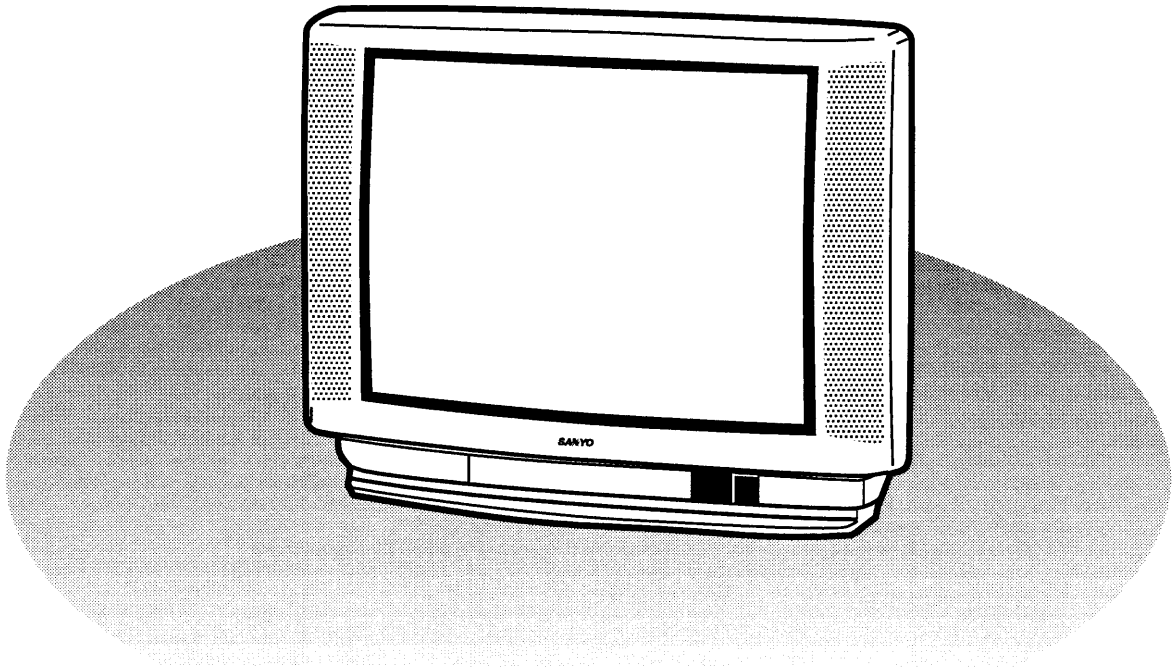


SANYO

INSTRUCTION MANUAL

21DN2
25DN2
28DN2

Colour Television



Model:
C21ES57NB
C25EP57NB
C28ER57NB

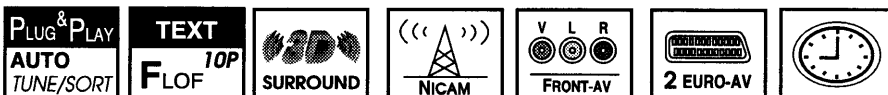


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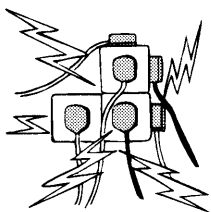
Safety Precautions

CAUTION: Please read and retain for your safety.

This television receiver has been engineered and manufactured to assure your personal safety. But improper use can result in potential electrical 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.



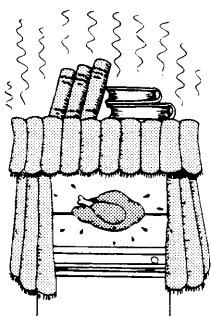
INSTALLATION



Do not allow anything to rest on the power cord.

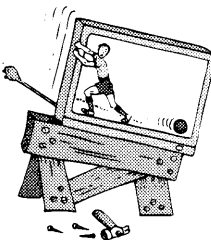
Do not locate this television receiver where the cord will be damaged by people walking on it.

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.



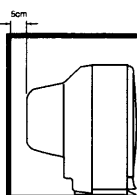
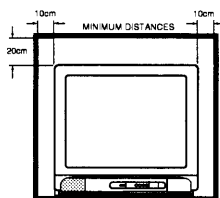
This television receiver should **never** be placed near or over a radiator or heater. This television receiver should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

Do not place your television receiver on an unstable stand, shelf or table.

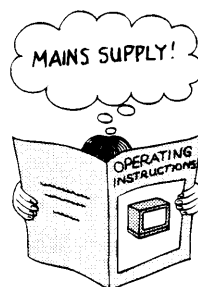
Serious injury to an individual, and damage to the television may result if it should fall. Your sales person can recommend approved stands or shelf and wall mounting instructions.

If the television is to be built into a compartment or similarly enclosed, the minimum distances **must** be maintained.

Heat build-up can reduce the service life of your television, and can also be dangerous.



USE

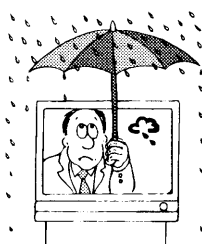


This television receiver should be operated only from the type of power source indicated on the television or as indicated in the Operating Instructions. If you are not sure of the type of power supply in your home, consult your sales person or your local power company.

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



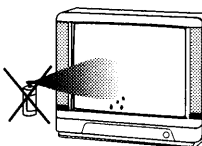
Do not drop or push objects into the television cabinet slots or openings. Some internal parts carry hazardous voltages and contact may result in an electrical shock hazard. **Never** spill liquids of any kind on the television receiver.



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.

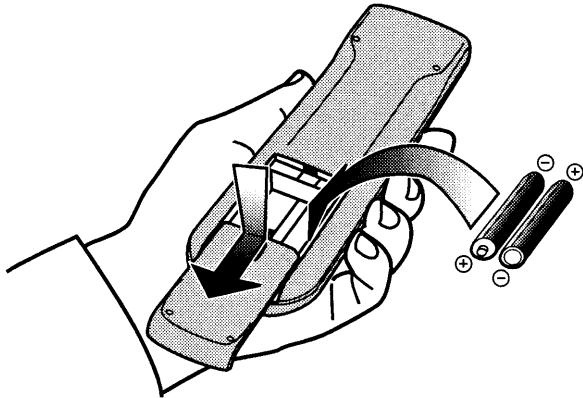


Do not apply liquid cleaners or aerosol cleaners directly onto the television receiver. Use a damp cloth for cleaning.



● Preparation

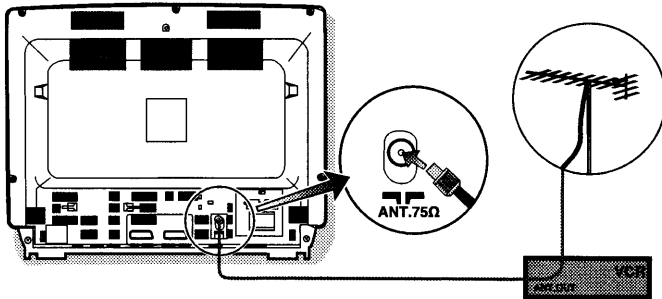
Installation



Batteries Installation

- 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.

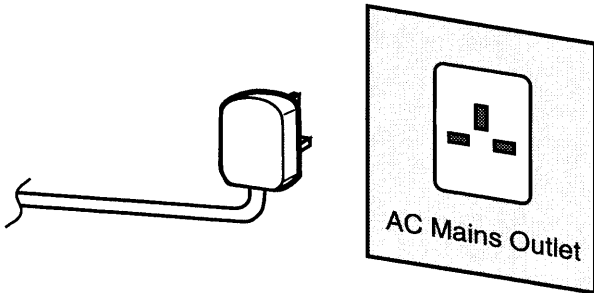


Aerial Connection

- Insert an aerial plug tightly into aerial socket on the back of the TV set.
- For all aerial problems please consult your local dealer.
- For the connection to the peripheral AV equipment, refer to section "Connection of AV equipment" on page 24.

Mains Supply

- 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.

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. Fix a new fuse which should be a BS1362 5Amp A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

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. 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.



Installation

Switching-on your TV set for the first time

This TV set has an automatic self tuning system called "Plug & Play". The first time this TV set is switched on it will automatically begin searching and storing all available channels in the memory.

Programme positions 1 to 6 are specially prepared for the following stations in the U.K.

- Programme position 1 : BBC1
- Programme position 2 : BBC2
- Programme position 3 : ITV
- Programme position 4 : CH4
- Programme position 5 : CH5
- Programme position 6 : SKY or BBC(SAT)

If any of these are not available the the programme position will remain vacant. Any remaining channels that are found will be stored from programme position 7 onwards in the order that they are found.

In order for "Plug & Play" to operate you must ensure the following.

1. You have plugged in your TV.
2. You have connected an aerial as described on page 4.

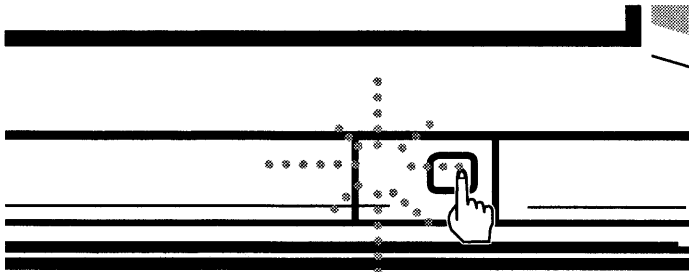
You are now ready!

Simply press the **mains On/Off button** on the front of the TV set.

The red power indicator will illuminate to show that the power is on. A welcome message will appear on the screen while the "Plug & Play" feature is in operation and various screens will be displayed as the 6 specified channels are found. Once all channels have been found the TV returns to programme position 1.

The installation is now complete!

- ✎ This procedure will only appear the very first time the TV set is switched on.
- ✎ If later you wish to add more channels or to move their positions refer to the presetting section of this manual on pages 16-19.



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

Auto Tuning/Sorting

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

Auto Tuning/Sorting
ITV found and stored!

