Thank you for purchasing this Panasonic product. Please read these instructions before operating your set and retain them for future reference. The images shown in this manual are for illustrative purposes only.

English
Experience an amazing level of multimedia excitement

Receive digital terrestrial services using an integrated Digital TV tuner
Sharp pictures with HDMI terminal
Create home theatre and DVD recorder link-ups with “VIERA Link”
without complicated settings!

Enjoy rich multimedia

Notice about Digital TV Functions
- The MPEG-4 AVC feature was designed to specifications as we know them today. This specification may be subject to future changes beyond our control that may not guarantee the decoding of such services.

February 2010

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.mpegla.com.
Standard accessories
Check that you have the accessories and items shown.

☐ Remote Control  ● N2QAYB000494
☐ Pedestal  ➔ p. 6
☐ Batteries for the Remote Control (2) ● R6 (AA)
☐ Fall-prevention parts  ➔ p. 7
☐ Operating Instructions with Warranty statement

Caution
- This product contains possibly dangerous parts (such as plastic bags), which can be breathed in or swallowed by young children accidentally. Keep these parts out of reach of young children.

Inserting and removing remote’s batteries

1. Open
2. Hook
3. Close

Note the correct polarity (+ or -)

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 breakup batteries. Batteries must not be exposed to excessive heat such as sunshine, fire or the like.
- Do not disassemble or modify the remote control.

Contents
Be sure to Read
- Safety Precautions  ➔ 4
  (Warning / Important Installation Notices)

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Safety Precautions

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.
- Do not touch the mains plug with a wet hand. (This may cause electrical shock.)
- Do not damage the mains lead. (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 lead.
  - Do not use a damaged mains plug or socket outlet.

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

AC 220 - 240 V
50 / 60 Hz

Power source / Installation
- This TV is designed for:
  - AC 220 - 240 V, 50 / 60 Hz
  - Indoor use
  - Table-top use

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 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 expose to direct sunlight and other sources of heat
- Avoid exposing the TV to direct sunlight and other sources of heat. To prevent fire never place any type of candle or naked flame on top or near 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
- 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. 6) / wall-hanging brackets (p. 7).

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.
Important Installation Notices

- **Install the TV on a stable surface**
  - If a television is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:
    - Using cabinets or stands recommended by the manufacturer of the television.
    - Only using furniture that can safely support the television.
    - Ensuring the television is not overhanging the edge of the supporting furniture.
    - Not placing the television on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television to a suitable support.
    - Not standing the televisions on cloth or other materials placed between the television and supporting furniture.
    - Educating children about the dangers of climbing on furniture to reach the television or its controls.

- **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**

- **Allow sufficient space around the TV for radiated heat**
  - When using the pedestal, keep a 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 apply strong force or impact to the display panel**
  - This may cause damage resulting in injury.

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

- **Auto power standby function**
  - If no signal is received and no operation is performed in Analogue TV mode for 30 minutes, the TV will automatically go to standby mode.

- **Keep the TV away from these types of equipment**
  - Electronic equipment
    - In particular, do not place video equipment near the TV. Electromagnetic interference may distort images / sound.
  - Equipment with an infrared sensor
    - This TV also emits infrared rays. This may affect operation of other equipment.

Tilt the LCD panel to your desired angle

- Ensure that the pedestal does not wobble and the TV does not fall over when adjusting the panel.
Accessories / Options

Attaching 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 the pedestal for any other TV or displays.
- Otherwise the TV or the display 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 nearest 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.

---

**Securing the TV**
Insert the Base \( B \) into the TV, and then fasten securely with the assembly screws \( A \).
- Make sure that the screws are securely tightened.

---

**Assembly screws (3)**

**Base (1)**

---

Foam mat or thick soft cloth
Preventing the TV from falling over

This TV could fall over if it is pushed, pulled or knocked down. We therefore recommend the TV is secured to the furniture as illustrated.

- This measure is designed to reduce the risk of injury from a falling TV. However, it cannot guarantee protection in all cases.

**Fall-prevention parts**

<table>
<thead>
<tr>
<th>A</th>
<th>Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Screw</td>
</tr>
<tr>
<td>C</td>
<td>Wood screw</td>
</tr>
</tbody>
</table>

Securing to a furniture

Fix pedestal and furniture together with band.

Optional accessories

Please contact your nearest Panasonic dealer to purchase the recommended wall-hanging bracket. For additional details, please refer to the wall-hanging bracket installation manual.

Wall-hanging bracket
- TY-WK23LR2W

Back of the TV

- 100 mm

Holes for wall-hanging bracket installation

**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 licenced contractor to secure the wall-hanging brackets. Any damage caused by installing without a qualified installer will void your warranty.
- Do not mount the unit directly below ceiling lights (such as spotlights, floodlights or halogen lights) which typically give off high heat. Doing so may warp or damage plastic cabinet parts.
- 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.
Basic Connection

External equipment and cables shown are not supplied with this TV. Please ensure that the TV is disconnected from the mains socket before attaching or disconnecting any leads.

Connecting the aerial

TV only

![Diagram of TV connections]

- Mains lead
- Aerial
- RF cable

**Rear of the TV**

**Note**

- Do not put the RF cable close to the mains lead to avoid noise.
- Do not place the RF cable under the TV.
- To obtain optimum quality picture and sound, an aerial, the correct cable (75 Ω coaxial) and the correct terminating plug are required.
- If a communal aerial system is used, you may require the correct connection cable and plug between the wall aerial socket and the TV.
- Your local Television Service Centre or dealer may be able to assist you in obtaining the correct aerial system for your particular area and the accessories required.
- Any matters regarding aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the Customer.
- VIERA Link connection  p. 42
- Read the manual of the equipment, too.
- Another equipment connection  p. 48, 49

If the antenna is placed in the wrong location, interference might happen.
Connecting DVD Recorder / VCR

TV, DVD Recorder or VCR

Rear of the TV

AC 220 - 240 V, 50 / 60 Hz

Connecting DVD Recorder / VCR

Rear of the TV

Mains lead

Antenna

AC 220 - 240 V, 50 / 60 Hz

RCA cable

RF cable

RF OUT

RF IN

VIDEO OUT

AUDIO OUT

DVD Recorder or VCR

Connecting DVD Recorder / VCR

Rear of the TV

Mains lead

Antenna

AC 220 - 240 V, 50 / 60 Hz

RCA cable

RF cable

RF OUT

RF IN

VIDEO OUT

AUDIO OUT

DVD Recorder or VCR
Identifying Controls

Remote control

1 Standby On / Off switch
- Switches TV On or Off standby

2 Aspect (p. 15)
- Changes aspect ratio from Aspect Selection list
- Also possible by pressing this button repeatedly until you reach the desired aspect

3 Main Menu (p. 22)
- Press to access Picture, Sound and Setup Menus

4 Channel / Programme Information (p. 14)
- Displays channel and programme information

5 VIERA TOOLS (p. 21)
- Displays some special feature icons and accesses easily

6 VIERA Link (p. 41)
- Accesses VIERA Link Menu

7 OK
- Confirms selections and choices
- Press after selecting channel positions to quickly change programme

8 Option Menu (p. 14)
- Easy setting for viewing and sound options

9 Teletext (p. 17)
- Switches to teletext mode

10 Subtitles (p. 13)
- Displays subtitles

11 Numeric buttons
- Changes channel and teletext pages
- When in Standby mode, switches TV On

12 Sound Mute
- Switches sound mute On or Off

13 Volume Up / Down

14 SD Card (p. 36)
- Switches to Media Player viewing / listening mode

15 Input mode selection
- TV - switches Digital TV / Analogue TV mode (p. 13)
- AV - switches to AV input mode from Input Selection list (p. 19)

16 Off Timer (p. 13)
- Sets the time the TV automatically turns off

17 Stereo / Bilingual Sound Selection (p. 50)
- Changes the sound track when more than two choices are available (Digital TV mode) (p. 14)

18 Exit
- Returns to the normal viewing screen

19 Guide (p. 16)
- Displays TV Guide

20 Cursor buttons
- Makes selections and adjustments

21 Return
- Returns to the previous menu / page

22 Coloured buttons
- Used for the selection, navigation and operation of various functions

23 Hold
- Freeze / unfreeze picture (p. 13)
- Holds the current teletext page (teletext mode) (p. 17)

24 Index (p. 17)
- Returns to the teletext index page (teletext mode)

25 Surround (p. 25)
- Switches surround sound setting

26 Channel Up / Down
- Selects channel in sequence

27 Connected equipment operations (p. 20)
Identifying Controls

Quick Start Guide

SD CARD

1 SD card slot
2 Headphone jack
3 Remote control signal receiver
   ● Do not place any objects between the TV remote control signal receiver and remote control

4 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" (p. 24)

5 Power LED
   ● Standby: red On: green
   ● When using the remote control, indicates the TV has received a command.

6 Mains power On / Off switch
   ● Switch On to turn on the TV or turn the TV to Standby mode by the remote control

7 Function Select
   ● Volume / Backlight / Contrast / Brightness / Colour / Sharpness / Tint (NTSC mode) / Bass (“Music” or “Speech” mode in the Sound Menu) / Treble (“Music” or “Speech” mode in the Sound Menu) / Balance / “Digital TV Auto Tuning” or “Analogue TV Auto Tuning” (p. 24 - 26)

8 Increases or decreases the channel position by one. When a function is already displayed, press to increase or decrease the selected function. When in standby mode, switches TV on.

9 Changes the input mode

Using the On Screen Displays

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

Example (Sound Menu):

How to use remote control

- **MENU**: Open the Main Menu
- **** Move the cursor / select the menu item
- **** Move the cursor / adjust levels / select from a range of options
- **** Access the menu / store settings after adjustments have been made or options have been set
- **RETURN**: Return to the previous menu
- **EXIT**: Exit the menu system and return to the normal viewing screen
Auto Tuning

Search and store TV channels automatically. These steps are not necessary if the setup has been completed by your local dealer.

1. Plug the TV into mains socket and switch On
   - You can now use the remote control to turn On the TV or switch the TV to standby mode. (Power LED: On)

2. Select your area
   - Select State / Territory
     - New South Wales / Australian Capital Territory
     - Victoria
     - Queensland
     - South Australia
     - Western Australia
     - Northern Territory
     - Tasmania

3. Select Auto Scan Type
   - Auto Scan Type
     - All Channels
     - Digital TV Channels only

   Auto Tuning starts
   - Auto Tuning will start to search for TV channels and store them. The sorted channel order depends upon the TV signal, the broadcasting system and reception conditions.

4. Select “Home”
   - Please select your viewing environment.
     - Home
     - Shop

Auto Tuning is complete

*Viewing environment mode
Home : Recommended mode for viewing at home. Select “Home” for optimal picture / power consumption. “Viewing Mode” is set as “Normal” (p. 24).
Shop : Demonstration mode to explain main features of this TV (for in-store display). “Viewing Mode” is set as “Dynamic” (p. 24).

To return to viewing environment selection mode if you selected “Shop”

- To change the viewing environment mode later on, reset all settings by accessing Shipping Condition. ⇒ “Shipping Condition” (p. 34)
Watching TV

1 Turn power on
   - Mains power On / Off switch should be On (p. 11).

2 Select Digital TV or Analogue TV mode
   - Also possible to select the mode by pressing the TV button repeatedly on the remote control or side panel of the TV. (p. 11).

   The selected mode is displayed.
   - For details ⇒ p. 33

   Information banner appears whenever you select a channel
   - For details ⇒ p. 14

3 Select a channel
   - To select the two or three-digit channel number, e.g. 39 ⇒ 39 (in a short time)
   - If one or two-digit channel number ⇒ quickly changes the channel

   ● To select from the Channel List ⇒

   Select a channel using information banner (p. 14)
   Possible to confirm the programme name before selecting channels.
   Display information banner if it is not displayed
   Possible to set display timeout in “Banner Display Timeout” (p. 26).

