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SAFETY INSTRUCTION

PURPOSE OF USE

- This device is only suitable for **using in dry, internal rooms**.
- This LCD display is intended for personal use only. It **not** intended for commercial use in **a heavy industry environment**. Use under extreme environmental conditions can result in damage to your device.

OPERATING SAFETY

- **Never open the housing** of the LCD display! When the housing is open there is a **danger of injury** from electric shock!
- Do not insert **any objects** through the slots and openings of the monitor. This may lead to an electrical short-circuit or even fire resulting in damage to your LCD display.
- Slots and openings in the LCD display are for ventilation purpose. **Do not cover these openings**, as this may lead to overheating.
- Do not allow **children** to play **unattended** with electrical equipment. Children may not always correctly recognize danger.
- An **injury hazard** exists when the **display breaks**. Wear protective gloves to pack the broken parts and send them into your service center for proper **disposal**. Then wash your hands with soap, because it is possible for **chemicals** to escape.
- Never exert pressure on the display. This could break the monitor.
- Do not touch the display with your fingers or with sharp objects to avoid damage.

Pull out the mains plug and contact **Customer Services**, if...

... if the **power cord** is burnt or **damaged**. Replace the defective power cord with an original power cord. Under no circumstances may a defective power cord be repaired.

- ... if the **housing** of the device is **damaged** or **fluids have leaked into it**. Have the TV checked by customer service first. There may be a life-threatening risk of electrocution!

REPAIR

- Leave all repairs of your LCD display to **authorized and qualified personnel** only.
- Should a repair be necessary, please contact one of our authorized **service partners** only.

ENVIRONMENTAL CONDITIONS

- The LCD display can be operated most reliably at ambient temperatures between **+41°F** and **+95°F** (5° C to 35° C) and at a relative humidity between 20% and 85% (without condensation).
- When switched off, the monitor can be stored most reliably between **+14°F** and **+140°F** (-10° C - +60° C).
- After transporting your LCD display please wait until it has assumed the ambient temperature before connecting and switching it on. Extremely high variations in the temperature or humidity may result in **condensation** forming on the inside of the LCD display which could cause an **electrical short-circuit**.
- Pull the plug out of the socket and the aerial cable from the aerial socket during a **thunderstorm** or if the television will not be used for a longer period.

SETTING UP LOCATION

- Keep your LCD display away from **moisture** and avoid **dust, heat** and **direct sunlight**. Failure to observe these instructions can lead to malfunctions or damage to the LCD display.
- Do **not** operate your device **in the open air**, because external influences, such as rain, snow, etc. could damage the device.
- Do **not** place **any containers filled with liquid** (vases or similar containers) **on the device**. The container could tip over and liquid can impair electrical safety.
- Do **not** place **any open sources of fire** (candles or similar objects) **on the device**.
- Pay attention to **sufficiently large clearances** in the wall cupboard. Maintain a **minimum clearance of 10 cm around the device** for sufficient ventilation.
- Place and operate all units on a **stable, level** and **vibration-free surface** in order to avoid the LCD display from falling.
- **Avoid** the **effects of dazzling, reflections** and a too distinct **contrast between light and darkness**, in order to protect your eyes.
- The optimum viewing distance is 5 times the screen diagonal (approx. 4 m).

CONNECTION

Observe the following instructions to connect your LCD display properly:

Power Supply

- Operate your LCD display only with grounded outlets with **AC 100-240V~ 60/50 Hz**. If you are not sure about the power supply at your location, check with your power company.
- Use only power connection cable **provided**.
- For additional safety we recommend use of **a surge protector** to protect your LCD display from damage resulting from **voltage surges** or **lightning**. You will get information about this in specialist shops.
- To remove the LCD display from the power supply, disconnect the plug from the AC outlet.
- The power **outlet** must be in the vicinity of your LCD display and within reach of the power cables. **DO NOT stretch the power cables tightly to reach a power outlet**.
- Pay attention that an **extension cable** corresponds to the **VDE requirements** if you use one. Ask your electrician, if necessary.
- You should arrange the LCD display cables in a manner that no one can trip over or step on them.
- To avoid damage of cable **do not place any objects or furniture on the cable**.

RECYCLING AND DISPOSAL

This device and its packaging was produced mostly from materials which can be disposed of in an environmentally friendly manner and be professionally recycled.

After its use the device will be taken back and recycled or use will be made of its useful material, if it is returned in a condition corresponding to its intended use.

Parts not usable will be properly disposed of.

Should you have any questions concerning the disposal please contact your dealer or our service.



**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.

Battery treatment

Batteries may contain combustible materials. By misuse, this may cause battery **leakage, heat, explosion** or **ignition**, bringing about **injury** or **damage** to the device.

Please observe strictly the following matters:

- KEEP CHILDREN AWAY from batteries.
If by any chance, the batteries are swallowed, consult a doctor immediately.
- DO NOT CHARGE batteries.
- DO NOT FORCIBLY DISCHARGE batteries.

- DO NOT SHORT-CIRCUIT batteries.
- DO NOT HEAT or DISPOSE OF IN FIRE.
- DO NOT DISASSEMBLE or DEFORM batteries.
Your hands and fingers may be injured, or the liquid of the battery may get into your eyes or adhere to your skin. If this happens, rinse with a large quantity of water immediately and consult a doctor.
- DO NOT expose batteries to strong impact by dropping or throwing the batteries.
- DO NOT reverse the positive (+) and negative (-) terminals to avoid short-circuit.
- Do NOT MIX used and new or different types of batteries together.
Your equipment may not operate properly. In addition, the battery exhausted first may be excessively drained (over-discharged).
- REMOVE PROMPTLY the used batteries from the device.
- REPLACE ALL BATTERIES with new batteries of the same type at the same time.
- INSULATE THE TERMINAL parts with tape or the like at the storage or disposal of the batteries.



The batteries are special category waste. When disposing of the appliance ensure that this is done correctly. Contact Customer Service for more details.

STANDARDS/ELECTRO-MAGNETIC COMPATIBILITY

Your device fulfils the requirements for electro-magnetic compatibility and electrical safety specified in the following standards:

EN 55013, EN 55020, EN 60065
EN 61000-3-2, EN 61000-3-3

- Provide a space of at least three feet from **high-frequency and magnetic sources of interference** (television sets, loudspeakers, mobile telephones, etc.) in order to avoid malfunctions.
- The failure of individual or groups of scanning spots can arise in rare cases, in spite of the most up-to-date manufacture, because of the highly complex technology.

Your device corresponds to the ISO 13406-2 Class II (Pixel Error Class) European Norm (see Page 65)

MAINTENANCE AND CARE

You can increase the life of your LCD display by taking the following precautions:

- **Caution!** There are **no parts which can be serviced** or cleaned inside of the monitor housing.
- Before cleaning **always disconnect the power line** and all connection cables.
- Do **not use any solvents, caustic or gaseous** cleaning agents.
- Clean the display with a soft, lint-free cloth.
- Ensure that no water droplets remain on the screen. Water can cause **permanent discoloration**.
- Do not expose the screen to **bright sunlight** or **ultraviolet radiation**.
- Please keep the packaging material well and use it exclusively to transport the device.

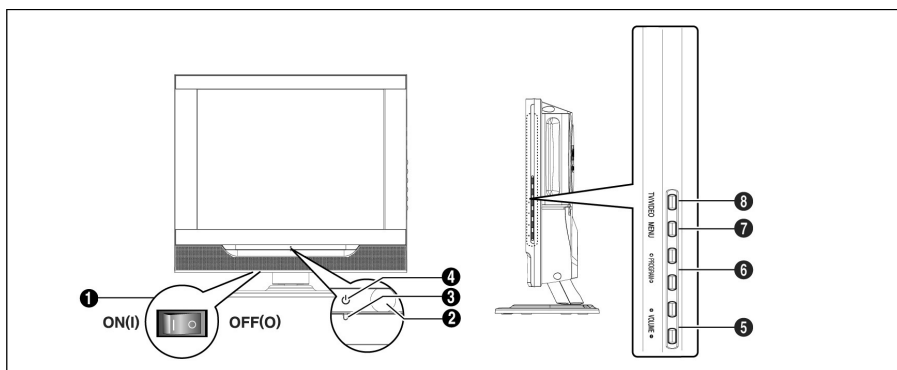
INCLUDED IN THE BOX

Please check that the contents are complete and notify us within 14 days of purchase if any of the following components are missing:

- Television
- Remote control + battery (AAA)
- User's guide
- Power cord
- RF cable

