

**Panasonic<sup>®</sup>**

**VT50 series**

*e***HELP**

## Watching TV

### **Cable / Satellite / Fiber with a box**

- Initial setting 12

### **Antenna / Cable service without a box**

- Initial setting 13
- Select channels 14
- Favorite channels (Set) 15
- Favorite channels (Display) 16
- Closed caption 17
- SAP 18
- Other 19

### **Blu-ray, DVD, Game Console, etc.**

- Connecting and viewing (1) 20
- Connecting and viewing (2) 21
- HDMI connection notice 22
- HDMI connection caution 23
- Input signal 24

### **For best picture**

- Picture mode 25
- Auto brightness (ECO) 26
- Aspect 27
- Aspect info. 28
- Pro settings (1) 29
- Pro settings (2) 30
- Pro settings (3) 31

### **For best audio**

● Basic adjustments	32
● Advanced audio	33

### **3D**

● Notice	34
● Viewing 3D	35
● Change 3D ↔ 2D	36
● Adjust 3D images	37
● 3D settings (1)	38
● 3D settings (2)	39

### **Computer on TV**

● Display PC screen	40
● PC adjustments (1)	41
● PC adjustments (2)	42
● Input signal	43

## **Internet services "VIERA Connect"**

### **Connect to network**

● Network connections (1)	44
● Network connections (2)	45
● Network connections (3)	46
● Network connections (4)	47

### **Network settings**

● Setting menu	48
● Connection test	49
● Network connection	50
● Wireless network settings	51
● IP address/DNS settings	52
● Proxy settings	53

● Network link (1)	54
● Network link (2)	55
● Software update	56
● New software notice	57
● Wake on LAN	58
● Network status	59

## **How to use**

● Operate	60
-----------	----

## **Home network "DLNA"**

### **Get started**

● Information	61
---------------	----

### **Connect to network**

● Network connections (1)	62
● Network connections (2)	63
● Network connections (3)	64
● Network connections (4)	65

### **Network settings**

● Setting menu	66
● Connection test	67
● Network connection	68
● Wireless network settings	69
● IP address/DNS settings	70
● Proxy settings	71
● Network link (1)	72
● Network link (2)	73
● Software update	74
● New software notice	75

● Wake on LAN	76
● Network status	77

## Photos

● Viewing Photos	78
● Photo view	79
● Options menu	80
● Using slideshow	81
● Slideshow settings	82

## Videos

● Viewing Videos	83
● Video view	84
● Options menu	85

## Music

● Playing Music	86
● Music view	87
● Options menu	88

## Data information

● Compatible Data format (1)	89
● Compatible Data format (2)	90
● Compatible Data format (3)	91
● Notice	92

## Media player

### Get started

● Information	93
● Media warning messages	94
● SD card handling cautions	95

## Photos

● Viewing Photos	96
● Photo view	97
● Sort the photos	98
● Options menu	99
● Multi shot 3D / Thumbnails size	100
● Using slideshow	101
● Slideshow settings	102
● Soundtrack settings	103

## **Videos**

● Viewing Videos	104
● Video view	105
● Options menu	106

## **Music**

● Playing Music	107
● Music view	108
● Options menu	109

## **Data information**

● Compatible Data format (1)	110
● Compatible Data format (2)	111
● Compatible Data format (3)	112
● Notice	113

## **Convenience features**

### **Using VIERA TOOLS**

● Using VIERA TOOLS	114
---------------------	-----

### **Timer**

● Setting menu	115
● Sleep (Off timer)	116

● Timer (On/Off timer)	117
------------------------	-----

## **Lock (parental control)**

● Setting menu	118
● Lock (1)	119
● Lock (2)	120
● Password setting	121
● Parental control ratings (1)	122
● Parental control ratings (2)	123
● Parental control ratings (3)	124

## **Closed caption**

● Setting menu	125
● Closed caption (1)	126
● Closed caption (2)	127
● Closed caption notice	128

## **VIERA Link™ "HDAVI Control™"**

● Basic feature	129
● Connecting note (1)	130
● Connecting note (2)	131
● VIERA Link connections (1)	132
● VIERA Link connections (2)	133
● VIERA Link connections (3)	134
● VIERA Link settings	135
● VIERA Link settings feature (1)	136
● VIERA Link settings feature (2)	137
● VIERA Link settings feature (3)	138
● VIERA Link	139

● VIERA Link menu (1)	140
● VIERA Link menu (2)	141
<b>Control by smartphone, etc.</b>	
● Smartphone remote	142
● Remote control via IP	143
<b>Using USB Keyboard / Gamepad</b>	
● Keyboard	144
● Gamepad	145
<b>Using Bluetooth devices</b>	
● Bluetooth settings	146
<b>All settings</b>	
<b>Picture</b>	
● Setting menu	147
● Basic settings (1)	148
● Basic settings (2)	149
● Pro settings (1)	150
● Pro settings (2)	151
● Pro settings (3)	152
● Aspect adjustments	153
● PC adjustments (1)	154
● PC adjustments (2)	155
● HDMI settings	156
● Advanced picture (1)	157
● Advanced picture (2)	158
<b>Audio</b>	
● Setting menu	159
● Basic settings	160

● Advanced audio	161
● DTV language and SAP settings	162
● DIGITAL AUDIO OUT terminal	163

## **Network**

● Network settings (1)	164
● Network settings (2)	165
● Network settings (3)	166
● Network settings (4)	167
● Network settings (5)	168

## **Timer**

● Setting menu	169
● Sleep (Off timer)	170
● Timer (On/Off timer)	171

## **Lock (parental control)**

● Setting menu	172
● Lock (1)	173
● Lock (2)	174
● Password setting	175
● Parental control ratings (1)	176
● Parental control ratings (2)	177
● Parental control ratings (3)	178

## **Setup**

● Setting menu	179
● 3D settings (1)	180
● 3D settings (2)	181
● ANT/Cable setup (1)	182
● ANT/Cable setup (2)	183

● Anti Image retention	184
● Closed caption (1)	185
● Closed caption (2)	186
● Closed caption notice	187
● VIERA Link settings (1)	188
● VIERA Link settings (2)	189
● ECO/energy saving (1)	190
● ECO/energy saving (2)	191
● Advanced setup	192
● Other settings (1)	193
● Other settings (2)	194

## **Support / FAQ**

### **FAQ**

● Picture - Viewing	195
● Picture - Snowy / none	196
● Picture - Distortion	197
● Picture - Continue	198
● Sound - none	199
● Sound - Unusual	200
● Networking	201
● Software update	202
● 3D - Viewing	203
● 3D - Format	204
● Other	205
● Menu - Gray-out	206
● Reset to default	207

## Care and Cleaning

● Display panel	208
● Cabinet	209
● Pedestal / Power cord	210
● Back panel (Cooling fan)	211

### Meaning of signs :

 Press the Remote control button

**INFO** Letters in box : Remote control button

**MENU** Letters in Cyan : Menus on screen display

# Watching TV

## Cable / Satellite / Fiber with a box

### Initial setting

---

#### 1. Connecting

Select the wiring method connecting your box to the TV, **AV IN** or **Antenna/Cable in**.

Tip: HDMI will provide the best HD picture

#### 2. Change INPUT



**INPUT**

Press the INPUT button to select the proper connection. Wait 2 seconds.

#### 3. Power on your Cable , Satellite or Fiber box

Use the box's remote control to change channels.

\* If the box is connected to the TV using a COAX cable (Antenna/Cable in), then set the TV channel to CH3 or CH4. Note that the picture will not be in HD.

- \* CC/SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
- \* If your box is a high definition, then check that it is outputting 720p or 1080i signal.  
Tip: press the TV's **INFO** button to verify.
- \* Check your box "aspect" or "format" settings. It should be set to 16:9, Widescreen or **FULL**.
- \* If the audio volume is too low, check the box's audio settings.
- \* Contact your Cable or Satellite provider for instructions on any box settings.

# Watching TV

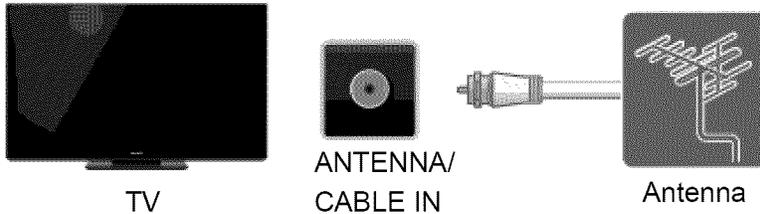
## Antenna / Cable service without a box

### Initial setting

---

#### 1. Connect coax

Connect a COAX wire from either an antenna or Basic Cable service to the TV's "ANTENNA/CABLE IN" screw terminal.



#### 2. Scan the channel

 **MENU** → Setup > ANT/Cable setup > ANT in, Auto program

1. Select Programming source **Cable** or **Antenna** in **Ant in**.
2. Select **Auto program** and select scan mode  
(**All channels** / **Analog only** / **Digital only**).
3. Start scanning.

\* If at the end of the scanning no channels are found, then check:  
Antenna's position - or Availability of Cable service.  
Cable, Satellite or Fiber services with a box are typically connected to the TV's A/V inputs, preferably HDMI, for best HD picture. In such a case, the channel scanning is not needed (set **ANT IN** to **Not used**).

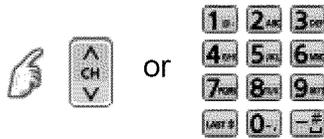
# Watching TV

## Antenna / Cable service without a box

### Select channels

---

- **Select desired channel**



- CH buttons are also available on the TV.

- **Select desired digital channel**

To directly enter a digital channel number use 

- When turning to a digital channel, press the button to enter the minor number in a compound channel number.

