



OWNERS INSTRUCTIONS

TFT LCD TV

19"/20"/22"



English

Before using this product, please read the security instructions first
and bear them in mind when using the product.

Safety Instruction

Warning

TO PREVENT FIRE OR SHOCK HAZARD. DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN NO USER-SERVICEABLE PARTS INSIDE	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED. DANGEROUS VOLTAGE. WITHIN THE PRODUCTS ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

Important Safety Instructions

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured. So, please read the points below for your own safety. They are of a general nature, intended to help you with all your electronic consumer products and some points may not apply to the goods you have just purchased.

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- This TV is not completely disconnected from a power supply line, as minute current is consumed even when the POWER switch is turned off.
- Do not place hot objects or naked flame sources, such as lighted candles or nightlights on, or close to the TV. High temperatures can melt plastic and lead to fires.
- Do not set on top of the TV any object or container that might spill liquids or small objects into the TV.

- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION: *Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.*



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

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste.

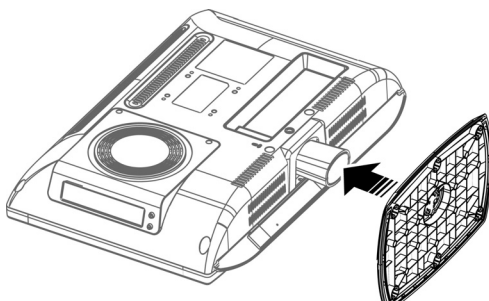
Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

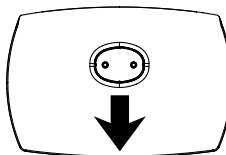
Installing the Stand

- Place the TV face down on a soft cloth or cushion on a table.

1



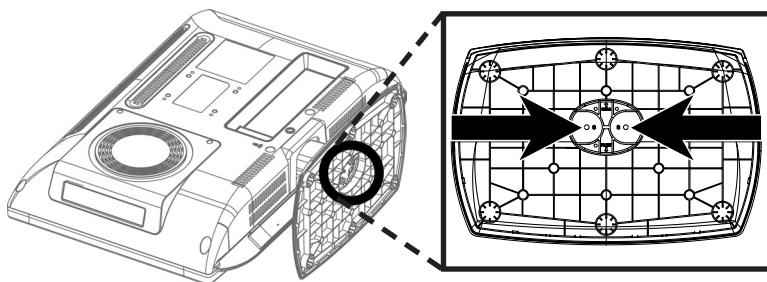
Back



Front

- Put the stand together with TV-Neck like this illustration.

2



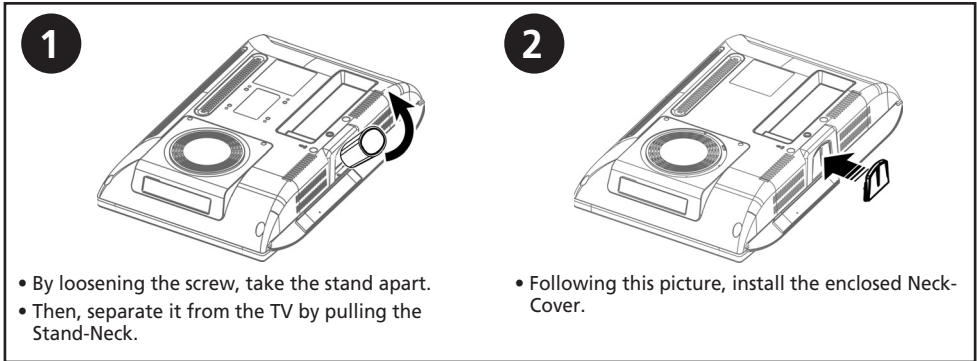
- Fix the stand by using the enclosed screw.

Using ARM on the Outer Wall

NOTE - Before installing TV wall mount, detach the stand from the TV.

Installing the Stand neck-Cover

- Place the TV face down on a soft cloth or cushion on a table.
- Install the stand neck cover following the picture below.



You can use any wall mount arms manufactured by an office furniture manufacturer. You should take into account the following conditions.

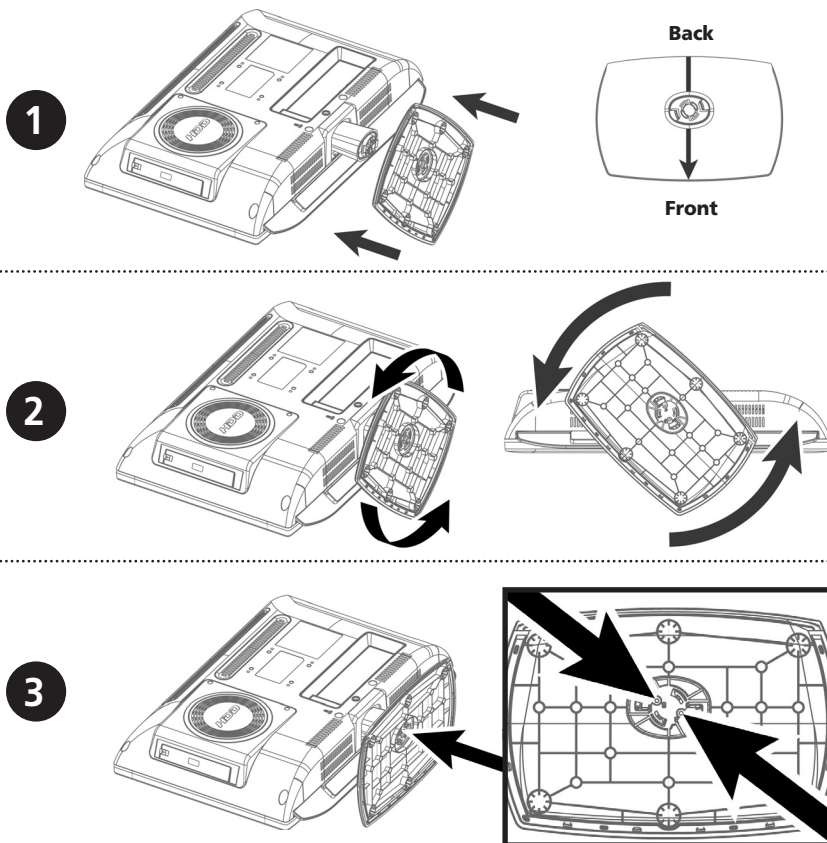
- They have to comply with VESA Mount Interface 75mm standard.
- They have to be able to sustain the weight of the LCD TV.
- They have to be fixed to a position adjustable by hand.
- They have to be adjustable.
- The distance between the screw holes for fixing the arms has to be 75mm. Additionally, refer to the installation manual supplied with the arms for installation.
- Arm installation procedures Install the arms following the procedures given below.
 - 1.Remove all cables connected to the LCD TV.
 - 2.Lay the LCD TV face down on a flat surface with a cushion or some type of soft material to protect the screen.
 - 3.Using a screwdriver, remove the screws fixing the stand.
 - 4.Install the steel frame of the arms, insert the attached screws into the screw holes of the LCD TV, and then fasten the screws using a screwdriver.

- Attach the arm to the fixed board first.
- Do not use the handle screws for fixing the stand and the handle screws to fix the arms. Use only the screws attached for the arms (M4 x 10 screws with a diameter of 4 mm, and a length of 10 mm). If you use the stand screws to fix the arms, the LCD TV may be fall and get damaged, because the arms are not fixed completely. To reattach the removed stand, use the stand screws.
- Attach the arms completely. If the LCD TV becomes detached from the arms, it may cause injury or damage the product.

If the LCD TV is somehow detached accidentally, unplug the power cable from the wall outlet, and contact your service center. Damage may cause fire or electric shock.

Installing the Stand

- Place the TV face down on a soft cloth or cushion on a table.
- Tilt the stand by about 45 degrees to the right, and then put it together with the TV like the picture below.
- When the stand is engaged with the TV set, spin it counterclockwise to fix it on the TV.
- Following the Picture 3, turn the screw in the bottom of the stand to hold it in place.



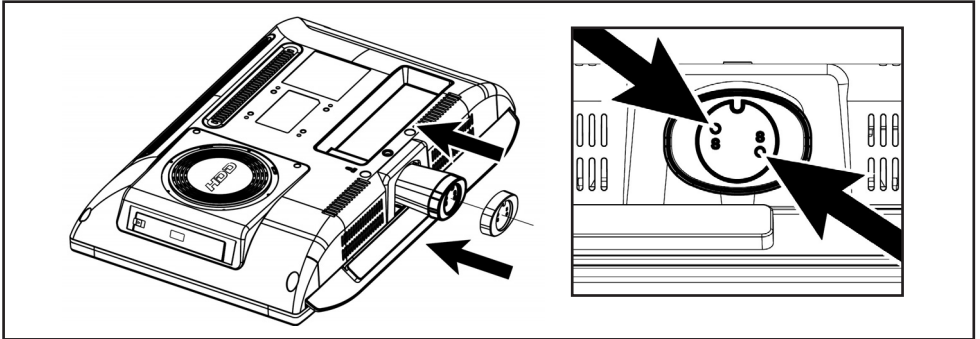
Using ARM on the Outer Wall

NOTE.

- Before installing TV wall mount, detach the stand from the TV.
- With the stand detached, install the stand cover in the same way like the stand.

Installing the Stand neck-Cover

- Place the TV face down on a soft cloth or cushion on a table.
- Install the stand neck cover following the picture below.
- With the cover fixed, turn the screw in bottom of the cover to hold it in place.



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Unplug the LCD TV from the power outlet before cleaning

- To clean your flat panel display screen, lightly dampen a soft, clean cloth with water or mild detergent.
If possible, use a special screen cleaning tissue or solution suitable for the antistatic coating.
- To clean the LCD TV cabinet, use a cloth lightly dampened with a mild detergent.
- Never use flammable cleaning material to clean your LCD TV or any other electrical apparatus.

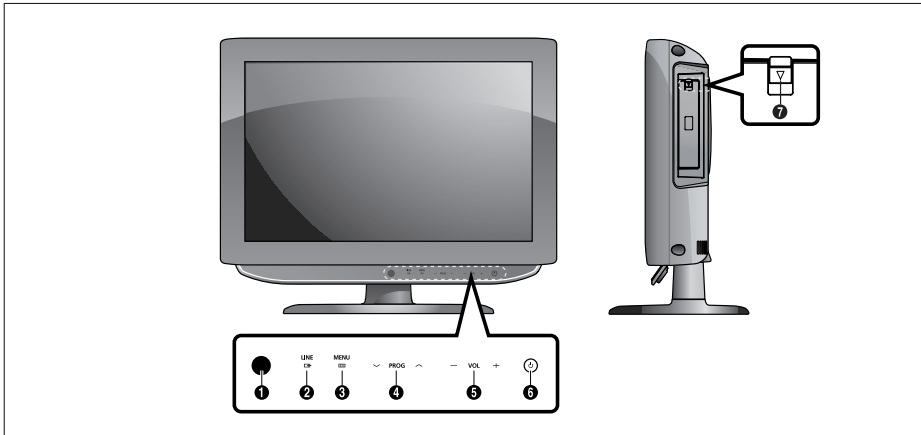
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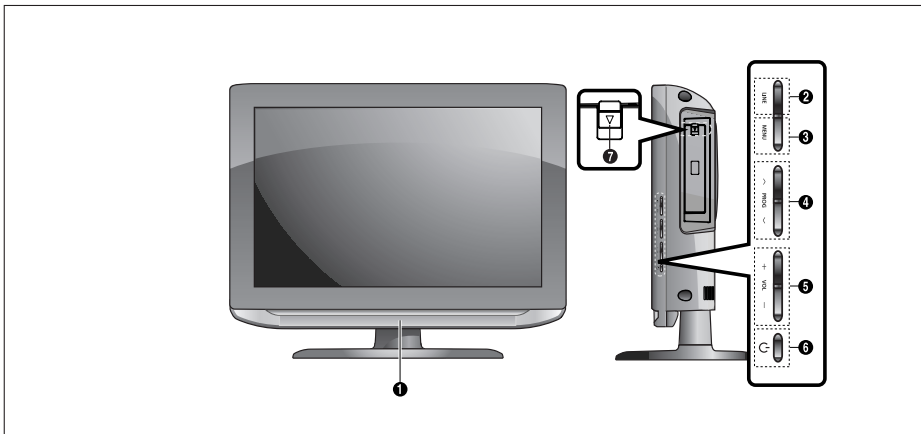
Overview

Front View

•LV

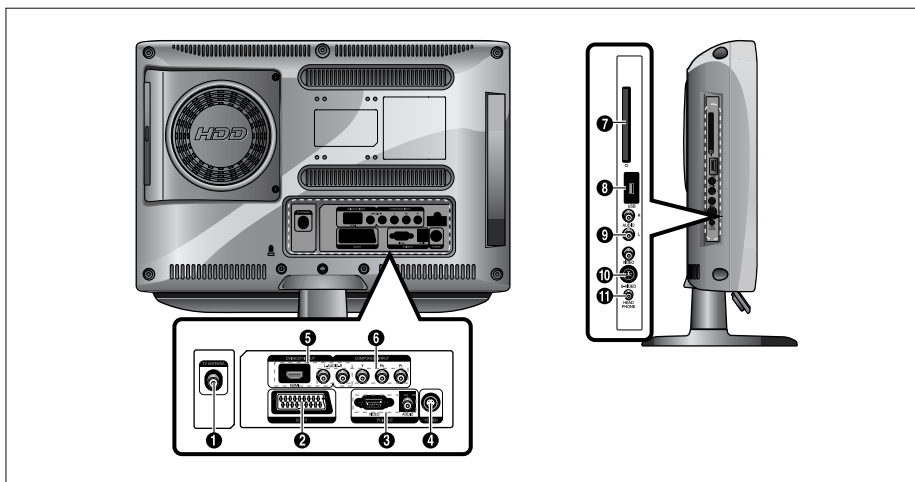


•LW



- ① Remote Control Sensor
- ② LINE(AV) : External input selection.
- ③ MENU: To access or close menus, simultaneously.
- ④ PROG: Changes channels or "MOVE" to items on the on-screen menu.
- ⑤ VOL: Increases or decreases the volume. This is also used to select the MOVE/ PREV item on the on-screen menu.
- ⑥ POWER: Turns the TV on and off.
- ⑦ Latch : Full down and release when open the HDD cover.

