Panasonic

Operating Instruction
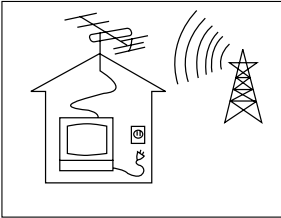
Colour Television
TC-29P22R

Please read the operating instructions completely before operating this set.
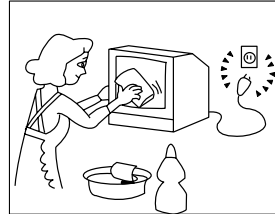
TQB4G0628

Dear Panasonic customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new colour television.
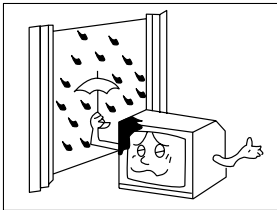
Safety Instructions

The TV set can be operated on AC AUTO 110/240V, 50/60Hz

The cabinet and picture tube can be kept in good condition by simply wiping with a clean, soft cloth moistened with mild detergent and water. Do not use solutions containing benzol, petroleum or a chemical cloth. For safety, remove the plug from the wall outlet.
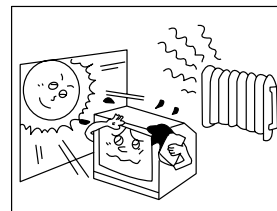
To prevent damage which may result in fire or electrical shock, do not expose the TV set to rain or excessive moisture.
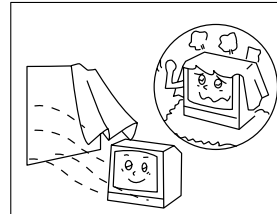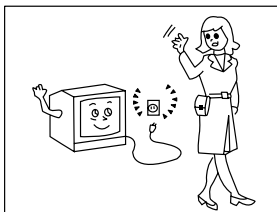
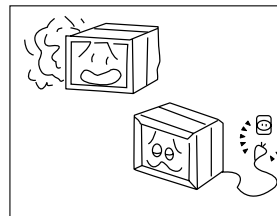Adequate ventilation is essential to prevent failure of electrical components.
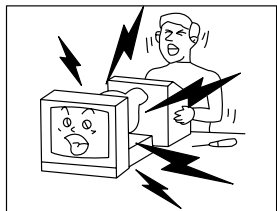
Do not remove the rear cover, as live parts are accessible when it is removed.

Avoid exposing the TV set to direct sunlight and other source of heat.

Remove the plug from the wall outlet (Power point) when the TV set is not used for a prolonged period of time.

Do not use this set if abnormal operation occurs.
EX: smoke, odd sounds or smells, turn the power switch off and disconnect the AC power if you notice any unusual operation.

Before Operating This Set

Connect the Aerial Cable to the RF In Terminal
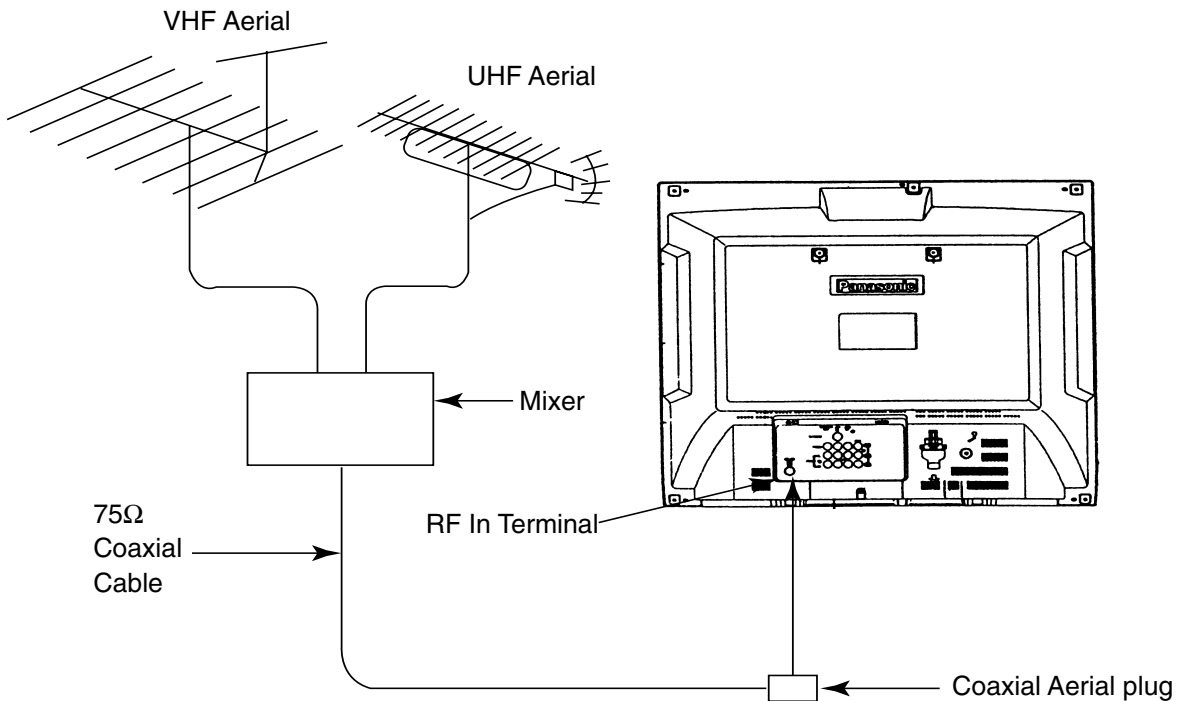
To obtain the best quality picture and sound, an external antenna, the correct cables (75 Ohm coaxial) and the correct terminating plug will be required.

If a communal antenna system is used, you may require the correct connection cable and plugs between the wall antenna socket and your television receiver.

Your local Television Service Dealer may be able to assist you in obtaining the correct antenna system for your particular area and accessories required.

Any matters about antenna installation, upgrading of existing systems or accessories required, and the cost incurred, are the responsibility of the customer.
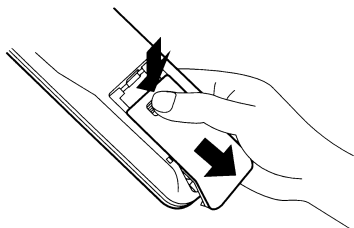
Note :
If your existing antenna system uses 300 Ohm to 75 Ohm Balun, see Below.
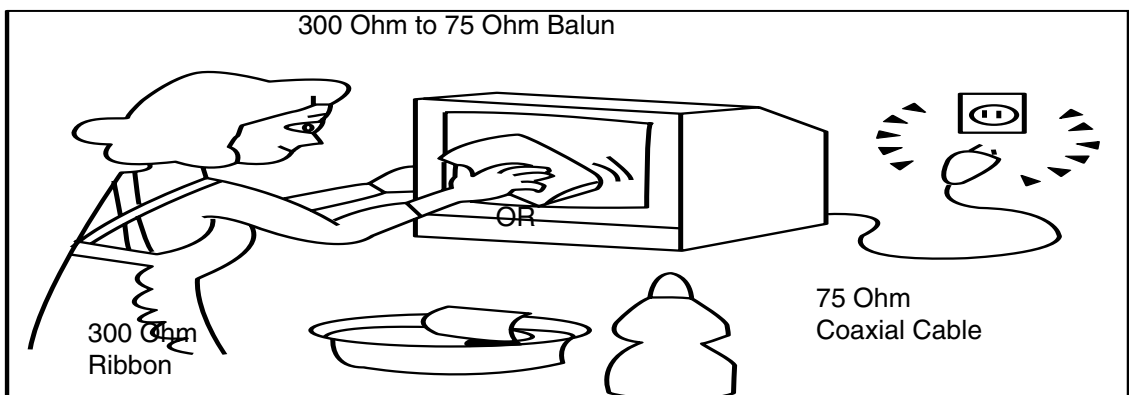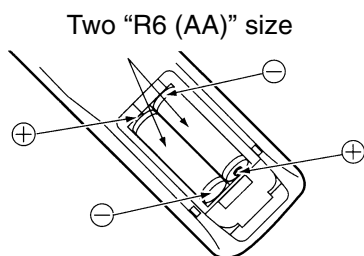
Before Operating This Set

Battery Installation

1

Open the cover.
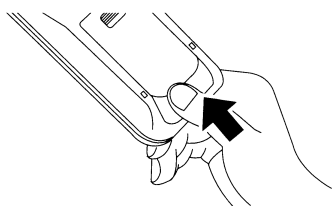Apply slight downward pressure while pulling towards the bottom.

2

Two "R6 (AA)" size

Batteries: Use two "R6 (AA)" size batteries.
Insert the batteries ensuring correct polarity.
This is identifiable by the "+" and "–" symbols on both the batteries and inside the battery compartment.
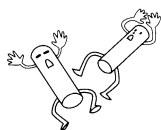
3

Replace the cover.

Do not use rechargeable (Ni-Cd) batteries.
They are different in shape and performance and may fail to ensure correct operation.

