Panasonic®

**Operating Instructions
Plasma Television**

Model No. **TH-37PV70FA
TH-42PV70FA
TH-50PV70FA**

VIErΛ

VIErΛ
Link

Link

HD
ready

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

English

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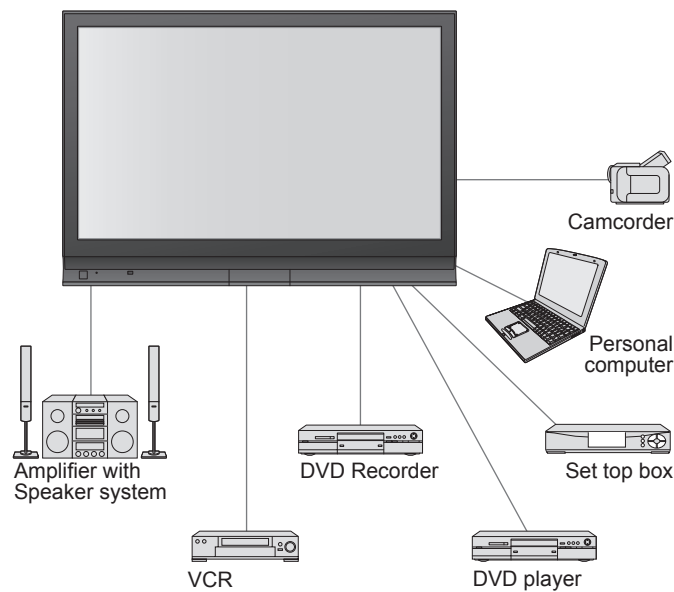The images shown in this manual are for illustrative purposes only.

Turn your own living room into a movie theatre!

Experience an amazing level of multi-

media excitement

Enjoy rich multi-media

Camcorder

Personal computer

Amplifier with Speaker system

DVD Recorder

Set top box

VCR

DVD player

Contents

Be Sure to Read

Quick Start Guide

Enjoy your TV!

Basic Features

Advanced Features

FAQs, etc.

Quick Start Guide

Viewing

Advanced

FAQs, etc.

Safety Precautions

Handling the mains plug and lead

- Insert the mains plug fully into the socket outlet. (If the mains plug is loose, it could generate heat and cause fire.)
- Ensure that the mains plug is easily accessible.
- Ensure the grounding 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 lead.
  - Do not use a damaged mains plug or socket outlet.

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

AC 220-240 V 50 / 60 Hz

Do not remove covers NEVER modify the TV yourself

(High-voltage components may cause serious electrical shock.)
- Have the TV checked, adjusted, or repaired at your local Panasonic dealer.

Keep liquids away from the TV

- To prevent damage which may result in fire or shock hazard, do not expose this appliance to dripping or splashing.
- Do not place containers with water (flower vase, cups, cosmetics, etc.) above the TV. (including on shelves above, etc.)

Do not expose to direct sunlight and other sources of heat

- Avoid exposing the TV to direct sunlight and other sources of heat. To prevent fire never place any type of candle or naked flame on top or near the TV.

Do not place foreign objects inside the TV

- Do not let metal or flammable objects drop into the TV through the air vents (fire or electrical shock may result).

Do not place the TV on sloped or unstable surfaces

- The TV may fall off or tip over.

Use only the dedicated stands / mounting equipment

- Using an unauthorized stand or other fixtures may make the TV shaky, risking injury. Be sure to ask your local Panasonic dealer to perform setup.
- Use optional stands / mounts (p. 6).

Notes

Caution

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

### ■When TV will not be used for a long 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 upright or downward may cause damage to the internal circuitry.

■Allow sufficient space around the TV for radiated heat
Minimum distance

10
10   10   7
(cm)
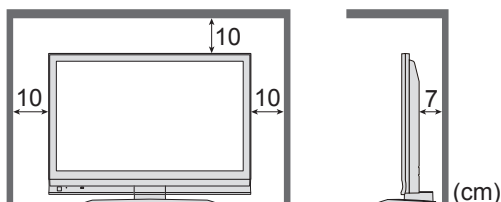
■Do not block the rear air vents
● Blocked ventilation by curtains, etc. may cause overheating, fire or electrical shock.

Do not display a still picture for a long time
This causes the image to remain on the plasma screen ("image retention").
This is not considered a malfunction and is not covered by the warranty.

Typical still images
● Channel number and other logos
● Image displayed in 4:3 mode
● Video game
● Computer image

To prevent image retention, contrast is lowered automatically after a few minutes if no signals are sent or no operations are performed. (p. 39)

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

■Keep the TV away from these equipment
● Electronic equipment
In particular, do not place video equipment near the TV (electromagnetic interference may distort images / sound).
● Equipment with an infrared sensor
This TV also emits infrared rays (this may affect operation of other equipment).

Maintenance

First, remove the mains plug from the socket outlet.

Display panel

Regular care: Gently wipe the surface clean of dirt by using a soft cloth.
Major contamination: Wipe the surface clean using a soft cloth dampened with clean water or diluted neutral detergent by 100 times of water. Then, using a soft dry cloth, evenly wipe the surface clean until it is dry.

Caution
● The surface of the display panel has been specially treated and may be easily damaged.
Do not tap or scratch the surface with your fingernail or other hard object.
● Use care not to subject the surface to bug repellent, solvent, thinner, or other volatile substances (this may degrade surface quality).

Cabinet

Regular care: Wipe the surface clean using a soft dry cloth.
Major contamination: Dampen a soft cloth with clean water or water containing a small amount of neutral detergent. Then, wring the cloth and wipe the surface clean with it. Finally, wipe the surface clean with a dry cloth.

Caution
● Use care not to subject the TV's surfaces to detergent.
(A liquid inside the TV could lead to product failure.)
● Use care not to subject surfaces to bug repellent, solvent, thinner, or other volatile substances (this may deteriorate the surface by peeling the paint).
● Do not allow the cabinet to make contact with a rubber or PVC substance for a long time.

Mains plug

Wipe the mains plug with a dry cloth at regular intervals. (Moisture and dust may lead to fire or electrical shock.)
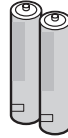
5

Accessories / Options

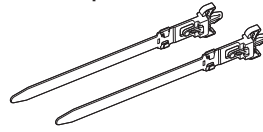## Standard accessories — Check that you have the accessories and items shown ☑
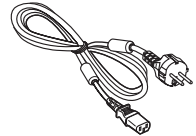
☐ Remote Control Transmitter
- ● EUR7737Z60

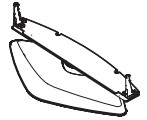☐ Batteries for the Remote Control Transmitter (2)
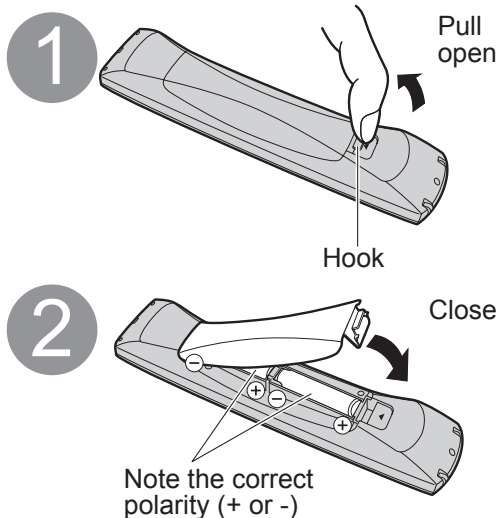- ● R6 (UM3)

☐ Clamper (2)

☐ Mains Lead

☐ Pedestal (ST-42D2-WK / ST-50D2-WK)
- ● TBL0E0007 (TH-37PV70FA, TH-42PV70FA)
- ● TBL0E0010 (TH-50PV70FA)

For installation ➡ p. 7 and p. 8

☐ Operating Instructions

☐ Pan European Guarantee Card

Installing remote's batteries

1 Pull open

Hook

2 Close

Note the correct polarity (+ or -)

Caution
- ● Incorrect installation may cause battery leakage and corrosion, resulting in damage to the remote control.
- ● Do not mix old and new batteries.
- ● Do not mix different battery types (such as alkaline and manganese batteries).
- ● Do not use rechargeable (Ni-Cd) batteries.
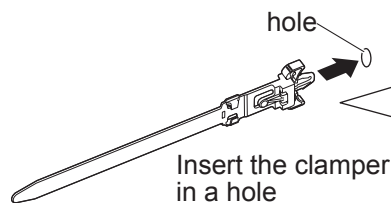- ● Do not burn or breakup batteries.

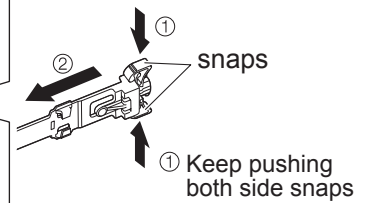## Using the clamper

Rear of the TV
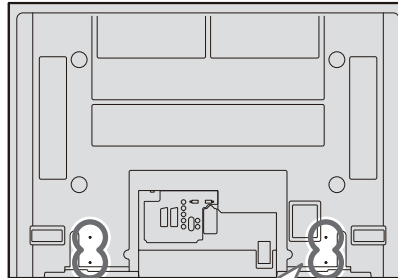
- ● Do not bundle the RF cable and mains lead together (could cause distorted image).
- ● Fix cables with clampers as necessary.
- ● When using the optional accessory, follow the option's assembly manual to fix cables.
- ● How to fix cables when using the pedestal (standard accessory) ➡ "Attaching the bands for fixing cables" (p. 8)
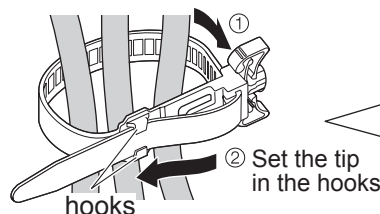
1. Attach the clamper

hole

Insert the clamper in a hole

To remove from the TV:
① ② snaps
① Keep pushing both side snaps

2. Bundle the cables

① ② Set the tip in the hooks

hooks

To loosen:
② ① Keep pushing the knob

knob
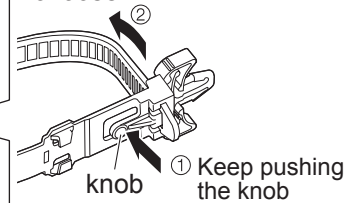
Optional accessories

Pedestal
- ● TY-ST42D1-WG
- ● TY-ST42D1-WK
- ● TY-ST42D2-WG (TH-37PV70FA, TH-42PV70FA)
- ● TY-ST50D1-WG
- ● TY-ST50D1-WK
- ● TY-ST50D2-WG (TH-50PV70FA)

Plasma TV stand
- ● TY-S37PX70WK (TH-37PV70FA)
- ● TY-S42PX70WK (TH-42PV70FA)
- ● TY-S50PX70WK (TH-50PV70FA)
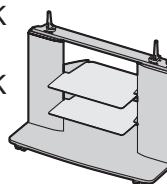
Wall-hanging bracket (vertical)
- ● TY-WK42PV3W
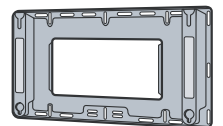
(angle)
- ● TY-WK42PR2W
- ● TY-WK42PR3W
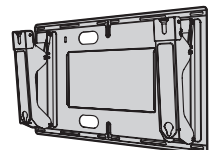
Caution
- ● In order to maintain the unit's performance and safety, be absolutely sure to ask your dealer or a licenced contractor to secure the wall-hanging brackets.
- ● Carefully read the instructions accompanying the plasma TV stand or pedestal, and be absolutely sure to take steps to prevent the TV from tipping over.
- ● Handle the TV carefully during installation since subjecting it to impact or other forces may cause product damage.

Installation of 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 other TV and displays.
● 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 nearest Panasonic dealer immediately.
During set-up, make sure that all screws are securely tightened.
● If sufficient care is not 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.
Use the accessory fall-prevention brackets to secure the TV.
● 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.

Note

● Maintenance
Wipe the surfaces with a soft, dry cloth. If the pedestal is particularly dirty, clean it using a cloth soaked with water to which a small amount of neutral detergent has been added, and then wipe with a dry cloth.
Do not use products such as solvents, thinner or household wax for cleaning, as they can damage the surface coating. (If using a chemically-treated cloth, follow the instructions supplied with the cloth.)
● Do not attach sticky tape or labels, as they can make the surface of the pedestal dirty. Do not allow long-term contact with rubber, vinyl products or the like. (Doing so will cause deterioration.)

Attaching the pedestal

Ⓐ Assembly screw (4)   Ⓑ Assembly screw (4)   Ⓒ Pole (2)   Ⓓ Base   Ⓔ Band (2)

M5 × 16   M5 × 30   Ⓐ ... Ⓑ
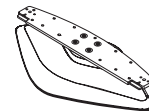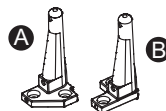
■Assembling the pedestal

Use the four assembly screws Ⓐ to fasten the left and right poles to the base securely.

| TH-37PV70FA | TH-42PV70FA TH-50PV70FA | | TH-37PV70FA | TH-42PV70FA TH-50PV70FA |

Pole (○) Ⓑ Front   Ⓐ Pole (▽) Front   Ⓐ   Pole   Pole   Pole (▽) Ⓐ Front   Ⓑ Pole (○) Front

Align the stamped marks.   Align the stamped marks.
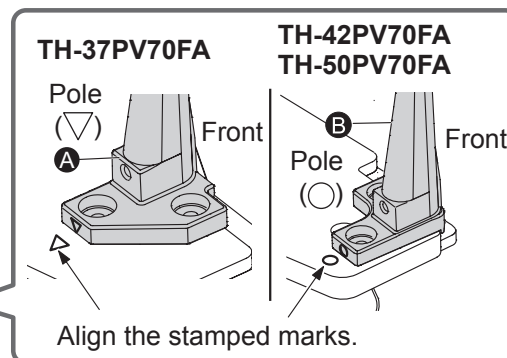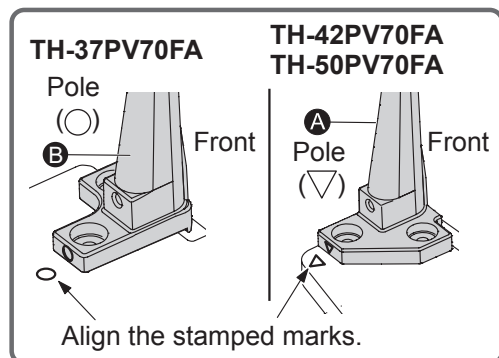
● Forcing the assembly screws the wrong way will strip the threads.

