SANYO

INSTRUCTION MANUAL

CP29AF2

Colour Television

Flat Screen
CATV Hyper Band
100 Programmes with Automatic Tuning
Equipped with S-Video Terminal
BBE Sound System for Live Presence
AV Stereo with 3D Surround Sound System

(AV stereo sound system can reproduce a stereo sound only when a stereo signal is inputted from audio input jacks of the AV terminal.)

Contents

BBE II

BBE is a circuit developed by BBE Sound, Inc..

The BBE circuit reproduces the human voice and music with extremely high fidelity.

Licensed by BBE Sound, Inc. under USP 4638258 and 4482866.

The word "BBE" and the BBE symbol are trademarks of BBE Sound.

Plug & Play

Automatic setting up channels

This TV set provides a self-automatic tuning and sorting system function called "**Plug & Play**". It automatically begins searching and storing of all available channels when switching-on the TV set for the first time.
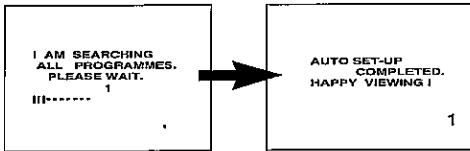
Let's start !

1 Connect power cord of the TV set to a wall outlet, and turn on the TV set by pressing the **Mains ON/OFF** button. Self-automatic tuning system will be started as follows;
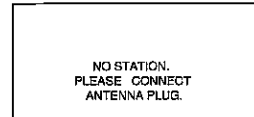
```
I AM SEARCHING
ALL PROGRAMMES.
PLEASE WAIT.
      1
III-------
```
→
```
AUTO SET-UP
       COMPLETED.
HAPPY VIEWING !

                    1
```

After completing this procedure, the programme position **1** is selected and the ending messages on the screen.

Note: The Plug & Play can be cancelled at any time by pressing the **MENU** button.

2 Press any of the control buttons to make the ending message disappear. (Or will automatically return to normal TV display after 10 seconds.)

✐ This procedure only appears at the first switch-on time.

■ If no TV stations are found, the display shown below will appear. Please check if the antenna is connected properly.

```
NO STATION.
PLEASE CONNECT
ANTENNA PLUG.
```

If it isn't connected properly, connect antenna and Automatic Tuning will be reset.

Aerial Connection

Connecting Outdoor Aerial

Connect the cable with a plug from a UHF (or VHF) aerial to the aerial socket on the cabinet back.

Outdoor Aerial

Cabinet Back

Aerial Cable

Aerial Socket
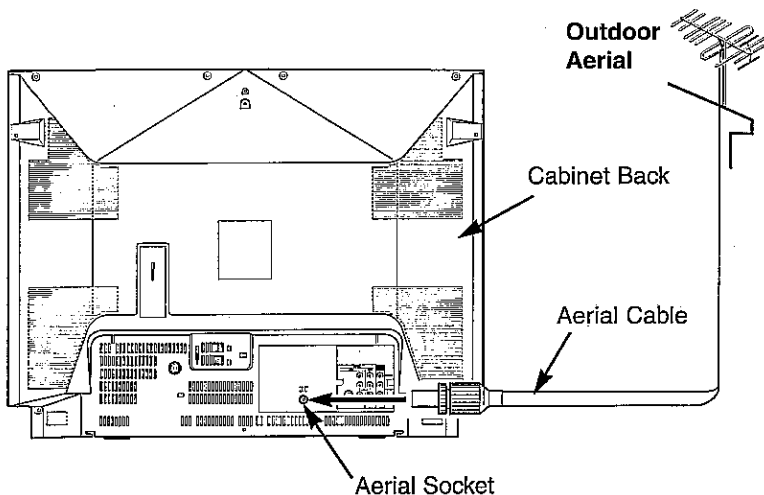
For all aerial circuit problems please consult your local dealer.

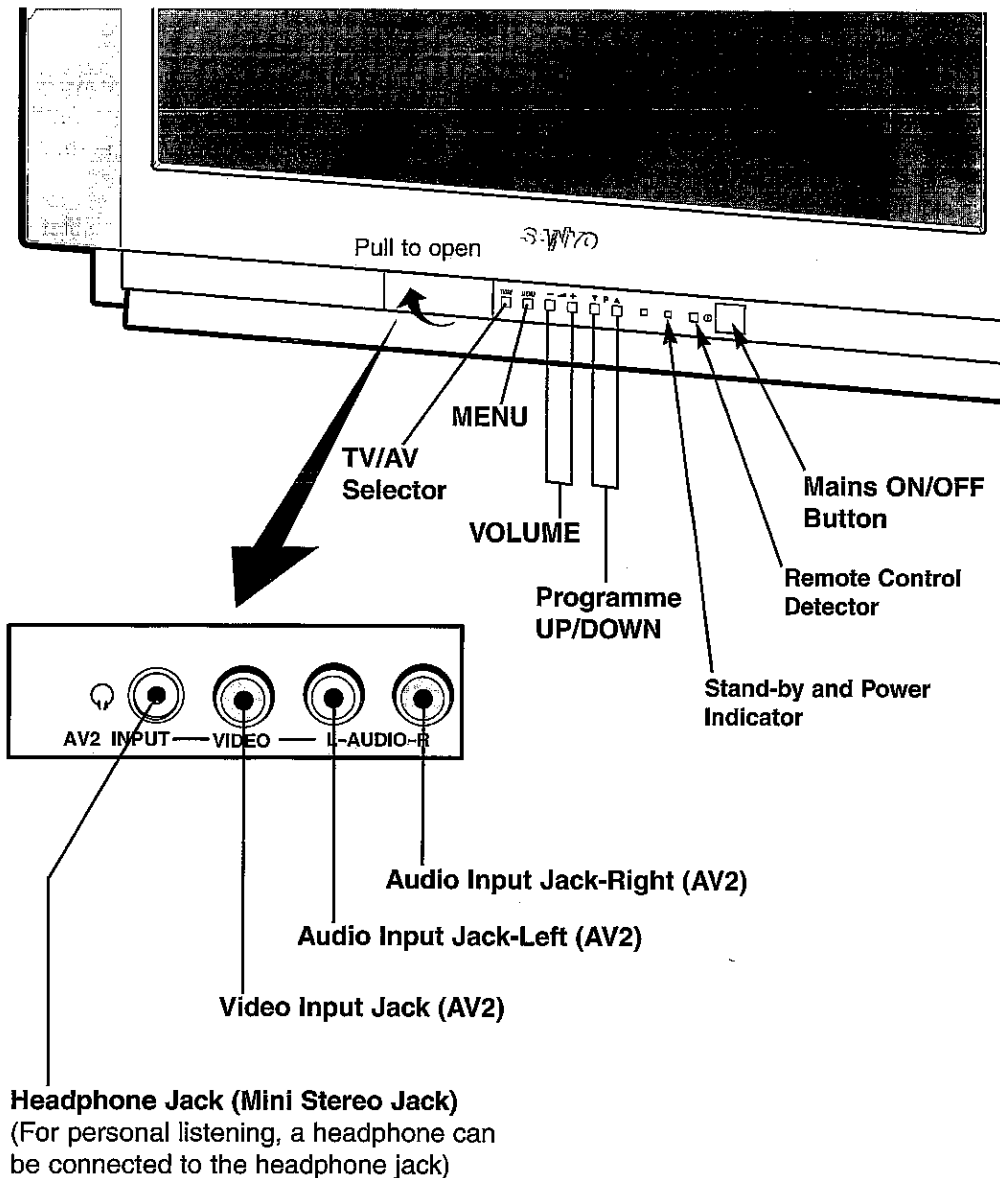# Front Controls

Each button listed in this section has the same function as it's corresponding button on the remote control.

Pull to open   S·WYO

MENU

TV/AV
Selector

VOLUME

Mains ON/OFF
Button

Programme
UP/DOWN

Remote Control
Detector

Stand-by and Power
Indicator

AV2 INPUT——VIDEO —— L-AUDIO-R

Audio Input Jack-Right (AV2)

Audio Input Jack-Left (AV2)

Video Input Jack (AV2)

Headphone Jack (Mini Stereo Jack)
(For personal listening, a headphone can
be connected to the headphone jack)

Warnings and Cautions

⚠ Warning

High voltages are used in the operation of this television receiver. Do not remove the cabinet back from your set. Refer servicing to qualified service personnel.

⚠ Warning

Do not drop or push objects into the television cabinet slots or openings. Never spill any kind of liquid on the television receiver.

⚠ Warning

To prevent fire or electrical shock hazard, do not expose the television receiver to rain or moisture.

⚠ Caution

Never stand on, lean on or push suddenly the television or its stand. You should pay special attention to children. Serious injury may result if it should fall.

⚠ Caution

Do not place your television on an unstable cart, stand, shelf or table. Serious injury to an individual, and damage to the television, may result if it should fall.

