



Colour Television

OWNER'S MANUAL

Please read this manual carefully before operating your set.
Retain it for future reference.
Record model number and serial number of the set.
See the label attached on the back cover and quote this information to your dealer when you require service.

Model number :
Serial number :

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Installation

Power

This set operates on an AC mains supply, the voltage is as indicated on the label on the back cover. Never apply DC power to the set. In the event of thunderstorms or powercuts, please pull out the aerial and mains plugs.

Warning

To prevent fire or shock hazard, do not expose the set to rain or moisture.

Service

Never remove the back cover of the set as this can expose you to very high voltage and other hazards. If the set does not operate properly, unplug it and call your dealer.

Aerial

Connect the aerial cable to the socket marked $75\ \Omega$ on the back cover. For the best reception an outdoor aerial should be used.

Location

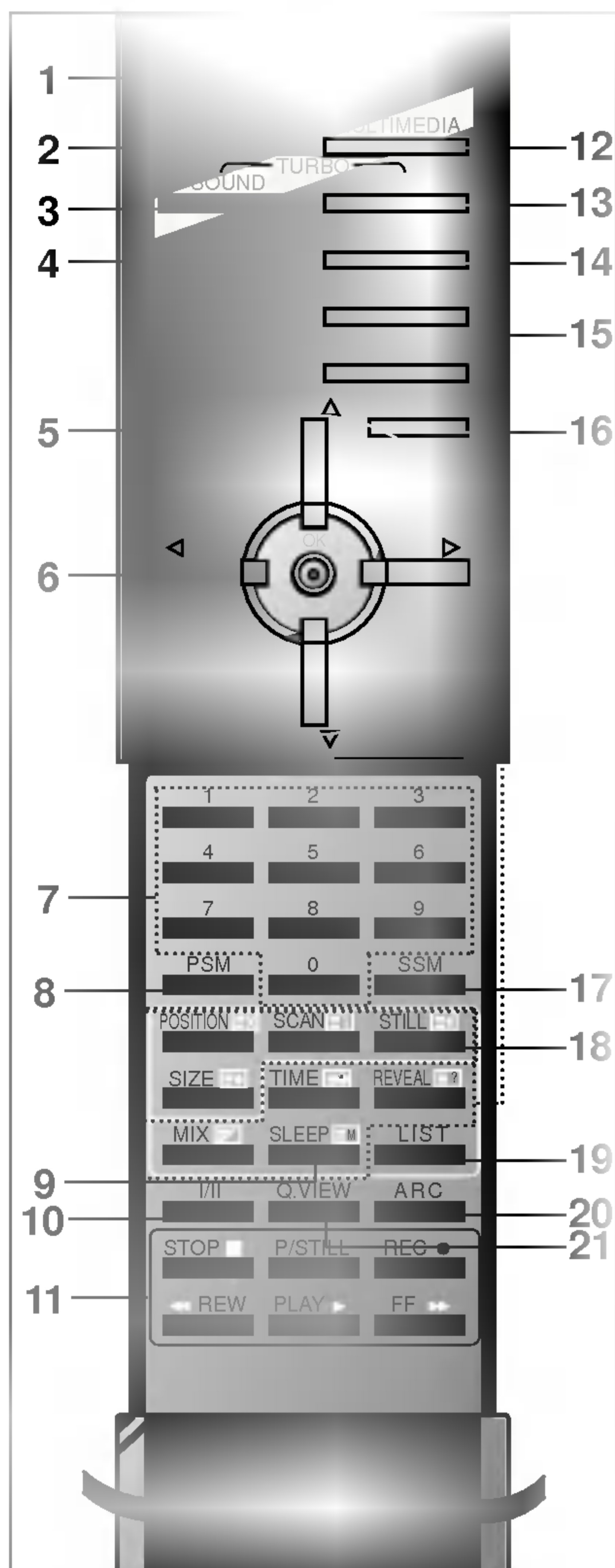
Position your set so that no bright light or sunlight falls directly onto the screen. Care should be taken not to expose the set to any unnecessary vibration, moisture, dust or heat. Also ensure that the set is placed in a position to allow a free flow of air. Do not cover the ventilation openings on the back cover.

Do not place the set on a sloping or unstable area as the casters on the bottom of the set may cause it to move and to be damaged.

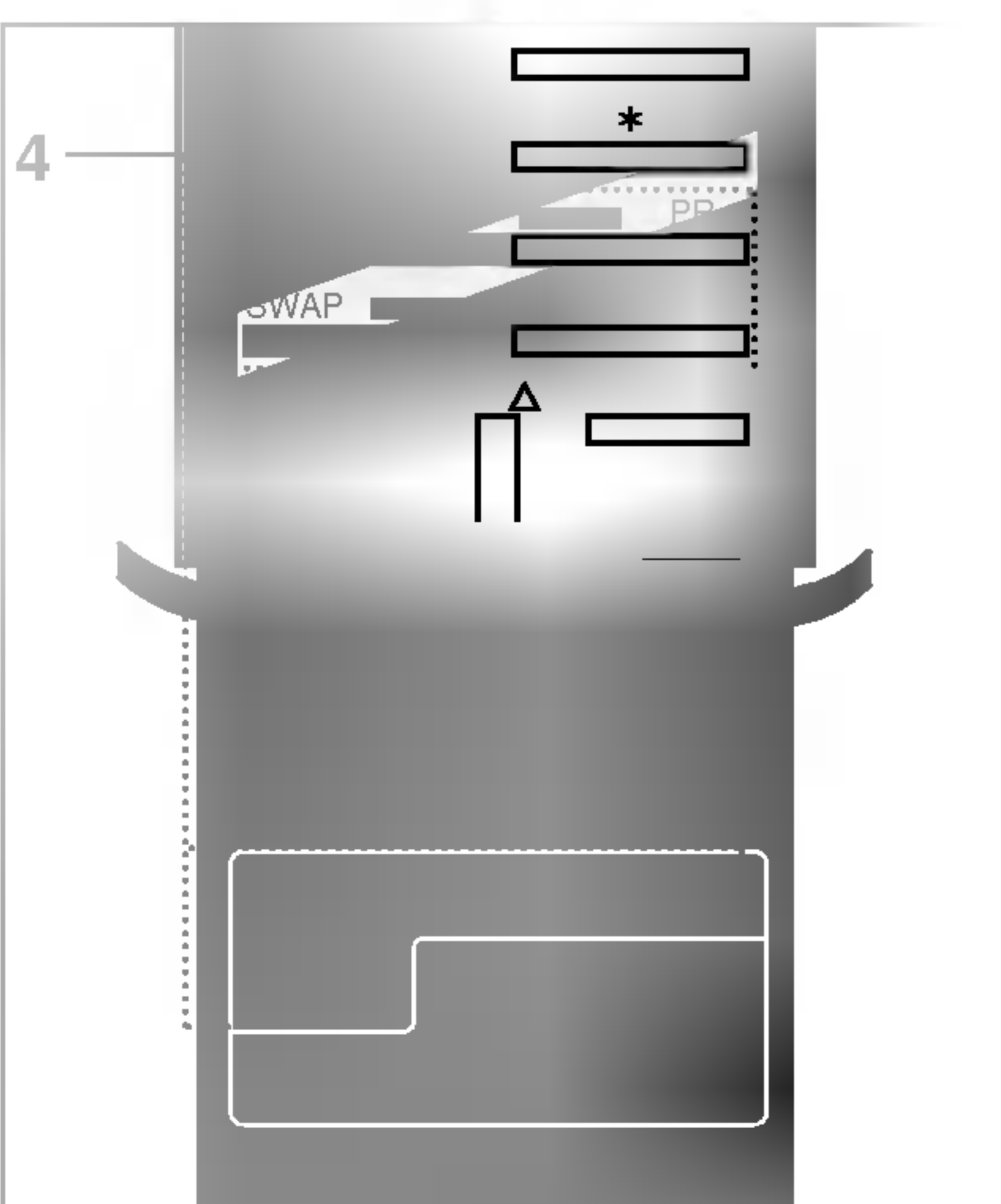
When displaying still pictures such as videogames, 16:9 picture format, PIP display, and station label for a long time, the image may be persisted on the screen.

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Location and function of controls



(With TELETEXT / PIP)



(Without TELETEXT/With PIP)

All the functions can be controlled with the remote control handset. Some functions can also be adjusted with the buttons on the front panel of the set.

Remote control handset

Before you use the remote control handset, please install the batteries. See the next page.

1. **POWER**
switches the set on from standby or off to standby.
2. **TV/AV**
selects TV or AV mode.
switches the set on from standby.
3. **TURBO SOUND BUTTON**
selects Turbo sound.
4. **PIP BUTTONS (option)**
PIP
switches the sub picture on or off.
PR +/-
selects a programme for the sub picture.
SWAP
alternates between main and sub picture.
INPUT
selects the input mode for the sub picture.
SIZE
adjusts the sub picture size.
STILL
freezes motion of the sub picture.
POSITION
relocates the sub picture in clockwise direction.
SCAN
switches on or off the programme scan mode 12 sub pictures.
5. **MENU**
selects a menu.
6. **▲ / ▼ (Programme Up/Down)**
selects a programme or a menu item.
switches the set on from standby.
◀ / ▶ (Volume Up/Down)
adjusts the volume.
adjusts menu settings.
OK
accepts your selection or displays the current mode.
7. **NUMBER BUTTONS**
switches the set on from standby or directly select a number.
8. **PSM (Picture Status Memory)**
recalls your preferred picture setting.
9. **SLEEP**
sets the sleep timer.
10. **I/II**
selects the language during dual language broadcast.
selects the sound output (option).
11. **VCR BUTTONS**
control a LG video cassette recorder.

Location and function of controls

12. MULTIMEDIA

selects **Component 1**, **Component 2** or **RGB-DTV** or **RGB-PC** (option) modes.

13. TURBO PICTURE BUTTON

selects Turbo picture.

14. TELETEXT BUTTONS (option)

These buttons are used for teletext.
For further details, see the 'Teletext' section.

15. SWAP

returns to the previously viewed programme.
selects a favourite programme.

16. MUTE

switches the sound on or off.

17. SSM (Sound Status Memory)

recalls your preferred sound setting.

18. STILL

freezes motion of the picture.

19. LIST

displays the programme table.

20. ARC

select your desired picture format.

21. Q.VIEW

returns to the previously viewed programme.
selects a favourite programme.

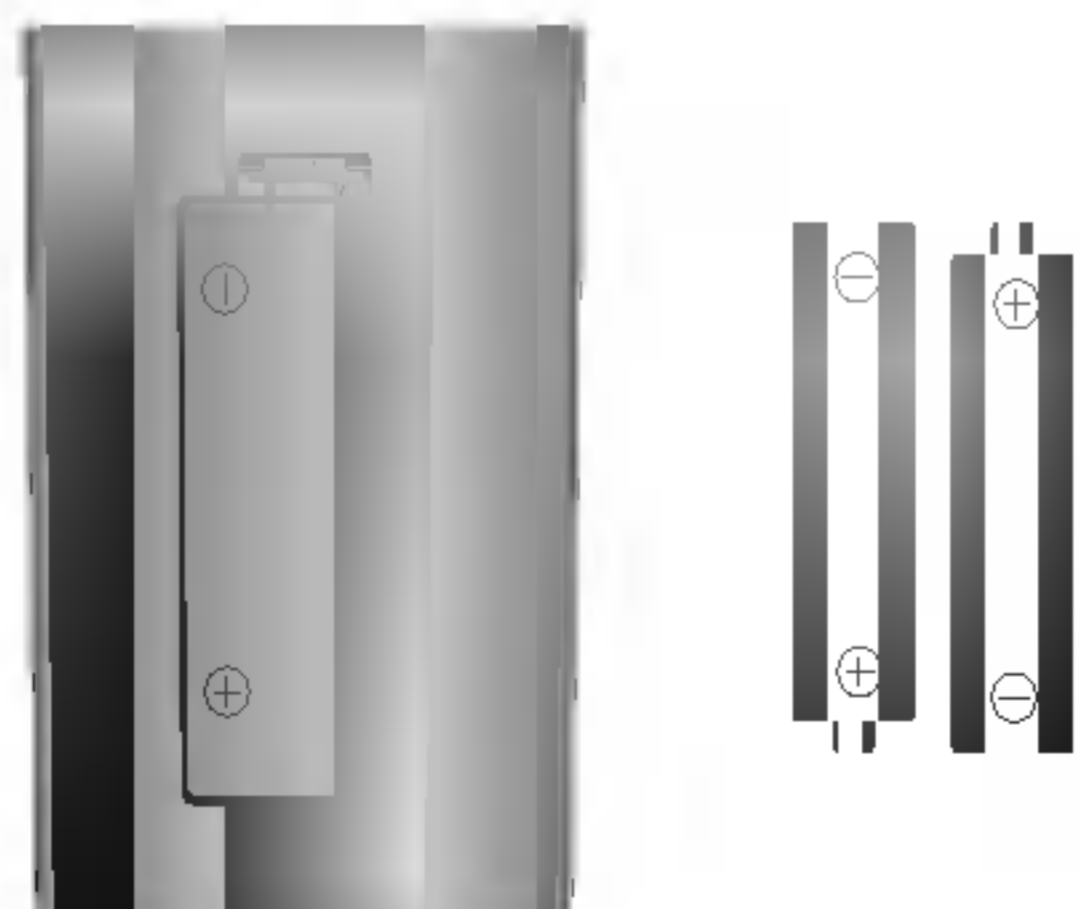
*** : No function**

COLOURED BUTTONS : These buttons are used for teletext (only TELETEXT models) or programme edit.

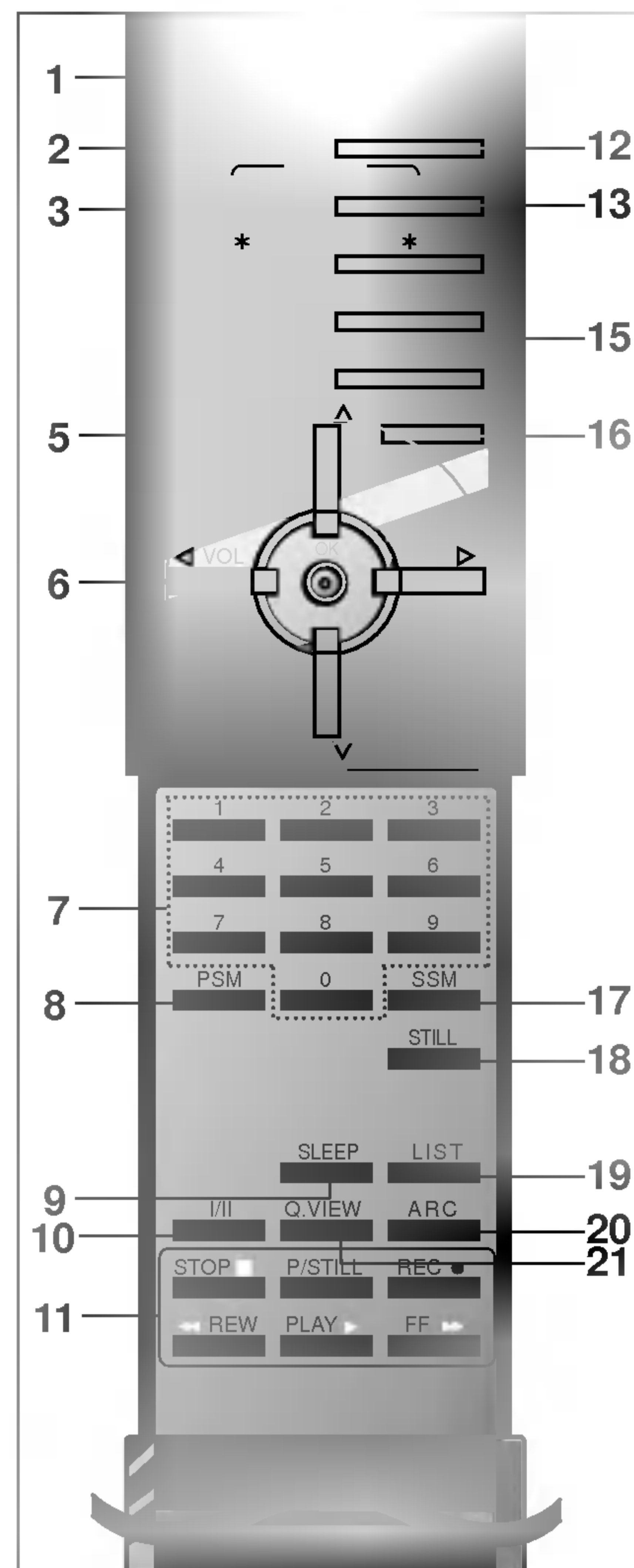
Note : In teletext mode, the **PR +/-**, **SWAP** and **INPUT** buttons are used for teletext function.

Battery installation

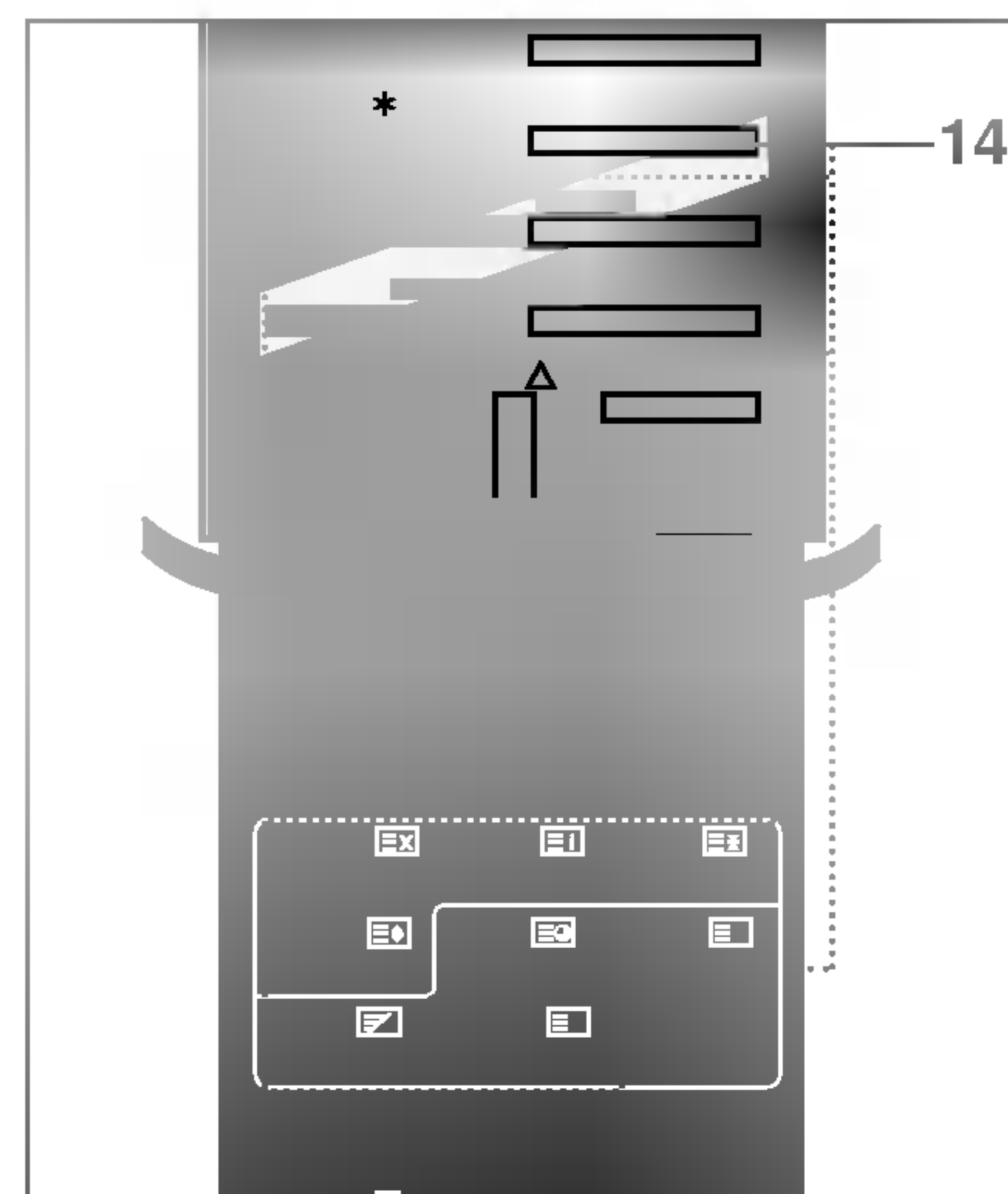
The remote control handset is powered by two AAA type batteries. To load the batteries, turn the remote control handset over and open the battery compartment. Install two batteries as indicated by the polarity symbols (⊕ and ⊖) marked inside the compartment.



Note : To avoid damage from possible battery leakage, remove the batteries if you do not plan to use the remote control handset for an extended period of time.



(Without PIP/TELETEXT)

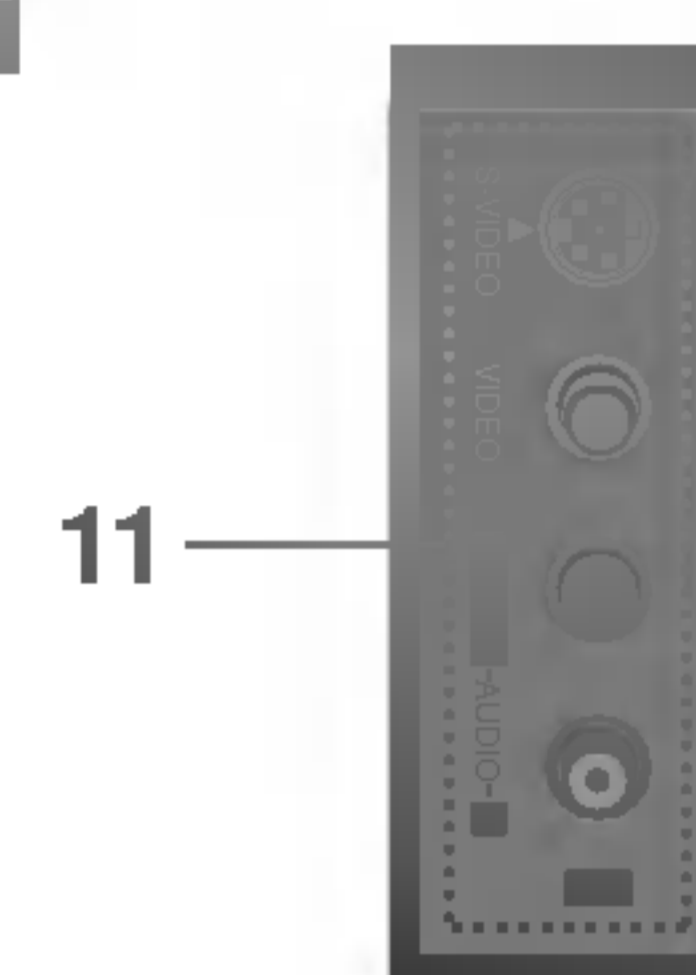
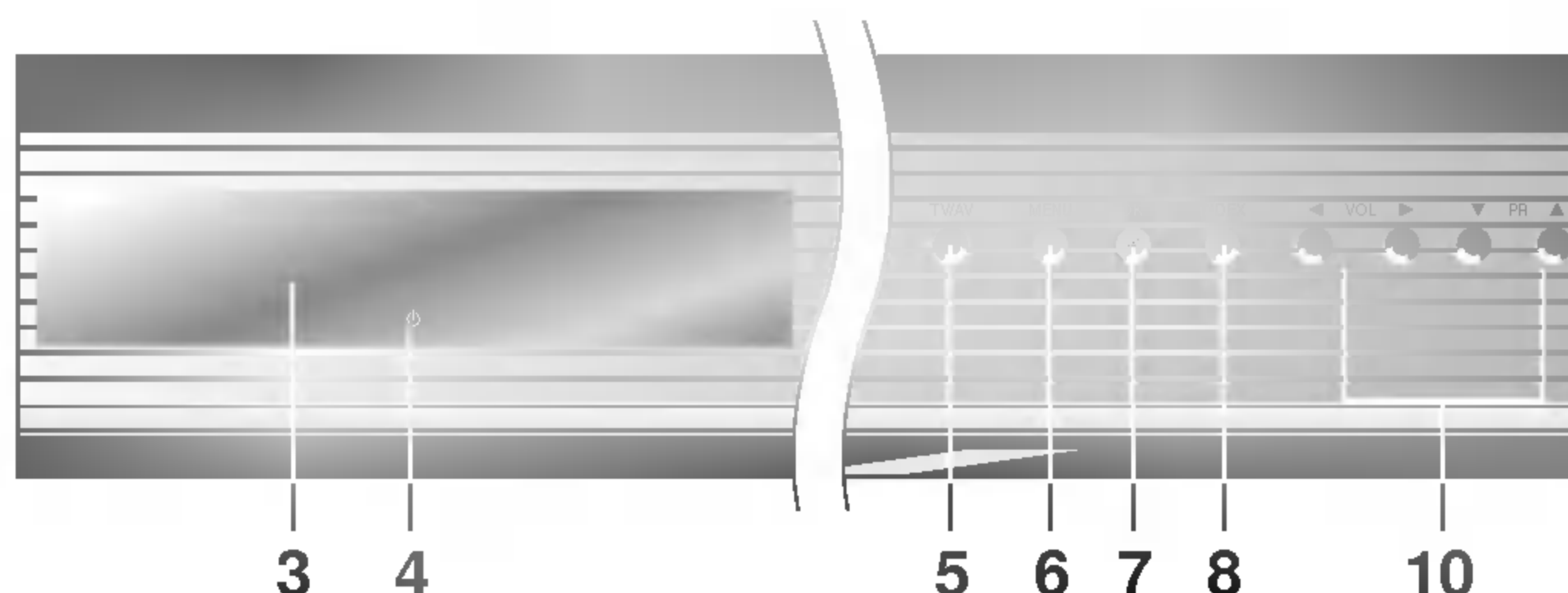
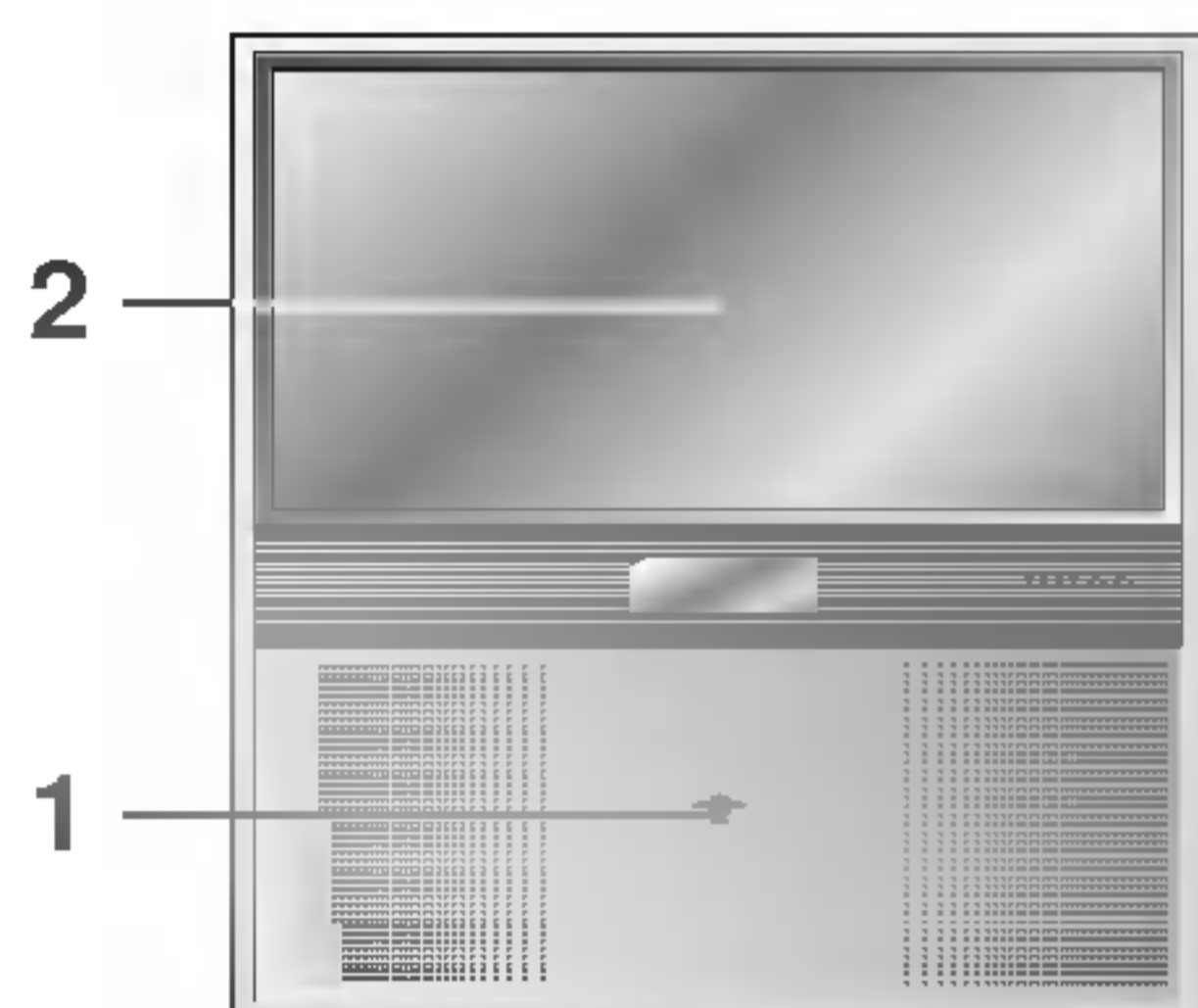


(With TELETEXT/Without PIP)

Location and function of controls

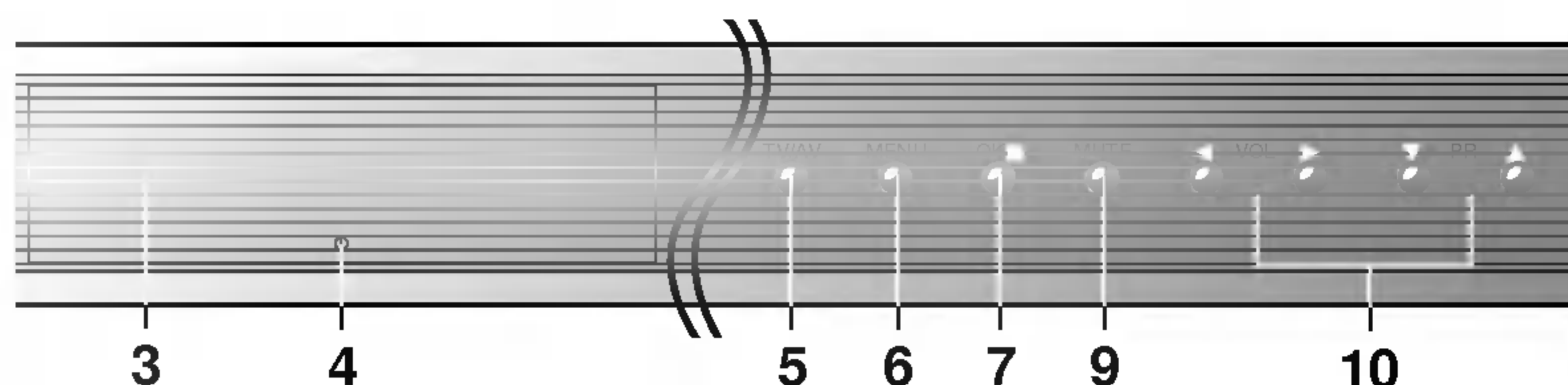
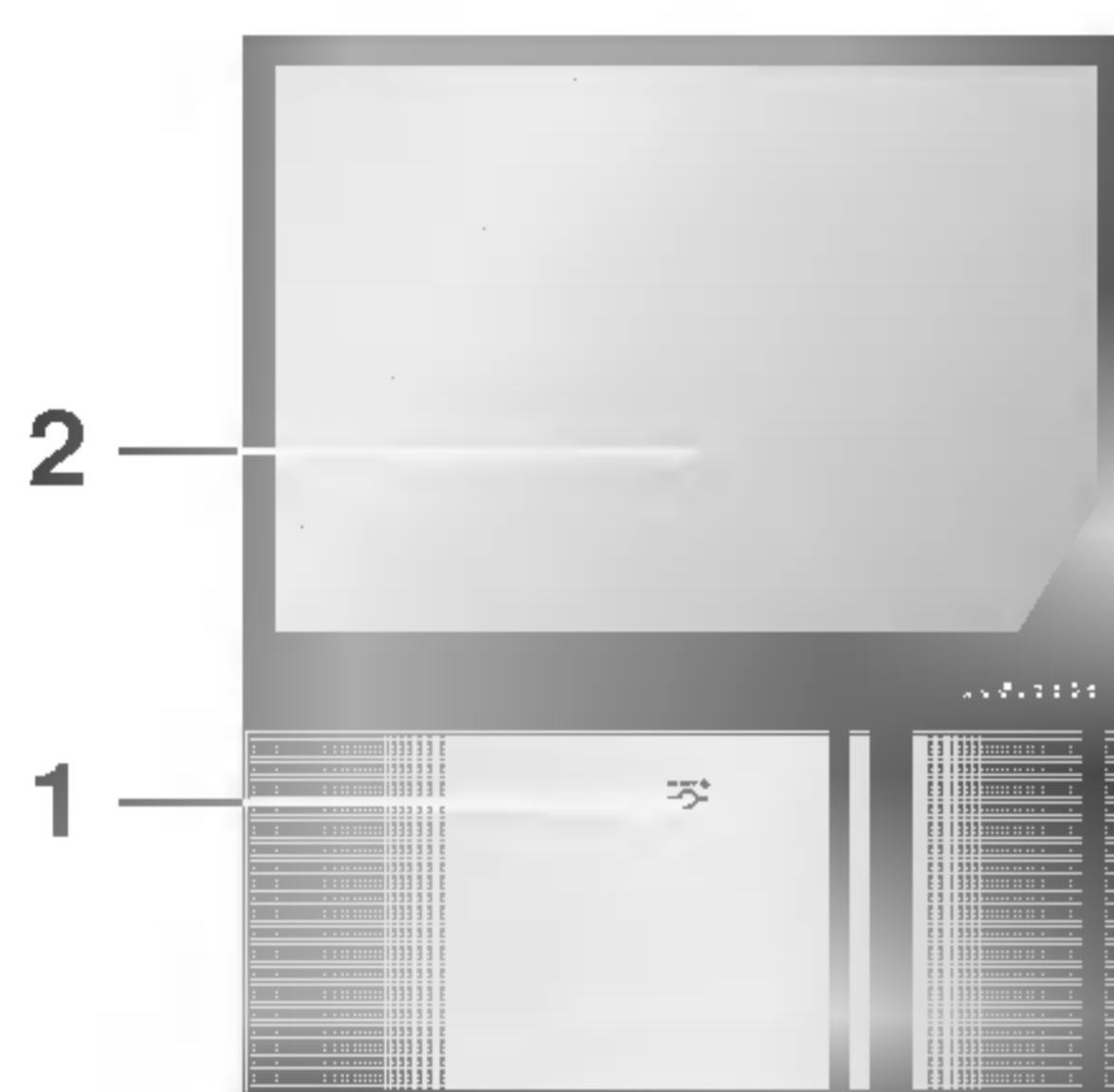
Front panel

• RT-44NZ31 series



(Side panel)

• RT-44/49/54NA63 series



1. MAIN POWER

switches the set on or off.

2. REMOTE CONTROL SENSOR

3. LED (Light Emitting Diode) DISPLAY

Option : Only RT-44/49/54NA63 series,

: PAL/SECAM input signal indicator

: STEREO sound indicator

: SLEEP timer indicator

: CHILD LOCK setting indicator

: RGB-DTV input signal indicator (option)

: PC input signal indicator (option)

4. POWER/STANDBY INDICATOR

illuminates brightly when the set is in standby mode.

dims when the set is switched on.

5. TV/AV

selects TV or AV mode.

switches the set on from standby.

6. MENU

selects a menu.

7. OK

accepts your selection or displays the current mode.

8. INDEX

switches LED DISPLAY on or off.

9. MUTE

switches the sound on or off.

10. ◀ / ▶ (Volume Up/Down)

adjusts the volume.

adjusts menu settings.

▲ / ▼ (Programme Up/Down)

selects a programme or a menu item.

switches the set on from standby.

11. AUDIO/VIDEO IN SOCKETS (AV3)

Connect the audio/video out sockets of external equipment to these sockets.

S-VIDEO/AUDIO IN SOCKETS (S-AV)

Connect the video out socket of an S-VIDEO VCR to the **S-VIDEO** socket.

Connect the audio out sockets of the S-VIDEO VCR to the audio sockets as in **AV3**.

* CASTERS (on the bottom)

turn and move the set easily.

Basic operation

On and off

1. Press the main power button to switch the set on.
2. If the set is in standby mode, press the **POWER**, **▲ / ▼**, **TV/AV**, **MULTIMEDIA** or **NUMBER** buttons on the remote control handset to switch it on fully.
3. Press the **POWER** button on the remote control handset. The set reverts to standby mode.
4. Press the main power button again to switch the set off.

Note : If, while the set is switched on, the mains plug is disconnected the set will switch to standby or power on when the mains plug is replaced in the mains power socket.

Programme selection

You can select a programme number with the **▲ / ▼** or **NUMBER** buttons.

Volume adjustment

Press the **◀ / ▶** button to adjust the volume.

Quick view

Press the **Q.VIEW** or **SWAP** button to view the previous programme you were watching.

Note : This function works only when **Favourite programme** is set to **Off**. Otherwise each press of this button will select a stored favorite programme.

Mute function

Press the **MUTE** button. The sound is switched off and the display  appears.

You can cancel it by pressing the **MUTE**, **◀ / ▶**, **I/II**, **TURBO SOUND** or **SSM** button.

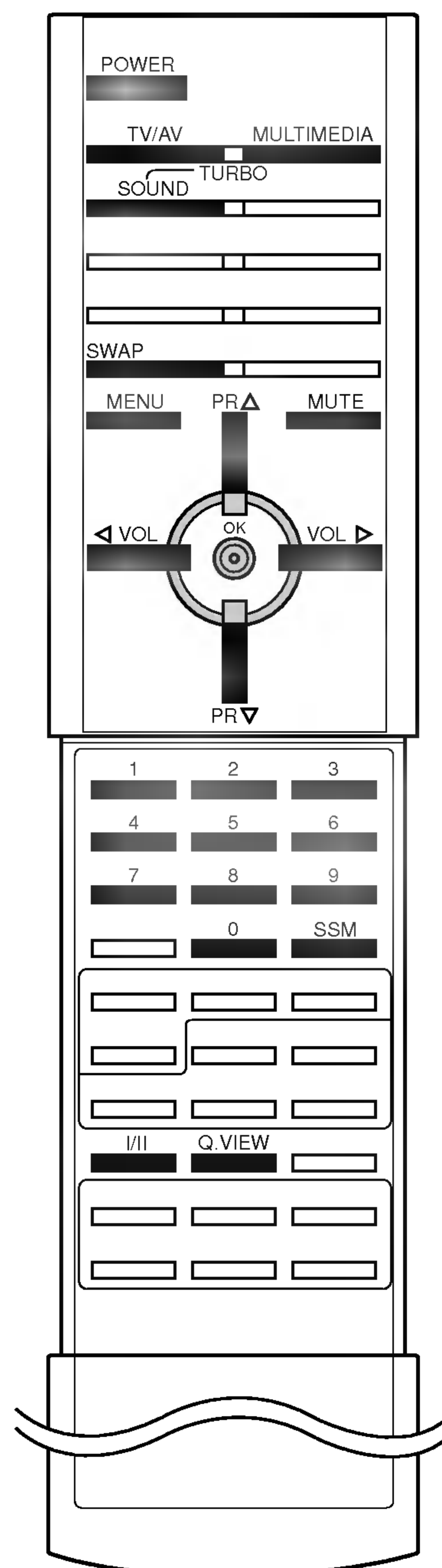
Auto Demonstration

To review all the menus programmed in the set, press the **OK** button of the front panel control for about 10 seconds. To stop auto demonstration, press any button of the front panel control and **POWER** button of the remote control.

On screen language selection (option)

The menu can be displayed on the screen in desired language. First select your language.

1. Press the **MENU** button and then **▲ / ▼** button to select the Special menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Language**.
3. Press the **▶** button and then **▲ / ▼** button to select your desired language. All the on screen displays will appear in the selected language. Press the **OK** or **◀** button to select the Special menu.
4. Repeatedly press the **MENU** button to return to normal TV viewing.



On screen menus

The dialogue between you and your set takes place on screen with an operator menu. The buttons required for the operating steps are also displayed.