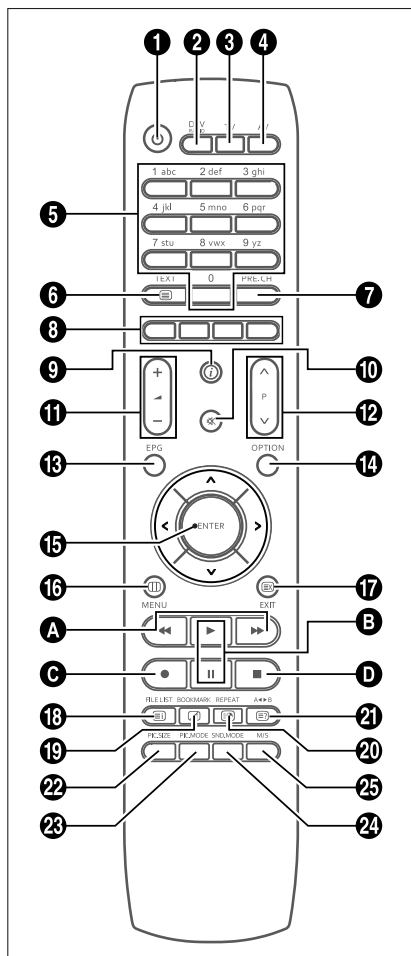
Rear Panel Jacks



- | | |
|---|---|
| ❶ TV ANTENNA INPUT JACK | ❷ CI INPUT JACK (option) |
| ❸ SCART JACK | ❸ USB INPUT JACK |
| ❹ PC VIDEO(D-SUB) INPUT JACK
PC AUDIO INPUT JACK | ❹ VIDEO(VIDEO/AUDIO) INPUT JACKS |
| ❺ POWER INPUT CONNECTOR | ❺ S-VIDEO INPUT JACK |
| ❻ HDMI INPUT, DVI INPUT(VIDEO/AUDIO:L/R) JACK | ❻ HEADPHONE JACK |
| ❼ COMPONENT JACKS (VIDEO : Y, Pb, Pr/AUDIO : L/R) | : Used for headphones that can be purchased additionally. |

For more details on connections see page 9~11.

Remote Control



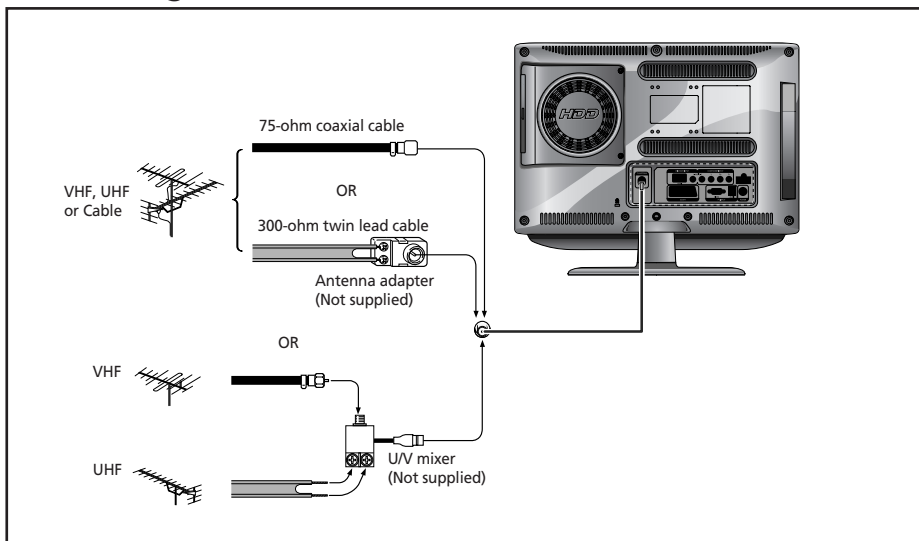
- 1 POWER:** Turns the TV on and off.
- 2 DTV/RADIO:** Switches to DVB-T / DVB-T RADIO mode.
- 3 TV:** Switches to TV mode.
- 4 AV:** External input selection.
- 5 NUMBER BUTTONS:** Selects channels directly on the TV.
- 6 TEXT:** Switches to Teletext mode / MHEG5.
- 7 PRE.CH:** Moves to the previous channel.
- 8 COLOUR BUTTONS**
- 9 TV :** TV - Displays the current channel and the audio-video settings.
DTV - Display the current channel information.
- 10 MUTE:** Temporarily mute the sound.
- 11 VOLUME:** Increases or decreases the volume.
- 12 P (CHANNEL):** Changes channels.
- 13 EPG:** Electronic program guide.
- 14 OPTION:** Displays the PVR OPTION.
- 15 </>/✓/▲/ENTER:**
Select an item of menu / Change confirmation.
- 16 MENU:** Displays the OSD menu.
- 17 EXIT:** Exit the current OSD menu or mode /
To exit from the teletext display.
- 18 INDEX (ONLY ANALOG) / FILE LIST:**
Programme selection by name /
Move to PVR mode.
- 19 MIX (ONLY ANALOG) / BOOKMARK:**
Video & TTX MIX /
To SAVE a specific frame for later viewing.
- 20 SUB PAGE (ONLY ANALOG) / REPEAT:**
Teletext SUB-PAGE /
For specifying and repeating playback of a segment.
- 21 REVEAL (ONLY ANALOG) / A◀▶B:**
Teletext reveal /
For repeated playback of disc titles, chapters or sound.
- 22 PIC.SIZE:** Change the screen size.
- 23 PIC.MODE:** Change the picture status.
- 24 SND.MODE:** Change the sound mode.
- 25 M/S:** Sound mode selection.

<PVR>

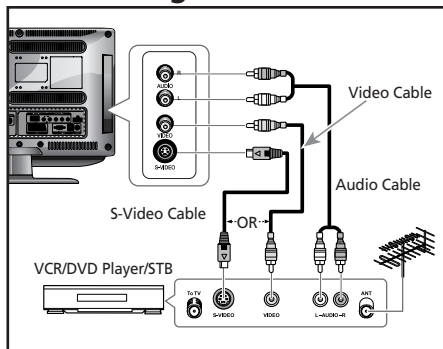
- A ◀▶ :** Skip forward - Reverse /
For fast and slow playback (press and hold the button over 2seconds).
- B ▶ / II :** Play the files / Temporarily stop playback.
- C ● :** Record (PVR ONLY)
- D ■ :** Stop the PVR playback.

Connecting Your TV

Connecting an Antenna or Cable without a Decoder box



Connecting the Video or S-Video/Audio Jacks



Connection Procedures

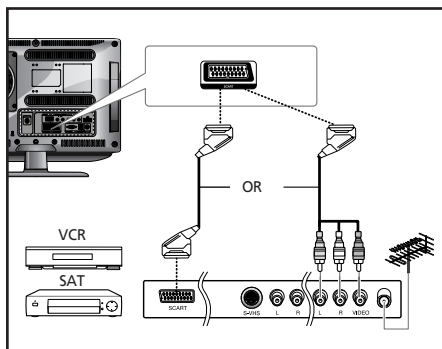
- ❶ Connect the antenna cable to the ANTENNA IN terminal on the back of your VCR.
- ❷ Connect the VIDEO/AUDIO INPUT jacks of the TV and the video/audio output jacks of your VCR with the video/audio cables. (Connect the cable to the terminal of the same color)
 - You can use the S-Video cable to connect a VCR or a DVD player for better video quality.
 - If your VCR does not support stereo sound, connect the mono audio out jack to the AUDIO INPUT (left) jack.

Procedures for watching a video over a VCR

Turn the TV on, and select 'VIDEO' using the **AV** button on the remote control.

- If you have connected a S-Video cable, select 'S-Video'.

Connecting the Scart Jack



Connection Procedures

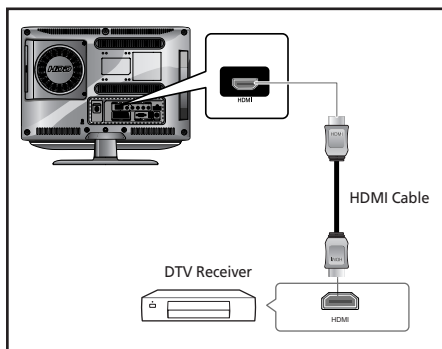
- 1 AV output is used for the equipment with an RGB output, such as video game devices or video disc players.
This end can be fitted with:
- A SCART connector
- Three RCA connectors(VIDEO+AUDIO_L+AUDIO_R)

Procedures for watching a Video over a VCR

- 1 Turn the TV on, and select 'SCART' using the **AV** button on the remote control.
- NOTE: When the RGB colors look abnormal on screen, check the SCART cable if it's properly connected.

Connecting the HDMI JACK

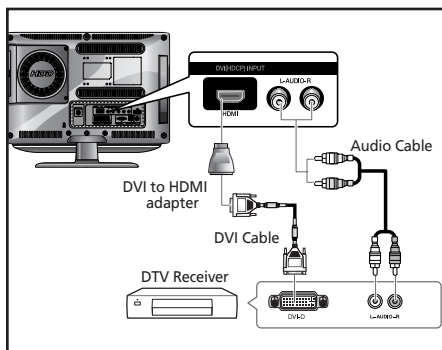
•Warning : Do not Connect DVI audio cable.



Connection Procedures

- 1 Connect the HDMI input jack of the TV and the HDMI output jack of your DTV Receiver (480p/60Hz, 576p/50Hz, 720p/50Hz, 720p/60Hz, 1080i/50Hz, 1080i/60Hz).

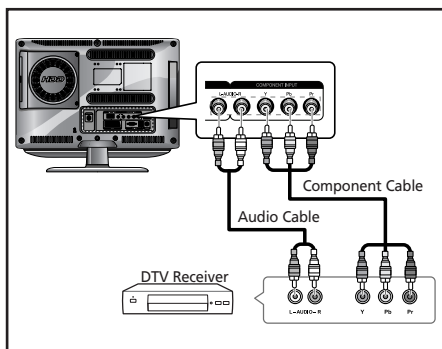
Connecting the HDMI JACK (USE DVI JACK)



Connection Procedures

- 1 Connect the HDMI input jack of the TV and the DVI output jack of your DTV Receiver (Using the adapter or HDMI cable).
- 2 Connect the DVI audio input jacks of the TV and the DVI audio output jacks of your DTV Receiver with the audio cable (480p/60Hz, 576p/50Hz, 720p/50Hz, 720p/60Hz, 1080i/50Hz, 1080i/60Hz).
- 3 VESA Standard Mode (Resolution/Vertical Frequency), refer to page 52.

Connecting the DTV Receiver



Connection Procedures

- 1 The **COMPONENT VIDEO IN** and **COMPONENT AUDIO IN** connectors are used for equipment with a DVD or DTV receiver out. (480i/60Hz, 480p/60Hz, 576i/50Hz, 576p/50Hz, 720p/50Hz, 720p/60Hz, 1080i/50Hz, 1080i/60Hz)

To watch the DTV

- 1 Turn the TV on, and select 'COMPONENT' using the **AV** button on the remote control.
- 2 Turn the DTV Receiver on.






Check Before Using

Please check the following check list before using the TV.






- 1 Is the antenna cable connected properly?
- 2 Is the AC adapter connected properly?
 - When you connect the adapter to the unit, turn the power switch on the front panel to "off", and then connect the adapter cable.
 - When not using the adapter for a long time period, separate the AC adapter from both the main body and the power outlet on the wall.
- 3 Are the remote control batteries installed properly?
 - Install two AAA size batteries according to the correct polarity.
 - The remote control works up to about 7~10m from the TV, 3m to the left or right of the TV, and to within 30 degrees from the remote control sensor of the TV.
- 4 Have the receive channels been configured?
- 5 Are the cables connected to any external devices connected properly?

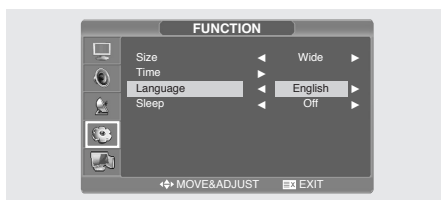
Watching TV

Turning the TV On and OFF


- 1 Plug the mains lead into an appropriate socket.
- 2 Press the **POWER**() button on the remote control (or on the front panel of the unit.)
You can also switch on by pressing the **P**  buttons.
 - when you power on this product in the first time, the product will ask you language selection, country selection and automatic search on the screen menu.
Thus, you should select desired status by    and **ENTER** button.

Selecting the Menu Language

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Function using the  button and then press the  button.
- 3 Select Language using the  button and then press the  button.
- 4 Select the desired menu language using the  button.
- 5 Press the **EXIT** button to exit the menu.