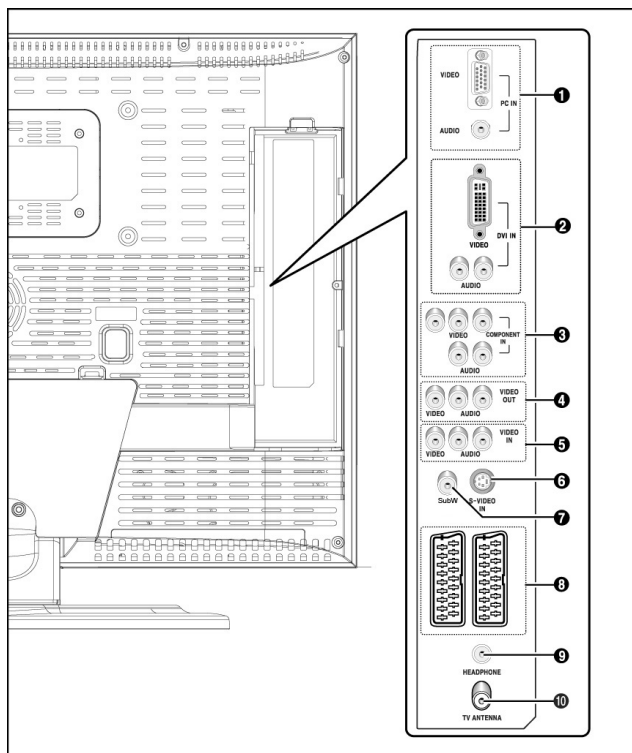
OVERVIEW

FRONT VIEW



1. MASTER SWITCH
2. Remote control sensor
3. POWER: Turns the TV on and off.
4. LED Light
5. VOLUME: Increases or decreases the volume. This is also used to select the "MOVE&ADJUST&PREV" item on the on-screen menu.
6. PROGRAM: Changes channels or "MOVE&ADJUST&PREV" to items on the onscreen menu.
7. MENU: To access or close menus, simultaneously.
8. TV/VIDEO: Selects an external device connected to the TV.

REAR PANEL JACKS



1. PC INPUT (VIDEO/AUDIO) JACKS

2. DVI INPUT (VIDEO/AUDIO : L/R) JACKS : DVI-D Only

3. COMPONENT JACKS (VIDEO : Y, Pb, Pr/AUDIO : L/R)

4. LINE (VIDEO/AUDIO) OUTPUT JACKS

5. VIDEO3 (VIDEO/AUDIO) INPUT JACKS

6. S-VIDEO INPUT JACK

7. SUBWOOFER JACK

8. SCART JACKS (BOTTOM : SCART1, TOP : SCART2)

9. HEADPHONE JACK: Used for headphones (not included in delivery)

10. TV ANTENNA INPUT JACK

For more details on connections see page 16.

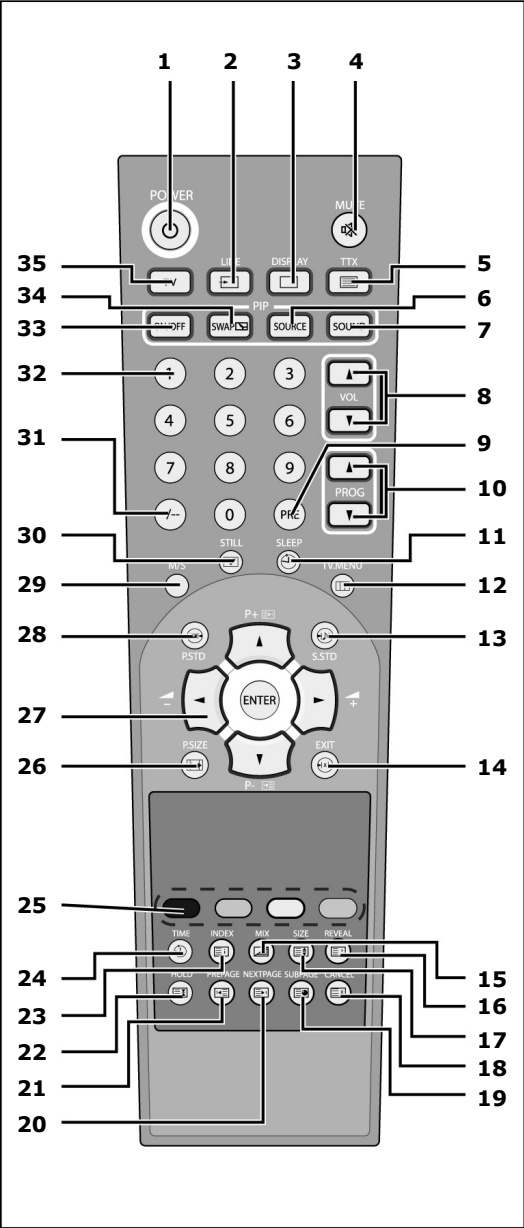
REMOTE CONTROL

INSTALLING THE BATTERIES

1. Open the battery compartment of the remote by removing the cover.
2. Install two AAA size batteries according to the correct polarity.
3. Close the battery compartment.

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.

BUTTON LAYOUT



1. **POWER:** Turns the TV on and off.
2. **LINE:** External input selection. (TV → RGB → Video1 → Video2 → Video3 → S-Video → COMPONENT → PC → DVI)
3. **DISPLAY** Displays the current channel and the audio video settings
4. **MUTE:** Temporarily mute the sound
5. **TTX:** Switches to Teletext mode
6. **SOURCE:** Selects the signal source for the PIP* window
7. **SOUND:** Changes the audio signal source between the main screen and the PIP window
8. **VOL:** Increases or decreases the volume
9. **PRE:** Moves to the previous channel
10. **PROG:** Changes channels
11. **SLEEP:** Selects a preset time interval for automatic shutoff
12. **TV.MENU:** Displays the OSD menu
13. **S.STD:** Configures various audio settings
14. **EXIT:** Exit the current configuration
15. **MIX:** VIDEO & TTX MIX
16. **REVEAL** Teletext reveal
17. **SIZE:** Teletext size selection
18. **CANCEL:** To exit from the Teletext display
19. **SUBPAGE:** Teletext sub-page
20. **NEXTPAGE:** Teletext next page
21. **PREPAGE:** Teletext previous page
22. **HOLD:** Teletext page
23. **INDEX:** To display the first page
24. **TIME:** To display time
25. **COLOR KEY:** Fasttext topic selection
26. **P.SIZE:** Changes the screen size
27. **◀/▶/▲/▼/ENTER:** Select an item of menu/ Change confirmation
28. **P.STD:** Configures various video settings

* PIP – Picture in Picture. More precise information about this from Page 40.

- 29. **M/S**: Sound mode selection
- 30. **STILL**: Freezes a moving picture on the screen
- 31. **-/--**: Selects channels over 10.
- 32. **ZIFFERNTASTEN**: Selects channels directly on the TV
- 33. **ON/OFF**: Turns PIP on or off.
- 34. **SWAP**: Exchanges the video signal source of the main screen and the PIP window
- 35. **TV**: Switches to TV mode

SETTING UP

UNPACKING

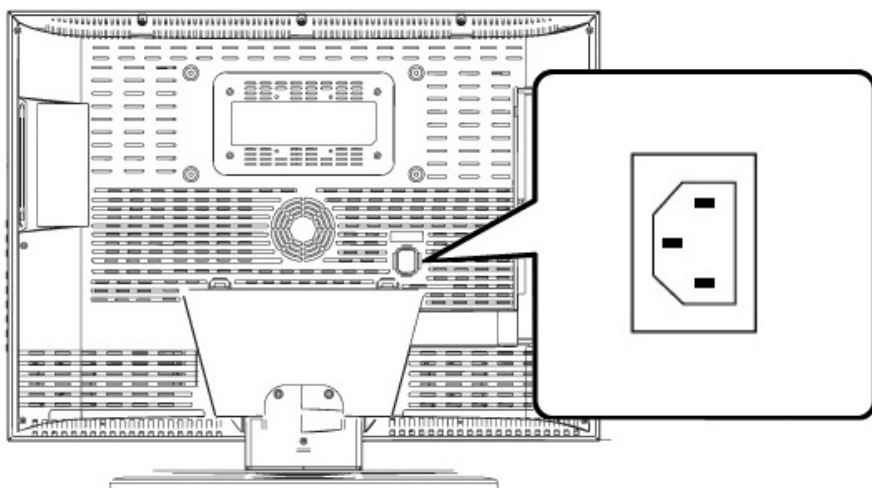
- Read the **Safety Information** Chapter from Page 1 ff under all circumstances before bringing the device into operation.
- Please keep the packaging material well and use it exclusively to transport the television.
- Screws to attach the base plate will be in the packaging. Keep them away from children; there is a danger of swallowing them.
- Televisions are **very heavy**. Get a second person to help you when setting up the device, if necessary.

INSTALLING THE BASE PLATE

1. Place a soft, clean pad under the television, so that it will not be possible for the surfaces to be scratched or damaged.
2. Place the television with the back on a flat and stable surface.
3. Position the base plate on the foot of the television.
4. Use a crosshead screwdriver and attach the base plate with the screws supplied.

