Panasonic

TX−28SL20F

Colour Television

Quintrix *100Hz*

Link

Operating
Instructions

WELCOME

Dear Panasonic Customer,
Welcome to the Panasonic family of customers. We hope that you have many years of enjoyment from your new colour television. This is a very advanced television; however, the Quick Start Guide will allow you to use the TV as quickly as possible. You can then read the instructions completely and retain them for future reference.

CONTENTS

WARNINGS AND PRECAUTIONS

- This TV set is designed to operate on A.C. 220 – 240V, 50Hz.

- To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture.

- **WARNING : HIGH VOLTAGE !!!**
  Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside.

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

- The On/Off switch on this model does not fully disconnect the TV from the mains supply. Remove the mains plug from the wall socket when the TV set is not used for a prolonged period of time.

- **CABINET AND PICTURE TUBE CARE**
  Remove the mains plug from the wall socket. The cabinet and picture tube can be cleaned with a soft cloth moistened with mild detergent and water. Do not use solutions containing benzol or petroleum. TV sets can produce static electricity, care must be taken whenever touching the TV screen.

- Adequate ventilation is essential to prevent failure of electrical components, we recommend that a gap of at least 5cm is left all around this television receiver even when it is placed inside a cabinet or between shelves.

Check that you have the accessories and items shown

Operating Instruction book
TQB8E2838

TX-28SL20F
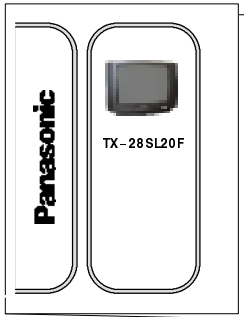
TV Guarantee

Remote Control Transmitter
EUR511211

Batteries for the Remote Control
Transmitter.
(2 x R6 (UM3) size)
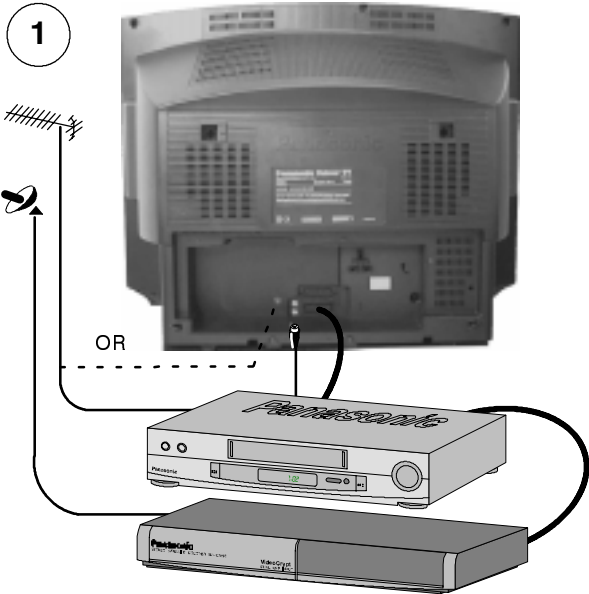
Panasonic Special

Panasonic Special

Remote control batteries
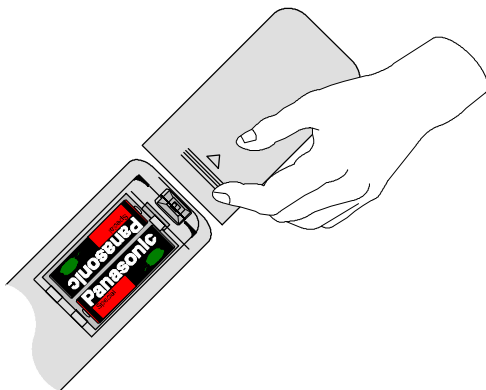
- Make sure that the batteries are fitted the correct way round.

- Do not mix old batteries with new batteries. Remove old, exhausted batteries immediately.