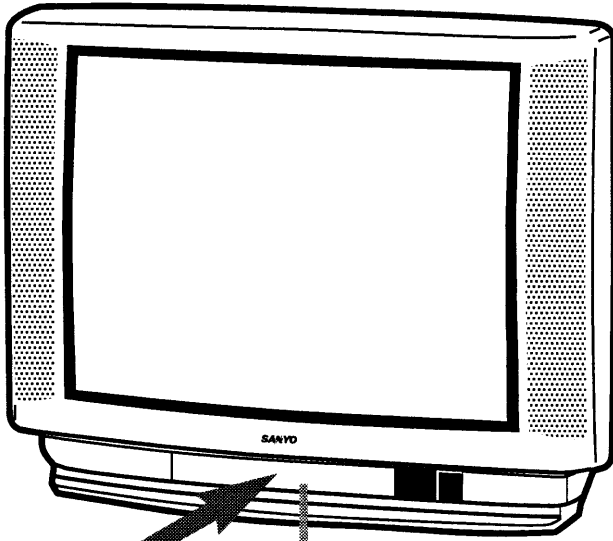
This message appears for 2 seconds when one of the 6 specified channels are found.

Tuning is now complete.

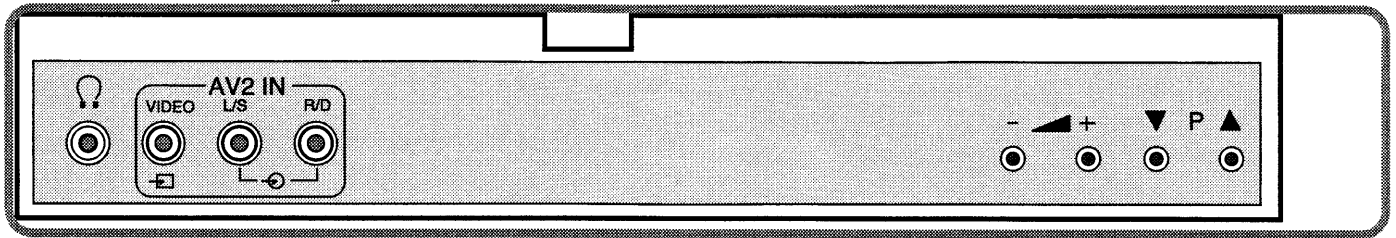


● Name of Controls

Installation



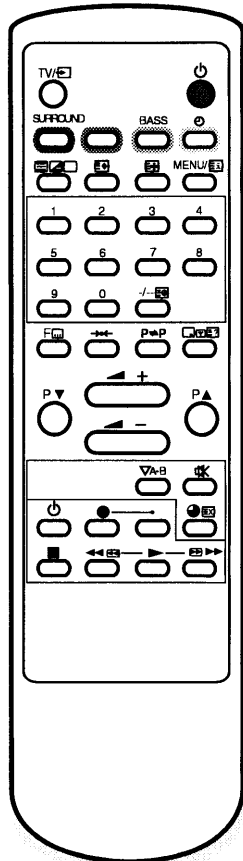
Push to open



Controls on TV set

Symbol	Function
⓪	Mains on/off
▼ P ▲	Programme up/down
- ▲ +	Level up/down
🎧	Headphone socket

Controls on Remote Control handset



Symbol	Function
⓪	Power on/Standby
P ▲ P ▼	Programme up/down
0-9	0-9 Numeric buttons
-/--	Digit
F	Function
▲ - ▲ +	Level down/up
🔇	Sound mute
P ⇌ P	Programme alternation
TV/AV	TV/AV switch
☑	Text/Mix/TV switch
↔	Normalisation
⌚	Time call
☑	Recall
▼ A • B	Stereo/Bilingual switch
BASS	Bass expander switch
MENU	Not operative

Mains On/Off ●
 To switch On/Off with Remote Control Handset ●



General Operation

Mains On/Off

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

The power indicator illuminates red to show the power is on.

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

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

To switch ON/OFF with Remote Control Handset

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

The red power indicator illuminates more brightly.

- To switch the TV set ON from the standby mode, press any of the following buttons;

Ⓜ, P▲, P▼ buttons, 0 - 9 Numeric buttons .



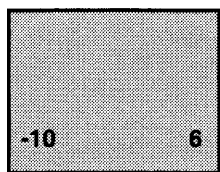
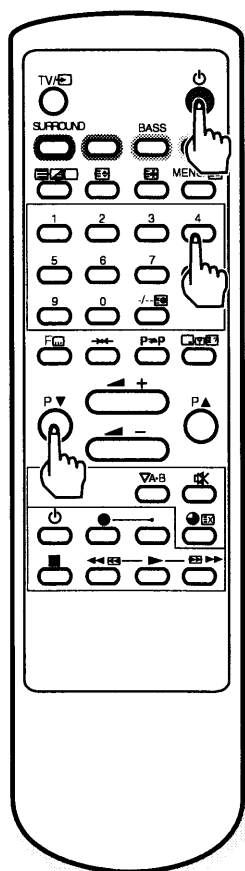
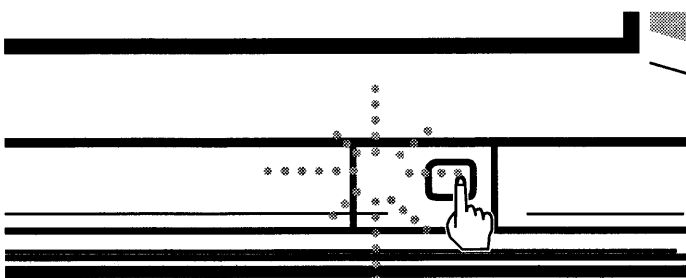
If you found the power indicator flashing, please turn the TV set off completely using the **Mains ON/OFF** Ⓜ switch and contact our service desk. This warning is a sign to let you know that the power protection circuit of this TV set is now operating.

- ☞ **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.

Auto Shut Off

This TV set will automatically switch off into the standby mode, 10 minutes after a signal is no longer received. The time in minutes 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.
- ☞ When the TV set is switched on by using the On-timer function with no signal being received, the auto-shut off function will be ignored.



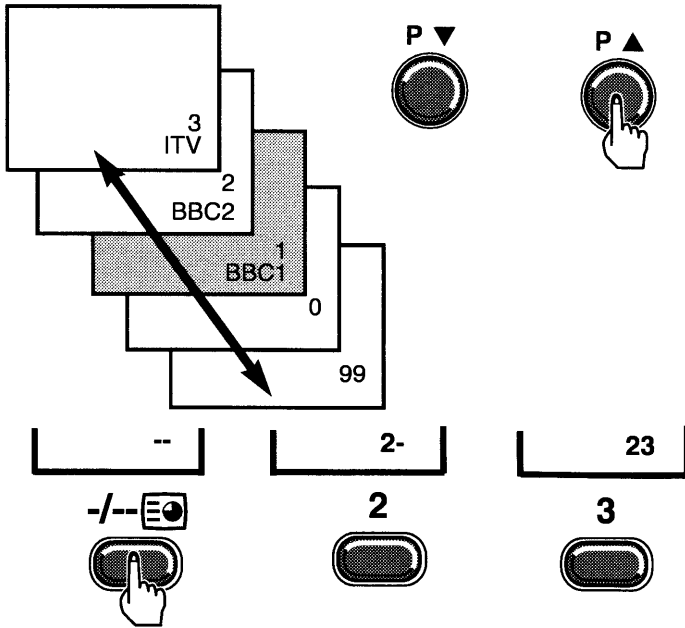
-00

Stand by



- Programme Selection
- Function Control

General Operation



Programme Selection

■ Up/Down Programme Selection

Press the **P▲** button to select the next programme number. Press the **P▼** button to select the previous programme number.

■ Direct Programme Selection

For selection of programme position 0-9, press the corresponding **numeric button (0-9)**.

For selection of programme position 10-99, for example 23, first press the **-/--** button and press the **2** then **3** numeric button.

☞ The programme ID (Identification) is displayed together with the programme number on the screen automatically when one of the following major stations in the U.K. is selected, BBC1, BBC2, ITV, CH4, CH5 and SKY or BBC(SAT) stations. Further information, see the description "Automatic Tuning/Sorting" on page 17.

Function Control

■ Sound Volume Control

To increase or decrease the sound volume level, press either the **▲+** or **▲-** button.

■ Selection & Adjustment of Controls

Following controls can be selected by using the **F** button and adjusted using the **▲+** or **▲-** button.

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

⊙ **BRIGHT** : To adjust the picture brightness.

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

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

TEXT BRIGHT : To select the teletext brightness level of the teletext mode (see page 20).

< > **Fine tuning** : To make fine adjustments to tuning.

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

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

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

AV1 MODE : To select the input mode of AV1 mode, VIDEO/S-VIDEO (see page 11).

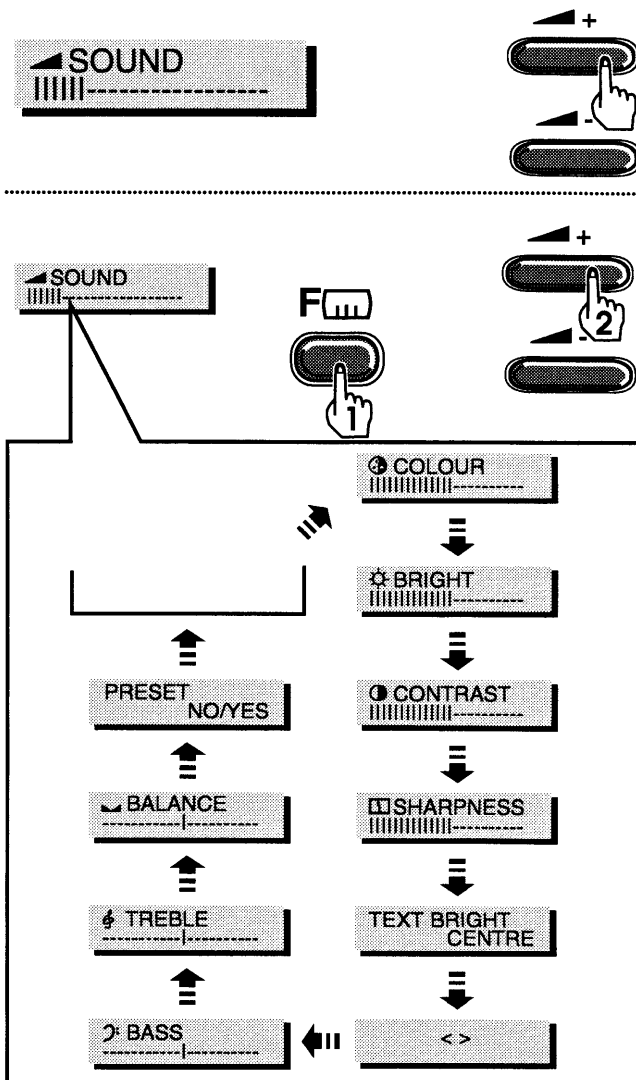
PRESET NO/YES : To enter the presetting mode. (see page 16-18)

1 Press the **F** button repeatedly until the desired control appears on the screen.
The control display changes as illustrated.

