

Information on Disposal in other Countries outside the European Union



This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Customer's Record

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

Model Number

Serial Number

Panasonic Corporation

Web Site: <http://panasonic.net>

M0212-0

Panasonic®

X50D series
X50K series
X50M series
X50P series
X50Q series

Operating Instructions Plasma Television




VIERA

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

English



TQB4TC0229

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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>.

Do not display any still part of the image for a long period

In such cases the still part of the image remains dimly on the plasma screen ("image retention"). This is not considered a malfunction and is not covered by the warranty.

Typical still image parts:

- Channel number, channel logo and other logos
- Still or moving pictures viewed in 4:3 or 14:9 aspect ratio



- Video games
- Images from PC

To avoid image retention, the contrast is lowered automatically and the screen becomes dim after a few minutes if no signals are sent or no operations are performed. (p. 71)

The illustration for X50D series is used in this manual unless otherwise mentioned. Illustrations shown may be different between models and countries.

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Enjoy your TV!

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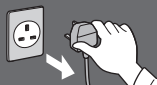
Safety Precautions

Warning

Handling the mains plug and lead

- Insert the mains plug fully into the socket outlet. (If the mains plug is loose, it could generate heat and cause fire.)
- Ensure that the mains plug is easily accessible.
- Ensure the earth pin on the mains plug is securely connected to prevent electrical shock.
 - An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.
- Do not touch the mains plug with a wet hand. (This may cause electrical shock.)
- Do not use any mains lead other than that provided with this TV. (This may cause fire or electrical shock.)
- Do not damage the mains 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 the lead.
- Do not use a damaged mains plug or socket outlet.

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



- Mains plug types vary between countries.

Power source

- This TV is designed to operate on:
 - AC 220-240 V, 50 / 60 Hz
 - (X50P series: AC 110-240 V, 50 / 60 Hz)

Do not remove covers and NEVER modify the TV yourself

- Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside. (High-voltage components may cause serious electrical shock.)
- Have the TV checked, adjusted, or repaired at your local Panasonic dealer.

Do not expose to direct sunlight and other sources of heat

- Avoid exposing the TV to direct sunlight and other sources of heat.



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

Do not expose to rain or excessive moisture

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

Do not insert foreign objects into the TV

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

Do not place the TV on sloped or unstable surfaces, and ensure that the TV does not hang over the edge of the base

- The TV may fall off or tip over.

Use only the dedicated pedestals / mounting equipment

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

Caution

This appliance is intended for use in tropical climates

When cleaning the TV, remove the mains plug

- Cleaning an energised TV may cause electrical shock.

When the TV is not going to be used for a long period of time, remove the mains plug

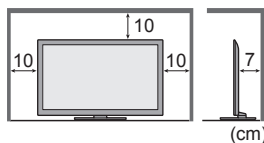
- This TV will still consume some power even in the Off mode, as long as the mains plug is still connected to a live socket outlet.

Transport only in upright position

- Transporting the TV with its display panel facing upward or downward may cause damage to the internal circuitry.

Allow sufficient space around the TV for radiated heat

Minimum distance



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

Do not block the rear air vents

- Blocked ventilation by newspapers, table cloths, curtains, etc. may cause overheating, fire or electrical shock.

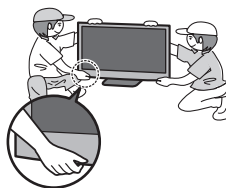
Do not expose your ears to excessive volume from the headphones

- Irreversible damage can be caused.

Do not apply strong force or impact to the display panel

- This may cause damage resulting in injury.

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



Accessories / Options

Standard accessories

Remote Control

- N2QAYB000603



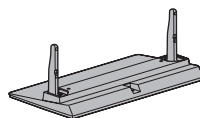
Batteries for the Remote Control (2)

- R6 (AA)
- ➔ (p. 7)

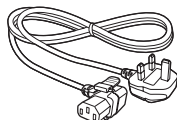


Pedestal

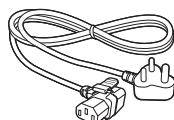
- ➔ (p. 7)



Mains lead ➔ (p. 11)



(X50K series)
(X50M series)
(X50P series)



(X50D series)
(X50Q series)

Operating Instructions

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

Optional accessories

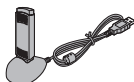
Please contact your local Panasonic dealer to purchase the recommended optional accessories. For additional details, please read the manual of the optional accessories.

Wireless Adaptor for VIERA

- TY-WL20A
(X50D series, X50K series)
- TY-WL20M
(X50M series, X50P series)
(X50Q series)

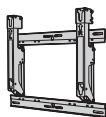
Caution

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

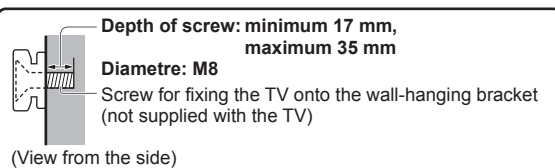
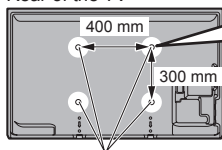


Wall-hanging bracket

- TY-WK4P1RW
- Tilting angle for this TV: 0 (vertical) to 15 degrees



Rear of the TV



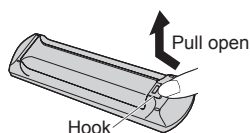
Holes for wall-hanging bracket installation

Warning

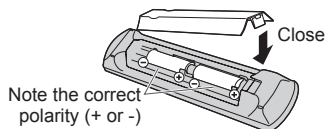
- Using other wall-hanging brackets, or installing a wall-hanging bracket by yourself have the risk of personal injury and product damage. In order to maintain the unit's performance and safety, be absolutely sure to ask your dealer or a licensed contractor to secure the wall-hanging brackets. Any damage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

Installing / removing remote's batteries

1



2



Caution

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

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 any pedestal other than the one provided with this TV.

- Otherwise the TV may fall over and become damaged, and personal injury may result.

Do not use the pedestal if it becomes warped or physically damaged.

- If you use the pedestal while it is physically damaged, personal injury may result. Contact your local Panasonic dealer immediately.

During set-up, make sure that all screws are securely tightened.

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

Ensure that the TV does not fall over.

- If the TV is knocked or children climb onto the pedestal with the TV installed, the TV may fall over and personal injury may result.

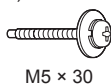
Two or more people are required to install and remove the TV.

- If two or more people are not present, the TV may be dropped, and personal injury may result.

(A) Assembly screw (4)
(silver)



(B) Assembly screw (4)
(black)



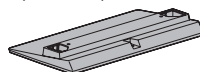
(C) Pole

- R: TBL5ZA3311
- L: TBL5ZA3310



(D) Base

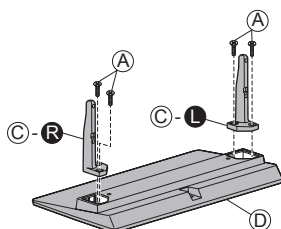
- TBL5ZX0441
(42" class)
- TBL5ZX0430
(50" class)



■ Assembling the pedestal

Use the assembly screws (A) to fasten the pole (C) to the base (D) securely.

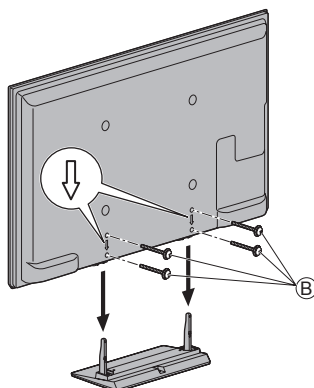
- Make sure that the screws (A) are securely tightened.
- Forcing the assembly screws the wrong way will strip the threads.
- "L" or "R" mark is stamped on the bottom of the pole.



■ Securing the TV

Insert the pole into the TV, and then fasten securely with the assembly screws (B).

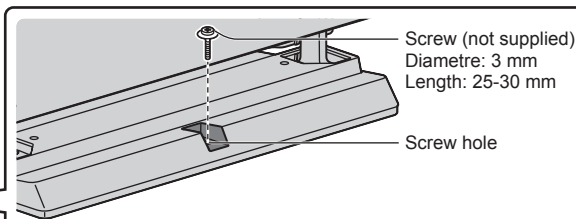
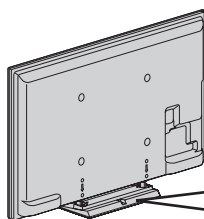
- Tighten the four assembly screws loosely at first, then tighten them firmly to fix securely.
- Carry out the work on a horizontal and level surface.



Preventing the TV from falling over

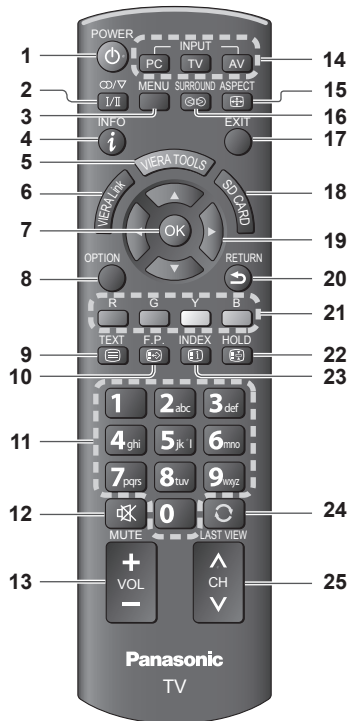
Using the fall-prevention screw hole and a screw (commercially available), securely fix the body of the pedestal to the installation surface.

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



Identifying Controls

Remote Control



1 Standby On / Off switch

- Switches TV on or off standby.

2 Sound Selection

- Changes multiplex sound mode (if available).
➔ (p. 64)

3 [Main Menu] ➔ (p. 24)

- Press to access Picture, Sound and Setup Menus.

4 Information ➔ (p. 18)

- Displays channel and programme information.

5 VIERA TOOLS ➔ (p. 23)

- Displays some special feature icons and accesses easily.

6 [VIERA Link Menu] ➔ (p. 56)

- Accesses VIERA Link Menu

7 OK

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

8 [Option Menu] ➔ (p. 18)

- Easy optional setting for viewing, sound, etc.

9 Teletext* ➔ (p. 20)

- Switches to teletext mode.

10 Favourite Page* ➔ (p. 20)

- Calls up the teletext page stored in blue button.

11 Numeric buttons

- Changes channel and teletext pages.
- Sets characters.
- When in Standby mode, switches TV on.

12 Sound Mute

- Switches sound mute on or off.

13 Volume Up / Down

14 Input mode selection

- PC - switches to PC input mode ➔ (p. 22)
- TV - switches TV mode. ➔ (p. 17)
- AV - switches to AV input mode from Input Selection list. ➔ (p. 22)

15 Aspect ➔ (p. 18)

- Changes aspect ratio.

16 [Surround] ➔ (p. 27)

- Switches surround sound setting.

17 Exit

- Returns to the normal viewing screen.

18 [Media Player] ➔ (p. 37)

- Switches to SD Card and USB device viewing / listening mode

19 Cursor buttons

- Makes selections and adjustments.

20 Return

- Returns to the previous menu / page.

21 Coloured buttons

- Used for the selection, navigation and operation of various functions.

22 Hold

- Freeze / unfreeze picture. ➔ (p. 18)
- Holds the current teletext page (teletext mode).*
➔ (p. 20)

23 Index* ➔ (p. 20)

- Returns to the teletext index page (teletext mode).

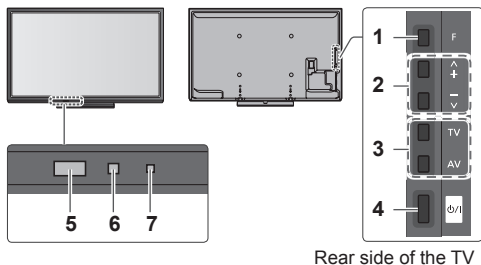
24 Last view ➔ (p. 19)

- Switches to previously viewed channel or input mode.

25 Channel Up / Down

* Some countries do not provide a teletext service.

Indicator / Control panel



Rear side of the TV

1 Function select

- [Volume] / [Contrast] / [Brightness] / [Colour] / [Sharpness] / [Tint] (NTSC signal) / [Bass]* / [Treble]* / [Balance] / [Auto Tuning] * [Music] or [Speech] mode in the Sound Menu

2 Channel Up / Down, Value change (when using the F button), Switching the TV on

3 Changes the input mode

4 Mains power On / Off switch

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

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

5 Remote control signal receiver

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

6 C.A.T.S. (Contrast Automatic Tracking System) sensor

- Senses brightness to adjust picture quality when [Eco Mode] in the Picture Menu is set to [On].
➔ (p. 25)

7 Power LED

Red: Standby

Green: On

- The LED blinks when the TV receives a command from the remote control.

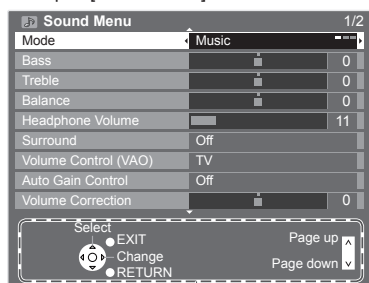
Using the On Screen Displays - Operation guide

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

■ Operation guide

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

Example: [Sound Menu]



Operation guide

■ How to use remote control



Open the main menu



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



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

RETURN



Return to the previous menu



Exit the menu system and return to the normal viewing screen

Auto power standby function

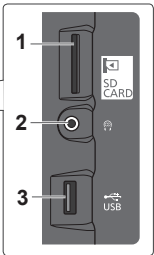
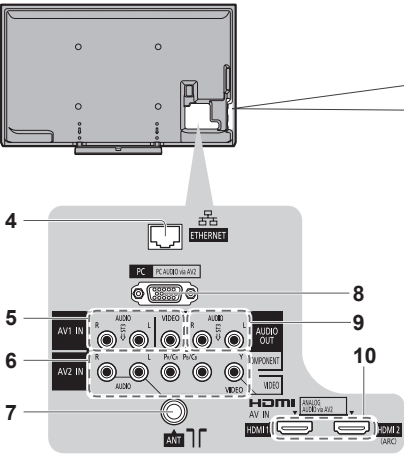
The TV will automatically go into Standby mode in the following conditions:

- No signal is received and no operation is performed for 30 minutes in TV mode.
- [Off Timer] is active in the Setup Menu. (p. 17)
- No operation is performed for the period selected in [Auto Standby] (p. 29).

Basic Connection

External equipment and cables shown are not supplied with this TV.
Please ensure that the unit is disconnected from the mains socket before attaching or disconnecting any leads.
When disconnecting the mains lead, be absolutely sure to disconnect the mains plug at the socket outlet first.

Terminals



Rear side of the TV

- 1 SD Card slot ➔ (p. 36)
- 2 Headphone jack ➔ (p. 61)
- 3 USB ➔ (p. 36, 61)
- 4 ETHERNET ➔ (p. 13, 45)
- 5 AV1 IN ➔ (p. 60)
- 6 AV2 IN ➔ (p. 60, 61)
- 7 Antenna terminal (see below)
- 8 PC ➔ (p. 61)
- 9 AUDIO OUT ➔ (p. 60)
- 10 HDMI 1 - 2 ➔ (p. 12, 60)

Basic Connection

Connections

Mains lead and aerial

■ TV

■ Mains lead

AC 220-240 V, 50 / 60 Hz
(X50P series:
AC 110-240 V, 50 / 60 Hz)

Mains lead

Aerial

RF cable

Push until both side tabs click

To remove from the TV:
Press both tabs and pull on mains connector to release

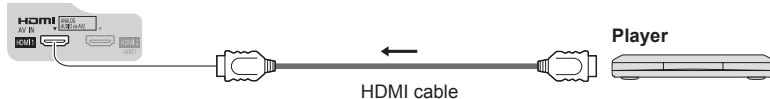
Make sure that the mains lead is securely fixed

Note

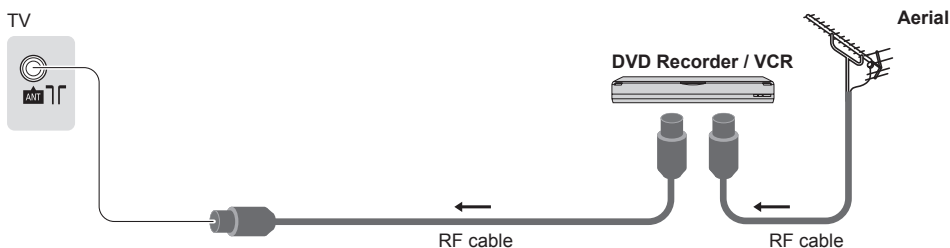
- Keep RF (antenna) cable away from the mains lead to avoid and minimise mains interference pickup.
- Do not place the RF cable under the TV.
- To obtain optimum quality picture and sound, an aerial, the correct cable (75 Ω coaxial), and the correct terminating plug are required.
- If a communal aerial 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.