⚠ Battery cautions

The incorrect use of batteries can cause electrolyte leakage which will corrode the Remote Control or cause the batteries to burst.
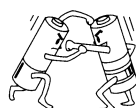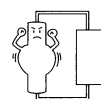
Old Batteries   New Batteries
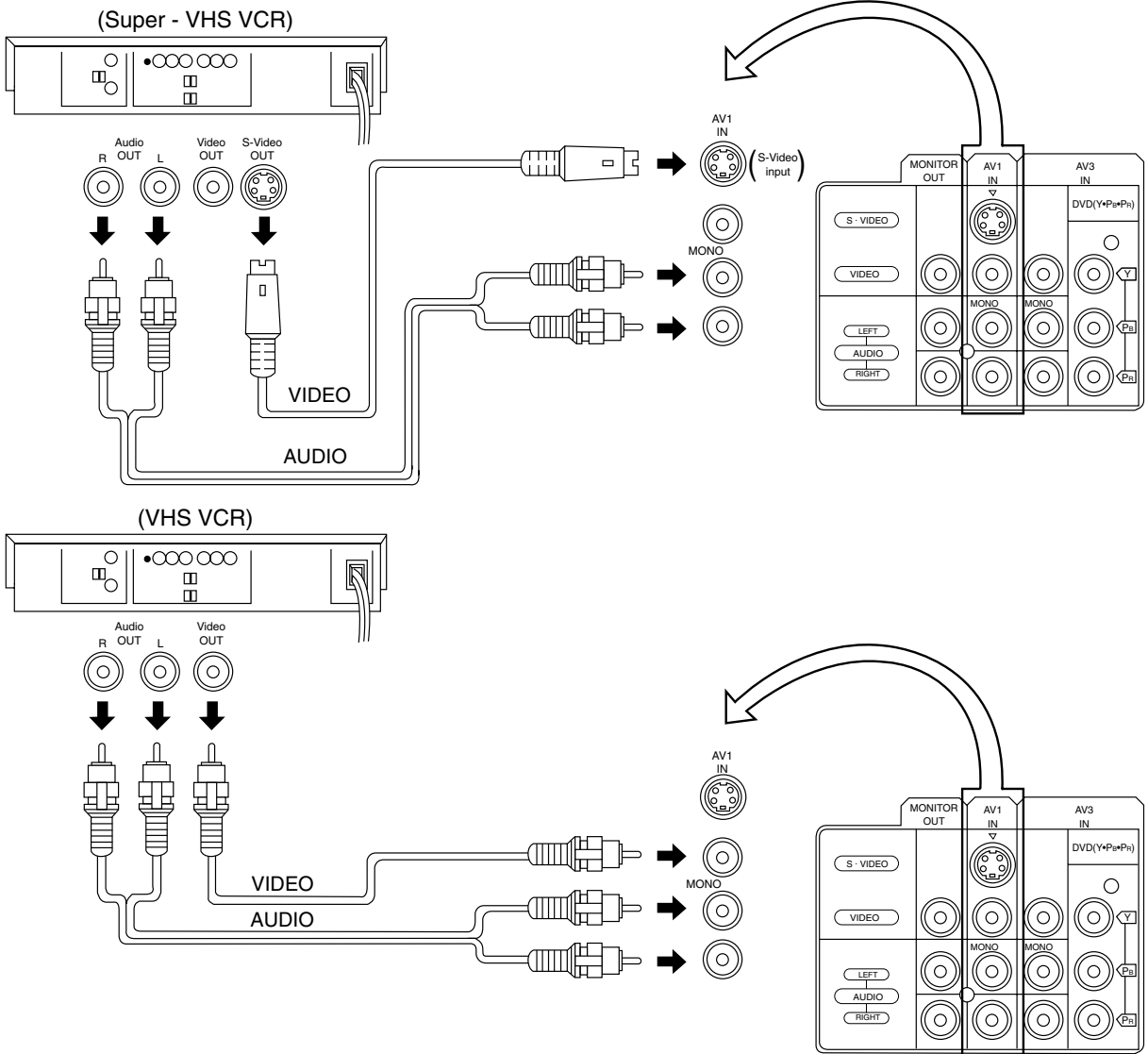
Replacement both batteries at the same time.   Don't mix battery types
(alkaline with carbon zinc. etc.)

Don't Recharge.

Connections

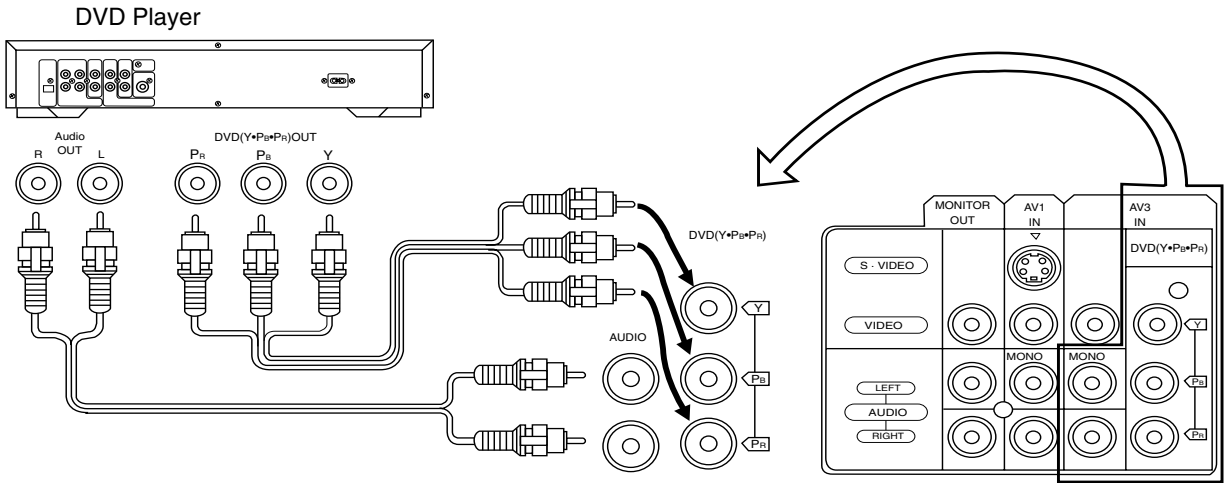### How to connect the "AV1, AV2 or AV3" Input Terminals

Note:

(1)   When AV1, AV2 or AV3 is selected, and that AV mode has no input picture signal, the background Colour of the TV screen will change (This only occur if the Blue-Back function is set to the ON condition).

(2)   When an S-Video cable is connected to the S-Video terminal, the Video input will be automatically switched off for the AV mode.

(3)   When a Monaural VCR is used, connect the Monaural Audio cable to the Audio "L" (Left) terminal.

(4)   Similar connections are available at the AV1, AV2 and AV3 input terminals. Select the desired AV input position by pushing the "TV/AV" button.

(5)   The AV3 audio input terminals serves as the audio input terminal for both the video input and for the DVD input.

Connections

How to connect the DVD Input Terminals

DVD Player

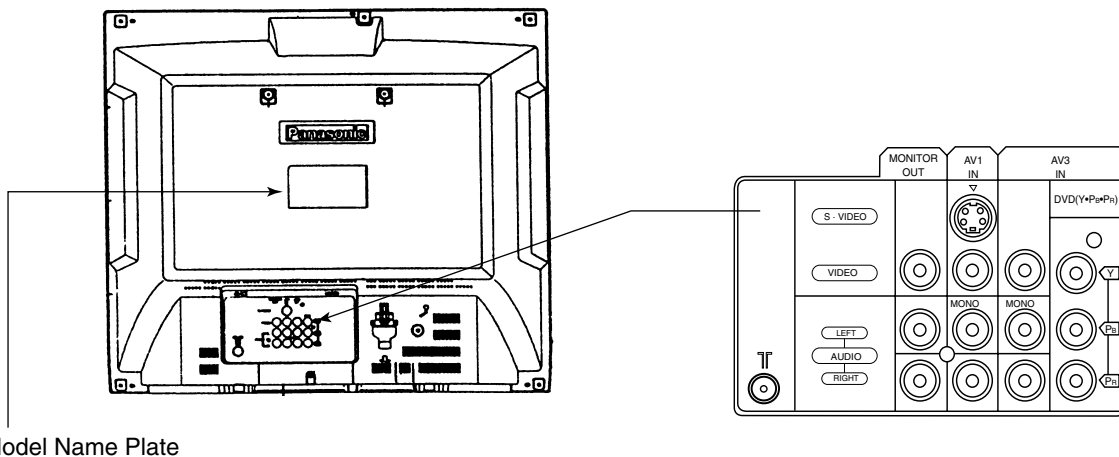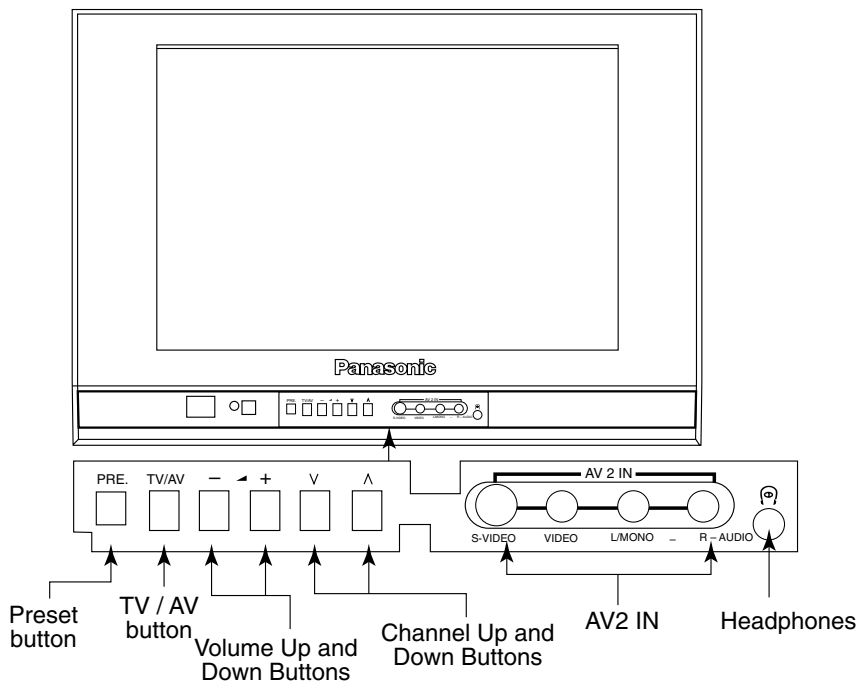### How to connect the AV Monitor Output Terminals to other Equipment

The "Monitor Out" terminal output the same signals as main picture on the TV screen and sound from the speaker at that time. e.g. TV programmes or signals from AV1, AV2 or AV3 input.

Recording Equipment
(VHS VCR)
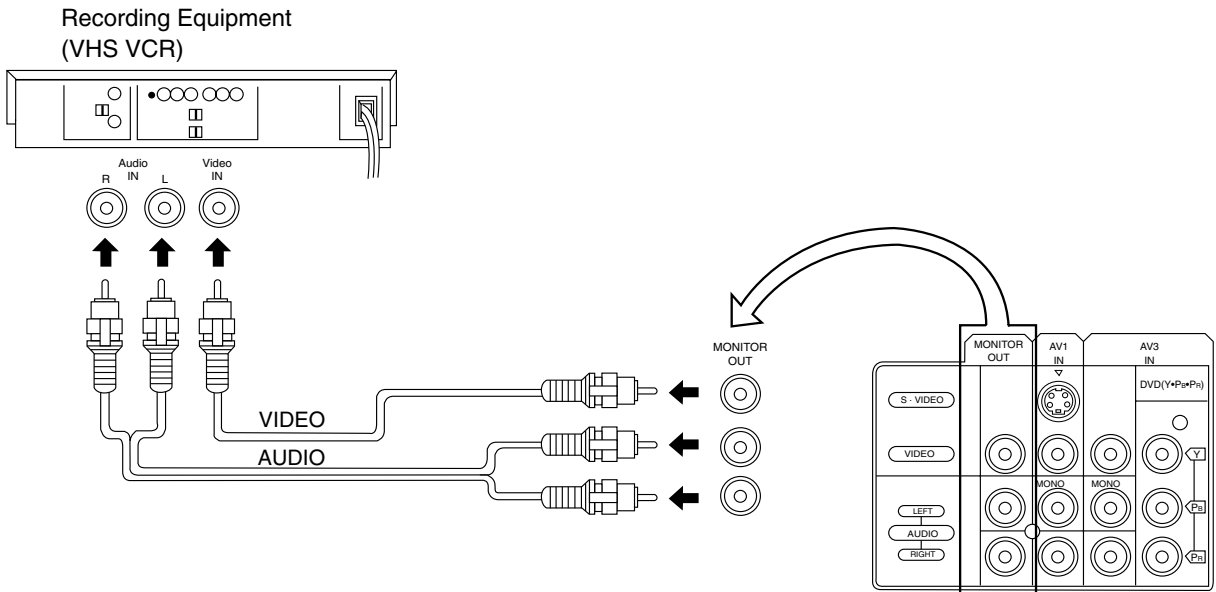
Note:

(1) Never connect the same video recorder with both the VIDEO IN and MONITOR OUT terminals on this TV set, as this could cause incorrect operation.
(2) The monitor output emits the main picture normal video and audio signals.
(3) Teletext display on screen will not be output at the MONITOR OUT terminals.
(4) The DVD signal (Y, P_B, P_R) is not output at the MONITOR out terminals.
(5) The DVD signal input terminal takes priority over the AV3 Video input terminal.