⚠ Caution

When the television receiver is not used for an extended period of time, it is advisable to disconnect the AC power cord from the AC outlet.
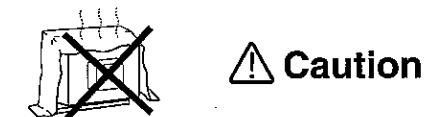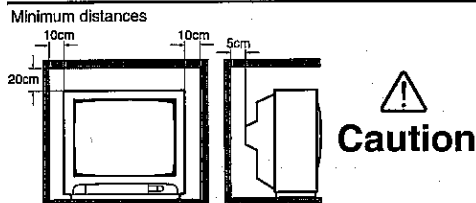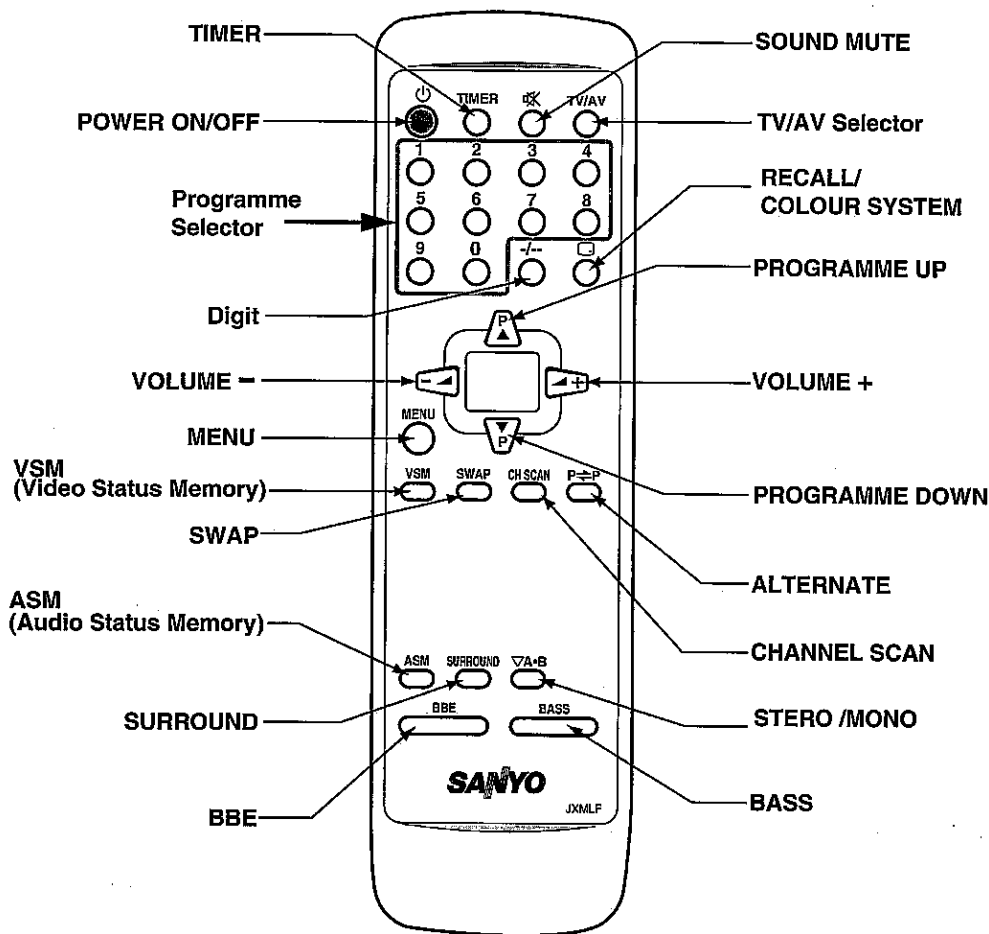
⚠ Caution

Avoid exposing the television receiver to direct sunlight and other source of the heat. Do not stand the television receiver directly on other products which give off heat. E.g. video cassette players, audio amplifiers.

⚠ Caution

Do not block the ventilation holes in the back cover.
Adequate ventilation is essential to prevent failure of electrical components.

⚠ Caution

Do not squash power supply cord under the television receiver.

Minimum distances
10cm   10cm 5cm
20cm

⚠ Caution

If the television is to be built into a compartment or similarly enclosed, the minimum distances must be maintained. Heat build-up can reduce the service life of your television, and can also be dangerous.

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Remote Control Transmitter

TIMER

POWER ON/OFF

Programme
Selector

Digit

VOLUME −

MENU

VSM
(Video Status Memory)

SWAP

ASM
(Audio Status Memory)

SURROUND

BBE

SOUND MUTE

TV/AV Selector

RECALL/
COLOUR SYSTEM

PROGRAMME UP

VOLUME +

PROGRAMME DOWN

ALTERNATE

CHANNEL SCAN

STERO /MONO

BASS

SANYO
JXMLF

Battery installation of the Remote Control Transmitter

1. Open the battery cover.
2. Install two "**AA**" 1.5 volt batteries so that the "+" and "-" marks on the batteries match the "+" and " - " marks inside the unit.
3. Close the battery cover.

Note: Replace the batteries when the TV set is showing the following symptoms:
Operation is unsteady or erratic, sometimes the TV set does not work with transmitter.
Discharged batteries may leak and damage the unit. The normal life of batteries should be from nine to ten months.
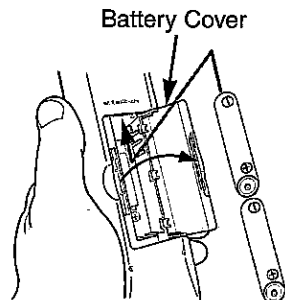
Battery Cover

[Opening Battery Cover]

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General Operation

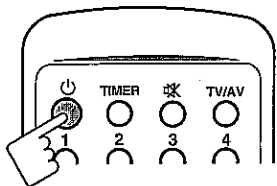## Power ON/OFF

To switch on or off the TV ;

Press the **Mains ON/OFF** button.
The power of the TV is turned on or off completely. If no picture appears but the Standby and Power indicator illuminates, press the **Power ON/OFF** button of the remote control transmitter as the TV set is in standby mode.

To set the TV to standby mode;

Press the **Power ON/OFF** button.
During Standby mode the Standby and Power indicator illuminates more brightly.

### To turn on the TV from the standby mode, press any of the following button.

- **Power ON/OFF** button of the remote control transmitter.
- **Programme UP/DOWN** of the remote control transmitter or the TV set.
- **1** to **9, 0** button on the remote control transmitter.

Important !

Be sure to set the **Mains ON/OFF** switch to the off position, if the power failure occurs while viewing.
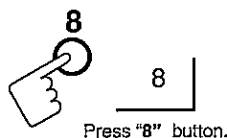
Auto Shut Off Function

This TV set incorporates the AUTO SHUT OFF function. Even if the TV is left on after you have gone to sleep, the TV set changes to the standby mode within 10 minutes after all broadcasts have ended.
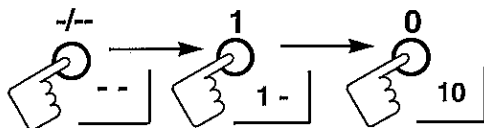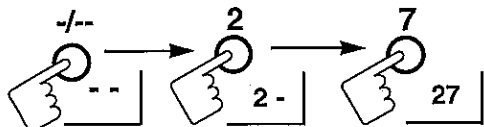

OFF 0:10
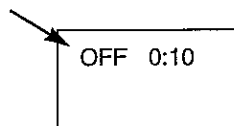
Direct Programme Selection

Example

To select programme position 8;

Press "8" button.

To select programme position 10;

Press the **Digit** button.   Press "1"button.   Press "0" button.

To select programme position 27;

Press the **Digit** button.   Press "2"button.   Press "7"button.

Programme Up and Down

Press the **Programme UP** (P▲) button to select the next programme position.
Press the **Programme DOWN** (P▼) button to select the previous programme position.

Channel Scanning

Press the **CHANNEL SCAN** button to search for a programme. The channel positions are automatically scanned, and the channel scanning will stop at the position where it began. To stop at the position you want, press this button again.
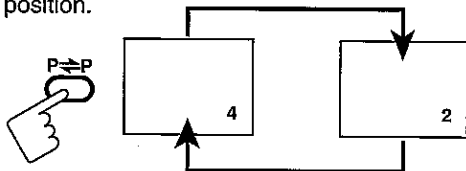

7
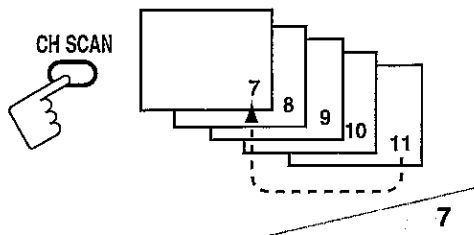
General Operation

Volume Control

Increase or decrease the sound volume level by pressing the **VOLUME** (+ or -) buttons.
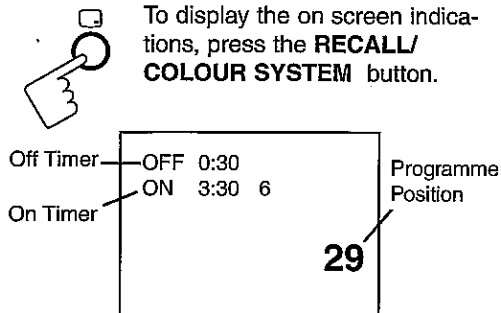

SOUND BASS ON
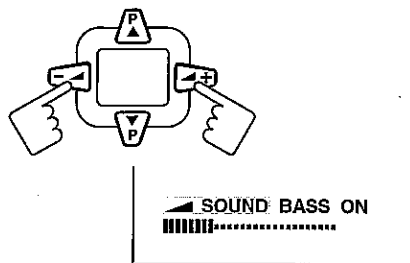
ALTERNATE

Press the **ALTERNATE** button, and the programme position will alternately select the previous position and the present position.

For example, now you are watching programme position "4" but watched programme position "2" previously. If you press the ALTERNATE button, programme position "2" immediately appears.

RECALL

To display the on screen indications, press the **RECALL/ COLOUR SYSTEM** button.

Off Timer — OFF 0:30
On Timer — ON 3:30 6
Programme Position

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Screen display disappears after about 5 seconds.

Bass Expander

To get a emphasis bass sound, press the **BASS** button.