- Do not mix different battery types, i.e. Alkaline and Manganese or use rechargeable (Ni-Cad) batteries.
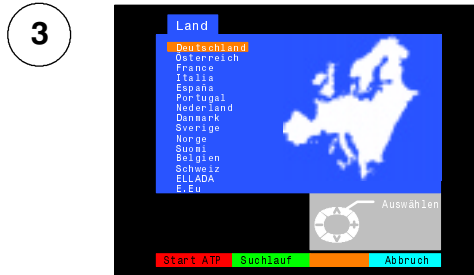
Quick Start Guide

1

OR

Plug in aerial and connect ancillary equipment

2
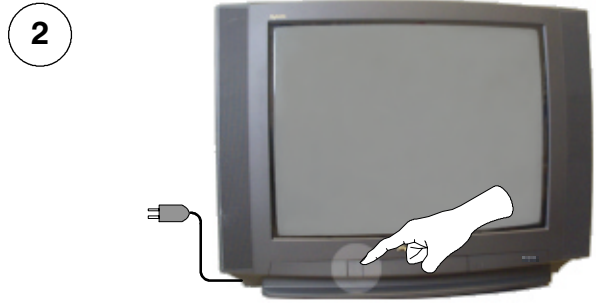
First, ensure that the **VCR is in Standby mode**

Plug in T.V. and switch on

3

Select your country   For Switzerland and Belgium, select the desired language

Press the red button

4
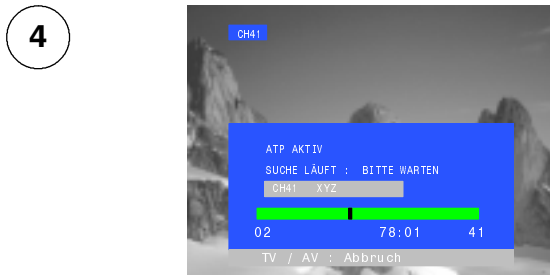
Auto setup will begin, your stations will be located and stored.

If a compatible VCR is connected to the AV2 socket, programme data will be downloaded to the VCR via Q – Link. See page 20.

5
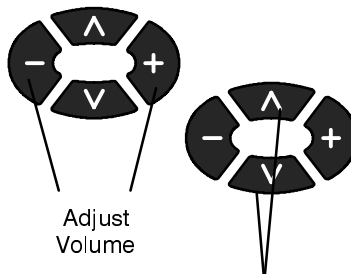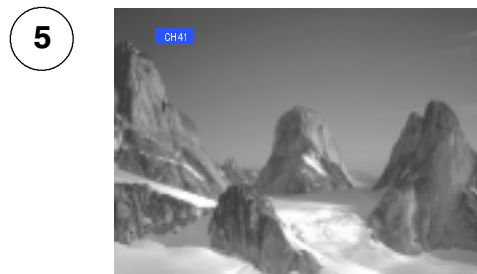
Adjust Volume

Change Channel

If you are installing a new Q – Link compatible VCR, you can now switch it ON. Downloaded tuning data will match the television's.
If you are installing a new NEXTVIEWLINK compatible VCR, you will need to initiate download manually.
See the VCR handbook for details.

- If the VCR has not accepted download data from the TV, you may need to select the Download option from the VCR's menu.
- If Q – Link is not operating correctly, check it is connected to the television's AV2 socket, the SCART lead is a "full function" type, and the VCR is compatible with Q – Link, NEXTVIEWLINK or similar technologies. Ask your dealer for further details.
- For further information on Q – Link and connecting equipment, see pages 20 and 24.

Press here to open flap

MAINS Power On/Off switch

Red light indicates Standby mode.

STR (Normalisation store) Used to store tuning and other function settings

TV/AV switch (see page 19)

F (Function select) Displays the On Screen Display functions, use repeatedly to select from the available functions − Volume, Contrast, Brightness, Colour, Sharpness, Tint (in NTSC mode), Bass, Treble, Balance and Tuning.

Increases or decreases the programme position by one. When a function is already displayed, press to increase or decrease the selected function. When in Standby mode, switches TV On.

Standby On/Off switch Switches TV On or Off standby

Sound mute On/Off

Menu buttons Press to access the Picture, Sound and Setup menus (see page 6)

Cursor buttons to make selections and adjustments

Status button Press to display programme position, programme name, channel number, time, MPX mode, Aspect mode and programme table

Switch between viewing TV or AV input (see page 19)

Coloured buttons used for Programme Edit functions (see page 12) Teletext functions (see page 22) AV selection (see page 19)

Teletext buttons (see page 22)

Direct TV Record button (see page 20)

Programme / channel change buttons (0−9) and Teletext page buttons (see page 22). When in Standby mode, switches TV on

Ambience on/off

Aspect control button (see page 7)

Programme position for selection of two digit programmes (10−99) using numeric buttons