(e.g. CH15-1 →    )

- \* This TV has a "Channel transition effect" function that displays transition picture images when tuning the channels.

Set to **Off** to disable this function.

**Menu > Setup > Advanced setup > Channel transition effect**

This function is not available depending on the input signal.

# Watching TV

## Antenna / Cable service without a box

### Favorite channels (Set)

Channel numbers registered in Favorite are displayed on the favorite tune screen. Select the desired broadcast station with the cursor or use the number buttons.

- Favorite channels cannot be set when using Cable or Satellite box

- **Set the Favorite channel**



**OPTION**

→ Options menu > Set favorite

Select the list number using  $\Delta$  /  $\nabla$  and  or  directly to save the displayed channel.

- **Delete a Favorite channel**



**OPTION**

→ Options menu > Set favorite

Select the list number using  $\Delta$  /  $\nabla$  and  (press and hold) to delete.

\* To change the page in **Set favorite**



**FAVORITE**

or  $\triangleleft$  /  $\triangleright$  repeatedly

# Watching TV

## Antenna / Cable service without a box

### Favorite channels (Display)

Channel numbers registered in Favorite are displayed on the favorite tune screen. Select the desired broadcast station with the cursor or use the number buttons.

- Favorite channels cannot be set when using Cable or Satellite box.

- **To display a Favorite channel**

 **FAVORITE** → Favorite channels

Select the list number using  $\Delta$  /  $\nabla$  and  or  directly to displayed on favorite screen.

\* To change the page in **Favorite channels**

 **FAVORITE** or  $\triangleleft$  /  $\triangleright$  repeatedly

# Watching TV

## Antenna / Cable service without a box

### Closed caption

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#### Viewing with Closed caption



Switches the Closed caption mode.

( **Closed caption Off / Closed caption On / Closed caption On mute** )

- \* CC is not available when watching TV with a Cable or Satellite box connected via HDMI.
- \* Contact your Cable or Satellite operator for instructions on enabling CC with their box.
- \* The TV's CC button does not operate the Satellite or Cable box's CC function.
- \* For viewing the CC of digital broadcasting, set the aspect to FULL (If viewing with H-FILL, JUST, ZOOM or 4:3; characters might be cut off).
- \* If the CC is set to On on both the receiver and TV when the signal is 480i (except for the HDMI connection), the CC may overlap on the TV.
- \* If a digital program is being output in analog format, the CC data will also be output in analog format.
- \* If the recorder or output monitor is connected to the TV, the CC needs to be set up on the recorder or output monitor.

# Watching TV

## Antenna / Cable service without a box

### SAP

#### Listen with SAP (Secondary Audio Programming)

- SAP is not available when watching TV with a Cable or Satellite box connected via HDMI.
- Contact your Cable or Satellite operator for instructions on enabling SAP with their box.
- The TV's **SAP** button does not operate the Satellite or Cable box's **SAP** function.

Select the Audio mode for watching TV.



Digital mode: Select available audio service when receiving a digital channel. Audio track is automatically selected as **DTV language and SAP settings** in **Audio** menu.

**Menu > Audio > DTV language and SAP settings**

- \* If you change the audio settings with the **SAP** button, the DTV language and SAP settings will not change.

<b>Audio track 1 of 7</b>	→ Track number / Number of tracks
<b>English (Main Audio)</b>	→ Current audio track information (language, audio type)
<b>English audio</b>	→ Audio service information

(example)

Analog mode: Select the desired Audio mode. ( **Stereo / SAP / Mono** )

# Watching TV

## Antenna / Cable service without a box

### Other

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#### 1. Information banner

Displays TV status information. Also, when watching programs via the Antenna/Cable input, INFO will include the channel banner.



Channel / Station identifier / Program title / Closed caption / SAP /  
Rating level / Signal resolution / Picture mode / Aspect ratio /  
Sleep timer remaining time / Clock

#### 2. Options menu

This menu consists of shortcuts to convenient functions.



**Channel surf mode:** Specify favorites or type of channels to view when pressing the channel up/down button.

**Set favorite:** Set favorite channel

**Edit CH caption:** Edit the channel identifier

**Signal meter:** Check the antenna's signal strength

\* Options menu is only available when the TV is using the Antenna/Cable input, not when using Cable or Satellite box.

# Watching TV

## Blu-ray, DVD, Game Console, etc.

### Connecting and viewing (1)

---

#### 1. Connect device

Verify that the device is connected to the TV properly and connect to desired terminal. Note which terminal the device is connected to (HDMI 1, HDMI 2,... Component or Video)

Component and Composite (Video) in terminals are shared.

Please be careful not to confuse the connection when you use Component or Video.

# Watching TV

## Blu-ray, DVD, Game Console, etc.

### Connecting and viewing (2)

#### 2. Select Input

1. Display **input select** menu (With the connected equipment turned ON)



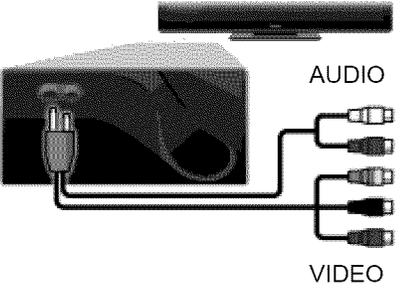
2. Select the input used in step 1

Select correct input source, using  $\triangle / \nabla$  and press

You can also press the corresponding NUMBER button or press **INPUT** repeatedly to cycle through the available inputs. If you are unsure which input to select, wait 2 seconds between each selection.

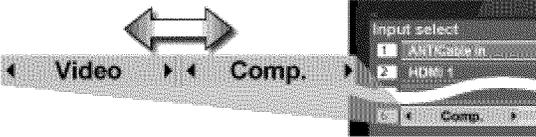
Component and Composite (Video) IN terminals are shared and must be connected using the supplied adapter.

NOTE: One red connector is for video and the other audio.



You need to select **Video** or **Component**.  
(Default: **Video**)

- Press **INPUT** and select **Video <-> Comp.**



- Press  $\triangle / \nabla$  to choose Video or Component.

- For your convenience, you can edit the inputs with labels that are easy to remember.



Edit Labels



Set ANT/Cable in

3. Operate using your device's remote control.

## **Watching TV**

### **Blu-ray, DVD, Game Console, etc.**

#### **HDMI connection notice**

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HDMI (high-definition multimedia interface) allows you to enjoy high-definition digital images and high-quality sound by connecting the TV unit and HD devices. HDMI-compatible equipment (\*1) with an HDMI or DVI output terminal, such as a Cable or Satellite box or a DVD player, can be connected to the HDMI connector using an HDMI compliant (fully wired) cable.

- HDMI is the world's first complete digital consumer AV interface complying with a non-compression standard.
- If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adapter cable (\*2).
- When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal.
- Audio settings can be made on the **HDMI in** menu screen. Applicable audio signal sampling frequencies (L.PCM): 48 kHz, 44.1 kHz, 32 kHz

(\*1): The HDMI logo is displayed on an HDMI-compliant device.

(\*2): Inquire at your local digital equipment retailer shop.

## **Watching TV**

### **Blu-ray, DVD, Game Console, etc.**

#### **HDMI connection caution**

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##### **Caution**

- The HDMI terminals on this TV were not specifically designed for use with a PC.
- If the connected device has an aspect adjustment function, set the aspect ratio to "16:9".
- The HDMI connectors are "type A".
- The HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Devices with no digital output terminal may be connected to the input terminal of either "COMPONENT IN", or "VIDEO IN" to receive analog signals.
- The HDMI input terminal can be used only with the following video signals: 480i, 480p, 720p, 1080i and 1080p. Ensure that the device being connected to the TV can produce one of these video signals.

# Watching TV

## Blu-ray, DVD, Game Console, etc.

### Input signal

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- Signals other than below may not be displayed properly.
- The signals are reformatted for optimal viewing on your display.

#### ■ Component and HDMI (\* HDMI only)

Input signal	Horizontal frequency (kHz)	Vertical frequency (Hz)
525 (480) / 60i	15.73	59.94
525 (480) /60p	31.47	59.94
750 (720) /60p	45.00	59.94
1,125 (1,080) /60i	33.75	59.94
1,125 (1,080)/60p	67.43	59.94
1,125 (1,080)/60p	67.50	60.00
1,125 (1,080)/24p *	26.97	23.98
1,125 (1,080)/24p *	27.00	24.00

# Watching TV

## For best picture

### Picture mode

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#### 1. Change picture mode to suite your settings and taste

1. Select **Picture mode**

 **MENU** → Menu > Picture > Picture mode

Select desired menu using  $\triangle / \nabla$  from menu bar and press 

2. Adjust using  $\triangleleft / \triangleright$

Tip: HDMI will provide the best HD picture

#### 2. Picture mode type

- Vivid:** Provides enhanced picture contrast and sharpness for viewing in a well-lit room.
- Standard:** Recommended for normal viewing conditions with subdued room lighting.
- Cinema:** For watching movies in a darkened room. It provides a soft, film-like picture.
- THX\*:** Precisely reproduces the original quality of the image without any revision.  
Recommended for playback of THX disc (disc with "THX" logo). THX mode is used to mirror the picture settings used by professional filmmakers, faithfully reproducing the image quality of THX Certified movies. (THX Certified movies have the "THX" logo on a disc.)  
\* 2D: THX Cinema/THX Bright Room, 3D: THX 3D Cinema
- Game:** For playing video games.
- Custom:** Customizes each item according to your taste.  
Photo is displayed in JPEG menu.

