIN that you have defined.

Some options may not be available depending on the model and/or on the country selection in the First Time Installation.

Electronic Programme Guide (EPG)

Some channels send information about their broadcast schedules. Press the **EPG** button to view the **Programme Guide** menu. There are 3 different types of schedule layouts and available **Timeline Schedule List**, **Schedule** and **Now/Next Schedule**. To switch between them follow the instructions on the bottom of the screen.

Timeline Schedule

Zoom (Yellow button): Press the **Yellow** button to see events in a wider time interval.

Filter (Blue button): Views filtering options.

Select Genre (Subtitles button): Displays **Select Genre** menu. Using this feature, you can search the programme guide database in accordance with the genre. Info available in the programme guide will be searched and results matching your criteria will be highlighted.

Options (OK button): Displays event options.

Event Details (Info button): Displays detailed information about the selected event.

Next/Prev Day (Programme +/- buttons): Displays the events of previous or next day.

Search (Text button): Displays **Guide Search** menu.

New (Swap button): Displays current event of the highlighted channel.

List Schedule (*)

(*) In this layout option, only the events of the highlighted channel will be listed.

Prev. Time Slice (Red button): Displays the events of previous time slice.

Next/Prev Day (Programme +/- buttons): Displays the events of previous or next day.

Event Details (Info button): Displays detailed information about the selected event.

Filter (Text button): Views filtering options.

Next Time Slice (Green button): Displays the events of next time slice.

Options (OK button): Displays event options.

Now/Next Schedule

Navigate (Directional buttons): Press the **Directional** buttons to navigate through the channels and events.

Options (OK button): Displays event options.

Event Details (Info button): Displays detailed information about selected events.

Filter (Blue button): Views filtering options.

Event Options

Use the directional buttons to highlight an event and press **OK** button to display **Event Options** menu. The following options are available.

Select Channel: Using this option, you can switch to the selected channel.

Set Timer on Event / Delete Timer on Event: After you have selected an event in the EPG menu, press the **OK** button. Select **Set Timer on Event** option and press the **OK** button. You can set a timer for future events. To cancel already set timer, highlight **Delete Timer on Event** option and press **OK**. **OK** button will cancel the timer.

Notes: You cannot switch to any other channel or source while there is an active timer on the current channel.

It is not possible to set timer for two or more individual events at the same time interval.

Teletext Services

Press the Text button to enter. Press again to activate mix mode, which allows you to see the teletext page and the TV broadcast at the same time. Press once more to exit. If available, sections in the teletext pages will become colour-coded and can be selected by pressing the coloured buttons. Follow the instructions displayed on the screen.

Digital Teletext

Press the Text button to view digital teletext information. Operate it with the coloured buttons, cursor buttons and the OK button. The operation method may differ depending on the contents of the digital teletext. Follow the instructions displayed on the digital teletext screen. When the Text button is pressed again, the TV returns to television broadcast.

BBC Red Button+ (RB+)

While watching BBC channels, press the Red button to access Red Button+ services provided by the BBC. On the opening BBC Player BBC News, BBC Sport and many others. There are also links to the home pages of the related applications available. Use the navigation buttons on the TV's remote control to move through the application. Press Exit button to close and exit.

Software Upgrade

Your TV is capable of finding and updating the firmware automatically via the broadcast signal or via internet.

Software upgrade search via user interface

On the main menu select **Setup** and then **More**. Navigate to **Software upgrade** and press the **OK** button. In **Upgrade options** menu select **Scan for upgrade** and press **OK** button to check for a new software upgrade.

If a new upgrade is found, it starts to download the upgrade. After the download is completed

confirm the question asking about rebooting the TV by pressing the **OK** to continue with the reboot option.

3 AM search and upgrade mode

Your TV will search for new upgrades at 3:00 o'clock if **Automatic scanning** option in the **Upgrade options** menu is set to **Enabled** and if the TV is connected to an aerial signal or to Internet. If a new software is found and downloaded successfully, it will be installed at the next power on.