Viewing the Status Information

Press the  button on the remote control. The TV will display the input source, the picture mode, the sound mode, the stereo mode, sleep time and the current time.

Adjusting the Volume

Adjust the volume using the  +/- button.









Muting the Sound

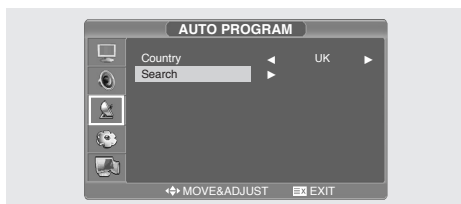
Press the  button. You can conveniently use the  button when a telephone or a door bell rings. To cancel, press the  button again.



Viewing a Video or PVR

Press the **AV** button. For connection and setup procedures, refer to page 9-11.

Storing Channels Automatically

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Setup using the  button and then press the  button.
- 3 Select Auto Program using the  button and then press the  button.
- 4 Select Country using the  button and then press the  button.
- 5 Select your country using the  button and then press the  button.



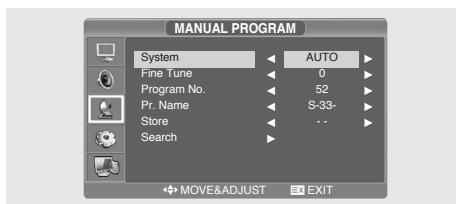
- 6 Select Search using the  button and then press the  button.

Manual Storing of Channels

When storing channels manually, you can choose:

- Whether or not to store each of the channels found.
- The programme number by which you wish to identify each stored channel.

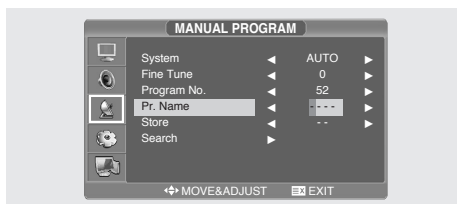
- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Setup using the **▼/▲** button and then press the **>** button.
- 3 Select Manual program using the **▼/▲** button and then press the **>** button.
- 4 Select System using the **▼/▲** button and then press the **>** button. And press the **▼/▲** button to select the system.
Whenever you press this button, system changes to Auto → BG → DK → I → L → Auto mode in this order.
- 5 Select Program no. using the **▼/▲** button and then press the **>** button.
And press the **▼/▲** button to select the required channel number.



- 6 Select Search using the **▼/▲** button and then press the **>** button.
The tune scans the frequency range until the first channel on the channel that you selected is received on your screen.
- 7 Select Store using the **▼/▲** button and then press the **>** button.
And press the **▼/▲** button to select the OK.
- 8 Repeat Step 5 to 7 for each channel to be stored.

Channel Name

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Setup using the **▼/▲** button and then press the **>** button.
- 3 Select Manual program using the **▼/▲** button and then press the **>** button.
- 4 Select Name using the **▼/▲** button and then press the **>** button. And press the **</>/▼/▲** buttons to edit the name.
▼/▲ : Select the characters (A~ Z, 0~9, -, +).
</> : move on the previous or next letter.

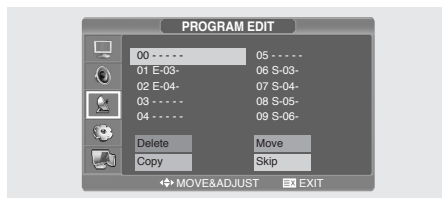


- 5 Select Store using the **▼/▲** button and then press the **>** button.
And press the **▼/▲** button to select the OK.
- 6 Press the **EXIT** button to exit the menu.

Program Edit

This function enables you to delete, copy, move or skip the stored programs.

- 1 Select the channel to tune using the numeric or channel buttons.
- 2 Press the **MENU** button.
The OSD MENU will be displayed.
- 3 Select Setup using the **▼/▲** button and then press the **>** button.
- 4 Select Program edit using the **▼/▲** button and then press the **>** button.



Delete a Program

- 1 Select a program to the deleted with the **</>/▼/▲** buttons.
- 2 Press the **RED** button.
The selected program is deleted.
All the following programs are shifted up one position.

Copy a Program

- 1 Select a program to the copied with the **</>/▼/▲** buttons.
- 2 Press the **BLUE** button.
All the following programs are shifted down one position.

Moving a Program

- 1 Select a program to the moved with the **</>/▼/▲** buttons.
- 2 Press the **GREEN** button.
- 3 Move the program to the desired program number with the **</>/▼/▲** buttons.
- 4 Press the **GREEN** button again to release this function.

Skipping a Program Number

- 1 Select a program to the skipped with the **</>/▼/▲** buttons.
- 2 Press the **YELLOW** button.
The skipped program turns to Gray.
- 3 Press the **YELLOW** button again to release this function.

When a program number is skipped it means that you will be unable to select it using the **▼/▲** button during normal TV viewing. If you want to select the skipped program, directly enter program number with the number buttons or select it in the program edit or table menu.

Changing Channel

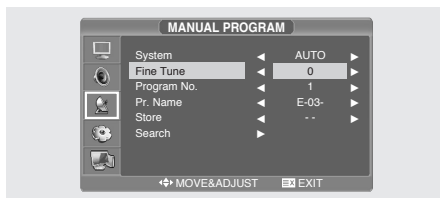
- 1 Using the **P▼/▲** buttons.
Press the **P▼/▲** buttons to change channels. You will see all the channels that the TV has memorized. (The TV must have memorized at least three channels.)

- 2 Using the Previous Channel
Press the **PRE.CH** button on the remote control. The TV changed to the last channels to the last channel you were watching.

When the Picture Quality is Poor or Unstable

Use fine tune to adjust a particular channel for better picture quality when noise interferes, color quality is poor, or the screen is unstable.

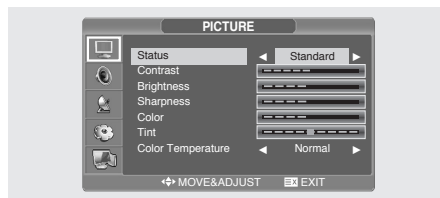
- ❶ Select the channel to tune using the numeric or **P** **▼/▲**.
- ❷ Press the **MENU** button.
The OSD MENU will be displayed.
- ❸ Select Setup using the **▼/▲** button and then press the **>** button.
- ❹ Select Manual program using the **▼/▲** button and then press the **>** button.
- ❺ Select Fine tune using the **▼/▲** button and then press the **>** button.
- ❻ Press the **▼/▲** button and then press the **>** button.
If you are unable to fine-tune a channel, check that the System settings are correct.
- ❼ Select Store using the **▼/▲** button and then press the **>** button.
And press the **▼/▲** button to select OK.
- ❽ Press the **EXIT** button to exit the menu.



Selecting the Picture Status

You can select a video mode from among User, Standard, Dynamic or Mild mode according to your personal preference.

- ❶ Press the **MENU** button.
The OSD MENU will be displayed.
- ❷ Select Picture using the **▼/▲** button and then press the **>** button.
- ❸ Select Status using the **▼/▲** button and then press the **>** button.
- ❹ Select the desired Picture Status using the **▼/▲** button. Whenever you press this button, Picture Status changes to Standard → Dynamic → Mild → User mode in this order.
- ❺ When you have finished, press the **EXIT** button to exit the menu.



Picture Status

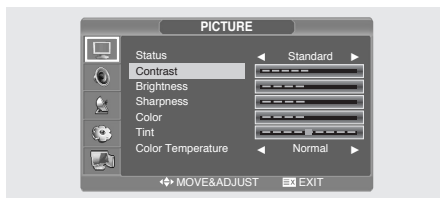
- Standard: Select this mode when the surrounding illumination is bright.
- Dynamic: Select this mode to increase picture clarity and sharpness.
- Mild: Select this mode when viewing the TV when the light is low.
- User: Select this mode if you want to adjust the settings according to your personal preferences.

Adjusting the Picture Settings

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Picture using the **▼/▲** button and then press the **>** button.
- 3 Select the desired item to adjust using the **▼/▲** button and then press the **>** button.
- 4 Select the desired status using the **</>** button.
During the adjustment, an additional adjustment window will be displayed.
In addition, Picture Status is automatically changed to User mode.
- 5 Press the **EXIT** button to exit the menu.

Picture

- Contrast: Determines the difference in brightness between an object and the background.
- Brightness: Determines the brightness of the screen.
- Sharpness: Determines the sharpness of an object image.



- Color: Determines the color density.
- Tint: Determines the tint of the screen (NTSC ONLY).
- Color Temperature: Determines the temperature of colour tone. Status changes to Normal → Warm → Cool → Normal mode in this order.

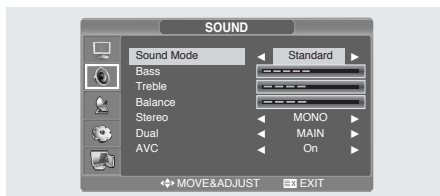
Selecting the Sound Mode

You can select a sound mode from among STANDARD, MUSIC, SPEECH or USER mode according to your personal preference.

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Sound using the **▼/▲** button and then press the **>** button.
- 3 Select Sound Mode using the **▼/▲** button and then press the **>** button.
- 4 Select Sound Mode using the **▼/▲** button.
Whenever you press this button, Sound Mode changes to STANDARD → MUSIC → SPEECH → USER mode, in this order.
- 5 When you have finished, press the **EXIT** button to exit the menu.

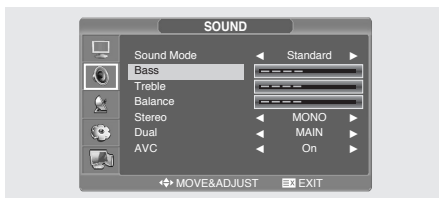
Sound Mode

- STANDARD: Select this to listen to sound normally.
- MUSIC: Select this to listen to the original sound.
- SPEECH: Select this to listen to clear voice sound.
- USER: Select this if you want to adjust the settings according to your personal preferences.



Adjusting the Bass/Treble

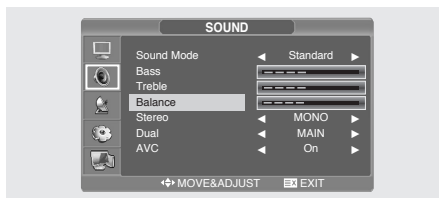
- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Sound using the **▼/▲** button and then press the **>** button.
- 3 Move to the item using the **▼/▲** button and then press the **>** button.
- 4 Select the desired status using the **</>** button. During the adjustment, an additional adjustment window will be displayed.
Also, the Sound Status is automatically changed to User mode.
- 5 Press the **EXIT** button to exit the menu.



Adjusting the BALANCE

Determines the volume ratio between the left and right speakers.

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Sound using the **▼/▲** button and then press the **>** button.
- 3 Select Balance using the **▼/▲** button and then press the **>** button.
- 4 Select the desired status using the **</>** button. During the adjustment, an additional adjustment window will be displayed.
Also, the Sound Status is automatically changed to User mode.
- 5 Press the **EXIT** button to exit the menu.



Choosing a Soundtrack

Quick! Pressing the **M/S** button.

Whenever you press this button, the mode changes to Stereo/Mono mode, in this order.

- If the receiving conditions deteriorate, listening will be easier if the mode is set to the Mono position using the **M/S** button.
- If the stereo signal is weak (or if intermittent Stereo-Mono) and automatic switching occurs, then switch to the Mono mode.
- When receiving mono sound in the AV mode, connect to the 'L' input jack on the panels.
- If the mono sound comes out only from the left speaker, then press the **M/S** button.

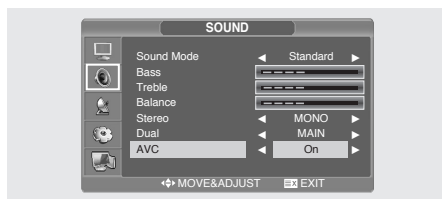
CAUTION: If stereo mode is set to mono, the output is mono even though the broadcast is in stereo.

	Type of broadcast	On-Screen
NICAM STEREO	Standard broadcast	MONO
	Regular+NICAM MONO	MONO
	NICAM STEREO	NICAM STEREO ↔ MONO
	NICAM DUAL	NICAM MAIN → NICAM SUB
A2 STEREO	Standard broadcast	MONO
	Bilingual or DUAL	MAIN ↔ SUB
	STEREO	STEREO ↔ MONO

Selecting the AVC Mode

If you switch AVC to on, the set automatically keeps on an equal volume level.

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select SOUND using the **▼/▲** button and then press the **>** button.
- 3 Select AVC using the **▼/▲** button and then press the **>** button.
- 4 Select the desired status using the **▼/▲** button.
- 5 Press the **EXIT** button to exit the menu.



Changing the Screen Size

You can select a desired screen size for each video.

Press the **PIC.SIZE** button.

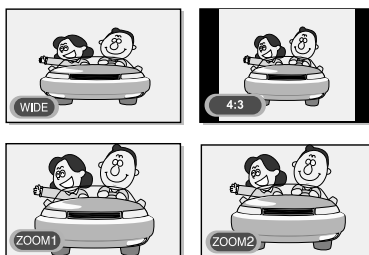
Whenever you press the **PIC.SIZE** button, the screen size changes to WIDE → 4:3 → ZOOM1 → ZOOM2, in this order.

Screen Size Menu

- **WIDE** : Set the picture to 16:9 wide mode (default).
- **4:3** : Sets the picture to 4:3 normal mode.
This is a standard TV screen size.
- **ZOOM1**: Magnifies the size of the picture on the screen.
- **ZOOM2**: Magnifies the size of the picture on the screen leaving the subtitles visible.