   Select a channel using TV Guide (Digital TV mode) (p. 16)
   Possible to confirm the TV Guide (EPG) before selecting channels.

   Display TV Guide
   Select a channel

Other useful functions

Hold

<table>
<thead>
<tr>
<th>Hold</th>
<th>Display subtitles</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOLD</td>
<td>Freeze / unfreeze picture</td>
</tr>
</tbody>
</table>

Off Timer

Turn the TV off automatically after a fixed period of time (0 / 15 / 30 / 45 / 60 / 75 / 90 minutes)

- Also possible to set the time from “Off Timer” in the Setup Menu (p. 26)
- To cancel ⇒ Set to “0” or turn the TV off.
- To display the remaining time ⇒ Information banner (p. 14)
- When the remaining time is within 3 minutes, the remaining time will flash on screen.
Watching TV

Other useful functions

Display information banner

Example (Digital TV mode)

Programme

Example (Analogue TV mode)

Programme Start / Finish time

Channel Status

To confirm another tuned channel name

To watch the programme listed in the banner

Information on the next programme

To select a favourite list (Digital TV mode)

To update the TV software

To hide

Extra information (press again to hide the banner)

To set display timeout

Features available / Message meanings

Sound mute On

Rating

Bad signal

Encrypted

Subtitle service available

Multiple image or audio available (Digital TV mode)

Teletext service available

Audio mode (p. 50)

Off Timer remaining time

Display the selectable settings for the current programme

Check or change the current programme status instantly

To change

Audio Selection (Digital TV mode)

Allows you to select between alternative language for sound tracks (if available)

Dual Audio (Digital TV mode)

Selects multiplex sound (if available)

MPX (Analogue TV mode)

Selects multiplex sound (if available)

Volume Correction

Adjusts volume of individual programme or input mode

For settings p. 13
Other useful functions

Change aspect ratio

Enjoy viewing the picture at its optimum size and aspect.

ASPECT Display Aspect Selection list

<table>
<thead>
<tr>
<th>Aspect Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:9</td>
</tr>
<tr>
<td>Just</td>
</tr>
<tr>
<td>4:3</td>
</tr>
<tr>
<td>4:3 Full</td>
</tr>
<tr>
<td>Zoom1</td>
</tr>
<tr>
<td>Zoom2</td>
</tr>
<tr>
<td>Zoom3</td>
</tr>
</tbody>
</table>

While the list is displayed, select the mode

To change the mode using the ASPECT button only

Press repeatedly until you reach the desired mode

- **16:9**
  - Directly displays the image at "16:9" without distortion (anamorphic).

- **14:9**
  - Displays the image at the standard "14:9" without distortion.

- **4:3**
  - Displays the image at the standard "4:3" without distortion.

- **4:3 Full**
  - Displays a "4:3" image full-screen with a border on the left and right edges.

- **Zoom1**
  - Digital TV mode and HD signal only
  - Displays a "16:9" letterbox image full-screen without distortion.

- **Zoom2**
  - Displays a "16:9" letterbox image full-screen without distortion.

- **Zoom3**
  - Displays a "2.35:1" letterbox image full-screen without distortion.

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

**Note**

- Only "16:9" and "4:3 Full" are available in Digital TV mode.
- Only "16:9" and "4:3" are available in PC input mode.
- Aspect is fixed to "16:9" when "Viewing Mode" is set to "Game" in the Picture Menu.
- Not available in teletext mode.
- Aspect mode can be memorized separately for each SD (Standard definition) and HD (High definition) signals except in Digital TV mode.

Region Select Adjust the standard time  Daylight Saving Time Adjust for Summer Time

Select the region where you live to adjust the standard time.

- The time contained in the broadcast signal is UTC (Universal Time coordinated) formally known as GMT (Greenwich Mean Time).

<table>
<thead>
<tr>
<th>Region</th>
<th>Standard time</th>
<th>Daylight Saving Time: Auto (During Summer Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW / ACT</td>
<td>+10:00</td>
<td>+11:00</td>
</tr>
<tr>
<td>Victoria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queensland</td>
<td>+10:00</td>
<td></td>
</tr>
<tr>
<td>South Australia</td>
<td>+9:30</td>
<td>+10:30</td>
</tr>
<tr>
<td>Western Australia</td>
<td>+8:00</td>
<td></td>
</tr>
<tr>
<td>Northern Territory</td>
<td>+9:30</td>
<td></td>
</tr>
<tr>
<td>Tasmania</td>
<td>+10:00</td>
<td>+11:00</td>
</tr>
</tbody>
</table>

(Based on GMT)

- These items can be set from "Other Settings" in Setup Menu. (p. 23, 27)
Using TV Guide (Digital TV mode)

Using TV Guide enables you to select programme easily, view programme informations, etc. TV Guide—Electronic Programme Guide (EPG) provides an on screen listing of the current and future programmes over the next seven days depending on broadcasters.

View TV Guide
Each time pressed, the layout will be changed. (Landscape / Portrait)

Example:

Landscape (Displays by channel)

Example:

Portrait (Displays by time)

To watch the programme

1. select
2. watch

To return to TV

EXIT

To view details of the programme

Select the programme

select
INFO
Press again to return to TV Guide.

To the previous day

To the next day

To the next day

To list favourite channels p. 29

To view a channel list of the selected favourite list

1. select a favourite list
2. view

To view a channel list of the selected type

1. select type
2. view

( Note )

* 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 the TV Guide is completely shown.
Viewing Teletext

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

**What is FASTEXT mode?**
In FASTEXT mode, four differently coloured subjects are situated at the bottom of the screen. To access more information about one of these subjects, press the appropriately 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

<table>
<thead>
<tr>
<th>Available page up / down</th>
<th>To select among subject blocks</th>
<th>To select next subject within the subject block</th>
</tr>
</thead>
<tbody>
<tr>
<td>➞</td>
<td>➞</td>
<td>(After the last subject, it moves to the next subject block.) ➞</td>
</tr>
</tbody>
</table>

**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. 18)

To change mode ⇒ “Teletext” in Setup Menu (p. 26)

1. **Switch to Teletext**
   - Displays Index (content varies depending on the broadcasters)

2. **Select the page** (up to page 899)
   - ➞ up
   - ➞ down
   - ➞ ➞ ➞ (Corresponds to the colour bar)

To adjust contrast
⇒ MENU (press three times) ➞ ➞ As the blue bar is displayed

To return to TV ➞ TEXT or EXIT

**Functions** (Teletext mode)

<table>
<thead>
<tr>
<th>Hold</th>
<th>Reveal hidden data</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOLD ➞ HOLD</td>
<td>➞ ➞ Menu ➞ ➞ R</td>
</tr>
<tr>
<td>Stop automatic updating</td>
<td>Reveal hidden words e.g. quiz page answers</td>
</tr>
<tr>
<td>(If you wish to hold the current page without updating)</td>
<td>To hide ➞ R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDEX</th>
<th>Call up Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDEX ➞ INDEX</td>
<td>Display subtitles</td>
</tr>
<tr>
<td>Return to the main index page</td>
<td>Call up P801 (subtitle page) if available.</td>
</tr>
<tr>
<td></td>
<td>If you press this button during P801 is displayed, teletext mode will be cancelled and return to TV.</td>
</tr>
</tbody>
</table>
Viewing Teletext

Functions (Teletext mode)

View in multi window

Watch TV and Teletext in two windows at once

- Operations can be made only in Teletext screen.

FULL / TOP / BOTTOM

Store frequently viewed pages

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

- The number changes to white.

To change stored pages

- Enter new page number

View sub page

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

To view specific sub page

- Sub pages: The number of sub pages varies depending on the broadcasters. It may take some time for searching, during which time you can watch TV.

Watch TV while waiting for update

View the TV picture while searching for a teletext page

Teletext automatically updates itself when new information becomes available.

- The news page provides a function that indicates arrival of latest news ("News Flash").
Watching External inputs

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

To connect the equipment  p. 48, 49

The Remote Control is capable of operating some functions of selected external equipment. For details, see the manual of the equipment or ask your local dealer.

1. Display the input selection menu

2. Select the input mode of the connected equipment

   ● You can also select the input using the AV button on the remote control or the top panel of the TV (p. 11). Press the button repeatedly until the desired input is selected.
   ● You can label or skip each input mode “Input Labels” (p. 33).
   Skipped inputs will not be displayed when the AV button is pressed.

3. View

   The selected mode is displayed on the screen.

   Example (AV2)

<table>
<thead>
<tr>
<th>Input Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV1</td>
</tr>
<tr>
<td>AV2</td>
</tr>
<tr>
<td>PC</td>
</tr>
<tr>
<td>HDMI1</td>
</tr>
<tr>
<td>HDMI2</td>
</tr>
<tr>
<td>TV</td>
</tr>
</tbody>
</table>

   Example (PC)

<table>
<thead>
<tr>
<th>Input Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV1</td>
</tr>
<tr>
<td>AV2</td>
</tr>
<tr>
<td>PC</td>
</tr>
<tr>
<td>HDMI1</td>
</tr>
<tr>
<td>HDMI2</td>
</tr>
<tr>
<td>TV</td>
</tr>
</tbody>
</table>

   Example (AV2)

   AV2 16:9

   If the external equipment has an aspect adjustment function, set to “16:9”.

   Example (PC)

   PC 640X480 /60Hz 16:9

   ● You can also listen to PC sound with the audio cable connected.
   ● You can setup some functions, Advanced PC Settings (p. 24) in Picture Menu and PC setup (p. 26) in Setup Menu.
   ● For HDMI-compatible PC (p. 51-52), possible to connect to HDMI terminals (HDM1 / HDMI2) by using HDMI cable.
Watching External inputs

Operating the equipment with the TV remote control

The equipment connected to the TV can be directly operated with the below buttons of this TV remote control.

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Standby&lt;br&gt;Set to Standby mode / Turn on</td>
</tr>
<tr>
<td>Play</td>
<td>Playback videocassette / DVD</td>
</tr>
<tr>
<td>Stop</td>
<td>Stop the operation</td>
</tr>
<tr>
<td>Rewind / Skip / Search</td>
<td>VCR: Rewind, view the picture rapidly in reverse&lt;br&gt;DVD: Skip to the previous track or title&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: Skip to the next track or title&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>PROGRAMME</td>
<td>Programme Up / Down&lt;br&gt;Select programme</td>
</tr>
<tr>
<td>REC</td>
<td>Record&lt;br&gt;Start recording</td>
</tr>
</tbody>
</table>

How to change the code for each equipment

Each type of Panasonic equipment has its own remote control code. Please change the code for each equipment you want to operate.

If you operate the connected equipment in VIERA Link (p. 42), select the code “73”.

Press and hold POWER during the following operations

Enter the appropriate code (see table below) then press.

<table>
<thead>
<tr>
<th>Type of equipment</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD Recorder / DVD 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>The equipment using in VIERA Link “VIERA Link Control” (p. 46)</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.
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

3. Follow the operation of each feature

1. VIERA Link Control ➤ "VIERA Link Control" (p. 46)

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

2. Pause Live TV ➤ "Pause Live TV" (p. 44)

3. Photo ➤ "Photo mode" (p. 37)

4. Video ➤ "Video mode" (p. 38)

5. Music ➤ "Music mode" (p. 40)
How to Use Menu Functions

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

1 Display the menu

Display the functions that can be set (varies according to the input signal)

2 Select the menu

Select the menu

3 Select the item

Select the item

4 Adjust or select

Adjust or select

To return to TV at any time

To return to the previous screen

To change menu pages

Choose from among alternatives

Enter characters by free input menu

To reset the settings

To delete a character

To delete all characters

Every press changes the character by one. Leave it for a second to set the character, or press OK or any numeric button within a second.