■Securing the TV

Use the assembly screws Ⓑ to fasten securely.
● Carry out work on a horizontal and level surface.

Ⓑ

View from the bottom

Hole for pedestal installation

Arrow mark

Label   Ⓓ

7
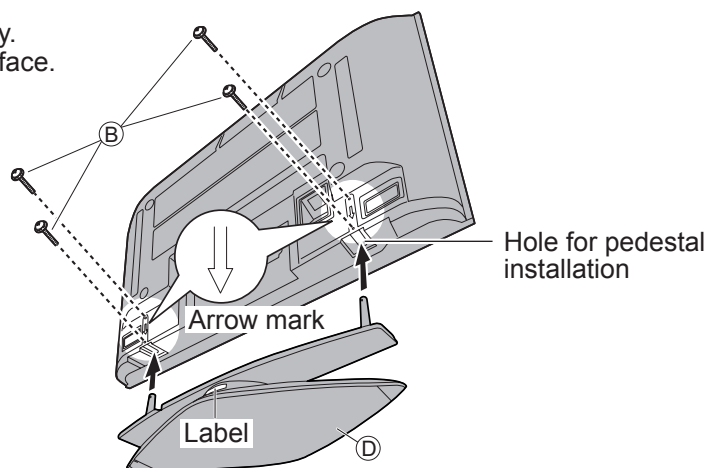
Installation of the pedestal

■Attaching the bands for fixing cables
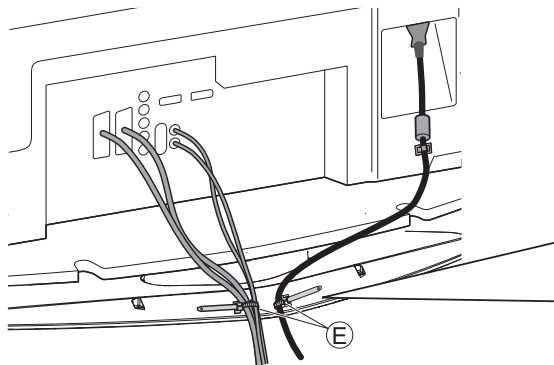
Insert the spigot on the two bands Ⓔ into the pedestal.
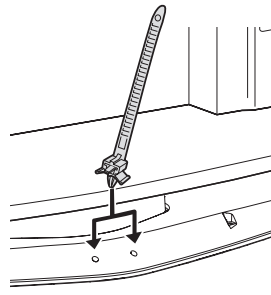
To tighten:
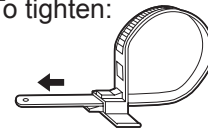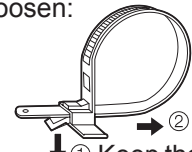
To loosen:
① Keep the knob pressed
②

Preventing the TV from falling over

The TV could fall over during an earthquake, etc.
We recommend that measures are taken to prevent the TV from falling over in such an event.
● The information in this section is designed to reduce the risk of injuries caused by the TV falling over during an earthquake, etc.
  However, no measure can guarantee protection against all earthquakes.
● The precautions in this section are recommendations for providing more secure installation of your TV if you live in an earthquake prone area.
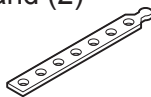
① Band (2)　　② Screw (2)　　③ Wood screw (2)　　④ Clamp (2)

Nominal diameter 4 mm × 12
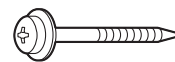
■Securing to a base
Fix pedestal and base together with band.
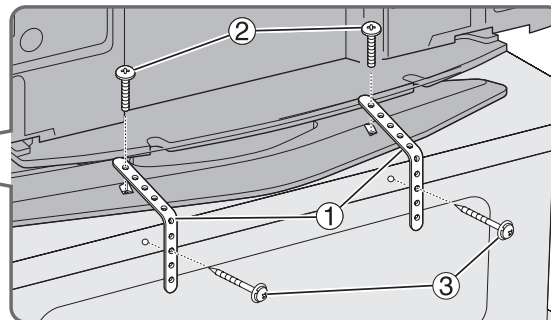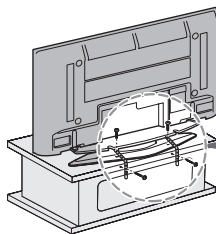
■Securing to a wall
Fix to wall or post with strong commercial wire or chain.

④
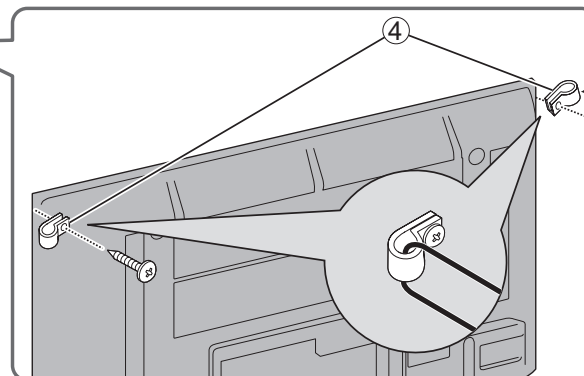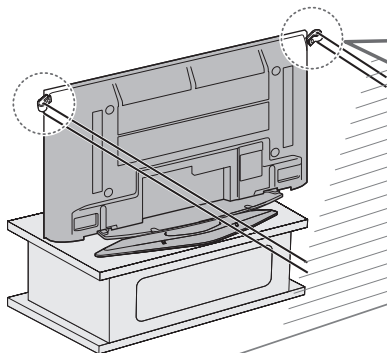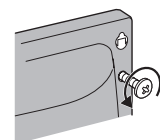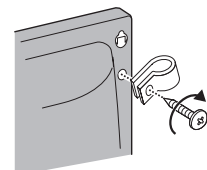
Remove

Attach

Remove the screws at both top corners on the rear of the TV, and attach the clamps ④ to the TV using the removed screws.

Identifying Controls

Function select
- Volume / Contrast / Brightness / Colour / Sharpness / Tint (NTSC mode) / Bass / Treble / Balance / Auto Setup (p. 24)

Changes the input mode

Increases or decreases the programme position by one. When a function is already displayed, press to increase or decrease the selected function. When in Standby mode, switches TV On.

Mains power On / Off switch

Remote control signal receiver

Lift door to open

Power LED
- Standby: red
  On: green

Standby On / Off switch
(Switches TV On or Off standby)

Surround (p. 22)

Access VIERA Link Menu (p. 33)

Changes aspect ratio (p. 15)

OK button to confirm selections and choices
Press after selecting programme positions to quickly change programme.

Main Menu
Press to access VIERA Link, Picture, Sound and Setup menus (p. 20)

Teletext (p. 18)

Viewing a favourite teletext channel (p. 19)

Programme / channel change buttons (0-9) and Teletext page buttons. (p. 14 and p. 18) When in Standby mode, switches TV On.

Programme Information (p. 15)

Selects programmes in sequence

VCR / DVD operations (p. 17)

Changes the input mode
TV - changes TV mode (p. 16)
AV - changes AV input mode (p. 16)

DIRECT TV Recording
To immediately record programme in VCR / DVD recorder with Q-Link connection (p. 30)

Option menu
Sets the preferred settings of viewing and sound options easily (p. 15)

EXIT (Returns to TV screen)

Cursor buttons to make selections and adjustments

Returns to the previous menu

Coloured buttons used for the selection, navigation and operation of various functions

Still picture (p. 15)
Teletext Hold (p. 19)

Teletext Index (p. 19)

Sound mute On / Off

Volume

Panasonic
TV

9

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.

Example 1
Connecting aerial

TV only

Rear of the TV

Aerial

AC 220-240 V
50 / 60 Hz

Mains lead (supplied)

RF cable

COMPONENT VIDEO
HDMI 1 AV HDMI 2
Y
AV 1   AV 2
PB
PR
L
R
L
R
AUDIO
PC
AUDIO
RGB
RGB
VIDEO
VIDEO   VIDEO   AUDIO
S VIDEO   IN
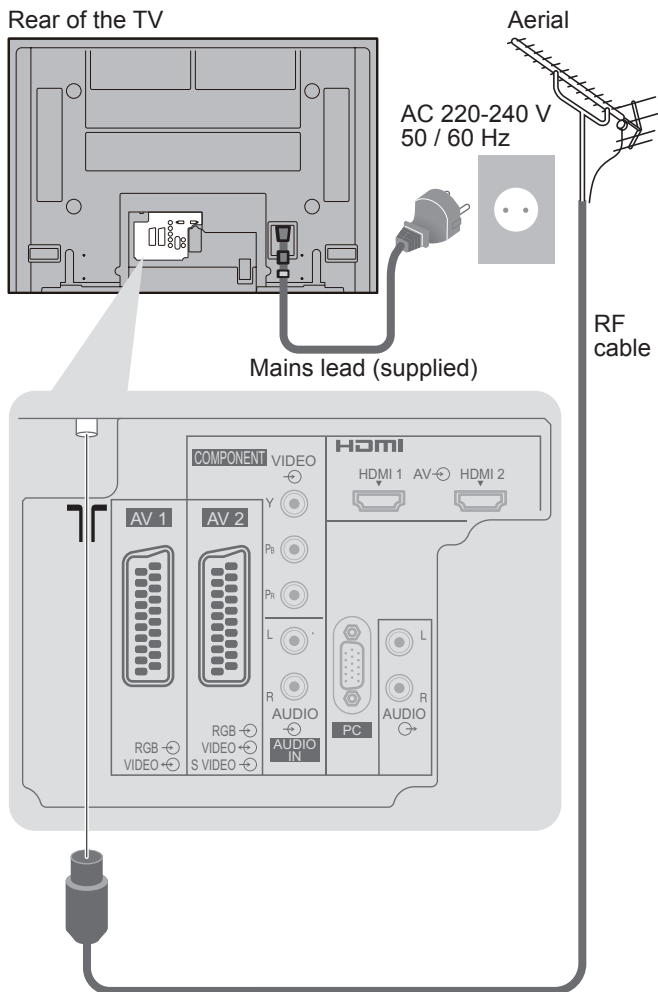
Example 2
Connecting DVD Recorder / VCR

TV, DVD Recorder or VCR

Rear of the TV

Aerial

AC 220-240 V
50 / 60 Hz

Mains lead (supplied)

COMPONENT VIDEO
HDMI 1 AV HDMI 2
Y
AV 1   AV 2
PB
PR
L
R
L
R
AUDIO
PC
AUDIO
RGB
RGB
VIDEO
VIDEO   VIDEO   AUDIO
S VIDEO   IN

SCART cable
(fully wired)

RF cable

RF IN

RF OUT

DVD Recorder or VCR

RF cable
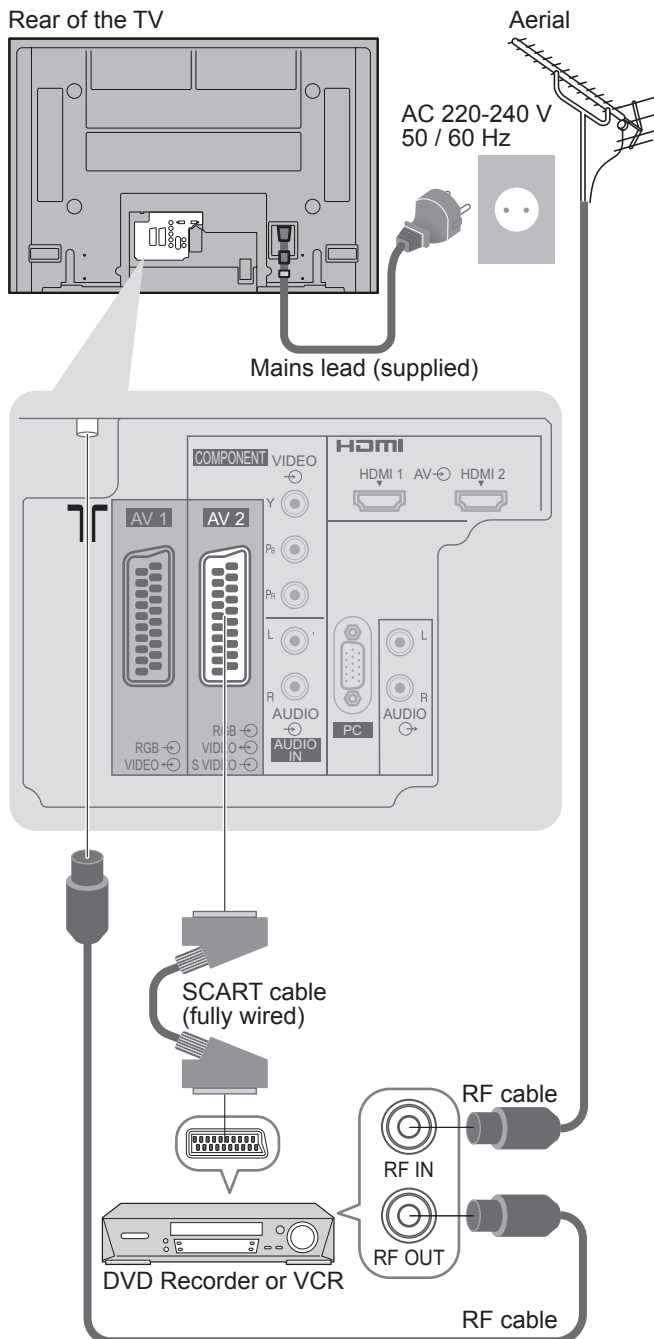
Note

● Connect to AV1 / 2 for a DVD Recorder / VCR supporting Q-Link (p. 30).

