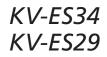
3-867-756-22 (1)

SONY

Trinitron. Color TV

Operating Instructions

• Before operating the unit, please read this manual thoroughly and retain it for future reference.



© 1999 Sony Corporation

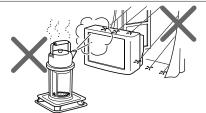
Μ	91
Μ	81
Μ	80
Μ	31

WARNING

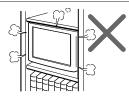
- Dangerously high voltages are present inside the TV.
- Operate the TV only between 110 240 V AC.



For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



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



Do not install the TV in a confined space, such as a bookcase or built-in cabinet. Do not block the ventilation openings of the TV.





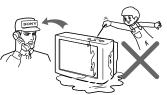
Pull the power cord out by the plug. Do not pull the power cord itself. Disconnect the TV if you are not going to use it for several days.



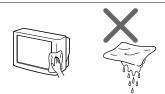
Do not open the cabinet and the rear cover of the TV. Refer servicing to qualified personnel.



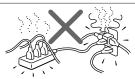
Install the TV in a stable position. Do not allow children to climb onto it.



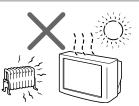
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not install the TV in hot, humid or excessively dusty places.

Table of Contents

WARNING

Using Your New TV

Getting Started	4
Step 1: Connect the antenna	
Step 2: Insert the batteries into the remote	5
Step 3: Preset the channels automatically	5
Connecting optional components	6
Securing the TV	9
Watching the TV 1	0

Advanced Operations

Selecting the picture and sound modes 14
Viewing higher quality pictures 15
Viewing your favorite channels 16
Watching two programs at the same time 17
Displaying multiple programs 19
Listening with surround sound 22
Enjoying stereo or bilingual programs (KV-ES34M91/ES34M31/ ES29M31 only) 23
Viewing Teletext (KV-ES34M91/ ES34M81/ES34M31/ES29M81/ ES29M31 only) 25 Operating optional components 27

	~ r
The features you will enjoy include:	Yo
• "DRC-MF" for viewing higher quality	• 1
pictures (page 15)	-
• "FAVORITE CH" for quick and easy	• "
program selection (page 16)	C
• "PIP" & "TWIN" for viewing two	• "
programs (page 17)	v
"PROGRAM INDEX" for displaying	• "
multiple programs (page 19)	• E
• "PICTURE MODE" / "SOUND MODE" /	f
"SURROUND" for customizing your TV	• "
(pages 14 and 22)	• "
• "WIDE MODE" to view 16:9 pictures (page 38)	

Adjusting Your Setup (MENU)

Introducing the menu system	29
Changing the "A/V CONTROL" setting 🖽	32
Changing the "MULTI PICTURE" setting 🚍	35
Changing the "FEATURE" setting 📄	37
Changing the "SET UP" setting 📇	39
Changing the "CH PRESET" setting 🎢	42

Additional Information

Self-diagnosis function	. 45
Troubleshooting	. 46
Identifying parts and controls	. 50
Specifications Back co	ver

Your TV also offers the following features:
Menu language options

English/Chinese/Arabic (page 12)

"CHILD LOCK" for locking out specific channels (page 40)

- "INTELLIGENT VOL" for automatic volume adjustment (page 39)
- "FINE" tuning feature (page 44)
- Button Joystick () on the remote control for easier operation (page 12)
- "ECO MODE" to save energy (page 38)
- "GAME MODE" for video games (page 38)

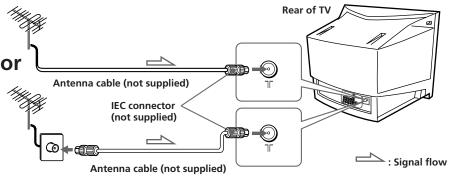
GB

Getting Started

Step 1

Connect the antenna

If you wish to connect a VCR, see the "Connecting a VCR" diagram below.

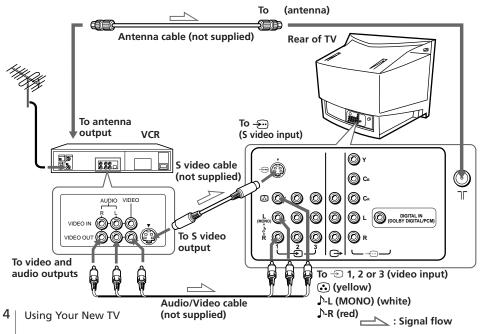


CAUTION

Do not connect the power cord until all other connections are complete; otherwise, a minimal current leakage through the antenna and/or other terminals to the ground could occur.

Connecting a VCR

To play a video tape, press - €) (see page 11).



Notes

- If you connect a monaural VCR, connect the yellow plug to 🕢 (the yellow jack) and the black plug to \mathcal{N} L (MONO) (the white jack).
- If you connect a VCR to the ∏ (antenna) terminal, preset the signal output from the VCR to the program number 0 on the TV.
- When both the ⊕ (S video input) and ⊕ 1 (video input) are connected, the ⊕ (S video input) is automatically selected. To view the video input to ⊕ 1 (video input), disconnect the S video cable.

Step 2

Insert the batteries into the remote



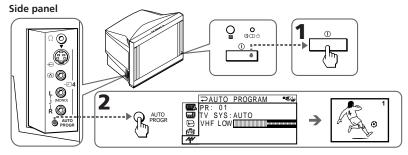
Notes

- Do not use old batteries or different types of batteries together.
- To operate some of the functions of your TV, you may have to open the remote control cover.



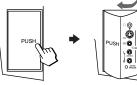
Step 3

Preset the channels automatically



Notes

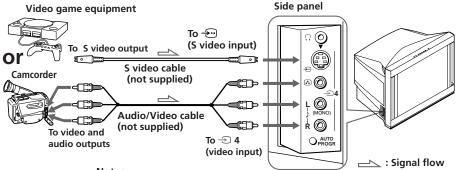
- To stop the automatic channel presetting, press MENU twice.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 43).
- To open the side panel of your TV, push on it until you hear a click, then it will open.



Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game, or stereo system. To watch and operate the connected equipment, see pages 11 and 27.

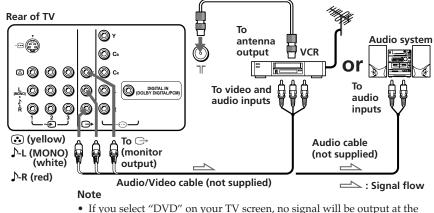
Connecting a camcorder/video game equipment using the (video input) jacks



Notes

- When connecting video game equipment, display the "FEATURE" menu and select "ON" for "GAME MODE" to adjust the picture setting that is suitable for video games (see page 38).
- You can also connect video equipment to the 2 1, 2, or 3 (video input) jacks at the rear of your TV.
- When both the ○ (S video input) and ○ 4 (video input) are connected, the ○ (S video input) is automatically selected. To view the video input to ○ 4 (video input), disconnect the S video cable.

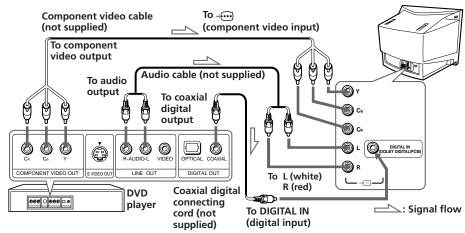




 \hookrightarrow (monitor output) jacks (see page 11).

Connecting a DVD player to → (component video input)

- 1 Using an audio cable, connect R and L under ↔ (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
- 2 Using a coaxial digital connecting cord, connect DIGITAL IN under (component video input) on your TV to the DIGITAL OUT, COAXIAL output connector on your DVD player.
- 3 Using a component video cable, connect Y, CB, and CR under → (component video input) on your TV to the COMPONENT VIDEO OUT Y, CB, and CR output connectors on your DVD player.