Location of Control (TV)

Preset button

TV / AV button

Volume Up and Down Buttons

Channel Up and Down Buttons

AV2 IN

Headphones

Model Name Plate

Connecting Headphones

When a headphones plug is inserted into the Headphones socket all speakers will be automatically disconnected; only the Headphones will function.
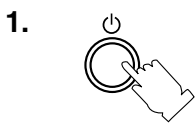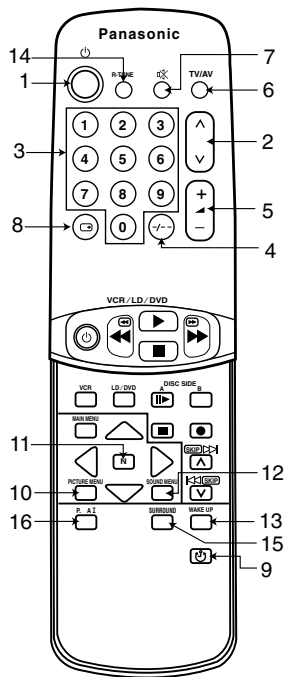

(Optional)
(not supplied)
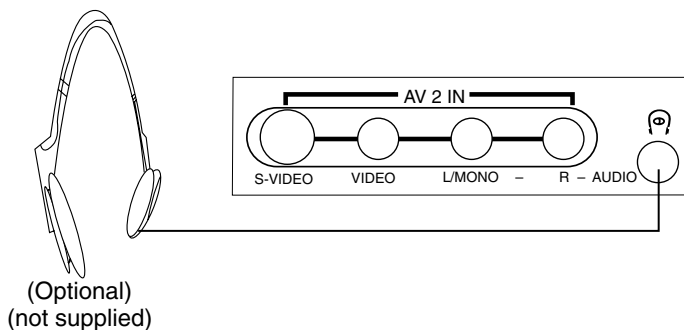
Flow Chart of Main Menu

When the "MAIN MENU" button is pushed at the main menu screen, the screen display will return to the normal viewing condition. When the "MAIN MENU" button is pushed at each MENU screen (Picture, Sound, Features, Language, Preset), the screen display will return to the Main Menu screen.

Push	MAIN MENU ⬜				
Select	◁ ▷				
Symbol Mark	🖼	🔊	✋	🗣	🔌
On-Screen Indication	PICTURE	SOUND	FEATURES	LANGUAGE	PRESET
Push	▽	▽	▽	▽	▽

On-Screen Indication (example)

Column 1 — PICTURE

DYNAMIC
- 32 COLOUR
- 32 NTSC–TINT
- 32 BRIGHT
- 63 CONTRAST
- 32 SHARPNESS
- STD COLOUR TEMP

⬍

DYNAMIC
- 32 COLOUR
- 32 NTSC–TINT
- 32 BRIGHT
- 63 CONTRAST
- 32 SHARPNESS
- STD COLOUR TEMP

⬍

DYNAMIC
- 32 COLOUR
- 32 NTSC–TINT
- 32 BRIGHT
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⬍

DYNAMIC
- 32 COLOUR
- 32 NTSC–TINT
- 32 BRIGHT
- 63 CONTRAST
- 32 SHARPNESS
- STD COLOUR TEMP

Column 2 — SOUND

SPEECH
- 28 BASS
- 45 TREBLE
- 32 BALANCE
- OFF BASS BOOST
- OFF LOUDNESS
- OFF AVL

⬍

SPEECH
- 28 BASS
- 45 TREBLE
- 32 BALANCE
- OFF BASS BOOST
- OFF LOUDNESS
- OFF AVL

⬍

SPEECH
- 28 BASS
- 45 TREBLE
- 32 BALANCE
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SPEECH
- 28 BASS
- 45 TREBLE
- 32 BALANCE
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- OFF LOUDNESS
- OFF AVL

⬍

SPEECH
- 28 BASS
- 45 TREBLE
- 32 BALANCE
- OFF BASS BOOST
- OFF LOUDNESS
- OFF AVL

Column 3 — FEATURES

- PICTURE AI ON
- BLUE BACK ON
- CH COLOUR SET STD
- CHILD LOCK OFF
- VCR/GAME OFF

⬍

- PICTURE AI ON
- BLUE BACK ON
- CH COLOUR SET STD
- CHILD LOCK OFF
- VCR/GAME OFF

⬍

- PICTURE AI ON
- BLUE BACK ON
- CH COLOUR SET STD
- CHILD LOCK OFF
- VCR/GAME OFF

⬍

- PICTURE AI ON
- BLUE BACK ON
- CH COLOUR SET STD
- CHILD LOCK OFF
- VCR/GAME OFF

⬍

- PICTURE AI ON
- BLUE BACK ON
- CH COLOUR SET STD
- CHILD LOCK OFF
- VCR/GAME OFF

Column 4 — LANGUAGE

LANGUAGE
- ENGLISH
- 中文
- РУССКИй
- العربية

⬍

语言
- ENGLISH
- 中文
- РУССКИй
- العربية

⬍

ЯЗЫК
- ENGLISH
- 中文
- РУССКИй
- العربية

⬍

اللغة
- ENGLISH
- 中文
- РУССКИй
- العربية

Column 5 — PRESET

88 PRESET
- AUTO TUNE
- MANUAL TUNE
- SOUND SYS 5.5MHz
- COLOUR SYS AUTO
- FINE TUNE
- SKIP OFF
- POS. CHANGE 88
- GEOMAGNETIC 8

⬍

88 PRESET
- AUTO TUNE
- MANUAL TUNE
- SOUND SYS 5.5MHz
- COLOUR SYS AUTO
- FINE TUNE
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88 PRESET
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88 PRESET
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- MANUAL TUNE
- SOUND SYS 5.5MHz
- COLOUR SYS AUTO
- FINE TUNE
- SKIP OFF
- POS. CHANGE 88
- GEOMAGNETIC 8

8

General Operation
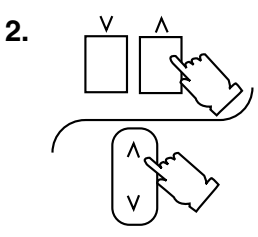

1.	⏻	**To Switch Power on/off**

The TV set must be switched on at the wall outlet and at the Main power switch.
Press this button to turn the TV set ON, from stand-by mode. Press it again to turn off.
Note:
When in the stand – by condition, it is possible to turn the TV set on by pushing the
Direct Programme Number Selection button (0-9) or the Programme Number up and
Down button.

---

2. **Programme Number Selection**

Press the programme number Up
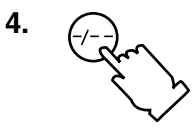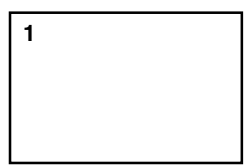" ∧" or down " ∨ " Button to select
the next higher or lower
programme number.

---
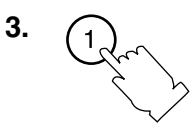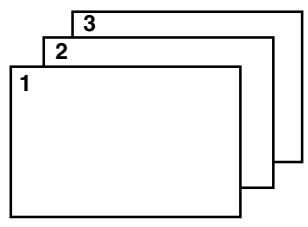
3. **Direct Programme Number Selection**

(0 - 9)

e. g. To select programme
number "1", press the "1"
button.

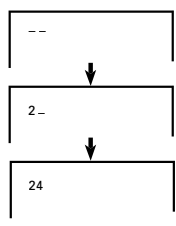
4. **Two Digit Programme Number Selection**

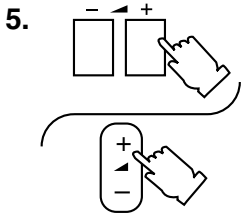e.g. To select Programme Number "24".

Push the ⊙ button.

Push the ② button.

Push the ④ button.
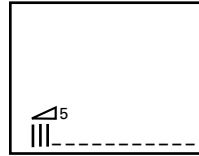
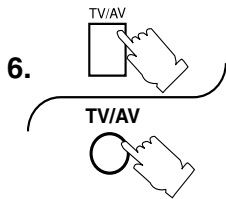| Setting range	0 ~ 99

General Operation

5.

Volume Adjustment

Push the Volume Up or Down button to increase or decrease the sound volume level.

Note :

The on screen display will indicate both numerically and graphically the volume level. Numeric levels start at " 0 " for zero or no sound, and will increase up to 63 which is the maximum sound level.
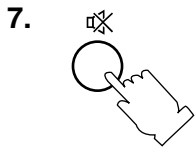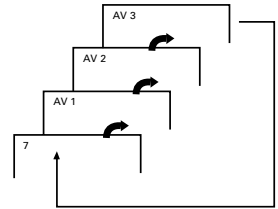
6.

TV/AV

TV/AV

TV / AV Selection

Push the " TV/AV " button to select TV, AV1, AV2 and AV3 input signal modes sequentially.

Note:

If a clear picture cannot be obtained or even when a AV signal is received, refer to the "Colour System Selection" operation on page 19.
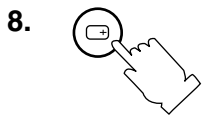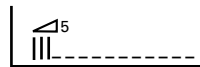
7.

Sound Mute Button

Push this button to mute the Sound completely.
Push the button once again to restore the previous sound level, and cancel the mute.

The " Mute " symbol will appear. (Colour changes to Red)

8.

Recall Button

Push the RECALL button to display the current system status.
Press this button until display is cancelled.

9.

Off Timer Button

The TV set may be preset to switch to stand-by after a fixed period.
By pressing "Off-Timer" button, you can select the preset time either 30, 60, or 90 minutes.