10

Example 3
Connecting DVD Recorder / VCR and Set top box

TV, DVD Recorder / VCR and Set top box

Rear of the TV

COMPONENT VIDEO

HDMI

AV 1   AV 2

HDMI 1   AV   HDMI 2

Y

Pв

Pв

L

L

R

R

AUDIO

AUDIO

RGB

PC

RGB

AUDIO

VIDEO

VIDEO   S VIDEO

IN

Clamper

● To unfasten

②   ①

Aerial

RF cable

AC 220-240 V
50 / 60 Hz

Mains lead (supplied)

RF cable

RF cable

RF OUT

RF IN

DVD Recorder
or VCR

SCART cable
(fully wired)

SCART cable
(fully wired)

SCART cable
(fully wired)

RF cable

RF OUT

RF IN

RF cable

SCART cable
(fully wired)

RF IN

RF cable

Set top box

11

Auto Setup

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

1

Plug the TV into mains socket and switch On
(Takes a few seconds to be displayed)

Ꮜ/I

● You can now use the remote control to turn On the TV or turn the TV to standby mode.
(Power LED: On)

2

Select the language

Menüsprache		
Deutsch	Español	Nederlands
English	Norsk	Suomi
Français	Dansk	Türkçe
Italiano	Svenska	Português
Ελληνικά	Magyar	Hrvatski
čeština	Български	Română
Slovenčina	Slovenščina	Polski
Srpski		

① select
② store

3

Select your country

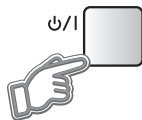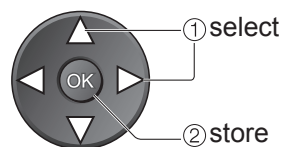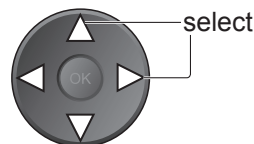| Country		
Germany	Denmark	Poland
Austria	Sweden	Czech
France	Norway	Hungary
Italy	Finland	Ireland
Spain	Belgium	E.Eu
Portugal	Switzerland	
Netherlands	Greece	

select

4

Start Auto Setup

OK

Auto Setup

Scan   2 [78] 1 [41]

Channel	Service Name
CH 29	
CH 33	

This will take about 3 mins.

● EXIT
● RETURN

● Auto Setup will start to search for TV channels and store them. The sorted programme order depends upon the TV signal, the broadcasting system and reception conditions.

DOWNLOAD IN PROGRESS
PLEASE WAIT
Programme : 63
Remote control unavailable
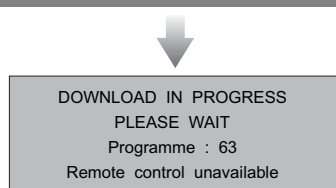
● If a compatible recording equipment with Q-Link or similar technologies (p. 30) is connected, channel information is automatically downloaded to the equipment.

5

Select the picture setting

Viewing Mode

Dynamic   Normal   Cinema
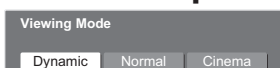
● Also possible to change the setting in Picture Menu (p. 22)

① select
② set
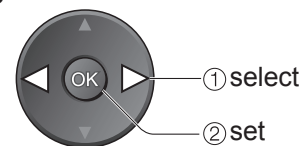
Auto Setup is now complete and your TV is ready for viewing.
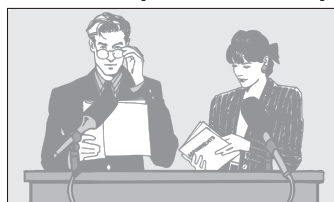
● To edit channels
  ➡ Editing and Setting Channels (p. 24)

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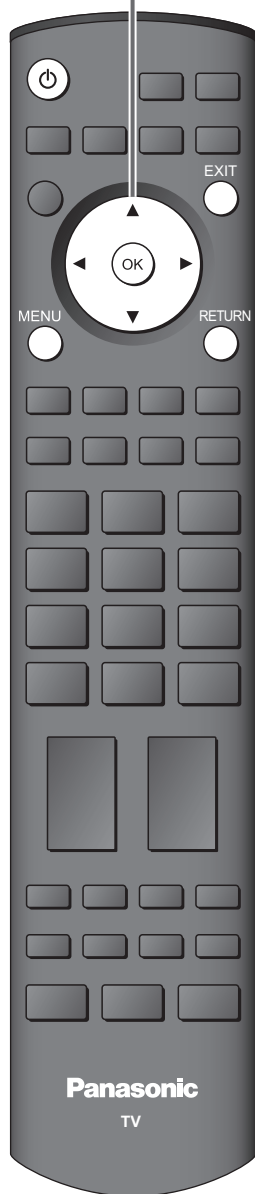
Many features available on this TV can be accessed via the On Screen Display menu.

■ How to use remote control

MENU

Open the main menu

Move the cursor / select the menu

Move the cursor / adjust levels / select from a range of options

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

RETURN

Return to the previous menu

EXIT

Exit the menu system and return to the normal viewing screen

Using the On Screen Displays

■ ON SCREEN HELP Instructions box

(example: Sound Menu)

♪ **Sound Menu**	
Mode	◄ Music ▬▬ ►
Bass	
Treble	
Balance	
Surround	Off
Volume Correction	
MPX	Stereo
Reset to Default	Set

Select
● EXIT
◄ O ► ● Change
● RETURN
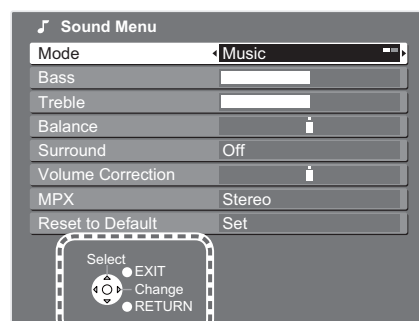
On-screen operation guide will help you.

Note

● If tuning has failed ➡ "Auto Setup" (p. 24).
● If downloading has failed ➡ "Download" (p. 23).
● If you turned the TV Off during Standby mode last time, the TV will be in Standby mode when you turn the TV On with Mains power On / Off switch.

Watching TV

1   Turn power on

(Press for about 1 second)

● Mains power On / Off switch should be On.
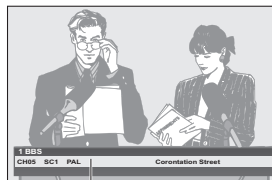
Information banner

2   Select a channel

up

or

down

● To select the two-digit programme number, e.g. 39

➡ 3 ➡ 9 (in a short time)

Volume

Panasonic
TV
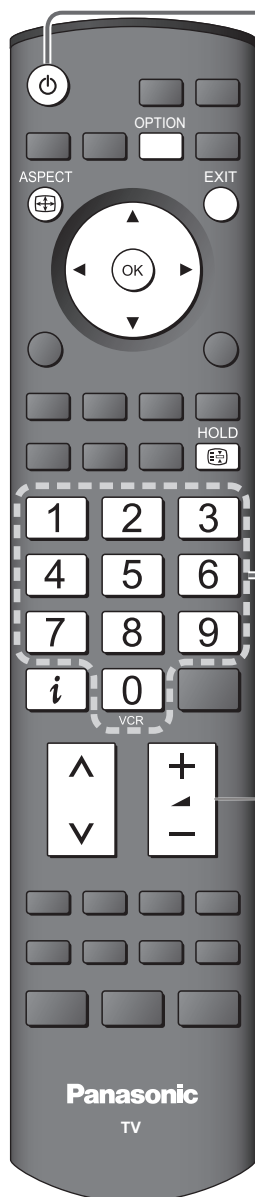
■ **Other useful functions** (Operate after ②)

Hold	**Freeze / unfreeze picture**	HOLD

Display the current programme status

Check or change the current programme status instantly

OPTION

● To change ➡ ② change / ① select

Teletext Language
➡ Selects teletext language

MPX
➡ Sound Menu (p. 22)

Volume Correction
➡ Adjusts volume of individual channel or input mode

Note

● Also possible to change the settings in Menu list (p. 22 and p. 23).

Display information banner

Display programme information [i]

Channel

1 BBS
CH05   SC1   PAL   Corontation Street
   Stereo   45 ├ Features available

Sound mute   Colour system   Teletext   Off timer
        Sound system   Programme   Stereo sound
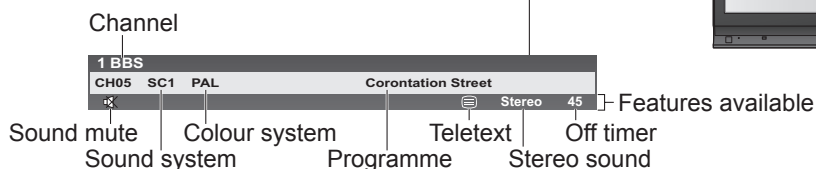
● To select another channel ➡
● To hide ➡ EXIT

● To set display timeout
  ➡ "Banner Display Timeout" (p. 23)
● Appears also when changing channel.
● Programme information is referred to teletext signal.

Change aspect ratio

ASPECT

Change the aspect ratio (p. 36)

Enjoy viewing the picture at its optimum size and aspect.

Aspect Selection list

Aspect Selection
Auto
16:9
14:9
Just
4:3
4:3 Full
Zoom1
Zoom2
Zoom3

● To change the mode
  ➡ Display Aspect Selection list ASPECT ➡ During the list is displayed, select the mode ➡ Store OK
● To change the mode using the ASPECT button only
  ➡ ASPECT (Press repeatedly until you reach the desired mode)

Viewing

● Watching TV

15
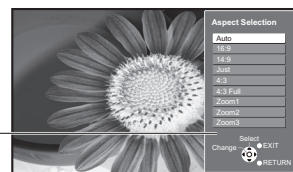
Watching Videos and DVDs

Connect the external equipment (VCRs, DVD equipment, etc.) and you can watch the input.
To connect the equipment (p. 10 and p. 11)
The Remote Control is capable of operating some functions of selected Panasonic external equipment.
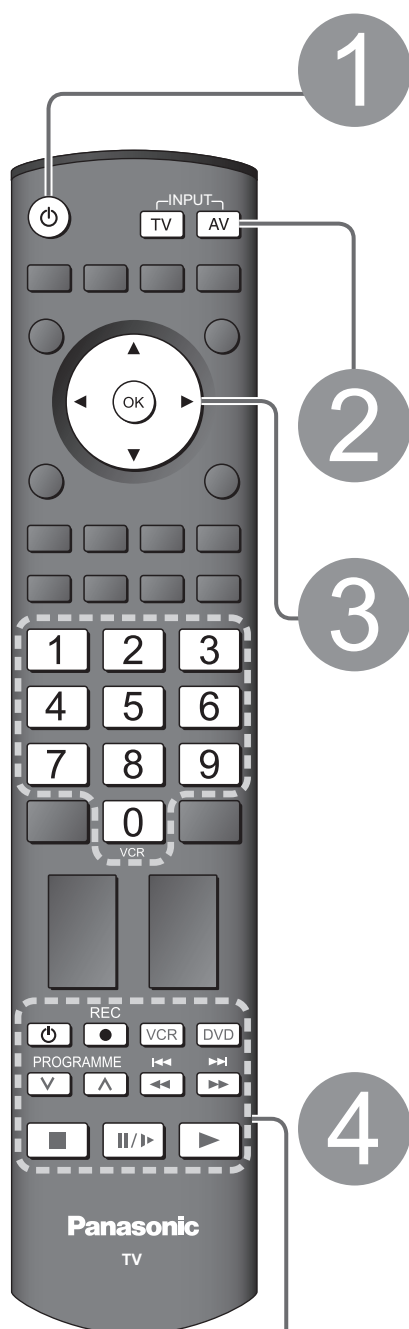
1

Turn the TV on
■ **When connecting with SCART as example 2 or 3** (p. 10 and p. 11)
→ Receives input signals automatically when playback starts
● Input signals are automatically identified by the SCART (pin 8) terminal.
● This function is also available for HDMI connections (p. 33).