Note: Do not unplug the power cord while led is blinking during the reboot process. If the TV fails to come on after the upgrade, unplug, wait for two minutes then plug it back in.

Troubleshooting & Tips

TV will not turn on

Make sure the power cord is plugged in securely to wall outlet. Check if batteries are exhausted. Press the Power button on the TV.

Poor picture

- Check if you have selected the correct TV system.
- Low signal level can cause picture distortion. Please check antenna access.
- Check if you have entered the correct channel frequency if you have done manual tuning.
- The picture quality may degrade when two devices are connected to the TV at the same time. In such a case, disconnect one of the devices.

No picture

- This means your TV is not receiving any transmission. Make sure the correct source has been selected.
- Is the antenna connected properly?
- Is the antenna cable damaged?
- Are suitable plugs used to connect the antenna?
- If you are in doubt, consult your dealer.

No sound

- Check if the TV is muted. Press the **Mute** button or increase the volume to check.
- Sound may be coming from only one speaker. Check the balance settings from **Sound** menu.

Remote control - no operation

- The batteries may be exhausted. Replace the batteries.

Input sources - can not be selected

- If you cannot select an input source, it is possible that no device is connected. If not;
- Check the AV cables and connections if you are trying to switch to the input source dedicated to the connected device.

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	640x480	60Hz
2	640x480	75Hz
3	800x600	56Hz
4	800x600	60Hz
5	800x600	72Hz
6	800x600	75Hz
7	1024x768	60Hz
8	1024x768	70Hz
9	1024x768	75Hz
10	1152x864	75Hz
11	1280x768	60Hz
12	1360x768	60Hz
13	1280x960	60Hz
14	1280x1024	60Hz
15	1280x1024	75Hz
16	1400x1050	60Hz
17	1440x900	60Hz
18	1440x900	75Hz
19	1920x1080	60Hz

(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.

Source	Supported Signals	Available
Back AV	PAL	O
	SECAM	O
	NTSC4.43	O
YPbPr	NTSC3.58	O
	480i, 480p	O
	576i, 576p	O
	720p	O
HDMI	50Hz, 60Hz	O
	1080i	O
	480i, 480p	O
	576i, 576p	O
	720p	O
	1080i	O
	24Hz, 25Hz, 30Hz, 50Hz, 60Hz	O

Supported Video File Formats for USB Mode

Extension	Video Codec	Max. Resolution & Frame Rate & Bit Rate
.mpeg, .mpeg, .dat, .vob	MPEG1/2, H.264, VC1	
ts, .tp, .mts		
.avi	MPEG1/2, MPEG4, H.264, MJPEG	
.m4, .m4, .mkv, .mov, .rt, .3gp, .3g2, .3gp	MPEG1/2, H.263, MPEG4, H.264	
.mkv	MPEG 1/2, MPEG4, H.264	
.flv		H.264: 1080P x 2@30fps - 50Mbps, 1080P@60fps - 50Mbps Other: 1080P@60fps - 50Mbps
.ogm, .ogg	Sorenson Sp, MPEG4, H.264	
.asf, .wmv	MPEG1/2, MPEG4	
.rm, .rmvb	MPEG4, WMV3, VC1	
.webm	RV30, RV40	
	VP9, VP8	
.mp4, .mov, .3gp, .3gp, .MPEG transport stream, ts, .tp, .tp, .mkv	HEVC/H.265	

Supported Picture File Formats for USB Mode

Extension	Specification	Resolution (width x height)
.jpg, .jpeg	Baseline	8192 x 8192
	Progressive	3000 x 3000
.bmp	RGB 148/16/24/32 bit	
	RLE 48 bit	
.gif	87a	
	89a (Only 1 picture at animation format)	
.png	Grayscale, 24/32 bit per pixel	8192 x 8192
	Interface format	
	Progressive	
.tif, .tif	Tagged Image file format	
.webp	Lossy compression VP8 key frame version number support 0-3	
	Lossless compression	

