Thank you for purchasing this Panasonic product. Please read these instructions carefully before operating this product and retain them for future reference. The images shown in this manual are for illustrative purposes only. Please refer to Pan European Guarantee Card if you need to contact your local Panasonic dealer for assistance.
Do not display any still part of the image for a long period
In such cases the still part of the image remains dimly on the plasma screen ("image retention"). This is not considered a malfunction and is not covered by the warranty.

Typical still image parts:
- Channel number, channel logo and other logos
- Still or moving pictures viewed in 4:3 or 14:9 aspect ratio
- Video games
- Images from PC
To avoid image retention, the contrast is lowered automatically and the screen becomes dim after a few minutes if no signals are sent or no operations are performed. (p. 97)

Notice for DVB / Data broadcasting / IPTV functions
- This TV is designed to meet the standards (as of August, 2011) of DVB-T (MPEG2 and MPEG4-AVC(H.264)) digital terrestrial services and DVB-C (MPEG2 and MPEG4-AVC(H.264)) digital cable services. Consult your local dealer for availability of DVB-T 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 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.
- Check the latest information on the available services at the following website. (English only)
  http://panasonic.jp/support/global/cs/tv/
Panasonic does not guarantee operation and performance of peripheral devices made by other manufacturers; and we disclaim any liability or damage arising from operation and/or performance from usage of such other maker’s peripheral devices.

This product is licensed under the AVC patent portfolio license for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC Standard (“AVC Video”) and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC. See http://www.mpeglaw.com.

Rovi Corporation and/or its subsidiaries and related affiliates are not in any way liable for the accuracy or availability of the program schedule information or other data in the GUIDE Plus+/Rovi Guide system and cannot guarantee service availability in your area. In no event shall Rovi Corporation and/or its related affiliates be liable for any damages in connection with the accuracy or availability of the program schedule information or other data in the GUIDE Plus+/Rovi Guide system.

“Full HD 3D Glasses™” Logo indicates compatibility between TV products and 3D Eyewear which are compliant with the “Full HD 3D Glasses™” format, and does not indicate picture quality of TV products.
Safety Precautions

Warning

Handling the mains plug and lead
- Insert the mains plug fully into the socket outlet. (If the mains plug is loose, it could generate heat and cause fire.)
- Ensure that the mains plug is easily accessible.
- Ensure the earth pin on the mains plug is securely connected to prevent electrical shock.
  - An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.
- Do not touch the mains plug with a wet hand. (This may cause electrical shock.)
- Do not use any mains lead other than that provided with this TV. (This may cause fire or electrical shock.)
- Do not damage the mains leads. (A damaged lead may cause fire or electrical shock.)
  - Do not move the TV with the lead plugged in the socket outlet.
  - Do not place a heavy object on the lead or place the lead near a high-temperature object.
  - Do not twist the lead, bend it excessively or stretch it.
  - Do not pull on the lead. Hold onto the mains plug body when disconnecting the lead.
- Do not use a damaged mains plug or socket outlet.

If you find any abnormality, remove the mains plug immediately!

Power source
- This TV is designed to operate on AC 220-240 V, 50 / 60 Hz.

Do not remove covers and NEVER modify the TV yourself
- Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside. (High-voltage components may cause serious electrical shock.)
- Have the TV checked, adjusted, or repaired at your local Panasonic dealer.

Do not expose to direct sunlight and other sources of heat
- Avoid exposing the TV to direct sunlight and other sources of heat.

To prevent the spread of fire, keep candles or other open flames away from this product at all times

Do not expose to rain or excessive moisture
- To prevent damage which might result in electric shock or fire, do not expose this TV to rain or excessive moisture. This TV must not be exposed to dripping or splashing water and objects filled with liquid, such as vases, must not be placed on top of or above the TV.

Do not insert foreign objects into the TV
- Do not allow any objects to drop into the TV through the air vents. (Fire or electrical shock may result.)

Do not place the TV on sloped or unstable surfaces, and ensure that the TV does not hang over the edge of the base
- The TV may fall off or tip over.

Use only the dedicated pedestals / mounting equipment
- Using an unapproved pedestal or other fixtures may make the TV unstable, risking injury. Be sure to ask your local Panasonic dealer to perform setup.
- Use approved pedestals (p. 7) / wall-hanging brackets (p. 6).

Do not allow children to handle SD Card
- As with any small object, SD Cards can be swallowed by young children. Please remove SD Card immediately after use and store out of reach of children.
Radio waves
- Do not use the TV in any medical institutions or locations with medical equipment. Radio waves from the TV may interfere with the medical equipment and cause accidents due to the malfunction.
- Do not use the TV near any automatic control equipment such as automatic doors or fire alarms. Radio waves from the TV may interfere with the automatic control equipment and cause accidents due to the malfunction.
- Keep the distance at least 22 cm from the TV when you have a cardiac pacemaker. Radio waves from the part may interfere with the operation of the pacemaker.

Caution

When cleaning the TV, remove the mains plug
- Cleaning an energized TV may cause electrical shock.

When the TV is not going to be used for a long period of time, remove the mains plug
- This TV will still consume some power even in the Off mode, as long as the mains plug is still connected to a live socket outlet.

Transport only in upright position
- Transporting the TV with its display panel facing upward or downward may cause damage to the internal circuitry.

Allow sufficient space around the TV for radiated heat
Minumum distance

![Diagram showing the minimum distance for radiated heat around the TV](cm)

- When using the pedestal, keep the space between the bottom of the TV and the surface where the TV is set.
- In case of using Wall-hanging bracket, follow the manual of it.

Do not block the rear air vents
- Blocked ventilation by newspapers, table cloths, curtains, etc. may cause overheating, fire or electrical shock.

Do not expose your ears to excessive volume from the headphones
- Irreversible damage can be caused.

Do not apply strong force or impact to the display panel
- This may cause damage resulting in injury.

The TV is heavy. Handle the TV by 2 or more people. Support as shown to avoid injury by the TV tipping or falling.

Bluetooth® wireless technology
- The TV uses the 2.4 GHz radio frequency ISM band (Bluetooth®). To avoid malfunctions or slow response caused by radio wave interference, keep the TV away from the devices such as other wireless LAN devices, other Bluetooth devices, microwaves, mobile phones and the devices that use 2.4 GHz signal.
Accessories / Options

Standard accessories

Remote Control
● N2QAYB000752

Batteries for the Remote Control (2)
● R6
⇒ (p. 7)

Pedestal
⇒ (p. 7)

Mains lead
⇒ (p. 12)

Ferrite core for LAN cable (2)
(Large size)
⇒ (p. 14)

Ferrite core for USB cable (2)
(Middle size)
⇒ (p. 95)

Ferrite core for headphones
(Small size)
⇒ (p. 88)

Operating Instructions

Pan European Guarantee Card

Use the Ferrite cores to comply with the EMC standard.

- Accessories may not be placed all together. Take care not to throw them away unintentionally.
- This product contains possibly dangerous parts (such as plastic bags), that can be breathed in or swallowed by young children accidentally. Keep these parts out of reach of young children.

Optional accessories

Please contact your local Panasonic dealer to purchase the recommended optional accessories. For additional details, please read the manual of the optional accessories.

Wall-hanging bracket
● TY-WK4P1RW

- Tilting angle for this TV: 0 (vertical) to 15 degrees

Depth of screw: minimum 17 mm, maximum 35 mm
Diametre: M8
Screw for fixing the TV onto the wall-hanging bracket
(not supplied with the TV)

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.
3D Eyewear
● TY-ER3D4ME
● TY-ER3D4SE

If you need 3D Eyewears, please purchase this optional accessory.
Use Panasonic 3D Eyewear supporting Bluetooth wireless technology.
For more information (English only):
http://panasonic.net/avc/viera/3d/eu.html

Wireless Adaptor for VIERA
● TY-WL20E

Caution
To use the Wireless Adaptor, an access point needs to be obtained.
Depending on the area, this optional accessory may not be available.
Additional information for Wireless Adaptor and access point may be on the following website. (English only)
http://panasonic.jp/support/global/cs/tv/

Communication Camera
● TY-CC20W

This camera can be used on VIERA Connect (p. 19, 78).
Depending on the area, this optional accessory may not be available.
For details, consult your local Panasonic dealer.

Installing / removing remote’s batteries

1 Pull Open

Caution
Incorrect installation may cause battery leakage and corrosion, resulting in damage to the remote control.
Do not mix old and new batteries.
Do not mix different battery types (such as alkaline and manganese batteries).
Do not use rechargeable (Ni-Cd) batteries.
Do not burn or break up batteries. Batteries must not be exposed to excessive heat such as sunshine, fire or the like.
Do not disassemble or modify the remote control.

2 Close

Note the correct polarity (+ or -)

Attaching / removing the pedestal

Warning
Do not disassemble or modify the pedestal.
Otherwise the TV may fall over and become damaged, and personal injury may result.

Caution
Do not use any pedestal other than the one provided with this TV.
Otherwise the TV may fall over and become damaged, and personal injury may result.

Do not use the pedestal if it becomes warped or physically damaged.
If you use the pedestal while it is physically damaged, personal injury may result. Contact your local Panasonic dealer immediately.

During set-up, make sure that all screws are securely tightened.
If insufficient care is taken to ensure screws are properly tightened during assembly, the pedestal will not be strong enough to support the TV, and it might fall over and become damaged, and personal injury may result.

Ensure that the TV does not fall over.
If the TV is knocked or children climb onto the pedestal with the TV installed, the TV may fall over and personal injury may result.

Two or more people are required to install and remove the TV.
If two or more people are not present, the TV may be dropped, and personal injury may result.

When removing the pedestal from the TV, do not remove the pedestal by the methods other than the specified procedure. ⇒ (p. 9)
Otherwise the TV and / or pedestal may fall over and become damaged, and personal injury may result.
Assembling the pedestal

1. Insert the tabs of the neck (D) into the base (F) firmly.

2. Turn the base (F) over and fix the neck (D) securely with assembly screws (A). Do not hold the neck when turning over the base.

3. Attach the bracket (C) to the tabs of the neck (D) and fix with assembly screws (A).

4. Attach the cover (E) and fix securely with assembly screw (A).

Securing the TV

Use the assembly screws (A) to fasten securely.
- Tighten the four assembly screws loosely at first, then tighten them firmly to fix securely.
- Carry out the work on a horizontal and level surface.
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.

1. Remove the assembly screws A from the TV.
2. Pull out the pedestal from the TV.
3. Remove the assembly screw A from the cover.
4. Remove the assembly screws B from the bracket.
5. Remove the assembly screws C from the back of the base and pull out the neck.

Preventing the TV from falling over
Using the fall-prevent screw hole and a screw (commercially available), securely fix the body of the pedestal to the installation surface.

- The place where the pedestal is to be fixed should be thick enough and made of hard material.

Screw (not supplied)
Diameter: 3 mm
Length: 25 - 30 mm

Screw hole
Identifying Controls

Remote Control

1 Standby On / Off switch
   ● Switches TV on or off standby.

2 3D button (p. 33)
   ● Switches the viewing mode between 2D and 3D.

3 [Main Menu] (p. 37)
   ● Press to access Picture, Sound, Network, Timer and Setup Menus.

4 Aspect (p. 23)
   ● Changes aspect ratio.

5 Information (p. 21)
   ● Displays channel and programme information.

6 VIERA TOOLS (p. 36)
   ● Displays some special feature icons and accesses easily.

7 INTERNET ([VIERA Connect]) (p. 19, 78)
   ● Displays VIERA Connect home screen.

8 OK
   ● Confirms selections and choices.
   ● Press after selecting channel positions to quickly change channel.
   ● Displays the Channel List.

9 [Option Menu] (p. 22)
   ● Easy optional setting for viewing, sound, etc.

10 Coloured buttons (red-green-yellow-blue)
   ● Used for the selection, navigation and operation of various functions.

11 Teletext (p. 27)
   ● Switches to teletext mode.

12 Subtitles (p. 21)
   ● Displays subtitles.

13 Numeric buttons
   ● Changes channel and teletext pages.
   ● Sets characters.
   ● When in Standby mode, switches TV on (Press for about 1 second).

14 Sound Mute
   ● Switches sound mute on or off.

15 Volume Up / Down

16 Input mode selection
   ● TV - switches DVB-C / DVB-T / Analogue mode.
   ● (p. 20)
   ● AV - switches to AV input mode from Input Selection list. (p. 29)

17 Surround (p. 40)
   ● Switches surround sound setting.

18 Normalise (p. 37)
   ● Resets picture and sound settings to their default levels.

19 Exit
   ● Returns to the normal viewing screen.

20 TV Guide (p. 24)

21 Cursor buttons
   ● Makes selections and adjustments.

22 Return
   ● Returns to the previous menu / page.

23 Hold
   ● Freezes / unfreezes the picture. (p. 22)
   ● Holds the current teletext page (teletext mode).
   ● (p. 27)

24 Index (p. 27)
   ● Returns to the teletext index page (teletext mode).

25 Last view (p. 23)
   ● Switches to previously viewed channel or input mode.

26 Channel Up / Down

27 Operations for contents, connected equipment, etc. (p. 30, 61, 75, 85)
Indicator / Control panel

1 Function select
- [Music] or [Speech] mode in the Sound Menu

2 Channel Up / Down, Value change (when using the F button), Switching the TV on (press either button for about 1 second when in Standby mode)

3 Changes the input mode

4 Mains power On / Off switch
- Use to switch the mains power.
- If you turned the TV off during Standby mode by the remote control last time, the TV will be in Standby mode when you turn the TV on with Mains power On / Off switch.

When pressing the control panel button (1 - 4), the control panel guide appears on the left side of the screen for 3 seconds to highlight the pressed button.

5 Remote control signal receiver
- Do not place any objects between the TV remote control signal receiver and remote control.

6 C.A.T.S. (Contrast Automatic Tracking System) sensor
- Senses brightness to adjust picture quality when [Eco Mode] in the Picture Menu is set to [On].

7 Power and Timer LED
- Red: Standby
- Green: On
- Orange: Timer Programming On
- Orange (flash):
  - Recording of Timer Programming or Direct TV Recording in progress
- Red with orange flash:
  - Standby with Timer Programming On or Direct TV Recording
- The LED blinks when the TV receives a command from the remote control.

Using the On Screen Displays - Operation guide

Many features available on this TV can be accessed via the On Screen Display menu.

**Operation guide**

Operation guide will help you to operate by using the remote control.

Example: [Sound Menu]

```
<table>
<thead>
<tr>
<th>Main Menu</th>
<th>1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td></td>
</tr>
</tbody>
</table>
```

Open the menu

Move the cursor / select from a range of options / select the menu item (up and down only) / adjust levels (left and right only)

Access the menu / store settings after adjustments have been made or options have been set

Return to the previous menu

Exit the menu system and return to the normal viewing screen

---

Auto power standby function

The TV will automatically go into Standby mode in the following conditions:

- No signal is received and no operation is performed for 30 minutes in Analogue TV mode.
- [Off Timer] is active in the Timer Menu. (p. 22)
- No operation is performed for the period selected in [Auto Standby] (p. 42).
- This function does not affect the recording of Timer Programming and Direct TV Recording.
Basic Connection

External equipment and cables shown are not supplied with this TV. Please ensure that the unit is disconnected from the mains socket before attaching or disconnecting any leads. There are some restrictions on placement for viewing 3D images. For details (p. 31, 32)

## Terminals

1. SD Card slot (p. 60)
2. CI slot (p. 57)
3. Headphone jack (p. 88)
4. USB 1 / 2 port (p. 60, 87)
5. ETHERNET (p. 14)
6. DIGITAL AUDIO OUT (p. 88)
7. AV1 (SCART) (p. 13)
8. AV2 (COMPONENT / VIDEO) (p. 87)
9. Terrestrial / cable terminal (see below)
10. HDMI1 / 2 (p. 13, 87)

## Connections

### Mains lead and aerial

- **DVB-C, DVB-T, Analogue**

![Mains lead and aerial diagram]

**Mains lead**

AC 220-240 V 50 / 60 Hz

- **Terrestrial aerial**

To remove from the TV:

1. Push until both side tabs click
2. Make sure that the mains lead is securely fixed.
3. Press both tabs and pull on mains connector to release
**AV devices**

- **Player / 3D compatible player**
  - TV
    - HDMI cable
    - Player / 3D-compatible player

- **DVD Recorder / VCR**
  - TV
    - Terrestrial aerial
    - Cable
    - DVD Recorder / VCR
    - SCART cable
    - RF cable

- **DVD Recorder / VCR and Set top box**
  - TV
    - Terrestrial aerial
    - Set top box
    - HDMI cable
    - SCART cable
    - RF cable

**Note**

- Connect to the TV's AV1 for a DVD Recorder / VCR supporting Q-Link (p. 81).
- Q-Link and VIERA Link connection (p. 79, 80)
- Please also read the manual of the equipment being connected.
- Keep the TV away from electronic equipment (video equipment, etc.) or equipment with an infrared sensor. Otherwise, distortion of image / sound may occur or operation of other equipment may be interfered.
- When using a SCART or HDMI cable, use the fully wired one.
- Check the type of terminals and cable plugs are correct when connecting.
Network

To enable the network service functions (VIERA Connect, etc.), you need to connect the TV to a broadband network environment.
- If you do not have any broadband network services, please consult your retailer for assistance.
- Prepare the internet environment for wired connection or wireless connection.
- Setup of the network connection will start after the tuning (when first using the TV). ⇒ (p. 16 - 18)

■ Wired connection

LAN cable (Unshielded)
- Use the Unshielded Twist Pair (UTP) LAN cable.

Ferrite core - Large size (supplied)

Installing the Ferrite core

1. Pull back the tabs (in two places)
2. Wind the cable twice
3. Close

■ Wireless connection

Wireless Adaptor
- “Optional accessories” (p. 7)
- Connect to the USB 1 or 2 port.
Auto Setup

Search and store TV channels automatically.
- These steps are not necessary if the setup has been completed by your local dealer.
- Please complete connections (p. 12 - 14) and settings (if necessary) of the connected equipment before starting Auto Setup. For details of settings for the connected equipment, read the manual of the equipment.

1. **Plug the TV into mains socket and switch on**
   - Takes a few seconds to be displayed.
   - If the red LED shows on the TV, press the Standby On / Off switch on the remote control for about 1 second.

2. **Select the language**
   - Deutsch  Dansk  Polski  Srpski
   - Français  Norsk  Magyar  Slovenčina
   - Italiano  Suomi  Slovónska  Latviesu
   - Español  Türkçe  Български  естоніка
   - Português  Ελληνικά  Română  Lietuvių
   - Nederlands

3. **Select your country**
   - Germany  Denmark  Poland
   - Austria  Sweden  Czech
   - France  Italy  Norway  Hungary
   - Spain  Portugal  Belgium  Croatia
   - Switzerland  Netherlands  Estonia
   - Malta  Turkey  Spain  Luxembourg
   - Andorra  Greece  Latvia  Lithuania
   - Others
   - Depending on the country you select, select your Region or store the Child Lock-PIN number (“0000” cannot be stored) by following the on-screen instructions.

4. **Select the mode to tune**
   - TV Signal Selection
     - DVB-C
     - DVB-T
     - Analogue
     - Start Auto Setup
   - : tune / skip tuning
   - : tune (search for the available channels)
   - : skip tuning

5. **Select [Start Auto Setup]**
   - Auto Setup will start to search for TV channels and store them.
   - The stored channels and sorted channel order vary depending on the country, area, broadcasting system and conditions of signal reception.
   - Auto Setup screen varies depending on the country you select.
1 [DVB-C Network Settings]  
- Depending on the country you select, select your cable provider beforehand by following the on-screen instructions.

<table>
<thead>
<tr>
<th>DVB-C Network Settings</th>
<th>Frequency</th>
<th>Auto</th>
<th>Network ID</th>
<th>Auto</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Normally set [Frequency] and [Network ID] to [Auto].
If [Auto] is not displayed or if necessary, enter [Frequency] and [Network ID] specified by your cable provider with numeric buttons.

2 [DVB-C Auto Setup]

DVB-C Auto Setup

<table>
<thead>
<tr>
<th>No.</th>
<th>Channel Name</th>
<th>Type</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CBBC Channel</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>BBC Radio Wales</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>E4</td>
<td>Free TV</td>
<td>100</td>
</tr>
</tbody>
</table>

Depending on the country you select, the channel selection screen will be displayed after DVB-C Auto Setup if multiple channels have the same logical channel number. Select your preferred channel or exit the screen for automatic selections.

3 [DVB-T Auto Setup]

DVB-T Auto Setup

<table>
<thead>
<tr>
<th>CH</th>
<th>Channel Name</th>
<th>Type</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>CBBC Channel</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>64</td>
<td>E4</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>62</td>
<td>Cartoon Nine</td>
<td>Free TV</td>
<td>100</td>
</tr>
</tbody>
</table>

Depending on the country you select, the channel selection screen will be displayed after DVB-T Auto Setup if multiple channels have the same logical channel number. Select your preferred channel or exit the screen for automatic selections.

4 [Analogue Auto Setup]

Analogue Auto Setup

<table>
<thead>
<tr>
<th>Channel Name</th>
<th>Type</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBBC Channel</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>BBC Radio Wales</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>E4</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>CBBC Channel</td>
<td>Free TV</td>
<td>100</td>
</tr>
<tr>
<td>CBBC Channel</td>
<td>Free TV</td>
<td>100</td>
</tr>
</tbody>
</table>

5 Preset Download

If Q-Link, VIERA Link or similar technology (p. 81, 82) compatible recorder is connected, channel, language and country / region settings are automatically downloaded to the recorder.