BASS

ON

SOUND BASS OFF

Setting BBE

Press the BBE button, and set the BBE level to either " MID " or " HIGH ". The BBE circuit reproduces the human voice and music with extremely high fidelity.
When set to " HIGH ", the effect produced by the BBE circuit is emphasized.

Sound Mute

Should you wish to mute the sound (e.g. While talking on the telephone), press the **SOUND MUTE** button.
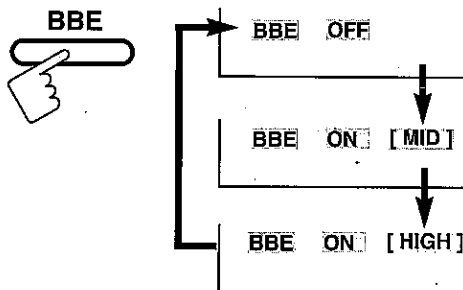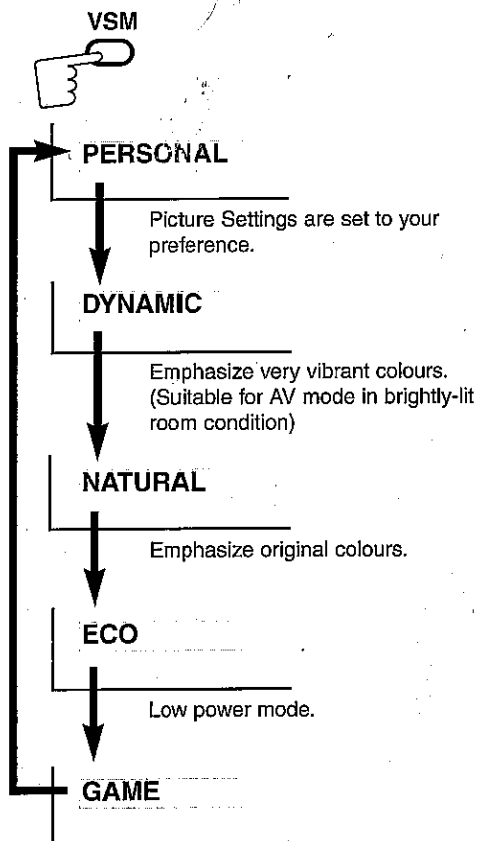To switch the sound back on, press the **SOUND MUTE** button again.

MUTE
SOUND BASS ON

BBE

BBE OFF

BBE ON [MID]

BBE ON [HIGH]

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General Operation

Quick Picture Controls

Press the **VSM (Video Status Memory)** button to select the following picture modes; **"PERSONAL", "DYNAMIC", "NATURAL", "ECO"** and **"GAME"**. Select picture modes to suit picture type you are watching.
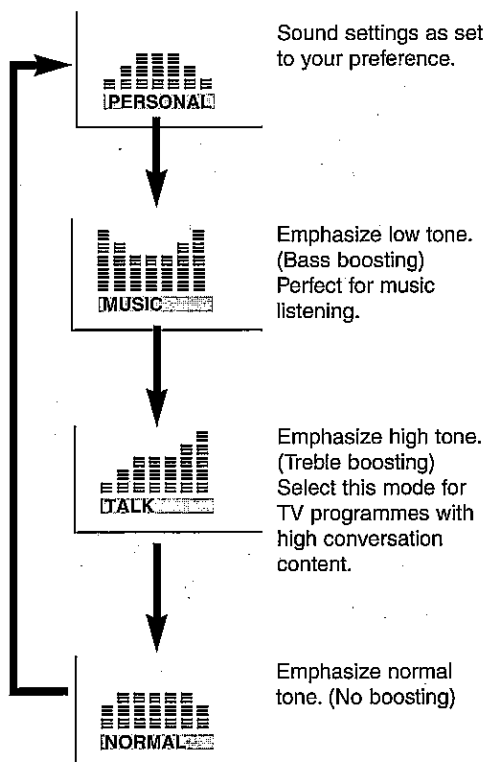
Each time the **VSM** button is pressed, picture settings changes as follows;

VSM

PERSONAL

Picture Settings are set to your preference.

DYNAMIC

Emphasize very vibrant colours. (Suitable for AV mode in brightly-lit room condition)

NATURAL

Emphasize original colours.

ECO

Low power mode.

GAME

Picture mode that is gentle on the eyes. Perfect for TV game due to subdued colour and soft contrast.

Quick Sound Controls

Simply press the **ASM (Audio Status Memory)** button to select the following audio modes: **PERSONAL, MUSIC, TALK,** and **NORMAL**.

ASM

PERSONAL

Sound settings as set to your preference.

MUSIC

Emphasize low tone. (Bass boosting) Perfect for music listening.

TALK

Emphasize high tone. (Treble boosting) Select this mode for TV programmes with high conversation content.
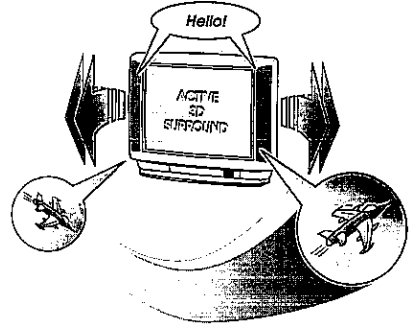
NORMAL

Emphasize normal tone. (No boosting)

General Operation

3D Surround ON/OFF

This TV provides an active 3D surround processor which can realise an incredible 3 dimensional sound effect.

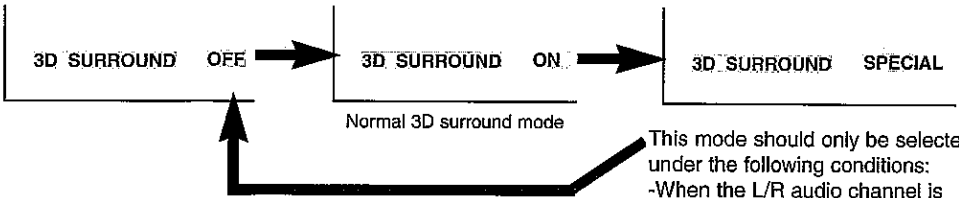Press the **SURROUND** button, to enjoy realistic 3D Surround sound.
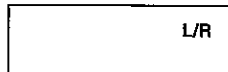
SURROUND

When receiving a monaural signal;

3D SURROUND OFF	⬅➡	3D SURROUND ON

When receiving the L/R audio channel is selected in AV mode;

| 3D SURROUND OFF	➡	3D SURROUND ON	➡	3D SURROUND SPECIAL

Normal 3D surround mode

This mode should only be selected under the following conditions:
-When the L/R audio channel is selected in AV mode, and you are playing a monaural video.

Note: In AV mode, 3D Surround will only work when the L/R audio channel is selected as shown below.

L/R

Guidance for the best enjoyment of active 3D Surround

• Keep a distance of 2 to 4 meters approx. from the TV set.
• There should be no obstruction between you and the TV set.
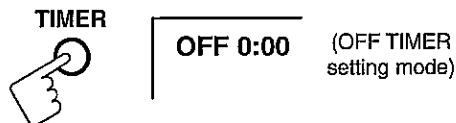• Listen facing centre of the TV set.

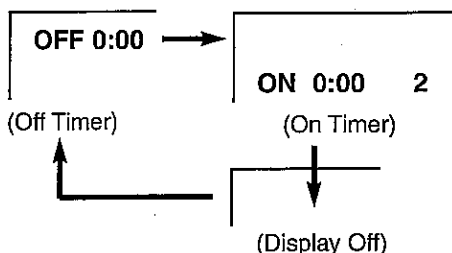2 ~ 4 meters
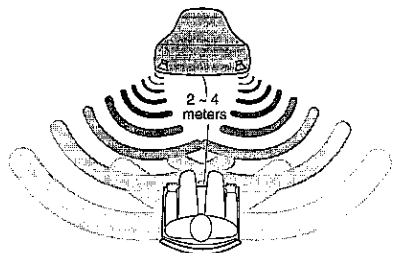
General Operation

OFF TIMER

The OFF TIMER will switch off the TV auto-matically after 30 minutes, 1 hour, 1 hour and 30 minutes, or 2 hours.

1 Press the **TIMER** button.

TIMER

| OFF 0:00 | (OFF TIMER setting mode) |

Each time the **TIMER** button is pressed, timer function is changed as follows;

| OFF 0:00 | → | ON 0:00 2 |
| (Off Timer) | | (On Timer) |

↑_____| ←
(Display Off)

2 Press the **VOLUME** (+ or -) button to select the time period.

■ Just one minute before switching off the TV, "OFF 0:01" will be display on the screen.

■ To cancel the OFF TIMER, select "OFF 0:00" by pressing the **VOLUME** (+ or -) button.

■ The OFF TIMER cancels when the TV set is turned off or if a power failure occurs.

ON TIMER

When the ON TIMER is set. TV will auto-matically be switched on to the selected programme position when the specified time has elapsed.

1 Press the **TIMER** button twice.

| ON 0:00 2 | (ON TIMER setting mode) |
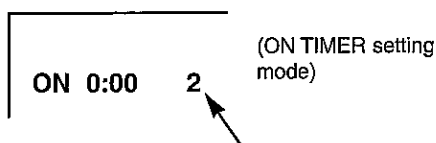
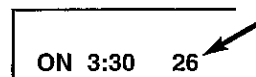Programme position for when TV is switched on by ON TIMER.

2 Press the **VOLUME** (+ or -) button. The set time will be increased or decreased by 10 minutes each time the button is pressed ; the maximum time which can be set is 24 hours. When the ON-TIMER has been set, the colour of Standby and Power Indicator changes to yellow.