Supported Audio File Formats for USB Mode

Extension	Format
.mp3	mp3
.ac3	ac3
.aac	AAC
.wma	WMA
.amr	AMR-NB, AMR-WB
.wav	MPEG La, AAC, PCM
.flac	FLAC

Supported Subtitle File Formats for USB Mode

External Subtitles	
Extension	Specification
.ssa	SubStation Alpha
.ass	Advanced SubStation Alpha
.srt	Subrippter
.sub	Micro DVD / Sub/Viewer
.sub + .idx	VOBSUB
.txt	Micro DVD / TMPlayer / MPL2
.mpl	MPL2
.smi	Sami
.jss	JACOSUB
.ttml	TTML
.txt / .sub	DVDSUBTITLE
.lrc	-

Internal Subtitles

Extension	Specification
.mkv	VOBSUB
.mkv	ASS / SSA / TEXT
.dat, .mpeg, .mpeg, .vob	DVD Subtitle
.mp4	DVD Subtitle, TEXT

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.

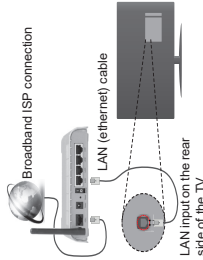
	56Hz	60Hz	66Hz	70Hz	72Hz	75Hz
640x400				☑		
640x480		☑	☑		☑	☑
800x600	☑	☑		☑	☑	☑
832x624						☑
1024x768		☑	☑	☑	☑	☑
1152x864		☑		☑		☑
1152x870						☑
1280x768		☑				☑
1360x768		☑				
1280x860		☑				☑
1280x1024		☑				☑
1400x1050		☑				☑
1440x900		☑				
1600x1200		☑				
1680x1050		☑				
1920x1080		☑				

Connectivity

Wired Connectivity

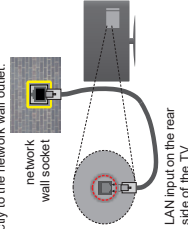
To Connect to a Wired Network

- You must have a modem/router connected to an active broadband connection.
- Connect your TV to your modem/router via an ethernet cable. There is a LAN port at the rear (back) of your TV.



To configure wired settings please refer to the Network/Internet Settings section in the Setup Menu.

- You might be able to connect your TV to your LAN depending on your network's configuration. In such a case, use an ethernet cable to connect your TV directly to the network wall outlet.



Configuring Wired Device Settings

Network Type

The **Network Type** can be selected as **Wired Device**, **Wireless Device** or **Disabled**, in accordance with the active connection to the TV set. Select this as **Wired Device** if you are connecting via an ethernet cable.

Internet Speed Test

Highlight **Internet Speed Test** and press the **OK** button. TV will check the internet connection bandwidth and display the result when complete.

Advanced Settings

Highlight **Advanced Settings** and press the **OK** button. On the next screen you can change the IP and DNS settings of the TV. Highlight the desired one and press **Left** or **Right** button to change the setting from **Automatic** to **Manual**. Now you can enter the **Manual IP** and/or **Manual DNS** values. Select the related item in the drop down menu and enter the new values using the numeric buttons of the remote. Press the **OK** button to save settings when complete.

Wireless Connectivity

To Connect to a Wireless Network

The TV cannot connect to the networks with a hidden SSID. To make your modem's SSID visible, you should change your SSID settings via the modem's software.



A Wireless-N router (IEEE 802.11a/b/g/n) with simultaneous 2.4 and 5 GHz bands is designed to increase bandwidth. These are optimized for smoother and faster HD video streaming, file transfers and wireless gaming.