See the table below for the corresponding characters for each numeric button.

<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>. 1 ! # + -</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 7 P 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 z 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>
### Overview

#### VIERA Main Menu

- **Picture**
- **Sound**
- **Setup**

#### Picture

- **Picture Menu**
  - Viewing Mode
  - Contrast
  - Brightness
  - Colour
  - Sharpness
  - Tint
  - Colour Balance
  - Vivid Colour

#### Sound

- **Sound Menu**
  - Mode
  - Bass
  - Treble
  - Equalizer
  - Balance
  - Headphone Volume
  - Surround
  - Volume Correction
  - Speaker Distance to Wall

#### Setup

- **Setup Menu**
  - PC Setup
  - DVI Position Settings
  - Off Timer
  - Child Lock
  - Digital TV Tuning Menu
  - Analogue TV Tuning Menu
  - Display Settings
  - VIERA Link Settings
  - System Menu
  - Other Settings

> Depending on the received signals, available items are varied.
<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Viewing Mode</strong></td>
<td></td>
<td><strong>Basic picture mode</strong> <em>(Dynamic / Normal / Cinema / True Cinema / Game)</em>                                                                                               <strong>In each Viewing Mode, Backlight, Contrast, Brightness, Colour, Sharpness, Tint, Colour Balance, Vivid Colour, Eco Mode, P-NR and 3D-COMB can be adjusted and stored to suit your particular viewing requirement.</strong>  <strong>● Set for each input signal.</strong> <strong>Dynamic</strong> : Provides enhanced picture contrast and sharpness when viewing in a bright room  <strong>Normal</strong> : Recommended for viewing under normal ambient room lighting conditions. <strong>Cinema</strong> : For watching movies in a darkened room with improving the performance of contrast, black and colour reproduction <strong>True Cinema</strong> : Precisely reproduces the original image quality without any revision. <strong>Game</strong> : Fast response signal specifically to provide suitable images for playing games  <strong>● Not valid on TV mode</strong>  <strong>● A continuous record of time spent using Game mode can be displayed in the top right of the screen.</strong> <strong>“Playing Time Display” (p. 26)</strong></td>
</tr>
<tr>
<td><strong>Picture</strong></td>
<td>Backlight, Contrast, Brightness, Colour, Sharpness</td>
<td>Increases or decreases the levels of these options according to your personal preference</td>
</tr>
<tr>
<td></td>
<td>Tint</td>
<td>With an NTSC signal source connected to the TV, the picture hue can be adjusted to suit your taste.  <strong>● For NTSC or Component / HDMI input signal reception only</strong></td>
</tr>
<tr>
<td></td>
<td>Colour Balance</td>
<td>Allows you to set the overall colour tone of the picture <strong>(Cool / Normal / Warm)</strong></td>
</tr>
<tr>
<td></td>
<td>Vivid Colour</td>
<td>Automatically adjusts colours to vivid ones <em>(Off / On)</em>  <strong>● Not valid on PC signal</strong></td>
</tr>
<tr>
<td></td>
<td>Eco Mode</td>
<td>Automatically adjusts the screen brightness appropriately as the surrounding light level lowers to reduce the power consumption <em>(Off / On)</em>  <strong>● Not available in Shop mode (Dynamic picture mode)</strong></td>
</tr>
<tr>
<td></td>
<td>P-NR</td>
<td>Picture Noise Reduction  Automatically reduces unwanted picture noise and flicker noise in the contoured parts of a picture <em>(Off / Min / Mid / Max)</em>  <strong>● Not valid on PC signal</strong></td>
</tr>
<tr>
<td></td>
<td>3D-COMB</td>
<td>Makes still or slow moving pictures look more vivid <em>(Off / On)</em>  <strong>● Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to “On” to display sharper and more accurate colours.</strong>  <strong>● For PAL or NTSC signal reception only</strong>  <strong>● Not valid on Component, PC, HDMI and SD Card</strong></td>
</tr>
<tr>
<td></td>
<td>Panel</td>
<td>Turns the screen off when you select “Off” <em>(Off / On)</em>  <strong>● The sound is active even if the screen turns off.</strong>  <strong>● Press any buttons to turn the screen on.</strong>  <strong>● This function is effective in reducing power consumption when listening to a sound without watching the TV screen.</strong></td>
</tr>
<tr>
<td></td>
<td>R-Gain, G-Gain, B-Gain</td>
<td>Adjusts each gain</td>
</tr>
<tr>
<td></td>
<td>R-Cutoff, G-Cutoff, B-Cutoff</td>
<td>Cuts off each area</td>
</tr>
<tr>
<td></td>
<td>Gamma</td>
<td>Changes the gamma curve <em>(1.8 / 2.0 / 2.2 / 2.4 / 2.6)</em></td>
</tr>
<tr>
<td></td>
<td>Reset PC Settings</td>
<td>Press the OK button to reset to the present Advanced PC Settings to the default.</td>
</tr>
<tr>
<td></td>
<td>Reset Picture Defaults</td>
<td>Press the OK button to reset the present Picture Menu settings to the default.</td>
</tr>
</tbody>
</table>
## How to Use Menu Functions

### Mode

<table>
<thead>
<tr>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Selects basic sound mode (Music / Speech / User)</strong></td>
<td>● The selected mode affects all input signals.</td>
</tr>
<tr>
<td></td>
<td>Music : Improves sound quality for watching music video, etc.</td>
</tr>
<tr>
<td></td>
<td>Speech : Improves sound quality for watching news, drama, etc.</td>
</tr>
<tr>
<td></td>
<td>● In Music and Speech mode, you can adjust “Bass” and “Treble” settings, and those settings will be stored for each mode.</td>
</tr>
<tr>
<td></td>
<td>User : Adjusts the sounds manually by using the equalizer to suit your favourite sound quality.</td>
</tr>
<tr>
<td></td>
<td>● For the User mode, “Equalizer” will appear on the Sound Menu instead of “Bass” and “Treble”. Select the “Equalizer” and adjust the frequency.</td>
</tr>
<tr>
<td><strong>Bass</strong></td>
<td>Increases or decreases level to enhance or minimise lower, deeper sound output</td>
</tr>
<tr>
<td><strong>Treble</strong></td>
<td>Increases or decreases level to enhance or minimise sharper, higher sound output</td>
</tr>
<tr>
<td><strong>Equalizer</strong></td>
<td>Adjusts the frequency level to suit your favourite sound quality</td>
</tr>
<tr>
<td></td>
<td>● This function is available when “Mode” is set to “User”.</td>
</tr>
<tr>
<td></td>
<td>● Select the frequency and change the frequency level by using the cursor button.</td>
</tr>
<tr>
<td></td>
<td>● If you want to enhance the bass sound, raise the level of the lower frequency. If you want to enhance the treble sound, raise the level of the higher frequency.</td>
</tr>
<tr>
<td></td>
<td>● To reset the levels of each frequency to the default settings, select the “Reset Sound Defaults” by using cursor button, and then press the OK button.</td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td>Adjusts the volume level of right and left speakers</td>
</tr>
<tr>
<td><strong>Headphone Volume</strong></td>
<td>Adjusts the volume of the headphones</td>
</tr>
<tr>
<td><strong>Surround</strong></td>
<td>Surround sound settings (Off / V-Audio / V-Audio Surround)</td>
</tr>
<tr>
<td></td>
<td>V-Audio: Provides a dynamic enhancer of width to simulate improved spatial effects</td>
</tr>
<tr>
<td></td>
<td>V-Audio Surround: Provides a dynamic enhancer of width and depth to simulate improved spatial effects</td>
</tr>
<tr>
<td></td>
<td>● Switching is also possible by the Surround button on the remote control (p. 10).</td>
</tr>
<tr>
<td><strong>Volume Correction</strong></td>
<td>Adjusts the volume of individual channel or input mode</td>
</tr>
<tr>
<td><strong>Speaker Distance to Wall</strong></td>
<td>Adjusts the low frequency sound (Over 30cm / Up to 30cm)</td>
</tr>
<tr>
<td></td>
<td>● If the back space between the TV and wall is over 30 cm, “Over 30cm” is recommended.</td>
</tr>
<tr>
<td></td>
<td>● If the back space between the TV and wall is within 30 cm, “Up to 30cm” is recommended.</td>
</tr>
<tr>
<td><strong>MPX</strong></td>
<td>Selects multiplex sound mode (if available) (p. 50)</td>
</tr>
<tr>
<td></td>
<td>● Normally : Stereo</td>
</tr>
<tr>
<td></td>
<td>● Stereo signal cannot be received: Mono</td>
</tr>
<tr>
<td></td>
<td>● M1 / M2 : Available while mono signal is transmitted</td>
</tr>
<tr>
<td></td>
<td>● Analogue TV mode only</td>
</tr>
<tr>
<td><strong>Digital Audio Preference</strong></td>
<td>Selects the initial setting for Audio tracks (Dolby D / MPEG)</td>
</tr>
<tr>
<td></td>
<td>If programme has both Dolby Digital and MPEG audio tracks, priority is given to what you select</td>
</tr>
<tr>
<td></td>
<td>Dolby D : A method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2ch) audio, these signals can also be multi-channel audio.</td>
</tr>
<tr>
<td></td>
<td>MPEG : An audio compression method that compresses audio to small size without any considerable loss of audio quality.</td>
</tr>
<tr>
<td></td>
<td>● Digital TV mode only</td>
</tr>
<tr>
<td><strong>SPDIF Selection</strong></td>
<td>SPDIF : A standard audio transfer file format</td>
</tr>
<tr>
<td></td>
<td>Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT terminal (Auto / PCM)</td>
</tr>
<tr>
<td></td>
<td>Auto : Dolby Digital is output as Dolby Digital Bitstream. HE-AAC and MPEG are output as PCM.</td>
</tr>
<tr>
<td></td>
<td>PCM : Digital output signal is fixed to PCM.</td>
</tr>
<tr>
<td></td>
<td>● For Digital TV mode or Video mode (p. 38)</td>
</tr>
<tr>
<td><strong>MPEG Optical Level</strong></td>
<td>Adjusts the audio level of MPEG output from DIGITAL AUDIO OUT terminal as the initial setting (0 / -2 / -4 / -6 / -8 / -10 / -12dB)</td>
</tr>
<tr>
<td></td>
<td>● Normally, MPEG sound is louder comparing with the other types of audio track.</td>
</tr>
<tr>
<td></td>
<td>● Digital TV mode only</td>
</tr>
<tr>
<td>Menu</td>
<td>Item</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Sound</td>
<td>HDMI1 / 2 Input</td>
</tr>
<tr>
<td></td>
<td>Reset Sound Defaults</td>
</tr>
<tr>
<td></td>
<td>Input Resolution</td>
</tr>
<tr>
<td></td>
<td>Clock</td>
</tr>
<tr>
<td></td>
<td>H-pos</td>
</tr>
<tr>
<td></td>
<td>V-pos</td>
</tr>
<tr>
<td></td>
<td>Clock Phase</td>
</tr>
<tr>
<td></td>
<td>Sync</td>
</tr>
<tr>
<td></td>
<td>Reset PC Settings</td>
</tr>
<tr>
<td></td>
<td>DVI Position Setting</td>
</tr>
<tr>
<td></td>
<td>V-pos</td>
</tr>
<tr>
<td></td>
<td>Reset DVI Position Settings</td>
</tr>
<tr>
<td>Setup</td>
<td>Off Timer</td>
</tr>
<tr>
<td></td>
<td>Child Lock</td>
</tr>
<tr>
<td></td>
<td>Favourites Edit</td>
</tr>
<tr>
<td></td>
<td>Channel List</td>
</tr>
<tr>
<td></td>
<td>Auto Tuning</td>
</tr>
<tr>
<td></td>
<td>Manual Tuning</td>
</tr>
<tr>
<td></td>
<td>Update Channel List</td>
</tr>
<tr>
<td></td>
<td>New Channel Message</td>
</tr>
<tr>
<td></td>
<td>Signal Condition</td>
</tr>
<tr>
<td></td>
<td>Add MPEG-4 AVC Channels</td>
</tr>
<tr>
<td></td>
<td>Teletext</td>
</tr>
<tr>
<td></td>
<td>Input Labels</td>
</tr>
<tr>
<td></td>
<td>Banner Display Timeout</td>
</tr>
<tr>
<td></td>
<td>Playing Time Display</td>
</tr>
</tbody>
</table>
### How to Use Menu Functions