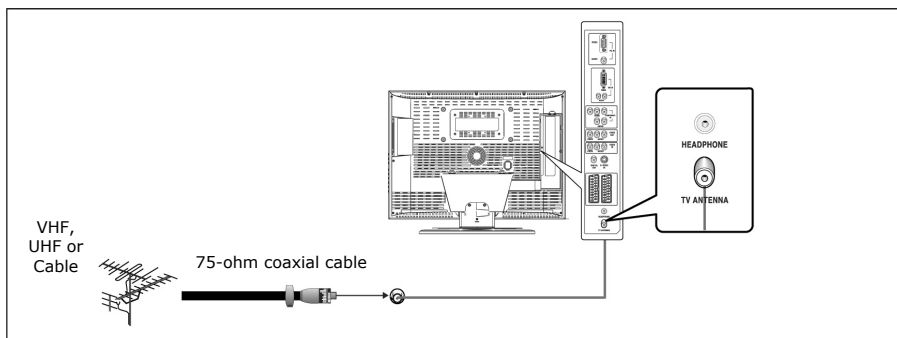
CONNECTING YOUR TV

CONNECTING THE MAINS CABLE

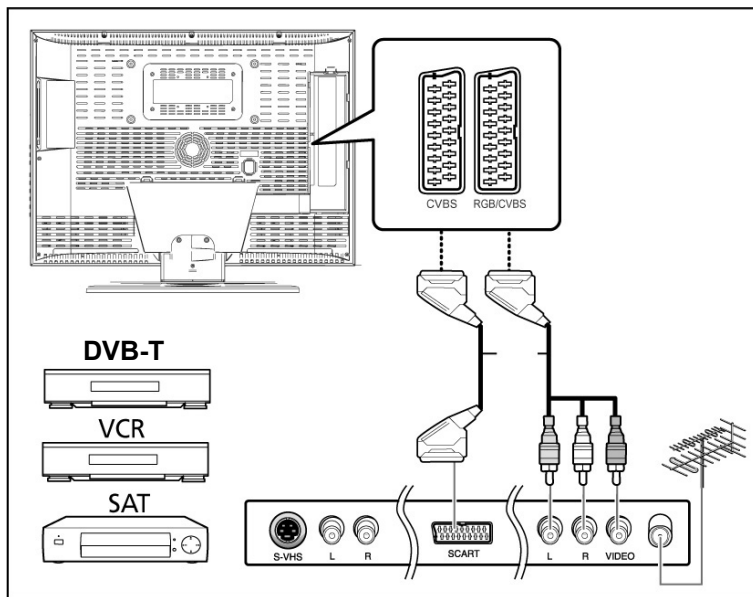


1. Connect the mains cable supplied to the connection on the back of the television. .
2. Plug the mains plug into a suitable socket close to your television. The socket must be easily accessible.

CONNECTING AN ANTENNA (WITHOUT A DECODER BOX)



CONNECTING THE SCART JACK



Connecting procedure

SCART1 is used for the equipment with an RGB output, such as video game devices or video disc players.

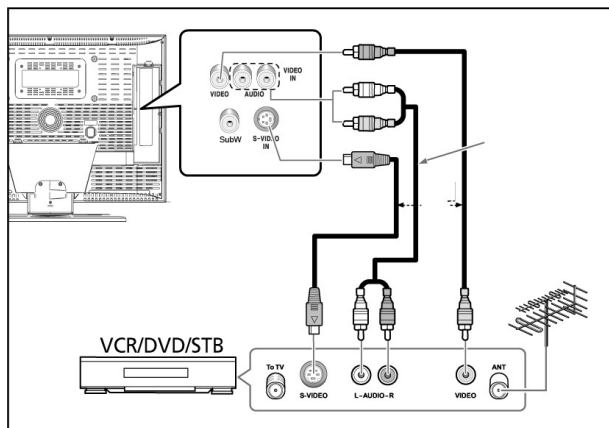
This end can be fitted with:

- A SCART cable
- or
- A SCART / three RCA cable (VIDEO+AUDIO-L+AUDIO-R)

Procedures for watching a video over a VCR

1. Turn the TV on, and select '**VIDEO1**' using the **LINE** button on the remote control.
2. If you have a second VCR and wish to copy cassette tape, connect the source VCR to **SCART1** and the target VCR to **SCART2** so that you can redirect the signal from **SCART1** to **SCART2**.

CONNECTING THE VIDEO OR S-VIDEO/AUDIO JACKS



Connecting procedure

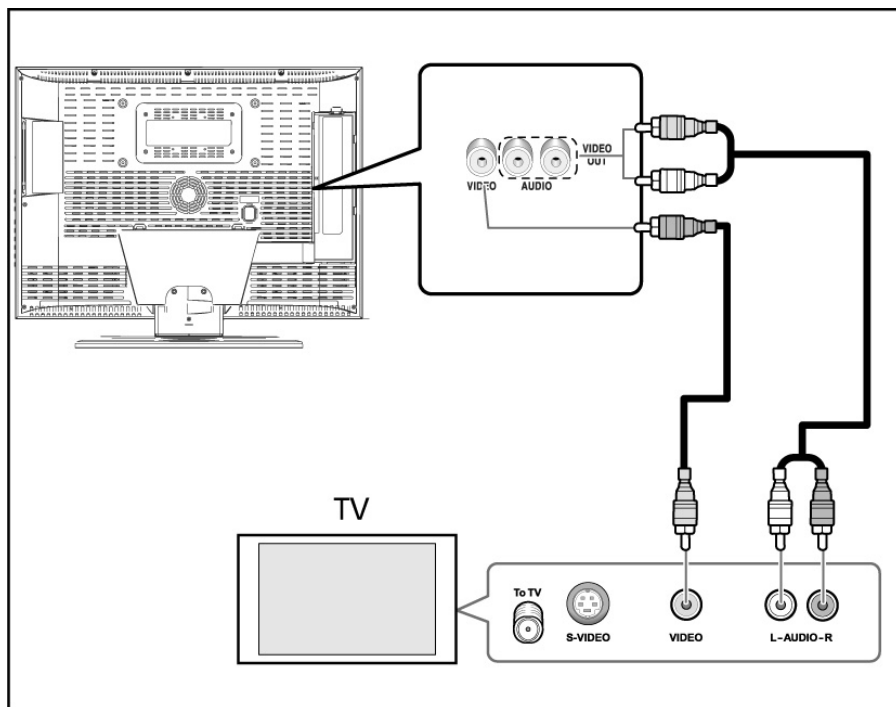
1. Connect the antenna cable to the ANTENNA IN terminal on the back of your VCR.
2. Connect the VIDEO/AUDIO INPUT jacks of the TV and the video/audio output jacks of your VCR with the video/audio cables. (Connect the cable to the terminal of the same color)
 - You can use the S-Video cable to connect 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 3**' using the **LINE** button on the remote control.

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

CONNECTING AN EXTERNAL TV



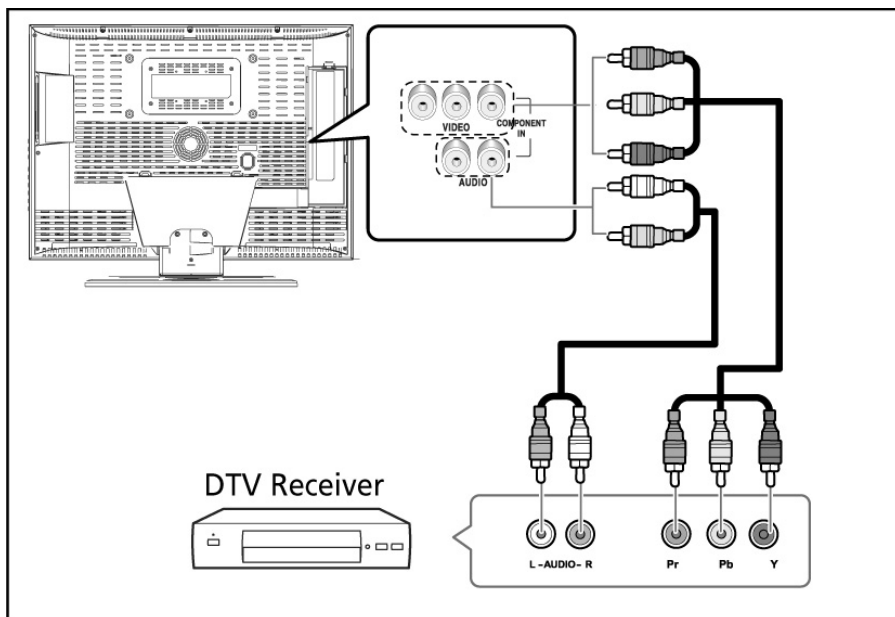
Connecting procedure

1. Connect the AUDIO CABLES between the AUDIO OUT L and R jacks on the back of your TV and the corresponding AUDIO INPUT jacks on external TV.
2. Connect the VIDEO CABLE between the VIDEO OUT jack on the back of your TV and the corresponding VIDEO INPUT jack on external TV.