- The frequency and channel differ depending on the area.
- The transmission speed differs depending on the distance and number of obstructions between the transmission products, the configuration of these products, the radio wave conditions, the line traffic and the products that you use. The transmission may also be cut off or may get disconnected depending on the radio wave conditions. DECT phones or any other WIFI 11b appliances. The standard values of the transmission speed are the theoretical maximum values for the wireless standards. They are not the actual speeds of data transmission.
- The location where the transmission is most effective differs depending on the usage environment.

- The Wireless feature of the TV supports 802.11 a.b.g & n type modems. It is highly recommended that you should use the IEEE 802.11n communication protocol in order to avoid any possible problems while watching videos.

Note: This feature may not be supported on all mobile devices.

Handling of the customer information

When using Internet connecting function of this TV, after agreeing to Panasonic's terms of service / privacy policy (hereinafter referred to as terms and conditions etc.), Customer Information on the use of this unit may be collected and used according to terms and conditions etc.

For details of terms of service / privacy policy, refer to [MENU] Settings-Privacy Settings

Customer's personal information may be recorded on this TV by broadcasting organisation or application provider. Before repairing, transferring or discarding this TV, erase all the information recorded on this TV according to the following procedure.

[MENU] Installation-First time installation

Customer information may be collected by provider via application provided by third parties on this TV or website. Please confirm the terms and conditions etc. of provide in advance.

• Panasonic will not be held responsible for collecting or using customer information via application provided by third party on this TV or website.

• When entering your credit card number, name, etc., pay special attention to the trustworthiness of the provider.

• Registered information may be registered in the server etc. of provider. Before repairing, transferring or discarding this TV be sure to erase the information according to the terms and conditions etc. of provider.

Wake On

Wake-on-LAN (WoL) and Wake-on-Wireless LAN (WoWi-Fi) are standards that allow a device to be turned on or woken up by a network message. The message is sent to the device by a program executed on a remote device connected to the same local area network, such as a smartphone.

This TV is WoL and WoWi-Fi compatible. To enable this feature set the **Wake On** option in the **Network/Internet Settings** menu as **On**. It is necessary that both the device, from which the network message will be sent to the TV, and the TV are connected to the same network. Wake On feature is only supported for Android OS devices and can only be used via YouTube and Netflix applications.

In order to use this feature the TV and the remote device should be connected at least once while the TV is on. If the TV is powered off, the connection should be reestablished, the next time it is switched on. Otherwise this feature will be unavailable. This does not apply, when the TV is switched into the standby mode.

• You must change your modem's SSID when there are any other modems and with the same SSID. Do not use the same connection name when there are multiple wireless connections. If you experience problems with a wireless connection.

Configuring Wireless Device Settings

Open the **Network/Internet Settings** menu and select **Network Type as Wireless Device** to start connection process.

The TV will scan the wireless networks automatically. A list of available networks will be displayed. Please select your desired network from the list.

Note: If the modem supports N mode, you should set N mode settings.

If the selected network is protected with a password, please enter the correct key by using the virtual keyboard. You can use the keyboard via the directional buttons and the OK button on the remote control.

Wait until the IP address is shown on the screen.

This means that the connection is now established. To disconnect from a wireless network, highlight **Network Type** and press Left or Right buttons to set as **Disabled**.

Highlight **Internet Speed Test** and press the **OK** button to check your internet connection speed. Highlight **Advanced Settings** and press the **OK** button to open the advanced setting menu. Use directional and numeric buttons to set. Press the **OK** button to save settings when complete.

Other Information

The status of the connection will be displayed as **Connected** or **Not Connected** and the current IP address. If a connection is established.

Connecting to your mobile device via WiFi

• If your mobile device has WiFi feature, you can connect it to your TV via a router, in order to access the content in your device. For this, your mobile device must have an appropriate sharing software.

• Connect to your router following the steps stated above in the **Wireless Connectivity** section.

• Afterwards, engage your mobile device with the router and then indicate the sharing software on your mobile device. Then, select files that you want to share with your TV.

