

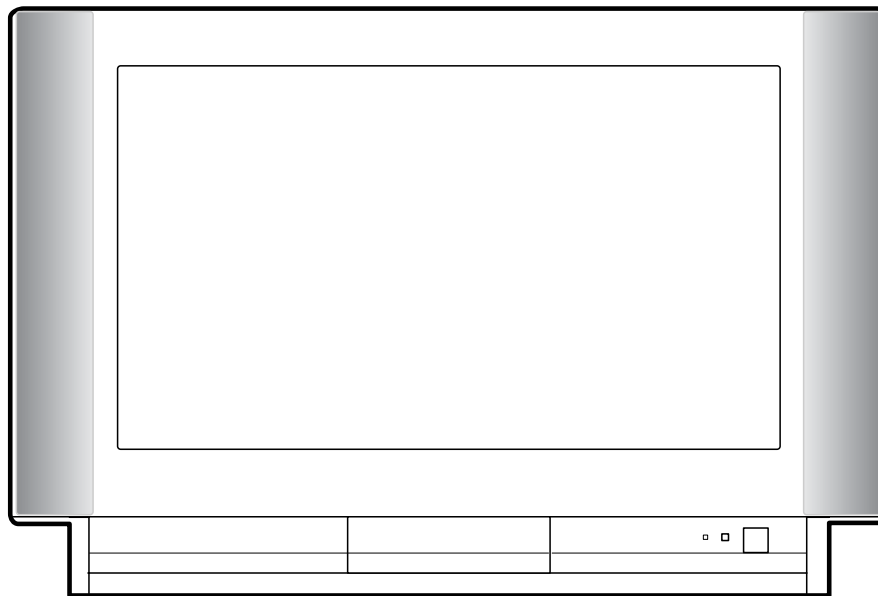
# SANYO

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**INSTRUCTION MANUAL**

**CE28DFN1-B  
CE32DFN1-B**

**Colour Television**



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### Digital Terrestrial Television

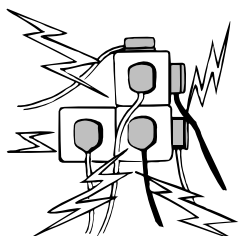
Welcome to a new feature of entertainment with a new free to air and subscription service. This TV set provides a digital decoder, a modem and Common Interface slots which can be used for receiving the subscription service or the interactive communication service such as home shopping, home banking and other services. For further information please contact your local dealer.

Digital terrestrial television can be received with digital broadcasting through the existing analogue reception aerial and the picture is mostly formatted with 16:9 wide screen. By using EPG (Electrical Programme Guide) function, the information (station name, programme name, start and end time of the programme, summary, etc.) of channels transmitted by the station can be displayed on the screen and you can easily select the desired digital channel. Of course you can record or programme to record the digital channels via the TV on your VCR.

# SAFETY PRECAUTIONS

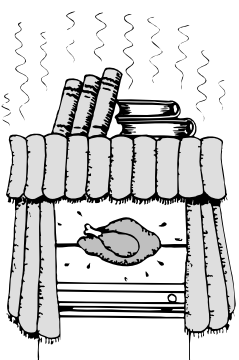
**CAUTION: Please read and retain for your safety.** This unit has been engineered and manufactured to assure your personal safety. But improper use can result in potential electric shock or fire hazards. In order not to defeat the safeguards incorporated in this receiver observe the following basic rules for its installation, use and servicing.

## Installation



**Do not** allow anything to rest on the power cord. **Do not** locate this television receiver where the cord will be damaged by people walking on it.

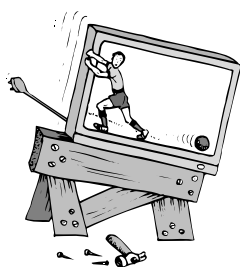
**Do not** overload wall outlets and extension cords as this can result in fire or electric shock.



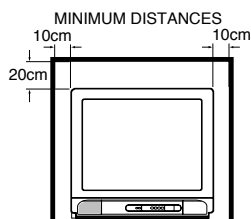
Slots and openings in the cabinet and in the back or bottom are provided for ventilation to ensure reliable operation and to protect it from overheating.

These openings **must not** be blocked or covered. The opening **should never** be covered with a cloth or other material, and the bottom openings **should not** be blocked by placing the television receiver on a bed, sofa, rug, or other similar surface. This television receiver **should never** be placed near or over a radiator or heater.

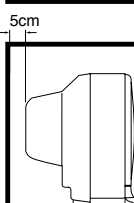
This television receiver **should not** be placed in a built-in installation such as a bookcase unless proper ventilation is provided.



**Do not** place your television receiver on an unstable stand, shelf or table. Serious injury to an individual, and damage to the television may result if it should fall. Your sales person can recommend approved stands or shelf and wall mounting instructions.



If the television is built into a unit, or enclosed, the minimum distances for ventilation must be maintained. Heat build up can reduce the life of your television, and can be dangerous.

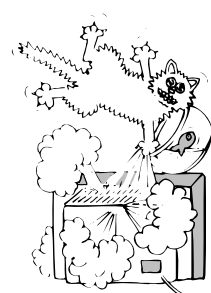


## Use



This television receiver should be operated only from the type of power source indicated on the television or as indicated in the Operating Instructions. If you are not sure of the type of power supply in your home, consult your sales person or your local power company.

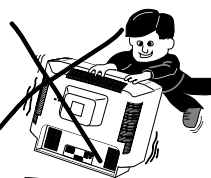
**Never** add accessories that have not been specifically designed for this television.



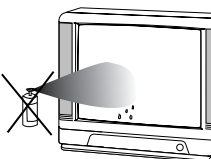
**Do not** drop or push objects into the television cabinet slots or openings. Some internal parts carry hazardous voltages and contact may result in an electric shock hazard. **Never** spill liquids of any kind on the television receiver. **Do not** place items such as vases containing liquid on top of the TV set.



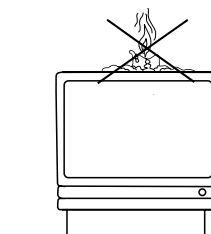
**Do not** expose the television receiver to rain or use near water. For example, near a bathtub, kitchen sink, in a wet basement, etc. Before cleaning, unplug the television receiver from the wall socket.



**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.



**Do not** apply liquid cleaners or aerosol cleaners directly onto the television receiver. Use a damp cloth for cleaning.

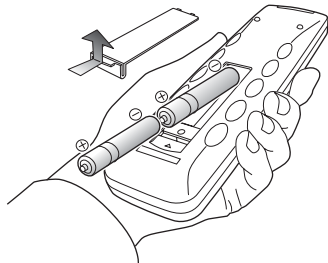


**Do not** place candles or hot objects upon the TV, next to it or behind it. Open flames must never be used near the TV set.

# INSTALLATION

## Step 1 :

1. Remove the battery cover by sliding it in direction of the arrow.
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.



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

## Step 2 :

### ■ STEP 2 : Connections

This TV has 3 SCART sockets on the rear of the TV set. There are various types of connections depending on the equipment which you have or its particular use. Use the relevant connections to get the optimum picture quality according to the input function prepared for each AV terminal.

[AV1] has RGB and composite video signal inputs and analogue channel TV output.

[AV2] has Y/C and composite video signal inputs and TV-monitored output.

[AV3] has a composite video signal input.

Following connection examples are our recommended standard connections. For further information please consult your local dealer.

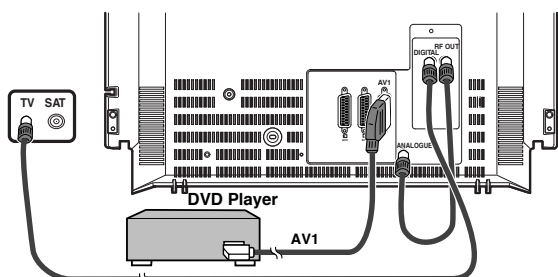
### ● Connecting the aerial / DVD player

1. Connect an aerial cable from the house aerial to the **DIGITAL** socket on the TV set.
2. Connect an aerial cable (supplied) from the **RF OUT** socket to the **ANALOGUE** socket on the TV set.

If you have a DVD player.

3. Connect a SCART cable to the **AV1**, **AV2** or **AV3** socket from the DVD player.

☞ If your DVD player has an RGB output, use the **AV1** socket to get better picture quality.

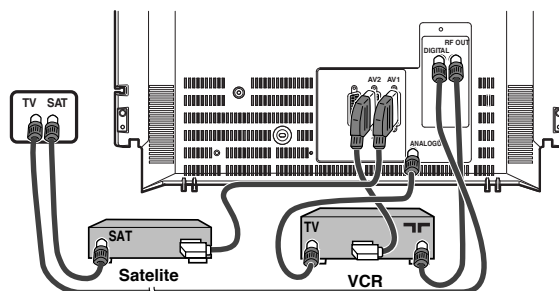


### ● Connecting the VCR / Satellite receiver

1. Connect an aerial cable from the house aerial to the **DIGITAL** socket on the TV set.
2. Connect an aerial cable (supplied) from the **RF OUT** socket on the TV set to the **RF** on the VCR.
3. Connect an aerial cable from the **TV** socket on the VCR to the **ANALOGUE** socket on the TV set.
4. Connect a SCART cable to the **AV2** terminal on the TV set from the VCR.

If you have a satellite receiver.

5. Connect an aerial cable from the house satellite aerial to the **SAT** on the satellite receiver.
6. Connect a SCART cable to the **AV1** terminal on the TV set from the satellite receiver.



## Step 3 :

### ■ STEP 3 : Connecting AC cord

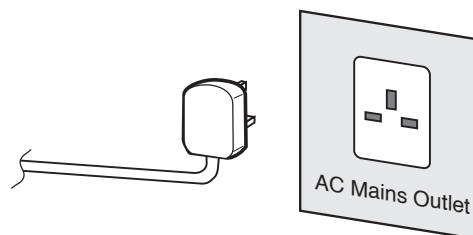
Connect the power cord of the TV set to a wall outlet.

☞ The TV set is prepared for a mains voltage AC220~240V 50Hz. When the TV set is not to be used for an extended period of time, it is advisable to disconnect the power cord from the power outlet.



### WARNING!

High voltages are used in the operation of this set. Refer service to qualified service personnel.



# INSTALLATION

## Important:

This equipment is fitted with an approved non rewirable UK mains plug. To change a fuse in this type of plug proceed as follows:

1. Remove the fuse cover and fuse.
2. Fit a new fuse which should be a BS1362 5Amp A.S.T.A. or BSI approved type.
3. Ensure that the fuse cover is correctly refitted.

If the fuse cover is lost or damaged the plug must **NOT** be used but replaced with a serviceable plug.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place. If the mains plug contains a fuse, this should have a rating of 5Amp, ensure the fuse cover is correctly fitted. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5Amp.

**Note:** The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13Amp socket elsewhere.

The wires in this mains lead are coloured in accordance with the following code:

**Blue -----> Neutral**  
**Brown ----> Live**

1. The Blue wire must be connected to the terminal which is marked with the letter "N" or coloured BLACK.
2. The Brown wire must be connected to the terminal with the letter "L" or coloured RED.
3. **Do not** connect either wire to the earth terminal in the plug which is marked with the letter "E" or by the earth symbol or coloured GREEN or GREEN and YELLOW.


Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the wires.

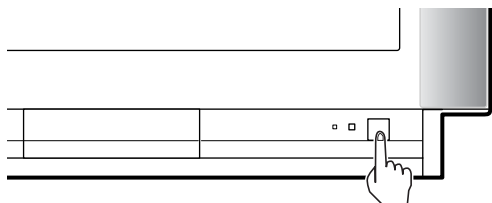
## Step 4 :

### ■ STEP 4 : Switching on your TV

This TV set provides a self-automatic tuning and sorting function called "Plug & Play". The first time you switch on this TV set, it will automatically begin to searching, storing and sorting all of the available analogue and digital channels.