#### Advanced

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIERA Link</strong></td>
<td>Sets to use VIERA Link functions (<strong>Off / On</strong>)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• VIERA Link functions become available when “VIERA Link” is set to “On” (<strong>p. 43</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Power on Link</strong></td>
<td>Sets to use Power on Link functions (<strong>Off / On</strong>) (<strong>p. 43</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Power off Link</strong></td>
<td>Sets to use Power off Link functions (<strong>Off / On</strong>) (<strong>p. 43</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Standby Power</strong></td>
<td>Controls the power consumption in Standby mode of the connected equipment to reduce the power consumption (<strong>Off / On</strong>) (<strong>p. 43</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Save</strong></td>
<td>• This function is available when “VIERA Link” is set to “On” and “Power off Link” is set to “On”.</td>
<td></td>
</tr>
<tr>
<td><strong>Intelligent Auto</strong></td>
<td>Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption (<strong>Off / On (With reminder) / On (No reminder)</strong> (<strong>p. 43</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>System Menu</strong></td>
<td>Resets all settings to the original condition (<strong>p. 34</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Shipping</strong></td>
<td>Downloads new software to TV (<strong>p. 35</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td>Displays the software licence information.</td>
<td></td>
</tr>
<tr>
<td><strong>System Update</strong></td>
<td>Displays the system information of this TV.</td>
<td></td>
</tr>
<tr>
<td><strong>Licence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>System Information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Auto Standby</strong></td>
<td>Sets the time the TV automatically goes to Standby mode when no operation is performed for the selected times (<strong>Off / 2 hours / 4 hours</strong>)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Inserting the SD Card to the card slot does not affect this function.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Automatic input switching with the connected equipment affects this function and time-count will be reset.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The notification message will appear 3 minutes before going to Standby mode.</td>
<td></td>
</tr>
<tr>
<td><strong>Power Save</strong></td>
<td>Reduces brightness of picture to economise on power consumption (<strong>Off / On</strong>)</td>
<td></td>
</tr>
<tr>
<td><strong>16:9 Overscan</strong></td>
<td>Selects the screen area for displaying the image (<strong>Off / On</strong>).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• On: Enlarges the image to hide the edge of the image</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Off: Displays the image in the original size</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Set to “On” if noise is generated on the edges of the screen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• This function is available when aspect is set to “16:9”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• This function can be memorized separately for SD (Standard Definition) and HD (High Definition) signals.</td>
<td></td>
</tr>
<tr>
<td><strong>Region Select</strong></td>
<td>Selects the region where you live to adjust the standard time (<strong>NSW / ACT / Victoria / Queensland / South Australia / Western Australia / Northern Territory / Tasmania</strong>) (<strong>p. 15</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Daylight Saving</strong></td>
<td>Select time offset from the standard time for Summer Time (<strong>Auto / Off / +1/2 hour / +1 hour</strong>) (<strong>p. 15</strong>).</td>
<td></td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Set to “Auto” normally.</td>
<td></td>
</tr>
<tr>
<td><strong>DVI Input</strong></td>
<td>Changes the black level in the image for HDMI input mode with DVI input signal manually (<strong>Normal / Full</strong>)</td>
<td></td>
</tr>
<tr>
<td><strong>Setting</strong></td>
<td>• 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”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The black level for HDMI input signal will be adjusted automatically.</td>
<td></td>
</tr>
</tbody>
</table>

○ A different menu will be displayed in the mode of SD Card (**p. 36 - 40**).

○ Only available items can be selected.
Tuning and Editing Channels

You can make Auto Tuning, listing your favourite channels, skipping unwanted channels, etc.

1. Select Digital TV or Analogue TV
   - The selected mode is displayed on the screen (p. 13).

2. Display the menu
   - MENU

3. Select “Setup”
   - access
   - select

4. Select “Digital TV Tuning Menu” or “Analogue TV Tuning Menu”

5. Select a function
   - For details ⇒ p. 31
   - For details ⇒ p. 29, 30

6. Set (see next page)
Digital TV Tuning Menu

Favourites Edit List favourite channels

Create your favourite channel lists (Favourites) from various broadcasters (up to 4: Favourites1 to 4). The Favourites lists are available from the Information banner (p. 14) and the TV Guide (p. 16).

1 Select a channel to list

Digital TV Favourites Editor

- Select a channel to add as a Favourite

2 Add it to the Favourites list

Digital TV Favourites Editor

- Select a channel to add as a Favourite

To edit List

Select the field of Favourites to edit and:

- To name the Favourites

User input

Name

(maximum: ten characters)

- To move the channel

- To delete the channel

3 Store

RETURN

OK

Note

- Channel numbers are defined by the broadcaster and cannot be changed.
- Hidden channels (see below) can be selected but not viewed.

Channel List Skip unwanted channels / Edit channels

Select a channel and reveal / hide

Digital TV Channel List

- 70 CBBC Channel
- 72 Cartoon Neck
- 71 BBC Wales
- 719 BBC Radio Wales
- 720 BBC Radio Cymru
- 730 BBC ONE Wales
- 777 BBC THREE

- 71 Digital
- 77 Digital
- 777 Digital
- 710 Digital
- 7 Guide

- 7 Digital
- 7 Guide
- FTV Guide
- TEN Digital
- SBS DIGITAL

- 1 To reveal all channels

- To swap the channel position (if available)

- To move the channel position (if available)

To edit channels

You can also edit each channel in Channel List.

...
Digital TV Tuning Menu

**Auto Tuning**  Set all channels automatically

**Start Auto Tuning**

Digital TV Auto Tuning

All digital TV tuning data will be erased

Start Auto Tuning  EXIT

**Settings are made automatically**

Automatically retune all Digital TV channels received in the area.

- All the previous tuning settings are erased.
- When the operation is completed, the channel at channel position “1” will be displayed.
- Search begins in the order from the lower channels to the higher channels. Channels received during this process are added to the list (p. 29).
- If tuning has not been done completely ➔ “Manual Tuning” (see below)

**Manual Tuning**  Set Digital TV channel manually

- Normally use “Auto Tuning” or “Update Channel List” to update Digital TV channels on your channel list.
- If tuning has not been done completely or for adjusting the direction of the aerial, use this function.
  
  ① select physical channel
  ② adjust frequency (set where the level of “Signal Quality” becomes the maximum)
  ③ search

- All channels found will be added to the Digital TV Channel List.

**Update Channel List**  Update channels automatically

You can add new channels, delete duplicated channels, update channel name and position automatically to Channel List.

- Channel List is updated with keeping your settings in Favourites Edit, Channel List, Child Lock, etc.

**New Channel Message**  Display a notification message

- Selects whether to give a message when new Digital TV channel is found. (Off / On)
- Selecting OK will perform “Update Channel List”.

**Signal Condition**  Check Digital TV signal

- Selects a channel and checks the Digital TV signal condition.
- A good Signal Strength is not an indication of suitable signal for Digital TV reception. Please use the Signal Quality indicator as follows:

  **Signal Quality:**
  - Green bar ➔ Good
  - Yellow bar ➔ Poor
  - Red bar ➔ Bad (Check the aerial)
**Analogue TV Tuning Menu**

**Channel List**  Skip unwanted channels / Edit channels (Change name, Move)

Select a channel and reveal / hide

<table>
<thead>
<tr>
<th>Analogue TV Channel List</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 BBC</td>
<td>2 ****</td>
<td>3 ****</td>
</tr>
<tr>
<td>4 ****</td>
<td>5 ****</td>
<td>6 ****</td>
</tr>
<tr>
<td>7 ****</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- To reveal all channels
- To reveal / hide
- To select

You can hide unwanted channels. The hidden channels cannot be displayed except in this function. Use this function to skip unwanted channels.

**To edit channels**

You can also edit each channel in Channel List.

- Select a channel to edit and:
  - To move the channel position
  - To rename the channel name

**Auto Tuning**  Set all Analogue TV channels automatically

Start Auto Tuning

- All previous tuning settings are erased.
- When the operation is completed, the channel at channel position “1” will be displayed.
- Search begins in the order from the lower channels to the higher channels. Channels received during this process are added to the list (see above).
- If tuning has not been done completely ⇒ “Manual Tuning” (see below)

**Manual Tuning**  Set Analogue TV channel manually

Set Analogue TV channel manually after Auto Tuning.

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

Select a channel position

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

Select a channel

Search and store

- Search
- Store

Note:
- If a VCR is connected only with the RF cable, edit “VCR”.

User input

Name

(maximum: five characters)

Set characters
- You can set characters by using numeric buttons (p. 22).
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; by entering the PIN number, you can watch it.

1 Display the menu

2 Select “Setup”

3 Select “Child Lock”

4 Set (see below)

To return to TV

Child Lock | Control channel audience

1 Enter the PIN number (4 digits)

   Child Lock-PIN Entry
   PIN * * *

   “0000” has been stored as the default PIN number.

2 Select “Child Lock List” or “Parental Rating”

3 Select “Child Lock List”

To set “Child Lock List”

   Appears when the channel / input is locked
   ● To cancel
   ○ Select the locked channel / input ○
   ● To lock all Y
   ● To cancel all locks R

To set “Parental Rating”

   ● Parental Rating ⇒ p. 50

To change the PIN number

Select “Change PIN” in “Child Lock” and enter a new PIN number twice.

   ● Make a note of the PIN number in case you forget it.

   Enter the PIN number (4 digits)

   Select the locked channel / input

Note

● Performing “Shipping Condition” (p. 34) erases the PIN number and all settings.
● If you have forgotten the PIN number which you have changed by yourself, input “6969” as the PIN number.
● Keep this Operating Instructions out of reach of children.
Input Labels

For easier identification and selection of the input mode, you can label each input terminals or skip terminal that is not connected to any equipment.

To select the input mode  p. 19

1. Display the menu
   MENU

2. Select “Setup”

3. Select “Display Settings”

4. Select “Input Labels”

5. Select an input terminal and set

   The labels you set will be displayed in "Input Selection" menu (p. 19) or banner.
   • If “Skip” is selected, you cannot select the mode.

User input
You can name each input terminals freely.