Setting programme position for when TV is switched on by ON TIMER

To set programme position to between 0 and 9, press the desired number button "0" - "9" while the ON TIMER screen is shown.

| ON 3:30   9 |
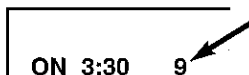
For example, to set programme position 26, press the **Digit** button, "2" button then "6" button while the ON TIMER screen is shown.

| ON 3:30   26 |

It is also possible to set the programme position by pressing the **PROGRAMME UP** or **DOWN** button.

To set an AV position for when the TV is switched on by the ON TIMER, press the **TV/AV Selector** while the ON TIMER screen is shown to select position AV.

| ON 3:30   2 | → | ON 3:30   AV1 |

■ If no operation is performed after the TV has been switched on by the ON TIMER, such as if you are not at home, the TV will be automati-cally switched off after approximately 2 hours.

■ When the ON-TIMER activates while you are watching television, only the programme position will be changed to the set programme position. Use this function to ensure you do not miss any programmes you want to see.

■ Cancelling ON TIMER
To cancel the ON TIMER, either press the **VOLUME** (+ or –) button to set it to "ON 0:00" or press the **ALTERNATE** button while the ON TIMER screen is shown. Switching off the TV by pressing the **Mains ON/OFF** button will also cancel the ON TIMER settings.

11

Picture Adjustment

Picture Adjustment Item

COLOUR : Adjust colour intensity
BRIGHT : Adjust picture brightness
CONTRAST : Adjust picture contrast
TINT : Adjust flesh tone tints (Displayed only on NTSC or NTSC4.43 system signal reception.)
SHARPNESS : Adjust picture detail
FINE TUNING : Fine tuning in case of week broadcast signal or poor reception. Only displayed in TV mode. Will not be displayed in AV mode.
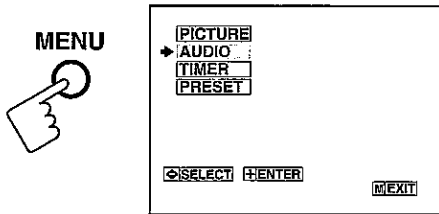
Note:
The picture adjustment data (Colour, Brightness, Contrast, Tint and Sharpness) is automatically stored in PERSONAL mode of the Quick Picture Controls (See page 9). These settings will be used when PERSONAL mode is selected.

PERSONAL

Basic picture adjustment operations

1 Press the **MENU** button for MAIN menu display.
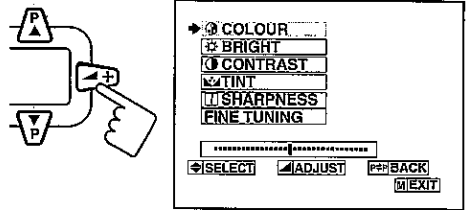
MENU

[Main Menu]

**2** When "PICTURE" is not selected, select "PICTURE" with the **PROGRAMME UP/ DOWN (▲/▼)** button.
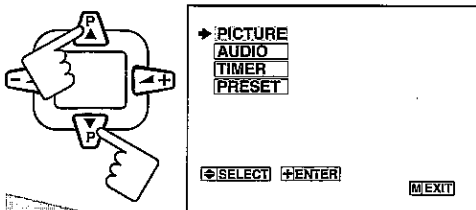
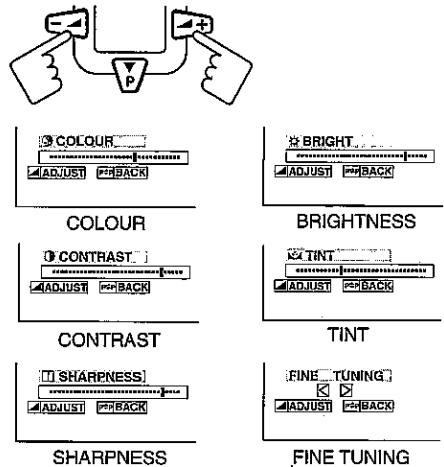**3** Press the **VOLUME (+)** button to display Picture Adjustment menu.

■ To return to Main menu, press the **ALTERNATE** button.
■ To return to normal TV mode, press the **MENU** button. (Or will automatically return to normal TV mode after 20 seconds.)

4 Select desired control by pressing the **PROGRAMME UP/DOWN (P▲/P▼)** button.

5 Press the **VOLUME (+ / −)** button to adjust settings.

COLOUR	BRIGHTNESS
CONTRAST	TINT
SHARPNESS	FINE TUNING
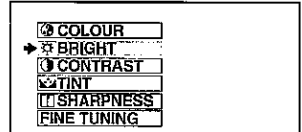
Approximately five seconds after you release the **VOLUME (+ / −)** button, the screen display switches from the adjustment screen to the normal TV screen. To return to the Picture adjustment menu, press the **ALTERNATE** button within five seconds of releasing the **VOLUME (+ / −)** button.

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Audio Adjustment

Audio Adjustment Item

ℭ⁺ : Bass Adjustment

♩ : Treble Adjustment

◣ : Left/right speaker volume balance adjustment

BASS : Operates BASS EXPANDER on and off.

3D SURROUND : Operates 3D Surround on and off.

Note: Select "SP." when the L/R audio channel is selected in AV mode, and you are playing a monaural video.
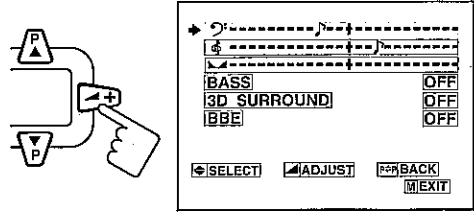
BBE : Operates the BBE settings.

Press the VOLUME (+ or –)buttons, and set the BBE to on. The BBE circuit reproduces the human voice and music with extremely high fidelity.

Note:
The Audio Adjustment data (Bass, Treble) is automatically stored in PERSONAL mode of the Quick Sound Controls (See Page 9). These settings will be used when PERSONAL mode is selected.
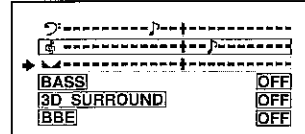
ASM → PERSONAL

Basic audio adjustment operations

1 Press the MENU button for MAIN menu display.

MENU → PICTURE / AUDIO / TIMER / PRESET

2 Select AUDIO by pressing the PROGRAMME UP/DOWN (▲/▼) button.

PICTURE / AUDIO / TIMER / PRESET

3 Press the VOLUME(+) button to display Audio Adjustment menu.

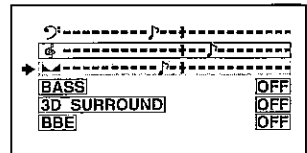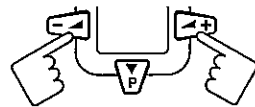| BASS | OFF |
| 3D SURROUND | OFF |
| BBE | OFF |

⊕SELECT ◢ADJUST ◉BACK Ⓜ EXIT

■ To return to Main menu, press the **ALTERNATE** button.
■ To return to normal TV mode, press the **MENU** button. (Or will automatically return to normal TV mode after 20 seconds.)

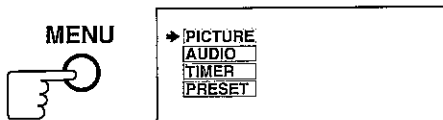**4** Select desired control by pressing the **PROGRAMME UP/DOWN (P▲/P▼)** button.

BASS	OFF
3D SURROUND	OFF
BBE	OFF

5 Press the VOLUME(+ / –) button to adjust settings.

BASS	OFF
3D SURROUND	OFF
BBE	OFF

■ To return to Main menu, press the **ALTERNATE** button.

6 Press the MENU button to return to normal TV mode. (Or will automatically return to normal TV mode after 20 seconds.)
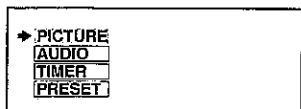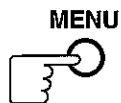
MENU

13
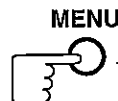
Timer Setting by On-screen Menu

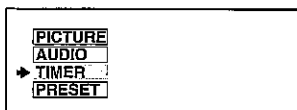Use Timer Menu to set OFF TIMER and ON TIMER.

Setting Off Timer

The OFF TIMER will switch off the TV automatically after 30 minutes, 1 hour, 1 hour and 30minutes, or 2 hours.
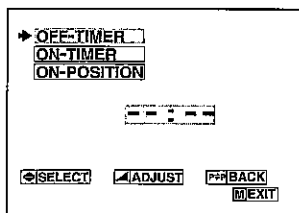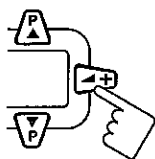
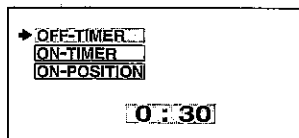**1** Press the **MENU** button for MAIN menu display.

MENU

→PICTURE
AUDIO
TIMER
PRESET

2 Select TIMER menu by pressing the **PROGRAMME UP** or **DOWN** button.

PICTURE
AUDIO
→TIMER
PRESET

3 Press the **VOLUME(+)** button to display TIMER menu.

→OFF-TIMER
ON-TIMER
ON-POSITION

-- : --

⊖SELECT ⏴ADJUST P⏶BACK
MEXIT

4 Press the **VOLUME + or –** button to set OFF TIMER. The set display time changes in 30 minutes steps to a maximum of two hours (120 minutes).

→OFF-TIMER
ON-TIMER
ON-POSITION

0 : 30

■ Just one minute before switching off the TV, "OFF 0:01" will be display on the screen.

OFF 0:01

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■ To return to Main menu, press the **ALTERNATE** button.
■ To return to normal TV mode, press the **MENU** button. (Or will automatically return to normal TV mode after 20 seconds.)