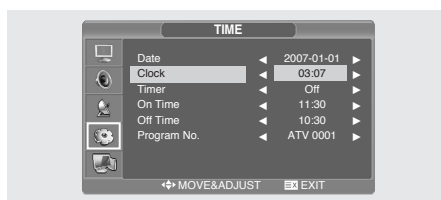
Note

- You can select only WIDE, 4:3 screen size in the PC / HDMI Mode.



Setting the Clock

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select Function using the **▼/▲** button and then press the **>** button.
- 3 Select Time using the **▼/▲** button and then press the **>** button.
- 4 Select Clock using the **▼/▲** button and then press the **>** button.
- 5 Move to the Hour using the **>** button and then set the Hour to the correct time using the **▼/▲** button.
- 6 Move to the Minute using the **>** button and then set the Minutes to the correct time using the **▼/▲** button.
- 7 Press the **EXIT** button to exit the menu.



Setting the On/Off Timer

You can set the On/Off Timer to automatically turn the TV on and off at a desired time.

The current time has to be configured first to set the On/Off Timer.

①~③ STEP1~STEP3 is the same as that of Setting the clock.

④ Select Timer using the **▼/▲** button and then press the **➤** button.

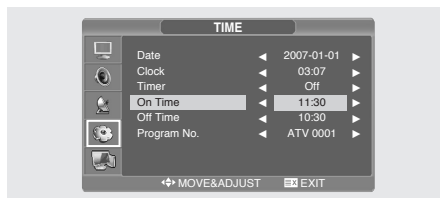
Select On using the **▼/▲** button.

- The On/off timer works only when the timer is configured to On.

Example : Turning On At 6:10 AM

⑤ Move to On time using the **▼/▲** button.

⑥ Move to the Hours using the **➤** button and then set the Hour to AM 6 using the **▼/▲** button.



⑦ Move to the Minute using the **➤** button and then set the Minutes to 10 using the **▼/▲** button.

⑧ Press the **➤** button to finish the On time configuration.

⑨ Press the **EXIT** button to exit the menu.

For Off timer setting, select Off time instead of On time.

Selecting the ON Timer Channel

①~③ STEP1~STEP3 is the same as that of Setting the clock.

④ Select Program No. using the **▼/▲** button and then press the **➤** button.

⑤ Select the desired source to watch when the TV is turned on using the **▼/▲** button and then press the **➤** button.

⑥ Select the desired channel to watch when the TV is turned on using the **▼/▲** button.

⑦ Press the **EXIT** button to exit the menu.



Setting the Sleep Timer

You can shut off the TV after a desired period of time.

① Press the **MENU** button.

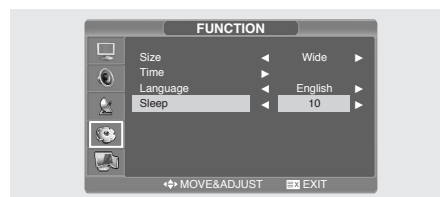
The OSD MENU will be displayed.

② Select Function using the **▼/▲** button and then press the **➤** button.

③ Select Sleep using the **▼/▲** button and then press the **➤** button.

④ Select the desired sleep time using the **▼/▲** button. Whenever you press this button, Sleep Mode changes to Off → 10 → 30 → 60 → 90 → 120 → 150 → 180 → Off mode, in this order.

⑤ Press the **EXIT** button to exit the menu.

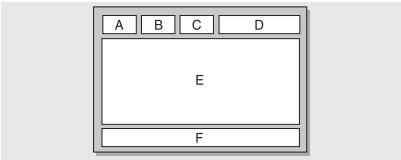


Teletext

Most television channels provide written information services via teletext. Information provided includes:

- Television program times
- News bulletins and weather forecasts
- Sports results
- Travel information.

This information is divided into numbered pages (see diagram).



Part	Contents
A	Selected page number.
B	Broadcasting channel identity.
C	Current page number or search indications.
D	Date and time.
E	Text.
F	Status information.

Displaying the Teletext Information

You can display Teletext information at any time on your television.

For Teletext information to be displayed correctly, channel reception must be stable; otherwise:

- Information may be missing
- Some pages may not be displayed

- 1 Select the channel providing the Teletext service using the **P▲** or **P▼** button.
- 2 Press the **TEXT** (T) button to activate the teletext mode.

Result: The contents page is displayed. It can be

redisplayed at any time by pressing the **INDEX** (I) button.

- 3 If you wish to display the actual broadcast at the same time as the teletext page, press the **MIX** (M) button again.
- 4 Press the **TEXT** (T) button to exit from the teletext display.

Selecting a Page by Number

You can enter the page number directly by pressing the numeric buttons on the remote control.

- 1 Enter the three-digit page number given in the content by pressing the corresponding **numeric** buttons.

Result: The current page counter is incremented and the page is then displayed.

Using the various display options:

To display...	Press the...
Hidden text (answers to quiz games, for example)	REVEAL (R)
The normal screen	REVEAL (R) again
A secondary page, by entering its 4-digit number	SUBPAGE (S)
The next page	P▼
The previous page	P▲

Using FLOF to Select a Page

The various topics included in the teletext pages are colorcoded, and can be selected by pressing the colored buttons on the remote control.

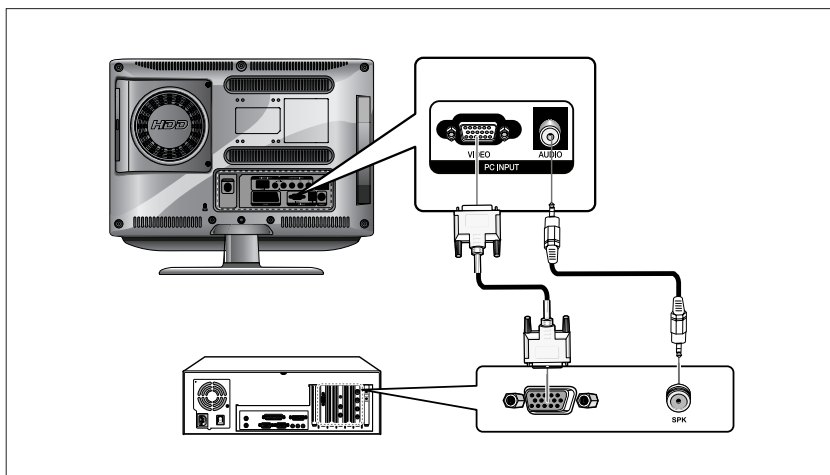
- ❶ Display the teletext contents page by pressing the **MIX** (📺) button.
- ❷ Press the coloured button corresponding to the topic that you wish to select; the available topics are given on the status line.

Result: The page is displayed with other coloured information that can be selected in the same way.

- ❸ To display the previous or next page, press the corresponding coloured button.
- ❹ To display the subpage, see the following steps.
 - Press the **SUBPAGE** (📄) button.
Result: The available subpages appear.
 - Select the required sub-page.
Sub-pages can be scrolled by using the **P▼** or **P▲** button.

PC Function

Connecting to a PC



Connection Procedures

- ❶ Connect the PC D-SUB INPUT jack of the TV and the monitor output jack of the PC using the D-Sub cable.
- ❷ Connect the PC AUDIO jack of the TV and the audio output jack of the PC with the audio cable. (This can only be applied when the PC actually has an audio output jack.)

Procedures for viewing the PC screen through the TV

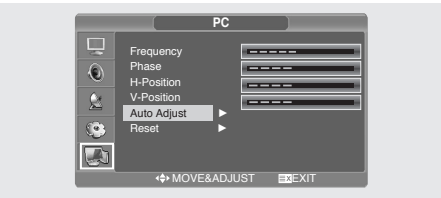
- ❶ Turn the PC on and check that the PC settings are correct.
 - If the PC settings are incorrect, the screen may display a duplicated or distorted picture.
 - For PC configuration procedures, refer to page 52.
- ❷ Press the **AV** button and select PC INPUT mode.
- ❸ Adjust the PC screen.
(For adjustment procedures, refer to page 22.)

VESA Standard Mode

Resolution / Vertical Frequency	IBM	640x350 / 70.0Hz	VESA	1024x768 / 60.0Hz
		640x480 / 59.9Hz		1024x768 / 70.0Hz
		720x400 / 70.0Hz		1024x768 / 75.0Hz
	MAC	640x480 / 66.6Hz		1280X768 / 60.0Hz
		832x624 / 74.5Hz		1360x768 / 60.0Hz
		1152x870 / 75.0Hz		1152x864 / 75.0Hz (19"/22" ONLY)
	VESA	640x480 / 75.0Hz		1280x960 / 60.0Hz (19"/22" ONLY)
		640x480 / 72.8Hz		1280x1024 / 60.0Hz (19"/22" ONLY)
		800x600 / 56.2Hz		1280x1024 / 75.0Hz (19"/22" ONLY)
		800x600 / 60.3Hz		1440x900 / 59.8Hz (19" ONLY)
		800x600 / 75.0Hz		1440x900 / 74.9Hz (19" ONLY)
		800x600 / 72.1Hz		1680x1050 / 59.9Hz (22" ONLY)

Adjusting the PC

- 1 Press the **MENU** button.
The OSD MENU will be displayed.
- 2 Select PC using the **▼/▲** button and then press the **>** button.
- 3 PC Adjust using the **▼/▲** button and then press the **>** button.



Frequency

If vertical lines appear on the PC screen, adjust the clock.

- 4 Select FREQUENCY using the **▼/▲** button and then select using the **>** button.

Phase

The phase controls the image fine on the screen.

- 4 Select PHASE using the **▼/▲** button and then select using the **>** button.

Adjusting the Horizontal Position

- 4 Select H POSITION using the **▼/▲** button and adjust the horizontal position using the **>** button.

Adjusting the Vertical Position

- 4 Select V POSITION using the **▼/▲** button and adjust the vertical position using the **>** button.

Initializing Settings (RESET)

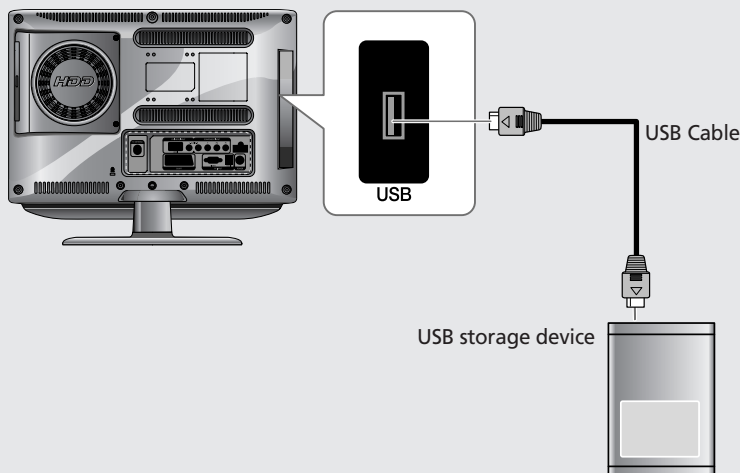
- 4 Select RESET using the **▼/▲** buttons and then select using the **>** button.
This returns you to the factory default screen.
- 5 Press the **EXIT** button to exit the menu.

Auto Adjust

You can adjust the frequency and the phase of the PC screen automatically.

- 4 Select AUTO ADJUST using the **▼/▲** button and then select using the **>** button.
The PC screen is adjusted automatically.

Connecting Your USB storage device

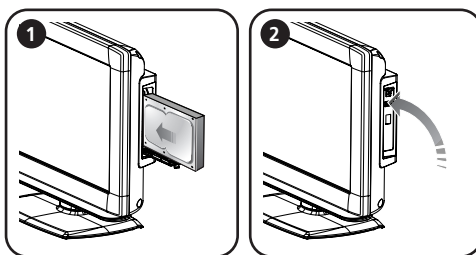


Directions for the use of USB storage device

- Only a USB storage device is recognizable.
- A USB storage device using an automatic recognition program or which uses its own driver may not be recognized.
- A USB storage device plugged in a multi-card reader may not be allowable to check out memory space left.
- The recognition speed of a USB storage device may depend on each device.
- Some USB storage devices may not be supported or operated smoothly.
- Some USB digital cameras and audio devices may not be compatible with this device.
- If a normal USB storage device does not work, then just remove and reconnect the device.
- Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the device may be damaged.
- Please do not connect the USB storage device which was artificially maneuvered on the PC. The device may cause the product to malfunction or fail to be played. Never forget to use only a USB storage device which has normal music files or image files.
- If the name of a folder or file is too long, it will not be displayed or recognized.
- In case of a hard disk drive (HDD) formatted as NTFS, writing and deletion are not allowable.
- Please connect power to a USB storage device which requires an external power supply.

Change HDD

- You must use a SATA HDD.
- It is not compatible with small sized –HDDs which can be used in a laptop.
- You must turn off the TV before eliminating the HDD.
If you take off the HDD with the TV on, it can cause a serious damage on the TV and the HDD.
- You should install a HDD on a TV in the right direction. If not, the TV could be damaged.
- When you want to replace the HDD, HDDs from Western Digital will be recommended.
- Some HDDs could not be recognized.
After putting the cover on, push forward the part engraved “push” on strong enough for you to hear a click sound.