Direct channel access During normal TV viewing or when in the Tuning, Programme edit or Manual tuning menus, press and then enter channel number using the numeric buttons

VCR / DVD buttons (see page 21)

The N button will recall settings stored with STR

STR (Normalisation store)

The Help button provides a demonstration of On Screen Display menus

This TV has a comprehensive system of On Screen Display menus to access adjustments and options

Instructions

Select
Change
TV/AV● Exit

Menu Title — **Picture menu**

Options — Contrast
Brightness
Colour
Sharpness

Selection bar — Colour balance   Normal   ○ ● ○   Indicator for options
P-NR   Auto
AI   On
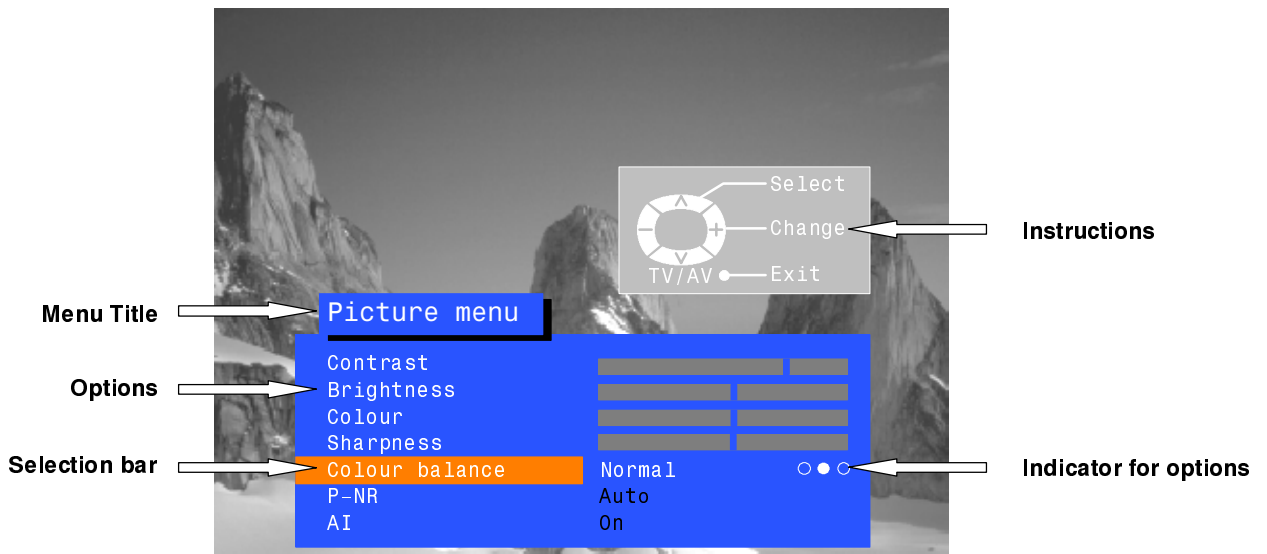
Some selections, for example, **Contrast, Brightness, Colour** and **Sharpness** will allow you to increase or decrease their level.

Some selections, for example, **Off timer**, allow a change of setting to be made.

Some selections, for example **Tuning menu**, will lead to a further menu.

The **PICTURE**, **SOUND** and **SET UP** buttons are used to open the main menus and also to return to the previous menu.

PICTURE   SOUND   SET UP

The up and down cursor buttons are used to move the cursor up and down the menus.

∧

∨

The left and right cursor buttons are used to access menus, adjust levels or to select from a range of options.

−   +

The **STR** button is used to store settings after adjustments have been made or options have been set.

STR

The **TV/AV** button is used to exit the menu system and return to the normal viewing screen.

TV/AV

The **HELP** button will run a demonstration of the menus available. Press the **HELP** button and select one of the options.

HELP
?   ∧

∨   +

6
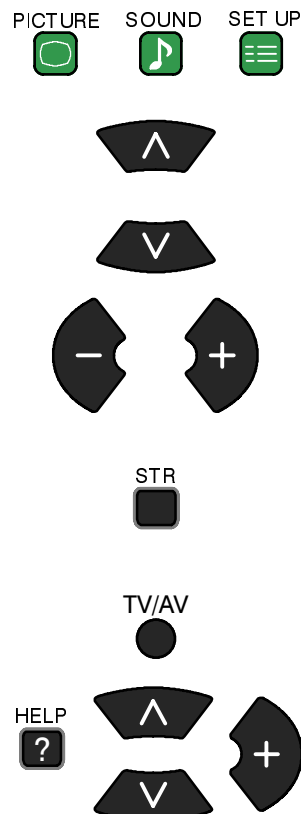
ASPECT CONTROLS

Press the ASPECT button to move through the two aspect options: 4:3 and 16:9.