30 → 60 → 90
0 ← AUTO
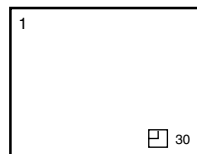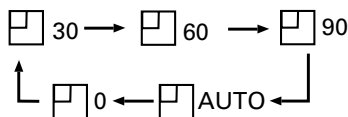
When the off-timer reaches its last 3 minutes, it starts blinking before going to stand-by condition.
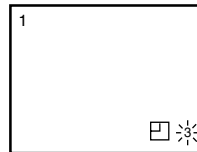
Note :

Setting Off-timer to AUTO mode.If the set is not switched off, when the TV station ends broadcasting, it will automatically go to the stand-by condition after 5 minutes. This AUTO mode will not operate when the TV receiver is in AV mode.

How to cancel the OFF-timer setting:

1. Set the preset time condition to "0" mode by pressing the Off -timer button.
2. Turning the TV set off.

10. PICTURE MENU

Picture Menu Operation

By pressing the PICTURE MENU button, you can sequentially select the Picture menus as shown below:

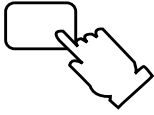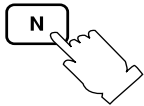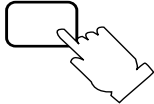| On-screen	Function
DYNAMIC	For watching in brighter environments. This menu selects a higher than normal level of contrast.
STANDARD	For watching in normal (evening) environments. This menu selects normal level of contrast.
SOFT	For watching in dark environments. This menu selects reduced level of contrast.

11. N

Normal (N) Button

By pushing the Normal "N" button on the Remote Control while Picture or Sound Control Function is displayed, the selected function will be changed to the Normal Mode. Normalization will not occur if the function is not displayed when the "N" button is pushed. The Normal mode is the factory preset condition. Returning to this original condition is called "Normalization".

12. SOUND MENU

Sound Menu Operation

By pressing the SOUND MENU button, you can sequentially select the Sound menus as shown below:

On-screen	Function
MUSIC	For music programme for example.
SPEECH	For News programme for example.
MOVIE	For movie programme for example.

13. WAKE UP
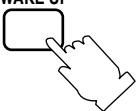
Wake Up Timer Button

1. Press the " WAKE UP TIMER" button.

2. Press the position left or right button to select the wake up timer. (Wake up timer will increase or decrease by 10 minutes when left or right button is pressed.)

Note :

Wake up time can be set up to 12 hours.

3. After setting the wake up timer, switch the TV set to stand-by mode. (LED light will blink ON and OFF during stand-by mode)

```
99
⊡ WAKE UP TIMER        OFF
```

```
99
⊡ WAKE UP TIMER       00:10
```
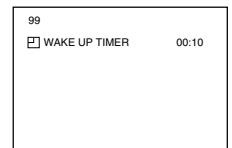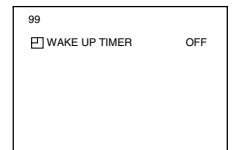
4. When the time Wake Up timer has elapsed in the
   set will automatically switch on. (Press any button
   to cancel the Wake Up timer on screen
   display.)

WAKE UP TIMER

⊡ 90

Note :

i) After the Wake Up time is set and the TV mode is still not switched off, the Wake Up timer
    will continue to count down until the timer is off.

ii) When Wake Up timer switch ON the TV set, the off timer is set to 90 minutes mode
    automatically. Press any button to cancel the off-timer. If no button is pressed, the TV set
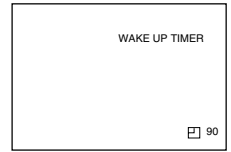   will switch off automatically after 90 minutes.

5. To cancel the Wake Up timer.
   You can choose any of the following:

i)   Switch off the main power.

ii) Press the position left or right button, until OFF is reached.

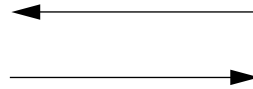iii) Press the NORMALIZE button when Wake Up timer OSD is displayed.

---

14. R-TUNE

Rapid Tune Button

Push the button to access previously viewed channel.
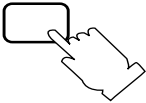
PRESENT CHANNEL
BEING VIEWED

LAST VIEWED
CHANNEL

---

15. SURROUND

Surround Sound Operation

The benefit of surround sound are enormous. With additional speakers you can be
completely enveloped in sound; just as if you were at a concert hall or cinema.
The surround effect does operate without external surround speakers, but is enhanced
when they are connected. Such near surround speakers should not be sited in direct
proximity to the listeners.

On-screen display during surround mode.

	Type of broadcast	ON-Screen display
TV mode	MONO	MONO SURROUND ↓ SURROUND OFF
AV mode	Select AV mode	STEREO SURROUND ◀ ↓ MONO SURROUND ↓ SURROUND OFF

16.

P. AI
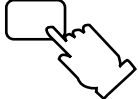
Picture AI Mode

The Picture AI continuously detect fine differences in the picture signal, with great
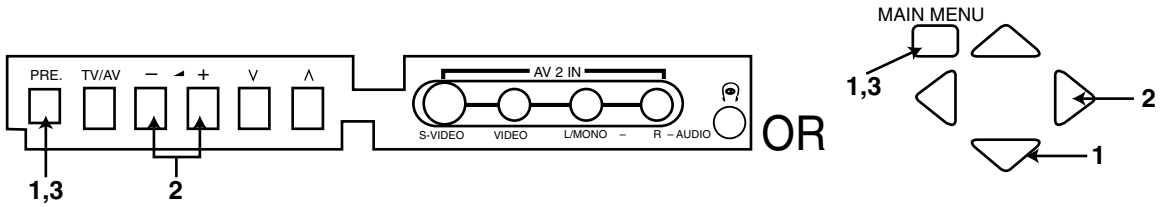precision, and including the picture brightness, contrast and etc.
The function Automatically adjusts the picture to the best quality for the scene, and
reproduces images that provide a sense of depth.
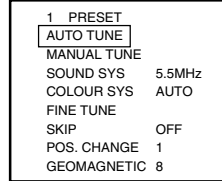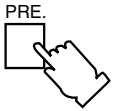The Picture AI mode will change as shown:

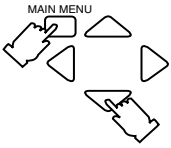ON ◀——▶ OFF

Tuning Procedure

Automatic Tune

1.	Press the "PRE" (PRESET) button, until "AUTO TUNE" function is selected.	Channel Number Automatic Tune condition.
	Press the "MAIN MENU" and "Position" buttons, until "AUTO TUNE" function is selected.	

```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS    5.5MHz
COLOUR SYS   AUTO
FINE TUNE
SKIP         OFF
POS. CHANGE  1
GEOMAGNETIC  8
```

2.	Press the Volume Up " + " button.	Search start.

```
1


AUTO TUNE
– – I – – – – – – – – – –
```

	Press the Position Right button.	The best tuning position is automatically memorized.

```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS    5.5MHz
COLOUR SYS   AUTO
FINE TUNE
SKIP         OFF
POS. CHANGE  1
GEOMAGNETIC  8
```

3.	Press the " PRE " (PRESET) button 8 times.	This returns the set to the normal viewing condition.
	After all stations are tuned, press the "MAIN MENU" button twice.	
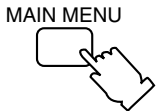
Tuning Procedure

Manual Tune
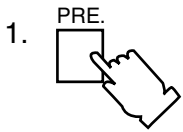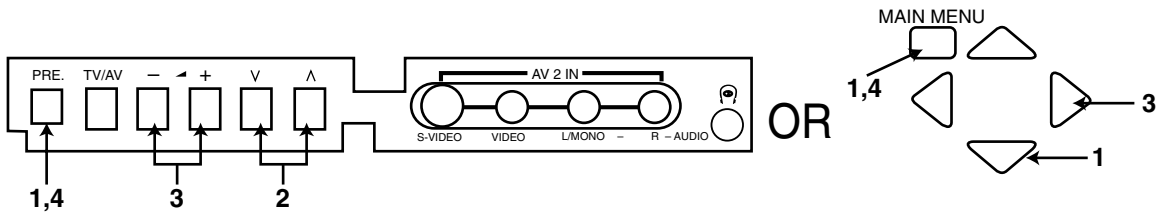
1. Press the "PRE" (PRESET) button twice, setting the Manual Tune mode.

```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   1
GEOMAGNETIC   8
```
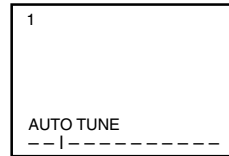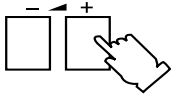
Channel Number
Manual Tune condition.
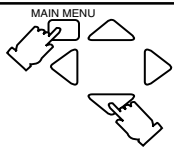
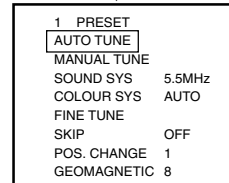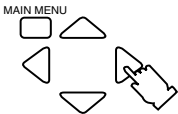Press the "MAIN MENU" and "Position" buttons, until "MANUAL TUNE" function is selected.
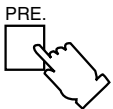
---
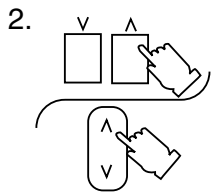
2. Press either the Channel Up or Down button.

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   2
GEOMAGNETIC   8
```

Select the desired Channel Number.

---
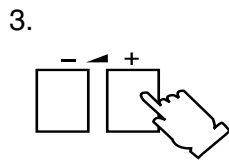
3. Press the Volume Up " + " or Down " – " button.
Volume " + " : Next higher Channel
Volume " – " : Next lower Channel

```
2


MANUAL TUNE
– – – –|– – – – – – – –
```

Search Start.
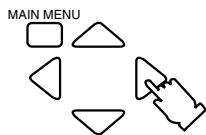
Press the Position Left or Right button.
Position left : Next lower Channel.
Position right : Next higher Channel.

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   2
GEOMAGNETIC   8
```

The best tuning position is automatically memorized.

---
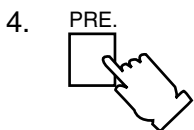
4. Press the "PRE" (PRESET) button 7 times.

This returns the set to the normal viewing condition.

Press the "MAIN MENU" button twice.

14
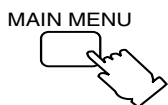
Tuning Procedure

Fine Tune
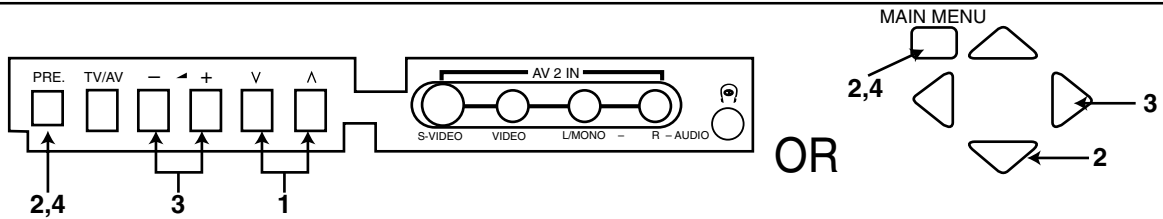
Under normal reception condition, this function is not used. However, in areas of poor reception or constant interference, a slight adjustment on the fine tuning can improve the picture and sound quality.