■ **If input mode is not switched automatically**
→ Perform ❷ and ❸
● Dependant on the setup of the equipment

2

Display the Input select menu

AV

3

Select the input mode connected to the equipment

Input Selection
AV1
AV2/AV2S
COMPONENT
PC
HDMI1
HDMI2
TV

② watch
OK
① select
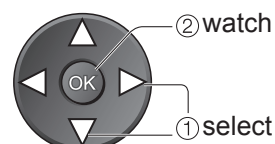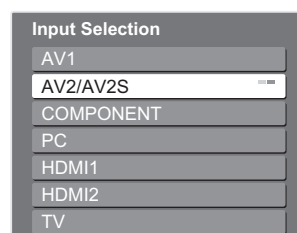
● You can also select the input using the AV button on the remote control or the front panel of the TV.
Press the button repeatedly until the desired input is selected.
● You can label or skip each input modes → "Input Labels" (p. 28)

4

View
Displays the selected mode

AV2
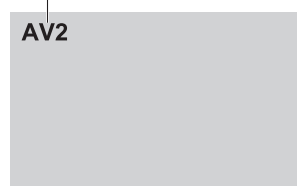
■ **To return to TV**
→ TV

Note

● If the external equipment has an aspect adjustment function, set to "16:9".
● For details, see the manual of the equipment or ask your local dealer.

Panasonic equipment connected to the TV can be directly operated with the remote control.

VCR DVD	**VCR / DVD selection buttons∗** Select VCR to operate Panasonic VCR or DVD equipment Select DVD to operate Panasonic DVD equipment or Player home theatre
⏻	**Standby** Set to Standby mode / Turn on
▶	**Play** Playback videocassette / DVD
■	**Stop** Stop the operations
◀◀	**Rewind / Skip / Search** VCR: Rewind, view the picture rapidly in reverse DVD: Skip to the previous track or title Press and hold to search backward
▶▶	**Fast-forward / Skip / Search** VCR: Fast-forward, view the picture rapidly forward DVD: Skip to the next track or title Press and hold to search forward
Ⅱ/▶	**Pause** Pause / Restart DVD: Press and hold to play at slow speed
PROGRAMME ∨ ∧	**Programme Up / Down** Select programme
REC ●	**Record** Start recording

∗**Setting your remote control to operate Panasonic VCR, DVD, etc.**

① Select the VCR or DVD button you want to set ➡ VCR DVD

② Press and hold ⏻ during the following operations

Enter the appropriate code for the equipment
to be controlled, see table below

1	2	3
4	5	6
7	8	9
	0	

➡ Press ■

"VCR" button

Equipment	Code
VCR	10 (default)
DVD	11

"DVD" button

Equipment	Code
DVD	70 (default)
Player home theatre	71

Note

● Confirm correct operation after the code changed.
● The codes will be reset to default values if batteries are replaced.
● "DVD" means DVD player, DVD recorders and Recorder home theatre.
● Some operations may not be possible on some equipment models.

● Watching Videos and DVDs

Viewing Teletext

You can enjoy teletext broadcasting, including news, weather forecasts and subtitles, if this service is provided by the broadcasters.

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

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

Available page up / down ▶ red green

To select among subject blocks ▶ blue

To select next subject within the subject block ▶ yellow
(After the last subject, it moves to the next subject block.)

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. 19)

■ **To change mode** ▶ "Teletext" in Setup Menu (p. 23)
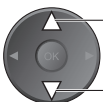
1 Switch to Teletext

TEXT ● Displays Index (content varies depending on the broadcasters)

Sub page number
<< 01 02 03 04 05 06 07   >>
P100   **17:51 28 Feb** ← Time / date
Current page number
TELETEXT INFORMATION
Colour bar

2 Select the page

1 2 3
4 5 6
7 8 9
0
VCR

or

up
OK
down

or
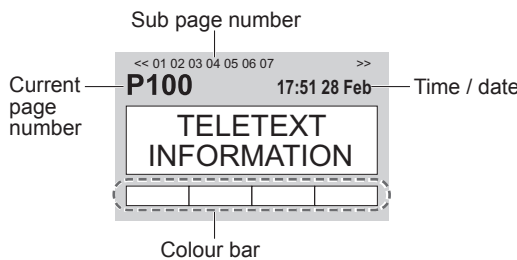
red green yellow blue
(Corresponds to the colour bar)

As the blue bar is displayed

■ **To adjust contrast** ▶ MENU ▶

TEXT
■ **To return to TV** ▶

TEXT F.P. INDEX HOLD

1 2 3
4 5 6
7 8 9
0
VCR

■ **Using teletext conveniently**
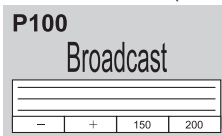
Reveal hidden data	Reveal hidden words e.g. quiz page answers MENU ▶ red ● Re-hide ▶ red
FULL / TOP / BOTTOM	MENU ▶ green (TOP) (BOTTOM) Normal (FULL) **P100** Broadcast — + 150 200 (Expand the TOP half) **P100** Broadcast — + 150 200 (Expand the BOTTOM half) **P100** Broadcast — + 150 200
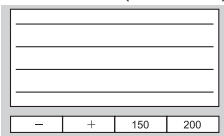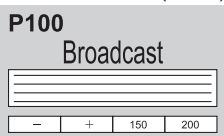
HOLD	If you wish to hold the current page without updating ### Stop or resume automatic updating HOLD ■ **To resume** ➡ HOLD
INDEX	### Return to the main index page INDEX
Call up a favourite pages	F.P. ● Call up the page stored in "blue". ● Factory setting is "P103".
View in multi window	### Watch TV and Teletext in two windows at once MENU (Press twice) ➡ ● Select Picture and text On or Off ● Operations can be made only in Teletext screen.
Store frequently viewed pages	### Store frequently viewed pages in the colour bar (List mode only) As page is displayed Corresponding colour button ➡ OK press and hold **P100** Broadcast 101 200 400 888 The number changes to white. ■ **To change stored pages** ➡ Colour button you want to change ➡ Enter new page number 1 2 3 4 5 6 7 8 9 0 VCR ➡ OK press and hold
View sub page	### View sub page (Only when teletext is more than one page) ◀ OK ▶ <<01 02 03 04 05 — Appears at upper-left corner of the screen ■ **To view specific sub page** ➡ MENU ➡ blue T**** Broadcast ➡ Enter the 4-digit number example: P6 0 0 0 6 **T0006** ● Sub pages: The number of sub pages varies depending on the broadcasters (up to 79 pages). It may take some time for searching, during which time you can watch TV.
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 MENU ➡ yellow ➡ **P108** Appears when updating is completed ➡ yellow ➡ View the updated page (You cannot change the channel.) ● The news page provides a function that indicates arrival of latest news ("News Flash").
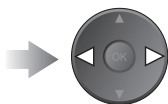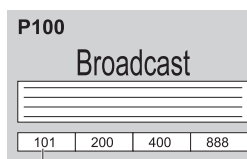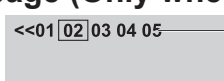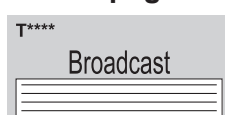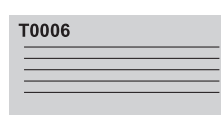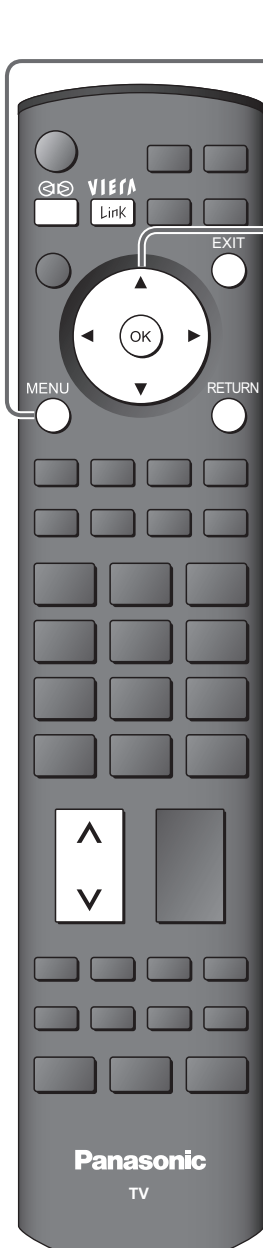
How to Use Menu Functions

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

VIErA Main Menu

| VIERA Link |
| Picture |
| Sound |
| Setup |

(example: Picture Menu)

② access
OK
① select

③ Select the item

Picture Menu 1/2

Viewing Mode	Dynamic
Contrast	
Brightness	
Colour	
Sharpness	
Tint	
Colour Balance	Warm
Colour Management	Off
P-NR	Off

(example: Picture Menu)

select

④ Adjust or select

Picture Menu 1/2

Viewing Mode	Dynamic
Contrast	
Brightness	
Colour	
Sharpness	
Tint	
Colour Balance	Warm
Colour Management	Off
P-NR	Off

(example: Picture Menu)

① change
OK
② store or access (Required by some functions)

■ Choose from among alternatives

Number and positions of alternatives

| Colour Balance | Normal |

Changed

■ Adjust using the slide bar

| Sharpness | |

Moved

■ Go to the next screen

| Tuning Menu | Access |

Displays the next screen

■ To change menu pages

∧ up

∨ down

■ To return to TV at any time

EXIT
➡

■ To return to the previous screen

RETURN
➡

Note

● To initialize all settings
➡ "Shipping Condition" (p. 27)

Panasonic
TV

■ Overview

VIErA Main Menu

- **VIERA Link**
- ◻ **Picture**
- ♪ **Sound**
- ≡ **Setup**

VIERA Link Menu

| VIERA Link Control | ◀ Recorder |
| Speaker Selection | ◀ Home Cinema |

(p. 33)

The menu of the accessed equipment

◻ Picture Menu   1/2

Viewing Mode	◀ Dynamic
Contrast	
Brightness	
Colour	
Sharpness	
Tint	
Colour Balance	◀ Warm
Colour Management	◀ Off
P-NR	◀ Off

◻ Picture Menu   2/2

MPEG NR	◀ Off
3D-COMB	◀ Off
Reset to Default	Set

(p. 22)

♪ Sound Menu

Mode	◀ Music
Bass	
Treble	
Balance	
Surround	◀ Off
Volume Correction	
MPX	◀ Stereo
HDMI1 Input	◀ Auto
Reset to Default	◀ Set

(p. 22)

Q-Link Settings

Q-Link	◀ AV2
AV2 out	◀ TV
Download	Access

(p. 23)

≡ Setup Menu   1/2

AV Colour System	◀ Auto
Q-Link Settings	Access
Child Lock	Access
Tuning Menu	Access
Off Timer	◀ Off
Language	Access
Teletext	◀ TOP
Shipping Condition	Access
Power Save	◀ Off

Tuning Menu

Auto Setup	Access
Programme Edit	Access
Manual Tuning	Access

(p. 24)

≡ Setup Menu   2/2

Side Panel	◀ Off
Input Labels	Access
Banner Display Timeout	◀ 3 seconds
VIERA Link	◀ On
Refresh Rate	◀ 100Hz
Software License	Access
System Information	Access

(p. 23)

● Only available items can be selected.

● How to Use Menu Functions (picture, sound quality, etc.)

Advanced

21

How to Use Menu Functions

■ Menu list

Menu	Item	Adjustments / Configurations (alternatives)
VIERA Link	**VIERA Link Control**	Controls the connected Panasonic equipment "Easy control only with VIERA remote control" (p. 33) "Speaker control" (p. 33) ● You can also access VIERA Link Menu directly using the VIERA Link button on the remote control.
	Speaker Selection	
Picture	**Viewing Mode**	Basic picture mode **(Dynamic / Normal / Cinema)** ● Set for each input signal
	Contrast, Brightness, Colour, Sharpness	Adjusts colour, brightness, etc. for each picture mode to suit your taste
	Tint	Adjusts tint of image ● For NTSC signal reception only
	Colour Balance	Chooses the colour balance of the entire image **(Cool / Normal / Warm)**
	Colour Management	Automatically adjusts colours to vivid ones **(Off / On)** ● Not valid on PC signal
	P-NR	Picture Noise Reduction Automatically reduces unwanted picture noise **(Off / Normal / Dynamic / Auto)** ● Not valid on HDMI or PC signal
	MPEG NR	Automatically reduces noise for watching DTV, DVD and VCD **(Off / Min / Mid / Max)**
	3D-COMB	Automatically makes still pictures and slow pictures look more vivid **(Off / On)** ● For PAL or NTSC signal reception only ● Not valid on RGB, S-Video, components, PC and HDMI
	Reset to Default	Press the OK button to reset the present Picture Mode to the default settings
Sound	**Mode**	Basic sound mode **(Music / Speech)**
	Bass	Adjusts the output level of deep bass
	Treble	Adjusts the output level of high-pitch, shrill sound
	Balance	Adjusts volume level of right and left speakers
	Surround	Surround sound settings **(Off / On)** Provides a dynamic enhancer to simulate improved spatial effects ● Switching is also possible by the Surround button on the remote control (p. 9)
	Volume Correction	Adjusts volume of individual channel or input mode
	MPX	Select stereo / monaural **(Mono / Stereo)** ● Normally: Stereo ● Stereo signal cannot be received: Mono ● M1 / M2: Available while mono signal is transmitted
	HDMI1 Input	Select to fit the input signal **(Auto / Digital / Analogue)** (p. 31) Auto　　　: Automatic detection of digital or analogue sound source Digital　　: HDMI cable connection Analogue : HDMI-DVI adapter cable connection ● HDMI input mode only ● HDMI2 terminal is for digital signal only ● No setting for HDMI2 available
	Reset to Default	Press the OK button to reset the present Sound Mode to the default settings