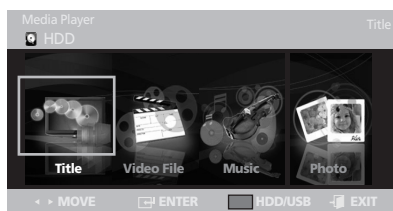


Recommended HDD maker	Western Digital
Model No. & SIZE(WxHxD)	WD1600AAJS (101.6 x 147 x 26.1)
Other makers	SAMSUNG, HITACHI, SEAGATE

Main Screen

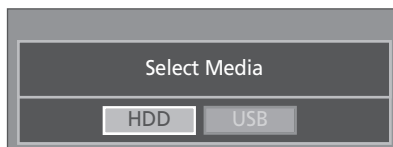
Selecting a PVR Mode

- This is the screen that appears first.
 - You can select Title / Video File / Music / Photo mode.
- ① Press **FILE LIST** button to display the PVR Media Player.



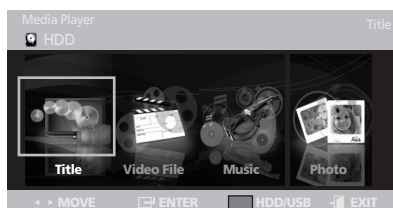
Selecting a Media Source

- ① Press **RED** button to display the Selecting a Media Source. You can select the HDD or USB.
- ② Select the desired Media Source using the **</>** button and press the **ENTER** button.



Selecting a Mode

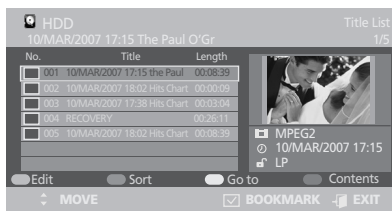
- Title: You can view recorded files list and play them.
 - Video File: You can view video files and play them.
 - Music: You can view music files and play them.
 - Photo: You can view jpeg image files.
- ① Move to a Mode using the **</>** button and press the **ENTER** button.



Title Mode

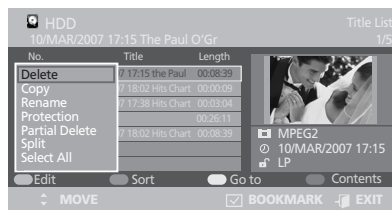
- You can view recorded files list and play on HDD/USB.

- 1 In the main screen, select **Title**.
- 2 You can view the recorded files in thumbnail view as illustrated by the figure.



Title Editing

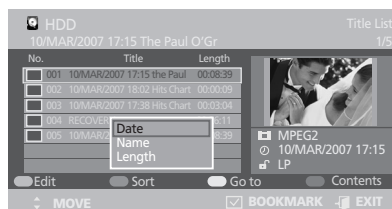
- 1 Select **Title** using the **</>** button and then press the **ENTER** button.
- 2 Select the title from the Title List using the **▼/▲** button and press **RED** button.
- 3 Select the desired Status using the **▼/▲** button and press **ENTER** button.



Library	Features
Delete	Deletes the title from the HDD or USB.
Copy	Copies the title from the HDD ↔ USB. If you copy a recorded file to your device, the file will be supposed to be automatically transformed to MPG format to be in the DMVIDEO folder.
Rename	Renames the title.
Protection	Protects the title from being deleted.
Partial Delete	Partially deletes title in HDD or USB.
Split	Splites title into two parts.
Select All	Selects all title in the list.

Using the Sort

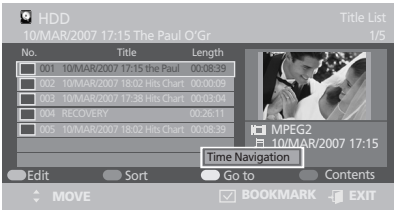
- 1 Select **Title** using the **</>** button and then press the **ENTER** button.
- 2 Select the title from the Title List using the **▼/▲** button and press **GREEN** button.
- 3 Select the desired Status using the **▼/▲** button and press **ENTER** button.



Library	Features
Date	The most recent Title appears on top of the list.
Name	Names in order: A to Z
Length	Files are sorted by recording time.

Go to

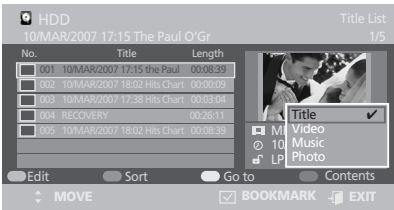
- 1 Select **Title** using the </> button and then press the **ENTER** button.
- 2 Select the title from the Title List using the v/^ button and press **YELLOW** button.
- 3 Press **ENTER** button.



Library	Features
Time Navigation	To start palyback from the time entered.

Select Contents

- 1 Press the **BLUE** button.
- 2 Select the desired Mode using the v/^ button and press **ENTER** button.

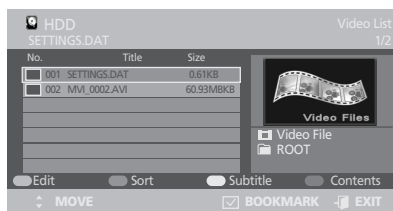


Library	Features
Title	Move to select mode, if available.
Video	
Music	
Photo	

Video File Mode

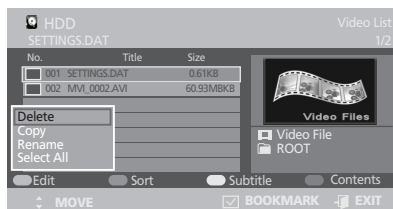
- You can view Video file list and play on HDD/USB.

- 1 In the main screen, select **Video**.
- 2 You can view the Video files in thumbnail view as illustrated by the figure.



Video Editing

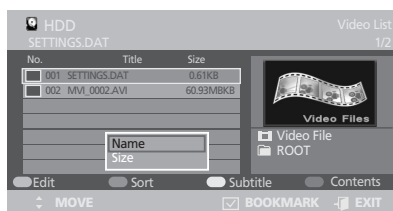
- 1 Select **Video** using the **</>** button and then press the **ENTER** button.
- 2 Select the video from the Video List using the **▼/▲** button and press **RED** button.
- 3 Select the desired Status using the **▼/▲** button and press **ENTER** button.



Library	Features
Delete	Deletes the video from the HDD or USB.
Copy	Copies the video from the HDD ↔ USB.
Rename	Renames the video.
Select All	Selects all video in the list.

Using the Sort

- 1 Select **Video** using the **</>** button and then press the **ENTER** button.
- 2 Select the video from the Video List using the **▼/▲** button and press **GREEN** button.
- 3 Select the desired Status using the **▼/▲** button and press **ENTER** button.

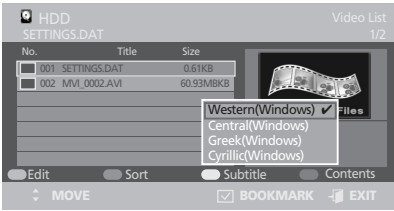


Library	Features
Name	Names in order: A to Z
Size	In order of Video file size

Subtitle

- 1 Select **Video** using the </> button and then press the **ENTER** button.
- 2 Select the video from the Video List using the v/^ button and press **YELLOW** button.
- 3 Select the desired Status using the v/^ button and press **ENTER** button.

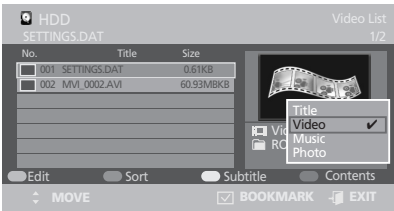
Note. Only working with a subtitle.



Library	Features
Western	Afrikaans, Basque, Catalan, Danish, Dutch, English, Faeroese, Finnish, French, German, Icelandic, Indonesian, Italian, Malay, Norwegian, Portuguese, Spanish, Swahili, Swedish
Central	English, Albanian, Coratian, Czech, Hungarian, Polish, Romanian, Serbian(Latin), Slovak, Slovenian
Greek	English, Greek
Cyrillic	English, Azeri, Belarusian, Bulgarian, Kazakh, Macedonian, Russian, Serbian, Tatar, Ukrainian, uzbek

Select Contents

- 1 Press the **BLUE** button.
- 2 Select the desired Mode using the v/^ button and press **ENTER** button.

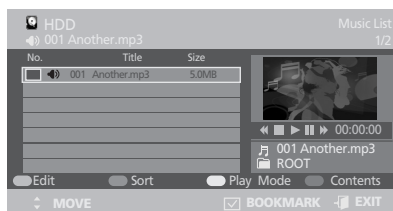


Library	Features
Title	Move to select mode, if available.
Video	
Music	
Photo	

Music Mode

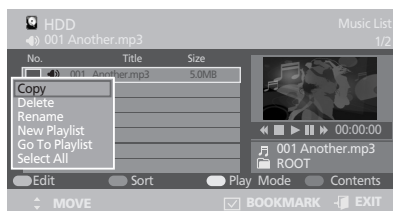
- You can view Music list and play on HDD/USB.

- 1 In the main screen, select Music.
- 2 You can view the Music files in thumbnail view as illustrated by the figure.



Music Editing

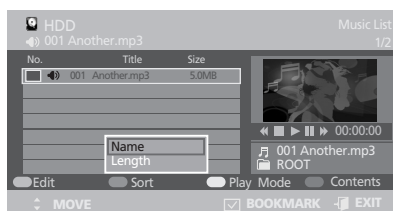
- 1 Select **Music** using the </> button and then press the **ENTER** button.
- 2 Select the music from the Music List using the √/∧ button and press **RED** button.
- 3 Select the desired Status using the √/∧ button and press **ENTER** button.



Library	Features
Copy	Copies the music from the HDD ↔ USB.
Delete	Deletes the music from the HDD or USB.
Rename	Renames the music.
New Playlist	You can register a maximum 30 tracks in the playlist
Go To Playlist	Go To Playlist
Select All	Selects all music in the list.

Using the Sort

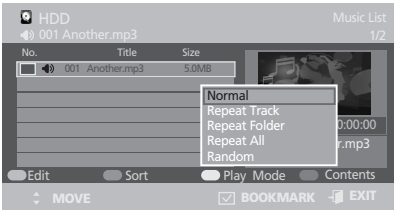
- 1 Select **Music** using the </> button and then press the **ENTER** button.
- 2 Select the music from the Music List using the √/∧ button and press **GREEN** button.
- 3 Select the desired Status using the √/∧ button and press **ENTER** button.



Library	Features
Name	Names in order: A to Z
Length	Files are sorted by playback time.

Play Mode

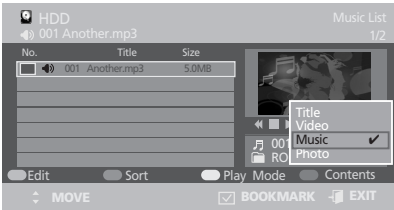
- 1 Select **Music** using the </> button and then press the **ENTER** button.
- 2 Select the music from the Music List using the v/^ button and press **YELLOW** button.
- 3 Select the desired Status using the v/^ button and press **ENTER** button.



Library	Features
Normal	Music files are played normally
Repeat Track	The current track will be played repeatedly
Repeat Folder	The current folder will be played repeatedly
Repeat All	All music file will be played repeatedly
Random	The random option plays a music datas in random order.

Select Contents

- 1 Press the **BLUE** button.
- 2 Select the desired Mode using the v/^ button and press **ENTER** button.



Library	Features
Title	Move to select mode, if available.
Video	
Music	
Photo	

Photo Mode

- You can view Photo list and play on HDD/USB.

- 1 In the main screen, select Photo.
- 2 You can view the Photos in thumbnail view as illustrated by the figure.

Note. The resolution of JPG files is automatically adjusted to 720 X 576. The resolution could be compromised.

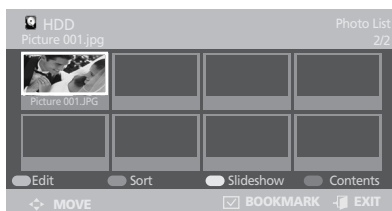
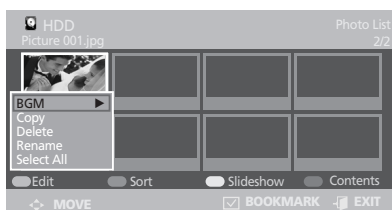


Photo Editing

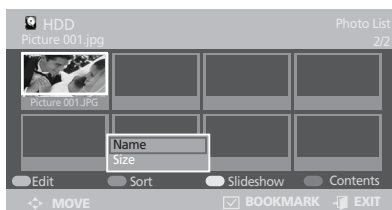
- 1 Select **Photo** using the </> button and then press the **ENTER** button.
- 2 Select the photo from the Photo List using the √/∧ button and press **RED** button.
- 3 Select the desired Status using the √/∧ button and press **ENTER** button.



Library	Features
BGM	You can set the BGM ON/OFF when you display the Picture.
Copy	Copies the photo from the HDD ↔ USB.
Delete	Deletes the photo from the HDD or USB.
Rename	Renames the photo.
Select All	Selects all photos in the list.

Using the Sort

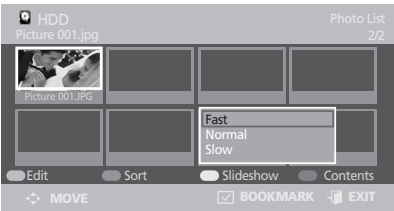
- 1 Select **Photo** using the </> button and then press the **ENTER** button.
- 2 Select the photo from the Photo List using the √/∧ button and press **GREEN** button.
- 3 Select the desired Status using the √/∧ button and press **ENTER** button.