1.

Select the channel which you want to try to improve, using the Channel Up or Down buttons.

Select the desired Channel Number.

2.

PRE.

Press the " PRE." (PRESET) buttons 5 times, setting the Preset Menu to "Fine Tune".

```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    1
GEOMAGNETIC    8
```

Fine Tune condition.

MAIN MENU

Press the "MAIN MENU" and "Position" buttons, until "FINE TUNE" is selected.

3.

Press the Volume Up " + " or Down " – " button until the clear picture is received.

1

FINE TUNE
– – – –|– – – – – – – –

Fine Tune Start.

MAIN MENU

Press the Position Left or Right button until the clear picture is received.

```
■ 1   PRESET
  AUTO TUNE
  MANUAL TUNE
  SOUND SYS      5.5MHz
  COLOUR SYS     AUTO
  FINE TUNE
  SKIP           OFF
  POS. CHANGE    1
  GEOMAGNETIC    8
```

The AFC (Automatic Frequency Control) function is deactivated. The " ■ " symbol appears to the left of the Channel Number.

4.
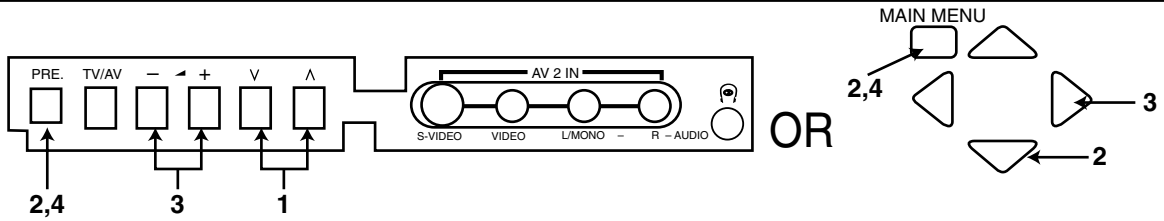
PRE.

Press the "PRE" (PRESET) button 4 times.

1

This returns the set to the normal viewing condition.

MAIN MENU

After all stations are tuned, press the "MAIN MENU" button twice.

15

How to cancel the Fine Tuning

Cancelling previously adjusted (manually) fine tuning, means re – activating the AFC (Automatic Frequency Control) Function, also known as AFT (Automatic Frequency Tuning). Re – activating the Automatic Frequency Tuning means allowing the set to automatically tune optimum tuning position, for that Channel Number.

1.	Select the "AFC OFF" Channel Number which you want to return to Automatic Frequency Control (Cancel the manual fine tuning).	1	"AFC OFF" Channel Numbers are indicated to you by the " ▪ " symbol to the left of the Channel Number.

2.	Press the " PRE." (PRESET) buttons twice, setting the Preset Menu to set to "MANUAL TUNE" mode.	▪1 PRESET AUTO TUNE MANUAL TUNE SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE SKIP OFF POS. CHANGE 1 GEOMAGNETIC 8	Manual Tune condition.
MAIN MENU	Press the "MAIN MENU" and "Position" buttons, until "MANUAL TUNE" function is selected.		

3.	Press the Volume Up " + " or Down " – " button briefly.	1 MANUAL TUNE – – – – – –┤– – – – – – –	The best tuning position is automatically memorized.
MAIN MENU	Press the Position Left or Right button briefly.	1 PRESET AUTO TUNE MANUAL TUNE SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE SKIP OFF POS. CHANGE 1 GEOMAGNETIC 8	

4.	Press the "PRE" (PRESET) button 7 times.	1	This returns the set to the normal viewing condition.
MAIN MENU	Press the "MAIN MENU" button twice.		

16
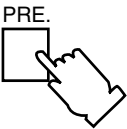
Tuning Procedure

How to Skip Programme Number

PRE. TV/AV − ◢ + ∨ ∧   AV 2 IN

S-VIDEO   VIDEO   L/MONO −   R − AUDIO

1,4   **3**   **2**

MAIN MENU

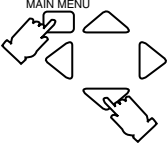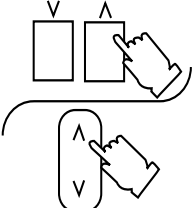**1,4**   **3**   **1**

OR
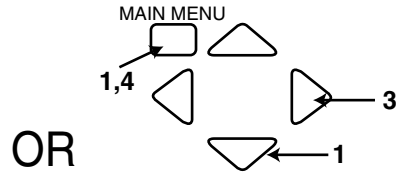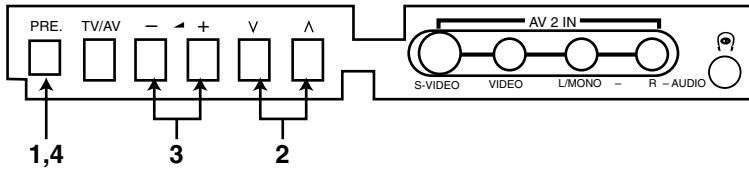
1.   PRE.

Press the " PRE." (PRESET) button 6 times, setting the Preset Menu to "SKIP".

```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   1
GEOMAGNETIC   8
```
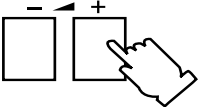
Channel Skip condition.

MAIN MENU

Press the "MAIN MENU" and "Position" buttons, until the Preset Menu to "SKIP" .
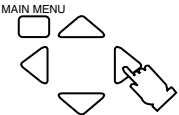
2.   ∨   ∧   ∧   ∨

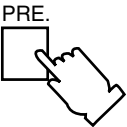Select a Programme Number you want to skip, by pushing the Channel number Up or Down buttons.

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   2
GEOMAGNETIC   8
```

3.   − ◢ +

Press the Volume Up " + " or Down " – " button.

The displayed "OFF" condition changes to "ON".

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          ON
POS. CHANGE   2
GEOMAGNETIC   8
```
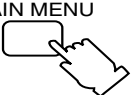
MAIN MENU

Press the Position Left or Right button.

4.   PRE.

Press the "PRE" button 3 times.

This returns the set to the normal viewing condition.

MAIN MENU

Press the "MAIN MENU" button twice.

How to Cancel the Skip Function

MAIN MENU

1,4

3

1

OR

PRE. TV/AV − ◢ + V Λ

AV 2 IN

S-VIDEO   VIDEO   L/MONO   −   R − AUDIO

1,4   3   2

---
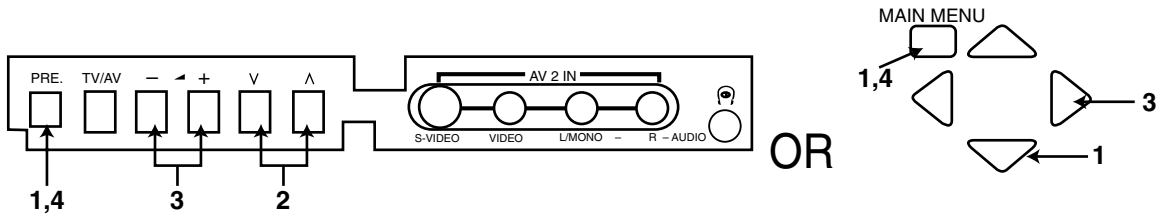
1. PRE.

Press the " PRE." (PRESET) buttons 6 times, setting the Preset Menu to "SKIP".
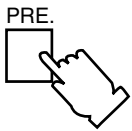
```
1   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   1
GEOMAGNETIC   8
```
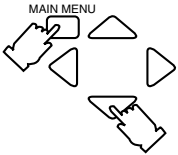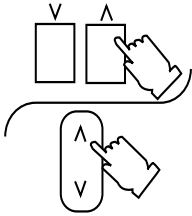
Channel Skip condition.

MAIN MENU

Press the "MAIN MENU" and "Position" buttons, until "SKIP" is selected.
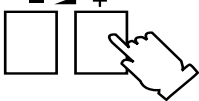
---

2. V Λ

Select the skipped Programme Number, by pressing the Channel Number Up or Down buttons.

Λ V

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          ON
POS. CHANGE   2
GEOMAGNETIC   8
```
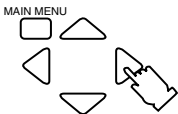
---

3. − ◢ +

Press the Volume Up " + " or Down " – " button.

```
2   PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS     5.5MHz
COLOUR SYS    AUTO
FINE TUNE
SKIP          OFF
POS. CHANGE   2
GEOMAGNETIC   8
```
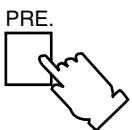
The displayed "ON" condition changes to "OFF".

MAIN MENU

Press the Position Left or Right button.

Repeat step 2 and 3, if you wish to cancel the Skip function on any other programme number.

---

4. PRE.

After the Skip Cancel operation is completed, press the " PRE " button 3 times.

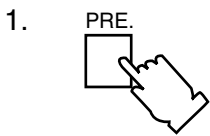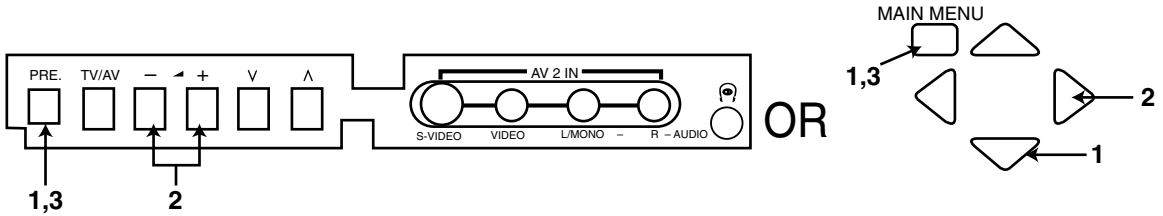This returns the set to the normal viewing condition.

MAIN MENU

After the Skip Cancel Operation is completed, press the " MAIN MENU " button twice.
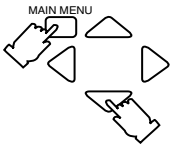
Tuning Procedure

Colour System Selection

Use this function if a clear picture with weak colour is obtained when a Broadcast or AV signal is received.
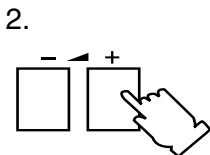

---

1. Press the " PRE." (PRESET) button 4 times.

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    1
GEOMAGNETIC  8
```
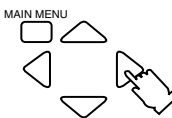
Colour System condition.