AV devices**■ Player**

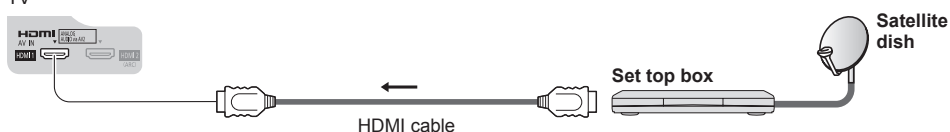
TV

**■ DVD Recorder / VCR**

TV

**■ Set top box**

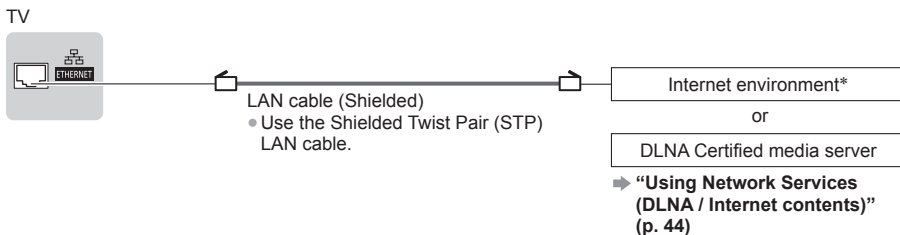
TV

**Note**

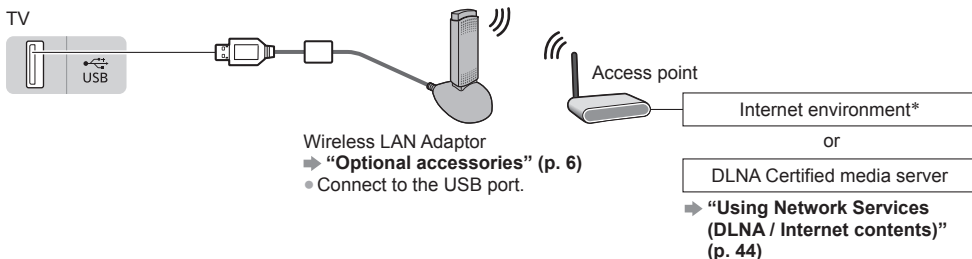
- Check the type of terminals and cable plugs are correct when connecting.
- VIERA Link connection ➔ (p. 53, 54)
- Please also read the manual of the equipment being connected.
- Keep the TV away from electronic equipment (video equipment, etc.) or equipment with an infrared sensor. Otherwise, distortion of image / sound may occur or operation of other equipment may be interfered.
- When using a HDMI cable, use the fully wired one.

Network

■ Wired connection



■ Wireless connection



*:To enable the network service functions, you need to connect the TV to a broadband network environment (except: X50K series).

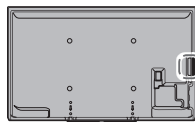
- If you do not have any broadband network services, please consult your retailer for assistance.
- Prepare the internet environment for wired connection or wireless connection.
- Setup of the network connection will start after the tuning (when first using the TV). ➔ (p. 14 - 16)

Auto Tuning

Search and store TV channels automatically.

- These steps are not necessary if the setup has been completed by your local dealer.
- Please complete connections (p. 11 - 13) and settings (if necessary) of the connected equipment before starting Auto Tuning. For details of settings for the connected equipment, read the manual of the equipment.

Auto Tuning

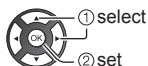


1 Plug the TV into mains socket and switch on

- Takes a few seconds to be displayed.
- If the red LED shows on the TV, press the Standby On / Off switch on the remote control.

2 Select your language

OSD Language		
English	עברית	العربية
中文	Tiếng Việt	فارسی
हिन्दी	Indonesia	Français



3 Select your area

Channel Plan	
Asia/W Europe	
CIS/E Europe	
China	
Hong Kong	
NZ/Indonesia	
CATV/Other	



- When selecting [CATV/Other], press the OK button, and then select the Channel Plan from Indian CATV, South Africa, American System, American CATV or Japan CATV.

Auto Tuning starts

- Auto Tuning will start to search for TV channels and store them. The stored channels and sorted channel order vary depending on the area, broadcasting system and conditions of signal reception.

Auto Tuning	
2	CH4
Scan	10 120

4 Setup the wireless LAN connection

Setup the network connection to enable the network service functions.

- To setup the wireless connection, the Wireless LAN Adaptor (optional accessory) is required. Please note that this TV does not support wireless public access points.
- Ensure the network connections (p. 13) and network environment are completed before starting setup.

Start wireless LAN connection setup?	
Yes	No



- To setup later on or skip this step
➔ Select [No]

5 Select the connection type

Connection Type

Please select network connection type.

WPS(Push button)

Search for access point



- If your access point supports WPS (Push button), then select this option. If not, select [Search for access point].

[WPS(Push button)]

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

WPS(Push button)

1) Please press the 'WPS' button on the access point until its light flashes.

2) When the light is flashing select 'Connect' on TV.

If you are unsure, please check the instruction manual of the access point.

Connect



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

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



Connection Test

- ☒ Check access point connection.
- ☒ Check acquired IP address.
- ☒ Check for devices using same IP address.
- ☒ Check gateway connection.
- ☒ Check server connection.

☒ : **succeeded**

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

☐ : **failed**

Check the settings and connections.

4. Go to the next step **6**



(Press twice)

[Search for access point]

Access points found automatically are listed.

1. Select your desired access point

Available Access Points

No.	SSID	Wireless Type	Encrypt	Reception
1	Access Point A	11n(2.4GHz)	B	weak
2	Access Point B	11n(5GHz)	B	weak
3	Access Point C	11n(5GHz)	B	weak



- To search access points again



: Encrypted access point

- For the information of the highlighted access point



2. Access the encryption key input mode

Encryption Key Setting

Connection will be made with the following settings:-

SSID : Access Point A

Authentication type : WPA-PSK

Encryption type : TKIP

Please input the encryption key.

Encryption key



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

3. Enter the encryption key of the access point

Access Point Settings

Encryption key

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9	-	#		
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	()	+	-	*	/									

Set characters



- You can set characters by using numeric buttons. (English only) ➔ (p. 69)

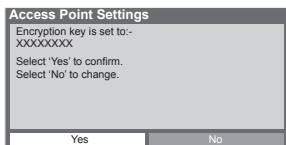
Store

RETURN



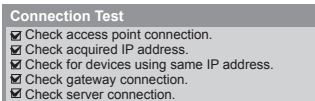
5

4. Select [Yes]



- To re-enter the encryption key, select [No].

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



☒ : succeeded

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

☐ : failed

Check the settings and connections.

To set manually, select [Manual] and set each item.

For details ➡ (p. 48)

6. Go to the next step 6

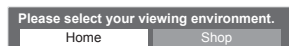


(Press twice)

6

Select [Home]

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



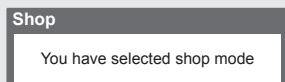
■ [Shop] viewing environment (for shop display only)

[Shop] viewing environment is the demonstration mode to explain main features of this TV.

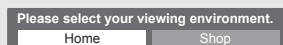
Select [Home] viewing environment to use in your home environment.

- You can return to viewing environment selection screen at the stage of Shop confirmation screen and Automatic Demo Off / On selection screen.

1 Return to viewing environment selection screen



2 Select [Home]



To change viewing environment later on, you will need to initialise all settings by accessing Shipping Condition. ➡ [Shipping Condition] (p. 34)

Auto Tuning is now complete and your TV is ready for viewing.

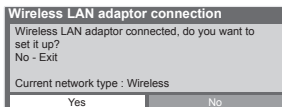
If tuning has failed, check the connection of the RF cable, and then, follow the on-screen instructions.

Note

- To edit or hide (skip) channels ➡ "Tuning and Editing Channels" (p. 30 - 32)
- To retune all channels ➡ [Auto Tuning] in "Tuning and Editing Channels" (p. 31, 32)
- To initialise all settings ➡ [Shipping Condition] (p. 34)

If you connect the Wireless LAN Adaptor later on, the confirmation screen will be displayed for the setup.

- To setup the wireless connection ➡ (p. 47)



Watching TV



1 Turn power on

POWER



- Mains power On / Off switch should be on. (p. 10)

2 Select TV mode

TV

3 Select a channel



up

down

or



- To select the two-digit channel position number, e.g. 39

Other useful functions

Off Timer

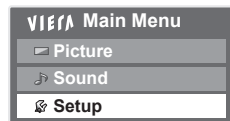
Turn the TV to Standby mode automatically after a fixed period
[Off] / [15] / [30] / [45] / [60] / [75] / [90] (minutes)

1 Display the menu

MENU



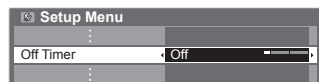
2 Select [Setup]



① select

② access

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



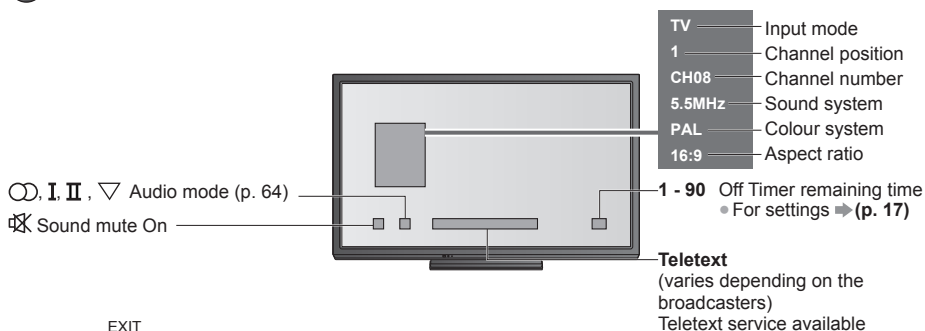
change

- To cancel, set to [Off] or turn the TV off.
- To confirm the remaining time ➡ “Display Information banner” (p. 18)
- When the remaining time is within 3 minutes, the remaining time will flash on the screen.

Display Information banner

Display Information banner

INFO • Also appears when changing a channel.



⊕, I, II, ▽ Audio mode (p. 64)

🔇 Sound mute On

• To hide ➔ EXIT

Display the selectable settings for the current status

Confirm or change the current status instantly



[Channel Colour Set]

Sets colour density

➔ (p. 25)

[MPX]

Selects multiplex sound mode (if available)

➔ (p. 28)

[Teletext Character Set]

Sets the teletext language

➔ (p. 28)

[Volume Correction]

Adjusts volume of individual channel or input mode

Hold

Freeze / unfreeze picture

HOLD

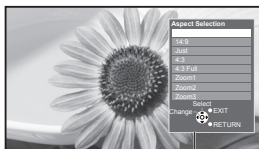


Aspect

Change the aspect ratio (image size)

1 Display Aspect Selection list

ASPECT



Aspect Selection list

2 While the list is displayed, select the mode



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

ASPECT

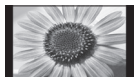


[16:9]



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

[14:9]



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

[Just]



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

[4:3]



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

[4:3 Full]



Displays a 4:3 image enlarged horizontally to fit the screen.
• For HD signal

[Zoom1]



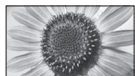
Displays a 16:9 letterbox or 4:3 image without distortion.

[Zoom2]



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

[Zoom3]



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

Note

- 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].
- Not available in teletext service.
- Aspect mode can be memorised separately for SD (Standard definition) and HD (High definition) signals.

Last view

Switch to previously viewed channel or input mode easily



LAST VIEW

- Press again to return to the current view.

Note

- Watching less than 10 seconds is not regarded as the previously viewed channel or input mode.

Change OSD language

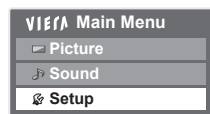
You can change language for on-screen displays.

1 Display the menu

MENU



2 Select [Setup]



3 Select [OSD Language]



4 Select the language and set

OSD Language			
English	العربية	العربية	
中文	Tiếng Việt	فارسی	
हिन्दी	Indonesia	Français	



Viewing Teletext

Teletext services are the text information provided by the broadcasters (only available in some countries). The features may vary depending on the broadcasters.

What is FASTEXT mode?

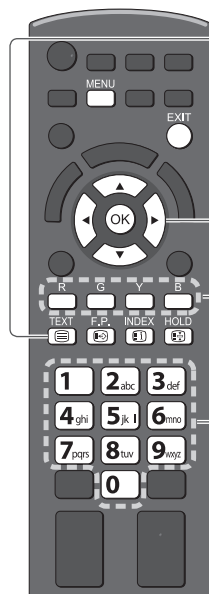
In FASTEXT mode, four differently coloured subjects are situated at the bottom of the screen. To access more information about one of these subjects, press the appropriate coloured button. This facility enables fast access to information on the subjects shown.

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. 21)

■ To change mode ➔ [Teletext] (p. 28)

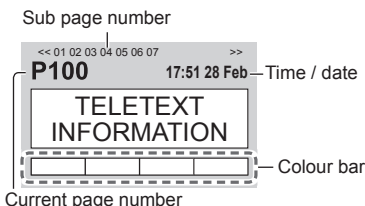
Viewing Teletext



1 Switch to Teletext



- Displays the index page (content varies depending on the broadcasters).



2 Select the page



- or Coloured button (Corresponds to the colour bar)

■ To adjust contrast



(Press three times)



As the blue bar is displayed



■ To return to TV

EXIT



Reveal hidden data

Reveal hidden words e.g. quiz page answers

MENU



R



- Press again to reheide.

HOLD

Stop automatic updating

HOLD



(If you wish to hold the current page without updating)

- Press again to resume.

INDEX

Return to the main index page

INDEX



Call up a favourite page

View a favourite page stored

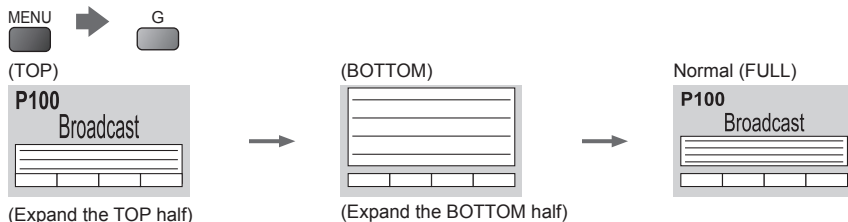
Call up the page stored on the blue button (List mode).

F.P.



- Factory setting is "P103".

FULL / TOP / BOTTOM



View in multi window

Watch TV and Teletext in two windows at once



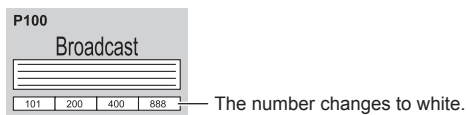
- Operations can be made only in teletext screen.