## Watching TV

### For best picture

#### Auto brightness (ECO)

---

Contrast Automatic Tracking System (C.A.T.S.) adjusts the screen brightness and contrast according to the room's ambient light conditions. This ECO feature automatically dims the brightness of the screen when the room lighting is lowered.

C.A.T.S. features a built-in delay when the lighting conditions change. The adjustment happens gradually.

If you prefer a consistent brightness, disable C.A.T.S. by:

- **Menu > Picture >** scroll down to **C.A.T.S.** and turn it off.

Or

- **Menu > Picture > Picture mode** then select viewing mode such as **Custom**.

\* **Standard** picture mode automatically sets C.A.T.S. to **On**.

# Watching TV

## For best picture

### Aspect

---

#### 1. Use **FORMAT** button to change the aspect ratio

Use when the picture has bars (sides or top/bottom) and to zoom.



**FORMAT** ( to cycle through the aspect modes )

480i, 480p: FULL/JUST/4:3/ ZOOM

1080p, 1080i, 720p: FULL/H-FILL/JUST/4:3/ZOOM

- \* Use when the picture does not fill the whole screen or portions of the picture are trimmed.
- \* Some content, such as film-based movies, are available in extra-wide format. Top and bottom bars are unavoidable.
- \* Connected devices, such as Cable/Satellite box, DVD/Blu-ray players and game consoles have their own aspect (format) settings. Adjust the device's aspect settings.

# Watching TV

## For best picture

### Aspect info.

---

- FULL: Enlarges the 4:3 image horizontally to the screen's side edges.  
(Recommended for anamorphic picture)
- JUST: Stretches to justify the 4:3 image to the four corners of the screen.  
(Recommended for normal TV broadcast)
- H-FILL: Enlarges the 4:3 image horizontally to the screen's side edges. The side edges of the image are cut off.
- 4:3: Standard (Note that "Image retention" of the side bar may occur from displaying it for a long time.)
- ZOOM: Enlarges the 4:3 image to the entire screen.  
(Recommended for Letter Box)

### ■ Zoom adjustments

Vertical image position and size can be adjusted in "ZOOM"

- ① Select **Zoom adjustments** in the **Picture** menu.



**MENU**

→ **Picture > Aspect adjustments > Zoom adjustments**

- ② V-position: Vertical position adjustment  
Adjust using  $\triangle / \nabla$  to desired position.
- ③ V-size: Vertical size adjustment  
Adjust using  $\triangleleft / \triangleright$  to desired size.

\* Press OK to reset

# Watching TV

## For best picture

### Pro settings (1)

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#### 1. Adjust the picture mode in more detail

Set **Custom** in **Picture mode** first.

 **MENU** → Menu > Picture > Pro settings

Settings	Options	Description
Reset to defaults		<ul style="list-style-type: none"> <li>Resets all Pro setting adjustments to factory default settings.</li> </ul>
Color space	Wide/ <u>Normal</u>	<ul style="list-style-type: none"> <li>Each color space is a matrix composed of red, green &amp; blue colors. Select your preference</li> </ul>
W/B high R, G, B	-50 - 0 - +50	<ul style="list-style-type: none"> <li>Adjusts the white balance for light red/green/blue areas.</li> </ul>
W/B low R, G, B	-50 - 0 - +50	<ul style="list-style-type: none"> <li>Adjusts the white balance for dark red/green/blue areas.</li> </ul>
W/B detail adjustment	Input signal level	<ul style="list-style-type: none"> <li>Adjusts the IRE picture level in relation to the gain of the red, green &amp; blue colors.</li> </ul>
	Red, Green, Blue gain	<ul style="list-style-type: none"> <li>Adjusts the red/green/blue gain value of each Input signal level.</li> </ul>

# Watching TV

## For best picture

### Pro settings (2)



**MENU**

→ Menu > Picture > Pro settings

Settings	Options	Description
Red, Green, Blue hue	-50 - 0 - +50	<ul style="list-style-type: none"> <li>• Adjusts the red/green/blue hue between light, pastel and vivid.</li> </ul>
Red, Green, Blue Saturation	-50 - 0 - +50	<ul style="list-style-type: none"> <li>• Adjusts the difference of the red/green/blue color against its own brightness.</li> </ul>
Color detail adjustment	Yellow, Cyan, Magenta hue	<ul style="list-style-type: none"> <li>• Adjusts the yellow/cyan/magenta hue between light, pastel and vivid.</li> </ul>
	Yellow, Cyan, Magenta Saturation	<ul style="list-style-type: none"> <li>• Adjusts the difference of the yellow/cyan/magenta color against its own brightness.</li> </ul>
	Red, Green, Blue, Yellow, Cyan, Magenta luminance	<ul style="list-style-type: none"> <li>• Adjusts the luminance of red/green/blue/yellow/cyan/magenta areas.</li> </ul>
Black extension	0-15	<ul style="list-style-type: none"> <li>• Adjusts the dark shades of the image in gradation.</li> </ul>

# Watching TV

## For best picture

### Pro settings (3)



**MENU**

→ Menu > Picture > Pro settings

Settings	Options	Description
Gamma adjustment	S-curve/ 1.8/2.0/ <u>2.2</u> / 2.4/2.6	<ul style="list-style-type: none"> <li>Gamma correction. Adjusts the intermediate brightness of the image.</li> </ul>
Panel brightness	Low/ <u>Mid</u> /High	<ul style="list-style-type: none"> <li>Selects different levels of overall panel brightness.</li> </ul>
Contour emphasis	Off/ <u>On</u>	<ul style="list-style-type: none"> <li>Adjusts the contour emphasis of the image.</li> </ul>
AGC	0-15 (default:7)	<ul style="list-style-type: none"> <li>Increases the brightness of dark signal automatically.</li> </ul>
Gamma detail adjustment	Input signal level	<ul style="list-style-type: none"> <li>Adjusts the IRE picture level in relation to the gain of the red, green &amp; blue colors.</li> </ul>
	Gain	<ul style="list-style-type: none"> <li>Adjusts the gain value of each Input signal level.</li> </ul>
Save as default		<ul style="list-style-type: none"> <li>Save all "Picture" (when "Picture mode" is "Custom") and "Pro settings" adjustment.</li> </ul>

# Watching TV

## For best audio

### Basic adjustments

---

#### 1. Change the basic audio settings

1. Select desired audio menu



Select desired menu using  $\triangle / \nabla$  from menu bar and press 

2. Adjust

Adjust using  $\triangleleft / \triangleright$

Settings	Description
Reset to defaults	<ul style="list-style-type: none"><li>• Resets Bass, Treble, and Balance adjustments to factory default settings.</li></ul>
Bass	<ul style="list-style-type: none"><li>• Increases or decreases the bass response.</li></ul>
Treble	<ul style="list-style-type: none"><li>• Increases or decreases the treble response.</li></ul>
Balance	<ul style="list-style-type: none"><li>• Emphasizes the left / right speaker volume.</li></ul>

# Watching TV

## For best audio

### Advanced audio



**MENU**

→ Menu > Audio > Advanced audio

Settings	Options	Description
A.I. sound	Off/On	<ul style="list-style-type: none"> <li>Equalizes overall volume levels across all channels and external inputs.</li> </ul>
Surround	Off/On	<ul style="list-style-type: none"> <li>Enhances audio L/R response when listening to stereo. Ideal for music and action movies.</li> </ul>
Volume leveler		<ul style="list-style-type: none"> <li>Minimizes volume disparity after switching to external inputs.</li> </ul>
Distance to wall	Over 1ft(30cm)/ Up to 1ft(30cm)	<ul style="list-style-type: none"> <li>Over 1ft(30cm): TV is on a stand. Keeps current setup.</li> <li>Up to 1ft(30cm): TV is mounted. Reduces low frequency level to prevent resonance.</li> </ul>
TV speakers	Off/On	<ul style="list-style-type: none"> <li>Enables the TV's built-in speakers.</li> <li>Switches to "Off" when using external speakers.</li> <li>"A.I. sound", "Surround", "Volume leveler", and "Distance to wall" do not work if "Off" is selected.</li> </ul>
HDMI in	Digital/ Comp./Video	<ul style="list-style-type: none"> <li>The default setting is "Digital" for the HDMI connection. (Digital input signal)</li> <li>Select audio input terminal when a DVI cable is connected along with an analog audio input signal.</li> </ul>

# Watching TV

## 3D

### Notice

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The following 3D content can be enjoyed on this TV:

- A 3D Blu-ray disc, played on 3D capable Blu-ray player/recorder that is connected via HDMI cable
- 3D TV broadcast (program)
- 3D Photo and 3D Movie taken by LUMIX/Camcorder.
- 3D game played on 3D capable video game console, connected via HDMI cable.
- 2D → 3D (Simulated 3D)

#### About 2D → 3D

\* You can watch content in simulated 3D from photo and all video sources except the PC input.

\* This function converts standard 2D images and displays them in 3D. For this reason, the 3D images appear slightly different from the originals. Please bear this in mind when using this function.

\* Using this function for profit-making purposes, or publically showing images converted from 2D to 3D in places such as coffee shops or hotels etc. may infringe on the rights of the copyright holder protected under the Copyright Act.

# Watching TV

## 3D

### Viewing 3D

---

#### 1. Using the 3D Eyewear

- ① Turn on the 3D Eyewear.
- ② Make sure that registration is finished completely.  
(Displays messages and information on the screen.)
- ③ Put on the 3D Eyewear.

#### 2. View

When the TV receives a 3D signal, it also tries to detect the 3D mode (format). 3D images are automatically displayed according to the signal. If the 3D images are not displayed correctly or the images cause discomfort, the images can be adjusted by **3D format select** or **3D settings**.

#### 3. After use

- ① Set the 3D Eyewear power switch to OFF.  
(The 3D Eyewear indicator lamp turns off, and the power turns off.)
- ② Store the eyewear in the case.