ASPECT

4:3

4:3 will display a 4:3 picture at its standard 4:3 size and can be selected if you wish to view in this format.

16:9

16:9 will display a 16:9 picture at its standard 16:9 size and can be selected if you wish to view in this format

STILL CONTROL

STILL Control
The STILL key allows you to freeze the picture at any time.

HOLD

STILL
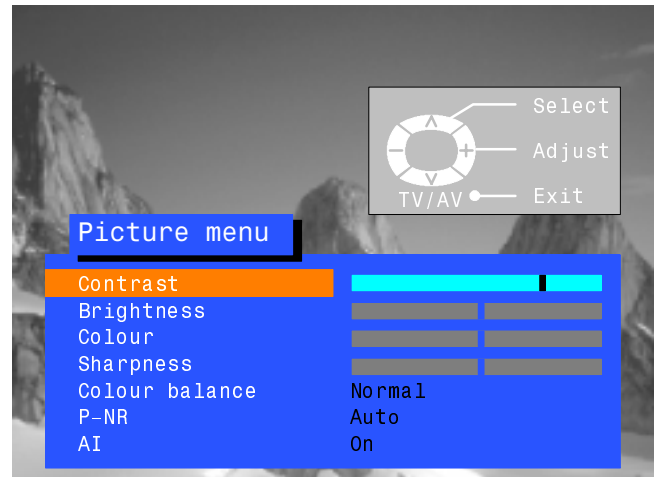
Open the Picture menu

PICTURE

Move to your choice

Increase or decrease levels or set options

Press the TV/AV button to exit the Picture menu

TV/AV

Picture menu

Select
Adjust
TV/AV — Exit

| Contrast | |
Brightness	
Colour	
Sharpness	
Colour balance	Normal
P-NR	Auto
AI	On

Contrast

Brightness

Colour

Sharpness

The Contrast, Brightness, Colour and Sharpness levels can be adjusted to suit your own preferences.

Tint

The Tint adjustment will only appear as a menu item if you have an NTSC signal source connected to the TV and will allow adjustment of the hue.

Picture menu

Select
Adjust
TV/AV — Exit

Contrast	
Brightness	
Colour	
Sharpness	
Colour balance	Normal
P-NR	Auto
AI	On
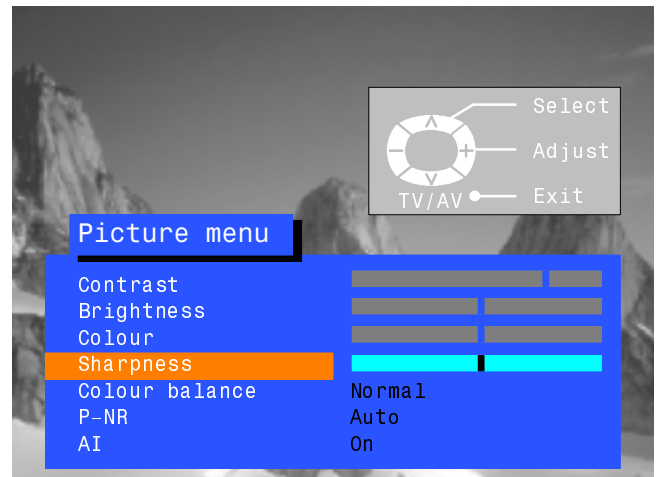
Colour balance

○ ● ○

The Colour balance setting allows you to set the overall colour tone of the picture.

P-NR

○ ○ ○ ●

P-NR will automatically reduce unwanted picture noise.

AI

○ ●

AI automatically analyses the incoming picture and processes it to give improved contrast and optimum depth of field.

