

LCD TV

Operating Instructions

Start-up Guide

Operating the TV

Using Optional Equipment

Using Menu Functions

Additional Information

BRAVIA

Introduction

Thank you for choosing this Sony product.

The illustrations used in this manual are of the KDL-60R550A unless otherwise stated.

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Location of the identification label

Labels for Model No. and Power Supply rating (in accordance with applicable safety regulation) are located on the rear of the TV.

IMPORTANT INFORMATION

If a television is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- Using cabinets or stands recommended by the manufacturer of the television.
- Only using furniture that can safely support the television.
- Ensuring the television is not overhanging the edge of the supporting furniture.
- Not placing the television on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television to a suitable support.
- Not standing the televisions on cloth or other materials placed between the television and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television or its controls.

Notes for Australia and New Zealand model

This product is ENERGY RATING qualified in the "Home" mode. ENERGY RATING is a programme designed to promote energy efficient products and practices.

- When the TV is initially set up, it is designed to meet ENERGY RATING requirements while maintaining optimum picture quality.
- Changes to certain features, settings and functionalities of this TV (e.g. TV Guide, Picture/Sound, Eco setting) can slightly change the power consumption.

Depending upon such changed settings (e.g. "Shop" mode), the power consumption may vary which possibly could exceed the stated energy rating.

To reset the TV to ENERGY RATING qualified settings, select "Home" mode from the initial set-up procedure in "Factory Settings" under the "Set-up" menu.

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Checking the accessories

Table-Top Stand (1)*

Fixing screws for Table-Top Stand (M5 x 16) (2) (KDL-50R550A only)

Assembling screws for Table-Top Stand (M4 x 10) (2) (KDL-50R550A only)

Fixing screws for Table-Top Stand (M5 x 16) (4) (KDL-70R550A/60R550A/60R520A only)

Assembling screws for Table-Top Stand (M4 x 12) (6) (KDL-70R550A/60R550A/60R520A only)

Remote RM-ED056 (1) (except KDL-60R520A)

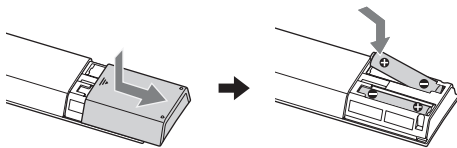
Remote RM-ED057 (1) (KDL-60R520A only)

Size AAA batteries (R03 type) (2)

3D Glasses (4) (except KDL-60R520A)

* Assemble the Table-Top Stand with the supplied assembling screws. Refer to the supplied Table-Top Stand instruction leaflet to assemble the Table-Top Stand.


■ To insert batteries into the remote

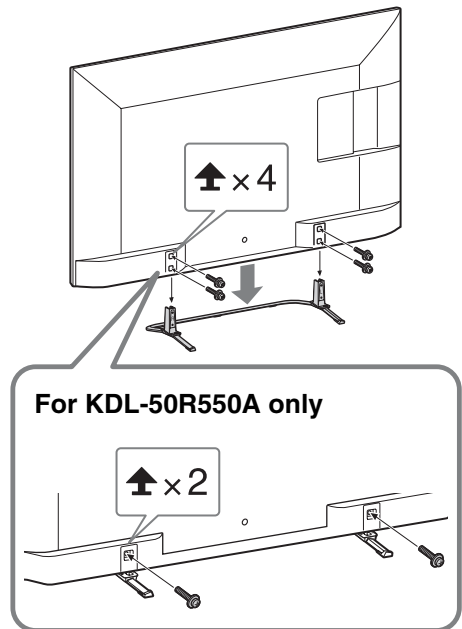


- Observe the correct polarity when inserting batteries.
- Do not use different types of batteries together or mix old and new batteries.
- Dispose of batteries in an environmentally friendly way. Certain regions may regulate the disposal of batteries. Please consult your local authority.
- Handle the remote with care. Do not drop or step on it, or spill liquid of any kind onto it.
- Do not place the remote in a location near a heat source, a place subject to direct sunlight, or a damp room.

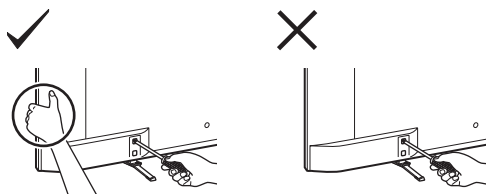
1: Attaching the Table-Top Stand


- Refer to the supplied Table-Top Stand instruction leaflet for proper attachment.
- For best picture quality, do not expose the screen to direct illumination or sunlight.
- Firstly, assemble the Table-Top Stand according to its leaflet.
- For watching 3D video, make sure you install the TV so that your eyes will be at the same level as the TV screen centre point.

- 1 Place the TV set on the Table-Top Stand.
- 2 Fix the TV to the Table-Top Stand using the supplied screws. The arrow marks  indicate the location of the screw holes used for securing the Table-Top Stand.



- Hold the Table-Top Stand with one hand to avoid it dropping when attaching.

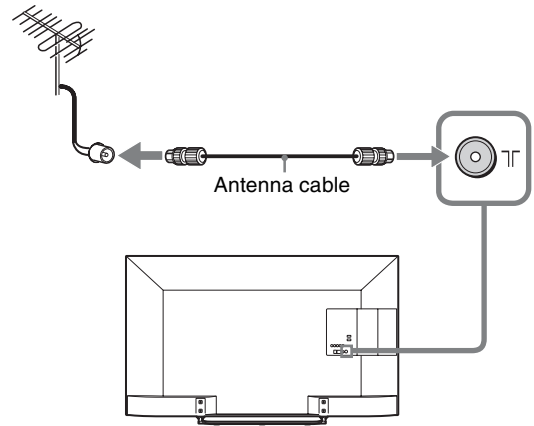


- Fix the TV to the Table-Top Stand according to the arrow marks  that guide the screw holes using the supplied screws.
- This TV is very heavy, so two or more people should place the TV onto the Table-Top Stand.
- If using an electric screwdriver, set the tightening torque at approximately 1.5 N·m {15 kgf·cm}.
- Keep the TV in a vertical position while tightening the screws. Be sure to securely tighten the supplied screws, otherwise the TV may fall down.
- Use an appropriate screwdriver to attach the screws tightly without damaging the screw head.
- Please ensure the AC power cord is away from the Table-Top Stand installation location when you attach Table-Top Stand.
- When detaching the Table-Top Stand, reverse the attaching procedure. Do not remove any screws other than those used when attaching the Table-Top Stand.

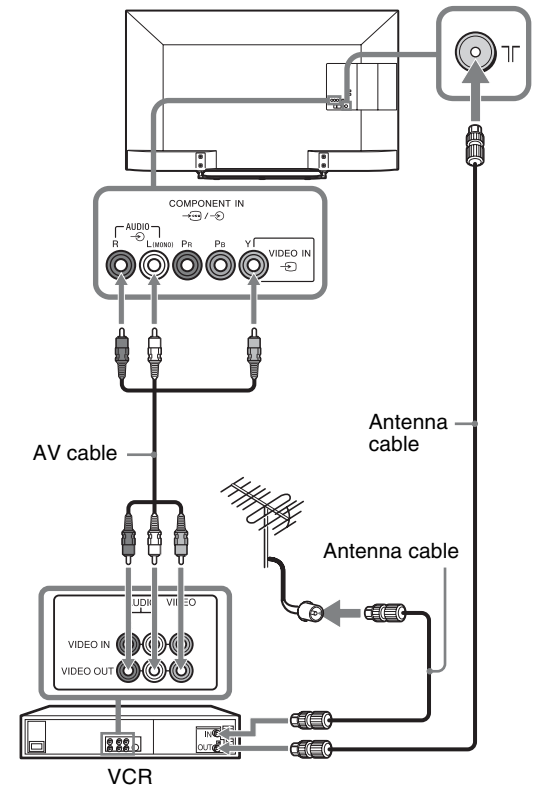
2: Connecting an antenna/cable/VCR

- Connecting cables are not supplied.

Connecting an antenna/cable

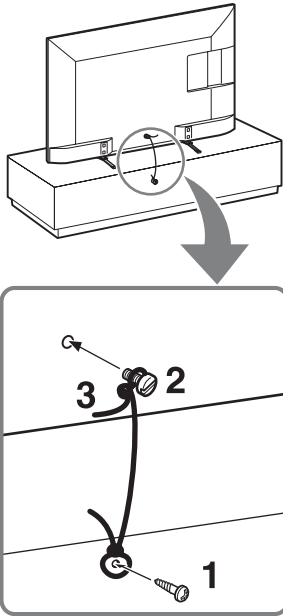


Connecting an antenna/cable and VCR



3: Preventing the TV from toppling over

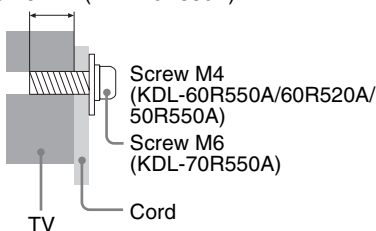
- Please place the TV set on a stable, level surface, if placed on an unstable place, it may cause the TV set to topple over, fall down, and cause injuries to people.
- An optional Sony support belt kit is used to secure the TV. Contact your nearest Sony service centre to purchase a kit. Have your TV model name ready for reference.



- 1** Install a wood screw (4 mm in diameter, not supplied) in the TV stand.
- 2** Install a machine screw (not supplied) into the screw hole of the TV.

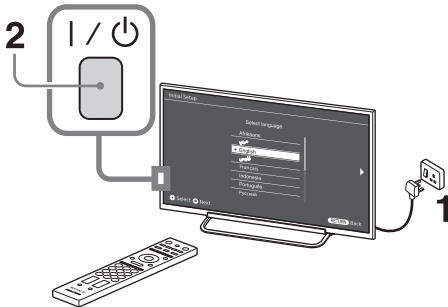
The length of the machine screw differs depending on the cord diameter. Please see below illustration.

6-8 mm (KDL-60R550A/60R520A/50R550A)
10-16 mm (KDL-70R550A)



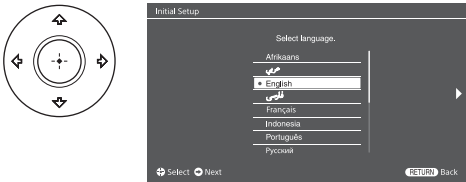
- 3** Tie the wood screw and the machine screw with a strong cord (not supplied).

4: Performing the initial set-up



- 1 Connect the TV to your mains socket.
- 2 When the TV is in standby mode (the I/⏻ indicator on the TV front panel is red), press I/⏻ on the remote to turn on the TV (the I/⏻ indicator will light green).

3



Follow the instructions on the screen:

- Set the language for the On Screen Display (OSD) text.
- Select Country and Region.
- Select the type of use. Select “Home” for the best TV settings to use the TV in the home.
- Select broadcast type.
- Scan for channels.
- Change the order of channels. If you want to change the order of channels, follow the steps in “Programme Sorting” (page 45). Press **HOME** or **RETURN** to exit. You can also tune channels manually (page 44, 45).
- Set the internet connection setup (page 33).
- Set the Automatic Software Download setup (page 50).

Watching TV

- 1 Press I/⏻ on the TV to turn on the TV.
- 2 Press the number buttons or **PROG +/-** to select a TV channel.
- 3 Press ◀ +/- to adjust the volume.

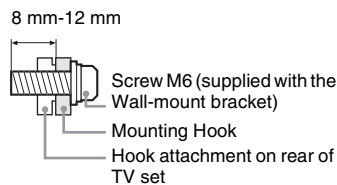
Safety information

Installation/Set-up

Install and use the TV set in accordance with the instructions below in order to avoid any risk of fire, electrical shock or damage and/or injuries.

Installation

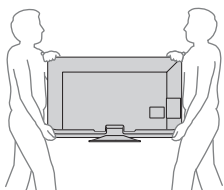
- The TV set should be installed near an easily accessible mains socket.
- Place the TV set on a stable, level surface to avoid it from falling down and cause personal injury or damage to the TV.
- Only qualified service personnel should carry out wall installations.
- For safety reasons, it is strongly recommended that you use Sony accessories.
 - KDL-70R550A/60R550A/60R520A:
Wall-mount bracket: SU-WL50B
 - KDL-50R550A:
Wall-mount bracket: SU-WL400
- Be sure to use the screws supplied with the Wall-mount bracket when attaching the mounting hooks to the TV set. The supplied screws are designed as indicated by illustration when measured from the attaching surface of the mounting hook. The diameter and length of the screws differ depending on the Wall-mount bracket model. Use of screws other than those supplied may result in internal damage to the TV set or cause it to fall, etc.



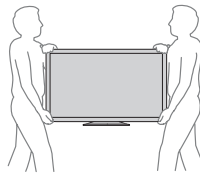
Transporting

- Before transporting the TV set, disconnect all cables.
- Two or more people are needed to transport a large TV set.
- When transporting the TV set by hand, hold it as shown below. Do not put stress on the LCD panel.

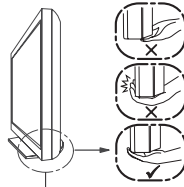
KDL-70R550A/60R550A/60R520A



KDL-50R550A



- When lifting or moving the TV set, hold it firmly from the bottom.



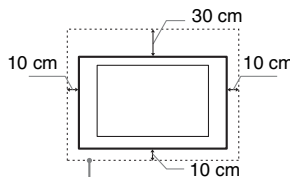
Be sure to hold the bottom of the panel, not the front part.

- When transporting the TV set, do not subject it to jolts or excessive vibration.
- When transporting the TV set for repairs or when moving, pack it using the original carton and packing material.

Ventilation

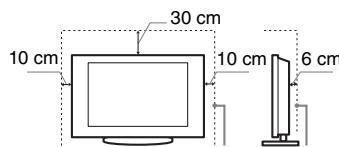
- Never cover the ventilation holes or insert anything in the cabinet.
- Leave space around the TV set as shown below.
- It is strongly recommended that you use a Sony wall-mount bracket in order to provide adequate air-circulation.

Installed on the wall



Leave at least this space around the set.

Installed with stand

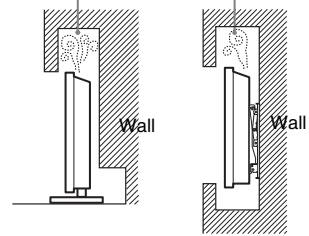


Leave at least this space around the set.

- To ensure proper ventilation and prevent the collection of dirt or dust:
 - Do not lay the TV set flat, install upside down, backwards, or sideways.
 - Do not place the TV set on a shelf, rug, bed or in a closet.
 - Do not cover the TV set with a cloth, such as curtains, or items such as newspapers, etc.

- Do not install the TV set as shown below.

Air circulation is blocked.



AC power cord

Handle the AC power cord and outlet as follows in order to avoid any risk of fire, electrical shock or damage and/or injuries:

- The shape of AC power plug, which is supplied with the TV set, varies depending on the regions. Be sure to connect the appropriate supplied AC power cord with the plug that fits into the mains socket.
- Insert the plug fully into the mains socket.
- Operate the TV set on a 110V-240V AC supply.
- When wiring cables, be sure to unplug the AC power cord for your safety and take care not to catch your feet on the cables.
- Disconnect the AC power cord from the mains socket before working on or moving the TV set.
- Keep the AC power cord away from heat sources.
- Unplug the AC power plug and clean it regularly. If the plug is covered with dust and it picks up moisture, its insulation may deteriorate, which could result in a fire.