■ To cancel the OFF TIMER, set display to "OFF-TIMER --:--" by pressing the **VOLUME** (+ or -) button.
The OFF TIMER also cancels when the TV set is turned off or if a power failure occurs.

Setting On Timer

Once ON-TIMER is set, the TV set will be switched on automatically to the pre-set channel, when the specific time has elapsed.

1 Press the **MENU** button for MAIN menu display.

2 Select TIMER menu by pressing the **PROGRAMME UP** or **DOWN** button.

3 Press the **VOLUME(+)** button to display TIMER menu.

→OFF-TIMER
ON-TIMER
ON-POSITION

-- : --
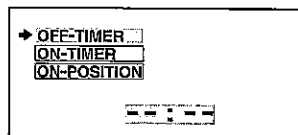
4 Select ON-TIMER by pressing the **PROGRAMME UP** or **DOWN** button.

OFF-TIMER
→ON-TIMER
ON-POSITION

-- : --

5 Press the **VOLUME (+ or –)** button to set ON-TIMER. The set time will be increased or decreased by 10 minutes each time the button is pressed ; the maximum time which can be set is 24 hours. When the ON-TIMER has been set, the colour of Standby and Power Indicator changes to yellow.
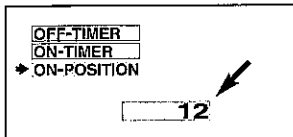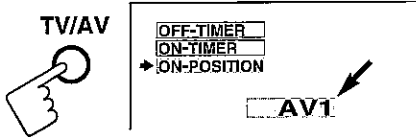
OFF-TIMER
→ON-TIMER
ON-POSITION

0 : 10
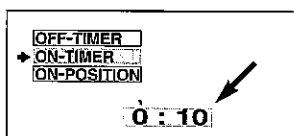
Timer Setting by On-screen Menu

6 After ON-TIMER is set, select desired Programme Position.
Select ON-POSITION with the **PROGRAMME UP** or **DOWN** button.

```
┌─────────────┐
│ OFF-TIMER   │
│ ON-TIMER    │
│→ON-POSITION │      ✔
│   ┌─────┐   │
│   └──7──┘   │
└─────────────┘
```
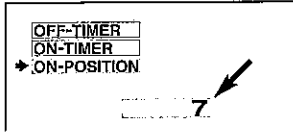
7 Select the desired programme position with the **VOLUME** (+ or −) button or **Programme Selector** and **Digit** button.

```
┌─────────────┐
│ OFF-TIMER   │
│ ON-TIMER    │
│→ON-POSITION │      ✔
│   ┌─────┐   │
│   │  12 │   │
│   └─────┘   │
└─────────────┘
```

To set an AV position for when the TV is switched on by the ON-TIMER, press the **TV/AV Selector** while the ON-TIMER screen is shown to select position AV.

TV/AV

```
┌─────────────┐
│ OFF-TIMER   │
│ ON-TIMER    │
│→ON-POSITION │      ✔
│   ┌─────┐   │
│   │ AV1 │   │
│   └─────┘   │
└─────────────┘
```

■ To return to Main menu, press the **ALTERNATE** button.

8 When adjustment is completed, press the **MENU** button to return to normal TV display. (Or will automatically return to TV display after 20 seconds.)

MENU

■ If no operation is performed after the TV has been switched on by the ON-TIMER, such as if you are not at home, the TV will be automatically switched off after approximately 2 hours.

■ When the ON-TIMER activates while you are watching television, only the programme position will be changed to the set programme position. Use this function to ensure you do not miss any programmes you want to see.

■ Cancelling ON-TIMER
To cancel the ON-TIMER, either press the **VOLUME**(+ or −) button to set it to " --:--" or press the **ALTERNATE** button while the ON-TIMER screen is shown.
Switching off the TV by pressing the **Mains ON/OFF** button will also cancel the ON-TIMER settings.

Tuning of the Channels

Up to 100 broadcast stations in your reception area can be stored in the electronic memory.

There are three ways of tuning as follows;

1. Automatic Tuning (the basic way):

All receivable channels are automatically tuned in and memorized in consecutive programme position.
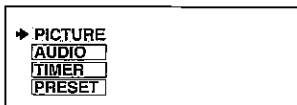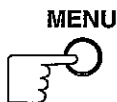
2. Semi-Auto Tuning:

Use to preset a receivable channel in any desired programme position, e.g. the position with the same number as the channel.
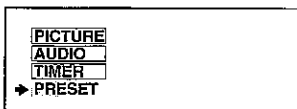
3. Manual Tuning:

Manually tuning is used to do a fine tuning of the channels with poor reception after they have been stored by the automatic tuning.
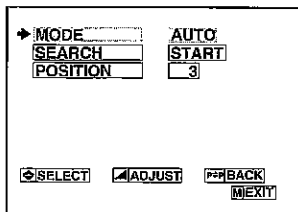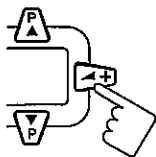
Automatic Tuning

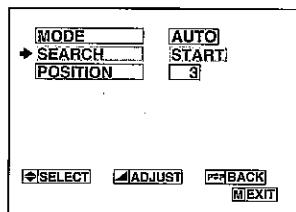**1** Press the **MENU** button for MAIN menu display.

MENU

```
→ PICTURE
  AUDIO
  TIMER
  PRESET
```

2 Select "PRESET" by pressing the **Programme UP** or **DOWN** button.
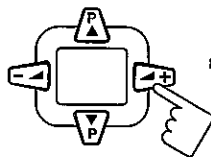
```
  PICTURE
  AUDIO
  TIMER
→ PRESET
```

3 Press the **VOLUME(+)** button for PRE-SET menu display.
On entering PRESET display, Automatic Tuning will be selected initially.

```
→ MODE        AUTO
  SEARCH      START
  POSITION    [ 3]

  ⊕SELECT  ◢ADJUST  ⊡BACK
                    ⊠EXIT
```

■ To return to Main menu, press the **ALTERNATE** button.

4 Select "SEARCH" by pressing the **Programme UP** or **DOWN** button.

```
  MODE        AUTO
→ SEARCH      START
  POSITION    [ 3]

  ⊕SELECT  ◢ADJUST  ⊡BACK
                    ⊠EXIT
```

5 Press the **VOLUME (+)** button to start channel tuning.

After all receivable channels have been found and stored, the TV set automatically returns to programme position "1".

■ The Automatic Tuning operation can be cancelled at any time by pressing the **Programme UP** or **DOWN** button.

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Tuning of the Channels

Semi-Auto Tuning

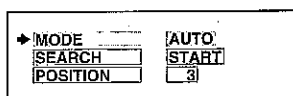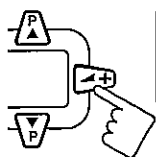**1** Press the **MENU** button for MAIN menu display.

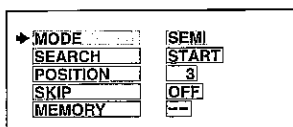**2** Select "PRESET" by pressing the **Programme UP** or **DOWN** button.

```
PICTURE
AUDIO
TIMER
→ PRESET
```

3 Press the **VOLUME(+)** button for PRE-SET menu display.
· On entering PRESET display, Automatic Tuning will be selected initially.

```
→ MODE        AUTO
  SEARCH      START
  POSITION     3
```
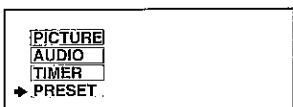
4 Select "SEMI" by pressing the **VOLUME** + or − button.

```
→ MODE       SEMI
  SEARCH     START
  POSITION    3
  SKIP       OFF
  MEMORY     --
```

5 For example, to pre-set a required channel onto Programme Position 6, select "POSITION" with the **Programme UP** or **DOWN** button and press remote control button number **6** and enter 6. (In this case, the channel being watched will change to channel 6.)

```
  MODE       SEMI
  SEARCH     START
→ POSITION    6
  SKIP       OFF
  MEMORY     --
```
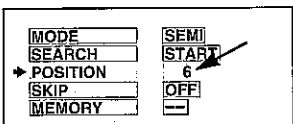
For example, to enter Programme Position 27, press the **Digit** button, press the remote control button **2** followed by **7**.
It is also possible to select the Programme position number by pressing either of the **VOLUME +** or − button. (Pressing the **VOLUME +** or − button will only alter the programme position number.)

6 Select "SEARCH" by pressing the **Programme UP** or **DOWN** button.

```
  MODE       SEMI
→ SEARCH     START
  POSITION     6
  SKIP       OFF
  MEMORY     --
```
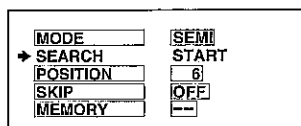
7 Press and release the **VOLUME(+/−)** button to search for required TV station. Once a station is located, tuning automatically stop. Continue till desired channel is located.

The **VOLUME +** button will move tuning toward the higher frequencies, and the **VOLUME −** button will move tuning toward the lower frequencies.

```
  MODE       SEMI
→ SEARCH     III········
  POSITION     6
  SKIP       OFF
  MEMORY     --
```
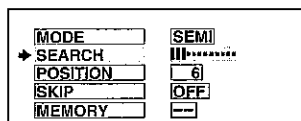
8 Once desired channel is located, select "MEMORY" by pressing the **Programme UP** or **DOWN** button.

```
  MODE       SEMI
  SEARCH     START
  POSITION     6
  SKIP       OFF
→ MEMORY     --
```
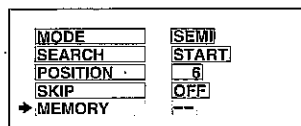
9 Press the **VOLUME +** or − button to enter the desired channel into Programme Position 6.

```
  MODE       SEMI
  SEARCH     START
  POSITION     6
  SKIP       OFF
→ MEMORY     OK
```
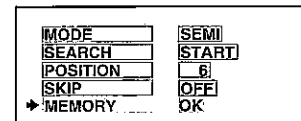
To pre-set other Programme Positions, repeat steps 5–9.