Press the "MAIN MENU" and "Position" buttons, until "COLOUR SYS" is selected.

---

2. Press the Volume Up " + " or Down button, " − " repeatedly until the optimum image is produced.

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    1
GEOMAGNETIC  8
```

The Colour system will change as shown:

Press the Position Left or Right button repeatedly until the optimum image is obtained.

AUTO ⟷ PAL ⟷ SECAM

NTSC 3.58 ⟷ NTSC 4.43

---
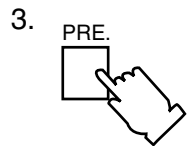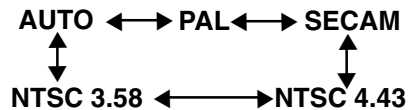
3. Press the "PRE" (PRESET) button 5 times.

This returns the set to the normal viewing condition.

This selected Colour System is automatically memorized.

Press the "MAIN MENU" button twice.

Sound System Selection

This function is used only in the TV mode, and is not applicable in AV mode.
When the sound is not clear or no sound is produced on a channel.

MAIN MENU

PRE. TV/AV − ◀ + V Λ

AV 2 IN

S-VIDEO   VIDEO   L/MONO − R − AUDIO

OR

1,3

2

1

1,3   **2**

---

1.   PRE.

Press the " PRE." (PRESET)
button 3 times.

Sound System condition.

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS    5.5MHz
COLOUR SYS   AUTO
FINE TUNE
SKIP         OFF
POS. CHANGE  1
GEOMAGNETIC  8
```

MAIN MENU

Press the "MAIN MENU" and
"Position" buttons, until
"SOUND SYS" is selected.

---

2.   − ◀ +
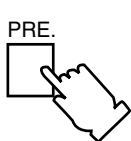
Press the Volume Up
" + " or Down button " − "
repeatedly until the optimum
sound is obtained.

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS    5.5MHz
COLOUR SYS   AUTO
FINE TUNE
SKIP         OFF
POS. CHANGE  1
GEOMAGNETIC  8
```

The Sound system will change
as shown:

4.5MHz ⟷ 5.5MHz

6.5MHz ⟷ 6.0MHz

MAIN MENU
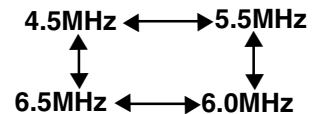
Press the Position Left or Right
button repeatedly until the
optimum sound is obtained.

---

3.   PRE.
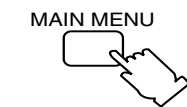
Press the "PRE" (PRESET) button
6 times.

This returns the set to the
normal viewing condition.
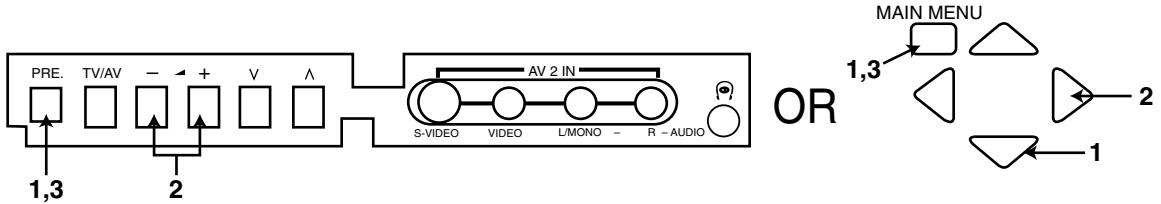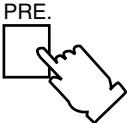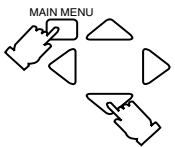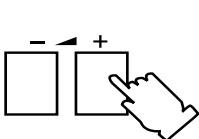
This selected Sound System is
automatically memorized.

MAIN MENU

Press the "MAIN MENU"
button twice.

20

Tuning Procedure

Pos. Change

This feature will enable the user to swap (Exchange) channel memory of 2 selected channels. The position change function allows one to shift from the present channel to any programme number without any tuning process.

1. Press the "MAIN MENU" and "Position" buttons, until "POS. CHANGE" is selected.

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    1
GEOMAGNETIC    8
```
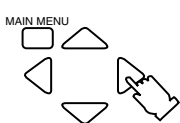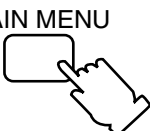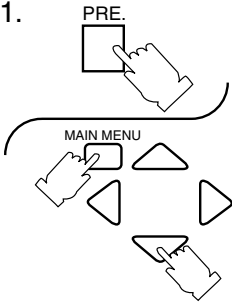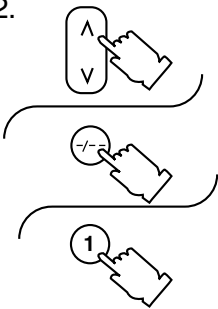
2. Select a Programme number you want to change by pushing either Channel UP or DOWN button, two digit programme selection or Direct Programme number selection on the remote control.
(Position change will only exist in preset mode).

```
1  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    12
GEOMAGNETIC    8
```

Note:

Position change also can operated using panel key. Use PRESET key to enter POSITION CHANGE, then, use volume up/down to change the channel to be swapped to. Use TV/AV to confirm.
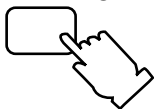
3. **TV/AV** Press the "TV/AV" button to confirm.

```
12  PRESET
AUTO TUNE
MANUAL TUNE
SOUND SYS      5.5MHz
COLOUR SYS     AUTO
FINE TUNE
SKIP           OFF
POS. CHANGE    12
GEOMAGNETIC    8
```
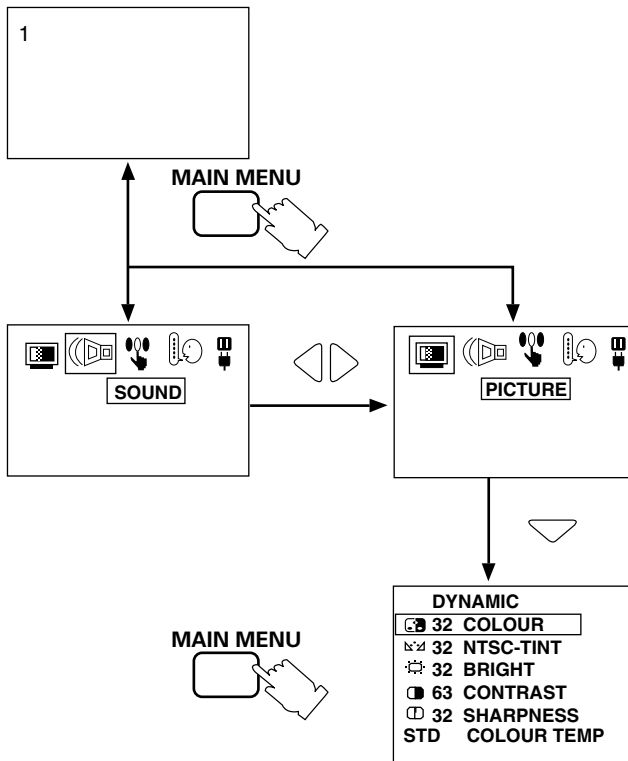
This returns the set to the normal viewing condition.
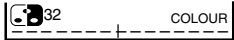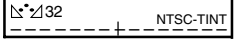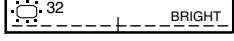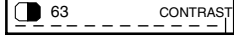
MAIN MENU Press the "MAIN MENU" button twice.

Picture Menu Operation

MAIN MENU

SOUND   PICTURE

MAIN MENU

DYNAMIC
32 COLOUR
32 NTSC-TINT
32 BRIGHT
63 CONTRAST
32 SHARPNESS
STD   COLOUR TEMP

Picture Menu

Push	Item	Effect	Indicator
⇕ Select	**COLOUR**	◁▷ Less More	32 COLOUR
⇕ Select	**NTSC-TINT**	◁▷ Greenish Reddish	32 NTSC-TINT
⇕ Select	**BRIGHT**	◁▷ Darker Brighter	32 BRIGHT
⇕ Select	**CONTRAST**	◁▷ Less More	63 CONTRAST
⇕ Select	**SHARPNESS**	◁▷ Less More	32 SHARPNESS
⇕ Select	**COLOUR TEMP.**	◁▷ → STD ←→ COOL ← → WARM ←	COLOUR TEMP.

Helpful Hint

1. By pushing the normal "N" button on the Remote Control while the Picture menu is displayed, the setting of the selected function will be return to factory setting level.

Sound Menu Operation

MAIN MENU

PICTURE

SOUND

MAIN MENU

SPEECH
32 BASS
32 TREBLE
32 BALANCE
OFF BASS BOOST
OFF LOUDNESS
OFF AVL
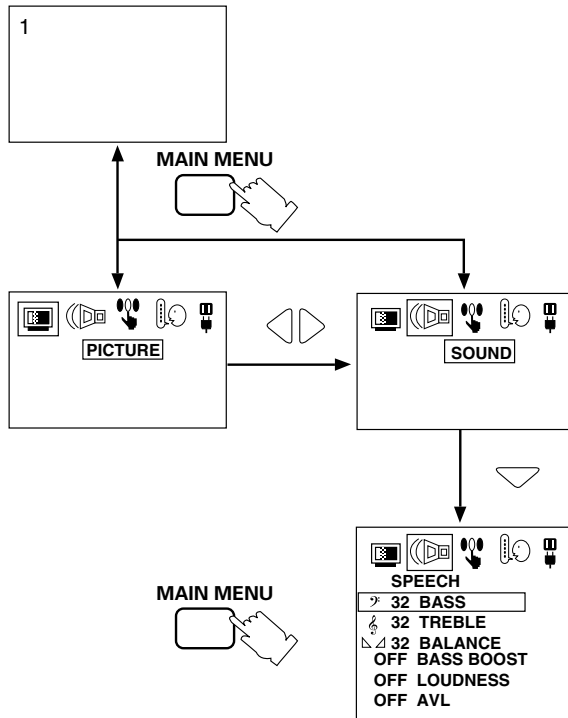
Sound Menu

Push	Item	Effect	Indicator
◇ Select	**BASS**	◁▷ Less More	28 BASS
◇ Select	**TREBLE**	◁▷ Less More	45 TREBLE
◇ Select	**BALANCE**	◁▷ Left SP. Right SP.	32 BALANCE
◇ Select	**BASS BOOST**	◁▷ ON ←→ OFF	BASS BOOST
◇ Select	**LOUDNESS**	◁▷ ON ←→ OFF	LOUDNESS
◇ Select	**AVL**	◁▷ ON ←→ OFF	AVL

AVL (Auto Volume Limiter)
The AVL function will limit the volume output for music, speech and movie at preset level when it is on.
The AVL is not available in AV mode.

Helpful Hint

1. By pushing the normal "N" button on the Remote Control while the Sound menu is displayed, the setting of the selected function will be return to factory setting level.