- If downloading has failed, you can download later through the Setup Menu. ➔ [Download] (p. 43)

Setup the network connection

Setup the network connection to enable the network service functions such as VIERA Connect, etc. (p. 19, 69).
- To setup the wireless connection, the Wireless Adaptor (optional accessory) is required. Please note that this TV does not support wireless public access points.
- Ensure the network connections (p. 14) and network environment are completed before starting setup.

Select the network type

Wired ➔ “Wired connection” (p. 14)  
Wireless ➔ “Wireless connection” (p. 14)

- To setup later on or skip this step ➔ Select [Set later] or EXIT

[1. Select [Auto]]

Acquire IP Address

<table>
<thead>
<tr>
<th>Auto</th>
<th>Manual</th>
</tr>
</thead>
</table>

1. Select [Auto]  
Acquire IP Address

- To set manually, select [Manual] and set each item. For details ➔ (p. 72)

Connection Test

- Check network cable connection.
- Check acquired IP address.
- Check for devices using same IP address.
- Check gateway connection.
- Check server connection.

: succeeded
The test is successful and the TV is connected to the network.

: failed
Check the settings and connections. And then select [Retry].

2. Go to the next step ➔ 7

(Press twice)
Access points found automatically are listed.

1. Select your desired access point

<table>
<thead>
<tr>
<th>No.</th>
<th>Network Name</th>
<th>Wireless type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Access Point A</td>
<td>11n(2.4GHz)</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>Access Point B</td>
<td>11n(5GHz)</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>Access Point C</td>
<td>11n(5GHz)</td>
<td>✔</td>
</tr>
</tbody>
</table>

- To search access points again
- For the information of the highlighted access point
- To set manually

2. Access the encryption key input mode

Encryption Key Setting
Connection will be made with the following settings:
- Network Name (SSID): Access Point A
- Security type: WPA-PSK
- Encryption type: TKIP

Please input the encryption key.

3. Enter the encryption key of the access point

4. After the access point setting is finished, perform the connection test

- Check wireless network connection.
- Check acquired IP address.
- Check for devices using same IP address.
- Check gateway connection.
- Check server connection.

5. Go to the next step
(Press twice)
Auto Setup

Quick Start Guide

1. Press the WPS button on the access point until the light flashes.
2. Connect the Wireless Adaptor and the access point

[WPS(Push button)]
1) Please press the ‘WPS’ button on the wireless access point until its light flashes.
2) When the light is flashing select ‘Connect’ on TV.
If you are unsure, please check the instruction manual of the wireless access point.

Ensure that your access point supports WPS for this setup.
WPS: Wi-Fi Protected Setup™
If the connection has failed, check the settings and positions of your access point. And then, follow the on-screen instructions.

3. After the access point setting is finished, perform the connection test

Connection Test
1. Check wireless network connection.
2. Check acquired IP address.
3. Check gateway connection.
4. Check server connection.

: succeeded
The test is successful and the TV is connected to the network.
: failed
Check the settings and connections. And then select [Retry].
To set manually, select [Manual] and set each item. For details (p. 72)

4. Go to the next step 7

Select [Home]
Select [Home] viewing environment to use in your home environment.

[Shop] viewing environment (for shop display only)
[Shop] viewing environment is the demonstration mode to explain main features of this TV.

Select [Home] viewing environment to use in your home environment.
You can return to viewing environment selection screen at the stage of Shop confirmation screen.
1 Return to viewing environment selection screen
2 Select [Home]

To change viewing environment later on, you will need to initialise all settings by accessing Shipping Condition. ⇒ [Shipping Condition] (p. 58)

Auto Setup is now complete and your TV is ready for viewing.
If tuning has failed, check the connection of the RF cable, and then, follow the on-screen instructions.

Note
• To check the channel list ⇒ “Using TV Guide” (p. 24)
• To edit or hide (skip) channels ⇒ “Tuning and Editing Channels” (p. 48 - 51)
• To retune all channels ⇒ [Auto Setup] (p. 46, 47)
• To add the available TV mode later ⇒ [Add TV Signal] (p. 43)
• To initialise all settings ⇒ [Shipping Condition] (p. 58)

If you connect the Wireless Adaptor later on, the confirmation screen will be displayed for the setup.
• To setup the wireless connection ⇒ (p. 73, 74)
Using “VIERA Connect”

VIERA Connect is a gateway to the internet services unique to Panasonic. VIERA Connect allows you to access some specific websites supported by Panasonic, and enjoy internet contents such as videos, games, communication tools, etc. from VIERA Connect home screen.

- This TV does not support full web browser function and some features of the websites may not be available.

1. Turn power on
   - Press for about 1 second.
   - Mains power On / Off switch should be on. (p. 11)
   - Every time you turn on the TV, VIERA Connect introduction banner appears. The banner is subject to change.

2. Access VIERA Connect
   - While the banner is displayed
   - Depending on the usage conditions, it may take a while to read all the data.
   - Messages might be displayed before VIERA Connect home screen.
   - Please read these instructions carefully and follow the on-screen instructions.
   - Example: VIERA Connect home screen

- To exit from VIERA Connect
  - To set the VIERA Connect introduction banner display off

- To go to the next level, select [MORE].
- To back to the previous level, select [BACK].
- To return to VIERA Connect home screen

Video communication (for example Skype™) requires an exclusive Communication Camera TY-CC20W.

- “Optional accessories” (p. 7)
  - For details, read the manual of the Communication Camera.

- You can connect a keyboard and a gamepad via USB port for character input and playing games in VIERA Connect.
  - You can also operate the TV with a keyboard or a gamepad other than VIERA Connect features.
  - For more information ⇒ “USB connection” (p. 95)

Note
- If you cannot access VIERA Connect, check the network connections (p. 14) and settings (p. 16 - 18).
- For more information of VIERA Connect ⇒ (p. 78)
Watching TV

Turn power on

Press for about 1 second.
Mains power On / Off switch should be on. (p. 11)

VIERA Connect introduction banner appears

Every time you turn on the TV, this banner appears at the bottom of the screen.
You can access to VIERA Connect easily and enjoy the various contents. (p. 19)

To remove this banner, leave for about 5 seconds or press any buttons (except the buttons to access VIERA Connect).
To set this banner display off ➞ [VIERA Connect Banner] (p. 44)
The banner is subject to change.

Select the mode

TV
TV Selection
DVB-C
DVB-T
Analogue

The selectable modes vary depending on the stored channels (p. 15).

You can also select the mode pressing the TV button repeatedly on the remote control or the TV (p. 11).
If [TV Selection] menu is not displayed, press the TV button to switch the mode.

Select a channel

up  down or  

To select a more than two-digit channel position number, e.g. 399

To select from the Channel List

All DVB-T Channels Sorting 123...
6  Carbon Nwk
7  BBC Radio Wales
8  BBC Radio Cymru
1  BBC ONE Wales
2  BBC THREE
3  BBCi
4  CBBC Channel

To sort channel names in alphabetical order
(red)
To change the category (blue)

To select a channel using Information banner (p. 21)
1  Display Information banner if it is not displayed
2  While the banner is displayed, select the channel

To select a channel using TV Guide (p. 24)
1  Display TV Guide
2  Select the current programme or channel
3  Select [View] (DVB)

The postcode entry or update may be required depending on the country you select (p. 15). Follow the on-screen instructions.

Note
To watch pay-TV ➞ “Using Common Interface” (p. 57)
Other useful functions

Display Information banner

- Also appears when changing a channel.

Features available / Message meanings

- Sound mute on
- **[Bad signal]** Poor TV signal quality
- **[Dolby D+], [Dolby D], [HE-AAC]** Dolby Digital Plus, Dolby Digital or HE-AAC audio track
- Subtitle service available
- Teletext service available
- **MULTI** Multiple audio available
- **MULTI** Multiple video available
- **MULTI** Multiple audio and video available
- To confirm another tuned channel name
- To watch the channel listed in the banner
- Extra information (DVB) (Press again to hide the banner)
- Information on the next programme (DVB)
- To set display timeout → [Banner Display Timeout] (p. 44)

Display subtitles

- **Display / hide subtitles** (if available)
  - **STTL** To change the language for DVB (if available) → [Preferred Subtitles] (p. 43)

**Note**

- If you press this button in Analogue mode, it switches to teletext service and calls up a favourite page (p. 27). Press the EXIT button to return to TV mode.
- Subtitles may not be displayed properly in 3D images.
Watching TV

Hold
Freeze / unfreeze picture

Display the selectable settings for the current status

Confirm or change the current status instantly

**OPTION**

- To change

[Multi Video] (DVB)
Selects from a group of multiple videos (if available)
- This setting is not memorised and it will return to the default setting once you exit the current programme.

[Multi Audio] (DVB)
Selects between alternative language for sound tracks (if available)
- This setting is not memorised and it will return to the default setting once you exit the current programme.

[Multi Video] (DVB)
Selects from a group of multiple videos (if available)

[Multi Audio] (DVB)
Selects between alternative language for sound tracks (if available)

[Sub Channel] (DVB)
Selects the multifeed programme - sub channel (if available)

[Subtitle Language] (DVB)
Selects the language in which subtitles should appear (if available)

[Teletext Character Set]
Sets the teletext language font

[Teletext Language] (DVB)
Selects between alternative language for teletext (if available)

[MPX] (Analogue)
Selects multiplex sound mode (if available)

[Volume Correction]
Adjusts volume of individual channel or input mode

Off Timer

Turn the TV to Standby mode automatically after a fixed period

1 Display the menu

2 Select [Timer]

3 Select [Off Timer] and set the time in 15-minute increments

- To cancel, set to [Off] or turn the TV off.
- To confirm the remaining time ⇒ “Display Information banner” (p. 21)
- When the remaining time is within 3 minutes, the remaining time will flash on the screen.
Aspect

Change the aspect ratio (image size)

Enjoy viewing the image at its optimum size and aspect. Programmes usually contain an "Aspect Control Signal" (Widescreen signal, etc.), and the TV will choose the aspect ratio automatically according to the "Aspect Control Signal" (p. 90).

■ To change the aspect ratio manually

1 Display Aspect Selection list

2 While the list is displayed, select the mode

- You can also change the mode only using the ASPECT button.

ASPECT (Press repeatedly until you reach the desired mode.)

[AUTO]
The best ratio is chosen and the image expanded to fill the screen. For details (p. 90)

[16:9] Directly displays the image at 16:9 without distortion (anamorphic).

[4:3 Full] Displays a 4:3 image enlarged horizontally to fit the screen.

[14:9] Displays the image at the standard 14:9 without distortion.

[Zoom1] Displays a 16:9 letterbox or 4:3 image without distortion.

[Just] Displays a 4:3 image full-screen. Stretching is only noticeable at the left and right edges.

[Zoom2] Displays a 16:9 letterbox (anamorphic) image full-screen without distortion.

[4:3] Displays the image at the standard 4:3 without distortion.

[Zoom3] Displays a 2.35:1 letterbox (anamorphic) image full-screen without distortion. At 16:9, displays the image at its maximum (with slight enlargement).

Note
- Aspect cannot be changed in teletext service and 3D mode.
- Aspect mode can be memorised separately for SD (Standard definition) and HD (High definition) signals.

Last view

Switch to previously viewed channel or input mode easily

- Press again to return to the current view.

Note
- Switching channel is not available while the recording of Timer Programming or Direct TV Recording is in progress.
- Watching less than 10 seconds is not regarded as the previously viewed channel or input mode.
Using TV Guide

TV Guide - Electronic Programme Guide (EPG) provides an on-screen listing of the programmes currently broadcast and the forthcoming broadcasts over the next seven days (depending on the broadcasters).

- This function varies depending on the country you select (p. 15).
- The postcode entry or update may be required to use the GUIDE Plus+ system depending on the country you select. ⇒ “View advertisement” (p. 25)
- DVB-T and Analogue channels are displayed on the same TV Guide screen. [D] and [A] may be displayed to distinguish DVB-T and Analogue channels. There will be no programme listings for Analogue channels.
- When this TV is turned on for the first time, or the TV is switched off for more than a week, it may take some time before TV Guide is completely shown.

1 Select the mode
⇒ (p. 20)

TV

2 View TV Guide

- Press again to change the layout ([Landscape] / [Portrait]).
- View [Landscape] to see several channels.
- View [Portrait] to see one channel by time.

Example: [Landscape]

- Current date and time
- TV Guide date
- TV Guide time
- Programme
- Advertisement
- Channel position and name
- [D]: DVB-T
  [A]: Analogue

Depending on the country you select, you can select the TV Guide type
⇒ [Default Guide] (p. 44)

If you select [Channel List], the channel list will appear when the GUIDE button is pressed.

To watch the programme

1 Select the current programme or channel

2 Select [View] (DVB)

To use Timer Programming ⇒ (p. 26)
Using TV Guide

■ To the previous day (DVB)  ■ To the next day (DVB)
   (red)  (green)
■ To view a channel list of the selected type (DVB)  ■ To view a channel list of the selected category (DVB)
   (yellow)  (blue)
   (Type list)  (Category list)
① select type  ① select category
② view  ② view

(Type list)

Category
All Channels
All Channels
All DVB-T Channels
All Analogue Channels
Free TV
Pay TV
HDTV
Free Radio
Pay Radio
Favourites1
Favourites2
Favourites3
Favourites4

(Category list)

Only Analogue channels are listed

To list favourite channels  ⇒ (p. 48)

Other useful functions

View details of the programme (DVB)

View advertisement

Depending on the country you select, this TV supports the GUIDE Plus+ system in DVB-T or Analogue mode. The postcode entry or update is required. Follow the on-screen instructions.

- You can also setup manually from the Setup Menu.
  ⇒ [Update] / [Postcode] in [GUIDE Plus+ Settings] (p. 45)
- Enter your postcode when using this function for the first time. If you enter an incorrect postcode for your area, or no postcode is entered, advertisements may not be displayed correctly.

Display advertisement information

OPTION  ⇒ To display the latest advertisement
  ⇒ [Update] in [GUIDE Plus+ Settings] (p. 45)

■ To change advertisements  ■ To return to TV Guide

Note

- To update the information continuously, the TV must be left in Standby mode.
Timer Programming (DVB)

The Timer Programming menu allows you to choose programmes that you want to remind watching or record to the external recorder. At the correct time, the TV will tune to the correct channel even if the TV is in Standby mode.

1 Select the forthcoming programme  
2 Select the function ([Ext Rec.] or [Reminder])

--- --/-- --:-- 20:00D 12 BBC ONE --:-- 20:30

Timer Programming screen

[Ext Rec.] / [Reminder]  
"Set timer programming event details" (p. 53)

To check / change / cancel a timer programming event  
"Timer Programming" (p. 52 - 54)

To return to TV Guide

If you select the current programme

A confirmation screen asking whether you want to watch or record the programme appears. Select [Timer Programming] and set [Ext Rec.] to record from the time you finish the timer programming event setting.

Note

● This function is not available in Analogue mode.
● Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
● No other channel can be selected while the recording of Timer Programming is in progress.
● When recording programmes to the external recorder, be sure to make the proper settings on the recorder connected to the TV.

If a compatible recorder with Q-Link, VIERA Link or similar technologies is connected to the TV (p. 81, 82) and [Link Settings] (p. 42) are completed, no setting of the recorder is required. Also read the manual of the recorder.
Viewing Teletext

Teletext services are the text information provided by the broadcasters. The features may vary depending on the broadcasters.

What is FLOF (FASTEXT) mode?
In FLOF mode, four differently coloured subjects are situated at the bottom of the screen. To access more information about one of these subjects, press the appropriate coloured button. This facility enables fast access to information on the subjects shown.

What is TOP mode? (in case of TOP text broadcasting)
TOP is a particular improvement of the standard teletext service that results in an easier search and effective guide.
● Fast overview of the teletext information available
● Easy to use step-by-step selection of the topical subject
● Page status information at the bottom of the screen

What is List mode?
In List mode, four differently coloured page numbers are situated at the bottom of the screen. Each of these numbers can be altered and stored in the TV’s memory. ⇒ “Store frequently viewed pages” (p. 28)

■ To change mode ⇒ [Teletext] (p. 44)

Switch to Teletext
Sub page number

Select the page

■ To adjust contrast
(MENU) (Press three times)

Reveal hidden data
Reveal hidden words e.g. quiz page answers

INDEX
Return to the main index page

HOLD
Stop automatic updating
(If you want to hold the current page without updating.)

Call up a favourite page
View a favourite page stored
Call up the page stored on the blue button (List mode).

Factory setting is “P103”.

FULL / TOP / BOTTOM

Viewing Teletext

View in multi window

Watch TV and Teletext in two windows at once

Select [Picture and text] On or Off

Operations can be made only in teletext screen.

Store frequently viewed pages

Store frequently viewed pages in the colour bar (List mode only)

As page is displayed

Coloured button you want to change

Enter new page number

Press and hold

To change stored pages

View sub page

View sub page (Only when Teletext is more than one page)

The number of sub pages varies depending on the broadcasters (up to 79 pages).

It may take some time for searching, during which time you can watch TV.

To view specific sub page

Enter the 4-digit number

Example: P6

View TV while waiting for update

View the TV picture while searching for a teletext page

Teletext automatically updates itself when new information becomes available.

Changes to TV screen temporarily

Appears when updating is completed

View the updated page

(You cannot change the channel.)

The news page provides a function that indicates arrival of the latest news (“News Flash”).
Watching External Inputs

Connect the external equipment (VCRs, DVD equipment, etc.) and you can watch through the input.

To connect the equipment ➔ (p. 12 - 14, 87 - 89)
The remote control is capable of operating the contents or external equipment. ➔ (p. 30)

1. Turn the TV on

   ![Remote Control]

   **When connecting with SCART (p. 13)**
   Receives input signals automatically when playback starts
   - Input signals are automatically identified by the SCART (pin 8) terminal.
   - This function is also available for HDMI connections (p. 87).

   **If input mode is not switched automatically**
   Perform 2 and 3
   - Check the setup of the equipment.

2. Display the input selection menu

3. Select the input mode connected to the equipment

   ![Input Selection Menu]

   - You can also select the input using the AV button on the remote control or the TV (except [SD Card/USB]).
   - Press the button repeatedly until the desired input is selected.
   - To switch between [COMPONENT] and [VIDEO] in [AV2], move the indicator by pressing left and right cursor button.
   - [SD Card/USB]: Switches to Media Player. ➔ “Using Media Player” (p. 60)
   - You can label or skip each input mode (except [SD Card/USB]). ➔ “Input Labels” (p. 44)

   Skipped inputs will not be displayed when the AV button is pressed.

4. View

   ![View Mode]

   Displays the selected mode

   **Note**
   - If the external equipment has an aspect adjustment function, set it to “16:9”.
   - For details, read the manual of the equipment or ask your local dealer.
Operating the contents or equipment with the TV remote control

You can operate the contents in Media Player / media servers, recording functions or the connected equipment with the below buttons of this TV remote control.

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby</td>
<td>Set to Standby mode / Turn on</td>
</tr>
<tr>
<td>Play</td>
<td>Playback videocassette / DVD / video content</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop the operations</td>
</tr>
<tr>
<td>Rewind / Skip / Search</td>
<td>VCR: Rewind, view the picture rapidly in reverse&lt;br&gt;DVD / video content: Skip to the previous track, title or chapter&lt;br&gt;Press and hold to search backward</td>
</tr>
<tr>
<td>Fast-forward / Skip / Search</td>
<td>VCR: Fast-forward, view the picture rapidly forward&lt;br&gt;DVD / video content: Skip to the next track, title or chapter&lt;br&gt;Press and hold to search forward</td>
</tr>
<tr>
<td>Pause</td>
<td>Pause / Resume&lt;br&gt;DVD: Press and hold to play at slow speed</td>
</tr>
<tr>
<td>Channel Up / Down</td>
<td>Select channel</td>
</tr>
</tbody>
</table>

[Direct TV Rec] ⇒ (p. 81, 83)

How to change the code

Each type of the Panasonic equipment has its own remote control code. To use in some features of this TV, you have to select the code “73”. Change to the appropriate code according to the equipment or features below.

Press and hold during the following operations Enter the appropriate code, see table below

<table>
<thead>
<tr>
<th>Type of the equipment, features</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD Recorder, DVD Player, Blu-ray Disc Player</td>
<td>70 (default)</td>
</tr>
<tr>
<td>Player theatre, Blu-ray Disc theatre</td>
<td>71</td>
</tr>
<tr>
<td>VCR</td>
<td>72</td>
</tr>
<tr>
<td>Using in Media Player (p. 61), DLNA features (p. 75) or Direct TV Recording (p. 81, 83)</td>
<td>73</td>
</tr>
</tbody>
</table>

Note

- Confirm if the remote control works correctly after changing the code.
- The codes may be reset to default values if batteries are replaced.
- Some operations may not be possible on some equipment models.
Viewing 3D images

You can enjoy viewing 3D images with contents or programmes corresponding to the 3D effect by wearing the 3D Eyewear. “Optional accessories” (p. 7)

This TV supports [Frame Sequential]*1, [Side by Side]*2 and [Top and Bottom]*3 3D formats.

*1: The 3D format that the images for the left and right eyes are recorded with the high definition quality and alternately played back.

*2, *3: Other available 3D formats

How to view the 3D images (p. 33)

Caution
To use 3D Eyewear safely and comfortably, please read these instructions fully.