Set characters
You can set characters by using numeric buttons (p. 22).
Shipping Condition (Reset settings)

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

1. Display the menu
   MENU

2. Select “Setup”
   VIERA Main Menu
   - Picture
   - Sound
   - Setup

3. Select “System Menu”
   Setup Menu
   - Off Timer
   - Child Lock
   - Digital TV Tuning Menu
   - Display Settings
   - VIERA Link Settings
   - System Menu
   - Access
   - Other Settings

4. Select “Shipping Condition”
   System Menu
   - Shipping Condition
   - Access
   - Other Settings

5. Set (see below)

<table>
<thead>
<tr>
<th>Shipping Condition</th>
<th>Reset Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>① Check the message and reset</td>
<td>① Follow the on screen instructions</td>
</tr>
<tr>
<td>Shipping Condition</td>
<td>Reset to Factory Shipping Condition Completed. Please switch off TV.</td>
</tr>
<tr>
<td>All tuning data will be erased</td>
<td>“Auto Tuning” will automatically start when Mains power On / Off switch is next turned On (p. 12).</td>
</tr>
<tr>
<td>Are you sure?</td>
<td></td>
</tr>
<tr>
<td>Are you sure?</td>
<td></td>
</tr>
</tbody>
</table>

To retune TV channels only, e.g. after moving house
“Auto Tuning” in “Tuning and Editing Channels” (p. 30, 31)
Updating the TV Software (Digital TV mode)

From time to time, a new version of software may become available for download to enhance the performance or operations of the TV. If there is an update available, a notification banner is displayed when the channel has the update information. This function is available in Digital TV mode.

- To download
- If you choose not to download

You can update any new software automatically or manually.

1. Display the menu
2. Select “Setup”
3. Select “System Menu”
4. Select “System Update”
5. Set (see below)

System Update Update TV’s software system

To update automatically To update immediately

- Every time you set, the TV automatically performs a search in standby and downloads an update, if any software updates are available.
- The automatic updating is performed at 3:00 AM and 5:00 AM every morning under the following conditions:
  - Standby (TV turned Off with the remote control)
  - Direct TV Recording is not in progress.

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

Note:
- Download may take about 60 mins.
- During software download and update, DO NOT switch Off the TV or press any buttons. The TV will automatically be activated after downloading is completed.
- The message might be notification beforehand. 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 set to Off.
- A clicking sound will occur at 3:00 AM and 5:00 AM when “Auto update Search in Standby” is set to “On”. This sound is normal.
- During downloading, the TV will display a blank screen for 40 to 50 seconds. Do not interrupt the TV during this procedure.
Using Media Player

Viewing from SD Card (VIERA IMAGE VIEWER)

Photo Mode: View still pictures recorded on a digital camera.
Video Mode: Play back video recorded on a digital video camera.
Music Mode: Play back music recorded on a digital recorder.

When these functions are used, the audio signal is output from audio output terminals, but video signals are not output.

- "Date" shows the date on which the recording was made by the digital camera, digital video camera or digital recorder. "**/**/****" is displayed for files that do not have the date recorded.
- For details on SD Cards ⇒ p. 53

To insert SD Card
Gently insert the SD Card label surface facing front.
Push until a click is heard

To remove SD Card
Push the centre of the card

Contents Select

1 Insert the SD Card

2 Select your desired contents (Photo / Video / Music)

- You can also select contents directly by using VIERA TOOLS.
  "How to Use VIERA TOOLS" (p. 21)

To switch to the other mode
Display the contents selection screen
Select the contents

To sort by folder, date recorded or month recorded (Photo mode)
Display the view selection
Select the sort type

- Displays thumbnails of photos grouped by folder
- Displays thumbnails of photos grouped by date
- Displays thumbnails of photos grouped by month

Files that are not stored in a folder are grouped in a folder named "/".
Photos without a recorded date are displayed as "/" or "Unknown".

To return to thumbnail
(All photos)
Photo mode

Photo mode will read all ".jpg" extension files in the card.
Insert the SD Card, and then select "Photo" mode (p. 36)

Error display (images that could not be loaded, etc.)

Thumbnail images of all photos on the SD Card are displayed.
- To change the background music
  ➔ "Photo Setup" (see below)
- To display the information of the highlighted photo
  ➔ INFO

In case of all photos
- File name
- Date
- Pixel

In case of folder view (p. 36)
- File number / total file number
- Folder name
- Number of files
- Date or month

Single view - Display one photo at a time.
Select the photo that you want to view

- To display / hide the operation guide
  ➔ INFO
- To operate Single view
  ➔ To the previous photo
  ➔ To the next photo
  ➔ To return to thumbnail view ➔

Start Slideshow

Slideshow - Slideshow ends with the same thumbnail from which it started.
Select the photo that you want to start the slideshow from

- To display / hide the operation guide
  ➔ INFO
- To pause (returns to Single view) ➔
- To return to thumbnail view ➔

Photo Setup

Setup for Photo mode

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Ground Music</td>
<td>Selects the background music played during Photo mode (Off / Type1 / Type2 / Type3 / Auto / User)</td>
<td></td>
</tr>
<tr>
<td>Auto</td>
<td>Plays music in the SD Card randomly</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>Plays music set by you ➔ For setting ➔</td>
<td></td>
</tr>
<tr>
<td>Frame</td>
<td>Selects the display frame for the slideshow (Off / Multi / Collage)</td>
<td></td>
</tr>
<tr>
<td>Multi</td>
<td>Display is divided into 9 sections in a tiled design</td>
<td></td>
</tr>
<tr>
<td>Collage</td>
<td>Photos are displayed in random positions and random scale</td>
<td></td>
</tr>
<tr>
<td>Colour Effect</td>
<td>Selects the colour effect of photos (Off / Sepia / Gray scale)</td>
<td></td>
</tr>
<tr>
<td>Transition Effect</td>
<td>Selects the transition effect used when switching between photos during the slideshow (Off / Fade / Slide / Dissolve / Motion / Random)</td>
<td></td>
</tr>
<tr>
<td>Fade</td>
<td>The next photo fades in gradually.</td>
<td></td>
</tr>
<tr>
<td>Slide</td>
<td>The next photo slides and appears from the left side.</td>
<td></td>
</tr>
<tr>
<td>Dissolve</td>
<td>The photo is replaced by an indefinite block unit.</td>
<td></td>
</tr>
<tr>
<td>Motion</td>
<td>The photo is replaced with enlarged, reduced, moved up or moved down.</td>
<td></td>
</tr>
<tr>
<td>Random</td>
<td>Each transition is selected at random. ➔ This function is only available when &quot;Frame&quot; is set to &quot;Off&quot;.</td>
<td></td>
</tr>
<tr>
<td>Screen Mode</td>
<td>Selects whether to display photos in normal or enlarged size during Single view and Slideshow (Normal / Zoom) ➔ Depending on the photo size, the photo may not be enlarged.</td>
<td></td>
</tr>
<tr>
<td>Interval</td>
<td>Selects slideshow interval (Short / Normal / Long)</td>
<td></td>
</tr>
<tr>
<td>Repeat</td>
<td>Selects slideshow repeat (Off / On)</td>
<td></td>
</tr>
</tbody>
</table>
Using Media Player
Viewing from SD Card (VIERA IMAGE VIEWER)

Video mode

Video mode supports AVCHD and MPEG2 file formats.
Access to “Video” mode (p. 36)

Error display (titles that could not be loaded, etc.)

Thumbnails of video titles in the SD Card are displayed. When a title is highlighted, preview starts (if the title supports previewing).
- To turn preview off ➤ “Video Setup” (p. 39)
- To display the information of the highlighted title ➤ INFO

Playback from Title view
Playback of the selected title starts.
Select the title ➤ Start playback

Playback from the selected scene in the title
Playback starts from the selected scene, and runs to the end of the title.
Select the title ➤ Select the scene to start playback

- To repeat playback ➤ “Video Setup” (p. 39)
- To display the information of the highlighted scene ➤ INFO
Operations during playback

- To display / hide the operation guide and information banner

- To operate the playback

- To change the aspect ratio (only for the 4:3 video content)

- To return to thumbnail

- To the previous scene

- To the next scene

Sound Settings

You can enjoy multi-channel sound by connecting an amplifier to the DIGITAL AUDIO OUT terminal.

To confirm or change the current sound status (during playback)

Display the Option menu

Select “Sound”

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 : Standard audio transfer file format  
Selects the initial setting for digital audio output signal from DIGITAL AUDIO OUT terminal (Auto / PCM)  
Auto: Dolby Digital is output as Dolby Digital Bitstream. MPEG is output as PCM.  
PCM: Digital output signal is fixed to PCM. |

Video Setup

Setup for Video mode

Display the menu

Select “Video Setup”

Select “Other Settings”

Select the items and set

<table>
<thead>
<tr>
<th>Menu</th>
<th>Item</th>
<th>Adjustments / Configurations (alternatives)</th>
</tr>
</thead>
</table>
| Video Setup | Other Settings | Video Preview  
Sets whether to start previewing the title or scene in a thumbnail screen (Off / On)  
Images may not be displayed for a short time in the thumbnail screen. To resolve this problem, set preview to “Off”.  
Repeat  
Playback repeat within the title (Off / On) |

Note

- The structure of titles and scenes may vary depending on the digital video camera used.
Using Media Player
Listening from SD Card

Music mode

Music mode supports MP3 file format.
Insert the SD Card, and then select “Music” mode (p. 36)

Operation during playback
- To display/ hide the operation guide
- To operate the playback:
  - Rewind
  - Pause / Playback
  - Playback
  - Fast forward
  - Stop
- To the previous music
- To the next music
- The information banner is displayed as shown below.

Music Setup
Setup for Music mode

<table>
<thead>
<tr>
<th>Display the menu</th>
<th>Select “Music Setup”</th>
<th>Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Menu | Item | Adjustments / Configurations (alternatives)
--- | --- | --------
Music Setup | Repeat | Selects the repeated mode (Off / Folder / One)

Folder: All music in the selected folder are played back repeatedly.
One: The selected music is played back repeatedly.

To set the music as the background music during Photo mode

While playing music
Display the menu

Register Slideshow BGM?
File
Folder

Select “File” or “Folder”
VIERA Link Functions

VIERA Link “HDAVI Control™”

Enjoy additional HDMI interoperability with Panasonic products which have “HDAVI Control” function. This TV supports “HDAVI Control 5” function. Connections to the equipment with HDMI cable such as DIGA Recorder, HD Video Camera, Player theatre, Amplifier, etc., allow you to interface them automatically.

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. Please 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 the equipment. About applicable Panasonic equipment, consult your local Panasonic dealer.

Summary of features

<table>
<thead>
<tr>
<th>Features</th>
<th>DIGA Recorder¹</th>
<th>DVD Player / Blu-ray Disc Player¹</th>
<th>HD Video Camera / LUMIX Camera¹</th>
<th>Player theatre²</th>
<th>Blu-ray Disc theatre²</th>
<th>Amplifier²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel download</td>
<td>O   ×⁴</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Easy playback</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Power on link</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Power off link</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Reduce unnecessary power consumption in standby</td>
<td>O   ×⁵</td>
<td>O   ×⁵</td>
<td>–</td>
<td>–</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Auto standby for unnecessary equipment</td>
<td>O   ×¹</td>
<td>O   ×³</td>
<td>–</td>
<td>O   ×³</td>
<td>O</td>
<td>O¹</td>
</tr>
<tr>
<td>Pause Live TV programme</td>
<td>O   ×³</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>––</td>
</tr>
<tr>
<td>Direct TV Recording</td>
<td>O   ×¹</td>
<td>–</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>O   ×³</td>
<td>O   ×³</td>
<td>O   ×³</td>
<td>O   ×³</td>
<td>O</td>
<td>––</td>
</tr>
<tr>
<td>Speaker control</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>––</td>
</tr>
</tbody>
</table>

¹: HDMI Connection only
²: HDMI and Audio out connections
³: available with the equipment which has “HDAVI Control 2 or later” function
⁴: available with the equipment which has “HDAVI Control 3 or later” function
⁵: available with the equipment which has “HDAVI Control 4 or later” function
⁶: available with DIGA Recorder which has HDD
⁷: while playing back a disc
⁸: except for watching a disc

Connections to the equipment with HDMI cable such as DIGA Recorder, HD Video Camera, Player theatre, Amplifier, etc., allow you to interface them automatically. 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. Please 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 the equipment. About applicable Panasonic equipment, consult your local Panasonic dealer.
VIERA Link Functions

Connection
- To use DIGA Recorder / DVD Player / Blu-ray Disc Player / HD Video Camera / LUMIX Camera

GB HDMI cable

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

GB GB HDMI cable
GB GB HDMI cable
GB GB HDMI cable

Speaker system

HDMI cable

Optical digital audio cable or RCA cable

Player theatre / Blu-ray Disc theatre with VIERA Link function

Speaker system

HDMI cable

Optical digital audio cable or RCA cable

HDMI cable

HD Video Camera / LUMIX Camera with VIERA Link function

DIGA Recorder with VIERA Link function

GB GB GB

Note
- This function may not work properly depending on the connected equipment.
- For DIGA Recorder / DVD Player / Blu-ray Disc Player / HD Video Camera / LUMIX Camera with VIERA Link function, connect to HDMI1 or HDMI2 terminal via an HDMI cable.
- For Player theatre / Blu-ray Disc theatre / Amplifier, connect to HDMI1 or HDMI2 or terminal via an HDMI cable and/or either the optical digital audio cable or RCA cable for audio output from the TV.
- Use fully wired HDMI compliant cable. Non-HDMI-compliant cables cannot be utilized.