Press the **Mains ON/OFF**  switch on the front of the TV. The power indicator illuminates red to show the power is on.

If the TV set remains in standby mode, press any of the , **P▲** or **P▼** and **0 - 9 numeric buttons** on the remote control.



The self-automatic tuning system will start. The TV scans the analogue channels first and then switches to digital channel mode and scans digital channels. This automatic tuning takes approximately 15 minutes. During automatic tuning, the TV displays the tuning status of analogue and digital channel tuning on the screen.

To cancel this procedure, press the **MENU button**.

Thank you for purchasing your SANYO TV.  
 First I am searching and storing analogue programmes. Please wait.

POS. A 2  
 CH C25

**Analogue Set-up completed**  
**Next digital Set-up is starting**

**DIGITAL AUTOMATIC TUNING**

Progress 

Please Wait While Searching....  MENU Exit

2. After completing the analogue and digital channels tuning, the TV set will return to normal TV mode and select the programme position "D001" of the digital channel.

## Now the installation is completed !

### ● Channel allocation of the digital channels


After completing the automatic tuning, the stored digital channels are sorted according to the LCN (Logical Channel Number) predefined by the broadcasters. Please see "Digital terrestrial channel allocation" table on page 30 for further information.


### ● Channel allocation of the analogue channels


The channels are stored in consecutive programme positions starting at programme position "A 7". After all receivable channels have been found and stored, the TV set automatically allocates following major stations in the UK into the programme position A 1 to A 6.

**A1** : BBC1  
**A2** : BBC2  
**A3** : ITV  
**A4** : CH4 or S4C  
**A5** : CH5  
**A6** : SKY, BBC-W or BBC-P

**CH4** : Channel 4 or S4C  
**SKY** : SKY GOLD, SKY SPORTS.etc  
**BBC-W** : BBC World, BBC Worldwide feature 1  
**BBC-P** : BBC Prime

 If any of them are not available in your reception area, some programme positions from A1 to A6 will not have a stored station. The remaining stations will be stored from programme position A7 in sequence as found.

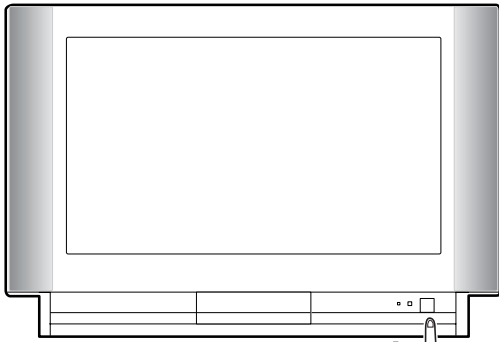
 If additional channels become available (you move to another city or cable is installed), please follow the description "PRESETTING". (on pages 17 - 19).

 If the Irish station of RTE1 or RTE2 is available in your reception area, the resorting message will appear to ask you to set your preferred programme ordering. In this case, both the programme positions A7 and A8 may also be reserved for those stations depending on your ordering choice.

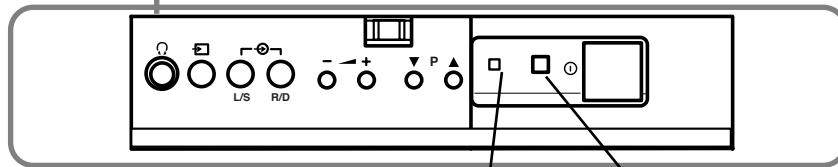
# CONTROLS

## ■ Controls and terminals on front of TV

Symbol	Function
Ⓚ	Mains On/Off switch
P▼ P▲	Programme Down/Up
- ▲ +	Level Down/Up
□	Video input AV3
⊖ ⊕	Audio input L R AV3
🎧	Headphone socket

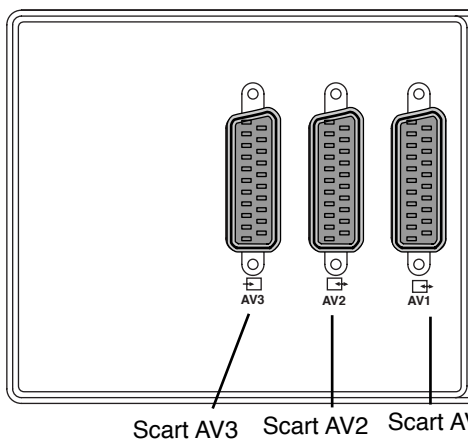
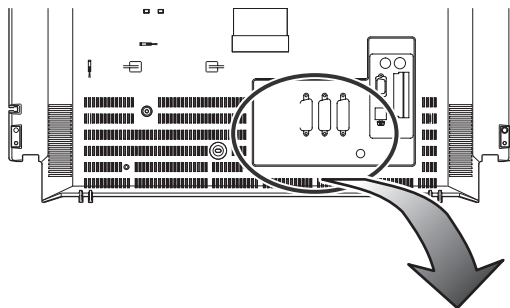


Push to open

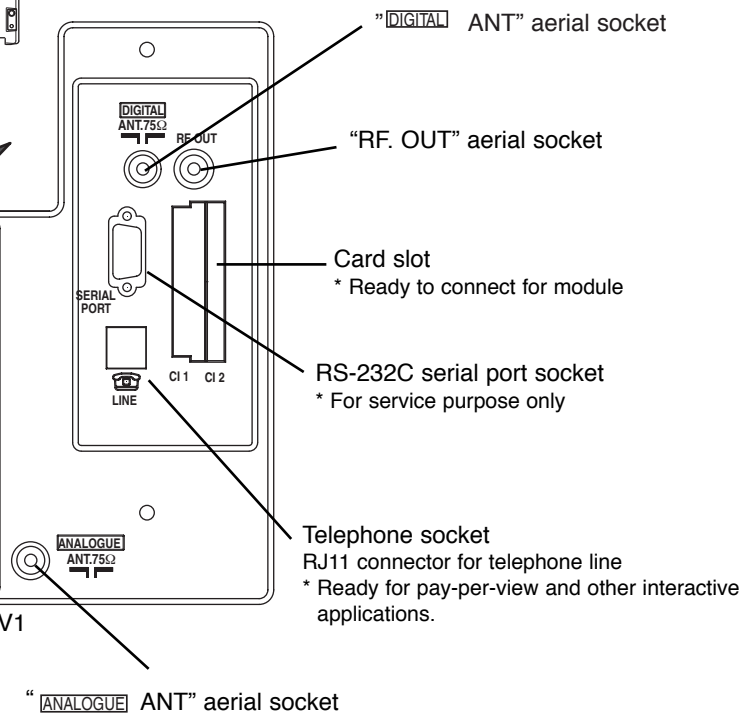


LED (Power/Standby/Timer indicator) Remote Control Target

## ■ Controls and terminals on rear of TV



Scart AV3 Scart AV2 Scart AV1



# REMOTE CONTROL

## Sound mute

To switch the sound from the speakers. The sound changes as follows; **normal -> attenuate -> mute**

## TV/AV switch

To switch from TV, AV1, AV2 or AV3 mode repeatedly.

## Nicam/Bilingual selector

To switch the sound mode as follows; **NICAM** or **MONO** in the stereo programmes. **A** or **B** in the bilingual programmes. If the nicam or stereo sound reception is poor in quality, you can switch to **MONO** sound reception by pressing **A·B** button. This operates only analogue channel mode.

## Direct programme selector

For direct access to programmes using **(0-9) numeric buttons**. For selection of analogue programme position A10 - A99, for example 23, first press **-/-** button and press **2** and **3** numeric buttons.

## Volume up/down

To adjust the sound level.

## Cursor

To select the sub menu items in the menu display.

## MENU

To switch on the screen display menu on/off. You may see the mains menu for Analogue menu or Digital menu depending on the channel mode.

## Electrical programme guide

To call up the electrical programme guide display on the screen. This is available only for digital channel.(p.12)

## Surround mode selector

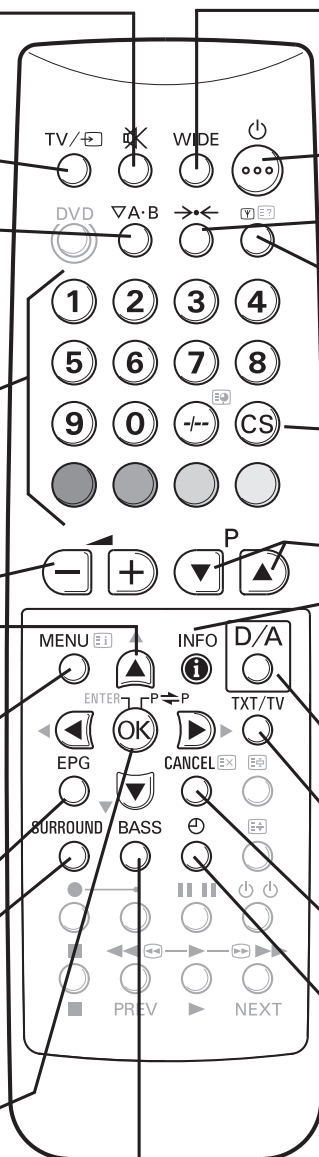
To select the surround mode, **VIRTUAL DOLBY SURROUND**, **ACTIVE 3D SURROUND** or **SURROUND OFF**..(p.11)

## OK Programme alteration

To confirm the setting in the menu, or to switch back to the previous programme position watched.

## Bass (Virtual Subwoofer) selection

To get an emphasised bass sound, **CINEMA**, **STUDIO** or **OFF**. (P12)



## Screen mode selector

To select the screen mode, **AUTO**, **NATURAL WIDE**, **ZOOM14:9**, **TITLE IN 14:9**, **ZOOM 16:9**, **TITLE-IN 16:9**, **FULL** or **NORMAL**. (P10).

## Standby/Power on

To switch the TV on and off.

## Picture mode selector

To access a series of picture modes: **PERSONAL**, **STANDARD**, **ECO** and **DYNAMIC**. (p.9)

## System selector

To select the colour system in the AV mode, **AUTO**, **PAL**, **NTSC 4.43** or **NTSC3.58**.

## Channel mode selection

To enter channel number of the station directly. This operates in the analogue channel mode only.(P8).

## Programme up and down

To select the next programme number or previous programme number.

## INFO

In the analogue mode, it displays the programme information such as current programme number, stereo status and remaining time if set, for about 5 seconds. In the digital channel mode it switches displaying the channel information and further subtitles on/off and displays the remaining time if set. This also operates as a back key in the menu display.

## D/A selector

To switch between analogue and digital channels.

## Teletext/TV selector

To switch TV, MIX and Teletext mode. (p.20 - 22)

## Cancel

To delete the channels in the sorting menu and the event items in the timer recording menu.

## Time display

To switch displaying the present time on the screen if the station provide a time function.

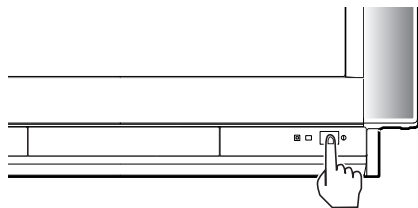
**Note:** During displaying the time on the screen in the digital channel, the digital teletext service and subtitles functions are not available.



## GENERAL OPERATION

### Switching-on/off with mains switch

- To turn the TV set ON, press the **Mains ON/OFF switch** on the front of the TV.



The power indicator illuminates to show the power is on.

- To turn the TV set OFF completely, press the **Mains ON/OFF switch** again.

If no picture appears but the power indicator is on, press the **⏻ button, P▲, P▼ or 0-9 button** as the TV set is in the Standby mode.