Notes

- Do not pinch, bend, or twist the AC power cord excessively. The core conductors may be exposed or broken.
- Do not modify the AC power cord.
- Do not put anything heavy on the AC power cord.
- Do not pull on the AC power cord itself when disconnecting the AC power cord.
- Do not connect too many appliances to the same mains socket.
- Do not use a poor fitting mains socket.

Prohibited Usage

Do not install/use the TV set in locations, environments or situations such as those listed below, or the TV set may malfunction and cause a fire, electrical shock, damage and/or injuries.

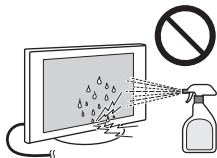
Location:

- Outdoors (in direct sunlight), at the seashore, on a ship or other vessel, inside a vehicle, in medical institutions, unstable locations, near water, rain, moisture or smoke.

- If the TV is placed in the changing room of a public bath or hot spring, the TV may be damaged by airborne sulfur, etc.

Cleaning:

Do not spray water or detergent directly on the TV set. It may drip to the bottom of the screen or exterior parts and get inside, resulting in a malfunction.



Environment:

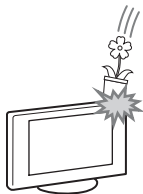
- Places that are hot, humid, or excessively dusty; where insects may enter; where it might be exposed to mechanical vibration, near flammable objects (candles, etc). The TV set shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the TV.
- Do not place the TV in a humid or dusty space, or in a room with oily smoke or steam (near cooking tables or humidifiers). Fire, electric shock, or warping may result.

Situation:

- Do not use when your hands are wet, with the cabinet removed, or with attachments not recommended by the manufacturer. Disconnect the TV set from mains socket and antenna during lightning storms.
- Do not install the TV so that it sticks out into an open space. Injury or damage from a person or object bumping into the TV may result.

Broken pieces:

- Do not throw anything at the TV set. The screen glass may break by the impact and cause serious injury.
- If the surface of the TV set cracks, do not touch it until you have unplugged the AC power cord. Otherwise electric shock may result.
- Do not subject the LCD screen to any strong impact or shock. The screen glass may crack or shatter and cause injury.



When not in use

- If you will not be using the TV set for several days, the TV set should be disconnected from the AC power for environmental and safety reasons.

- As the TV set is not disconnected from the AC power when the TV set is just turned off, pull the plug from the mains socket to disconnect the TV set completely.
- However, some TV sets may have features that require the TV set to be left in standby to work correctly.

For children

- Do not allow children to climb on the TV set.
- Keep small accessories out of the reach of children, so that they are not mistakenly swallowed.

If the following problems occur...

Turn off the TV set and unplug the AC power cord immediately if any of the following problems occur.

Ask your dealer or Sony service centre to have it checked by qualified service personnel.

When:

- AC power cord is damaged.
- Poor fitting of mains socket.
- TV set is damaged by being dropped, hit or having something thrown at it.
- Any liquid or solid object falls through openings in the cabinet.

About LCD Monitor Temperature

When the LCD Monitor is used for an extended period, the panel surrounds become warm. You may feel hot when touching there by the hand.

Precautions

Viewing the TV

- Some people may experience discomfort (such as eye strain, fatigue, or nausea) when using this product. Sony recommends that all viewers take regular breaks while watching 3D video images or playing stereoscopic 3D games. The length and frequency of necessary breaks will vary from person to person. You must decide what works best. If you experience any discomfort, you should stop using this product and watching the 3D video images until the discomfort ends; consult a doctor if you believe necessary. You should also review (i) the instruction manual of your television, as well as any other device or media used with your television and (ii) Sony website for the latest information. The vision of young children (especially those under six years old) is still under development. Consult your doctor (such as a pediatrician or eye doctor) before allowing young children to watch 3D video images or play stereoscopic 3D games.
Adults should supervise young children to ensure they follow the recommendations listed above.
- You should only use this product for watching 3D video images on a compatible Sony television.
- Watch the TV from a distance of more than three times the TV's screen height.
- Avoid eye injury with the tip of the temple arms.
- Be careful not to pinch your fingers in the hinges when bending the temple arms.
- View the TV in moderate light, as viewing the TV in poor light or during long period of time, strains your eyes.
- When using headphones, adjust the volume so as to avoid excessive levels, as hearing damage may result.

LCD Screen

- Although the LCD screen is made with high-precision technology and 99.99% or more of the pixels are effective, black dots may appear or bright points of light (red, blue, or green) may appear constantly on the LCD screen. This is a structural property of the LCD screen and is not a malfunction.
- Do not push or scratch the front filter, or place objects on top of this TV set. The image may be uneven or the LCD screen may be damaged.
- If this TV set is used in a cold place, a smear may occur in the picture or the picture may become dark. This does not indicate a failure. These phenomena disappear as the temperature rises.

- Ghosting may occur when still pictures are displayed continuously. It may disappear after a few moments.
- The screen and cabinet get warm when this TV set is in use. This is not a malfunction.
- The LCD screen contains a small amount of liquid crystal. Some fluorescent tubes used in this TV set also contain mercury (except for LED backlight LCD TV). Follow your local ordinances and regulations for disposal.

Handling and cleaning the screen surface/cabinet of the TV set

Be sure to unplug the AC power cord connected to the TV set from mains socket before cleaning. To avoid material degradation or screen coating degradation, observe the following precautions.

- To remove dust from the screen surface/cabinet, wipe gently with a soft cloth. If dust is persistent, wipe with a soft cloth slightly moistened with a diluted mild detergent solution.
- Do not spray water or detergent directly on the TV set. It may drip to the bottom of the screen or exterior parts, and may cause a malfunction.
- Never use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzene, thinner or insecticide. Using such materials or maintaining prolonged contact with rubber or vinyl materials may result in damage to the screen surface and cabinet material.
- Periodic vacuuming of the ventilation openings is recommended to ensure to proper ventilation.
- When adjusting the angle of the TV set, move it slowly so as to prevent the TV set from moving or slipping off from its table stand.

Optional Equipment

Keep optional components or any equipment emitting electromagnetic radiation away from the TV set. Otherwise picture distortion and/or noisy sound may occur.

Caution about handling the remote control

When replacing the battery, set the polarity correctly. Do not short, re-charge, force discharge, mixing old and new batteries. Prohibit soldering, disassembling, heating and putting in fire. Remove empty battery from the product immediately.

Handling of the batteries

The batteries should keep away from children. If child swallowed the batteries, consult to doctor immediately.

WARNING

Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

Maintenance of your Glasses

- Wipe the Glasses gently with a soft cloth.
- Never use strong solvents such as a thinner, alcohol or benzene for cleaning.

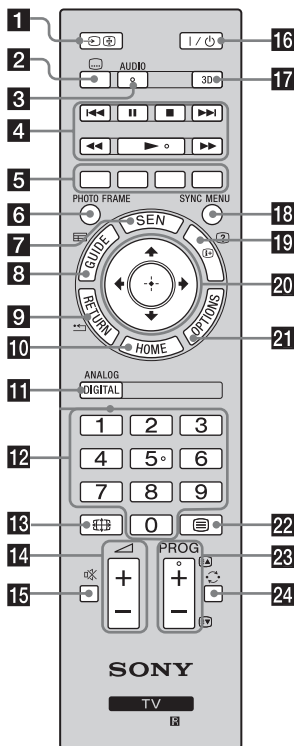
Disposal of the TV set



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol is on the remote control.

Overview of the remote



- The number 5, **PROG +** and **AUDIO** buttons have tactile dots. Use the tactile dots as references when operating the TV.

- ➔/☑ – Input select**
 - Displays the connected equipment list and selects the input source (page 17).
 - In Text mode: Holds the current page.
- ⋮ – Subtitle setting**
Press to change the subtitle language (page 45) (in digital mode only).
- AUDIO – Dual Sound (page 42)**
- ▶/||/■/◀◀/▶▶/◀◀/▶▶**
You can operate the BRAVIA Sync-compatible equipment that is connected to the TV. Some other buttons on the remote control may also operate BRAVIA Sync equipment.
- Coloured buttons**
When the coloured buttons are available, an operation guide appears on the screen.
- PHOTO FRAME**
Press to display a photo or calendar while listening to music (see page 29).
- SEN**
Enables selection of content from the online service “SEN” (Sony Entertainment Network). If the network or “SEN” is unavailable, the “SEN” screen is not displayed.
- ≡ GUIDE (EPG)**
Press to display the Digital Electronic Programme Guide (EPG) (page 25).
- ↶ RETURN**
 - Returns to the previous screen of any displayed menu.
 - When playing a photo/music/video file: Press to stop the playback (the display returns to the file or thumbnail view).
- HOME**
Displays or cancels the menu.
- DIGITAL/ANALOG – TV mode**
Switches between digital and analogue mode, or switches to TV display when displaying external input.
- Number buttons**
 - Selects channels. For channel numbers 10 and above, enter the next digit quickly.
 - In Text mode: Enters the three digit page number to select the page.
- ⊞ – Wide Mode**
Changes the picture size. Press repeatedly to select the desired wide mode (page 14).
- ⏮ +/-**
Adjusts volume.
- 🔇 – Mute**
Press to mute the sound. Press again to restore the sound.
- I/⏻ – TV Standby**
Press to turn the TV on or to switch to standby mode.
- 3D (except KDL-60R520A)**
Press to display the 3D menu.

18 SYNC MENU

Press to display the BRAVIA Sync Menu and then select connected HDMI/MHL equipment from “Device Selection”.

The following options can be selected from BRAVIA Sync Menu:

“**Device Control**”: Use the “Device Control” menu to operate equipment that is compatible with BRAVIA Sync Control. Select options from “Home (Menu)”, “Options”, “Content List” and “Power Off” to operate the equipment.

“**Speakers**”: Selects “TV Speakers” or “Audio System” to output the TV’s sound from the TV speakers or connected audio equipment.


“**TV Control**”: Use the “TV Control” menu to operate the TV from the “Home (Menu)” or “Options” menu.

“**Return to TV**”: Selects this option to return to TV programme.



19  – **Info/Text reveal**




Displays information. Press once to display information about the programme/input you are viewing. Press again to remove the display from the screen.


- In Text mode: Reveals hidden information (e.g. answers to a quiz).

20 

- Selects or adjusts items.
- Confirms selected items.


- When playing a photo file: Press  to select the previous file. Press  to select the next file.

When playing a music/video file: Press  to pause/start the playback. Press or hold  to fast reverse/fast forward, then press  at the point where you want to resume playback.

- In digital mode: Press  to add channel to the empty Favourite list or display Favourite list.

21 OPTIONS

Press to display a list that contains shortcuts to some setting menus. The listed options vary depending on the current input and content.

22  – **Text**

In Text mode: Displays Text broadcast.

Each time you press , the display changes cyclically as follows:

Text → Text over the TV picture (mix mode) → No Text (exit the Text service)

23 **PROG/CH +/-**  

- Selects the next (+) or previous (–) channel.

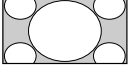
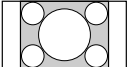
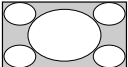
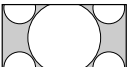

- In Text mode: Selects the next () or previous () page.

24 **Previous channel**

Returns to the previous channel or input watched (for more than 15 seconds).

■ To change the Wide Mode

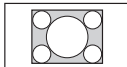
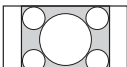

For TV, Video, Component or HDMI/MHL

Wide Zoom* 	Enlarges the centre portion of the picture. The left and right edges of the picture are stretched to fill the 16:9 screen.
Normal 	Displays the 4:3 picture in its original size. Side bars are shown to fill the 16:9 screen.
Full 	Stretches the 4:3 picture horizontally to fill the 16:9 screen.
Zoom* 	Displays cinemascope (letter box format) broadcasts in the correct proportions.
14:9* 	Displays 14:9 broadcasts in the correct proportions. As a result, black border areas are visible on the screen.

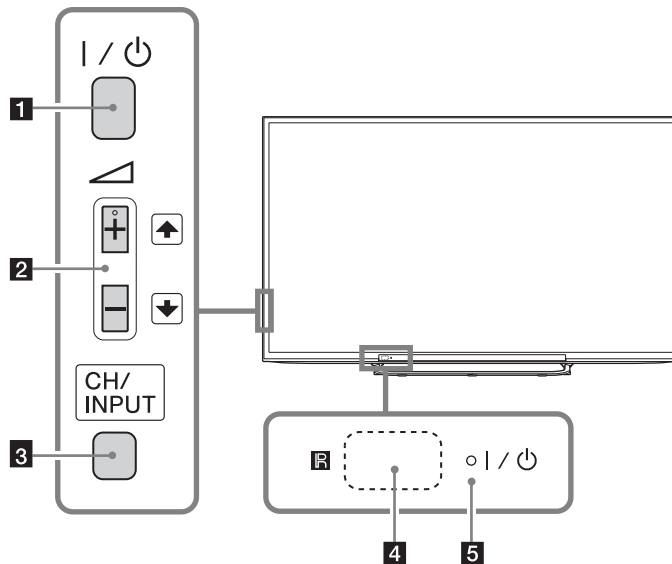
* Parts of the top and bottom of the picture may be cut off.

- You cannot select "Normal" or "14:9" for HD signal source pictures.

HDMI PC Input (PC timing)

Normal 	Displays the picture in its original pixel size. Bars are shown at the top, bottom, and both sides for small picture.
Full 1 	Stretches the original picture to fill the screen vertically, keeping its original horizontal-to-vertical aspect ratio.
Full 2 	Stretches the Full 1 picture horizontally to fill the 16:9 screen.