Recommended Panasonic’s HDMI cable part number:
- RP-CDHS15 (1.5 m)
- RP-CDHS30 (3.0 m)
- RP-CDHS50 (5.0 m)

Preparations
- Connect the equipment supporting VIERA Link.
- Set up the connected equipment. Read the manual of the equipment.
- For optimal recording, the settings of the recorder might be required. For details, read the manual of the recorder.
- Set VIERA Link On in Setup Menu “VIERA Link” (p. 27)
- Set up the TV After connection, turn the equipment on and then switch the TV on. Set the input mode to HDMI1 or HDMI2 (p. 19), 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

*9: If the connected equipment has “HDAVI Control 5” function, you do not have to use this audio cable (Optical digital audio cable or RCA cable). In this case, connect the equipment to the TV’s HDMI2 terminal via an HDMI cable.
Features available

<table>
<thead>
<tr>
<th>Channel download</th>
<th>Channel setting can be downloaded to the recorder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy playback</td>
<td>Automatic input switching - When the connected equipment is operated, input mode is switched automatically.</td>
</tr>
<tr>
<td>Power on link</td>
<td><strong>Set Power on Link “On” in Setup Menu to use this function</strong> ⇒ “Power on Link” (p. 27) 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.)</td>
</tr>
<tr>
<td>Power off link</td>
<td><strong>Set Power off Link “On” in Setup Menu to use this function</strong> ⇒ “Power off Link” (p. 27) When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.</td>
</tr>
<tr>
<td>Standby Power Save</td>
<td><strong>Reduce unnecessary power consumption in standby</strong></td>
</tr>
<tr>
<td>Set Standby Power Save “On” in the Setup Menu to use this function</td>
<td>⇒ “Standby Power Save” (p. 27) The power consumption in Standby mode of the connected equipment is controlled higher or lower in synchronization 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 in Standby mode of the connected equipment is automatically minimized. When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to make startup time early.</td>
</tr>
<tr>
<td>Intelligent Auto Standby</td>
<td><strong>Auto standby for unnecessary equipment</strong></td>
</tr>
<tr>
<td>Set Intelligent Auto Standby “On (With reminder)” or “On (No reminder)” in the Setup Menu to use this function</td>
<td>⇒ “Intelligent Auto Standby” (p. 27) 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, when Speaker Selection is changed to “TV” (except for watching a disc).</td>
</tr>
</tbody>
</table>

- This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.
- This function will work when “Power off Link” is set to “On”. |
Pause Live TV Pause Live TV programme

**Access and pause the live TV programme**

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

- This function is available with DIGA Recorder which has HDD.
- If you connect several recorders including other manufacturers' recorders at the same time, please connect DIGA Recorder which has HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder which has HDD to HDMI1.
- If you cannot operate, check the settings and the equipment
  * “Summary of features”, “Connection”, “Preparations” (p. 41, 42)

**Display “VIERA Link Menu”**

**Select “Pause Live TV” and pause**

- You can also access Pause Live TV by using VIERA TOOLS. p. 21
- Live TV programme is recorded on HDD from where it was paused.
- If the paused TV picture disappears after a few minutes
  * (the paused picture will be restored)

**To operate Pause Live TV**

- Operations may be different depending on the recorder. In this case, follow the operation guide or read the manual of the recorder.

**To return to Live TV** (stop playback of Pause Live TV / cancel pause)

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

---

**Features available** (Using VIERA Link Menu)

**Pause Live TV**

- **Pause Live TV programme**

  **Access and pause the live TV programme**
  You can pause the live TV programme and resume later.
  Live TV programme will be recorded on HDD of the connected DIGA Recorder.
  
  - This function is available with DIGA Recorder which has HDD.
  - If you connect several recorders including other manufacturers' recorders at the same time, please connect DIGA Recorder which has HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder which has HDD to HDMI1.
  - If you cannot operate, check the settings and the equipment
    * “Summary of features”, “Connection”, “Preparations” (p. 41, 42)

  **Display “VIERA Link Menu”**

  **Select “Pause Live TV” and pause**

  - You can also access Pause Live TV by using VIERA TOOLS. p. 21
  - Live TV programme is recorded on HDD from where it was paused.
  - If the paused TV picture disappears after a few minutes
    * (the paused picture will be restored)

  **To operate Pause Live TV**

  - search backward
  - search forward
  - playback
  - stop

  - Operations may be different depending on the recorder. In this case, follow the operation guide or read the manual of the recorder.

  **To return to Live TV** (stop playback of Pause Live TV / cancel pause)

  - If you stop playback or cancel pause, the recorded programme will be deleted from HDD.
Features available (Using VIERA Link Menu)

**Direct TV Rec | Direct TV Recording - What you see is What you record**

Recording the current programme in DIGA Recorder immediately.
- If you connect a variety of recorders including other manufacturers’ recorders at the same time, please connect DIGA Recorder to the TV’s lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, in this case connect DIGA Recorder to HDMI1.
- If you cannot operate, check the settings and the equipment
  ⇒ “Summary of features”, “Connection”, “Preparations” (p. 41, 42)

1. Display “VIERA Link Menu”
2. Select “Direct TV Rec” and start recording

To stop recording
Select “Stop” in “Direct TV Rec” and stop recording

![Remote control diagram]
**VIERA Link “HDAVI Control™”**

**Features available (Using VIERA Link Menu)**

**VIERA Link Control** Operate the connected equipment with VIERA remote control

Access and operate the menu of the equipment

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

- If you cannot operate, check the settings and the equipment.
  - “Summary of features”, “Connection”, “Preparations” (p. 41, 42)
  - For details of the operations of the connected equipment, read the manual of the equipment.

1. Display “VIERA Link Menu”

2. Select “VIERA Link Control”

3. Select the equipment you want to access

The type of the connected equipment is displayed. Select the type of the equipment and access.

4. Operate the connected equipment

   1. Set the remote control code to “73” (p. 20)
   2. Follow the operation guide

   - To display the operation guide
   - Move the cursor / select the menu
   - Move the cursor / access / adjust

   When the key words are displayed on colour bar

   (Note)

   - Some operations may not be available depending on the equipment. If so, use its own remote control.

If multiple recorders or players are connected

The number is given from the TV’s lower HDMI terminal number connected to the same type equipment. For example, two recorders connected to HDMI1 and HDMI2, in this case 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

When the equipment with “HDAVI Control” function is connected

You can access the menu of the equipment. But you cannot operate it. Use its own remote control to operate the equipment.

The menu of the accessed equipment

(Input mode will be changed automatically)

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.
Features available (Using VIERA Link Menu)

**Speaker Selection**  Speaker control

**Access and control the speaker volume**
You can control the theatre speaker with this TV remote control by pointing at the TV’s signal receiver.

- If you cannot operate, check the settings and the equipment
  ➤ “Summary of features”, “Connection”, “Preparations” (p. 41, 42)

1. Display “VIERA Link Menu”
2. Select “Speaker Selection”
3. Set to “Home Cinema” or “TV”

**Home Cinema**
Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on if it is in Standby mode and the sound is from theatre speakers connected to the equipment.

- Volume up / down
  ➤ (Volume slide bar will be displayed when adjusting the volume of the equipment.)

- Mute
  ➤ MUTE

- The sound of TV speakers is mute.
- When the equipment is turned off, TV speakers will be active.

**TV**
TV speakers are active.

**Note**
- If you wish to enjoy the multi-channel sound (e.g. Dolby Digital 5.1ch) via an Amplifier, connect with HDMI cable and Optical digital audio cable (p. 42), and then select “Home Cinema”. If your Amplifier has “HDAVI Control 5” function, you can connect only with HDMI cable. In this case, connect your Amplifier 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. 42).

**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.
- Easy playback may be available by using the remote control for Player theatre, Blu-ray Disc theatre or Amplifier. Read the manual of the equipment.
- “HDAVI Control 5” is the newest standard (current as of December, 2009) 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. 27)
External Equipment

These diagrams show our recommendations for how to connect the TV to your various equipment. For other connections, consult the instructions for each piece of equipment, the table below, and the specifications (p. 59).

Types of connectable equipment to each terminal

<table>
<thead>
<tr>
<th>Recording / Playback equipment</th>
<th>AV1 IN AV2 IN</th>
<th>MONITOR OUT</th>
<th>DIGITAL AUDIO OUT</th>
<th>HDMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>To record / playback videocassettes / DVDs (VCR / DVD recorder)</td>
<td></td>
<td></td>
<td></td>
<td>1 2</td>
</tr>
<tr>
<td>To watch DVDs (DVD player)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To watch camcorder images (Video camera)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To watch satellite broadcasts (Set top box)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To play games (Game equipment)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To use amplifier with speaker system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIERA Link</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Recommended Connection
+1: applicable if your amplifier has ARC (Audio Return Channel) function
To watch DVDs
- DVD player

To watch satellite broadcasts
- Satellite dish
- Set top box

HDMI equipment
- Fully wired HDMI compliant cable

"HDMI connection" (p. 42, 51)

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

- +5V Power: 18
- SDA: 16
- Reserved: 14
- (in cable but N.C. on device)
- TMDS Clock: 12
- TMDS Clock+: 10
- TMDS Data0 Shield: 8
- TMDS Data1: 6
- TMDS Data1+: 4
- TMDS Data2 Shield: 2
Technical Information

Channel Allocation (Analogue TV mode)

<table>
<thead>
<tr>
<th>CH Display / Receive Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 0 - CH 5</td>
</tr>
<tr>
<td>CH 9A</td>
</tr>
</tbody>
</table>

Rating (Digital TV mode)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Meaning</th>
<th>Rating</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Block</td>
<td>Not classified</td>
<td>M</td>
<td>Mature</td>
</tr>
<tr>
<td>P</td>
<td>Pre school</td>
<td>MA 15+</td>
<td>Mature Adult 15+</td>
</tr>
<tr>
<td>C</td>
<td>Children</td>
<td>AV 15+</td>
<td>Adult strong Violence 15+</td>
</tr>
<tr>
<td>G</td>
<td>General</td>
<td>R</td>
<td>Restricted 18+</td>
</tr>
<tr>
<td>PG</td>
<td>Parental Guidance recommended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stereo / Bilingual Sound Selection (Analogue TV mode)

When you receive the stereo / bilingual sound system, sound output modes can be selected by pressing the **Stereo / Bilingual Sound Selection** button.