# Watching TV

## 3D

### Change 3D ⇔ 2D

---

#### ■ Simply switches 3D ⇔ 2D images (Auto mode)

 **3D** → 3D format select

Switch 3D or 2D using  $\Delta$  /  $\nabla$  and press 

#### ■ Change 3D format (Manual mode)

##### 1. Display 3D format select (Manual)

  → 3D format select (Manual)

##### 2. Select 3D format

 **3D** → Cycle through the 3D format

(Native/Frame sequential (3D)/Frame sequential (2D)/Side by side (3D)/Side by side (2D)/Top and bottom (3D)/Top and bottom (2D)/2D ⇔ 3D)

# Watching TV

## 3D

### Adjust 3D images

---

#### 1. Select 3D settings

 **MENU** → Menu > Setup > 3D settings

#### 2. Select the item and set

Select desired menu using  $\triangle / \nabla$  and adjust the settings with  $\triangleleft / \triangleright$

- \* The perceived three dimensional effects of the 3D Eyewear differ from person-to-person.
- \* If a signal received from an external device is different from the 3D setting of the TV, such as 2D signal when the TV is set to 3D mode, the images may not be displayed correctly.

# Watching TV

## 3D

### 3D settings (1)



**MENU**

→ Menu > Setup > 3D settings

Settings	Options	Description
Auto detect 3D	Off/ <u>Auto 1</u> / Auto 2	<ul style="list-style-type: none"><li>• Auto 1: Switches to 3D display when 3D indication is available (HDMI (3D), AVCHD file, etc.)</li><li>• Auto 2: Same as Auto 1. Also detects 3D signal by identifying similar image in side-by-side or top-and-bottom 3D formats.</li></ul> Note: Choose 3D mode manually when auto detection is not available.
3D signal notification	Off/ <u>On</u>	<ul style="list-style-type: none"><li>• On: Displays a message according to the signal received by the <b>Auto detect 3D</b>.</li></ul>
2D → 3D depth	Minimum/ <u>Medium</u> / Maximum	<ul style="list-style-type: none"><li>• Adjusts 3D depth. Available only when <b>2D → 3D</b> is selected in <b>3D format select</b>.</li><li>• Available only when 3D content is displayed.</li></ul>

# Watching TV

## 3D

### 3D settings (2)

 **MENU** → Menu > Setup > 3D settings

Settings	Options	Description
3D adjustment	<u>Off</u> /On	<ul style="list-style-type: none"><li>Changes 3D depth by adjusting left-right parallax. Set to <b>On</b> to adjust <b>Effect</b> (-3 to +3).</li></ul>
Left/Right swap	<u>Normal</u> / Swapped	<ul style="list-style-type: none"><li>Change this to <b>Swapped</b> when the phases are reversed (When there is an unusual sense of depth).</li></ul>
Diagonal line filter	<u>Off</u> /On	<ul style="list-style-type: none"><li>On: Resolves discomfort caused by receiving a quincunx matrix signal.</li></ul>
Safety precautions		<ul style="list-style-type: none"><li>Displays message for viewing 3D images.</li></ul>

# Watching TV

## Computer on TV

### Display PC screen

---

#### 1. Connect PC

Connect the PC's video output to the PC terminal of this TV with PC cable.  
To listen to the PC sound, connect an audio cable between the computer and the TV.

#### 2. Select Input and display

1. Display **Input select** menu (With the connected equipment turned On)



2. Select the PC input  
Select **PC** input using  $\triangle$  /  $\nabla$  and press 
3. Display PC screen

# Watching TV

## Computer on TV

### PC adjustments (1)

---



**MENU**

→ Menu > Picture > PC adjustments

Settings	Options	Description
Reset to defaults		<ul style="list-style-type: none"><li>Resets all PC adjustments to factory default settings.</li></ul>
Sync	H & V	<ul style="list-style-type: none"><li>The H and V sync signals are input from the HD/VD connector.</li></ul>
	On green	<ul style="list-style-type: none"><li>Uses a synchronized signal on the Video G signal, which is input from the G connector.</li></ul>
Dot clock		<ul style="list-style-type: none"><li>Alleviates the problem if a picture appears to be vertically-striped, flickers partially or is blurred.</li></ul>
H-position		<ul style="list-style-type: none"><li>Adjusts the horizontal position using left/right cursor button.</li></ul>
V-position		<ul style="list-style-type: none"><li>Adjusts the vertical position using left/right cursor button.</li></ul>

# Watching TV

## Computer on TV

### PC adjustments (2)



**MENU**

→ Menu > Picture > PC adjustments

Settings	Options	Description
Clock phase		<ul style="list-style-type: none"> <li>• Alleviates the problem if the whole picture appears to flicker or is blurred. First adjust the Dot Clock to get the best possible picture, then adjust the Clock phase so that a clear picture appears.</li> <li>• It may not be possible to display a clear picture due to poor input signals.</li> </ul>
Input resolution		<ul style="list-style-type: none"> <li>• Switches to wide display and selects the appropriate screen resolution.</li> <li>• VGA (640 x 480 pixels), WVGA (852 x 480 pixels), XGA (1,024 x 768 pixels), WXGA (1,280 x 768 pixels)</li> <li>• Options change depending on signals.</li> </ul>
H-frequency V-frequency		<ul style="list-style-type: none"> <li>• Displays the H (Horizontal)/V (Vertical) frequencies.</li> </ul> Display range Horizontal: 15 - 110 kHz Vertical: 48 - 120 Hz

# Watching TV

## Computer on TV

### Input signal

---

- Signals other than below may not be displayed properly.
- The signals are reformatted for optimal viewing on your display.
- Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz. (However, the image will not be displayed properly if the signals exceed 1,200 lines.)

<b>Input signal</b>	<b>Horizontal frequency (kHz)</b>	<b>Vertical frequency (Hz)</b>
640 x 480 @60	31.47	59.94
852 x 480 @60	31.44	59.89
800 x 600 @60	37.88	60.32
1,024 x 768 @60	48.36	60.00
1,280 x 768 @60	47.78	59.87
1,280 x 1,024 @60	63.98	60.02
1,366 x 768 @60	48.39	60.04

# Internet services "VIERA Connect"

## Connect to network

### Network connections (1)

---

#### **1. Contact your Broadband service provider**

If you don't have Internet service from your local provider, please order a high-speed Internet service at no less than the connection speed below. If you already have this service, make sure that the connection speed exceeds the following:

- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for VIERA Connect.

#### **2. Select wired or wireless connection**

If the Cable/DSL modem is close to the TV and you have only one TV set, you may choose a wired connection.

If the Cable/DSL modem is far from the TV and/or you have more TVs in the house, you may want to use a wireless network.

# Internet services "VIERA Connect"

## Connect to network

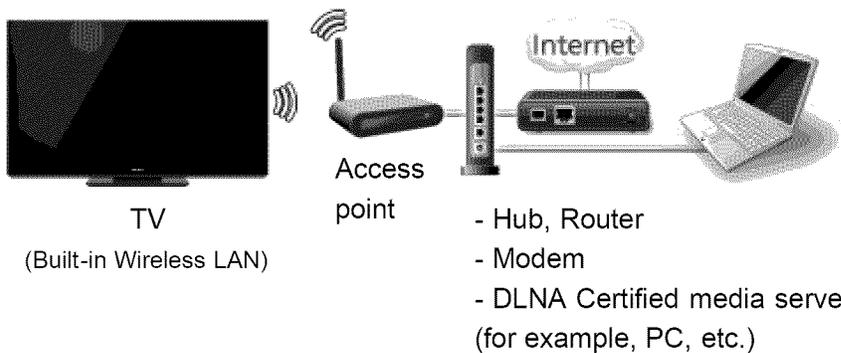
### Network connections (2)

---

### 3. Connecting to the Internet

#### A. Wireless connection

If you are using the network for connecting various pieces of equipment and want to connect the TV, you could also use a Wireless LAN and Access point to connect the TV to the Internet.



- \* To use only DLNA features, you can operate the features without Broadband network environment.  
You can just connect the TV directly to the equipment with a LAN cross cable.

# Internet services "VIERA Connect"

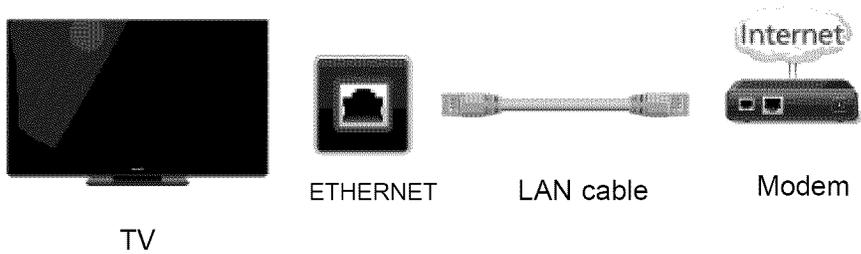
## Connect to network

### Network connections (3)

---

#### B. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet Modem with LAN cable.



# Internet services "VIERA Connect"

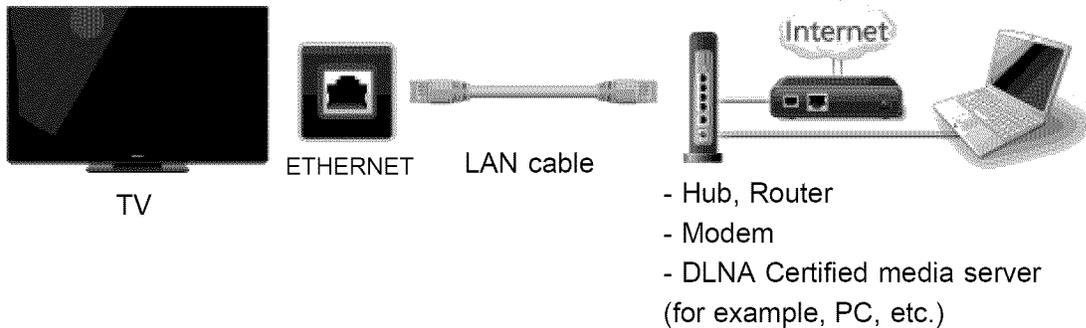
## Connect to network

### Network connections (4)

---

#### C. Wired connection (Using Router)

If you are using the network for connecting various pieces of equipment and want to connect the TV, you should use a router to connect the TV to the Internet with LAN straight cable.