■ Menu list
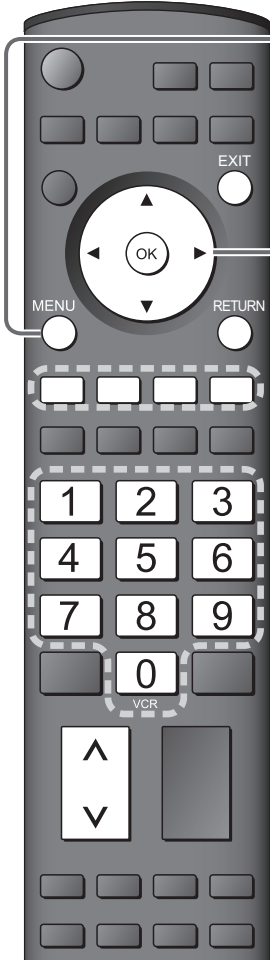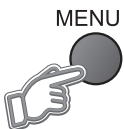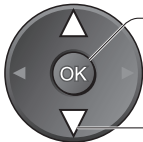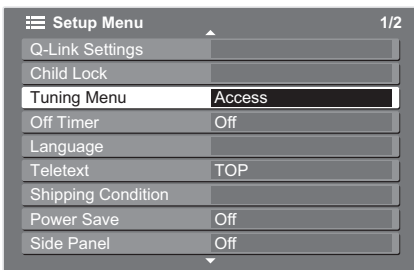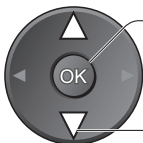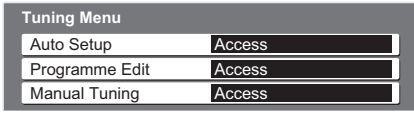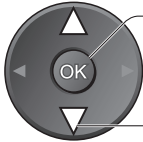
Menu	Item		Adjustments / Configurations (alternatives)
Setup		AV Colour System	Selects optional colour system based on video signals in AV mode **(Auto / PAL / SECAM / M.NTSC / NTSC)**
	Q-Link Settings	Q-Link	Selects which AV terminal is to be used for data communication between this TV and a compatible recording equipment **(AV1 / AV2)** (p. 30)
		AV1 / AV2 out	Chooses the signal to be transmitted from the TV to Q-Link **(TV / AV1 / AV2 / Monitor)** ● Monitor: Image displayed on screen ● Component, PC and HDMI signals cannot be outputted
		Download	Downloads channel information to a Q-Link compatible equipment connected to the TV
		Child Lock	Locks a programme channel to prevent access to it (p. 26)
	Tuning Menu	Auto Setup	Automatically sets the channels received in the area (p. 24)
		Programme Edit	Edits channels (p. 25)
		Manual Tuning	Sets the channels manually (p. 25)
		Off Timer	Sets the time the TV automatically turns Off **(Off / 15 / 30 / 45 / 60 / 75 / 90 minutes)**
	Language	OSD Language	Changes language for on-screen displays
		Teletext Language	Selects teletext language **(West / East1 / East2)** ● West: English, French, German, Greek, Italian, Spanish, Swedish, Turkish ● East1: Czech, English, Estonian, Lettish, Rumanian, Russian, Ukrainian ● East2: Czech, Hungarian, Lettish, Polish, Rumanian
		Teletext	Teletext display mode **(TOP (FLOF) / List)** (p. 18)
		Shipping Condition	Resets all settings, for example, when moving house (p. 27)
		Power Save	Reduces brightness of picture to economise on power consumption **(Off / On)**
		Side Panel	Increases the brightness of the side panel **(Off / Low / Mid / High)** ● The recommended setting is "High" to prevent panel "image retention"
		Input Labels	Labels or skips each input terminals (p. 28)
		Banner Display Timeout	Sets how long the information banner (p. 15) stays on screen ● 0 (No display) to 10 sec. in 1-sec. increments
		VIERA Link	Sets to use VIERA Link functions **(Off / On)** (p. 32)
		Refresh Rate	Changes the image processing of the panel (depending on the input signal) **(50Hz / 100Hz)** ● Set to "100Hz" normally
		Software License	Displays the software licence information
		System Information	Displays the system information of this TV

● A different menu will be displayed while PC is used. (p. 29)
● Only available items can be selected.

● How to Use Menu Functions (picture, sound quality, etc.)

Advanced

Editing and Setting Channels

The current channel settings can be changed according to your needs and reception conditions.

1 Display the menu

MENU

2 Select "Setup"

VIErn **Main Menu**
VIERA Link
☐ Picture
♪ Sound
☰ Setup

② access
① select

3 Select "Tuning Menu"

☰ Setup Menu   1/2
Q-Link Settings
Child Lock
Tuning Menu   Access
Off Timer   Off
Language
Teletext   TOP
Shipping Condition
Power Save   Off
Side Panel   Off

② access
① select

4 Select a function

Tuning Menu
Auto Setup   Access
Programme Edit   Access
Manual Tuning   Access

② access
① select

■ **To return to TV**

EXIT

5 Set

Set channels automatically

Auto Setup

Automatically set the channels received in the area.
If a Child Lock PIN number (p. 26) has been set, it must be entered.

Start Auto Setup   **Settings are made automatically**

Auto Setup
All tuning data will be erased
Start Auto Setup ⊙ ●EXIT
                   ●RETURN

OK →

Auto Setup
Scan   2 ▭   78 1   41
Channel   Service Name
CH 29
CH 33
This will take about 3 mins.
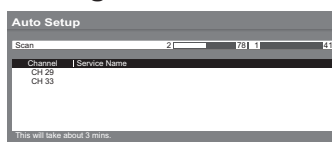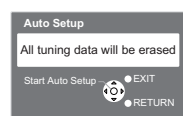
● All previous settings are erased.
● The settings are downloaded to a Q-Link compatible equipment connected to the TV.
● When the operation is completed, the broadcast of programme number "1" will appear.
● If tuning has not done completely ➡ "Manual Tuning"

- -

For Auto Setup, using the buttons on the front of the TV
① Press repeatedly until "Auto Setup" appears
    ☐
    F
② Access "Auto Setup"
    ☐
    TV
③ Start "Auto Setup"
    ☐
    TV
                    ■ **To return to TV** ➡ ☐
                                            F

F −/∨ +/∧ TV AV

Edit the programme position settings

● To change channel number
  ➡ "Manual Tuning"

① **Select the channel to edit**

Programme Edit				
Prog.	Chan.	Name	Sound Sys.	Colour Sys.
1	CH33	1 2 3	SC1	Auto
2	CH21	X Y Z	SC1	Auto
3	CH21	F T P	SC1	Auto
4	CH60		SC1	Auto
5	CH21	4 5 6	SC1	Auto

Cursor

select

Name

Channel

3 FTP
CH05 SC1 PAL   Corontation Street
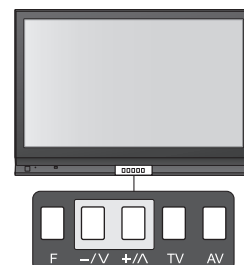
Edit channels

Programme Edit

■ Delete
■ Add
■ Move
■ Change name
■ Change sound system
■ Change colour system

② **Edit**

■ **To delete** ➡ red
  ➡ After confirming, press red

■ **To add** ➡ green
  ➡ After confirming, press green

■ **To move** ➡ yellow
  ➡ Select new position ➡ yellow

■ **To change the name of the broadcaster displayed when selecting channels**

Programme Edit				
Prog.	Chan.	Name	Sound Sys.	Colour Sys.
1	CH33	1 2 3	SC1	Auto
2	CH21	Y _ _	SC1	Auto
3	CH21	F T P	SC1	Auto
4	CH60		SC1	Auto
5	CH21	4 5 6	SC1	Auto

Select the "Name" field

red Enter the "User input" mode

Select the character

(OK) Set   (Maximum: five characters)

RETURN Store

■ **To change sound system based on signals**

Programme Edit				
Prog.	Chan.	Name	Sound Sys.	Colour Sys.
1	CH33	1 2 3	SC1	Auto
2	CH21	X Y Z	SC1	Auto
3	CH21	F T P	SC1	Auto
4	CH60		SC1	Auto
5	CH21	4 5 6	SC1	Auto

Select the "Sound Sys." field

Select sound system

SC1 :	PAL B, G, H / SECAM B, G
SC2 :	PAL I
SC3 :	PAL D, K / SECAM D, K
F :	SECAM L / L'

■ **To change colour system based on signal**
  ● Normally, select "Auto"

Programme Edit				
Prog.	Chan.	Name	Sound Sys.	Colour Sys.
1	CH33	1 2 3	SC1	Auto
2	CH21	X Y Z	SC1	Auto
3	CH21	F T P	SC1	Auto
4	CH60		SC1	Auto
5	CH21	4 5 6	SC1	Auto

Select the "Colour Sys." field

Select colour system

Set channels 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 channel manually after Auto Setup.
  If a VCR is connected with only the RF cable, select programme position "0".

Manual Tuning		
Programme	1	[CH33]
Fine Tuning		
Manual Tuning	2	78 1 41

Select the programme position

1 2 3
4 5 6
7 8 9
0
VCR

Select the channel

∧
∨

Search and store

◁ (OK) ▷ ① search
          ② store

Editing and Setting Channels

Advanced

25
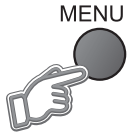
Control Channel Audience

You can lock specific channels and control who watches them.
(When a channel is selected, a message appears; by entering the PIN number, you can watch the channel.)
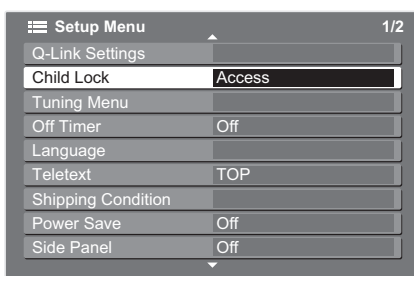
1 Display the menu

MENU

2 Select "Setup"

VIErn Main Menu

| VIERA Link |
| Picture |
| Sound |
| Setup |

② access
① select

3 Select "Child Lock"

☰ Setup Menu	1/2
Q-Link Settings	
Child Lock	Access
Tuning Menu	
Off Timer	Off
Language	
Teletext	TOP
Shipping Condition	
Power Save	Off
Side Panel	Off

② access
① select

■ To return to TV

EXIT

4 Set
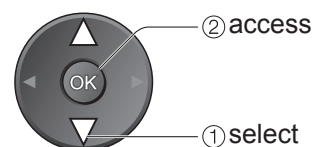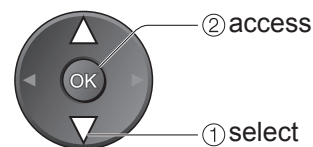
Control channel audience

Child Lock

① **Enter the PIN number (4 digits)**

Child Lock-PIN Entry
Please enter new PIN
PIN   ＊ ＊ ＊ ＊

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

② **Select "Service List"**

Child Lock
Change PIN
Service List   Access

② access
① select

③ **Select the channel to be locked**

Child Lock Service List

Service Name	Lock
1 BBC	🔒
7 THREE	🔒
14 E4	
70 CBBC	
72 Nwk	
80 BBCi	🔒
85 Radio	
90 Cymru	

Appears when the channel is locked

① select
② set

- To cancel
  ➡ Select the locked channel
  ➡ OK
- To lock all channels ➡ □ yellow
- To cancel all channel locks ➡ □ blue

■ To change the PIN number
Select "Change PIN" in ② and enter a new PIN number twice.

Note

- Setting "Shipping Condition" (p. 27) erases the PIN number and all settings.

Restore Settings

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

1 **Display the menu**

MENU

2 **Select "Setup"**

VIErA **Main Menu**
VIERA Link
☐ **Picture**
♪ **Sound**
≣ **Setup**

②access
OK
①select

3 **Select "Shipping Condition"**

≣ Setup Menu	1/2
Q-Link Settings	
Child Lock	
Tuning Menu	
Off Timer	Off
Language	
Teletext	TOP
Shipping Condition	Access
Power Save	Off
Side Panel	Off