### Switching into/from standby mode

- To switch the TV set into standby mode, press the **⏻ button**.

The red power indicator illuminates more brightly.

- To switch the TV set ON from standby mode, press any of the following buttons: **⏻, P▲, P▼ or 0-9 buttons**.

☞ The **Mains ON/OFF switch** must be in the ON position before using the remote control handset.

☞ Standby mode is used for switching the TV set off for short periods of time. In standby mode the TV is switched off but is still receiving mains power.



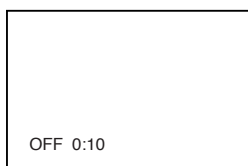
If you find the power indicator flashing, please turn the TV set off completely with the **Mains ON/OFF ⏻ switch** and contact our service desk.



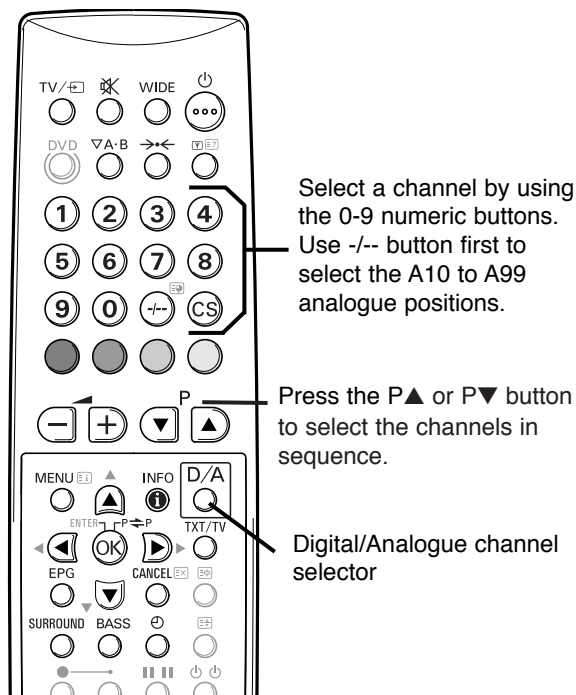
This warning is a sign to let you know that the power protection function of this TV set is now operating.

### Auto Shut Off

This TV set will automatically switch into the standby mode, 10 minutes after a signal is no longer received. The time until the set will switch off is displayed on the screen.



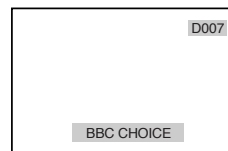
☞ If the aerial is removed the TV set will automatically switch into the standby mode after 10 minutes.



### Selection of digital channels

1. To switch the digital channel mode, press the **D/A button** once.
  2. To select the digital channels, enter the channel number by using the **0 - 9 numeric buttons** or press the **P▲** or **P▼ button** repeatedly.
- ☞ The digital channel numbers are specified by the broadcasters as the LCN (Logical Channel Number). Please see "Digital terrestrial channel allocation" table on page 29 for further channel allocation.

The channel number and station name will appear on the screen briefly.



### Direct channel selection (analogue channel)

To select analogue channels directly, please follow the steps below :

1. Press the **CS button**. The current channel number will be displayed on the screen in the analogue channel mode.
2. ● If you do not know the channel number, press the **P▲** or **P▼ button** to start channel searching. When a station is found searching stops automatically. If this is not the desired station repeat until the desired station is found.
  - If you know the channel number, enter the channel number by using the **0 - 9 numeric buttons**.
3. While the screen display is still on the screen, press the **OK button** to store your selection into the memory.

The channel number will momentarily blink.

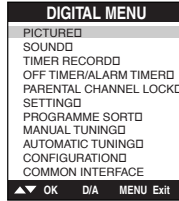
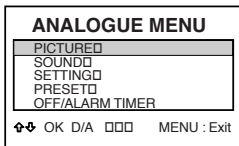


# GENERAL OPERATION

## Picture & Sound Settings

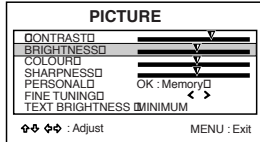
### Picture adjustment using the menu function

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **TIMER** menu.



2. Press the **OK** button.

3. Use the **▲** or **▼** button to highlight the desired control from the menu eg. **BRIGHTNESS**.



4. When pressing the **◀** or **▶** button once, the screen display will change for selected control mode, and then press and keep button to change desired picture control level. The mode returns to control selecting mode in 2 seconds if no key pressed.

Repeat steps 3-4 for setting the proper picture levels. To return to the TV mode, press the **MENU** button.

**CONTRAST** : To adjust the picture contrast.

**BRIGHTNESS** : To adjust the picture brightness.

**COLOUR** : To adjust the picture colour.

**TINT** : To adjust the colour phase (appears when receiving a NTSC signal only).

**SHARPNESS** : To adjust the picture sharpness.

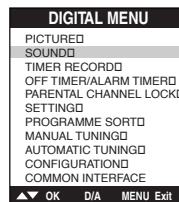
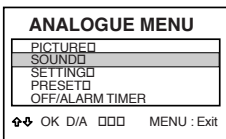
**FINE TUNING** : To make fine adjustments to tuning. (appears in TV mode only)

**TEXT BRIGHTNESS** : To select the teletext brightness level of the teletext mode.

*☞* Fine tuning and Text brightness controls are not available in the digital channel.

### Sound adjustment using the menu function

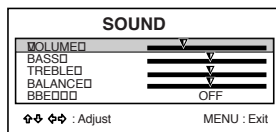
1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **SOUND** menu.



2. Press the **OK** button

3. Use the **▲** or **▼** button to highlight the desired control from the menu eg. **BASS**.

4. Press the **◀** or **▶** button to adjust the selected control level up or down.



To return to the TV mode, press the **MENU** button.

**BASS** : To adjust low frequency sounds.

**TREBLE** : To adjust high frequency sounds.

**BALANCE** : To equalise the output from the left and right speakers.

## Picture mode selection and personal preference setting

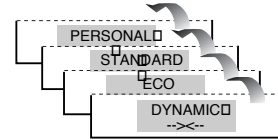
This TV provides three predefined picture modes and one adjustable personal picture preference mode. You can choose your preferred picture mode by pressing the **→◀** button repeatedly.

**PERSONAL** : Personal preference mode.

**STANDARD** : Normal viewing mode.

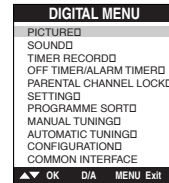
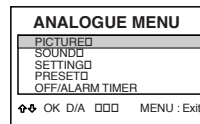
**ECO** : Low contrast, brightness and colour picture setting (Suitable for dimly lit rooms and gives a cinema-like effect when the lights are switched off, or Economical mode).

**DYNAMIC** : High contrast, brightness and colour picture setting (Suitable for brightly lit rooms).

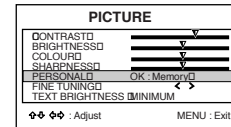


### To store your personal preference into "PERSONAL" mode

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **PICTURE** menu and press the **OK** button.



2. Adjust picture controls to your preferred control level by using the **▲**, **▼** or **◀**, **▶** buttons.



3. Use the **▲** or **▼** button to highlight the **PERSONAL** menu and press the **OK** button. The control window will momentarily blink to show the memorisation.

To return to the TV mode, press the **MENU** button.

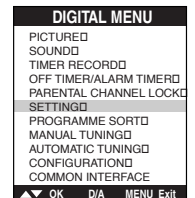
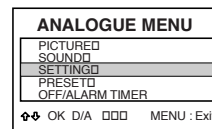
*☞* The fine tuning control level will not be memorised into the "PERSONAL" mode (Both modes), the Text brightness is also not available in Digital mode only.

## Child lock

This TV has a child lock function which inhibits the use of the buttons on the front of the TV set. With this you can prevent small children unexpectedly pressing buttons.

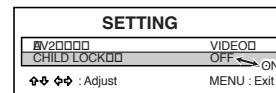
### SETTING

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **SETTING** menu.



2. Press the **OK** button.

3. Use the **▲** or **▼** button to highlight the **CHILD LOCK** menu. Select "ON" or "OFF" by pressing the **◀** or **▶** button.



To return to the TV mode, press the **MENU** button.

To cancel the child lock mode, follow the above procedure and you should select "OFF" in step 3 or switching off the TV set with the **Mains ON/OFF** switch.

# GENERAL OPERATION - SCREEN OPTIONS

## SCREEN OPTIONS

### WSS (Wide-Screen-Signaling)

This function is to be automatically set to the optimum screen mode for the wide screen television according to the aspect ratio bits of the picture format (16:9, 14:9, 4:3, etc.) on the receiving signal source. To use this function, the picture mode should be selected to the "AUTO" mode.

#### ■ Selection of screen mode

The size of the picture image can be selected in many modes, the resultant picture will depend upon the transmission format. Currently pictures are transmitted in a variety of aspect ratios, eg. 4:3, 16:9, 14:9 or video formats such as letterbox. To select the picture modes press the **WIDE** button, each time it is pressed the mode changes as follows.

#### ● AUTO

It automatically switches to the optimum screen mode according to the WSS signal provided in the receiving signal source. If the signal does not have it, the TV keeps current screen mode.

#### ● NATURAL WIDE

**4:3:** Stretches the picture horizontally and fills the screen, the picture is more stretched at the sides.

**14:9:** Height is expanded to fill screen.

**16:9:** Fills the whole screen with the correctly proportioned picture.

**LETTERBOX:** The black bars top and bottom remain and the height is compressed to fit into the picture area.

#### ● ZOOM (14:9)

**4:3:** The correct picture width is maintained but the top and bottom of the picture are cropped.

**14:9:** Zooms in slightly cropping the top and bottom.

**16:9:** Zooms in slightly cropping the top and bottom.

**LETTERBOX:** The black bars top and bottom are smaller and the pictures height is compressed slightly.

#### ● TITLE IN (14:9)

**4:3:** Zoom as zoom 14:9 but the bottom half of the picture is compressed to show more image to include sub titles.

**14:9:** The bottom half of the picture is compressed to show sub titles.

**16:9:** The bottom half of the picture is compressed to show sub titles.

**LETTERBOX:** The bottom half of the picture is compressed to show more image to include sub titles. A small black bar becomes visible.

#### ● ZOOM (16:9)

**4:3:** The correct picture width is maintained but the top and bottom of the picture are cropped more than in zoom 14:9.

**14:9:** Zooms in slightly cropping the top and bottom more than in zoom 14:9.

**16:9:** Zooms in slightly cropping the top and bottom more than in zoom 14:9.

**LETTERBOX:** Fills the screen with the correct proportions with no black bars.

#### ● TITLE IN (16:9)

As Zoom 14:9 TITLE-IN but the picture is compressed more at the bottom.

#### ● FULL

**4:3:** The whole screen is filled stretching the width.

**14:9:** The whole screen is filled with the height slightly expanded at the edges.

**16:9:** The whole screen is filled with the correct aspect ratio.

**LETTERBOX:** A black bar is present top and bottom with the picture compressed to fit the height.

#### ● NORMAL

**4:3:** The correct ratio is maintained giving black bars left and right.

**14:9:** Black bars left and right the height is stretched to fill the height.

**16:9:** Black bars left and right the height is stretched to fill the height.

**LETTERBOX:** Black bars left and right and top and bottom.

RECEPTION➡	4:3	14:9	16:9	Letterbox Video
MODE				
AUTO				
NATURAL WIDE				
ZOOM (14:9)				
TITLE-IN (14:9)				
ZOOM (16:9)				
TITLE-IN (16:9)				
FULL				
NORMAL				

# GENERAL OPERATION - SOUND OPTIONS

## SOUND OPTIONS

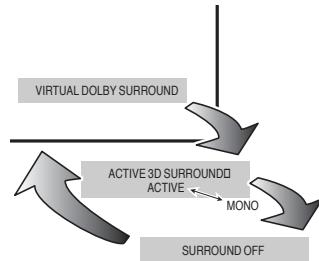
### Selection of Surround Mode

Press the **SURROUND** button repeatedly, the surround mode changes as follows;

**VIRTUAL DOLBY SURROUND** -> **ACTIVE 3D SURROUND** -> **SURROUND OFF** ->

#### ■ VIRTUAL DOLBY SURROUND

This mode is recommended to watch a movie or programme which is encoded with Dolby Surround. It is marked with **DD** **DOLBY SURROUND**. You can obtain the Dolby Surround effect through the left and right front speakers.