- \* To use only DLNA features, you can operate the features without Broadband network environment.  
You can just connect the TV directly to the equipment with a LAN cross cable.

# Internet services "VIERA Connect"

## Network settings

### Setting menu

---

This menu is used for connecting to a Broadband environment.

#### 1. Display the Menu and select Network

 **MENU** → Menu > Network

Select **Network** using  $\triangle$  /  $\nabla$  from menu bar and press 

#### 2. Select the options and set

(Connection test/Network connection/Wireless network settings/  
IP address/DNS settings/Network link/Software update/  
New software notice/Wake on LAN/Network status)

# Internet services "VIERA Connect"

## Network settings

### Connection test

---

#### ■ **Connection test**

Check that the all Network settings, and then start **Connection test**

- ① Select **Connection test** using  $\triangle / \nabla$  and press   
(It takes a while to cancel the test.)
  - ② Displayed Connection test screen
    - Check mark appears at front of each check item's box when check has been finished successfully.
  - ③ Complete Connection test
    - Success → Completion screen is displayed.
    - Error → Follow the directions on screen to complete the setting.
- If you perform the Proxy settings, check the Proxy address and the Proxy port number.

# Internet services "VIERA Connect"

## Network settings

### Network connection

---

#### ■ Network connection

- ① Select **Network connection** using  $\triangle / \nabla$
- ② Select Network type (**Ethernet cable/Wireless (WiFi)**) with  $\triangleleft / \triangleright$

# Internet services "VIERA Connect"

## Network settings

### Wireless network settings

---

#### ■ **Wireless network settings**

- ① Select **Wireless network settings** with  $\triangle / \nabla$  and press 
- ② Display **Wireless networks** and select access point.  
Or select **connection method** (below) with color key and follow the directions on screen to complete the setting.



#### **WPS (push button):**

You can connect to the access point by pressing a connection button.



#### **WPS (PIN):**

Set the PIN code that is displayed on the TV on the access point.



#### **Manual settings:**

Manually set SSID, security type, and encryption type to match the settings of the access point to which to connect.



#### **Search again:**

Search again an available wireless network within the range.

- \* Wi-Fi Protected Setup is an easy setting of the Wi-Fi Alliance's certification.
- \* For more details on setting of an access point, please refer to operating manual for the access point.
- \* When connecting by 11n (5 GHz), select "AES" as the encryption type for the wireless LAN.

# Internet services "VIERA Connect"

## Network settings

### IP address/DNS settings

---

#### ■ IP address/DNS settings

- ① Select **IP address/DNS settings** using  $\triangle / \nabla$  and press 
- ② Displayed **IP address/DNS settings**
- ③ Select **IP setting mode / DNS setting mode** using  $\triangle / \nabla$  and select **Automatic** with  $\triangleleft / \triangleright$
- ④ Each IP address is acquired automatically

If you are using a Broadband router, IP automatic acquisition in DHCP can be used under normal circumstances. If you are not sure, check with the person who installed the equipment, or check the instructions for each device.

#### ● Manual setting

- ① On ③ above, Select **IP setting mode / DNS setting mode** using  $\triangle / \nabla$  and select **Manual** with  $\triangleleft / \triangleright$
- ② Select the item
- ③ Check the specifications of the Broadband router and enter each IP address.  
Or Enter each IP address as specified by the provider.

# Internet services "VIERA Connect"

## Network settings

### Proxy settings

---

#### ■ **Proxy settings**

Set only if specified by the provider. It is not required for normal household use.

- ① Select **IP address/DNS settings** using  $\triangle / \nabla$  and press 
- ② Select **Proxy setting** using  $\triangle / \nabla$  and press 
- ③ Select the item and press 
- ④ Enter address or port number and press 

#### **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 only required if specified by the provider.

#### **Proxy port**

This number is specified by the provider together with the Proxy address.

# Internet services "VIERA Connect"

## Network settings

### Network link (1)

---

#### ■ **Network link**

- ① Select **Network link** using  $\triangle / \nabla$  and press 
- ② Displayed **Network link**
- ③ Select the item and set

#### ● **Edit the name of this TV**

Sets your favorite name for this TV. This name will be displayed on the screen of the other Network compatible equipment.

- ① Select **VIERA network name** using  $\triangle / \nabla$  and press 
- ② Enter name and press 

#### ● **Enabling DLNA remote control**

Select **DLNA remote control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

#### ● **Volume setting in DMR operation**

Select **DLNA remote volume control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

- Available only when **Enable** is selected in **DLNA remote control** above.

# Internet services "VIERA Connect"

## Network settings

### Network link (2)

---

#### ● Enabling Network remote control

(network device such as a smartphone.)

Select **Network remote control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

# Internet services "VIERA Connect"

## Network settings

### Software update

---

#### ■ Software update

- ① Select **Software update** using  $\triangle / \nabla$  and press 
- ② Press OK to start the Software update screen



- ③ Follow directions on the screen
- Make sure to set **Clock** before the update starts.

# Internet services "VIERA Connect"

## Network settings

### New software notice

---

#### ■ New software notice

Displays new software update information when TV is turned on.

- ① Select **New software notice** using  $\triangle / \nabla$
- ② Switches **Off** or **On** with  $\triangleleft / \triangleright$

# Internet services "VIERA Connect"

## Network settings

### Wake on LAN

---

#### ■ Wake on LAN

This function allows you to turn on the TV when you use **Remote control via IP**.

- ① Select **Wake on LAN** using  $\triangle / \nabla$
- ② Switches **Off** or **ON** with  $\triangleleft / \triangleright$

# Internet services "VIERA Connect"

## Network settings

### Network status

---

#### ■ **Network status**

Displayed Current settings and status screen.

- ① Select **Network status** using  $\triangle / \nabla$  and press 
- ② Display **Network status** screen

\* Displayed items differ depending on the type of network connection.

# Internet services "VIERA Connect"

## How to use

### Operate

---

#### 1. Access to VIERA Connect

 **INTERNET** → **VIERA Connect**



#### 2. Select and Enjoy Internet Service

(example)

Select the desired item using  $\triangle / \nabla / \triangleleft / \triangleright$  and press 

- USB keyboard is available. Set **Keyboard type** in **Setup** menu.  
(Game pad is also available.)

- \* You need a Broadband environment to use this service.
- \* Please confirm **Network connections** and **Network settings** before use this function.
- \* Depending on the usage conditions, it may take a while to download all the data.
- \* Internet services available in VIERA Connect are subject to change without notice.
- \* Not all VIERA Connect contents are available depending on the country and area.
- \* 3D images are not displayed on center of the home screen depending on the signal.
- \* Video communication (e.g. Skype™) requires an exclusive Communication Camera TY-CC20W.

# Home network "DLNA"

## Get started

### Information

---

You can share the contents (Photo, Video, Music etc.) stored in DLNA Certified media server with your home network system.

- Please confirm **Network connection** and **Network menu settings** before use this function.

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](http://www.dlna.org). It allows you to share photos, videos and music stored in the DLNA Certified media server (for example, PC with Windows 7 installed, etc.) connected to your home network, and enjoy the contents on the TV screen.

#### ■ 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" is 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.

# Home network "DLNA"

## Connect to network

### Network connections (1)

---

#### **1. Contact your Broadband service provider**

If you don't have Internet service from your local provider, please order a high-speed Internet service at no less than the connection speed below. If you already have this service, make sure that the connection speed exceeds the following:

- Required speed (effective): at least 1.5 Mbps for SD and 6 Mbps for HD picture quality, respectively.
- Dial-up Internet service cannot be used for VIERA Connect.

#### **2. Select wired or wireless connection**

If the Cable/DSL modem is close to the TV and you have only one TV set, you may choose a wired connection.

If the Cable/DSL modem is far from the TV and/or you have more TVs in the house, you may want to use a wireless network.

# Home network "DLNA"

## Connect to network

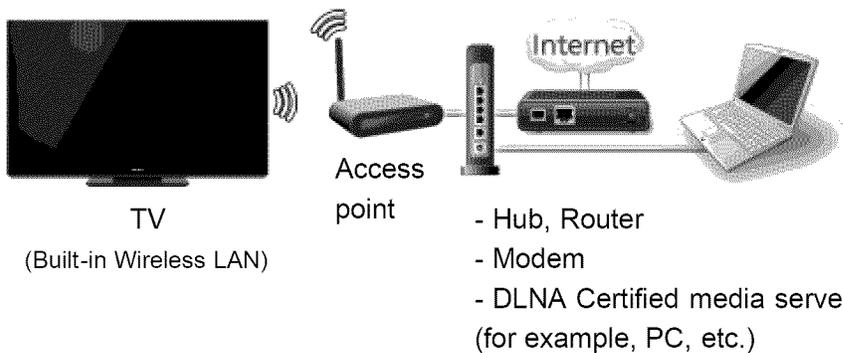
### Network connections (2)

---

### 3. Connecting to the Internet

#### A. Wireless connection

If you are using the network for connecting various pieces of equipment and want to connect the TV, you could also use a Wireless LAN and Access point to connect the TV to the Internet.