2 Press the **▲+** or **▲-** button to adjust the selected control level up or down.

☞ The following functions do not appear whilst in AV mode, Fine tuning, PRESET NO/YES.

☞ The function AV1 MODE only appears when in AV1 mode.





General Operation

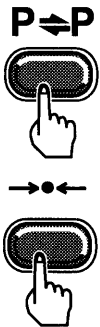
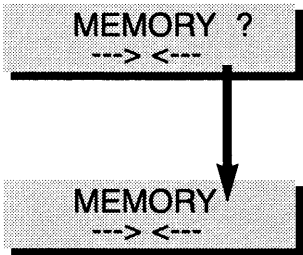


■ Sound Mute

Press the button to switch off the sound from the speakers.

Press the button again to switch the sound back on.

When the or button is pressed, the sound muting will also be cancelled.

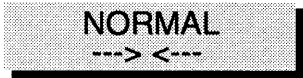


Memory & Normalisation

This TV can store and recall your desired picture and sound control levels into and from the memory.

■ Storing settings into the Memory

Press the button while the control display is still on the screen, (approx 5 seconds), followed by the button. This completes the memorisation.



■ Normalisation to your saved settings

Press the button to recall the picture and sound control settings stored in the memory.

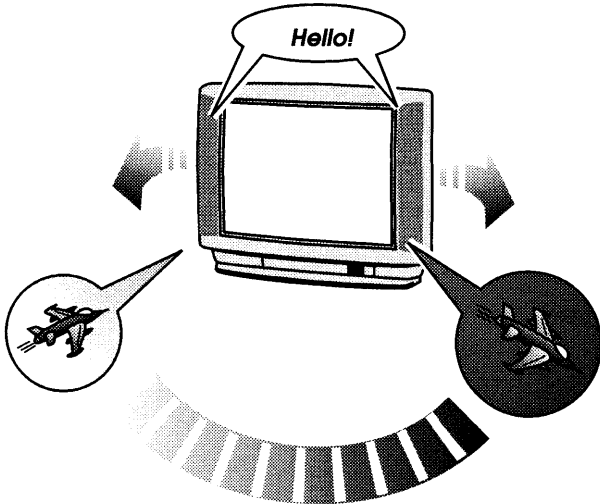


- Active 3D Surround
- Nicam & Bilingual Reception
- Bass Expander

Sound Options

3D Surround On

SURROUND



Active 3D Surround

This TV set has an active 3D surround processor which creates an incredible 3 dimensional sound effect when receiving a standard stereo signal.

To switch the active 3D surround mode on and off, press the **SURROUND** button.

When receiving a bilingual broadcast, you cannot get a 3D surround effect even if the screen display is on.

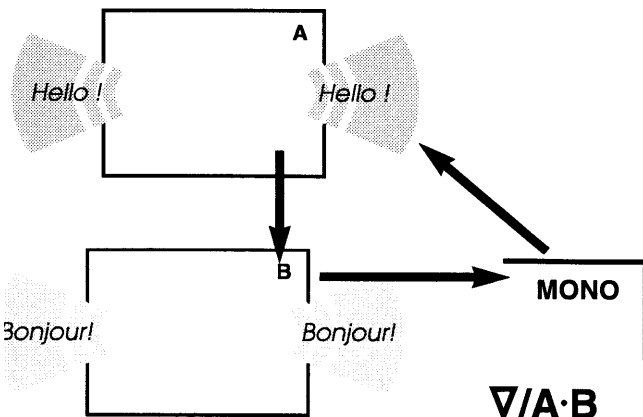
What is Active 3D Surround ?

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 the Active 3D Surround technology. Music and sound effects appear to come from points in the room away from the speakers. Objects (such as jets) seem to move in space toward and then past the listener.

NICAM

MONO

∇/A·B



Nicam & Bilingual Reception

Nicam reception

Press the **∇/A·B** button to switch between NICAM and Mono on a NICAM broadcast.

Bilingual reception

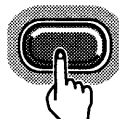
Press the **∇/A·B** button to switch between Main sound (A), Sub sound (B) and Mono on a Bilingual NICAM broadcast.

Sometimes the transmission is in two languages one on A and one on B you can make your own selection.

The display appears on the screen for about 5 seconds.

SOUND BASS

BASS



Bass Expander

To get a emphasis bass sound, press the **BASS** button. The word "BASS" appears on the sound display.



Convenient Functions

Using AV Equipment

You can connect a VCR, S-VHS VCR, Satellite Tuner, PAY TV Decoder or Camcorder, as this TV has two Scart terminal on the rear panel and one pair of AV input terminal on the front panel.

● Selection of AV mode

Most AV equipment when connected using a scart socket, will automatically switch into the AV mode (because of the 8 pin function signal in the scart terminal) by pressing the PLAY button on your AV equipment.

If not, press the **TV/AV** button to select the desired AV mode manually.

● Setting of Input mode

To obtain the best performance of the equipment connected to the AV1 terminal, you are required to set the correct input mode.

SETTING PROCEDURE

- 1 Select the AV1 mode by pressing the **TV/AV** button.
- 2 Press the **F** button repeatedly until the word "AV1 MODE" appears on the screen.
- 3 Select the correct input mode by pressing the **+/-** button.

AV1 MODE VIDEO: Video input mode, for a normal VCR.

AV1 MODE S-VIDEO: S-Video input mode, for a S-VHS VCR)

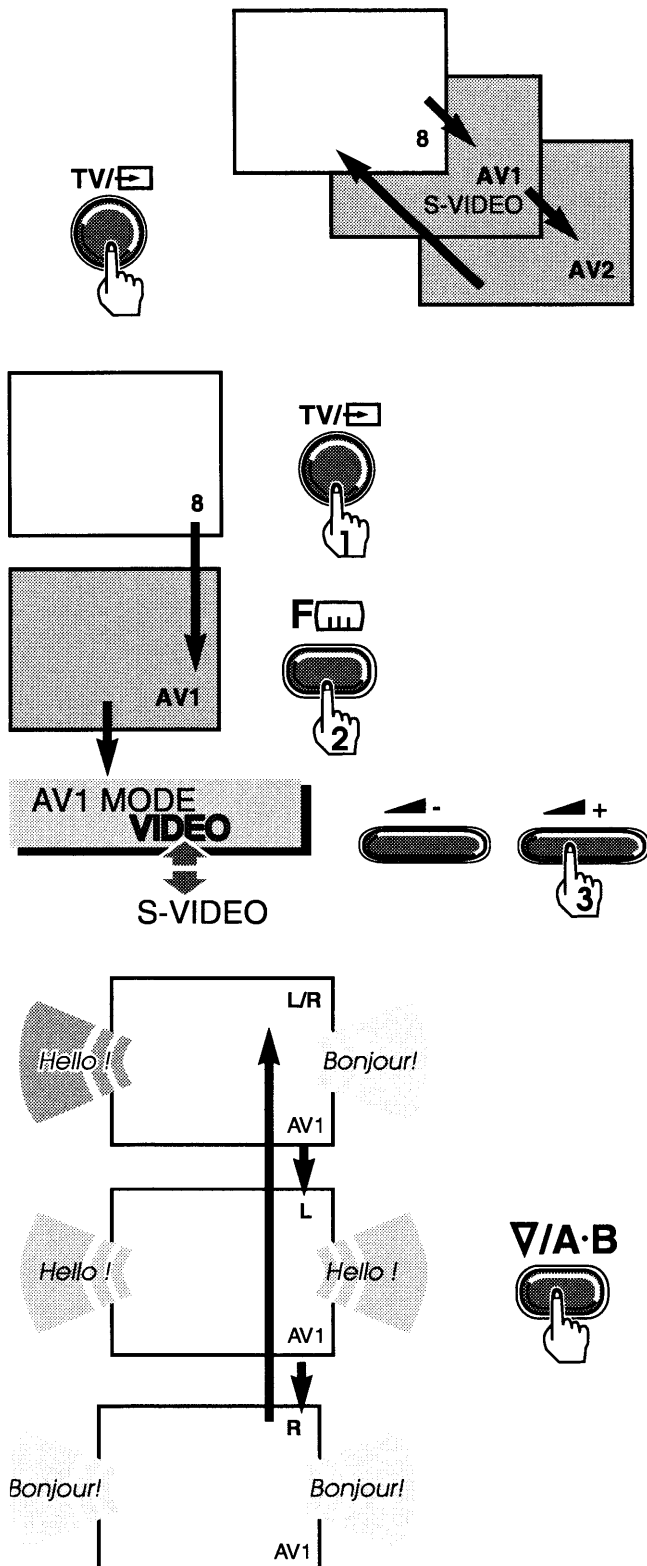
● Selection of front AV2 mode

Press the **TV/AV** button repeatedly to select the AV2 mode.

AV equipment can be connected to either the rear AV2 scart socket or to the front AV2 RCA sockets. If equipment is connected to the front AV2 terminals this will override any equipment connected to the rear AV2 scart socket. To use the rear AV2 scart socket please ensure that no equipment is connected to the front AV2 terminals.

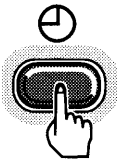
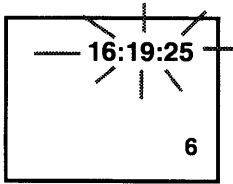
● Selection of the sound track from the equipment

By pressing the **∇/A•B** button repeatedly, you can select the sound track L(Left), R(Right) or L/R from the equipment connected via the scart terminals or the front AV terminal.



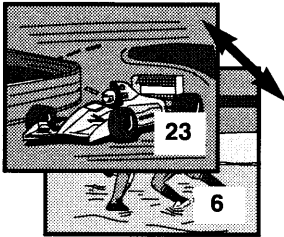


Convenient Functions



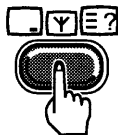
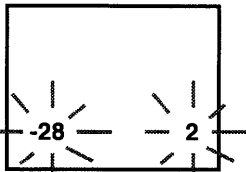
■ Time Call

In the TV mode, if the receiving programme has a teletext service when the button is pressed, the teletext service clock will be displayed on the screen for about 5 seconds.