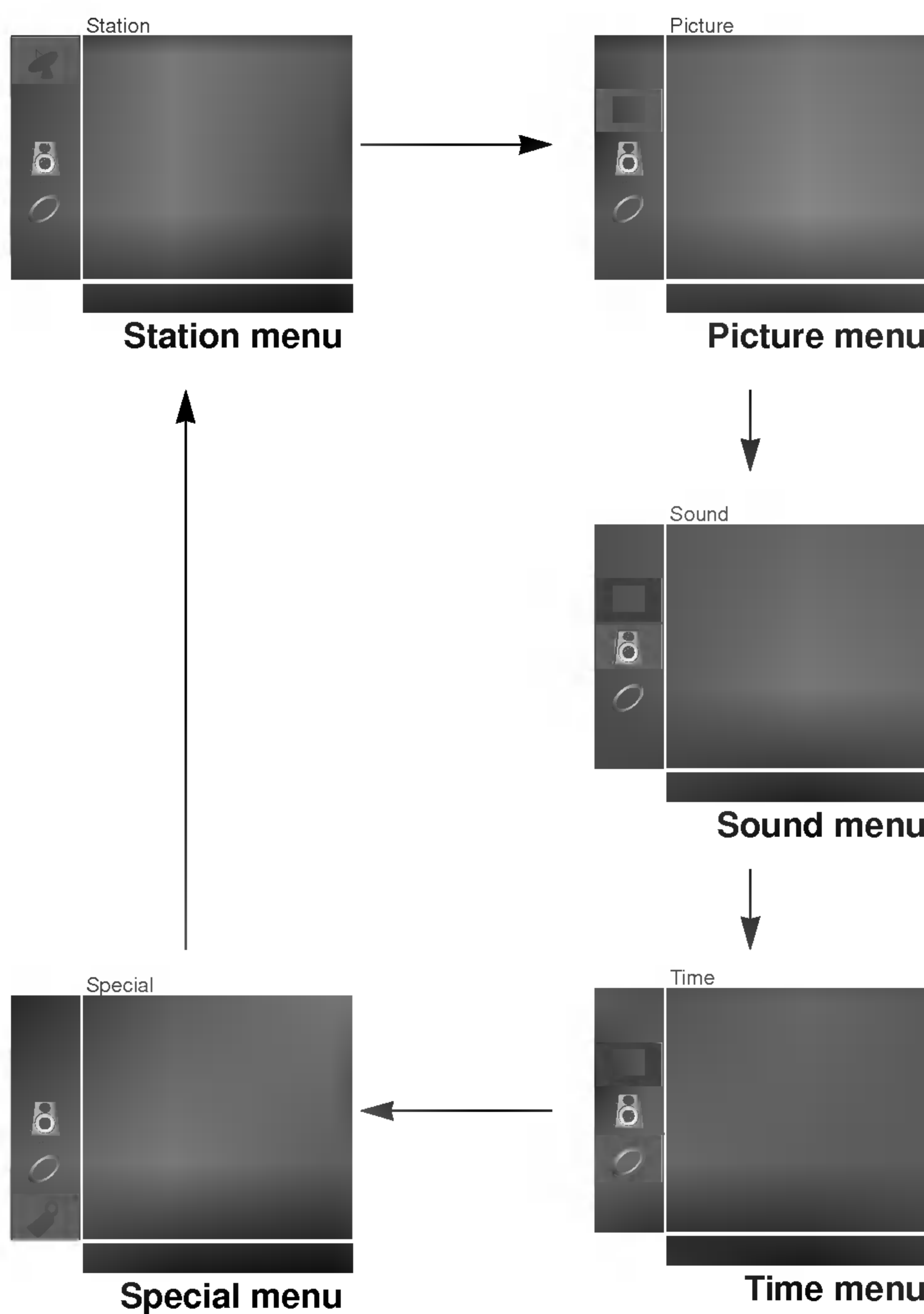
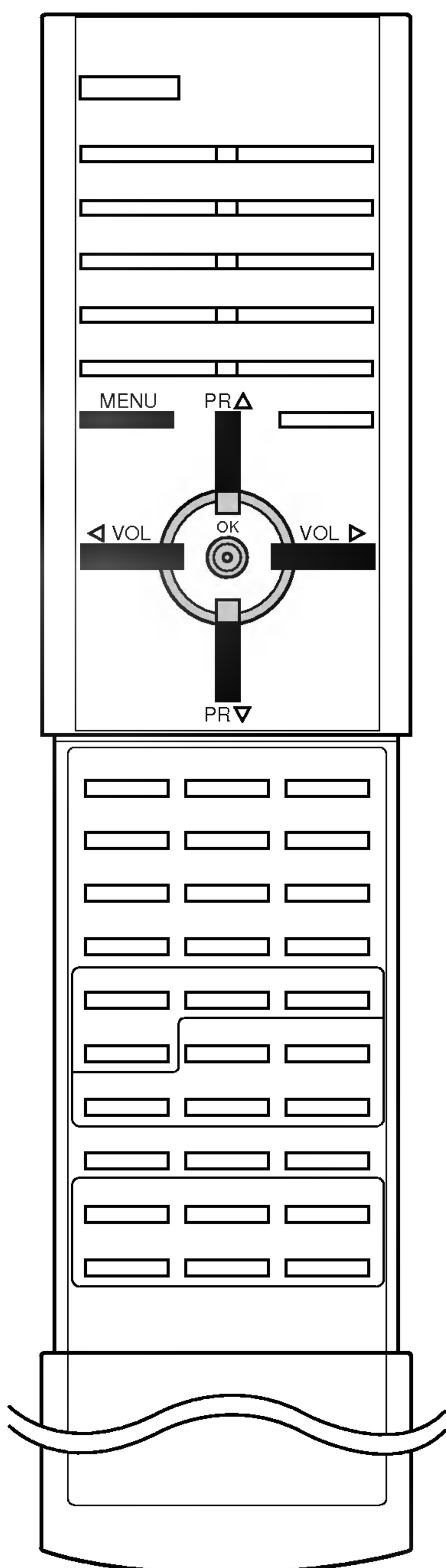
Menu selection

1. Press the **MENU** button and then ▲ / ▼ button to display each menu.
2. Press the ► button and then ▲ / ▼ button to select a menu item.
3. Press the ► button to display the sub menu or the pull-down menu.
4. Change the setting of an item in the sub or pull-down menu with ◀ / ▶ or ▲ / ▼.

You can move to the higher level menu with **OK** or ◀ button and to move to the lower level menu press the ► button.

Note :

- a. In AV modes, if you adjust the Station menu, AV modes return to the TV mode.
- b. In the teletext mode, menus are not displayed.
- c. In some models, the **Language** will not display.



Setting up TV stations

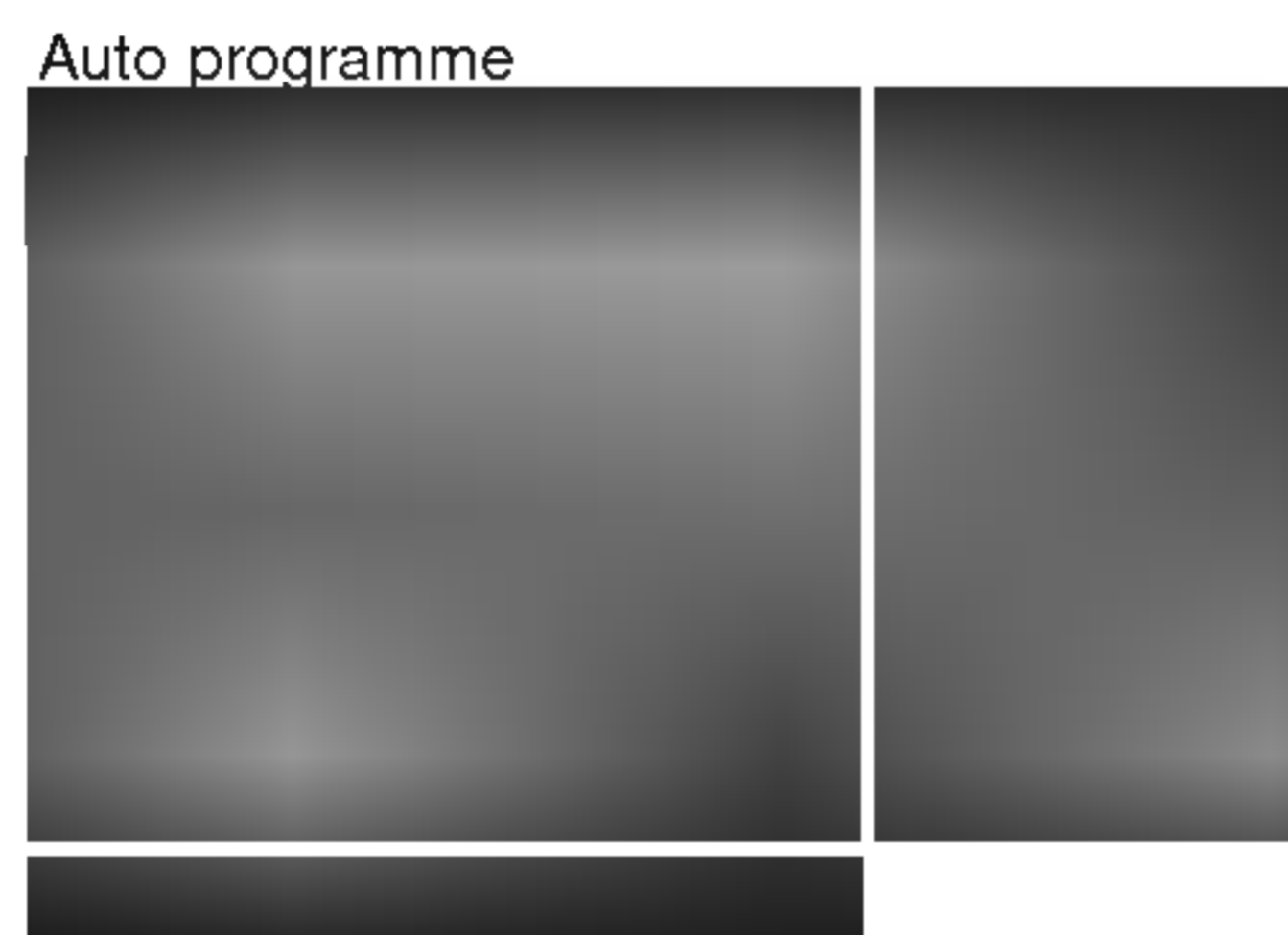
Up to 100 TV stations can be stored by programme numbers (0 to 99). Once you have preset the stations, you will be able to use the ▲ / ▼ or NUMBER buttons to scan the stations you programmed. Stations can be tuned using automatic or manual modes.

Note : In some models up to 200 TV stations can be stored.

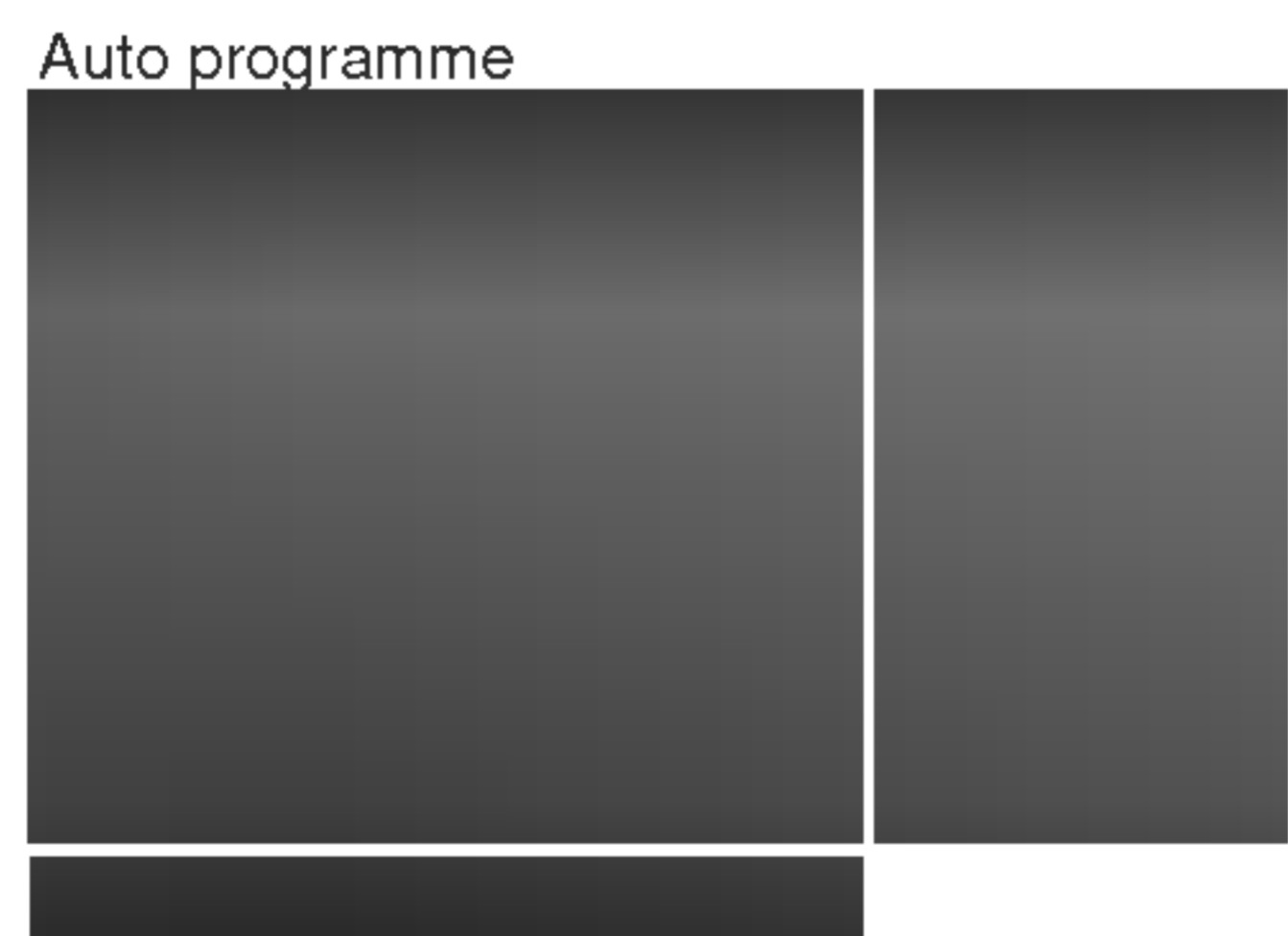
Auto programme tuning

All stations that can be received are stored by this method. It is recommended that you use auto programme during installation of this set.

1. Press the **MENU** button and then ▲ / ▼ button to select the Station menu.
2. Press the ► button and then ▲ / ▼ button to select **Auto programme**.
3. Press the ► button to display the **Auto programme** menu.



4. Press the ► button. Select a TV system with the ▲ / ▼ button on the **System** pull-down menu;
 - BG** : (Asia/New Zealand/M.East/Africa/Australia)
 - I** : (Hong Kong/South Africa)
 - DK** : (East Europe/China/Africa/CIS)
 - M** : (USA/Korea/Philippines) (option)
5. Press the **OK** or ◀ button.
6. Press the ▲ / ▼ button to select **Storage from**.
7. Press the ► button. Select the beginning programme number with the ◀ / ▶ button or NUMBER buttons on the **Storage from** pull-down menu. Any number under 10 is entered with a numeric '0' (or '00') in front of it, i.e. '05' (or '005') for 5.
8. Press the **OK** button.
9. Press the ▲ / ▼ button to select **Start**.
10. Press the ► button to begin auto programming.

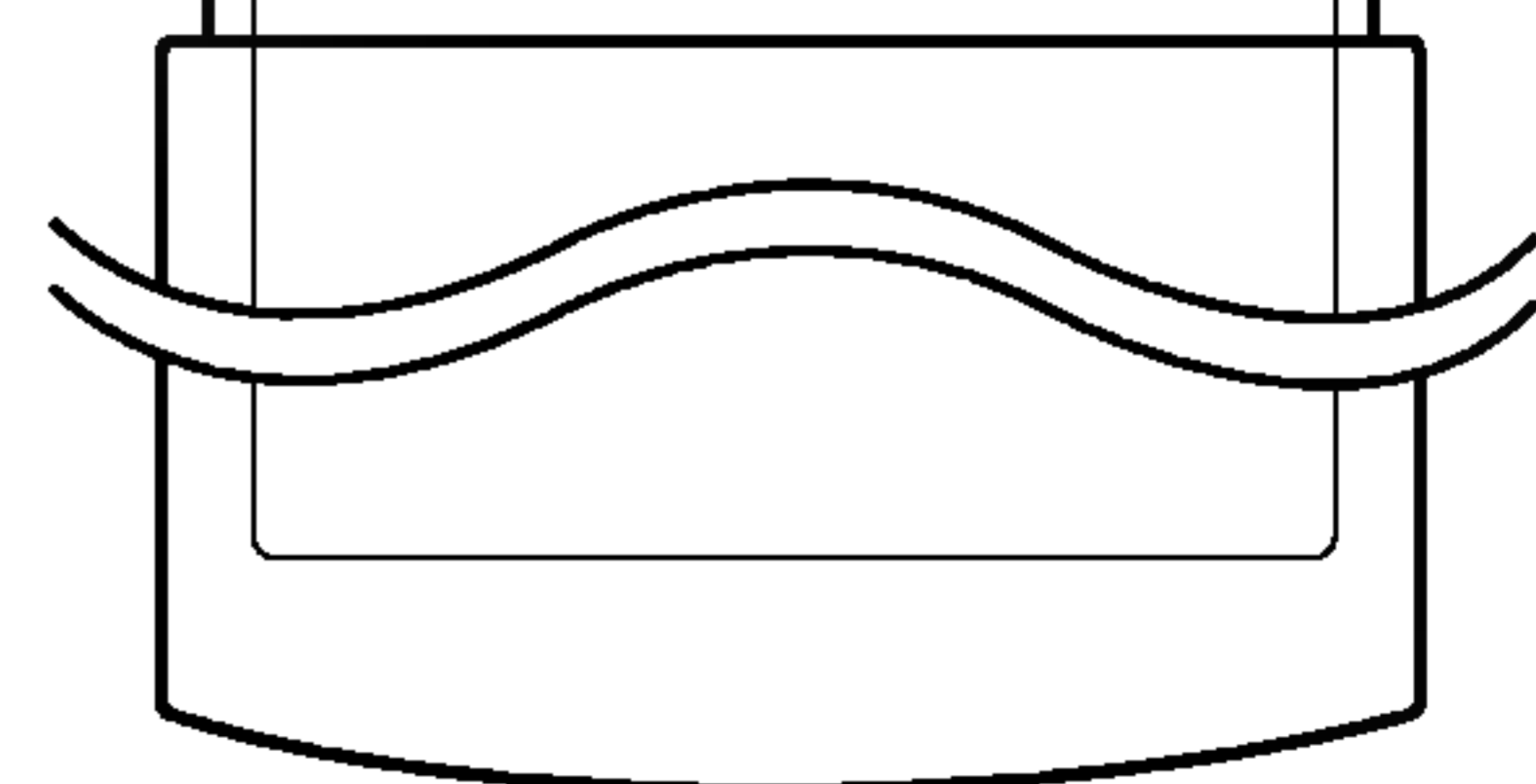
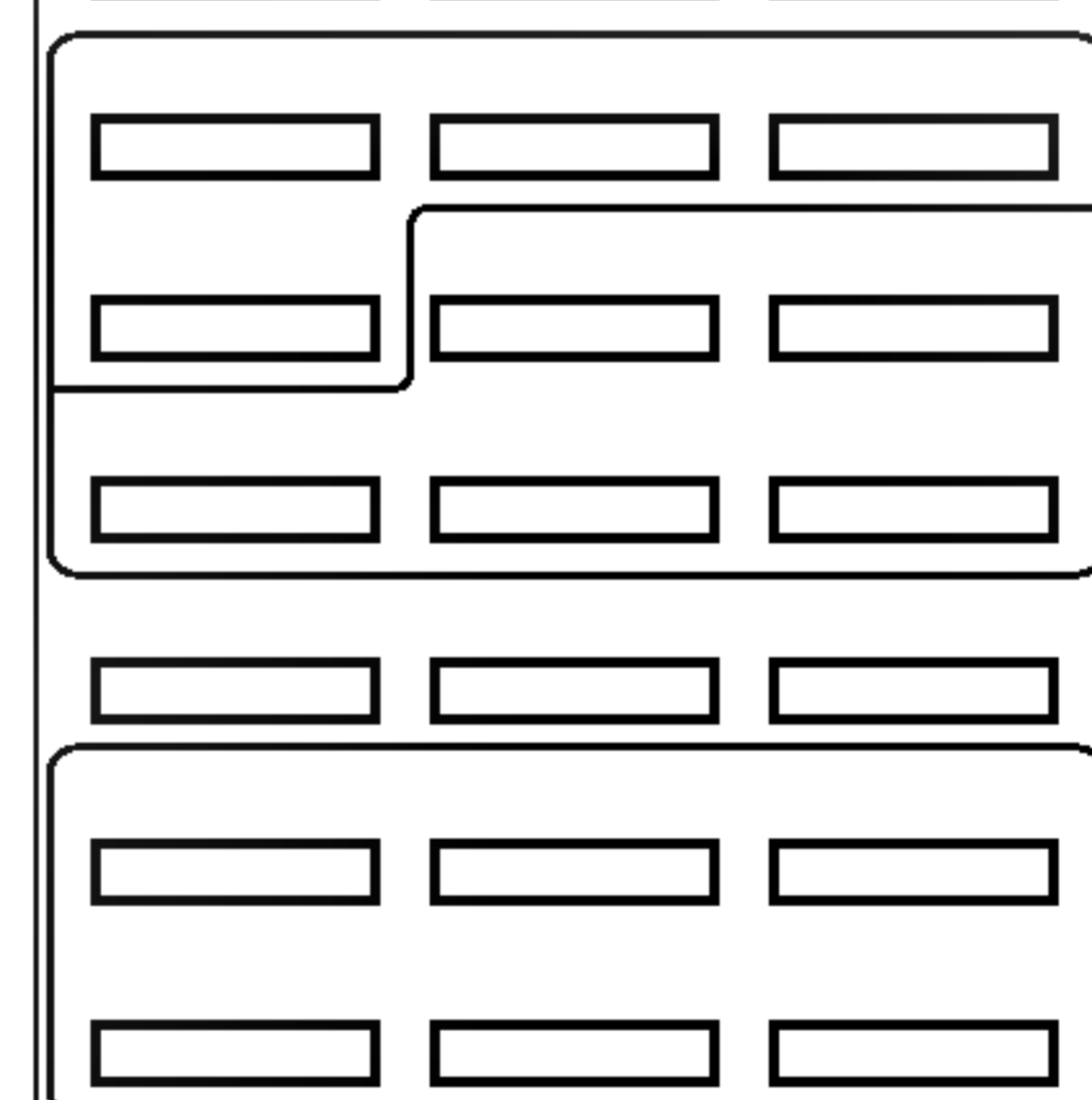
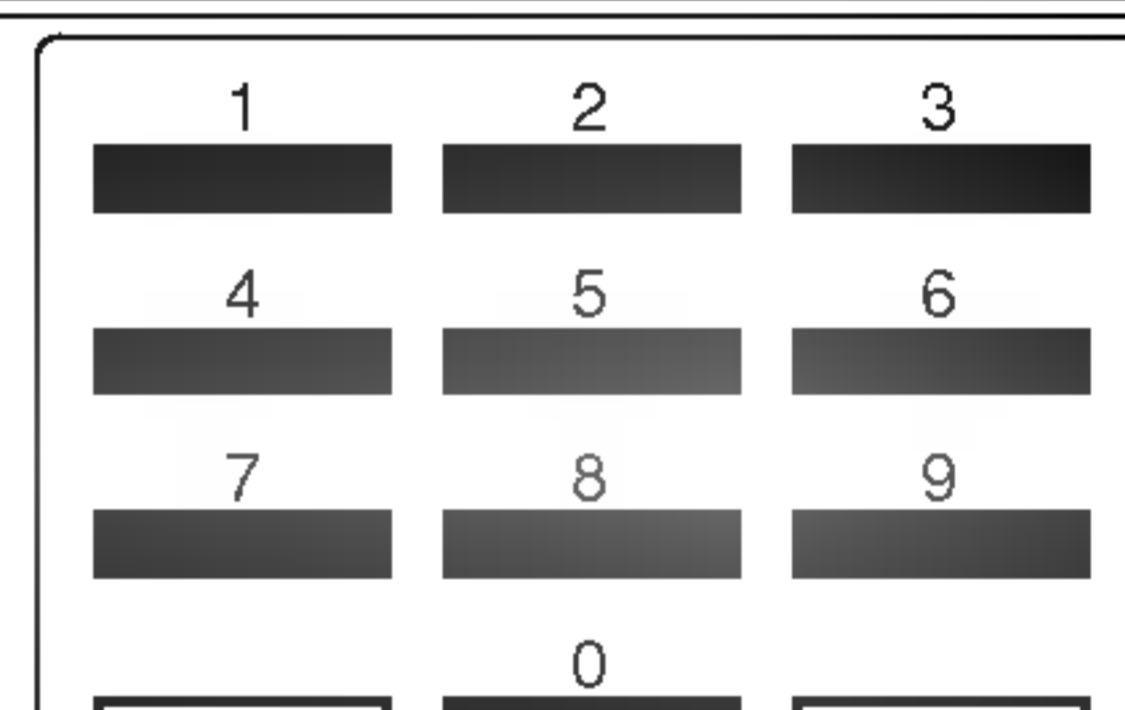
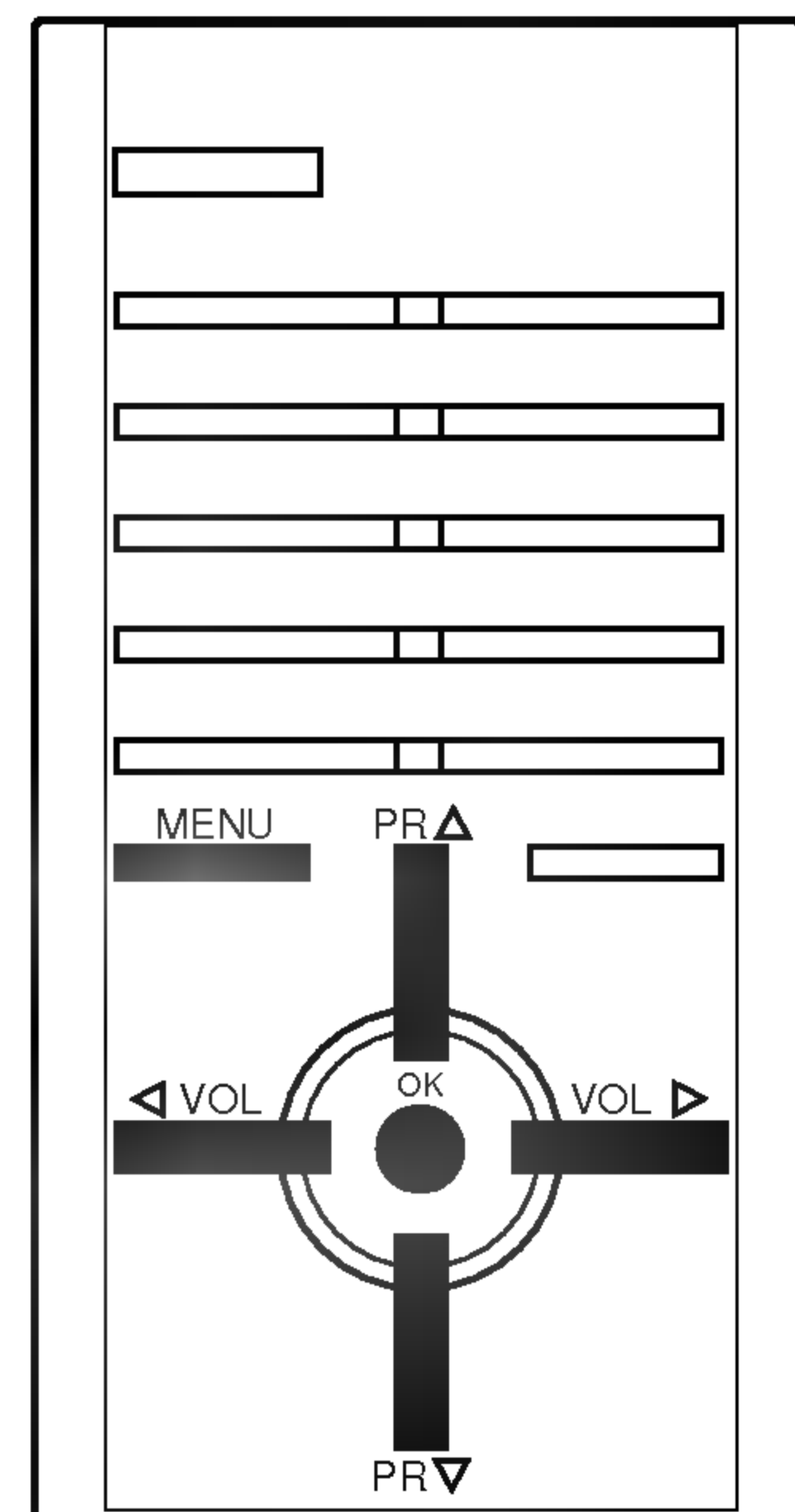
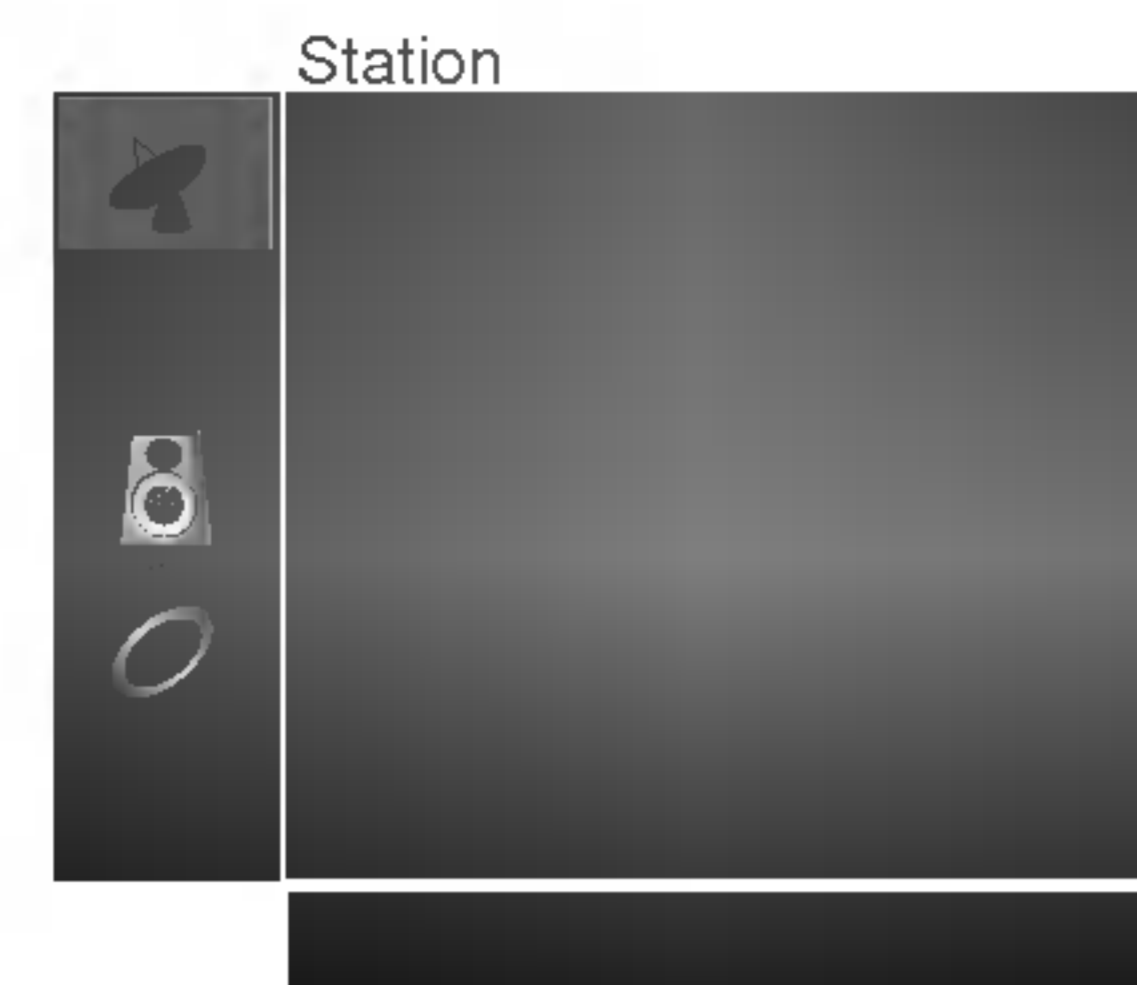


All receivable stations are stored.

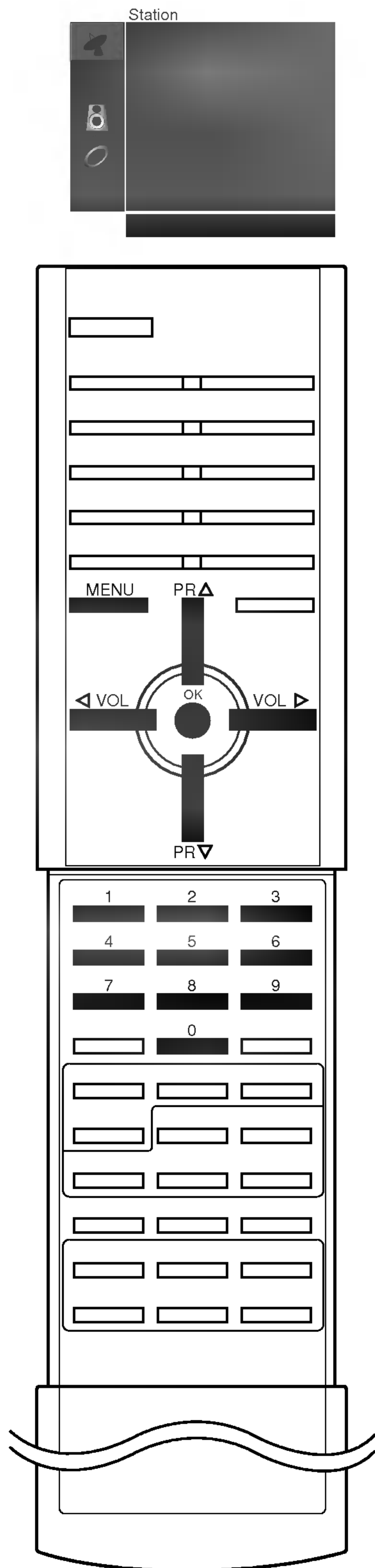
To stop auto programming, press the **MENU** button.

When auto programming is completed, the **Programme edit** menu appears on the screen. See the 'Programme edit' section to edit the stored programme.

11. Repeatedly press the **MENU** button to return to normal TV viewing.



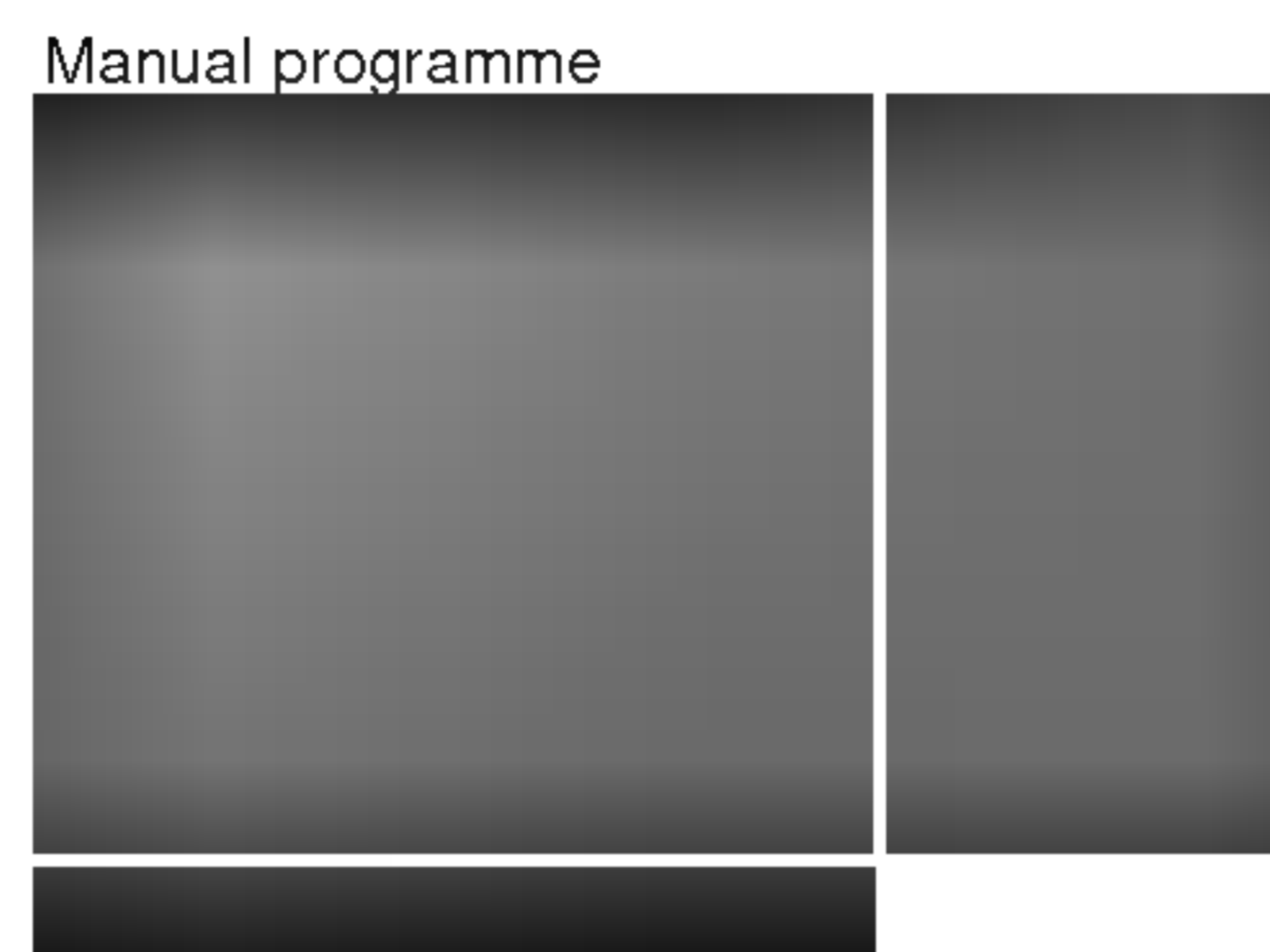
Setting up TV stations



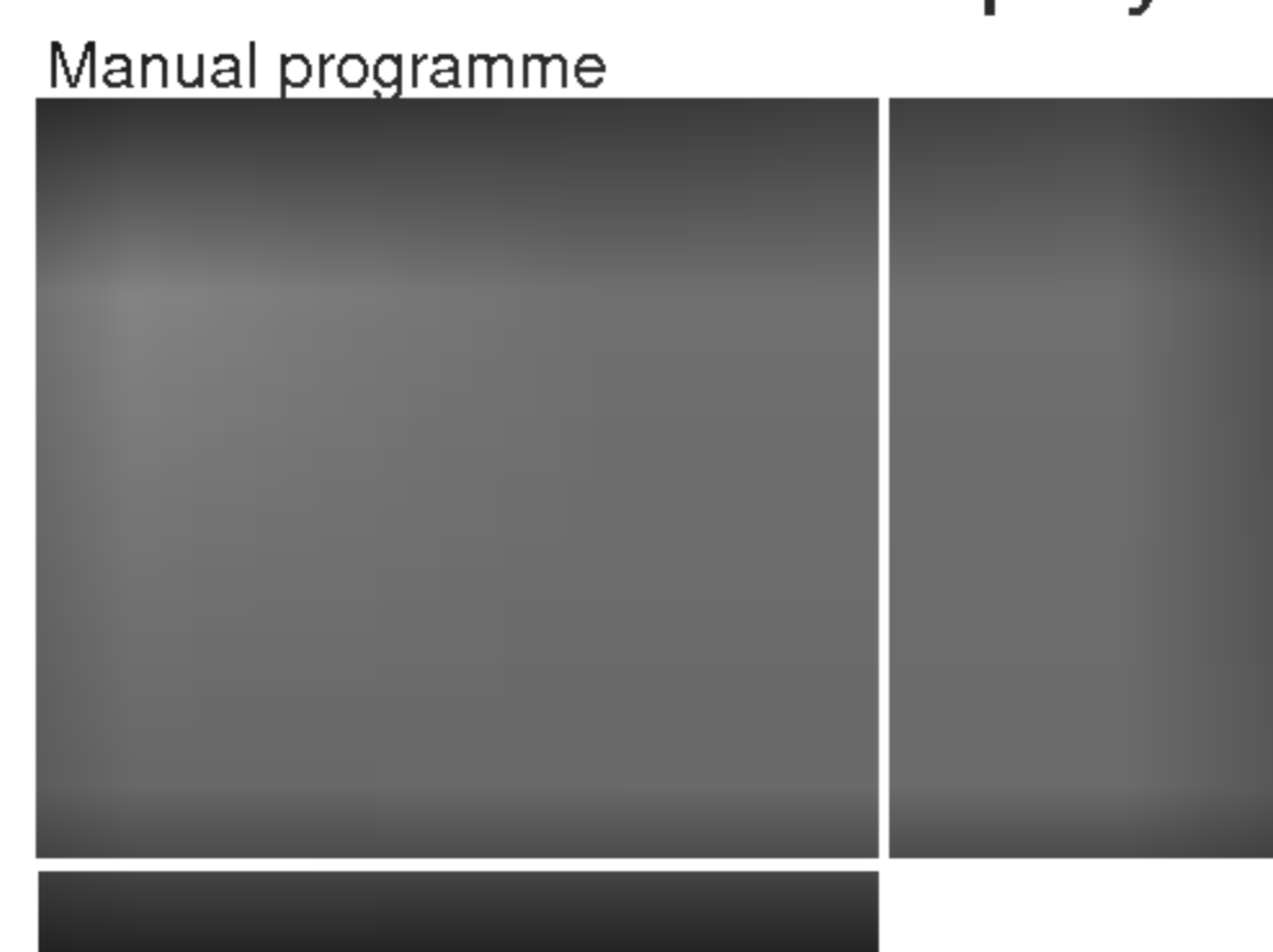
Manual programme tuning

Manual programme lets you manually tune and arrange the stations in whatever order you desire. Also you can assign a station name with five characters to each programme number.