Viewing 3D Content

- Do not use the 3D Eyewear if you have a history of over-sensitivity to light, heart problems, or have any other existing medical conditions.
- Please stop using the 3D Eyewear immediately, if you feel tired, are not feeling well or experience any other uncomfortable sensation. When you set the effect by using [3D Adjustment], take into account that the vision of 3D images varies among different individuals.
- Take an appropriate break after viewing a 3D movie.
- Take a break of between 30 - 60 minutes after viewing 3D content on interactive devices such as 3D games or computers.
- Be careful not to strike the TV screen or other people unintentionally. When using the 3D Eyewear the distance between the user and screen can be misjudged.
- The 3D Eyewear must only be worn when viewing 3D content.
- Use the 3D Eyewear where there is no interference from other devices with Bluetooth signal.
- If you suffer from any eyesight problems (short / far-sighted, astigmatism, eyesight differences in left and right), please ensure to correct your vision before using the 3D Eyewear.
- Stop using the 3D Eyewear if you can clearly see double images when viewing 3D content.
- Do not use the 3D Eyewear at a distance less than the recommended distance.

The recommended viewing distance is at least 3 times of the image height.

TX-P42XT50E: 1.6 m or more
TX-P50XT50E: 1.9 m or more

When the top and bottom area of the screen is blackened, such as movies, view the screen at a distance at least 3 times of the height of the actual image. (That makes the distance closer than above recommended figure.)

3D Eyewear Use

- Pay special attention when children are using the 3D Eyewear.
  3D Eyewear should not be used by children younger than about 5 - 6 years old, as a guideline. All children must be fully supervised by parents or guardians who must ensure their safety and health throughout the using 3D Eyewear.
- Before using the 3D Eyewear, ensure no breakable objects surrounding the user to avoid any accidental damage or injury.
- Remove the 3D Eyewear before moving around to avoid falling or accidental injury.
- Use the 3D Eyewear only for the intended purpose and nothing else.
- Do not use 3D Eyewear in the condition of high temperature.
- Do not use if the 3D Eyewear is physically damaged.
- Do not use devices (such as mobile phones or personal transceivers) that emit strong electromagnetic waves near the 3D Eyewear as this may cause the 3D Eyewear to malfunction.
- Stop using the 3D Eyewear immediately if a malfunction or fault occurs.
- Stop using the 3D Eyewear immediately if you experience any redness, pain, or skin irritation around the nose or temples.
- In rare cases, the materials used in the 3D Eyewear may cause an allergic reaction.
3D Eyewear (optional)

* Use the Panasonic 3D Eyewear that has this logo and supports Bluetooth® wireless technology.

“Full HD 3D Glasses™” logo indicates products that are compatible with the active shutter 3D glasses technology standards licensed by the Full HD 3D Glasses Initiative. The RF mark on the logo means the wireless system (Bluetooth® wireless technology), and you can use the 3D Eyewear and the TV that have the same mark together.

**Note**

- Use the 3D Eyewear within approximately 3.2 m from the TV. You cannot view the 3D images with the 3D Eyewear too far from the TV, because of the difficulty of receiving radio waves from the TV.
- The range may be shortened depending on the obstacles between the TV and the 3D Eyewear, or the surrounding environment.
- There are differences in the viewing range of the 3D Eyewear among individuals.
- The 3D Eyewear may not operate correctly at the outside of the viewing range.
To view the 3D images

You can enjoy the 3D images in a variety of ways. (Frame Sequential, Side by Side and Top and Bottom are the supported 3D format.)

■ Playing back 3D-compatible Blu-ray disc (Frame Sequential format)
  - Connect the 3D-compatible player via a fully wired HDMI compliant cable.
  - If input mode is not switched automatically, select the input mode connected to the player. (p. 29)
  - If you use the non 3D-compatible player, the images will be displayed on 2D mode.

■ 3D-supported broadcast
  - Please consult the suppliers of contents or programmes for availability of this service.

■ 3D photos and 3D videos taken by 3D-compatible Panasonic products
  - Available in Media Player (p. 62 - 64, 66) and Network services (p. 76)

■ 2D images converted to 3D
  - Set to [2D→3D] mode in [3D Mode Selection]. (p. 34)

Preparations
Perform the First Registration when the 3D Eyewear is used for the first time. For details, read the manual of the 3D Eyewear.

1 Turn the 3D Eyewear on and put it on
  - Connection status and battery status are displayed on the bottom right of the screen.

2 View the 3D images
  - Safety precautions will be displayed when you first watch the 3D image. Select [Yes] or [No] to continue to view 3D images. If you select [Yes], this message will be displayed again in the same condition after Mains power On / Off switch is next turned on. Select [No] if you do not want to display this message again.
  - Turn off the 3D Eyewear after using it.

Note
  - 3D Eyewear is not included. Please purchase as necessary. (p. 7)
  - For more detail about using and wearing the 3D Eyewear, read the manual of the 3D Eyewear.
  - The 3D image or 3D effect may not be available in the following conditions:
    - VIERA Connect home screen (p. 19) is displayed.
    - [Ext Rec.] of Timer Programming (p. 52) is in progress.
    - Direct TV Recording (p. 81, 83) is in progress.
  - As for the contents of the Frame Sequential format and Side by Side (Full), no images will be displayed in these conditions.
  - If light appears to flicker under fluorescents or dimmers when using the 3D Eyewear, change the setting of [3D Refresh Rate]. (p. 39)
  - 3D content will not be correctly visible if the 3D Eyewear is worn upside down or back-to-front.
  - Do not wear the 3D Eyewear when watching anything other than 3D images. Liquid crystal displays (such as computer screens, digital clocks or calculators, etc.) may be difficult to see while wearing the 3D Eyewear.
  - Do not use the 3D Eyewear as sunglasses.
  - 3D effects may be perceived differently depending on the person.

Changing 2D - 3D mode
You can easily change the viewing mode between 2D and 3D using the 3D button.

Select the mode

Displays the appropriate image that you desire without selecting 3D format.
  - This mode may not work properly depending on the source image format. In this case, select the appropriate 3D format manually.
To change 3D format manually
When the image is not changed properly using [3D], [2D] or [2D→3D] mode, use this manual setting.

During the above operation

<table>
<thead>
<tr>
<th>3D Mode Selection (Manual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
</tr>
<tr>
<td>Frame Sequential - 3D</td>
</tr>
<tr>
<td>Frame Sequential - 2D</td>
</tr>
<tr>
<td>Side by Side - 3D</td>
</tr>
<tr>
<td>Side by Side - 2D</td>
</tr>
<tr>
<td>Top and Bottom - 3D</td>
</tr>
<tr>
<td>Top and Bottom - 2D</td>
</tr>
<tr>
<td>2D→3D</td>
</tr>
</tbody>
</table>

Select the mode

During the above operation

Select the mode

[Original]:
Displays the source image as it is.
* Use to identify the format type of the source image.

“Table of images that can be seen for each [3D Mode Selection (Manual)] and the source image format” (see below)

Displays the mode you select.
* Not valid on Analogue and AV mode

[2D→3D]:
Converts 2D images into 3D.
* Please note the 3D images appear slightly different from the originals.
* Using this function for profit-making purposes, or publically showing images converted from 2D to 3D in places such as shops or hotels etc. may infringe on the rights of the copyright holder protected under copyright law.

Table of images that can be seen for each [3D Mode Selection (Manual)] and the source image format
If the picture appears to be abnormal, refer to the table below to choose the correct 3D mode.

<table>
<thead>
<tr>
<th>Source image format</th>
<th>[3D Mode Selection]</th>
<th>[Frame Sequential - 3D]</th>
<th>[Side by Side - 3D]</th>
<th>[Top and Bottom - 3D]</th>
<th>[2D→3D]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Sequential</td>
<td>[Original]</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Side by Side (Full)</td>
<td></td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Side by Side</td>
<td></td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Top and Bottom</td>
<td></td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Normal format (2D)</td>
<td>[Original]</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>Normal 3D</td>
</tr>
</tbody>
</table>

*1: When selecting [Frame Sequential - 2D], [Side by Side - 2D] or [Top and Bottom - 2D], the images will be displayed without 3D effect.
* Depending on the player or broadcasts, the image may be different from the above illustrations.
**3D Settings**

If the 3D images are not displayed correctly or seem unusual, adjust and setup the 3D settings.

1. **Display the menu**
   - Press the MENU button.

2. **Select [Picture]**
   - Press the SELECT button to select [Picture].

3. **Select [3D Settings]**
   - Press the SELECT button to select [3D Settings].

4. **Select one of the following functions and set**
   - Press the SELECT button to select the desired function:
     - **2D→3D Depth**
     - **3D Adjustment**
     - **Picture Sequence**
     - **Edge Smoother**
     - **3D Detection**
     - **3D Signal Message**
     - **Safety Precautions**

---

<table>
<thead>
<tr>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D→3D Depth</td>
<td>Selects a level of 3D-image depth for viewing converted 2D images [Min] / [Mid] / [Max]</td>
</tr>
</tbody>
</table>
| 3D Adjustment      | Adjustment of the 3D effect (except in [2D→3D] mode) [Off] / [On]  
                     - Set to [On] to enable [Effect] setting.  
                     - When setting to [On], a safety precaution message will appear. Read it carefully and press the BACK/RETURN button to go to [Effect] setting.  
                     [Effect]: Adjusts the 3D depth according to the contents or to your preference. |
| Picture Sequence   | Select [Reverse] if you feel that the sense of depth is unusual (except in [2D→3D] mode) [Normal] / [Reverse] |
| Edge Smoother      | Set to [On] if you feel the contoured parts of an image are not smooth enough (except in [2D→3D] mode) [Off] / [On] |
                     - [On (Advance)]: Detects all the 3D format signals and displays the 3D image automatically.  
                     - [On]: Detects the particular 3D format signals (Frame Sequential, etc.) and displays the 3D image automatically.  
                     - To view 3D images without any notifications and operations, set to [On (Advance)]. |
| 3D Signal Message  | Selects whether to give a notification message when a signal of 3D format is found [Off] / [On]  
                     - For DVB, Component and HDMI input  
                     - This function is not available when [3D Detection] is set to [On (Advance)]. |
| Safety Precautions | Displays the precautions for viewing 3D images |

**Note**

- [3D Adjustment] and [Picture Sequence] will not be memorised when changing the input mode or channel.
How to Use VIERA TOOLS

You can access some special features easily by using the VIERA TOOLS function.

1. Display icons of the feature
2. Select a feature

To return to TV
EXIT or

Follow the operations of each feature

- [VIERA Link] ⇒ (p. 83 - 86)
- [Photo]* ⇒ (p. 62)
- [Video]* ⇒ (p. 66)
- [Music]* ⇒ (p. 68)
- [VIERA Connect] ⇒ (p. 19, 78)
- [Media Server]* ⇒ (p. 75)

*When two or more available devices are connected, a selection screen will be displayed. Please select the correct description and access.

Note

- If the selected feature is not available, the demonstration to explain how to use it can be displayed. Press the OK button to view the demonstration after selecting the unavailable feature.
How to Use Menu Functions

Various menus allow you to make settings for the picture, sound, and other functions.

1 Display the menu
   - Displays the functions that can be set (varies according to the input signal).

2 Select the menu
   - ① select
   - ② access

3 Select the item
   - ① select
   - ② access

<table>
<thead>
<tr>
<th>Viewing Mode</th>
<th>Dynamic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrast</td>
<td></td>
</tr>
<tr>
<td>Brightness</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td></td>
</tr>
<tr>
<td>Sharpness</td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>Colour Balance</td>
<td>Warm</td>
</tr>
<tr>
<td>Vivid Colour</td>
<td>Off</td>
</tr>
<tr>
<td>Eco Mode</td>
<td>Off</td>
</tr>
</tbody>
</table>

   - Choose from among alternatives
     - Colour Balance: Cool, Normal, Warm
     - Sharpness: Moved

   - Adjust using the slide bar

   - Go to the next screen
     - Child Lock: Access

Enter characters by free input menu
You can enter names or numbers freely for some items.

User input
Name

Set characters one by one
- ① select
- ② set

Store
- Back/Return

- You can set characters by using numeric buttons. ⇒ “Characters table for numeric buttons” (p. 96)

To reset the settings
- Picture or sound settings only
  ⇒ [Reset to Defaults] in the Picture Menu (p. 39) or Sound Menu (p. 41)
- To initialise all settings
  ⇒ [Shipping Condition] (p. 45)
## Menu list

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<tr>
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<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Menu list</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Viewing Mode</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selects your favourite picture mode for each input</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Dynamic]: Improves contrast and sharpness for viewing in a bright room.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Normal]: Normal use for viewing in a normal lighting condition.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Cinema]: Improves the performance of contrast, black and colour reproduction for watching movies in a darkened room.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[True Cinema]: Reproduces the original image quality precisely without any revision.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Game]: Provides suitable images for fast response signal when playing games.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Not valid on TV mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● To display a continuous record of time spent using Game mode [Playing Time Display] (p. 44)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In each Viewing Mode, [Contrast], [Brightness], [Colour], [Sharpness], [Tint], [Colour Balance], [Vivid Colour], [Eco Mode], [P-NR] and [3D-COMB] can be adjusted and stored for each input.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● You can set [Viewing Mode] in 2D and 3D mode for each.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Contrast, Brightness, Colour, Sharpness</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts the levels of these options according to your personal preference</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Tint</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts the picture hue to suit your taste</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For NTSC signal reception</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Colour Balance</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sets the overall colour tone of the picture [Cool] / [Normal] / [Warm]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Not valid when [Viewing Mode] is set to [True Cinema]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Vivid Colour</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automatically adjusts colours to vivid ones [Off] / [On]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Eco Mode</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automatic Brightness Control function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts picture settings automatically depending on ambient lighting conditions [Off] / [On]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>P-NR</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Picture Noise Reduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Not valid when [Viewing Mode] is set to [Game]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>3D-COMB</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes still or slow moving pictures more vivid [Off] / [On]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to [On] to display sharper and more accurate colours.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For PAL / NTSC signal reception in TV mode or from composite (except 3D mode)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>3D Settings</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts and sets to view 3D images (p. 35)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Screen Display</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turns the screen off when you select [Off]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Off] / [On]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● The sound is active even if the screen turns off.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Press any buttons (except Standby) to turn the screen on.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● This function is effective in reducing power consumption when listening to the sound without watching the TV screen.</td>
</tr>
<tr>
<td>Menu</td>
<td>Item</td>
<td>Adjustments / Configurations (alternatives)</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------------------------------------------</td>
</tr>
</tbody>
</table>
|      |      | **Intelligent Frame Creation** | Automatically compensates the picture frame rate and removes juddering movements to make the images smooth **[Off] / [Mid] / [Max]**  
- Depending on the contents, images may be noisy. To prevent the noise, change the setting.  
- Not valid when [Viewing Mode] is set to [Game] |
|      |      | **24p Smooth Film** | Automatically compensates the picture frame rate to make the 24p source movie images smooth **[Off] / [Mid] / [Max]**  
- This is available only for 24p signal input and displayed instead of [Intelligent Frame Creation].  
- Not valid when [Viewing Mode] is set to [Game] |
|      |      | **3D Refresh Rate** | Reduces juddering and flicker noises of the 3D images when using the 3D Eyewear **[Auto] / [100Hz] / [120Hz]**  
- [100Hz]: If light appears to flicker under fluorescents (or dimmers) of 50 Hz.  
- [120Hz]: If light appears to flicker under fluorescents (or dimmers) of 60 Hz. |
|      |      | **Side Panel** | Adjusts the brightness of the side panel **[Off] / [Low] / [Mid] / [High]**  
- The recommended setting is [High] to prevent panel “image retention”. |
| Advanced Settings |      | **16:9 Overscan** | Selects the screen area displaying the image **[Off] / [On]**  
- [On]: Enlarges the image to hide the edge of the image.  
- [Off]: Displays the image in the original size.  
- Set to [On] if noise is generated on the edge of the screen.  
- This function is available when aspect is set to [Auto] (16:9 signal only) or [16:9].  
- This function can be memorised separately for SD (Standard definition) and HD (High definition) signals.  
- Not valid on VIERA Connect |
|      |      | **DVI Input Setting** | Changes the black level of the image for HDMI input mode with DVI input signal manually **[Normal] / [Full]**  
- When the DVI input signal from the external equipment (especially from PC) is displayed, the black level may not be suitable. In this case, select [Full].  
- The black level for HDMI input signal will be adjusted automatically.  
- For HDMI input mode with DVI input signal |
|      |      | **Pixel Orbiter** | Selects the mode for wobbling of the image to prevent panel “image retention” **[Auto] / [On]**  
- [Auto]: Automatically works only for the appropriate images and you rarely recognise the wobbling. |
|      |      | **Scrolling Bar** | Displays scrolling bar pattern to assist elimination of panel “image retention”  
- Press the OK button to start scrolling and press any buttons (except Standby) to exit this mode.  
- For positive effect to eliminate “image retention”, it may be necessary to display for a long time. |
|      |      | **Reset to Defaults** | Press the OK button to reset the current Picture Viewing Mode of the selected input to the default settings |
## Menu Item | Adjustments / Configurations (alternatives)
--- | ---
**Mode**<br>**Selects your favourite sound mode [Music] / [Speech] / [User]**<br>● The selected mode affects all input signals.<br>**[Music]:**<br>Improves sound quality for watching music videos, etc.<br>**[Speech]:**<br>Improves sound quality for watching news, drama, etc.<br>● In Music and Speech modes, you can adjust [Bass] and [Treble] settings, and those settings will be stored for each mode.<br>**[User]:**<br>Adjusts the sounds manually by using the equaliser to suit your favourite sound quality.<br>● For the User mode, [Equaliser] will appear on the Sound Menu instead of [Bass] and [Treble]. Select [Equaliser] and adjust the frequency.<br>⇒ [Equaliser] (see below)<br>
**Bass**<br>Adjusts level to enhance or minimise lower, deeper sound output<br>
**Treble**<br>Adjusts level to enhance or minimise sharper, higher sound output<br>
**Equaliser**<br>Adjusts the frequency level to suit your favourite sound quality<br>● This function is available when [Mode] is set to [User].<br>● Select the frequency and change the frequency level by using the cursor button.<br>● To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency.<br>● To reset the levels of each frequency to the default settings, select [Reset to Defaults] by using the cursor button, and then press the OK button.<br>
**Balance**<br>Adjusts volume level of right and left speakers<br>
**Headphone Volume**<br>Adjusts the volume of the headphones<br>
**Surround**<br>Surround sound settings [Off] / [V-Audio] / [V-Audio Surround]<br>**[V-Audio]:**<br>Provides a dynamic enhancer of width to simulate improved spatial effects.<br>**[V-Audio Surround]:**<br>Provides a dynamic enhancer of width and depth to simulate improved spatial effects.<br>● Switching is also possible by the SURROUND button on the remote control (p. 10).<br>
**Auto Gain Control**<br>Automatically regulates large sound level differences between channels and inputs [Off] / [On]<br>
**Volume Correction**<br>Adjusts the volume of individual channel or input mode<br>
**Speaker Distance to Wall**<br>Compensates for the low frequency sound due to the distance between the speakers and the wall [Over 30cm] / [Up to 30cm]<br>● If the back space between the TV and wall is over 30 cm, [Over 30cm] is recommended.<br>● If the back space between the TV and wall is within 30 cm, [Up to 30cm] is recommended.<br>
**MPX**<br>Selects multiplex sound mode (if available)<br>**[Stereo]:** Use this normally.<br>**[Mono]:** When stereo signal cannot be received.<br>**[M1] / [M2]:** Available while mono signal is transmitted.<br>● For Analogue mode
## How to Use Menu Functions