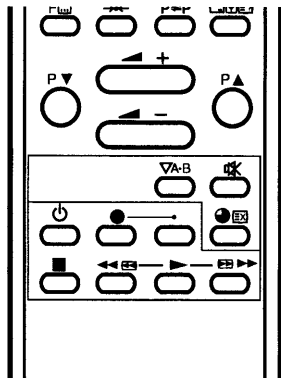
■ Alternative Programme

Press the button to switch back to the previous programme position watched. Press the button again to switch back.



■ Recall

Press the button to display the programme information for about 5 seconds.



Symbol	Function
	Power on/off
	Play
	Stop
	Fast/Cue
	Rewind/Review
	Record

■ VCR Use

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

● POWER ON/OFF:

To switch the VCR On and Off .

● PLAY:

Press to playback the tape.

● STOP :

Press to stop the movement of the tape.

● FAST/CUE:

Press to advance the tape at fast speed, or in order to playback the tape at fast speed.

● REWIND/REVIEW:

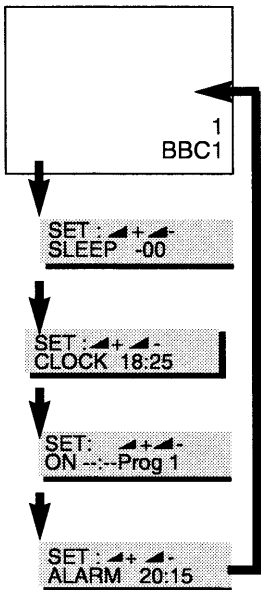
Press to rewind the tape or in order to playback the tape in reverse at fast speed.

● RECORD:

Press to record on the tape. Press both of the RECORD buttons at the same time.



Clock Functions



The on-timer and alarm timer function will be skipped if the clock time has not been set.

This TV has a timer function which will switch your TV on and display the time up sign on the screen at a desired time and switch off after a preset period of time. Select the following modes by pressing the ● button repeatedly.

■ Sleep timer setting

You can select a time period after which the set will switch off into the standby mode.

■ Clock setting

You can preset the present time manually.

■ On-timer setting

You can set the time which you want to switch TV on from the standby mode.

■ Alarm timer setting

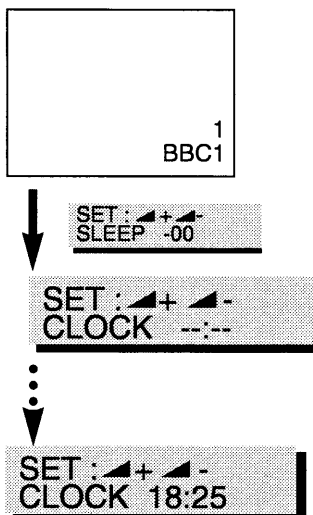
You can set the time which you want to display a time up sign on the screen.

Automatic Clock Setting

This TV set will automatically set the clock from the teletext service clock of the specified 6 major stations, BBC1, BBC2, ITV, CH4, CH5 and SKY. Therefore, you do not need to set the clock time.

The automatic clock setting is performed when any of 6 major stations is selected after turning the TV on.

If the reception signal is weak or there is no teletext service, this function will not operate properly and the words "CLOCK --:--" will appear on the screen. In this case, you can manually set the clock time.



Manual Clock Setting

SETTING PROCEDURE

For example: Set clock at 6:25. pm.

1 Press the ● button twice. The words "SET CLOCK" will appear on the screen.

2 Set hours "18(24 hours clock)" by pressing the ◀+ button.

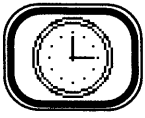
Set minutes "25" by pressing the ▶- button.

☞ When you press the ◀+ or ▶- button, the time always steps up, if you hold it down, the time changes more rapidly.

This completes the clock setting.

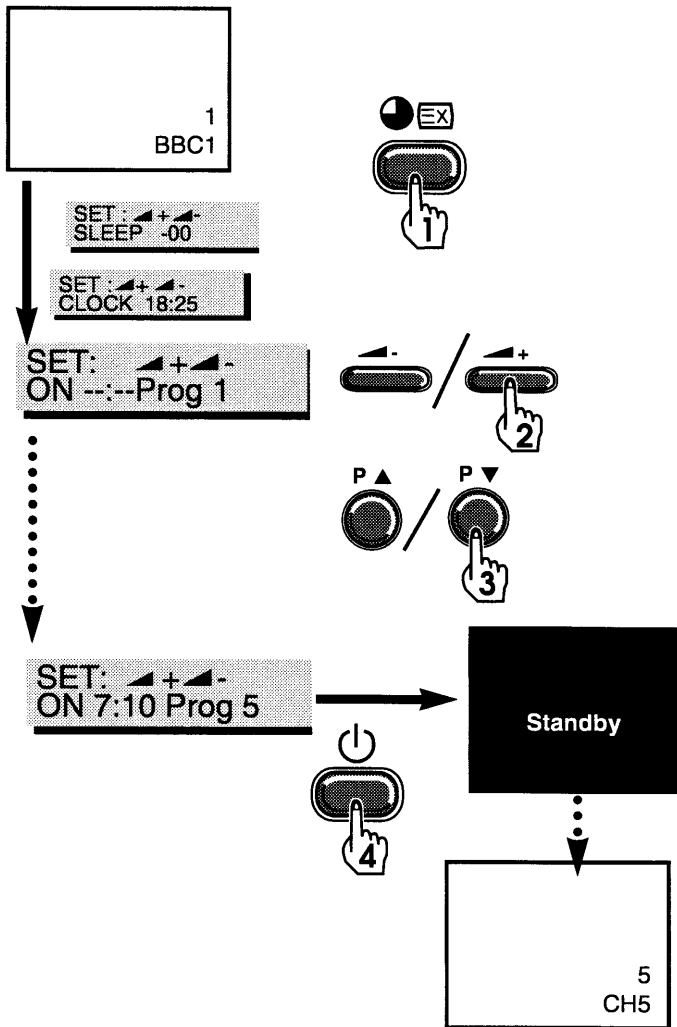
If you do not want to operate the clock function, press the -/-- button in step 2 in the above procedure. The "CLOCK --:--" will appear on the screen.

- ☞ The clock starts after releasing the ◀+ or ▶- button.
- ☞ The on-screen display will disappear 10 seconds after the last button is pressed.
- ☞ If the TV set is switched off by the Mains Switch ① or a power failure occurs while the on-timer or the sleep timer are operating, the timer settings will be cancelled.
- ☞ If you want to see the set time, press the ● button repeatedly to select the set timer mode.



● On-Timer Setting

Clock Functions



On-Timer Setting

SETTING PROCEDURE

For example: Set switch on-time at 7:10 am. with start-up programme position 5.

When the clock has automatically set from the teletext service from satellite or cable programmes it may be European time.

- 1 Press the **EX** button twice, check the time is correct, change manually if required. Press the **EX** button again, the words "SET ON" will appear on the screen.
- 2 Set hours "7(24 hours clock)" by pressing the **+** button. Set minutes "10" by pressing the **-** button.

- ☞ When you press the **+** or **-** button, the time steps up or down slowly. For rapid time change hold the buttons down.
- ☞ When you press the **+** or **-** button once, the present time will be call up as the on-time for easy setting.

- 3 Select programme position 5 as the start-up programme by pressing the **P▲** or **P▼** button or entering two digit number buttons.

This completes the on-timer setting.

- 4 Switch into the standby mode by pressing the power button.

When the set on-time is reached, the TV set will switch on and select the start-up programme automatically.

To cancel the On-timer, press the **-/--** button in step 2 in the above procedure. The "ON ---" will appear on the screen.

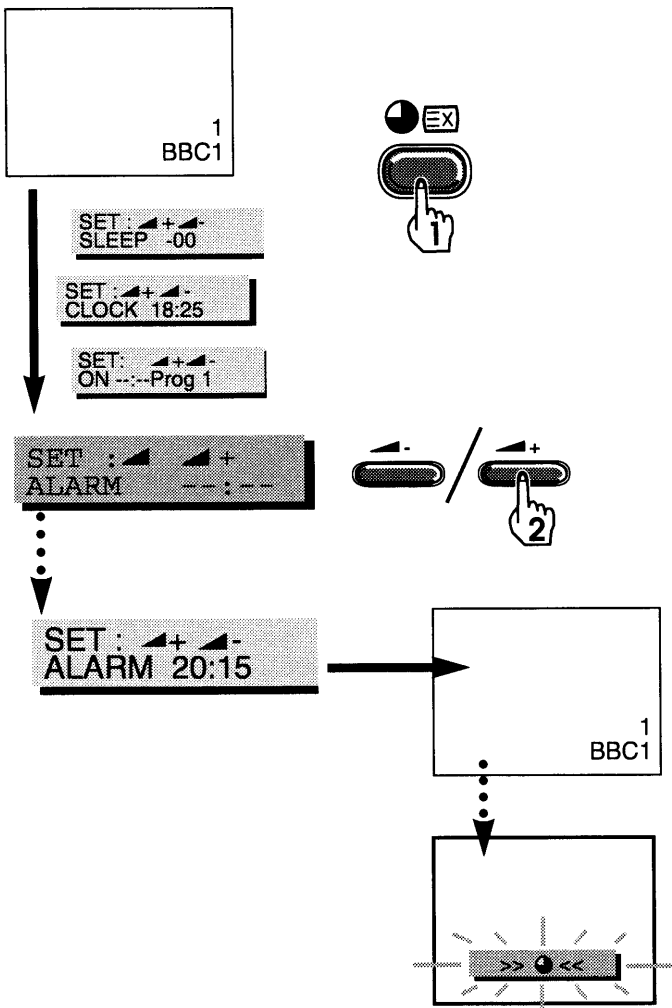
Advance

If the set on-time is reached and the TV set already on, the TV set will automatically change to the programme position which has been selected as the start-up programme in the on-timer function.

- ☞ If the clock time has not been set, the on-timer function will be skipped.
- ☞ When the TV set is switched on by using the on-timer function, the TV set will automatically switch back into the standby mode in 2 hours if no key control is input.



Clock Functions



Alarm Timer Setting

This function can display an alarm sign on the screen as illustrated to let you know that the set time has been reached.

This operation only works while the TV set is on.

This alarm may be used to remind you to do something.

SETTING PROCEDURE

For example: Set Alarm-time at 8:15 pm.

When the clock has automatically set from the teletext service from satellite or cable programmes it may be European time.

- 1 Press the ● button twice, check the time is correct, change manually if required. Press the ● button twice more, the words "SET ALARM" will appear on the screen.
- 2 Set hours "20(24 hours clock)" by pressing the ▲+ button. Set minutes "15" by pressing the ▲- button.