Library	Features
Name	Names in order: A to Z
Size	In order of Photo file size

Slideshow

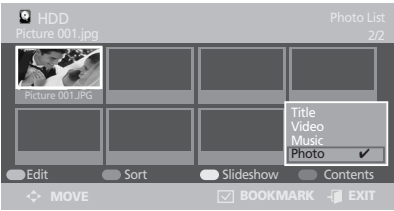
- 1 Select **Photo** using the </> button and then press the **ENTER** button.
- 2 Select the photo from the Photo List using the ▼/▲ button and press **YELLOW** button.
- 3 Select the desired Status using the ▼/▲ button and press **ENTER** button.



Library	Features
Fast	Fast speed playback.
Normal	Normal speed playback.
Slow	Slow speed playback.

Select Contents

- 1 Press the **BLUE** button.
- 2 Select the desired Mode using the ▼/▲ button and press **ENTER** button.



Library	Features
Title	Move to select mode, if available.
Video	
Music	
Photo	

Recording

- You can record the currently broadcast video to a storage device.
- You can play the recorded video file in Title mode.
- The recording function only supports storage devices with the FAT32 file system.
 - Recordable Mode
 - TV Mode, SCART CVBS Mode, VIDEO Mode, S-VIDEO Mode, DTV Mode.
- If there is no input signal for the selected source, the recording will fail.

Note.

- Paid channels cannot be recorded.
- In case that users use an external HDD, they should make it Format / Repartition with the set.
- When you have plural partitions, you should choose USB0[PVR] of them for recording.

Starting a Recording

- Press the **REC (•)** key while watching TV (Recordable Mode).
If you record in PVR mode, the PVR main screen appears and recording begins.
In the other cases, recording begins while maintaining the current mode.
- You cannot play the recorded video on another device or computer.



Caution

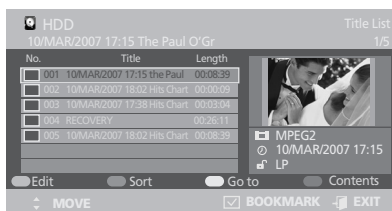
- If the size of a HDD exceeds under 4GB, recording is not supported. (Recording is supported up to a 4GB.)
- The quality of recording file depends on selecting a resolution.

Stopping a Recording

- To stop recording, press the **■** button on the remote control.
- It may take some time to stop a recording if the recorded files size is large.

Playing a Recorded File

- 1 In the main screen, select Title File List.
- 2 You will be able to find the recorded files in the list as shown by the figure.
- 3 Press the **ENTER** key on the remote control to play the file.
- 4 You can watch the recorded files.



DVB-T Function

QUICK! Press the **OPTION** button. PVR OPTION OSD will be displayed.

Using the Colour Buttons

You just have to push the 3 Colour buttons on the remote controller to use additional service offered by DVB-T.

- 1 GREEN Button - Select Video.
- 2 YELLOW Button - Select Audio track.
- 3 BLUE Button - Select Sub Title.



PVR Option

A "PVR Option" is provided to enable the user to configure elements of the DVB-T.

A user can access the "PVR Option" by pressing the "**OPTION**" key.

The "PVR Option" is hierarchically organised into categories in order to fit on the screen.

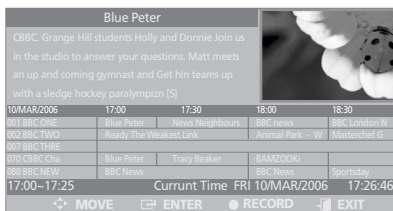
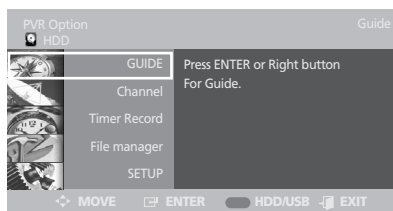
Configurable elements of the Reference Application are described elsewhere in this document and fall into the following categories:

- Guide, Channel, Time Record, File Manager, Setup

Guide

The Guide lists all available broadcast shows with the current date, times, channels and descriptions. Follow the instructions below for the Guide.

- 1 Press the **OPTION** button.
The PVR OPTION will be displayed.
- 2 Select Guide using the **▼/▲** button and then press the **ENTER** or **>** button.
 - Press the **EPG** button while you are viewing a programme.(DTV)
 - **▶** button : Go to next day.
 - **◀** button : Go to previous day.

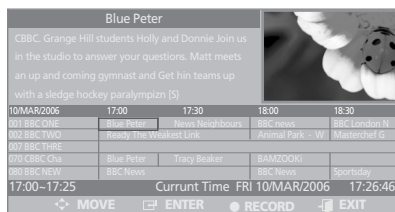
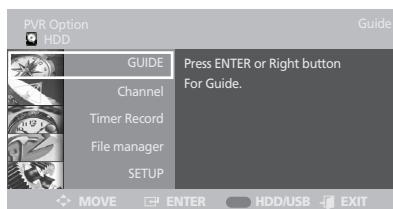


Guide Timer Recording

- 1 Press the **OPTION** button.
The PVR OPTION will be displayed.
- 2 Select Guide using the **▼/▲** button and then press the **ENTER** or **>** button.
- 3 Press the **▼/▲/◀/▶** buttons to select desired programme, then press **REC(●)** button.
The time of Guide is the time of the current channel enters.

NOTE.

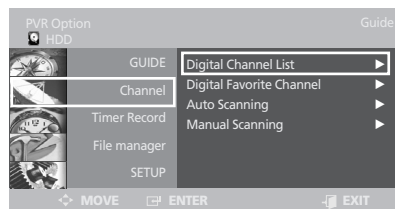
- If Timer Rec is set, the icon is displayed in the set programme.
- Up to 6 recording are possible including guide recording and general recording.



Channel

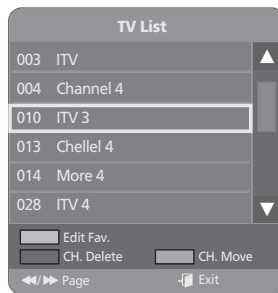
Digital Channel List

- 1 Press the **OPTION** button.
The PVR OPTION will be displayed.
- 2 Select CHANNEL using the **▼/▲** button and then press the **ENTER** or **>** button.
- 3 Select Digital Channel List using the **▼/▲** button and then press the **ENTER** or **>** button.
- 4 Select desired channel using the **▼/▲** button and then press the **ENTER** button to watch that channel.



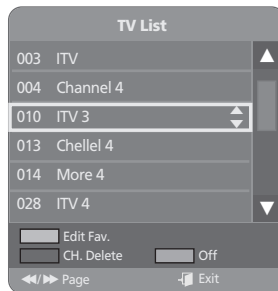
Delete Channel

- ①~③ STEP1~STEP3 is the same as that of Digital Channel List.
- ④ Select a channel to be deleted by using the **▼/▲** buttons.
- ⑤ Press the **GREEN** button to delete the channel.
 - You cannot restore a deleted channel.



Move Channel

- ①~③ STEP1~STEP3 is the same as that of Digital Channel List.
- ④ Select a channel to be moved by using the **▼/▲** buttons.
- ⑤ If you press the **YELLOW** button, the selected channel will be marked with '◆'.
- ⑥ Move the channel to the new destination by using the **▼/▲** buttons.
- ⑦ If you press the **YELLOW** or the **ENTER** button, the '◆' will disappear and the move function will be disabled.



Edit Favorite Channel List

- ①~③ STEP1~STEP3 is the same as that of Digital Channel List.
- ④ Press the **RED** button. Favorite DTV(1~4) will be displayed.
- ⑤ Select a list by using the **▼/▲** buttons and press the **ENTER** button.
- ⑥ Select a channel by using the **▼/▲** buttons and press the **RED** button.

You can Add or Remove the channel from the Favorite Channels List by using the **RED** button.

The selected channel will be marked with '♥' to its right.

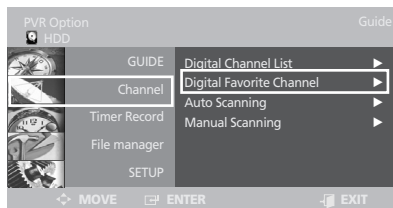
You can view the configured channels in the Favorite Channels List.
- ⑦ Press the **ENTER** button to exit this mode.



Digital Favorite Channel

This function is used to edit the favorite channel list.

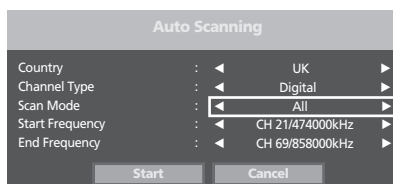
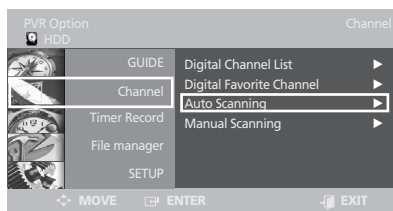
- ①~② STEP1~STEP2 is the same as that of Digital Channel List.
- ③ Select Digital Favorite Channel using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Select the favorite list using the **</>** button.
- ⑤ Select desired channel using the **▼/▲** button and then press the **ENTER** button to watch that channel.
- ⑥ To add the current channel to the Digital Favorite Channel, Press the **YELLOW** button.
To delete a favorite channel from the Digital Favorite Channel list, Press the **RED** button.



Auto Scanning

This function allows you to download of the channels automatically from the programmed load.

- ①~② STEP1~STEP2 is the same as that of Digital Channel List.
- ③ Select Auto Scanning using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Press the **</>**/**▼/▲** buttons to select desired option.
 - **Country** : Press the **</>** buttons to select desired country.
 - **Channel Type** : Only Digital.
 - **Scan Mode** :
 - All : Receives signals including the scrambled signal.
 - Only Free : Receives signals except for the scrambled signal.
 - **Start Frequency / End Frequency** :
 - It is changed automatically when the country is selected.
- ⑤ Select **Start** using the **▼/▲** button and then press the **ENTER** button.



Manual Scanning

To tune-in new channels, the PVR Recorder has been provided with the option manual Scan where the channel data can be entered by user.

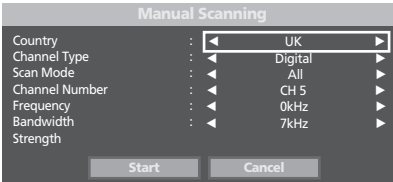
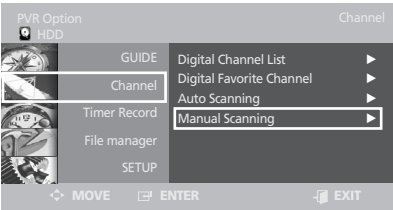
- ①~② STEP1~STEP2 is the same as that of Digital Channel List.
- ③ Select Manual Scanning using the **↕/↗** button and then press the **ENTER** or **>** button.
- ④ Press the **</>/↕/↗** buttons to select desired option.

Select Frequency and input the Frequency of the channel you want to find by pressing the number button.

Select Bandwidth which you want to find using **</>** buttons.

When the valid frequency is input, the bandwidth is selected automatically.
You can select the value of 6, 7 or 8 MHz.
After select option. Press **ENTER** button to start the scanning process.

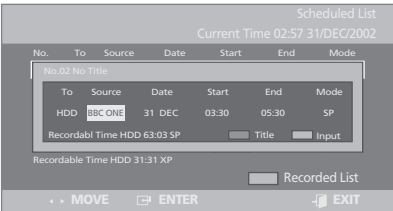
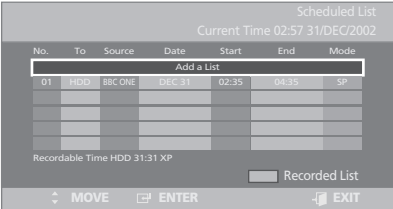
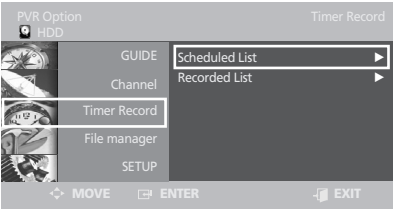
- ⑤ Select **Start** using the **↕/↗** button and then press the **ENTER** button.



Timer Record

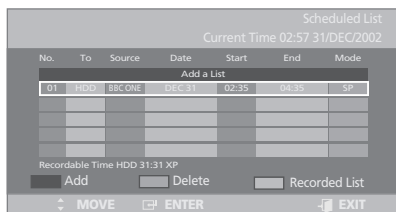
Editing the Scheduled List

- ① Press the **OPTION** button.
The PVR OPTION will be displayed.
- ② Select Timer Record using the **↕/↗** button and then press the **ENTER** or **>** button.
- ③ Select Scheduled List using the **↕/↗** button and then press the **ENTER** or **>** button.
- ④ Press the **↕/↗** buttons to select the number of the Scheduled List you want to edit, then press the **ENTER** button.
- ⑤ Press the **ENTER** button to confirm the edited setting.
- ⑥ Press the **EXIT** button after finishing the operation.
The Scheduled List screen will disappear.



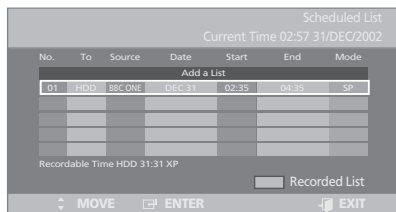
Adding the Scheduled List

- ①~② STEP1~STEP2 is the same as that of Editing the Scheduled List.
- ③ Press the **▼/▲** buttons to select the number of the Scheduled List, then press the **RED** button.
- ④ Press the **ENTER** button to confirm the added setting.
- ⑤ Press the **EXIT** button after finishing the operation. The Scheduled List screen will disappear.