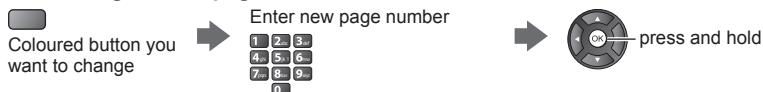
Store frequently viewed pages

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

As page is displayed

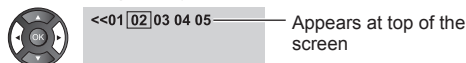


■ To change stored pages



View sub page

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



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

■ To view specific sub page



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.

Changes to TV screen temporarily



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

Watching External Inputs

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

- To connect the equipment ➔ (p. 11 - 13, 60 - 62)

1 Turn the TV on

POWER



If input mode is not switched automatically

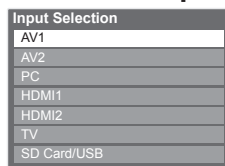
Perform **2** and **3**

- Check the setup of the equipment.

2 Display the input selection menu

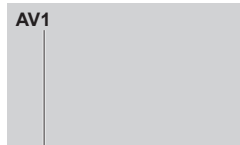
When viewing PC, press the PC button and go to the step **4**

3 Select the input mode connected to the equipment



- You can also select the input using the AV button on the remote control or the TV (except [SD Card/USB]).
Press the button repeatedly until the desired input is selected.
- [SD Card/USB]: Switches to Media Player. ➔ **“Using Media Player”** (p. 36)
- You can label or skip each input mode (except [SD Card/USB]).
➔ **“Input Labels”** (p. 28)
Skipped inputs will not be displayed when the AV button is pressed.

4 View



Displays the selected mode

Note

- If the external equipment has an aspect adjustment function, set it to [16:9].
- For details, read the manual of the equipment or ask your local dealer.

■ To return to TV

TV

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

Example: X50K series



■ To return to TV

EXIT



■ Follow the operations of each feature



[VIERA Link]
➔ (p. 56 - 59)



[Photo]*
➔ (p. 38)



[Video]*
➔ (p. 41)



[Music]*
➔ (p. 43)



[Media Server]
➔ (p. 44)

Internet contents

Part of Icons on VIERA TOOLS screen above provide you the usable Internet contents.

➔ **“Accessing the Internet contents (except: X50K series)”** (p. 52)

*When two or more available devices are connected, a selection screen will be displayed.

Please select the correct description and access.

■ Available features depending on TV models

X50D series



Internet contents

X50M series, X50P series, X50Q series



Internet contents

X50K series



- To access the internet contents
➔ **“Accessing the Internet contents (except: X50K series)”** (p. 52)
- To use VIERA Link Menu, press VIERA Link button
➔ (p. 56)

- To access the internet contents
➔ **“Accessing the Internet contents (except: X50K series)”** (p. 52)

- Internet contents are not available.

Note

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

How to Use Menu Functions

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

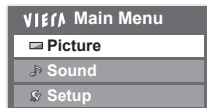


1 Display the menu

- MENU** • Displays the functions that can be set (varies according to the input signal).

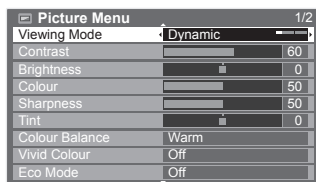
2 Select the menu

Example: [Picture Menu]



3 Select the item

Example: [Picture Menu]



■ Choose from among alternatives

Number and positions of alternatives



Changed



■ Adjust using the slide bar



Moved



■ Go to the next screen



Displays the next screen



■ To return to TV at any time

EXIT



■ To return to the previous screen

RETURN



■ To change menu pages



■ Enter characters by free input menu

You can enter names or numbers freely for some items. (English only)



Set characters one by one



- You can set characters by using numeric buttons. (English only)
- ➔ "Characters table for numeric buttons" (p. 69)

■ To reset the settings

- Picture or sound settings only
- ➔ [Reset to Defaults] in the Picture Menu (p. 26) or Sound Menu (p. 28)
- To initialise all settings
- ➔ [Shipping Condition] (p. 34)

Store



Menu list

Menu	Item	Adjustments / Configurations (alternatives)
Picture	Viewing Mode	<p>Selects your favourite picture mode for each input [Dynamic] / [Normal] / [Cinema] / [True Cinema] / [Game]</p> <p>[Dynamic]: Improves contrast and sharpness for viewing in a bright room.</p> <p>[Normal]: Normal use for viewing in a normal lighting condition.</p> <p>[Cinema]: Improves the performance of contrast, black and colour reproduction for watching movies in a darkened room.</p> <p>[True Cinema]: Reproduces the original image quality precisely without any revision.</p> <p>[Game]: Provides suitable images for fast response signal when playing games.</p> <ul style="list-style-type: none"> • Not valid on TV mode • To display a continuous record of time spent using Game mode ➔ [Playing Time Display] (p. 28)
	Contrast, Brightness, Colour, Sharpness	Adjusts the levels of these options according to your personal preference
	Tint	<p>Adjusts the picture hue to suit your taste</p> <ul style="list-style-type: none"> • For NTSC signal, Component and HDMI input
	Colour Balance	<p>Sets the overall colour tone of the picture [Cool] / [Normal] / [Warm]</p> <ul style="list-style-type: none"> • Not valid when [Viewing Mode] is set to [True Cinema]
	Channel Colour Set	<p>Adjusts the suitable colour density from 3 levels for each channel</p> <ul style="list-style-type: none"> • Select the channel to adjust and set this function.
	Vivid Colour	<p>Automatically adjusts colours to vivid ones [Off] / [On]</p> <ul style="list-style-type: none"> • Not valid on PC mode
	Eco Mode	<p>Automatic Brightness Control function</p> <p>Adjusts picture settings automatically depending on ambient lighting conditions [Off] / [On]</p>
	P-NR	<p>Picture Noise Reduction</p> <p>Reduces unwanted picture noise and flicker noise in the contoured parts of a picture [Off] / [Min] / [Mid] / [Max]</p> <ul style="list-style-type: none"> • Not valid on PC mode
	3D-COMB	<p>Makes still or slow moving pictures more vivid [Off] / [On]</p> <ul style="list-style-type: none"> • Occasionally, while viewing still or slow moving pictures, colour patterning may be seen. Set to [On] to display sharper and more accurate colours. • For PAL / NTSC signal reception in TV mode or from composite

Menu	Item	Adjustments / Configurations (alternatives)
Picture	Screen Display	<p>Turns the screen off when you select [Off]</p> <p>[Off] / [On]</p> <ul style="list-style-type: none"> • The sound is active even if the screen turns off. • Press any buttons (except Standby) to turn the screen on. • This function is effective in reducing power consumption when listening to the sound without watching the TV screen.
	Refresh Rate	<p>Changes the image processing of the panel (depending on the input signal)</p> <p>[50Hz] / [100Hz]</p> <ul style="list-style-type: none"> • Set to [100Hz] normally
	Side Panel	<p>Adjusts the brightness of the side panel [Off] / [Low] / [Mid] / [High]</p> <ul style="list-style-type: none"> • The recommended setting is [High] to prevent panel "image retention".
	16:9 Overscan	<p>Selects the screen area displaying the image [Off] / [On]</p> <p>[On]: Enlarges the image to hide the edge of the image.</p> <p>[Off]: Displays the image in the original size.</p> <ul style="list-style-type: none"> • Set to [On] if noise is generated on the edge of the screen. • This function is available when aspect is set to [16:9]. • This function can be memorised separately for SD (Standard definition) and HD (High definition) signals. • Not valid on PC mode
	AV Colour System	<p>Selects optional colour system based on video signals in AV mode [Auto] / [PAL] / [SECAM] / [M.NTSC] / [NTSC]</p>
	Colour Matrix	<p>Selects the suitable colour parameter for SD (Standard definition) or HD (High definition) signal [SD] / [HD]</p> <ul style="list-style-type: none"> • This function is available with 480p or 576p input signal from COMPONENT or HDMI terminal.
	DVI Input Setting	<p>Changes the black level of the image for HDMI input mode with DVI input signal manually [Normal] / [Full]</p> <ul style="list-style-type: none"> • When the DVI input signal from the external equipment (especially from PC) is displayed, the black level may not be suitable. In this case, select [Full]. • The black level for HDMI input signal will be adjusted automatically. • For HDMI input mode with DVI input signal
	Pixel Orbiter	<p>Selects the mode for wobbling of the image to prevent panel "image retention"</p> <p>[Auto] / [On]</p> <p>[Auto]: Automatically works only for the appropriate images and you rarely recognise the wobbling.</p>
	Scrolling Bar	<p>Displays scrolling bar pattern to assist elimination of panel "image retention"</p> <ul style="list-style-type: none"> • Press the OK button to start scrolling and press any buttons (except Standby) to exit this mode. • For positive effect to eliminate "image retention", it may be necessary to display for a long time.
	Reset to Defaults	<p>Press the OK button to reset the current Picture Viewing Mode of the selected input to the default settings</p>

Menu	Item	Adjustments / Configurations (alternatives)
Sound	Mode	<p>Selects your favourite sound mode for each input [Music] / [Speech] / [User]</p> <p>[Music]: Improves sound quality for watching music videos, etc.</p> <p>[Speech]: Improves sound quality for watching news, drama, etc.</p> <ul style="list-style-type: none"> In Music and Speech modes, you can adjust [Bass] and [Treble] settings, and those settings will be stored for each mode. <p>[User]: Adjusts the sounds manually by using the equaliser to suit your favourite sound quality.</p> <ul style="list-style-type: none"> For the User mode, [Equaliser] will appear on the Sound Menu instead of [Bass] and [Treble]. Select [Equaliser] and adjust the frequency. ➡ [Equaliser] (see below)
	Bass	Adjusts level to enhance or minimise lower, deeper sound output
	Treble	Adjusts level to enhance or minimise sharper, higher sound output
	Equaliser	<p>Adjusts the frequency level to suit your favourite sound quality</p> <ul style="list-style-type: none"> This function is available when [Mode] is set to [User]. Select the frequency and change the frequency level by using the cursor button. To enhance the bass sound, raise the level of the lower frequency. To enhance the treble sound, raise the level of the higher frequency. To reset the levels of each frequency to the default settings, select [Reset to Defaults] by using the cursor button, and then press the OK button.
	Balance	Adjusts volume level of right and left speakers
	Headphone Volume	Adjusts the volume of the headphones
	Surround	<p>Surround sound settings [Off] / [V-Audio] / [V-Audio Surround]</p> <p>[V-Audio]: Provides a dynamic enhancer of width to simulate improved spatial effects.</p> <p>[V-Audio Surround]: Provides a dynamic enhancer of width and depth to simulate improved spatial effects.</p> <ul style="list-style-type: none"> Switching is also possible by the SURROUND button on the remote control (p. 9)
	Volume Control (VAO)	<p>Controls the volume level of the sound output from AUDIO OUT terminals with the TV remote control [TV] / [Audio Out (TV Off)] / [TV and Audio Out]</p> <p>[TV]: Only the volume level of TV speakers is adjustable. [Audio Out (TV Off)]: Only the volume level from AUDIO OUT terminals is adjustable. (The sound of TV speakers is mute.) [TV and Audio Out]: Controls both volume levels together.</p>
	Auto Gain Control	Automatically regulates large sound level differences between channels and inputs [Off] / [On]
	Volume Correction	Adjusts the volume of individual channel or input mode

Menu	Item	Adjustments / Configurations (alternatives)
Sound	Speaker Distance to Wall	Compensates for the low frequency sound due to the distance between the speakers and the wall [Over 30cm] / [Up to 30cm] <ul style="list-style-type: none"> • If the back space between the TV and wall is over 30 cm, [Over 30cm] is recommended. • If the back space between the TV and wall is within 30 cm, [Up to 30cm] is recommended.
	MPX	Selects multiplex sound mode (if available) [Stereo] : Use this normally. [Mono] : When stereo signal cannot be received. [M1] / [M2] : Available while mono signal is transmitted.
	HDMI1 / 2 Input	Selects to fit the input signal [Digital] / [Analogue] (p. 68) [Digital] : When sound is carried via the HDMI cable connection [Analogue] : When sound is not carried via the HDMI-DVI adaptor cable connection <ul style="list-style-type: none"> • For HDMI input
	Reset to Defaults	Press the OK button to reset the current Sound Mode, [Balance], [Headphone Volume] and [Surround] to the default settings
Setup	Off Timer	Sets the duration of time until the TV automatically goes into Standby mode [Off] / [15] / [30] / [45] / [60] / [75] / [90] (minutes) (p. 17)
	Eco Navigation	Automatically sets the TV to the most suitable energy-saving mode <ul style="list-style-type: none"> • If you press the OK button, the following items are set as below: [Eco Mode], [VIERA Link], [Power off Link], [Standby Power Save], [Power Save] ➡ [On] [Intelligent Auto Standby] ➡ [On (No reminder)] [Auto Standby] ➡ [2 hours]
	Child Lock	Applies access control for channels or inputs to prevent unwanted access (p. 33)
	Tuning Menu	Channel List Edit
		Auto Tuning
		Manual Tuning
	OSD Language	
	Display Settings	Teletext
		Teletext Character Set
		Input Labels
		Banner Display Timeout
		Playing Time Display

Menu	Item	Adjustments / Configurations (alternatives)
Setup	VIERA Link Settings	VIERA Link Sets to use VIERA Link functions [Off] / [On] (p. 55)
		Power on Link Sets to use Power on Link functions [Off] / [On] (p. 55)
		Power off Link Sets to use Power off Link functions [Off] / [On] (p. 55)
		Standby Power Save Controls the connected equipment to reduce power consumption in Standby [Off] / [On] (p. 56) <ul style="list-style-type: none"> This function is available when [VIERA Link] is set to [On] and [Power off Link] is set to [On].
		Intelligent Auto Standby Makes non-watched or non-used connected equipment go into Standby mode to reduce the power consumption [Off] / [On (With reminder)] / [On (No reminder)] (p. 56) <ul style="list-style-type: none"> This function is available when [VIERA Link] is set to [On].
	Network Setup	Connection Test, Network Type, Access Point Settings, IP/DNS Settings Sets the network setting to use in your network environment (p. 46)
		Internet Contents Settings Sets to hide or reveal icons of internet contents on VIERA TOOLS (except: X50K series)
		Software Update Checks for available software updates from Panasonic website (except: X50K series)
		MAC Address Displays the MAC address of this TV
	DivX® VOD Displays DivX VOD registration code (p. 66)	
	System Menu	Shipping Condition Resets all settings to the original condition (p. 34)
		Software Licence Displays the software licence information
		System Information Displays the system information of this TV
	Other Settings	Auto Standby Sets the duration of time that the TV will remain on when no operation is performed [Off] / [2] / [4] (hours) <ul style="list-style-type: none"> Automatic input switching with the connected equipment affects this function and time-count will be reset. The notification message will appear 3 minutes before going into Standby mode.
		Power Save Reduces brightness of the picture to economise on power consumption [Off] / [On]

- A different menu will be displayed in the mode of PC input or Media Player (p. 35, 36 - 43, 49 - 52)
- Only available items can be selected.

Tuning and Editing Channels

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

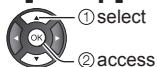
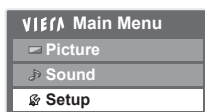
1 Select TV mode

➔ (p. 17)

TV

2 Display the menu and select [Setup]

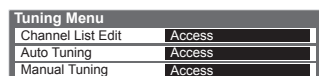
MENU



3 Select [Tuning Menu]



4 Select one of the following functions

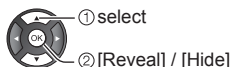
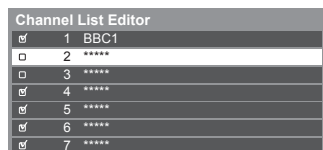


Skip unwanted channels, Edit Channels [Channel List Edit]

You can hide (skip) unwanted channels.