4 Press on the remote or the TV until "DVD" appears on the screen.

Notes

• Some DVD player terminals may be labeled differently:

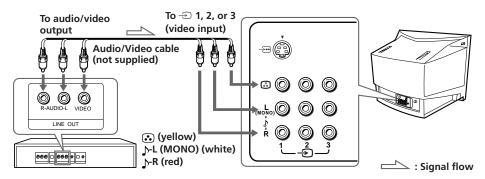
Connect	To (on the DVD player)
Y (green)	Y
C _B (blue)	C _b , B-Y or P _B
CR (red)	Cr, R-Y or Pr

- When connecting to (component video input) on your TV, you must connect Y, CB, and CR to receive the video signals, and at least connect DIGITAL IN to receive digital audio signals or connect L and R to receive analog audio signals (see page 34).
- When making connections to DIGITAL IN under (component video input) on your TV, always set "DIGITAL IN: OFF" in the "A/V CONTROL" menu. After completing all connections, then set "DIGITAL IN: ON". If you set "DIGITAL IN: ON" while still making connections to DIGITAL IN (component video input), a loud noise may suddenly come out from the speakers, affecting your hearing and causing damage to the speakers (see page 34).

Connecting optional components (continued)

Connecting a DVD player to (video input)

Connect $rac{1}{2}$, 2, or 3 (video input) 1/2 (audio/video) connectors on your TV to LINE OUT on your DVD player.



Notes

- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust the sharpness ("SHARP") under "PERSONAL ADJUST" in the "PICTURE MODE" menu (see page 33).
- Connect your DVD player directly to your TV. Connecting the DVD player through other video equipment will cause unwanted picture noise.

Securing the TV

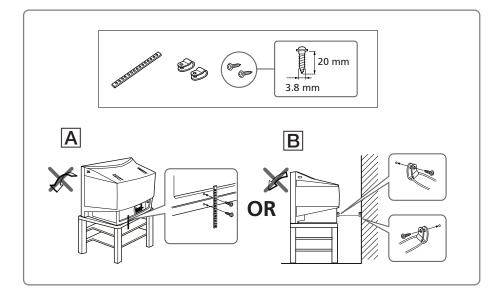
B

To prevent the TV from falling, secure the TV using one of the following methods:

 $\overline{\mathbf{A}}$ With the supplied screws, attach the stabilizer band to the TV stand and to the rear of the TV using the provided hole.

OR

Pass a cord or chain through the clamps and secure them to the rear of the TV and a wall or pillar.



Note

• Use only the supplied screws. Use of other screws may damage the TV.

Watching the TV

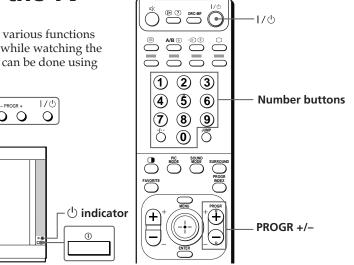
This section explains various functions and operations used while watching the TV. Most operations can be done using the remote.

MENU ENTER

00

÷

 $\mathbf{O} \mathbf{O} \mathbf{O} \mathbf{O}$



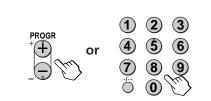
Press ① to turn on the TV.

When the TV is in standby mode (the \bigcirc indicator on the TV is lit red), press I/\bigcirc on the remote or on the TV.

2 Press PROGR +/- or the number buttons to select the TV channel.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).





Note

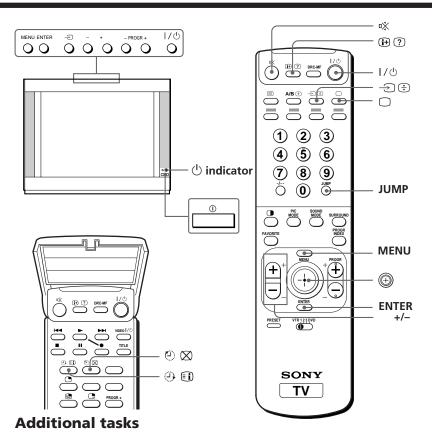
 When you turn on the TV, either the program number or video mode is displayed for approximately 40 seconds. The ECO MODE (fm) icon will also appear if "ECO MODE" in the "FEATURE" menu is set "ON" (see page 38).

To select a TV program quickly

- (1) Press and hold PROGR +/-.
- (2) Release PROGR +/- when the desired program number appears.

Note

• When you select a TV program quickly, the picture may be disrupted. This does not indicate a malfunction.



То Press 1/(り. Turn off temporarily The \bigcirc indicator on the TV lights up red. Turn off completely ① on the TV. Adjust the volume ⊿+/-. Mute the sound 吙. Watch the video input - (or - on the TV) to select "VIDEO 1", "VIDEO 2", "VIDEO 3", "VIDEO 4" or "DVD". (VCR, camcorder, etc.) To return to the TV screen, press \Box (or T on the TV). Jump back to the previous channel JUMP. **(i+**). Display the on-screen information*

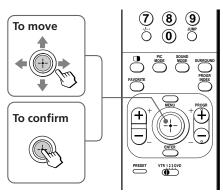
* Some picture/sound settings, and either the program number or video mode are displayed. The on-screen display for the picture/sound settings disappears after about 3 seconds.

Watching the TV (continued)

Using the Remote Control Button Joystick (🕀)

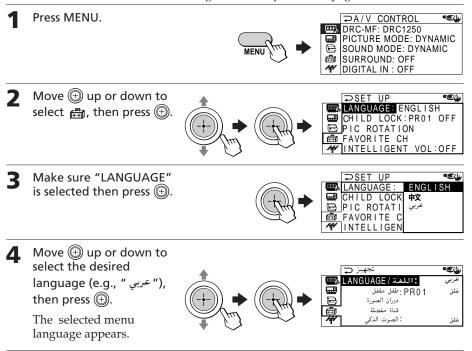
You can select the menu item on the screen by moving () up, down, left or right (see page 31).

To confirm a selected item, press \bigoplus . You can also press ENTER on the remote to confirm a selected item.



Changing the menu language

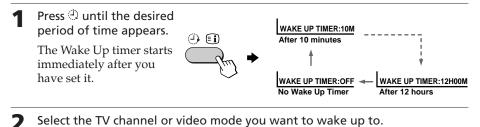
You can change the menu language as well as the on-screen language. For details on how to use the menu, see "Introducing the menu system" on page 29.



To return to the normal screen

Press MENU.

Setting the Wake Up timer



Press I/☉, or set the Sleep timer if you want the TV to turn off automatically. The ⊕ indicator on the TV lights up orange.

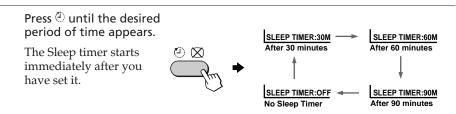
To cancel the Wake Up timer

Press () until "WAKE UP TIMER: OFF" appears, or turn off the TV's main power.

Note

• If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode. To resume watching the TV, press any button or control on the TV or the remote.

Setting the Sleep timer



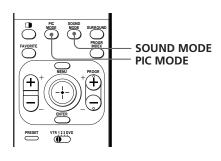
To cancel the Sleep timer

Press ④ until "SLEEP TIMER: OFF" appears, or turn the TV off.

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the "PERSONAL" option.