1. Press the **MENU** button and then **▲ / ▼** button to select the Station menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Manual programme**.
3. Press the **▶** button to display the **Manual programme** menu.



4. Press the **▲ / ▼** button to select **Storage**.
5. Press the **▶** button to select the programme number. Select the desired programme number (0 to 99) with the **◀ / ▶** button or NUMBER buttons on the **Storage** pull-down menu. Any number under 10 is entered with a numeric '0' (or '00') in front of it, i.e. '05' (or '005') for 5.
6. Press the **OK** button.
7. Press the **▲ / ▼** button to select **System**.
8. Press the **▶** button. Select a TV system with the **▲ / ▼** button on the **System** pull-down menu;
 - BG** : (Asia/New Zealand/M.East/Africa/Australia)
 - I** : (Hong Kong/South Africa)
 - DK** : (East Europe/China/Africa/CIS)
 - M** : (USA/Korea/Philippines) (option)
9. Press the **OK** or **◀** button.
10. Press the **▲ / ▼** button to select **Channel**.
11. Press the **▶** button. Press the **▲ / ▼** button to select **V/UHF** or **Cable** on the **Channel** pull-down menu. If possible, select the channel number directly with the number buttons. Any number under 10 is entered with a numeric '0' (or '00') in front of it, i.e. '05' (or '005') for 5.
12. Press the **OK** or **◀** button.
13. Press the **▲ / ▼** button to select **Search**.
14. Press the **▶** button. Press the **◀ / ▶** button to commence searching on the **Search** pull-down menu. If a station is found the search will stop.
15. Press the **OK** button to store it. The display **Stored** will appear.



16. To store another station, repeat steps 4 to 15.
17. Repeatedly press the **MENU** button to return to normal TV viewing.

Setting up TV stations

Assigning a station name

1. Repeat the 'Manual programme tuning' steps 1 to 3.
2. Press the ▲ / ▼ button to select **Name**.
3. Press the ► button on the **Name** pull-down menu.
4. Press the ▲ button. You can use the alphabet **A** to **Z**, the numeric **0** to **9** and a +, -, blank.
With the ▼ button you can select in the opposite direction.
5. Select the position by pressing the ◀ / ▶ button and then take your choice of the second character, and so on.
6. Press the **OK** button.
7. Repeatedly press the **MENU** button to return to normal TV viewing.

Booster

In some models, **Booster** is an optional function. Only a set with **Booster** can perform this function.

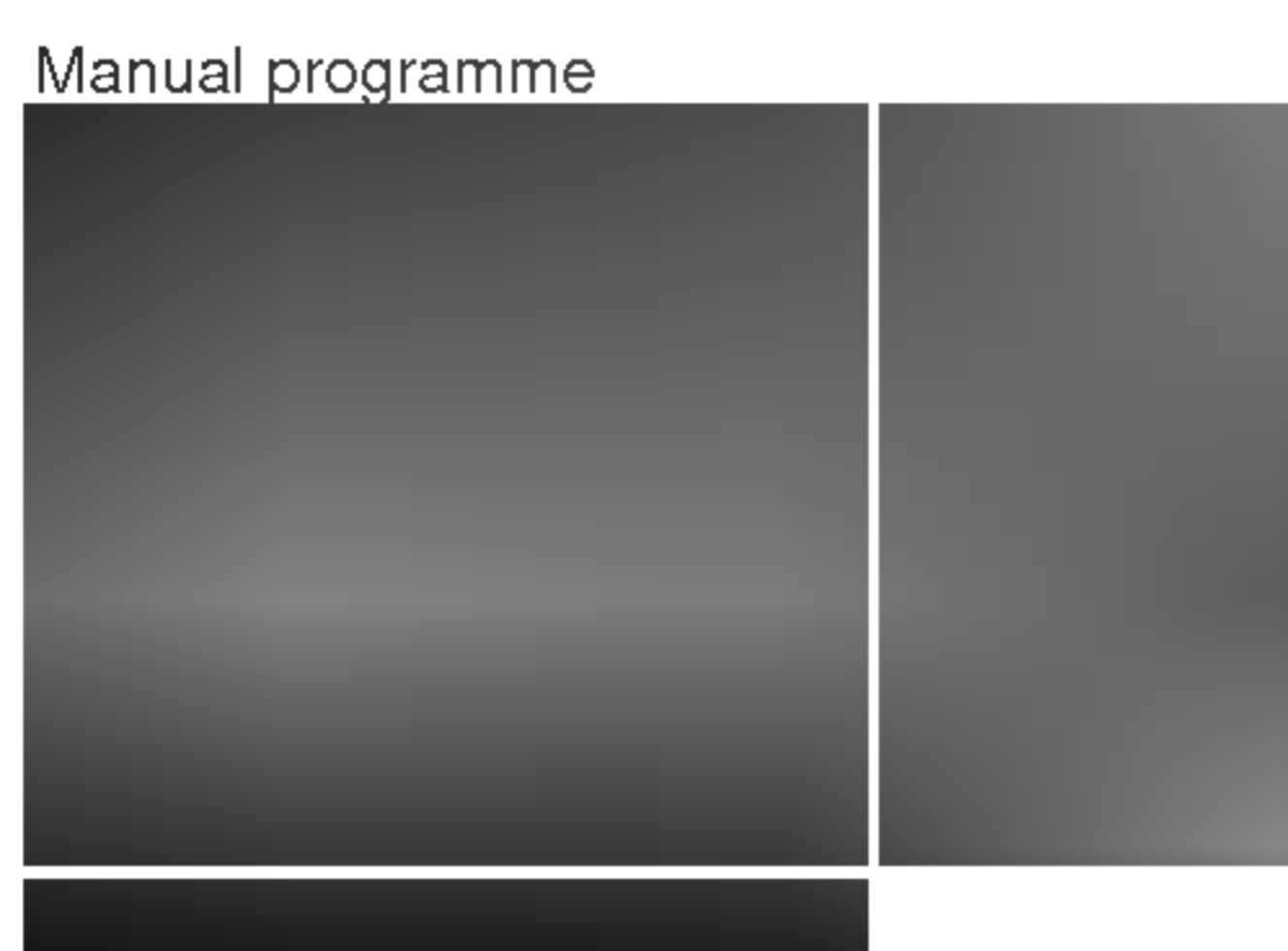
If the reception is poor at the fringe area of TV signal, select **Booster** to **On**. When the picture condition is good, do not select **Booster** to **On**.

1. Repeat the 'Manual programme tuning' steps 1 to 3.
2. Press the ▲ / ▼ button to select **Booster**.
3. Press the ► button.
4. Press the ▲ / ▼ button to select **On** or **Off** on the **Booster** pull-down menu.
5. Press the **OK** or ◀ button.
6. Repeatedly press the **MENU** button to return to normal TV viewing.

Fine tuning

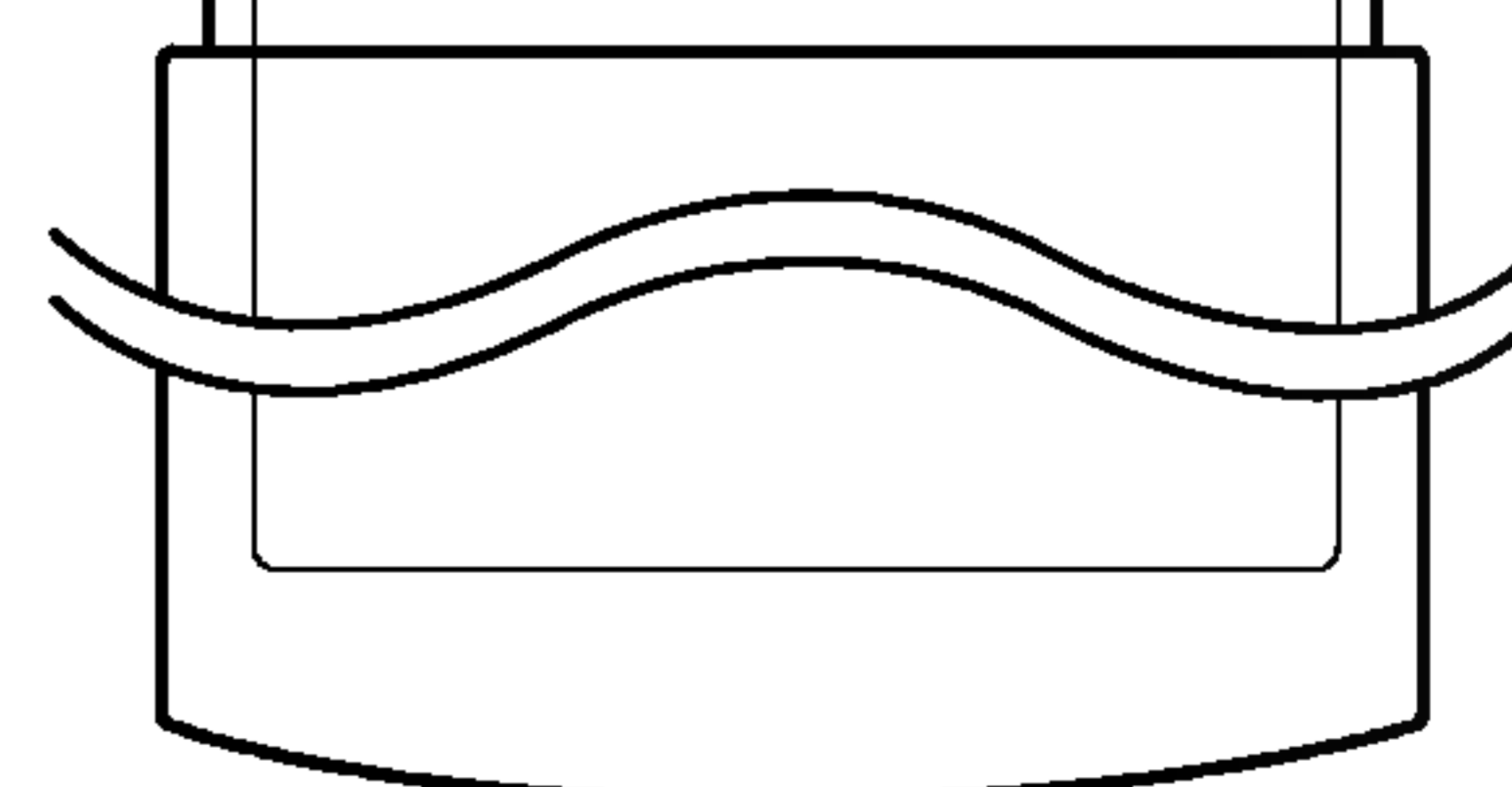
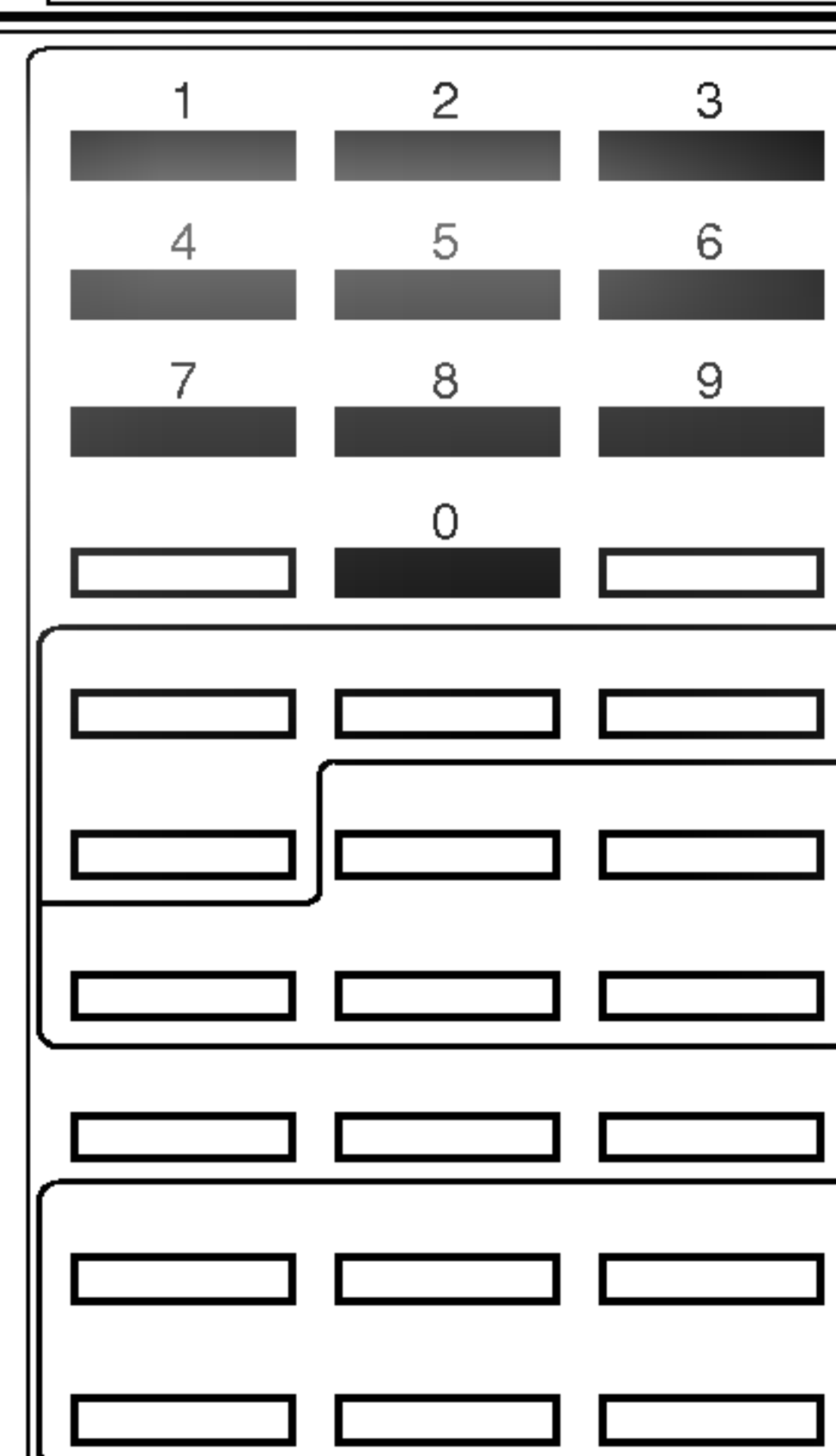
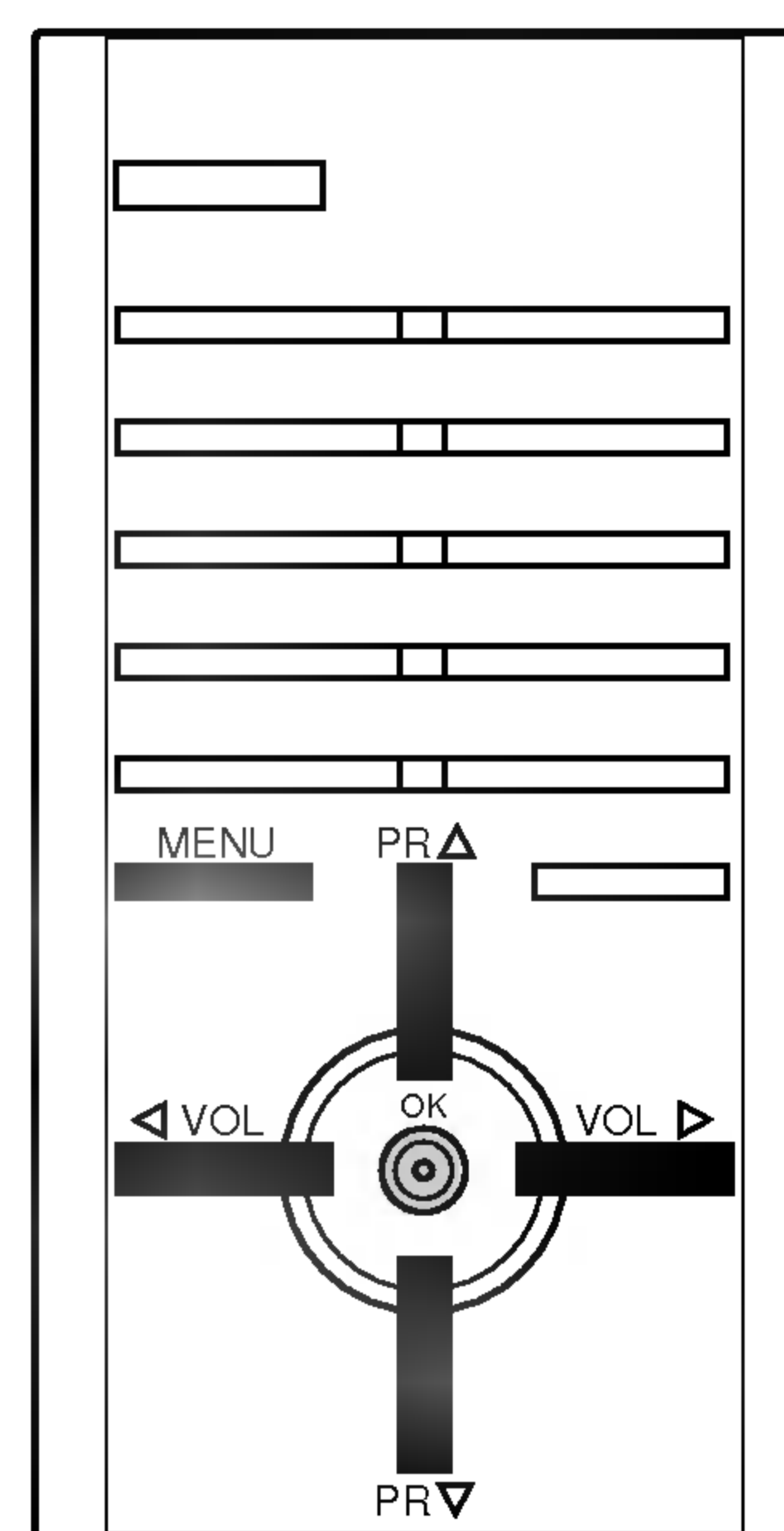
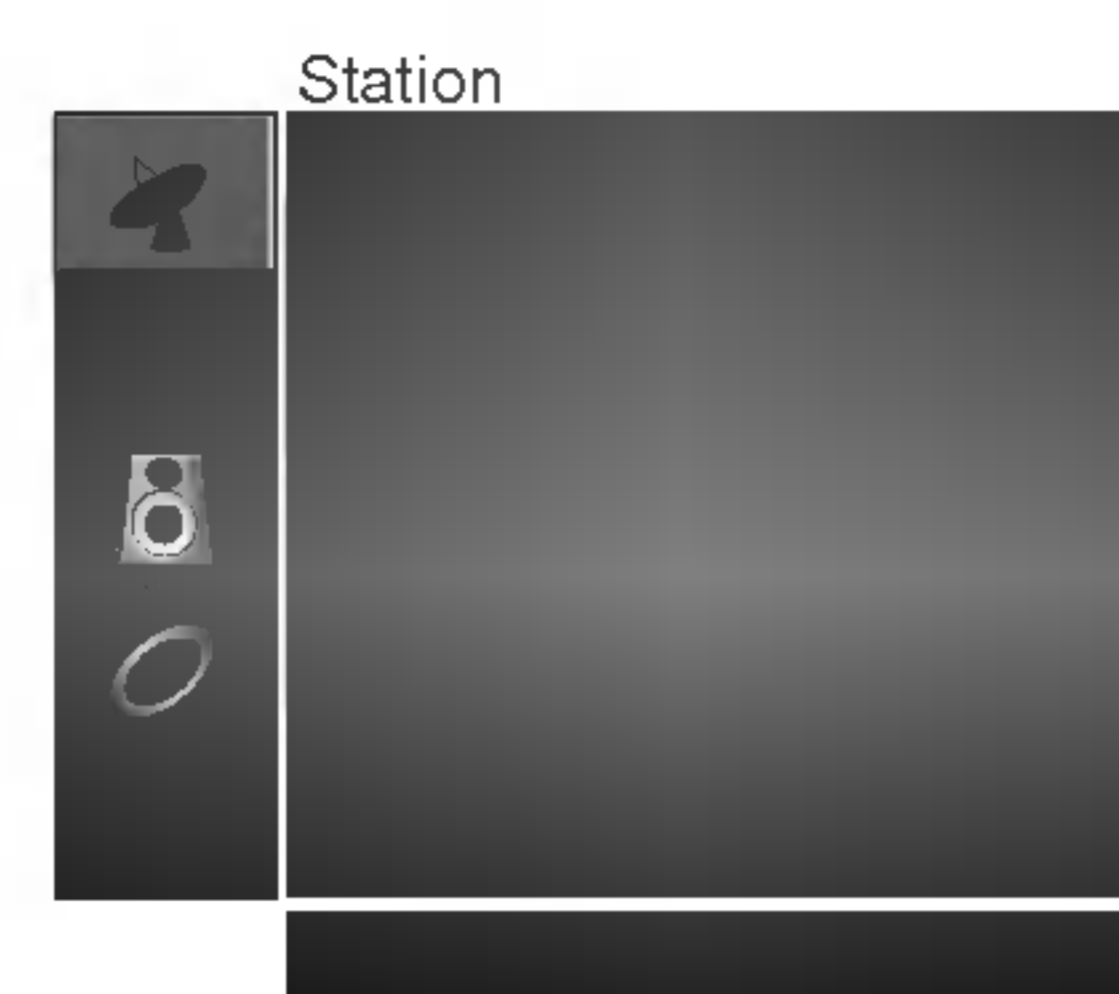
Normally fine tuning is only necessary if reception is poor.

1. Repeat the 'Manual programme tuning' steps 1 to 3.
2. Press the ▲ / ▼ button to select **Fine**.
3. Press the ► button.

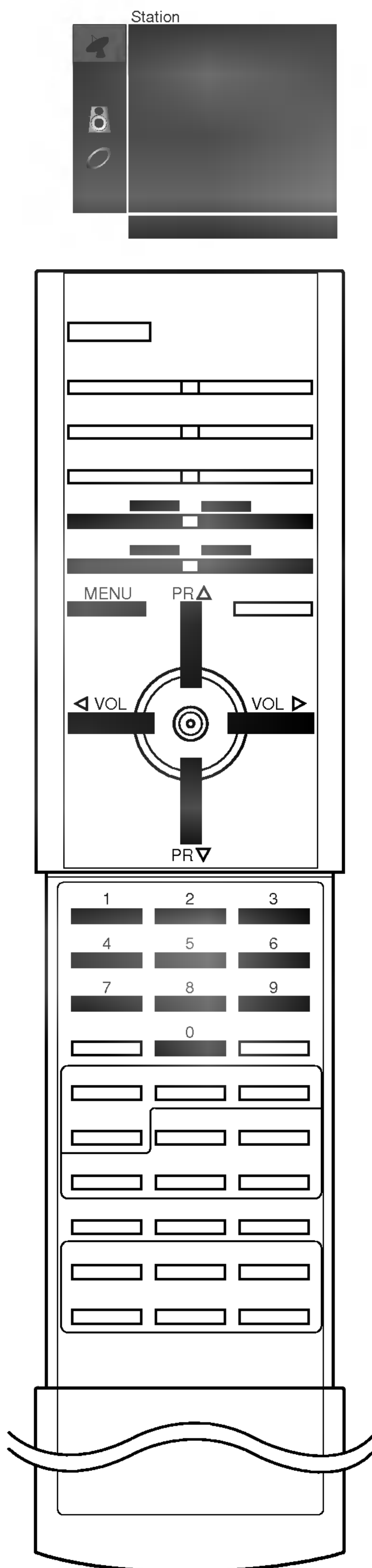


4. Press the ◀ / ▶ button to fine tune for the best picture and sound on the **Fine** pull-down menu.
5. Press the **OK** button.
6. Repeatedly press the **MENU** button to return to normal TV viewing.

The finely tuned programme will be indicated by yellow number during programme selection.



Setting up TV stations



Programme edit

This function enables you to delete or skip the stored programmes. Also you can move some stations to other programme numbers or insert a blank station data into the selected programme number.

1. Press the **MENU** button and then **▲ / ▼** button to select the Station menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Programme edit**.
3. Press the **▶** button to display the **Programme edit** menu.



Deleting a programme

1. Select a programme to be deleted with the **▲ / ▼** or **◀ / ▶** button.
2. Press the RED button twice.
The selected programme is deleted, all the following programmes are shifted up one position.

Copying a programme

1. Select a programme to be copied with the **▲ / ▼** or **◀ / ▶** button.
2. Press the GREEN button.
All the following programmes are shifted down one position.

Moving a programme

1. Select a programme to be moved with the **▲ / ▼** or **◀ / ▶** button.
2. Press the YELLOW button.
3. Move the programme to the desired programme number with the **▲ / ▼** or **◀ / ▶** button.
4. Press the YELLOW button again to release this function.



Skipping a programme number

1. Select a programme number to be skipped with the **▲ / ▼** or **◀ / ▶** button.
2. Press the BLUE button. The skipped programme turns to blue.
3. Press the BLUE button again to release the skipped programme.

When a programme 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 programme, directly enter the programme number with the NUMBER buttons or select it in the programme edit or table menu.

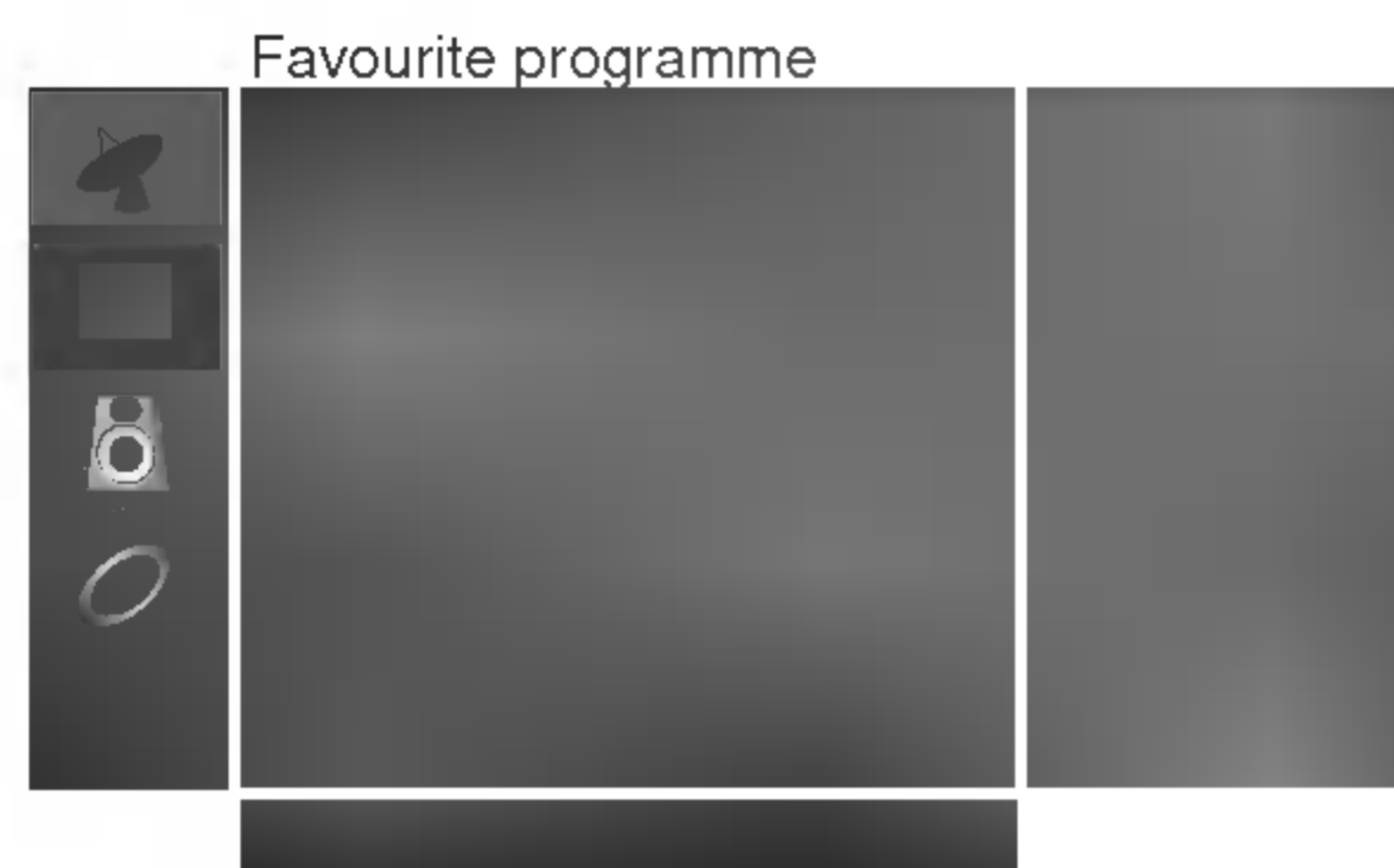
Repeatedly press the **MENU** button to return to normal TV viewing.

Setting up TV stations

Favourite programme

This function lets you select your favourite programmes directly.

1. Press the **MENU** button and then **▲ / ▼** button to select the Station menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Favourite programme**.
3. Press the **▶** button to display the **Favourite programme** menu.



4. Press the **◀ / ▶** button to select **On**.
5. Press the **▲ / ▼** button to select **-- -----**.
6. Select a desired programme with the **◀ / ▶** button or **NUMBER** buttons. Any number under 10 is entered with a numeric **'0'** (or **'00'**) in front of it, i.e. **'05'** (or **'005'**) for 5.
7. To store another programme, repeat steps 5 to 6. You can store up to 8 programmes.
8. Press the **OK** button.
9. Repeatedly press the **MENU** button to return to normal TV viewing.

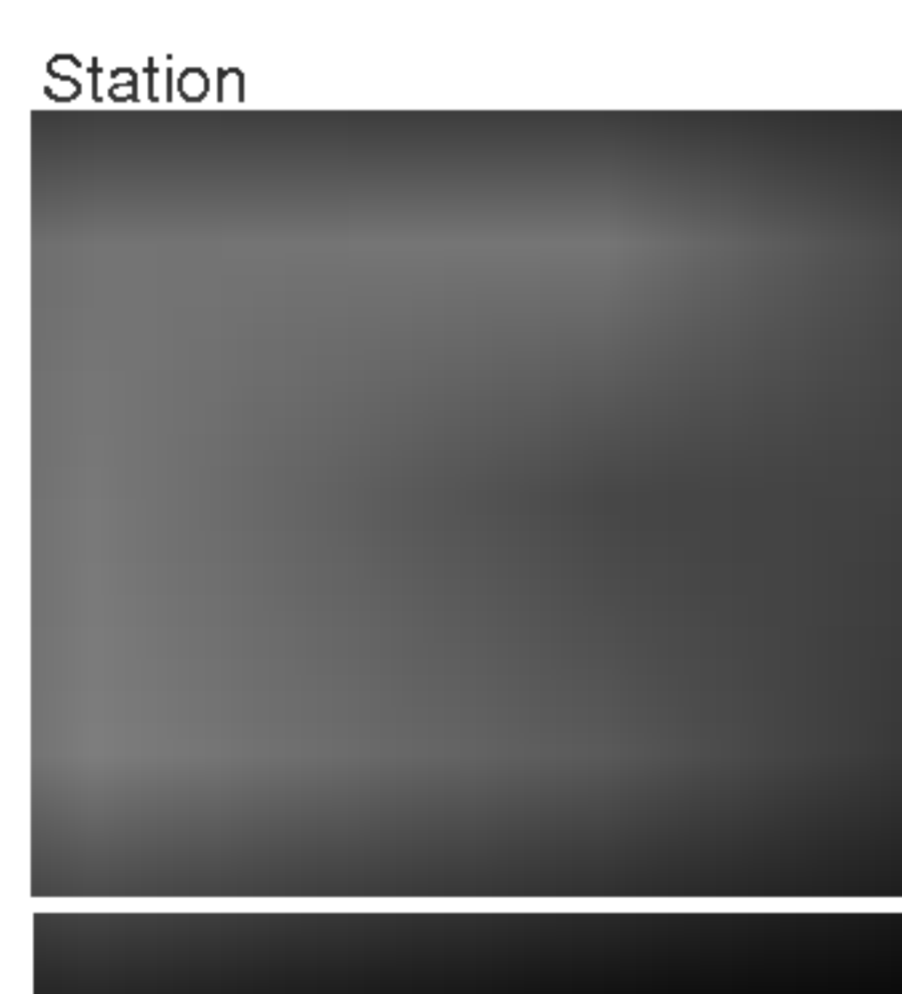
Repeatedly press the **Q.VIEW** or **SWAP** button to select stored favourite programmes.

Calling the programme table

You can check the programmes stored in the memory by displaying the programme table.

Displaying programme table

Press the **LIST** button to display the **Programme table** menu. The programme table appears on the screen. One programme table contains ten programmes as below.



Note :

- a. You may find some blue programmes. They have been set up to be skipped by auto programming or in the programme edit mode.
- b. Some programmes with the channel number shown in the programme table indicate there is no station name assigned.