10 Press the **MENU** button to return to normal TV display.
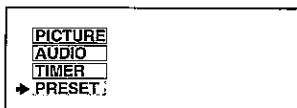
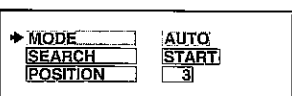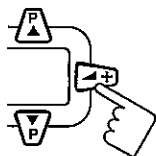MENU

17

Tuning of the Channels

Manual Tuning

1 Press the **MENU** button for MAIN menu display.

2 Select "PRESET" by pressing the **Programme UP** or **DOWN** button.
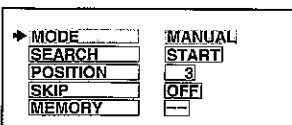
```
PICTURE
AUDIO
TIMER
→ PRESET
```

3 Press the **VOLUME(+)** button for PRESET menu display.
On entering PRESET display, Automatic Tuning will be selected initially.

```
→ MODE        AUTO
  SEARCH      START
  POSITION      3
```

4 Select "MANUAL" by pressing the **VOLUME + or −** button.

```
→ MODE        MANUAL
  SEARCH      START
  POSITION      3
  SKIP        OFF
  MEMORY      --
```

5 Select "POSITION" with the **PROGRAM UP/DOWN(▲/▼)** button, then using the numbered buttons, enter the number of the programme position to fine tune (for example for programme position 6, press the numbered button 6).

```
  MODE        MANUAL
  SEARCH      START
→ POSITION      6
  SKIP        OFF
  MEMORY      --
```
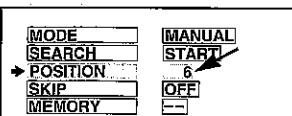
For example, to enter Programme Position 27, press DIGIT button, press remote button 2 followed by 7.

6 Select "SEARCH" by pressing the **Programme UP** or **DOWN** button.

```
  MODE        MANUAL
→ SEARCH      START
  POSITION      6
  SKIP        OFF
  MEMORY      --
```
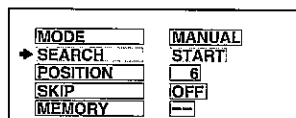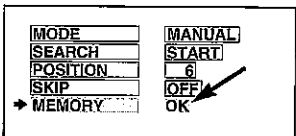
7 Press and hold the **VOLUME(+/-)** button to make fine tuning. Press and hold the **VOLUME(-)** button for lower frequency tuning, and press and hold the **VOLUME (+)** button for higher frequency tuning.

```
  MODE        MANUAL
→ SEARCH      III·······
  POSITION      6
  SKIP        OFF
  MEMORY      --
```
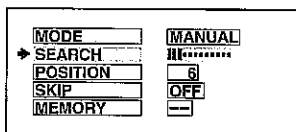
8 When fine tuning is finished, press the **PROGRAMME UP/DOWN(▲/▼)** button to select "MEMORY".

```
  MODE        MANUAL
  SEARCH      START
  POSITION      6
  SKIP        OFF
→ MEMORY      --
```
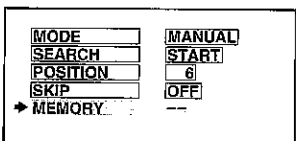
9 Press the **VOLUME(+/-)** button to memorize the setting.

```
  MODE        MANUAL
  SEARCH      START
  POSITION      6
  SKIP        OFF
→ MEMORY      OK
```

To time tune other programme positions, repeat steps 5 to 9.

10 Press the **MENU** button to return to normal TV display.

MENU

18

Tuning of the Channels

Channel Copy

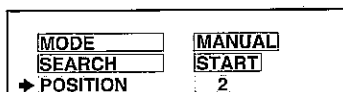This function can be utilized after Automatic Tuning.

For example, to copy a TV channel on programme position "2" onto programme position "6";
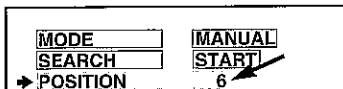
1 Select programme position "2" .

	2

2 Enter to SEMI-AUTO or MANUAL tuning mode. (Refer to page 17 or 18.)

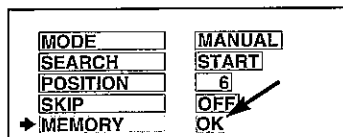**3** Select "POSITION" with the **Programme UP** or **DOWN** button.

MODE	MANUAL
SEARCH	START
➜ POSITION	2

4 Select position "6" with the **VOLUME +** or – button.

MODE	MANUAL
SEARCH	START
➜ POSITION	6

5 Select "MEMORY" by pressing the **PROGRAMME UP** or **DOWN** button.

MODE	MANUAL
SEARCH	START
POSITION	6
SKIP	OFF
➜ MEMORY	
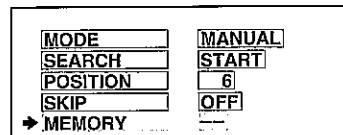
6 Press the **VOLUME +** or – button to memorize.

| MODE	MANUAL
SEARCH	START
POSITION	6
SKIP	OFF
➜ MEMORY	OK

7 Press the **MENU** button to return to normal TV display.

Channel Swapping

Use this channel swapping feature to swap the channels between two stored programme position. This feature is particularly useful after automatic tuning.
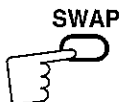
For example, to swap the channel between programme position "6" and programme position "12".
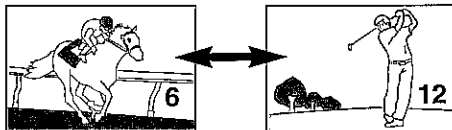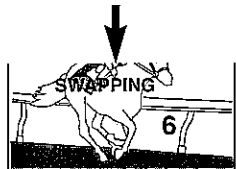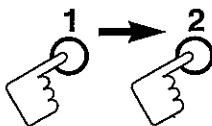

1 Select programme position "6" .

2 Press the **SWAP** button.
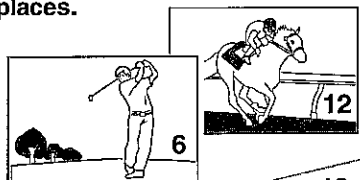
SWAP

3 To swap to Programme position 12, press remote control button"1", followed by "2". (For example, to enter programme position 3 , press remote control button "0" then press " 3 " .)

The two TV channels will now have changed places.

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Tuning of the Channels

Skip Channel Set and Cancel

When there is a position you do not use, Position 4 for example, by setting the SKIP Channel function it is possible to jump over this position, when you are selecting a chan- nel using the **PROGRAMME UP/DOWN** or **CHANNEL SCAN** button.

→ 3 | 4 | 5 →

Skip

For example, to set programme position "4" as Skip channel ;

1 Enter to SEMI-AUTO or MANUAL tuning mode. (Refer to page 17 or 18.)

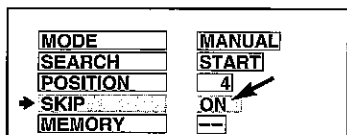**2** Select "POSITION" with the **PROGRAMME UP** or **DOWN** button.

```
MODE         MANUAL
SEARCH       START
→ POSITION     2
```

3 Press remote control "4" button to select Programme Position 4.
Use the **Digit** button and **PROGRAMME SELEC- TOR** (Number buttons) to enter Programme Number. Do not use the **VOLUME +** or **−** button to enter programme position in this settings.

```
MODE         MANUAL
SEARCH       START
→ POSITION     4
```

4 Select "SKIP" by pressing the **PROGRAMME UP** or **DOWN** button, then press the **VOLUME +** or **−** button to set SKIP to ON. To cancel Skip Channel function, set to OFF.

```
MODE         MANUAL
SEARCH       START
POSITION       4
→ SKIP         ON
MEMORY         −−
```

5 Select "MEMORY" by pressing the **PROGRAMME UP** or **DOWN** button, then press the **VOLUME +** or **−** button for memory.

```
SEARCH       START
POSITION       4
SKIP         ON
→ MEMORY       OK
```

To set other programme positions as Skip Channels, repeat steps 2–5.
Any number of channels maybe set as Skip Channels.

6 Press the **MENU** button to return to normal TV display.
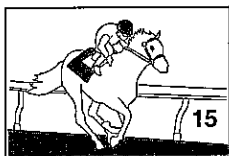
20

Setting of the Private Position

Private position is used to restrict of programme positions that you do not want others to watch.
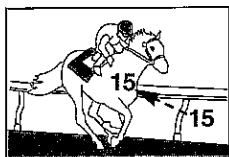Any position can be set as the Private position.

How to set the Private Position

For example, to set the programme position "15" as the private position.

1 Select programme position "15".

2 Press and hold the **RECALL/COLOUR SYSTEM** button for more than 2 seconds.

The programme number "15" will shift to centre of the screen.

3 Press the **MENU** button.

MENU

The picture will disappear, and "X 15" will be display on the screen.

The private position setting is now completed.

To view a programme on Private Position

1 Select private position (In this case position "15").

X15

2 Press and hold the **RECALL/COLOUR SYSTEM** button for more than 2 seconds.

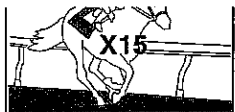**3** Press the **RECALL/COLOUR** button again to erase X15 and view a TV programme.

Note: The position "15" is still in the private position.

Cancelling of the private position

1 Select private position (position "15").

X15

2 Press and hold the **RECALL/COLOUR SYSTEM** button for more than 2 seconds.

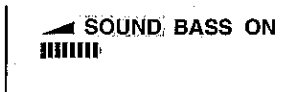**3** Press the **MENU** button .The private position is now cancelled.