Selecting the picture mode



Press PIC MODE repeatedly until the desired picture mode is selected.	DYNAMIC STANDARD
selected.	PERSONAL HI-FINE

Select	То
"DYNAMIC"	receive high contrast pictures.
"STANDARD"	receive normal pictures.
"HI-FINE"	receive higher resolution pictures with mild contrast.
"PERSONAL"	receive the last adjusted picture setting from the "ADJUST" option in the "A/V CONTROL" menu (see page 33).

Selecting the sound mode

Press SOUND MODE repeatedly until the	SOUND MODE	DYNAMIC	DRAMA
desired sound mode is selected.	~{m} +	† _	+
	\sim	♪PERSONAL	⁻ ♪SOFT

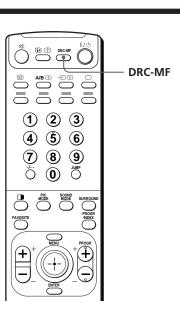
Select	То
"DYNAMIC"	listen to dynamic and clear sound that emphasizes both the low and high tones.
"DRAMA"	listen to sound that emphasizes voice and high tones.
"SOFT"	receive soft sound.
"PERSONAL"	receive the last adjusted sound setting from the "ADJUST" option in the "A/V CONTROL" menu (see page 33).

Тір

• You can also set the picture and sound modes using the menu (see "Changing the "A/V CONTROL" setting" on page 32).

Viewing higher quality pictures – "DRC-MF"

The Digital Reality Creation-Multi Function (DRC-MF) feature allows you to enjoy higher quality pictures on your TV. You can select "DRC1250" to watch super real (higher resolution) pictures, or "DRC100" to reduce flicker if necessary.



DRC-MF: DRC1250

Press DRC-MF repeatedly until you receive the desired picture quality.

Select	То
"DRC1250"	select higher resolution pictures.
"DRC100"	reduce flicker on the screen.

DRC-MF

Тір

 When the broadcast signal is weak, you may see some dots or noise on the TV screen. To reduce this interference, display the "A/V CONTROL" menu and select "ADJUST" in "PICTURE MODE", then adjust "SHARP" to reduce the sharpness (see page 33).

Note

• The DRC-MF mode is not selectable when using the "PROGRAM INDEX" or "FAVORITE CH" feature, or when the "GAME MODE", Picture-In-Picture ("PIP"), or "TWIN" mode is turned "ON".

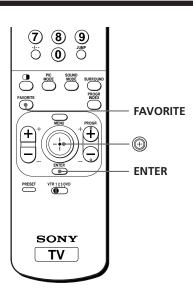
The DRC-MF logo (Digital Reality Creation MF) and "DRC-MF" are trademarks of Sony Corporation.

DRC-MF: DRC100

Viewing your favorite channels – "FAVORITE CH"

You can display seven favorite channels for quick and easy selection.

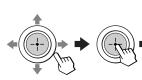
The last seven channels selected with the number buttons are displayed in "AUTO" mode. You can set up your own favorite channels in "MANUAL" mode under the "FAVORITE CH" menu (see "Changing the favorite channel setting" on page 41).



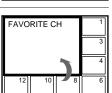
Selecting a favorite channel

Press FAVORITE.

2 Move ⊕ up, down, left or right to select the desired channel (e.g. PR 8), then press ⊕.



FAVORITE



8

FAVORITE CH

12

Press 🕀 again.



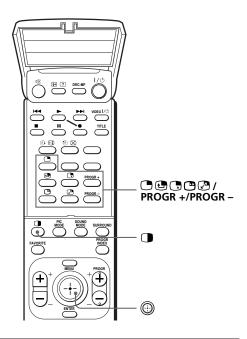


Note

• When you use your TV for the first time, seven preset channels appear.

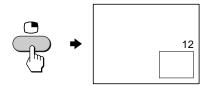
Watching two programs at the same time

With the Picture-in-Picture (PIP) or TWIN pictures features, you can display a different TV program or video within or beside the main picture.

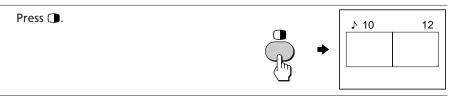


Displaying the PIP screen

Press 🕒.



Displaying TWIN pictures



To return to the normal screen

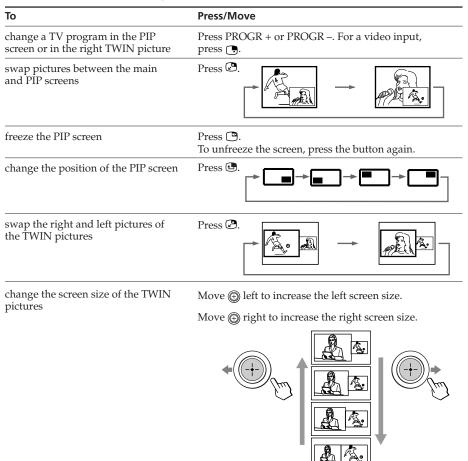
Press \bigcirc (when in the PIP screen) or \bigcirc (when in the TWIN picture screen).

Тір

• You can also display the PIP screen or TWIN pictures using the menu (see "Changing the MULTI PICTURE setting" on page 35).

Watching two programs at the same time (continued)

Additional PIP/TWIN pictures tasks

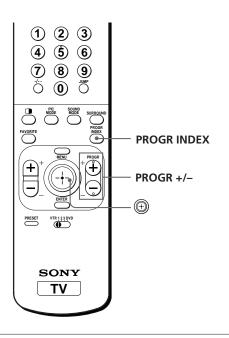


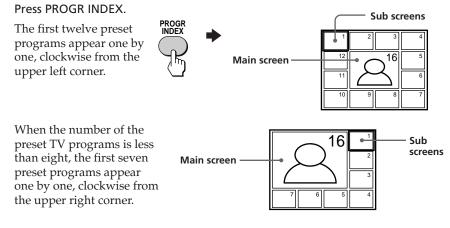
Notes

- The 🕒 button does not function in the TWIN pictures mode.
- When you display a video input on the PIP screen at a faster/slower speed, the picture may be disrupted depending on the VCR type.
- If you display different color systems on the main screen and the PIP screen, the size of the PIP screen may be different and the PIP picture may be disrupted. This does not indicate a malfunction of the TV.
- In the TWIN picture screen, you can only operate and hear the sound of the main left screen () appears on the screen).
- When the 🕕 button is pressed, the TV screen flickers or goes blank for about one second before the TWIN pictures appear. This does not indicate a malfunction of the TV.

Displaying multiple programs – "PROGRAM INDEX"

The PROGRAM INDEX feature displays all of the preset TV programs on twelve or seven sub screens for direct selection.





Тір

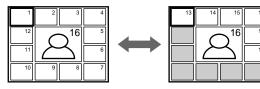
 When you press the PROGR INDEX button in the TWIN pictures mode, the left picture appears as the main screen of the PROGRAM INDEX mode.

Displaying multiple programs (continued)

To view the next or the previous twelve preset programs

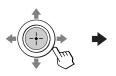
This works only when the number of the preset TV programs is more than twelve.

Press PROGR +/- on the remote or the TV.



To select the desired program directly from the sub screens

1 Move (up, down, left or right to move the frame to the screen of the program you want to watch.





2 Press (+).





3 Press 🕀 again.







Tip

• Pressing the number buttons directly displays the program.

To return to the normal screen

Press PROGR INDEX again, or:

- 1 Select "PROGRAM INDEX" from the "MULTI PICTURE" menu.
- 2 Press (+).

Тір

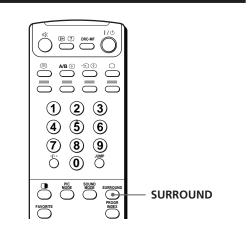
• You can also display multiple programs using the menu (see "Changing the MULTI PICTURE setting" on page 35).