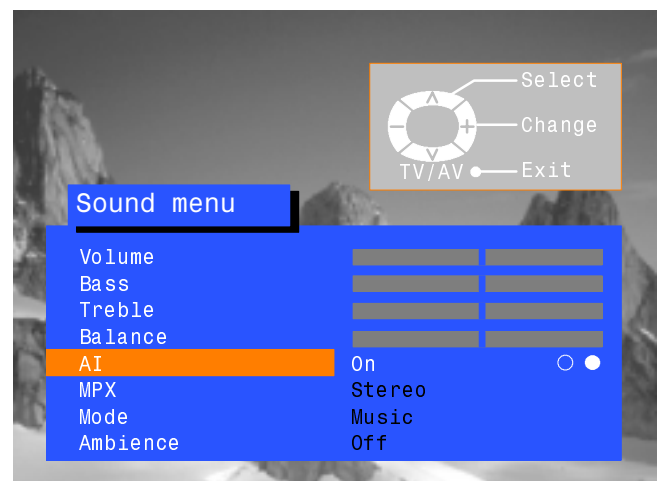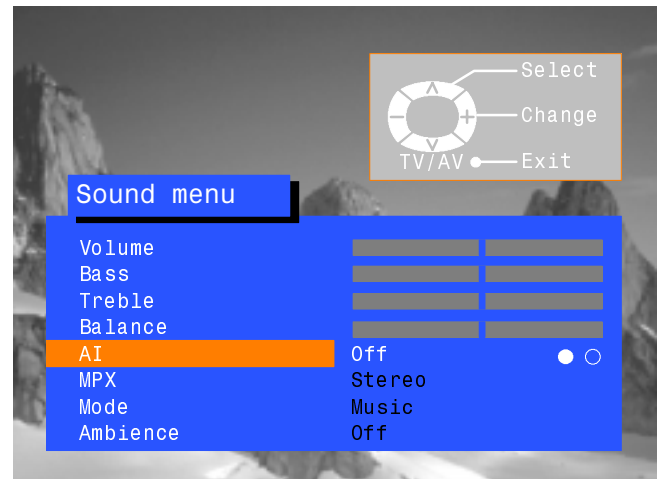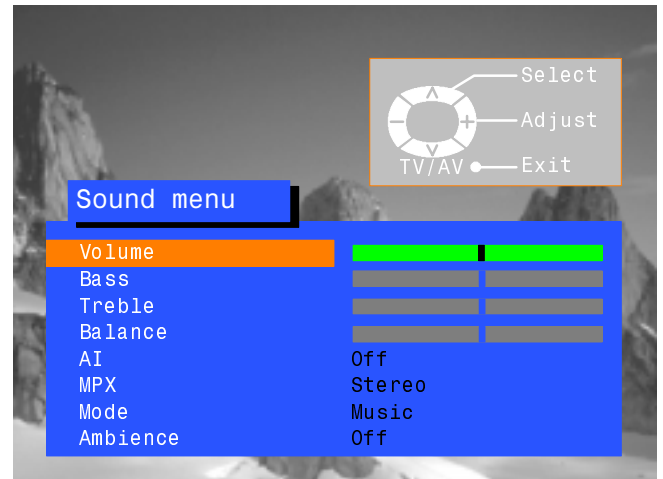Sharpness

Open the Sound menu

SOUND
♪

Move to your choice

∧
∨

Increase or decrease levels or set options

−   +

Press the TV/AV button to exit the Sound menu

TV/AV

Select
Adjust
TV/AV — Exit

Sound menu

Volume	
Bass	
Treble	
Balance	
AI	Off
MPX	Stereo
Mode	Music
Ambience	Off

Select
Change
TV/AV — Exit

Sound menu

Volume	
Bass	
Treble	
Balance	
AI	Off ● ○
MPX	Stereo
Mode	Music
Ambience	Off

Select
Change
TV/AV — Exit

Sound menu

Volume	
Bass	
Treble	
Balance	
AI	On ○ ●
MPX	Stereo
Mode	Music
Ambience	Off

Volume

The Volume adjustment sets the overall output volume.

Bass

Bass adjustment will emphasise the lower, deeper frequencies and can be increased or decreased.

Treble

Treble adjustment will emphasise the sharper, higher frequencies and can be increased or decreased.

Balance

Balance affects the levels of sound between the left and right speakers. Adjustment can be made so that the level from the speakers will suit your listening position.

AI
● ○

The AI setting automatically analyses the incoming sound signal and processes it to give lower noise and optimum tone for the programme material.

MPX
● ○

MPX will usually be set to Stereo to provide the best reproduction, however if reception deteriorates or if the service is not available then it is advisable to switch to Mono. Mono (M1) and (M2) can also be selected if signals are being transmitted.