The hidden channels cannot be displayed except in this function.

Select a channel and reveal / hide



- ☒ : [Reveal]
- ☐ : [Hide] (skip)

- To reveal all channels



■ To edit channels

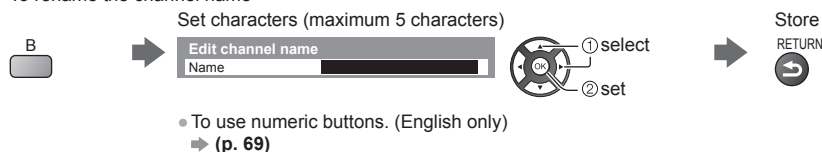
- To move the channel position (if available)



- To retune each channel ([Manual Tuning] (p. 32))



- To rename the channel name



- To use numeric buttons. (English only)
➡ (p. 69)

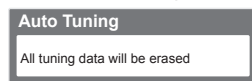
Note

- If a VCR is connected only with the RF cable, edit [VCR].

Set all channels automatically [Auto Tuning]

Automatically retune all channels received in the area.

1 Start Auto Tuning



2 Settings are made automatically



- All the previous tuning settings are erased.
- When the operation is completed, the channel at the lowest position will be displayed.
- Search begins in the order from the lower channels to the higher channels.
- If tuning has not been done completely ➡ [Manual Tuning] (p. 32)

Set TV channel manually [Manual Tuning]

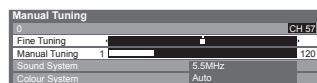
[Fine Tuning]:

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

[Manual Tuning]:

Set TV channel manually after Auto Tuning.

- Set [Sound System] and [Colour System], and then perform this function. Normally set [Colour System] to [Auto].
- If a VCR is connected only with the RF cable, select channel position [0].



1 Select the channel position



2 Select the channel



3 Search and store



Auto Tuning using the buttons on the TV

For Auto Tuning, using the buttons on the TV (p. 10)

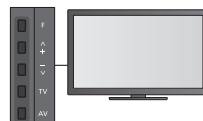
1 Press the F button repeatedly until [Auto Tuning] appears



2 Access [Auto Tuning]



3 Start [Auto Tuning]



- To return to TV
- Control panel OSD appears when pressing the control panel button.

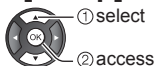
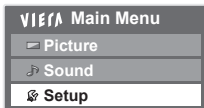
Child Lock

You can lock specific channels / AV input terminals and control who watches them.

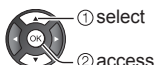
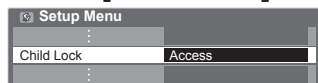
When the locked channel / input is selected, a message appears. Enter the PIN number to watch.

1 Display the menu and select [Setup]

MENU



2 Select [Child Lock]



Control channel audience [Child Lock]

1 Enter the PIN number (4 digits)



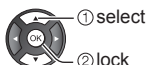
- Enter the PIN number twice at first setting.
- Make a note of the PIN number in case you forget it.

2 Select [Child Lock List]



3 Select the channel / input to be locked

Name	Input	Type	Lock
1	TV	TV	
2	TV	TV	
3	TV	TV	
4	TV	TV	
5	TV	TV	
6	TV	TV	
AV1	External	AV	
AV2	External	AV	



: Appears when the channel / input is locked

• To cancel

Select the locked channel / input



• To cancel all locks



• To lock all



• To jump to the top of the next input



■ To change the PIN number

1. Select [Change PIN]



2. Enter a new PIN number twice



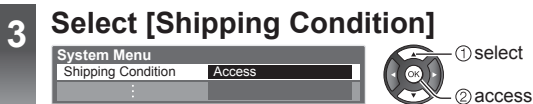
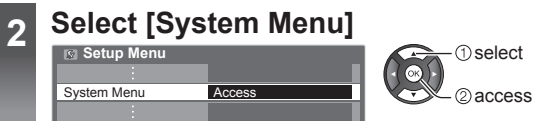
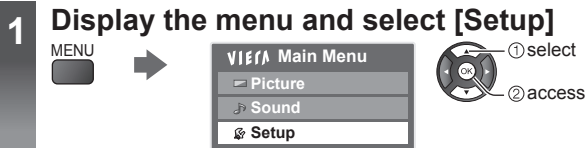
Note

- Setting [Shipping Condition] (p. 34) erases the PIN number and all settings.

Shipping Condition

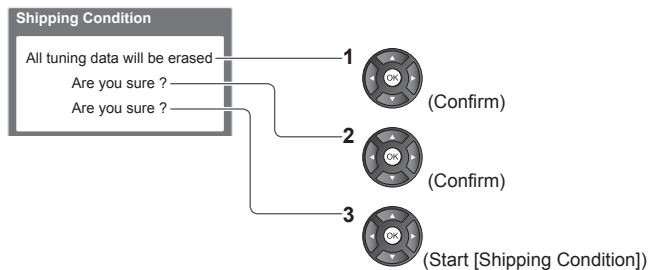
Resets the TV to its original condition, i.e. no channels tuned in.
All settings are reset (channels, picture, sound settings, etc.).

- To retune TV channels only, e.g. after moving house
➔ [Auto Tuning] in "Tuning and Editing Channels" (p. 31, 32)



Restore Settings [Shipping Condition]

1 Check the message and initialise



2 Follow the on-screen instructions

Reset to Factory Shipping Condition
Completed.
TV will automatically restart.
Do not turn off

- [Auto Tuning] will automatically start.
(p. 14)

Displaying PC Screen on TV

The screen of the PC connected to the TV can be displayed on the TV.
You can also listen to PC sound with the audio cable connected.

- To connect PC ➔ (p. 61)

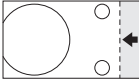
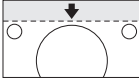
1 Display the screen of the PC

PC

- Corresponding signals ➔ (p. 70)
- If [H-freq.] or [V-freq.] is shown in red, the signals may not be supported.

PC menu setting

- To make settings ➔ “How to Use Menu Functions” (p. 24)

Menu	Item		Adjustments / Configurations (alternatives)
Picture	Advanced Settings	White Balance	R-Gain, G-Gain, B-Gain
		R-Cutoff, G-Cutoff, B-Cutoff	Adjusts the white balance of dark red / green / blue area
		Reset to Defaults	Press the OK button to reset to the default White Balance
	Gamma	Gamma	Switches the gamma curve [S Curve] / [1.8] / [2.0] / [2.2] / [2.4] / [2.6] • Please note the numerical values are reference for the adjustment.
		Reset to Defaults	Press the OK button to reset to the default Gamma
Setup	PC Setup	Input Resolution	Switches to a wide view: VGA (640 × 480 pixels) / WVGA (852 × 480 pixels) / XGA (1,024 × 768 pixels) / WXGA (1,280 × 768 pixels, 1,366 × 768 pixels) • Options change depending on signals
		Clock	Set to the minimum level if noise occurs
		H-pos	Adjusts horizontal position 
		V-pos	Adjusts vertical position 
		Clock Phase	Eliminates flicker and distortion • Adjust after Clock adjustment • Set to the minimum level if noise occurs
		Sync	Chooses another synchronous signal if the image is distorted [H & V] / [On Green] [H & V]: by the horizontal and vertical signals from your PC [On Green]: by the green signal from your PC (if available)
		Reset to Defaults	Press the OK button to reset [PC Setup] to the default settings

- Other items (p. 25 - 29)

Note

- For HDMI-compatible PC, possible to connect to HDMI terminals (HDMI1 / HDMI2) by using HDMI cable (p. 68).

Using Media Player

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

Photo mode:

Still pictures recorded by digital cameras will be displayed.

Video mode:

Moving pictures recorded by digital video cameras and digital video data will be played back.

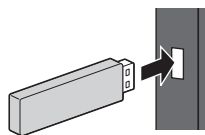
Music mode:

Digital music data will be played back.

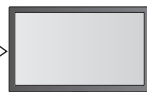
- During the operation, audio signal is output from AUDIO OUT and HDMI2 (ARC function) terminals. To use HDMI2 with ARC function, connect an amplifier that has ARC function (p. 54) and set to use theatre speakers (p. 59).
- [Date] shows the date on which the recording was made by the recording equipment. The file without record of the date is shown "*****/**/****".
- The picture may not appear correctly on this TV depending on the recording equipment used.
- Display may take some time when there are many files and folders.
- Partly degraded files might be displayed at a reduced resolution.
- Picture setting may not work depending on the conditions.
- The folder and file names may be different depending on the digital camera or digital video camera used.

■ To insert or remove the SD Card / USB Flash Memory

USB Flash Memory



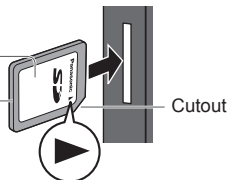
- Insert or remove straightly and completely.
- Check the type of terminals and plugs are correct when connecting.



SD Card

① Gently insert the SD Card with the label surface facing front.

② Push until a click is heard. To remove, push it again.



- For the information of the devices ➡ **"Devices for playing back"** (p. 67)
- For the supported file format ➡ **"Supported file format in Media Player and media servers"** (p. 65, 66)

1 Insert the SD Card or USB Flash Memory to the TV

➔ (p. 36)

- When the SD Card is inserted, switching to Media Player will be done automatically.

2 Start Media Player



- You can also start by pressing following button.

AV ➔ "Watching External Inputs" (p. 22)

3 Select the device to access

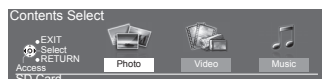


Selected device name



- If two or more devices are not connected, this step will be skipped.

4 Select the content



[Photo] ➔ (p. 38)

[Video] ➔ (p. 41)

[Music] ➔ (p. 43)

5 Enjoy Media Player

Example: Thumbnail - [All photos]



- To display the information of the highlighted content



File name	1/48
Date	p1010001.JPG
Pixel	2011/10/23
	1600X1200

File number / Total file number

Selected device name

Note

- You can also access each mode directly by using VIERA TOOLS. ➔ (p. 23)
- Select the appropriate device and content for playing back each file.

Change the device

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

1 While the thumbnail is displayed, display the device selection



2 Select the device to access



Selected device name



Change the contents

You can switch to the other mode of Media Player from the thumbnail view.

- The mode can be switched in the current device.

1 While the thumbnail is displayed, display the contents selection



2 Select the contents

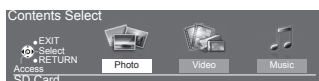


Photo mode

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

The thumbnail of all the photos in the SD Card or USB Flash Memory will be displayed.

Example: Thumbnail - [All photos]



- To change the size of photos on a thumbnail screen



: Error display

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

Select the file from the thumbnail of photos to be viewed



Example:



Operation guide

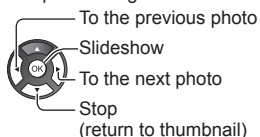
- To display / hide the operation guide



- To return to thumbnail



- To operate Single view



- To rotate 90°



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

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



- To display / hide the operation guide



- To change the back ground music → "Photo Settings" (p. 39)

2 Start Slideshow



- To pause (return to Single view)



- To return to thumbnail



■ To sort by folder, recorded date or recorded month

1 Display the view selection in the thumbnail view



2 Select the sort type



[Folder view]:

Displays the thumbnail grouped by folder.

- The files which are not into a folder will be collected to the folder named "I".

[Sort by Date] / [Sort by Month]:

Displays the thumbnail grouped by the same date or month.

- The group of the photos without a recorded date is shown as [Unknown].

- To return to the thumbnail of all photos

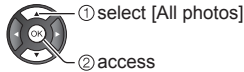


Photo Settings

Setup the settings for Photo mode.

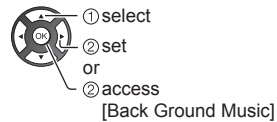
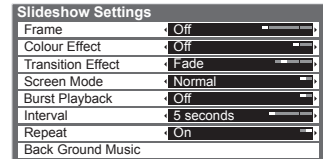
1 Display the option menu



2 Select [Slideshow Settings]



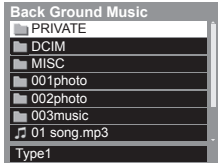

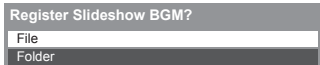

3 Select the items and set



Note

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

Menu	Item	Adjustments / Configurations (alternatives)
Slideshow Settings	Frame	<p>Selects the frame type of the slideshow [Off] / [Multi] / [Collage] / [Drift (+ calendar)] / [Drift] / [Gallery (+ calendar)] / [Gallery] / [Cinema]</p> <p>[Multi]: 9 photos are displayed orderly at once.</p> <p>[Collage]: Each photo is displayed at a random position and random scale.</p> <p>[Drift (+ calendar)] / [Drift]: Photos are displayed like flow images.</p> <ul style="list-style-type: none"> • You can select to display the calendar or not. The month of calendar is turned by pressing the left or right cursor button. <p>[Gallery (+ calendar)] / [Gallery]: The various sizes of photos in the frame are displayed.</p> <ul style="list-style-type: none"> • You can select to display the calendar or not. The month of calendar is turned by pressing the left or right cursor button. <p>[Cinema]: Photos are displayed like old films (sepia tone).</p>
	Colour Effect	<p>Selects the colour effect of photos on Single view and Slideshow [Off] / [Sepia] / [Gray scale]</p> <ul style="list-style-type: none"> • This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema].

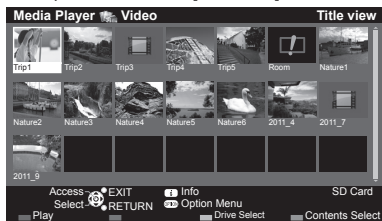
Menu	Item	Adjustments / Configurations (alternatives)
Slideshow Settings	Transition Effect	<p>Selects the transition effect for switching the photo during the slideshow [Off] / [Fade] / [Slide] / [Dissolve] / [Motion] / [Random] [Fade]: The next photo fades in gradually. [Slide]: The next photo slides and appears from the left side. [Dissolve]: Each photo is dissolved when switching to the next photo. [Motion]: Each photo is displayed with an effect of enlarging, reducing, moving up or moving down. [Random]: Each transition is selected at random. • This function is available when [Frame] is set to [Off].</p>
	Screen Mode	<p>Selects enlarged or normal viewing on Single view and Slideshow [Normal] / [Zoom] • This function is not available when [Frame] is set to [Collage], [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion]. • Depending on the photo size, it may not be fully enlarged to fill the screen, e.g. portrait style picture.</p>
	Burst Playback	<p>Selects whether to display burst photos in a fast-paced slideshow mode [Off] / [On] • This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion].</p>
	Interval	<p>Selects slideshow interval [5] / [10] / [15] / [30] / [60] / [90] / [120] (seconds) • This function is not available when [Frame] is set to [Drift], [Gallery] or [Cinema] or when [Transition Effect] is set to [Motion].</p>
	Repeat	<p>Slideshow repeat [Off] / [On]</p>
	Back Ground Music	<p>Selects the back ground music during Photo mode [Off] / [Type1] / [Type2] / [Type3] / [User] / [Auto] • [Type1], [Type2] and [Type3] are the fixed music each installed in this TV. [User]: Music data in the device registered by yourself will be played back.</p> <p>To register the music</p> <ol style="list-style-type: none"> 1. Select the music file Depending on the condition of the device, select folders until you reach the desired music file. 2. Select [File] or [Folder] <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>① select</p>  <p>② access</p> </div> <div style="text-align: center;">  <p>① select</p>  <p>② set</p> </div> </div> <p>[File]: The selected music file will be registered. [Folder]: All the music in the folder which contains the selected music file will be registered.</p> <ul style="list-style-type: none"> • If no music has been registered or the device which has the registered music is removed, no sound will be produced. <p>[Auto]: Music data stored in the root folder of the current device will be played back randomly.</p> <ul style="list-style-type: none"> • If there is no available music data, no sound will be produced.