Selecting a programme in the programme table

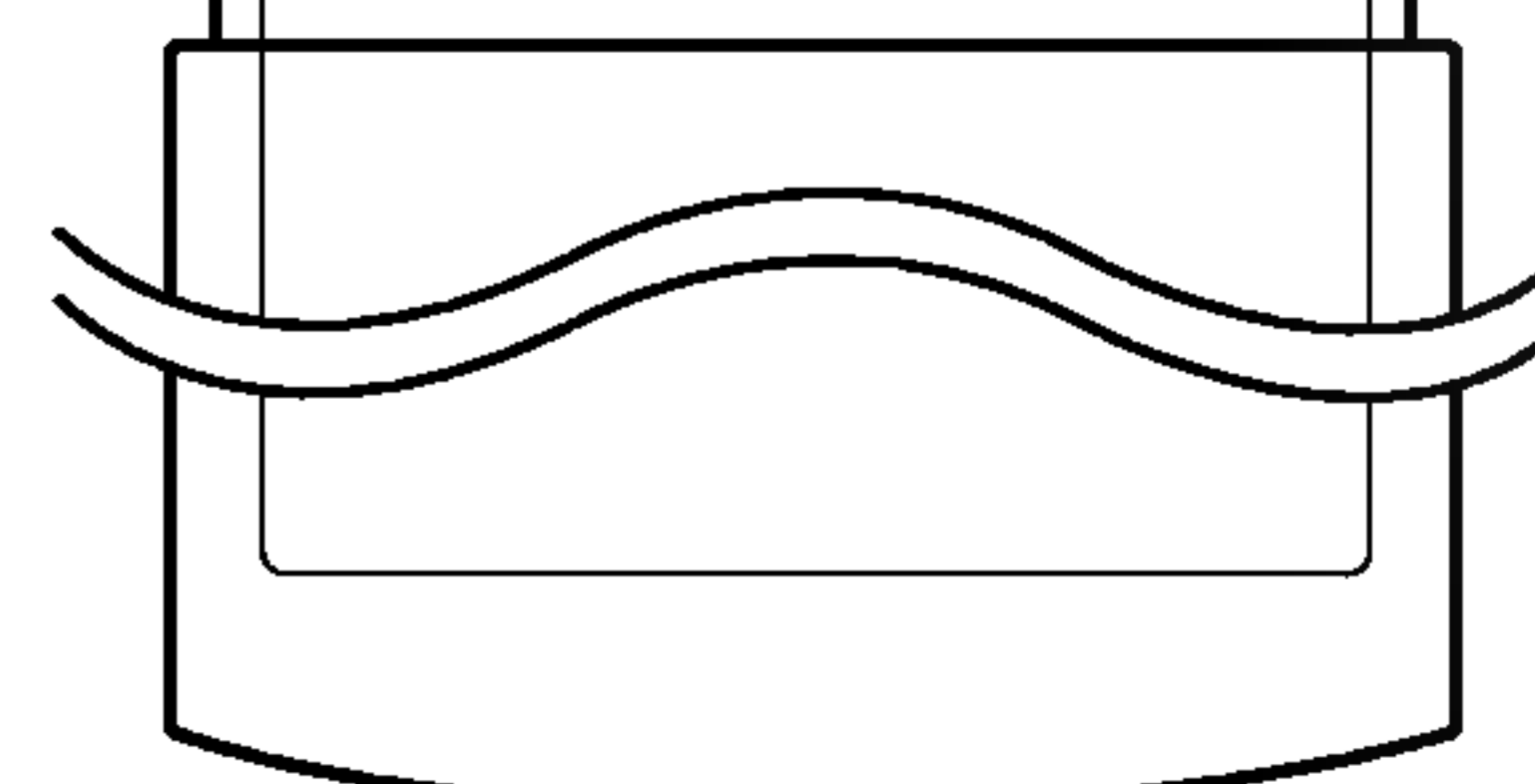
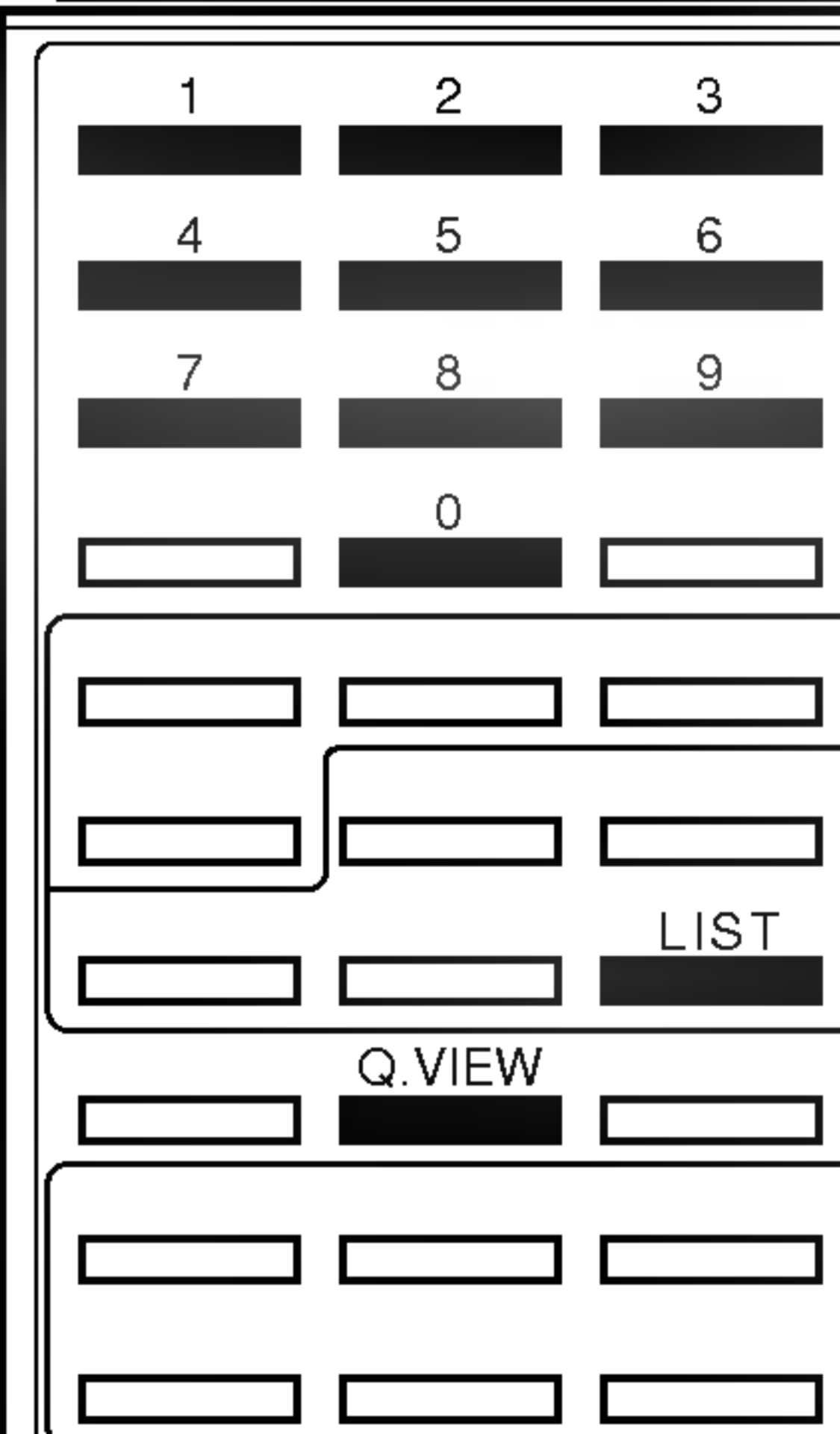
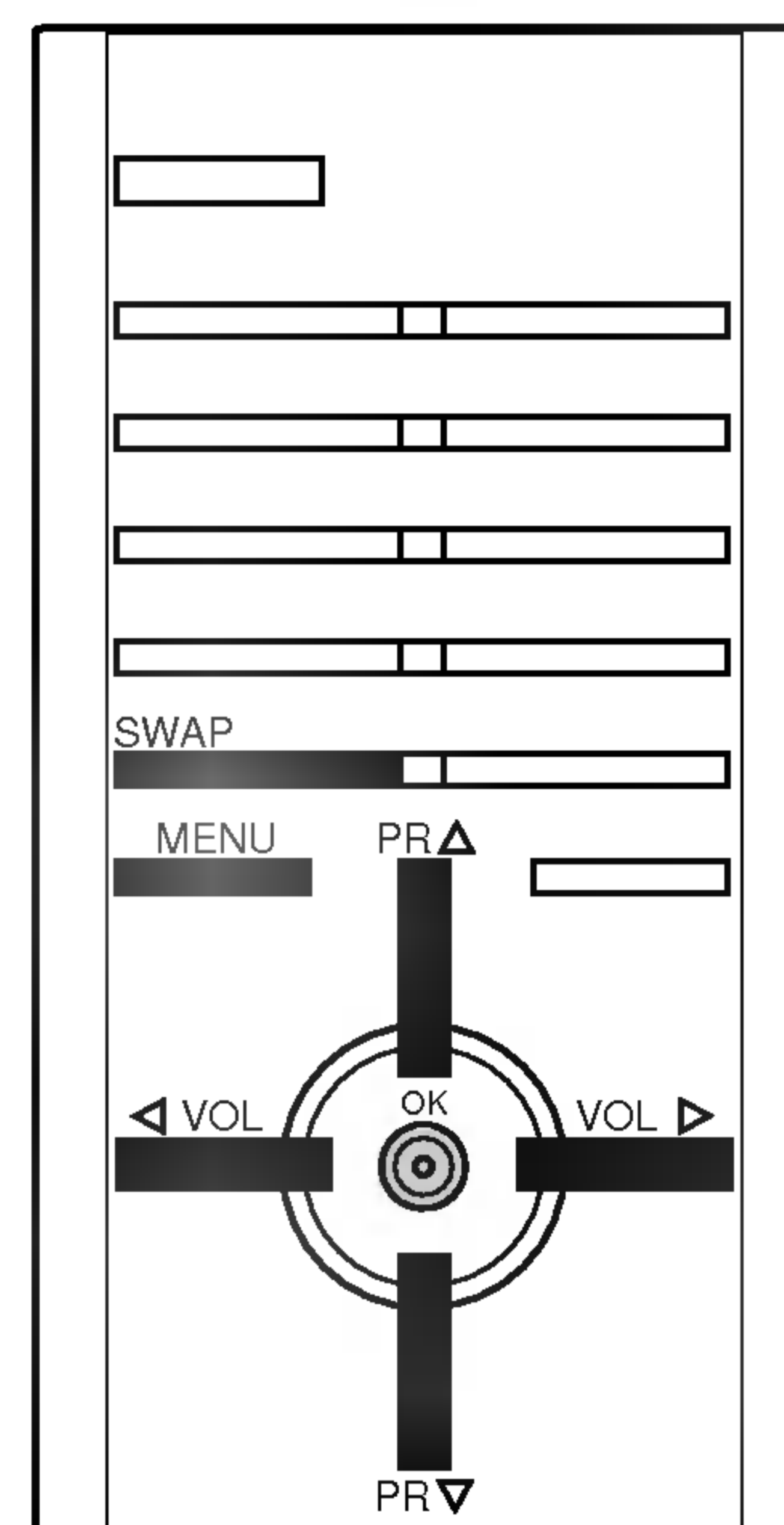
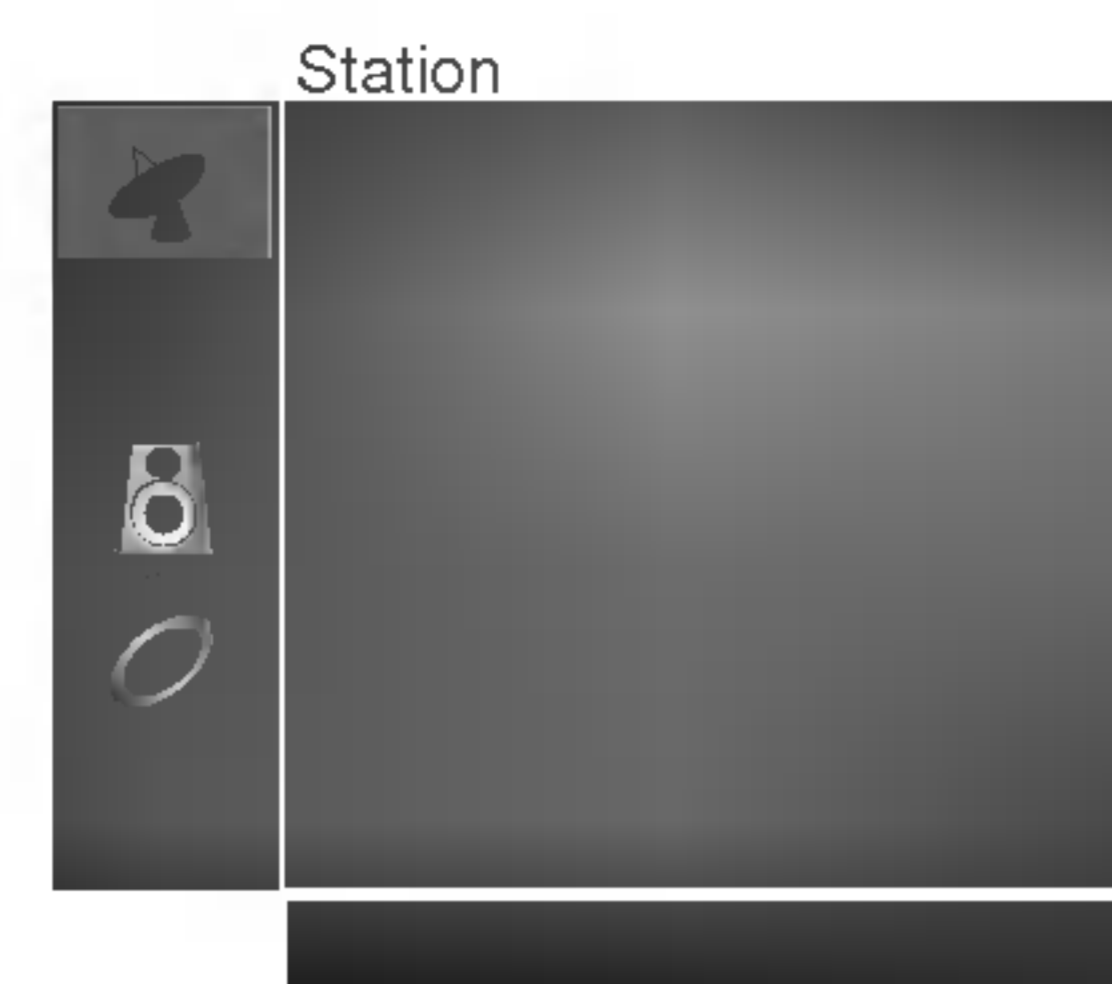
Select a programme with the **▲ / ▼** or **◀ / ▶** button. Then press the **OK** button. The set switches to the chosen programme number.

Paging through a programme table

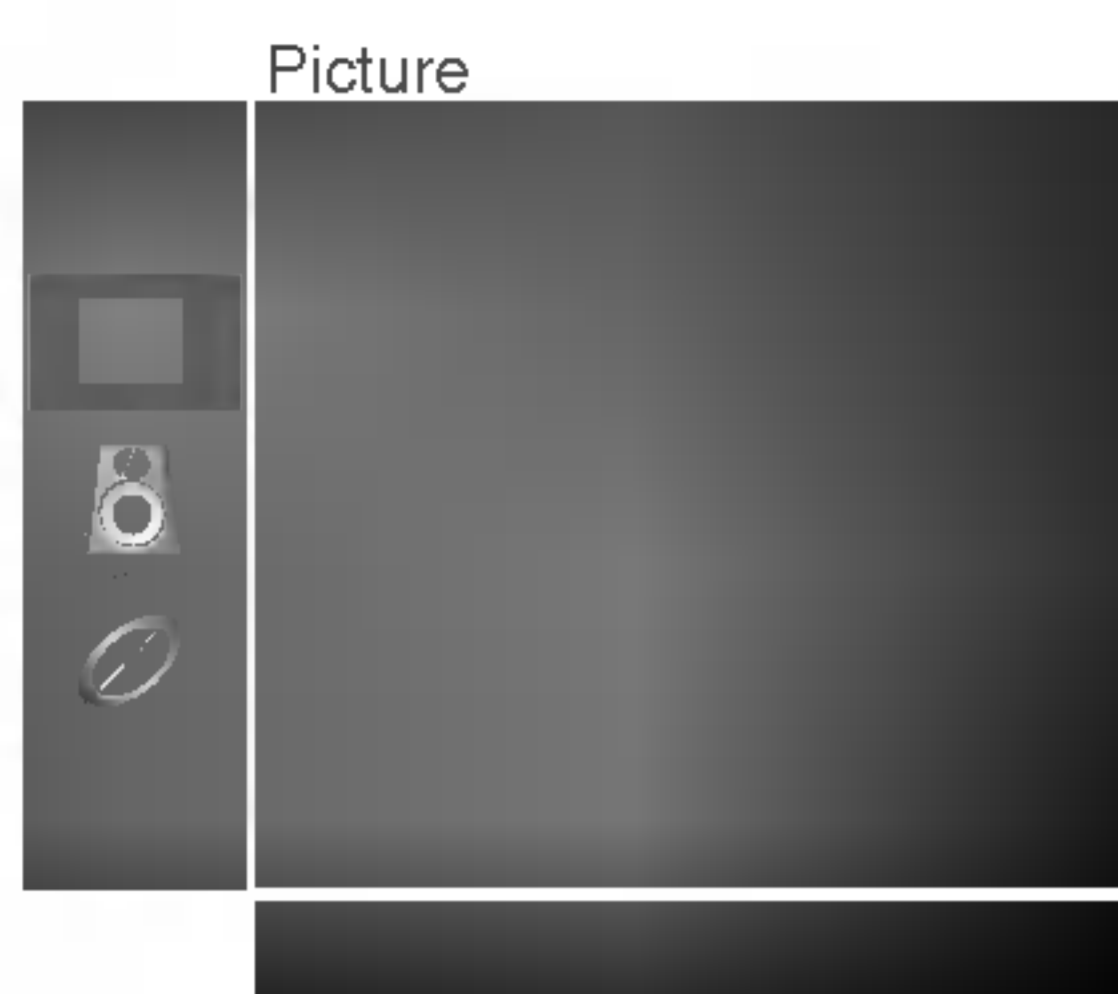
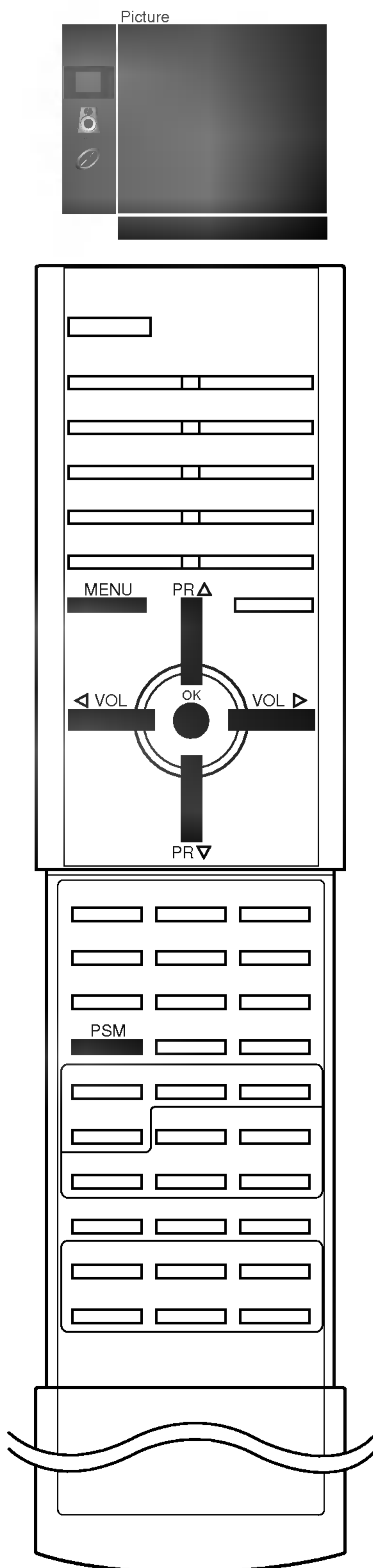
There are 10 (or 20) programme table pages in which contain 100 (or 200) programmes.

Pressing the **▲ / ▼** or **◀ / ▶** button repeatedly turns the pages.

Press the **LIST** button to return to normal TV viewing.

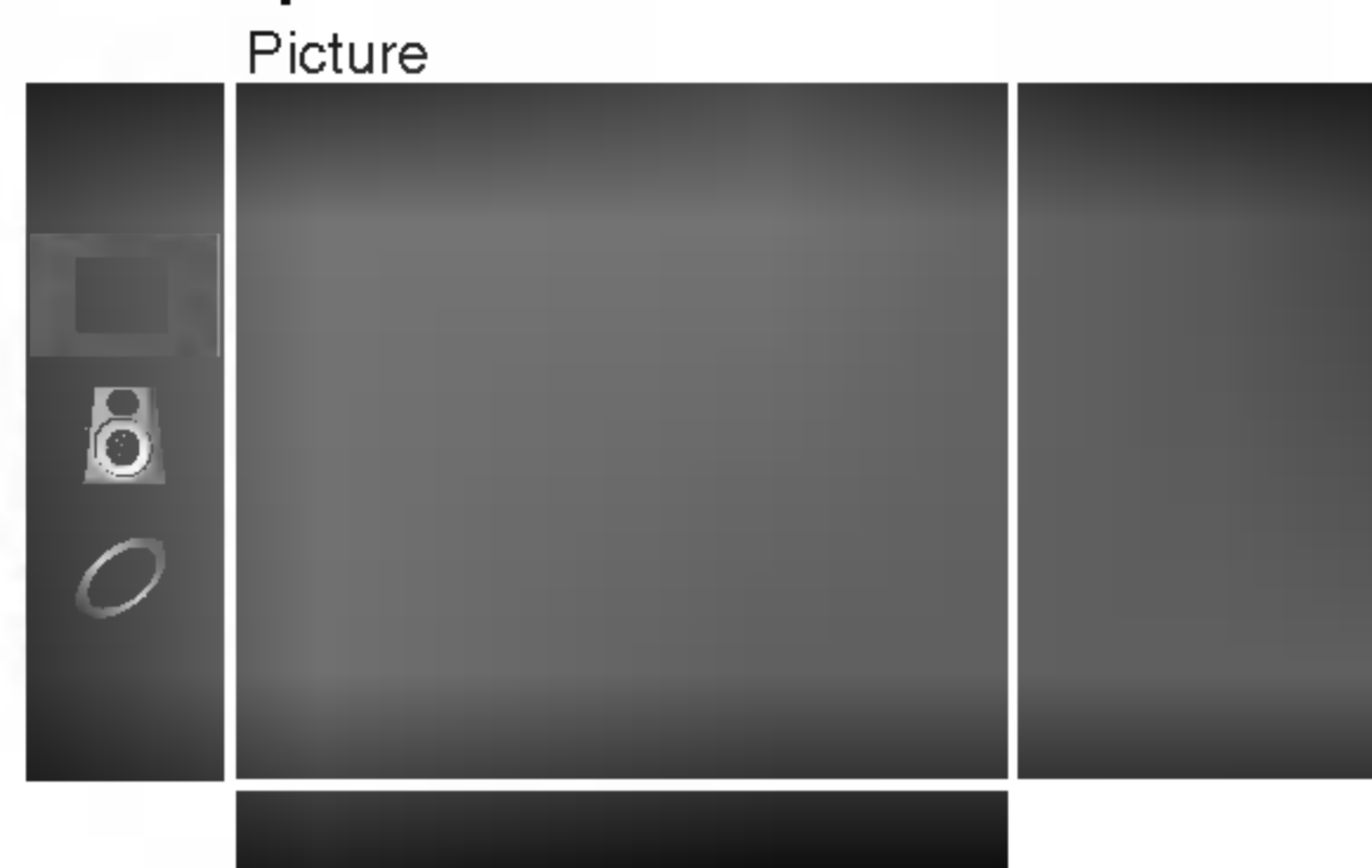


Picture adjustment



PSM (Picture Status Memory)

1. Press the **MENU** button and then ▲ / ▼ button to select the Picture menu.
2. Press the ► button and then ▲ / ▼ button to select **PSM**.
3. Press the ► button and then ▲ / ▼ button to select a picture setting on the **PSM** pull-down menu.



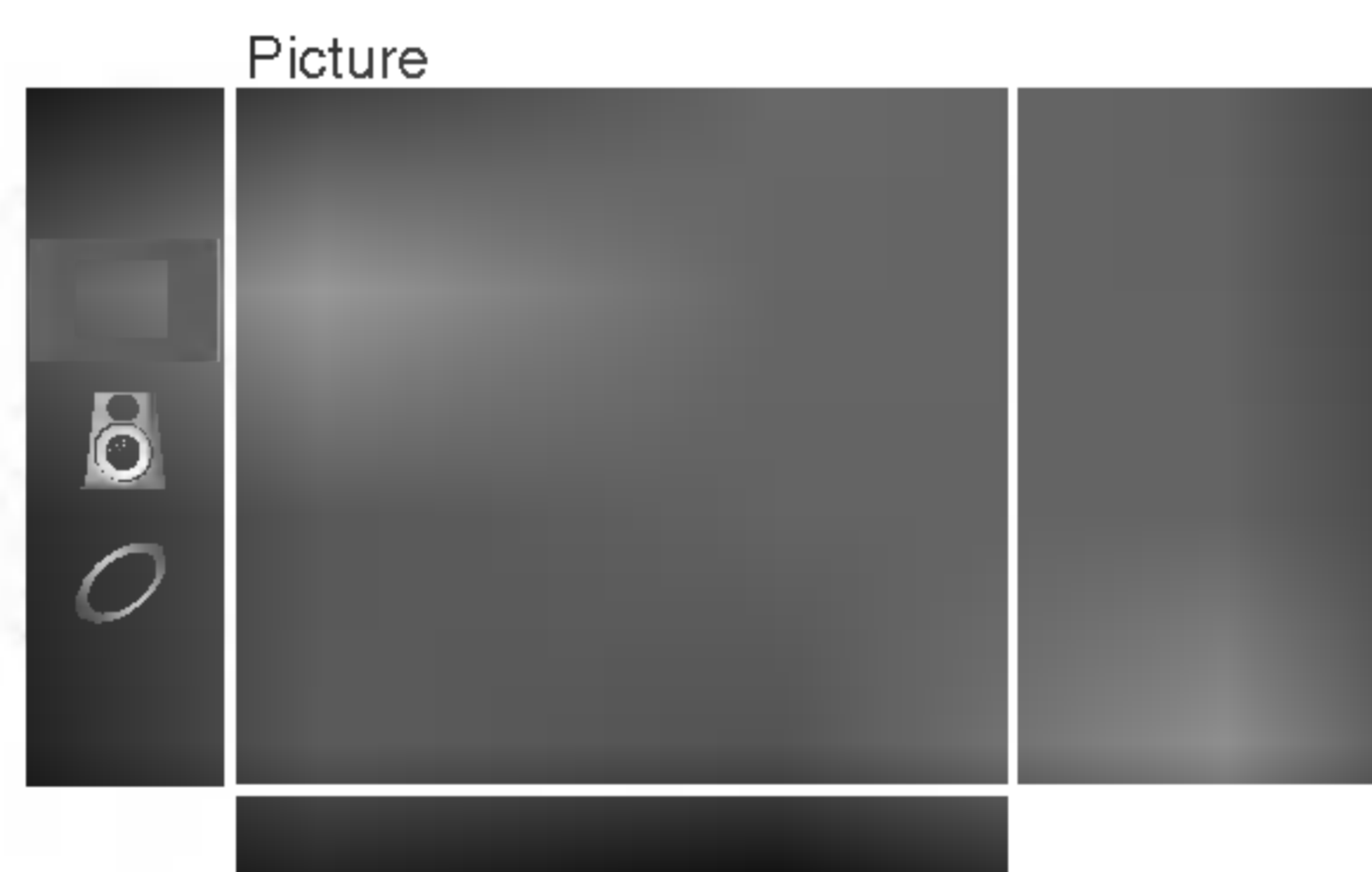
4. Press the **OK** or ◀ button.
5. Repeatedly press the **MENU** button to return to normal TV viewing.

You can also recall a desired picture (**Dynamic**, **Standard**, **Mild**, **Game** or **User**) with **PSM** button on the remote control. The picture **Dynamic**, **Standard**, **Mild** and **Game** are programmed for good picture reproduction at the factory and cannot be changed.

Picture adjustment

You can adjust picture contrast, brightness, colour intensity, sharpness and tint (NTSC input only) to the levels you prefer.

1. Press the **MENU** button and then ▲ / ▼ button to select the Picture menu.
2. Press the ► button and then ▲ / ▼ button to select the desired picture item.
3. Press the ► button.



4. Press the ◀ / ► button to make appropriate adjustments on the each sub menu.
You can also select other **Picture** items directly with ▲ / ▼ button and adjust them with ◀ / ► button.

5. Press the **OK** button to store it for the picture.
6. Repeatedly press the **MENU** button to return to normal TV viewing.

Picture adjustment

Auto convergence

This function enables you to adjust the colour convergence of screen automatically during receiving the signals. When the set is first installed or it is relocated, the picture may be unstable with three colour ghosts (red, green, blue). This problem can be solved by adjusting the colour convergence.

1. Press the **MENU** button and then **▲ / ▼** button to select the Picture menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Auto convergence**.



3. Press the **▶** button to adjust the colour convergence automatically.

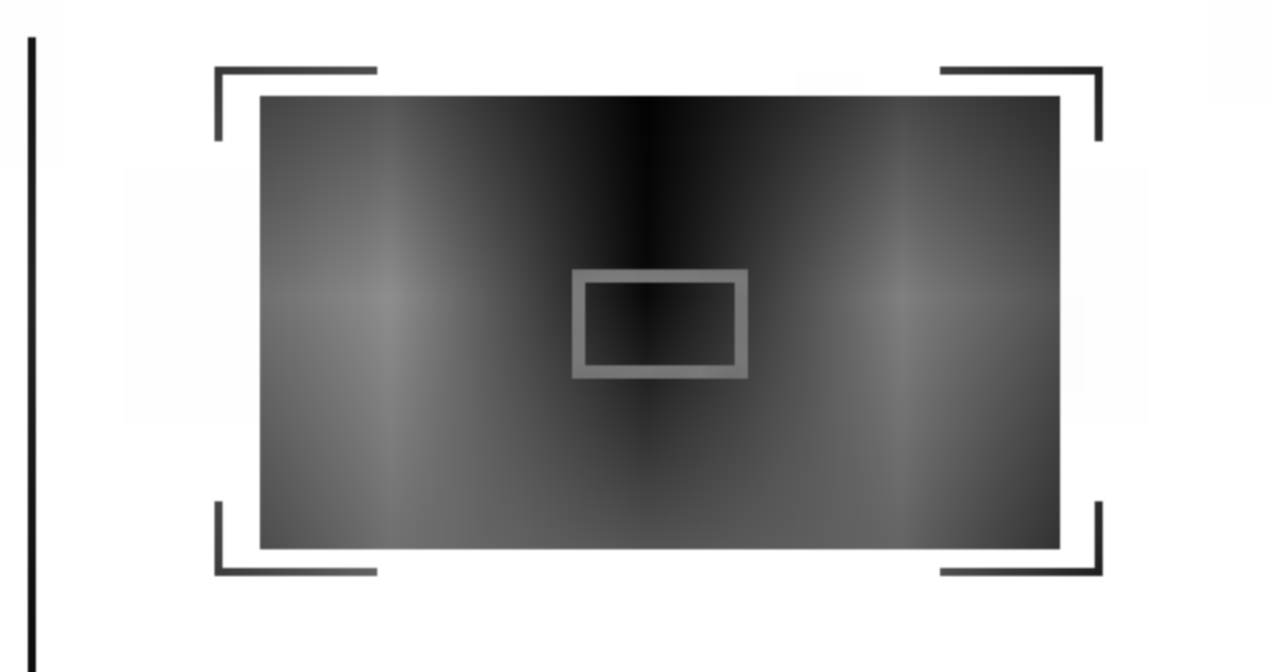
Note :

- a. The Auto convergence isn't suitable to use in case of no broadcasting signal.
- b. The Auto convergence function will be operated about 40 seconds.
- c. The colour of operating point will be changed in order of 'blue-green-red'.
- d. Make the surrounding illumination dark when the screen is unstable or the message "**Ensure lights are dimmed sufficiently**" is displayed on screen after operating Auto convergence. The Auto convergence will then have to be operated again.
- e. This function will be operated after about 20 minutes from switching the set on.
- f. Adjust the Auto convergence according to a broadcasting system (50Hz or 60Hz) each.

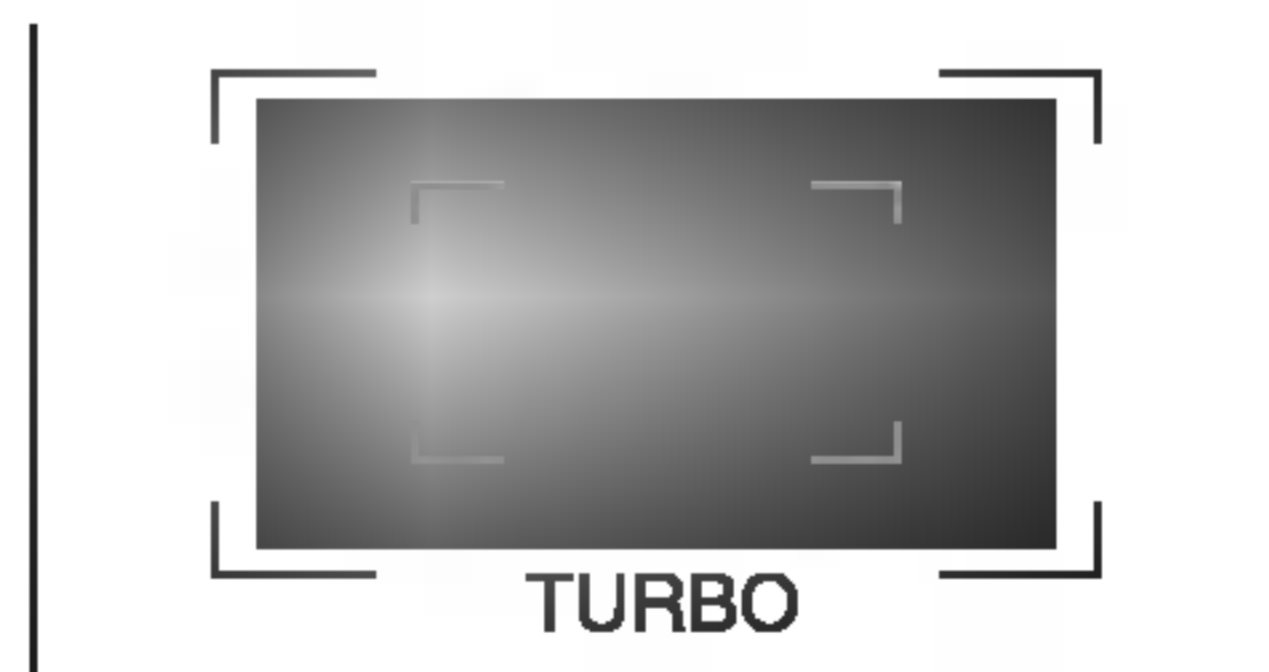
Turbo picture selection

When this function is on, picture will be more brilliant and distinct picture than normal picture. You can enjoy the Turbo picture so much better than normal picture.

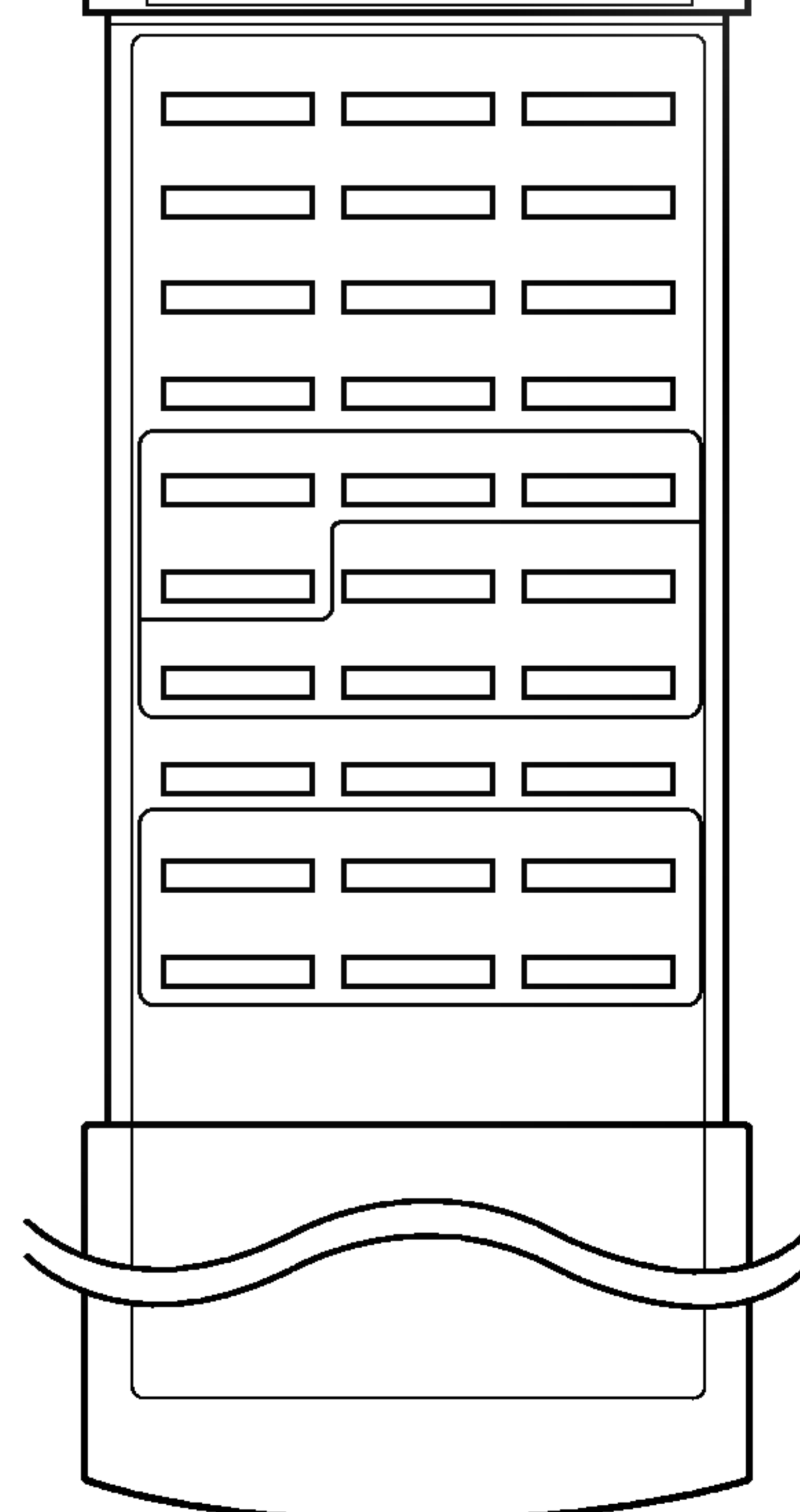
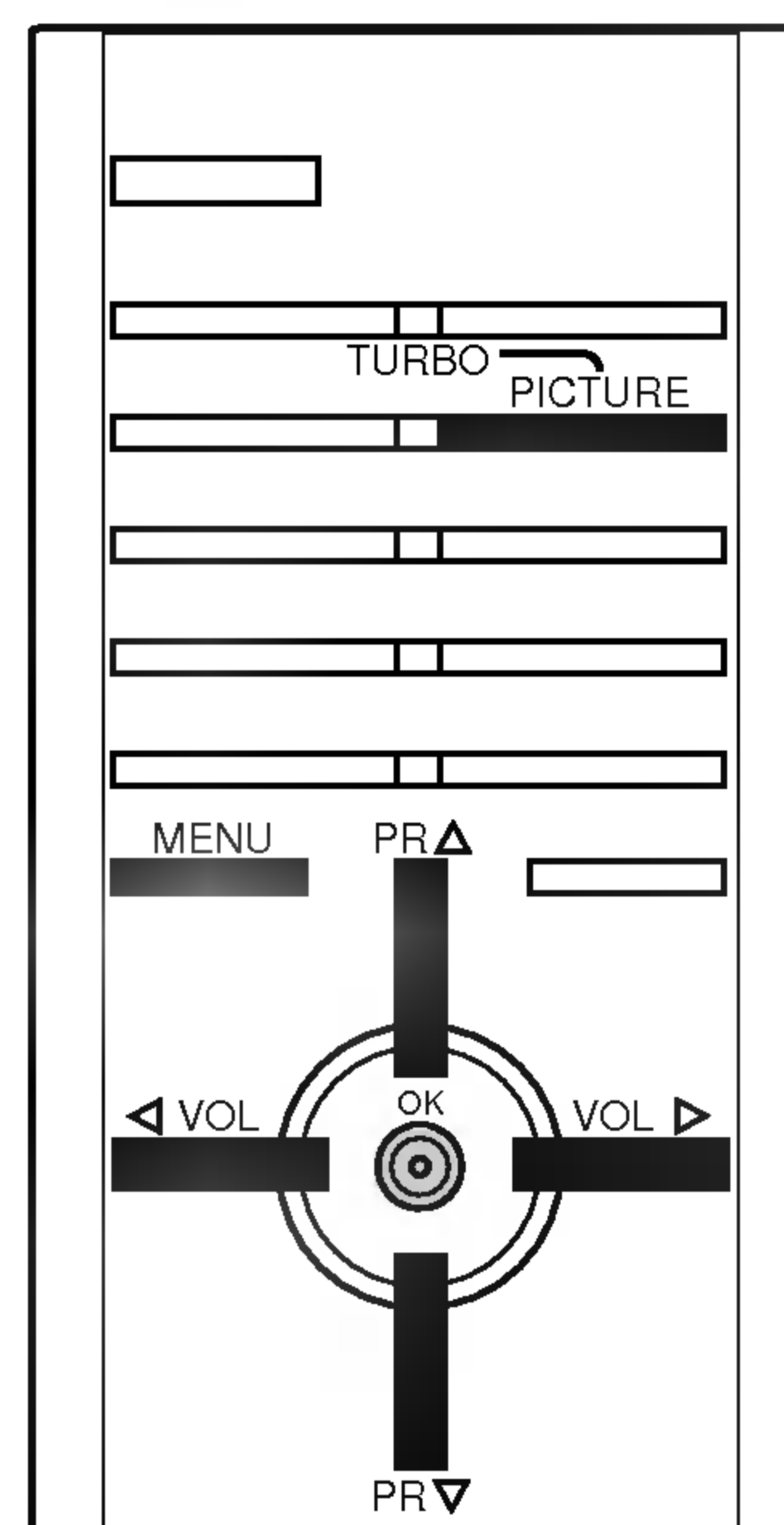
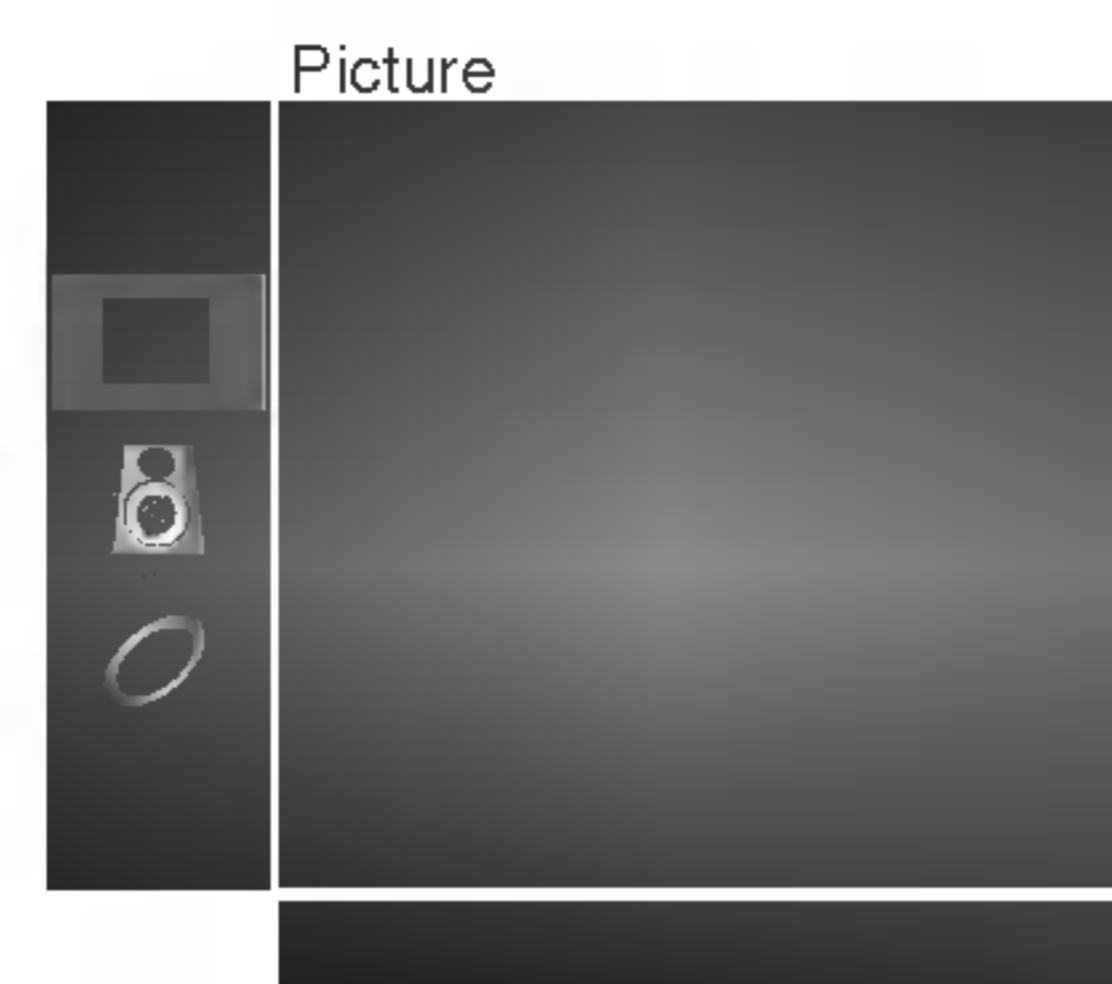
Repeatedly press the **TURBO PICTURE** button to switch on or off.