Overview of the TV buttons and indicators



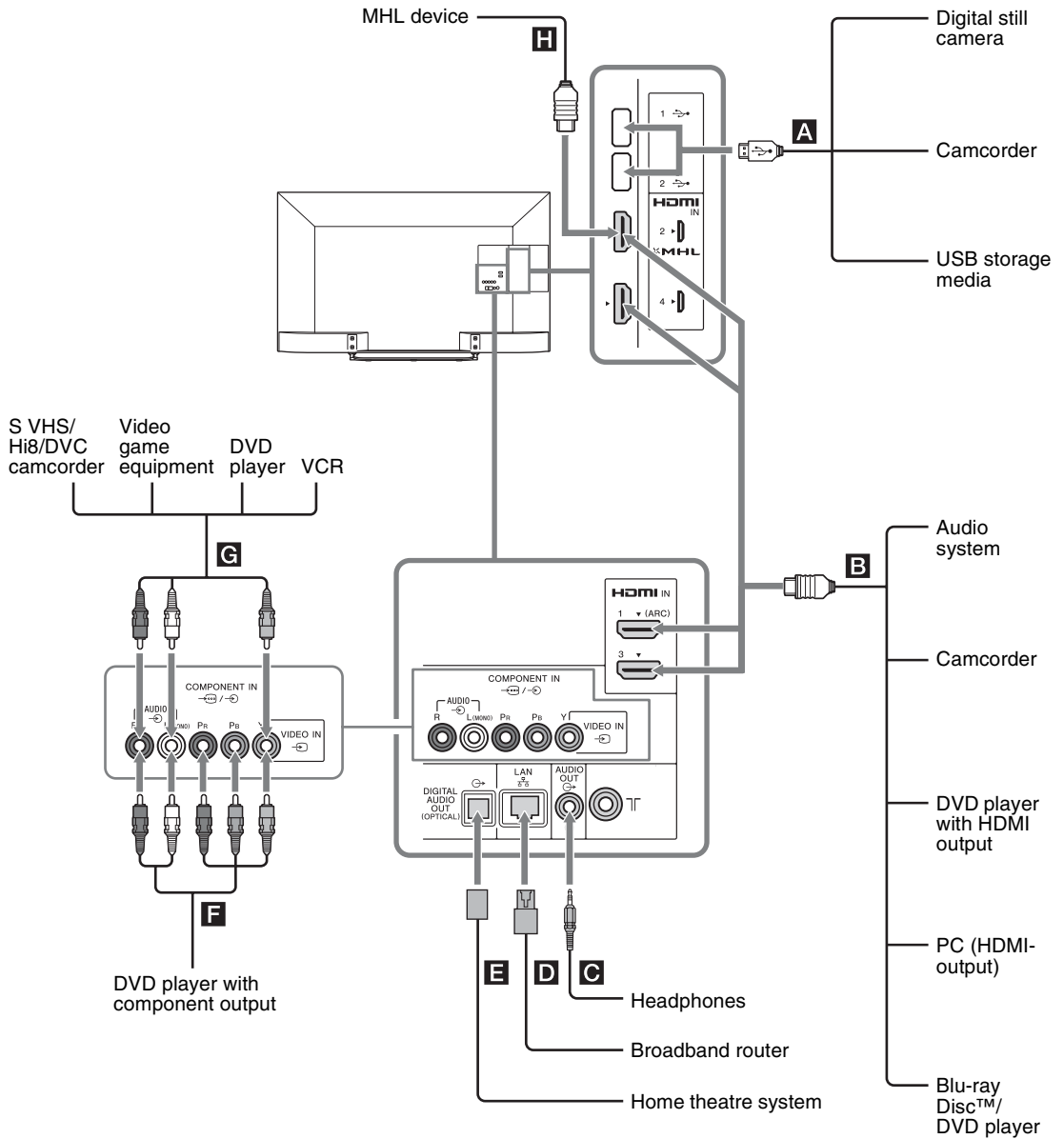
Item	Description
1 I /	<p>– Power Press to turn the TV on or to switch to standby mode.</p> <p> • To disconnect the TV from the AC power completely, pull the plug from the mains socket.</p>
2 + / - / /	<ul style="list-style-type: none"> Increases/decreases the volume, or selects the next (+) or previous (-) channel when the CH Up/Down screen is displayed by pressing the CH/INPUT button. Moves the selected input source up/down when the input select screen is displayed by pressing the CH/INPUT button.
3 CH/INPUT	Switches between the CH Up/Down screen and input select screen.
4	<p>– Remote sensor Receives IR signals from the remote. Do not put anything over the sensor, doing so may affect its function.</p>
5	<p>– Picture Off / Timer indicator</p> <ul style="list-style-type: none"> Lights up in orange when the “On Timer”/“Sleep Timer” is set, or the TV is in photo frame mode. If you set to “On Timer”, lights up in orange while the TV is also in standby mode (page 49). Lights up in green when the “Power Saving” is set to “Picture Off” (page 51) or the TV is in photo frame mode (page 29). <p>– Standby indicator Lights up in red when the TV is in standby mode.</p> <p>– Power indicator</p> <ul style="list-style-type: none"> Lights up in green when the TV is turned on. Flashes while the remote is being operated.


• Make sure that the TV is completely turned off before unplugging the AC power cord. Unplugging the AC power cord while the TV is turned on may cause the indicator to remain lit or may cause the TV to malfunction.

• The + button has a tactile dot. Use it as a reference when operating the TV.

Connecting optional equipment

You can connect a wide range of optional equipment to your TV.



 • Connecting cables are not supplied.

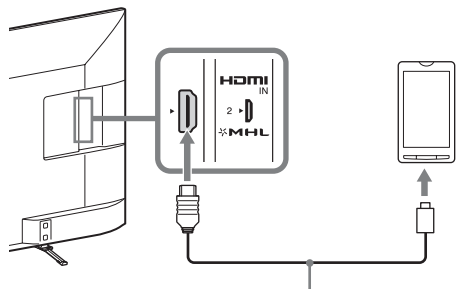
Viewing pictures from the connected equipment

Turn on the connected equipment, then press to display the connected equipment list. Press to select the desired input source, then press . (The highlighted item is selected if 2 seconds pass without any operation after pressing .)

• You can select **B**, **F**, **G** and **H** by . If you want select the other input, please press **HOME** and select correctly.

Jacks/ Input symbol on screen	Description
A 1, 2	You can enjoy photo/music/video files stored in a Sony digital still camera, camcorder or USB storage device (page 26). A standard USB mouse and USB keyboard can also be connected to the USB ports. Connecting in this way, only supported by an internet browser (page 36).
B, H HDMI IN 1 (ARC), 2/MHL, 3 or 4 HDMI 1 HDMI 2 HDMI 3 or HDMI 4	Connect to the HDMI IN 1 (ARC), 2/MHL, 3 or 4 jack if the equipment has an HDMI jack. The digital video and audio signals are input from the equipment. In addition, when you connect the equipment that is compatible with BRAVIA Sync Control, communication with the connected equipment is supported. See page 50 to set up this communication. If the equipment has a DVI jack, connect the DVI jack to the HDMI IN 1 jack through a DVI - HDMI adaptor interface (not supplied), and connect the equipment's audio out jack to the HDMI 1 AUDIO IN jack. If connecting a digital audio system that is compatible with Audio Return Channel (ARC) technology, use HDMI IN 1. HDMI (High-Definition Multimedia Interface) provides an uncompressed, all-digital audio/video interface between this TV and any HDMI-equipped audio/video device. You can also connect your MHL (Mobile High-Definition Link) device to HDMI IN 2/MHL using an MHL cable. In addition, when you connect device that is compatible with "BRAVIA Sync Control", communication with the connected device is supported. • The HDMI jacks only support the following video inputs: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p and 1080/24p. • The HDMI jacks can support PC timing in HDMI PC mode. See page 43 for supported PC input signal. • Be sure to use only an authorized HDMI cable bearing the HDMI logo. We recommend that you use a Sony HDMI cable (high speed type).
C AUDIO OUT /Headphones	Connect with an audio cable or headphones. You can listen to TV sound through your stereo system or headphones. You can select "Variable" or "Fixed" in the "Audio Out" menu (page 42).
D LAN	You can enjoy IPTV, applications and Internet Browser.
E DIGITAL AUDIO OUT (OPTICAL)	Use an optical audio cable.
F / COMPONENT IN or VIDEO IN Component or Video	Connect to the component jacks and the audio jacks /. For better picture quality, component connection is recommended if your DVD player has a component video output. When using the component video jack as the video jack , select "Video" in the "Video/Component Input" menu (page 49). • You cannot use the component video jack and the video jack at the same time.
G VIDEO IN / AUDIO Video	Connect to the video jack and the audio jacks . If you connect mono equipment, connect to the L (MONO) jack .

Connecting MHL device



Use authorized MHL 2 cable with MHL logo (not supplied)

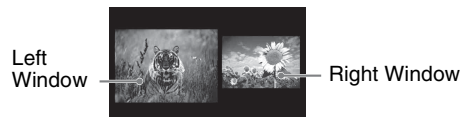
The MHL (Mobile High-Definition Link) enables the TV to communicate with connected MHL-compatible device. When connecting MHL-compatible device, TV simultaneously charges the connected device while playing the photo/music/video from it. You can use the TV remote control to control the connected MHL-compatible device.

- You can continue normal usage of the connected MHL-compatible device (such as receiving calls) depending on its capability.
- Some remote control functions may not be available depending on features of the connected MHL-compatible device. Refer to the device manual for details.
- This product is officially MHL-certified for guaranteed operation with other MHL-certified devices. If you encounter any problems when using the MHL function, consult the device manufacturer for support.
- If "Auto Input Change (MHL)" is set to "On" the TV automatically switches to MHL mode when MHL-compatible device is connected to HDMI IN 2/MHL jack. The availability of "Auto Input Change (MHL)" depends on whether the MHL-compatible device can support this feature.
- The TV can connect to the MHL-compatible device via its MHL 2 connection.

Viewing Twin Picture

You can view two pictures (in Component and HDMI input mode) on the screen simultaneously. Connect the optional equipment (page 16), and make sure that images from the equipment appear on the screen (page 17).

- 1 Press **OPTIONS** and select "Twin Picture". Two pictures are displayed simultaneously.



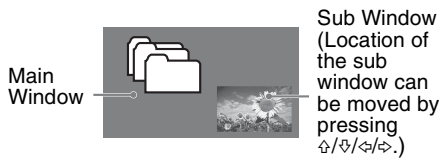
Twin Picture Availability	
In Left Window	In Right Window
Component	TV programme, Video
HDMI IN (except PC timing)	TV Programme, Video, Component

- 2 Press \leftarrow/\rightarrow to select active picture.
 - 3 In right window, you can select the TV channel or video input by pressing **OPTIONS** and select "Sub-window".
 - To return to single picture mode**
Press \oplus , **RETURN** or select "Single Picture" from Options menu.
 - To change the picture size**
You can change the picture size by pressing $\updownarrow/\leftarrow/\rightarrow$ buttons.
- You cannot use the component video jack \rightarrow and the video jack \rightarrow at the same time.
 - The highlighted picture is audible. You can switch the audible picture by pressing \leftarrow/\rightarrow .

Viewing PIP (Picture in Picture)

You can view two pictures (in HDMI-PC input mode) on the screen simultaneously. Connect a PC (page 16), and make sure that images from a PC appear on the screen (page 17).

- 1 Press **OPTIONS** and select "PIP".
Two pictures are displayed simultaneously.



PIP Availability

In Main Window	In Sub Window
HDMI IN (PC timing)	TV Programme, Video, Component

- 2 In sub window, you can select the TV channel or video input by pressing **OPTIONS** and select "Sub-window".

To return to single picture mode

Press **RETURN** or select "Single Picture" from Options menu.

- You cannot display resolutions higher than your TV's display resolution (page 58).
- You can switch the audible picture by selecting "Audio Swap" from the Options menu.

Viewing 3D Video (except KDL-60R520A)

You can experience powerful 3D (three-dimensional) entertainment, such as stereoscopic 3D video games and 3D Blu-ray discs with this TV and a 3D-enabled device. Use an HDMI/MHL cable or a USB cable to connect your TV to the 3D-enabled device.

- To see 3D contents, watch the TV with your eyes at the same level as the TV screen, and wear the supplied 3D glasses.
- The 3D effect will be compromised and screen colour will shift if you watch the TV lying down, or with your head tilted, or view from a wide angle.
- Additional viewers with 3D glasses can also enjoy 3D content.
- You can buy commercially available Passive Polarized Glasses for 3D TV as replacement glasses or extra glasses. (You cannot use the Active Shutter 3D Glasses. Some theatrical glasses are not suitable for 3D TV.)
- The 3D function may not work properly, depending on the signal source or format.

Watching 3D content

The 3D display mode is automatically selected when a 3D signal is detected. Press **3D** and select "3D Display", then press **3D** to toggles between 3D display mode and 2D display mode.

- The display mode does not change to 3D mode automatically, depending on the signal source or format. In this case, select 3D display mode manually.
- To prevent 3D display mode from being automatically selected when a 3D signal is detected, press **HOME**, then select "Settings" > "Picture" > "3D Settings" > "Auto 3D" > "Off".

When the following non-3D pictures are displayed

Regular 2D picture



Side-by-side picture



Over-under picture



- 1 Press **3D** to display the 3D menu.
- 2 Select "3D Display".
- 3 Press **3D** repeatedly to toggle through "3D Display" modes.

"Simulated 3D":

Displays regular 2D pictures in simulated 3D.

"Side-by-Side":

Displays side-by-side pictures in 3D.

"Over-Under":

Displays over-under pictures in 3D.

"Off":

Displays pictures as they are.

- 4 Press **RETURN** to exit the 3D Menu.

- Simulated 3D effect may be less pronounced with some picture sources.
- Perceived simulated 3D effect may vary from person to person.
- Simulated 3D display automatically switch back to 2D display mode an hour after its activation.
- "Side-by-Side"/"Over-Under" may not be selected, depending on the signal source or format.

Watching 3D content in 2D

- 1 Press **3D** to display the 3D Menu.
- 2 Select "3D Display".
- 3 Press **3D** to select "Off".
- 4 Press **RETURN** to exit the 3D Menu.

3D Menu

You can adjust the following settings from the 3D Menu.
Press **3D**, then select the desired settings > the desired option.

■ 3D Display

When 3D pictures are displayed:

Switches between the 3D and 2D display modes.

When non-3D pictures are displayed:

Simulated 3D

Displays regular 2D pictures in simulated 3D.

- If you are watching 2D content in simulated 3D mode, and then change to other 2D content, 2D display mode will be selected automatically.

Side-by-Side

Displays side-by-side pictures in 3D.

-Two near-identical pictures for 3D viewing are displayed side-by-side.

Wear the 3D Glasses before setting "3D Format" as the instructions will otherwise be unreadable because of doubly-blurred letters on the screen.



Over-Under

Displays over-under pictures in 3D.

-Two near-identical pictures for 3D viewing are displayed one above the other.

Wear the 3D Glasses before setting "3D Format" as the instructions will otherwise be unreadable because of doubly-blurred letters on the screen.



Off

Displays pictures as they are.

- "Side-by-Side"/"Over-Under" may not be selected, depending on the signal source or format.

■ 3D Depth Adjustment

Adjusts the depth of 3D pictures.

- Selecting [0] is recommended for normal use.
- 3D effect may be less pronounced depending on the settings.

■ Simulated 3D Effect

Heightens/lessens the 3D effect when you display 2D pictures in simulated 3D.

3D Settings

You can make the following settings from the 3D Settings menu. Press **HOME**, then select “Settings” > “Picture” > “3D Settings”.

Auto 3D:

Select “On” then 3D picture is automatically displayed when a 3D signal is detected.

- The display mode does not change to 3D mode automatically, depending on the signal source or format. In this case, select 3D display mode manually.

3D Signal Notification:

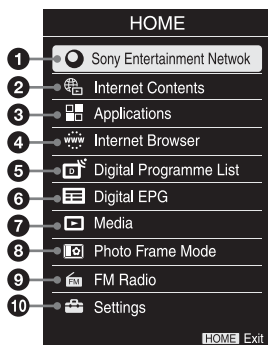
Select “On” then a message is displayed when a 3D signal is detected.