Video mode

- Supported file format ➔ (p. 65)

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

Example: Thumbnail - [Title view]



: Error display

: The file does not support thumbnail view.

The preview will start when the title / scene is highlighted if it supports a preview.

- To turn off the preview
➔ **“Video Setup / Auto Resume Setup”** (p. 41)

- To play back the selected title

Select the title



Start playback



- Auto Resume (X50D series only)

Playback automatically starts from where you watched last time when you turn the TV on after the TV is turned off or in Standby mode due to electric outage, etc.

To turn off the auto resume ➔ **“Auto Resume Setup”**
(see below, p. 43)

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

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

1 Select the title



2 Select the scene



3 Start playback

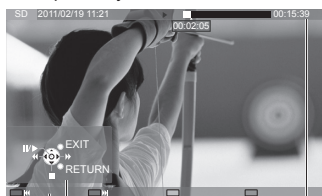


Note

- The structure of titles and scenes may vary depending on the digital video camera used.
- To repeat playback ➔ **“Video Setup / Auto Resume Setup”** (p. 41)

■ How to operate in the playback

Example: Playback



Operation guide

Information banner

- To display / hide the operation guide and information banner



- To operate the playback



◀◀ Rewind

⏸ / ▶▶ Pause / Playback

▶▶ Fast forward

■ Stop

- To change aspect



- To the previous title / scene



- To the next title / scene



- To return to thumbnail



■ Video Setup / Auto Resume Setup

Setup the settings for Video mode.

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

1 Display the option menu



2 Select [Video Setup] or [Auto Resume Setup]



3 Select the items and set



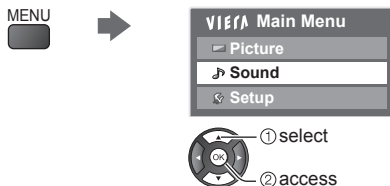
Menu	Item	Adjustments / Configurations (alternatives)
Video Setup	Video Preview	Sets to start the preview of the title or scene in the thumbnail view [Off] / [On] <ul style="list-style-type: none"> Image may not be displayed for an instant in the thumbnail view. Set the preview [Off] to resolve this. Only available in the thumbnail view
	Multi Audio	Selects between selectable sound tracks (if available) <ul style="list-style-type: none"> It may take several seconds to change the sound. Only available during playback
	Subtitle	Turns the subtitle On / Off and selects the subtitle file (if available)
	Subtitle Text	Selects the font type, if the subtitles text is not displayed correctly [Latin 1] / [Latin 2] / [Cyrillic] / [Turkish] / [Unicode] / [Chinese1] / [Chinese2] <ul style="list-style-type: none"> Some subtitles text may not be displayed correctly.
	Aspect Change	[Aspect1] : Displays the content enlarged without distortion. [Aspect2] : Displays the content full-screen. [Original] : Displays the content original size. <ul style="list-style-type: none"> You can also change the aspect using the ASPECT button. Aspect change may not work depending on the content. Only available during playback
	Repeat	Playback repeat within the title or selected file (depending on the content) [Off] / [On]
Auto Resume Setup	Resume (X50D series only)	Playback automatically starts from where you watched last time when you turn the TV on after the TV is turned off or in Standby mode due to electric outage, etc. [Off] / [On] <ul style="list-style-type: none"> This setting is memorised together for Video mode and Music mode.

Audio output Settings

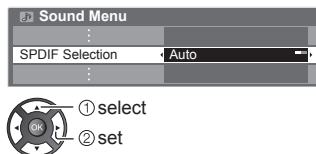
You can enjoy the multi-channel sound via an amplifier connected to HDMI2 (ARC function) terminal.

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

1 Display the menu and Select [Sound]



2 Select [SPDIF Selection] and set



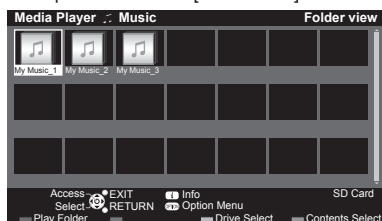
Menu	Item	Adjustments / Configurations (alternatives)
Sound	SPDIF Selection	SPDIF: A standard audio transfer file format Selects the initial setting for digital audio output signal from HDMI2 (ARC function) terminal [Auto] / [PCM] [Auto] : Dolby Digital is output as Dolby Digital Bitstream. MPEG is output as PCM. [PCM] : Digital output signal is fixed to PCM.

Music mode

- Supported file format ➔ (p. 66)

The thumbnail of music folders in the SD Card or USB Flash Memory will be displayed.

Example: Thumbnail - [Folder view]



- To play back the selected folder
Select the folder



Start playback



■ Playback from File view

Selected file will be played back.

1 Select the folder



2 Select the file

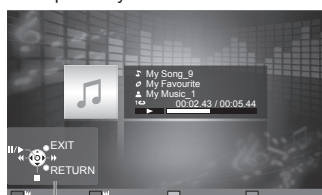


3 Start playback



■ How to operate in the playback

Example: Playback



Operation guide

- To display / hide the operation guide



- To operate the playback



◀◀ Rewind

⏸ Pause / Playback

▶▶ Fast forward

■ Stop

- To the previous track



- To the next track



- To return to thumbnail



Music Setup / Auto Resume Setup

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

1 Display the option menu



2 Select [Music Setup] or [Auto Resume Setup]



3 Set



Menu	Item	Adjustments / Configurations (alternatives)
Music Setup	Repeat	Playback repeat [Off] / [Folder] / [One] [Folder]: Playback repeat within the selected folder. [One]: Playback repeat of the selected one file.
Auto Resume Setup	Resume (X50D series only)	Playback automatically starts from the file that is played back last time when you turn the TV on after the TV is turned off or in Standby mode due to electric outage, etc. [Off] / [On] <ul style="list-style-type: none"> This setting is memorised together for Video mode and Music mode.

Using Network Services (DLNA / Internet contents)

DLNA®

This TV is a DLNA Certified™ product.

DLNA (Digital Living Network Alliance) is a standard that makes DLNA Certified digital electronics easier and more convenient to use on a home network. To learn more, visit www.dlna.org.

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

- For the supported file format ➡ (p. 65, 66)
- AVCHD and DivX files are not supported by DLNA functions of this TV, but can be played by Media Player (p. 36).

■ Media server

Store photos, videos or music into the DLNA Certified media server, and then you can enjoy them on the TV.

To use a PC as a media server

Prepare the PC with Windows 7 or ensure the server software is installed on the PC.

"Windows 7" and "TwonkyMedia server 6 (installed on the PC with Windows 7, Windows Vista or Windows XP)" are the server software that has been tested for compatibility with this TV (as of January, 2011). Any other server software have not been tested with this TV, therefore compatibility and performance cannot be assured.

- Windows 7
The setup for homegroup settings of Windows 7 is required. For details, refer to the help functions of Windows 7.
- TwonkyMedia server

"TwonkyMedia server" is the product of PacketVideo Corporation.

To obtain the Installation Guides for installing and setting "TwonkyMedia server", visit the website of TwonkyMedia.

Additional fees may be charged to obtain server software.

Note

- The DLNA control function of Windows 7 is not supported with this TV.
- For more information about the server software, please consult each software company.
- When server software for the media server is installed on the PC, the data may be at risk of being accessed by other people. Please take care of the settings and connections under the network circumstances at the office, hotel or even at home when not using a router.

Network connections ➡ "Example 1", "Example 2" (p. 45)

Network setup ➡ (p. 46 - 48)

DLNA operations ➡ (p. 49 - 52)

Internet contents (except: X50K series)

You can access the Internet contents.

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

Network connections ➡ "Example 1", "Example 3" (p. 45)

Network setup ➡ (p. 46 - 48)

Accessing the Internet contents ➡ (p. 52)

Network connections

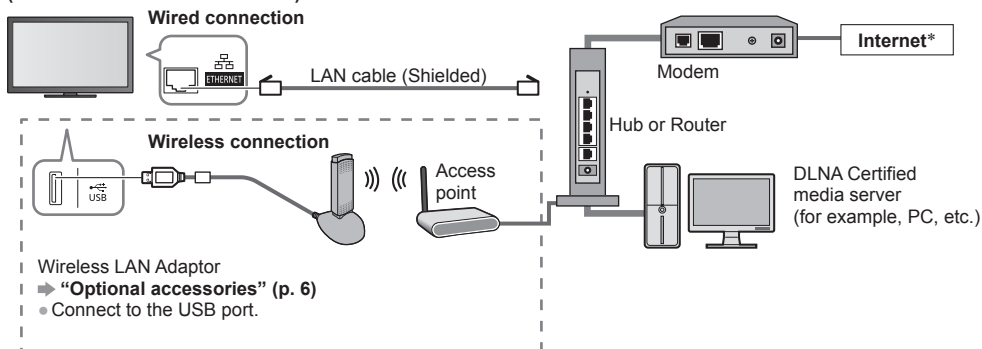
To use only DLNA features, you can operate the features without broadband network environment.

To enjoy the Internet contents, you need a broadband network environment. (Except: X50K series)

- If you do not have any broadband network services, please consult your retailer for assistance.
- Contact your Internet Service Provider (ISP) telecommunications company for further assistance regarding the network equipment.
- Confirm the terms and conditions of the contracts with your Internet Service Provider (ISP) or telecommunications company. Depending on the contracts, additional fees may be charged or multiple connections to the internet may be impossible.

Example 1

(For DLNA and Internet contents)



- Ensure to use a LAN straight cable for this connection.
- Ensure that the broadband routers and hubs are compatible with 10BASE-T / 100BASE-TX.
- If you use the equipment compatible only with 100BASE-TX, category 5 LAN cables are required.

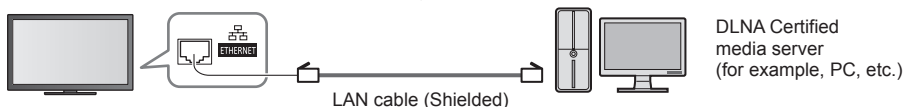
*: If your modem has no broadband router functions, use a broadband router.

If your modem has broadband router functions but there are no vacant ports, use a hub.

Example 2

(For DLNA)

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



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

Example 3

(For Internet contents)

You can connect the TV and the telecommunication equipment directly to enjoy the Internet contents.



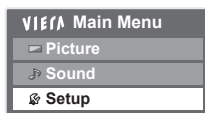
Note

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

Network Setup

- Ensure the connections are completed before starting Network Setup.
➔ “Network connections” (p. 45)

1 Display the menu and select [Setup]



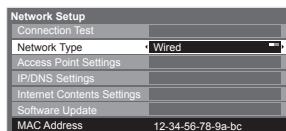
2 Select [Network Setup]



Wired connection settings

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

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



If you make the network connection like “Example 2” (p. 45), you do not have to set [Acquire DNS Address], [Proxy] and [Proxy Port].

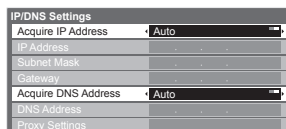
2 Select [IP/DNS Settings] and set the items



■ [Acquire IP Address] / [Acquire DNS Address]

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

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



- The available settings are displayed automatically.

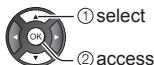
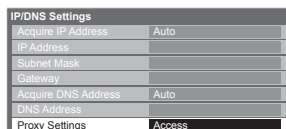
Manual settings

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



3 Select [Proxy Settings] and set the items (except: X50K series)

It is not required for normal household use.



- After settings, return to the previous menu.



■ [Proxy]

Sets Proxy address.

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

1. Select [Proxy]



2. Enter the address



- You can set characters by using numeric buttons. (English only)

3. Store



■ [Proxy Port]

Sets Proxy port number.

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

1. Select [Proxy Port]



2. Move the cursor and enter the number



4 Select [Connection Test] and access to test



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

☒ : **succeeded**

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

☐ : **failed**

Check the settings and connections.

Wireless connection settings

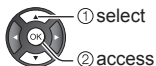
This setting is for the wireless network connection.

- Confirm the encryption key, settings and positions of your access point before starting setup. For details, read the manual of the access point.

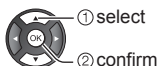
1 Select [Network Type] and set to [Wireless]



2 Select [Access Point Settings]



3 Select the connection type and set



■ [WPS(Push button)]

➔ “Auto Tuning” (p. 15)

■ [WPS(PIN)]

Enter the PIN code to the access point, and then select [Connect]

WPS(PIN)

Please register the following PIN codes on the access point.

PIN code : 12345678

Select 'Connect' after entering and saving the settings on the access point.

Connect



■ [Search for access point]

➔ “Auto Tuning” (p. 15)

■ [Manual]

You can setup SSID, authentication type, encryption type, and encryption key manually. Follow the on-screen instructions and set manually.

4 Select [Connection Test] and access to test

Network Setup

Connection Test Access



① select

② access

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

☒ : **succeeded**

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

☐ : **failed**

Check the settings and connections.

Connection Test

☒ Check access point connection.

☒ Check acquired IP address.

☒ Check for devices using same IP address.

☒ Check gateway connection.

☒ Check server connection.

Update TV's software (except: X50K series)

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

Select [Software Update]

Network Setup

Connection Test

Network Type Wireless

Access Point Settings

IP/DNS Settings

Internet Contents Settings

Software Update Access

MAC Address 12-34-56-78-9a-bc



① select

② access

- Follow the on-screen instructions.

Note

Network Setup

Connection Test

Network Type Wireless

Access Point Settings

IP/DNS Settings

Internet Contents Settings

Software Update

MAC Address 12-34-56-78-9a-bc

[MAC Address]

- MAC address is a unique address that identifies hardware in the network. (for information only)

Using DLNA® features

- Ensure the preparation of the media server, network connections and network settings are completed.
➔ “Media server” (p. 44), “Network connections” (p. 45), “Network Setup” (p. 46 - 48)

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

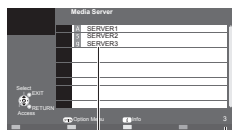


Example: X50K series



2 Select one of the media servers to access

Example: Media server list



Available media servers

Total listed number

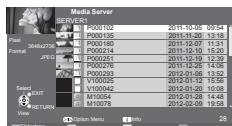


- To display the information of the highlighted media server



3 Select the file

Example: File list



- Depending on the condition of media server, you may need to select the folder before selecting the file.
- To display the information of the highlighted file



Note

- Non-playable files are also listed but cannot be selected.
- Turn the TV off, and then on again when changing or reconnecting the network connection.

For photo file

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

Example:

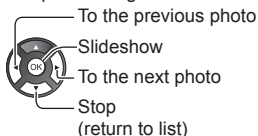


Operation guide

- To display / hide the operation guide



- To operate Single view



- To return to list



- To rotate 90°



[Slideshow] - Slideshow completes when all photos are viewed within the list.

1 Select the photo file from the list for the first view



- To display / hide the operation guide



2 Start Slideshow



- To return to list



For video file

Playback - Playback will start.

Example: Playback



Operation guide

Information banner

- To display / hide the operation guide and information banner



- To the previous content



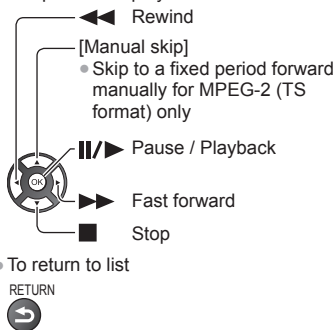
- To the next content



- To change aspect



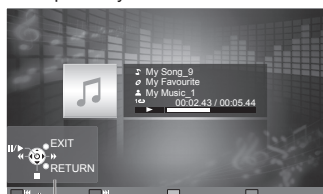
- To operate the playback



For music file

Playback - Playback will start.