Deleting the Scheduled List

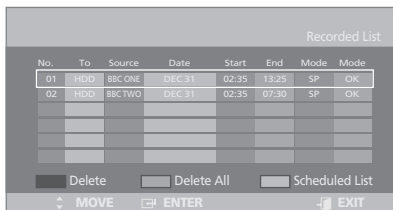
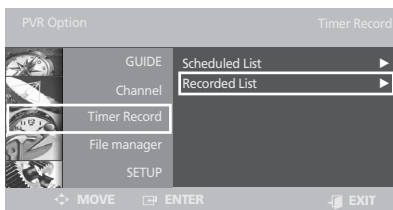
- ①~② STEP1~STEP2 is the same as that of Editing the Scheduled List.
- ③ Press the **▼/▲** buttons to select the number of the Scheduled List you want to delete, then press the **GREEN** button.
- ④ Press the **</>** buttons to select **Yes**, then press the **ENTER** button.
 - The selected entry will be deleted from the list.
- ⑤ Press the **EXIT** button after finishing the operation. The Scheduled List screen will disappear.



Go To Recorded List

You can confirm the performance results of title lists that have passed the reserved recording time.

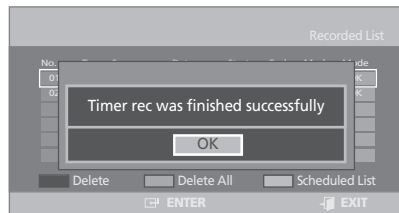
- ①~② STEP1~STEP2 is the same as that of Editing the Scheduled List.
- ③ Select Recorded List using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Press the **▼/▲** buttons to select the number of the Scheduled List you want to edit, then press the **ENTER** button.
- ⑤ Press the **ENTER** button to confirm the edited setting.
- ⑥ Press the **EXIT** button after finishing the operation. The Scheduled List screen will disappear.



Information about Recorded List

Informs whether the selected Recorded List performed a Timer Recording successfully.

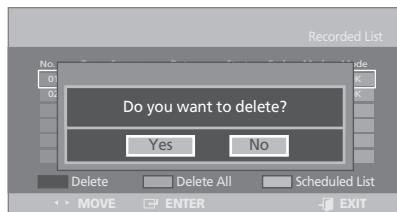
- ①~③ STEP1~STEP3 is the same as that of Go To Recorded List.
- ④ Press the **▼/▲** buttons to select the Recorded List then press the **ENTER** button.



Delete Recorded List

Deletes a Recorded List individually.

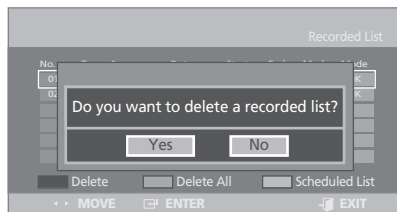
- ①~③ STEP1~STEP3 is the same as that of Go To Recorded List.
- ④ Press the **▼/▲** buttons to select the number of the Recorded List you want to delete, and then press the **RED** button.
- ⑤ Press the **</>** buttons to select **Yes**, then press the **ENTER** button.



Clear Recorded List

Clears all Recorded List at once.

- ①~③ STEP1~STEP3 is the same as that of Go To Recorded List.
- ④ Press the **GREEN** button.
- ⑤ Press the **</>** buttons to select **Yes**, then press the **ENTER** button.



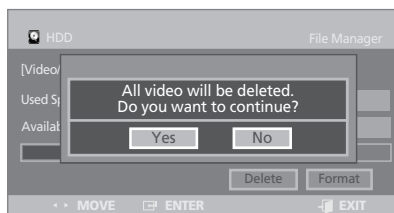
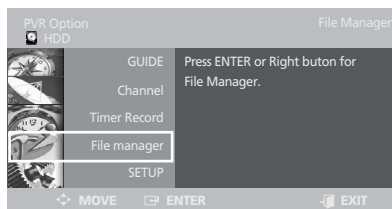
Note.

- If you are watching DVB-T TV when a reservation record system is started, the DVB-T screen will be converted to the recording screen.
- When you record in TV/SCART/VEDIO/S-VEDIO mode, you cannot watch DVB-T TV.
- Recording time should be longer than 10 seconds to make it.

File Manager

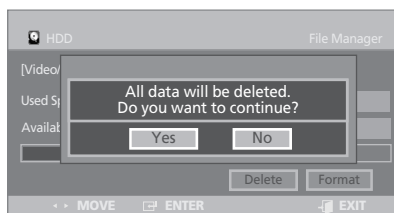
Delete All File List

- ❶ Press the **OPTION** button.
The PVR OPTION will be displayed.
- ❷ Select File Manager using the **▼/▲** button and then press the **ENTER** or **>** button.
- ❸ Press the **</>** buttons to select the Delete, then press the **ENTER** button.
- ❹ Press the **</>** buttons to select the Video, Music, Photo then press the **ENTER** button.
- ❺ Press the **</>** buttons to select Yes, then press the **ENTER** button.
All title lists, Video lists, Music lists or Photo lists are deleted.



Formatting a HDD/USB

- ❶~❷ STEP1~STEP2 is the same as that of Delete All File List.
- ❸ Press the **</>** buttons to select the Format, then press the **ENTER** button.
- ❹ Press the **</>** buttons to select Yes, then press the **ENTER** button.
- ❺ Press the **</>** buttons to select Yes, then press the **ENTER** button.
Formatting will be in progress.

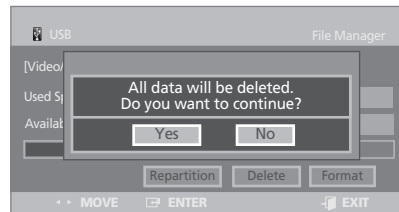
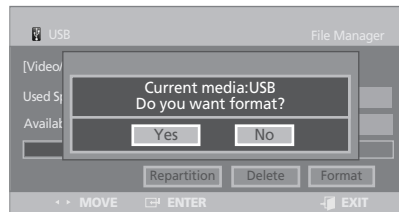


Repartition of External HDD

Warning!

- Repartition button will come up on the screen when your storage device is more than 4GB.
- Partitions will be automatically merged into one to be formatted.

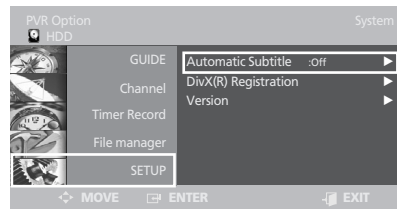
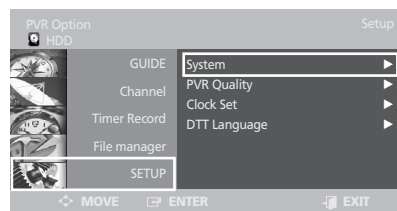
- ①~② STEP1~STEP2 is the same as that of Delete All File List.
- ③ Press the **</>** buttons to select the Repartition, then press the **ENTER** button.
- ④ Press the **</>** buttons to select Yes, then press the **ENTER** button.
Formatting will be in progress.



Setup

Automatic Subtitle

- ① Press the **OPTION** button.
The PVR OPTION will be displayed.
- ② Select SETUP using the **▼/▲** button and then press the **ENTER** or **>** button.
- ③ Select SYSTEM using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Select Automatic Subtitle using the **▼/▲** button and then press the **ENTER** or **>** button.
 - Off : Select if you do not want use Automatic Subtitle.
 - On : Select this option to use the Automatic Subtitle.
- ⑤ Press the **EXIT** button to exit the menu.



DivX® Registration

Please use the Registration code to register this PVR with the DivX(R) Video On Demand format. For more information, visit www.divx.com/vod

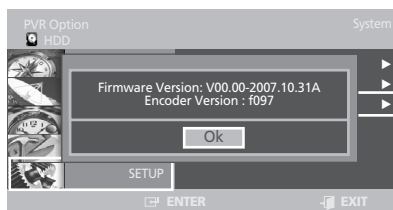
- ①~③ STEP1~STEP3 is the same as that of Automatic Subtitle.
- ④ Select DivX(R) Registraton using the **▼/▲** button and then press the **ENTER** or **>** button.



Version

You can view the hardware and software versions.

- ①~③ STEP1~STEP3 is the same as that of Automatic Subtitle.
- ④ Select Version using the **▼/▲** button and then press the **ENTER** or **>** button.



Timeshift Quality

This function replays recordings as a live signal.

If you are interrupted while watching a TV programme, simply press the **||** button, and the PVR immediately starts recording the programme.

- ① Press the **OPTION** button.
The PVR OPTION will be displayed.
- ② Select **SETUP** using the **▼/▲** button and then press the **ENTER** or **>** button.
- ③ Select **PVR Quality** using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Select **Timeshift Quality** using the **▼/▲** button and then press the **ENTER** or **>** button.

Select the desired option using the **▼/▲** button and then press the **ENTER** button.

- ⑤ While watching the currently broadcasting programme, press the **||** button.
The programme on TV is set in pause mode and the Time Shift Bar is displayed.
- ⑥ Press the **||** button again to resume watching the programme.



• Time Shift Screen Elements

1. Displays the current media.
2. Displays the current status.
3. Watching Point.
4. Current play time.
5. Live Point.
6. Live Time.
7. Time Shift Time Bar

Note.

- The Time Shift is available only when HDD mode is selected.
- You can use this function for up to maximum two hours.
- To cancel the Time shift function, press the **■** button and then select 'Off'.
- To display the banner again, press the **<** or **>** button when the Time shift function is set to 'On'.

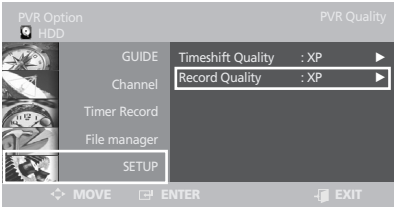
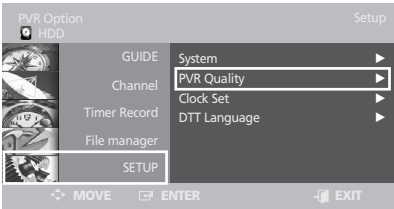
Timeshift Quality	Mode
XP	High quality mode
SP	Standard quality mode

Record Quality

Select one of four recording modes for the desired recording quality.
This function is selected only one mode in XP, SP, LP and EP modes and you can use this mode for timer recording.

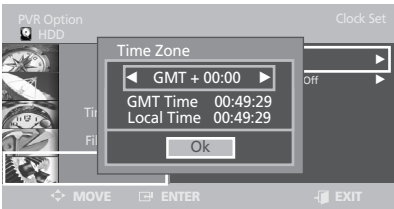
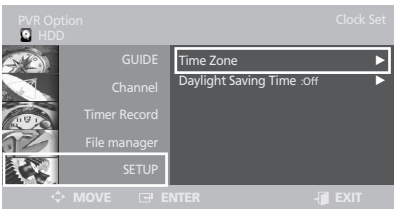
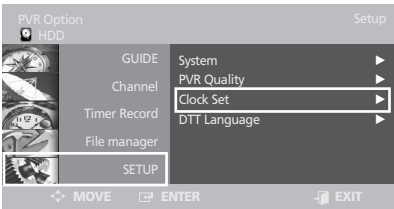
- ①~③ STEP1~STEP3 is the same as that of Timeshift Quality.
- ④ Select Record Quality using the **↕/↗** button and then press the **ENTER** or **>** button.
Select the desired option using the **↕/↗** button and then press the **ENTER** button.

Recording Quality	Mode
XP	High quality mode
SP	Standard quality mode
LP	Long recording mode
EP	Extended mode



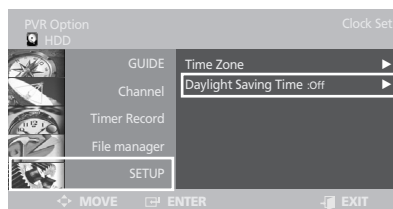
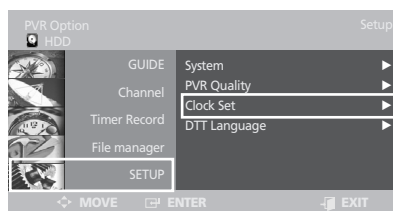
Time Zone

- ① Press the **OPTION** button.
The PVR OPTION will be displayed.
- ② Select **SETUP** using the **↕/↗** button and then press the **ENTER** or **>** button.
- ③ Select **Clock Set** using the **↕/↗** button and then press the **ENTER** or **>** button.
- ④ Select **Time Zone** using the **↕/↗** button and then press the **ENTER** or **>** button.
Time Zone OSD will be displayed.
- ⑤ Select **GMT** using the **↕/↗** button.
- ⑥ Select the desired time using the **</>** button and press the **↕/↗** button to select OK.
Then, press **ENTER** button.



Daylight Saving Time

- ①~③ STEP1~STEP3 is the same as that of Time Zone.
- ④ Select Daylight Saving Time using the **▼/▲** button and then press the **ENTER** or **>** button.
- ⑤ Select the desired option using the **▼/▲** button and then press the **ENTER** button.

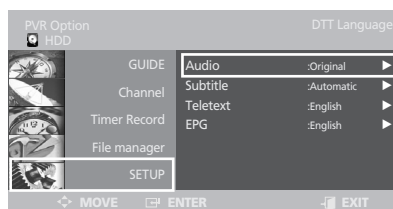
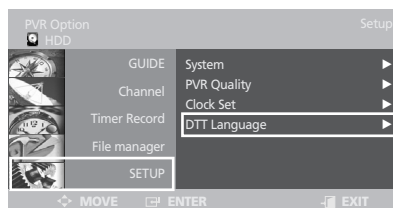


Setting up the Audio Language option

For the current broadcastig Programme provides audio.