Note

• When displaying multiple programs, only the sound of the main screen is heard.

Listening with surround sound

The surround feature enables you to enjoy the sound effects of a concert hall or movie theater.



Press SURROUNE repeatedly until receive the desir surround sound.	you SURROUND	SURROUND: VIRTUAL	SURROUND: TruSurround
Select	То		
"DO VIRTUAL"	listen to Dolby* S	round encoded sound.	
"TruSurround"	listen to the surr	nd sound that spreads or	ut to the rear of a room.
"SIMULATED"	listen to monaur	ound with a stereo-like	effect.
"OFF"	turn off the surro	d sound.	

Notes

- The Virtual Dolby Surround of this model consists of Dolby Digital, Dolby Pro Logic and TruSurround.
- The "□□ VIRTUAL" (Virtual Dolby Digital) is only available when receiving a Dolby Digital signal through the DIGITAL IN (component video input) jack at the rear of your TV and "DIGITAL IN: ON" in the "A/V CONTROL" menu is selected (see pages 7 and 32).
- When using the DIGITAL IN (component video input) jack at the rear of your TV, the available surround modes depend on the type of digital signal being received.
- SIMULATED uses SRS (MONO).
- * Manufactured under license from Dolby Laboratories Licensing Corporation. DOLBY, the double-D symbol DD and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

"**TruSurround**"" is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos.4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents".

Enjoying stereo or bilingual programs

(KV-ES34M91/ES34M31/ ES29M31 only)

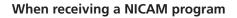
You can enjoy stereo sound or bilingual programs of NICAM and A2 (German) stereo systems.

€? A/B (\$) (2) 3 (1) (4) **(**5) 6 7 8 9

Press A/B repeatedly until you receive the sound you want. A/B (=) The on-screen display changes to show the selected sound and the

NICAM

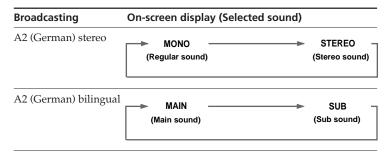
O indicator on the TV lights up red.



Broadcasting	On-screen display (Selected sou	nd)
NICAM stereo	→ NICAM (Stereo sound)	→ MONO - (Regular sound)
NICAM bilingual	→ NICAM → NICAM - MAIN SUB (Main sound) (Sub sound)	──► MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound)	→ MONO - (Regular sound)

Enjoying stereo or bilingual programs (continued)

When receiving an A2 (German) program



Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

If the sound is distorted or noisy when receiving a monaural program through the $\exists \Gamma$ (antenna) terminal

Press A/B repeatedly until "MONO" appears on the screen.

To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.

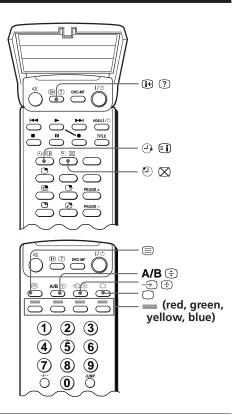


Notes

- The "MONO" or "AUTO" setting is memorized for each program position.
- You cannot receive a stereo broadcast signal when the TV is in the "MONO" setting. Normally, set the TV to "AUTO".

Viewing Teletext (KV-ES34M91/ES34M81/ ES34M31/ES29M81/ES29M31 only)

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.



Displaying Teletext

Select a TV channel that carries the Teletext broadcast you want to watch.

2 Press ≡ to display the text.

A Teletext page (normally the index page) is displayed. If there is no Teletext broadcast, "100?" is displayed at the top left corner of the screen after approximately 10 seconds.



P166 SECT	EXT	166 FR1	MAR 03	:59:09
		TRAVE		\supset
From Singa	pore Dav	Dep/Arr	Flight	Aircraf
To PARIS	1.6 2 3	220/0588 2130/1225	SQ28	747 L15 747
To OSAKA	$^{2.5}_{4.6}$	1000/1715 0930/2015	8Q6 CX522	747 L10
To ROMA	2.7 4	2130/0745 2300/0915	SQ24 AZ487	747 747
To SYDNEY	2	2210/0610 2100/0835	SQ21A SQ21A	747 747

To turn off Teletext

Press \Box .

Viewing Teletext (continued)

Additional Teletext tasks

То	Do this
display a Teletext page on the TV picture	Press $\textcircled{=}$. Each time you press $\textcircled{=}$, the screen changes as follows: Teletext \rightarrow Teletext and TV \rightarrow TV.
check the contents of a Teletext service	Press (i). An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page.* If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/
hold (pause) a Teletext page (stop the page from scrolling)	Press ⊕ to display the symbol " " at the top left corner of the screen. To resume normal Teletext viewing, press ⊕ or ⊜.
reveal concealed information (e.g., an answer to a quiz)	Press ⑦. To conceal the information, press the button again.
enlarge the Teletext display	Press \textcircled{e} . Each time you press \textcircled{e} , the Teletext display changes as follows: Enlarge upper half \rightarrow Enlarge lower half \rightarrow Normal size.
stand by for a Teletext page while watching a TV program	 Enter the Teletext page number that you want to refer to, then press ⊗. When the page number is displayed, press ⊜ to show the text.

* You can also select a Teletext page of any page number that appears in the colored column at the bottom of the screen using the corresponding color-coded button on the remote.

Using FASTEXT

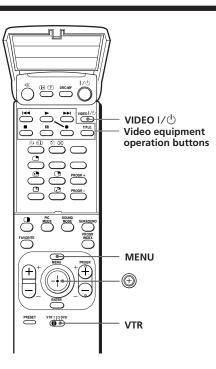
This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT program is broadcast, colored menus appear at the bottom of the screen. The color of each menu corresponds to the color-coded buttons on the remote (red _____, green ____, yellow ____, and blue _____).

To access a FASTEXT menu

Press the color-coded button on the remote corresponding to the menu you want. The menu page appears on the screen after a few seconds.

Operating optional components

You can use the supplied remote to operate Sony video equipment such as Beta, 8 mm, VHS or DVD.



Setting up the remote to work with other connected equipment

Switch VTR to select the desired equipment type (see the chart below).

For example, to operate a Sony 8 mm VCR:



To control	Select
DVD	DVD
VTR1 (Beta)	1
VTR2 (8 mm)	2
VTR3 (VHS)	3

Notes

- If your video equipment is furnished with a COMMAND MODE selector, set this selector to the same position as the VTR switch.
- If the equipment does not have a certain function, the corresponding button on the remote will not operate.

Operating optional components (continued)

Operating a VCR using the remote

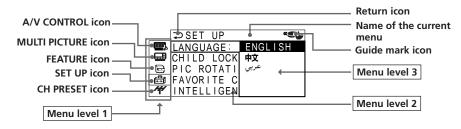
То	Press
turn on/off	VIDEO I / 也
record	\blacktriangleright while pressing $ullet$.
play	
stop	
fast forward (►►)	
rewind the tape (44
pause	11
	Press again to resume normal playback.
search the picture forward (\blacktriangleright)	►► or ►► during playback.
or backward (Release to resume normal playback.

Operating a DVD player using the remote

То	Press
turn on/off	VIDEO I / 也
play	•
stop	
pause	■ Press again to resume normal playback.
step through different tracks of an audio disc	►► to step forward or ►► to step backward.
display the title menu	TITLE
display the menu	MENU while holding down ●.
select the menu item	Move ⊕ up, down, left or right while holding down ●.

Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



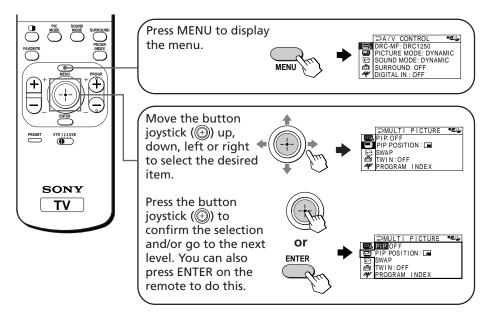
Level 1	Level 2	Level 3/Function
"A/V CONTROL"	"DRC-MF"	Select the "DRC-MF" mode: "DRC1250" \rightarrow "DRC100"
ш <u>ъ</u>	"PICTURE MODE"	Select the picture mode: "DYNAMIC" \rightarrow "STANDARD" \rightarrow "HI-FINE" \rightarrow "PERSONAL" \rightarrow "ADJUST"
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" \rightarrow "COLOR" \rightarrow "BRIGHT" \rightarrow "HUE" \rightarrow "SHARP"
	"SOUND MODE"	Select the sound mode: "DYNAMIC" \rightarrow "DRAMA" \rightarrow "SOFT" \rightarrow "PERSONAL" \rightarrow "ADJUST"
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" \rightarrow "TREBLE" \rightarrow "BALANCE" \rightarrow "BBE"*
	"SURROUND"	Select the "SURROUND" mode: "DU VIRTUAL" \rightarrow "TruSurround" \rightarrow "SIMULATED" \rightarrow "OFF"
	"DIGITAL IN"	Activate or deactivate the digital audio input jack at the rear of your TV.
"MULTI	"PIP"	Activate or deactivate the PIP feature.
PICTURE"	"PIP POSITION"	Change the position of the sub screen.
_	"SWAP"	Swap the pictures between the main and sub screens.
	"TWIN"	Display a TV program or video beside the main screen.
	"PROGRAM INDEX"	Display all the preset TV programs at the same time.
"FEATURE"	"WIDE MODE"	Activate or deactivate WIDE MODE feature.
	"ECO MODE"	Activate or deactivate ECO MODE feature.
	"GAME MODE"	Activate or deactivate GAME MODE feature.

Introducing the menu system (continued)

Level 1	Level 2	Level 3/Function
"SET UP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文 " (Chinese) → " عربي " (Arabic)
	"CHILD LOCK"	Lock out specific channels.
	"PIC ROTATION"	Rotate the picture.
	"FAVORITE CH"	Set favorite channels.
	"INTELLIGENT VOL"	Adjust the volume automatically.
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.
44	"MANUAL PROGRAM"	Preset channels manually.
	"SKIP"	Skip unwanted or unused program numbers.
	"TV SYS"	Select the TV system: "B/G" \rightarrow "I" \rightarrow "D/K" \rightarrow " M"
	"COL SYS"	Select the color system: "AUTO" \rightarrow " PAL" \rightarrow "SECAM" \rightarrow "NTSC3.58" \rightarrow "NTSC4.43"

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



Other menu operations

То	Press/Move
Adjust the setting value	Move 🕀 up, down, left or right.
Move to the next/previous menu level	Move 🕀 left or right.
Cancel the menu	Press MENU.

Tips

- The MENU, ENTER, and → +/- buttons on the TV can also be used for the operations above.

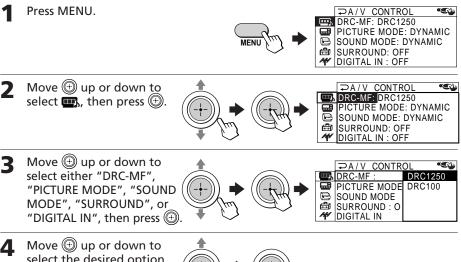
Note

• If more than 60 seconds elapse between entries, the menu screen automatically disappears.

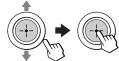
Changing the "A/V **CONTROL**" setting

MENU ()ENTER

The "A/V CONTROL" menu allows you to adjust the picture and sound settings.



▲ Move ⊕ up or down to select the desired option, then press (+).



For	Select
"DRC-MF"	either "DRC1250" or "DRC100".
"PICTURE MODE"	either "DYNAMIC", "STANDARD", "HI-FINE", "PERSONAL"*, or "ADJUST".
"SOUND MODE"	either "DYNAMIC", "DRAMA", "SOFT", "PERSONAL"*, or "ADJUST".
"SURROUND"	either "DD VIRTUAL", "TruSurround", "SIMULATED", or " OFF".
"DIGITAL IN"	either "ON" or "OFF".
	en the "PERSONAL" mode is selected, the last adjusted picture/sound ngs from the "ADJUST" option are received (see page 33).

Tip

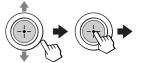
• For details on the options under the "DRC-MF", "PICTURE MODE"/ "SOUND MODE", "SURROUND" and "DIGITAL IN" modes, see pages 15, 14, 22 and 34 respectively.

To return to the normal screen

Press MENU.

Adjusting the "ADJUST" options under "PICTURE MODE"

Move ⊕ up or down to select the desired item (e.g., "COLOR"), then press ⊕.



7 Adjust the value according to the following table, then press \oplus .

For	Move 🕀 down or left to	Move 🕀 up or right to
"PICTURE"	decrease picture contrast	increase picture contrast
"COLOR"	decrease color intensity	increase color intensity
"BRIGHT"	darken the picture	brighten the picture
"HUE"*	increase red picture tones	increase green picture tones
"SHARP"	soften the picture	sharpen the picture
	* You can adjust "HUE" for the	NTSC color system only.

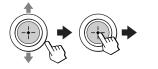
Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Adjusting the "ADJUST" options under "SOUND MODE"

Move ⊕ up or down to select the desired item (e.g., "BALANCE"), then press ⊕.

2



BALANCE 00

Adjust the value according to the following table, then press $$		
For	Move 🚱	
"BASS"	down or left to decrease the bass, up or right to increase the bass.	
"TREBLE"	down or left to decrease the treble, up or right to increase the treble.	
"BALANCE"	down or left to increase the left speaker's volume, up or right to increase the right speaker's volume.	
"BBE"	up or down to select "HIGH", "LOW", or "OFF". "BBE" can produce clear sound.	

Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Changing the "A/V CONTROL" setting (continued)

Setting the "DIGITAL IN" options

 In the "DIGITAL IN" menu, move ⊕ up or down to select the desired option (see table below).



Select	То
"ON"	receive digital audio signal through 🐨 DIGITAL IN (component video input) jack.
"OFF"	receive analog audio signal through 편 L and R (component video input) jack.

2 Press (1) to confirm the selected option.



Note

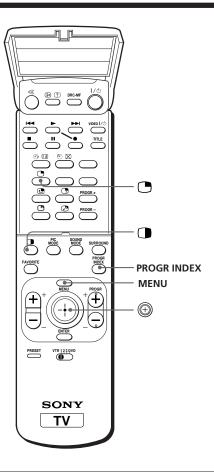
• Your TV can only receive Dolby Digital or Linear PCM format digital signals through the 🐨 DIGITAL IN (component video input) jack (see page 7). Receiving any other format digital signal may cause unwanted noise or no sound from the speakers.

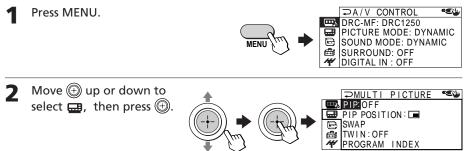
Тір

• For details on the menu system and how to use the menu, refer to "Introducing the menu system" on page 29.

Changing the "MULTI PICTURE" setting

The "MULTI PICTURE" menu allows you to use the Picture-in-Picture (PIP), TWIN pictures, or PROGRAM INDEX features.