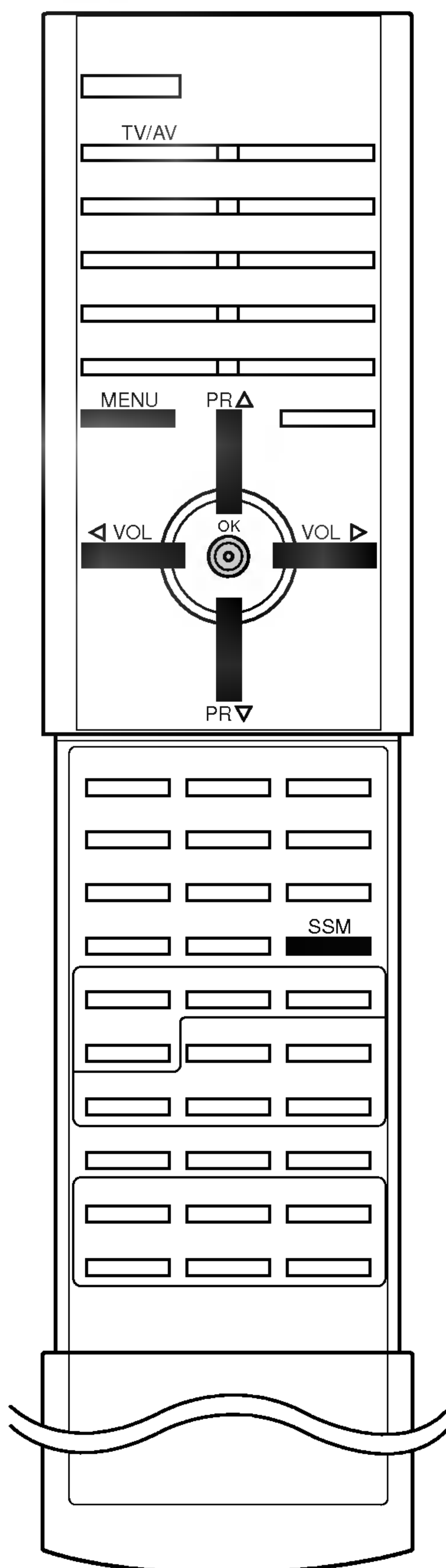
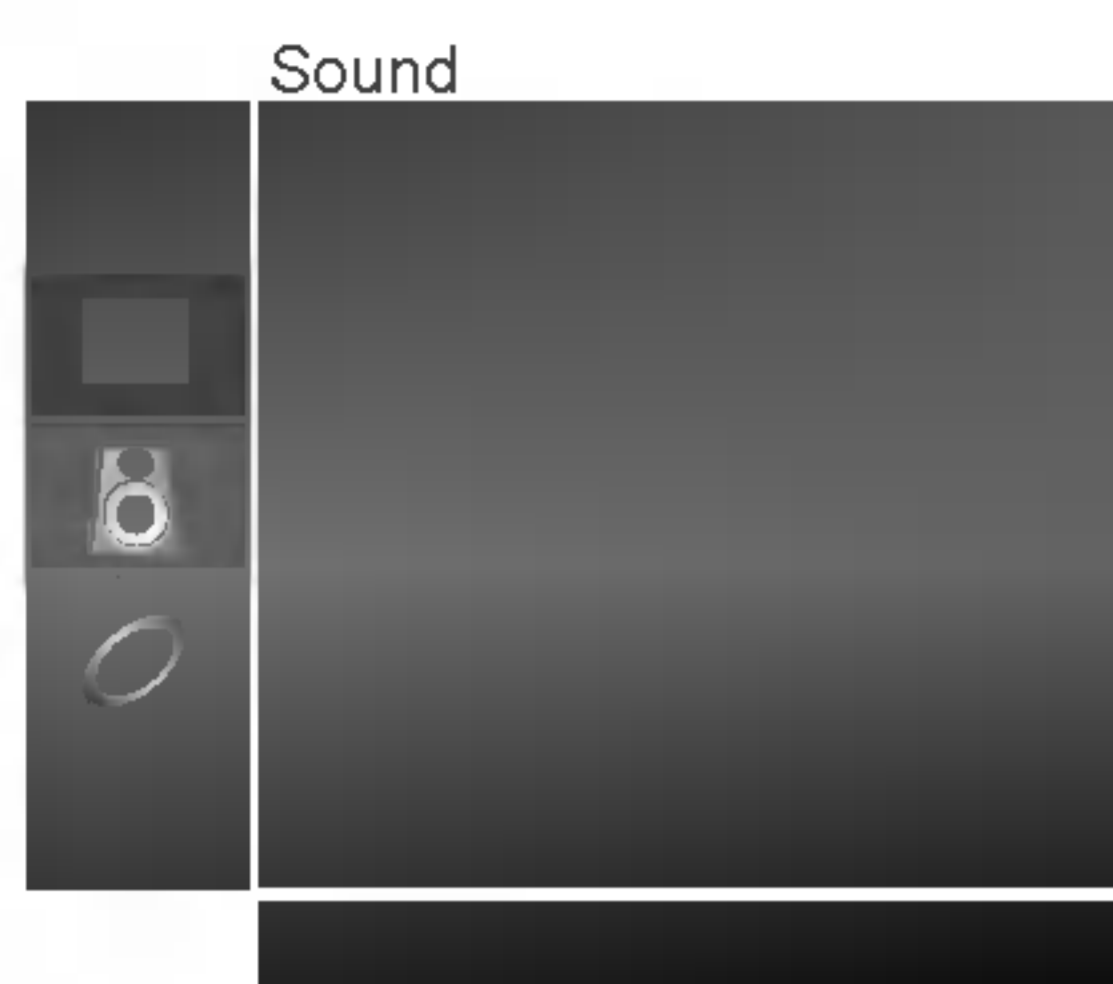
(Turbo Picture off)



(Turbo Picture on)



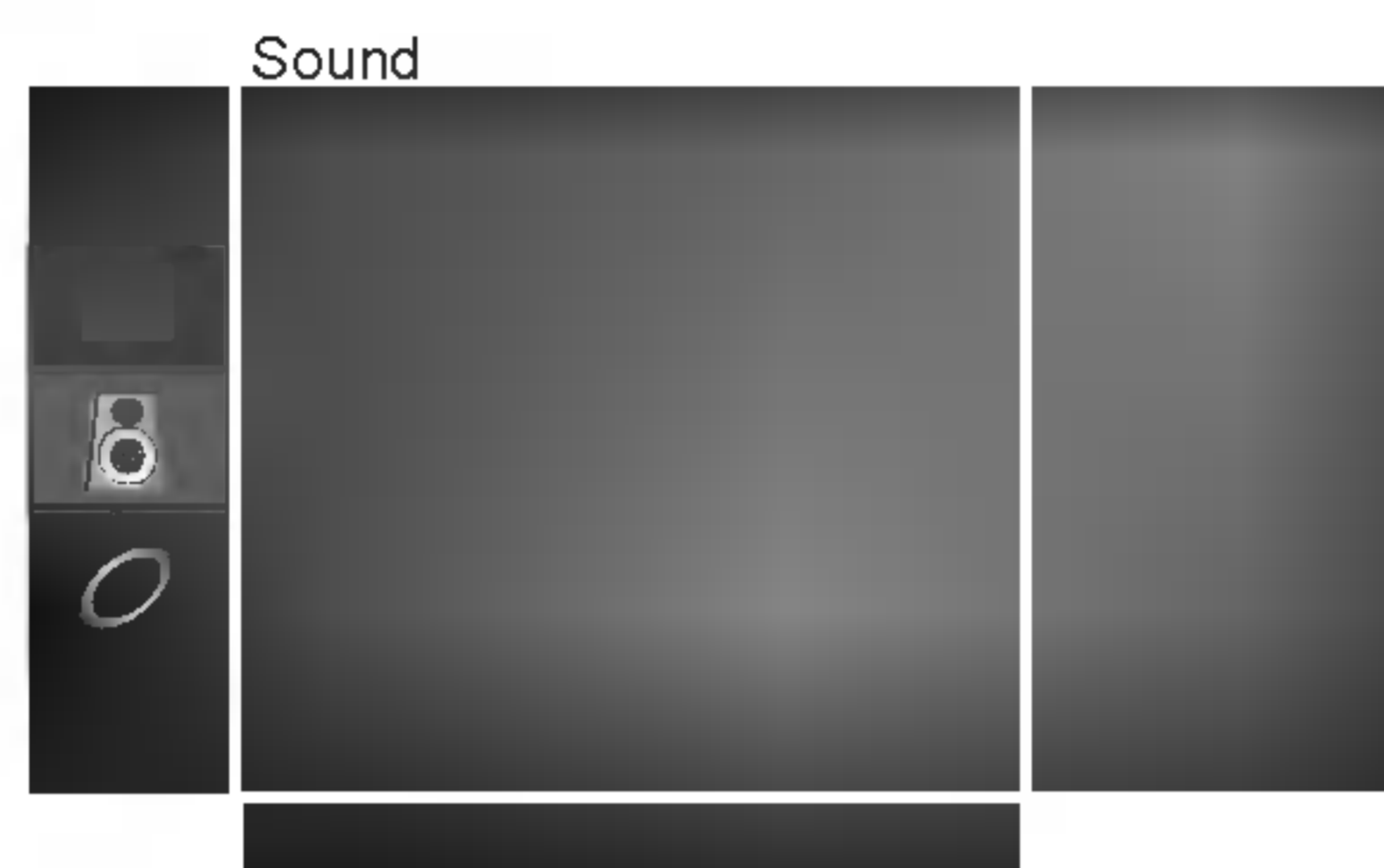
Sound adjustment



SSM (Sound Status Memory)

You can select your preferred sound setting; Dolby Virtual, Flat, Music, Movie or Speech and you can also adjust the sound frequency of equalizer.

1. Press the **MENU** button and then **▲ / ▼** button to select the Sound menu.
2. Press the **▶** button and then **▲ / ▼** button to select **SSM**.
3. Press the **▶** button and then **▲ / ▼** button to select a sound setting on the **SSM** pull-down menu.



Dolby Virtual

Dolby Virtual lets you experience panoramic effects of sound.

Sound Frequency Adjustment

- a. Press the **▶** button in **User** to display the **User** sub menu.



- b. Select a sound band by pressing the **◀ / ▶** button.
 - c. Make appropriate sound level with the **▲ / ▼** button.
 - d. Press the **OK** button to store it for the sound **User**.
- Repeatedly press the **MENU** button to return to normal TV viewing.

You can also recall a desired sound (**Dolby Virtual, Flat, Music, Movie, Speech** or **User**) with **SSM** button on the remote control. The sound **Dolby Virtual, Flat, Music, Movie** and **Speech** are programmed for optimum sound reproduction at the factory and cannot be changed.

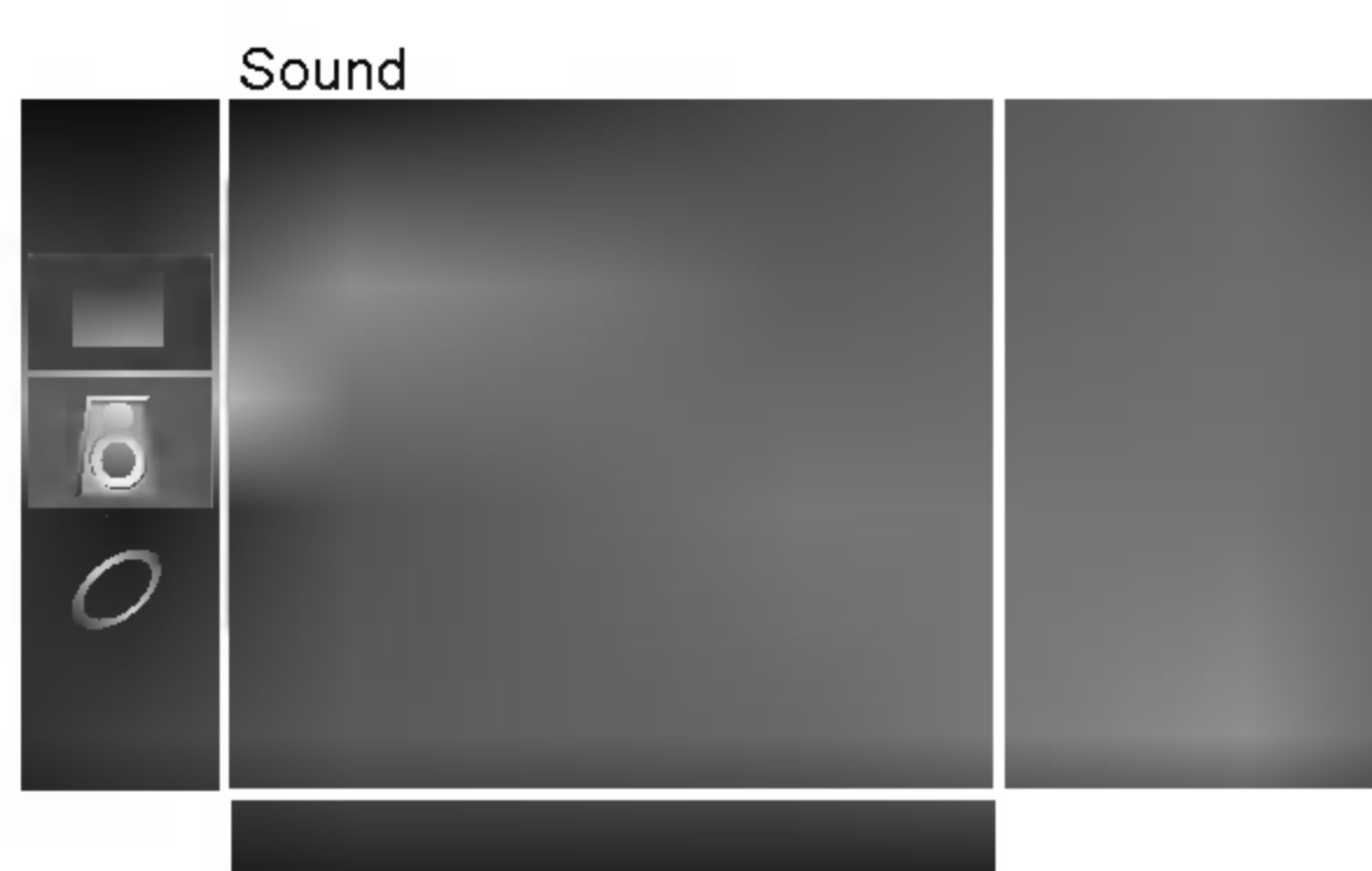
Note : If you press the **SSM** button after making appropriate adjustment on the **User** sub menu, the display **User** automatically appears even though you have already set a factory preset setting; **Dolby Virtual, Flat, Music, Movie** or **Speech**.

Sound adjustment

Sound adjustment

You can adjust balance or AVL (Auto Volume Leveler). AVL automatically keeps on an equal volume level even if you change programmes.

1. Press the **MENU** button and then **▲ / ▼** button to select the Sound menu.
2. Press the **▶** button and then **▲ / ▼** button to select the desired sound item; **Balance** or **AVL**.
3. Make desired adjustment with the **◀ / ▶**, **▲ / ▼** or **OK** button on each pull-down menu.



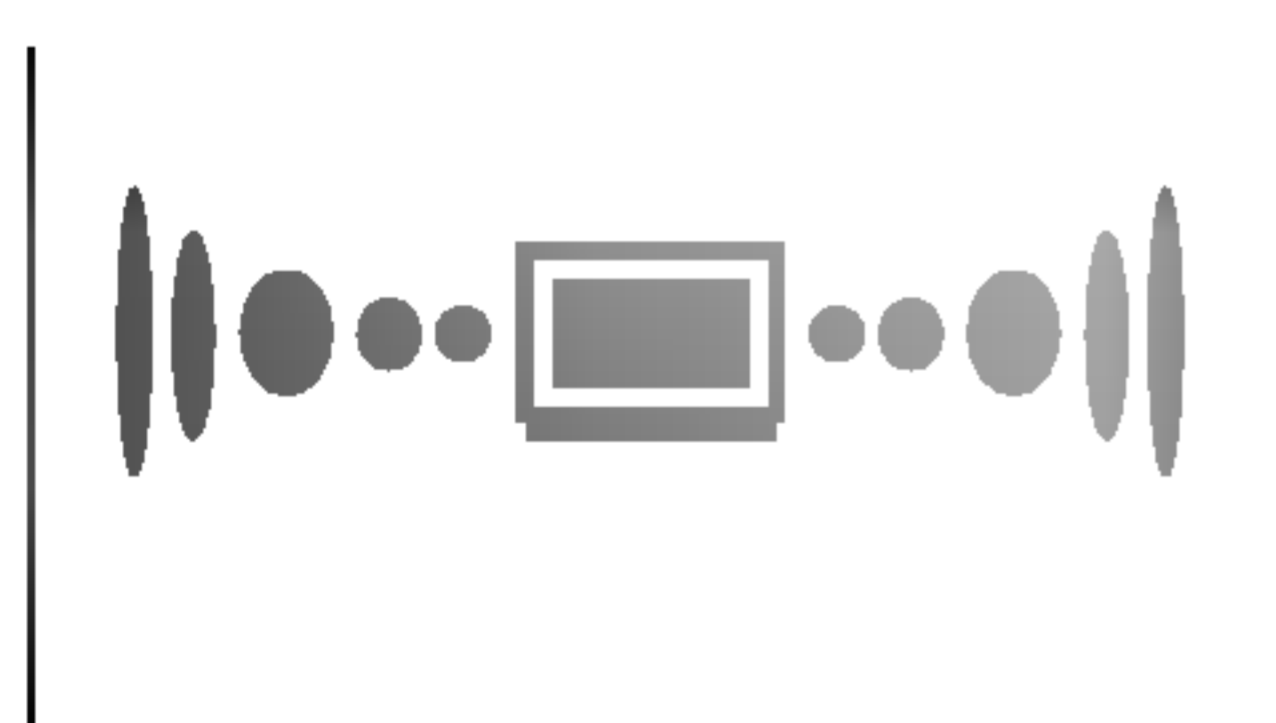
4. Repeatedly press the **MENU** button to return to normal TV viewing.

Note : The AVL isn't suitable to use **Dolby Virtual**.

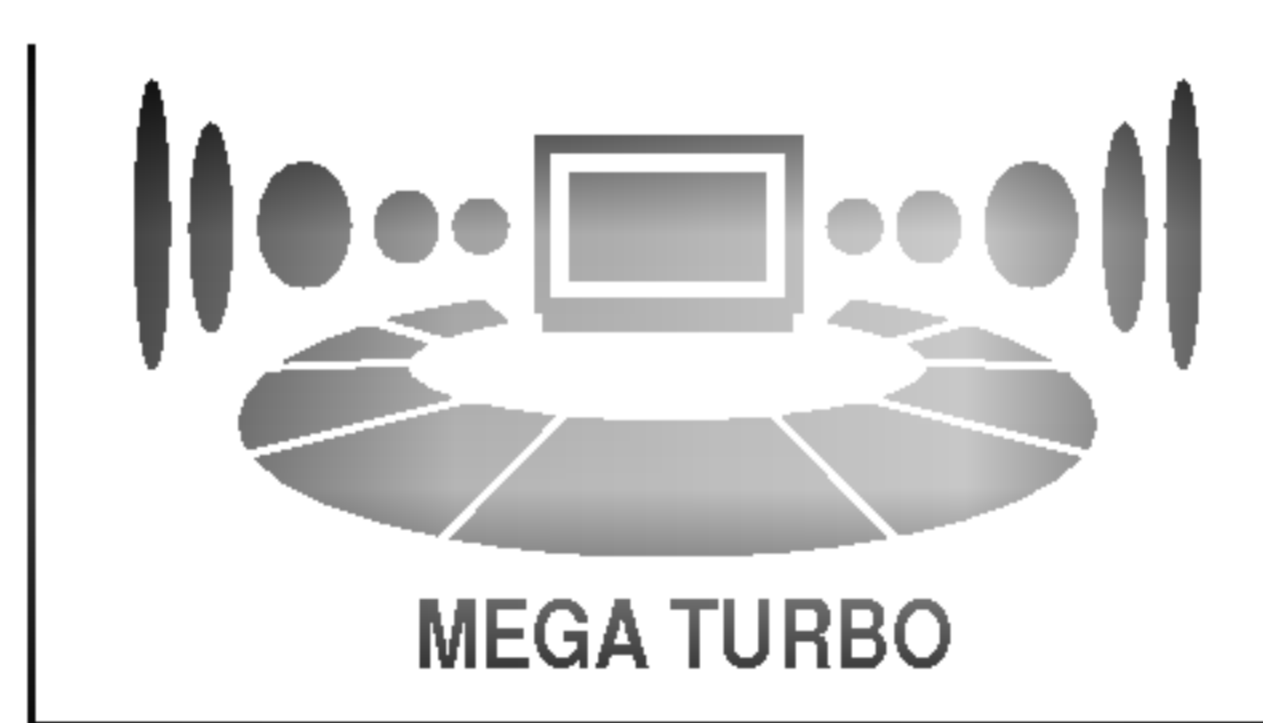
Turbo sound selection

When this function is on, sound will be more emphasized and amplified sound than normal sound. You can enjoy the Turbo Sound so much better than normal Sound.

Repeatedly press the **TURBO SOUND** button to switch on or off.

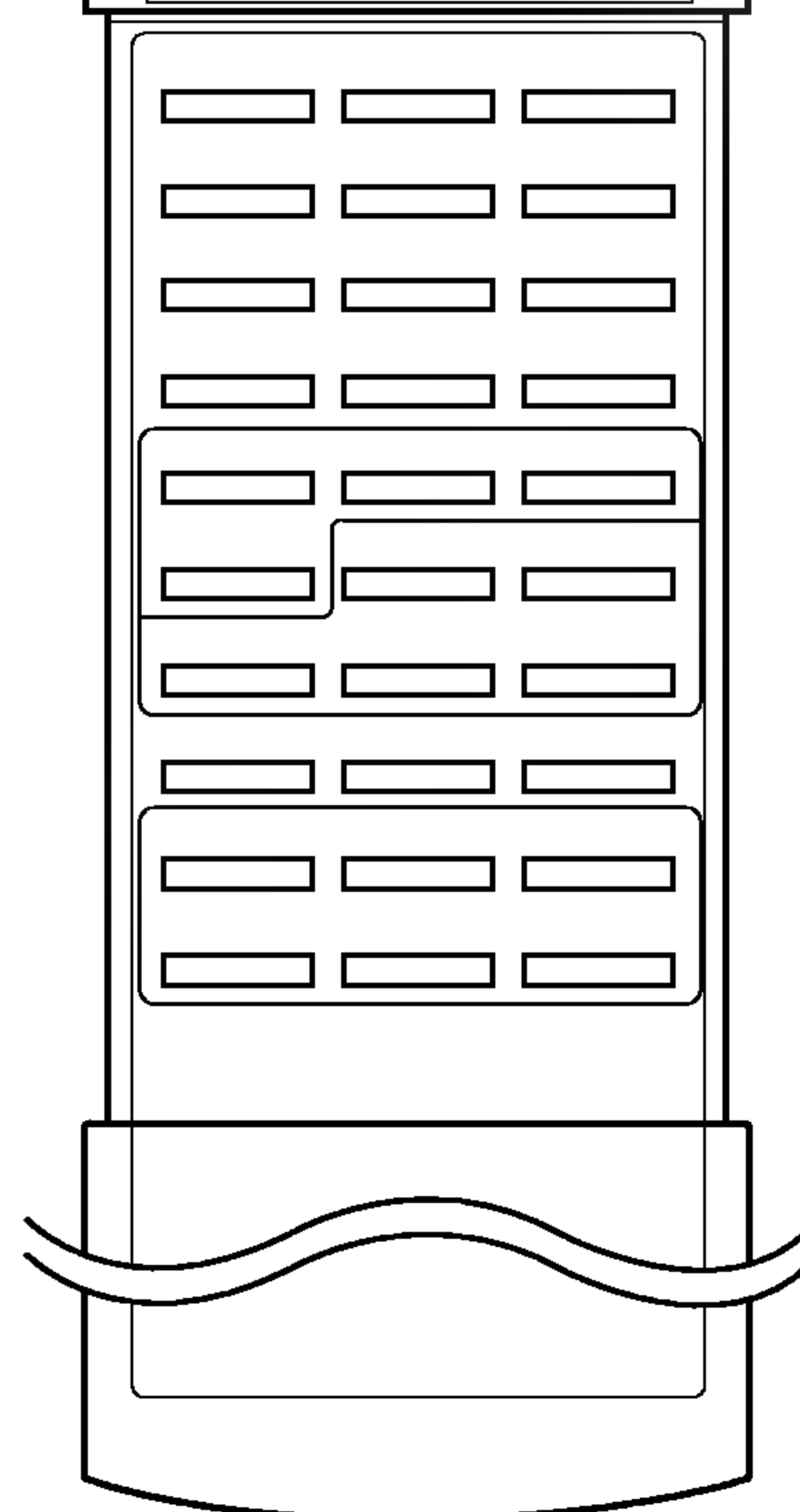
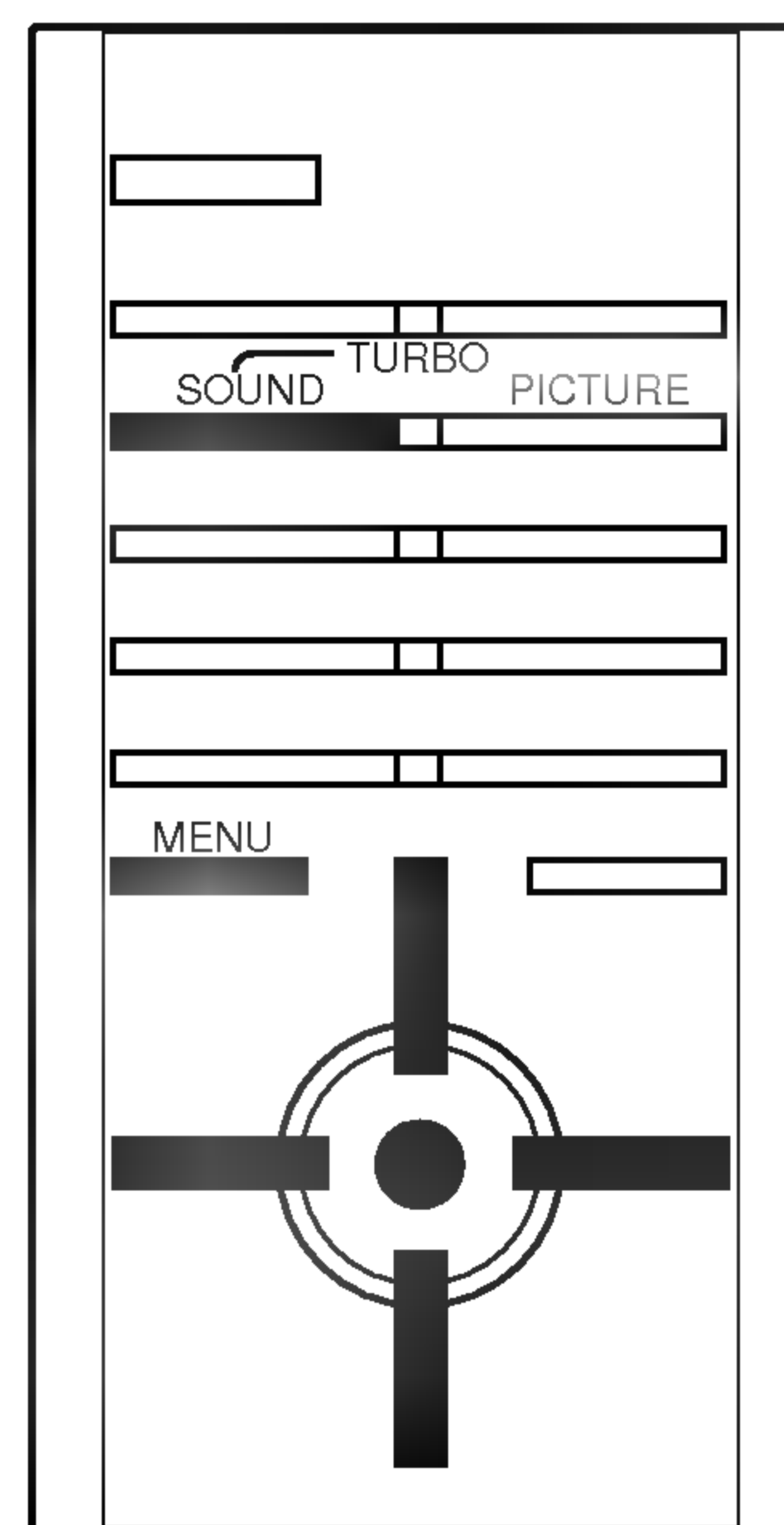
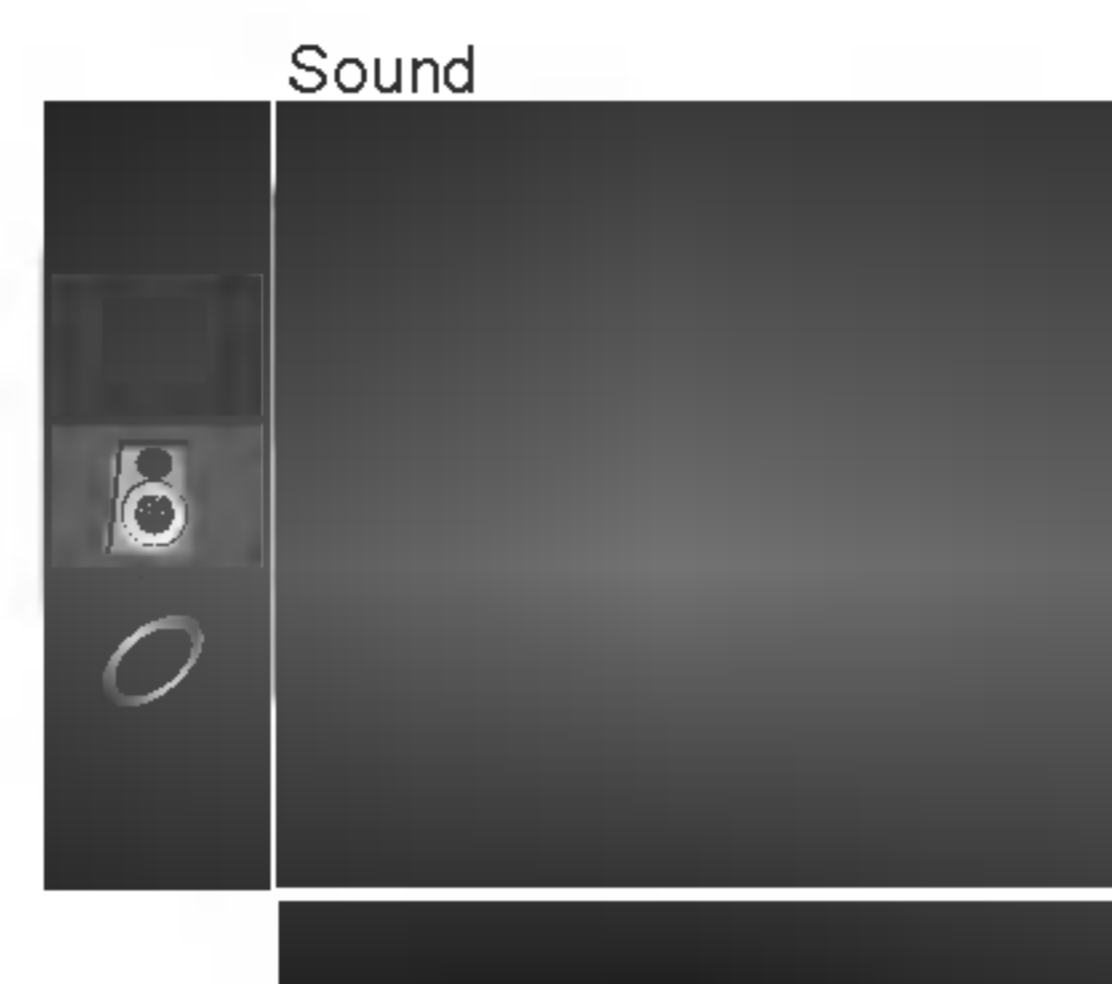


(Turbo Sound off)



(Turbo Sound on)

Note : The Turbo Sound isn't suitable to use **Dolby Virtual**.



Sound adjustment

Sound output selection

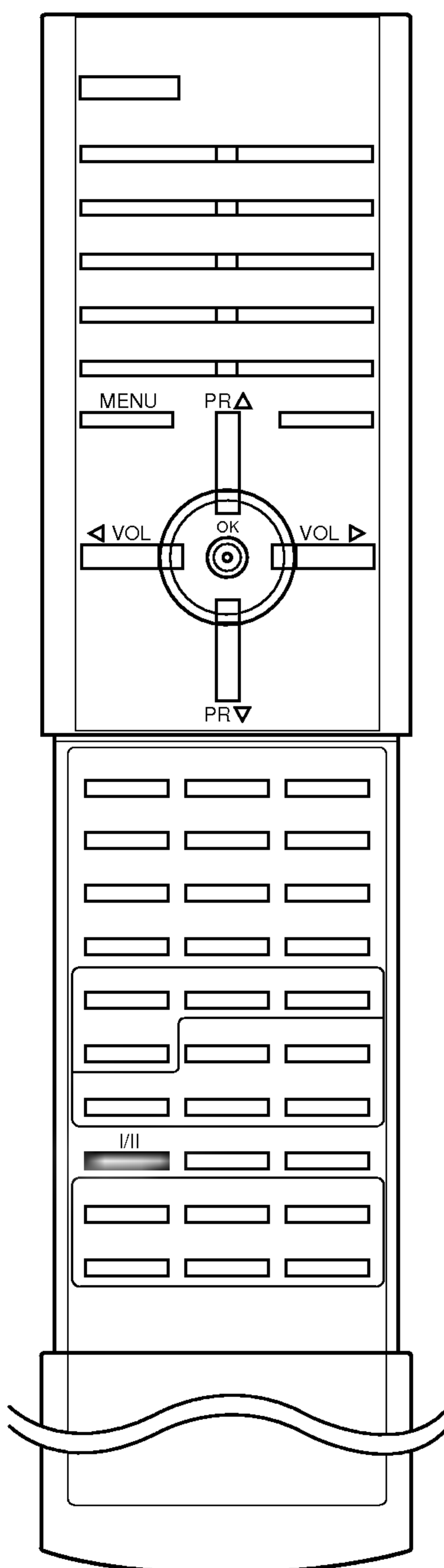
In AV mode, you can select output sound for the left and right loudspeakers.

Repeatedly press the **I/II** button to select the sound output.

L+R : Audio signal from audio L input is sent to left loud-speaker and audio signal from audio R input is sent to right loud-speaker.

L+L : Audio signal from audio L input is sent to left and right loudspeakers.

R+R : Audio signal from audio R input is sent to left and right loudspeakers.



Stereo/Dual reception

When a programme is selected, the sound information for the station appears after the programme number and station name disappear.

Broadcast	On Screen Display
Mono	MONO
Stereo	STEREO
Dual	DUAL I

Mono sound selection

In stereo reception if the stereo signal is weak, you can switch to mono by pressing the **I/II** button twice. In mono reception the depth of sound is improved. To switch back to stereo, press the **I/II** button twice again.

Language selection for dual language broadcast

If a programme received in two languages (dual language), you can switch to **DUAL I**, **DUAL II** or **DUAL I+II** by pressing the **I/II** button repeatedly.

DUAL I sends the primary broadcast language to the loudspeakers.
DUAL II sends the secondary broadcast language to the loudspeakers.

DUAL I+II sends a separate language to each loudspeaker.

NICAM reception (option)

If your set is equipped with the receiver for NICAM (Near Instantaneous Companding Audio Multiplex) digital sound can be received.

Sound output can be selected according to the type of received broadcast as follows by pressing the **I/II** button repeatedly.

1. When NICAM mono is received, you can select **NICAM MONO** or **FM MONO**.
2. When NICAM stereo is received, you can select **NICAM STEREO** or **FM MONO**. If the stereo signal is weak, switch to FM mono.
3. When NICAM dual is received, you can select **NICAM DUAL I**, **NICAM DUAL II** or **NICAM DUAL I+II** or **MONO**. When FM mono is selected the display **MONO** appears on the screen.

Time setting

Clock

1. Press the **MENU** button and then ▲ / ▼ button to select the Time menu.
2. Press the ► button and then ▲ / ▼ button to select **Clock**.
3. Press the ► button and then ▲ / ▼ button to adjust hour.



4. Press the ► button and then ▲ / ▼ button to adjust minute.
5. Press the **OK** button.
6. Repeatedly press the **MENU** button to return to normal TV viewing.