3D Supported Video Format

input	3D Format	Signal	
		Resolution	Vertical Frequency (Hz)
HDMI	Frame Packing	1920 × 1080p	24, 30
		1920 × 1080i	50, 60
		1280 × 720p	24, 30, 50, 60
	Side by Side	1920 × 1080p	24, 50, 60
		1920 × 1080i	50, 60
		1280 × 720p	50, 60
	Over-Under	1920 × 1080p	24, 30, 50, 60
		1920 × 1080i	50, 60
		1280 × 720p	50, 60
MHL	Side by Side	1920 × 1080p	24
		1920 × 1080i	50, 60
		1280 × 720p	50, 60
	Over-Under	1920 × 1080p	24, 30
		1920 × 1080i	50, 60
		1280 × 720p	50, 60
USB	Side by Side	1920 × 1080p	24, 25, 30
		1920 × 1080i	50, 60
		1280 × 720p	24, 25, 30, 50, 60
	Over-Under	1920 × 1080p	24, 25, 30
		1920 × 1080i	50, 60
		1280 × 720p	24, 25, 30, 50, 60

- Depends on the MHL device, 3D display might be not displayed.
- See page 28 for the supported USB video format.

Navigating through menus

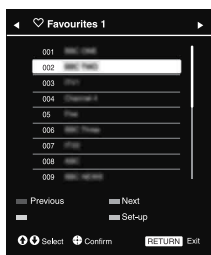


The **HOME** button allows you to access a variety of TV settings, USB media files and FM Radio mode.

- 1 Press **HOME** on the TV or remote.
- 2 Press \uparrow/\downarrow to select an option, then press \oplus .
- 3 Follow the instructions on the screen.
- 4 To exit the menu, press **HOME**.

Menu	Description
1 Sony Entertainment Network	Sony Entertainment Network serves as a gateway to Internet content, delivering a variety of on-demand entertainment straight to your TV.
2 Internet Contents	Enables access to Internet services for TV (page 36).
3 Applications	Internet Apps are small applications that provide easy access to interactive content when your TV is connected to the Internet. You can display a variety of information on the screen. Some Internet Apps may not be available in some region/country (page 38).
4 Internet Browser	When the TV is connected to the Internet, you can browse websites. Select the browser and enter a URL.
5 Digital Programme List	You can select the Digital Programme List (page 24).
6 Digital EPG	You can select the Digital Electronic Programme Guide (EPG) (page 25).
7 Media	<p>Photo: You can enjoy photo files via USB devices (page 26).</p> <p>Music: You can enjoy music files via USB devices (page 26).</p> <p>Video: You can enjoy video files via USB devices (page 26).</p>
8 Photo Frame Mode	You can select the frame image which enables you to enjoy with photo, music and clock (page 29).
9 FM Radio	Listens to the FM Radio (page 31).
10 Settings	<p>Displays the “Settings” menu where most of the advanced settings and adjustments are performed. The options you can select may vary. Unavailable options are greyed out or not displayed (page 40 to 51).</p> <p>Picture: adjust the picture on your TV to fit your viewing preference.</p> <p>Sound: customise your sound settings to suit your audio preference. You can also change the settings to output the sound to your connected audio equipment.</p> <p>Screen: adjust the size and shape of the images you see on the screen.</p> <p>Channel Set-up: navigate your favourite channels and inputs and select the signal type, as well as autoprogramme channels. You can also customise the channels you see and the labels assigned to them.</p> <p>Parental Lock: set the password and limit access to programming based on rating levels. You can also block channels and inputs.</p> <p>Set-up: modify and customise a variety of general setting options.</p> <p>Eco: changes the settings related to power consumption.</p>

Using the Digital Programme List DV3*



Digital Programme List

The Favourite feature allows you to specify up to four lists of your favourite programmes.

1 In digital mode, press **HOME** and select “Digital Programme List”, then press \leftarrow/\rightarrow to select the Favourite list.



- If Favourite list is already selected before, just press \oplus to access Favourite list.

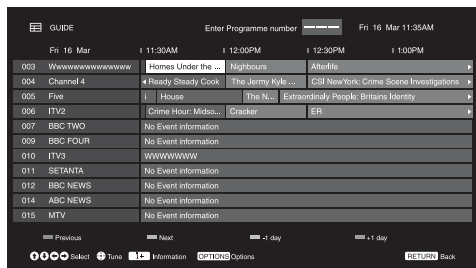
2 Perform the desired operation as shown in the following table or displayed on the screen.

* This function may not be available in some countries/regions.

To	Do this
Create your Favourite list for the first time	<ol style="list-style-type: none"> 1 Press \oplus to select “Yes”. 2 Press the yellow button to select the Favourite list. 3 Press \uparrow/\downarrow to select the channel you want to add, then press \oplus. 4 Press \uparrow/\downarrow to decide the position and press \oplus to store. 5 Press RETURN to finish setting up.
Watch a channel	<ol style="list-style-type: none"> 1 Press \leftarrow/\rightarrow to select the Favourite list. 2 Press \uparrow/\downarrow to select the channel, then press \oplus.
Turn off the Favourite list	Press RETURN .
Add channels in the currently edited Favourites list	<ol style="list-style-type: none"> 1 Press the blue button to see Favourite Set-up. 2 Press the yellow button to select the Favourites list you want to edit. 3 Press \uparrow/\downarrow to select the channel you want to add, the press \oplus. 4 Press \uparrow/\downarrow to decide the position and press \oplus to store.
Change the order of channels stored in the Favourites list	<ol style="list-style-type: none"> 1 Press the blue button to see Favourite Set-up. 2 Press the yellow button to select the Favourites list you want to edit. 3 Press \oplus or \rightarrow to jump to the Favourite list. 4 Press \uparrow/\downarrow to select the channel you want to change the position, then press \oplus. 5 Press \uparrow/\downarrow to decide the position and press \oplus to store.
Remove channels in the currently edited Favourite list	<ol style="list-style-type: none"> 1 Press the blue button to see Favourite Set-up. 2 Press the yellow button to select the Favourite list you want to edit. 3 Press \rightarrow and \uparrow/\downarrow to select the channel you want to remove, then press \oplus. 4 Press the blue button to remove.
Remove all channels from the current Favourite list	<ol style="list-style-type: none"> 1 Press the blue button to see Favourite Set-up. 2 Press the yellow button to select the Favourite list you want to edit. 3 Press the blue button. 4 Press \leftarrow/\rightarrow to select “Yes”, then press \oplus to confirm.

Using the Digital Electronic Programme Guide (EPG)

Australia/Singapore (DVB*)



- 1 In digital mode, press **GUIDE**.
- 2 Perform the desired operation as shown in the following table or displayed on the screen.

Digital Electronic Programme Guide (EPG)

* This function may not be available in some countries/regions.

New Zealand (MHEG)



Multimedia and Hypermedia information coding Expert Group (MHEG)

• The contents of the screen depend on the broadcasting station.

To	Do this
Watch a programme	Press $\leftarrow/\rightarrow/\leftarrow/\rightarrow$ to select the programme or enter the desired programme number by numeric key, then press \oplus .
Turn off the EPG	Press GUIDE .

• If an age restriction for programmes has been selected, a message asking for a PIN code will appear on the screen. For details, see "Parental Lock" on page 47.

Playing back photo/music/video via USB

You can enjoy photo/music/video files stored in a Sony digital still camera or camcorder through a USB cable or USB storage device on your TV.

- 1 Connect a supported USB device to the TV.
 - 2 Press **HOME**.
 - 3 Press $\triangleleft/\triangleright$ to select "Media", then press $\triangleleft/\triangleright/\blacktriangleleft/\blacktriangleright$ to select "Photo", "Music" or "Video". Then "Device Selection" appears. Press $\triangleleft/\triangleright$ to select USB/sample folder.
 - 4 The thumbnail view of file or folder appears.
 - 5 Press $\triangleleft/\triangleright/\blacktriangleleft/\blacktriangleright$ to select a file or folder, then press \oplus .
When you select a folder, select a file, then press \oplus .
Playback starts.
- If you connect the USB device when "USB Auto Start" is set to "On" (page 48), the thumbnail view of the last played Photo/Music/Video appears automatically.

■ Basic operation of Photo/Music/Video

You can operate the connected USB device by the TV remote.

Item	Description
$\blacktriangleleft / \blacktriangleright$	Fast rewinds/fast forwards the file when pressed during playback.
$\blacktriangleleft\blacktriangleleft / \blacktriangleright\blacktriangleright$	Goes to the beginning of the previous or current/next file.
\blacktriangleright	Starts playback.
II	Pauses playback.
■	Stops playback.

- Press the green button to display the subtitles if they are available. When playing a TS-formatted video (".ts" or ".m2ts" extension file, see page 28), the subtitles of an ".srt" extension file are not displayed.

■ To use playback options

Press the coloured buttons to display a list that contains shortcuts to some setting menus. The listed options vary depending on the current input and content.

Photo

"**Slideshow Effect**": Selects an effect for a slideshow.

"**Slideshow Speed**": Selects the slideshow duration.

"**Shuffle**": Plays files in random order.

"**Zoom**": Magnifies the picture ("1x", "2x" or "4x").

Music

"**Playback Target**": Selects to play all files, or one selected file.

"**Shuffle**": Plays files in random order.

"**Speakers**": Selects a speaker (page 42).

Video

"**Playback Target**": Selects to play all files, or one selected file.

"**Zoom**": Magnifies the picture ("1x", "2x", "4x" or "Full").

"**Speakers**": Selects a speaker (page 42).

General

“**Repeat**”: Plays a file repeatedly.

“**Sort By**”: Changes file order.

■ To set the picture (Video)

You can adjust the picture quality of USB Video.

- 1** Select a video.
See “Playing back photo/music/video via USB” (page 26).
- 2** Press **OPTIONS** during playback, then press \swarrow/\searrow to select “Picture” and press \oplus .
- 3** Press $\swarrow/\searrow/\swarrow/\searrow$ to select the item, then press \oplus .
- 4** Press $\swarrow/\searrow/\swarrow/\searrow$ to adjust the setting, then press \oplus .


■ To play a photo as a slideshow (Photo)

You can play a slideshow with photos. “Slideshow Effect” and “Slideshow Speed” can be set.

- 1** Select a photo.
See “Playing back photo/music/video via USB” (page 26).
- 2** Press the green button in thumbnail view, or press **OPTIONS** while a photo is displayed, then press \swarrow/\searrow to select “Slideshow” and press \oplus .

To stop a slideshow

Press **RETURN** or **HOME**.

-  • While the TV is accessing the data on the USB device, observe the following:
 - Do not turn off the TV.
 - Do not disconnect the USB cable.
 - Do not remove the USB device.
 The data on the USB device may be damaged.
- Sony will not be held liable for any damage to, or loss of data on the recording media due to a malfunction of any connected devices or the TV.
- The file system on the USB device supports FAT16, FAT32, FAT8, FAT12 and NTFS.
- The file name and folder name may not display correctly in some cases.
- When you connect a Sony digital still camera, set the camera’s USB connection mode to Auto or Mass Storage. For more information about USB connection mode, refer to the instructions supplied with your digital camera. Maximum capacity of the USB Mass Storage (USB HDD) is 2 TB.
- Check the website below for updated information about compatible USB devices.
<http://www.sony-asia.com/bravia/flash.html>
- Use a USB storage device that is compliant with USB mass storage device class standards.
- If a selected file has incorrect container information, or is incomplete, it cannot be played back.

■ To watch 3D video in a USB device (except KDL-60R520A)

You can watch 3D content by connecting the USB device to the TV (page 20). The file format must be supported by this TV. For details about format, see page 28.

USB Video format

Extension	Container	Video Codec	Audio Codec
.avi	AVI	Xvid	PCM / MPEG1 Layer1, 2 / MP3 / MPEG2 AAC (2ch) / MPEG4 AAC (2ch) / MPEG4 HE-AAC (2ch) / Dolby Digital (2ch) / Dolby Digital Plus (2ch) / WMA v8
		MPEG1	
		MPEG2 MP	
		H.264 BP/MP/HP	
		MPEG-4 SP/ASP	
.wmv .asf	ASF	WMV v9	MP3 / WMA v8
		Xvid	
		MPEG-4 SP/ASP	
.mp4 .mov .3gp	MP4	VC-1	MPEG1 Layer1, 2 / MP3 / MPEG2 AAC / MPEG4 AAC / MPEG4 HE-AAC
		H.264 BP/MP/HP	
		MPEG-4 SP/ASP	
.mkv	MKV	H.263	PCM / MPEG1 Layer1, 2 / MP3 / MPEG2 AAC (2ch) / MPEG4 AAC (2ch) / MPEG4 HE-AAC (2ch) / Dolby Digital (2ch) / Dolby Digital Plus (2ch) / WMA v8 / DTS / VORBIS
		H.264 BP/MP/HP	
		MPEG-4 SP/ASP	
		WMV v9	
		VC-1	
.mpg .mpeg .vob .vro	PS	VP8	MPEG1 Layer1, 2 / MP3 / Dolby Digital (2ch) / Dolby Digital Plus (2ch) / DTS
		MPEG1	
		MPEG2 MP	
.ts .m2ts	TS	MPEG2 MP	MPEG1 Layer1, 2 / MP3 / MPEG2 AAC / MPEG4 AAC / MPEG4 HE-AAC / Dolby Digital (2ch) / Dolby Digital Plus (2ch) / DTS
		VC-1	
		H.264 BP/MP/HP	

USB Music format

Extension	Audio Codec
.mp3	MP3
.wma	WMA v8

USB Photo format

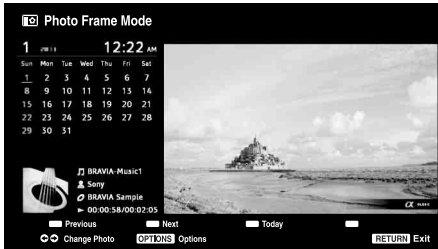
Extension	Image Codec
.jpg, .jpeg	JPEG

DCF2.0 or EXIF2.21 supported.

🔗 • Playback of the above file formats is not guaranteed.

Photo Frame

You can enjoy looking at a photo, listening to music or FM radio, or the clock and calendar, at the same time.




You can enter photo frame mode using any of the following methods:

- ① Press **HOME**, and then select "Photo Frame Mode".
- ② When you are playing back the photo/music files, press **OPTIONS** and select "Photo Frame Mode".
- ③ Select "Image Selection"/"Music Selection" in the "Photo Frame Settings" menu.
- ④ Press **PHOTO FRAME**.

You can switch the display mode of the frame from the Options menu, eg. image and clock, full screen image or full screen clock.

■ To select photo

You can select photos from USB memory or BIV Photo (Picasa/Photobucket/Shutterfly/Facebook photos), using any of the following methods:

- ① Press **HOME** and select "Settings", then "Set-up" > "Photo Frame Settings" > "Image Selection". Press \uparrow/\downarrow to select the USB/Picasa/sample folder in "Device Selection" menu and then press the \oplus to select the file from thumbnail view.
 - ② In photo frame mode, press **OPTIONS** > "Image Selection". Press \oplus to select the file from thumbnail view.
 - ③ Press **HOME**, and then select "Media", then select "Photo". When playing back a photo, press **OPTIONS** > "Photo Frame Mode" to launch "Photo Frame" with the selected photo.
-  • When you select photos from photo services, then turn photo frame mode off and on again, a sample photo will be shown.
- When "On Timer" is set, photos from photo services cannot be selected.

■ To select music

You can select music from USB memory, using any of the following methods:

- ① Press **HOME** and select "Settings", then "Set-up" > "Photo Frame Settings" > "Music Selection". Press \uparrow/\downarrow to select the USB/sample folder in "Device Selection" menu and then press the \oplus to select the file from thumbnail view.
- ② In photo frame mode, press **OPTIONS** > "Music Selection". Press \oplus to select the file from thumbnail view.
- ③ Press **HOME**, and then select "Media", then select "Music". When playing back music, press **OPTIONS** > "Photo Frame Mode" to launch "Photo Frame" with the selected music.