☞ When you press the ▲+ or ▲- button, the time steps up or down slowly. For rapid time change hold the buttons down.

☞ When you press the ▲+ or ▲- button once, the present time will be called up as the on-time for easy setting.

This completes the alarm timer setting.

When the set alarm time is reached, the Alarm sign will appear on the screen this will remain on the screen until a key control is entered.

To cancel the alarm timer, press the -/-- button in step 2 in the above procedure. The "ALARM --:--" will appear on the screen.

☞ If the clock time has not been set, the alarm timer function will be skipped.

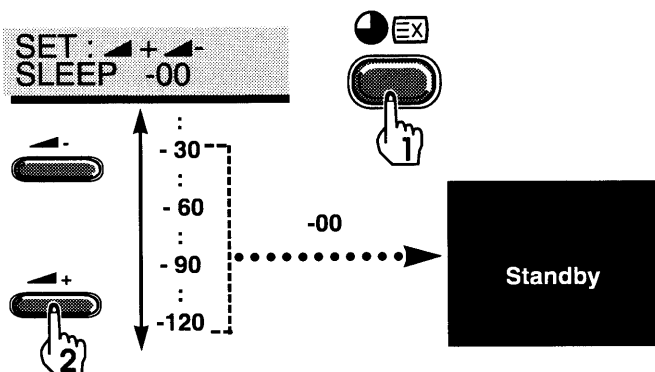
☞ If you are watching a teletext page when the alarm time is reached, the TV set returns to the TV mode and displays the Alarm sign on the screen.

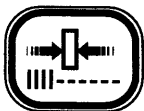
Sleep Timer Setting

- 1 Press the ● button once. The words "SET SLEEP" will appear on the screen.
- 2 Set the time period by pressing the ▲+ or ▲- button. The period changes in 30 minute steps.

If you have set a time, then one minute before the TV switches off -01 automatically appears on the screen.

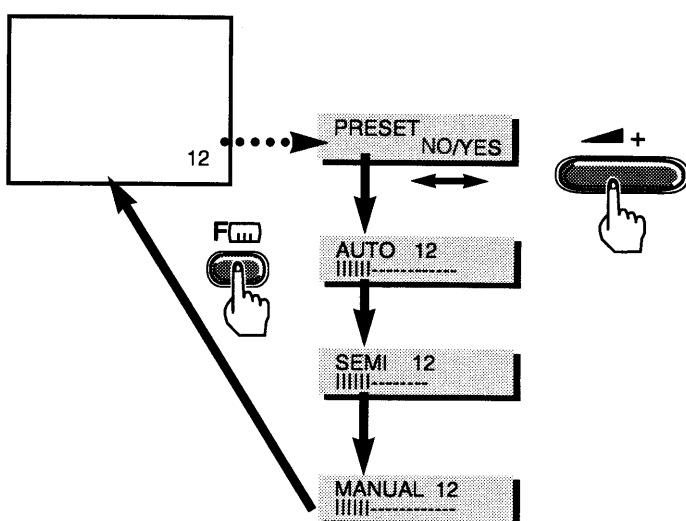
To cancel the sleep timer, select "-00" by using the above procedure.





● Selection of Presetting Mode

Presetting



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

There are three modes of pre-setting channels as follows:

■ **Automatic tuning/sorting**

All receivable channels are found and stored automatically, and the specified 6 major stations in the UK are sorted to programme positions 1 to 6.

■ **Semi-automatic presetting**

Used to preset a receivable channel in any desired programme position.

■ **Manual presetting**

Manually tune a channel if it cannot be automatically tuned, such as when the signal is poor.

Selection of Presetting Mode

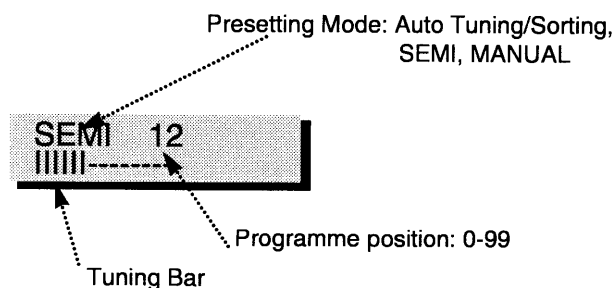
The presetting of this TV set can be performed by using the control buttons on the remote control handset.

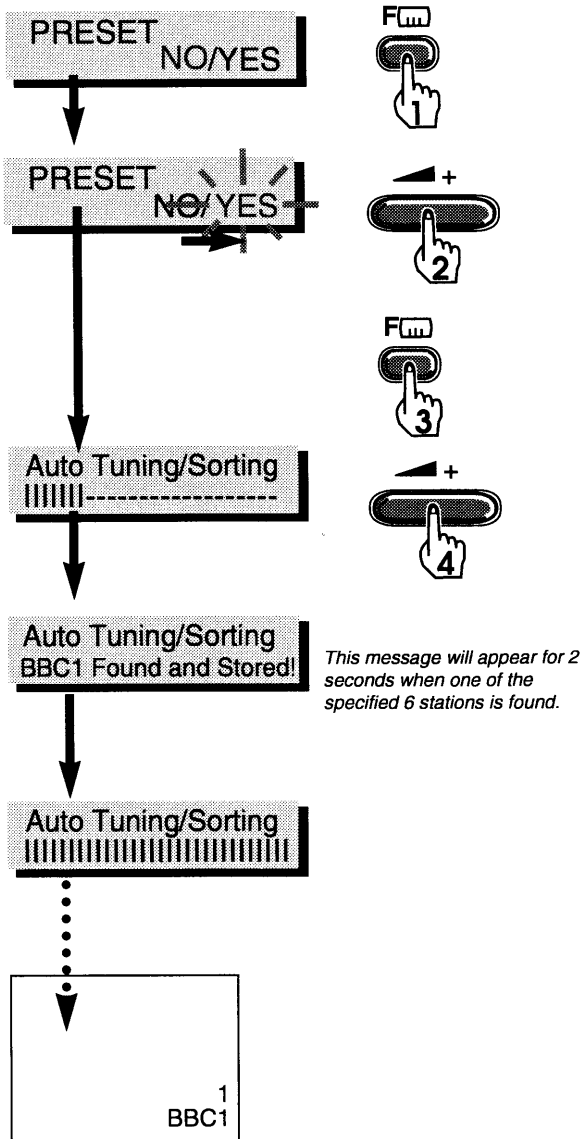
To select the presetting mode, press the **F** button repeatedly until the word "PRESET NO/YES" appears on the screen, next select "YES" by pressing the **◀ +** button, and then press the **F** button. The presetting mode screen display appears.

Each time the **F** button is pressed, the tuning mode will change as illustrated.

If you select "YES" but do not press the **F** button within 5 seconds, the mode automatically changes to the normal TV mode.

On-Screen Display in the Presetting mode





Automatic Tuning/Sorting

This function automatically finds and stores all the receivable stations. The programme positions 1 to 6 are especially prepared for the following major stations in the UK.

- Programme position 1 : BBC1
- Programme position 2 : BBC2
- Programme position 3 : ITV
- Programme position 4 : CH4
- Programme position 5 : CH5
- Programme position 6 : SKY or BBC(SAT)

Programme position 6 is reserved for SKY or BBC(SAT) station. If both stations are available in your reception area, the first found station is stored for the programme position 6.

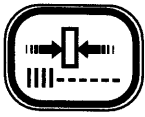
If any of these channels are not available in your reception area, then that programme position will be left empty. The remaining stations will be stored from programme position 7 in sequence as found.

- 1** Press the **F** button repeatedly until the word "PRESET NO/YES" appears on the screen.
- 2** Select "YES" by pressing the **◀ +** button.
- 3** Press the **F** button once to select the automatic presetting/sorting mode. The words "Auto Tuning/Sorting" appears on the screen.
- 4** Press the **◀ +** button to begin automatic presetting and sorting.

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

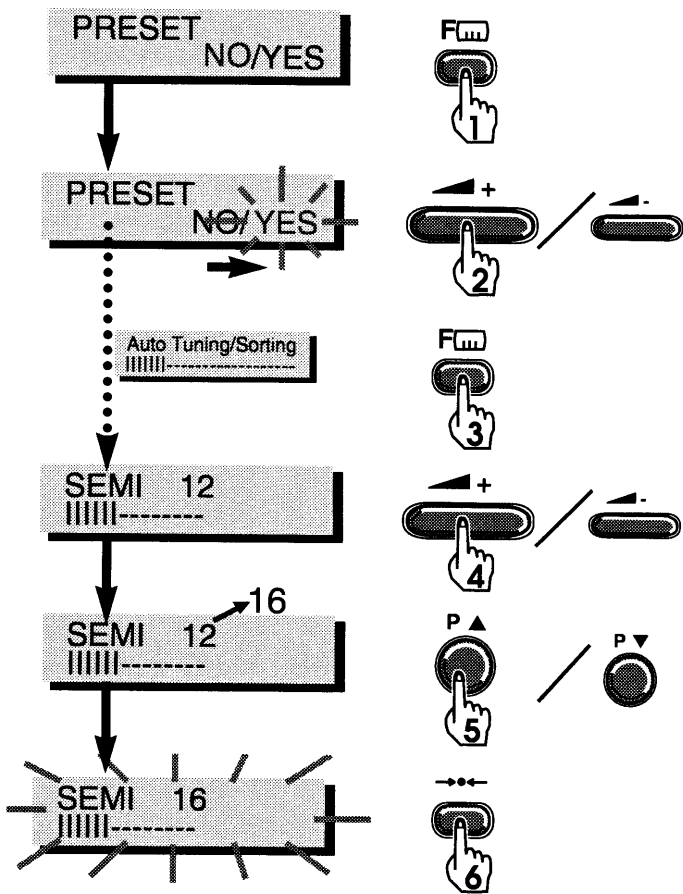
The automatic tuning/sorting operation can be cancelled at any time by pressing the **F** button.

- ☞ When one of the 6 major stations is selected, the programme ID (Identification) is displayed together with the programme number on the screen automatically for about 5 seconds.
- ☞ The Programme ID display and the sorting function may not operate properly under the following conditions.
 - The reception of a weak signal condition.
 - The reception of a station which does not have a teletext service.
- ☞ You can change the order of stored station, by using the channel swapping function, refer to page 19.