②access
OK
①select

■ **To return to TV**

→ EXIT

4 **Set**
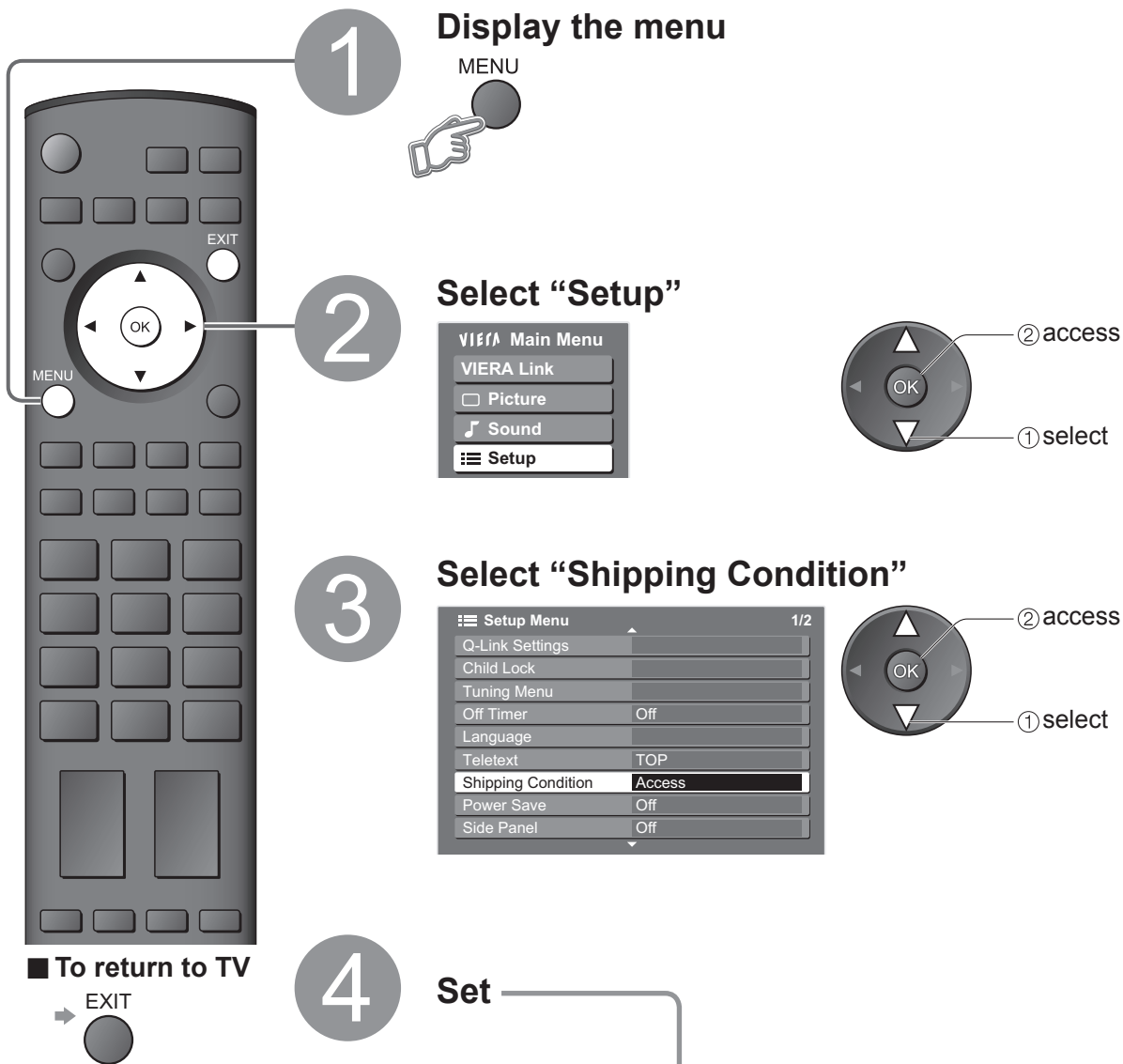
Restore Settings

Shipping Condition

① **Check the message and initialise**

Shipping Condition
All tuning data will be erased
Are you sure?
Are you sure?
Confirm ● EXIT
● RETURN
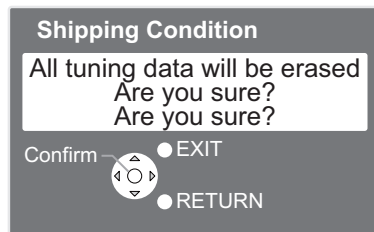
OK — set

② **Follow the on-screen instructions**
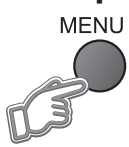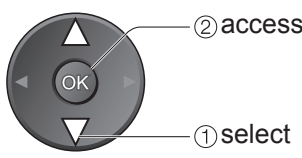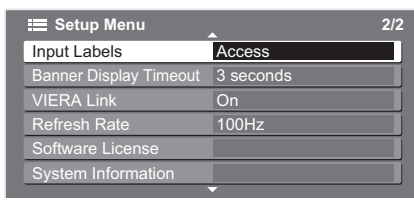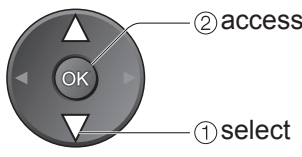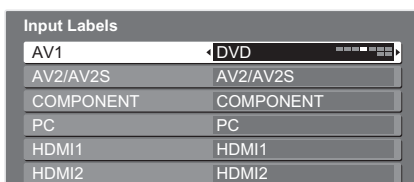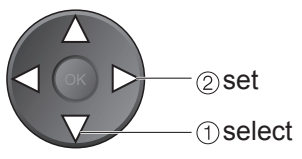
● "Auto Setup" will automatically start. (p. 12)

■ **To re-tune TV channels only, e.g. after moving house**
➡ "Auto Setup" (p. 24)

Input Labels

For easier identification and selection of the input mode, you can label each input terminals or skip terminal that is not connected to any equipment.
(To select the input mode ➡ p. 16)

1 Display the menu

MENU

2 Select "Setup"

VIErA Main Menu
VIERA Link
☐ Picture
♪ Sound
☰ Setup

② access
① select

3 Select "Input Labels"

☰ Setup Menu	2/2
Input Labels	Access
Banner Display Timeout	3 seconds
VIERA Link	On
Refresh Rate	100Hz
Software License	
System Information	

② access
① select

4 Select a input terminal and set

Input Labels	
AV1	◀ DVD ▶
AV2/AV2S	AV2/AV2S
COMPONENT	COMPONENT
PC	PC
HDMI1	HDMI1
HDMI2	HDMI2

② set
① select

The labels you set will be displayed in "Input Selection" menu (p. 16) or banner.
● If "Skip" is selected, you cannot select the mode.

■ **To return to TV**

➡ EXIT

■ **User input**
You can name each input terminals freely.

Select "User input"   Set characters   Store
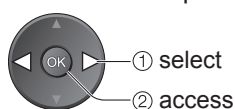
① select
② access

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 select
② set

RETURN

(maximum: ten characters)

28
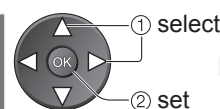
Displaying PC Screen on TV

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. 34)

1 Select the external input

AV

2 Select "PC"

Input Selection
AV1
AV2/AV2S
COMPONENT
PC
HDMI1
HDMI2
TV

② access
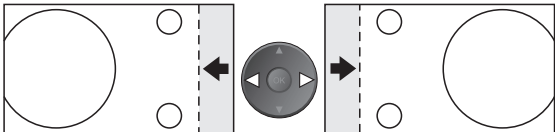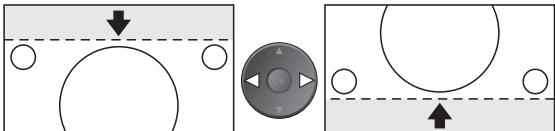
① select

● Corresponding signals (p. 38)
● If "H-freq." or "V-freq." is shown in red, the signals may not be supported.

■ To return to TV

➡ TV

■ PC menu setting (changed as desired)
● To make settings ➡ "How to Use Menu Functions" ① to ④ (p. 20)

Menu	Item		Adjustments / Configurations (options)	
Picture	**Advanced PC Settings**	W/B High R	White balance of bright red area	①
		W/B High B	White balance of bright blue area	① and ② repeatedly adjusted
		W/B Low R	White balance of dark red area	
		W/B Low B	White balance of dark blue area	②
		Gamma	**(2.0 / 2.2 / 2.5 / S Curve)**	
Setup	**PC Setup**	Input Resolution	Switches to a wide view ● VGA (640 × 480 pixels), WVGA (852 × 480 pixels), XGA (1,024 × 768 pixels), WXGA (1,366 × 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 G)** ● H & V : by the horizontal and vertical signals from your PC On G : by the green signal from your PC (if available)	

● Other items ➡ p. 22 and p. 23

Advanced

Q-Link Functions

Q-Link connects the TV and VCR / DVD recorder, enables easy recording and playback.

■ Condition
- Use the VCR / DVD recorder with the following logos:
  "Q-Link", "NEXTVIEWLINK", "DATA LOGIC", "Easy Link", "Megalogic", or "SMARTLINK"
- Connect the equipment to this TV's AV1 or AV2 terminal via a "fully-wired" SCART cable. (p. 34)
- Q-Link terminal setup in Setup Menu (Q-Link, AV1 / AV2 out). (p. 23)

■ Download channel settings
- Perform Auto Setup. (p. 24)
  When first using this TV, see "Auto Setup". (p. 12)
- Perform download to the equipment. (p. 23)

■ Features available
Some recording equipments are not applicable. Read the manuals of the equipment.

What you see is What you record	**Direct TV Recording:** Recording the current programme in VCR / DVD recorder immediately. DIRECT TV REC ● When Direct TV Recording is performed, the recording equipment is automatically turned on if it is in Standby mode. ● The recording equipment is recording from its own tuner. You can turn the TV off during recording. ● If you turn the TV off during recording from an AV source, the recording will be stopped.
Information / Message	Recording information or if recording is not possible, a message is displayed. (Only when the programme number is "0" or "AV mode" for some equipment.)
Power on link and Easy playback	When VCR or DVD recorder starts playback or direct navigator / function menu for the equipment are activated, the TV is turned on and input mode is switched automatically so that you can view the content. (Only when TV is in Standby mode.)
Power off link	When TV is set to Standby mode, the recording equipment is also automatically set to Standby. (Only when the videocassette or DVD is not active.)

- "DATA LOGIC" (a trademark of Metz Corporation)
- "Easy Link" (a trademark of Philips Corporation)
- "Megalogic" (a trademark of Grundig Corporation)
- "SMARTLINK" (a trademark of Sony Corporation)

Read the manuals of the equipment too.

HDMI Functions

HDMI (high-definition multimedia interface) 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 set top box or a DVD player, can be connected to the HDMI terminal using an HDMI compliant (fully wired) cable.
About connections, see "External Equipment" (p. 34).

Note

- HDMI is the world's first complete digital consumer AV interface complying with a non-compression standard.
- If the external equipment has only a DVI output, connect to the HDMI1 terminal via a DVI to HDMI adapter cable (∗2).
- When the DVI to HDMI adapter cable is used, connect the audio cable to the audio input terminal (HDMI1: use COMPONENT-AUDIO terminals).
- Audio settings can be made on the "HDMI1 Input" menu screen. (p. 22)
- Applicable audio signal sampling frequencies (2ch L.PCM): 48 kHz, 44.1 kHz, 32 kHz
- HDMI2 terminal is for digital audio signal only.
- Use with a PC is not assumed.
- If the connected equipment has an aspect adjustment function, set the aspect ratio to "16:9".
- These HDMI connectors are "type A".
- These HDMI connectors are compatible with HDCP (High-Bandwidth Digital Content Protection) copyright protection.
- An equipment having no digital output terminal may be connected to the input terminal of either "Component", "S-VIDEO", or "Video" to receive analogue signals.
- The HDMI input terminal can be used with only the following image signals:
  480i, 480p, 576i, 576p, 720p, 1080i and 1080p. Match the output setting of the digital equipment.
- For details of the applicable HDMI signals, see p. 38.

(∗1): The HDMI logo is displayed on HDMI-compliant equipment.
(∗2): Enquire at your local digital equipment retailer shop.

■ Summary of Control functions

Connecting with an HDMI cable to Panasonic equipment with VIERA Link function, you can control the equipment (p. 32). You can use VIERA Link and Q-Link functions together.

Function \ Connection	VIERA Link and Q-Link (HDMI) (SCART)	VIERA Link only (HDMI)	Q-Link only (SCART)
Easy playback	○	○	○
Power on link	○	○	○
Power off link	○	○	○
Speaker control	○ (not via SCART)	○	–
Easy control only with VIERA remote control	○ (not via SCART)	○	–
Direct TV Recording	○ (not via HDMI)	–	○
Channel download	○ (not via HDMI)	–	○

Advanced

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HDMI Functions

∗Enjoy additional HDMI Inter-Operability with Panasonic products which have "HDAVI Control" function. This TV supports "HDAVI Control 2" function.

Connections to some Panasonic equipment (DVD Recorder DIGA, HD Video Camera, Player theatre, Amplifier, etc.) with HDMI cables allow you to interface them automatically.

The equipment with "HDAVI Control" function enables the following operations:
- Easy playback (p. 33)
- Power on link (p. 33)
- Power off link (p. 33)
- Speaker control (p. 33)

In addition, the equipment with "HDAVI Control 2" function enables the following operation:
- Easy control only with VIERA remote control (p. 33)

These features are limited to models incorporating Panasonic's "HDAVI Control" and "VIERA Link". 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.

Refer to individual manuals for compatibility information. About applicable equipment, consult your local Panasonic dealer.

■ HDMI cable

This function needs an HDMI compliant (fully wired) cable. Non-HDMI-compliant cables cannot be utilized. It is recommended that you use Panasonic's HDMI cable. Recommended part number:
- RP-CDHG15 (1.5 m)
- RP-CDHG30 (3.0 m)
- RP-CDHG50 (5.0 m)

■ Preparations
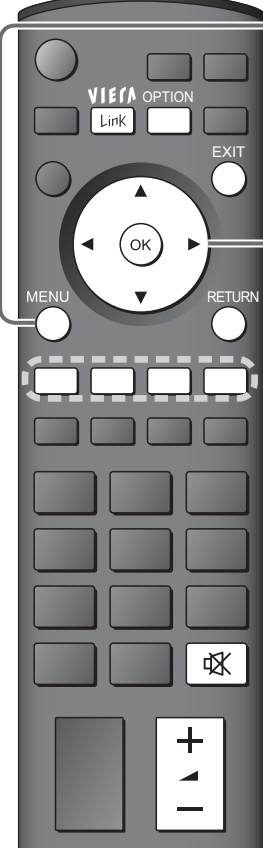
Setup the equipment to enable this function. Read the manuals of the equipment.
About connections, see "External Equipment" (p. 35). Read the manuals of the equipment too.

■ For the first time / When adding new equipment, reconnecting equipment or changing setup
After connection turn the equipment on and then switch the TV on.
Select the input mode to HDMI1 or HDMI2 (p. 16), and make sure that an image is displayed correctly.