#### What is Virtual Dolby Surround ?

Home theatre surround systems normally use five speakers: three across the front (L, C, R) and two surround speakers on the sides. A virtual surround system attempts to create the same surround effect produced by a multichannel system using the left and right speakers.



Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.



The QSound Trademarks are registered in the United States, Canada and numerous foreign countries. QSurround™ is a trademark of QSound Labs, Inc.

#### ■ ACTIVE 3D SURROUND

This mode is recommended when you wish to add the surround sound to a programme or movie not encoded with Dolby Surround. This TV provides an active 3D surround processor which can create a 3 dimensional sound effect when receiving a standard stereo signal, bilingual signal or monaural signal.

You can choose the following 3D surround modes by pressing the **◀** or **▶** button while the active 3D surround display is still on the screen.

**ACTIVE** : Normal 3D surround sound, set to give the optimum 3D surround effect.

**MONO** : This mode is specially prepared for Nicam-mono broadcasting. Select this mode, when you can not get the 3D surround effects even if the status is Nicam stereo. You may feel 3D surround effect.

#### ■ SURROUND OFF

This mode reproduces only the left and right front sound signals. The rear and centre speakers are not active.

#### What is Active 3D surround?

In traditional stereo sound, left and right channels combine to create a stereo image. Better speakers can create a larger perceived sound stage, so sound seems to emanate from a few feet behind the monitor. Sound can have a much wider presence with Active 3D surround technologies. Music and sound effects appear to come from points in the room far from the speakers. Objects (such as jets) seem to move towards and then past the listener, whilst the important channel sound still appears to come from the centre of the screen.

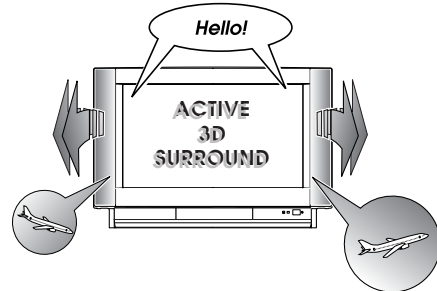
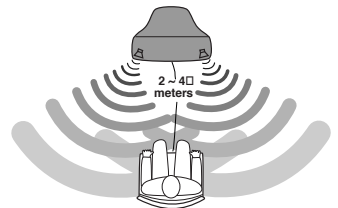


QXpander™ is a trademark of QSound Labs, Inc.

#### ■ Guidance for the best enjoyment of active 3D surround and Virtual Dolby Surround

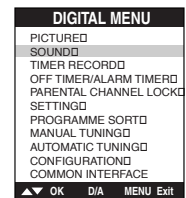
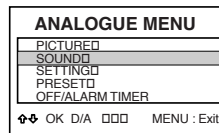
##### Optimum positioning

- Sit at a distance of approximately 2 to 4 meters from the TV set.
- Listen facing the centre of the TV set.
- Remove any obstructions between you and the TV set.



## BBE™ ON/OFF

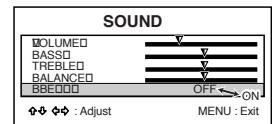
1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **SOUND** menu.



2. Press the **OK** button.

3. Use the **▲** or **▼** button to highlight the **BBE** menu.

4. Press the **◀** or **▶** button to switch the mode ON or OFF.



To return to the TV mode, press the **MENU** button.

#### What is BBE ?

By correcting the phase delay and distortion naturally generated by speaker systems, BBE ensures that the sound that reaches your ears is as natural as the original sound. Human voices are clearer and music is well-defined.



Licensed by BBE SOUND, Inc. under USP4638258 and 4482866. BBE and BBE symbol are trademarks of BBE Sound.

## MaxxBass: Virtual Subwoofer™

This television includes MaxxBass, the most advanced signal processing available for enhanced bass audio response. This patented digital technology transforms your television speaker system into a Virtual Subwoofer™, thereby producing a richer, psychoacoustically-pleasing bass sound usually associated with high-end audiophile systems. You can choose your preferred level of MaxxBass response from the following menu options:



You can choose your preferred bass mode by pressing the **BASS** button repeatedly.

**VIRTUAL SUBWOOFER ON: CINEMA**  
**VIRTUAL SUBWOOFER ON: STUDIO**  
**VIRTUAL SUBWOOFER OFF**

VIRTUAL SUBWOOFER  
 CINEMA

VIRTUAL SUBWOOFER  
 STUDIO

VIRTUAL SUBWOOFER  
 OFF

# TIMER

## Alarm Timer Setting

This TV has two timer functions and you can select the following modes by using the menu function.

### ■ Off timer setting

The Off timer will switch the TV into standby mode when the set time has counted to zero.

### ■ Alarm timer setting

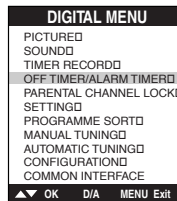
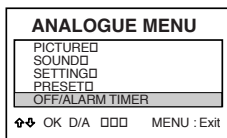
The Alarm timer will display a time up sign on the screen and will beep when the set time has counted to zero.

✎ If the TV set is switched off by the Mains ON/OFF switch or a power failure occurs, the timer settings will be cancelled.

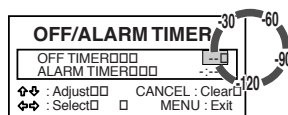
Function	Maximum time periods	Step
Off Timer	120 minutes	30 minutes
Alarm Timer	3:00 Hours	5 minutes

## Off Timer Setting

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **OFF/ALARM TIMER** menu.



2. Press the **OK** button.
3. Use the **▲** or **▼** button to highlight the **OFF TIMER** menu.
4. Highlight the time setting column by using the **◀** or **▶** button, and using the **▲** or **▼** button to select a time period. The display changes in 30 minutes steps and maximum time period is 120 minutes.

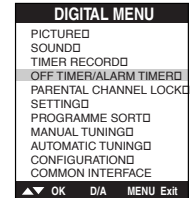
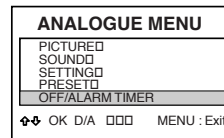


To cancel the off timer, select timer “-” by pressing the **CANCEL** button in step 4.

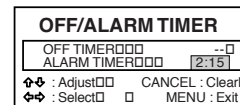
To return to the TV mode at any time press the **MENU** button.

This function can display the time up sign on the screen as illustrated below to let you know that the time has come when the set alarm time is reached. This only happens when the TV is on. This may remind you to do something.

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **OFF/ALARM TIMER** menu.

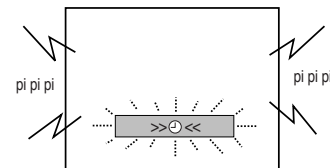


2. Press the **OK** button.
3. Use the **▲** or **▼** button to highlight the **ALARM TIMER** menu.
4. Highlight the time setting column by using the **◀** or **▶** button and using the **▲** or **▼** button to select a time period. The display changes in 5 minute steps and the maximum time period is 3:00 hours.



✎ To change to another timer mode, first select timer selection mode (highlight a row) using the **◀** or **▶** button and then change desired timer mode by using the **▲** or **▼** button.

**When the set alarm time period is up, the time up signal will appear on the screen and the alarm will sound for 15 seconds.**



To stop the beep and the alarm display, press any of the control buttons.

To cancel the Alarm timer, select timer “-” by using the **CANCEL** button in step 4.

To return to the TV mode at any time press the **MENU** button.

# GENERAL OPERATION-USING AV EQUIPMENT

## Use of AV equipment

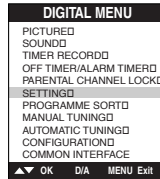
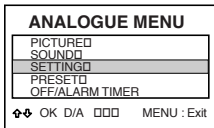
You can connect a VCR, S-VHS, VCR, Satellite Tuner, PAY TV Decoder, DVD or Camcorder, to this TV via the SCART terminals and the front AV terminals.

### ● Setting of AV2 input mode

If you want to use a VCR which is equipped with the S-VHS capability, to obtain the best performance, you should connect the AV2 terminal and select the S-Video mode in the AV2 mode using the following procedures.

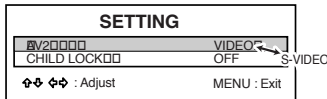
#### ● SETTING

1. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **SETTING** menu.



2. Press the **OK** button.

3. Use the **▲** or **▼** button to highlight the **AV2** menu. Select "S-VIDEO" or "VIDEO" by pressing the **◀** or **▶** button.



To return to the TV mode, press the **MENU** button.

### ● Use of front AV3 terminal

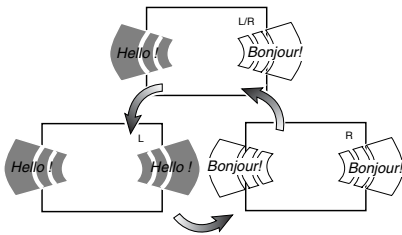
This TV provides one pair of AV input terminal on the front panel. It is very convenient for use as a game or camcorder connection.

Press the **TV/AV** button repeatedly to select the AV3 mode.

Note: Apparatus connected to the front AV3 overrides the AV3 scart terminal.

### ● Selection of the sound track from the equipment

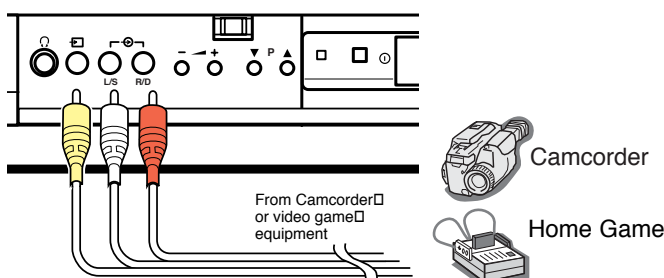
By pressing the **∇A·B** button repeatedly, you can select the sound track L (left), R (right) or L/R from the equipment connected to the scart terminals or the front AV terminal.



### ● Use of Camcorder or Game Equipment

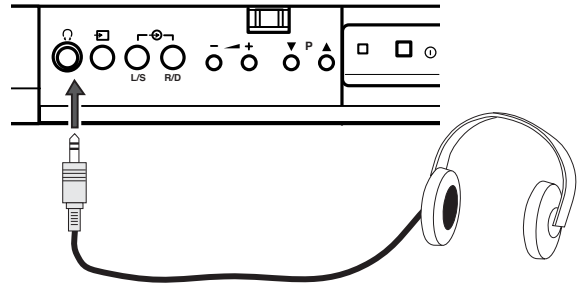
1. Connect an RCA cable from the front AV terminal(AV3) to a camcorder or to game equipment.
2. Press the **TV/AV** button repeatedly to select the AV3 mode.

☞ For monaural units, connect the sound cable to the L-socket.



## ■ Use of Headphones

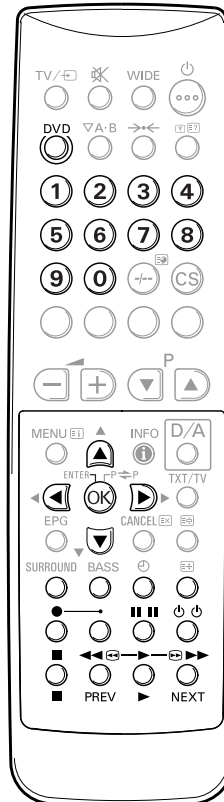
The 3.5mm mini-stereo jack socket located behind the door of the TV can be used for headphones. When the headphones are inserted the sound from the TV speakers is muted.