To watch the external TV

1. Turn the external TV on and select '**VIDEO**' using the external input button.
2. Turn the TV on.

CONNECTING A COMPONENT DEVICE



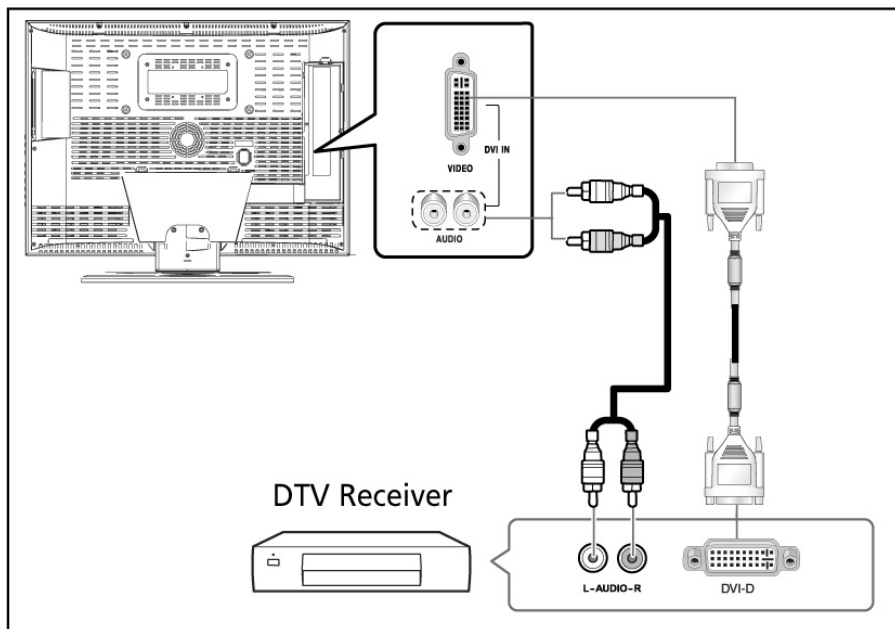
Connecting procedure

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 **LINE** button on the remote control.
2. Turn the DTV receiver on.

CONNCTING THE DVI JACK (DVI-D ONLY)



Connecting procedure

1. Connect the DVI input jack of the TV and the DVI output jack of your DTV receiver.
2. Connect the DVI audio input jacks of the TV and the DVI audio output jacks of your DTV receiver with the audio cable (480i/60Hz, 480p/60Hz, 576i/50Hz, 576p/50Hz, 720p/50Hz, 720p/60Hz, 1080i/50Hz, 1080i/60Hz).
3. **VESA standard mode** (resolution/vertical frequency)
640x480/60Hz, 640x480/72Hz, 640x480/75Hz,
800x600/60Hz, 800x600/72Hz, 800x600/75Hz,
1024x768/60Hz, 1024x768/70.1Hz, 1280x768/60Hz,
1280x768/75Hz.

TV FUNCTION

WATCHING TV

Turning the TV on and off

1. Plug the main lead into an appropriate socket.
2. Press the **MASTER SWITCH** on the bottom of the television toward "**ON**"(I).
3. Press the **POWER** button on the remote control (or on the front panel of the unit.) You can also switch on by pressing the **PROG** ▲/▼ buttons.
 - When you turn the power ON, the screen appears and the LED light is turned off.
 - When you turn the power OFF, the screen goes blank, and the LED light turns red.
 - Do not leave your television in Standby mode for long periods of time (when you are away on holiday, for example). Turn your television off by pressing the **MASTER SWITCH** toward "**OFF**" (O). It is best to unplug the set from the main and aerial.

Operating the OSD Menu

The **On Screen Display** (abbreviated as OSD) is a menu that is faded in for a short time by the television. It serves to operate the device and to make settings.

You will call up the Menu by means of the **TV.MENU** button and move within it with the ◀/▶/▲/▼ buttons.

In addition, you will receive information about which buttons you must press to move within the masks through the lower line of the OSD information.

You will close the OSD with the **EXIT** button.

The OSD Menu will be faded out automatically if you do not operate any buttons for several seconds.

Selecting the menu language

1. Press the **TV.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 **DISPLAY** button on the remote control. The TV will display the input source, the picture mode, the sound mode, the size mode, the sleep time, the current time mode.

Adjusting the volume

Adjust the volume using the **VOL** ▲ / ▼ button.

Muting the sound

Press the **MUTE** button.

You can deactivate the setting to mute in different ways.

- Press the **MUTE** button again.
- Press the **VOL** ▲ / ▼ button.

Selecting the Input Signals

Press the **LINE** button. For connection and setup procedures, refer to page 16.

STORING CHANNELS AUTOMATICALLY

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **SETUP** using the ◀/▶ button and then press the ▼ button.
3. Select **AUTO PROGRAMMING** 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.

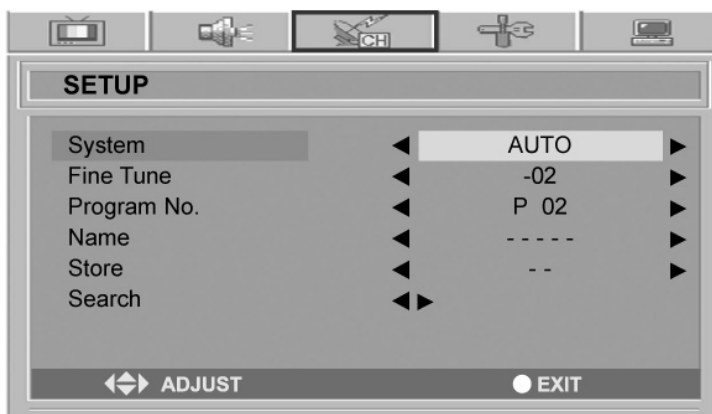


6. Leave the **COUNTRY** option with the ◀ button **LAND** and select it with the ▲/▼ Do **not** place **any SEARCH** buttons.
7. Press the ▶ button, in order to carry out the automatic search.
8. A progress display will be faded in and will show the status of the search. It will be possible to interrupt the search at any time with the **TV.MENU** button.

MANUAL STORING OF CHANNELS

When storing channels manually, you can choose:

- Whether or not to store each of the channels found.
 - The program number by which you wish to identify each stored channel.
1. Press the **TV.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. The following systems are supported by your television: AUTO → BG → DK → I → L → LP → AUTO*



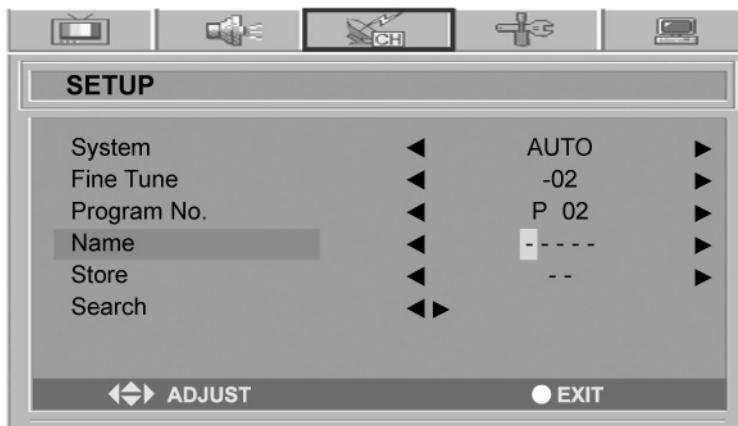
5. Press the ◀ button.
6. Select **PROGRAM No.** using the ▲/▼ button and then press the ▶ button. And press the ▲/▼ button to select the required channel number.
7. Select **SEARCH** using the ▲/▼ button and then press the ▶ button. The tune scans the frequency range until the first channel on the channel that you selected is received on your screen.

* These systems are PAL Norm sound standards (transmission procedure in the case of television reception in Europe). See Page 64

8. Select **STORE** using the ▲/▼ button and then press the ► button. And press the ▲/▼ button to select the **OK**.
9. Repeat Step 5 to 7 for each channel to be stored.

CHANNEL NAME

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **SETUP** using the ◀/▶ button and then press the ▼ button.
3. 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.
4. Select **STORE** using the ▲/▼ button and then press the ► button. And press the ▲/▼ button to select the **OK**.