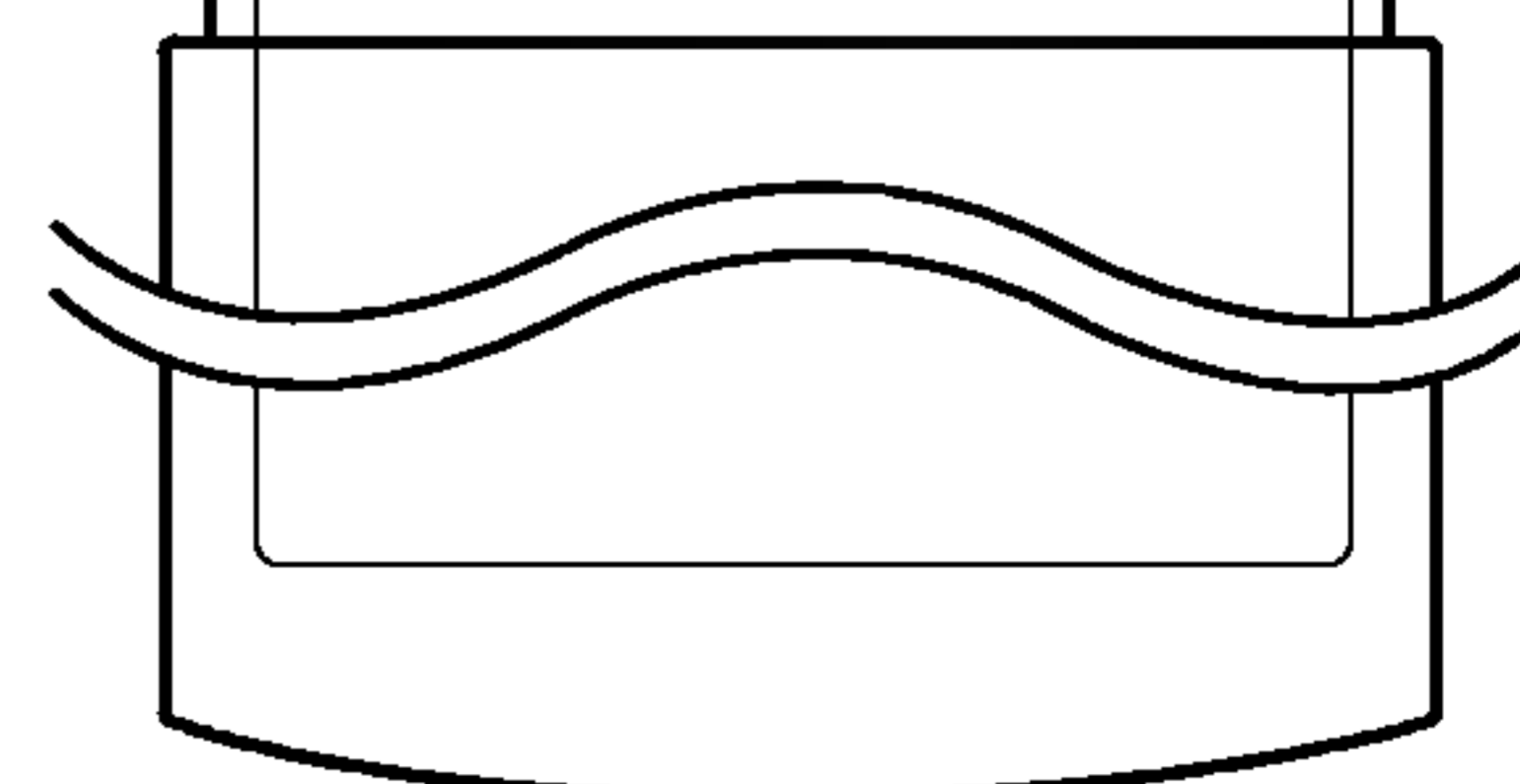
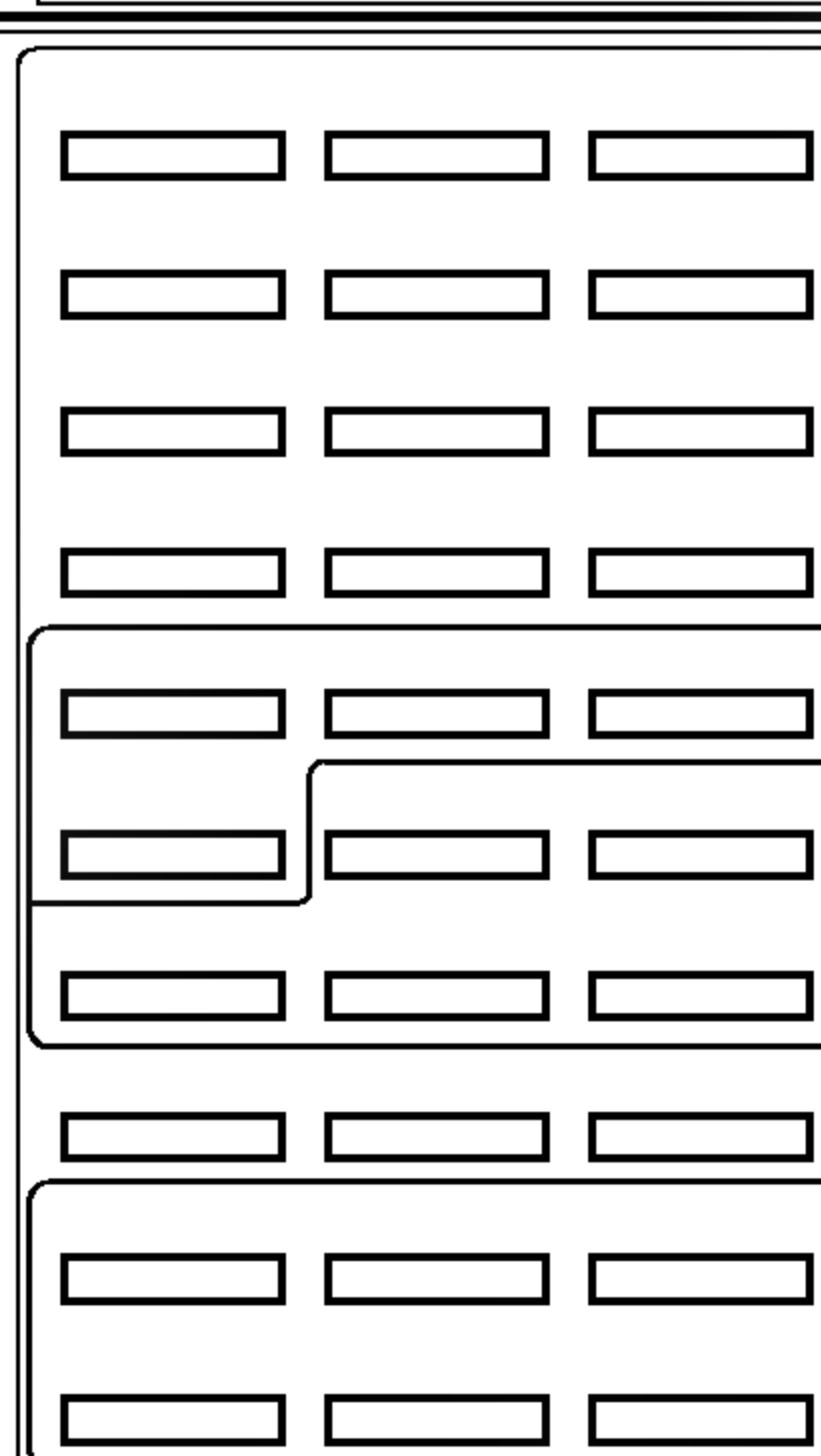
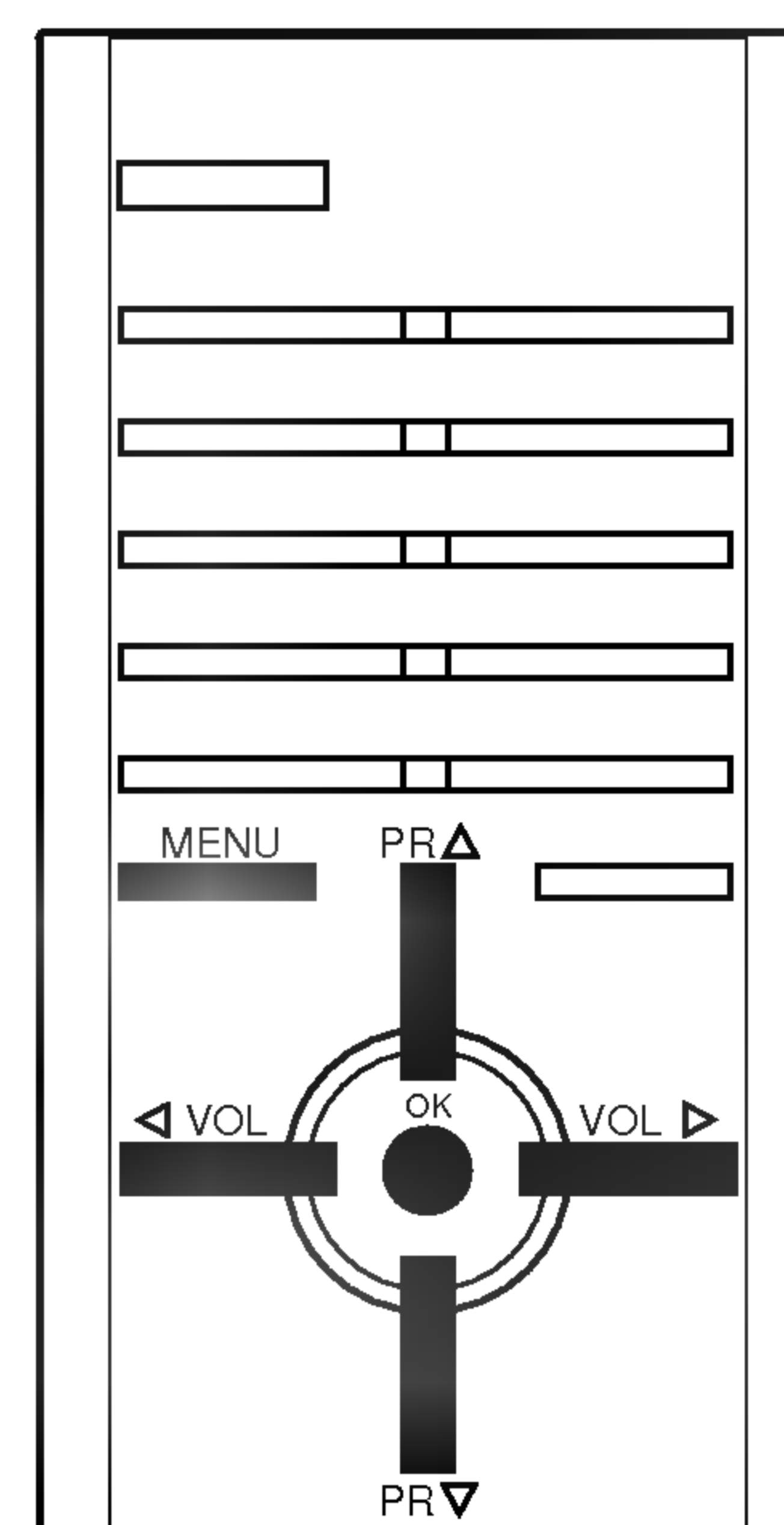
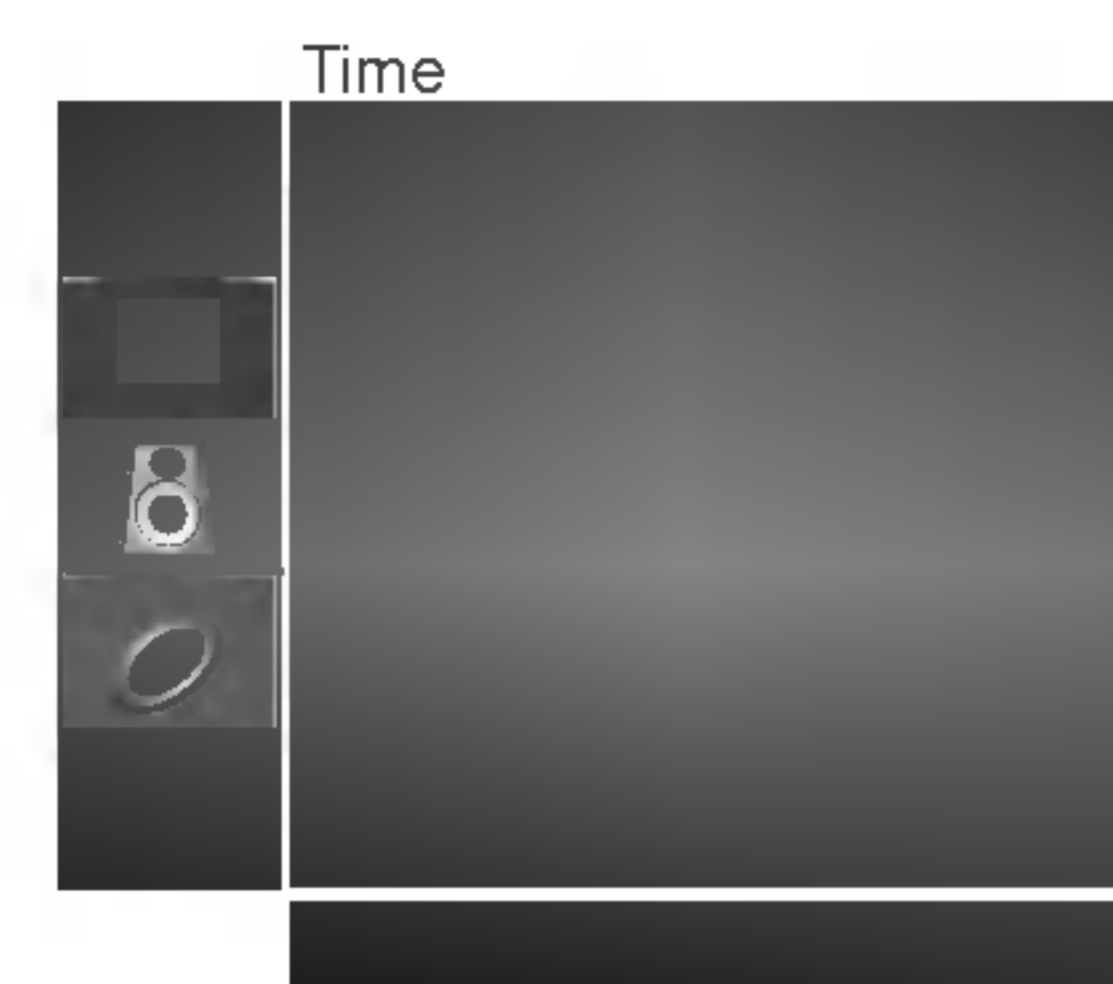
Off time

By using this function in **On** mode, the set automatically switches off at a preset time. You must set the time correctly before using off time function.

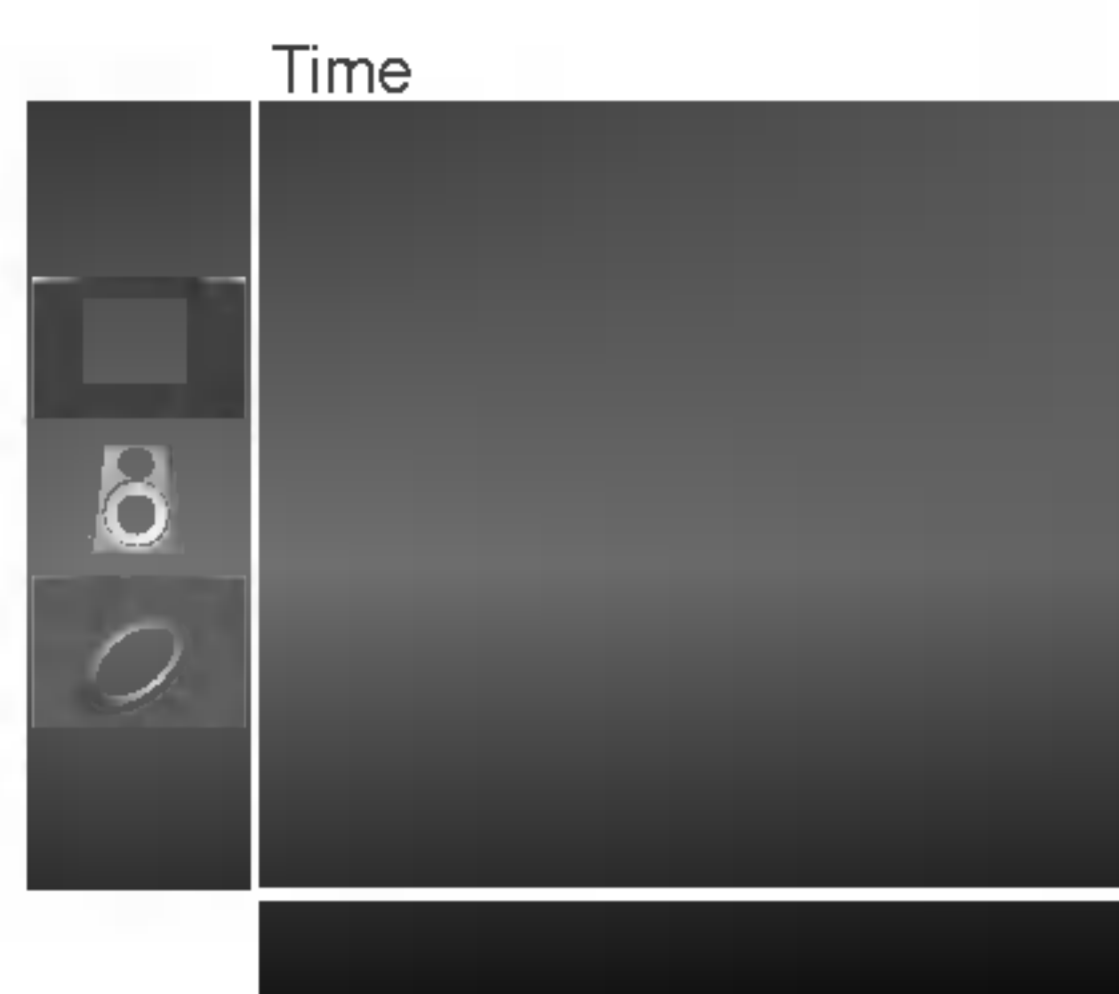
1. Press the **MENU** button and then ▲ / ▼ button to select the Time menu.
2. Press the ► button and then ▲ / ▼ button to select **Off time**.
3. Press the ► button and then ▲ / ▼ button to adjust hour.



4. Press the ► button and then ▲ / ▼ button to adjust minute.
5. Press the **OK** button.
6. Repeatedly press the **MENU** button to return to normal TV viewing.



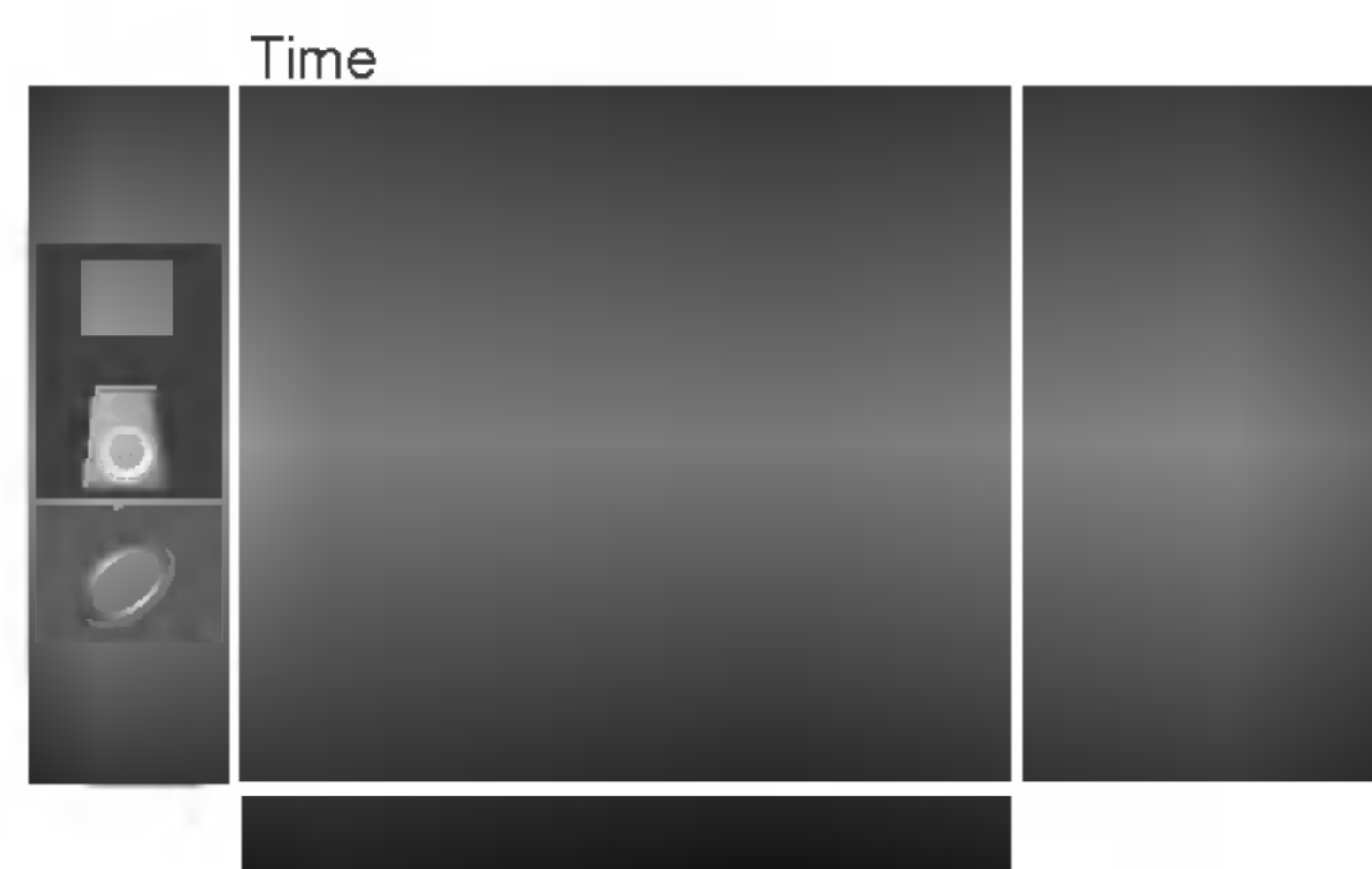
Time setting



On time

By using this function in **On** mode, the set automatically switches on at a preset time with desired program number and volume. You must set the time correctly before using on time function.

1. Press the **MENU** button and then ▲ / ▼ button to select the Time menu.
2. Press the ► button and then ▲ / ▼ button to select **On time**.
3. Press the ► button and then ▲ / ▼ button to adjust hour.

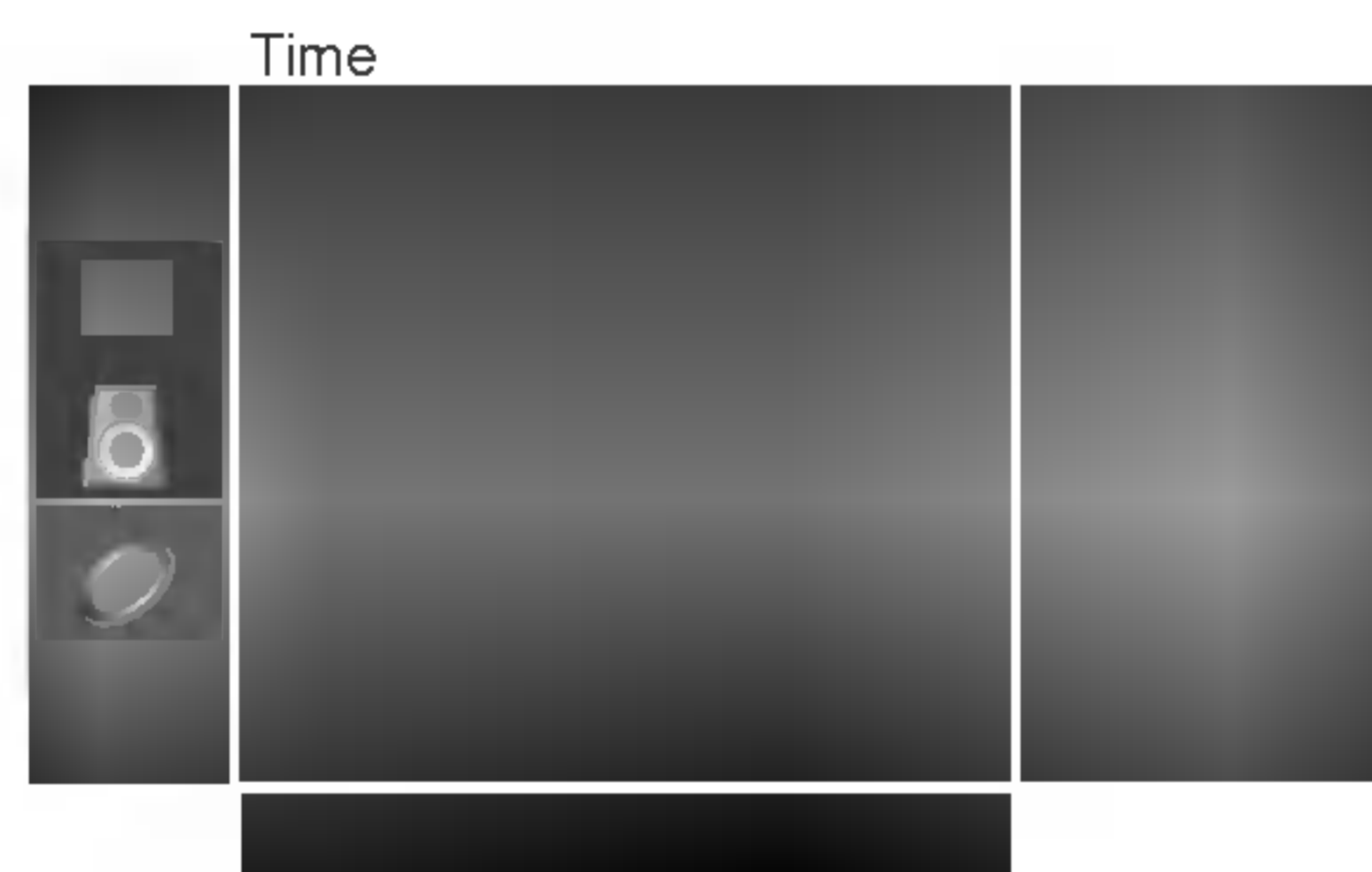


4. Press the ► button and then ▲ / ▼ button to adjust minute.
5. Press the ► button and then ▲ / ▼ button to adjust **Pr.**
6. Press the ► button and then ▲ / ▼ button to adjust **Vol.**
7. Press the **OK** button.
8. Repeatedly press the **MENU** button to return to normal TV viewing.

Auto sleep

If you select **On** on the **Auto sleep** pull-down menu, the set will automatically switch itself to standby mode approximately ten minutes after a TV station stops broadcasting.

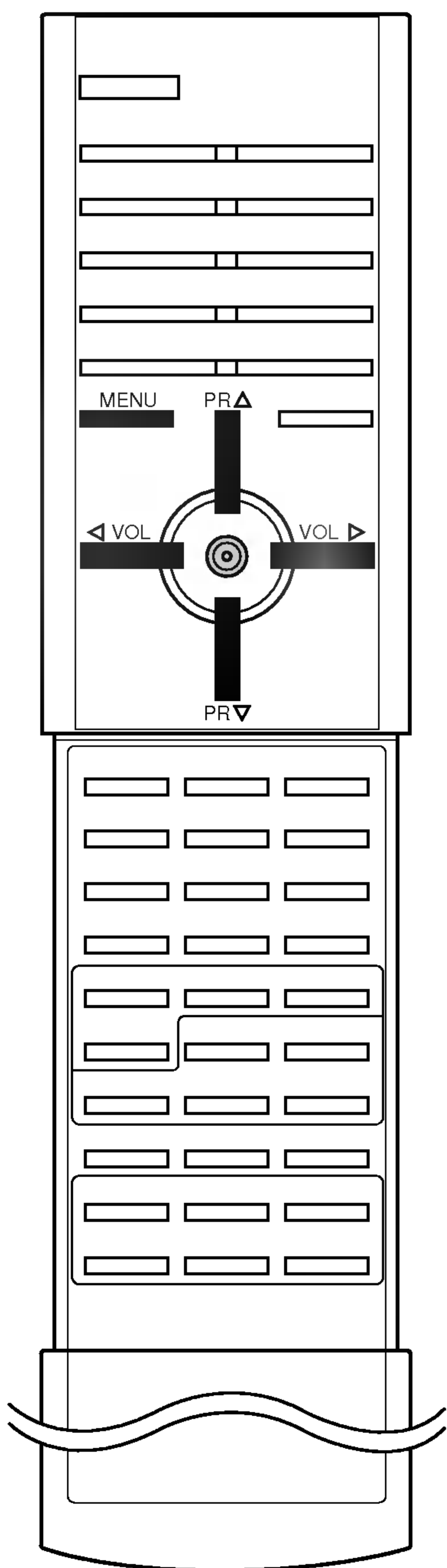
1. Press the **MENU** button and then ▲ / ▼ button to select the Time menu.
2. Press the ► button and then ▲ / ▼ button to select **Auto sleep**.
3. Press the ► button and then ▲ / ▼ button to select **On** or **Off** on the **Auto sleep** pull-down menu.



4. Repeatedly press the **MENU** button to return to normal TV viewing.

Note :

- a. This functions work only in standby mode.
- b. If you adjust hour or minute on the on/off time menu, automatically on/off time is changed to **On**.
- c. To cancel the set's on/off time, set the on/off time to **Off**.
- d. To view the remaining on/off time, select the Time menu.
- e. Two hours after the set is switched on by the on time function it will automatically switch back to standby mode unless a button has been pressed.



Other functions

TV and AV modes

Inputs can be set for TV or AV mode. AV mode is used when a video cassette recorder (VCR), or other equipment is connected to the set.

Note : When a VCR is connected via the aerial socket the set is used in TV mode. See the 'Connection of external equipment' section.

1. Press the **MENU** button and then **▲ / ▼** button to select the Special menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Input**.
3. Press the **▶** button and then **▲ / ▼** button to select **TV**, **AV1**, **AV2**, **AV3**, **AV4** (option), **COMPONENT1**, **COMPONENT2** or **RGB-DTV** or **RGB-PC** (option) on the **Input** pull-down menu.



- AV 1 : VCR connected to the **AV1** sockets on the set
- AV 2 : VCR connected to the **AV2** sockets on the set
- AV 3 : VCR connected to the **AV3** sockets on the set
- AV 4 : VCR connected to the Euro scart socket on the set (option)
- COMPONENT 1 : DVD Player connected to the **COMPONENT 1** sockets on the back
- COMPONENT 2 : DVD Player or SET TOP connected to the **COMPONENT 2** sockets on the back
- RGB-DTV : SET TOP connected to the **RGB-DTV INPUT** sockets on the back
- RGB-PC : PC connected to the **PC INPUT** sockets on the back (option)

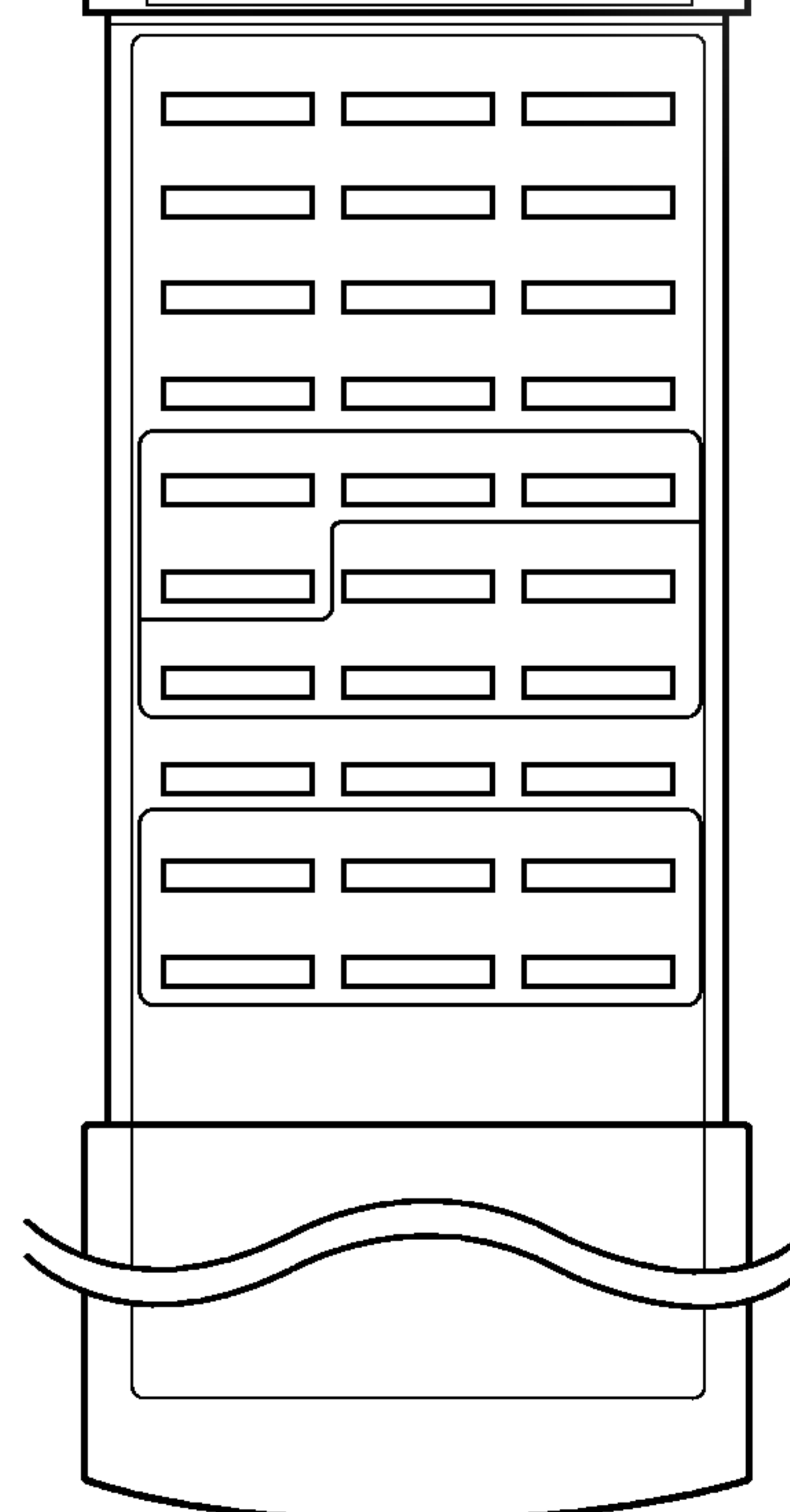
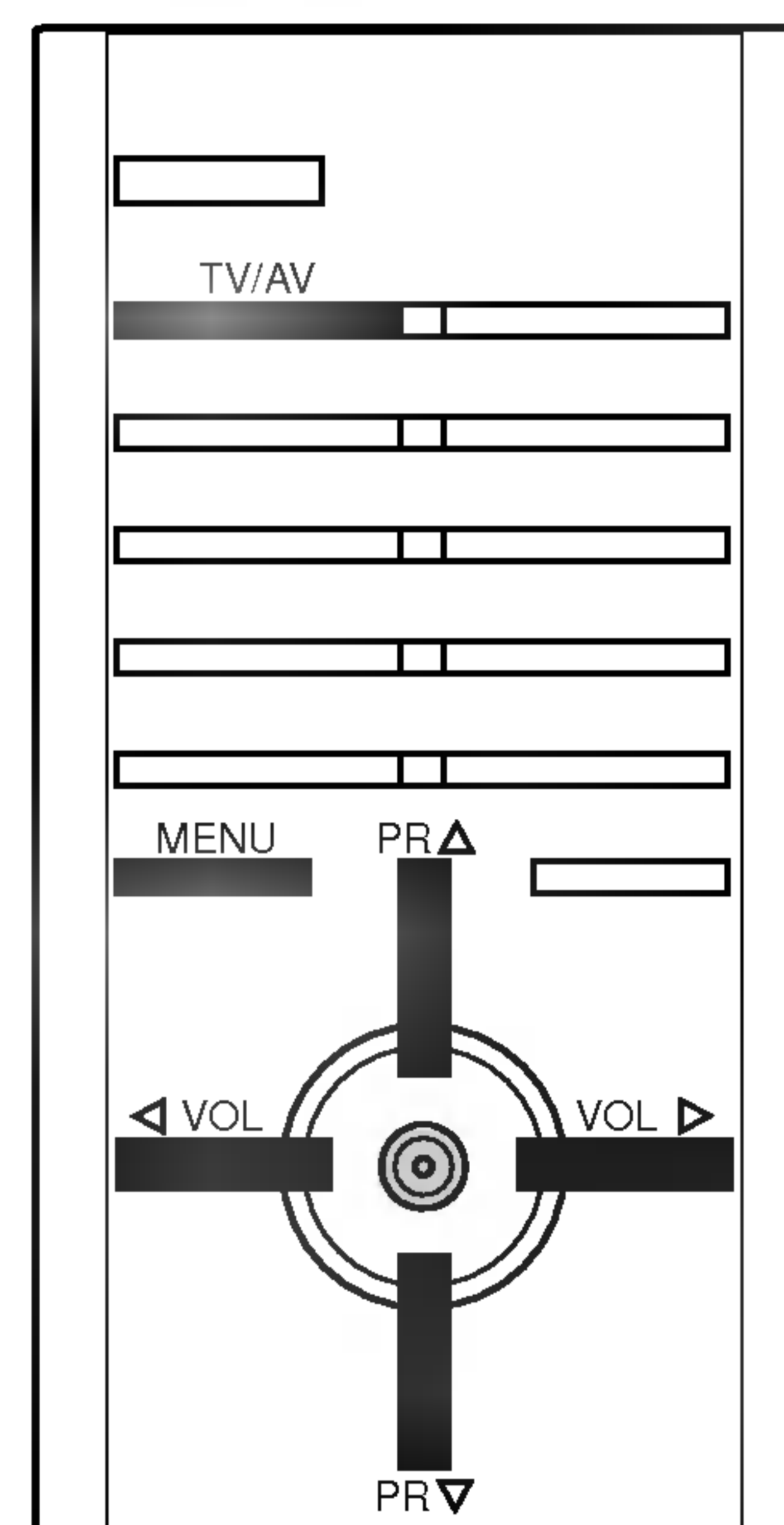
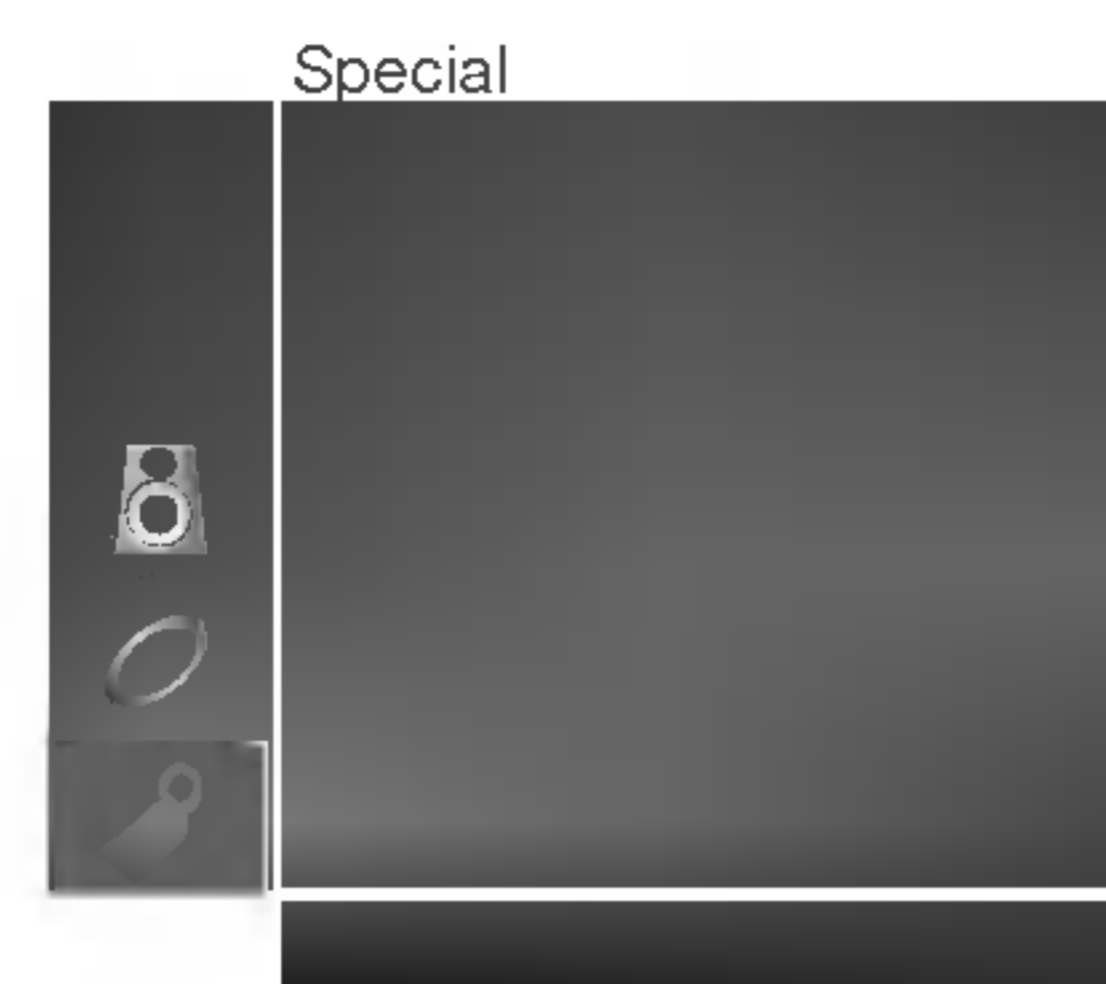
4. Repeatedly press the **MENU** button to return to normal TV viewing.

Alternatively you can select the TV or AV mode by pressing the **TV/AV** button.

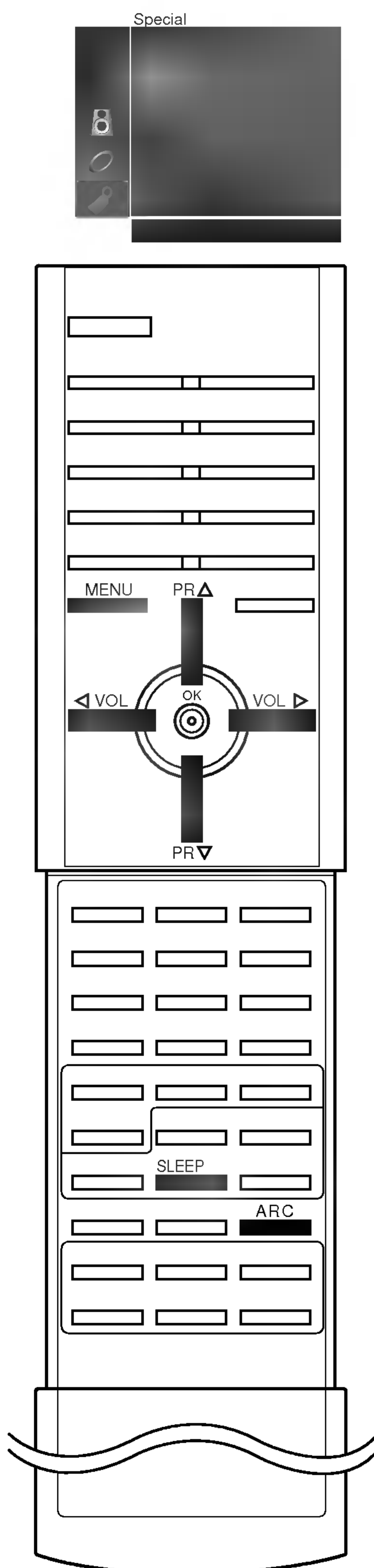
In AV modes, to return to TV mode, press the **▲ / ▼** or **NUMBER** buttons.

Auto AV switching (option)

If your VCR outputs switching voltage when switched to playback with the VCR connected to the Euro scart socket, the set will automatically switch to **AV4** mode when an AV signal is input. Press the **TV/AV** button to return to AV modes.



Other functions



Child lock

The TV can be set so that the remote control handset is needed to control it. This feature can be used to prevent unauthorized viewing.

1. Press the **MENU** button and then **▲ / ▼** button to select the Special menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Child lock**.
3. Press the **▶** button and then **▲ / ▼** button to select **On** or **Off** on the **Child lock** pull-down menu.
4. Repeatedly press the **MENU** button to return to normal TV viewing.

With the lock on, the display **Child lock on** appears on the screen if any button on the front panel is pressed while viewing the TV.

Note : The display **Child lock on** will not appear on the screen if any button on the front panel is pressed while displaying the menus.

Picture format

You can watch TV in various picture formats; 16:9, 14:9 (option), Zoom (option), Auto (option) and 4:3.

In some models, You can watch TV in various picture formats; 4:3 or 16:9 (Wide). (only COMPONENT2 or RGB-DTV modes)

Repeatedly press the **ARC** button to select your desired picture format.

16:9

You can enjoy the cinema (the picture format of 16:9) or general TV programme through the 16:9 mode.

14:9 (option)

The screen 14:9 is viewed just like that but the screen 4:3 is magnified to the upper / lower so that the screen 14:9 is full.

You can move the screen up or down with **▲ / ▼** button.

Zoom (option)

You can enjoy the cinema in a vast screen through the Zoom mode.

The screen 4:3 is magnified to the upper/lower sides so that the screen 16:9 is full. The bottom and top of the picture may be lost.

You can move the screen up or down with **▲ / ▼** button.

Auto (option)

When your TV receives the wide screen signal, it will be automatically changed to the picture format to be sent.