## VCR / DVD controls

This remote control transmitter has been designed to be used in conjunction with selected SANYO VCR's and DVD players. Some SANYO VCR's and DVD players may have their own functions, so please refer to the individual instruction booklet when using this remote control to ensure compatibility.

Some of the keys are used for both the VCR and DVD player. The symbols indicated with blue are for the keys to control the DVD player. When you use the DVD player with this remote control, first press and hold the **DVD** button and then press your desired control button each time.



	VCR	DVD
⏻	Power	Power
▶	Play	Play
⏸	Pause	Pause
■	Stop	Stop
⏩	Fast/Cue	Next chapter selection
⏮	Rewind/Review	Previous chapter selection
⏺	Record, press both button at same time.	
DVD	n/a	DVD command mode selection
OK	n/a	Enter
◀▶	n/a	Cursor selection



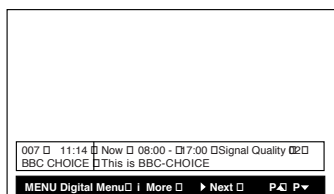
# FUNCTIONS FOR DIGITAL SERVICE

## Getting digital service information

This information provides the station name, the start and end time of the programme, and information about the programme if available.

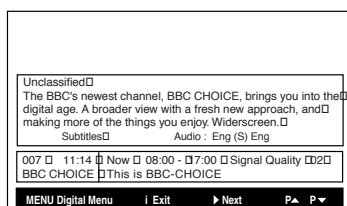
1. Press the **OK** button in the digital channel mode to call up the information.

The information about the current programme on the selected channel is displayed on the bottom of the screen.



- **007 BBC CHOICE** : Programme position with station name
- **11:14** : Current time
- **Now 11:00 - 11:30** : Current programme with start and end time
- **Signal Quality 02** : Signal quality indication. If no suitable signal is present, the message "Bad Signal" will be displayed in this place.

2. Press the **OK** button again. The more information will be displayed about the current programme



This information shows subtitles and the language if available. For selection of subtitles and language, see chapter **CONFIGURATION** on page 23 and 24.

3. To get information about the next programme, press the **Next** button. To return to the information about the current programme, press the **Left** button.
  4. To get information about another channel, press the **P▲** or **P▼** button.
- Note** : Press the **OK** button if you wish to watch a programme on the channel about which information is currently displayed on the screen.
5. Press the **OK** button repeatedly to make the information disappear.

## TV guide for digital service (EPG)

This TV Guide informs you about all of programmes on all digital channels. This information provides the channel position, the station name, the start and end time of the programme, and information about the programme, if available.

1. Press the **EPG** button in the digital channel mode to call up the information. The **DIGITAL TV GUIDE-NOW** with information about available channels appears on the screen.



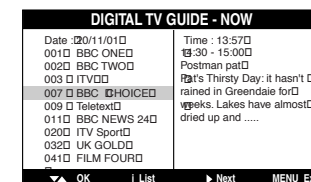
The information on the left window shows the available channels and station names, and the information on the right hand window shows the programme names and start time of those programmes.

2. To get information about the next programme on the same channel, press the **Next** button.



To return to the information about the current programme, press the **Left** button.

3. To get detailed information, press the **OK** button. Also use the **▲** or **▼** button to display another channel detailed information.



The detailed information is displayed in the right hand window. Press the **OK** button again to switch the detailed information off. (to the list mode).

4. Press the **OK** button if you wish to watch a selected channel. The menu is switched off and you will watch the selected channel.
  5. Press the **MENU** button to switch the "DIGITAL TV GUIDE" menu off.
- Note* You can delete or change the order of the listed channels in this EPG display, please use the **PROGRAMME SORT** function described on page 18.



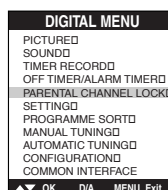
# FUNCTIONS FOR DIGITAL SERVICE

## Parental channel lock

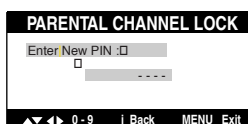
By using this function, you may protect viewing certain digital channels.

### ● Locking or unlocking the parental channels

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.



2. Select the **PARENTAL CHANNEL LOCK** menu with the **▲** or **▼** button and then press the **OK** button.



The key entry menu appears.

3. Enter a four-digit code number as the locked key with the **0 - 9** buttons then press the **OK** button.

The available channels and locked status are listed on the screen.

4. Select the channel you want to block or cancel with the **▲** or **▼** button then select the lock "YES" or "NO" with the **◀** or **▶** button.

Repeat for another channels.

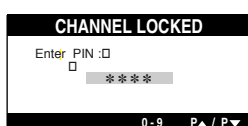


5. Press the **menu** button to switch the menu off.

### ● Unlocking the digital service temporarily

1. Select the locked digital channel.

You are requested to enter the four-digit code number.



Enter the four-digit code number you decided as the locked key with the **0 - 9** buttons.

If the entered code is correct, the TV programme appears on the screen.

### Important

Do not forget a four-digit number, you can not clear this number even if turning the TV set off with the **Mains** switch.

To make this parental channel lock function disabled, perform the automatic tuning in the digital channel. The channel lock will be disabled.

# FUNCTIONS FOR DIGITAL SERVICE

## Timer recording

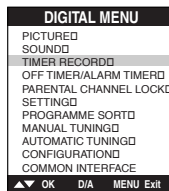
Programming digital channels for recording on a video recorder. With this function, you may record digital TV services via the TV set on a video recorder. You can programme the recording of 10 different programmes.

Make sure that the VCR is connected to the AV2 scart terminal on the rear of the TV set before you set up the timer record..

### Important

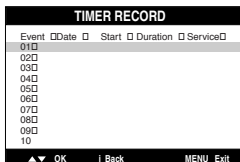
To programme the timer record for the digital channels, you must programme the same timer recording into the TV and the video recorder.

1. Press the **MENU** button in the digital channel to call up the digital main menu.



2. Select the **TIMER RECORD** menu using the **▲** or **▼** button and then press the **OK** button.

The timer recording entry menu appears on the screen.

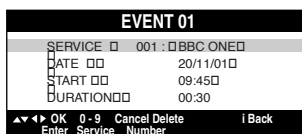


3. Select a vacant event setting row using the **▲** or **▼** button and then press the **OK** button.

The "EVENT" menu appears on the screen.

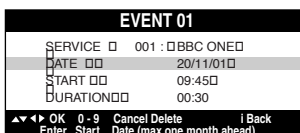
To cancel the timer recording, select the event number you want to cancel and then press the **CANCEL** button. The setting data will be deleted from the menu list.

4. Select your desired channel using the **◀** or **▶** button or enter the channel LCN number with 3 digits using the **0 - 9** buttons in the "SERVICE" row.

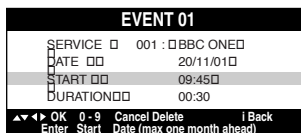


5. Select the **DATE** row using the **▼** button then enter the start date using the **◀** or **▶** button or with 6 digits using the **0 - 9** buttons.

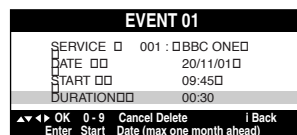
The start date is preselected current date.



6. Select the **START** row using the **▼** button then enter the start time using the **◀** or **▶** button or with 4 digits using the **0 - 9** buttons.

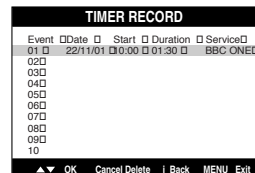


7. Select the **DURATION** row using the **▼** button then enter the recording duration using the **◀** or **▶** button or with 4 digits using the **0 - 9** buttons. The recording duration is preselected 30 minutes.



8. Press the **OK** button to confirm the entry. To cancel the entry press the **CANCEL** button.

The menu returns to the **TIMER RECORD** menu and the **LED** on the front of the TV set will illuminate yellow to show you the timer recording has been set.



9. Repeat steps 3 to 8 for another timer recording.

Press the **MENU** button to exit the menu mode.

### Notes on timer recording

- Do not switch off the TV set with **Mains** switch because the timer recording function will also be disabled. To enable the timer recording function, please switch the TV set into the stand-by mode with the **⏻** button on the remote control.
- Only the digital channel module in the TV set will turn on at 5 minutes before reaching the programmed time to prepare for recording.
- When you are watching the digital channel not programmed channel at programmed time, the TV will automatically change to the programmed channel.
- When you are watching the analogue channel at programmed time, the TV stays on the current channel and the digital channel timer recording is activated.
- When you are intended to change another digital channel during the timer recording is activated, the following warning message will appear on the picture.

Timer Recording Active now  
Press CANCEL to stop recording

To cancel the timer record function, press the **CANCEL** button and you can select another digital channel.

- If you select the digital menus in the recording, the menus are also recorded.

# PRESETTING DIGITAL CHANNEL

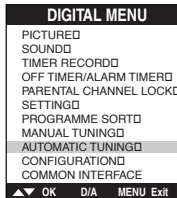
## DIGITAL CHANNEL

To preset the digital channels, you need to access the preset menu from the digital channel mode.

### Digital automatic tuning

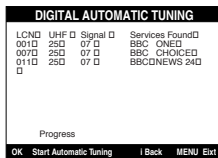
The TV searches for all of the available digital TV services and sorts them according to the LCN (Logical Channel Number) predefined by the broadcasters.

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.



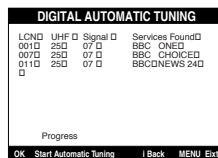
2. Select the **AUTOMATIC TUNING** menu using the **▲** or **▼** button and then press the **OK** button.

The list of current preset channels appears on the screen.



3. Press the **OK** button to start searching for stations. The current preset channels will be cleared.

The tuning progress bar appears on the menu. This will take approximately 15 minutes.



4. After completing this procedure, the TV displays the **DIGITAL PROGRAMME SORT** menu so that you can sort into whatever order you require. This is explained in the chapter on Page 18. "Sorting the digital channels".

Press the **MENU** button to exit from the menu mode.

If the TV set has not found any digital channels, the message **"No Digital Services Found"** appears on the screen.

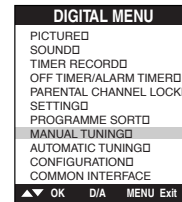
### Channel allocation of the digital channel

After completing the automatic tuning, the stored channels are sorted according to the LCN (Logical Channel Number) predefined by the broadcasters. Please see "Digital terrestrial channel allocation" table on page 30 for further information.

## Digital manual tuning

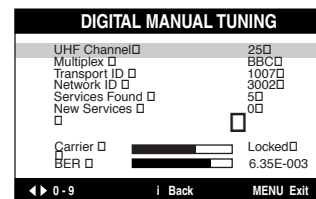
This setting is only required when you have known the channel number available for digital service.

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.



2. Select the **MANUAL TUNING** menu using the **▲** or **▼** button and then press the **OK** button.

3. Enter the channel number using the **0 - 9** buttons or the **◀** or **▶** button.



The following information about current digital channel are displayed on the screen.

UHF Channel	: Current channel
Multiplex	: System information
Transport ID	: System information
Network ID	: System information
Service Found	: Number of digital service channel
New Services	: New services among the found service
Carrier	: Digital channel signal strength
BER	: Bit Error Ratio

Enter the other channel number for other digital services.

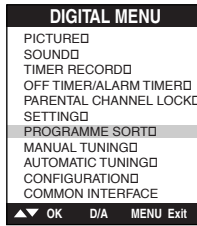
4. Press the **MENU** button to exit the menu mode.