<table>
<thead>
<tr>
<th>Audio Signal</th>
<th>STEREO</th>
<th>MAIN I</th>
<th>SUB II</th>
<th>MONO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode Indicator</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NICAM** .......Used in New Zealand, Singapore, Hong Kong etc.

<table>
<thead>
<tr>
<th>Type of broadcast</th>
<th>Regular broadcast (Standard Audio)</th>
<th>Regular + NICAM MONO I (MAIN I)</th>
<th>NICAM STEREO</th>
<th>NICAM DUAL MONO (MAIN I / SUB II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode Indicator</td>
<td>No Indicator ●</td>
<td>●</td>
<td>○○</td>
<td>○○●◀Ⅱ</td>
</tr>
</tbody>
</table>

**A2 (German)** .......Used in Australia, Malaysia etc.

<table>
<thead>
<tr>
<th>Type of broadcast</th>
<th>Regular broadcast (Standard Audio)</th>
<th>BILINGUAL or DUAL MONO: MAIN I / SUB II</th>
<th>STEREO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode Indicator</td>
<td>No Indicator ●</td>
<td>●</td>
<td>○○</td>
</tr>
</tbody>
</table>

- If the stereo signal is poor or the receiving conditions are not optimum or if STEREO:MONO automatic switching occurs, it is recommended you switch from STEREO to MONO.
- Even when the contents of the receiving signal undergo changes, selection mode is kept intact.
- When the receiving conditions deteriorate, listening will be easier if the mode is set to the MONO position, using the stereo / bilingual sound selection button.
- **DUAL**, also known as DUAL MONO or as BILINGUAL is not currently transmitted in some countries.
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 a game equipment, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable. About connections, see “External Equipment” (p. 48, 49).

Applicable HDMI features

- Input audio signal : 2ch Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)
- Input video signal : 480i, 480p, 576i, 576p, 720p, 1080i and 1080p
  ➜ “Input signal that can be displayed” (p. 52)
  Match the output setting of the digital equipment.
- Input PC signal : ➜ “Input signal that can be displayed” (p. 52)
  Match the output setting of the PC.
- VIERA Link (HDAVI Control 5): ➜ “VIERA Link” (p. 41)
- 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 adapter cable (3).

When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal (HDMI1 / 2: use AV2 audio terminals).

If the picture position is not fit to the screen during the DVI connection, adjust the position on “DVI Position Settings” in Setup Menu (p. 26). The settings are memorized for each HDMI terminals and input signals.

Note

- Audio settings can be made on the “HDMI1 / 2 Input” in the Sound Menu. (p. 26)
- 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.
- An equipment having no digital output terminal may be connected to the input terminal of either “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 be able to send digital sound signals via an HDMI cable.
(*3): Enquire at your local digital equipment retailer shop.

PC connection

A PC may be connected to this TV so that the PC screen is displayed and sound is heard from the TV.

- PC signals that can be inputted: Horizontal scanning frequency 31 to 69 kHz; vertical scanning frequency 59 to 86 Hz. More than 1,024 signal lines could result in incorrect display of the image.
- A PC adapter is not necessary for the DOS/V-compliant D-sub 15-pin connector.

Note

- Some PC models cannot be connected to this TV.
- When using PC, set the colour display quality of PC to the highest position.
- For details of the applicable PC signals, see p. 52.
- Max. display resolution

<table>
<thead>
<tr>
<th>Aspect</th>
<th>4:3</th>
<th>1,024 × 768 pixels</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:9</td>
<td>1,366 × 768 pixels</td>
<td></td>
</tr>
</tbody>
</table>

- D-sub 15-pin connector signal

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal Name</th>
<th>Pin No.</th>
<th>Signal Name</th>
<th>Pin No.</th>
<th>Signal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>①</td>
<td>R</td>
<td>⑥</td>
<td>GND (Ground)</td>
<td>⑦</td>
<td>NC (not connected)</td>
</tr>
<tr>
<td>②</td>
<td>G</td>
<td>⑦</td>
<td>GND (Ground)</td>
<td>⑧</td>
<td>HD</td>
</tr>
<tr>
<td>③</td>
<td>B</td>
<td>⑧</td>
<td>GND (Ground)</td>
<td>⑨</td>
<td>VD</td>
</tr>
<tr>
<td>④</td>
<td>NC (not connected)</td>
<td>⑨</td>
<td>GND (Ground)</td>
<td>⑩</td>
<td>NC (not connected)</td>
</tr>
<tr>
<td>⑤</td>
<td>GND (Ground)</td>
<td>⑩</td>
<td>GND (Ground)</td>
<td>⑪</td>
<td>NC (not connected)</td>
</tr>
</tbody>
</table>
# Technical Information

## Input signal that can be displayed

**COMPONENT (Y, Pb/Cb, Pr/CR), HDMI**

* Mark: Applicable input signal

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

**PC (from D-sub 15P)**

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

<table>
<thead>
<tr>
<th>Signal name</th>
<th>Horizontal frequency (kHz)</th>
<th>Vertical frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640 × 400 @70 Hz</td>
<td>31.47</td>
<td>70.07</td>
</tr>
<tr>
<td>640 × 480 @60 Hz</td>
<td>31.47</td>
<td>59.94</td>
</tr>
<tr>
<td>640 × 480 @75 Hz</td>
<td>37.50</td>
<td>75.00</td>
</tr>
<tr>
<td>800 × 600 @60 Hz</td>
<td>37.88</td>
<td>60.32</td>
</tr>
<tr>
<td>800 × 600 @75 Hz</td>
<td>46.88</td>
<td>75.00</td>
</tr>
<tr>
<td>800 × 600 @85 Hz</td>
<td>53.67</td>
<td>85.06</td>
</tr>
<tr>
<td>852 × 480 @60 Hz</td>
<td>31.44</td>
<td>59.89</td>
</tr>
<tr>
<td>1,024 × 768 @60 Hz</td>
<td>48.36</td>
<td>60.00</td>
</tr>
<tr>
<td>1,024 × 768 @70 Hz</td>
<td>56.48</td>
<td>70.07</td>
</tr>
<tr>
<td>1,024 × 768 @75 Hz</td>
<td>60.02</td>
<td>75.03</td>
</tr>
<tr>
<td>1,024 × 768 @85 Hz</td>
<td>68.68</td>
<td>85.00</td>
</tr>
<tr>
<td>1,280 × 1,024 @60 Hz</td>
<td>63.98</td>
<td>60.02</td>
</tr>
<tr>
<td>1,280 × 768 @60 Hz</td>
<td>47.70</td>
<td>60.00</td>
</tr>
<tr>
<td>1,366 × 768 @60 Hz</td>
<td>48.39</td>
<td>60.04</td>
</tr>
<tr>
<td>Macintosh13&quot; (640 × 480)</td>
<td>35.00</td>
<td>66.87</td>
</tr>
<tr>
<td>Macintosh16&quot; (832 × 624)</td>
<td>49.73</td>
<td>74.55</td>
</tr>
<tr>
<td>Macintosh21&quot; (1,152 × 870)</td>
<td>68.68</td>
<td>75.06</td>
</tr>
</tbody>
</table>

**PC (from HDMI terminal)**

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

<table>
<thead>
<tr>
<th>Signal name</th>
<th>Horizontal frequency (kHz)</th>
<th>Vertical frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>640 × 480 @60 Hz</td>
<td>31.47</td>
<td>60.00</td>
</tr>
<tr>
<td>750 (720) / 60p</td>
<td>45.00</td>
<td>60.00</td>
</tr>
<tr>
<td>1,125 (1,080) / 60p</td>
<td>67.50</td>
<td>60.00</td>
</tr>
</tbody>
</table>

**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 be possible to show fine detail with sufficient clarity.
**Cautions in handling SD Card**
- Do not remove the card while the TV is accessing data (this can damage card or TV).
- Do not touch the pins on the back of the card.
- Do not subject the card to a high pressure or impact.
- Insert the card in the correct direction (otherwise, card 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 TV. (Panasonic is not liable for any deterioration or damage of recorded data.)

**Data format for Card browsing**
- **Photo**:
  - Still images recorded with digital still cameras compatible with JPEG files of DCF* and EXIF standards
  - Data format - Baseline JPEG (Sub-sampling 4:4:4, 4:2:2 or 4:2:0)
  - Image resolution - 8 × 8 to 30,719 × 17,279 pixels
- **Video**:
  - SD-Video Standard Ver. 1.2 [MPEG-2 (PS format)] and AVCHD Standard compatible files
  - with an audio format that is either MPEG-1/Layer-2 format or Dolby Digital format
  - (A modified data with a PC may not be displayed correctly.)
- **Music**:
  - Data format - MP3 (.mp3)
- **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 adapter)
- If miniSD Card is used, insert / remove it together with the adapter.
- Check the latest information on the card type at the following website. (English only)
  - *DCF (Design rule for camera file system): Unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).*

**Note**
- Format the card with the recording equipment.
- 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.
- This function cannot display Motion JPEG and still image not JPEG formatted (i.e. TIFF, BMP).
- A data modified with a PC may not be displayed.
- Images imported from a PC must be compatible with EXIF (Exchangeable Image File) 2.0, 2.1, and 2.2.
- Partly degraded files might be displayed at a reduced resolution.
- The folder and file names may be different depending on the digital video camera used.
- Do not use two-byte characters or other special codes.
- The card may become unusable with this TV if the file or folder names are changed.

**On screen messages**

<table>
<thead>
<tr>
<th>Message</th>
<th>Meaning / Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cannot read file</strong></td>
<td>- The file is broken or unreadable.</td>
</tr>
<tr>
<td></td>
<td>- The TV does not support the format. (For the applicable formats and data, see above.)</td>
</tr>
<tr>
<td><strong>Please confirm the SD card is OK</strong></td>
<td>- The inserted SD Card has a problem.</td>
</tr>
<tr>
<td><strong>No SD card inserted</strong></td>
<td>- Confirm SD Card is inserted correctly.</td>
</tr>
<tr>
<td><strong>No valid file to play</strong></td>
<td>- The card has no data.</td>
</tr>
<tr>
<td><strong>This operation is not possible</strong></td>
<td>- Your operation is not available.</td>
</tr>
</tbody>
</table>

Use an SD Card which meets SD standards. If not, it may cause the TV to malfunction.
Maintenance

First, remove the mains plug from the socket outlet.

For 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:
Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water). Then 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. This may cause scratches on the surface.
- Take care not to subject the TV’s surfaces to water or detergent. A 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.
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.

**White spots or shadow images (noise)**

- Check the position, direction, and connection of the aerial.

**Neither image nor sound is produced**

- Is the TV in “AV mode”?
- Is the mains lead plugged into the socket outlet?
- Is the TV turned On?
- Check Picture Menu (p. 24) and volume.
- Check all required cables and connections are firmly in place.

**An error message appears**

- Follow the message’s instructions.
- If the problem persists, contact your local Panasonic dealer.

**The LCD panel moves slightly when it is pushed with a finger Clattered sound might be heard**

- There are some looseness around the panel to prevent the damage to the panel.
  The panel might move slightly when it is pushed with a finger, and clattered sound might be heard. This is not a malfunction.