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<th>Menu</th>
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</table>
|      |      | **Audio Preference** Selects the initial setting for audio tracks  
- Selectable options vary depending on the country you select.  
- **[Auto]:** Automatically selects the audio tracks if programme has more than two tracks. The priority is given in the following order - Dolby Digital Plus, HE-AAC, Dolby Digital, MPEG.  
- **[Multichannel]:** The priority is given to multi-channel audio track.  
- **[Stereo]:** The priority is given to stereo (2ch) audio track.  
- **[MPEG]:** The priority is given to MPEG.  
- Dolby Digital Plus and Dolby Digital are the methods of coding digital signals developed by Dolby Laboratories. Apart from stereo (2ch) audio, these signals can be multi-channel audio.  
- HE-AAC is a perceptual coding method used to compress digital audio for efficient storage and transmission.  
- MPEG is an audio compression method that compresses audio to the smaller size without any considerable loss of audio quality.  
- Dolby Digital Plus and HE-AAC are the technologies for HD (High definition) programmes.  
- For DVB mode |
|      |      | **Audio Type** Narration settings for visually impaired users (only available in some countries)  
**[Standard] / [Visual Impaired]**  
- Set to [Visual Impaired] to activate the narration sound track when available on the broadcast.  
- For DVB mode |
|      |      | **SPDIF Selection** SPDIF: A standard audio transfer file format  
Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals **[Auto] / [PCM]**  
- **[Auto]:** Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bitstream. MPEG is output as PCM.  
- **[PCM]:** Digital output signal is fixed to PCM.  
- For DVB mode or video contents of Media Player / Network services (p. 67, 78)  
- ARC (Audio Return Channel): A function of digital audio output using HDMI cable |
|      |      | **HDMI1 / 2 Input** Selects to fit the input signal **[Digital] / [Analogue]** (p. 94)  
- **[Digital]:** When sound is carried via the HDMI cable connection  
- **[Analogue]:** When sound is not carried via the HDMI-DVI adaptor cable connection  
- For HDMI input |
|      |      | **SPDIF Delay** Adjusts the delay time of the sound output from DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals if the sound does not synchronise the image  
- For DVB mode |
<p>|      |      | <strong>Reset to Defaults</strong> Press the OK button to reset the current Sound Mode, [Balance], [Headphone Volume] and [Surround] to the default settings |
|      |      | <strong>Network</strong> Sets the network setting to use in your network environment (p. 72, 73) |
|      |      | <strong>Network Link Settings</strong> Sets to control the TV with the devices connected to the network (p. 71) |</p>
<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
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<tr>
<td></td>
<td></td>
<td><strong>Network</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Software Update</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>New Software Message</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Network Status</strong></td>
</tr>
</tbody>
</table>
|      |      | **Timer Programming**                    | Sets a timer to record or remind forthcoming programmes (p. 52)  
  ● For DVB mode |
|      |      | **Auto Standby**                         | Sets the duration of time that the TV will remain on when no operation is performed [Off] / [2] / [4] (hours)  
  ● Starting Timer Programming automatically does not affect this function.  
  ● Automatic input switching with the connected equipment affects this function and time-count will be reset.  
  ● The notification message will appear 3 minutes before going into Standby mode. |
|      |      | **Eco Navigation**                       | Automatically sets the TV to the most suitable energy-saving mode  
  ● If you press the OK button, the following items are set as below:  
    [Eco Mode], [VIERA Link], [Power off Link], [Standby Power Save], [Power Save] ➔ [On]  
    [Intelligent Auto Standby] ➔ [On (No reminder)]  
    [Auto Standby] ➔ [2 hours] |
|      |      | **VIERA Link**                           | Sets to use VIERA Link functions [Off] / [On] (p. 82) |
|      |      | **HDMI Content Type**                    | Automatically adjusts the picture settings according to the received HDMI content via HDMI cable [Off] / [Auto]  
  ● This function is available if the connected equipment supports HDMI Content Type.  
  ● The content type information will be displayed for several seconds when this function works. |
|      |      | **AV1 out**                              | Chooses the signal to be transmitted from the TV to Q-Link  
  [Monitor]: Image displayed on screen  
  ● Component and HDMI signals cannot be output. |
|      |      | **Power on Link**                        | Sets to use Power on Link function [Off] / [On] (p. 81, 82) |
|      |      | **Power off Link**                       | Sets to use Power off Link function [Off] / [On] (p. 81, 82) |
|      |      | **Standby Power Save**                   | Controls the connected equipment to reduce power consumption in Standby  
  [Off] / [On] (p. 83)  
  ● This function is available when [VIERA Link] is set to [On] and [Power off Link] is set to [On]. |
## How to Use Menu Functions

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<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link Settings</td>
<td>Intelligent Auto Standby</td>
<td>Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Off] / [On (With reminder)] / [On (No reminder)] (p. 83)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● This function is available when [VIERA Link] is set to [On].</td>
</tr>
<tr>
<td></td>
<td>Download</td>
<td>Downloads channel, language and country / region settings to Q-Link or VIERA Link compatible equipment connected to the TV.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● DVB-C channel setting cannot be downloaded.</td>
</tr>
<tr>
<td>Child Lock</td>
<td></td>
<td>Applies access control for channels or inputs to prevent unwanted access (p. 55)</td>
</tr>
<tr>
<td>Tuning Menu</td>
<td>Favourites Edit</td>
<td>Creates a list of favourite channels (p. 48)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Not valid on Analogue mode</td>
</tr>
<tr>
<td></td>
<td>Channel List</td>
<td>Skips the unwanted channels or edits channels (p. 49)</td>
</tr>
<tr>
<td></td>
<td>Auto Setup</td>
<td>Automatically searches for the receivable channels (p. 46, 47)</td>
</tr>
<tr>
<td></td>
<td>Manual Tuning</td>
<td>Searches for the channels manually (p. 50)</td>
</tr>
<tr>
<td></td>
<td>Update Channel List</td>
<td>Updates the channel list while keeping your settings (p. 51)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For DVB mode</td>
</tr>
<tr>
<td></td>
<td>Favourite Network</td>
<td>Selects your favourite network for each broadcasters (only available in some countries) (p. 56)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For DVB mode</td>
</tr>
<tr>
<td></td>
<td>New Channel Message</td>
<td>Selects whether to give a notification message when a new channel is found.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Off] / [On] (p. 51)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For DVB mode</td>
</tr>
<tr>
<td></td>
<td>Service Replacement</td>
<td>Set to [On] to enable a message to switch to the available service (only available in some countries)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Off] / [On] (p. 51)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● For DVB-C mode</td>
</tr>
<tr>
<td></td>
<td>Signal Condition</td>
<td>Checks the signal condition (p. 51)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Not valid on Analogue mode</td>
</tr>
<tr>
<td></td>
<td>Attenuator</td>
<td>Automatically reduces the DVB-C signal to avoid the interference.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[Off] / [On]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● If the DVB-C signal is too strong, the interference may occur. In this case set to [On] to reduce the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>signal automatically.</td>
</tr>
<tr>
<td></td>
<td>Add TV Signal</td>
<td>Adds the TV mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● This function is available if you skip any modes to tune in [Auto Setup] for first using the TV.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● To operate, refer to the “Auto Setup” operations for first using the TV (p. 15).</td>
</tr>
<tr>
<td></td>
<td>OSD Language</td>
<td>Changes language for on-screen displays</td>
</tr>
<tr>
<td></td>
<td>Preferred Audio 1 / 2</td>
<td>Selects the first and second preferred language for DVB multi audio (depending on the broadcaster)</td>
</tr>
<tr>
<td></td>
<td>Preferred Subtitles 1 / 2</td>
<td>Selects the first and second preferred language for DVB subtitles (depending on the broadcaster)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● To display subtitles (p. 21)</td>
</tr>
<tr>
<td></td>
<td>Preferred Teletext</td>
<td>Selects the preferred language for DVB teletext service (depending on the broadcaster)</td>
</tr>
<tr>
<td>Menu</td>
<td>Item</td>
<td>Adjustments / Configurations (alternatives)</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Setup      | Preferred Subtitle Type                   | Selects the preferred subtitle type [Standard] / [Hard of Hearing]  
- [Hard of Hearing] provides aids in understanding and enjoyment with DVB subtitles (depending on the broadcaster).  
- [Preferred Subtitles 1 / 2] in [Language] are given priority.                                                                                                                                |
| Setup      | Teletext                                  | Teletext display mode [TOP (FLOF)] / [List] (p. 27)                                                                                                                                                                                                            |
- [West]: English, French, German, Greek, Italian, Spanish, Swedish, Turkish, etc.  
- [East1]: Czech, English, Estonian, Lettish, Rumanian, Russian, Ukrainian, etc.  
- [East2]: Czech, Hungarian, Lettish, Polish, Rumanian, etc.  
- [Preferred Subtitles 1 / 2] in [Language] are given priority.                                                                                                                                |
| Setup      | Default Guide                             | Selects the default TV Guide type when the GUIDE button is pressed (only available in some countries) [Channel List] / [TV Guide]  
- [TV Guide]: Electronic Programme Guide (EPG) is available.  
  - To use EPG (p. 24)  
- [Channel List]: The channel list will appear instead of EPG.                                                                                                                                 |
| Setup      | Display Settings                          | Accesses the input labels list to select the label of each input mode or set to skip unconnected one for easier identification and selection in [TV Selection] (p. 20), [Input Selection] (p. 29) or banner  
  - To name each input mode freely, select [User input] and set characters (maximum 10 characters).  
  - To skip the input mode, select [Skip].                                                                                                                                 |
| Setup      | Input Labels                               | Sets how long the Information banner stays on screen  
| Setup      | Banner Display Timeout                    | Sets the VIERA Connect introduction banner display [Off] / [On] (p. 19, 20)                                                                                                                                                                                   |
| Setup      | Playing Time Display                      | Set to [On] to display a continuous record of time spent using Game mode in the top right of the screen every 30 minutes [Off] / [On]  
  - This function is available when [Viewing Mode] is set to [Game]. (p. 38)                                                                                                                                                                          |
| Setup      | Data Service Application                  | Sets to use Hybrid Broadcast Broadband TV application (depending on the selected country and broadcaster) [Off] / [Auto Start Off] / [Auto Start On] (p. 56)  
  - For DVB mode                                                                                                                                                                                                                                         |
  - The sound is active even if the screen turns off. This function is effective in reducing power consumption when listening to a radio channel.  
  - Press any buttons except Standby, Volume Up / Down and MUTE buttons to turn the screen on.  
  - Not valid on Analogue mode                                                                                                                                                                                                                       |
<p>| Setup      | Common Interface                          | Sets to watch encrypted channels, etc. (p. 57)                                                                                                                                                                                                                 |
| Setup      | DivX® VOD                                 | Displays DivX VOD registration code (p. 93)                                                                                                                                                                                                                     |</p>
<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
</table>
|      | USB Keyboard Layout         | Selects the language that your USB Keyboard supports  
|      |                             | ● For the information of using USB Keyboard (p. 95) |
| Setup| Shipping Condition          | Resets all settings to the original condition (p. 58) |
|      | System Update               | Downloads new software to this TV (p. 59) |
|      | Software Licence            | Displays the software licence information |
|      | System Information          | Displays the system information of this TV |
|      | Device Information          | Displays the device information of this TV |
|      | GUIDE Plus+ Settings        | Performs the update of the GUIDE Plus+ schedule and advertising information for the GUIDE Plus+ system (only available in some countries) (p. 25) |
|      | Update                      | Sets your postcode to display advertisements in the GUIDE Plus+ system (only available in some countries) (p. 25) |
|      | Postcode                    | Displays the system information of the GUIDE Plus+ system (only available in some countries) |
|      | System Information          | Displays the system information of the GUIDE Plus+ system (only available in some countries) |
| Other Settings | Power on Preference | Automatically selects the input when the TV is turned on [TV] / [AV]  
|      |                             | ● Set to [TV] to view picture from TV tuner. Set to [AV] to view input from the external equipment connected to the AV1 or HDMI1 terminal, e.g. set top box.  
|      |                             | ● The external equipment must be switched on and sending a control signal for automatic switching at power on to occur. |
|      | USB Charge in Standby       | Enables to supply the power from the USB port in Standby mode [Off] / [On]  
|      |                             | ● Available for charging the rechargeable 3D Eyewear (optional)  
|      |                             | ● This function is available when in Standby mode. |
|      | Power Save                  | Reduces brightness of the picture to economise on power consumption [Off] / [On] |
|      | Time Zone                   | Adjusts the time data  
|      |                             | ● The time data will be corrected based on GMT. |

*The settings in [Tuning Menu] are applicable only for the selected TV mode. The menu name varies depending on the TV mode. ([DVB-C Tuning Menu] / [DVB-T Tuning Menu] / [Analogue Tuning Menu])  
● A different menu will be displayed in the mode of Media Player / network service operations. (p. 61 - 68, 75 - 78)  
● Only available items can be selected.
Retuning from Setup Menu

Retuning from Setup Menu

Automatically retune the channels received in the area.
● This function is available if channel tuning is already performed.
● Only the selected mode is retuned. All the previous tuning settings are erased.
● If Child Lock PIN number (p. 55) has been set, the PIN number is required.
● If tuning has not been done completely ⇒ [Manual Tuning] (p. 50)

DVB-C, DVB-T, Analogue channels

1. Select DVB-C, DVB-T or Analogue
   ⇒ (p. 20)

2. Display the menu and select [Setup]

3. Select [DVB-C Tuning Menu], [DVB-T Tuning Menu] or [Analogue Tuning Menu]

4. Select [Auto Setup]

5. Set the Auto Setup settings (DVB-C)
   - After settings, select [Start scan].

6. Start Auto Setup (Settings are made automatically)
   DVB-C:

   All DVB-C tuning data will be erased
DVB-T:

DVB-T Auto Setup

All DVB-T tuning data will be erased

Analogue:

Analogue Auto Setup

All analogue tuning data will be erased

The channel, language and country / region settings are downloaded to Q-Link or VIERA Link compatible equipment connected to the TV.

When the operation is completed, the channel at the lowest position will be displayed.

Auto setup using the buttons on the TV

For Auto Setup, using the buttons on the TV (p. 11)

1 Press the F button repeatedly until [Auto Setup] appears

2 Access [Auto Setup]

3 Set the search mode and scan mode (DVB-C)
   - (select the item)
   - (set)
   - (store)

4 Start [Auto Setup]

To return to TV

Control panel OSD appears when pressing the control panel button.
Tuning and Editing Channels

You can retune channels or make your favourite channel lists, skip unwanted channels, etc.

1 Select the mode

(p. 20)

2 Display the menu and select [Setup]

3 Select [DVB-C Tuning Menu], [DVB-T Tuning Menu] or [Analogue Tuning Menu]

4 Select one of the following functions

- The displayed item depends on the selected mode.

- The function items vary depending on the country you select (p. 15).

- [Auto Setup] “Retuning from Setup Menu” (p. 46, 47)

List favourite DVB channels [Favourites Edit]

Create your favourite channel lists from various broadcasters (up to 4: [Favourites]1 to 4).

The DVB Favourites lists are available from “Category” in the Information banner (p. 21) and the TV Guide screen (p. 24).

1 Select a channel to list (Encrypted channel)

Example: DVB-C

2 Add it to the Favourites list

Example: DVB-C

- To sort channel names in alphabetical order (red)
- To display other Favourites (green)
- To change the category (blue)
- To add continuous block of channels to the list at once (yellow) ➞ (green)
- To add all channels to the list (yellow) ➞ (green)
To edit Favourites list
While the cursor is in the Favourites field to edit

- To move the channel
  Select the new position
  Store
  (green)

- To delete the channel
  (yellow)

- To delete all channels
  (yellow)

- To name the Favourites
  Set characters (maximum 10 characters)
  Store
  (red)

- To use numeric buttons
  (p. 96)

Skip unwanted channels, Edit Channels [Channel List]
You can hide (skip) unwanted channels. The hidden channels cannot be displayed except in this function.

Select a channel and reveal / hide
Example: DVB-C

<table>
<thead>
<tr>
<th>All DVB-C Channels</th>
<th>Sorting 123...</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 CBBC Channel</td>
<td></td>
</tr>
<tr>
<td>72 Cartoon Nwk</td>
<td></td>
</tr>
<tr>
<td>105 BBC</td>
<td></td>
</tr>
<tr>
<td>719 BBC Radio Wales</td>
<td></td>
</tr>
<tr>
<td>720 BBC Radio Cymru</td>
<td></td>
</tr>
<tr>
<td>1 BBC ONE Wales</td>
<td></td>
</tr>
<tr>
<td>7 BBC THREE</td>
<td></td>
</tr>
</tbody>
</table>

- To sort channel names in alphabetical order (DVB)
  (red)

- To change the category (DVB)
  (blue)

To edit channels

- To swap / move the channel position (if available)
  Select the new position
  Store
  (green)

- To retune each channel ([Manual Tuning] (p. 50)) (Analogue)
  (red)

- To rename the channel name (Analogue)
  Set characters (maximum 5 characters)
  Store
  (blue)

Note
- If a VCR is connected only with the RF cable in Analogue mode, edit [VCR].
Set DVB channel manually [Manual Tuning]

Normally use [Auto Setup] or [Update Channel List] to retune DVB channels. If tuning has not been done completely or for adjusting the direction of the aerial, use this function.

All channels found will be added to the Channel List.

DVB-C:

1 Enter the frequency

2 Select [Start scan]

- Normally set [Symbol Rate] and [Service ID] to [Auto].

DVB-T:

1 Adjust frequency for each channel

2 Search

- Set where the level of [Signal Quality] becomes the maximum.

Set Analogue channel manually [Manual Tuning]

[Fine Tuning]:

Use to make small adjustments to the tuning of an individual programme (affected by weather conditions, etc.).

[Manual Tuning]:

Set Analogue channel manually after Auto Setup.

- Set [Sound System] and [Colour System], and then perform this function. Normally set [Colour System] to [Auto].

- If a VCR is connected only with the RF cable, select channel position [0].

1 Select the channel position

2 Select the channel

3 Search

4 Select [Store]
Update DVB channel automatically [Update Channel List]

You can add new channels, delete removed channels, update channel name and position automatically to the channel list.

- The channel list is updated while keeping your settings in [Favourites Edit], [Channel List], [Child Lock], etc.
- Depending on the signal condition, the update may not work properly.

Display a notification message [New Channel Message] (DVB)

Selects whether to give a notification message when a new DVB channel is found.

- Selecting OK will perform [Update Channel List].

Check DVB signal [Signal Condition]

Selects a channel and checks the DVB signal condition.
A good Signal Strength is not an indication of suitable signal for DVB reception.

Use the Signal Quality indicator as follows.
- Green bar: Good
- Yellow bar: Poor
- Red bar: Bad (Check the Terrestrial aerial or cable)

Example:

These bars show the maximum signal value of the selected channel.
Timer Programming

Timer Programming from Menu

The Timer Programming menu allows you to choose programmes that you want to remind watching or record to the external recorder. At the correct time, the TV will tune to the correct channel even if the TV is in Standby mode. TV Guide may also be used to set timer programming event (p. 26).

- This function is not available in Analogue mode.
- Timer Programming can store up to 15 events.
- Timer Programming only works reliably if correct time information is received via the signal from the broadcaster or service provider.
- For recording using Timer Programming, the TV must be either on or in Standby. For reminders to be displayed, the TV must be on.
- No other channel can be selected while the recording of Timer Programming is in progress.
- Recording an encrypted (copy-protected) programme may not be possible.
- When recording programmes to the external recorder, be sure to make the proper settings on the recorder connected to the TV. If a recorder compatible with Q-Link, VIERA Link or similar technologies is connected to the TV (p. 81, 82) and [Link Settings] (p. 42) are completed, no setting of the recorder is required. Also read the manual of the recorder.
- If the recorder is not compatible with Q-Link, VIERA Link or similar technologies, make timer programming of the recorder. For preparations of a recorder, read the manual of the recorder.
- Recording to the external equipment via SCART is always in standard definition (composite video), even if the original programme is in high definition.
- 2 minutes before the starting time, a reminder message appears if you are watching TV.
  - To remove the message and start the programming
  - To cancel the programming

1. Select DVB-C or DVB-T

(p. 20)

2. Display the menu and select [Timer]

3. Select [Timer Programming]
Set timer programming event details

1 Start making the settings

2 Select the function ([Ext Rec.] or [Reminder])

[Ext Rec.]:
Records the programme to the external recorder. When the start time comes, the channel will be switched automatically and the video and audio signals will be output. 2 minutes before the starting time, a reminder message appears if you are watching TV.

[Reminder]:
Reminds you to watch the programme. When you are watching TV, a reminder message appears 2 minutes before the start time. Press the OK button to switch to the programmed channel.

3 Set the channel, date and time (repeat the operations as below)
Set items in the order of 1 to 4.

1, 3 and 4 can also be entered with numeric buttons.

- Select the item
- Set

1: Overlapped timer programming events

Records with subtitles (if available)
To indicate this (yellow)
(Press again to remove subtitles)

Duration (automatic display)

1 Channel number
2 Date
3 Starting time
4 Ending time

1 Channel number
2 Date
3 Starting time
4 Ending time

one day ahead

- [Daily Sun-Sat]: Sunday to Saturday
- [Daily Mon-Sat]: Monday to Saturday
- [Daily Mon-Fri]: Monday to Friday
- [Weekly Sat/Fri/Thu/Wed/Tue/Mon/Sun]: Same time on the same day every week

4 Store
To edit a timer programming event

Select the event

- To change a timer programming event
  ➔ Correct as necessary (p. 53)

- To delete a timer programming event
  ➔ (red)

To record with subtitles (if available)
  ➔ (yellow)
  • Each time pressed: auto ➔ off

To cancel a timer programming event temporarily
  ➔ (blue)
  • Each time pressed: cancel ➔ stop cancelling

To unlock the tuner and stop recording

Note

- Check that the LED is orange. If not, timer programming events are not active or not stored.
- Timer Programming reminder messages will remain displayed until one of the following occurs:
  • You press the OK button to view the programme or the EXIT button to cancel the reminder.
  • The timer programming event that the reminder is set for ends.
- “!” identifies that two or more timer programming events are overlapped. [Ext Rec.] is given priority over [Reminder]. As for the overlapped recording events, the first event starts and finishes as programmed. The next event can then start.
- The recording of Timer Programming will automatically change to the programmed channel a few seconds before the start time.
- To stop recording the timer programming event, it may be necessary to stop the recorder manually.
- The recording of Timer Programming will be performed even if the TV is in [Pause Live TV] recording (p. 84). In this case, [Pause Live TV] recording will be cancelled.
Child Lock

You can lock specific channels / AV input terminals and control who watches them. When the locked channel / input is selected, a message appears. Enter the PIN number to watch.

1 Display the menu and select [Setup]

2 Select [Child Lock]

Control channel audience [Child Lock]

1 Enter the PIN number (4 digits)

2 Select [Child Lock List]

3 Select the channel / input to be locked

■ To change the PIN number

1. Select [Change PIN]

■ To set Parental Rating

To watch the DVB programme that has the rating information over the selected age, enter the PIN number to watch (depending on the broadcaster). Select [Parental Rating] and set an age for the restriction of programmes.