MENU

21

Special Functions

(1) Volume Lock setting

With this function, a maximum sound volume limit can be set at any level.
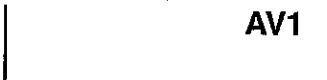
> ◢ SOUND BASS ON
> IIIIIII▸

(2) Tuning Lock setting

Once TUNING LOCK is switched on, further channel tuning (Pre-set) is not possible. The Channel Swapping function also is not possible.
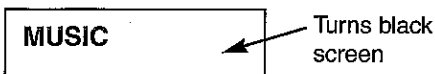
> TUNING LOCKED
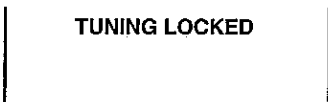
(3) AV Start setting

Set AV-START to ON and every time the TV set is switched on, AV1 position will be the initial programme position.
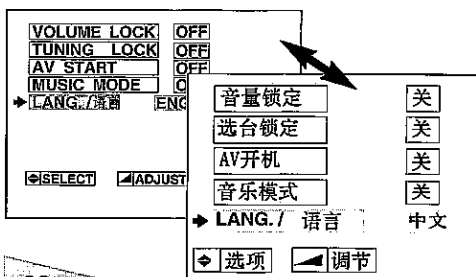
> **AV1**

(4) Music Mode setting

When Music Mode is ON, Programme position from "91" to "99" and "0" are set Music Mode. Only sound is provided and any picture is not on the screen under Music Mode.

> **MUSIC** ◄─── Turns black screen

## (5) Language selection for the on screen display

Either English or Chinese can be selected as the language of the screen display

How to set the special function:

Note: When making the VOLUME LOCK setting, set desired maximum sound volume by pressing the **VOLUME** + or – button before entering Special Function setting mode.

1 To enter Special Function setting mode, press and hold the **MENU** button on the TV set, then press the remote control **RECALL/COLOUR SYSTEM** button.

Special Function Setting Mode
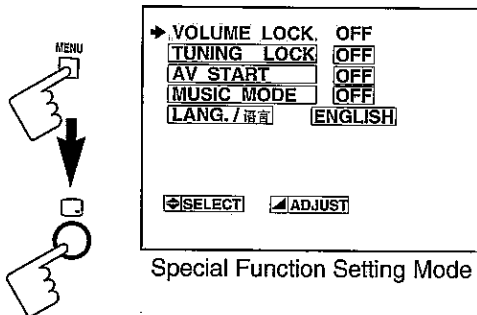
2 Select an item of the special functions by pressing the **PROGRAMME UP** or **DOWN** button on the remote control or the TV set.
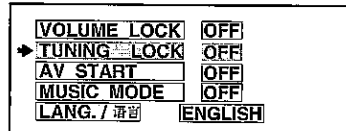
3 Set the selected special function " ON " by pressing the **VOLUME** + or – button. To cancel, set to " OFF ".
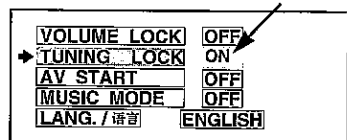
4 Press the **RECALL/COLOUR SYSTEM** button to return to the normal TV mode.

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Connecting other Equipment

Connecting to the Rear AV1 Input Jacks

Connect the video and audio outputs of a VCR, video disc player, etc. to the input jacks of this TV set . Tapes and discs can be played back.

VCR Connection

PLAYBACK

VCR for playback

To video and audio outputs

(Rear Terminal)

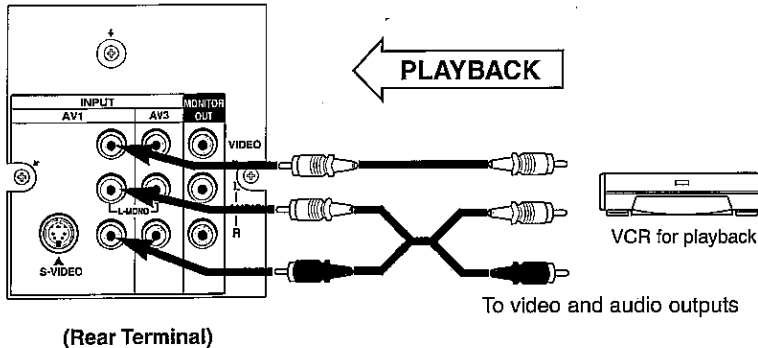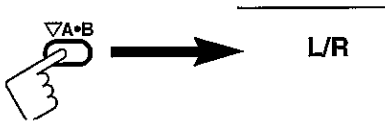■ If the audio signal from the VCR is stereo, be sure to connect the right and left channels to the respective right and left AUDIO-IN terminals. Then select "**L/R**" channel of the audio channel in the TV set with the remote control **STEREO/MONO** button.

 ➡ **L/R**

■ If the external audio signal is a monaural one, connect it to the left terminal of AUDIO IN. Then select "**L/R**" or "**L**" channel of the audio channel in the TV set with the remote control **STEREO/MONO** button.

 ➡ **L/R** or **L**
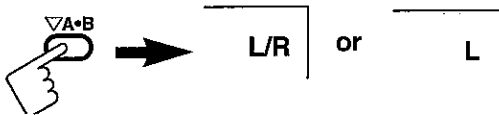
■ To watch the AV1 video input picture, select position AV1 by pressing the **TV/AV Selector**.

TV/AV

 ➡ **AV1**
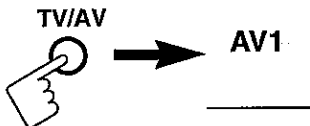
Each time the **TV/AV Selector** is pressed, AV position is changed as follows;

28 ➡ **AV1** ➡ **AV2** ➡ **AV3**

TV mode

23
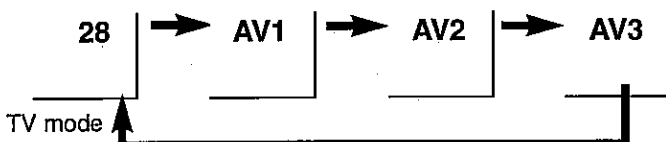
Connecting other Equipment

■ Depending on the type of video tape or connected AV equipment being used, it may be necessary to select colour system. In this case, press the **RECALL/COLOUR SYSTEM** button and select a suitable colour system.

Each time the **RECALL/COLOUR SYSTEM** button is pressed, colour system is changed as follows;
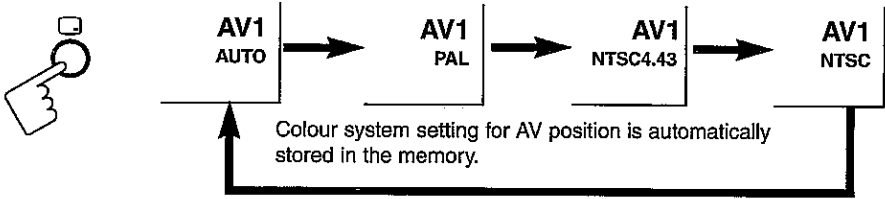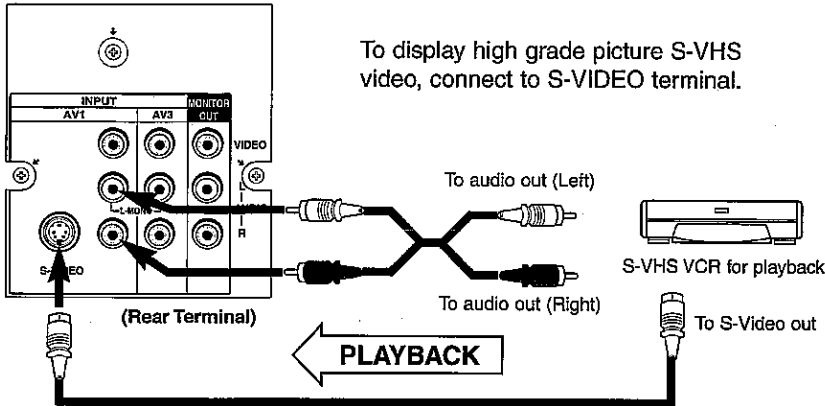

| AV1 AUTO | → | AV1 PAL | → | AV1 NTSC4.43 | → | AV1 NTSC |

Colour system setting for AV position is automatically stored in the memory.

■ **You can select a TV programme while watching a playback from a VCR**

For example:

● To select programme position "9" while watching a playback from external VCR, press "9" button of the remote control. The TV set returns to the TV mode and programme "9" will be selected.

● To select the programme position "26", press **Digit** (--/-) button, **"2"** then **"6"** button. Then TV set returns to the TV mode and programme position "26" will be selected.

Note: Pressing either of the **PROGRAMME UP** or **DOWN** buttons of the remote control or the TV will return the TV to the TV mode.

S-VHS VCR Connection

To display high grade picture S-VHS video, connect to S-VIDEO terminal.

To audio out (Left)

S-VHS VCR for playback

To audio out (Right)

To S-Video out

(Rear Terminal)

PLAYBACK

■ To watch S-VHS video, select AV1 position by pressing the **TV/AV Selector**.

TV/AV → AV1
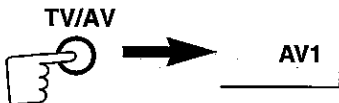
Note: S-VIDEO terminal takes priority over AV1 input. While a S-VIDEO terminal is connected, the AV1 terminal for normal VCR input can not be used. To use the AV1 terminal for normal VCR input, disconnect the S-VIDEO terminal.