Changing the "MULTI PICTURE" setting (continued)

Move (1) up or down to select the desired option (see the table below), then press (1).		
Select	То	
"PIP"	display the PIP screen within the main picture. Move ⊚ up or down to select "ON", then press ⊕. To cancel, press ⊖ or select "OFF", then press ⊕.	
"PIP POSITION"	change the position of the PIP screen. Move (a) up or down to select the desired position, then press(
"SWAP"	swap the main and PIP screens, or right and left pictures of the TWIN pictures.	
"TWIN"	display a different TV program or video beside the main pictur Move ③ up or down to select "ON", then press ④. To cancel, press ① or select "OFF", then press ⑤.	
"PROGRAM INDEX"	view multiple programs on the sub-screens. To cancel, press PROGR INDEX.	

To return to the normal screen

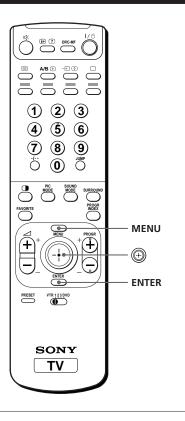
Press MENU.

Тір

• For details on the menu system and how to use the menu, see "Introducing the menu system" on page 29.

Changing the "FEATURE" setting

The "FEATURE" menu allows you to change the size of the picture on the screen when receiving wide mode (16:9) picture signals. You can also adjust the picture setting that is suitable for viewing video games, and reduce the power consumption of your TV.



Press MENU.



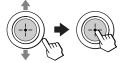
 →A/V CONTROL
 DRC-MF: DRC1250
 PICTURE MODE: DYNAMIC
 SOUND MODE: DYNAMIC
 SURROUND: OFF
 DIGITAL IN : OFF

2 Move ⊕ up or down to select ⊨, then press ⊕.

continued

Changing the "FEATURE" setting (continued)

3 Move ⊕ up or down to select the desired option (see the table below), then press ⊕.



Select	То
"WIDE MODE"	change the size of the picture when receiving wide-mode (16:9) picture signal.

Move ⊕ up or down to select "ON", then press ⊕.





To restore the normal picture size, select "OFF" then press 🕀.

"ECO MODE"	reduce power consumption of your TV to save energy.
	Move \textcircled{O} up or down to select "ON", then press \textcircled{O} . To cancel, select "OFF", then press \textcircled{O} .
"GAME MODE"	adjust the picture setting that is suitable to view video games.
	Move ⊕ up or down to select "ON", then press ⊕. To cancel, select "OFF", then press ⊕.

Notes

- When you turn on "ECO MODE", the picture may become dimmer. Turning "ECO MODE" off will restore the picture to its original setting.
- "WIDE MODE" and "GAME MODE" is available only when receiving signals through the ⊕ (video input), ⊕ (S video input), or
 (component video input) jacks at the side and rear of your TV.
- If "ECO MODE" is on, the ECO MODE (to mill appear at the bottom right corner of the screen when you turn on the TV or when you press i on the remote (see pages 10 and 11).

To return to the normal screen

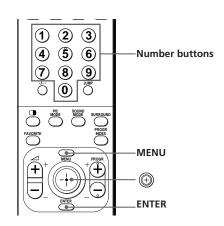
Press MENU.

Tip

• For details on the menu system and how to use the menu, see "Introducing the menu system" on page 29.

Changing the "SET UP" setting

The "SET UP" menu allows you to: change the menu language, block channels, adjust the picture position, program your favorite channels, and adjust the volume automatically.



1	Press MENU.	⇒A/V CONTROL © DRC-MF: DRC1250 PICTURE MODE: DYNAMIC SOUND MODE: DYNAMIC BURROUND: OFF ✓ DIGITAL IN : OFF
2	Move ⊕ up or down to select 册, then press ⊕.	⇒SET UP ✓
3	Move 🕀 up or down to select the desired option, then press 🕀.	

Select	То		
"LANGUAGE"	change the menu language (see page 12).		
"CHILD LOCK"	block channels (see page 40).		
"PIC ROTATION"	adjust the picture position when it is not aligned with the TV screen. Move (a) up or right to adjust the position clockwise, then press (b). Move (c) down or left to adjust the position counterclockwise, then press (c). PIC ROTATION ELISE		
"FAVORITE CH"	select your favorite channels (see pages 16 and 41).		
"INTELLIGENT VOL"	adjust the volume of all TV program automatically. Move ⊕ up or down to select "ON", then press ⊕. To cancel, select "OFF", then press ⊕.		

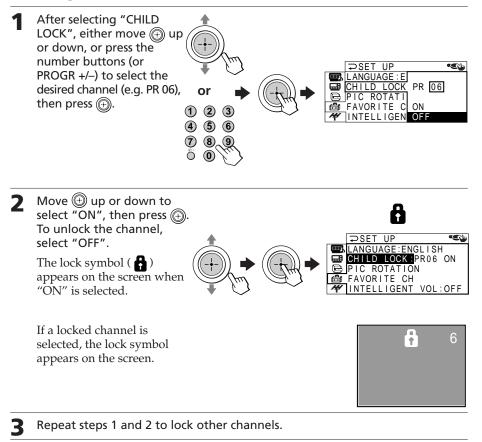
To return to the normal screen

continued

Press MENU.

Changing the "SET UP" setting (continued)

Blocking channels ("CHILD LOCK")



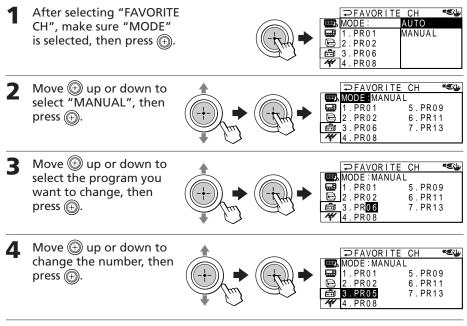
To return to the normal screen

Press MENU.

Note

• If you preset a locked channel, that channel will be unlocked automatically (see page 42).

Changing the favorite channel setting



5 Repeat steps 3 and 4 to set other channels.

To return to the normal screen

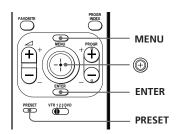
Press MENU.

Note

• If you press the PROGR +/- buttons or number buttons in step 4 above, the TV will display the channel immediately.

Changing the "CH PRESET" setting

The "CH PRESET" menu allows you to adjust the setup of your TV. For example, you can manually tune in a channel with a weak signal that fails to be tuned in by automatic presetting.



	Press MENU.	MENU DE CONTROL MENU DE CONTROL MENU DE CONTROL MENU MENU MENU MENU MENU MENU MENU MENU
2	Move 💮 up or down to select 🚧 , then press 💮.	→ CH PRESET → AUTO PROGRAM → MANUAL PROGRAM → SKIP: PR02 OFF → TV SYS: B/G → COL SYS: AUTO
}	Move \bigoplus up or down to select the desired option, then press \bigoplus .	
	Select	То
	"AUTO PROGRAM"	preset channels automatically.
	"MANUAL PROGRAM"	preset channels manually. See "Presetting channels
		manually" on page 43.
	"SKIP"	manually" on page 43. skip unwanted or unused channels.
	"SKIP" "TV SYS"	 inanually" on page 43. skip unwanted or unused channels. 1 Either move (a) up or down, or press the number buttons (or PROGR +/-) until the unused or unwanted channel number appears, then press (a). 2 Select "ON", then press (a). 3 To disable other channels, repeat steps 1 and 2.