- \* To use only DLNA features, you can operate the features without Broadband network environment.  
You can just connect the TV directly to the equipment with a LAN cross cable.

# Home network "DLNA"

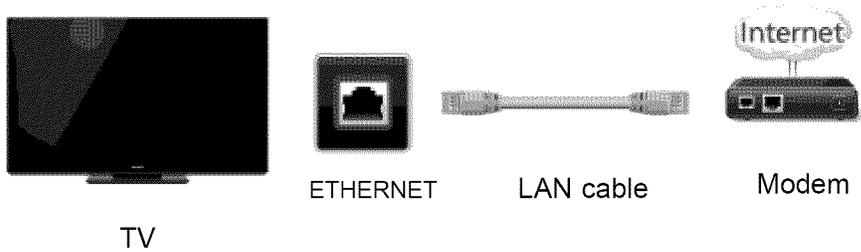
## Connect to network

### Network connections (3)

---

#### B. Wired connection (Directly connected)

If you are not using the network for connecting anything else but the TV, you can just connect the TV directly to the Cable/DSL Ethernet modem with LAN cable.



# Home network "DLNA"

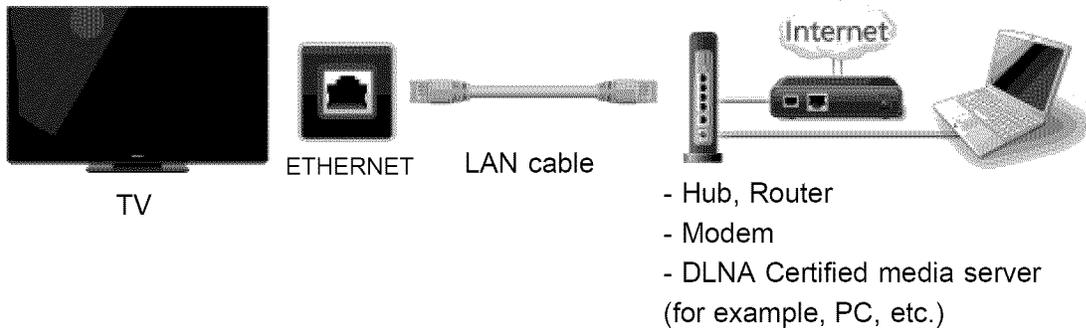
## Connect to network

### Network connections (4)

---

#### C. Wired connection (Using Router)

If you are using the network for connecting various pieces of equipment and want to connect the TV, you should use a router to connect the TV to the Internet with LAN straight cable.



- \* To use only DLNA features, you can operate the features without Broadband network environment.  
You can just connect the TV directly to the equipment with a LAN cross cable.

# Home network "DLNA"

## Network settings

### Setting menu

---

This menu is used for connecting to a Broadband environment.

#### 1. Display the Menu and select Network

 **MENU** → Menu > Network

Select **Network** using  $\triangle$  /  $\nabla$  from menu bar and press 

#### 2. Select the options and set

(Connection test/Network connection/Wireless network settings/  
IP address/DNS settings/Network link/Software update/  
New software notice/Wake on LAN/Network status)

# Home network "DLNA"

## Network settings

### Connection test

---

#### ■ **Connection test**

Check that the all Network settings, and then start **Connection test**

- ① Select **Connection test** using  $\triangle / \nabla$  and press   
(It takes a while to cancel the test.)
  - ② Displayed Connection test screen
    - Check mark appears at front of each check item's box when check has been finished successfully.
  - ③ Complete Connection test
    - Success → Completion screen is displayed.
    - Error → Follow the directions on screen to complete the setting.
- If you perform the Proxy settings, check the Proxy address and the Proxy port number.

# Home network "DLNA"

## Network settings

### Network connection

---

#### ■ Network connection

- ① Select **Network connection** using  $\triangle / \nabla$
- ② Select Network type (**Ethernet cable/Wireless (WiFi)**) with  $\triangleleft / \triangleright$

# Home network "DLNA"

## Network settings

### Wireless network settings

---

#### ■ Wireless network settings

- ① Select **Wireless network settings** with  $\triangle / \nabla$  and press 
- ② Display **Wireless networks** and select access point.  
Or select **connection method** (below) with color key and follow the directions on screen to complete the setting.



#### **WPS (push button):**

You can connect to the access point by pressing a connection button.



#### **WPS (PIN):**

Set the PIN code that is displayed on the TV on the access point.



#### **Manual settings:**

Manually set SSID, security type, and encryption type to match the settings of the access point to which to connect.



#### **Search again:**

Search again an available wireless network within the range.

- \* Wi-Fi Protected Setup is an easy setting of the Wi-Fi Alliance's certification.
- \* For more details on setting of an access point, please refer to operating manual for the access point.
- \* When connecting by 11n (5 GHz), select "AES" as the encryption type for the wireless LAN.

# Home network "DLNA"

## Network settings

### IP address/DNS settings

---

#### ■ IP address/DNS settings

- ① Select **IP address/DNS settings** using  $\triangle / \nabla$  and press 
- ② Displayed **IP address/DNS settings**
- ③ Select **IP setting mode / DNS setting mode** using  $\triangle / \nabla$  and select **Automatic** with  $\triangleleft / \triangleright$
- ④ Each IP address is acquired automatically

If you are using a Broadband router, IP automatic acquisition in DHCP can be used under normal circumstances. If you are not sure, check with the person who installed the equipment, or check the instructions for each device.

#### ● Manual setting

- ① On ③ above, Select **IP setting mode / DNS setting mode** using  $\triangle / \nabla$  and select **Manual** with  $\triangleleft / \triangleright$
- ② Select the item
- ③ Check the specifications of the Broadband router and enter each IP address.  
Or Enter each IP address as specified by the provider.

# Home network "DLNA"

## Network settings

### Proxy settings

---

#### ■ **Proxy settings**

Set only if specified by the provider. It is not required for normal household use.

- ① Select **IP address/DNS settings** using  $\triangle$  /  $\nabla$  and press 
- ② Select **Proxy setting** using  $\triangle$  /  $\nabla$  and press 
- ③ Select the item and press 
- ④ Enter address or port number and press 

#### **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 only required if specified by the provider.

#### **Proxy port**

This number is specified by the provider together with the Proxy address.

# Home network "DLNA"

## Network settings

### Network link (1)

---

#### ■ **Network link**

- ① Select **Network link** using  $\triangle / \nabla$  and press 
- ② Displayed **Network link**
- ③ Select the item and set

#### ● **Edit the name of this TV**

Sets your favorite name for this TV. This name will be displayed on the screen of the other Network compatible equipment.

- ① Select **VIERA network name** using  $\triangle / \nabla$  and press 
- ② Enter name and press 

#### ● **Enabling DLNA remote control**

Select **DLNA remote control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

#### ● **Volume setting in DMR operation**

Select **DLNA remote volume control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

- Available only when **Enable** is selected in **DLNA remote control** above.

# Home network "DLNA"

## Network settings

### Network link (2)

---

#### ● Enabling Network remote control

(network device such as a smartphone.)

Select **Network remote control** using  $\triangle / \nabla$  and switches **Disable** or **Enable** with  $\triangleleft / \triangleright$

# Home network "DLNA"

## Network settings

### Software update

---

#### ■ Software update

① Select **Software update** using  $\triangle / \nabla$  and press 

② Press OK to start the Software update screen

  → **Software update**

③ Follow directions on the screen

- Make sure to set **Clock** before the update starts.

# Home network "DLNA"

## Network settings

### New software notice

---

#### ■ New software notice

Displays new software update information when TV is turned on.

- ① Select **New software notice** using  $\triangle / \nabla$
- ② Switches **Off** or **On** with  $\triangleleft / \triangleright$

# Home network "DLNA"

## Network settings

### Wake on LAN

---

#### ■ Wake on LAN

This function allows you to turn on the TV when you use **Remote control via IP**.

- ① Select **Wake on LAN** using  $\triangle / \nabla$
- ② Switches **Off** or **ON** with  $\triangleleft / \triangleright$

# Home network "DLNA"

## Network settings

### Network status

---

#### ■ **Network status**

Displayed Current settings and status screen.

- ① Select **Network status** using  $\triangle / \nabla$  and press 
- ② Display **Network status** screen

\* Displayed items differ depending on the type of network connection.

# Home network "DLNA"

## Photos

### Viewing Photos

---

#### 1. Display VIERA TOOLS



#### 2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press **OK**

#### 3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press **OK**

#### 4. Select photo (Thumbnail and Contents type are displayed ).

Select desired content using ▲ / ▼ from file list and press **OK**

#### 5. View

Follow the Navigation and guide to operate.

\* Displayed navigation and guide will be different depending on data type.

# Home network "DLNA"

## Photos

### Photo view

---

#### ■ **Thumbnail view**



→ Display **Slideshow settings**

**INFO**

→ Information panel (File name, Date, and Size etc.)  
\* Information differs depending on selected data.

#### ■ **Playback screen**



**INFO**

→ Display/hide Guide and Banner

Photo status: Shows current photo status



2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

- \* In DMR mode, Slideshow is not available.
- \* In DMR mode, OK/Next/Prev. are not available.