- Semi-Automatic Presetting
- Manual Presetting

Presetting



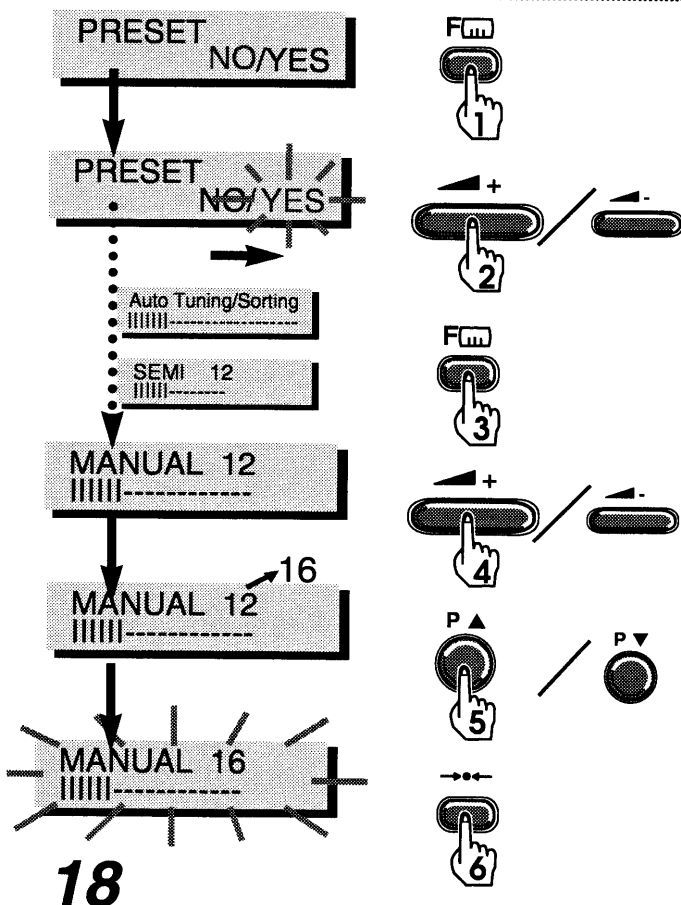
Semi-Automatic Presetting

- 1 Press the **F** button repeatedly until the word "PRESET NO/YES" appears on the screen.
- 2 Select "YES" by pressing the **+ / -** button.
- 3 Press the **F** button twice to select the Semi-automatic presetting mode. *The word "SEMI" appears on the screen.*
- 4 Press the **+ / -** button, to begin searching. *When a station is found, searching automatically stops.*
- 5 Select your desired programme position where you wish the station to be stored using the **P▲** or **P▼** buttons.
- 6 Press the **↔** button to store in the memory.

Repeat steps 4 to 6 for other desired channels.

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

This completes the semi-automatic presetting.



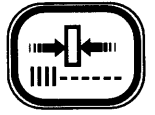
Manual Presetting

- 1 Press the **F** button repeatedly until the word "PRESET NO/YES" appears on the screen.
- 2 Select "YES" by pressing the **+ / -** button.
- 3 Press the **F** button three times to select the manual presetting mode. *The word "MANUAL" appears on the screen.*
- 4 Press and hold the **+ / -** button, to begin searching. Release the button when a station is found.
- 5 Select your desired programme position where you wish the station to be stored using the **P▲** or **P▼** buttons.
- 6 Press the **↔** button to store in the memory.

Repeat steps 4 to 6 for other desired channels

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

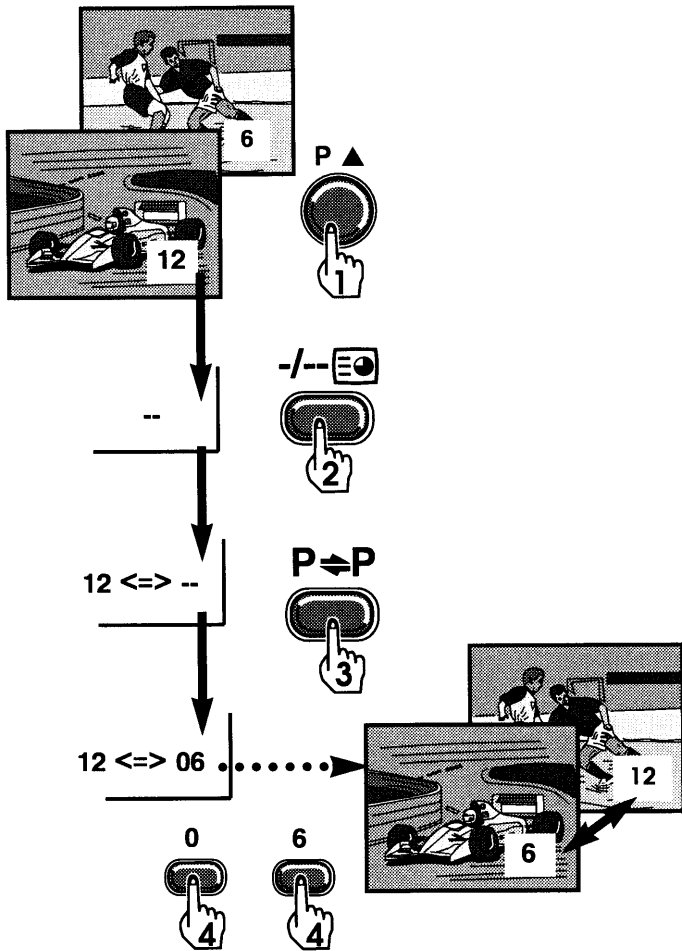
This completes the manual presetting.



Presetting

Channel Swapping

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



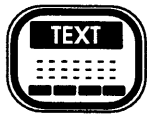
- 1** Select one of TV channels you wish to swap by using the **P▲**, **P▼** or using the **(0-9) numeric buttons**.
- 2** Press the **-/--** button. "--" appears on the screen.
- 3** Press the **P⇌P** button.
Channel swapping mode is displayed.
- 4** Enter the other programme number by using the **(0-9) numeric buttons** with two digit numbers.

☞ For example,
 Selection of programme position 6, first enter **0** and then enter **6**.
 Selection of programme position 12, first enter **1** and then enter **2**.

The two TV channels will now have changed places.

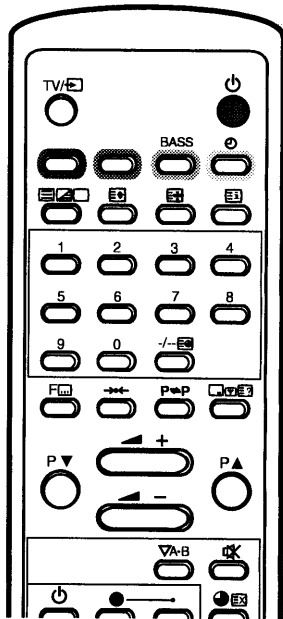
Repeat steps 1 to 4 for all the other TV channels you want to swap.

The above procedure must be done while the on-screen display is still on the screen.



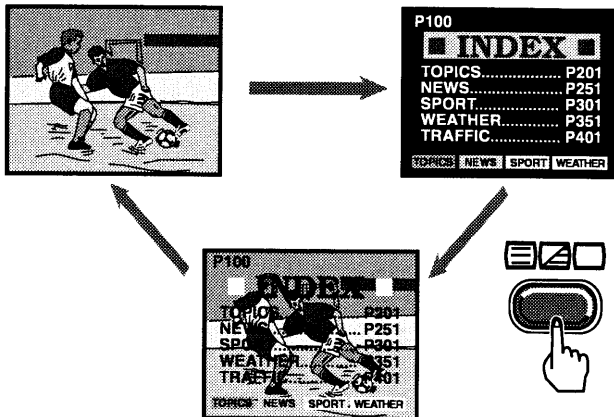
- Teletext Controls
- Switching to the Teletext
- Picture & Sound in Teletext mode

Teletext



Teletext Controls

Symbol	Function
	TEXT/MIX/TV switch
0-9	0-9 numeric buttons
	Page up/down
	Index page selection
	Hold
	Size
	Cancel
	Sub coded page selection
	Reveal
	Red
	Green
	Yellow
	Blue



Switching to Teletext

Press the button, to select teletext.

Press again to select teletext and TV picture.

Press again to return to TV mode.

Picture & Sound in Teletext mode

Picture and Text brightness controls in the teletext mode

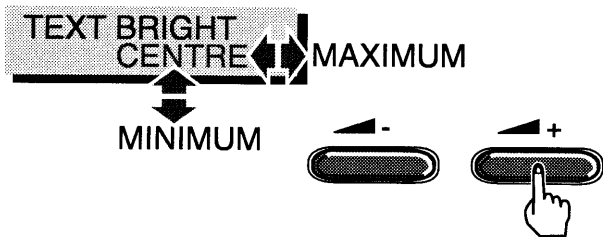
You cannot adjust the picture or teletext brightness in the teletext mode. You must first switch back to the TV mode and then adjust the picture control or set the teletext brightness level.

How to set the teletext brightness level

- 1 Press the button repeatedly in the TV mode until the word "TEXT BRIGHT" appears on the screen.
- 2 Press the or button to select one of the 3 teletext brightness levels either MAXIMUM, CENTRE or MINIMUM.
- 3 Confirm the selected teletext brightness level by switching to the teletext mode by pressing the button.

Sound control in the teletext mode

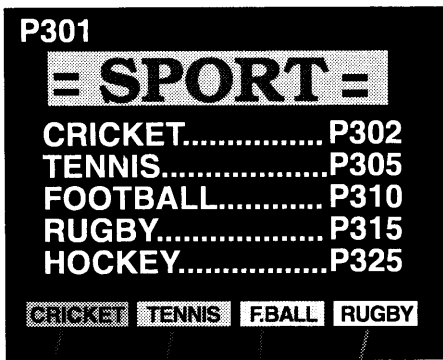
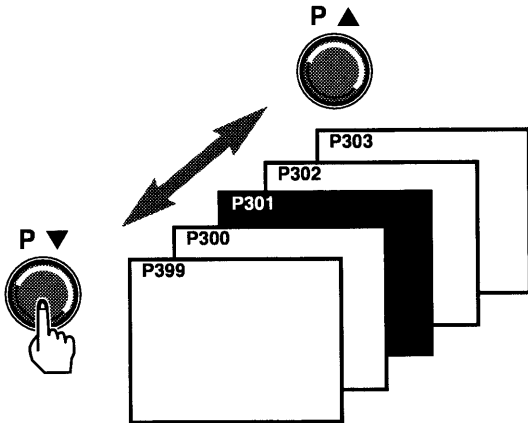
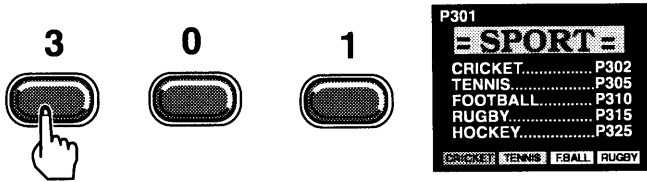
Only sound volume and muting can be controlled in the teletext mode but the on-screen display does not appear.