■ To select Display mode

You can change the photo frame display by selecting "Display Mode" (page 48).

• Image and Clock



• Full Screen Image



• Full Screen Clock



■ To select Clock Display mode

There are five calendar display modes. When the "Display Mode" setting is set to "Image and Clock", you can set to "Calendar", "Analogue Clock" or "Digital Clock". When the "Display Mode" setting is set to "Full Screen Clock", you can set to "Calendar", "Calendar and Clock" or "Clock".

For more details, see page 48:

- **Calendar**
- **Analogue Clock**
- **Digital Clock**
- **Calendar and Clock**
- **Clock**

■ Duration

To save power, in the Photo Frame Mode, the TV can continually playing back for up to 24 hours, after which it will power off automatically. After running photo frame mode for 24 hours, not use this mode for at least one hour, to avoid panel burn-in.

You can change the setting of the “Duration” in the “Photo Frame Settings”. For details, see page 48.

To avoid panel burn-in, the position of the photo, clock and calendar are switched automatically every hour.

Listening to the FM Radio

You are able to listen to the FM radio stations using your TV by connecting an antenna (page 6). FM Radio tuning range is from 87.5-108.0 MHz.

When you use the FM Radio function for the first time, press **HOME** and select "FM Radio", then perform "Auto Tuning" in the "FM Radio Set-up" menu (page 46).

To	Do this
Access to FM Radio mode	Press HOME and select "FM Radio".
Exit from FM Radio mode	Press RETURN to go back to previous view input.
Listen to preset stations	<ol style="list-style-type: none"> 1 Access to FM Radio mode. 2 Press HOME and select "Settings". Preset the desired FM radio stations and its labels in "FM Radio Set-up" from "Channel Set-up" menu (page 46). <ul style="list-style-type: none"> • You can also access to "FM Radio Presets" by selecting "FM Radio Presets" from the Options menu in FM Radio mode. 3 Exit from "Channel Set-up" menu by pressing HOME. The selected preset FM radio station number and label will appear on the screen. To select the desired preset FM radio station, press PROG +/-. <ul style="list-style-type: none"> • You can also use the 0-9 buttons on the remote to directly select the desired preset FM radio station.
Listen to non-preset stations	<ol style="list-style-type: none"> 1 Access to FM Radio mode. 2 Press Δ/∇ to manually search for the desired FM radio station. It will search and stop when found the next available station. <ul style="list-style-type: none"> • You can also tune FM frequency for the desired FM radio station by pressing \leftarrow/\rightarrow. The available radio frequency is only for temporary listening pleasure and cannot be stored in the memory. <ul style="list-style-type: none"> • If the message "Please set-up FM Radio." appears, display the "Channel Set-up" menu and select "FM Radio Set-up" to preset the desired FM radio stations (page 46).
Show photo frame while listening to FM Radio	<ol style="list-style-type: none"> 1 Press OPTIONS to select "Photo Frame Mode", then press \oplus. 2 Refer to "Photo Frame" (page 29) to select photo or "Display Mode". <ul style="list-style-type: none"> • BRAVIA image will be displayed if a USB device is not connected.
Reduce power consumption while in FM Radio mode	<ol style="list-style-type: none"> 1 Press OPTIONS to select "Power Saving". Select the desired options and press \oplus. <ul style="list-style-type: none"> • You can also access to "Power Saving" by selecting "Eco" from the setting menu (page 51). 2 Exit from "Picture Off" by pressing any key on the remote except \triangle +/- or \times.

- If the station has a noisy sound, you may be able to improve the sound quality by pressing \leftarrow/\rightarrow .
- When an FM stereo programme has static noise, press **AUDIO** until "Mono" appears. There will be no stereo effect, but the noise will be reduced.
- If CATV is connected, FM Radio may not be able to be received.

Using BRAVIA Sync with BRAVIA Sync Control

The BRAVIA Sync Control function enables the TV to communicate with the connected equipment that is compatible with the function, using HDMI CEC (Consumer Electronics Control). For example, by connecting Sony equipment that is compatible with BRAVIA Sync Control (with HDMI/MHL cables), you can control them together.

Be sure to connect the equipment correctly, and make the necessary settings.

BRAVIA Sync Control

- Automatically turns the connected equipment off when you switch the TV to standby mode using the remote.
- Automatically turns the TV on and switches the input to the connected equipment when the equipment starts to play (except in MHL mode).
- If you turn on a connected audio system while the TV is on, the sound output switches from the TV speaker to the audio system.
- Adjusts the volume (⏮ +/-) or mutes the sound (⏸) of a connected audio system.
- You can operate the connected Sony equipment that has the BRAVIA Sync logo by the TV remote. Possible operations with BRAVIA Sync buttons, see page 13.
 - Refer to the instruction manual of the equipment for available control.
- If “BRAVIA Sync Control” of the TV is set to “On”, “BRAVIA Sync Control” of the connected equipment is also automatically switched to “On”.

■ To make the BRAVIA Sync Control settings

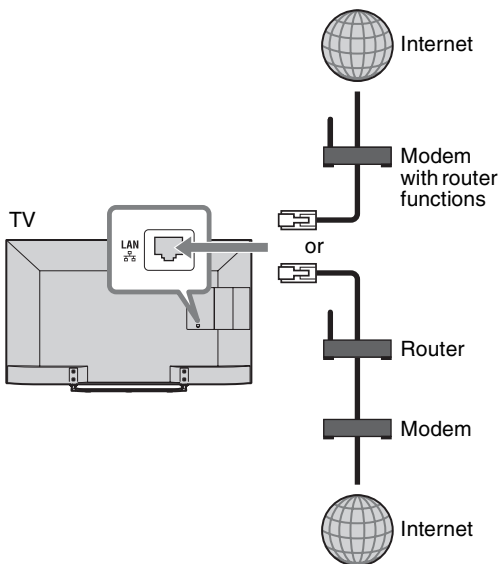
The BRAVIA Sync Control settings must be set on both the TV side and connected equipment side. See “BRAVIA Sync Settings” (page 50) for the TV side settings. For settings on the connected equipment, refer to its operating instructions.

Using Network Features

When you connect this TV to the Internet, you can enjoy multiple functions: enjoying Internet video, etc.

- You will need to contract with an Internet service provider to connect to the Internet.

Preparing a Wired Network

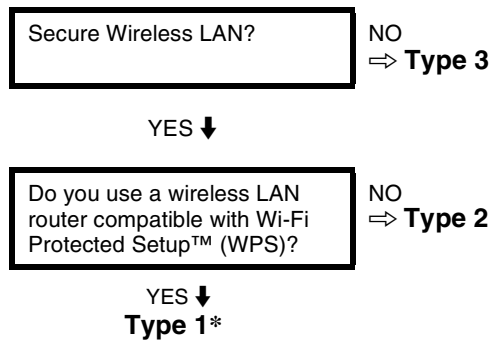


- For LAN connections, use a Category 7 cable (not supplied).

Setting up the Internet Connection

Using the network feature you can connect the TV to the Internet. The set-up procedure differs depending on the type of network and LAN router. Before setting up the Internet connection, be sure to set up a LAN router. Check your wireless LAN environment using the following chart.

Wireless LAN



Wired LAN → Type 4

* Type 1 is easier to set up if your router has an automatic setting button, e.g. Air Station One-Touch Secure System (AOSS). Most of the latest routers have this function. Check your router.

Type 1: Follow the configuration for **Secured network with Wi-Fi Protected Setup™ (WPS)**.

Type 2: Follow the configuration for **Secured network without Wi-Fi Protected Setup™ (WPS)**.



Type 3: Follow the configuration for **Unsecured network with any type of wireless LAN router**.

Type 4: Follow the configuration for **Wired network set-up**.

Type 1: Secured network with Wi-Fi Protected Setup™ (WPS)


The WPS standard makes security of a wireless network as straightforward as pressing the WPS button on the wireless LAN router. Before setting up a wireless LAN, check the location of the WPS button on the router and verify how to use it.

For security purpose, “WPS (PIN)” provides a PIN code for your router. PIN code is renewed every time you select “WPS (PIN)”.

- 1 Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up” > “Set up network connection”.
- 2 IP Address setting/Proxy server:
 - automatic setting:
“Set up network connection” > “Auto”
 - manual setting:
“Set up network connection” > “Custom” > “Wireless Set-up”
- 3 Select “WPS (Push Button)” for Push Button method or “WPS (PIN)” for PIN method.
 -  • Button name of the WPS may differ depending on the router (e.g. AOSS button).
- 4 Follow the instructions on the set-up screen.
 -  • To use the network with IPv6, select “Settings” > “Set-up” > “Network” > “IPv6/IPv4 Priority” > “IPv6”, then select “Auto” in “Set up network connection”.
 - When IPv6 is selected, “Set up network connection” must be set to “Auto”. HTTP Proxy cannot be set.

Type 2: Secured network without Wi-Fi Protected Setup™ (WPS)

To set up a wireless LAN, SSID (wireless network name) and security key (WEP or WPA key) will be required. If you do not know them, consult the instruction manual of your router.

- 1 Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up”.
- 2 IP Address setting/Proxy server:
 - automatic setting:
“Set up network connection” > “Auto”
 - manual setting:
“Set up network connection” > “Custom” > “Wireless Set-up”
- 3 Select “Scan”, then select a network from the list of scanned wireless networks.
- 4 Follow the instructions on the set-up screen.
 -  • If you use WPS for network set-up, the security settings of the wireless LAN router activate, and any equipment previously connected to the wireless LAN in a non-secure status will be disconnected from the network. In this case, activate the security settings of the disconnected equipment and then reconnect. Or, you can deactivate the security settings of the wireless LAN router, and then connect the equipment to a TV in a non-secure status.
 - To use the network with IPv6, select “Settings” > “Set-up” > “Network” > “IPv6/IPv4 Priority” > “IPv6”, then select “Auto” in “Set up network connection”.
 - When IPv6 is selected, “Set up network connection” must be set to “Auto”. HTTP Proxy cannot be set.

Type 3: Unsecured network with any type of wireless LAN router

To set up a wireless LAN, SSID (wireless network name) will be required.

- 1 Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up”.
- 2 IP Address setting/Proxy server:
 - automatic setting:
“Set up network connection” > “Auto”
 - manual setting:
“Set up network connection” > “Custom” > “Wireless Set-up”
- 3 Select “Scan”, then select a network from the list of scanned wireless networks.
- 4 Follow the instructions on the set-up screen.
 - Security key (WEP or WPA key) will not be required because you do not need to select any security method in this procedure.
 - To use the network with IPv6, select “Settings” > “Set-up” > “Network” > “IPv6/IPv4 Priority” > “IPv6”, then select “Auto” in “Set up network connection”.
 - When IPv6 is selected, “Set up network connection” must be set to “Auto”. HTTP Proxy cannot be set.

Type 4: Wired network set-up

Enter the respective alphanumeric values for your router if necessary. The items that need to be set (e.g. IP Address, Subnet Mask, DHCP) may differ depending on the Internet service provider or router. For details, refer to the instruction manuals provided by your Internet service provider, or those supplied with the router.

- 1 Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up”.
- 2 IP Address setting/Proxy server:
 - automatic setting:
“Set up network connection” > “Auto”
 - manual setting:
“Set up network connection” > “Custom” > “Wired Set-up”

- 3 Follow the instructions on the set-up screen.

“Network Set-up” can also be set from “Auto Start-up” menu.

- Allows automatic configuration of your wired/wireless network.
 - When connecting with LAN cable: Wired
- Set to “Auto”, sets the IP address automatically. For proxy server is not use.
 - To use the network with IPv6, select “Settings” > “Set-up” > “Network” > “IPv6/IPv4 Priority” > “IPv6”, then select “Auto” in “Set up network connection”.
 - When IPv6 is selected, “Set up network connection” must be set to “Auto”. HTTP Proxy cannot be set.

Viewing the network status

You can confirm your network status.

- 1 Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up”.
- 2 Select “View Network setting and status”.

If You Cannot Connect to the Internet

Use the diagnosis to check possible causes for network connection failures, and settings.


- 1** Press **HOME**, then select “Settings” > “Set-up” > “Network” > “Network Set-up”.
- 2** Select “View Network setting and status”.
- 3** Select “Check Connection”.
This may take several minutes. You cannot cancel the diagnosis after selecting “Check Connection”.

Browsing Websites

When the TV is connected to the Internet, you can browse websites.

Press **HOME**, then select “Internet Browser” to launch the browser.


You can bookmark your favorite sites for easy access.

-  • Web content may not be displayed correctly, or some functions may not work properly, if the TV does not support functions provided by certain Internet services. Also, the TV may not support functions developed in the future.

■ Note on Internet Browser

In no event shall Sony be liable for any damage caused or associated with the use of Internet browser, malfunction (including software) or communication failure.

■ When using a USB mouse/USB keyboard

- You can move the cursor with the USB mouse.
 - You can enter text with the keyboard.
-  • Depending on the USB equipment, you may not be able to control the browser.

Enjoying Sony Entertainment Network

Sony Entertainment Network serves as a gateway to Internet content, delivering a variety of on-demand entertainment straight to your TV. By making a broadband Internet connection, you can enjoy video content, including movies and cartoons.

- Be sure to connect your TV to the broadband Internet and complete "Network Set-up" (page 48).

■ To Use Sony Entertainment Network

- 1 Press **HOME**, then select "Sony Entertainment Network".
- 2 Press $\uparrow/\downarrow/\leftarrow/\rightarrow$ to select the desired video service in Service list and press \oplus .
- 3 Highlight the desired content, then press \oplus .

■ To exit Sony Entertainment Network

Press **HOME**.

■ To launch Internet Video

Internet Video can also be launched by pressing the **SEN** button on the remote control.

- If you experience difficulties with this feature, check that the Internet connection is set up properly.
- Information about the highlighted icon appears in the information banner.
- The interface to Internet content depends on the Internet content providers.
- Services block video content based on the "Parental Lock" setting of the TV. Some service providers do not support this function (page 47).
- To update Sony Entertainment Network content services, Press **HOME**, then select "Settings" > "Set-up" > "Network" > "Refresh Internet Content".

■ Seeking forward/backward in video content

Press the buttons on the remote controls that correspond with the control indications on the screen.



Control indications

■ To use YouTube Leanback

Follow the steps in "Enjoying Sony Entertainment Network" (page 37) to launch "Sony Entertainment Network", then select YouTube to launch the YouTube Leanback.

Enjoying Applications

With the Applications, you can display a variety of information on the screen. Applications provides easy access to interactive content when your TV is connected to the Internet.

- Be sure to connect your TV to the Internet, and complete "Network Set-up".
- If you experience difficulties with this feature, check that the Internet connection is set up properly.

- 1** Press **HOME**.
- 2** Press \uparrow/\downarrow to select "Applications", and press \oplus .
- 3** Select the applications to display on the screen.

■ To launch Applications

Applications can also be launched by pressing the **SEN** button on the remote control.

Using Screen mirroring

"Screen mirroring" is a function to display the screen of a mobile device on the TV by Miracast technology.

The TV can be connected directly with a Screen mirroring compatible device (e.g. smartphone, PC). You can enjoy the display screen of the device on your large TV screen. No wireless router (or access point) is required to use this feature.