Mode
● ○

The sound can be improved during Music or Speech mode by selecting the appropriate function.

Ambience
● ○

Ambience provides a dynamic enhancer to simulate improved spatial effects.

The Setup menu provides access to various advanced features and also to the Tuning menu
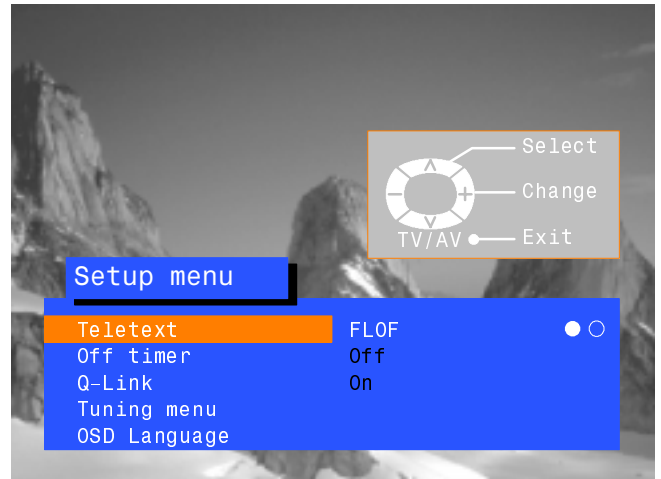
Open the Setup menu

SET UP

Move to your choice

∧

∨

Increase or decrease levels, set options or access further menus

− +

TV/AV

Press the TV/AV button to exit the Setup menu

Select
Change
TV/AV ● Exit

Setup menu

Teletext	FLOF	● ○
Off timer	Off	
Q-Link	On	
Tuning menu		
OSD Language		

Teletext
● ○

The Teletext option allows you to choose between FLOF/TOP or LIST mode. See page 22.

Off timer
● ○ ○ ○ ○ ○ ○

Off timer will switch the TV off within a preset time which you can choose from between 0 to 90 minutes in 15 minute intervals.

Select
Change
TV/AV ● Exit

Setup menu

Teletext	FLOF	
Off timer	Off	
Q-Link	On	○ ●
Tuning menu		
OSD Language		

Q−Link
○ ●

Q − Link allows you to enable or disable data communication when a VCR compatible with Q − Link, NEXTVIEWLINK or similar technology is connected. See page 20.
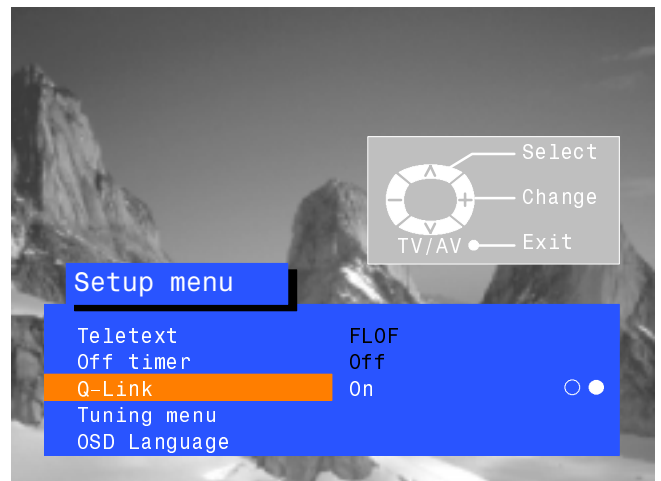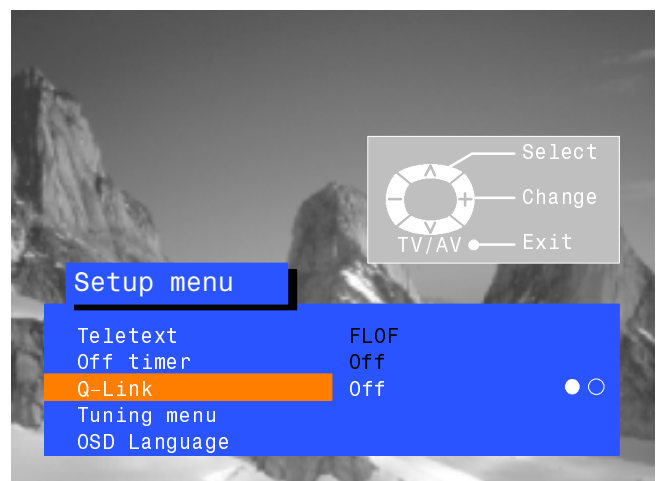
Tuning menu

The Tuning menu provides an entry to many other features including Programme edit and Auto setup. See page 11.