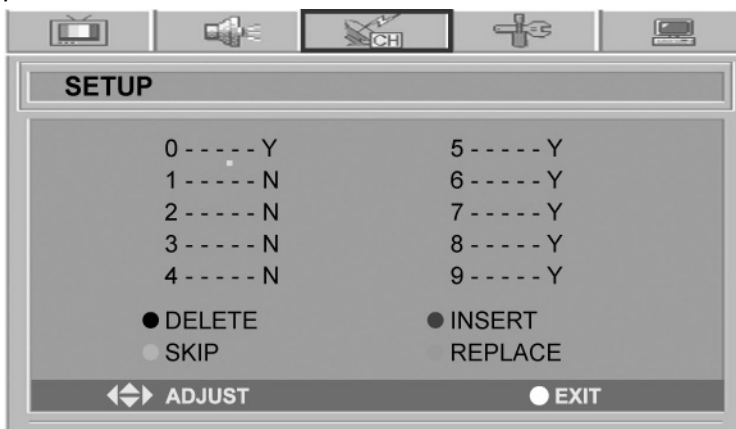


5. Press the **EXIT** button to exit the menu.

PROGRAM EDIT

This function enables you to delete, insert, replace or skip the stored programs.

1. Select the channel to tuning using the numeric or channel buttons.
2. Press the **TV.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

- Channels that have been deleted can be reinstalled by means of a renewed search.
1. Select a program to be deleted with the ▲/▼/◀/▶ buttons.
 2. Press the **RED** button. The selected program is deleted. All the following programs are shifted up one position.

Insert a program

1. Select a program to the inserted with the ▲/▼/◀/▶ buttons.
2. Press the **YELLOW** button.
3. The channel will be displayed twice, while the following channels will each be pushed downwards by one position.

Replace a program

1. Select a program to the replaced with the ▲/▼/◀/▶ buttons.
2. Press the **BLUE** button.
3. Move the program to the desired program number with the ▲/▼/◀/▶ buttons.
4. Press the **BLUE** button again to release this function.

Skipping a program number

It means you cannot select that number, if a channel number is jumped over when you are using the **CHANNEL** ▲/▼ button while watching television. 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.

1. Select a program to the skipped with the ▲/▼/◀/▶ buttons.
2. Press the **GREEN** button. The channel to be jumped over will be indicated with an N.
3. Press the **GREEN** button again to release this function.

CHANGING CHANNEL

Different possibilities will be available to you to set a channel.

- Using the **PROG** ▲/▼ buttons
Press the **PROG** ▲/▼ buttons to change channels.
- Using the **NUMBER** buttons
 - To change to single-digit channels (0~9) faster, press "0" before the single digit. Example: For channel 4, press "0", then "4".
 - To select a channel over 10, press the -/-- button first. Example: For channel 42, press "-/--", then "4", then "2".
- Use the **PRE** button.
You will jump backwards and forwards between the most recently viewed stations with this button.

CARRYING OUT A FINE ADJUSTMENT

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

1. Select the channel to tune using the numeric or **PROG** ▲/▼ buttons.
2. Press the **TV.MENU** button. The OSD MENU will be displayed.
3. Select **SETUP** using the ◀ / ▶ button and then press the ▼ button.
4. Select **MANUAL PROGRAM** using the ▲/▼ button and then press the ▶ button.
5. Select **FINE TUNE** using the ▲/▼ button and then press the ▶ button.
6. Press the ▲/▼ button to fine tune and then press the ▶ button. If you are unable to fine-tune a channel, check that the SYSTEM settings are correct.
7. Select **STORE** using the ▲/▼ button and then press the ▶ button. And press the ▲/▼ button to select **OK**.
8. 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.

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.

QUICK! Press the **P.STD** button.

Whenever you press this button, PICTURE STATUS changes to STANDARD → DYNAMIC → MILD → USER mode in this order.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **PICTURE** using the ◀ / ▶ button and then press the ▼ button.
3. 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.
4. Press the **EXIT** button to exit the menu.

ADJUSTING THE PICTURE SETTINGS

1. Press the **TV.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.

SELECTING THE SOUND STATUS

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

Sound status

- **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.

QUICK! Press the **S.STD** button.

Whenever you press this button, SOUND STATUS changes to STANDARD → MUSIC → SPEECH → USER mode, in this order.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **SOUND** using the ◀ / ▶ button and then press the ▼ button.
3. Press the ▶ button.
4. Select the desired SOUND STATUS using the ▲ / ▼ button.
Whenever you press this button, SOUND STATUS changes to STANDARD → MUSIC → SPEECH → USER mode, in this order.
5. Press the **EXIT** button to exit the menu.

SELECTING THE AVL MODE

The device will hold the volume constant if you activate the Automatic Volume Level (abbreviated as AVL).

For example, this function can be useful if loud advertising is broadcast, by adjusting the volume.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **SOUND** using the ◀ / ▶ button and then press the ▼ button.
3. Select AVL 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.

ADJUSTING THE BALANCE

The balance determines the volume ratio between the left and right speakers.

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

ADJUSTING THE EQUALIZER

Determines the volume of the frequency range (low to high tones).

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **SOUND** using the ◀ / ▶ button and then press the ▼ button.
3. Move to the **EQUALIZER** item using the ▲/▼ button.
4. Move to the desired frequency using the ▶ button.
120(Low Tone) → 1K(Mid Tone) → 10K(High Tone).



5. Select the desired status using the ▲/▼ button. Changes can be heard immediately. Test which settings appeal to you. When you have adjusted the EQUALIZER, the SOUND STATUS is automatically changed to **USER MODE**. The settings can be reversed again if you set the status back to **STANDARD**.
6. Press the **EXIT** button to exit the menu.

CHOOSING A SOUNDTRACK

1. Press 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.

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

CHANGING THE SCREEN SIZE

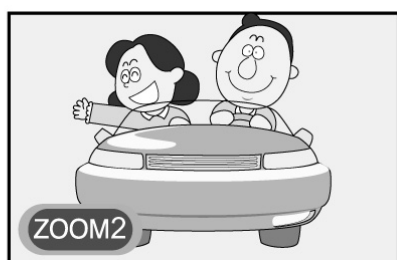
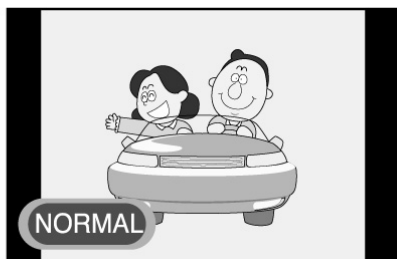
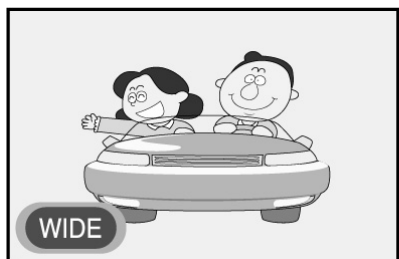
You can select a desired screen size for each video.

Screensize menu

- **WIDE**
Set the picture to 16:9 wide mode.
- **NORMAL**
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.

Press the **P.SIZE** button.

Whenever you press the **P.SIZE** button, the screen size changes to WIDE → NORMAL → ZOOM1 → ZOOM2 in this order.



Note

You can select only WIDE, NORMAL (4:3) screen size in the PC Mode.

FREEZING THE PICTURE

You can freeze a moving picture on the screen.

Press the **STILL** button.

Whenever you press this button, the freezing function is turned on or off.

Note

Even if the picture has been frozen, the audio sound continues normally.

The freezing function will not work for the PIP* window in PIP mode.

* PIP – Picture in Picture. More precise information about this from Page 40.

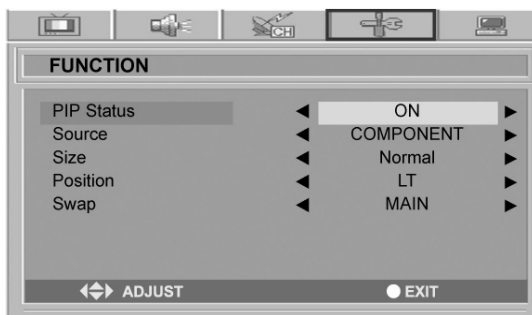
VIEWING PICTURE-IN-PICTURE

Picture in Picture (abbreviated as **PIP**) is a function that makes it possible to watch two sources of video on the screen at the same time. The connection of a second source of video (e.g. DVD player) is the prerequisite for this. The second source of video will be displayed in a separate window, the so-called PIP screen. Please take the different display combinations from the Configuration Table on Page 63.

Quick! Pressing the **ON/OFF** button.

Pressing the button turns the PIP screen on or off.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀ / ▶ button and then press the ▼ button.
3. Select **PIP** using the ▲ / ▼ button and then press the ▶ button.
4. Select **PIP STATUS** using the ▲ / ▼ button and press the ▶ button. The PIP menu will be displayed. Whenever you press the ▼ button, PIP mode is turned PIP, DW or OFF. Selecting **OFF** turns off PIP mode.



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

Note

Since this product has a single tuner, you cannot watch two TV channels simultaneously in PIP mode.

You can only listen to one sound output from either the main screen or the PIP window.

Refer to the PIP configuration table (Page 63).