4:3

This picture format is 4 to 3 of general TV.

Note :

- a. In the double window and scan mode, ARC function isn't available.
- b. When you watch the TV on **4:3** or **16:9** mode, the screen will move every 2 hours to avoid a permanent image on the screen.

Sleep timer

You don't have to remember to switch the set off before you go to sleep. The sleep timer automatically switches the set to standby after the preset time elapses.

Press the **SLEEP** button to select the number of minutes. The display **⏻ ---** will appear on the screen, followed by **10, 20, 30, 60, 90, 120, 180** and **240**. The timer begins to count down from the number of minutes selected.

Note :

- a. To view the remaining sleep time, press the **SLEEP** button once.
- b. To cancel the sleep time, repeatedly press the **SLEEP** button until the display **⏻ ---** appears.
- c. When you switch the set off, the set releases the preset sleep time.

PIP operation (option)

Option :

PIP is an optional function, so that only the set with PIP function can operate.

PIP (Picture in Picture) displays a picture within a picture.

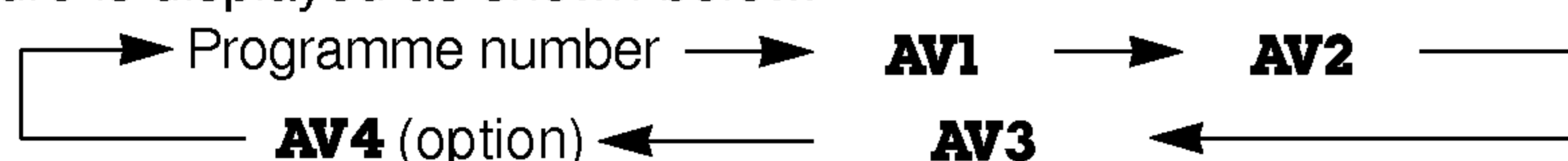
On and off

Press the **PIP** button to switch on the sub picture.
press this button again to switch it off.

Input mode selection for sub picture

Press the **INPUT** button to select the input mode for the sub picture.

Each time this button is pressed, each input mode for the sub picture is displayed as shown below.



Swapping between main and sub pictures

Press the **SWAP** button to exchange the main and sub pictures.

Note : When the main picture is TV or AV modes, the swapping is available.

Programme selection for sub picture

Press the **PR +/-** buttons to select a programme for the sub picture.

Sub picture size

Repeatedly press the **SIZE** button to select the desired sub picture size. The sub picture appears as below.



Note :

- When the sub picture size is 1/2 of the main picture, the picture quality might get poor.
- 1/2 size of the main picture is able to work in TV or AV modes for main picture.

Sub picture freeze

Press the **STILL** button to freeze motion of the sub picture.
Press this button again to restore motion.

Sub picture position change

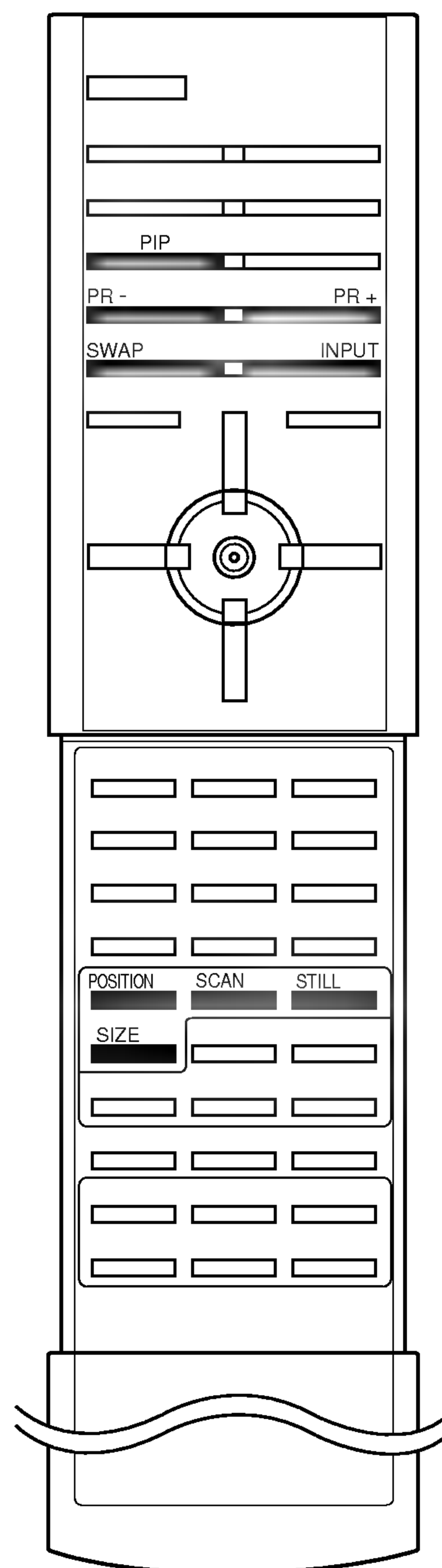
Press the **POSITION** button repeatedly until desired position is achieved. The sub pictures move clockwise.

Programme scan

This function enables you to search all the stored stations on 12 sub pictures and see your favourite station by exchanging the main and sub pictures.

Press the **SCAN** button to select 12 sub pictures.
The selected sub pictures search all the stored stations.
Press the **SCAN** button again to switch off sub pictures.

Note : When the main picture is TV or AV modes, the scanning is available.

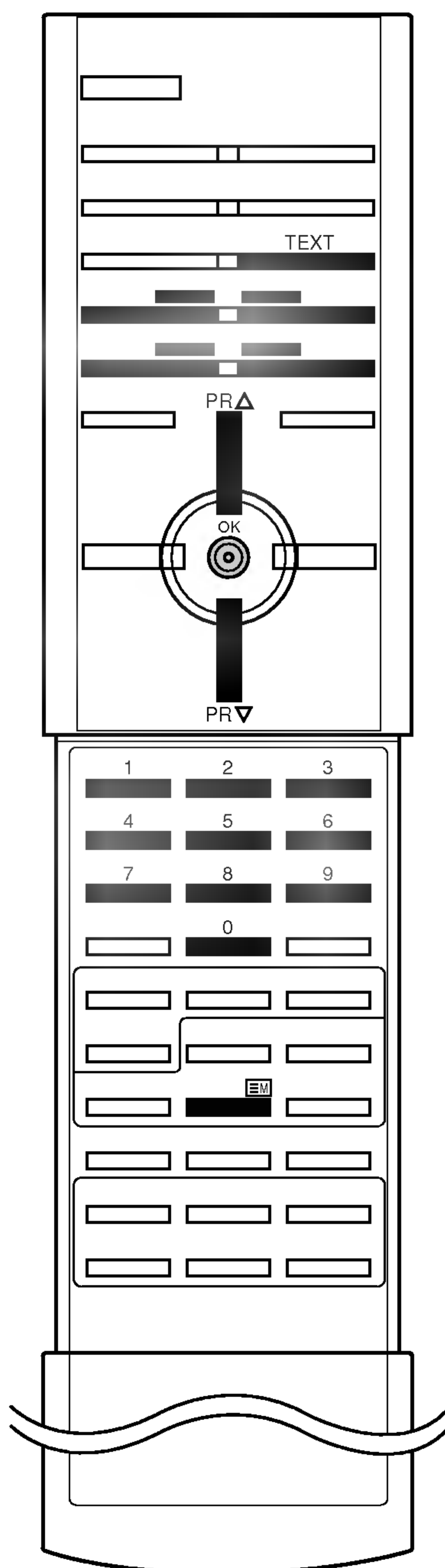


Teletext (option)

Teletext (or TOP text) is an optional function, therefore only a set with the teletext system can receive the teletext broadcast.

Teletext is a free service broadcast by most TV stations which gives up-to-the-minute information on news, weather, television programmes, share prices and many other topics.

The teletext decoder of this TV can support the SIMPLE, TOP and FASTEXT systems. SIMPLE (standard teletext) consists of a number of pages which are selected by directly entering the corresponding page number. TOP and FASTEXT are more modern methods allowing quick and easy selection of teletext information.



Switch on/off

Press the **TEXT** button to switch to teletext.

The initial page or last page appears on the screen.

Two page numbers, TV station name, date and time are displayed on the screen headline. The first page number indicates your selection, while the second shows the current page displayed.

Press the **TEXT** button to switch off teletext. The previous mode reappears.

SIMPLE text

Page selection

1. Enter the desired page number as a three digit number with the **NUMBER** buttons. If during selection you press a wrong number, you must complete the three digit number and then re-enter the correct page number.
2. The **▲ / ▼** button can be used to select the preceding or following page.

Programming a colour button in LIST mode

If the TV is in SIMPLE text, TOP text or FASTEXT mode, press the **EM** button to switch to LIST mode.

Four teletext page numbers of your choice can be colour coded and easily selected by pressing the corresponding coloured button on the remote control handset.

1. Press a coloured button.
2. Using the **NUMBER** buttons, select the page you wish to programme.
3. Press the **OK** button. Then the selected page is stored as the selected page number with blinking once. From now on, you can select this page with the same coloured button.
4. The three other coloured buttons are programmed in this way.

Teletext (option)

TOP text (option)

The user guide displays four fields-red, green, yellow and blue at the bottom of the screen. The yellow field denotes the next group and the blue field indicates the next block.

Block / group / page selection

1. With the blue button you can progress from block to block.
2. Use the yellow button to proceed to the next group with automatic overflow to the next block.
3. With the green button you can proceed to the next existing page with automatic overflow to the next group.
Alternatively the ▲ button can be used.
4. The red button permits to return to previous selection.
Alternatively the ▼ button can be used.


Direct page selection

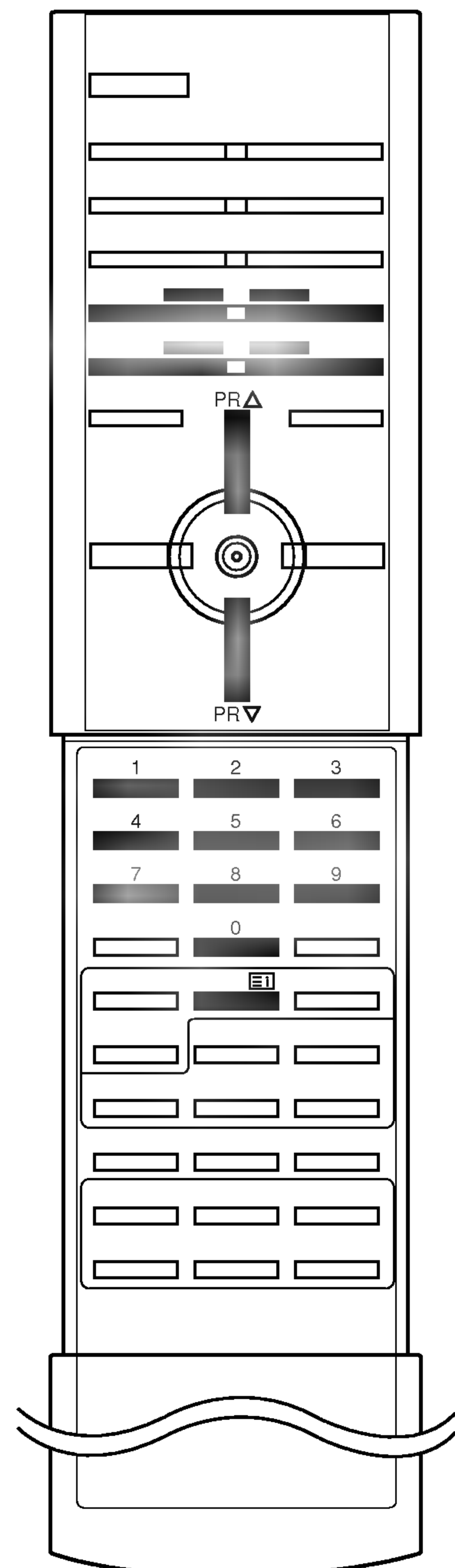
Corresponding to the SIMPLE teletext mode, you can select a page by entering it as a three digit number using the NUMBER buttons in TOP mode.

FASTTEXT

The teletext pages are colour coded along the bottom of the screen and are selected by pressing the corresponding coloured button.

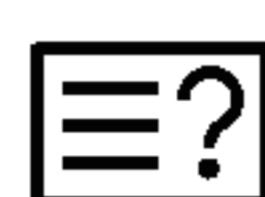
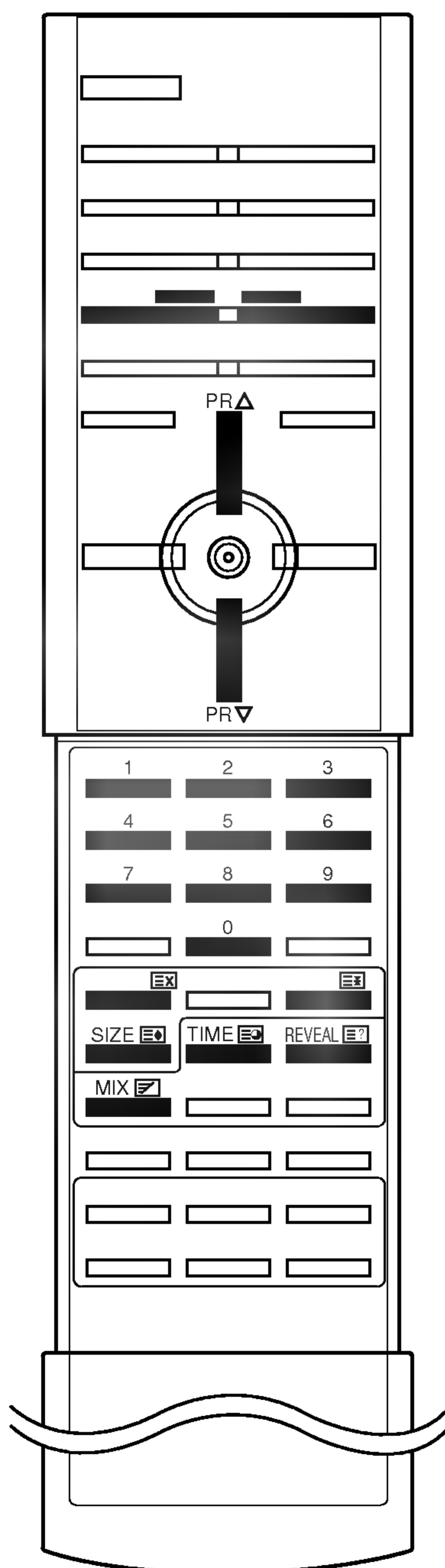
Page selection

1. Press the  button to select the index page.
2. You can select the pages which are colour coded along the bottom line with the same coloured buttons.
3. Corresponding to the SIMPLE teletext mode, you can select a page by entering its three digit page number with the NUMBER buttons in FASTTEXT mode.
4. The ▲ / ▼ button can be used to select the preceding or following page.



Teletext (option)

Special teletext functions



REVEAL

Press this button to display concealed information, such as solutions of riddles or puzzles.

Press this button again to remove the information from the display.



SIZE

Selects double height text.

Press this button to enlarge the top half of the page.

Press this button again to enlarge the bottom half of the page.

Press this button again to return to the normal display.



UPDATE

Displays the TV picture on the screen while waiting for the new teletext page. The display (EX) will appear at the top left hand corner of the screen. When the updated page is available then display (EX) will change to the page number.

Press this button to view the updated teletext page.



HOLD

Stops the automatic page change which will occur if a teletext page consists of 2 or more sub pages. The number of sub pages and the sub page displayed is, usually, shown on the screen below the time. When this button is pressed the stop symbol is displayed at the top left-hand corner of the screen and the automatic page change is inhibited.

To continue press this button again.



MIX

Displays the teletext pages superimposed on the TV picture.

To switch the TV picture off press this button again.



TIME

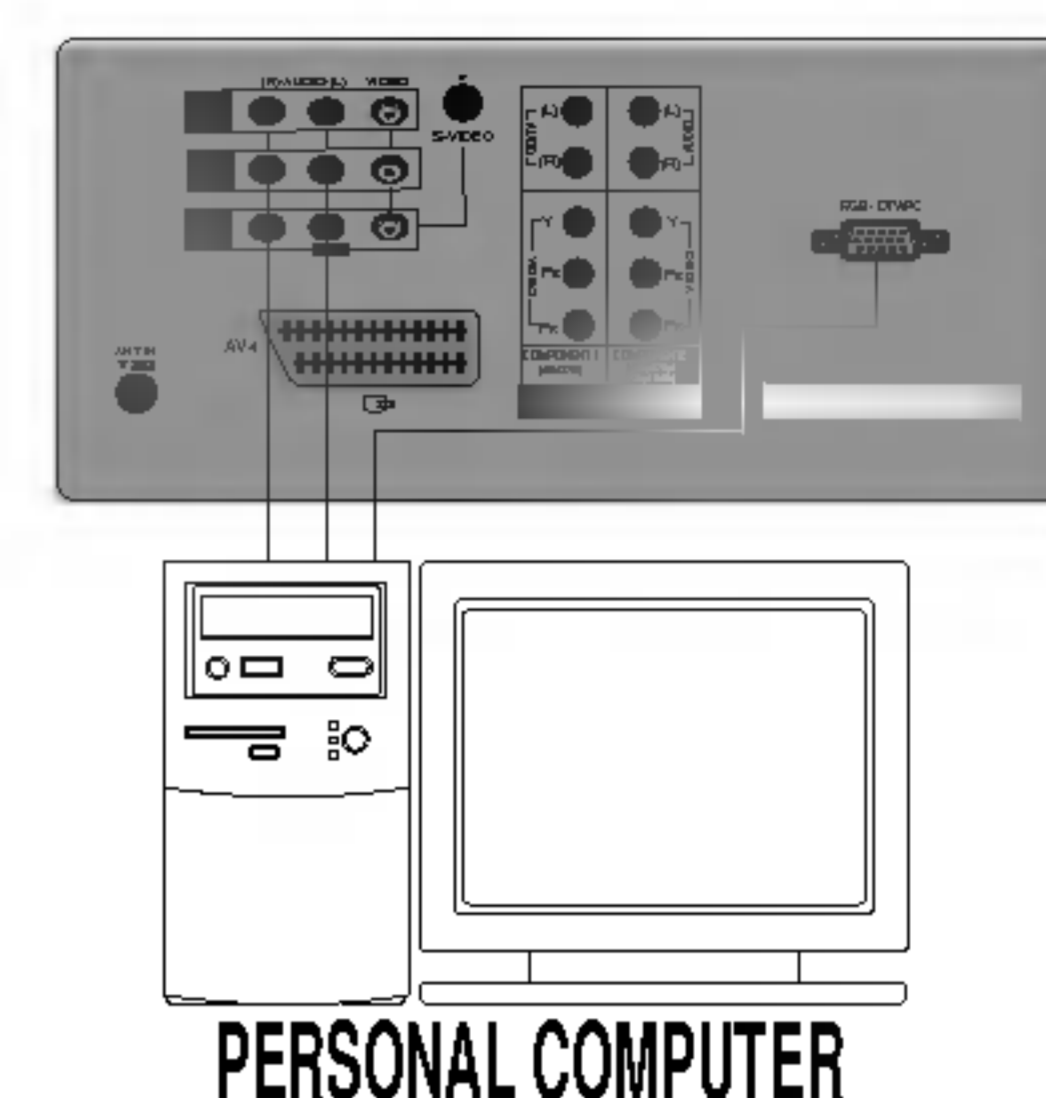
When viewing a TV programme, press this button to display the time at the top right hand corner of the screen. Press this button again to remove the display. In the teletext mode, press this button to select a sub page number. The sub page number is displayed at the bottom of the screen. To hold or change the sub page, press the RED / GREEN, ▲ / ▼ or NUMBER buttons.

Press again to exit this function.

Connection of PC

PC in socket (option)

1. Connect the signal cable from the monitor output socket of the PERSONAL COMPUTER to the PC input socket of the set.
2. Connect the audio cable from the PC to the **AV2 (PC SOUND)** sockets of the set.
3. Press the **TV/AV** or **MULTIMEDIA** button to select **RGB-PC**.
4. Switch on the PC, and the PC screen appears on the set.
The set can be operated as the PC monitor.



Note :

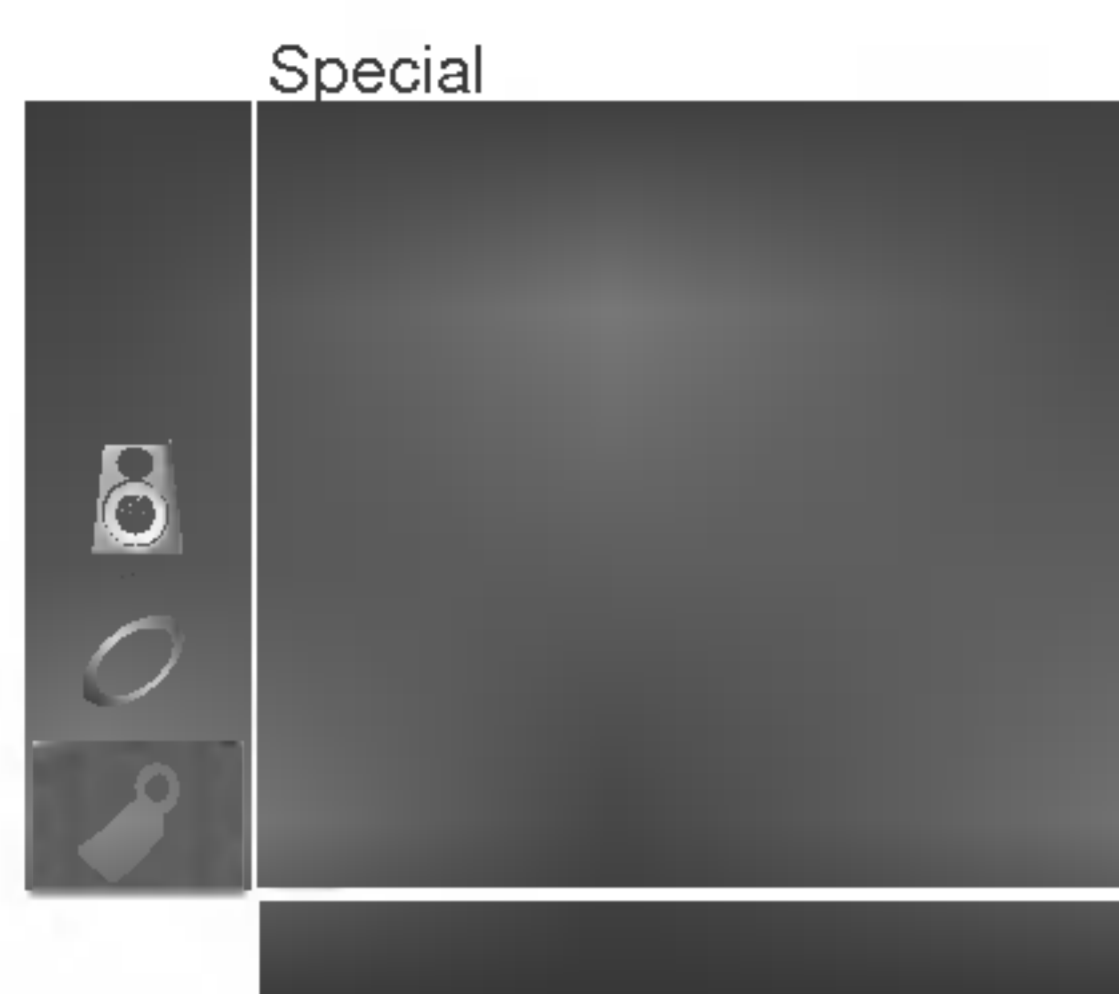
- a. Connect PC to the PC input sockets of the set after changing the resolution of PC.
- b. If you want to watch the PC monitor only, switch off the set with the **POWER** button on the remote control handset. (If you switch off the set with the **ON/OFF** button on the set, the screen of the PC isn't displayed.)

Displayable Monitor Specification

MODE	Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
VGA	720x400	31.5	70
	640x480	31.5	60
	640x480	37.5	75
	640x480	43.3	85
SVGA	800x600	37.9	60
	800x600	46.9	75
	800x600	53.7	85
	832x624	49.4	74.55 (Mac)
XGA	1024x768	48.4	60
	1024x768	60.023	75
	1024x768	68.677	85
SXGA	1152x864	67.5	75
	1280x1024	64.0	60

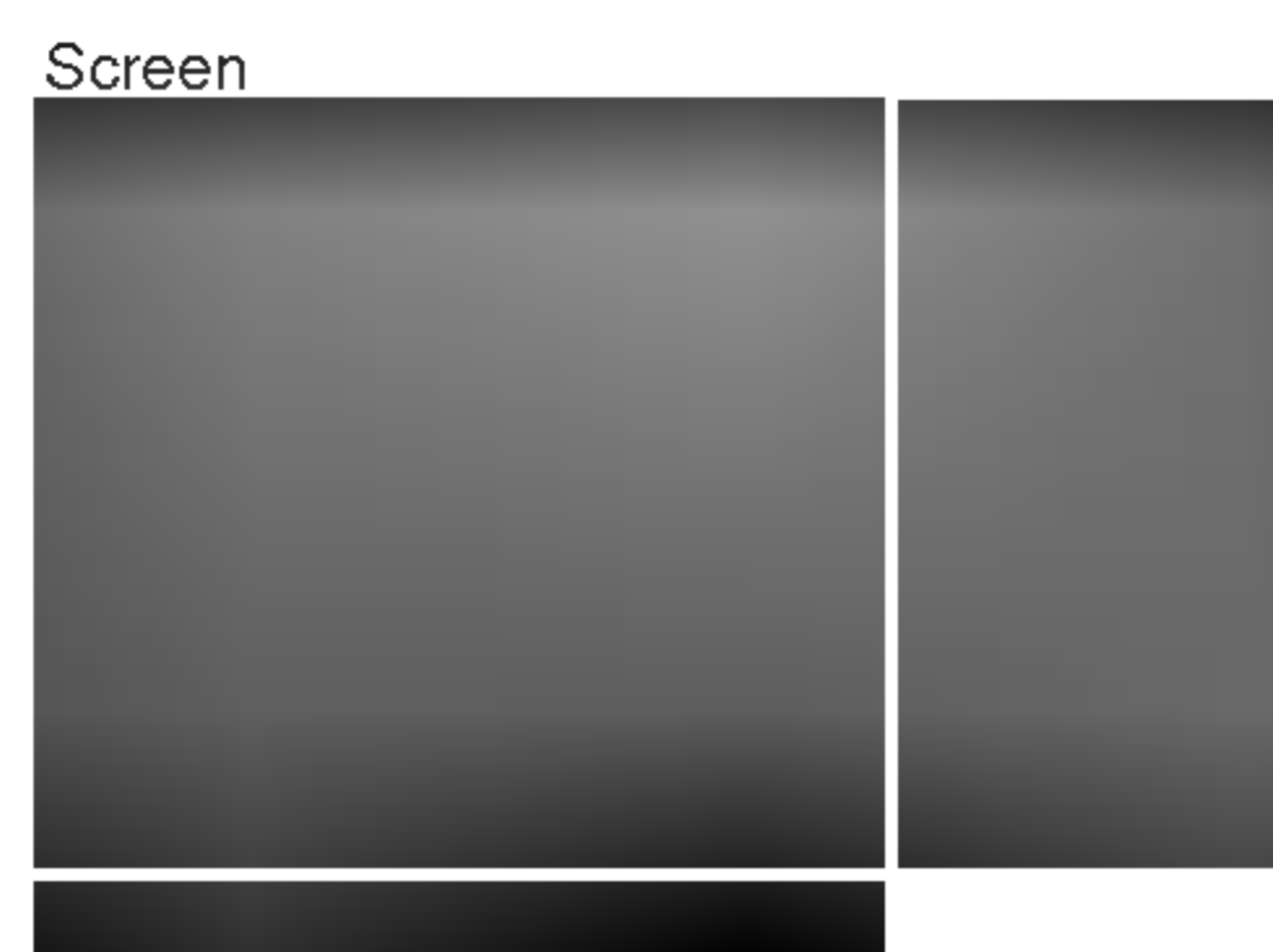
(Synchronization input form : separate)

Connection of PC



RGB-PC Mode (option)

1. Press the **MENU** button and then **▲ / ▼** button to select the Special menu.
2. Press the **▶** button and then **▲ / ▼** button to select **Screen**.
3. Press the **▶** button and then **▲ / ▼** button to select the desired picture item.



4. Press the **◀ / ▶** button to make appropriate adjustments.

Horizontal Position / Vertical Position

This function is to adjust picture to left/right and up/down as you prefer.

Clock

This function is to minimize any vertical bars or stripes visible on the screen background. And the horizontal screen size will also change.

Clock phase

This function allows you to remove any horizontal noise and clear or sharpen the image of characters.

Auto-configure

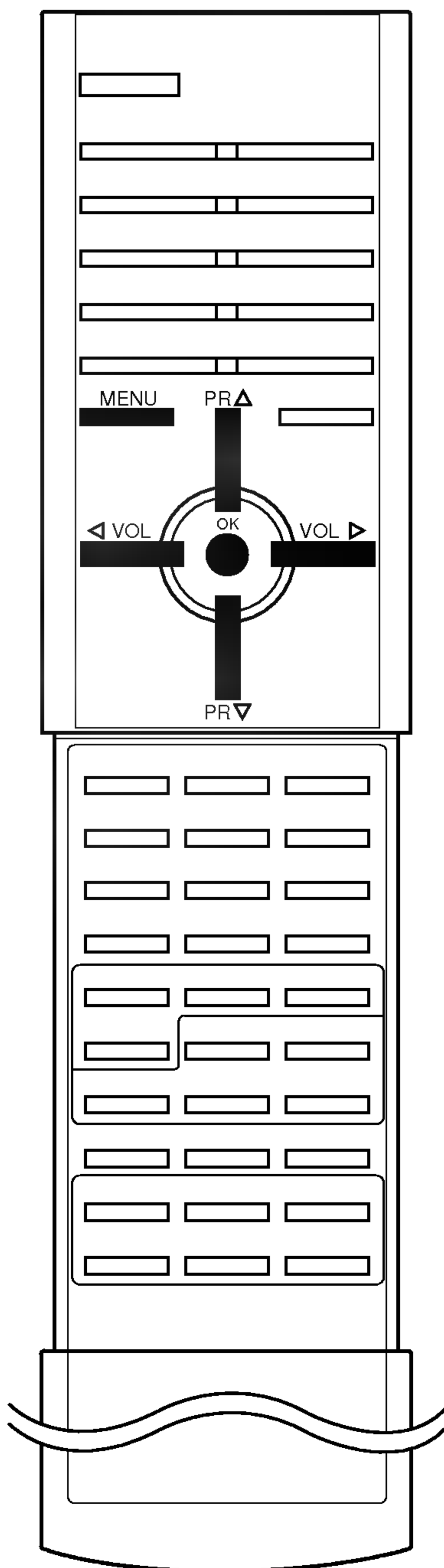
This function is for the automatic adjustment of the screen position, clock and clock phase. The displayed image will disappear for a few seconds while the Auto-configuration is in process.

Note : Some signal from some graphics boards may not function properly. If the results are unsatisfactory, adjust your monitor's position, clock and clock phase manually.

Reset

This function allows you to return to the good picture reproduction programmed at the factory and cannot be changed.

5. Press the **OK** button to store it for the PC monitor picture.
6. Repeatedly press the **MENU** button to return to normal TV viewing.



Connection of external equipment

You can connect additional equipment, such as VCRs, camcorders etc. to your set.

Here shown may be somewhat different from your set.

Aerial socket

1. Connect the RF out socket of the VCR to the aerial socket on the back of the set.
2. Connect the aerial cable to the RF aerial in socket of the VCR.
3. Store the VCR channel on a desired programme number using the 'Manual programme tuning' section.
4. Select the programme number where the VCR channel is stored.
5. Press the **PLAY** button on the VCR.

Audio/Video in/out sockets

1. Connect the audio/video out sockets of the VCR to audio/video in sockets of the set and in sockets of the VCR to out sockets of the set.
2. Press the **TV/AV** button to select **AV 1**, **AV 2** or **AV 3**.
3. Press the **PLAY** button on the VCR.
The VCR playback picture appears on the screen.

You can also record programmes received by the TV on video tape via audio/video out sockets.

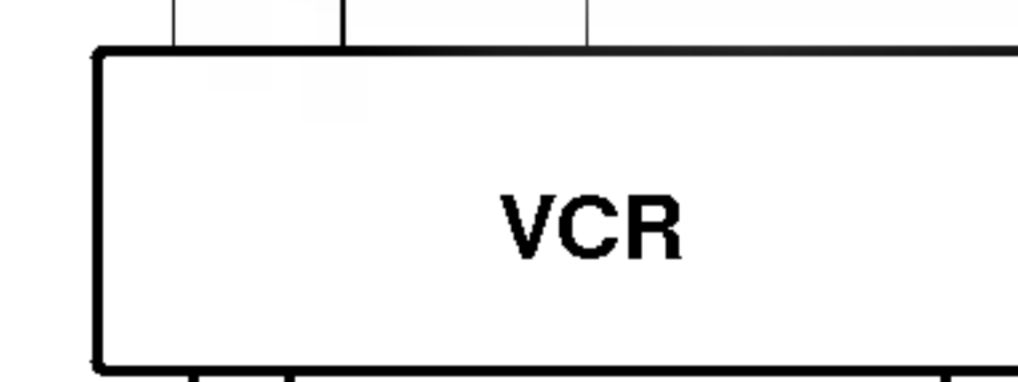
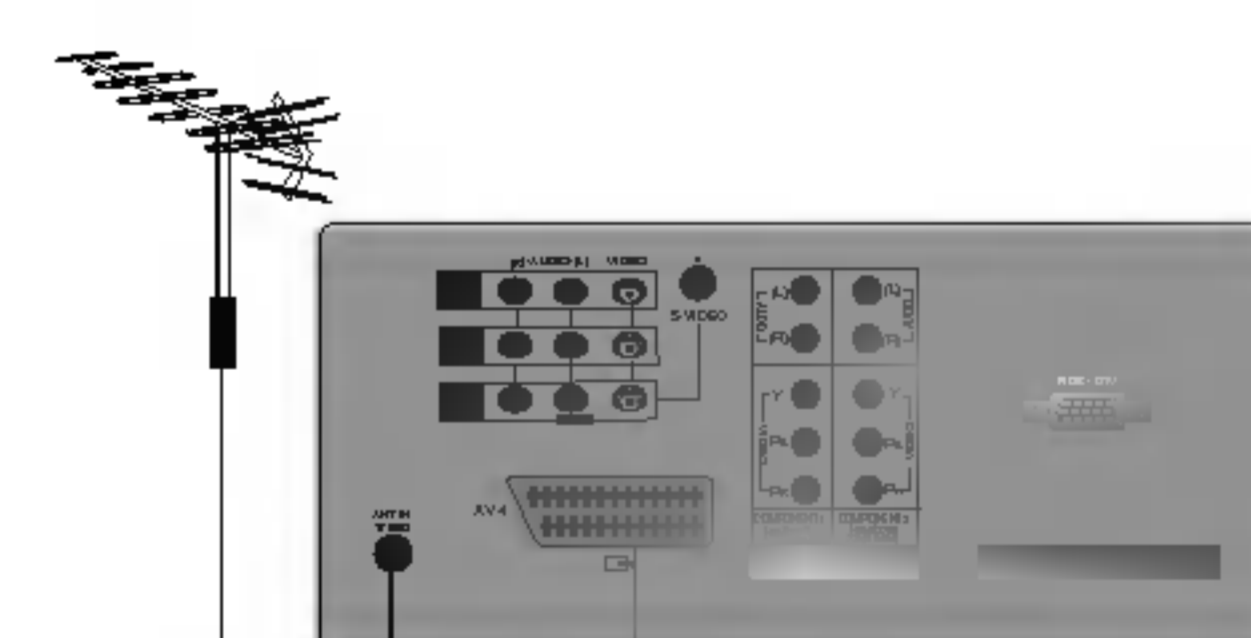
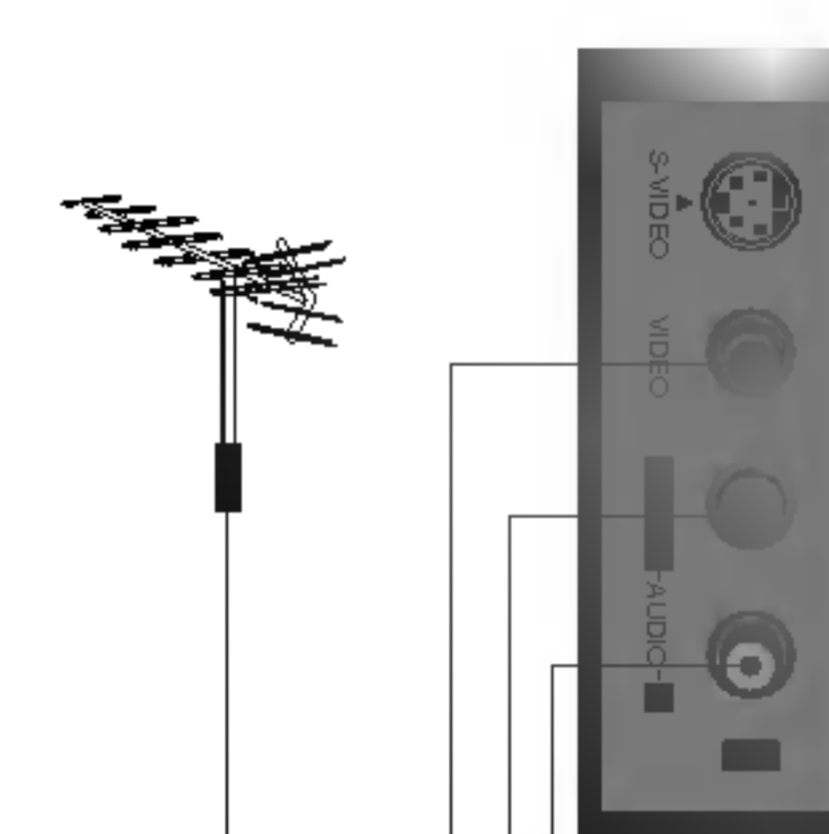
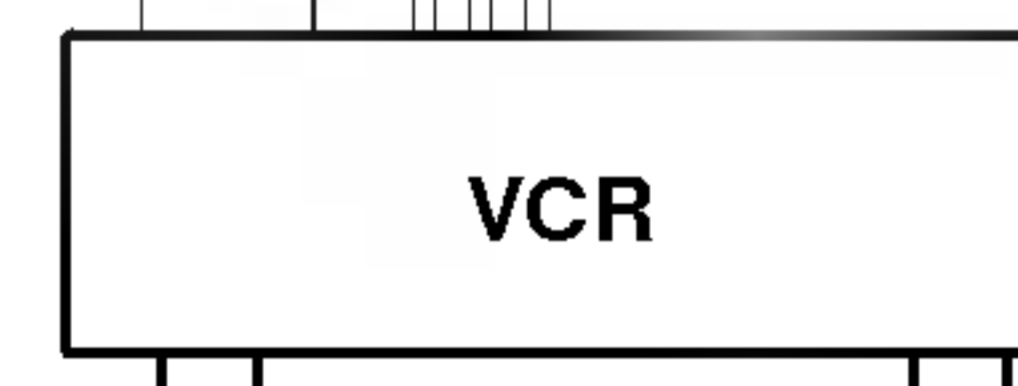
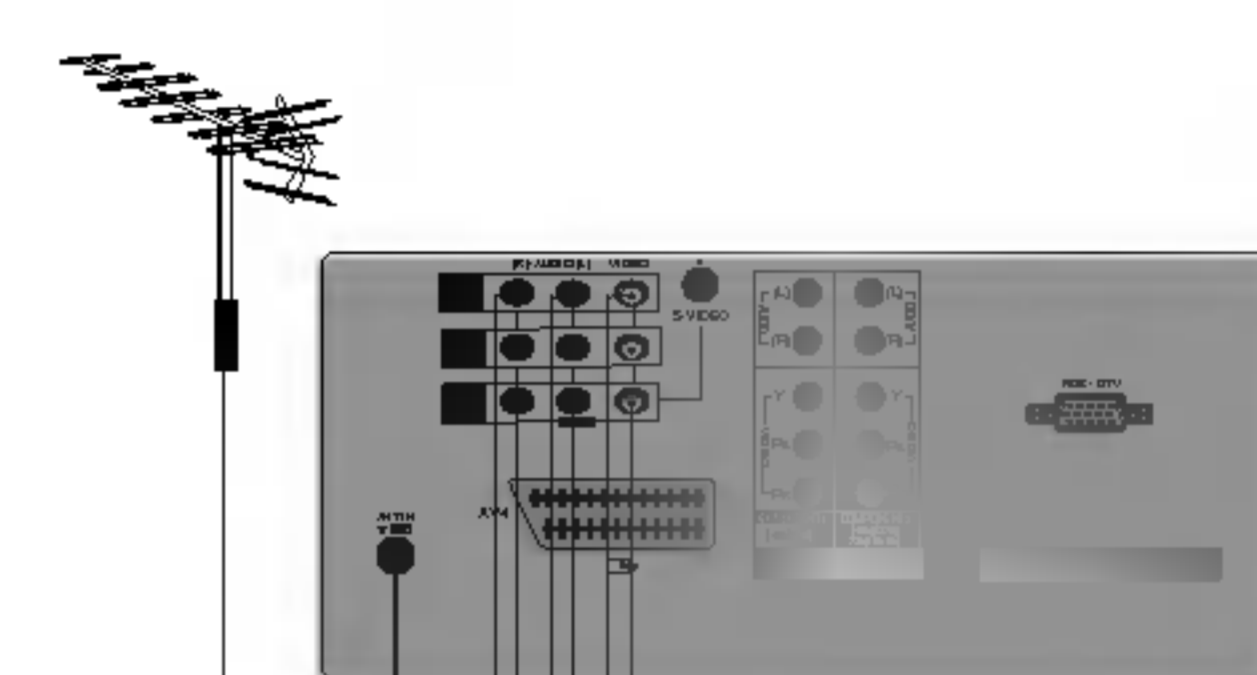
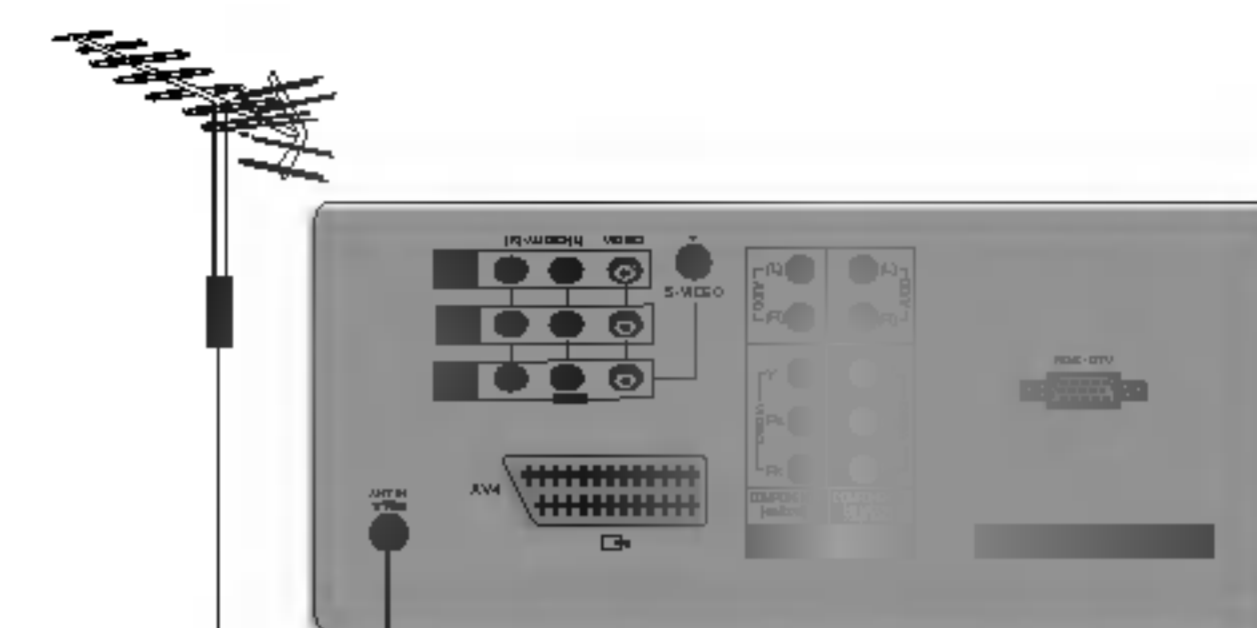
Note : If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L/MONO** socket of the set.