- 1** Press the \rightarrow/\leftarrow button, then select "Screen mirroring" using \uparrow/\downarrow buttons.
- 2** Operate the Screen mirroring compatible device to connect with the TV.

When the device is connected with the TV, the screen displayed on the device will also be displayed on the TV.

For details, refer to the instruction manual of the device.

■ To list connected devices/deregister devices

When the standby screen for the Screen mirroring is displayed, press the **OPTIONS** button, then select "Show Device List/Delete".

To deregister a device, select the device in the list to delete, then press the button. Then, select "Yes" in the confirmation display.

To deregister all devices, press the **OPTIONS** button in the list, select "Delete All", then "Yes" in the confirmation display.

■ To display dialogue when attempting to connect a device with the TV

Activating this function can avoid an unintended device from being connected. When the standby screen for the Screen mirroring is displayed, press the **OPTIONS** button, then select "Registration Notification" > "On".

Note that once you decline registration request from a device, you will not be able to connect the device unless you delete it from the device list.


To connect the declined device, press the **OPTIONS** button, select "Show Device List / Delete", then delete the declined device. Then, make a new connection with the device.



- ✎ • Connecting devices must conform to the following:
 - Screen mirroring compatible devices: 2.4GHz connection (5GHz not supported).
 - Miracast compatible devices: 2.4GHz connection (5GHz not supported).

Settings adjustment

- The options you can adjust vary depending on the situation. Unavailable options are greyed out or not displayed.




Picture

Picture Mode	<p>Sets a picture mode. The options that can be selected differ depending on the “Scene Select” settings.</p> <p>“Vivid”: Enhances picture contrast and sharpness.</p> <p>“Standard”: For standard pictures. Recommended for home entertainment.</p> <p>“Custom”: Allows you to store your preferred settings.</p> <p>“Cinema”: For film-based content. Suitable in a theatre-like environment.</p> <p>“Graphics”: Optimises picture quality for viewing graphics.</p> <p>Scene Select mode</p> <p>Press OPTIONS and select “Scene Select” menu. When you select the desired scene option, the optimum sound and picture quality for selected scene are automatically set. The options you can select may vary. Unavailable options are greyed out.</p> <p>“Auto”: Delivers optimum picture and sound quality which is automatically set according to input source. There may not be any effect depending on the connected equipments.</p> <p>“General”: Current user settings.</p> <p>“Music”: Delivers dynamic and clear sound effects like at a concert.</p> <p>“Cinema”: Delivers theatre-like picture and dynamic sound.</p> <p>“Game”: Delivers the best picture and sound quality for fullest game playing enjoyment.</p> <p>“Graphics”: Delivers clearer detailed pictures to reduce fatigue for prolonged viewing.</p> <p>“Sports”: Delivers realistic picture with surround sound like in a stadium.</p>
Reset	Resets all the “Picture” settings except “Picture Mode”, “Intelligent Picture Plus Se-up” and “3D Settings” to the factory settings.
Backlight	Adjusts the brightness of the backlight.
Picture	Increases or decreases picture contrast.
Brightness	Brightens or darkens the picture.
Colour	Increases or decreases colour intensity.
Hue	<p>Increases or decreases the green tones and red tones.</p> <p> • When viewing analogue programme or video input, “Hue” is only available for NTSC colour system.</p>
Sharpness	Sharpens or softens the picture.
Colour Temperature	<p>Adjusts the whiteness of the picture.</p> <p>“Cool”: Gives the white colours a blue tint.</p> <p>“Neutral”: Gives the white colours a neutral tint.</p> <p>“Warm”: Gives the white colours a red tint.</p>
Noise Reduction	Reduces the picture noise (snowy picture) in a weak broadcast signal.
MPEG Noise Reduction	Reduces the picture noise in MPEG-compressed video.
Motionflow	<p>Provides smoother picture movement and reduces picture blur.</p> <p>“High”: Provides smoother picture movement such as for film-based contents.</p> <p>“Standard”: Provides smooth picture movement. Use this setting for standard use.</p> <p>“Off”: Use this setting when the “High” and “Standard” settings result in noise.</p>

Cinema Drive	Provides improved picture movement and reduces picture blur and graininess for film-based content. Select “Auto 1” to represent original film-based content as is, or “Auto 2” for standard use. (Setting items vary depending on the TV model.)
Advanced Settings	<p>Allows you to set “Picture” settings in more detail. These settings are not available when “Picture Mode” is set to “Vivid”.</p> <p>“Reset”: Resets all the advanced settings to the factory settings.</p> <p>“Adv. Contrast Enhancer”: Automatically adjusts “Backlight” and “Picture” to the most suitable settings judging from the brightness of the screen. This setting is especially effective for dark images scenes, and will increase the contrast distinction of the darker picture scenes.</p> <p>“Black Corrector”: Enhances black areas of the picture for stronger contrast.</p> <p>“Gamma”: Adjusts the balance between bright and dark areas of the picture.</p> <p>“Clear White”: Emphasises white colours.</p> <p>“Live Colour”: Makes colours more vivid.</p> <p>“LED Motion Mode”: Reduces blur in movies by controlling the LED backlight source, but the brightness decreases.</p>
Intelligent Picture Plus Set-up	<p>“Intelligent Picture Plus”</p> <p>Allows you to improve the picture when viewing TV programme or video input. The options that can be selected differ depending on the “Scene Select” settings.</p> <p>“Signal Level Indicator”</p> <p>Turns on/off the “Signal Level Indicator” feature. When “On” is selected, the signal level bar will be displayed when you select a analogue channel or video input.</p> <p>“Picture Optimisation”</p> <p>Allows you to enhance the picture to your preferred settings.</p> <p>“Crisp”: For a sharper image with more visible noise.</p> <p>“Smooth”: For a softer image with less visible noise.</p>
3D Settings (except KDL-60R520A)	<p>“Auto 3D”</p> <p>Select “On” to automatically switch to 3D display mode when a 3D signal is detected.</p> <p> • The display mode does not change to 3D mode automatically, depending on the signal source or format. In this case, select 3D display mode manually.</p> <p>“3D Signal Notification”</p> <p>Select “On” to notify when a 3D signal is detected.</p>
 Sound	
Sound Mode	<p>Sets a sound mode.</p> <p>“Standard”: For standard sound.</p> <p>“Music”: Delivers surround effects that make you feel like you are surrounded by sound as in a music hall.</p> <p>“Cinema”: Delivers surround effects just like the high-grade audio systems found in movie theatres.</p> <p>“Game”: Delivers surround effects that enhance game sound.</p> <p>“Sports”: Delivers surround effects that make you feel like you are watching a live sports contest.</p>
Reset	Resets all the “Sound” settings except “Sound Mode”, “Dual Sound”, “Speakers”, “Audio Out” and “Advanced Settings” to the factory settings.

Equaliser	<p>Adjusts sound frequency settings.</p> <p>Press ⇐/⇒ to select the desired sound frequency, then press ⇆/⇅ to adjust the setting and press ⊕. The adjusted settings will be received when you select “Sound Mode” options.</p> <p>Selecting “Reset” will set the “Equaliser” to original settings.</p> <ul style="list-style-type: none"> • Adjusting higher frequency will affect higher pitched sound and adjusting lower frequency will affect lower pitched sound.
Sound Booster	<p>Produces a fuller sound for more impact, by emphasising the bass/treble sounds.</p>
Clear Voice	<p>Makes voice sound clearer.</p>
Simulated Stereo	<p>Adds a surround-like effect to mono programmes.</p>
Intelligent Volume	<p>Minimizes the difference in volume level between all programmes and adverts (e.g. adverts tend to be louder than programmes).</p>
Balance	<p>Emphasises left or right speaker balance.</p>
Volume Offset	<p>Adjusts the volume level of the current input relative to other inputs.</p>
Dual Sound	<p>Sets the sound from the speaker for a stereo or bilingual broadcast.</p> <p>“Stereo”/“Mono”: For stereo broadcasts.</p> <p>“Main”/“Sub”/“Mono”: For bilingual broadcasts, select “Main” for sound channel 1, “Sub” for sound channel 2, or “Mono” for mono channel, if available.</p> <ul style="list-style-type: none"> • If the signal is very weak, the sound becomes monaural automatically. • If the stereo sound is noisy when receiving a NICAM programme, select “Mono”. The sound becomes monaural, but the noise is reduced. • The “Dual Sound” setting is memorized for each programme position. • You cannot listen to stereo broadcast sound when “Mono” is selected. • If you select other equipment connected to the TV, set “Dual Sound” to “Stereo”, “Main” or “Sub”. However, when the external equipment connected to the HDMI jack (except HDMI 1) is selected, this is fixed to “Stereo”. • If you access to FM Radio mode, set “Dual Sound” to “Stereo” or “Mono”.
Speakers	<p>“TV Speakers”: Turns on and outputs the TV’s sound from the TV speakers.</p> <p>“Audio System”: Turns off the TV speakers and outputs the TV’s sound from external audio equipment connected to the audio output jacks on the TV.</p> <p>You can also turn on the connected equipment that is compatible with BRAVIA Sync Control, after making the appropriate settings of BRAVIA Sync Control.</p>
Audio Out	<p>“Variable”: When using an external audio system, volume output from audio out can be controlled using the TV’s remote.</p> <p>“Fixed”: The audio output of the TV is fixed. Use your audio receiver’s volume control to adjust the volume (and other audio settings) through your audio system.</p>
Advanced Settings	<p>“Dynamic Range”</p> <p>Compensates for differences in the audio level between different channels (only for Dolby Digital audio).</p> <ul style="list-style-type: none"> • The effect may not function or may vary depending on the programme regardless of the “Dynamic Range” setting. <p>“Digital Audio Out”</p> <p>Sets the audio signal that is output from the HDMI IN 1 (ARC) of the TV. Set to “Auto”, when connecting equipment compatible with Dolby Digital or DTS. Set to “PCM”, when connecting equipment not compatible with Dolby Digital.</p> <p>“Downmix Mode”</p> <p>Set the downmix method of multi-channel to two-channel sound. Select “Surround” to get best surround performance.</p> <p>Select “Stereo” to get a stereo output.</p>

Screen

Wide Mode	For details about wide mode, see page 14.
Auto Wide	Automatically changes the wide mode according to the input signal from an external equipment. To keep your setting, select “Off”.  • “Auto Wide” is only available when watching digital programme or programmes from video input, HDMI/MHL and component input in format 480i/p or 576i/p.  • Even if “Auto Wide” is set to “On” or “Off”, you can always modify the format of the screen by pressing  repeatedly.
4:3 Default	Selects the default screen mode for use with 4:3 broadcasts. “Wide Zoom” : Enlarges the 4:3 picture to fill the 16:9 screen, keeping the original image as much as possible. “Normal” : Displays conventional 4:3 broadcasts in the correct proportions. “Off” : Keeps the current “Wide Mode” setting when the channel or input is changed.
Auto Display Area	“On” : Automatically adjusts the display area based upon the content. “Off” : Turns off the “Auto Display Area”. Choose one from the “Display Area” options.
Display Area	Adjusts the picture display area. “Full Pixel” : Displays the picture for 1080/50i, 1080/60i, 1080/50p and 1080/60p sources (HDMI/MHL or component input only) or 1080/24p sources (HDMI/MHL input only) in the original size. (Available depending on the TV model.) “+1” : Displays pictures in their original size. (Not available for composite video signals and analogue programmes.) “Normal” : Displays pictures in their recommended size. “-1” : Enlarges the picture so that the edges are outside the visible display area.
Horizontal Shift	Adjusts the horizontal position of the picture when “Wide Mode” is set to “Wide Zoom” or “Zoom”.
Vertical Shift	Adjusts the vertical position of the picture when “Wide Mode” is set to “Wide Zoom” or “Zoom”.
PC Settings	“Wide Mode” Selects a screen mode for displaying input from your PC, see page 14. “Reset” Resets all the “PC Settings” except “Wide Mode” to the factory settings. “Horizontal Shift” Adjusts the horizontal position of the picture. “Vertical Shift” Adjusts the vertical position of the picture.

PC input signal reference chart for HDMI IN 1, 2/MHL, 3, 4

Signals	Horizontal (Pixel)	Vertical (Line)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Standard
VGA	640	480	31.5	60	VGA
SVGA	800	600	37.9	60	VESA Guidelines
XGA	1024	768	48.4	60	VESA Guidelines
WXGA	1280	768	47.4	60	VESA
WXGA	1280	768	47.8	60	VESA
WXGA	1360	768	47.7	60	VESA

Signals	Horizontal (Pixel)	Vertical (Line)	Horizontal frequency (kHz)	Vertical frequency (Hz)	Standard
SXGA	1280	1024	64	60	VESA
HDTV*	1920	1080	67.5	60	EIA

* The 1080p timing when applied to the HDMI/MHL input will be treated as a video timing and not PC timing.

Channel Set-up

Analogue Set-up

“Analogue Auto Tuning”: Tunes in all the available analogue channels.

Usually you do not need to do this operation because the channels are already tuned when the TV was first installed. However, this option allows you to repeat the process (e.g., to retune the TV after moving house, or to search for new channels that have been launched by broadcasters).

“Manual Programme Preset”: Changes the available analogue channel setting.

Press \oplus to select the programme you want to modify.

“Programme”/“TV System”/“Frequency”

Presets programme channels manually.

1 Select “Programme”, then press \oplus .

2 Press \uparrow/\downarrow to select the programme number you want to manually tune (if tuning a VCR, select channel 0), then press **RETURN**.

3 Press \uparrow/\downarrow to select “TV System”, then press \oplus .

4 Press \uparrow/\downarrow to select “B/G”, “I”, “D/K” or “M”, then press \oplus .

5 Press \uparrow/\downarrow to go to the “Frequency” then press \oplus .

6 Tune the channels as follows:

Press \leftarrow/\rightarrow to search for the next available channel. When a channel has been found, the search will stop. To continue searching, press \leftarrow/\rightarrow .

Repeat the procedure above to preset other channels manually.

“Label”

Assigns a name of your choice, up to seven letters or numbers, to the selected channel.

To input characters:

1 Press \uparrow/\downarrow to select the desired letter or number (“_” for a blank space), then press \rightarrow .

If you input a wrong character

Press \leftarrow/\rightarrow to select the wrong character. Then, press \uparrow/\downarrow to select the correct character.

2 Repeat the procedure in step 1 until the name is completed, then press \oplus .

“AFT”

Allows you to fine-tune the selected channel manually. When “On” is selected, the fine tuning is performed automatically.

“Audio Filter”

Improves the sound of individual channels when distortion occurs in mono broadcasts in TV system “B/G”, “I” and “D/K”.

∇ • You cannot receive stereo or dual sound when “High” is selected.

“Skip”

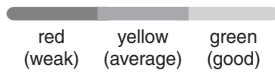
Skips unused channels when you press **PROG +/-** to select channels. (You can still select a skipped channel using the number buttons.)

“Colour System”

Selects the colour system (“Auto”, “PAL”, “SECAM”, “NTSC3.58”, “NTSC4.43” or “PAL60”) according to the channel.

“Signal Level”

Displays the signal level for programme currently being watched.



“Programme Sorting”

Changes the order in which the channels are stored on the TV.