Example: Playback



Operation guide

- To display / hide the operation guide



- To operate the playback



- To the previous track



- To the next track



- To return to list



Option menu for each content

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

1 Display the option menu

OPTION

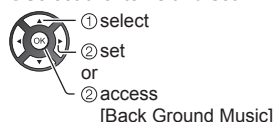


2 Select [Slideshow Settings], [Video Setup] or [Music Setup]

Option Menu
Slideshow Settings
Video Setup
Music Setup



3 Select the items and set



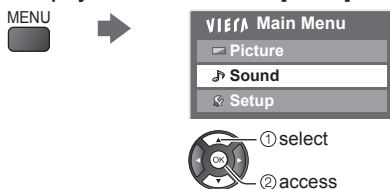
Menu	Item	Adjustments / Configurations (alternatives)
Slideshow Settings	Transition Effect	Selects the transition effect for switching the photo during the slideshow [Off] / [Fade] / [Slide] / [Dissolve] / [Motion] / [Random] [Fade]: The next photo fades in gradually. [Slide]: The next photo slides and appears from the left side. [Dissolve]: Each photo is dissolved when switching to the next photo. [Motion]: Each photo is displayed with an effect of enlarging, reducing, moving up or moving down. [Random]: Each transition is selected at random.
	Interval	Selects slideshow interval [5] / [10] / [15] / [30] / [60] / [90] / [120] (seconds) • This function is not available when [Transition Effect] is set to [Motion].
	Repeat	Slideshow repeat [Off] / [On]
	Back Ground Music	Selects the back ground music during Photo mode [Off] / [Type1] / [Type2] / [Type3]
Video Setup	Video Preview	Sets to start the preview of the title or scene in the thumbnail screen [Off] / [On] • Image may not be displayed for an instant in the thumbnail screen. Set the preview [Off] to resolve this.
	Multi Audio, Dual Audio	Selects between selectable sound tracks (if available) • It may take several seconds to change the sound. • Only available during playback
	Subtitle Language	Selects the language in which subtitles should appear (if available) • Only available during playback
	Aspect Change	[Aspect1]: Displays the content enlarged without distortion. [Aspect2]: Displays the content full-screen. [Original]: Displays the content original size. • You can also change the aspect using the ASPECT button. • Aspect change may not work depending on the content. • Only available during playback
	Repeat	Playback repeat within the selected file [Off] / [On]
Music Setup	Repeat	Playback repeat [Off] / [Folder] / [One] [Folder]: Playback repeat within the selected folder. [One]: Playback repeat of the selected one file.

Audio output settings (for video contents)

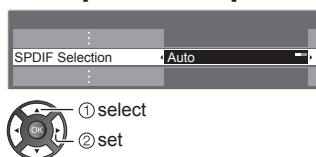
You can enjoy the multi-channel sound via an amplifier connected to HDMI2 (ARC function) terminal.

- To confirm or change the current sound status ➡ (p. 41)

1 Display the menu and Select [Sound]



2 Select [SPDIF Selection] and set



Menu	Item	Adjustments / Configurations (alternatives)
Sound	SPDIF Selection	<p>SPDIF: A standard audio transfer file format Selects the initial setting for digital audio output signal from HDMI2 (ARC function) 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.</p>

Accessing the Internet contents (except: X50K series)

You can access the Internet contents.

- Using this function requires a broadband internet connection. Dial-up internet connections cannot be used.
- Ensure the network connections and network settings are completed.
➡ “Network connections” (p. 45), [Network Setup] (p. 46 - 48)

1 Display [VIERA TOOLS] and select the Internet contents



Example: X50D series



① select
② access

Note

- Be sure to update the software when a software update notice is displayed on the TV screen. If the software is not updated, you will not be able to enjoy this function.
You can update the software later manually. ➡ [Software Update] in [Network Setup] (p. 48)
- The Internet contents are operated by their respective service providers, and service may be discontinued either temporarily or permanently without notice. Therefore, Panasonic will make no warranty for the content or the continuity of the services.
- You can hide or reveal icons of internet contents on VIERA TOOLS. ➡ [Internet Contents Settings] (p. 29)
- All features of websites or content of the service may not be available.
- Some content may be inappropriate for some viewers.
- Some content may only be available for specific countries and may be presented in specific languages.
- Depending on the connection environment, the internet connection may be slow or may not be successful.
- Turn the TV off, and then on again when changing or reconnecting the network connection.
- Registration is required to access certain Internet contents. Refer registration steps shown on the screen when accessing Internet contents feature.

Link Functions (VIERA Link)

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

➔ (p. 55 - 59)

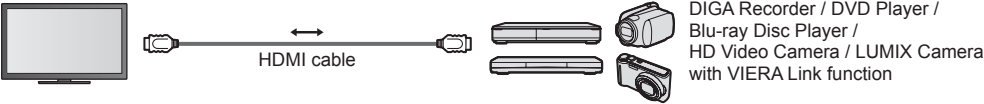
- This TV supports "HDAVI Control 5" function. But available features are depending on the connected equipment's version of HDAVI Control. Please read the manual of the equipment to confirm the version.
- VIERA Link features may be available even with other manufacturers' equipment supporting HDMI CEC.

Summary of features

VIERA Link (HDMI connection)

Connected equipment	DIGA Recorder	DVD Player / Blu-ray Disc Player	HD Video Camera / LUMIX Camera
Features			
Channel download	○*2	—	—
Easy playback	○	○	○
Power on link	○	○	○
Power off link	○	○	○
Reduce unnecessary power consumption in Standby	○*3	○*3	—
Auto standby for unnecessary equipment	○*3	○*3	—
Pause Live TV programme	○*2 *4	—	—
Direct TV Recording	○*2	—	—
Control the menu of the connected equipment by VIERA remote control	○*1	○*1	○*1
Speaker control	—	—	—

Connection

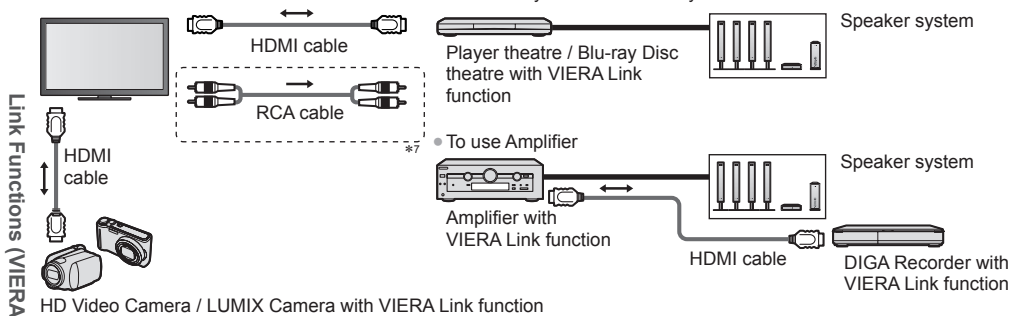


- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI1 or HDMI2 terminal via an HDMI cable.
- About HDMI cable for connecting Panasonic HD Video Camera or LUMIX Camera, read the manual of the equipment.

VIERA Link (HDMI and Audio out connections)

Features	Connected equipment	Player theatre	Blu-ray Disc theatre	Amplifier
Channel download		—	—	—
Easy playback		○*5	○*5	—
Power on link		○	○	—
Power off link		○	○	○
Reduce unnecessary power consumption in Standby		—	○*3	—
Auto standby for unnecessary equipment		○*3 *6	○*3 *6	○*3
Pause Live TV programme		—	—	—
Direct TV Recording		—	—	—
Control the menu of the connected equipment by VIERA remote control		○*1	○*1	—
Speaker control		○	○	○

Connection



- Use fully wired HDMI compliant cable.
- Connect the equipment supporting VIERA Link to the TV's HDMI1 or HDMI2 terminal via an HDMI cable.
- Use RCA cable for audio output from the TV.

- *1: Available with the equipment which has "HDAVI Control 2 or later" function.
- *2: Available with the equipment which has "HDAVI Control 3 or later" function.
- *3: Available with the equipment which has "HDAVI Control 4 or later" function.
- *4: Available with a DIGA Recorder which has HDD.

- *5: While playing a disc.
- *6: Except for watching a disc.
- *7: If the connected equipment has "HDAVI Control 5" function, you do not have to use RCA cable. In this case, connect the equipment to the TV's HDMI2 terminal via an HDMI cable.

VIERA Link Control of compatible equipment ➡[VIERA Link Control] (p. 57)

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

For example, DIGA Recorder connected to Amplifier which is connected to the TV via an HDMI cable.

Type of the equipment	Maximum number
Recorder (DIGA Recorder, etc.)	3
Player (DVD Player, Blu-ray Disc Player, HD Video Camera, LUMIX Camera, Digital Camera, Player theatre, Blu-ray Disc theatre, etc.)	3
Audio system (Player theatre, Blu-ray Disc theatre, Amplifier, etc.)	1
Tuner (Set top box, etc.)	4

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

This TV supports “HDAVI Control 5” function.

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

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

Preparations

- Connect the equipment supporting VIERA Link.
- VIERA Link connection ➔ (p. 53, 54)
- Use fully wired HDMI compliant cable. Non-HDMI-compliant cables cannot be utilised.
Recommended Panasonic's HDMI cable part number:
 - RP-CDHS15 (1.5 m) • RP-CDHS30 (3.0 m) • RP-CDHS50 (5.0 m)
- Set up the connected equipment. Read the manual of the equipment.
- For optimal recording, the settings of the recorder may need to be changed. For details, read the manual of the recorder.
- Set [VIERA Link] to [On] in the Setup Menu. ➔ [VIERA Link] (p. 29)
- Set up the TV.

After connection, turn the equipment on and then switch the TV on.

Select the input mode from HDMI1 or HDMI2 (p. 22), and make sure that an image is displayed correctly.

This setup should be done each time when the following conditions occur:

- for the first time
- when adding or reconnecting equipment
- when changing setup

Features available

Channel download

Channel settings can be downloaded to the recorder.

Easy playback

Automatic input switching - When the connected equipment is operated, input mode is switched automatically.

Power on link

Set Power on Link [On] in the Setup Menu to use this function ➔ [Power on Link] (p. 29)

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

Power off link

Set Power off Link [On] in the Setup Menu to use this function ➔ [Power off Link] (p. 29)

When the TV is set to Standby mode, the connected equipment is also automatically set to Standby.

- This function will work even if the TV enters Standby mode automatically by auto power standby function.

Reduce unnecessary power consumption in Standby [Standby Power Save]

Set **Standby Power Save [On]** in the **Setup Menu** to use this function ➔ **[Standby Power Save]** (p. 29)

The power consumption in Standby mode of the connected equipment is controlled higher or lower in synchronisation with the TV On / Off state to reduce the consumption.

When the TV is set to Standby mode, the connected equipment is automatically set to Standby and the power consumption of the connected equipment is automatically minimised.

When the TV is turned on, the connected equipment is still in Standby mode, but the power consumption is increased to make startup time fast.

- This function is effective if the connected equipment can change the power consumption in Standby mode and is set to higher consumption.
- This function works when [Power off Link] is set to [On].

Auto standby for unnecessary equipment [Intelligent Auto Standby]

Set **Intelligent Auto Standby [On (With reminder)]** or **[On (No reminder)]** in the **Setup Menu** to use this function ➔ **[Intelligent Auto Standby]** (p. 29)

When the TV is on, non-watched or non-used connected equipment goes into Standby mode automatically to reduce the power consumption. For example, when the input mode is switched from HDMI or when Speaker Selection is changed to [TV] (except for watching a disc).

- If you select [On (With reminder)], the on-screen message will be displayed before the connected equipment turns to standby.
- This function may not work properly depending on the connected equipment. If required, set to [Off].

Direct TV Recording - What you see is What you record [Direct TV Rec]

Records the current programme in the DIGA Recorder immediately.

- If you connect a variety of recorders including other manufacturers' recorders at the same time, connect the DIGA Recorder to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, connect the DIGA Recorder to HDMI1.

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

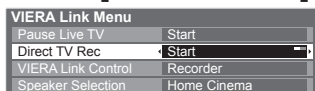
➔ **"Summary of features"** (p. 53, 54), **"Preparations"** (p. 55)

1 Display [VIERA Link Menu]



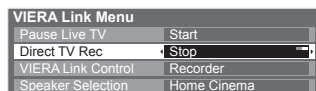
- You can also access directly by using VIERA TOOLS (except: X50D series)
➔ **"How to Use VIERA TOOLS"** (p. 23)

2 Select [Direct TV Rec] and start recording



■ To stop recording

Select [Stop] in [Direct TV Rec]



Pause Live TV programme [Pause Live TV]

You can pause the current TV programme and resume later.

The current TV programme will be recorded on HDD of the connected DIGA Recorder.

- This function is available with a DIGA Recorder which has HDD.
- If you connect a variety of recorders including other manufacturers' recorders at the same time, connect the DIGA Recorder which has an HDD to the TV's lower HDMI terminal number. For example, if you use HDMI1 and HDMI2 for two recorders, connect the DIGA Recorder which has HDD to HDMI1.
- If you cannot operate, check the settings and the equipment.
➔ "Summary of features" (p. 53, 54), "Preparations" (p. 55)

1 Display [VIERA Link Menu]



- You can also access directly by using VIERA TOOLS (except: X50D series)
➔ "How to Use VIERA TOOLS" (p. 23)

2 Select [Pause Live TV] and pause

The TV picture will be paused.

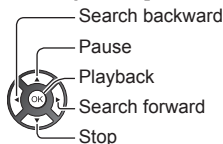
VIERA Link Menu	
Pause Live TV	Start
Direct TV Rec	Start
VIERA Link Control	Recorder
Speaker Selection	Home Cinema



select
access / pause

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

■ To operate [Pause Live TV]

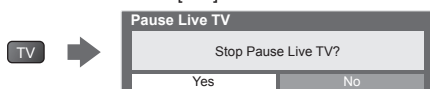


- If you stop playback, the recorded programme will be deleted from HDD.

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

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

Select [Yes]



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

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

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

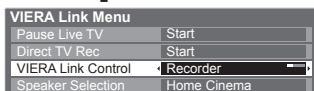
- If you cannot operate, check the settings and the equipment.
➔ "Summary of features" (p. 53, 54), "Preparations" (p. 55)
- For details of the operations for the connected equipment, read the manual of the equipment.

1 Display [VIERA Link Menu]



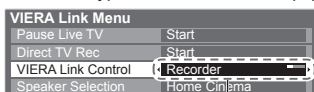
- You can also access directly by using VIERA TOOLS (except: X50D series)
➔ "How to Use VIERA TOOLS" (p. 23)

2 Select [VIERA Link Control]



3 Select the equipment to access

Select the type of the connected equipment and access.



[Recorder] / [Player] / [Home Cinema] / [Video Camera] / [LUMIX] / [Digital Camera] / [Other]

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

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

4 Operate the menu of the equipment

Follow the operation guide

- To display the operation guide

OPTION



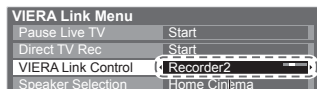
If other manufacturers' equipment is accessed, Setup / Contents Selection menu may be displayed.

- Available VIERA remote control buttons depend on the connected equipment.