Note

* Setting [Shipping Condition] (p. 58) erases the PIN number and all settings.

Enter the PIN number twice at first setting.
Make a note of the PIN number in case you forget it.
“0000” may be stored as the default PIN number which depends on the country you select (p. 15).
Using Data Service Application

You can enjoy Hybrid Broadcast Broadband TV application that is one of the interactive data services for digital broadcasting.

- To use Hybrid Broadcast Broadband TV application fully, you need a broadband network environment.
  - Ensure the network connections and network settings are completed.
  - “Network connections” (p. 70), “Network Setup” (p. 71 - 74)
- Not all the data service are available depending on the country, area and broadcaster.
- Depending on the connection environment, the internet connection may be slow or may not be successful.

1. Select DVB-C or DVB-T
   ➤ (p. 20)

2. Display the menu and select [Setup]

3. Select [Display Settings]

4. Select [Data Service Application] and set to [Auto Start On]

Notification message will appear when the application is available. Follow the on-screen instructions.

Note

- Operations may vary depending on the broadcaster. Follow the on-screen instructions.
- On-screen instructions may not correspond to the remote control buttons.

To check the availability of the application

To stop the application

“D” is displayed if programme has Hybrid Broadcast Broadband TV application
Using Common Interface

The Common Interface Module menu provides access to software contained on Common Interface (CI) Modules.

- This function may not be available in some countries or regions.
- Video and audio signals may not be output depending on broadcasts or services.

Although CI module may enable you to view some services, this TV does not guarantee all services (e.g. encrypted pay-TV channels). Please use only the approved CI module by the broadcaster. Consult your local Panasonic dealer or broadcasters for more information and conditions of the services.

Caution

- Turn off Mains power On / Off switch whenever inserting or removing the CI module.
- If a view card and a card reader come as a set, first insert the card reader, then insert the view card into the card reader.
- Insert the module in the correct direction.

Insert the CI module (optional)

- The features that appear on screen are dependent on the contents of the selected CI module.
- Normally encrypted channels will appear. Follow the on-screen instructions.
  - If encrypted channel does not appear, perform below.
  - For more details, read the manual of the CI module, or check with the broadcaster.

1 Select DVB-C or DVB-T
   ➞ (p. 20)

2 Display the menu and select [Setup]

3 Select [Common Interface]

4 Access Common Interface and follow the on-screen instructions

- On-screen instructions may not correspond to the remote control buttons.
Shipping Condition

Resets the TV to its original condition, i.e. no channels tuned in. All settings are reset (channels, picture, sound settings, etc.).

- To retune TV channels only, e.g. after moving house ➤ “Retuning from Setup Menu” (p. 46, 47)

1. Display the menu and select [Setup]

2. Select [System Menu]

3. Select [Shipping Condition]

Restore Settings [Shipping Condition]

1. Check the message and initialise

2. Follow the on-screen instructions

- [Auto Setup] will automatically start. (p. 15)
Updating the TV Software

A new version of software may be released for download to enhance the performance or operations of the TV. If there is an update available, a notification message is displayed when the channel has the update information.

● To download

(Press the EXIT button not to download)

You can update new software automatically or update manually.

1. Display the menu and select [Setup]

   ① select
   ② access

2. Select [System Menu]

   ① select
   ② access

3. Select [System Update]

   ① select
   ② access

Update TV’s software system [System Update]

■ To update automatically
Select [Auto Update Search in Standby]

If System Update is performed, the software will be updated (it may change TV functions). If you do not want to do so, set [Auto Update Search in Standby] to [Off].

■ To update immediately

1. Select [System Update Search Now]

2. Searches for an update (for several minutes) and displays a corresponding message if any

3. Download

Note

● Download may take for about 60 minutes.
● During software download and update, DO NOT switch off the TV.
● The notification message might be a reminder. In this case, the schedule information (the date that the new version can be used) will appear. You can set the reservation for update. The update will not start when the TV is off.
Using Media Player

Media Player allows you to enjoy photo, video or music recorded on an SD Card and a USB Flash Memory. VIERA IMAGE VIEWER is the function of the easy viewing for photos or videos recorded on an SD Card on the TV screen by simply inserting into the SD Card slot.

Photo mode:
Still pictures recorded by digital cameras will be displayed.

Video mode:
Moving pictures recorded by digital video cameras will be played back.

Music mode:
Digital music data will be played back.

During the operation, audio signal is output from AV1, DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals. But no video signals are output. AV1 can output audio signal if [AV1 out] is set to [Monitor] in the Setup Menu (p. 42). To use HDMI2 with ARC function, connect an amplifier that has ARC function (p. 80) and set to use theatre speakers (p. 86).

[Date] shows the date on which the recording was made by the recording equipment. The file without record of the date is shown "**/**/****".

The picture may not appear correctly on this TV depending on the recording equipment used.
Display may take some time when there are many files and folders.
Partly degraded files might be displayed at a reduced resolution.
Picture setting may not work depending on the conditions.
The folder and file names may be different depending on the digital camera or digital video camera used.

To insert or remove the SD Card / USB Flash Memory

USB Flash Memory
- Insert or remove straightly and completely.
- Connect the USB Flash Memory to the USB 1 or 2 port.

SD Card
1. Gently insert the SD Card with the label surface facing front.
2. Push until a click is heard. To remove, push it again.

- Check the type of terminals and cable plugs are correct when connecting.
- For the information of the devices ➔ “Devices for recording or playing back” (p. 94)
- For the supported file format ➔ “Supported file format in Media Player and media servers” (p. 91, 92)
Starting Media Player

1 Insert the SD Card or USB Flash Memory to the TV  ⇒ (p. 60)

2 Confirm the message and start Media Player
   • You can also start by pressing following button.
   AV ⇒ “Watching External Inputs” (p. 29)

3 Select the device to access
   • If two or more devices are not connected, this step will be skipped.

4 Select the content

5 Enjoy Media Player
   Example: Thumbnail - [All photos]

Note
• You can also access each mode directly by using VIERA TOOLS.  ⇒ (p. 36)
• Select the appropriate device and content for playing back each file.
• You can use the following buttons during playback. Set the code of the remote control to “73” (p. 30).

Change the device
You can change to the other device directly in the same mode if two or more devices are connected.

1 While the thumbnail is displayed, display the device selection

2 Select the device to access
**Change the contents**

You can switch to the other mode of Media Player from the thumbnail view.
• The mode can be switched in the current device.

1 While the thumbnail is displayed, display the contents selection
   (blue)

2 Select the contents

   Menu:
   - SD Card
   - Exit
   - Photo
   - Video
   - Music

   

**Photo mode**

Photo mode will read all " .jpg " extension files and supports " .mpo " extension files in the SD Card or USB Flash Memory.

The thumbnail of all the photos in the SD Card or USB Flash Memory will be displayed.
Example: Thumbnail - [All photos]

- To change the size of photos on a thumbnail screen
  -  select [Change Size]
  -  change

- : Error display

**[Single view] - Photos are displayed one at a time.**

Select the file from the thumbnail of photos to be viewed

-  select
-  access

Example:

- To display / hide the operation guide

- To return to thumbnail

**[Slideshow] - Slideshow completes when all photos are viewed within the current thumbnail.**

1 Select the file from the thumbnail of photos for the first view

2 Start Slideshow

- To display / hide the operation guide

- To pause (return to Single view)

- To return to thumbnail

- To change the back ground music => “Photo Settings” (p. 64)
To sort by folder, recorded date or recorded month
1 Display the view selection in the thumbnail view
   (green)
2 Select the sort type
   [Folder view]:
      Displays the thumbnail grouped by folder.
      ● The files which are not into a folder will be collected to the folder named “/”.
   [Sort by Date] / [Sort by Month]:
      Displays the thumbnail grouped by the same date or month.
      ● The group of the photos without a recorded date is shown as [Unknown].
   ● To return to the thumbnail of all photos
      (green) select [All photos] access

Multi Shot 3D
This TV can create the 3D photo using a pair of photos in the SD Card and save it into the same SD Card.
● This TV can also create the 3D photo from photos in the USB Flash Memory, but cannot save it.
● This function is available with photos recorded by digital cameras.
● Depending on the photos you select, the created 3D photo may not be suitable or the 3D photo creation may not be possible. It is recommended to take a photo (for L) and then move your camera to the right about 5 cm and take another photo (for R).
● To view the created 3D photo with 3D effect, you need the 3D Eyewear ⇒ “Optional accessories” (p. 7)
1 Display the option menu in the thumbnail view
   OPTION
2 Select [Multi Shot 3D]
   Option Menu
      Slideshow Settings
      Multi Shot 3D
      Change Size
   (red)
3 Select two photos for L (left) and R (right)
   ● You can only select photos of the same recorded date and same pixels.
   ● You may not be able to view the created 3D photo properly if you select the photos for L and R oppositely.
4 Create the 3D photo
   ● If your selected photos are not suitable for the 3D photo, the error message will be displayed and will return to the photo selection screen (step 3).
   ● To save the 3D photo in the SD Card
      The 3D image will be saved onto your media. Continue?
      Yes   No
      (red)
      (green)
   ● After finishing saving the photo, the photo selection screen will be displayed (step 3). Select photos again to create another 3D photo or exit from [Multi Shot 3D] mode.
To enjoy the saved 3D photos

Saved 3D photos are displayed in the Thumbnail screen. Wear the 3D Eyewear and enjoy the 3D photos.

Example: Thumbnail

<table>
<thead>
<tr>
<th>Media Player</th>
<th>Photo</th>
<th>All photos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saved 3D photo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Photo Settings

Setup the settings for Photo mode.

1. **Display the option menu**
2. **Select [Slideshow Settings]**
3. **Select the items and set**

#### Slideshow Settings

<table>
<thead>
<tr>
<th>Option Menu</th>
<th>Slideshow Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame</td>
<td>Off</td>
</tr>
<tr>
<td>Colour Effect</td>
<td>Off</td>
</tr>
<tr>
<td>Transition Effect</td>
<td>Fade</td>
</tr>
<tr>
<td>Screen Mode</td>
<td>Normal</td>
</tr>
<tr>
<td>Burst Playback</td>
<td>Off</td>
</tr>
<tr>
<td>Interval</td>
<td>5 seconds</td>
</tr>
<tr>
<td>Repeat</td>
<td>On</td>
</tr>
<tr>
<td>Back Ground Music</td>
<td>Off</td>
</tr>
</tbody>
</table>

#### Note

- Picture quality may become lower depending on the slideshow settings.
- Picture setting may not work depending on the slideshow settings.

#### Adjustments / Configurations (alternatives)

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[Multi]: 9 photos are displayed orderly at once.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Collage]: Each photo is displayed at a random position and random scale.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Drift (+ calendar)] / [Drift]: Photos are displayed like flow images.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● You can select to display the calendar or not. The month of calendar is turned by pressing the left or right cursor button.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Gallery (+ calendar)] / [Gallery]: The various sizes of photos in the frame are displayed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● You can select to display the calendar or not. The month of calendar is turned by pressing the left or right cursor button.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Cinema]: Photos are displayed like old films (sepia tone).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema].</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Fade]: The next photo fades in gradually.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Slide]: The next photo slides and appears from the left side.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Dissolve]: Each photo is dissolved when switching to the next photo.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Motion]: Each photo is displayed with an effect of enlarging, reducing, moving up or moving down.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Random]: Each transition is selected at random.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● This function is available when [Frame] is set to [Off].</td>
<td></td>
</tr>
<tr>
<td>Menu</td>
<td>Item</td>
<td>Adjustments / Configurations (alternatives)</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Screen Mode</strong></td>
<td>Selects enlarged or normal viewing on Single view and Slideshow [Normal] / [Zoom]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● This function is not available when [Frame] is set to [Collage], [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion].</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Depending on the photo size, it may not be fully enlarged to fill the screen, e.g. portrait style picture.</td>
<td></td>
</tr>
<tr>
<td><strong>Burst Playback</strong></td>
<td>Selects whether to display burst photos in a fast-paced slideshow mode [Off] / [On]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion].</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion].</td>
<td></td>
</tr>
<tr>
<td><strong>Repeat</strong></td>
<td>Slideshow repeat [Off] / [On]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● [Type1 - 5] are the fixed music each installed in this TV.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[User]: Music data in the device registered by yourself will be played back.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>To register the music</strong></td>
<td>2. Select [File] or [Folder]</td>
</tr>
<tr>
<td></td>
<td>1. Select the music file</td>
<td>[File]: The selected music file will be registered.</td>
</tr>
<tr>
<td></td>
<td>Depending on the condition of the device, select folders until you reach the desired music file.</td>
<td>[Folder]: All the music in the folder which contains the selected music file will be registered.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Back Ground Music" /></td>
<td></td>
</tr>
<tr>
<td></td>
<td>● If no music has been registered or the device which has the registered music is removed, no sound will be produced.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Auto]: Music data stored in the root folder of the current device will be played back randomly.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● If there is no available music data, no sound will be produced.</td>
<td></td>
</tr>
</tbody>
</table>
### Video mode

- **Supported file format** *(p. 91, 92)*

The thumbnail of video titles in the SD Card or USB Flash Memory will be displayed.

**Example: Thumbnail - [Title view]**

The preview will start when the title / scene is highlighted if it supports a preview.
- To turn off the preview  
  ➔ “Video Setup” (p. 67)
- To play back the selected title

<table>
<thead>
<tr>
<th>Select the title</th>
<th>Start playback</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Select the title" /></td>
<td><img src="image2" alt="Start playback" /></td>
</tr>
</tbody>
</table>

- If you stopped the last playback on the way, the confirmation screen is displayed to select whether to start from where you stopped last time or from the beginning.

#### Playback from the selected scene in the title (SD-Video or AVCHD)

Playback of the selected scene will start to the end of the title.

1. **Select the title**
   - ![Select title](image3)

2. **Select the scene**
   - ![Select scene](image4)

3. **Start playback**
   - ![Start playback](image5)

- The structure of titles and scenes may vary depending on the digital video camera used.
- To repeat playback ➔ “Video Setup” (p. 67)

#### How to operate in the playback

**Example: Playback**

- To display / hide the operation guide and information banner

![Operation guide](image6)

- To the previous title / scene

![Operation guide](image7)

- To the next title / scene

![Operation guide](image8)

- To change aspect

![Operation guide](image9)

- To return to thumbnail

![Operation guide](image10)

- To operate the playback

![Operation guide](image11)

- To jump to the specified time point

![Operation guide](image12)

While the time seek bar is displayed

- Press: Search about 10 seconds
- Press and hold: Search rapidly

![Operation guide](image13)
### Video Setup

Setup the settings for Video mode.

- Menu items and selectable options vary depending on the content.

1. Display the option menu
2. Select [Video Setup]
3. Select the items and set

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
</table>
| Video Setup | Video Preview | Sets to start the preview of the title or scene in the thumbnail view [Off] / [On]
- Image may not be displayed for an instant in the thumbnail view. Set the preview [Off] to resolve this.
- Only available in the thumbnail view |
| | Multi Audio, Dual Mono Audio | Selects between selectable sound tracks (if available)
- It may take several seconds to change the sound.
- Only available during playback |
| | Subtitle | Subtitles On / Off (if available)
- Only available during playback |
| | Subtitle Text | Selects the font type to display subtitles correctly (if available)
- Only available during playback |
| | Aspect Change | [Aspect1]: Displays the content enlarged without distortion. [Aspect2]: Displays the content full-screen. [Original]: Displays the content original size.
- You can also change the aspect using the ASPECT button.
- Aspect change may not work depending on the content.
- Only available during playback |
| | Repeat | Playback repeat within the title or selected file (depending on the content) [Off] / [On] |
| | Title | Selects from a group of titles (if available) |

### Audio output Settings

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO OUT or HDMI2 (ARC function) terminal.

- To confirm or change the current sound status ⇒ (see above)

1. Display the menu and Select [Sound]
2. Select [SPDIF Selection] and set

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
</table>
| Sound | SPDIF Selection | SPDIF: A standard audio transfer file format
Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals [Auto] / [PCM]
[Auto]: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bitstream. DTS is output as DTS. MPEG is output as PCM.
[PCM]: Digital output signal is fixed to PCM. |
Music mode

- Supported file format (p. 92)

The thumbnail of music folders in the SD Card or USB Flash Memory will be displayed. Example: Thumbnail - [Folder view]

[Image of Media Player]

- To play back the selected folder
  - Select the folder
  - Start playback

  ![Image of Media Player]

  - (red)

Playback from File view

Selected file will be played back.

1 Select the folder
   - ① select
   - ② access

2 Select the file

3 Start playback
   - (red)

How to operate in the playback

Example: Playback

- To display / hide the operation guide
- To operate the playback
  - Rewind
  - Pause / Playback
  - Fast forward
  - Stop

- To the previous track
  - (red)

- To the next track
  - (green)

- To return to thumbnail

Music Setup

Setup the setting for Music mode (only available in the thumbnail view).

1 Display the option menu
2 Select [Music Setup]
3 Set

<table>
<thead>
<tr>
<th>Option Menu</th>
<th>Music Setup Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat One</td>
<td></td>
</tr>
</tbody>
</table>

[Folder]: Playback repeat within the selected folder
[One]: Playback repeat of the selected one file
Using Network Services (DLNA / VIERA Connect)

DLNA®
This TV is a DLNA Certified™ product.
DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit www.dlna.org.
It allows you to share photos, videos (including 3D images) and music stored in the DLNA Certified media server (for example, PC with Windows 7 installed, DIGA Recorder, etc.) connected to your home network, and enjoy the contents on the TV screen.
It also allows you to control the TV with the DLNA Certified equipment connected to your home network. (DLNA Remote Control)
● For the supported file format (p. 91, 92)
● AVCHD and DivX files are not supported by DLNA functions of this TV, but can be played by Media Player (p. 60).

Media server
Store photos, videos or music into the DLNA Certified media server, and then you can enjoy them on the TV.
To use a PC as a media server
Prepare the PC with Windows 7 or ensure the server software is installed on the PC.
“Windows 7” and “TwonkyMedia server 6 (installed on the PC with Windows 7, Windows Vista or Windows XP)” are the server software that has been tested for compatibility with this TV (as of January, 2011). Any other server software have not been tested with this TV, therefore compatibility and performance cannot be assured.
● Windows 7
  The setup for homegroup settings of Windows 7 is required. For details, refer to the help functions of Windows 7.
● TwonkyMedia server
  "TwonkyMedia server” is the product of PacketVideo Corporation.
  To obtain the Installation Guides for installing and setting “TwonkyMedia server”, visit the website of TwonkyMedia. Additional fees may be charged to obtain server software.
Note
● For more information about the server software, please consult each software company.
● When server software for the media server is installed on the PC, the data may be at risk of being accessed by other people. Please take care of the settings and connections under the network circumstances at the office, hotel or even at home when not using a router.

To use a DLNA compatible DIGA Recorder as a media server
By connecting a DLNA compatible DIGA Recorder to your home network, you can enjoy and control it as one of the media servers.
● Please read the manual of your DIGA Recorder to confirm whether the recorder is compatible with DLNA.

DLNA Remote Control
You can control the TV with the DLNA Certified equipment.
● To use this function, set [Network Link Settings]. (p. 71)
● “Windows 7” is the OS that has been tested for compatibility of this TV (as of January, 2011). For the operations, refer to the help functions of Windows 7.

Network connection “Example 1”, “Example 2” (p. 70)
Network setup (p. 71 - 74)
DLNA operations (p. 75 - 78)

VIERA Connect
VIERA Connect is a gateway to the internet services unique to Panasonic.
VIERA Connect allows you to access some specific websites supported by Panasonic, and enjoy internet contents such as videos, games, communication tools, etc. from VIERA Connect home screen.
● This TV does not support full web browser function and some features of the websites may not be available.

Network connection “Example 1”, “Example 3” (p. 70)
Network setup (p. 71 - 74)
VIERA Connect operations (p. 19, 78)
Network connections

To use only DLNA features, you can operate the features without broadband network environment. To use VIERA Connect features, you need a broadband network environment.

- If you do not have any broadband network services, please consult your retailer for assistance.
- Set up and connect any equipment required for the network environment. You cannot make settings for the equipment on this TV. Read the manual of the equipment.
- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively. If the transfer speed is not enough, contents may not be played back properly.

Example 1
(For DLNA and VIERA Connect)

- Wired connection
  - LAN cable (Unshielded)

- Wireless connection
  - Wireless Adaptor
  - “Optional accessories” (p. 7)
  - Connect to the USB 1 or 2 port.

Ensure to use a LAN straight cable for this connection.
- If your modem has no broadband router functions, use a broadband router.
- If your modem has broadband router functions but there are no vacant ports, use a hub.
- Ensure that the broadband routers and hubs are compatible with 10BASE-T / 100BASE-TX.
- If you use the equipment compatible only with 100BASE-TX, category 5 LAN cables are required.

Example 2
(For DLNA)

You can connect the TV and the equipment directly to use DLNA features.

- Ensure to use a LAN cross cable for this connection.

Example 3
(For VIERA Connect)

You can connect the TV and the telecommunication equipment directly to use VIERA Connect features.

Note

- Contact your Internet Service Provider (ISP) telecommunications company for further assistance regarding the network equipment.
- Confirm the terms and conditions of the contracts with your Internet Service Provider (ISP) or telecommunications company. Depending on the contracts, additional fees may be charged or multiple connections to the internet may be impossible.
Network Setup

Ensure the connections are completed before starting Network Setup.