CHANGING THE SOURCE OF THE PIP WINDOW

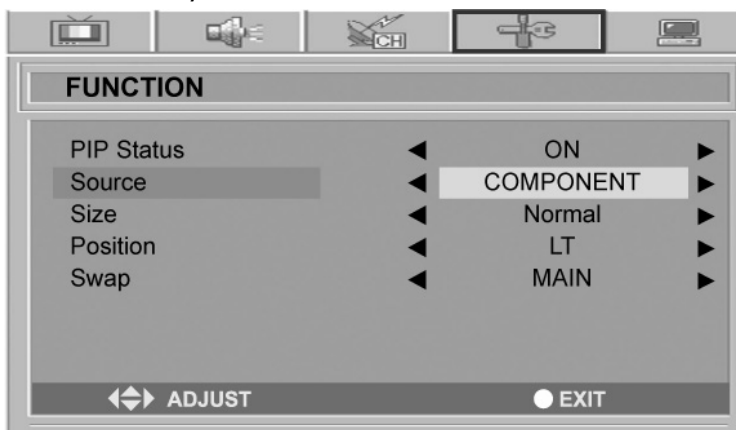
The PIP status must have been switched on to be able to use this function.

You can change the video source of the PIP window from any externally connected devices.

Quick! Pressing the **SOURCE** button.

Whenever you press this button, the source of the PIP window is changed to the next video signal of an externally connected device, in that order.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀ / ▶ button and then press the ▼ button.
3. Select **PIP** using the ▲ / ▼ button and then press the ▶ button.
4. Select **SOURCE** using the ▲ / ▼ button and then press the ▶ button.
5. Select the desired external input signal using the ▲ / ▼ button and then press the ▶ button. Since this product has a single tuner, you cannot watch two TV channels simultaneously when in PIP mode.

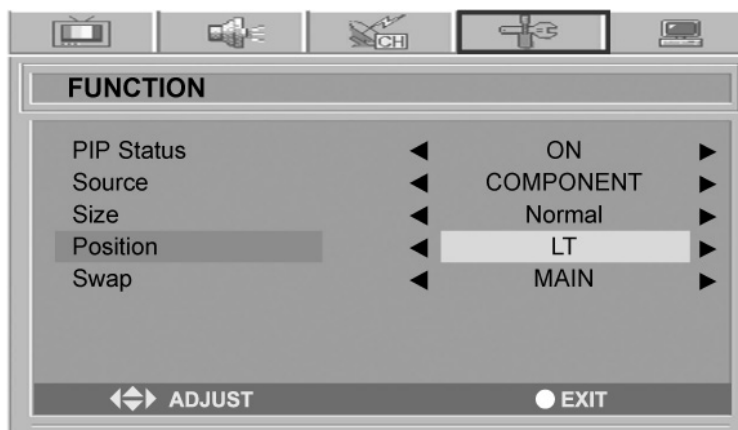


6. Press the **EXIT** button to exit the menu.

CHANGING THE POSITION OF THE PIP WINDOW

You can select the location of the PIP window from among the corners of the TV screen.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀/▶ button and then press the ▼ button.
3. Select **PIP** using the ▲/▼ button and then press the ▶ button.
4. Select **POSITION** using the ▲/▼ button and then press the ▶ button.
5. Select the desired position using the ▲/▼ button. Whenever you press this button, the PIP window moves from one corner to the next of the TV screen.



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

SELECTING THE SOUND SWAP IN THE PIP SCREEN MODE

You can select the desired audio source from either the main screen or the PIP window.

Quick! Pressing the **SOUND** button.

Whenever you press this button, the mode is changed to **MAIN** and **SUB**.

When **MAIN** is selected: Audio of the main screen is heard.

When **SUB** is selected: Audio of the PIP screen is heard.

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀ / ▶ button and then press the ▼ button.
3. Select **PIP** using the ▲ / ▼ button and then press the ▶ button.
4. Select **SWAP** using the ▲ / ▼ button and then press the ▶ button.
5. Select a desired status (**MAIN** or **SUB**) by pressing the ▲ / ▼ button.

SWAPPING THE MAIN AND THE PIP WINDOW

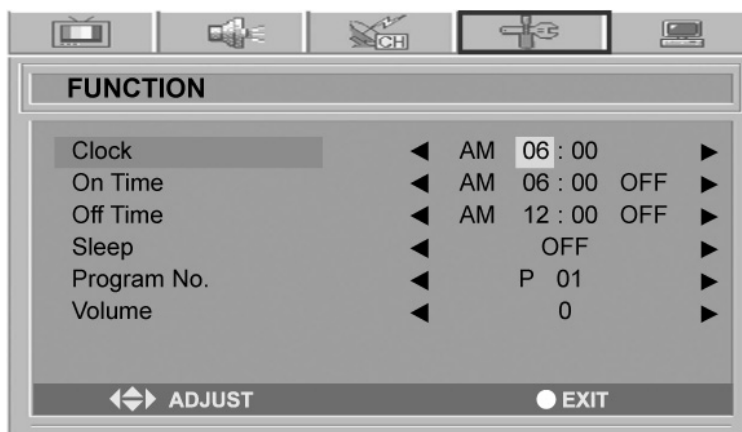
You can swap the video source of the main screen and the PIP window.

Press the **SWAP** button.

Whenever you press this button, the video source of the main screen and PIP window are swapped.

SETTING THE CLOCK

1. Press the **TV.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.

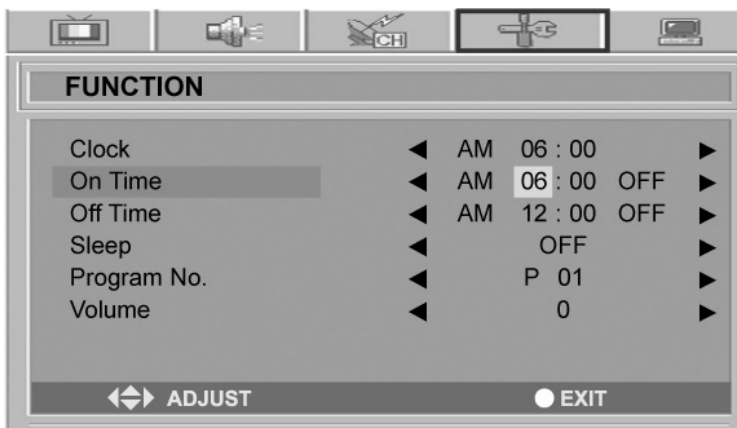


5. Set the hour to the correct time using the ▲/▼ buttons.
6. Set the minutes to the correct time using the ▲/▼ buttons.
7. Press the **EXIT** button to exit the menu.

SETTING THE ON TIMER

You can set the On Timer to automatically turn the TV on at a desired time. The current time has to be configured first to set the On Timer.

1. Press the **TV.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 **ON TIME** using the ▲ / ▼ button and then press the ▶ button.



5. Set the hour to the correct time using the ▲ / ▼ buttons.
6. Set the minutes to the correct time using the ▲ / ▼ buttons.
7. Select **ON** using the ▲ / ▼ button. The ON/OFF TIMER works only when the timer is configured to **ON**.
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**.

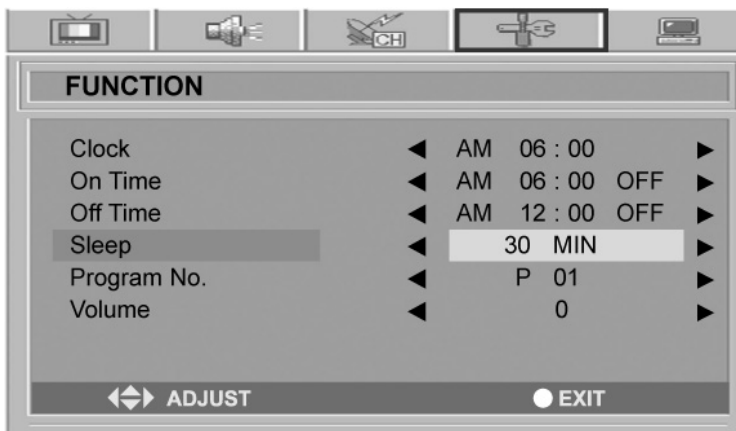
SETTING THE SLEEP TIMER

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

Quick! Press the **SLEEP** button.

Whenever you press this button, the mode is changed to OFF → 10 MIN → 20 MIN → 30 MIN → 60 MIN → 90 MIN → 120 MIN → 180 MIN → OFF, in this order.

1. Press the **TV.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 **SLEEP** using the ▲ / ▼ button and then press the ▶ button.