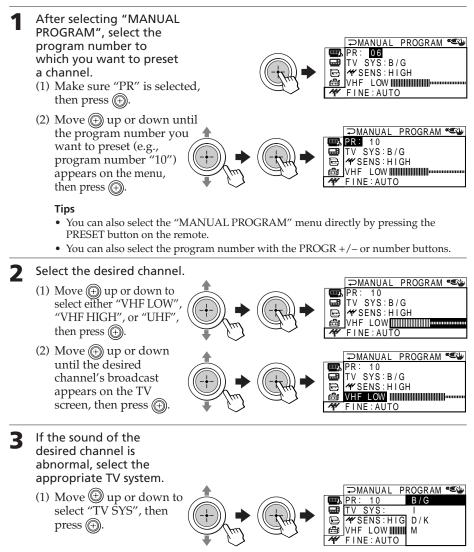
To return to the normal screen

Press MENU.

Tip

• For details on the menu system and how to use the menu, refer to "Introducing the menu system" on page 29.

Presetting channels manually



(2) Move (1) up or down until the sound becomes normal, then press (1).

continued

⊃MANUAL PROGRAM ≪♥

VHF LOW

10

▦

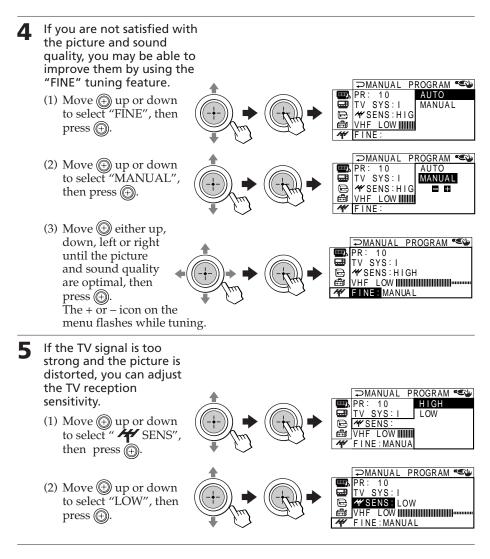
e

SYS: I

₩ SENS : HIGH

FINE: AUTO

Changing the "CH PRESET" setting (continued)



To return to the normal screen

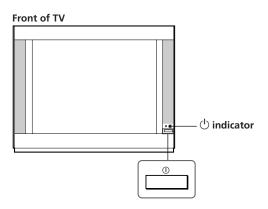
Press MENU.

Notes

- The TV system ("TV SYS") and the TV reception sensitivity (" 🍄 SENS") settings are memorized for each program number.
- If you preset a locked channel, that channel will be unlocked automatically (see page 40).

Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the \bigcirc (standby) indicator flashes red. The number of times the \bigcirc indicator flashes indicates the possible causes.



- 1 Check that the \bigcirc indicator flashes red a number of times between 3-second intervals.
- **2** Count the number of times the \bigcirc indicator flashes.
- **3** Press ① (main power) to turn off your TV.
- Inform your nearest Sony service center about the number of times the ⁽¹⁾ indicator flashed. Be sure to note the model name and serial number located on the rear of your TV.

Troubleshooting

If you have any problem while viewing your TV, please check the following troubleshooting guide. If the problem persists, contact your Sony dealer.

	Possible cause	Solutions	Page
Symptom	The connection is		Page
Snowy picture	loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	4
	• Channel presetting is inappropriate or incomplete.	• Press the PRESET button to display the "MANUAL PROGRAM" menu and preset the channel again.	43
Noisy sound	• The antenna type is inappropriate.	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	-
	• The antenna direction needs adjustment.	• Adjust the antenna direction. Contact a Sony dealer for advice.	-
	• Signal transmission is low.	• Try using a booster.	-
Distorted picture	• Broadcast signals are too strong.	 Press the PRESET button to display the"MANUAL PROGRAM" menu. Then, select " # SENS: LOW". 	44
a Re		• Turn off or disconnect the booster if it is in use.	-
Noisy sound			
Good picture	• The TV system setting is inappropriate.	• If the sound of all the channels are noisy, display the "CH PRESET" menu and select "AUTO PROGRAM" to preset the channels again.	42
Noisy sound		• If the sound of some channels is noisy, select the channel, then display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	43
	• The digital audio signal is inappropriate.	• Set "DIGITAL IN: OFF" in the "A/V CONTROL" menu and connect ↔ L and R (component video input) on your TV to receive analog audio signals.	7, 34
No picture	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and the VCR connections.	4
	• The TV is not turned	• Press I/ (power).	10
No sound	on.	• Press ① (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	11
Y * *			

Symptom	Possible cause	Solutions	Page
Good picture	• The volume level is too low.	 Press → + to increase the volume level. 	11
	• The sound is muted.	• Press 🕸 to cancel the muting.	11
No sound	• The broadcast signal has a transmission problem.	• Press A/B until a better sound is heard.	23
	• The digital audio signal is inappropriate.	• Set "DIGITAL IN: OFF" in the "A/V CONTROL" menu and connect L and R (component video input) on your TV to receive analog audio signals.	7,34
	• The "DIGITAL IN" setting in the "A/V CONTROL" menu is inappropriate.	• When connecting to 🐨 (component video input) on your TV, set "DIGITAL IN: ON" to receive digital audio signals through 🐨 DIGITAL IN, or set "DIGITAL IN: OFF" to receive analog audio signals through 🐨 L and R.	34
Dotted lines or stripes	• There is local interference from	• Do not use a hair dryer or other equipment near the TV.	-
	cars, neon signs, hair dryers, power generators, etc.	• Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	_
Double images or "ghosts"	Broadcast signals are reflected by nearby mountains or buildings	Use a highly directional antenna.Use the fine tuning ("FINE") function.	- 44
a the co	 mountains or buildings. The antenna direction needs adjustment. 	 Adjust the antenna direction. Contact a Sony dealer for advice. 	-
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	_
No color	• The color level setting is too low.	• Display the "A/V CONTROL" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	33
	• The color system setting is inappropriate.	• Display the "CH PRESET" menu and check the color system ("COL SYS") setting (usually set this to "AUTO").	42
	• The antenna direction needs adjustment.	• Adjust the antenna direction. Contact a Sony dealer for advice.	-
Abnormal color patches	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Locate external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ① (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	-

continued

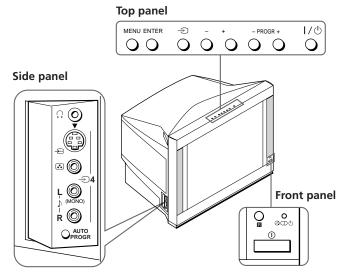
Troubleshooting (continued)

Symptom	Possible cause	Solutions	Page
TV cannot receive stereo broadcast signal. (KV-ES34M91/ ES34M31/ES29M31 only)	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	23
Stereo broadcast sound switches on and off or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	4
is distorted. O	• The antenna direction needs adjustment.	• Adjust the antenna direction. Contact a Sony dealer for advice.	-
The sound switches between stereo and monaural frequently. (KV-ES34M91/ ES34M31/ES29M31 only)	• The broadcast signal has a transmission problem.	• Press A/B until a better sound is heard.	23
"100?" appears at the top of the screen after approximately 10 seconds and there is no Teletext display. (KV-ES34M91/ ES34M81/ES34M31/ ES29M81/ES29M31 only)	• The channel carries no Teletext broadcast.		25
Teletext display is incomplete	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR, and at the wall.	4
(snowy picture or double images). (KV-ES34M91/	• The antenna direction is inappropriate.	• Adjust the antenna direction. Contact a Sony dealer for advice.	-
ES34M81/ES34M31/ ES29M81/ES29M31 only)	• Signal transmission is too low.	Try using a booster.Use the fine tuning (FINE) function.	- 44
Picture slant	• Terrestrial magnetism is affecting your TV set.	 Display the "SET UP" menu and adjust "PIC ROTATION" so that the picture is aligned to the TV screen. 	39
Lines moving across the TV screen.	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.	• Use the fine tuning ("FINE") function.	44
The \bigcirc indicator on your TV flashes red a number of times between 3-second intervals.	• Your TV may need servicing.	Contact your nearest Sony service center.	45