“Network connections” (p. 70)

Display the menu and select [Network]

Network Link settings

Sets the link settings to control this TV from the network equipment via the network.

1 Select [Network Link Settings]

2 Select the items and set

Menu | Item | Adjustments / Configurations (alternatives)
---|---|---
Network Link Settings | VIERA Name | Sets your favourite name for this TV
| | This name will be used as the name of this TV on the screen of the other network equipment.
| DLNA Remote Control | Enables to control the TV using Windows 7 via the network [Off] / [On]
| DLNA Remote Volume | Enables to control the volume of the TV using Windows 7 via the network [Off] / [On]
| Network Remote Control | Enables to control the TV from the network equipment (smartphone, etc.) [Off] / [On]
| | Depending on the area, this function may not be available. For details, consult your local Panasonic dealer.
| | For more information of this function (English only): http://panasonic.jp/support/global/cs/tv/
Wired connection settings

This setting is for the network connection by using the LAN cable.

1 Select [Network Connection] and set to [Wired]

<table>
<thead>
<tr>
<th>Connection Test</th>
<th>Network Connection</th>
<th>Wired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Network Settings</td>
<td>Network Connection</td>
<td>Wired</td>
</tr>
<tr>
<td>IP/DNS Settings</td>
<td>Network Link Settings</td>
<td>Software Update</td>
</tr>
<tr>
<td>New Software Message</td>
<td>On</td>
<td></td>
</tr>
</tbody>
</table>

If you make the network connection like “Example 2” (p. 70), you do not have to set [Acquire DNS Address], [Proxy] and [Proxy Port].

2 Select [IP/DNS Settings] and set the items

- [Acquire IP Address] / [Acquire DNS Address]

Sets [IP Address], [Subnet Mask], [Default Gateway] and [DNS Address].

Select [Acquire IP Address] / [Acquire DNS Address] and set to [Auto] (recommended).

- Manual settings

   ([IP Address], [Subnet Mask], [Default Gateway], [DNS Address])

- [Proxy]

Sets Proxy address.

- This is the address of the relay server that is connected to the target server instead of the browser and sends data to the browser. Setting is required if specified by the provider.

1. Select [Proxy]

2. Enter the address

3. Store

- [Proxy Port]

Sets Proxy port number.

- This number is also specified by the provider with the Proxy address.

1. Select [Proxy Port]

2. Move the cursor and enter the number
4 Select [Connection Test] and access to test

- Select [Connection Test] and access to test

- Performs automatic testing of the network connection for the TV. (It takes a while to test.)

- : succeeded
  - The test is successful and the TV is connected to the network.

- : failed
  - Check the settings and connections. And then try again.

Wireless connection settings

This setting is for the wireless network connection.
- Confirm the encryption key, settings and positions of your access point before starting setup. For details, read the manual of the access point.

1 Select [Network Connection] and set to [Wireless]

- Select [Network Connection] and set to [Wireless]

2 Select [Wireless Network Settings]

- Select [Wireless Network Settings]

3 Select your desired access point

- Select your desired access point

- To search access points again

- For the information of the highlighted access point

- To set manually (p. 74)

4 Access the encryption key input mode

- If the selected access point is not encrypted, the confirmation screen will be displayed. It is recommended to select the encrypted access point.
5 Enter the encryption key of the access point

Set characters
① select
② set
● You can set characters by using numeric buttons.
● After settings, return to the previous menu.

6 Select [Connection Test] and access to test

① select
② access
● Performs automatic testing of the network connection for the TV. (It takes a while to test.)

☑ : succeeded
The test is successful and the TV is connected to the network.
☒ : failed
Check the settings and connections. And then try again.
If you continue to have difficulty, please contact your internet service provider.

■ [WPS(PIN)]
Enter the PIN code to the access point, and then select [Connect]

WPS(PIN)
Please register the following PIN codes on the wireless access point.
PIN code : 12345678
Select ‘Connect’ after entering and saving the settings on the wireless access point.

■ [Manual]
You can setup SSID, security type, encryption type, and encryption key manually.
Follow the on-screen instructions and set manually.
● When you use 11n (5 GHz) for the wireless system between the Wireless Adaptor and access point, select [AES] for the encryption type.

Update TV’s software
Accesses the specific website to update TV’s software and search if any software updates are available.

Select [Software Update]

① select
② access
● Follow the on-screen instructions.
Using DLNA® features

Ensure the preparation of the media server, network connections and network settings are completed.
(p. 69 - 74)

1. Display [VIERA TOOLS] and select [Media Server]

2. Select one of the media servers to access
   Example: Media server list
   - To display the information of the highlighted media server

3. Select the file
   Example: File list
   - Depending on the condition of media server, you may need to select the folder before selecting the file.
   - To display the information of the highlighted file

   Note
   - Non-playable files are also listed but cannot be selected.
   - Turn the TV off, and then on again when changing or reconnecting the network connection.
   - You can use the following buttons during playback. Set the code of the remote control to “73” (p. 30).

For photo file

[Single view] - Photos are displayed one at a time.
Example:
   - To display / hide the operation guide
   - To operate Single view
       - To the previous photo
       - Slideshow
       - To the next photo
       - Stop (return to list)
   - To return to list
   - To rotate 90° (blue)
[Slideshow] - Slideshow completes when all photos are viewed within the list.

1. Select the photo file from the list for the first view
2. Start Slideshow

- To display / hide the operation guide
- To pause (return to Single view)
- To return to list

For video file

Playback - Playback will start.
If you stopped the last playback on the way, the confirmation screen is displayed to select whether to start from where you stopped last time or from the beginning.

Example: Playback

- To display / hide the operation guide and information banner
- To the previous content
- To the next content
- To return to list

For music file

Playback - Playback will start.

Example: Playback

- To display / hide the operation guide
- To operate the playback

For DIGA Recorder

Control the DIGA Recorder
The screen of the DIGA Recorder will be displayed. You can control the functions of the DIGA Recorder with this TV remote control according to the operation guide.

Example:

- Before operating, register this TV on the DIGA Recorder.
- For details, read the manual of the DIGA Recorder.
**Option menu for each content**

Setup the settings for Photo, Video and Music file operations.

1. Display the option menu
2. Select [Slideshow Settings], [Video Setup] or [Music Setup]
3. Select the items and set

<table>
<thead>
<tr>
<th>Option Menu</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
</table>
| Slideshow Settings | Transition Effect: Selects the transition effect for switching the photo during the slideshow  
|                    | [Fade]: The next photo fades in gradually.  
|                    | [Slide]: The next photo slides and appears from the left side.  
|                    | [Dissolve]: Each photo is dissolved when switching to the next photo.  
|                    | [Motion]: Each photo is displayed with an effect of enlarging, reducing, moving up or moving down.  
|                    | [Random]: Each transition is selected at random.  
|                    | ● This function is not available when [Transition Effect] is set to [Motion].  
|                    | Repeat: Slideshow repeat [Off] / [On]  
| Back Ground Music  | Selects the background music during Photo mode  
| Video Preview      | Sets to start the preview of the title or scene in the thumbnail screen [Off] / [On]  
|                    | ● Image may not be displayed for an instant in the thumbnail screen. Set the preview [Off] to resolve this.  
| Multi Audio,       | Selects between selectable sound tracks (if available)  
| Dual Audio,        | ● It may take several seconds to change the sound.  
| Dual Mono Audio    | ● Only available during playback  
| Subtitle           | Subtitles On / Off (if available)  
|                    | ● Only available during playback  
| Subtitle Text      | Selects the font type to display subtitles correctly (if available)  
|                    | ● Only available during playback  
| Subtitle Language  | Selects the language in which subtitles should appear (if available)  
|                    | ● Only available during playback  
| Aspect Change      | [Aspect1]: Displays the content enlarged without distortion.  
|                    | [Aspect2]: Displays the content full-screen.  
|                    | [Original]: Displays the content original size.  
|                    | ● You can also change the aspect using the ASPECT button.  
|                    | ● Aspect change may not work depending on the content.  
|                    | ● Only available during playback  
| Repeat             | Playback repeat within the selected file [Off] / [On]  
|                    | [Folder]: Playback repeat within the selected folder.  
|                    | [One]: Playback repeat of the selected one file. |
Audio output settings (for video contents)

You can enjoy the multi-channel sound via an amplifier connected to DIGITAL AUDIO OUT or HDMI2 (ARC function) terminal.

- To confirm or change the current sound status ⇒ (p. 67)

1 Display the menu and Select [Sound]

   MENU  Sound

   ① select  ② access

2 Select [SPDIF Selection] and set

   SPDIF Selection

   Reset to Defaults

   Auto

   Reset

   select

   access / store

Menu Item Adjustments / Configurations (alternatives)

| SPDIF Selection | SPDIF: A standard audio transfer file format
|                 | Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals [Auto] / [PCM]
|                 | [Auto]: Dolby Digital Plus, Dolby Digital and HE-AAC multi-channel are output as Dolby Digital Bitstream. DTS is output as DTS. MPEG is output as PCM.
|                 | [PCM]: Digital output signal is fixed to PCM.

VIERA Connect

You can access VIERA Connect and enjoy various network contents.

- VIERA Connect requires a broadband internet connection. Dial-up internet connections cannot be used.
- Ensure the network connections and network settings are completed.
  ⇒ “Network connections” (p. 70), “Network Setup” (p. 71 - 74)
- For details about VIERA Connect operation ⇒ (p. 19)
- Setup menu (Items in [Setup] may change without notice.)

| Customize HomeScreen | Changes the position of each services on VIERA Connect home screen
| My Account | Confirms or removes the account information of the TV you entered on VIERA Connect
| Lock | Sets to restrict access to some services
| Restrictions | Sets to restrict reveal of the restricted services
| Beep | Sets beep sound On or Off when operating VIERA Connect
| Notices | Displays the information of VIERA Connect

Note

- Be sure to update the software when a software update notice is displayed on the TV screen. If the software is not updated, you will not be able to use VIERA Connect.
  You can update the software later manually. ⇒ [Software Update] in [Network] (p. 74)
- VIERA Connect home screen is subject to change without notice.
- The services through VIERA Connect are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
- Some content may be inappropriate for some viewers.
- Some content may only be available for specific countries and may be presented in specific languages.
- Depending on the connection environment, the internet connection may be slow or may not be successful.
- During the operation, audio signal is output from AV1, DIGITAL AUDIO OUT and HDMI2 (ARC function) terminals. But no video signals are output. AV1 can output audio signal if [AV1 out] is set to [Monitor] in the Setup Menu (p. 42).
  To use HDMI2 with ARC function, connect an amplifier that has ARC function (p. 80) and set to use theatre speakers (p. 86).
- You can restrict access to VIERA Connect. ⇒ [Child Lock] (p. 55)
- Turn the TV off, and then on again when changing or reconnecting the network connection.
Link Functions (Q-Link / VIERA Link)

Q-Link connects the TV and DVD Recorder / VCR, and enables easy recording, playback, etc. (p. 81)

VIERA Link (HDAVI Control™) connects the TV and the equipment with VIERA Link function, and enables easy control, convenient recording, playback, energy saving, creating home theatre, etc., without complicated setting. (p. 82 - 86)

You can use Q-Link and VIERA Link functions together.

● This TV supports “HDAVI Control 5” function. But available features are depending on the connected equipment’s version of HDAVI Control. Please read the manual of the equipment to confirm the version.

● VIERA Link features may be available even with other manufacturers’ equipment supporting HDMI CEC.

### Summary of Q-Link and VIERA Link features

#### Q-Link (SCART connection)

<table>
<thead>
<tr>
<th>Features</th>
<th>Connected equipment</th>
<th>DVD Recorder / VCR with Q-Link function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preset download</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Easy playback</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power on link</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power off link</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Direct TV Recording</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

- Use fully wired SCART cable.
- Connect the DVD Recorder / VCR supporting Q-Link to the TV’s AV1 terminal via a SCART cable.

#### VIERA Link (HDMI connection)

<table>
<thead>
<tr>
<th>Features</th>
<th>Connected equipment</th>
<th>DIGA Recorder with VIERA Link function</th>
<th>DVD Player / Blu-ray Disc Player with VIERA Link function</th>
<th>HD Video Camera / LUMIX Camera with VIERA Link function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preset download</td>
<td>○*2 ○*5</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Easy playback</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power on link</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power off link</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Reduce unnecessary power consumption in Standby</td>
<td>○*3 ○*3</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Auto standby for unnecessary equipment</td>
<td>○*3 ○*3</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Pause Live TV programme</td>
<td>○*2 ○*4</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Direct TV Recording</td>
<td>○*2</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Control the menu of the connected equipment by VIERA remote control</td>
<td>○*1 ○*1 ○*1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Speaker control</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV’s HDMI1 or HDMI2 terminal via an HDMI cable.
- About HDMI cable for connecting Panasonic HD Video Camera or LUMIX Camera, read the manual of the equipment.
VIERA Link (HDMI and Audio out connections)

<table>
<thead>
<tr>
<th>Features</th>
<th>Connected equipment</th>
<th>Player theatre with VIERA Link function</th>
<th>Blu-ray Disc theatre with VIERA Link function</th>
<th>Amplifier with VIERA Link function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preset download</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Easy playback</td>
<td>○*6</td>
<td>○*6</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Power on link</td>
<td>○</td>
<td>○</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Power off link</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Reduce unnecessary power consumption in Standby</td>
<td>-</td>
<td>○*3</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Auto standby for unnecessary equipment</td>
<td>○*3</td>
<td>○*3</td>
<td>○*3</td>
<td></td>
</tr>
<tr>
<td>Pause Live TV programme</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Direct TV Recording</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Control the menu of the connected equipment by VIERA remote control</td>
<td>○*1</td>
<td>○*1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Speaker control</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
</tbody>
</table>

Connection

- To use Player theatre / Blu-ray Disc theatre
- To use Amplifier

HD Video Camera / LUMIX Camera with VIERA Link function

- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV’s HDMI2 terminal via an HDMI cable.
- Use fully wired SCART cable.
- If you use a SCART cable for audio output, connect the equipment supporting VIERA Link to the TV’s AV1 terminal and set [AV1 out] to [Monitor] in the Setup Menu (p. 42).
- Use the optical digital audio cable or SCART cable for audio output from the TV.

*1: Available with the equipment which has “HDAVI Control 2 or later” function.
*2: Available with the equipment which has “HDAVI Control 3 or later” function.
*3: Available with the equipment which has “HDAVI Control 4 or later” function.
*4: Available with a DIGA Recorder which has HDD.
*5: This function is available regardless of the version of HDAVI Control when the recorder supports Q-Link and is connected via SCART cable.
*6: While playing a disc.
*7: Except for watching a disc.
*8: If the connected equipment has “HDAVI Control 5” function, you do not have to use this audio cable (Optical digital audio cable or SCART cable). In this case, connect the equipment to the TV’s HDMI2 terminal via an HDMI cable.

VIERA Link Control of compatible equipment [VIERA Link Control] (p. 84)

Table below displays maximum number of compatible equipment that can be controlled by VIERA Link Control. This includes connections to equipment already connected to the TV.

<table>
<thead>
<tr>
<th>Type of the equipment</th>
<th>Maximum number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorder (DIGA Recorder, etc.)</td>
<td>3</td>
</tr>
<tr>
<td>Player (DVD Player, Blu-ray Disc Player, HD Video Camera, LUMIX Camera, Digital Camera, Player theatre, Blu-ray Disc theatre, etc.)</td>
<td>3</td>
</tr>
<tr>
<td>Audio system (Player theatre, Blu-ray Disc theatre, Amplifier, etc.)</td>
<td>1</td>
</tr>
<tr>
<td>Tuner (Set top box, etc.)</td>
<td>4</td>
</tr>
</tbody>
</table>
Link Functions (Q-Link / VIERA Link)

Q-Link

Preparations
- Connect the DVD Recorder / VCR with the following logos:
  - “Q-Link”, “NEXTVIEWLINK”, “DATA LOGIC (a trademark of Metz Corporation)”, “Easy Link (a trademark of Philips Corporation)”, “Megalogic (a trademark of Grundig Corporation)”, “SMARTLINK (a trademark of Sony Corporation)”
- Use fully wired SCART cable.
- Set up the DVD Recorder / VCR. Read the manual of the recorder.
- Q-Link terminal setup in the Setup Menu ⇒ [AV1 out] (p. 42)
- Download preset - channel, language and country / region settings ⇒ “Preset download” (see below)

Features available

Preset download
Channel, language and country settings can be downloaded to the recorder.
- DVB-C channel settings cannot be downloaded.
- To download settings
  ⇒ [Download] (p. 43), [Auto Setup] (p. 15, 16, 46)

Direct TV Recording - What you see is What you record
Records the current programme in DVD Recorder / VCR immediately.
- Set the code of the remote control to “73” (p. 30).

<table>
<thead>
<tr>
<th>Picture source</th>
<th>Mode</th>
<th>Recording from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analogue</td>
<td>TV</td>
<td>TV monitor out</td>
</tr>
<tr>
<td></td>
<td>AV</td>
<td>Recorder’s tuner</td>
</tr>
<tr>
<td>DVB</td>
<td>TV</td>
<td>TV monitor out</td>
</tr>
<tr>
<td>AV (watching recorder’s tuner)</td>
<td>AV</td>
<td>Recorder’s tuner</td>
</tr>
<tr>
<td>AV (watching recorder’s external input)</td>
<td>AV</td>
<td>Recorder’s external input</td>
</tr>
<tr>
<td>AV (watching TV’s external input)</td>
<td>AV</td>
<td>TV monitor out</td>
</tr>
</tbody>
</table>

- When Direct TV Recording is performed, the recorder is automatically turned on if it is in Standby mode.
- You can change channel or turn the TV off while the recorder is recording from its own tuner.
- Changing channel is not available while the recorder is recording from the TV tuner.

To stop recording
Unlock the tuner

Power on link and Easy playback
Set Power on Link [On] in the Setup Menu to use this function ⇒ [Power on Link] (p. 42)
When DVD Recorder / VCR starts playback or direct navigator / function menu for the equipment are activated, the TV is turned on and input mode is switched automatically so that you can view the content. (Only when the TV is in Standby mode.)

Power off link
Set Power off Link [On] in the Setup Menu to use this function ⇒ [Power off Link] (p. 42)
When TV is set to Standby mode, the recorder is also automatically set to Standby. (Only when the videocassette or disc is not active.)
* This function works even if the TV enters Standby mode automatically by auto power standby function.

Note
* Some recorders are not applicable. Read the manual of the recorder.
**VIERA Link “HDAVI Control™”**

*Enjoy additional HDMI Inter-Operability with Panasonic products which have “HDAVI Control” function.*

This TV supports “HDAVI Control 5” function.

Connections to the equipment (DIGA Recorder, HD Video Camera, Player theatre, Amplifier, etc.) with HDMI and SCART cables allow you to interface them automatically (p. 79, 80).

These features are limited to models incorporating “HDAVI Control” and “VIERA Link”.

- Some functions are not available depending on the equipment’s version of HDAVI Control. Confirm the connected equipment’s version of HDAVI Control.
- VIERA Link “HDAVI Control”, based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers’ equipment that supports HDMI CEC cannot be guaranteed.
- Please refer to individual manuals for other manufacturers’ equipment supporting VIERA Link function.
- About applicable Panasonic equipment, consult your local Panasonic dealer.

**Preparations**

- Connect the equipment supporting VIERA Link.
- **VIERA Link connection** (p. 79, 80)
- Use fully wired HDMI compliant cable. Non-HDMI-compliant cables cannot be utilised.
  - Recommended Panasonic’s HDMI cable part number:
    - RP-CDHS15 (1.5 m)
    - RP-CDHS30 (3.0 m)
    - RP-CDHS50 (5.0 m)
- Use fully wired SCART cable.
- Set up the connected equipment. Read the manual of the equipment.
- For optimal recording, the settings of the recorder may need to be changed. For details, read the manual of the recorder.
- **Download preset - channel, language and country / region settings** “Preset download” (see below)
- Set [VIERA Link] to [On] in the Setup Menu. **[VIERA Link]** (p. 42)
- Set up the TV.
  - After connection, turn the equipment on and then switch the TV on.
  - Select the input mode from HDMI1 or HDMI2 (p. 29), and make sure that an image is displayed correctly.
  - This setup should be done each time when the following conditions occur:
    - for the first time
    - when adding or reconnecting equipment
    - when changing setup

**Features available**

### Preset download

Channel, language and country / region settings can be downloaded to the recorder.

- DVB-C channel settings cannot be downloaded.
- To download settings
  - **[Download]** (p. 43), **[Auto Setup]** (p. 15, 16, 46)

### Easy playback

Automatic input switching - When the connected equipment is operated, input mode is switched automatically. When it is stopped operating, input mode is returned.

### Power on link

Set Power on Link [On] in the Setup Menu to use this function **[Power on Link]** (p. 42)

When the connected equipment starts playback or direct navigator / function menu for the equipment are activated, the TV is automatically turned on. (Only when the TV is in Standby mode.)

### Power off link

Set Power off Link [On] in the Setup Menu to use this function **[Power off Link]** (p. 42)

When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.
- This function will work even if the TV enters Standby mode automatically by auto power standby function.
Reduce unnecessary power consumption in Standby [Standby Power Save]

Set Standby Power Save [On] in the Setup Menu to use this function ⇒ [Standby Power Save] (p. 42)
The power consumption in Standby mode of the connected equipment is controlled higher or lower in synchronisation with the TV on / off state to reduce the consumption.
- When the TV is set to Standby mode, the connected equipment is automatically set to Standby and the power consumption of the connected equipment is automatically minimised.
- When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to make startup time fast.
  - This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.
  - This function works when [Power off Link] is set to [On].