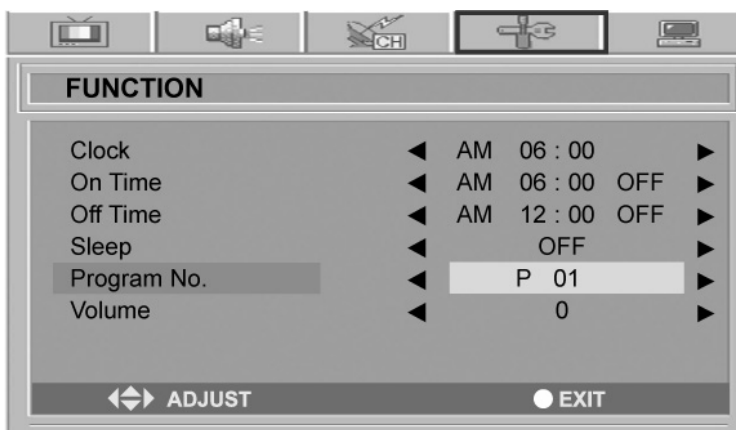


5. Configure the SLEEP time using the ▲ / ▼ button.
6. Press the ▶ button to finish the configuration.
7. Press the **EXIT** button to exit the menu.

SELECTING THE ON TIMER CHANNEL / ADJUSTING THE ON TIMER VOLUME

You can configure the channel and volume to play when the TV is turned on by the Timer.

1. Press the **TV.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 **PROGRAM NO.** using the ▲/▼ button and then press the ▶ button.



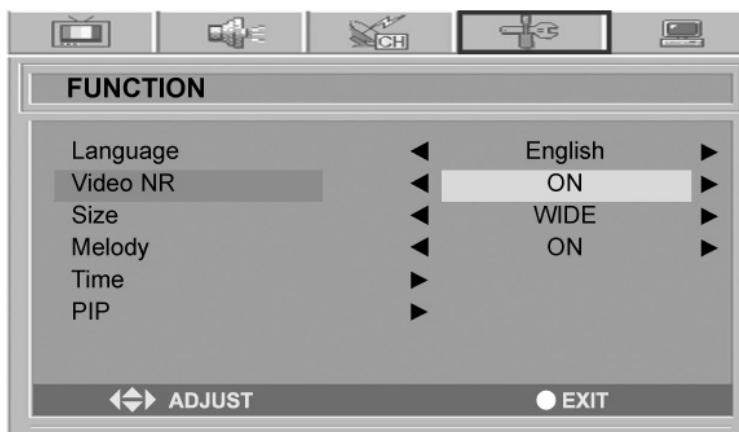
5. Select the desired channel to watch when the TV is turned on using the ▲/▼ button.
6. Press the ▶ button to finish the configuration.
7. Select **VOLUME** using the ▲/▼ button and then press the ▶ button.
8. Select the volume level for when the TV turns on using the ▲/▼ button.
9. Press the **EXIT** button to exit the menu.

VIDEO NR (VIDEO NOISE REDUCTION)

This function suppresses image noise and can be switched on or off as preferred.

Image noise arises above all when receiving analog television signals (e.g. cable or aerial).

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀/▶ button and then press the ▼ button.
3. Select **VIDEO NR** using the ▲/▼ button and then press the ▶ button.

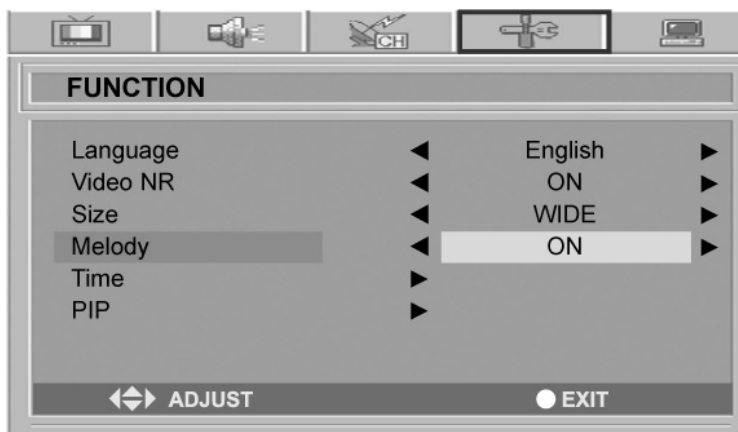


4. Select the preferred mode using the ▲/▼ button and then press the ▶ button. The user can select <ON> - <OFF>
5. Press the **EXIT** button to exit the menu.

MELODY FUNCTION

Your television will be supplied in the factory settings with the Melody Function switched on. The Melody Function serves to play through a melody when the television is switched on or off. Please proceed as follows to switch off the Melody Function:

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **FUNCTION** using the ◀ / ▶ button and then press the ▼ button.
3. Select **MELODY** using the ▲ / ▼ button and then press the ▶ button.



4. Select **OFF** using the ▲ / ▼ button. Whenever you press this button, the Melody function is either on or off.
5. Press the **EXIT** button to exit the menu.

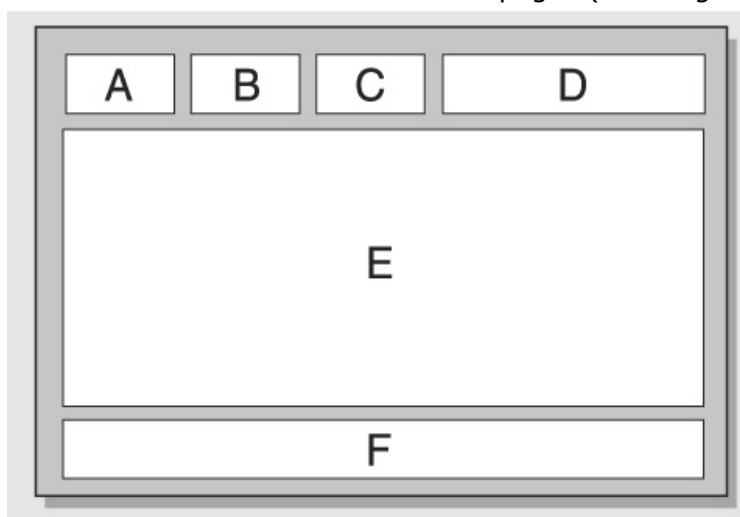
TTX FUNCTION

TELETEXT

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

- Television programme times
- News bulletins and weather forecasts
- Sports results
- Travel information initialized with the factory defaults.

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 **PROG** button.
 2. Press the **TTX** button to activate the Teletext mode.
Result: The contents page is displayed. It can be redisplayed at any time by pressing the **INDEX** button.
 3. If you wish to display the actual broadcast at the same time as the Teletext page, press the **MIX** button again.
 4. Press the **CANCEL** or the **TTX** 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.
2. If the selected page is linked with several secondary pages, the secondary pages are displayed in sequence. To freeze the display on a given page, press the **HOLD**. Press the **HOLD** again to resume.

Using the various display options:

To display...	... press
Both Teletext information and the normal broadcast twice	MIX
Hidden text (answers to quiz games, for example) <ul style="list-style-type: none">• The normal screen	REVEAL <ul style="list-style-type: none">• Twice
A secondary page, by entering its 4-digit number	SUBPAGE
The next page	NEXTPAGE
The previous page	PREPAGE
Show letters in double-size: <ul style="list-style-type: none">• Upper half of the page• Lower half of the page• Full page	SIZE <ul style="list-style-type: none">• Once• Twice• Three times

USING FLOF TO SELECT A PAGE

Full Level One Feature (abbreviated as FLOF) Text describes a variation of the video text. It is possible to call up particular information pages directly, without page number information, with special coloured key buttons.

The various topics included in the Teletext pages are color-coded, and can be selected by pressing the colored buttons on the remote control.

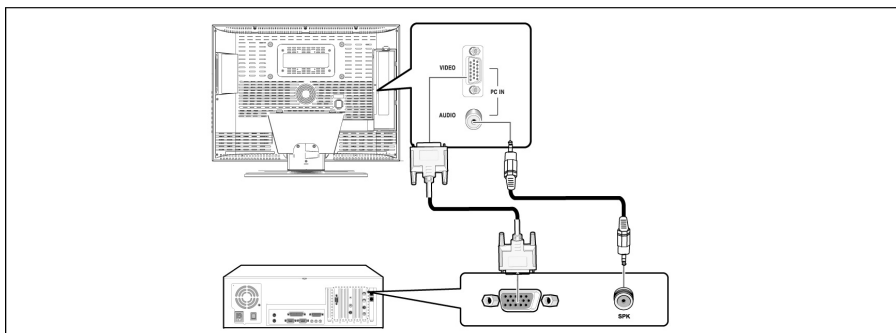
1. Display the Teletext contents page by pressing the **TXT** button.
2. Press the coloured button corresponding to the topic that you wish to select; the available topics are given on the status line.

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

3. To display the previous or next page, press the corresponding coloured button.
4. 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 **PREPAGE** or **NEXTPAGE** button.

PC FUNCTION

CONNECTING TO A PC



Connection procedures

1. Connect the PC VIDEO INPUT jack of the TV and the monitor output jack of the PC using the D-Sub cable.
2. 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

1. 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 63.
2. Press the **LINE** button and select **PC** mode.
3. Adjust the PC screen.
(For adjustment procedures, refer to page 57.)