# Home network "DLNA"

## Photos

### Options menu

---

In Photo view, some optional menus are available pressing **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Slideshow settings)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Home network "DLNA"

## Photos

### Using slideshow

---

#### 1. Display Slideshow settings

  → Slideshow settings

#### 2. Adjust items

Select the item by  $\Delta$  /  $\nabla$  and adjust the settings using  $\triangleleft$  /  $\triangleright$

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

#### 3. Start Slideshow

After adjusting each setting, select **Start slideshow** with  $\Delta$  /  $\nabla$  and press 

 **RETURN** → Stop in mid-cycle

# Home network "DLNA"

## Photos

### Slideshow settings

---

Item	Description
<b>Transition effect</b>	Select the Transition effect shown between photos. ( <b>Off</b> / <b>Fade in</b> / <b>Wipe</b> ↓ / <b>Wipe</b> ↑ / <b>Wipe</b> → / <b>Wipe</b> ← / <b>Slide in</b> ↓ / <b>Slide in</b> ↑ / <b>Slide in</b> → / <b>Slide in</b> ← / <b>Zoom in</b> / <b>Comb</b> ↑ ↓ / <b>Comb</b> → ← / <b>Dissolve</b> / <b>Checker wipe</b> / <b>Motion</b> / <b>Random</b> )
<b>Display interval</b>	<b>Display interval</b> sets the time each image is displayed in the Slideshow mode. ( <b>Short</b> / <b>Fast</b> / <b>Normal</b> / <b>Slow</b> / <b>Very slow</b> )
<b>Repeat playback</b>	Turn the Slideshow Repeat (cycle) function on or off. ( <b>Off</b> / <b>On</b> )
<b>Soundtrack settings</b>	Select the music. ( <b>Off</b> / <b>Music 1</b> / <b>Music 2</b> / <b>Music 3</b> / <b>Music 4</b> / <b>Music 5</b> )

# Home network "DLNA"

## Videos

### Viewing Videos

---

#### 1. Display VIERA TOOLS



#### 2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press 

#### 3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press 

#### 4. Select video (Thumbnail and Contents type are displayed ).

Select desired content using ▲ / ▼ from file list and press 

#### 5. Play

Follow the Navigation and guide to operate.

\* Displayed navigation and guide will be different depending on data type.

# Home network "DLNA"

## Videos

### Video view

---

#### ■ **Thumbnail view**



**INFO**

→ Information panel (File name, Date, and Size etc.)  
\* Information differs depending on selected data.

#### ■ **Playback screen**



**INFO**

→ Display/hide Guide and Banner

Movie banner: Shows current Video status

(Drive type (SD/USB/DLNA), Date and time or File name and Elapsed time.)

2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

\* In DMR mode, Next skip/Prev. skip are not available.

- Forward/Reverse: Five level of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

- In DMR mode, Resume playback is not available
- Subtitles are not supported in MKV format.

# Home network "DLNA"

## Videos

### Options menu

---

In Video view, some optional menus are available pressing **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Video options)

##### ● **Repeat playback**

Set play repeat function (**Off/On**)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Home network "DLNA"

## Music

### Playing Music

---

#### 1. Display VIERA TOOLS



#### 2. Display DLNA server

Select **DLNA** using ◀ / ▶ and press 

#### 3. Select server (Available DLNA servers are displayed).

Select desired server using ▲ / ▼ from DLNA server list and press 

#### 4. Select music (Thumbnail and Contents type are displayed ).

Select desired content using ▲ / ▼ from file list and press 

#### 5. Play

Follow the Navigation and guide to operate.

\* Displayed navigation and guide will be different depending on data type.

# Home network "DLNA"

## Music

### Music view

---

#### ■ **Thumbnail view**



**INFO**



Information panel (File name, Date, and Size etc.)

\* Information differs depending on selected data.

#### ■ **Playback screen**



**INFO**



Display/hide Guide and Banner

Music Guide: Shows current Music status

(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

\* In DMR mode, Next skip/Prev. skip/User BGM settings are not available.

# Home network "DLNA"

## Music

### Options menu

---

In Music view, some optional menus are available pressing **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Music options)

##### ● **Repeat playback**

Set play repeat function (**Off/Repeat folder/One song**)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Home network "DLNA"

## Data information

### Compatible Data format (1)

---

#### ■ Compatible Data format for Media player (SD card/USB flash memory)/DLNA

Media	Compatible format
Photo	<ul style="list-style-type: none"><li>• JPEG files (DCF and EXIF standards) Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels</li></ul>

# Home network "DLNA"

## Data information

### Compatible Data format (2)

Media	Compatible format
Videos	<ul style="list-style-type: none"> <li>• SD-Video files (SD-Video Standard Ver.1.31) Modified data with a PC may not be displayed correctly.</li> <li>• AVCHD files AVCHD Standard Ver.2.0 (AVCHD 3D, AVCHD Progressive) Modified data with a PC may not be displayed correctly.</li> <li>• MotionJPEG files (taken with LUMIX)*</li> <li>• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3</li> <li>• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3</li> <li>• FLV files Video codec H.264 Audio codec MP3/AAC</li> <li>• 3GPP files Video codec H.264/MPEG1/MPEG2 Audio codec AAC/HE-AAC</li> <li>• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM</li> <li>• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/E-AC3</li> </ul>

\* for Media player only

# Home network "DLNA"

## Data information

### Compatible Data format (3)

---

Media	Compatible format
Music	<ul style="list-style-type: none"><li>• MP3 files (MP3)</li><li>• AAC files (AAC)</li><li>• FLAC files (FLAC)</li></ul>

# Home network "DLNA"

## Data information

### Notice

---

- Format the card with the recording equipment.
- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- 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.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the SD card and USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- The card may become unusable with this TV if file or folder names are changed.
- For the suitable SD Memory Cards, please confirm the latest information on the following website.  
<http://panasonic.jp/support/global/cs> (This site is in English only)

# Media player

## Get started

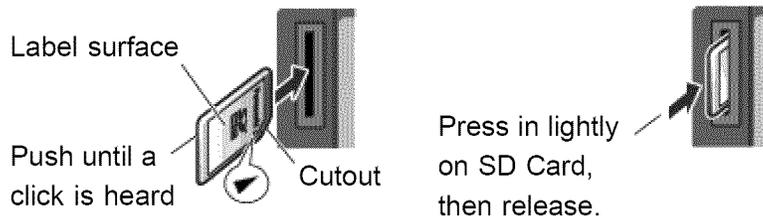
### Information

---

You can view still and motion images and play music saved on a USB flash memory and an SD card.

#### ■ **SD card**

- When you use an SD card, gently insert with label surface facing front.
- When you remove the SD card, press in lightly then release.



- Compliant card type (maximum capacity):  
SDXC Card (64 GB), SDHC Card (32 GB), microSDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB), microSD Card (2 GB)  
(requiring microSDHC Card/miniSD Card/microSD Card/ adapter)
- If a microSDHC Card, miniSD Card or microSD Card is used, insert / remove it together with the adapter.

#### ■ **USB flash memory**

- When you use a USB device, insert straight in and pull straight out.
- Media player only supports USB Mass storage class devices.

# Media player

## Get started

### Media warning messages

---

Message	Meaning
No media. Please insert an SD memory card or USB storage device.	<ul style="list-style-type: none"><li>• The device is not inserted.</li></ul>
No media. Device removed.	<ul style="list-style-type: none"><li>• The device is removed.</li></ul>
No photos/No movies/ No music files to play/ No playable media	<ul style="list-style-type: none"><li>• The device has no data or this type of data is not supported.</li></ul>
Cannot read file	<ul style="list-style-type: none"><li>• The file is broken or unreadable.</li><li>• The TV does not support the format.</li></ul>

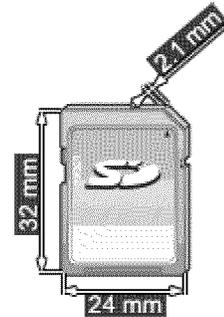
# Media player

## Get started

### SD card handling cautions

---

- Use an SD Card meeting SD standards. If not, it may cause the TV to malfunction.
- Do not remove the card while the unit is accessing data (this can damage card or unit).
- Do not touch the terminals on the back of the card.
- Do not subject the card to high pressure or impact.
- Insert the card in the correct direction (otherwise, card or unit may be damaged).
- Electrical interference, static electricity or erroneous operation may damage the data or card.
- Back up the recorded data at regular intervals in case of deteriorated or damaged data or erratic operation of the unit. (Panasonic is not liable for any deterioration or damage of recorded data.)



# Media player

## Photos

### Viewing Photos

---

#### 1. Insert Media (SD card or USB flash memory)

#### 2. Display Media player

 **VIERA TOOLS** → **VIERA TOOLS > Media player**

#### 3. Select the SD/USB in Drive select (Displays connected drive)

Select the drive using ◀ / ▶ and press 

#### 4. Select the Photos in Media select

Select the drive using ◀ / ▶ and press 

#### 5. Select the photo in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

\* How data is displayed differs depending on data storage conditions.

#### 6. View

Follow the Navigation and guide to operate.

\* Displayed navigation and guide may differ depending on data type.

#### ■ Other settings

Some basic menus are available after pressing the **MENU** button.

 **MENU** → **Menu > Picture/Audio/3D settings/VIERA Link**

# Media player

## Photos

### Photo view

---

#### ■ **Thumbnail view**



→ Display **Slideshow settings**



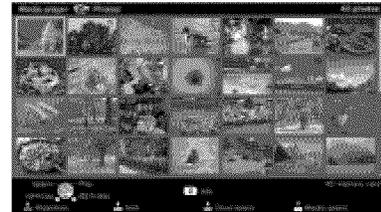
→ Display **Sort**



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)  
\* Information differs depending on selected data.