Auto standby for unnecessary equipment [Intelligent Auto Standby]

Set Intelligent Auto Standby [On (With reminder)] or [On (No reminder)] in the Setup Menu to use this function ⇒ [Intelligent Auto Standby] (p. 43)
- When the TV is on, non-watched or non-used connected equipment goes into Standby mode automatically to reduce the power consumption. For example, when the input mode is switched from HDMI or when Speaker Selection is changed to [TV] (except for watching a disc).
  - If you select [On (With reminder)], the on-screen message will be displayed before the connected equipment turns to standby.
  - This function may not work properly depending on the connected equipment. If required, set to [Off].

Direct TV Recording - What you see is What you record [Direct TV Rec]
Records the current programme in the DIGA Recorder immediately.
- If you connect a variety of recorders including other manufacturers’ recorders at the same time, connect the DIGA Recorder to the TV’s lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, connect the DIGA Recorder to HDMI1.
- If you cannot operate, check the settings and the equipment.
  ⇒ “Summary of Q-Link and VIERA Link features” (p. 79, 80), “Preparations” (p. 82)
  ⇒ To record the programme which DIGA Recorder does not support, SCART connection is required and the programme is recorded by Q-Link function (p. 81).
  ⇒ Depending on the programme, SCART connection may be required to record.
  ⇒ You can change channel or turn the TV off while the recorder is recording from its own tuner.
  ⇒ You can not change channel while the recorder is recording from the TV tuner.

1 Display [VIERA TOOLS] and select [VIERA Link]

2 Select [Direct TV Rec] and start recording

To stop recording
Select [Stop] in [Direct TV Rec]
Pause Live TV programme [Pause Live TV]

You can pause the current TV programme and resume later. The current TV programme will be recorded on HDD of the connected DIGA Recorder.

- This function is available with a DIGA Recorder which has HDD.
- If you connect a variety of recorders including other manufacturers’ recorders at the same time, connect the DIGA Recorder which has HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, connect the DIGA Recorder which has HDD to HDMI1.
- If you cannot operate, check the settings and the equipment.

“Summary of Q-Link and VIERA Link features” (p. 79, 80), “Preparations” (p. 82)

1 Display [VIERA TOOLS] and select [VIERA Link]

2 Select [Pause Live TV] and pause

The TV picture will be paused.

- The current TV programme is recorded on HDD from where it was paused.
- If the paused TV picture disappears after a few minutes, press OPTION button to restore the pause picture.
- Follow the operation guide to operate [Pause Live TV] function.

To operate [Pause Live TV]

- Search backward
- Pause
- Playback
- Search forward
- Stop
  - If you stop playback, the recorded programme will be deleted from HDD.

To return to current TV (Stop playback of [Pause Live TV] / cancel pause)

Select [Yes]

Stop Pause Live TV?

- Yes
- No

- If you stop playback or cancel pause, the recorded programme will be deleted from HDD.

Control the menu of the connected equipment by VIERA remote control [VIERA Link Control]

You can control some functions of the connected equipment with this TV remote control pointing at the TV’s signal receiver.

- If you cannot operate, check the settings and the equipment.

“Summary of Q-Link and VIERA Link features” (p. 79, 80), “Preparations” (p. 82)
- For details of the operations for the connected equipment, read the manual of the equipment.

1 Display [VIERA TOOLS] and select [VIERA Link]
Select [VIERA Link Control]

VIERA Link Menu
Pause Live TV  Start
Direct TV Rec  Start
VIERA Link Control  Recorder
Speaker Selection  Home Cinema

① select  ② access

Select the equipment to access
Select the type of the connected equipment and access.

VIERA Link Menu
Pause Live TV  Start
Direct TV Rec  Start
VIERA Link Control  Recorder
Speaker Selection  Home Cinema

① select  ② access


- The displayed item may vary depending on the connected equipment.
- [Home Cinema] means Player theatre, Blu-ray Disc theatre or Recorder theatre.
- [Other] means Tuner set top box.

The menu of the accessed equipment will be displayed.
(Input mode will be changed automatically)

Operate the menu of the equipment
- Set the code of the remote control to “73” (p. 30).

Follow the operation guide
- To display the operation guide
  OPTION

If other manufacturers’ equipment is accessed, Setup / Contents Selection menu may be displayed.
- Available VIERA remote control buttons depend on the connected equipment.

Note
- Some operations may not be available depending on the equipment. In this case use its own remote control to operate the equipment.

If multiple recorders or players are connected

VIERA Link Menu
Pause Live TV  Start
Direct TV Rec  Start
VIERA Link Control  Recorder2
Speaker Selection  Home Cinema

[Recorder1-3 / Player1-3]

The number is given from the TV’s lower number of HDMI terminal connected to the same type equipment. For example, two recorders to HDMI1 and HDMI2, the recorder connected to HDMI1 is displayed as [Recorder1], and the recorder connected to HDMI2 is displayed as [Recorder2].

If you access non-VIERA Link equipment

VIERA Link Menu
Pause Live TV  Start
Direct TV Rec  Start
VIERA Link Control  Recorder
Speaker Selection  Home Cinema

The type of the connected equipment is displayed. Although you can access the connected equipment, you cannot operate it. Use its own remote control to operate the equipment.
Speaker control [Speaker Selection]

You can control the theatre speaker with this TV remote control pointing at the TV’s signal receiver.

- If you cannot operate, check the settings and the equipment.

  “Summary of Q-Link and VIERA Link features” (p. 79, 80), “Preparations” (p. 82)

1. Display [VIERA TOOLS] and select [VIERA Link]

2. Select [Speaker Selection]

3. Set to [Home Cinema] or [TV]

   [Home Cinema]:
   The sound is from theatre speakers. Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on if it is in Standby mode.
   - Volume up / down
   - Mute
   - The sound of TV speakers is mute.
   - When the equipment is turned off, TV speakers will be active.

   [TV]:
   TV speakers are active.

Multi-channel sound

If you want to enjoy the multi-channel sound (e.g. Dolby Digital 5.1ch) via an Amplifier, connect it with HDMI cable and Optical digital audio cable (p. 80), and then select [Home Cinema]. If your Amplifier has “HDAVI Control 5” function, you only need to connect it with HDMI cable to the TV’s HDMI2 terminal.

To enjoy the sound from the DIGA Recorder in multi-channel sound, connect an HDMI cable from the DIGA Recorder to the Amplifier (p. 80).

Note

- These functions may not work properly depending on the connected equipment.
- Image or sound may not be available for the first few seconds when input mode is switched.
- “HDAVI Control 5” is the newest standard (as of November, 2011) for HDAVI Control compatible equipment. This standard is compatible with conventional HDAVI equipment.
- To confirm this TV’s version of HDAVI Control ➔ [System Information] (p. 45)
External Equipment

These diagrams show our recommendations for connection of your TV to various pieces of equipment. For other connections, consult the instructions for each piece of equipment, the basic connection (p. 12 - 14), the table (p. 89), and the specifications (p. 102, 103).

- Check the type of terminals and cable plugs are correct when connecting.

To watch DVDs

USB devices

HDMI equipment

- HDMI connection (p. 94)
**To listen with speakers**

To enjoy the sound from the external equipment in multi-channel sound (e.g. Dolby Digital 5.1ch), connect the equipment to the amplifier. For the connections, read the manuals of the equipment and amplifier.

**Headphones**

- Less than 10 cm (M3 stereo mini plug)
- Ferrite core - Small size (supplied)

**Installing the Ferrite core**

1. Pull back the tab
2. Wind the cable twice
3. Close

- To adjust volume
- [Headphone Volume] (p. 40)

**Camcorder / Game equipment**

(Viewing)

(Listening)
### Types of connectable equipment to each terminal

<table>
<thead>
<tr>
<th>Features</th>
<th>Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AV1</td>
</tr>
<tr>
<td></td>
<td>COMPONENT</td>
</tr>
<tr>
<td>To record / playback videocassettes / DVDs (VCR / DVD Recorder)</td>
<td>○</td>
</tr>
<tr>
<td>To watch 3D contents (Blu-ray Disc Player)</td>
<td>○</td>
</tr>
<tr>
<td>To watch satellite broadcasts (Set top box)</td>
<td>○</td>
</tr>
<tr>
<td>To watch DVDs (DVD Player)</td>
<td>○</td>
</tr>
<tr>
<td>To watch camcorder images (Video camera)</td>
<td>○</td>
</tr>
<tr>
<td>To play games (Game equipment)</td>
<td>○</td>
</tr>
<tr>
<td>To use amplifier with speaker system</td>
<td>○</td>
</tr>
<tr>
<td>To use network services</td>
<td>○</td>
</tr>
<tr>
<td>Q-Link</td>
<td>○</td>
</tr>
<tr>
<td>Q-Link (with HDMI)</td>
<td>○</td>
</tr>
<tr>
<td>Direct TV Recording</td>
<td>○</td>
</tr>
</tbody>
</table>

○: Recommended Connection

*1: Use HDMI1 for automatic input switching.

*2: Use HDMI2 for connecting an amplifier. This connection is applicable when using an amplifier that has ARC (Audio Return Channel) function.

*3: Use USB 2 port for connecting the Communication Camera.
The optimum size and aspect can be chosen automatically, and you can enjoy finer images. ➔ (p. 23)

■ Aspect Control Signal

[WIDE] will appear in the top left of the screen if a Widescreen signal (WSS) or a Control signal through SCART / HDMI terminal is found.

The aspect will switch to the appropriate 16:9 or 14:9 widescreen ratio.

This function will work in any aspect mode.

<table>
<thead>
<tr>
<th>Input terminal</th>
<th>Input signal format</th>
<th>Widescreen signal (WSS)</th>
<th>Control signal through SCART (pin8) / HDMI terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable RF</td>
<td>DVB-C</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DVB-T</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAL B, G, H, I, D, K</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SECAM B, G, L’, D, K</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAL 525/60 6.5 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAL 525/60 6.0 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAL 525/60 5.5 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M.NTSC 6.5 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M.NTSC 6.0 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M.NTSC 5.5 MHz</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>AV1 / AV2 (Composite)</td>
<td>PAL</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>SECAM</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>PAL 525/60</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>M.NTSC</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td>AV2 (Component)</td>
<td>525 (480) / 60i, 60p</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>625 (576) / 50i, 50p</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>750 (720) / 60p, 50p</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,125 (1,080) / 60i, 50i</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>HDMI1 HDMI2</td>
<td>525 (480) / 60i, 60p</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>625 (576) / 50i, 50p</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>750 (720) / 60p, 50p</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>1,125 (1,080) / 60i, 50i</td>
<td>–</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>1,125 (1,080) / 60p, 50p, 24p</td>
<td>–</td>
<td>○</td>
</tr>
</tbody>
</table>

■ Auto mode

Auto mode determines the best aspect ratio to fill the screen using a four step process (WSS, Control signal through SCART / HDMI terminal, Letterbox detection or Justify to fill the screen). This process may take several minutes, depending on the darkness of the image. Letterbox detection:

If black bands at the top and bottom of the screen are detected, Auto mode chooses the best ratio and expands the image to fill the screen.

If no aspect signals are detected, Auto mode enhances the image for optimum viewing pleasure.

Note

- The ratio varies depending on the programme, etc. If the ratio is out of the standard 16:9, black bands at the top and bottom of the screen may appear.
- If the screen size looks unusual when a widescreen-recorded programme is played back on a VCR, adjust the tracking of the VCR. Read the manual of the VCR.
### Supported file format in Media Player and media servers

#### Photo

<table>
<thead>
<tr>
<th>Format</th>
<th>File extension</th>
<th>Image resolution (pixel)</th>
<th>Details / Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td>.jpg .jpeg .mpo</td>
<td>8 x 8 to 30,719 x 17,279</td>
<td>DCF and EXIF standards</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sub-sampling: 4:4:4, 4:2:2, 4:2:0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Progressive JPEG is not supported.</em></td>
</tr>
</tbody>
</table>

#### Video

<table>
<thead>
<tr>
<th>Container</th>
<th>File extension</th>
<th>Video codec</th>
<th>Audio codec</th>
<th>Details / Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVCHD</td>
<td>.mts</td>
<td>H.264</td>
<td>Dolby Digital</td>
<td>AVCHD Standard Ver. 2.0 (AVCHD 3D, AVCHD Progressive)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● The data may not be available if a folder structure on the device is modified.</td>
</tr>
<tr>
<td>SD-Video</td>
<td>.mod</td>
<td>MPEG1</td>
<td>Dolby Digital</td>
<td>SD-Video Standard Ver. 1.31 (Entertainment Video Profile)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPEG2</td>
<td>MPEG Audio</td>
<td>● The data may not be available if a folder structure on the device is modified.</td>
</tr>
<tr>
<td>MOV</td>
<td>.mov .qt</td>
<td>DivX3 DivX4 DivX5 DivX6 H.264 BP/MP/HP Motion JPEG MPEG1 MPEG2 MPEG4 SP/ASP</td>
<td>AAC Dolby Digital Dolby Digital Plus DTS core HE-AAC LPCM MPEG Audio MP3</td>
<td>● This TV supports Motion JPEG recorded by Panasonic LUMIX Camera.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● This TV is not available for playing back Motion JPEG with the media server.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*1: Some products of before the year 2004 may not be available. The compatibility with future products is not guaranteed.</td>
</tr>
<tr>
<td>AVI</td>
<td>.avi .divx</td>
<td>DivX3 DivX4 DivX5 DivX6 H.264 BP/MP/HP MPEG1 MPEG2 MPEG4 SP/ASP VC-1 Windows Media Video Ver. 9</td>
<td>AAC ADPCM Dolby Digital Dolby Digital Plus DTS core HE-AAC LPCM MPEG Audio MP3 WMA WMA Pro</td>
<td>● Certified to play DivX Plus HD video file in Media Player For details of DivX ➔ (p. 93) ● Some subtitles or chapter functions may not be available.</td>
</tr>
<tr>
<td>MKV</td>
<td>.mkv</td>
<td>DivX3 DivX4 DivX5 DivX6 H.264 BP/MP/HP MPEG1 MPEG2 MPEG4 SP/ASP</td>
<td>AAC Dolby Digital Dolby Digital Plus DTS core HE-AAC MPEG Audio MP3</td>
<td></td>
</tr>
<tr>
<td>Container</td>
<td>File extension</td>
<td>Video codec</td>
<td>Audio codec</td>
<td>Details / Restrictions</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------</td>
<td>-------------</td>
<td>-------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>ASF</td>
<td>.asf</td>
<td>DivX3</td>
<td>AAC</td>
<td>*Copy-protected files cannot be played back.</td>
</tr>
<tr>
<td></td>
<td>.wmv</td>
<td>DivX4</td>
<td>Dolby Digital Plus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DivX5</td>
<td>HE-AAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DivX6</td>
<td>LPCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPEG4 SP/ASP</td>
<td>MP3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>VC-1 Video Ver. 9</td>
<td>WMA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WMA Pro</td>
<td></td>
</tr>
<tr>
<td>MP4</td>
<td>.f4v</td>
<td>DivX3</td>
<td>AAC</td>
<td>*This TV supports this container recorded by Panasonic products. For details, read the manual of the products.</td>
</tr>
<tr>
<td></td>
<td>.m4v</td>
<td>DivX4</td>
<td>Dolby Digital</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.mp4</td>
<td>DivX5</td>
<td>Dolby Digital Plus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DivX6</td>
<td>HE-AAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H.264 BP/MP/HP</td>
<td>MPEG Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPEG1</td>
<td>MP3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPEG2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MPEG4 SP/ASP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLV</td>
<td>.flv</td>
<td>H.264</td>
<td>AAC</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MP3</td>
<td></td>
</tr>
<tr>
<td>3GPP</td>
<td>.3gp</td>
<td>H.264</td>
<td>AAC</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>.3g2</td>
<td></td>
<td>HE-AAC</td>
<td></td>
</tr>
<tr>
<td>PS</td>
<td>.mpg</td>
<td>H.264</td>
<td>AAC*2</td>
<td>*2: This codec can be played back only in Media Player.</td>
</tr>
<tr>
<td></td>
<td>.mpeg</td>
<td></td>
<td>Dolby Digital</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.vob</td>
<td></td>
<td>Dolby Digital Plus*2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.vro</td>
<td></td>
<td>HE-AAC*2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MPEG Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MP3*2</td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>.m2ts</td>
<td>H.264</td>
<td>AAC</td>
<td>*3: This codec can be played back only in Media Player.</td>
</tr>
<tr>
<td></td>
<td>.tp</td>
<td></td>
<td>Dolby Digital</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.trp</td>
<td></td>
<td>Dolby Digital Plus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.ts</td>
<td></td>
<td>DTS core*3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HE-AAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MPEG Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MP3*3</td>
<td></td>
</tr>
</tbody>
</table>

**Music**

<table>
<thead>
<tr>
<th>Codec</th>
<th>File extension</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>.mp3</td>
<td>–</td>
</tr>
<tr>
<td>AAC</td>
<td>.m4a</td>
<td>*Copy-protected files cannot be played back.</td>
</tr>
<tr>
<td>WMA</td>
<td>.wma</td>
<td>*Copy-protected files cannot be played back.</td>
</tr>
<tr>
<td>WMA Pro</td>
<td></td>
<td>*WMA Lossless is not supported.</td>
</tr>
<tr>
<td>FLAC</td>
<td>.flac</td>
<td>–</td>
</tr>
</tbody>
</table>

**Note**

- Some files may not be played back even if they fulfil these conditions.
- Do not use two-byte characters or other special codes for data.
- The device may become unusable with this TV if the file or folder names are changed.
DivX Certified® to play DivX® and DivX Plus® HD (H.264/MKV) video up to 1080p HD including premium content.

ABOUT DIVX VIDEO:
DivX® is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified® device that plays DivX video. Visit divx.com for more information and software tools to convert your files into DivX videos.

■ Subtitle text file of DivX
Subtitle format - MicroDVD, SubRip, TMPlayer
- The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions.
- If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: ".srt", ".sub", ".txt".
- To confirm or change the current subtitle status while playing DivX content, press the OPTION button to display Option Menu.
- Depending on the methods used to create the file or the state of recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all.

Note
- Depending on how you make SD Card, USB Flash Memory or the media server, files and folders may not be displayed in the order you numbered.
- Depending on how you create the files and the structure of folders, the files and folders may not be displayed.
- When there are many files and folders, operation may take time to complete or some files may not be displayed or playable.

ABOUT DIVX VIDEO-ON-DEMAND:
This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in the Setup Menu. Go to vod.divx.com for more information on how to complete your registration.

■ To show DivX VOD registration code
[DivX® VOD] (p. 44)
- If you want to generate the new registration code, you have to deregister the current registration code. After playing DivX VOD content once, the confirmation screen to deregister will be displayed in [DivX® VOD] in the Setup Menu. If you press the OK button on the confirmation screen, the deregistration code will be generated and you will not be able to play any contents that you purchased using the current registration code. You will obtain the new registration code by pressing the OK button on the deregistration code screen.
- If you purchase DivX VOD content using a registration code different from this TV’s code, you will not be able to play this content. (Your device is not authorized to play this DivX protected video.) is displayed.

■ Regarding DivX content that can only be played a set number of times
Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ([This DivX rental has expired.] is displayed.)
- When playing this content, the number of remaining plays is reduced by one in the following conditions:
  • If you exit the current application.
  • If you play the other content.
  • If you go to the next or previous content.
Devices for recording or playing back

SD Card
Card format:
- SDXC Card - exFAT
- SDHC Card / SD Card - FAT16 or FAT32
Compliant card type (maximum capacity):
- SDXC Card (64 GB), SDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB) (requiring miniSD adaptor)
  - If miniSD Card is used, insert / remove it together with the adaptor.
  - Check the latest information on the card type at the following website. (English only)
    http://panasonic.jp/support/global/cs/tv/
  - Use an SD Card which meets SD standards. If not, it may cause the TV to malfunction.

USB Flash Memory (for playing back in Media Player)
USB Flash Memory format: FAT16, FAT32 or exFAT
- A USB HDD formatted by PC is not guaranteed in Media Player.

Note
- Data modified with a PC may not be displayed.
- Do not remove the device while the TV is accessing data. Otherwise this can damage device or TV.
- Do not touch the pins on the device.
- Do not subject the device to a high pressure or impact.
- Insert the device in the correct direction. Otherwise this can damage device or TV.
- Electrical interference, static electricity, or erroneous operation may damage the data or device.
- Back up the recorded data at regular intervals in case of deteriorated or damaged data or erratic operation of the TV. Panasonic is not liable for any deterioration or damage of recorded data.

HDMI connection
HDMI (high-definition multimedia interface) is the world’s first complete digital consumer AV interface complying with a non-compression standard.
HDMI allows you to enjoy high-definition digital images and high-quality sound by connecting the TV and the equipment.
HDMI-compatible equipment*1 with an HDMI or DVI output terminal, such as a DVD player, a set top box or game equipment, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable.
For more information about connections ➪ (p. 13, 87)

Applicable HDMI features
- Input audio signal:
  2ch Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)
- Input video signal:
  ➪ “Input signal that can be displayed” (p. 95)
  Match the output setting of the digital equipment.
- Input PC signal:
  ➪ “Input signal that can be displayed” (p. 95)
  Match the output setting of the PC.
- VIERA Link (HDAVI Control 5)
  ➪ [VIERA Link] (p. 82)
- 3D
- Content Type
- Deep Colour
- x.v.Colour™
- Audio Return Channel*2
  (HDMI2 terminal only)

DVI connection
If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adaptor cable*3.
When the DVI to HDMI adaptor cable is used, connect the audio cable to AV2 audio terminals.