• If the connection is established correctly, you will be able to access the shared files from your mobile device via the **Media Player** menu of your TV.

• Enter the **Media Player** menu and the playback device selection OSD will be displayed. Select your mobile device and press the **OK** button to continue.

• If available, you can download a virtual remote controller application from the server of your mobile device application provider.

The performance of some devices in the market, may vary due to the software architecture. In order to use Wake On feature with a better performance, please make sure that your device has latest firmware version. If you want your TV to consume less power in standby mode, you can disable this feature by setting the **Wake On** option as **Off**.

Connectivity Troubleshooting

Wireless Network Not Available

- Ensure that any firewalls of your network allow the TV wireless connection.
- Try searching for wireless networks again, using the **Network/Internet Settings** menu screen.

If the wireless network does not function properly, try using the wired network in your home. Refer to the **Wired Connectivity** section for more information on the process.

If the TV does not function using the wired connection, check the modem (router). If the router does not have a problem, check the internet connection of your modem.

Connection is Slow

See the instruction book of your wireless modem to get information on the internal service area, connection speed, signal quality and other settings. You need to have a high speed connection for your modem.

Disruption during playback or slow reactions

You could try the following in such a case:

Keep at least three meters distance from microwave ovens, mobile telephones, bluetooth devices or any other Wi-Fi compatible devices. Try changing the active channel on the WLAN router.

Internet Connection Not Available / Audio Video Sharing Not Working

If the MAC address (a unique identifier number) of your PC or modem has been permanently registered, it is possible that your TV might not connect to the Internet. In such a case, the MAC address is authenticated each time when you connect to the Internet. This is a problem when you use the same Internet Service Provider (ISP) as your MAC address. Your Internet service provider cannot validate the MAC address of your TV. For this reason, your TV cannot connect to the Internet. Contact your internet service provider and request information on how to connect a different device, such as your TV, to the Internet.

It is also possible that the connection may not be possible due to the network configuration. If you think the causes you should contact your internet service provider. A firewall might be the reason of a connectivity and discovery problem while using the TV in Audio Video Sharing mode or while browsing via Audio Video Sharing feature.

Invalid Domain

Ensure that you have already logged on to your PC with an authorized username/password and also ensure that your domain is active, prior to sharing any files in your media server program on your PC. If the domain is invalid, this might cause problems while browsing files in Audio Video Sharing mode.

Using Audio Video Sharing Network Service

Audio Video Sharing feature uses a standard that eases the viewing process of digital electronics and makes them more convenient to use on a home network.

This standard allows you to view and play photos, music and videos stored in the media server connected to your home network.

1. Server Software Installation

The Audio Video Sharing feature cannot be used if the server programme is not installed onto your PC or if the required media server software is not installed into the hard disk of the PC. Please prepare your PC with a proper server programme.

2. Connect to a Wired or Wireless Network

See the **Wired/Wireless Connectivity** chapters for detailed connection information.

3. Play Shared Files via Media Player

Select **Media Player** by using the directional buttons from the main menu and press **OK**. The media player will then be displayed.

Audio Video Sharing

Select the desired media type on the main media player menu and press **OK**. Sharing configurations are set properly when a **Sharing** screen will be displayed. Select **Sharing to PC** from the desired menu. If the networks are found they will be listed on the screen. Select media server or network that you want to connect to using the Up or Down buttons and press **OK**. If you want to refresh the device list, press the **Green** button. You can press **Menu** to exit.

If you select the media type as **Video** and choose a device from the selection menu. Then select the folder with video files in it on the next screen and all the available video files will be listed.

To play other media types from this screen, you can go back to main **Media Player** screen and select the media type as desired and then perform the network selection again. Or press the **Blue** button to switch to next media type quickly without changing the network. Refer to the **Media Player** menu section for further information on file playback.