Note

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

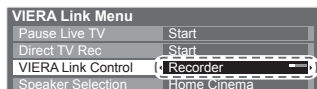
■ If multiple recorders or players are connected



[Recorder1-3 / Player1-3]

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

■ If you access non-VIERA Link equipment



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

Speaker control [Speaker Selection]

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

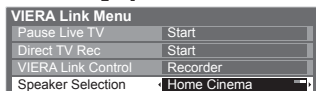
- If you cannot operate, check the settings and the equipment.
➔ "Summary of features" (p. 53, 54), "Preparations" (p. 55)

1 Display [VIERA Link Menu]



- You can also access directly by using VIERA TOOLS (except: X50D series)
➔ "How to Use VIERA TOOLS" (p. 23)

2 Select [Speaker Selection]



select

3 Set to [Home Cinema] or [TV]



set

[Home Cinema]:

The sound is from theatre speakers. Player theatre, Blu-ray Disc theatre or Amplifier will be automatically turned on if it is in Standby mode.

- Volume up / down



- Mute



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

[TV]:

TV speakers are active.

Multi-channel sound

If you want to enjoy the multi-channel sound (e.g. Dolby Digital 5.1ch) via an Amplifier, connect it with HDMI cable (p. 54), and then select [Home Cinema]. In this case, you need to use an Amplifier which has "HDAVI Control 5" function, and connect it to the TV's HDMI2 terminal via an HDMI cable.

To enjoy the sound from the DIGA Recorder in multi-channel sound, connect an HDMI cable from the DIGA Recorder to the Amplifier (p. 54).

Note

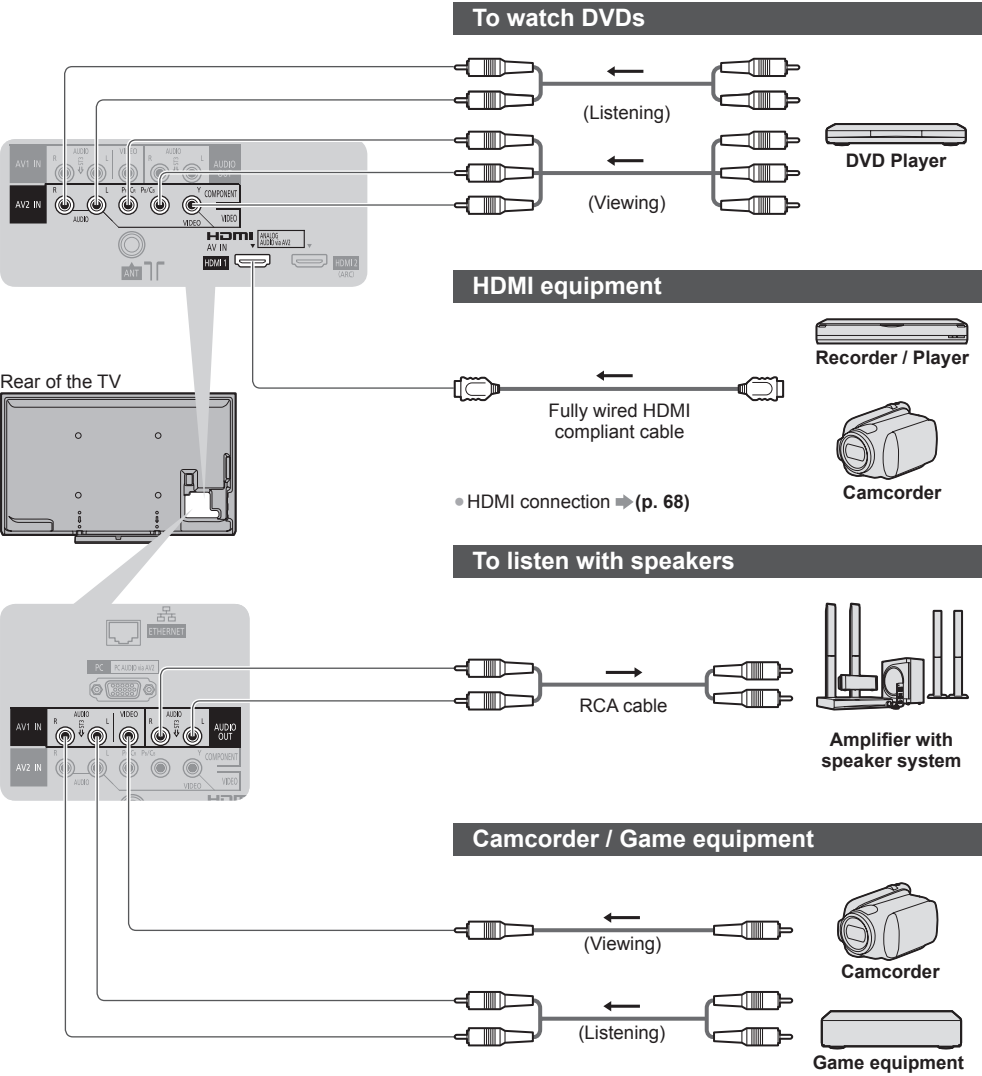
- These functions may not work properly depending on the connected equipment.
- Image or sound may not be available for the first few seconds when input mode is switched.
- "HDAVI Control 5" is the newest standard (as of December, 2011) for HDAVI Control compatible equipment. This standard is compatible with conventional HDAVI equipment.
- To confirm this TV's version of HDAVI Control ➔ [System Information] (p. 29)

External Equipment

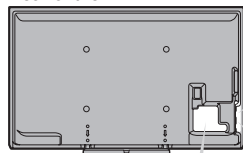
These diagrams show our recommendations for connection of your TV to various pieces of equipment. For other connections, consult the instructions for each piece of equipment, the basic connection (p. 11 - 13), the table (p. 62), and the specifications (p. 74, 75).

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

External Equipment



Rear of the TV



Headphones



(M3 stereo mini plug)

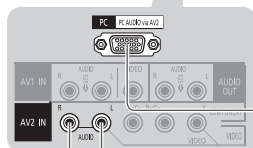


- To adjust volume
➡ **[Headphone Volume]** (p. 27)

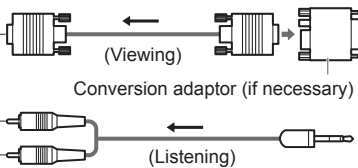
USB devices



Wireless LAN Adaptor










PC



Computer

External Equipment

Types of connectable equipment to each terminal

Features	Terminal						
	AV1 IN	AUDIO OUT	AV2 IN		ETHERNET	HDMI 1 - 2	USB
			COMPONENT	VIDEO			
							
To watch satellite broadcasts (Set top box)	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	
To watch videocassettes / DVDs (VCR / DVD player)	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	
To watch camcorder images (Video camera)	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	
To play games (Game equipment)	<input type="radio"/>		<input type="radio"/>			<input type="radio"/>	
To use amplifier with speaker system		<input type="radio"/>				<input type="radio"/> *	
To use network services					<input type="radio"/>		<input type="radio"/>
VIERA Link						<input type="radio"/>	

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

Technical Information

Channel Allocation										
Channel Plan	Asia / W.Europe	CIS / E.Europe	China	Hong Kong	NZ / Indonesia	Indian CATV	South Africa	American System	American CATV	Japan CATV
CH DISPLAY	Receive channel									
0	—	—	—	—	—	—	—	—	—	—
1	—	1	1	—	1	1	1	—	1	1
2	2	2	2	—	2	2	2	2	2	2
3	⋮	⋮	⋮	—	⋮	3	⋮	⋮	⋮	⋮
4	⋮	⋮	⋮	—	⋮	4	⋮	⋮	⋮	⋮
5	⋮	⋮	⋮	—	⋮	S'1	⋮	⋮	⋮	⋮
6	⋮	⋮	⋮	—	⋮	S'2	⋮	⋮	⋮	⋮
7	⋮	⋮	⋮	—	⋮	S'3	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	—	⋮	S1	⋮	⋮	⋮	⋮
11	11	11	—	—	11	S2	11	⋮	⋮	⋮
12	12	12	12	—	—	S3	12	⋮	⋮	12
13	—	—	13	—	—	S4	13	13	⋮	13
14	—	—	—	—	—	⋮	—	14	⋮	⋮
15	—	—	—	—	—	⋮	—	⋮	⋮	⋮
16	—	—	—	—	—	⋮	—	⋮	⋮	⋮
19	—	—	⋮	—	—	⋮	—	⋮	⋮	⋮
⋮	—	—	⋮	—	—	⋮	—	⋮	⋮	⋮
20	—	—	⋮	—	—	S10	—	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	5	⋮	⋮	⋮	⋮
21	21	21	⋮	21	21	6	21	⋮	⋮	⋮
22	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
23	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
24	⋮	⋮	⋮	⋮	⋮	12	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	S11	⋮	⋮	⋮	⋮
28	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	57	⋮	⋮	S40	⋮	⋮	⋮	⋮
57	⋮	⋮	—	⋮	⋮	S41	⋮	⋮	⋮	⋮
58	⋮	⋮	—	⋮	⋮	21	⋮	⋮	⋮	⋮
59	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮	⋮
62	62	62	—	62	62	24	62	62	62	62
63	63	63	—	63	63	25	63	63	63	C13
⋮	⋮	⋮	—	⋮	⋮	⋮	⋮	⋮	⋮	⋮
69	69	69	—	69	69	31	69	69	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
70	—	—	—	—	—	32	—	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
73	—	—	—	—	—	⋮	—	—	⋮	⋮
74	S'1	S'1	—	S'1	S'1	⋮	S'1	—	⋮	⋮
75	S'2	—	—	S'2	S'2	⋮	S'2	—	⋮	⋮
76	S'3	—	—	S'3	S'3	⋮	S'3	—	⋮	⋮
77	—	—	—	—	—	⋮	—	—	⋮	⋮
78	—	—	—	—	—	⋮	—	—	⋮	⋮
79	—	—	—	—	—	41	—	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
80	S1	S1	—	S1	S1	42	S1	—	⋮	⋮
81	S2	S2	Z1	S2	S2	⋮	S2	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
89	S10	S10	Z9	S10	S10	51	S10	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
90	S11	S11	Z10	S11	S11	52	—	—	⋮	⋮
91	S12	S12	Z11	S12	S12	⋮	—	—	⋮	⋮
92	S13	S13	Z12	S13	S13	⋮	—	—	⋮	⋮
93	S14	S14	Z13	S14	S14	⋮	S14	—	⋮	⋮
94	S15	S15	Z14	S15	S15	⋮	S15	—	⋮	⋮
95	S16	S16	Z15	S16	S16	⋮	S16	—	⋮	⋮
96	S17	S17	Z16	S17	S17	⋮	S17	—	⋮	⋮
97	S18	S18	Z17	S18	S18	⋮	S18	—	⋮	⋮
98	S19	S19	Z18	S19	S19	⋮	S19	—	⋮	⋮
99	S20	S20	Z19	S20	S20	61	S20	—	99	C49
100	S21	S21	Z20	S21	S21	62	S21	—	100	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
107	⋮	⋮	⋮	⋮	⋮	69	⋮	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	70	⋮	—	⋮	⋮
117	⋮	⋮	Z37	⋮	⋮	⋮	⋮	—	⋮	⋮
118	⋮	⋮	—	⋮	⋮	⋮	⋮	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
120	S41	S41	—	S41	S41	—	S41	—	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
125	—	—	—	—	—	—	—	—	125	—

Stereo / Bilingual Sound Selection



I/II

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

Audio Signal	STEREO	MAIN I	SUB II	MONO
Mode Indicator		I	II	

NICAMUsed in New Zealand, Singapore, Hong Kong etc.

Type of broadcast	Regular broadcast (Standard Audio)	Regular + NICAM MONO I (MAIN I)	NICAM STEREO	NICAM DUAL MONO (MAIN I / SUB II)
Mode Indicator	No Indicator \longleftrightarrow	I \longleftrightarrow	\longleftrightarrow	I $\xrightarrow{\quad}$ II $\xleftarrow{\quad}$

A2 (German)Used in Australia, Malaysia etc.

Type of broadcast	Regular broadcast (Standard Audio)	BILINGUAL or DUAL MONO: MAIN I / SUB II	STEREO
Mode Indicator	No Indicator \longleftrightarrow	I \longleftrightarrow II	\longleftrightarrow

- 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 Sound Selection button.
- DUAL, also known as DUAL MONO or as BILINGUAL is not currently transmitted in some countries.

■ Photo

Format	File extension	Image resolution (pixel)	Details / Restrictions
JPEG	.jpg .jpeg	8 × 8 to 30,719 × 17,279	DCF and EXIF standards Sub-sampling: 4:4:4, 4:2:2, 4:2:0 • Progressive JPEG is not supported.

■ Video

Container	File extension	Video codec	Audio codec	Details / Restrictions
AVCHD	.mts	H.264	Dolby Digital	AVCHD Standard Ver. 1.0 • The data may not be available if a folder structure on the device is modified.
SD-Video	.mod	MPEG1 MPEG2	Dolby Digital MPEG Audio	SD-Video Standard Ver. 1.31 (Entertainment Video Profile) • The data may not be available if a folder structure on the device is modified.
MOV	.mov	H.264 BP/MP/HP Motion JPEG	AAC Dolby Digital LPCM MP3	• This TV supports Motion JPEG recorded by Panasonic LUMIX Camera*1. • This TV is not available for playing back Motion JPEG with the media server. *1: Some products of before the year 2004 may not be available. The compatibility with future products is not guaranteed.
MP4	.mp4	H.264 BP/MP/HP	AAC Dolby Digital MP3	• This TV supports this container recorded by Panasonic products. For details, read the manual of the products.
AVI	.avi .divx	DivX3 DivX4 DivX5 DivX6 MPEG4 SP/ASP	Dolby Digital MPEG Audio MP3	• Certified to play DivX HD video file in Media Player For details of DivX ➡ (p. 66)
ASF	.asf .wmv	VC-1 Windows Media Video Ver. 9	WMA	• Copy-protected files cannot be played back. • WMA Pro and WMA Lossless are not supported.
MKV	.mkv	H.264 BP/MP/HP	AAC Dolby Digital MPEG Audio MP3	• Some subtitles or chapter functions may not be available.
TS	.ts	H.264 MPEG2	AAC Dolby Digital MPEG Audio	• This container can be played back only with the media server.

■ Music

Codec	File extension	Restrictions
MP3	.mp3	—
AAC	.m4a	• Copy-protected files cannot be played back.
WMA	.wma	• Copy-protected files cannot be played back. • WMA Pro and WMA Lossless are not supported.

Note

- Some files may not be played back even if they fulfil these conditions.
- Do not use two-byte characters or other special codes for data.
- The device may become unusable with this TV if the file or folder names are changed.

DivX

DivX Certified® to play DivX® video up to 1080p HD including premium content.

ABOUT DIVX VIDEO:

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

■ Subtitle text file of DivX

Subtitles format - MicroDVD, SubRip, TMLayer

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

Note

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

ABOUT DIVX VIDEO-ON-DEMAND:

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

■ To show DivX VOD registration code

➔ [DivX® VOD] (p. 29)

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

■ Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times.

When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ([This DivX rental has expired.] is displayed.)

- When playing this content, the number of remaining plays is reduced by one in the following conditions:
 - If you exit the current application.
 - If you play the other content.
 - If you go to the next or previous content.

Devices for playing back

■ SD Card

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

Card format:

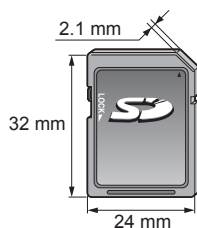
SDXC Card - exFAT

SDHC Card / SD Card - FAT16 or FAT32

Compliant card type (maximum capacity):

SDXC Card (64 GB), SDHC Card (32 GB), SD Card (2 GB), miniSD Card (2 GB) (requiring miniSD adaptor)

- If miniSD Card is used, insert / remove it together with the adaptor.
- Check the latest information on the card type at the following website. (English only)
<http://panasonic.jp/support/global/cs/tv/>



■ USB Flash Memory

USB Flash Memory format: FAT16, FAT32 or exFAT

Note

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

HDMI connection

HDMI (high-definition multimedia interface) is the world's first complete digital consumer AV interface complying with a non-compression standard.