- 1 Press \uparrow/\downarrow to select the channel you want to move to a new position, then press \rightleftarrows .
- 2 Press \uparrow/\downarrow to select the new position for your channel, then press \oplus .

Digital Set-up

“Digital Tuning”

- **“Digital Auto Tuning”:**
Tunes in the available digital channels.
This option allows you to retune the TV after moving house, or to search for new channels that have been launched by broadcasters. Press \oplus .
- **“Auto Tuning Range”:**
 - “Normal”: Searches for available channels within your region/country.
 - “Full”: Searches for available channels regardless of region/country.


\rightarrow • You can run “Digital Auto Tuning” after moving to a new residence, changing service providers, or to search for newly launched channels.
- **“Programme List Edit”:**
Removes any unwanted digital channels stored on the TV, and changes the order of the digital channels stored on the TV.
 - 1 Press \uparrow/\downarrow to select the channel you want to remove or move to a new position.
Press the number buttons to enter the known three-digit programme number of the broadcast you want.
 - 2 Remove or change the order of the digital channels as follows:
 - To remove the digital channel**
Press \oplus . After a confirmation message appears, press \leftarrow to select “OK”, then press \oplus .
 - To change the order of the digital channels**
Press \rightleftarrows , then press \uparrow/\downarrow to select the new position for the channel and press \leftarrow .
 - 3 Press **RETURN**.
- **“Digital Manual Tuning”:**
Tunes the digital channels manually.
 - 1 Select “Scan Type”, then select “Channel” or “Frequency”.
 - 2 Set the other items accordingly.
 - 3 Select “Scan Up” or “Scan Down”, then start the manual tuning.
 - 4 When available channels are found, select “Yes” or “No”.
 - 5 Select “Yes” to store the programme. The message “Would you like to continue scanning?” will appear on the screen. If you select “Yes”, the next channel/frequency will be scanned. If you select “No”, the previous screen is displayed.

\rightarrow • Digital Manual Tuning for Cable is only possible when there are digital cable services available to user, which were found using DVB-C Full Scan.

“Subtitle Set-up”

- **“Subtitle Setting”:** When “For Hard Of Hearing” is selected, some visual aids may also be displayed with the subtitles (if TV channels broadcast such information).
- **“Primary Preferred Language”:** Selects preferred language which subtitles are displayed in.
- **“Secondary Preferred Language”:** Selects secondary preferred language which subtitles are displayed in.

“Audio Set-up”

- **“Audio Type”**: Switches to broadcast for the hearing impaired when “For Hard Of Hearing” is selected.
- **“Primary Preferred Language”**: Selects the preferred language used for a programme. Some digital channels may broadcast several audio languages for a programme.
- **“Secondary Preferred Language”**: Selects the secondary preferred language used for a programme. Some digital channels may broadcast several audio languages for a programme.
- **“Audio Description”**: Provides audio description (narration) of visual information if TV channels broadcast such information.
- **“Mixing Level”**: Adjusts the TV main audio and Audio Description output levels.
-  • This option is only available when “Audio Description” is set to “On”.
- **“MPEG Audio Level”**: Adjusts the MPEG audio sound level.

“Technical Set-up”

- **“Auto Service Update”**: Enables the TV to detect and store new digital services as they become available.
- **“System Information”**: Displays the current software version and the signal level.
- **“Service Replacement”**: Select “On” to automatically change the channel when broadcaster changes transmission of the viewing programme to a different channel.

FM Radio Set-up

Preset up to 30 FM radio stations that can be received in your area.


“Auto Tuning”


Allows you to automatically tune and store all the available channels.

- 1 Select “Auto Tuning”, then press ⊕.
- 2 Select “OK” to automatically tune in all the available channels.

“FM Radio Presets”

Manually tune and store each available channel one at a time.

- 1 Press  to select the desired FM radio station position, then press ⊕.
- 2 Press  to search the FM radio stations. Searching stops automatically when a station is tuned in. If the station has a noisy sound, you may be able to improve the sound quality by pressing . Press ⊕ to store the FM radio station.

You may edit the FM radio station label. Press  to select alphanumeric characters for the label, then press ⊕. Repeat steps 1 to 2 to preset other FM radio stations.

-  • To enable this feature, access to FM Radio mode by using Home (Menu) (page 23), then preset your desired FM radio stations according to the steps mentioned above.

Parental Lock

PIN Code	Allows you to set up TV to block channel or external input. Use 0-9 on the remote to enter a four-digit PIN code.
Change PIN Code	Selects to change your PIN code.
Parental Rating	Australian model and New Zealand model: Sets a parental guidance level. Programmes that exceed the set level can only be watched after entering the correct PIN code. Except Australian model and New Zealand model: Select the age of the youngest viewer (3 - 18). Select "None" for no registers.



Australian model

Level	Function
Block All	All programmes need a password to view.
G and above	To lock "General" and above programmes.
PG and above	To lock "Parental Guidance" and above programmes.
M and above	To lock "Mature" and above programmes.
MA and above	To lock "Mature Adult" and above programmes.
AV and above	To lock "Adult/Violence" and above programmes.
R and above	To lock "Restricted" and above programmes.
No block	No programmes need a password to view.

New Zealand model

Level	Function
Block All	All programmes need a password to view.
G and above	To lock "General" and above programmes.
PGR and above	To lock "Parental Guidance Recommended" and above programmes.
AO and above	To lock "Adults Only" and above programmes.
No block	No programmes need a password to view.

External Input Lock	Locks an external input from being watched. To view a blocked external input, select "Unblocked".
----------------------------	--

-  • Entering the correct PIN code for blocked channel or external input will temporarily deactivate the "Parental Lock" feature. To reactivate the "Parental Lock" settings, turn off and on the TV.
-  • If you lost your PIN code, see page 57.

Network**“Network Set-up”**

Sets the network status settings.

“IPv6/IPv4 Priority”

Switch between IPv6 and IPv4.

- To use the network with IPv6, select “IPv6”, then select “Auto” in “Set up network connection”.
- When IPv6 is selected, “Set up network connection” must be set to “Auto”. HTTP Proxy cannot be set.
- When IPv6 is selected, some network content, such as an Internet browser, applications or Internet content cannot be watched.

“Built-in Wireless LAN”

Turns the built-in wireless LAN “On” or “Off”.

Set to “Off”, if you do not use the built-in wireless LAN.

When you switch from “Off” to “On”, make the settings in “Network Set-up”.

“Device Name”

Select to change the name of the TV connected to the network.

“Refresh Internet Content”

Reconnects to the Internet to receive available Internet content services.

Photo Frame Settings**“Display Mode”**

Allows you to select the display mode. Select from “Image and Clock”, “Full Screen Image” and “Full Screen Clock”. See page 29.

“Clock Display”

Allows you to select the clock display. Select from “Calendar”, “Analogue Clock”, “Digital Clock”, “Calendar and Clock” and “Clock”.

“Calendar and Clock” and “Clock” can be displayed only when “Display Mode” is “Full Screen Clock”.

“Audio Application”

FM Radio: You can enjoy the FM radio with this function.

Music: You can enjoy music with this function.

Off: Turns off the music.

“Image Selection”

Select image.

“Music Selection”

Select music.

“Slideshow Setting”

Slideshow: You can play a slideshow of photos.

Single View: Displays one photo only.

“Music Playback Setting”

All Tracks: Listen to all music tracks.

Single Track: Set to listen to a single music track.

“Duration”








Selects the time period (“1 h”, “2 h”, “4 h” or “24 h”) after which the TV automatically switches to standby mode.

“First day of the week”

Set “Sunday” or “Monday” as the first day of the week on the calendar.

USB Auto Start

Automatically enters the thumbnail view of the last played Photo/Music/Video when the TV is turned on and a USB device is connected to the USB port then turned on.

Clock/Timers	<p>“Sleep Timer” Set the time in minutes (“Off”, “15”, “30”, “45”, “60”, “90”, or “120”) that you would like the TV to remain on before shutting off automatically.</p> <p>“On Timer” Turns on the TV from standby mode at a time you set, and tuned to a channel or input of your preference or photo frame mode. Before setting this function, make sure you set the correct current Time.</p> <p>“Clock Set” Australian model and New Zealand model: The current time is set automatically if the TV receives the time from a digital broadcast signal. If the current time fails to be received from a digital broadcast signal, you cannot set the current time manually. Select “Date” to set the date, then select “Time” to set the time. Except Australian and New Zealand model: When this is set to “Auto”, the current time is set automatically if the TV receives the time from a digital broadcast signal. If the current time fails to be received from a digital broadcast signal, select to “Manual”, then select “Date” to set the date, then select “Time” to set the time. You can set to “Time Offset” only when “Clock Set” is set to “Auto”.  • If the time information can be obtained by broadcast signal, you cannot change the time manually.</p>
Auto Start-up	Starts the initial set-up procedure (page 8). This option allows you to retune the TV after moving house, or to search for new channels that have been launched by broadcasters.
Language	Selects the language in which the menus are displayed.
Start-up Logo	Select “On” to display the logo when the TV is turned on. Select “Off” to disable it.
AV Set-up	<p>“Video Labels” Assigns name to external equipment. Select “Auto” to display names only when the equipment is connected, or “Always” to display regardless of connection status.</p> <p>“Video/Component Input” Select “Auto” to have the TV detect and switch between the component video jack  or the video jack  when component video jack  or video jack  is connected.  • You cannot use the component video jack  and the video jack  at the same time.</p> <p>“Headphone/Audio Out” Sets the sound output to headphones or external audio system connected to the TV. Disconnect headphones from the TV when you select “Audio Out”.</p>

BRAVIA Sync Settings Allows the TV to communicate with equipment that is compatible with the BRAVIA Sync Control function, and connected to the HDMI/MHL jacks of the TV. Note that communication settings must also be made on the connected equipment.

“BRAVIA Sync Control”

Sets whether or not to link the operations of the TV and the connected equipment that is compatible with BRAVIA Sync Control. When set to “On”, the following functions are available.

If the specific Sony equipment that is compatible with BRAVIA Sync Control is connected, this setting is applied to the connected equipment automatically when the “BRAVIA Sync Control” is set to “On” using the TV.

“Auto Devices Off”

When this is set to “On”, the connected equipment that is compatible with BRAVIA Sync Control turns off when you turn off the TV by remote.

“Auto TV On”

When this is set to “On”, the TV turns on when you turn on the connected equipment that is compatible with BRAVIA Sync Control (except in MHL mode).

“Auto Input Change (MHL)”

When this is set to “On”, an MHL device is switched to MHL input automatically. If the TV is in standby mode, it will not switch automatically. Select “Off” to disable it.

“BRAVIA Sync Device List”

Displays a list of connected equipment that is compatible with BRAVIA Sync Control.

Selects “Enable” to update the “BRAVIA Sync Device List”.

“Device Control Keys”

Select button functions of the TV’s remote control to operate the connected equipment.


“None”: Deactivates the control by the TV’s remote.

“Normal”: For basic operations, such as navigation buttons (up, down, left or right, etc).

“Tuning Keys”: For basic operations and operation of channel-related buttons, such as **PROG +/-** or **(0-9)**, etc. Useful when you control a tuner or set-top box, etc; via the remote control.

“Menu Keys”: For basic operations and operation of the **HOME/OPTIONS** buttons. Useful when you select menus of a Blu-ray Disc™/DVD player, etc; via the remote control.

“Tuning and Menu Keys”: For basic operations and operation of channel-related buttons and **HOME/OPTIONS** button.

-  • You cannot use “BRAVIA Sync Control” if the TV operations are linked to the operations of an audio system that is compatible with BRAVIA Sync Control.
- Some equipment with “BRAVIA Sync Control” does not support the “Device Control” feature.


Software Update Updates the TV system using USB memory or through Network. Select “USB” or “Network” to update.

Automatic Software Download Select “On” to download the software automatically. Select “Off” to disable it.


Product Information Displays your TV’s product information.

Initialize Personal Information You can erase your personal information stored in the TV.

Factory Settings Resets all settings to factory settings. After completing this process, the initial set-up screen is displayed.

-  • Be sure not to turn the TV off during this period (it takes about 30 seconds) or press any buttons.
-

Eco

Reset	Resets the current Eco settings to the default values.
Power Saving	Reduces power consumption of the TV by adjusting the backlight. When you select "Picture Off", the picture is switched off, and the  indicator on the TV front panel lights up in green. The sound remains unchanged.
Idle TV Standby	Turns the TV off after it has been kept idle for the preset length of time.

Installing the Accessories (Wall-Mount Bracket)

■ To Customers:

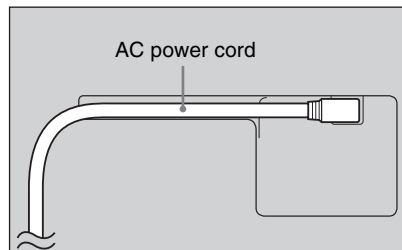
For product protection and safety reasons, Sony strongly recommends that installing of your TV be performed by Sony dealers or licensed contractors. Do not attempt to install it yourself.

■ To Sony Dealers and Contractors:

Provide full attention to safety during the installation, periodic maintenance and examination of this product.

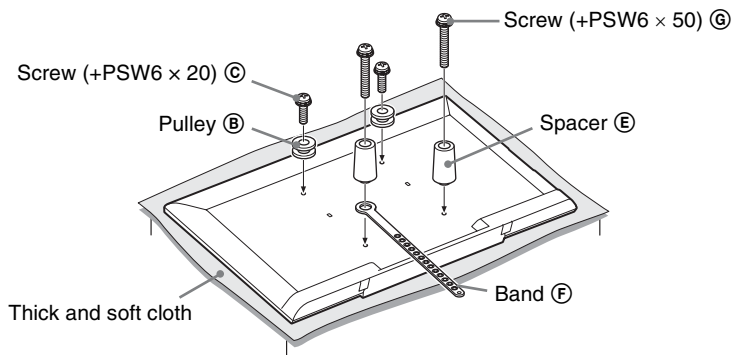
Your TV can be installed using the Wall-Mount Bracket SU-WL400 or SU-WL50B (sold separately).

- Refer to the Instructions supplied with the Wall-Mount Bracket to properly carry out the installation.
- For KDL-70R550A/60R550A/60R520A only
When you install the TV on the wall, make sure you align the AC power cord in the groove, and do not pinch the AC power cord between the TV and the Wall-Mount Bracket.



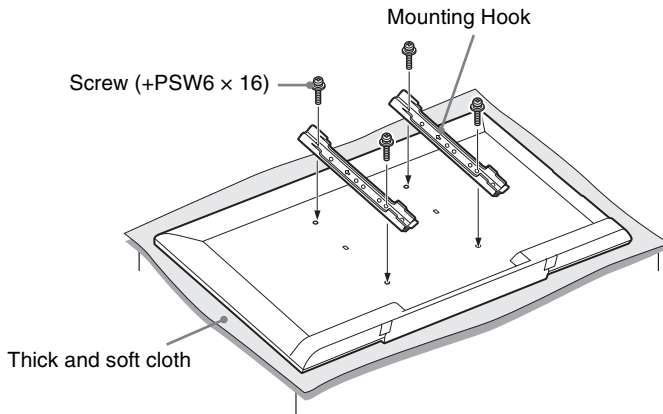
- Place the TV with its screen facing down on a level and stable surface covered with a thick and soft cloth, when securing the Mounting Hook.