If a problem occurs with the network, please switch your television off at the wall socket and back on again. Trick mode and jump are not supported with the Audio Video Sharing feature.

PC/HDD/Media Player or any other devices that are compatible should be used with a wired connection for higher playback quality.

Use a LAN connection for quicker file sharing between other devices like computers.

Note: There may be some PCs which may not be able to utilize the Audio Video Sharing feature due to administrator and security settings (such as business PCs).

Internet Portal

Portal feature adds your TV a feature that allows you to connect to a server on the Internet and view the content. Portal feature allows you to view the music, video, clip or web content with defined short-cuts. Whether you can view this content without interruption depends on the connection speed provided by your Internet service provider.

Press the **Internet** button on your remote control to open Internet portal page. You will see icons of the available applications and services on the remote screen. Use the directional buttons on your remote to select the desired one. You may view the desired content by pressing **OK** 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.

You can change channels using **Programme +/-** buttons.

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.

iPlayer Application

You can access BBC iPlayer using your TV. Select BBC iPlayer application among the portal options.

Press the **OK** button on your remote control to start the BBC iPlayer application.

Note: Bandwidth/Internet connection (minimum 2Mbps) is required for high quality viewing.

Playing a Programme via iPlayer
Select a programme and press **OK** button. The programme playback will begin.

You can press the **Pause** button to pause playback. Press the **Play** button to resume the playback.

Use the **Stop** button to stop the playback.

Press the **Exit** button to exit iPlayer. Press the **Return** button for going back to the previous screen.

Note: Episode is unavailable message may be displayed on the screen if a problem occurs during the playback.

Searching a Programme

Highlight the **Search** tab using the navigation buttons and press the **OK** button. Use the virtual keyboard to type the letters. Select letters and press the **OK** button. The results will be listed below. Highlight the desired one and wait until the related videos appear. Select one among the videos using the directional buttons and press the **OK** button to start the playback.

Note: There are also some other BBC applications such as Sport and News available on the portal.

Freeview Play Platform

Freeview Play platform provides catch-up TV and On Demand services. Simply press the **Freeview** button on your remote control to connect to the Freeview Play platform.

The Freeview Play platform can also be accessed from the main menu or Internet portal. Press **Menu** button and select **Internet**. Then highlight **Freeview Play** and press the **OK** button. Or open the Internet portal of the TV and select the **Freeview Play** among available applications. Then press the **OK** button.

You will have to agree to the terms and conditions for Freeview Play services first if you did not agree them during the **First Time Installation**. Highlight **Yes** and press **OK** on the remote to confirm and proceed.

Integrated TV Player applications will be displayed. Select one and press the **OK** button. Then select a content that you want to play back and press the **OK** button to watch.

Catch-up contents can also be accessed and played back directly from the TV Guide. Refer to the section **Electronic Programme Guide (EPG)** for more information.

Requirements

The Freeview Play services may only be used if the following requirements are fulfilled:

- Connecting the TV to the Internet. A minimum broadband speed of 2Mbps is required for proper operation of catch up and on demand services.
- Agreeing to the terms and conditions of Freeview Play

Note: Freeview Play platform usage will count towards any monthly broadband data allowance. Only selected channels provide 7-day catch up.

Internet Browser

To use the Internet browser, enter the portal first. Then launch the **Internet** application on the portal.

(*) The appearance of the Internet browser logo may change 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**, **Tags** 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.

To add a desired website to the **Speed Dial** list for quick access, move the cursor to the top of the page or press the **Back/Return** button. The browser bar will appear. Highlight the **Speed Dial** button and press the **OK** button. Then select **Add to Speed Dial** option and press the **OK** button. Fill in the blanks for **Name** and **Address**, highlight **OK** and press the **OK** button to add. Whilst you are on the site you wish to add to the **Speed Dial** list, highlight the **Opera-0** button and press the **OK** button. Then highlight **Add to Speed Dial** option in the submenu and press the **OK** button again. **Name** and **Address** will be filled automatically according to the site you are visiting. Highlight **OK** and press the **OK** button to add.