Euro scart socket (option)

1. Connect the Euro scart socket of the VCR to the Euro scart socket of the set.
2. Press the **PLAY** button on the VCR.
If your VCR outputs a switching voltage connect to Euro scart socket, the set will switch to **AV4** mode automatically. But if you want to keep on watching TV mode, press the **▲ / ▼** or **NUMBER** buttons.

Otherwise press the **TV/AV** button on the remote control handset to select **AV4**. The VCR playback picture appears on the screen.

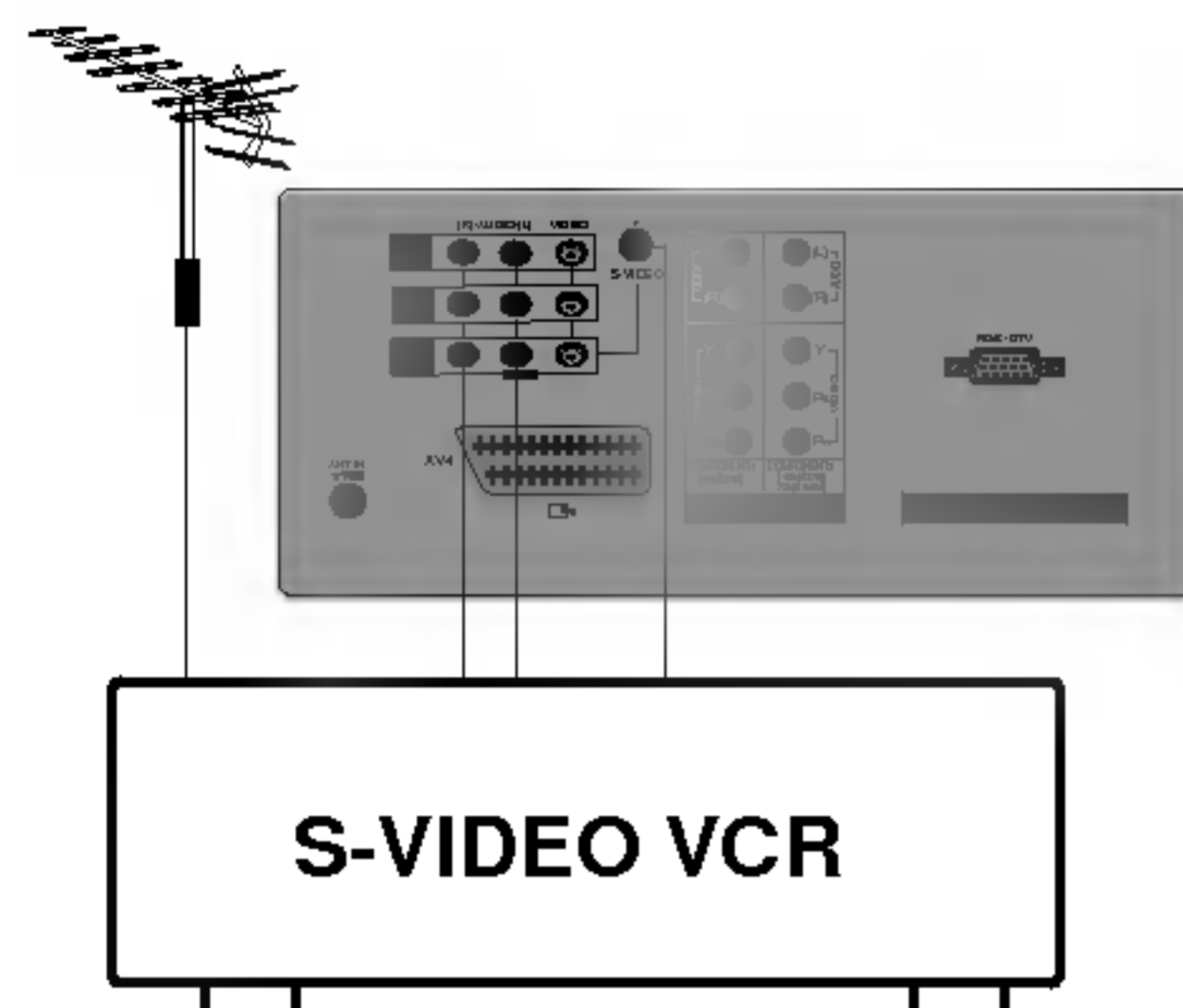
You can also record programmes received by the TV on video tape.



Connection of external equipment

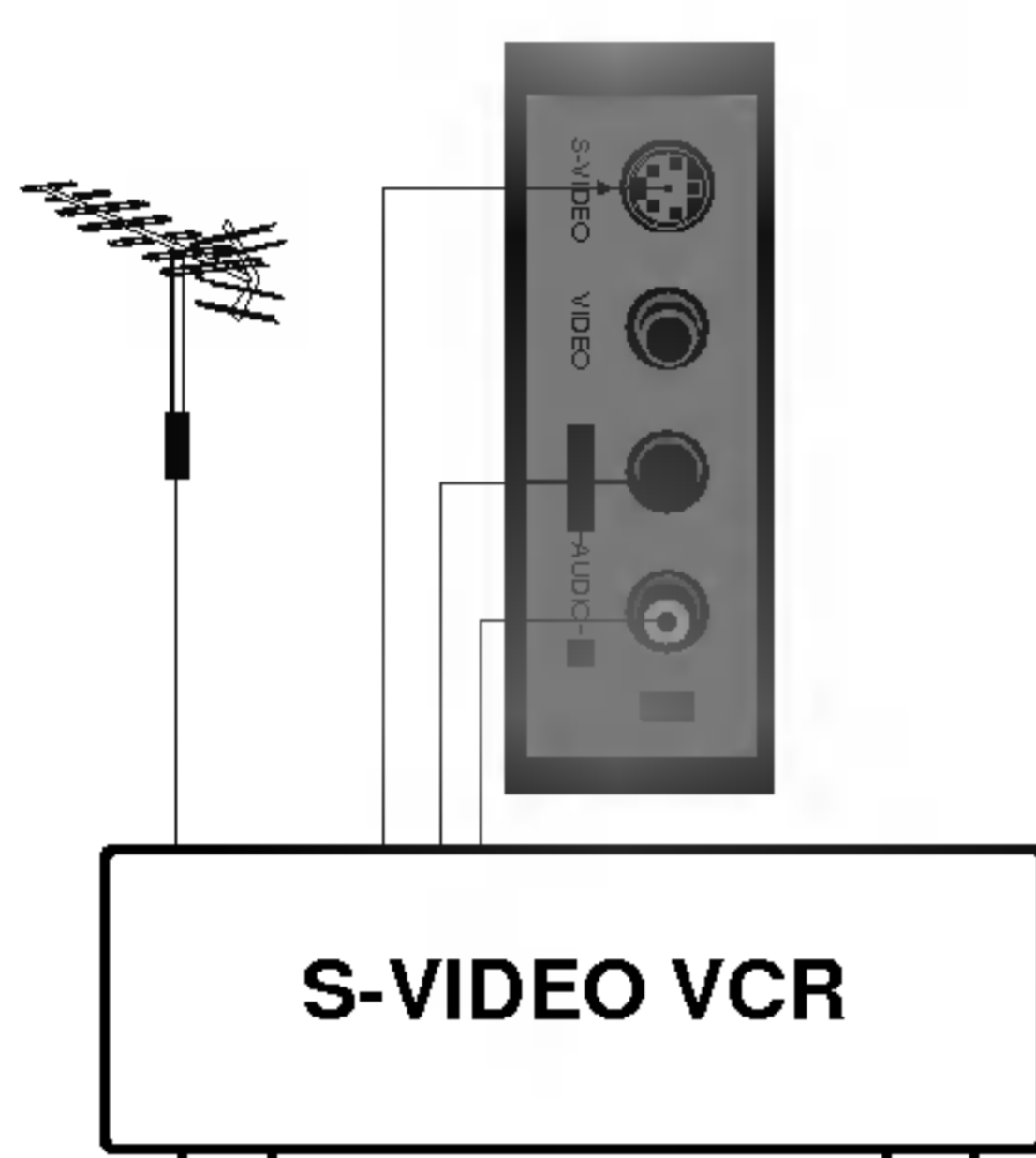
S-Video / Audio in sockets (S-AV) (option)

When connecting an S-VIDEO VCR to the S-VIDEO socket, the picture quality will be further improved.



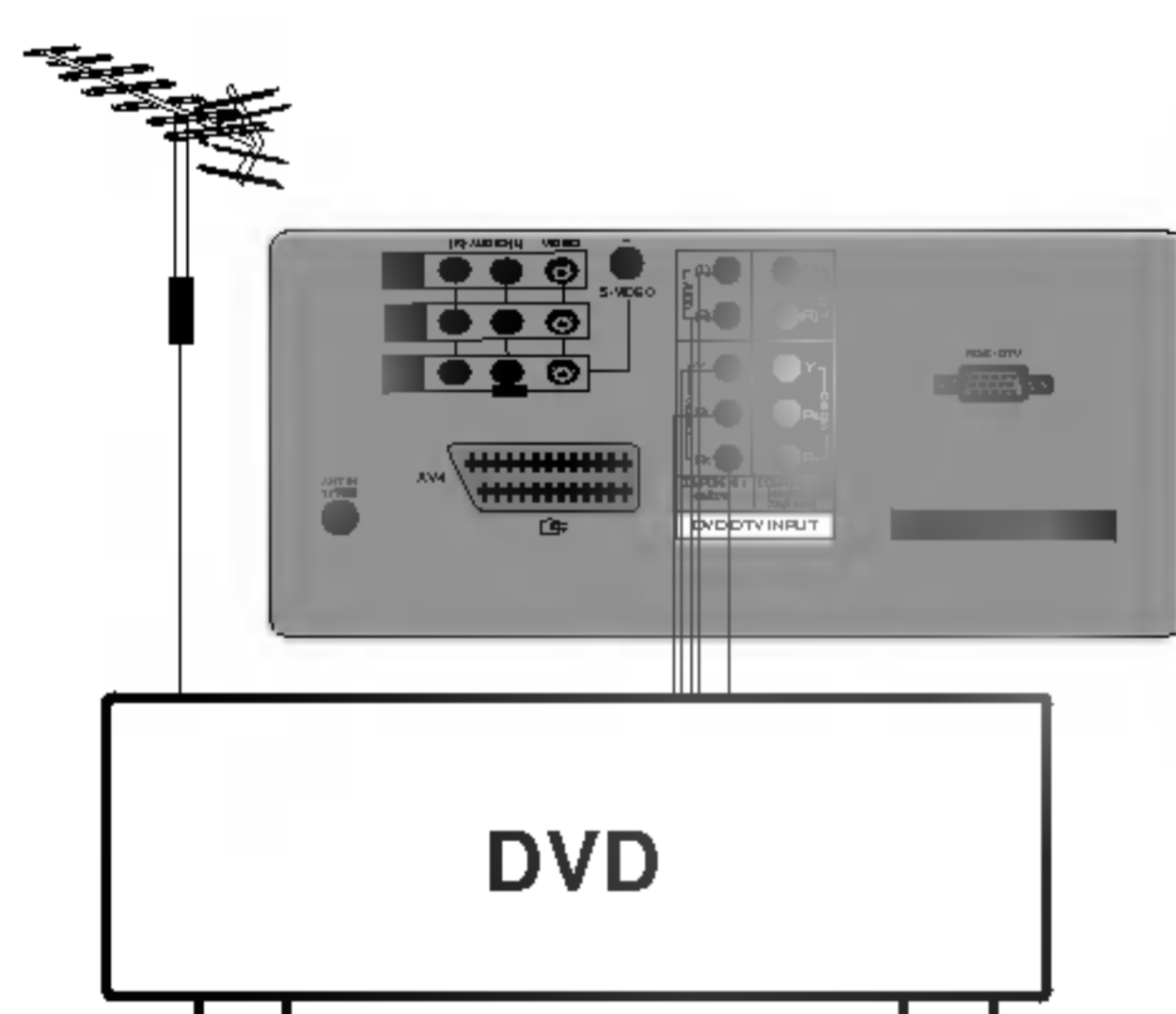
1. Connect the S-video socket of the VCR to the S-VIDEO socket of the set.
2. Connect the audio cable from the S-VIDEO VCR to the AUDIO sockets of the set.
3. Select **AV1** or **AV3** by pressing the **TV/AV** button repeatedly.
4. Press the **PLAY** button on the VCR.
The VCR playback picture appears on the screen.

*Note: If both **S-VIDEO** and **VIDEO** sockets have been connected to the S-VHS VCR simultaneously, only the **S-VIDEO** can be received.*



DVD in sockets

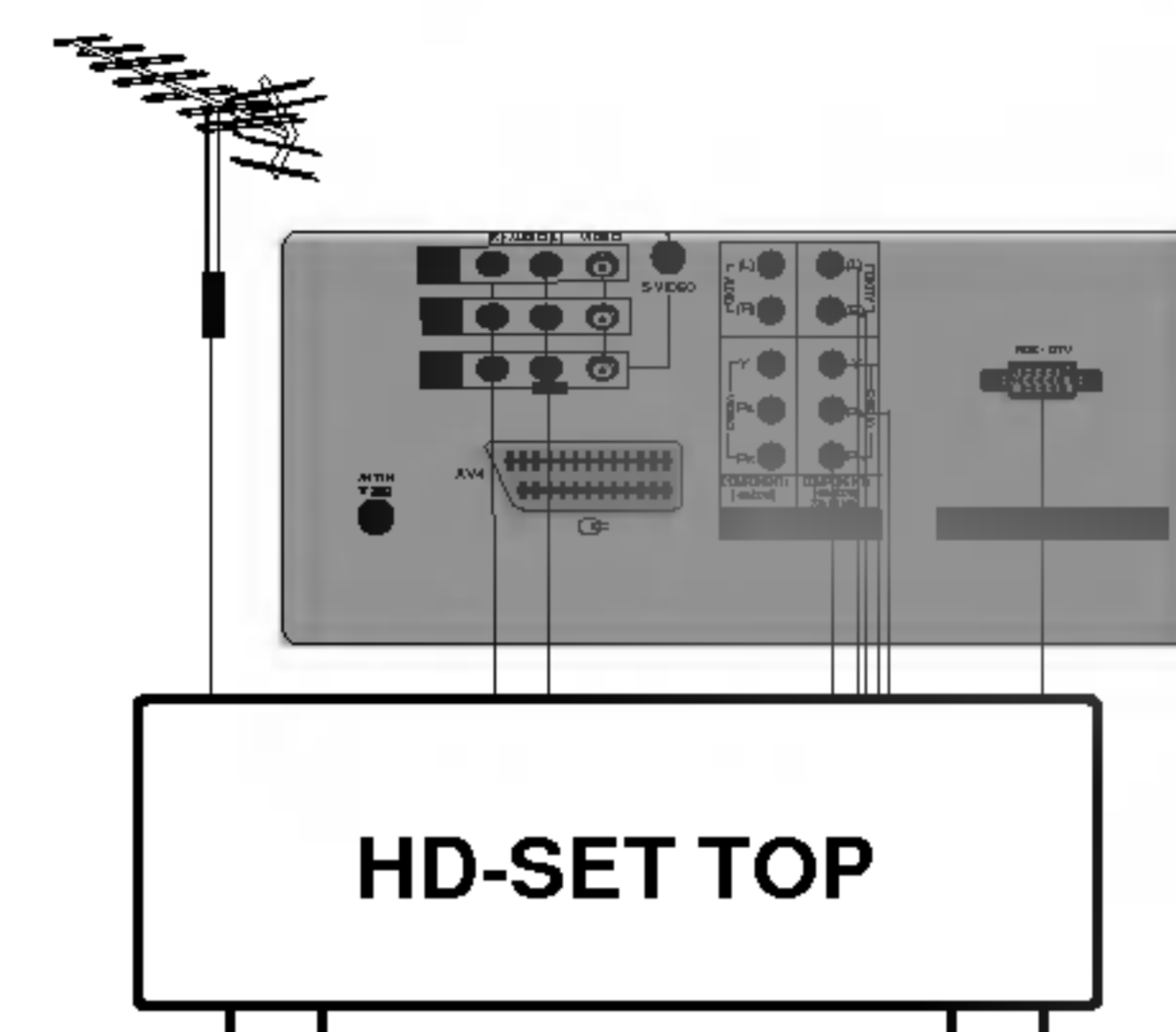
1. Connect the DVD output sockets (Y Cb Cr, Y Pb Pr, Y B-Y R-Y or Y P_B P_R) of the DVD to the **DVD/DTV INPUT** sockets (Y P_B P_R) of the set.
2. Connect the audio cable from the DVD to **DVD/DTV INPUT AUDIO** sockets of the set.
3. Press the **TV/AV** button to select **COMPONENT1** (480i/576i) or **COMPONENT2** (480p/576p/720p/1080i).
4. Press the **PLAY** button on the DVD.
The DVD playback picture appears on the screen.



Connection of external equipment

DTV in sockets (option)

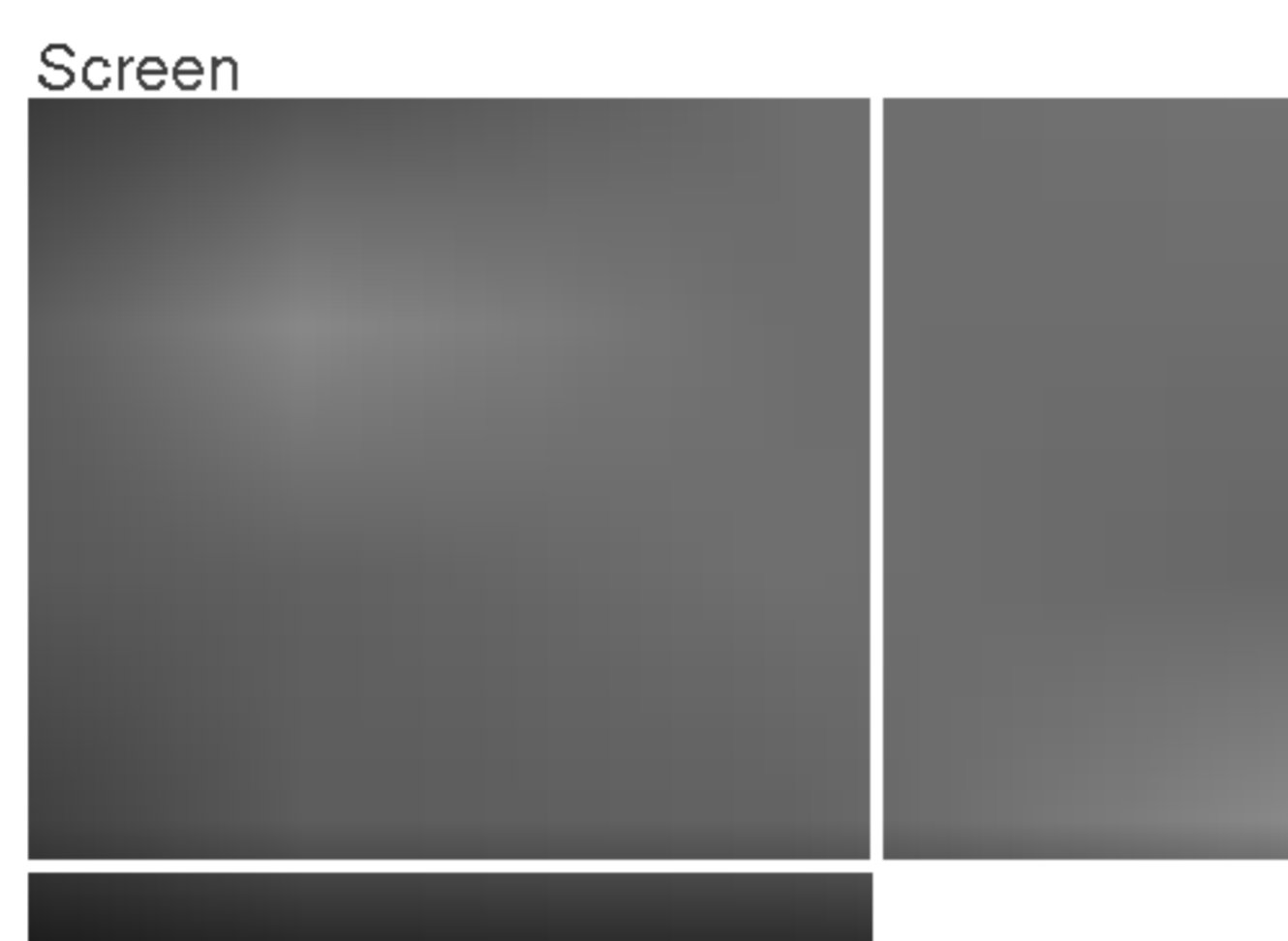
1. Connect the SET TOP outputs to the **DVD/DTV INPUT** sockets (Y P_B P_R) on the set. (or, connect the SET TOP with the D-Sub output socket to RGB-DTV/PC INPUT socket on the set and audio cable of the SET TOP to the AUDIO sockets of **AV2**.)
2. Connect the audio cable from the SET TOP to **DVD/DTV INPUT AUDIO** sockets of the set.
3. Press the **TV/AV** button to select **COMPONENT2** or **RGB-DTV**.



H/V Position adjustment

You can adjust horizontal/vertical position as you prefer in RGB-DTV mode.

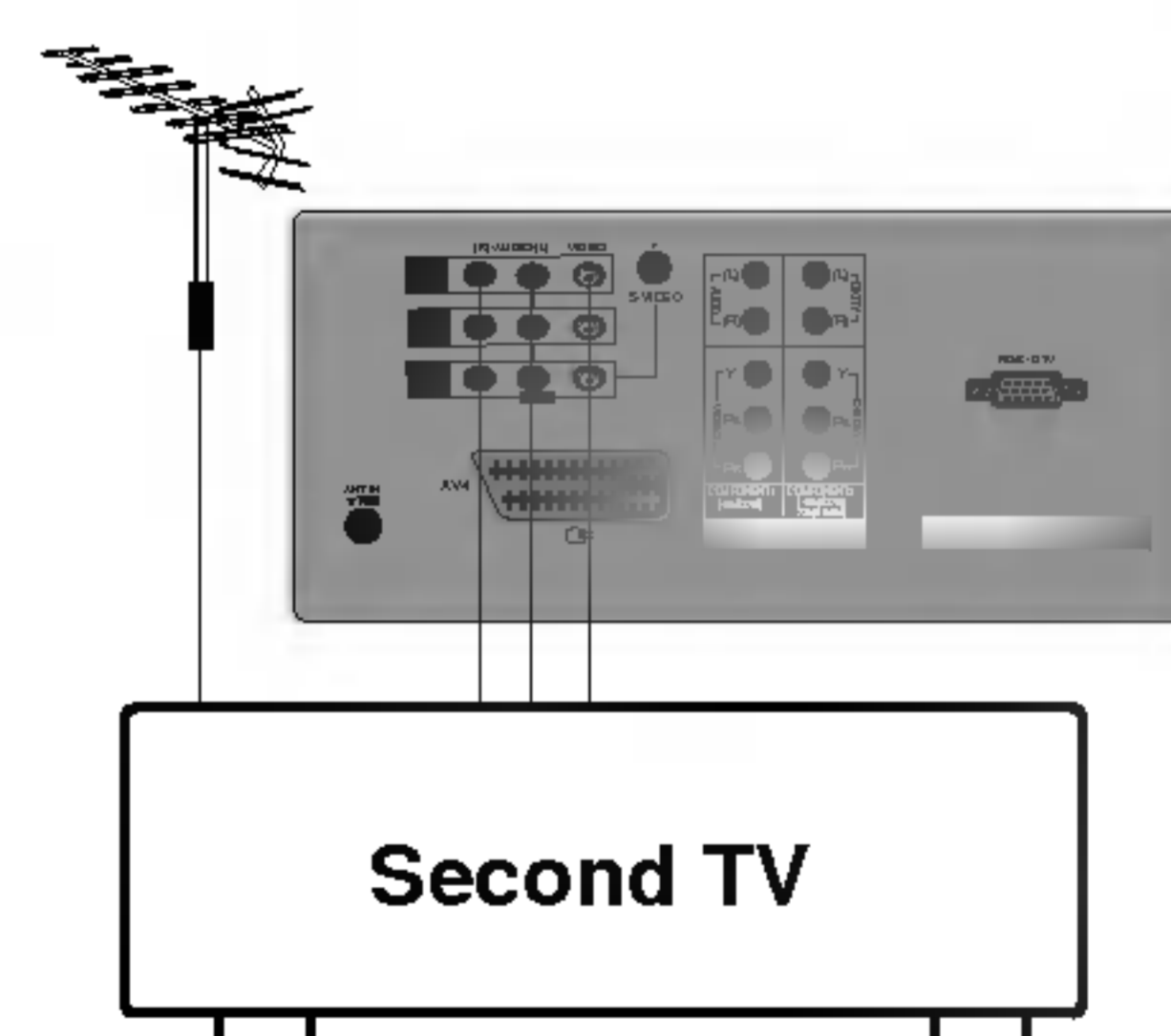
1. Press the **MENU** button and then ▲ / ▼ button to select the Special menu.
2. Press the ► button and then ▲ / ▼ button to select **Screen**.
3. Press the ► button to display the **Screen** menu.



4. Press the ▲ / ▼ button to select the desired picture item.
5. Press the ◀ / ▶ button to make appropriate adjustments.
6. Repeatedly press the **MENU** button to return to normal TV viewing.

Monitor out sockets

Connect the audio/video in sockets of the other TV or monitor to **OUT** sockets of the set.



Troubleshooting check list

Symptoms

No picture, no sound

Sound OK, poor picture

Picture OK, poor sound

Picture blurred

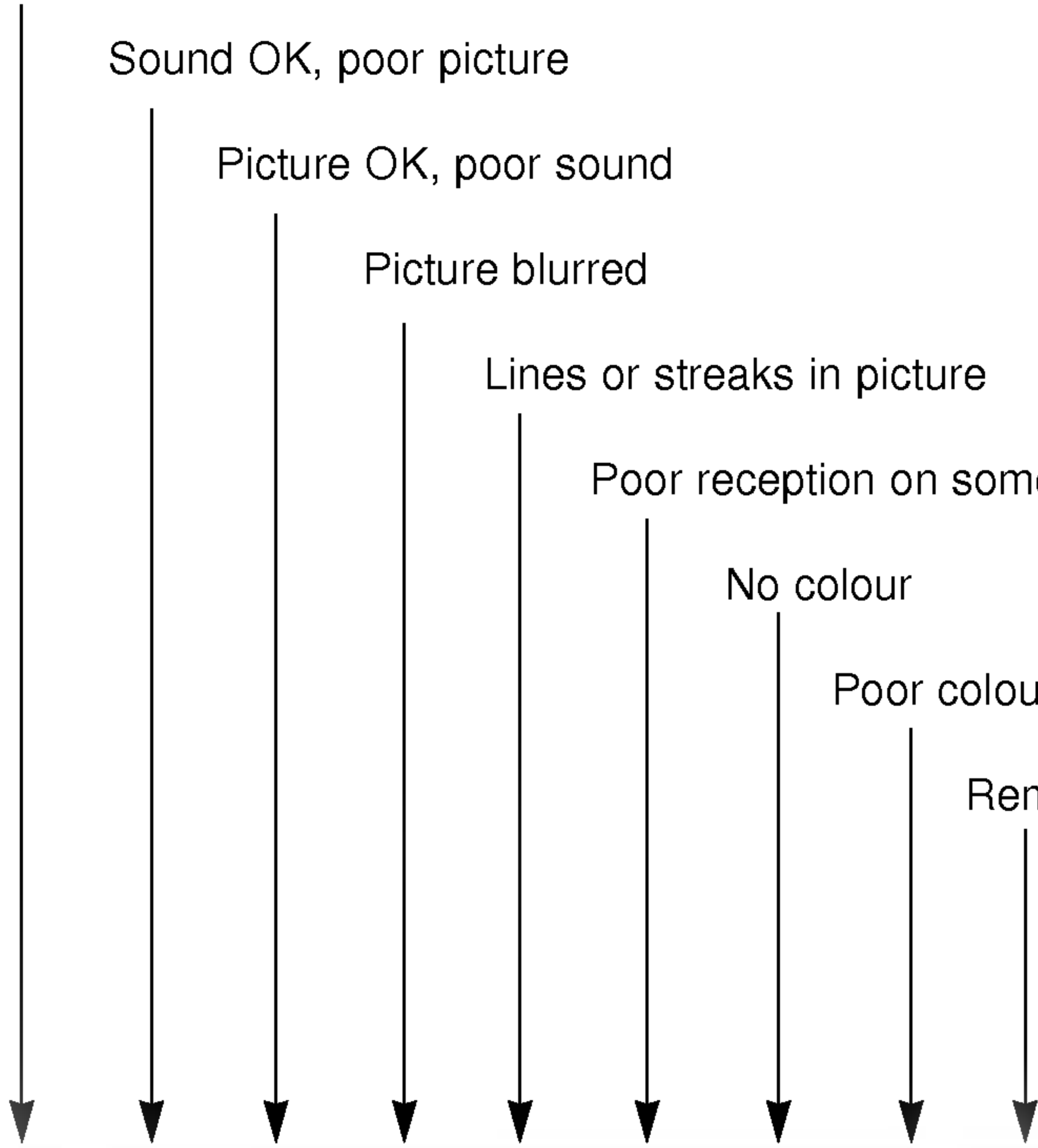
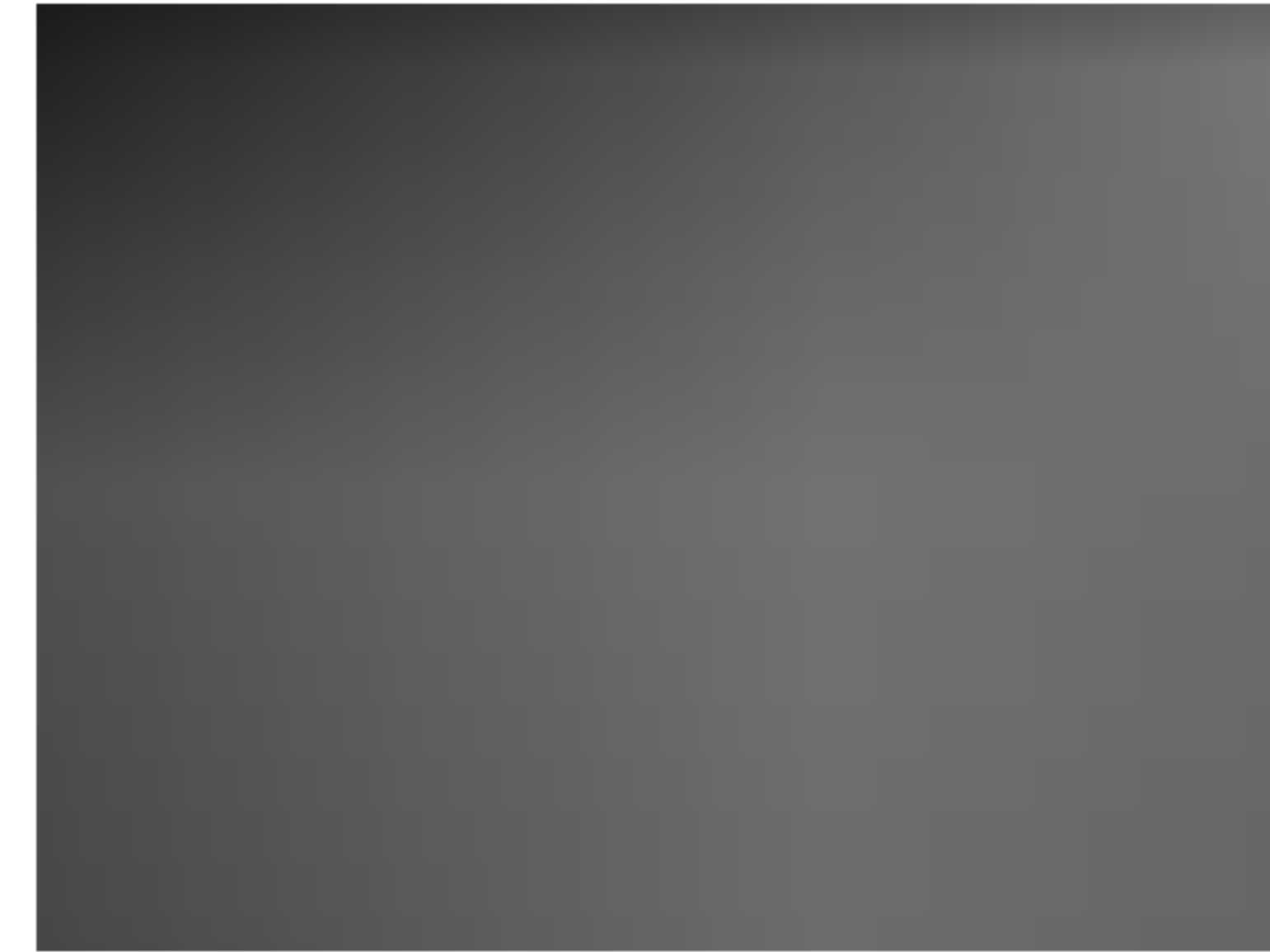
Lines or streaks in picture

Poor reception on some channels

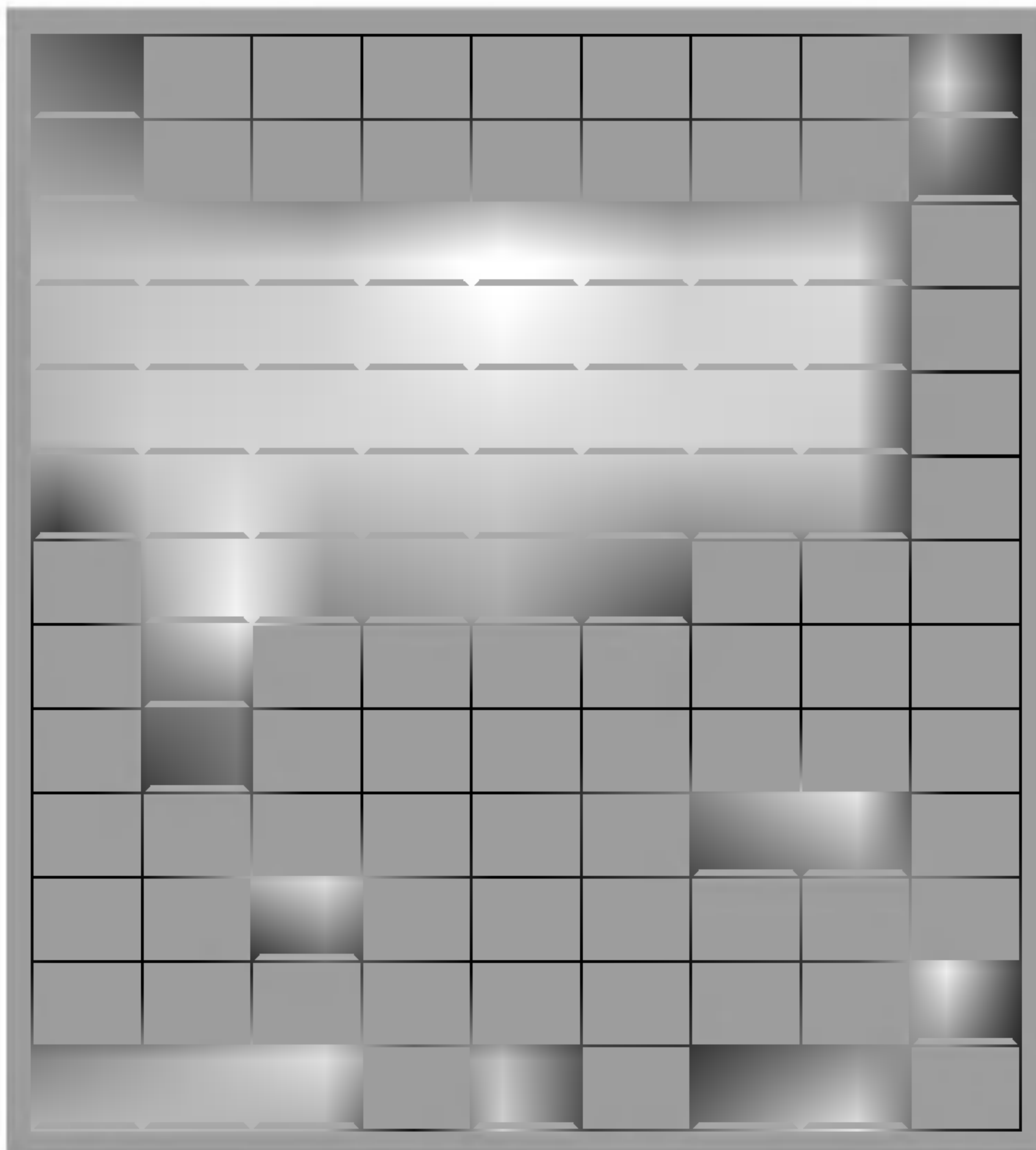
No colour

Poor colour

Remote control does not work



Check these items and try to adjust these



The mains plug-(plugged in and switched on)

Is the TV switched on

Try another channel (weak signal)

Check aerial (plugged into TV?)

Check aerial (broken lead?)

Check aerial

Check for local interference

Adjust contrast

Adjust brightness

Adjust colour

Adjust volume

Check the batteries in remote control

Check Audio/Video sockets (VCR only)