If you want to sort the digital services, use the **PROGRAMME SORT** function detailed on page 18.

# PRESETTING DIGITAL CHANNELS

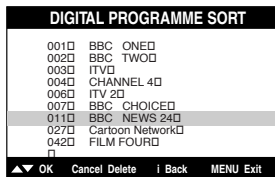
## Sorting digital TV channels

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.

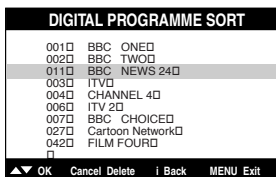


2. Select the **PROGRAMME SORT** menu using the **▲** or **▼** button and then press the **OK** button.
3. Select the channel you want to move to another position using the **▲** or **▼** button and then press the **OK** button.

The colour of selected channel changes to red.



4. Move the selected channel using the **▲** or **▼** button and then press the **OK** button to place the selected channel.



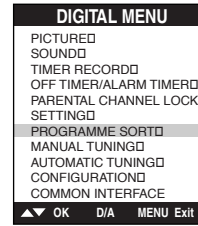
Repeat steps 3-4 for another channels.

5. Press the **MENU** button to exit the menu mode.

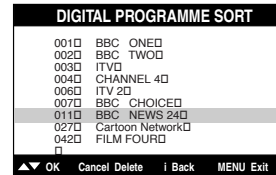
*If you change the order of the listed channels in the above, this change is also reflected in channel list in the TV Guide for digital service (EPG) display.*

## Delete digital TV channels

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.



2. Select the **PROGRAMME SORT** menu using the **▲** or **▼** button and then press the **OK** button.
3. Select the channel you want to delete using the **▲** or **▼** button and then press the **CANCEL** button.



The selected channel will be deleted from the sorting list. Repeat step 3 for another channels.

4. Press the **MENU** button to exit the menu mode.

*If the channel has a parental channel lock, you can not delete these channels, see chapter Parental Channel Lock on page 15.*

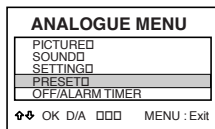
*If you change the order of the listed channels in the above, this change is also reflected in channel list in the TV Guide for digital service (EPG) display.*

# PRESETTING ANALOGUE CHANNELS

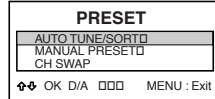
## ANALOGUE CHANNEL

To preset the analogue channels, you need to access the preset menu from the analogue channel mode. You can preset analogue channels up to 100 programme positions.

1. Press the **MENU** button in the analogue channel mode to call up the analogue main menu

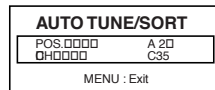


2. Select the **PRESET** menu using the **▲** or **▼** button and then press the **OK** button.



The preset menu appears on the screen.

3. Select **AUTO TUNE/SORT** menu using the **▲** or **▼** button and then press the **OK** button.



Immediately the TV begins searching for the stations and displays the status of tuning.

### ● Channel sorting

The channels are stored in consecutive programme positions starting at programme position "A 7". After all receivable channels have been found and stored, the TV set automatically allocates the following major stations in the UK into the programme position A 1 to A 6.

- A 1 : BBC1
- A 2 : BBC2
- A 3 : ITV
- A 4 : CH4 or S4C
- A 5 : Ch5
- A 6 : SKY, BBC-W or BBC-P

- CH4 : Channel or S4C
- SKY : SKY GOLD, SKY SPORT etc.
- BBC-W : BBC World, BBC Worldwide feature 1
- BBC-P : BBC Prime

You can change the order of the station selection, by using the channel swapping function detail later on this page.

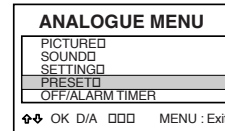
☞ If any of them are not available in your reception area, some programme positions from A 1 to A 6 will not have a stored station. The remaining stations will be stored from programme positions A 7 in sequence as found.

☞ If the Irish station of RTE1 or RTE2 is available in your reception area, the resorting message will appear to ask you to set your preferred programme ordering. In this case, both the programme positions A7 and A8 may also be reserved for those stations depending on your ordering choice.

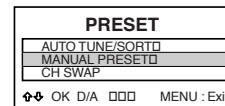
☞ If the tuning functions do not operate, please check that the special function **Prohibition** is set to **"OFF"**, see on page 27.

## Manual Tuning

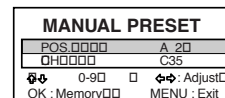
1. Press the **MENU** button to display the main menu in the analogue channel mode. Use the **▲** or **▼** button to highlight the **PRESET** menu. Press the **OK** button.



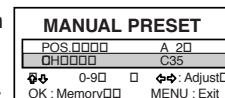
2. Use the **▲** or **▼** button to highlight the **MANUAL PRESET** menu, then press the **OK** button.



3. Use the **▲** or **▼** button to highlight the **POS.** menu. Select a programme position where you wish the station to be stored by using the **0** to **9**, **-/-**, **◀** or **▶** button.



4. Use the **▲** or **▼** button to highlight the **CH** menu, then press the **◀** or **▶** button to start channel searching until your desired station is found. Or if you know the channel number of the station, enter the channel number with 2 digits entry.



5. Press the **OK** button to store a station into a memory. The preset window will blink momentarily.

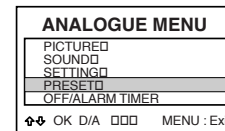
**Repeat steps 3 to 5 for all other desired channels.**

To return to the normal TV mode, press the **MENU** button.

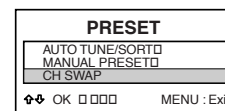
## Channel swapping

Use the channels swapping feature to swap the channels between two stored programme positions. This feature is particularly useful after automatic presetting.

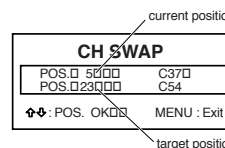
1. In the analogue channel mode, select one of TV channels you wish to swap by using the **▲**, **▼** or using the **(0-9)** numeric buttons.



2. Press the **MENU** button to display the main menu. Use the **▲** or **▼** button to highlight the **PRESET** menu. Press the **OK** button.



3. Use the **▲** or **▼** button to highlight the **CH SWAP** menu, then press the **OK** button.



4. Use the **▲** or **▼** button to select the target programme position for swap channels, then press the **OK** button.

The screen will flash momentarily and the two TV channels will now have changed places.

**Repeat steps 1 to 4 for all other TV channels you want to swap.**

To return to the normal TV mode, press the **MENU** button.

# TELETEXT - in Digital Service

## 0-9 number buttons

Normally these buttons are not used for page selection but some of the teletext services will require you to enter numbers for the selection depending on the service.

## Colored buttons

Used to call up the menus corresponding to the coloured text on the bottom of the screen. Some services will instruct you to navigate the pages with these button.

## TXT/TV button

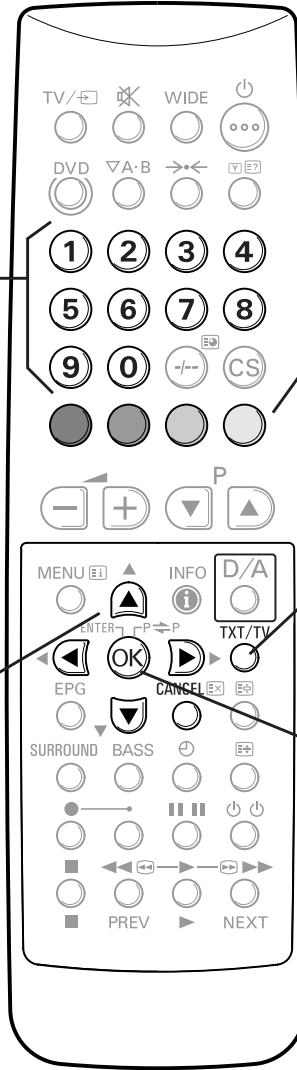
Used to switch between the TV and teletext mode.

## OK button

Used to confirm the selected menu or headline to open a page.

## Cursor buttons

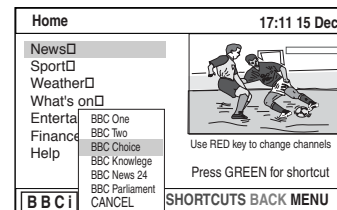
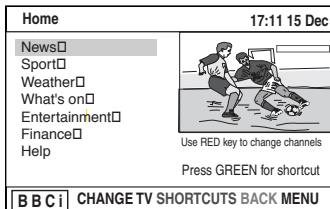
Used to browse the teletext pages or select the sub menu.



## Switching to the teletext mode

To view the digital teletext service, press the TXT/TV button in the digital channel. The following digital teletext page will appear on the screen for example. This may take a little time before displaying a page. The contents of the page depend on the receiving digital channel. Please follow the instructions on the page to navigate each digital service.

If the keys are not functioning, please make sure that the **SUB TITLES** in the **CONFIGURATION/LANGUAGES** menu is set to "NONE" and **MHEG** in the **CONFIGURATION/LANGUAGES** menu is activated. Please refer to chapter "Selecting the language for digital service" in the Configuration on page 24.



Some teletext services, will allow you to switch into the teletext service by using the coloured buttons. It will appear as text on the TV picture to inform you what service is now available. Follow this to switch into the teletext service by using a coloured button.

Press the **TXT/TV** button to exit from the teletext mode.



# TELETEXT - in Digital Service / Analogue Service

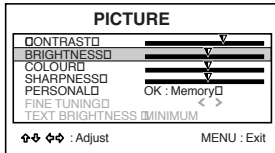
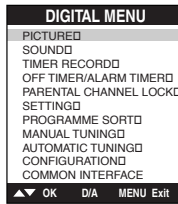
## ● Picture and sound controls in the teletext mode

### Picture controls in the teletext mode

You can not control the picture levels in the teletext mode. You must first switch back to the TV mode and then adjust the picture control.

### How to set the teletext picture level

1. Press the **MENU** button in the digital channel to display the main menu. Use the **▲** or **▼** button to highlight the PICTURE menu and press the **OK** button.
2. Use the **▲** or **▼** button to highlight your desired control menu. eg. **BRIGHTNESS**.



3. When pressing the **◀** or **▶** button once, the screen will display each item you wish to change. If you press and hold the **◀** or **▶** button it will alter the levels of each selected item eg. Colour. The mode returns to control selecting mode in 2 seconds if no key is pressed.

Repeat steps 2-3 to set the required picture levels.

To return to the TV mode, press the **MENU** button.

## ● Sound volume control

Sound volume and muting can be controlled in the digital teletext service directly. Also both of menus appear on the screen.

## Teletext in the Analogue channel

### Direct access to a page

To select a page number directly using **(0-9) numeric button**. eg. To select page 301, press 3 then 0 and then 1.

### Direct access to subject headings

Coloured boxes are displayed at the bottom of the screen. The 4 coloured buttons give access to the corresponding subjects or pages.

### Index page selector

To select one of the teletext index pages.

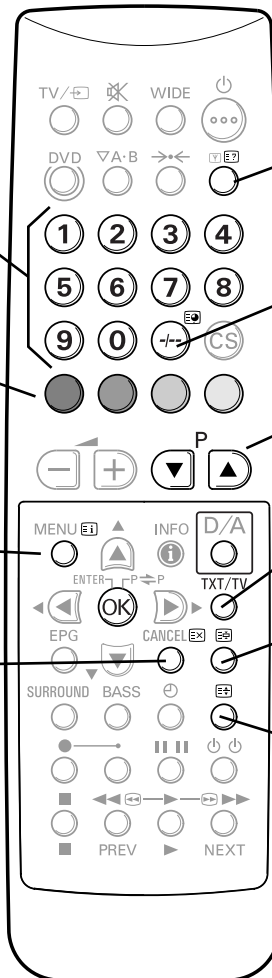
### Cancel

To view the TV picture in the teletext mode.