Symptom	Possible cause	Solutions	Page
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For detail, see the instruction manual supplied with the video game software.		_
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.		_
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	_	-
Static discharge is felt when touching the TV cabinet.	• This is the same static discharge that is felt when touching metal door handles or car doors especially when the air is dry, for example in winter. This does not indicate a malfunction.	_	_

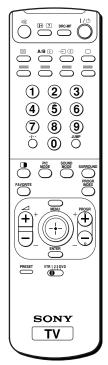
Identifying parts and controls

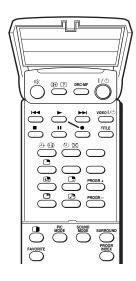
Front, top and side panels



	Button	Function	Page
Sid	Side panel		
	\mathbf{G}	Headphone jack.	-
	AUTO PROGR	Preset channels automatically.	5
Fro	ont panel		
	0	Turn off completely or turn on the TV.	10
То	Top panel		
	ЧŲ	Turn off temporarily or turn on the TV.	10
	PROGR +/-	Select program number.	10
	⊿ +/-	Adjust volume.	11
	\mathbb{A}	Select TV or video input.	11
	ENTER	Confirm selected items.	31
	MENU	Display the menu.	31

Remote control





The names/symbols of buttons on the remote are indicated in different colors to represent the available functions.

Label color Button function		
White	For general TV operations	
Green	For Teletext operations	
Yellow	For PIP operations	

Button	Function	Page
1/也	Turn off temporarily or turn on the TV.	10
PROGR +/-	Select program number.	10
0 – 9, -/	Input numbers.	10
i +	Display on-screen information.	11
¤X	Mute the sound.	11
0	Display the TV program.	11
\rightarrow	Select TV or video input.	11
+/-	Adjust volume.	11
JUMP	Jump to previous channel.	11
Timer operations		
Ð	Set TV to turn on automatically.	13
Q	Set TV to turn off automatically.	13
SOUND MODE	Select sound mode.	14
PIC MODE	Select picture mode.	14
DRC-MF	Select DRC-MF mode.	15
Favorite Channel operations		
FAVORITE	Display favorite channels.	16
\odot	Select desired channel.	16
PIP and Twin pictu	ire operations	
	Display the PIP screen.	17
	Display TWIN pictures.	17
•	Adjust Twin picture size.	18
PROGR +/ PROGR –	Change program in PIP/ Twin picture.	18
	Select video input for PIP/ Twin picture.	18
	Swap main and PIP/Twin picture.	18
	Freeze PIP screen.	18
	Adjust position of PIP screen.	18
		atinuad

continued

Identifying parts and controls (continued)



Program Index operations PROGR INDEX Display all preset TV programs. PROGR +/- View next/previous 12 programs. @ Select desired channel. SURROUND Select surround mode. Stereo/bilingual operations Select stereo/bilingual news/previous 12 programs. @ Select desired channel. SURROUND Select surround mode. Stereo/bilingual operations Select stereo/bilingual news/previous 12 programs. (KV-ES34M91/ES34M31/ES29M31 only) Select stereo/bilingual news/previous 12 programs. Teletext operations (KV-ES34M91/ES34M81/ES29M31 only) Teletext operations (KV-ES34M91/ES34M81/ES29M31 only)	20		
PROGR INDEX Display all preset TV programs. PROGR +/- View next/previous 12 programs. Image: Constraint of the system of the sy	TV 20 20 22		
programs. Image: Select desired channel. SURROUND Select surround mode. Stereo/bilingual operations (KV-ES34M91/ES34M31/ES29M31 only) A/B Select stereo/bilingual n Teletext operations (KV-ES34M91/ES34M ES34M31/ES29M81/ES29M31 only)	20 22		
SURROUNDSelect surround mode.Stereo/bilingual operations(KV-ES34M91/ES34M31/ES29M31 only) A/BSelect stereo/bilingual nTeletext operations(KV-ES34M91/ES34MES34M31/ES29M81/ES29M31 only)	22		
Source of the second se			
(KV-ES34M91/ES34M31/ES29M31 only) A/B Select stereo/bilingual in Teletext operations (KV-ES34M91/ES34M ES34M31/ES29M81/ES29M31 only)			
ES34M31/ES29M81/ES29M31 only)	mode. 23		
Display Teletext broadco			
Display Teletext service co			
Stop Teletext page from so	-		
Reveal concealed inform			
 Enlarge the Teletext disp 			
Show TV screen while w for Teletext page.	vaiting 26		
0 - 9 Input Teletext page nun	nber. 26		
PROGR +/- Display the next or previou	us page. 26		
(red, green, Access a FASTEXT men yellow, blue)	iu. 26		
Optional components operations			
VTR Set up the remote.	27		
VIDEO I / 🕛 Power.	28		
TITLE Display the title menu.	28		
► Play.	28		
►► Fast forward/Search for	rward. 28		
Rewind/Search backwa	ard. 28		
• Record.	28		
Stop.	28		
Pause.	28		
Menu operations			
MENU Display the menu.	31		
Select, adjust and confir selected items.	rm 31		
ENTER Confirm selected items.	31		
PRESET Display "MANUAL 4 PROGRAM" menu.			

Specifications

		KV-ES29M81 KV-ES29M80 KV-ES29M31	KV-ES34M91 KV-ES34M81 KV-ES34M80 KV-ES34M31	Note
Pow	er requirements	110-240 V AC, 50/60 Hz		
Pow	er consumption (W)	Indicated on the rear of th		
Telev	ision system	B/G, I, D/K, M		
Color system		PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58		
Stereo/Bilingual system		NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual (German) B/G		KV-ES34M91/ES34M31/ ES29M31 only
Telet	ext language	English, Arabic, French	KV-ES34M91/ES34M81/ ES34M31/ES29M81 ES29M31 only	
Channel coverage B/G		VHF : E2 to E12 / UHF : E21 to E69 / CATV : S01 to S03, S1 to S41		
	I	UHF: B21 to B68 / CATV		
	D/K	VHF : C1 to C12, R1 to R1 to R60 / CATV : S01 to S0		
	Μ	VHF : A2 to A13 / UHF : A CATV : A-8 to A-2, A to W		
(Aı	ntenna) 75-ohm external terminal			
Audio output (Speaker)		15W + 15W		10% distortion
Num	ber of terminal			
	🐼 (Video)		hono jacks; 1 Vp-p, 75 ohms	
	Audio)	1 1	hono jacks; 500 mVrms	
	- Ə (S Video)	u u	4: 1 Vp-p, 75 ohms, Inbalanced, sync negative 2: 0.286 Vp-p, 75 ohms	
	∹ (Component Video)	Y Sy C C	hono jacks : 1 Vp-p, 75 ohms, /nc negative 8: 0.7 Vp-p, 75 ohms 8: 0.7 Vp-p, 75 ohms udio: 500 mVrms	
	DIGITAL IN			
	ု (Headphone)	Output: 1 St	tereo minijack	
Picture tube		29 in.	34 in.	
	Tube size (cm)	72	86	Measured diagonally
	Screen size (cm)	68	80	Measured diagonally
Dimensions (w/h/d, mm)		$722\times 561\times 524$	$859\times650\times573$	
Mas	s (kg)	56	84	

Design and specifications are subject to change without notice.