Features Menu Operation

1

MAIN MENU

[PICTURE] ◁▷ [FEATURES]

▽

MAIN MENU

PICTURE AI   ON
BLUE BACK   ON
CH COLOUR SET   STD
CHILD LOCK   OFF
VCR/GAME   OFF
◁▷

▽

PICTURE AI   ON
BLUE BACK   ON
CH COLOUR SET   STD
CHILD LOCK   OFF
VCR/GAME   OFF
◁▷

▽

PICTURE AI   ON
BLUE BACK   ON
CH COLOUR SET   STD
CHILD LOCK   OFF
VCR/GAME   OFF
◁▷

▽

PICTURE AI   ON
BLUE BACK   ON
CH COLOUR SET   STD
CHILD LOCK   OFF
VCR/GAME   OFF
◁▷

▽

PICTURE AI   ON
BLUE BACK   ON
CH COLOUR SET   STD
CHILD LOCK   OFF
VCR/GAME   OFF
◁▷

PICTURE AI mode

The picture AI continuously detects fine differences in the picture signal, which great precision, and including the picture brightness, contrast and etc.
The function Automatically adjusts the picture to the best quality for the scene, and reproduces images that provides a sense of depth. The picture AI mode will change as shown.

ON ◄───► OFF

BLUE BACK Mode.

When no picture signal is received, or the signal is weak, the screen reverts to a blue background colour and the sound is muted.
Disable this features to continue watching very weak signals.

Blue background colour if no input picture signal or input signal is weak.
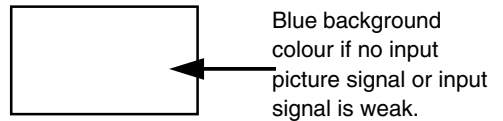
Note :

If BLUE BACK Mode is set on while a VCR signal is being viewed, selecting CUE or REVIEW may cause the screen to revert to the blue background colour.
Disable this feature to view correctly.

CH (Channel) COLOUR SET mode.

Colour density varying between broadcast channels can be adjusted to three levels for each reception channel as follows :

STD ◄───► HIGH ◄───► LOW

CHILD LOCK mode.

To child lock any channel, press the position left or right button.

1) When channel is "LOCK", sound is muted and screen becomes blue colour.
2) If any of the channels is CHILD LOCK, then preset key at any panel will not work. If preset key (Panel) is pressed, message "CHILD LOCK ON" will appear.
3) Main power ON in child locked channel will display "CHILD LOCK ON" on screen to remind user that the Child lock is On and is in Child locked channel.
4) Each channel has its own memory for channels to be child locked.

VCR/Game mode.

Reproduction of irregular signals, such as TV games and rental video tapes, may be improved.
The VCR/GAME mode will change as shown.

ON ◄───► OFF

Language Menu Operation

Language Menu

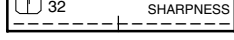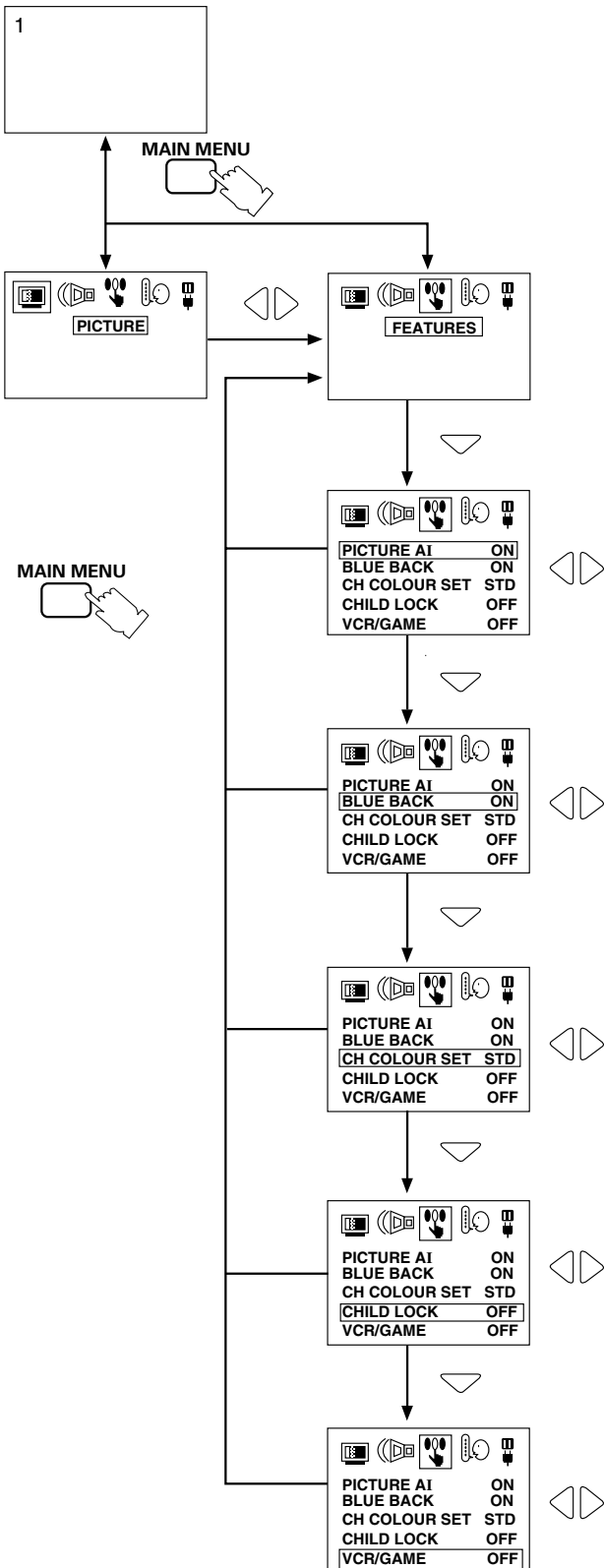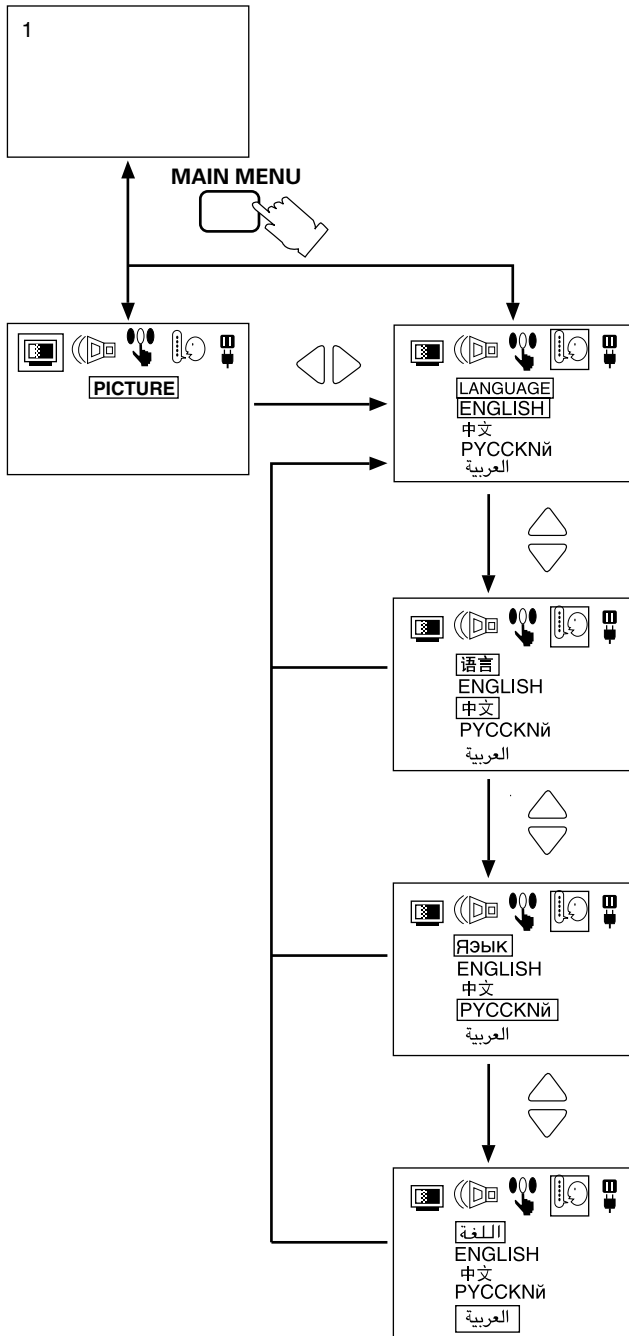Press the "Position Up or Down" button. The on-screen language display will change as follows :

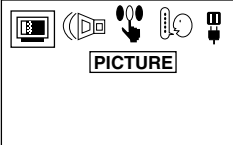## Advanced Remote Control Transmitter Operation

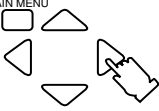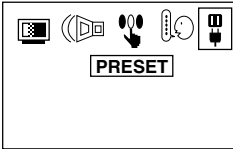## Preset Menu Operation

Geomagnetism Correction

Since a large picture tube has been used, blurring of colours and strange discolouration patches may occur depending on the direction the television faces. This is caused by a geomagnetic effect. For optimum viewing, it is necessary to adjust the TV placement.
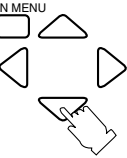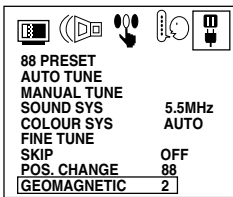
1. The Power should be off when determining the installation location and direction.
   At this time please verify what direction the TV screen is to face (direction indicated by the arrow).
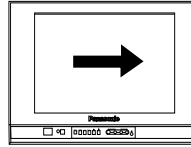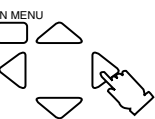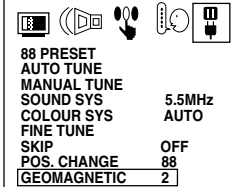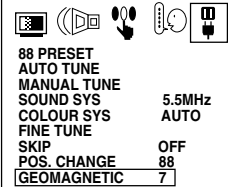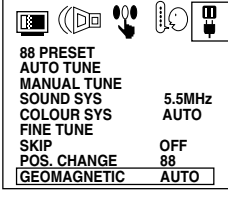
2. Press the "Main Power Switch"

3. Press the "MAIN MENU" button.

   PICTURE

   "Main Menu" condition.