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Connecting other Equipment
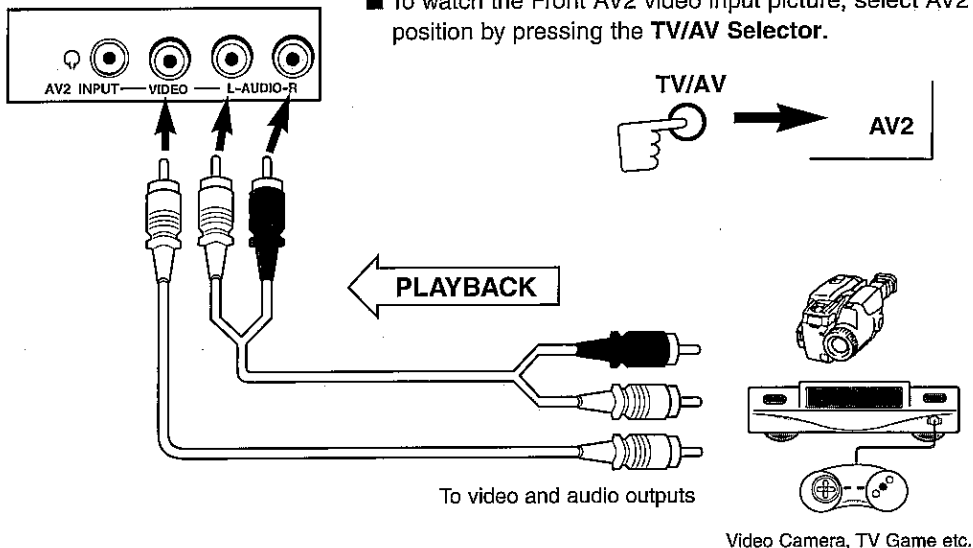
Connecting to the Front AV2 Input jacks

It is convenient to use the AV2 input jack on the front panel for equipment that is often connected and disconnected.

■ To watch the Front AV2 video input picture, select AV2 position by pressing the **TV/AV Selector**.

PLAYBACK

To video and audio outputs

Video Camera, TV Game etc.

Connecting to the Rear AV3 Input jacks

To connect Rear AV3 input terminals, use the same terminal connection method as for AV1.

PLAYBACK

VCR for playback

To video and audio outputs
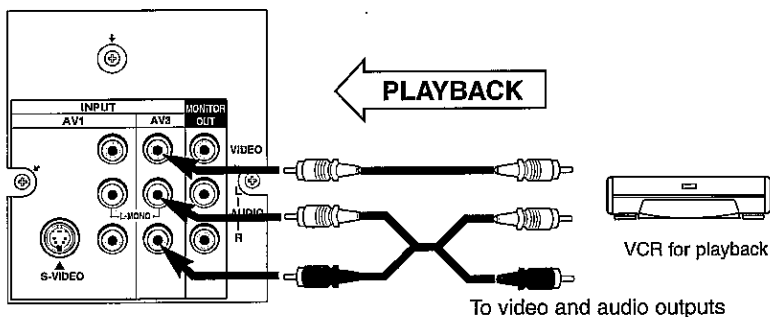
■ To watch Rear AV3 video inputs, select position AV3 by pressing the **TV/AV Selector**.

Connecting other Equipment

Connecting to the Monitor Output Jacks

The picture signal being displayed on the TV screen is output through the Monitor Output Jacks. Use these terminals to record TV broadcasts and for video dubbing from AV input terminals.

Recording TV broadcasts or tape dubbing

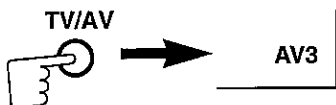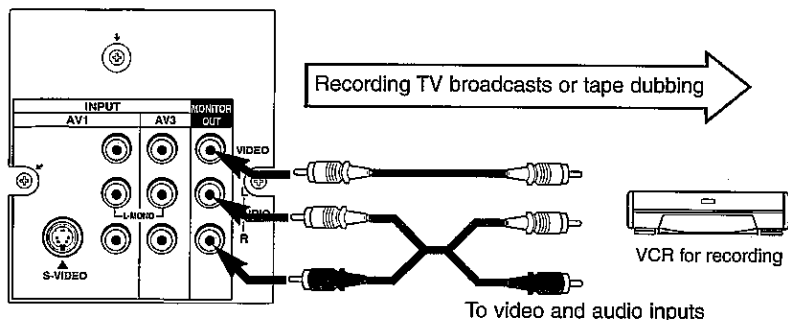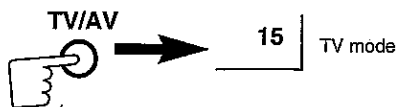VCR for recording

To video and audio inputs

■ To record TV programme, select TV mode by pressing the **TV/AV Selector** and record the desired programme.

TV/AV → 15 TV mode

■ For example, to dub video from the AV1 input terminal , select AV1 position by pressing the **TV/AV Selector**.

TV/AV → AV1
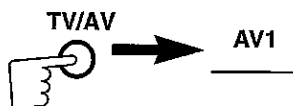
AV Connection to the Aerial Socket

The AV apparatus can also be connected to the aerial socket of your TV receiver.

PLAYBACK

Aerial Socket

VCR for playback
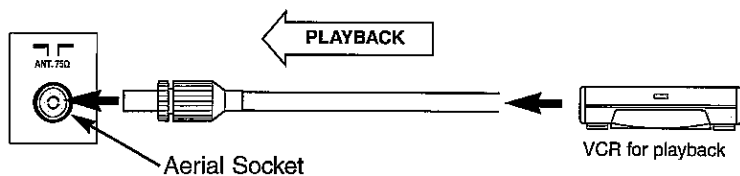
Presetting to watch the video input

1. Playback the VCR .
2. Tune a VCR playback in programme position that you want. (See Semi-Auto Tuning on the page 17.)

For further details concerning this connection and adjustment, refer to the operating instructions for the AV equipment.

Helpful Hints - Problems/Solutions

Before requesting service check the following chart.

Problem:	Check these Conditions / Try these solutions:
No picture, no sound	● Check if TV is plugged in. ● Try a different channel, if OK, probably station trouble.
Poor picture, sound OK	● Adjust Brightness or Contrast control. ● Adjust Fine Tuning. (See page 12.) ● Check aerial connection.
No colour, Picture OK	● Adjust Colour or Tint control. ● Adjust Fine Tuning. (See page 12.) ● Check aerial connection. ● Is the programme in colour ? Try a different channel.
Weak picture	● Check aerial connection on back of TV set. ● Check aerial for broken wires. ● Re-orient aerial.
No sound or poor sound.	● Sound Mute may be on. Press the **SOUND MUTE** button on the remote control. ● Adjust Volume. ● May be station trouble. Try a different channel.
Remote Control will not work.	● Check batteries. Replace batteries. ● Check if TV set is plugged in. Aim remote control towards front of TV.
Cannot select or scan some channels.	● Channel may be removed from memory. Add channel to memory manually. (See "Skip Channel Set and Cancel" on page 20.)● Check aerial connection.
Blue screen with AV1, AV2 or AV3 displayed.	● Check AV connection. Press the TV/AV Selection button. ● Check external equipment. Switch on external equipment.
Black screen with X and programme position displayed.	● Check to see if channel is set as the Private Position. See "Setting of the Private Position" on page 21.
Cabinet makes popping sound.	● This is a normal condition during warm-up and cool down of the plastic cabinet parts.

The following faults are not caused by the receiver:

"GHOSTS"

Reflections of signals from mountains or high buildings will cause multiple images, called "Ghosts". These abnormal conditions can be reduced to minimum by repositioning aerial or by installing new one suited for your area.

"INTERFERENCE"

Interference may be caused by electrical appliances, car ignition systems, etc. This should normally be a temporary condition, but should this interference persist, contact your dealer.

Care and Cleaning

The surface of the cabinet can be damaged if not properly maintained. Many common house-hold aerosol sprays, cleaning agents, solvents and polishes will cause permanent damage to the fine surface.

1. Unplug the power cord before cleaning the Television.

2. Clean the screen with a soft cloth dampened with glass cleaner or warm water.

3. Clean the cabinet with a soft cloth dampened with a mild household detergent and warm water. Dry thoroughly.

Note: NEVER spray liquids on the screen because they can run down and drip onto the chassis. This may cause component failure not covered under Warranty.

Specifications

Power Source   AC220-240 Volts, 50/60Hz

Colour System PAL (AV input: PAL/NTSC4.43/ NTSC/PAL-60Hz)

Sound System   B/G

Channel Coverage

  Australia VHF: 0 - 11, 5A
              UHF: 28 - 69
              CATV: S1 - S41, X, Y, Z, Z+1, Z+2
  New Zealand
              VHF: 1 - 11
              UHF: 21 - 69
              CATV: S1 - S41, X, Y, Z, Z+1, Z+2

Aerial input impedance   75 Ω

Audio output (Music)   7.5W + 7.5W

Speakers   6 cm x 12cm x 2 pcs.

Ext. terminals
  Video Inputs: Phone Jack x 3 (1.0Vp-p, impedance 75 Ω)
               S-Video Input x 1 (Din 4 pin, Separated Y/C Signals Input)
  Audio Inputs: Phone Jack (R/L) x 3 (436mVrms, impedance more than 40KΩ)
  Video Monitor Outputs: Phone Jack x 1 (1.0Vp-p, impedance 75 Ω)
  Audio Monitor Outputs: Phone Jack (R/L) x 1 (436mVrms, impedance less than 600Ω)
  Headphone Jack: Mini Stereo Jack x 1

Dimension   750 (W) x 583 (H) x 503 (D)mm

Weight   approx. 46.8Kg

Specifications subject to change without notice.

SANYO