1 Display the menu
MENU

2 Select "Setup"

VIErA Main Menu
VIERA Link
Picture
Sound
Setup

② access
① select

3 Select "VIERA Link"

Setup Menu   2/2
Input Labels
Banner Display Timeout   3 seconds
VIERA Link   ◄ On   ►
Refresh Rate   100Hz
Software License
System Information

select

4 Set to "On"
(default is On)

set

You can control some functions of the connected Panasonic equipment with this TV remote control (point the remote control at the TV's signal receiver).
● If you cannot access the menu, check the settings and the equipment (p. 32).

Easy control only with VIERA remote control

Access the menu of the equipment

① **Display "VIERA Link Menu"** ➡ VIERA Link

② **Select "VIERA Link Control"**

VIERA Link Menu
VIERA Link Control Recorder
Speaker Selection Home Cinema
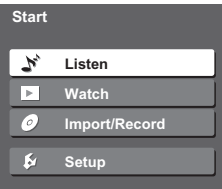
— select

③ **Select the equipment you want to access**

①select
②access

④ **Operate the menu of the equipment** —

● Example:

DVD Recorder DIGA	HD Video Camera	Player theatre
DIGA FUNCTION MENU HDD Playback Recording Delete Copy To Others	ALL 87min 8 / 8 DATE/TIME 2006.12. 1 10:46	Start Listen Watch Import/Record Setup

● About the operations for the equipment, read the manual of the equipment.

● Available VIERA remote control buttons: (depending on the connected equipment)

(cursor up/down)	Move the cursor / select the menu
(cursor left/right)	Move the cursor / access / adjust
OK	Store / set / access
RETURN	Return to the previous menu
EXIT	Exit the menu
OPTION	The same functions with the OPTION button of the equipment
red green yellow blue	Access when the key words are displayed on colour bar

Easy playback

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

Power on link

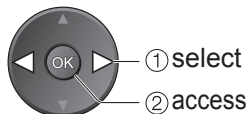When the connected Panasonic equipment starts playback or direct navigator / function menu for the equipment are activated, the TV is automatically turned on. (Only when TV is in Standby mode.)

Power off link

When TV is set to Standby mode, the connected Panasonic equipment is also automatically set to Standby.
● This function will work even if the TV enters standby mode automatically by Off Timer function or auto power standby function.

Speaker control

You can control the theatre speaker with TV's remote control.
This function is available when Panasonic Amplifier or Player theatre is connected.
● If you cannot access the menu, check the settings and the equipment (p. 32).

① **Display "VIERA Link Menu"** ➡ VIERA Link

② **Select "Speaker Selection"**

VIERA Link Menu
VIERA Link Control Recorder
Speaker Selection Home Cinema

— select

③ **Set to "Home Cinema" or "TV"**

— set

■ **Home Cinema**
Adjustment for equipment (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.

External Equipment

These diagrams show our recommendations for how to connect the TV to your various equipment. For other connections, consult the instructions for each piece of equipment, the table below, and the specifications (p. 42).

This slot is for services by the Panasonic dealer.

COMPONENT VIDEO
HDMI
HDMI 1 AV HDMI 2
Y
AV 1 AV 2
P_B
P_R
L
R
AUDIO IN
PC
L
R
AUDIO
RGB
VIDEO
RGB
VIDEO
S VIDEO
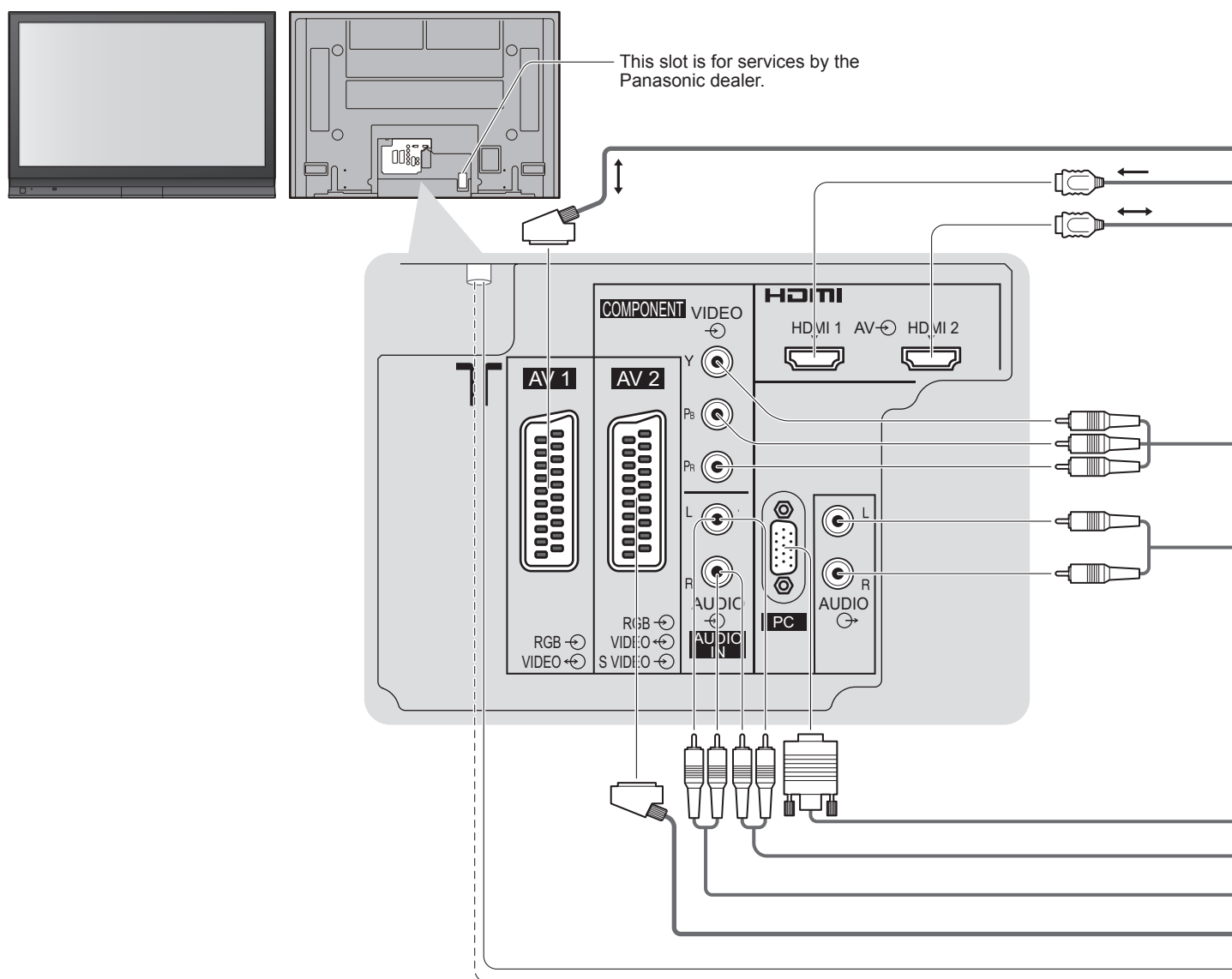
■ Types of connectable equipment to each connector

Recording / Playback (equipment) \ Connector	AV1	AV2	COMPONENT Y P_B P_R L R	AUDIO OUT L R	HDMI 1	HDMI 2
■ To record / playback videocassettes / DVDs (VCR / DVD recorder)	○	○				
■ To watch DVDs (DVD player)	○	○	○		○	○
■ To watch camcorder images (Video camera)	○	○			○	○
■ To watch satellite broadcasts (Set top box)	○	○			○	○
■ To play games (Game equipment)	○	○				
■ To use amplifier with speaker system				○		
■ Q-Link	○	○				
■ Direct TV Recording	○	○				
■ VIERA Link					○	○

○: Recommended Connection

To watch satellite broadcasts

Set top box

SCART cable

Fully wired HDMI compliant cable

To record / playback

DVD Recorder / VCR

RF cable

or

SCART cable

SCART cable

HDMI equipment

Fully wired HDMI compliant cable

DVD Recorder

To watch DVDs

(Viewing)

DVD player

To listen with speakers

PC

(Listening)

Computer

Amplifier with speaker system

Conversion adapter (if necessary)

(Viewing)

(Listening)

VIERA Link (p. 32)
● Use fully wired HDMI compliant cable.
● Read the manuals of the equipment too.

■ **Home Cinema**

Panasonic Amplifier

Speaker system

■ **Easy playback, Easy control only with VIERA remote control**

HD Video Camera

Panasonic DVD Recorder
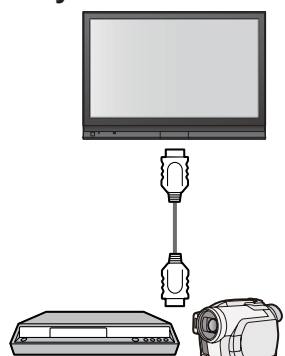
Panasonic DVD Recorder, HD Video Camera, etc.

Panasonic Player theatre

Speaker system
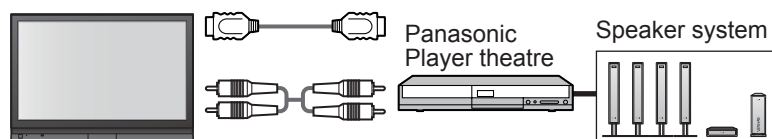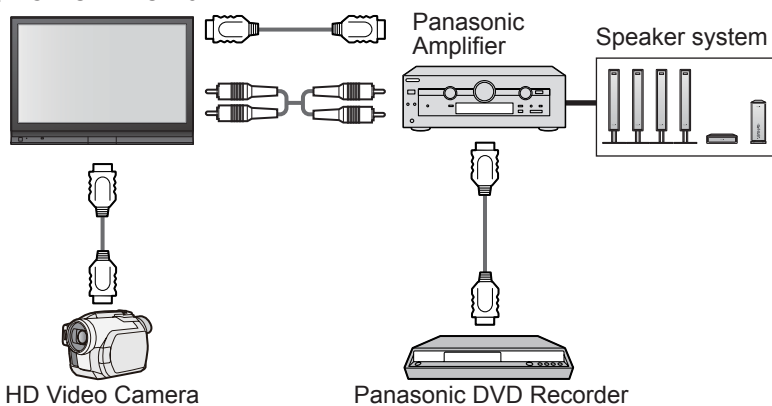
Technical Information

Aspect Ratio

The optimum size and aspect can be chosen, and you can enjoy finer images. (p. 15)

■ Auto: Auto aspect determines the best aspect ratio to use to fill your screen. It does this using a four step process to determine if the picture being viewed is a widescreen picture.

If Auto aspect detects a widescreen signal it switches into the appropriate 16:9 or 14:9 widescreen mode. If Auto aspect does not detect a widescreen signal then this advanced TV enhances the picture for optimum viewing pleasure.
The text shown on the screen indicates how Auto aspect determined which ratio to use:
"WIDE" appears in the top left of the screen if a widescreen identification signal (WSS) is found or a signal found through a SCART terminal. Auto aspect switches to the appropriate 16:9 or 14:9 widescreen ratio. This function will also work in any aspect mode. "Auto" appears in the top left of the screen if black stripes above and below the picture are detected. Auto aspect chooses the best ratio and expands the picture to fill the screen. This process can take several minutes, depending on the darkness of the picture.

| | Aspect modes | | | | | | | | | Aspect Control Signal | | | | | | | |
| | | | | | | | | | | Widescreen signal (WSS) | | | | Control signal through SCART (pin 8) or HDMI terminal | | | |
Signal name	Auto	16:9	14:9	Just	4:3	4:3 Full	Zoom1	Zoom2	Zoom3	TV	AV1	AV2	Component	AV1	AV2	HDMI 1	HDMI 2
TV/AV1/AV2 — PAL	O	O	O	O	O	–	O	O	O	O	O	O	–	O	O	–	–
TV/AV1/AV2 — PAL 525/60	O	O	O	O	O	–	O	O	O	–	–	–	–	O	O	–	–
TV/AV1/AV2 — M.NTSC	O	O	O	O	O	–	O	O	O	–	–	–	–	O	O	–	–
TV/AV1/AV2 — NTSC(AV input only)	O	O	O	O	O	–	O	O	O	–	–	–	–	O	O	–	–
Component/HDMI — SD — 525(480)/60i	O	O	O	O	O	–	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — SD — 525(480)/60p	O	O	O	O	O	–	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — SD — 625(576)/50i	O	O	O	O	O	–	O	O	O	–	–	–	O	–	–	O	O
Component/HDMI — SD — 625(576)/50p	O	O	O	O	O	–	O	O	O	–	–	–	O	–	–	O	O
Component/HDMI — HD — 750(720)/50p	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — HD — 750(720)/60p	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — HD — 1125(1080)/50i	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — HD — 1125(1080)/60i	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — HD — 1125(1080)/50p	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
Component/HDMI — HD — 1125(1080)/60p	O	O	O	O	O	O	O	O	O	–	–	–	–	–	–	O	O
PC input	–	O	–	–	O	–	–	–	–	–	–	–	–	–	–	–	–

Note

● The ratio varies depending on the programme, etc. If the ratio is greater than the standard "16:9", black bands may appear at the top and bottom of the screen.
● If the screen size looks unusual when a widescreen-recorded programme is played back on a VCR, adjust the tracking of the VCR. (See the VCR manual.)
● Aspect mode can be memorized for SD (Standard definition) and HD (High definition) signals separately.
● To select the ratio manually: (Only "16:9" or "4:3" in PC mode)
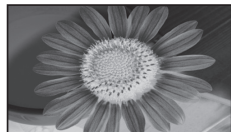
Auto
The best ratio is chosen and the picture expanded to fill the screen.
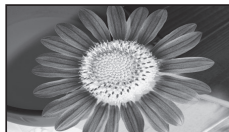
16:9
Directly displays the image at "16:9" without distortion (anamorphic).
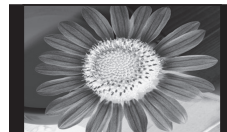
14:9
Displays the image at the standard "14:9" without enlargement.
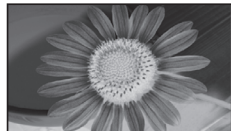
Just
Displays a 4:3 image full-screen. Stretching is only noticeable at the left and right edges.