You can also use the **Opera** menu options to manage the browser. Highlight the **Opera-0** 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 keywords 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.

Your TV is compatible with USB mice. Plug your mouse or wireless mouse adaptor into the USB input of your TV for easier and quicker navigation.

Some web pages include flash content. These are not supported by the browser.

HbbTV System

HbbTV (Hybrid Broadcast Broadband TV) is a new industry 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 and set-top boxes. 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 (currently various channels on Astra broadcast HbbTV applications). The broadcaster marks one application as "autostart" and this one is started by the platform automatically. The autostart applications are generally launched with a small red button icon to notify the user that there is an HbbTV application on that channel. Press the red button to open the application page. After the page is displayed you can go back to the initial red button icon state by pressing the red button again. The red button icon of the application via pressing red button. It should be noted that the red button switching capability is provided by the application and some application may behave differently.

If you switch to another channel while an HbbTV application is active (either in red button icon mode or full UI mode), the following scenarios can occur.

- The application can continue running.
 - The application can be terminated.
 - The application can be terminated and another autostart red button application can be launched.
- HbbTV allows the applications to be retrieved both from broadband or broadcast. The broadcaster may enable both ways or one of them. If the platform does not have an operational broadband connection, the platform can still launch applications transmitted on broadcast.

The autostart red button applications generally provide links to other applications. An example of this is shown below. The user then can switch to other applications by using the links provided. The applications should provide a way to terminate themselves, usually **Exit** button is used for this.

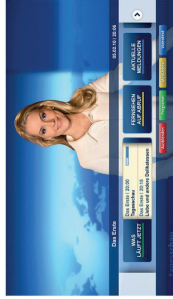


Figure a: Start bar application



Figure b: EPG application, broadcast video is shown on the left bottom, can be terminated by pressing 0.

HbbTV applications use keys on the remote control to interact with the user. When an HbbTV application is launched, the control of some keys are owned by the application. For example, numeric channel selection may not work on a teletext application where the numbers indicate teletext pages.

HbbTV requires AV streaming capability for the platform. There are numerous applications providing VOD (video on demand) and catch-up TV services. The user can use play, pause, stop, forward, and rewind keys on the remote control to interact with the AV content.

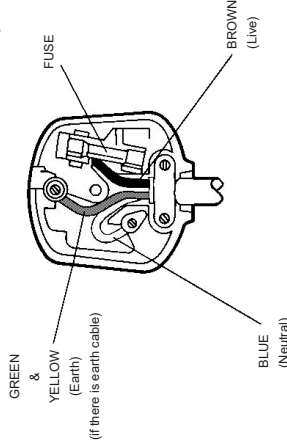
Note: You can enable or disable this feature from the **More** menu in **Setup** menu.

Important instruction

For your own safety read following instruction carefully before attempting to connect this unit to the mains supply.

MAINS (AC) OPERATION

The wires in the mains lead are coloured in accordance with the following code :



IMPORTANT

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green and yellow must be connected to the terminal which is marked with the letter E, or by the earth symbol, or coloured green or green and yellow.

The wire which is coloured blue or black must be connected to the terminal which is marked with the letter N or coloured Black.

The wire which is coloured brown or red must be connected to the terminal which is marked with the letter L or coloured Red.

For continued protection against risk of fire, replace only with same type and rating of fuse (ASTA approved 5A 250VAC fuse).

CAUTION

TO PREVENT ELECTRIC SHOCK DISCONNECT FROM THE MAINS BEFORE REMOVING COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

SAFETY PRECAUTION

THIS EQUIPMENT MUST BE DISCONNECTED FROM THE MAINS WHEN NOT IN USE. DO NOT ALLOW THIS UNIT TO BE EXPOSED TO RAIN OR MOISTURE.