### Teletext reception

If your aerial signal is poor, the teletext reception may be poor.

When the teletext service is not transmitting with the FLOF, 4 coloured page numbers will appear at the bottom of the screen instead of the topics.



### Reveal switch

To reveal hidden items on the text page.

### Sub page access

To enter the sub-page access mode, on page 22.

### Up/down page access

To select the next or previous page number.

### Teletext/TV selector

To switch TV, MIX and Teletext mode.

### Stop

To stop sub pages changing. The word "STOP" will appear instead of the page number.

### Size switch

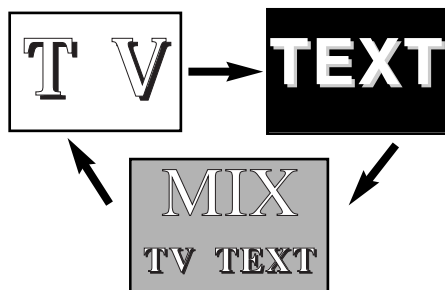
Either the top half or the bottom half of the page can be expanded to fill the whole screen.

## TELETEXT - in Analogue service

### ● Switching to the teletext mode

Press the **TXT/TV button** in the analogue teletext mode, and the screen changes as illustrated.

✎ When switching from TV mode at AUTO, NORMAL, NATURAL WIDE, ZOOM, TITLE IN or FULL picture size to teletext mode, the teletext screen will be at FULL picture size.



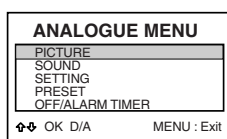
### ● Picture and sound in teletext mode

#### Picture and teletext brightness controls in the teletext mode

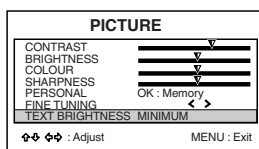
You can not control the picture and teletext brightness in the analogue teletext mode. You must first switch back to the TV mode and then adjust the picture control or set the teletext brightness level.

#### How to set the teletext brightness level

1. Press the **MENU button** to display the main menu in the analogue channel. Use the **▲** or **▼** button to highlight the **PICTURE** menu and press the **OK button**.



2. Use the **▲** or **▼** button to highlight the **TEXT BRIGHTNESS**.



3. Press the **◀** or **▶** button to select one of the 3 teletext brightness levels either **MAXIMUM**, **CENTRE** or **MINIMUM**.

#### Sound volume control

Only sound volume and muting can be controlled in the analogue teletext mode. The displays will not appear on the screen.

### ● Sub Page Access

With a text page selected which has sub pages, you may wish to read a known sub page number.

1. Press the **⏪ button**.

"Sub-Code ----" will be displayed on top of the screen.

2. Enter the sub page number by using the **(0-9) numeric buttons**.

For example, to enter the sub page 4, press buttons **0, 0, 0** and **4**.

3. Press the **⏩ button** to return the normal TV picture.

*Immediately the requested sub-coded page is found, the page number will appear over the TV picture.*

4. Press the **TXT/TV button** to view the sub-coded page.

### ● Updated Pages

Some text pages are updated such as latest sports scores or traffic news.

Select a latest page.

1. Press the **⏩ button** to view the TV picture.

When the page is updated, the page number will appear over the normal TV picture.

2. Press the **TXT/TV button** to view the updated page.

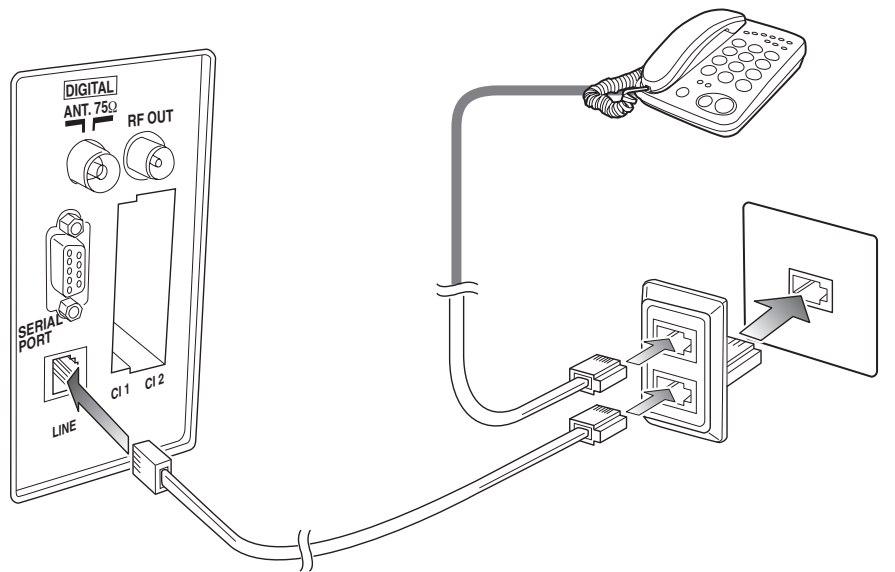
✎ *If the page has sub pages the number will appear when the sub page is changed.*

# CONFIGURATION (DIGITAL)

## Modem setting

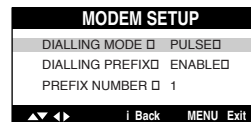
### Connecting the TV set to a telephone socket.

1. Connect the **LINE** socket (RJ11 plug) on the TV set and the telephone adaptor (431A plug) with a telephone cable.
2. Connect the telephone lead with the second socket on the telephone adaptor.
3. Plug the telephone adaptor into the telephone socket.

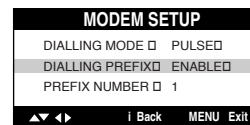


### ● Confirming the dialling mode.

You need to check what type of phone line you use, pulse or tone dialling. Pick up and listen to the sound coming from your phone during dialling. If it is continuous, you must select the **TONE**, if it is intermittent, you must select the **PULSE**.



5. Select the **DIALLING PREFIX** using the **▲** or **▼** button and then select the **ENABLE** using the **◀** or **▶**.



### ● Confirming the dialling prefix and prefix number.

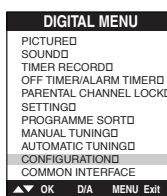
The TV may be used in places such as office, school or shops. In this case, it is required to put a prefix. You must select the **DIALLING PREFIX ENABLE**. In addition, prefix number (0 - 9) must be specified.

If the TV set is used at home, this setting is not required.

### Set up procedure

Press the **D/A** button to select Digital mode.

1. Press the **MENU** button in the digital channel mode to call up the digital main menu.



2. Select the **CONFIGURATION** using the **▲** or **▼** button and press the **OK** button.

3. Select the **MODEM SETUP** using the **▲** or **▼** button and press the **OK** button.

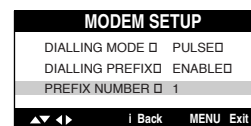


The **MODEM SETUP** menu appears on the screen and the **DIALLING MODE** menu is selected.

4. Select your dialling mode the **TONE** or **PULSE** using the **◀** or **▶** button.

If you use this TV at home, you must select **DISABLE** and quit this modem setting.

6. Select the **PREFIX NUMBER** using the **▲** or **▼** button and then select a prefix number (0..9) using the **◀** or **▶** button, or the **0 - 9** numeric buttons.



7. Press the **MENU** button to exit the menu mode.

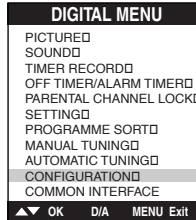
# CONFIGURATION

## ● Language selection for digital service

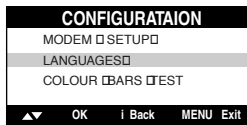
You can preselect the languages in the audio, subtitles and MHEG in the digital service if these services are available in the broadcasting.

### ● Audio selection

1. Press the **MENU button** in the digital channel mode to call up the digital main menu.



2. Select the **CONFIGURATION** menu using the **▲** or **▼** button then press the **OK** button.
3. Select the **LANGUAGES** menu using the **▲** or **▼** button then press the **OK** button. The **LANGUAGES** menu appears on the screen.

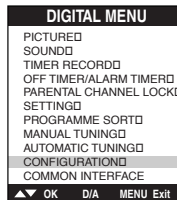


4. Select the item **AUDIO** using the **▲** or **▼** button. Using the **◀** or **▶** button, choose the language you want to hear in the digital channel.

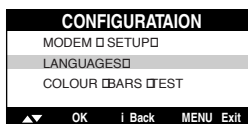
Press the **MENU button** to exit from the menu mode.

### ● Subtitles selection

1. Press the **MENU button** in the digital channel mode to call up the digital main menu.



2. Select the **CONFIGURATION** menu using the **▲** or **▼** button then press the **OK** button.
3. Select the **LANGUAGES** menu using the **▲** or **▼** button then press the **OK** button. The **LANGUAGES** menu appears on the screen.



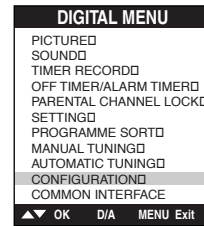
4. Select the item **SUBTITLES** using the **▲** or **▼** button. Using the **◀** or **▶** button, choose the language you want.
5. Press the **MENU button** to exit from the menu mode.

When the TV receives a digital programme provided with subtitles, the subtitles are superimposed on the picture on the screen.

✎ If you want to use the function of digital teletext services (MHEG), it is required to select the "NONE" for the SUBTITLES menu in the above.

## ● MHEG selection

1. Press the **MENU button** in the digital channel mode to call up the digital main menu.



2. Select the **CONFIGURATION** menu using the **▲** or **▼** button then press the **OK** button.
3. Select the **LANGUAGES** menu using the **▲** or **▼** button then press the **OK** button. The **LANGUAGES** menu appears on the screen.
4. Select the item **MHEG** using the **▲** or **▼** button. Using the **◀** or **▶** button, choose the language you want to display on the screen in the digital teletext service.
5. Press the **MENU button** to exit from the menu mode.

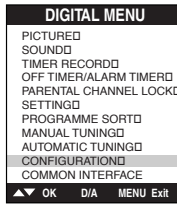
✎ If you select the languages "NONE" for MHEG menu, the digital teletext service (MHEG) will not be available.

## CONFIGURATION / COMMON INTERFACE

### ● Displaying the colour bars

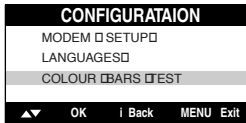
Displaying the colour bars for checking the digital picture quality.

1. Press the **MENU button** in the digital channel mode to call up the digital main menu.



2. Select the **CONFIGURATION** menu using the **▲** or **▼** button then press the **OK button**.

3. Select the **COLOUR BARS TEST** menu using the **▲** or **▼** button then press the **OK button**.



The full colour bars pattern is displayed on the screen.

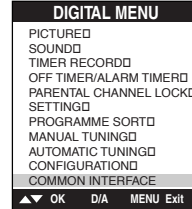
4. Press the **OK** or **⓪** button to return to the configuration menu.

To return to the TV mode, press the **MENU button**.

### ● Use of common interface module

This TV set provides two Common Interfaces slots, "CI1" and "CI2", on the rear of the TV set. You can access them from the menus in the digital channel mode as follows;

1. Press the **MENU button** in the digital channel mode to call up the digital main menu.



2. Select the **COMMON INTERFACE** menu using the **▲** or **▼** button then press the **OK button**.

The name of available Common Interface Modules will be listed on the screen. If no modules are inserted, the word "empty" will be listed.