HDMI allows you to enjoy high-definition digital images and high-quality sound by connecting the TV and the equipment.

HDMI-compatible equipment*1 with an HDMI or DVI output terminal, such as a DVD player, a set top box or game equipment, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable.

For more information about connections ➔ (p. 12, 60)

■ Applicable HDMI features

- Input audio signal:
2ch Linear PCM (sampling frequencies - 48 kHz, 44.1 kHz, 32 kHz)
- Input video signal:
➔ **"Input signal that can be displayed" (p. 70)**
Match the output setting of the digital equipment.
- Input PC signal:
➔ **"Input signal that can be displayed" (p. 70)**
Match the output setting of the PC.
- VIERA Link (HDAVI Control 5)
➔ **[VIERA Link] (p. 55)**
- Content Type
- Audio Return Channel*2
(HDMI2 terminal only)

■ DVI connection

If the external equipment has only a DVI output, connect to the HDMI terminal via a DVI to HDMI adaptor cable*3.

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

Note

- Audio settings can be made on [HDMI1 / 2 Input] in the Sound Menu. (p. 28)
- If the connected equipment has an aspect adjustment function, set the aspect ratio to "16:9".
- These HDMI connectors are "type A".
- These HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- Equipment having no digital output terminal may be connected to the input terminal of component or video to receive analogue signals.
- This TV incorporates HDMI™ technology.

*1: The HDMI logo is displayed on HDMI-compliant equipment.

*2: Audio Return Channel (ARC) is a function to send digital sound signals via an HDMI cable.

*3: Enquire at your local digital equipment retailer shop.

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 adaptor 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 ➔ **"Input signal that can be displayed" (p. 70)**
- Maximum display resolution

Aspect	4:3	768 × 768 pixels
	16:9	1,024 × 768 pixels

- D-sub 15-pin connector signal



Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND (Ground)	⑪	NC (not connected)
②	G	⑦	GND (Ground)	⑫	NC (not connected)
③	B	⑧	GND (Ground)	⑬	HD
④	NC (not connected)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	NC (not connected)

USB connection

- It is recommended to connect the USB Flash Memory or Communication camera to the TV's USB ports directly.
- Some USB devices or USB HUB may not be used with this TV.
- You cannot connect any devices by using USB card reader.
- Additional information for USB devices may be on the following website. (English only)
<http://panasonic.jp/support/global/cs/tv/>

■ USB Keyboard

- You can connect a keyboard via USB port for TV operations and character input.
- The USB Keyboard requiring its driver is not supported.
- Characters may not be displayed correctly on the TV screen depending on the connected keyboard.
- Some of the keys of USB keyboards may correspond to the operation of the remote control.

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

Characters table for numeric buttons

You can enter characters by using numeric buttons for free input items. (English only)

User input

Name

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9	.	:	#	
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	()	+	-	.	*								

1 2 3 4 5 6 7 8 9 0
Press the numeric button repeatedly until you reach the desired character.

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

Characters table:

Numeric buttons	Characters	Numeric buttons	Characters
1	. 1 ! : # + - * _ ()	6	m n o 6 M N O
2	a b c 2 A B C	7	p q r s 7 P Q R S
3	d e f 3 D E F	8	t u v 8 T U V
4	g h i 4 G H I	9	w x y z 9 W X Y Z
5	j k l 5 J K L	0	Space 0

Input signal that can be displayed

■ COMPONENT (Y, P_B, P_R (from AV2 terminal)), HDMI

Signal name	COMPONENT	HDMI
525 (480) / 60i	○	○
525 (480) / 60p	○	○
625 (576) / 50i	○	○
625 (576) / 50p	○	○
750 (720) / 60p	○	○
750 (720) / 50p	○	○
1,125 (1,080) / 60i	○	○
1,125 (1,080) / 50i	○	○
1,125 (1,080) / 60p		○
1,125 (1,080) / 50p		○
1,125 (1,080) / 24p		○

○ : Applicable input signal

■ PC (from D-sub 15P)

Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 × 400 @70 Hz	31.47	70.07
640 × 480 @60 Hz	31.47	59.94
640 × 480 @75 Hz	37.50	75.00
800 × 600 @60 Hz	37.88	60.32
800 × 600 @75 Hz	46.88	75.00
800 × 600 @85 Hz	53.67	85.06
852 × 480 @60 Hz	31.44	59.89
1,024 × 768 @60 Hz	48.36	60.00
1,024 × 768 @70 Hz	56.48	70.07
1,024 × 768 @75 Hz	60.02	75.03
1,024 × 768 @85 Hz	68.68	85.00
1,280 × 1,024 @60 Hz	63.98	60.02
1,280 × 768 @60 Hz	47.70	60.00
1,366 × 768 @60 Hz	48.39	60.04
Macintosh13" (640 × 480)	35.00	66.67
Macintosh16" (832 × 624)	49.73	74.55
Macintosh21" (1,152 × 870)	68.68	75.06

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

■ PC (from HDMI terminal)

Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 × 480 @60 Hz	31.47	60.00
1,280 × 720 @60 Hz	45.00	60.00
1,920 × 1,080 @60 Hz	67.50	60.00

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

Note

- Signals other than above may not be displayed properly.
- The above signals are reformatted for optimal viewing on your display.
- PC signal is magnified or compressed for display, so that it may not show fine detail with sufficient clarity.

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

- Check the TV is turned on.
- Check the mains lead is plugged into the TV and the socket outlet.
- Check the correct input mode is selected.
- Check the Picture Menu (p. 25 - 26) and volume.
- Check all required cables and connections are firmly in place.

Black and white picture

- Check that the output of the external equipment matches the input of the TV.

[VIERA Link] function does not work and an error message appears

- Confirm the connection. ➡ (p. 53, 54)
- Turn the connected equipment on and then switch the TV on. ➡ (p. 55)

The screen becomes dim

- This occurs when the contrast is lowered automatically to avoid image retention in the following conditions without any user operation for a few minutes:
 - No signal in AV mode
 - Selected locked channel
 - Selected invalid channel
 - Displayed menu
 - Thumbnail or still picture in Media Player or DLNA operations

Problem		Causes / Actions
Screen	Chaotic image, noisy	<ul style="list-style-type: none">• Set [P-NR] in the Picture Menu to remove noise. ➡ (p. 25)• Check nearby electrical products (car, motorcycle, fluorescent lamp).
	No image can be displayed	<ul style="list-style-type: none">• Is [Contrast], [Brightness] or [Colour] in the Picture Menu set to the minimum? ➡ (p. 25)
	Blurry or distorted image (no sound or low volume)	<ul style="list-style-type: none">• Reset channels. ➡ (p. 31, 32)
	Unusual image is displayed	<ul style="list-style-type: none">• Turn the TV off with Mains power On / Off switch, then turn it on again.• If the problem persists, initialise all settings. ➡ [Shipping Condition] (p. 34)
Sound	No sound is produced	<ul style="list-style-type: none">• Is "Sound mute" active? ➡ (p. 9)• Is the volume set to the minimum?
	Sound level is low or sound is distorted	<ul style="list-style-type: none">• Sound signal reception may be deteriorated.• Set [MPX] (p. 28) in the Sound Menu to [Mono].
	Unusual sound from the TV	<ul style="list-style-type: none">• When power is on, drive noise may be heard from inside the TV (not a sign of faulty operation).

Problem		Causes / Actions
HDMI	Sound is unusual	<ul style="list-style-type: none"> Set the sound setting of the connected equipment to "2ch L.PCM". Check the [HDMI1 / 2 Input] setting in the Sound Menu. ➡ (p. 28) If digital sound connection has a problem, select analogue sound connection. ➡ (p. 68)
	Pictures from external equipment are unusual when the equipment is connected via HDMI	<ul style="list-style-type: none"> Check the HDMI cable is connected properly. ➡ (p. 60) Turn the TV and equipment off, then turn them on again. Check an input signal from the equipment. ➡ (p. 70) Use equipment compliant with EIA/CEA-861/861D.
Network	Cannot connect to the network	<ul style="list-style-type: none"> Check the LAN cable or Wireless LAN Adaptor is connected properly. ➡ (p. 45) Check the connections and settings. ➡ (p. 45 - 48) Check the network equipment and network environment. The router may not be set to issue IP address automatically. If the network administrator prefers to allocate an IP address, set an IP address manually. ➡ (p. 46) The router may be using MAC address filtering (security setting). Confirm the MAC Address of this TV (p. 29) and set the router to use it. If the problem persists, consult your Internet Service Provider or telecommunications company (except: X50K series).
	Cannot select the file during DLNA operations	<ul style="list-style-type: none"> Is media server of the connected equipment prepared? ➡ (p. 44) Check applicable data format. ➡ (p. 65, 66)
	Cannot access the Internet contents (except: X50K series)	<ul style="list-style-type: none"> Check the connections and settings. ➡ (p. 45 - 48) The server or connected line may be busy now.
Other	The TV does not switch on	<ul style="list-style-type: none"> Check the mains lead is plugged into the TV and the socket outlet.
	The TV goes into Standby mode	<ul style="list-style-type: none"> Auto power standby function is activated. ➡ (p. 10) The TV enters Standby mode about 30 minutes after broadcasting ends.
	The remote control does not work or is intermittent	<ul style="list-style-type: none"> Are the batteries installed correctly? ➡ (p. 7) Has the TV been switched on? The batteries may be running low. Replace them. Point the remote control directly at the front of the TV (within about 7 m and a 30 degree angle of the front of the TV). Situate the TV away from sunshine or other sources of bright light not to shine on the TV's remote control signal receiver.
	Parts of the TV become hot	<ul style="list-style-type: none"> Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises do not cause any problems in terms of performance or quality.
	Permanently lit spots on screen	<ul style="list-style-type: none"> Due to production process involved in this technology this may result in some pixels which are permanently lit or unlit. This is not a malfunction.
	Overcurrent error message appears	<ul style="list-style-type: none"> The connected USB device might cause this error. Remove the device and turn the TV off with Mains power On / Off switch, then turn it on again. Check foreign objects are not inside the USB port.
	An error message appears	<ul style="list-style-type: none"> Follow the message's instructions. If the problem persists, contact your local Panasonic dealer or the authorised service centre.

Maintenance

First, remove the mains plug from the socket outlet.

Display panel, Cabinet, Pedestal

Regular care:

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

For stubborn dirt:

First clean the dust on the surface. Dampen a soft cloth with clean water or diluted neutral detergent (1 part detergent to 100 parts water). Wring the cloth and wipe the surface. Finally, wipe away all the moisture.

Caution

- Do not use a hard cloth or rub the surface too hard, otherwise this may cause scratches on the surface.
- Take care not to subject the TV's surfaces to water or detergent. Liquid inside the TV could lead to product failure.
- Take care not to subject the surfaces to insect repellent, solvent, thinner or other volatile substances. This may degrade surface quality or cause peeling of the paint.
- The surface of the display panel is specially treated and may be easily damaged. Take care not to tap or scratch the surface with your fingernail or other hard objects.
- Do not allow the cabinet and pedestal to make contact with a rubber or PVC substance for a long time. This may degrade surface quality.

Mains plug

Wipe the mains plug with a dry cloth at regular intervals. Moisture and dust may lead to fire or electrical shock.

Specifications

		42" class		50" class	
Model No.		TH-P42X50D TH-P42X50K TH-P42X50M TH-P42X50Q	TH-P42X50P	TH-P50X50D TH-P50X50K TH-P50X50M TH-P50X50Q	TH-P50X50P
Power Source		AC 220-240 V, 50 / 60 Hz	AC 110-240 V, 50 / 60 Hz	AC 220-240 V, 50 / 60 Hz	AC 110-240 V, 50 / 60 Hz
Power Consumption	Power Rating	200 W	205 W	250 W	255 W
	Standby condition	0.4 W		0.4 W	
Display panel	Panel system	Plasma panel			
	Visible screen size (diagonal)	107 cm / 42 inches		127 cm / 50 inches	
	Number of pixels	786,432 (1,024 (W) × 768 (H)) [3,072 × 768 dots]			
Dimensions (W × H × D)		1,007 mm × 657 mm × 231 mm (With Pedestal) 1,007 mm × 615 mm × 81 mm (TV only)		1,184 mm × 757 mm × 266 mm (With Pedestal) 1,184 mm × 716 mm × 81mm (TV only)	
Mass		17.5 kg Net (With Pedestal) 16.0 kg Net (TV only)		22.5 kg Net (With Pedestal) 21.0 kg Net (TV only)	
Sound	Speaker	(160 mm × 40 mm) × 2, 8 Ω			
	Audio output	20W (10W + 10W)			
	Headphones	M3 (3.5 mm) stereo mini Jack × 1			
Receiving systems / Band name		17 Systems		17 Systems	
		Function		Function	
		1 PAL B, G, H	Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders	8 NTSC 4.43/5.5 MHz	Playback from Special VCR's or DVD
		2 PAL I		9 NTSC 4.43/6.0 MHz	
		3 PAL D, K		10 NTSC 4.43/6.5 MHz	
		4 SECAM B, G		11 NTSC 3.58/5.5 MHz	
		5 SECAM D, K		12 NTSC 3.58/6.0 MHz	
		6 SECAM K1		13 NTSC 3.58/6.5 MHz	
		7 NTSC M (NTSC 3.58/4.5 MHz)		14 SECAM I	
			15 PAL 60 Hz/5.5 MHz	Playback from Special Disc Players and Special VCR's or DVD	
			16 PAL 60 Hz/6.0 MHz		
			17 PAL 60 Hz/6.5 MHz		
Receiving Channels		VHF BAND 2-12 (PAL/SECAM B, K1) 0-12 (PAL B AUST.) 1-9 (PAL B N.Z.) 1-12 (PAL/SECAM D) 1-12 (NTSC M Japan) 2-13 (NTSC M USA)	UHF BAND 21-69 (PAL G, H, I/SECAM G, K, K1) 28-69 (PAL B AUST.) 13-57 (PAL D, K) 13-62 (NTSC M Japan) 14-69 (NTSC M USA)	CATV S1-S20 (OSCAR) 1-125 (USA CATV) C13-C49 (JAPAN) S21-S41 (HYPER) Z1-Z37 (CHINA) 5A, 9A (AUST.)	
Aerial - Rear		VHF / UHF			
Operating Conditions		Temperature: 0 °C - 40 °C Humidity: 20 % - 80 % RH (non-condensing)			

Connection terminals	AV1 IN	AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)
	AUDIO OUT	AUDIO L - R	RCA PIN Type × 2	0.5 V[rms] (high impedance)
		AUDIO L - R	RCA PIN Type × 2	0.5 V[rms]
		COMPONENT	Y	1.0 V[p-p] (including synchronisation)
			P _B /C _B , P _R /C _R	±0.35 V[p-p]
		VIDEO	RCA PIN Type × 1	1.0 V[p-p] (75 Ω)
	HDMI 1 / 2 input	TYPE A Connectors		
		● This TV supports "HDAVI Control 5" function.		
	PC	HIGH-DENSITY D-SUB 15PIN		
		R,G,B: 0.7 V[p-p] (75 Ω)		
		HD, VD: TTL Level 2.0 – 5.0 V[p-p] (high impedance)		
		● Applicable input signals: VGA, SVGA, WVGA, XGA SXGA, WXGA (compressed) Horizontal scanning frequency 31 - 69 kHz Vertical scanning frequency 59 - 86 Hz		
	Card slot	SD Card slot × 1		
	ETHERNET	10BASE-T / 100BASE-TX		
	USB	USB2.0 DC 5 V, Max. 500 mA		

Note

- Design and Specifications are subject to change without notice. Mass and Dimensions shown are approximate.