SU-WL400 (KDL-50R550A only)



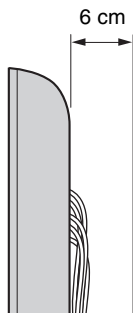
- With the screen of the TV facing down, attach the SU-WL400 accessories. For more details of (B), (C), (E), (F) and (G), refer to Installation Guide provided with Wall-Mount Bracket.
- Attach the Pulleys (B) and Screws (C) to the upper rear of the TV.
- Attach the Band (F) and Spacers (E) with Screws (C) to the rear of the TV.
- If using an electric screw driver, set the torque at approximately 1.5 N·m {15 kgf·cm}.
- Be sure to store the unused parts in a safe place for future use. Retain this manual for future reference.

SU-WL50B
(KDL-70R550A/60R550A/60R520A only)



Note when installing

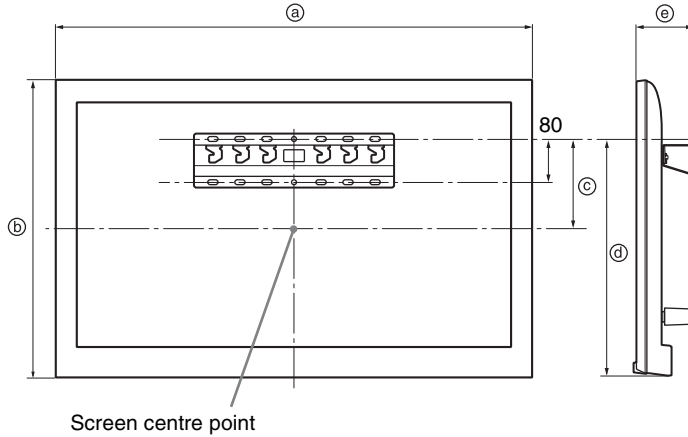
When using the SU-WL400 or SU-WL50B Wall-Mount Bracket, the space between the wall and the TV will be 6 cm. Use this space to route cables to the TV.



Sufficient expertise is required for installing this product, especially to determine the strength of the wall for withstanding the TV's weight. Be sure to entrust the attachment of this product to the wall to Sony dealers or licensed contractors and pay adequate attention to safety during the installation. Sony is not liable for any damage or injury caused by mishandling or improper installation.

TV installation dimensions table

SU-WL400

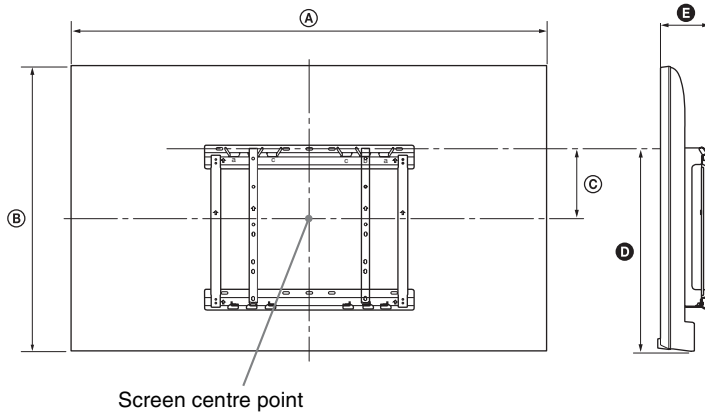


Unit: mm

Model name	Display dimensions		Screen centre dimension	Length for mounting	
	a	b	c	d	e
KDL-50R550A	1,131	671	147	492	115

Figures in the above table may differ slightly depending on the installation.

SU-WL50B



Unit: mm

Model Name	Display dimensions		Screen centre dimension	Length for each mounting angle	
	A	B		Angle (0°)	
	D	E			
KDL-70R550A	1,587	931	2	472	116
KDL-60R550A KDL-60R520A	1,375	810	55	468	106

Figures in the above table may differ slightly depending on the installation.

WARNING

The wall that the TV will be installed on should be capable of supporting a weight of at least four times that of the TV. Refer to "Specifications" for its weight.

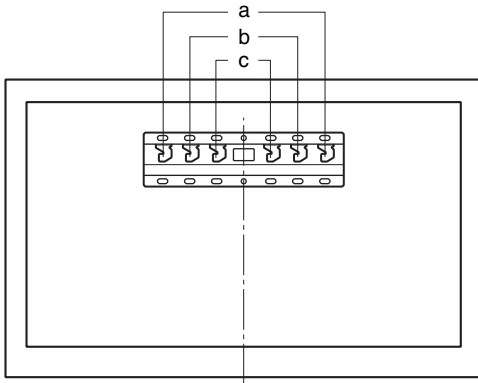
Screw and Hook locations diagram/table

SU-WL400

Model Name	Hook location
KDL-50R550A	a

Hook location

When installing the TV onto the Base.

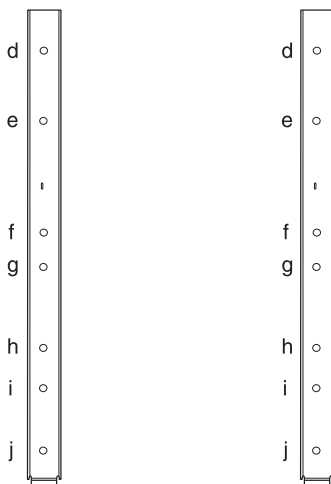


SU-WL50B

Model Name	Screw location	Hook location
KDL-70R550A	d, l	a
KDL-60R550A		
KDL-60R520A		

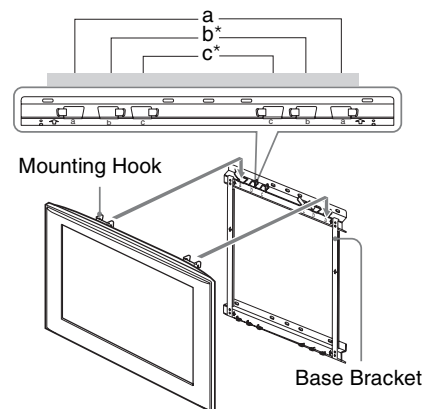
Screw location

When installing the Mounting Hook on the TV.



Hook location

When installing the TV onto the Base Bracket.



* Hook location "b" and "c" cannot be used for the models.

Troubleshooting

Check whether the I/⏻ indicator is flashing in red.

When it is flashing

The self-diagnosis function is activated.

- 1 Count how many times the I/⏻ indicator flashes between each three second break. For example, the indicator flashes three times, then there is a three second break, followed by another three flashes, etc.
- 2 Press I/⏻ on the TV to turn it off, disconnect the AC power cord, and inform your dealer or Sony service centre of how the indicator flashes (number of flashes).

When it is not flashing

- 1 Check the items listed below.
- 2 If the problem still persists, have your TV serviced by qualified service personnel.

Picture

No picture (screen is dark) and no sound

- Check the antenna/cable connection.
- Connect the TV to the mains socket, and press I/⏻ on the TV.
- If the I/⏻ indicator lights up in red, press I/⏻.

No picture or no menu information from equipment connected to the video input jack appears on the screen

- Press →/← to display the connected equipment list, then select the desired input.
- Check the connection between the optional equipment and the TV.

Double images or ghosting

- Check the antenna/cable connection, location or direction.

Only snow and noise appear on the screen

- Check if the antenna is broken or bent.
- Check if the antenna has reached the end of its serviceable life (three to five years in normal use, one to two years at the seaside).

Distorted picture (dotted lines or stripes)

- Keep the TV away from electrical noise sources such as cars, motorcycles, hair-dryers or optional equipment.
- When installing optional equipment, leave some space between the optional equipment and the TV.
- Check the antenna/cable connection.
- Keep the antenna cable away from other connecting cables.

Some tiny black points and/or bright points appear on the screen

- The picture of a display unit is composed of pixels. Tiny black points and/or bright points (pixels) on the screen do not indicate a malfunction.

Picture contours are distorted

- Change the current setting of “Cinema Drive” to other settings (page 41).

No colour on programmes

- Select “Reset” (page 40).

No colour or irregular colour when viewing a signal from the Y, Pb/Cb, Pr/Cr jacks of →/←

- Check the connection of the Y, Pb/Cb, Pr/Cr jacks of →/← and check if each jack are firmly seated in their respective jacks.

No picture from the connected equipment appears on the screen

- Turn the connected equipment on.
- Check the cable connection.
- Press →/← to display the connected equipment list, then select the desired input.
- Correctly insert the memory card or other storage device in the digital still camera.
- Use a digital still camera memory card or other storage device that has been formatted according to the instruction manual supplied with the digital still camera.
- Operations are not guaranteed for all USB devices. Also, operations differ depending on the features of the USB device and the video being played.

Cannot select the connected equipment on the menu or cannot switch the input

- Check the cable connection.

Sound

No sound, but good picture

- Press ▲/▼ or ⏸.
- Check if the “Speakers” is set to “TV Speakers” (page 42).
- Check if the headphone plug is connected to the TV.

No sound or noisy sound

- Check if the TV system setting is appropriate (page 44).

Channels

Some channels are blank

- The channel is for scrambled/subscription service only. Subscribe to a pay TV service.
- Channel is used only for data (no picture or sound).
- Contact the broadcaster for transmission details.

General

The TV turns off automatically (the TV enters standby mode)

- Check if the "Sleep Timer" is activated (page 49).
- Check if the "Idle TV Standby" is activated (page 51).

Some input sources cannot be selected

- Select "Video Labels" and select "Always" of the input source (page 49).

The remote does not function

- Replace the batteries.

HDMI/MHL equipment does not appear on "BRAVIA Sync Device List"

- Check that your equipment is compatible with Control for HDMI.

Cannot select "Off" in "BRAVIA Sync Control"

- If you have connected any audio system that is compatible with Control for HDMI, you cannot select "Off" in this menu. To change the audio output to the TV speaker, select "TV Speakers" in the "Speakers" menu (page 42).

Lost password

- Select the "PIN Code" settings on the "Parental Lock" settings, then enter the following master password: 9999.

You could not connect Internet

- Check that the LAN cable or AC power cord of the router/modem* has been connected properly.
- * Your router/modem must be set in advance to connect to the Internet. Contact your Internet service provider for router/modem settings.

You do not have YouTube ID

- If you do not have a YouTube ID and password, register them through the address below.
<http://www.google.com/device>
(You can also register a YouTube ID and password from your PC.)
After registering your ID, you can use it immediately.

Small picture on Internet Video

- Use the color buttons to zoom in and out.

Certain Internet video content displays a loss of detail, especially during fast-motion or dark scenes

- Video quality and picture size depend on broadband speed and delivery by content providers.

Good picture quality but no sound on the Internet video content

- Quality depends on the original content provided by the video content provider and your connection bandwidth.
- Due to the nature of Internet video, not all videos will contain sound.

You do not see many videos in the Internet Video Guide

- Press **OPTIONS** and select categories to view more content.
- Check the "Parental Lock" ratings on the TV; some Internet content may be blocked based on the rating.

Some photos, music, video files in the connected USB device are not displayed

- Unsupported files may not be displayed.
- The accessible file or folder limit in a directory is 1,000. This limit includes non-supported files or just folders. Files or folders are populated based on their timestamps. Photo, music files or folders exceeding the limit will not be displayed.












The TV surrounds become warm



- When the TV is used for an extended period, the TV surrounds become warm. You may feel hot when touching there by the hand.

TV does not output picture and/or sound from the MHL device

- Disconnect the MHL cable, then reconnect it, or power the MHL device off then on again and release its lock.

Specifications

System	
Panel system	LCD (Liquid Crystal Display) Panel (LED backlight)
TV system	Analogue: B/G, I, D/K, M Digital: DVB-T
Colour/video system	Analogue: PAL, PAL60 (only video input), SECAM, NTSC3.58, NTSC4.43 (only video input) Digital: MPEG-2 MP@ML/HL (Australian model), MPEG-2 MP@ML/HL, H.264/MPEG-4 AVC MP/HP@L4 (New Zealand and Singaporean model)
Channel coverage	Analogue: 45.25MHz - 863.25MHz, Depend on country selection Digital: VHF/UHF, Depend on country selection
Sound output	10 W + 10 W
Input/Output jacks	
Antenna	75 ohm external terminal for VHF/UHF
 COMPONENT IN/  VIDEO IN	 COMPONENT IN Supported formats: 1080p, 1080i, 720p, 576p, 576i, 480p, 480i Y: 1 Vp-p, 75 ohms, 0.3V negative sync/Pb/Cb: 0.7 Vp-p, 75 ohms/Pb/Cr: 0.7 Vp-p, 75 ohms  Video input (phono jack)
 COMPONENT IN/  AUDIO	Audio input (phono jacks)
HDMI IN 1 (ARC) HDMI IN 2/MHL, HDMI IN 3, HDMI IN 4	HDMI Video: 1080/24p, 1080p, 1080i, 720p, 576p, 576i, 480p, 480i MHL Video: 1080/24p, 1080/30p, 1080i, 720p, 720/30p, 576p, 576i, 480p, 480i Audio: Two channel linear PCM: 32, 44.1 and 48 kHz, 16, 20 and 24 bits, Dolby Digital ARC (Audio Return Channel) (HDMI IN 1 only)
 DIGITAL AUDIO OUT (OPTICAL)	Digital optical jack (Two channel linear PCM, Dolby Digital)
 AUDIO OUT, 	Audio output, Headphones (minijack)
 1, 2	USB port: supply capacity 5 V, 500 mA (maximum)
 LAN	10BASE-T/100BASE-TX connector (Depending on the operating environment of the network, connection speed may differ. 10BASE-T/100BASE-TX communication rate and communication quality are not guaranteed for this TV.)

Model name		KDL-70R550A	KDL-60R550A/60R520A	KDL-50R550A
Power and others				
Power requirements		110V-240V 50Hz/60Hz		
Viewing Screen Size (Approx.)		176.6 cm (70 inches)	152.5 cm (60 inches)	125.7 cm (50 inches)
Display resolution		1,920 pixels (horizontal) × 1,080 lines (vertical)		
Power consumption		240 W	182 W	121 W
Standby Power Consumption		Less than 0.2/0.3 W	Less than 0.2/0.3 W	Less than 0.2/0.3 W
Dimensions (w × h × d) (Approx.)	with Table-Top Stand (mm)	1,587 × 975 × 378	1,375 × 851 × 339	1,131 × 702 × 233
	without Table-Top Stand (mm)	1,587 × 931 × 90	1,375 × 810 × 82	1,131 × 671 × 84
Mass (Approx.)	with Table-Top Stand (kg)	38.0	28.4	18.6
	without Table-Top Stand (kg)	36.0	26.6	17.7
Optional accessories		Wall-Mount Bracket: SU-WL400 (KDL-50R550A only) SU-WL50B (KDL-70R550A/60R550A/60R520A only) Passive 3D Glasses: TDG-500P (except KDL-60R520A)  SimulView™ Passive Glasses: TDG-SV5P (except KDL-60R520A) 		

Optional accessories availability depends on country/region/TV model/stock.
Design and specifications are subject to change without notice.

Instructions on “Installing the Wall-Mount Bracket” are not supplied in the form of a separate leaflet with this TV. These installation instructions are included within this TV’s instructions manual.

<http://www.sony.net/>



Customer support

<http://www.sony-asia.com/support>



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