4. Select the Preset Menu by using the Position Left or Right button.

   PRESET

5. Select the Geomagnetic Mode by using the "Position" button.

88 PRESET	
AUTO TUNE	
MANUAL TUNE	
SOUND SYS	5.5MHz
COLOUR SYS	AUTO
FINE TUNE	
SKIP	OFF
POS. CHANGE	88
GEOMAGNETIC	2

6. 1) **If TV uses Manual Geomagnetic correction:**
   Press the Position Left or Right button to adjust the Geomagnetic level so that the colour patches in the four corners of the screen do not appear.

88 PRESET	
AUTO TUNE	
MANUAL TUNE	
SOUND SYS	5.5MHz
COLOUR SYS	AUTO
FINE TUNE	
SKIP	OFF
POS. CHANGE	88
GEOMAGNETIC	2

88 PRESET	
AUTO TUNE	
MANUAL TUNE	
SOUND SYS	5.5MHz
COLOUR SYS	AUTO
FINE TUNE	
SKIP	OFF
POS. CHANGE	88
GEOMAGNETIC	7

   2) **If TV uses Auto Geomagnetic correction:**
   Align "Auto" to the "1" position in the center using the position Left "<" or Right ">" buttons. If discolouration remains even after AUTO correction, press the position Left "<" or Right ">" button to adjust the placement so that the coloured patches in the four corners of the screen disappear.

88 PRESET	
AUTO TUNE	
MANUAL TUNE	
SOUND SYS	5.5MHz
COLOUR SYS	AUTO
FINE TUNE	
SKIP	OFF
POS. CHANGE	88
GEOMAGNETIC	AUTO

Helpful Hint

(1) If Geomagnetic changes still cause colour patches on the screen even after the TV is installed, turn the power off and turn back on again after about 30 minutes.

(2) Adjustment for geomagnetic should be performed every time the location of the TV is changed.

(3) In some cases colour patches will not be completely eliminated even after adjustment, particularly in ferro-concrete building and other structures susceptible to geomagnetic. In these cases adjust by changing the installation location.

Manufacturer Setting
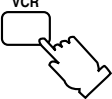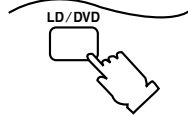
Remote Control Operation is possible for the VCR's, LD's and DVD's of the various manufacturers.

After completion of setting, execute the various operations after pushing the VCR or the LD/DVD button.

1. VCR
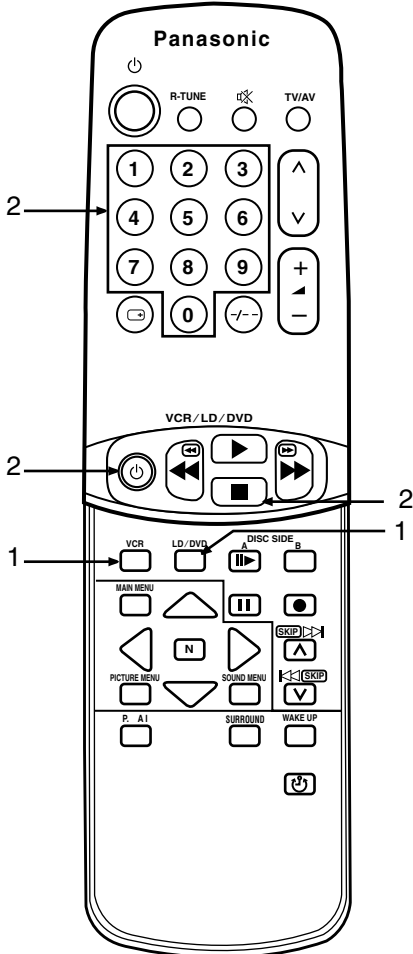
Press the button of the unit to be set (VCR or LD/DVD).

LD/DVD

2. While pressing the VCR/LD/DVD Power button, press the manufacturer code setting (enter the two digit code), and press the VCR/LD/DVD Stop button.

VCR

Manufacturer	Code	Manufacturer	Code
Panasonic/ National	10, 11, 12, 13	NEC	40, 41, 42, 43
		ORION	45, 46
AIWA	15, 16	PHILIPS	50
FUJITSU	20	SANYO	55, 56, 57, 58
HITACHI	25, 26, 27	SHARP	60, 61
JVC	30, 31, 32	SONY	65, 66, 67
MITSUBISHI	35. 36	TOSHIBA	70, 71

LD

Manufacturer	Code	Manufacturer	Code
Panasonic	10, 11, 12, 13	SAMSUNG	30
KENWOOD	15, 16	SHARP	35
PHILIPS	20	SONY	40, 41, 42, 43
PIONEER	25		

DVD

| Manufacturer	Code
Panasonic	70

Note:
After setting, execute operation confirmation.
If there is no operation, set a different code.

Helpful Hint

(1) The respective VCR/LD/DVD manufacturer code is cancelled when battery has been exchanged. Please set is again.
(2) Depending on the model, operation of VCR's, LD's or DVD's of the manufacturers listed above may not be possible.
(3) In some cases, new products may not be operative.
(4) It will not operate with other than the above manufactures.

Operation of the VCR / LD / DVD

Execute the various operations after pushing the VCR or LD/DVD button.
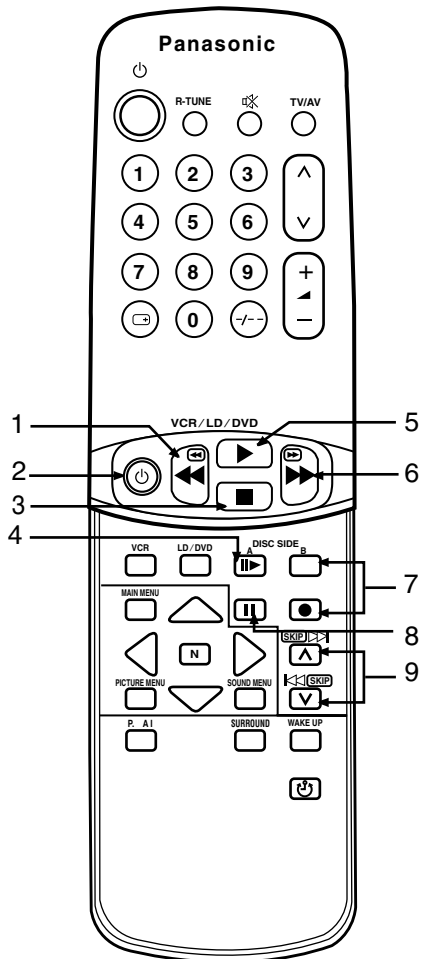
Button		Function	
		VCR	LD/DVD
1	◀◀	Rew (Rewind)/ Review Button	Rew (Rewind)/ Review Button
2	⏻	VCR Power	LD/DVD Power Button
3	■	Stop Button	Stop Button
4	A �|▶	Still Advance Button	DISC SIDE A Selection Button
5	▶	Play Button	Play Button
6	▶▶	FF (Fast Forward)/ Cue Button	FF (Fast Forward)/ Cue Button
7	B ●	Rec (Record) Button	DISC SIDE B Selection Button
8	❚❚	Pause/Still Button	Pause/Still Button
9	SKIP ⋀ / SKIP ⋁	Programme Number Up and Down Buttons for VCR	Programme Skip Button

Troubleshooting

Before calling for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Checks
Picture	**Sound**	
Snowy Picture	Noisy Sound	Aerial Location, direction Connection
Multiple Image	Normal Sound	Aerial Location, direction Connection
Interference	Noisy Sound	Electrical Appliances Cars / Motorcycles Fluorescent Lamps
Normal Picture	No Sound	Volume (Check whether the mute function has been activated on the Remote Control.)
No Picture	No Sound	Not plugged into AC outlet Not switched on Contrast and Brightness / Volume Setting (Check by pushing the Power Switch or Stand-by Button on the Remote Control.)
No Colour	Normal Sound	Colour Control
Scrambled	Weak Sound	Re-tune Channels
Colour Patches	Normal Sound	Magnetic interference from unshielded equipment. Receiver moved while "ON"
No Colour	Noisy Sound	Sound System Colour System

Specifications

Power Source : AC AUTO 110/240V, 50/60Hz
Power Consumption : 180 W
Receiving System :17 SYSTEMS

	SYSTEMS	FUNCTION
1. 2. 3. 4. 5. 6. 7.	PAL B,G,H PAL I PAL D,K SECAM B,G SECAM D. K. SECAM K1 NTSC M (NTSC 3.58 / 4.5MHz)	Reception of broadcast transmissions and playback from video cassette tape recorders.
8. 9. 10. 11. 12. 13. 14.	NTSC 4.43 / 5.5MHz NTSC 4.43 / 6.0MHz NTSC 4.43 / 6.5MHz NTSC 3.58 / 5.5MHz NTSC 3.58 / 6.0MHz NTSC 3.58 / 6.5MHz SECAM I	Playback from special VCR only.
15. 16. 17.	PAL 60Hz / 5.5MHz PAL 60Hz / 6.0MHz PAL 60Hz / 6.5MHz	Playback from special Disc player and VCR only.

Receiving Channels :

VHF BAND	UHF BAND	CATV
2 – 12 PAL / SECAM B,K1 0 – 12 PAL B (AUST.) 1 – 9 PAL B (N.Z.) 1 – 12 PAL / SECAM D 1 – 12 NTSC M (JAPAN) 2 – 13 NTSC M (U.S.A.)	21 – 69 PAL G,H,I / SECAM G,K,K1 28 – 69 PAL B (AUST.) 13 – 57 PAL D,K 13 – 62 NTSC M (JAPAN) 14 – 69 NTSC M (U.S.A.)	S1 – S20 (OSCAR) 1 – 125 (USA CATV) C13 – C49 (JAPAN) S21 - S41 (HYPER) Z1 - Z37 (CHINA) 5A, 9A (AUST.)

Tuning System : Frequency synthesizer Auto search tuning: 100 position.
Picture Tube : 68 cm, measured diagonally, 104° deflection.
Audio Output : 8 W X 2 (Speaker)
         : 14 W (Woofer)
Aerial Impedance : 75 Ω Unbalanced coaxial.

Video/audio terminal :	AV 1,2,3	S-Video In	Y:1 Vp-p, 75 Ω C: 0.3 Vp-p, 75 Ω
	DVD	Y P_B P_R	1.0 Vp-p, 75 Ω 0.7 Vp-p, 75 Ω 0.7 Vp-p, 75 Ω
		Video In Audio In	1 Vp-p, 75 Ω Approx. 0.4V, 47 kΩ
	Monitor Out	Video Out Audio Out	1 Vp-p, 75 Ω Approx. 0.4V, 1 kΩ

Remote Control Transmitter : EUR 511031
Battery : R6 (AA) X 2
Dimension (W X D X H) : 688 x 492 x 582 mm
Weight (Net) : 49 Kg
Note :
Design and Specifications are subject to change without notice.

Customer's Record

The model number and serial number of this product can be found on its cover. You should note this serial number in the space provided below and retain this book plus your purchase receipt as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number _____   Serial Number _____