4:3
Displays the image at the standard "4:3" without distortion.
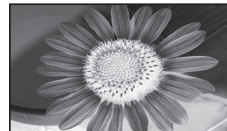
4:3 Full
Displays a "4:3" image enlarged horizontally to fit the screen.

Zoom1
Displays a "16:9" letterbox or "4:3" image without distortion.
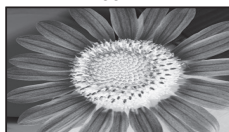
Zoom2
Displays a "16:9" letterbox (anamorphic) image full-screen without distortion.

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).

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VIERA Link "**HDAVI** Control™"

HDMI connections to some Panasonic equipment allow you to interface them automatically. (p. 32)

- This function may not work normally depending on the equipment condition.
- Image or sound may not be available for the first few seconds when the playback starts.
- Image or sound may not be available for the first few seconds when Input mode is switched.
- Volume function will be displayed when adjusting the volume of the equipment.
- Easy playback is also available by using the remote control for Amplifier or Player theatre. Read the manuals of the equipment.
- If you connect the same kind of equipment at once (for example: one DIGA to HDMI1 / another DIGA to HDMI2), VIERA Link is available for the terminal with the smaller number.
- "HDAVI Control 2" is the newest standard (current as of February, 2007) for Panasonic's HDAVI Control compatible equipment. This standard is compatible with Panasonic's conventional HDAVI equipment.

SCART and HDMI terminal information

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

Suitable inputs for AV1 include RGB (Red / Green / Blue).

Socket Earth	21		20	CVBS in (video)
CVBS out (video)	19		18	RGB status earth
CVBS earth	17		16	Status RGB
Red in	15		14	Earth
Red earth	13		12	--
Green in	11		10	Q-Link data
Green earth	9		8	Status CVBS
Blue in	7		6	Audio in (L)
Blue earth	5		4	Audio earth
Audio out (L)	3		2	Audio in (R)
Audio out (R)	1			
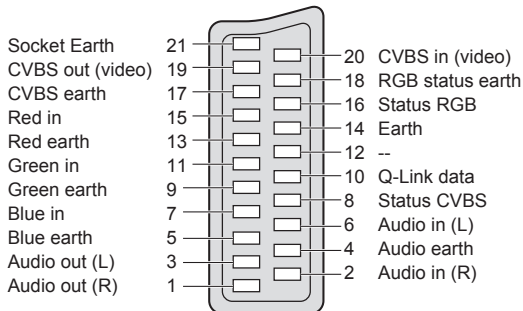
■ **AV2** SCART terminal
(RGB, VIDEO, S-VIDEO, Q-Link)

AV2 - Pins 15 and 20 are dependent on AV2 S-VHS / VIDEO switching.

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

■ **HDMI** terminal

Hot Plug Detect	19		18	+5V Power
DDC/CEC Ground	17		16	SDA
SCL	15		14	Reserved (in cable but N.C. on device)
CEC	13		12	TMDS Clock−
TMDS Clock Shield	11		10	TMDS Clock+
TMDS Data0−	9		8	TMDS Data0 Shield
TMDS Data0+	7		6	TMDS Data1−
TMDS Data1 Shield	5		4	TMDS Data1+
TMDS Data2−	3		2	TMDS Data2 Shield
TMDS Data2+	1			

● Technical Information

FAQs, etc.

Technical Information

PC connection

A PC may be connected to this TV so that the PC screen is displayed and sound is heard from the TV.
● PC signals that can be inputted: Horizontal scanning frequency 31 to 69 kHz; vertical scanning frequency 59 to 86 Hz (more than 1,024 signal lines could result in incorrect display of the image).
● A PC adapter is not necessary for the DOS/V-compliant D-sub 15-pin connector.

Note

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

Model No. / Aspect	TH-37PV70FA	TH-42PV70FA	TH-50PV70FA
4:3	768 × 720 pixels	768 × 768 pixels	1,024 × 768 pixels
16:9	1,024 × 720 pixels	1,024 × 768 pixels	1,366 × 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)

Input signal that can be displayed

COMPONENT (Y, P_B, P_R), HDMI
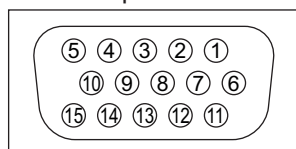
∗ Mark: Applicable input signal

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		∗

PC (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
1,366 × 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

Note   ● Signals other than above may not be Displayed properly.
● The above signals are reformatted for optimal viewing on your display.
● Applicable input signal for PC is basically compatible to VESA standard timing.
● PC signal is magnified or compressed for display, so that it may not be possible to show fine detail with sufficient clarity.

FAQs

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

White spots or shadow images (noise)
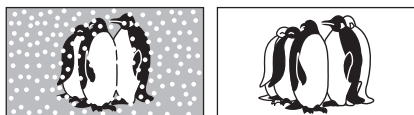
●Check the position, direction, and connection of the aerial.

Neither image nor sound is produced

●Is the TV in "AV mode"?
●Is the mains lead plugged into the socket outlet?
●Is the TV turned On?
●Check Picture Menu (p. 22) and volume.
●Check all required SCART cables and connections are firmly in place.

Auto aspect

●Auto aspect is designed to provide you with the best aspect ratio to use to fill your screen. For user control please see p. 36.

S-Video / black and white picture

●Using AV button please confirm your selection is S-Video I.e. AV2/AV2S (p. 16).

On Screen messages - I.e. EC/AV1

●You can simply clear these by pressing the *i* button.
Press again to redisplay.
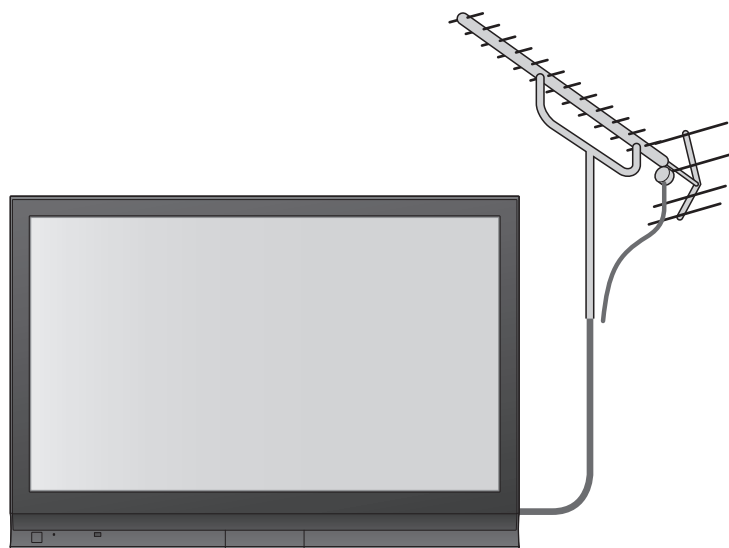
Direct TV record / Q-Link functions not recording

●Please confirm SCART cable and connection. Also please set "AV1 / AV2 out" in the Setup Menu (p. 23).

Permanently lit spots on screen

●Due to production process involved in this technology this may result in some pixels which are permanently lit or unlit. This is not a malfunction.

Contrast is reduced

●Contrast is lowered when the following conditions without any user operation for a few minutes:
● no signal in AV mode
● selected locked channel
● selected invalid channel
● displayed menu

●Frequently Asked Questions
●Technical Information

FAQs, etc.

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FAQs

Problem	Actions
Screen	
Chaotic image, noisy	● Set "P-NR" in the Picture Menu (to remove noise). (p. 22) ● Check nearby electrical products (car, motorcycle, fluorescent lamp).
No image can be displayed	● Is "Colour" or "Contrast" in the Picture Menu set to the minimum? (p. 22) ● Check Colour system. (p. 25)
Blurry or distorted image (no sound or low volume)	● Reset channels. (p. 24)
Unusual image is displayed	● Turn off the TV with Mains power On / Off switch, then turn it on again.
Sound	
No sound is produced	● Is "Sound mute" active? (p. 9) ● Is the volume set to the minimum?
Sound level is low or sound is distorted	● Sound signal reception may be deteriorated. ● Set "MPX" (p. 22) in the Sound Menu to "Mono". ● Check Sound system. (p. 25)
HDMI	
Sound is unusual	● Set the sound setting of the connected equipment to "2ch L.PCM". ● Check the "HDMI1 Input" setting in the Sound Menu. (p. 22) ● If digital sound connection has a problem, select analogue sound connection. (p. 31)
Pictures from external equipment are unusual when the equipment is connected via HDMI	● Is the HDMI cable connected properly? (p. 34) ● Turn Off the TV and equipment, then turn them On again. ● Check an input signal from the equipment. (p. 38) ● Use an equipment compliant with EIA/CEA-861/861B.
Other	
TV goes into "Standby mode"	● Off Timer function is activated. ● The TV enters "Standby mode" about 30 min. after broadcasting ends.
The remote control does not work	● Are the batteries installed correctly? (p. 6) ● Has the TV been switched On?
An error message appears	● Follow the message's instructions. ● If the problem persists, contact the authorized Service Centre.

Licence

Trademark Credits
- VGA is a trademark of International Business Machines Corporation.
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- HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- HDAVI Control™ is a trademark of Matsushita Electric Industrial Co., Ltd.

Specifications

		TH-37PV70FA	TH-42PV70FA	TH-50PV70FA
Power Source		AC 220-240 V, 50 / 60 Hz		
Power Consumption	**Average use**	241 W	261 W	364 W
	Standby condition	0.7 W		0.5 W
Display panel	**Aspect Ratio**	16:9		
	Visible screen size	94 cm (diagonal) 819 mm (W) × 457 mm (H)	106 cm (diagonal) 922 mm (W) × 518 mm (H)	127 cm (diagonal) 1,106 mm (W) × 622 mm (H)
	Number of pixels	737,280 (1,024 (W) × 720 (H)) [3,072 × 720 dots]	786,432 (1,024 (W) × 768 (H)) [3,072 × 768 dots]	1,049,088 (1,366 (W) × 768 (H)) [4,098 × 768 dots]
Sound	**Speaker**	160 mm × 42 mm × 2 pcs, 8 Ω		
	Audio Output	20 W (10 W + 10 W), 10% THD		
PC signals		VGA, SVGA, XGA SXGA ······ (compressed) Horizontal scanning frequency 31 - 69 kHz Vertical scanning frequency 59 - 86 Hz		
Receiving Systems / Band name		**PAL B, G, H, I, SECAM B, G, SECAM L / L'** VHF E2 - E12 VHF H1 - H2 (ITALY) VHF A - H (ITALY) UHF E21 - E69 CATV (S01 - S05) CATV S1 - S10 (M1 - M10) CATV S11 - S20 (U1 - U10) CATV S21 - S41 (Hyperband) **PAL D, K, SECAM D, K** VHF R1 - R2 VHF R3 - R5 VHF R6 - R12 UHF E21 - E69 **PAL 525/60** Playback of NTSC tape from some PAL Video recorders (VCR) **M.NTSC** Playback from M. NTSC Video recorders (VCR) **NTSC (AV input only)** Playback from NTSC Video recorders (VCR)		
Aerial - Rear		VHF / UHF		
Operating Conditions		**Temperature** : 0 °C - 35 °C **Humidity** : 20 % - 80 % RH (non-condensing)		
Connection Terminals	**AV1 (Scart terminal)**	21 Pin terminal (Audio/Video in, Audio/Video out, RGB in, Q-Link)		
	AV2 (Scart terminal)	21 Pin terminal (Audio/Video in, Audio/Video out, RGB in, S-Video in, Q-Link)		
	COMPONENT — **VIDEO**	**Y** 1.0 V[p-p] (including synchronization) **P$_B$, P$_R$** ±0.35 V[p-p]		
	COMPONENT — **AUDIO L - R**	RCA PIN Type × 2 0.5 V[rms]		
	Others — **HDMI1 / 2**	TYPE A Connectors ● This TV supports "HDAVI Control 2" function.		
	Others — **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)		
	Output — **AUDIO L - R**	RCA PIN Type × 2 0.5 V[rms] (high impedance)		
Dimensions (W × H × D)		917 mm × 667 mm × 330 mm (With Pedestal) 917 mm × 620 mm × 97 mm (TV only)	1,020 mm × 727 mm × 330 mm (With Pedestal) 1,020 mm × 680 mm × 97 mm (TV only)	1,210 mm × 841 mm × 369 mm (With Pedestal) 1,210 mm × 793 mm × 97 mm (TV only)
Mass		30.0 kg Net (With Pedestal) 23.0 kg Net (TV only)	34.0 kg Net (With Pedestal) 27.0 kg Net (TV only)	45.0 kg Net (With Pedestal) 38.0 kg Net (TV only)

Note

● Design and Specifications are subject to change without notice. Weight and Dimensions shown are approximate.
● This equipment complies with the EMC standards listed below.
   EN55013, EN61000-3-2, EN61000-3-3, EN55020, EN55022, EN55024.

MEMO

● Specifications

FAQs, etc.

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

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

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

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 _____

Matsushita Electric Industrial Co., Ltd.

Web Site : http://www.panasonic-europe.com

Printed in Czech Republic