Note
- Audio settings can be made on [HDMI1 / 2 Input] in the Sound Menu. (p. 41)
- If the connected equipment has an aspect adjustment function, set the aspect ratio to “16:9”.
- These HDMI connectors are “type A”.
- These HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Equipment having no digital output terminal may be connected to the input terminal of component or video to receive analogue signals.
- This TV incorporates HDMI™ technology.
*1: The HDMI logo is displayed on HDMI-compliant equipment.
*2: Audio Return Channel (ARC) is a function to send digital sound signals via an HDMI cable.
*3: Enquire at your local digital equipment retailer shop.
USB connection

- When using USB cables, use the supplied Ferrite core (Middle size) for each cable to comply with the EMC standard.
- As for installing the Ferrite core, refer to the installing of the Ferrite core for headphones. (p. 88)
- It is recommended to connect the USB Flash Memory or Communication Camera to the TV’s USB ports directly.
- Some USB devices or USB HUB may not be used with this TV.
- You cannot connect any devices by using USB card reader.
- You cannot use two or more same kind of USB devices simultaneously except USB Flash Memory.
- Additional information for USB devices may be on the following website. (English only)
  http://panasonic.jp/support/global/cs/tv/

**USB Keyboard**

- The USB Keyboard requiring its driver is not supported.
- To change the language type ➞ [USB Keyboard Layout] (p. 45)
- Characters may not be displayed correctly on the TV screen depending on the connected keyboard or the keyboard layout setting.
- Some of the keys of USB keyboards may correspond to the operation of the remote control.

<table>
<thead>
<tr>
<th>USB Keyboard</th>
<th>Remote Control</th>
<th>USB Keyboard</th>
<th>Remote Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑/↓/←/→</td>
<td>Cursor buttons</td>
<td>F2</td>
<td>VIERA TOOLS</td>
</tr>
<tr>
<td>Enter</td>
<td>OK</td>
<td>F3</td>
<td>MENU</td>
</tr>
<tr>
<td>Backspace</td>
<td>BACK/RETURN</td>
<td>F4</td>
<td>INPUT (AV)</td>
</tr>
<tr>
<td>Esc</td>
<td>EXIT</td>
<td>F5/F6</td>
<td>Channel Down / Up</td>
</tr>
<tr>
<td>0-9/Character</td>
<td>Numeric buttons</td>
<td>F7/F8</td>
<td>Volume Down / Up</td>
</tr>
<tr>
<td>F1</td>
<td>GUIDE</td>
<td>F9/F10/F11/F12</td>
<td>Coloured buttons</td>
</tr>
</tbody>
</table>

**Gamepad**

- Check the gamepads that have been tested for the performance with this TV at the following website. (English only) http://panasonic.jp/support/global/cs/tv/
- Some of the keys of gamepads correspond to the operation of the remote control.

### Example:

<table>
<thead>
<tr>
<th>Remote Control</th>
<th>Remote Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Volume Up / Down</td>
</tr>
<tr>
<td>2</td>
<td>Channel Up / Down</td>
</tr>
<tr>
<td>3</td>
<td>GUIDE</td>
</tr>
<tr>
<td>4</td>
<td>OK</td>
</tr>
<tr>
<td>5</td>
<td>BACK/RETURN</td>
</tr>
<tr>
<td>6</td>
<td>INTERNET</td>
</tr>
<tr>
<td>7</td>
<td>VIERA TOOLS</td>
</tr>
<tr>
<td>8</td>
<td>EXIT</td>
</tr>
<tr>
<td>9</td>
<td>INPUT (AV)</td>
</tr>
<tr>
<td>10</td>
<td>MENU</td>
</tr>
<tr>
<td>11</td>
<td>Cursor buttons</td>
</tr>
</tbody>
</table>

**Input signal that can be displayed**

**COMPONENT (Y, Pb, Pr) (from AV2 terminal), HDMI**

<table>
<thead>
<tr>
<th>Signal name</th>
<th>COMPONENT</th>
<th>HDMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>525 (480) / 60i, 60p</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>625 (576) / 50i, 50p</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>750 (720) / 60p, 50p</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>1,125 (1,080) / 60i, 50i</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>1,125 (1,080) / 60p, 50p, 24p</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

☐ : Applicable input signal

**PC (from HDMI terminal)**

<table>
<thead>
<tr>
<th>Signal name</th>
<th>Horizontal frequency (kHz)</th>
<th>Vertical frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640 x 480 @60 Hz</td>
<td>31.47</td>
<td>60.00</td>
</tr>
<tr>
<td>1,280 x 720 @60 Hz</td>
<td>45.00</td>
<td>60.00</td>
</tr>
<tr>
<td>1,920 x 1,080 @60 Hz</td>
<td>67.50</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Applicable input signal for PC is basically compatible to HDMI standard timing.

**Note**

- Signals other than above may not be displayed properly.
- The above signals are reformatted for optimal viewing on your display.
- PC signal is magnified or compressed for display, so that it may not show fine detail with sufficient clarity.
You can enter characters by using numeric buttons for free input items.

Press the numeric button repeatedly until you reach the desired character.

- The character is set automatically if you leave for 1 second.
- You can also set the character by pressing the OK button or other numeric buttons within 1 second.
- The characters may vary depending on the input items.

<table>
<thead>
<tr>
<th>Numeric buttons</th>
<th>Characters</th>
<th>Numeric buttons</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>@ / ! : # - \ _ ( ) ^ &amp; ? ; = $ [ ] &lt;&lt; &gt;&gt;</td>
<td>6</td>
<td>m n o 6 M N O</td>
</tr>
<tr>
<td>2</td>
<td>a b c 2 A B C</td>
<td>7</td>
<td>p q r s T Q R S</td>
</tr>
<tr>
<td>3</td>
<td>d e f 3 D E F</td>
<td>8</td>
<td>t u v 8 T U V</td>
</tr>
<tr>
<td>4</td>
<td>g h i 4 G H I</td>
<td>9</td>
<td>w x y 9 W X Y Z</td>
</tr>
<tr>
<td>5</td>
<td>j k l 5 J K L</td>
<td>0</td>
<td>Space 0</td>
</tr>
</tbody>
</table>

**SCART and HDMI terminal information**

**AV1 SCART terminal (RGB, VIDEO, Q-Link)**

- **Socket Earth** 21
- **CVBS out (video)** 19
- **CVBS earth** 17
- **Red in** 15
- **Red earth** 13
- **Green in** 11
- **Green earth** 9
- **Blue in** 7
- **Blue earth** 5
- **Audio out (L)** 3
- **Audio out (R)** 1
- **20 CVBS in (video)**
- **18 RGB status earth**
- **16 Status RGB**
- **14 Earth**
- **12 −**
- **10 Q-Link data**
- **8 Status CVBS**
- **6 Audio in (L)**
- **4 Audio earth**
- **2 Audio in (R)**

**HDMI terminal**

- **Hot Plug Detect** 19
- **DDC/CEC Ground** 17
- **SCL** 15
- **CEC** 13
- **TMDS Clock Shield** 11
- **TMDS Data0−** 9
- **TMDS Data0+** 7
- **TMDS Data1 Shield** 5
- **TMDS Data2−** 3
- **TMDS Data2+** 1
- **18 +5V Power**
- **16 SDA**
- **14 Utility**
- **12 TMDS Clock−**
- **10 TMDS Clock+**
- **8 TMDS Data0 Shield**
- **6 TMDS Data1−**
- **4 TMDS Data1+**
- **2 TMDS Data2 Shield**
FAQs

Before requesting service or assistance, please follow these simple guides to resolve the problem. If the problem still persists, please contact your local Panasonic dealer for assistance.

Block noise, frozen or disappearing image occurs in DVB mode / White spots or shadow image (ghosting) occurs in Analogue mode / Some channels cannot be tuned
- Check the position, direction and connection of the aerial.
- Check [Signal Condition] (p. 51). If [Signal Quality] is displayed in red, the DVB signal is weak.
- Weather conditions will affect signal reception (heavy rain, snow, etc.), in particular in poor reception areas. Even during good weather, the high pressure can cause poor reception of some channels.
- Due to the digital reception technologies involved, quality of the digital signals may be relatively low in some cases, despite good reception of analogue channels.
- Turn the TV off with the Mains power On / Off switch, and then on again.
- If problem persists, consult your local dealer or service provider for the availability of services.

No programmes shown on TV Guide
- Check the digital transmitter.
- Adjust the direction of the aerial to another transmitter installed nearby.
- Check the analogue broadcast. If the image quality is poor, check the aerial and consult your local dealer.

Neither image nor sound is produced
- Check the TV is turned on.
- Check the mains lead is plugged into the TV and the socket outlet.
- Check the TV is in AV mode.
- Check the correct input mode is selected.
- Check the Picture Menu (p. 38, 39) and volume.
- Check all required cables and connections are firmly in place.

Auto aspect
- Auto aspect is designed to provide you with the best ratio to fill the screen. (p. 90)
- Press the ASPECT button if you want to change the aspect ratio manually. (p. 23)

Black and white picture
- Check that the output of the external equipment matches the input of the TV.
  When connecting with SCART, ensure the output setting of the external equipment is not S-Video.

Q-Link function does not work
- Confirm SCART cable and connection.
  Also set [AV1 out] in the Setup Menu. (p. 42)

[VIERA Link] function does not work and an error message appears
- Confirm the connection. (p. 79, 80)
- Turn the connected equipment on and then switch the TV on. (p. 82)

Recording does not start immediately
- Check the settings of the recorder. For details, read the manual of the recorder.

The screen becomes dim
- This occurs when the contrast is lowered automatically to avoid image retention in the following conditions without any user operation for a few minutes:
  - No signal in DVB or AV mode
  - Selected locked channel
  - Selected invalid channel
  - Selected radio channel
  - Displayed menu
  - Thumbnail or still picture
<table>
<thead>
<tr>
<th>Problem</th>
<th>Causes / Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screen</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Chaotic image, noisy | ● Set [P-NR] in the Picture Menu to remove noise. (p. 38)  
● Check nearby electrical products (car, motorcycle, fluorescent lamp). |
| No image can be displayed | ● Is [Contrast], [Brightness] or [Colour] in the Picture Menu set to the minimum? (p. 38)  
● Check the setting of [AV2] ([COMPONENT] / [VIDEO]) in [Input Selection] to match the output of the external equipment. (p. 29) |
| Blurry or distorted image (no sound or low volume) | ● Reset channels. (p. 46, 47) |
| Unusual image is displayed | ● Turn the TV off with Mains power On / Off switch, then turn it on again.  
● If the problem persists, initialise all settings. [Shipping Condition] (p. 58) |
| **Sound** | |
| No sound is produced | ● Is “Sound mute” active? (p. 10)  
● Is the volume set to the minimum? |
| Sound level is low or sound is distorted | ● Sound signal reception may be deteriorated.  
● Set [MPX] (p. 40) in the Sound Menu to [Mono]. (Analogue) |
| Unusual sound from the TV | ● When power is on, drive noise may be heard from inside the TV (not a sign of faulty operation). |
| **3D** | |
| Cannot view 3D images | ● Has the 3D Eyewear been switched on, set to 3D mode and registered with this TV? For details, read the manual of the 3D Eyewear.  
● Check the remaining battery level of the 3D Eyewear. (Battery status is displayed on the screen when the 3D Eyewear is turned on.)  
● Does the 3D Eyewear support Bluetooth wireless technology? (p. 32)  
● Ensure that [3D Mode Selection] is set to [3D]. (p. 33)  
● Some 3D image signals may not be automatically recognised as 3D images. Set [3D Mode Selection (Manual)] to match the picture format. (p. 34)  
● Use the 3D Eyewear within approximately 3.2 m from the TV.  
● Check that there are no obstacles between the TV and the 3D Eyewear.  
● For some people, the 3D images may be difficult to see, or cannot be seen, especially in users who have a different level of eyesight between the left and right eyes. Take the necessary steps (wearing glasses etc.) to correct your eyesight before use. |
| 3D Eyewear is turned off automatically | ● Check that there are no obstacles between the TV and the 3D Eyewear. |
| There is something wrong with the 3D images | ● Check the setting of [Picture Sequence] or [Edge Smoother]. (p. 35) |
| The indicator lamp does not light when pressing the power button on the 3D Eyewear | ● The battery may be running low or flat. Recharge it. |
| **HDMI** | |
| Sound is unusual | ● Set the sound setting of the connected equipment to “2ch L.PCM”.  
● Check the [HDMI1 / 2 Input] setting in the Sound Menu. (p. 41)  
● If digital sound connection has a problem, select analogue sound connection. (p. 94) |
| Pictures from external equipment are unusual when the equipment is connected via HDMI | ● Check the HDMI cable is connected properly. (p. 87)  
● Turn the TV and equipment off, then turn them on again.  
● Check an input signal from the equipment. (p. 95)  
● Use equipment compliant with EIA/CEA-861/861D.|
<table>
<thead>
<tr>
<th>Problem</th>
<th>Causes / Actions</th>
</tr>
</thead>
</table>
| Cannot connect to the network | - Check the LAN cable or Wireless Adaptor is connected properly. (p. 70)  
- Check the connections and settings. (p. 70 - 74)  
- Check the network equipment and network environment.  
- The router may not be set to issue IP address automatically. If the network administrator prefers to allocate an IP address, set an IP address manually. (p. 72)  
- The router may be using MAC address filtering (security setting). Confirm the MAC Address of this TV (p. 42) and set the router to use it.  
- If the problem persists, consult your Internet Service Provider or telecommunications company. |
| Cannot select the file during DLNA operations | - Is media server of the connected equipment prepared? (p. 69)  
- Check applicable data format. (p. 91, 92) |
| Cannot operate VIERA Connect | - Check the connections and settings. (p. 70 - 74)  
- The server or connected line may be busy now. |
| The TV does not switch on | - Check the mains lead is plugged into the TV and the socket outlet. |
| The TV goes into Standby mode | - Auto power standby function is activated. (p. 11)  
- The TV enters Standby mode about 30 minutes after analogue broadcasting ends. |
| The remote control does not work or is intermittent | - Are the batteries installed correctly? (p. 7)  
- Has the TV been switched on?  
- The batteries may be running low. Replace them.  
- Point the remote control directly at the front of the TV (within about 7 m and a 30 degree angle of the front of the TV).  
- Situate the TV away from sunshine or other sources of bright light not to shine on the TV’s remote control signal receiver. |
| Parts of the TV become hot | - Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises do not cause any problems in terms of performance or quality. |
| Permanently lit spots on screen | - Due to production process involved in this technology this may result in some pixels which are permanently lit or unlit. This is not a malfunction. |
| Overcurrent error message appears | - The connected USB device might cause this error. Remove the device and turn the TV off with Mains power On / Off switch, then turn it on again.  
- Check foreign objects are not inside the USB port. |
| An error message appears | - Follow the message’s instructions.  
- If the problem persists, contact your local Panasonic dealer or the authorised service centre. |
Maintenance

First, remove the mains plug from the socket outlet.

**Display panel, Cabinet, Pedestal**

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

**For stubborn dirt:**
First clean the dust on the surface. Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water). Wring the cloth and wipe the surface. 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 TV's surfaces to water or detergent. Liquid inside the TV could lead to product failure.
- 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 lead to fire or electrical shock.

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(b) 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.
## Specifications

### Product fiche

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>TX-P42XT50E</th>
<th>TX-P50XT50E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
<td>TX-P42XT50E</td>
<td>TX-P50XT50E</td>
</tr>
<tr>
<td>Energy efficiency class</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Visible screen size (diagonal)</td>
<td>107 cm / 42 inches</td>
<td>127 cm / 50 inches</td>
</tr>
<tr>
<td>On mode average power consumption</td>
<td>101 W</td>
<td>139 W</td>
</tr>
<tr>
<td>Annual energy consumption *1</td>
<td>140 kWh</td>
<td>193 kWh</td>
</tr>
<tr>
<td>Rated power consumption</td>
<td>165 W</td>
<td>215 W</td>
</tr>
<tr>
<td>Standby power consumption *2</td>
<td>0.40 W</td>
<td></td>
</tr>
<tr>
<td>Off mode power consumption</td>
<td>0.30 W</td>
<td></td>
</tr>
<tr>
<td>Display resolution</td>
<td>1,024 (W) × 768 (H)</td>
<td></td>
</tr>
</tbody>
</table>

### Other information

<table>
<thead>
<tr>
<th>Model No.</th>
<th>TX-P42XT50E</th>
<th>TX-P50XT50E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power source</td>
<td>AC 220-240 V, 50 / 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Panel</td>
<td>Plasma panel</td>
<td></td>
</tr>
<tr>
<td>Dimensions (W × H × D) (With Pedestal)</td>
<td>1,009 mm × 663 mm × 320 mm</td>
<td>1,186 mm × 764 mm × 335 mm</td>
</tr>
<tr>
<td>Dimensions (W × H × D) (TV only)</td>
<td>1,009 mm × 616 mm × 84 mm</td>
<td>1,186 mm × 717 mm × 84 mm</td>
</tr>
<tr>
<td>Mass</td>
<td>20.0 kg (With Pedestal) 17.0 kg (TV only)</td>
<td>25.5 kg (With Pedestal) 22.0 kg (TV only)</td>
</tr>
<tr>
<td>Sound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker</td>
<td>(160 mm × 40 mm) × 2, 8 Ω</td>
<td></td>
</tr>
<tr>
<td>Audio output</td>
<td>20 W (10 W + 10 W)</td>
<td></td>
</tr>
<tr>
<td>Headphones</td>
<td>M3 (3.5 mm) stereo mini Jack × 1</td>
<td></td>
</tr>
<tr>
<td>Receiving systems / Band name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAL D, K, SECAM D, K</td>
<td>VHF R1 - R2, VHF R6 - R12</td>
<td>VHF R3 - R5, UHF E21 - E69</td>
</tr>
<tr>
<td>PAL 525/60</td>
<td>Playback of NTSC tape from some PAL Video recorders (VCR)</td>
<td></td>
</tr>
<tr>
<td>M.NTSC</td>
<td>Playback from M.NTSC Video recorders (VCR)</td>
<td></td>
</tr>
<tr>
<td>NTSC (AV input only)</td>
<td>Playback from NTSC Video recorders (VCR)</td>
<td></td>
</tr>
<tr>
<td>DVB-T</td>
<td>Digital terrestrial services (MPEG2 and MPEG4-AVC(H.264))</td>
<td></td>
</tr>
<tr>
<td>DVB-C</td>
<td>Digital cable services (MPEG2 and MPEG4-AVC(H.264))</td>
<td></td>
</tr>
<tr>
<td>Aerial input</td>
<td>VHF / UHF</td>
<td></td>
</tr>
</tbody>
</table>

Check the latest information on the available services at the following website. (English only) [http://panasonic.jp/support/global/cs/tv/](http://panasonic.jp/support/global/cs/tv/)
### Operating conditions
- **Temperature:** 0 °C - 35 °C
- **Humidity:** 20 % - 80 % RH (non-condensing)

### Connection terminals

<table>
<thead>
<tr>
<th>Input / Output</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AV1 input / output</strong></td>
<td>SCART (Audio/Video in, Audio/Video out, RGB in, Q-Link)</td>
</tr>
<tr>
<td><strong>AV2 input</strong></td>
<td>VIDEO: RCA PIN Type × 1 1.0 V[p-p] (75 Ω)</td>
</tr>
<tr>
<td></td>
<td>AUDIO L - R: RCA PIN Type × 2 0.5 V[rms]</td>
</tr>
<tr>
<td><strong>HDMI 1 / 2 input</strong></td>
<td>TYPE A Connectors</td>
</tr>
<tr>
<td></td>
<td>HDMI1: 3D, Content Type, Deep Colour, x.v.Colour™</td>
</tr>
<tr>
<td></td>
<td>HDMI2: 3D, Content Type, Audio Return Channel, Deep Colour, x.v.Colour™</td>
</tr>
<tr>
<td><strong>Card slot</strong></td>
<td>SD Card slot × 1, Common Interface slot (complies with CI Plus) × 1</td>
</tr>
<tr>
<td><strong>ETHERNET</strong></td>
<td>RJ45, IEEE802.3 10BASE-T / 100BASE-TX</td>
</tr>
<tr>
<td><strong>USB 1 / 2</strong></td>
<td>USB2.0 DC 5 V, Max. 500 mA</td>
</tr>
<tr>
<td><strong>DIGITAL AUDIO OUT</strong></td>
<td>PCM / Dolby Digital / DTS, Fibre optic</td>
</tr>
</tbody>
</table>

### Bluetooth wireless technology
- **Standard Compliance:** Bluetooth 3.0
- **Frequency Range:** 2.402 GHz - 2.480 GHz

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*1: Energy consumption XYZ kWh per year, based on the power consumption of the television operating 4 hours per day for 365 days. The actual energy consumption will depend on how the television is used.

*2: when the TV is turned off with the remote control and no function is active

*3: Not all the Bluetooth compatible devices are available with this TV.

**Note**
- Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.
  EN55013, EN61000-3-2, EN61000-3-3, EN55020, EN55022, EN55024
Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should 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 and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Customer’s Record
The model number and serial number of this product may be found on its rear panel. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

| Model Number | Serial Number |