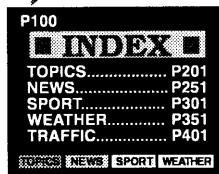
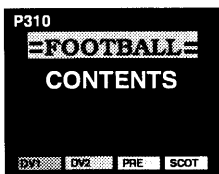
- Page Selection ●
- Index Page Selection ●
- Hold ●



Teletext



Red Green Yellow Blue



Page Selection

Direct page access

Enter a page number directly using the 0-9 numeric buttons. eg. To select page 301, press 3 then 0 and then 1.

Up/down page access

Press the P▲ or P▼ button to select the next or previous page number.

P▲ : P301 → P302 → P303 P399 → P300

P▼ : P301 → P300 → P399 → P398P301

Coloured button page access


Press one of the 4 coloured buttons to select the topics shown at the bottom of the text screen.

For example the Red topic can be selected using the Red button, the Blue topic by the Blue button, and so forth with the other colours.


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.

You can review the previous 4 pages, by pressing the P⇌P button repeatedly.

Index Page Selection

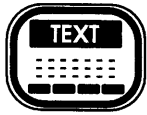
Press the  button to select one of the teletext index pages.

Hold

Press the  button to stop sub pages changing.

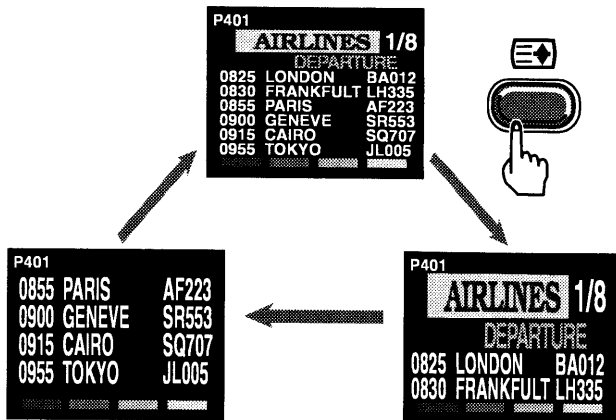
The word "HOLD" will appear instead of the page number.

Some teletext pages are made up of several sub pages. These sub pages are automatically changed. Sub page is shown as P4/8 (sub page 4 of 8 pages) the location on the text page depends on the text service.



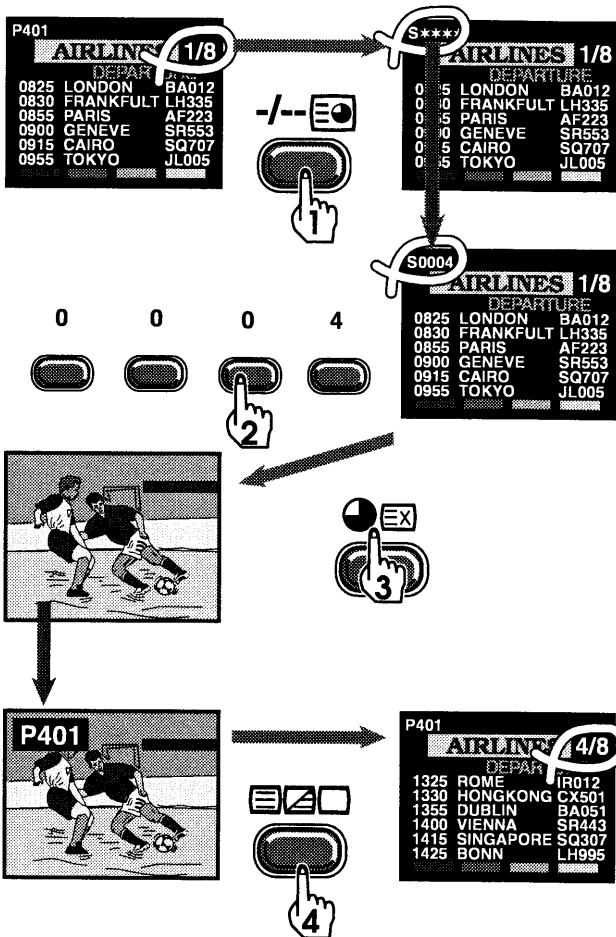
- Double Letter Height
- Sub Page Access

Teletext



Double Letter Height

- Press the button to enlarge the top half of the text page.
- Press the button again to enlarge the bottom half of the text page.
- Press the button again to return to the normal size page.



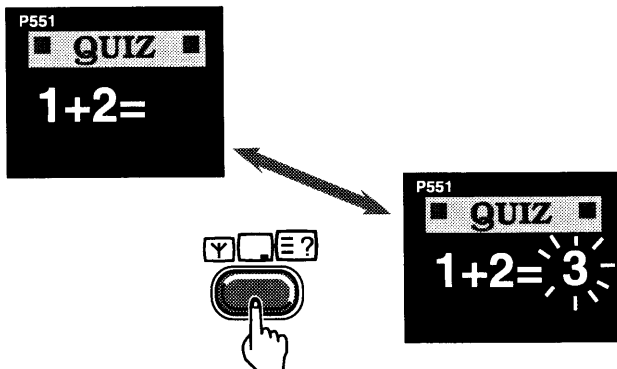
Sub Page Access

- With a text page selected which has sub pages, you may wish to read a known sub page number.
- 1 Press the button.
"S****" will be displayed instead of the page number.
 - 2 Enter the sub page number by using the (0-9) 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 correct sub-coded page is reached, the page number will appear on the TV picture.
 - 4 Press the button to view the sub-coded page.

- Display Concealed Information
- Updated Pages
- News Flash

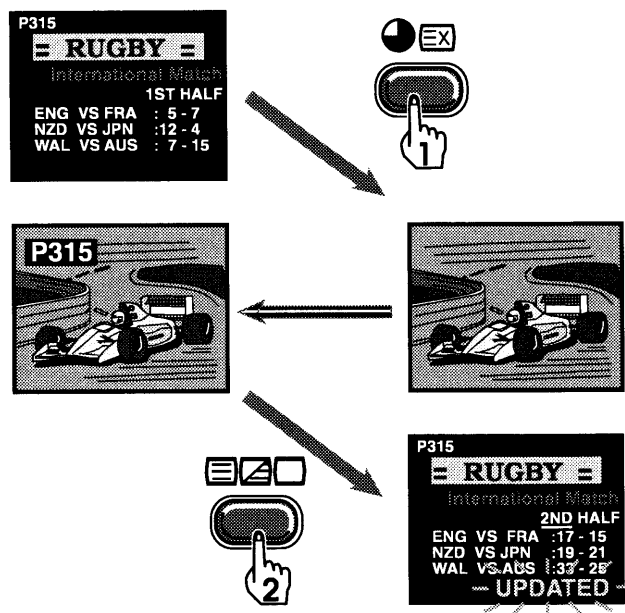


Teletext



Displaying Concealed Information

- Press the button to reveal hidden items on the text page.
- ☛ Some pages such as quiz pages have the answers hidden. The button may have to be held to keep the answer on the screen, or pressed again to remove the answers.

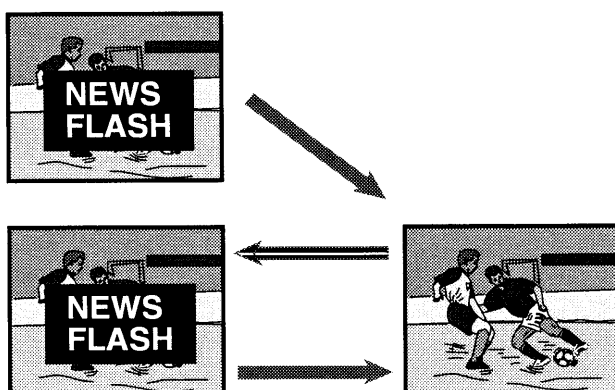


Updated Pages

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 button to view the updated page.
If the page has sub pages the number will appear when the sub page is changed.



News Flash

Select the news flash page.

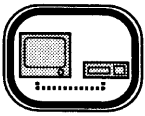
- 1 Press the button to return to the normal TV picture.
Immediately the news comes in, the word eg "News Flash" and the news will appear over the normal TV picture.
- 2 If you want to make the news disappear, press the button.

Cancel

When you press the button, the TV picture appears on the screen, whilst in this mode you cannot select another TV programme because you are still in the teletext mode. You should first switch back to TV mode by pressing the button if required.

Teletext reception

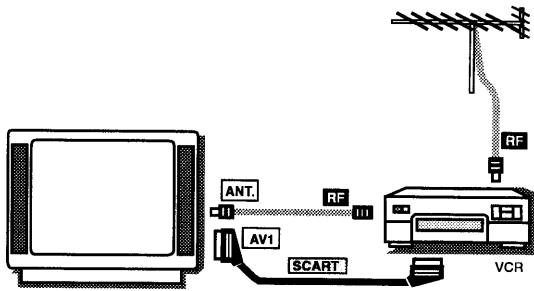
If your aerial signal is poor, the teletext reception may be poor.



- Use of a VCR
- Use of a VCR and Satellite Tuner
- Use of a Camcorder or Game Equipment
- Use of Headphones

Connection of AV equipment

The following are our recommended standard connections for AV equipment. There are various types of connections depending on the equipment which you have or its use. For further information please consult your local dealer. If you have a S-VHS type VCR, to obtain the best performance it should be connected to the AV1 terminal which has been specially designed for S-VHS (see page 11).



Use of a VCR

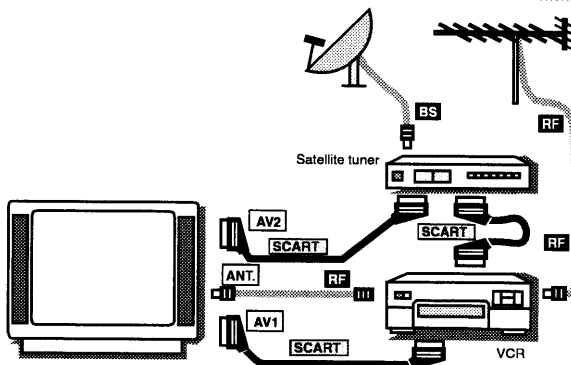
CONNECTION

- ✓ Connect RF cables. Roof aerial to VCR & VCR to TV.
- ✓ Better picture quality can be obtained if you also connect a Scart cable.