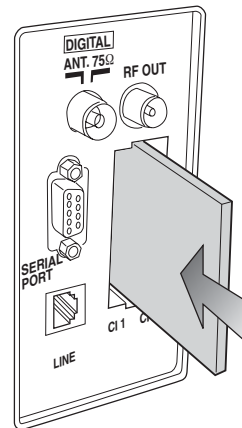
3. Select your desired module name with the **▲** or **▼** button then press the **OK button**.

4. Follow your selected module instructions and it depends on the contents of the module. Refer to the instruction booklet of your Common Interface Module.

To return to the TV mode, press the **MENU button**.

### Important!

The TV should be turned off by the **Mains Power** **⓪** switch when inserting or removing the Common Interface Module, otherwise it may cause damage to the module or the TV set.

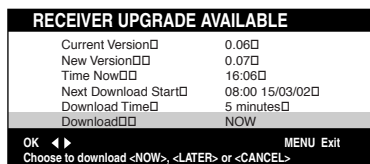


# OVER AIR DOWN LOAD

The TV provides a software upgrade function for the digital decoding module through the digital broadcasting. It automatically detects the latest software version and lets you know when the software can be downloaded. Please follow the procedure below if you find the software upgrade shows on-screen.

## 1. Choosing To Download New Software

When the TV detects that a valid software upgrade is present, it signals you with the menu as shown below. Note that the TV will only present this screen to you if the TV detects a version of software that is more recent than that stored in the TV.



You are prompted to select between **NOW**, **LATER** or **CANCEL** using the ◀ or ▶ **button**.

If you select **NOW** the download will be performed immediately.

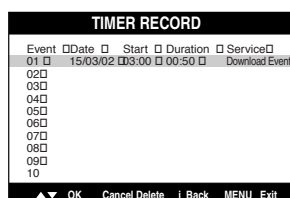
If you select **LATER** the download will be set as a timed event and performed at a later date. This is set to 3:00am on the following morning but can be changed by you.

If you select **CANCEL** the above menu will be cleared and the download mechanism cancelled. Note that in this case when the TV is powered down and then up, the above on-screen display will re-appear if the download is still present in the stream.

**OK** is used to make the selection and **MENU** has the same function as selecting **CANCEL**.

## 2. Downloading New Software As A Timed Event

If you choose to download at a later time on selecting **LATER** and pressing the **OK** **button** the following screen will appear to show the download set as a timed event.

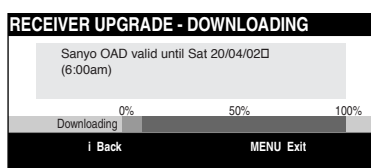


The menu can be removed by pressing the ① or **MENU** **button**.

Pressing the **OK** **button** will bring up the event editing menu as described in chapter "Timer Recording". The time of the download can then be changed if required.

## 3. Downloading New Software

If you select **NOW**, or **LATER** and the TV is not in standby the on-screen display as shown below will appear during the software upgrade.



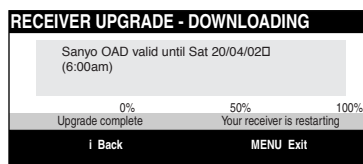
The central panel is used to present any user information regarding the download.

The central green bar signals the progress of the software download.

Pressing the ① **button** cancels the download and returns you to the menu described in step 1.

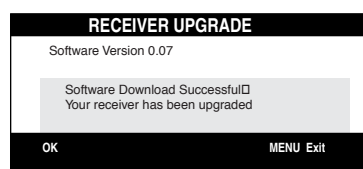
The download can be cancelled by pressing the **MENU** **button**.

When the download has completed the progress bar will be changed to the following..



## 4. When The Download Has Completed

Upon completion of the download the TV will reset and the following screen will appear.



Pressing the **OK** or **MENU** **button** will remove this screen display from the screen.



# OTHERS

## Option setting

This TV set allows you to set up the following option settings.

### ■ PROHIBITION

Prohibit the presetting for analogue and digital channels and sets the current volume as the maximum volume level.

**PROHIBITION OFF or ON**

\* When the prohibition is activated and you press the **MENU button** in the digital channel mode, only the "OFF/ALARM TIMER" menu is displayed. You can not call up digital main menu.

### ■ START POSITION

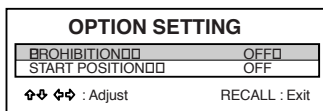
Presets the programme position when the set is switched on.

<b>START POSITION</b>	<b>OFF</b>	Last programme position start
	<b>POS 1</b>	Programme position "A 1" start
	<b>POS 2</b>	Programme position "A 2" start
	<b>POS 3</b>	Programme position "A 3" start
	<b>POS 4</b>	Programme position "A 4" start
	<b>POS 5</b>	Programme position "A 5" start
	<b>POS 6</b>	Programme position "A 6" start
	<b>POS 7</b>	Programme position "A 7" start
	<b>POS 8</b>	Programme position "A 8" start
	<b>AV1</b>	"AV1" start

\* It can be specified only in the analogue programme positions or AV1 mode.

### SETTING PROCEDURE

1. To enter the special function press and hold the **☐ button** on the **Remote control handset** and then press the **P▲ button** on the TV set.
2. Use the **▲** or **▼ button** to highlight the desired function item from the menu, and select the mode by pressing the **◀** or **▶ button**.



3. To return to the normal TV mode, press the **☐ button**.

## Specifications

### Common specification

Power source	AC 220~240V 50Hz
Television system	System I
Colour system	PAL/NTSC4.43 (PAL/NTSC3.58/NTSC4.43 in AV mode)

Channel coverage	UHF: 21-69
Aerial input impedance	75 ohm

AV terminal  
 AV1: CENELEC Standard  
 Input: Composite video, RGB and audio-LR  
 Output: TV-output with composite video and audio-LR

AV2: CENELEC Standard with S-inputs  
 Input: Composite video, S-VHS and audio-LR  
 Output: Monitor-output with composite video and audio-LR

AV3: CENELEC Standard  
 Input: Composite video, and audio-LR

### Front AV terminals

AV3: RCA Terminal, Video and Audio(L/R) Input

Sound output (Music)	12 x 2
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	<u>CE28DFN1-B</u>	<u>CE32DFN1-B</u>
Picture tube (inches)	28	32
Dimensions (WxHxD mm)	780 x 525.5 x 526	880 x 583.5 x 580.5
Weight (kg)	39.9	55.5

## OTHERS

### Servicing

Your television is fully transistorised and does not contain any user serviceable components.

You must not remove the rear cover of the TV by yourself. The apparatus is working with high voltages and could damage objects or even endanger people. Leave all required repair and service jobs to an authorised service technician. He will exclusively use such spare parts that are complying with the same safety standards as applicable to the original parts. The use of original spare parts can prevent fire, shock and other hazards.

Unplug the television receiver from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- If the power cord or plug is damaged.
- If liquid has been spilt into the television receiver.
- If television receiver has been exposed to rain or water.
- If the television receiver has been dropped or the cabinet has been damaged.
- If the television receiver exhibits a distinct change in performance.
- If the television receiver does not operate normally by following the operating instructions.

Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage. This will often require extensive work by a qualified technician to restore the television receiver to normal operation.



### Helpful Hints

#### ■ 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 control.
- Adjust FINE TUNING control.
- Check aerial connections.

#### ■ NO COLOUR, PICTURE OK

- Adjust COLOUR control.
- Adjust FINE TUNING control.
- Is the programme in colour ?

#### ■ WEAK PICTURE

- Check aerial connections on back of set.
- Check aerial for broken wires.
- Re-orient aerial.

#### ■ 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.

## OTHERS

### Digital terrestrial channel allocation

Mux	Channel	LCN	Service	Mux	Channel	LCN	Service
1	BBC1	1	TV	B	Sky Sports 1	21	TV
	BBC1	2	TV		Sky Premier	25	TV
	BBC Choice	7	TV		Sky One	26	TV
	BBC Text	10	text		Cartoon Network	27	TV
	BBC News 24	11	TV		Carlton Cinema	28	TV
	BBC Parliment	12	audio		British Eurosport	29	TV
	BBC Knowledge	13	TV+d'text		UK Horizons	43	TV
2	ITV	3	TV		ITV Digital	88	d'text
	ITV2	6	TV		ITV Sport Select	98	TV+ d'text
	Channel 4 (S4C in Wales)	4	TV		ITV Sport +	99	TV+ d'text
	Channel 4 in Wales	8	TV	C	Sky Sports 2	22	TV
	Teletext	9	d'text		Sky Movie Max	24	TV
	Four Text	14	d'text		Granada Plus	30	TV
	ITV Text +	16	d'text		Granada Breeze / Men & Motors	31	TV
	Film Four	41	TV		UK Gold	32	TV
	E4	42	TV		MTV	33	TV
	ITV Sport	20	TV		Two Way TV	46	TV
A	Channel 5	5	TV		Wellbeing	47	TV
	NTLi	15	TV+d'text		Adult Channel	90	TV
	S4C-2 (in Wales)	18	TV		D	Sky Sports 3	23
	Tele G (in Scotland)	18	TV	Carlton Food Network		35	TV
	Shop	19	d'text	Discovery		36	TV
	TV Travel Shop	44	d'text	PLAY uk		37	TV
	ITN News Channel	48	d'text	B		UK Style	38
	ITV Select Info	50	TV		Nickelodeon / Paramount	39	TV
	ITV Select 1	51	TV				
	ITV Select 2	52	TV				
	ITV Select 3	53	TV				
	ITV Select 4	54	TV				
	ITV Select 5	55	TV				
	Adults only 1	56	TV				
	Adults only 2	57	TV				
Television X	91	TV					

## **WARRANTY TO CUSTOMER**

Sanyo U.K. Sales Ltd. (the company) warrants to the initial retail purchaser that if this equipment is or becomes defective and that, in the opinion of the Company, the defect is due to faulty material or workmanship the Company will, for a period of 12 calendar months from the date of sale to the original purchaser repair or replace, at its sole option, free of charge, any such defective component part of the equipment, always provided that:-

- 1: The equipment has at all times been used in accordance with the operating instructions issued by the Company, and has not been connected to an electrical mains supply for which it has not been adjusted.
- 2: Accidental damage or damage caused by negligence of misuse by the user, is specifically excluded.
- 3: Unauthorised repairs, or any modification to the equipment which has not been expressly approved by the Company, shall render this warranty null and void.
- 4: Failure due to fair wear and tear of any item is specifically excluded.

This warranty is not transferable and is only applicable within the United Kingdom (and the Republic of Ireland). Nothing in this express warranty affects the statutory rights available to the purchaser of this equipment.

Note: This warranty supersedes any other form of guarantee that may inadvertently have been enclosed with or attached to the product.

### ***Dear Customer.***

Thank you for buying *SANYO*. This equipment should give you many years of pleasure and faithful service but in the event that a fault occurs, the following notes for your guidance may be helpful:-

- 1: PLEASE RETAIN YOUR PURCHASE RECEIPT WHICH WILL BE REQUIRED FOR SERVICE DURING WARRANTY.
- 2: If your Sanyo equipment proves faulty during the period of guarantee, take it or send it back to the dealer who originally supplied it together with this guarantee and the proof of purchase. We have made arrangements with our approved dealers under which they will carry out in guarantee service repairs on our behalf. In this way, we hope to reduce to a minimum the amount of time you will be without your equipment.
- 3: If for some reason it is impossible to return the equipment to the original supplier, please contact our Service Department at the address below for further advice.
- 4: Should the equipment require servicing after the expiry of the guarantee period, take or send it to the original supplier or any other Sanyo dealer. He will be pleased to give you a quotation for the repair.

Service Department,  
Sanyo UK Sales Ltd., Sanyo House, Otterspool Way,  
Watford, Hertfordshire, WD2 8JX.  
Tel: 01923 246363



Part No. 1AA6P1P3186-A C2LD / MD

**SANYO**  
Printed in U.K.