**There may be red spots, blue spots, green spots and black spots on the screen**

- An image on a LCD or Plasma TV screen is created by many small groups of dots known as pixels (which is similar to the image in a newspaper). It also naturally follows that higher panel resolutions contain more pixels. To create a colour image, each pixel consists of three tiny coloured dots (known as sub-pixels), one each of red, green and blue. Each one of these dots is precisely controlled by the electronics of the TV to produce the picture. Whilst Panasonic maintains the highest standards in manufacturing technology and processes in the construction of these panels, there are a number of allowable pixel/sub-pixel failures that still allow the panel to be defined as a good panel. It is not possible to guarantee absolutely no pixel loss.
## FAQs

<table>
<thead>
<tr>
<th>Problem</th>
<th>Actions</th>
</tr>
</thead>
</table>
| **Problem Actions** | **Note:** Digital TV reception is only as good as the antenna and the antenna cabling delivering the DTV signals to the television. Reliable digital TV reception requires high quality, robust DTV signals which can only be achieved when using a TV antenna and cabling designed for digital TV reception.  
  * For your safety, the antenna and cabling should be inspected / installed by a licenced installer that should comply with Australian Standard AS1417.1 for Domestic installations or AS1367 for MATV installations. |
| Connecting devices such as DTV recorder / PVR / VCR etc that also require an antenna connection to the digital television | To maintain optimum antenna signal quality, use an ‘F’ type TV signal splitter (as illustrated) when connecting two or more devices to the same antenna socket.  
  * Hint: Some degradation of the DTV signal may occur if you are connecting the aerial through an external device (e.g. DVD Recorder or Set Top Box). In this case it is better to use a splitter and connect the aerial directly to both devices. |
| After digital TV tuning, (or re-tuning) some or all DTV channels are missing |  
  * Check to ensure your area is covered by DTV transmissions.  
  * Check that the aerial and antenna cable are designed for DTV reception. If you live within 5-10 Km of DTV transmission towers, a combined VHF / UHF Digital TV aerial should be adequate. Outside this area, separate VHF and UHF aerials provide superior reception performance.  
  * If you live in a unit or apartment, check to ensure the Master Antenna TV (MATV) system is designed for analogue and DTV reception. Please consult your body corporate. |
| Picture regularly pixelates on some channels, or ‘No Signal’ message |  
  * Check “Signal Condition” via TV Setup menu. If “Signal Quality” or “Signal Strength” are red/orange or constantly changing, check aerial/cable/connections. If problem persists consult your local TV antenna installer.  
  * Too much signal; is “Signal Strength” always at full strength? If yes, try attenuating (reducing) the signal strength  
  * Check that the aerial and antenna cable are designed for DTV reception.  
  * The received signal may be too weak to allow the TV to reliably lock to the selected channel to generate a viewable picture. If problem persists consult your local TV aerial installer.  
  * Interference from household appliances (known as impulse noise) such as light switches, fridges etc may cause picture break up and / or audio distortion. Use high quality quad shielded coaxial cable (RG6Q) fly lead between TV and antenna wall socket to minimise impulse noise pickup. If problem persists consult your local TV aerial installer.  
  * Antenna installation may be using an aerial amplifier that is faulty or an older style aerial amplifier that was not designed for digital TV.  
  * Older style antenna cabling, loose fitting/corroded wall socket connections/terminals etc. |
| Picture infrequently pixelates on some or all channels |  
  * Electrical interference caused by local or distant lighting storms, heavy rain, high wind etc may cause picture to break up and or audio to mute/distort momentarily.  
  * Impulse noise interference from an infrequently used electrical appliance, or a passing vehicle or lawn mower with a “noisy” ignition system.  
  * Older style antenna cabling, loose fitting/corroded wall socket connections/terminals etc. |
<table>
<thead>
<tr>
<th><strong>Problem</strong></th>
<th><strong>Actions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaotic image, noisy</td>
<td>● Change the setting of “P-NR” in the Picture Menu (to remove noise). (p. 24)</td>
</tr>
<tr>
<td></td>
<td>● Check nearby electrical products (car, motorcycle, fluorescent lamp).</td>
</tr>
<tr>
<td>No image can be displayed</td>
<td>● Is “Colour” or “Contrast” in the Picture Menu set to the minimum? (p. 24)</td>
</tr>
<tr>
<td>Blurry or distorted image</td>
<td>● Reset channels (p. 30, 31).</td>
</tr>
<tr>
<td>(no sound or low volume)</td>
<td></td>
</tr>
<tr>
<td>Unusual image is displayed</td>
<td>● Turn off the TV with Mains power On / Off switch, then turn it on again.</td>
</tr>
</tbody>
</table>
| “Shop” appears on screen at switch on | ● “Shop” was selected in “Auto Tuning” (p. 12)  
                                            Reset settings in “Shipping Condition” (p. 34), then select “Home” in “Auto Tuning” (p. 12) |
| 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” in the Sound Menu to “Mono” (p. 25).                                                   |
| 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. 26)                                      |
|                                   | ● If digital sound connection has a problem, select analogue sound connection. (p. 51)               |
| Pictures from external equipment are unusual when the equipment is connected via HDMI | ● Is the HDMI cable connected properly? (p. 42, 48, 49)  
                                             ● Turn Off the TV and equipment, then turn them On again.  
                                             ● Check an input signal from the equipment. (p. 52)  
                                             ● Use an equipment compliant with EIA/CEA-861/861B.                                           |
| TV goes into Standby mode         | ● Auto power function is activated.                                                                   |
|                                   | ● The TV enters Standby mode about 30 mins. after analogue broadcasting ends.                         |
| The remote control does not work or is intermittent | ● Are the batteries installed correctly? (p. 3)  
                                              ● Has the TV been switched On?  
                                              ● 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. |
Licence

Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.

- VGA is a trademark of International Business Machines Corporation.
- S-VGA is a registered trademark of the Video Electronics Standard Association.
- SDXC Logo is a trademark of SD-3C, LLC.
- HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
- HDAVI Control™ is a trademark of Panasonic Corporation.
- "AVCHD" and the "AVCHD" logo are trademarks of Panasonic Corporation and Sony Corporation.
- Manufactured under license from Dolby Laboratories.
- Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- Macintosh is a trademark of Apple Inc.
## Specifications

| Power |  
|---|---|
| **Power rating** | AC 220 - 240 V, 50 / 60 Hz 0.45 A |
| **Normal (Home) mode** | 39 W |
| **Standby condition** | 0.4 W |

| Display panel |  
|---|---|
| **Aspect Ratio** | 16:9 |
| **Visible screen size** | 55 cm (diagonal) 477 mm (W) × 268 mm (H) |
| **Number of pixels** | 1,049,088 (1,366 (W) × 768 (H)) |

| Sound |  
|---|---|
| **Speaker** | 72 mm × 29 mm × 2 pcs, 8 Ω |
| **Audio Output** | 6 W (3 W + 3 W ), 10% THD |
| **Headphones** | M3 (3.5 mm) stereo mini Jack × 1 |

| PC signals |  
|---|---|
| **PAL B/G** | Reception of Off air broadcasts |
| **DVB-T** | 7 MHz VHF / UHF (Australia) free-to-air TV broadcast reception |
| **PAL 60 Hz** | Playback of NTSC tape from some PAL Video recorders (VCR) |
| **M. NTSC** | Playback from M. NTSC Video recorders (VCR) |
| **NTSC** | Playback from NTSC Video recorders (VCR) |

| Receiving Systems / Band name |  
|---|---|
| **PAL B/G** | Reception of Off air broadcasts |
| **DVB-T** | 7 MHz VHF / UHF (Australia) free-to-air TV broadcast reception |
| **PAL 60 Hz** | Playback of NTSC tape from some PAL Video recorders (VCR) |
| **M. NTSC** | Playback from M. NTSC Video recorders (VCR) |
| **NTSC** | Playback from NTSC Video recorders (VCR) |

| Aerial - Rear | Standard Belling & Lee connector |

| Operating Conditions |  
|---|---|
| **Temperature** | 0 °C - 35 °C |
| **Humidity** | 20 % - 80 % RH (non-condensing) |

| Connection Terminal |  
|---|---|
| **AV1 Input** |  
| **AUDIO L - R** | RCA PIN Type × 2 0.5 V[rms] |
| **VIDEO** | RCA PIN Type × 1 1.0 V[p-p] (75 Ω) |
| **COMPONENT** | Y Pb/Cb, Pr/CR 1.0 V[p-p] (including synchronization) ±0.35 V[p-p] |
| **AV2 Input** |  
| **AUDIO L - R** | RCA PIN Type × 2 0.5 V[rms] |
| **VIDEO** | RCA PIN Type × 1 1.0 V[p-p] (75 Ω) |
| **AUDIO L - R** | RCA PIN Type × 2 0.5 V[p-p] (high impedance) |
| **VIDEO** | RCA PIN Type × 1 1.0 V[p-p] (75 Ω) |

| Others |  
|---|---|
| **HDMI - 2 Input** | TYPE A Connectors ★ This TV supports “HDAVI control 5” function. |
| **PC Input** | HIGH-DENSITY D-SUB 15PIN R / G / B: 0.7 V[p-p] (75 Ω) |
| **DIGITAL AUDIO OUT** | PCM / Dolby Digital, Fiber optic |
| **Card slot** | SD Card slot × 1 |

| Dimensions (W × H × D) |  
|---|---|
| 543 mm × 402 mm × 189 mm (With Pedestal) |
| 543 mm × 363 mm × 60 mm (TV only) |

| Mass |  
|---|---|
| 6.5 kg Net (With Pedestal) |
| 6.0 kg Net (TV only) |

**Note**

★ Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.
Panasonic Warranty

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product without charge for parts or labour if, in the opinion of Panasonic, the product is found to be faulty within the warranty period.

2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or its territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.

3. This warranty only applies if the product has been installed and used in accordance with the manufacturer’s recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.

4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
   (a) Cabinet Part(s)
   (b) Video or Audio Tapes
   (c) SD cards or USB devices
   (d) User replaceable Batteries
   (e) DVD Video, Blu-ray, or Recordable Discs
   (f) Video / Audio Heads from wear and tear in normal use
   (g) Information stored on Hard Disk Drive, USB stick or SD card
   (h) DTV reception issues caused by TV Aerial / Cabling / Wall socket(s) etc

5. Some products may be supplied with Ethernet connection hardware. The warranty is limited on such products and will not cover:
   (a) Internet and or DLNA connection / setup related problems
   (b) Access fees and or charges incurred for internet connection
   (c) The use of incompatible software or software not specifically stipulated in the product operations manual; and
   (d) Any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.

6. If warranty service is required you should:
   • Telephone Panasonic’s Customer Care Centre on 132600 or visit our website and use the Service Centre Locator for the name/address of the nearest Authorised Service Centre.
   • Send or bring the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt as a proof of purchase date. Please note that freight and insurance to and / or from your nearest Authorised Service Centre must be arranged by you.

7. The warranties hereby conferred do not extend to, and exclude, any costs associated with the installation, de-installation or re-installation of a product, including costs related to the mounting, de-mounting or remounting of any screen, (and any other ancillary activities), delivery, handling, freighting, transportation or insurance of the product or any part thereof or replacement of and do not extend to, and exclude, any damage or loss occurring by reason of, during, associated with, or related to such installation, de-installation, re-installation or transit.

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

Unless otherwise specified to the consumer the benefits conferred by this express warranty are additional to all other conditions, warranties, guarantees, rights and remedies expressed or implied by the Trade Practices Act 1974 and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.

February 2010

THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE) SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES

If you require assistance regarding warranty conditions or any other enquiries, please contact our Customer Care Centre via the Panasonic website www.panasonic.com.au or by phone on 132 600. If phoning in, please ensure you have your operating instructions available.

Panasonic Australia Pty. Limited
ACN 001 592 187  ABN 83 001 592 187
Locked Bag 505, Frenchs Forest, NSW 2086

PRO-031-F11 Issue: 2.0 18-02-2010

RQA0245

Customer’s Record

The model number and serial number of this product may be found on its rear panel. You should note the model number and the 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

Panasonic Corporation
Web Site: http://panasonic.net
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