ABILITY

- ✓ Watch TV programmes.
- ✓ Watch the playback from the VCR on position 0 or when using a Scart cable, it is on AV1 mode.
- ✓ Record TV programmes.

When you connect the VCR to the aerial terminal on the TV using an RF cable, it is advisable to tune the VCR channel to the programme position 0, this is useful position for VCR use.



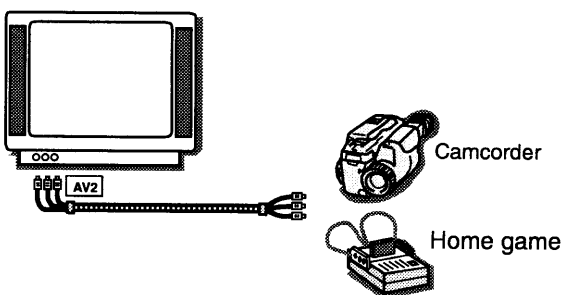
Use of a VCR and Satellite Tuner

CONNECTION

- ✓ Connect RF cables. Roof aerial to VCR & VCR to TV, Dish aerial to satellite tuner.
- ✓ Connect Scart cables. AV1 to VCR & AV2 to satellite tuner & VCR to satellite tuner.

ABILITY

- ✓ Watch TV programmes.
- ✓ Watch satellite programmes on AV2 mode.
- ✓ Watch the playback from the VCR on AV1 mode.
- ✓ Record TV and satellite programmes.



Use of a Camcorder or Game Equipment

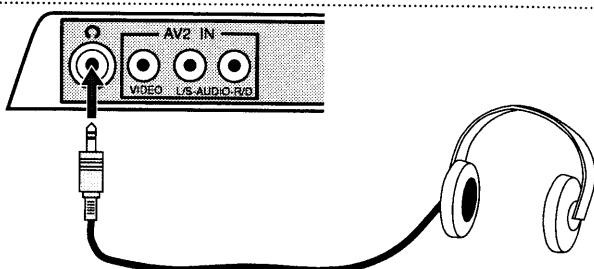
CONNECTION

- ✓ Connect an RCA cable from the front AV terminal (AV2) to a camcorder or to game equipment.


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

ABILITY

- ✓ Watch the playback from the camcorder or enjoy playing games on AV2 mode.
- ✓ You must select the AV2 mode manually.



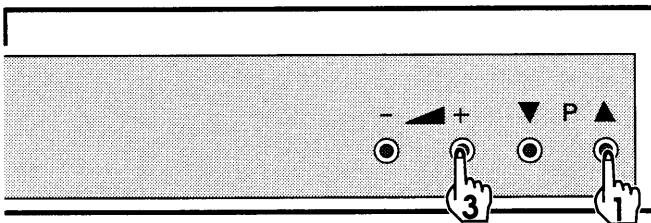
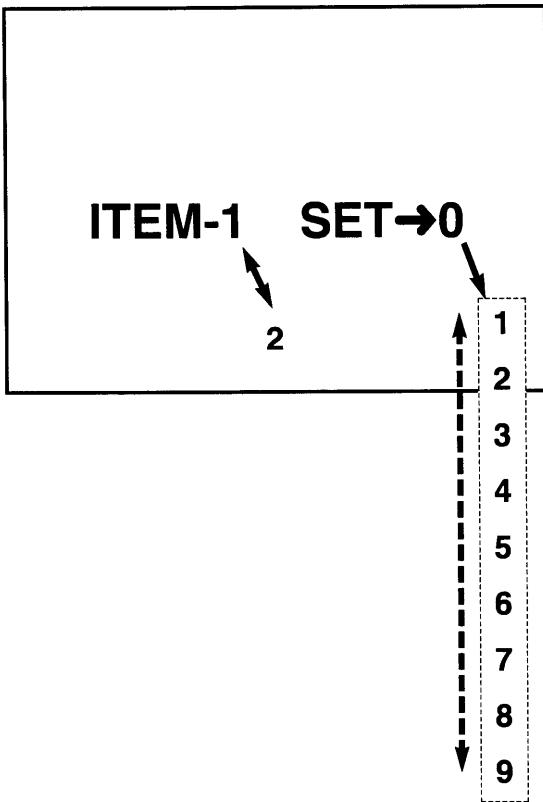
Use of Headphones

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

Maximum volume setting and prohibition of presetting ●

Start up programme position ●

Special Function



This TV set allows you to set up the following special functions.

■ Maximum volume setting and prohibition of presetting.

ITEM-1

Sets the current volume as the maximum volume level and prohibition of presetting.

SET→ 0 NO

SET→ 1 YES

■ Start up programme position

ITEM-2

Presets the programme position when the set is switched on.

SET→ 0 Last programme position start

SET→ 1 Programme position "1" start

SET→ 2 Programme position "2" start

SET→ 3 Programme position "3" start

SET→ 4 Programme position "4" start

SET→ 5 Programme position "5" start

SET→ 6 Programme position "6" start

SET→ 7 Programme position "7" start

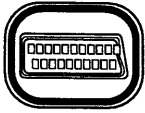
SET→ 8 Programme position "8" start

SET→ 9 "AV1" start

SETTING PROCEDURE

- 1 Press and hold the button on the Remote control handset and then press the **P▲** button on the TV set.
- 2 To select the "ITEM" number, press the **F** button on the remote control handset.
- 3 To select the "SET" number, press the **▲+** or **▲-** button repeatedly.
- 4 To return to the normal TV mode, press the button.

- ✎ The setting conditions of all items can be confirmed.
- ✎ Special functions are not cancelled if the TV set is switched off or the mains disconnected.



Specification

TV Specification

	<u>Common Specification</u>
Power source	AC 220~240V 50Hz
Television system	System I
Colour system	PAL
Receiving channel	UHF: 21-69
Aerial input impedance	75ohm
AV terminal	
21-Pin Terminal	AV1: CENELEC Standard (S-Video input)
	AV2: CENELEC Standard
Front AV Terminal	AV2: RCA Terminal, Video and Audio(L/R) Input

	<u>21DN2</u>	<u>25DN2</u>	<u>28DN2</u>
Sound output (Music)	9 watts x 2	12 watts x 2	12 watts x 2
Picture tube (Diagonal) (cm)	59	63	70
(Visible picture diagonal)(cm)	55	59	66
Dimensions (W x H x D mm)	610 x 479 x 485	680 x 543 x 446.5	736 x 595.5 x 500
Weight (kg)	22	26	32

Scart Specification

The specification of the Scart sockets are as follows.

AV1 Terminal

Pin 1	Audio output (right channel)	0.5V/ 1 K ohm
Pin 2	Audio Input (right channel)	0.5V/10 K ohm
Pin 3	Audio output (left channel)	0.5V/ 1 K ohm
Pin 4	Audio earth	
Pin 5	Earth (blue)	
Pin 6	Audio Input (left channel)	0.5V/10 K ohm
Pin 7	Blue (B) input	0.7Vpp/75 ohm
Pin 8	Remote switch input	L:0-2V H:10-12V
Pin 9	Earth (green)	
Pin 10		
Pin 11	Green (G) input	0.7Vpp/75 ohm
Pin 12		
Pin 13	Earth (red)	
Pin 14	Earth	
Pin 15	Red (R) or chrominance input	0.7Vpp/75 ohm
Pin 16	Fast blanking	L:0-0.4V H:1-3V
Pin 17	Earth(video)	
Pin 18	Earth	
Pin 19	Video output	1 Vpp/75 ohm
Pin 20	Video/sync. or luminance input	1 Vpp/75 ohm
Pin 21	Connector shield	

AV2 Terminal

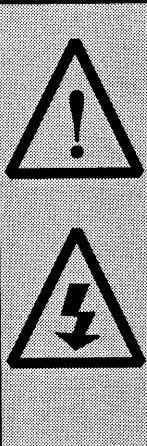
Pin 1	Audio output (right channel)	0.5V/ 1 K ohm
Pin 2	Audio Input (right channel)	0.5V/10 K ohm
Pin 3	Audio output (left channel)	0.5V/ 1 K ohm
Pin 4	Audio earth	
Pin 5		
Pin 6	Audio Input (left channel)	0.5V/10 K ohm
Pin 7		0.7Vpp/75 ohm
Pin 8	Remote switch input	L:0-2V H:10-12V
Pin 9		
Pin 10		
Pin 11		
Pin 12		
Pin 13		
Pin 14	Earth	
Pin 15		
Pin 16		
Pin 17	Earth(video)	
Pin 18	Earth	
Pin 19	Video output (Monitor out)	1 Vpp/75 ohm
Pin 20	Video input	1 Vpp/75 ohm
Pin 21	Connector shield	



Servicing



Helpful Hints



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

Removal of the cabinet cover may expose you to dangerous voltages. Refer all servicing to qualified service personnel.

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 spilled 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.

When replacement parts are required, have the service technician verify that the replacements he uses have the same safety characteristics as the original parts. Use of manufacturers specified replacements can prevent fire, shock or other hazards.



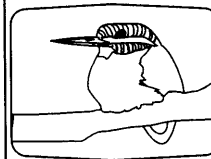
■ NO PICTURE, NO SOUND

- Check if TV is plugged in.
- Try a different channel, if OK, probably station trouble.



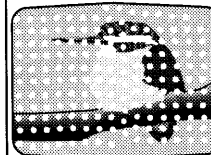
■ POOR PICTURE, SOUND OK

- Adjust BRIGHTNESS control.
- Adjust FINE TUNING control.
- Check aerial connections



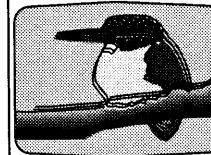
■ NO COLOUR, PICTURE OK

- 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 a minimum by repositioning your aerial or by installing a new one suited to 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.



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 inguarantee 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 Departments,
Sanyo U.K. Sales Ltd.,
Sanyo House,
Otterspool Way,
Watford, Hertfordshire WD2 8JX
Tel: 01923 246363

The SANYO logo consists of the word "SANYO" in a bold, sans-serif font. The letter "Y" is stylized with three vertical lines passing through it, creating a distinctive graphic element.

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