#### ■ **Playback screen**



→ Display/hide Guide and Banner

Photo status: Shows current photo status



2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

# Media player

## Photos

### Sort the photos

---

#### 1. Display Sort select menu

  → **Sort select menu** (Folders / Sort by date / Sort by month)

#### 2. Select the sort type

Select the type using  $\triangle$  /  $\nabla$  and press 

#### 3. Displayed each screen

Folders: ascending order of numeric/alphabetical

Sort by month: ascending order of the month

Sort by date: ascending order of the day

# Media player

## Photos

### Options menu

---

In Photo view, some optional menus are available after pressing the **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Slideshow settings/Multi shot 3D/Thumbnails size)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Media player

## Photos

### Multi shot 3D / Thumbnails size

---

#### ■ Multi shot 3D

3D images can be created by selecting 2 photos in thumbnail view.

- ① Select first photo using ◀ / ▶ / ▲ / ▼ and press 
- ② Select second photo using ◀ / ▶ / ▲ / ▼ and press 
  - To select the second image, the size and date must be the same as the first image.  
 and  are displayed at the top left-hand corner of selected photos.
- ③ Start Conversion processing by pressing   
Conversion processing message will be displayed.
  - Error message will be displayed if first and second picture have no relation, or for other reasons. (e.g. size / date is different)
- ④ 3D photo is created
- ⑤ Save the 3D image generated by the above steps to the original drive.



→ Confirmation message will be displayed and select **Yes** to save the data. (SD card only)

#### ■ Thumbnails size

To change the number of photos on a thumbnail screen at a time.

(7 x 4 ↔ 10 x 6)

# Media player

## Photos

### Using slideshow

---

#### 1. Display Slideshow settings

  → Slideshow settings

#### 2. Adjust items

Select the item by  $\triangle / \nabla$  and adjust the settings using  $\triangleleft / \triangleright$

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

#### 3. Start Slideshow

After adjusting each of the settings, select **Start slideshow** with  $\triangle / \nabla$  and press 

 **RETURN** → Stop in mid-cycle

# Media player

## Photos

### Slideshow settings

Item	Description
Frame	Select the Frame. ( <b>Off/Array/Collage/Drift (with calendar)/Drift/Gallery (with calendar) / Gallery / Cinema</b> )
Photo effect	Select the display effect. ( <b>Off/Sepia/Gray scale</b> )
Transition effect	Select the Transition effect shown between photos. ( <b>Off/Fade in/Wipe ↓ /Wipe ↑ /Wipe → /Wipe ← / Slide in ↓ /Slide in ↑ /Slide in → /Slide in ← / Zoom in/Comb ↑ ↓ /Comb → ← /Dissolve/ Checker wipe/Motion/Random</b> )
Photo size	Removes the black borders that are added according to the size of the photo being displayed. ( <b>Normal/Zoom</b> )
Burst playback	Continuously plays photos that were shot. ( <b>Off/On</b> )
Display interval	<b>Display interval</b> sets the time each image is displayed in the Slideshow mode. ( <b>Short/Fast/Normal/Slow/Very slow</b> )
Repeat playback	Turn the Slideshow Repeat (cycle) function on or off. ( <b>Off/On</b> )
Soundtrack settings	Select the music. ( <b>Off/Music 1/Music 2/Music 3/Music 4/Music 5/ User selected/Auto</b> ) <b>User selected:</b> Plays the soundtrack registered in the <b>Soundtrack settings</b> menu. <b>Auto:</b> Plays the songs on the SD card or USB flash memory.

# Media player

## Photos

### Soundtrack settings

---

You can register the favorite songs as soundtracks

- ① Select **Soundtrack settings** in **Slideshow settings** using  $\triangle / \nabla$
- ② Select **User selected** using  $\triangle / \nabla$
- ③ Displays **Soundtrack** popup menu, then select the desired song with  $\triangle / \nabla$  and press **OK** to register

**This song:** Register current music

**All songs in folder:** Register the music in a folder

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

# Media player

## Videos

### Viewing Videos

---

#### 1. Insert Media (SD card or USB flash memory)

#### 2. Display Media player

 **VIERA TOOLS** → **VIERA TOOLS > Media player**

#### 3. Select the SD/USB in Drive select (Displays connected drive)

Select the drive using ◀ / ▶ and press 

#### 4. Select the Videos in Media select

Select the drive using ◀ / ▶ and press 

#### 5. Select the video in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

\* How data is displayed differs depending on data storage conditions.

#### 6. Play

Follow the Navigation and guide to operate.

\* Displayed navigation and guide will be different depending on data type.

#### ■ Other settings

Some basic menus are available after pressing the **MENU** button.

 **MENU** → Menu > Picture/Audio/3D settings/VIERA Link

# Media player

## Videos

### Video view

---

#### ■ **Thumbnail view**



→ Play the video



→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)

\*Information differs depending on selected data.



#### ■ **Playback screen**



→ Display/hide Guide and Banner

Movie banner: Shows current Video status

(Drive type (SD/USB/DLNA), Date and time or File name and Elapsed time.)

2D/3D status: Shows current 2D/3D status

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

\* Subtitles are not supported in MKV format.

# Media player

## Videos

### Options menu

---

In Video view, some optional menus are available by pressing the **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Video options)

##### ● **Repeat playback**

Set play repeat function (**On/Off**)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Media player

## Music

### Playing Music

---

#### 1. Insert Media (SD card or USB flash memory)

#### 2. Display Media player

 **VIERA TOOLS** → **VIERA TOOLS > Media player**

#### 3. Select the SD/USB in Drive select (Displays connected drive)

Select the drive using ◀ / ▶ and press 

#### 4. Select the Music in Media select

Select the drive using ◀ / ▶ and press 

#### 5. Select the music in thumbnail view

Select the data using ◀ / ▶ / ▲ / ▼ and 

\* How data is displayed differs depending on data storage conditions.

#### 6. Play

Follow the Navigation and guide to operate.

\* Displayed navigation and guide will be different depending on data type.

#### ■ Other settings

Some basic menus are available by pressing the **MENU** button.

 **MENU** → **Menu > Picture/Audio/3D settings/VIERA Link**

# Media player

## Music

### Music view

---

#### ■ Thumbnail view



→ Play folder



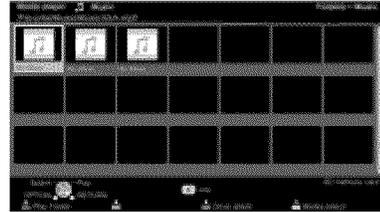
→ Display **Drive select**



→ Display **Media select**



→ Information panel (File name, Date, and Size etc.)  
\* Information differs depending on selected data.



#### ■ Playback screen



→ Display/hide Guide and Banner

Music Guide: Shows current Music status

(Artist name/Album name/Song name, Elapsed time)

Navigation Guide: Shows available functions.

- Forward/Reverse: Five levels of speed 1 to 5 (x2, x5, x30, x70, x100) are available.

# Media player

## Music

### Options menu

---

#### ■ Music options

In Music view, some optional menus are available by pressing the **OPTION** button.

#### 1. Display Options menu

 **OPTION** → Options menu

#### 2. Select the item

Select the desired menu using  $\triangle$  /  $\nabla$  and press 

(Music options)

#### ● Repeat playback

Set play repeat function (**Off/Repeat folder/One song**)

\* Available menus are displayed on **Options menu** depending on data condition and situation.

# Media player

## Data information

### Compatible Data format (1)

---

#### ■ Compatible Data format for Media player (SD card/USB flash memory)/DLNA

Media	Compatible format
Photo	<ul style="list-style-type: none"><li>• JPEG files (DCF and EXIF standards)</li></ul> Sub-sampling - 4:4:4, 4:2:2 and 4:2:0 Image resolution - 8 x 8 to 30,719 x 17,279 pixels

# Media player

## Data information

### Compatible Data format (2)

Media	Compatible format
Videos	<ul style="list-style-type: none"> <li>• SD-Video files (SD-Video Standard Ver.1.31) Modified data with a PC may not be displayed correctly.</li> <li>• AVCHD files AVCHD Standard Ver.2.0 (AVCHD 3D, AVCHD Progressive) Modified data with a PC may not be displayed correctly.</li> <li>• MotionJPEG files (taken with LUMIX)*</li> <li>• MP4 files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3</li> <li>• MKV files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3/AAC/HE-AAC/AC3/E-AC3</li> <li>• FLV files Video codec H.264 Audio codec MP3/AAC</li> <li>• 3GPP files Video codec H.264/MPEG1/MPEG2 Audio codec AAC/HE-AAC</li> <li>• PS files Video codec H.264*/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC*/HE-AAC*/AC3/ E-AC3*/LPCM</li> <li>• TS files Video codec H.264/MPEG1/MPEG2 Audio codec MPEG Audio/MP3*/AAC/HE-AAC/AC3/E-AC3</li> </ul>

\* for Media player only

# Media player

## Data information

### Compatible Data format (3)

---

Media	Compatible format
Music	<ul style="list-style-type: none"><li>• MP3 files (MP3)</li><li>• AAC files (AAC)</li><li>• FLAC files (FLAC)</li></ul>

# Media player

## Data information

### Notice

---

- Format the card with the recording equipment.
- The picture may not appear correctly on this TV depending on the recording equipment used.
- Some files may not be played back even if they fulfill these conditions.
- 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.
- The function cannot display still images that are not DCF formatted (i.e. TIFF, BMP).
- Data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF 2.0, 2.1 and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- All ".JPG" extension data in the SD card and USB flash memory will be read in Photo Viewer Mode.
- The folder and file names may be different depending on the digital camera used.
- Do not use two-byte characters or other special codes.
- The card may become unusable with this TV if file or folder names are changed.
- For the suitable SD Memory Cards, please confirm the latest information on the following website.  
<http://panasonic.jp/support/global/cs> (This site is in English only)