- ① Press the **OPTION** button.
The PVR OPTION will be displayed.
- ② Select **SETUP** using the **▼/▲** button and then press the **ENTER** or **>** button.
- ③ Select **DTT Language** using the **▼/▲** button and then press the **ENTER** or **>** button.
- ④ Select **Audio** using the **▼/▲** button and then press the **ENTER** or **>** button.

Select the desired option using the **▼/▲** button and then press the **ENTER** button.



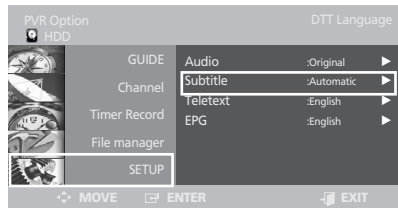
Setting up the Subtitle Language option

For the current broadcasting Programme provides subtitles.

①~② STEP1~STEP2 is the same as that of Setting up the Audio Language option.

③ Select Subtitle using the **▼/▲** button and then press the **ENTER** or **>** button.

Select the desired option using the **▼/▲** button and then press the **ENTER** button.

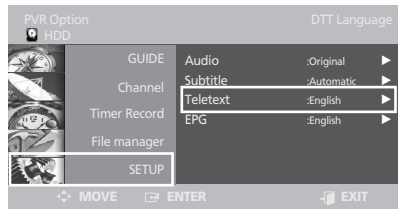


Setting up the Teletext Language option

①~② STEP1~STEP2 is the same as that of Setting up the Audio Language option.

③ Select Teletext using the **▼/▲** button and then press the **ENTER** or **>** button.

Select the desired option using the **▼/▲** button and then press the **ENTER** button.

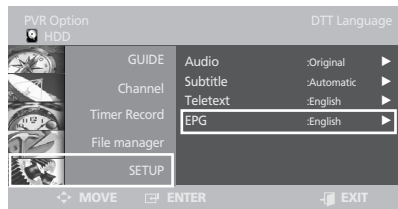


Setting up the EPG Language option

①~② STEP1~STEP2 is the same as that of Setting up the Audio Language option.

③ Select EPG using the **▼/▲** button and then press the **ENTER** or **>** button.

Select the desired option using the **▼/▲** button and then press the **ENTER** button.

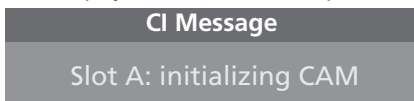


Common Interface(option)

Viewing Common Interface

- Insert the CAM with the CI CARD installed into the common interface slot.

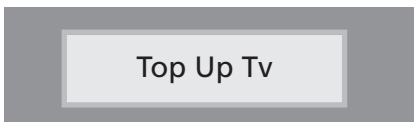
If you installed CAM/CI CARD, the CI Message will be displayed below for an example.



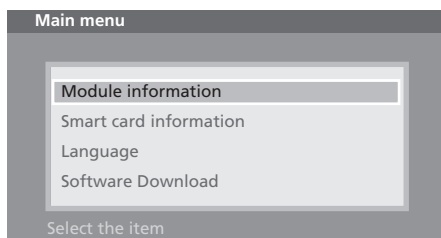
- Check if you can see a picture on a scrambled signal channel.

To Display the Common Interface Menu

- Press the **OPTION** button.
The OPTION MENU will be displayed.
- Select **SETUP** using the **▲/▼** button and then press the **ENTER** button.
- Select **System** using the **▲/▼** button and then press the **ENTER** button.
- Select **Common Interface** using the **▲/▼** button and then press the **ENTER** button to display the Common Interface, see below for an example.



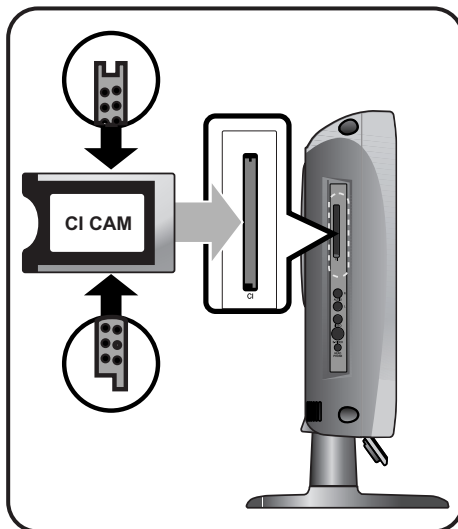
- Press the **ENTER** button to display the CI Main menu, see below for an example.



- Select the desired option using the **▼/▲** button and then press the **ENTER** button.
- Press the **EXIT** button to exit the menu.

Connecting CI

- The Application Info inserting is about the CI CARD.
- You can install the CAM anytime whether the TV is ON or OFF.



- 1 Insert the CI CARD into the CAM in the direction of the arrow until it fits.
- 2 Insert the CAM with the CI CARD installed into the common interface slot.
(Insert the CAM in the direction of the arrow, right up to the end so that it is parallel with the slot.)

Troubleshooting

If the TV seems to have a problem, first try the following list of possible problems and solutions before contacting a service center. If none of these troubleshooting tips apply, do not attempt to repair the product yourself. Call your nearest service center.

• Symptoms that may appear to be a problem

The following symptoms may happen even if the TV has no problem. First try the following list of possible problems and solutions before contacting a service center. First try the following list of possible problems and solutions. If the symptom continues, turn the TV off, and call your nearest service center.

Symptom	Possible Problem	Possible Solution
No picture on the screen, and the power LED does not turn on.	Power connection problem.	Check the power cable connectivity to the power connector. Press the power switch again.
The TV is turned on, but there is no picture on the screen.	The brightness is adjusted too low. The fluorescent tube is out of order.	Adjust the brightness and the contrast so that a picture is displayed brightly. The fluorescent tube of a LCD TV has a lifetime of about 50,000 hours . To replace the fluorescent tube, contact a service center.
An afterimage is generated when continuously watching a still image.	This is caused by an inherent property of LCD panels. Depending on the number of valid pixels, there may be black or bright pixels. These will be less than 0.005% of the sum of all pixels. This is not a problem.	
No picture on the screen. No audio.	Discordance between the external device jack and the input switch button location.	Adjust the input switch location.
A picture is displayed on the screen, but there is no audio.	The volume is adjusted to 0. Mute is active. The audio cable is disconnected.	Turn up the Volume button. Press the Mute button again. Check the audio cable connectivity.
Remote control malfunctions.	The polarity of the batteries installed in the remote control is wrong. The batteries installed in the remote control have not been discharged completely.	Reinstall the batteries properly. Replace the batteries with new ones.
Noise is heard on the radio.	This may happen when you use a radio near the TV.	Noise may occur when you use a radio near the TV. Keep some distance between any radios and the LCD TV.
No color in a color picture.	The Color density is adjusted to 0 or almost 0.	Adjust the Color density to 100 or less.

Duplicated pictures on the screen.	This may be caused by reflected broadcasting signals when there is are mountains, buildings, or trees near your house.	Check if there are any tall objects such as skys crapers near your house. Check that the direction of the antenna is adjusted correctly.
Blurred or snowy picture.	The direction of the antenna is not optimal. The antenna cable is disconnected.	Check that the direction of the antenna is correct. Check that the antenna cable is connected to the ANTENNA jack on the back of the LCD TV.
If DTV channels are not saved when a TV is on and off.	Please check out if internal HDD is in place and push the cover to get the HDD completely engaged in.	Please make certain whether HDD might have already been damaged or defective.
If recording function does not work.		
If you cannot adjust Option or File Manager		

The remote control does not work properly!

- Are the polarities of the installed batteries correct?
- Has the battery discharged completely?
- Is the power cord plugged in properly or is there a power failure?
- Is fluorescent lighting or a neonsign near the unit?

Warning

If a problem has been detected, unplug the power cable from the wall outlet first.

Using the product when it has a fault may cause electric shocks or fire.

Do not place objects near the wall outlet so that you can unplug the power cable if necessary.

Specifications

The exterior design and the product specifications are subject to be changed without prior notice due to improvements in performance. This product is manufactured for domestic use.

This product may not be used in countries whose television system type or power voltage is different.

The TFT LCD panel uses a panel consisting of sub pixels which require sophisticated technology to produce. However, there may be few bright or dark pixels on the screen. These pixels will have no impact on the performance of the product.

LCD Panel	Screen Size		19 Inch WIDE	20 Inch WIDE	22 Inch WIDE
	Type		TFT LCD		
	Display Color		16.7M	16.2M	16.7M
PVR	Recording		HDD, USB Enable: USB HOST 1.1, USB Recording (RF, Video, S-VHS, DTV, Scart Mode Record enable)		
	Editing		Delete, Copy, Rename, Protection, Split		
	Time shift		RF/DVB-T only		
	Supported Playback Data Type		JPEG, MPEG1 File Playback, Music Slide Show, DivX 3, 4, 5, 6, Ultra, XviD		
	AUDIO		MPEG-1 Layer 2, 3, WMA		
	Video Output		YPbPr(576P)		
	Audio Output		2Ch Audio		
	Video Input		Composite(CVBS)		
	Audio Input		Audio L, R		
	Upgrade		USB PORT		
DVB-T	BASIC		Logic Channel Numbering(LCN), MHEG5, Automatic and manual channel scan, Electronic Program Guide(EPG), Reed-Solomon decoding, Fast channel search.		
TV/VIDEO	Receiver / Channels		VHF: E2 ~ E12		
			UHF: E21 ~ E69		
			CATV: S1 ~ S41		
			Television Broadcasting System: PAL, SECAM: B/G, D/K, I, L		
	Antenna Interface		VHF, UHF: 75 ohm		
	Video Signal		PAL, SECAM, NTSC(3.58/4.43)		
PC	Video Type		CVBS, S - VHS, RGB, YUV, HDMI		
	Synchronization	Horizontal F	30 ~ 80KHz		
		Vertical F	56 ~ 75Hz		
	Color Quality		16.7M	16.2M	16.7M
	Maximum Resolution		1440 x 900	1360 x 768	1680 x 1050
	Separation Signal		TTL, Anode or Cathode		
	Display Color		8-bit, 16.7M	6-bit, 16.2M	8-bit, 16.7M
	Interface		D-sub		

HDMI		HDMI/DVI-D		
Audio Out		2W x 2		
Power Supply		50/60Hz, DC12V/5A	50/60Hz, DC12V/6A	50/60Hz, DC12V/5A
Power Consumption		Maximum 60W	Maximum 72W	Maximum 72W
Power Consumption When Power Saving Mode		Less than 3W		
Dimension (mm)	With Stand (W x H x D)	479 X 392.6 X 200	532.9 X 398.5 X 200	548.5 X 428 X 200
	Monitor (W x H x D)	479 X 323 X 89.8	532.9 X 332.5 X 99.5	548.5 X 381 X 85.5
Weight		5 Kg	6 Kg	6.3 Kg
Accessories		Remote control, Battery (AAA), Owner's Instructions, Power Cord, AC adapter, Stand Screw, Cleaning Cloth, Neck Cover (for WALL MOUNT), 160G HDD(INTERNAL)		

- This device has been registered in regards to EMI for residential use. It may be used in all areas.

Appendix

Standard Signal Mode Table

A TFT LCD TV is configured to support the following 24 signal modes. A user can register up to 24 modes. Configure the PC display mode referring to the following table.
For configuration procedures, refer to the Appendix of the PC manual.

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (H/V)
IBM, 640 X 350	31.469	70.086	25.175	+/-
IBM, 640 X 480	31.469	59.940	25.175	-/-
IBM, 720 X 400	31.469	70.087	28.322	-/+
MAC, 640 X 480	35.000	66.667	30.240	-/-
MAC, 832 X 624	49.726	74.551	57.284	-/-
MAC, 1152 X 870	68.681	75.062	100.000	-/-
VESA, 640 X 480	37.500	75.000	31.500	-/-
VESA, 640 X 480	37.861	72.809	31.500	-/-
VESA, 800 X 600	35.156	56.250	36.000	-/-
VESA, 800 X 600	37.879	60.317	40.000	+/+
VESA, 800 X 600	46.875	75.000	49.500	+/+
VESA, 800 X 600	48.077	72.188	50.000	+/+
VESA, 1024 X 768	48.363	60.004	65.000	-/-
VESA, 1024 X 768	56.476	70.069	75.000	-/-
VESA, 1024 X 768	60.023	75.029	78.750	+/+
VESA, 1280 X 768	47.693	59.992	80.125	-/+
VESA, 1360 X 768	47.712	60.015	85.800	+/+

19" ONLY

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (H/V)
VESA, 1152 X 864	67.500	75.000	108.000	+/+
VESA, 1280 X 960	60.000	60.000	108.000	+/+
VESA, 1280 X 1024	63.891	60.020	108.000	+/+
VESA, 1280 X 1024	79.976	75.025	135.00	+/+
VESA, 1440 X 900	55.935	59.887	106.500	-/+
VESA, 1440 X 900	70.635	75.984	136.750	-/+

22" ONLY

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Clock Frequency (MHz)	Polarity (H/V)
VESA, 1152 X 864	67.500	75.000	108.000	+/+
VESA, 1280 X 960	60.000	60.000	108.000	+/+
VESA, 1280 X 1024	63.891	60.020	108.000	+/+
VESA, 1280 X 1024	79.976	75.025	135.00	+/+
VESA, 1680 X 1050	65.290	59.954	146.250	-/+

Note

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