VESA standard mode

Resolution	640x480	640x480	640x480	800x600	800x600	800x600
Vertical	60.0Hz	72.0Hz	75.0Hz	60.0Hz	72.0Hz	75.0Hz

Resolution	1024x768	1024x768	1280x768	1280x768
Vertical	60.0Hz	70.1Hz	60Hz	75Hz

ADJUSTING THE PC

1. Press the **TV.MENU** button. The OSD MENU will be displayed.
2. Select **PC** using the ◀ / ▶ button and then press the ▼ button.



Auto adjust

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

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

Adjusting the horizontal position

3. Select **H POSITION** using the ▲/▼ button and adjust the horizontal position using the ▶ button.

Adjusting the vertical position

3. Select **V POSITION** using the ▲/▼ button and adjust the vertical position using the ▶ button.

Clock

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

3. Select **CLOCK** using the ▲/▼ button and then select using the ► button.

Phase

The phase controls the image fine on the screen.

3. Select **PHASE** using the ▲/▼ button and then select using the ► button.

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.

FAQ

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.

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.	Adjust the brightness and the contrast so that a picture is displayed brightly.
	The fluorescent tube is out of order.	The florescent 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 device 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.

Symptom	Possible Problem	Possible Solution
A picture is displayed on the screen, but there is no audio.	<p>The volume is adjusted to 0. Mute is active.</p> <p>The audio cable is disconnected.</p>	<p>Turn up the Volume button.</p> <p>Press the MUTE button again.</p> <p>Check the audio cable connectivity.</p>
Remote control malfunctions.	<p>The polarity of the batteries installed in the remote control is wrong.</p> <p>The batteries installed in the remote control have not been discharged completely.</p>	<p>Reinstall the batteries properly.</p> <p>Replace the batteries with new ones.</p>
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.	<p>Check if there are any tall objects such as skyscrapers near your house.</p> <p>Check that the direction of the antenna is adjusted correctly.</p>
Blurred or snowy picture.	<p>The direction of the antenna is not optimal.</p> <p>The antenna cable is disconnected.</p>	<p>Check that the direction of the antenna is correct.</p> <p>Check that the antenna cable is connected to the ANTENNA jack on the back of the LCD TV.</p>

Symptom	Possible Problem	Possible Solution
A "No input signal" message appears.	The Signal connection is incorrect.	<p>Check that the computer is turned on.</p> <p>Check the display cable connectivity.</p> <p>Check the supported input signal specifications.</p>
	The input signal is not supported by the LCD TV.	<p>Check the supported input signal specifications.</p> <p>Check the display cable specifications.</p>
The entire screen flickers.		<p>This product has been optimally set to watch TV channels in the factory. There may be flickering when you watch still images from a PC. This is not a problem of the product.</p>

SPECIFICATIONS

LCD Panel	Screen size		32"
	Type		Colour Active Matrix TFT LCD
	Display colour		8-bit, 16.7 million
TV/VIDEO	Receiver/Channels		VHF: Channel E2 ~ Channel E12
			UHF: Channel E21 ~ Channel E69
			CATV: Channel S1 ~ Channel S41
			Television Broadcasting System: PAL, SECAM: B/G,D/K, I, L, L'
	Antenna interface		VHF, UHF: 75 ohm
Video signal		PAL, SECAM, NTSC(3.58/4.43)	
PC	Synchroni- zation	Horizontal F	30 – 60 KHz
		Vertical F	56 – 75 KHz
	Colour quality		16.772.216 colours
	Maximum resolution		1024 x 768
	Separation signal		TTL, anode or cathode
	Display colour		8-bit, 16.7 million
	Interface		D-sub
	DVI		
Audio output			2 x 10W
Power consumption			Maximum 160 W
Power consumption when power saving			Less than 3 W
Input voltage			AC 100-240 V~, 50/60 Hz
Dimension	Monitor + stand		819 (W) x 663 (H) x 314 (D)
	Monitor alone		819 (W) x 594 (H) x 131.5 (D)
Weight			26 Kg
Accessories			

Remote control, battery (AAA), user's guide, power cord, RF cable

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 10 signal modes. A user can register up to 10 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)
MAC, 640 x 480	31.469	59.94	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.5	-/-
VESA, 640 x 480	37.5	75	31.5	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 800 x 600	37.879	60.317	40	+/+
VESA, 800 x 600	48.077	72.188	50	+/+
VESA, 800 x 600	46.875	75	49.5	+/+
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 1024 x 768	48.363	60.004	65	-/-
VESA, 1024 x 768	56.476	70.069	75	-/-

PIP SCREEN CONFIGURATION TABLE

MAIN \ PIP	TV	SCART1 (RGB)	SCART1 (VIDEO1)	SCART2 (VIDEO2)	VIDEO3	S-VIDEO	Component (DTV)	DVI	PC
TV	X	X	X	X	X	X	O	O(COMP)	X
SCART1 (RGB)		X	X	X	X	X	O	O(COMP)	X
SCART1 (VIDEO1)	X	X	X	X	X	X	O	O(COMP)	X
SCART2 (VIDEO2)	X	X	X	X	X	X	O	O(COMP)	X
VIDEO3	X	X	X	X	X	X	O	O(COMP)	X
S-VIDEO	X	X	X	X	X	X	O	O(COMP)	X
COMPONENT	O	X	O	O	O	O	X	X	X
DVI	O	X	O	O	O	O	O(DTV9)	X	X
PC	O	X	O	O	O	O	O8DTV9	X	X

O – configuration supported

X – configuration not supported

TABLE OF THE TV STANDARDS

BG	DK	I	L	LP
Austria	Czech	Great Britain	France	
Belgium	Republic	Ireland	Luxembourg	
Denmark	Hungary			
Finland	Poland			
Germany	Slovakia			
Greece				
Italy				
Luxembourg				
Netherlands				
Norway				
Portugal				
Romania				
Slovenia				
Spain				
Sweden				
Switzerland				
Turkey				

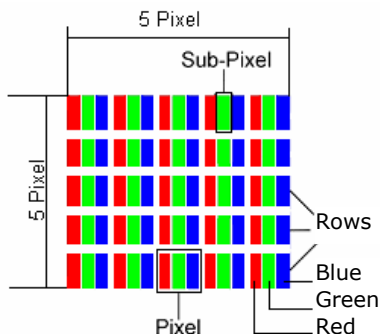
WARRANTY

The receipt serves as proof of first purchase and should be kept in a safe place. Your legal rights **are not limited** by these warranty conditions. It is required should you need to make use of the guarantee.

We guarantee that this equipment is in perfect working order. Upon production of the receipt, the remaining period of guarantee shall pass on from the original parts to the respective replacement parts. If you hand in this equipment to make use of the guarantee, you must remove all programs, data and removable storage media. Products which are sent without accessories will be replaced without accessories. The warranty obligation does not apply in the case of the problem being caused by an accident, a catastrophe, vandalism, misuse, incorrect use, ignoring the safety and maintenance regulations, changes by software, viruses or another piece of equipment or accessories or by other modifications not approved by ourselves. This limited guarantee declaration replaces all other guarantees of express or implied nature. This includes the guarantee of saleability or the suitability for a certain purpose but is not limited to this. In some countries the exclusion of implied guarantees is not permissible upon principle. In this case the validity of all express and implied guarantees is limited to the guarantee period. Once this period has expired, all guarantees become invalid. In some countries limiting the period of validity for implied guarantees is not permitted, so that the above limitation does not come into force. If you have any questions with regard to these guarantee conditions, please contact us.

Pixel errors with LCD TVs

Active matrix LCDs (TFT) with a resolution of 1280 x 768 pixel (WXGA), which are in turn composed of three sub-pixels each (red, green, blue), contain about 2.9 million addressable transistors. Because of this very high number of transistors and their extremely complex production process occasionally defective or incorrectly addressed pixels or sub-pixels may occur.



Item		Acceptable Number
Bright Sub Pixel	1	$N \leq 2$
	2 two next to each other	$N \leq 0$
	3 or more next to each other	$N \leq 0$
Dark Sub Pixel	1	$N \leq 7$
	2 next to each other	$N \leq 4$
	3 or more next to each other	$N \leq 0$
Total number of bright and dark sub pixel		$N \leq 7$

Liability limitations

The contents of this manual are subject to unannounced changes caused by technical progress. Manufacturer and sales shall not be responsible for any damages which have been caused as a result of omissions or errors in the information provided in this manual.

Under no circumstances shall we be liable for any of the following:

1. Claims made against you by third parties based on loss or damage.
2. Loss or damage to your blanks, recordings or data.
3. Economic follow-on damage (including lost profit or savings) or associated damage even in the case that we have been informed of the possibilities of this type of damage.

In some countries the exclusion or limitation of accompanying or follow-on damage is not legally accepted so that the above limitations do not come into force.

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