OSD Language

OSD Language allows you to select the language used for On Screen Displays. See page 18.

Select
Change
TV/AV ● Exit

Setup menu

Teletext	FLOF	
Off timer	Off	
Q-Link	Off	● ○
Tuning menu		
OSD Language		

TUNING MENU – overview

Open the Setup menu

SET UP

Move to Tuning menu

Access Tuning menu

Move to your choice

Increase or decrease levels, set options or access further menus

TV/AV

Press the TV/AV button to exit

Select
Change
TV/AV — Exit

Setup menu

Teletext	FLOF	● ○
Off timer	Off	
Q-Link	Off	
Tuning menu		
OSD Language		
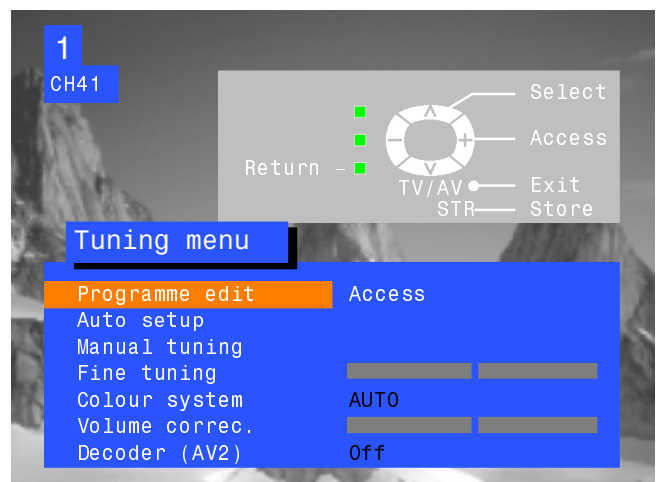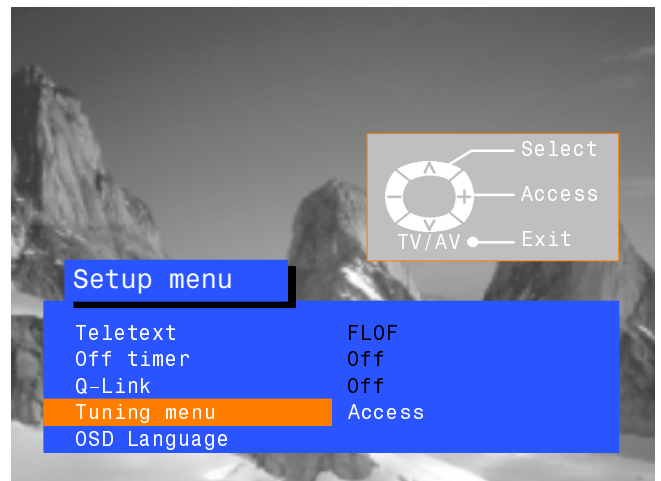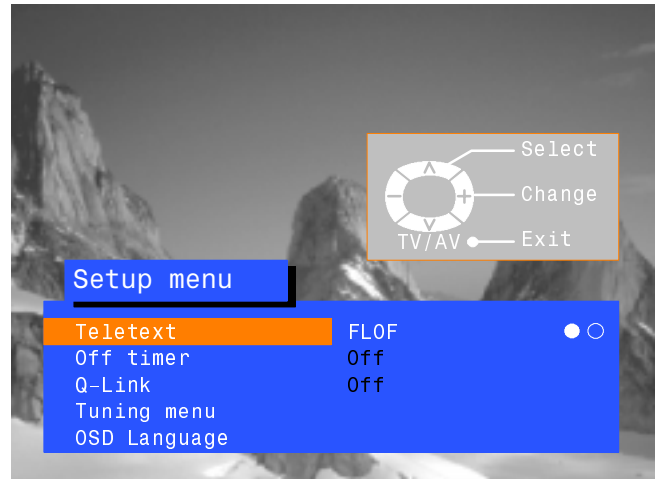
Programme edit

Accessing the Programme edit menu will allow stations to be moved, added, deleted, named or locked.
See page 12.

Auto setup

The Auto setup menu allows you to automatically retune the TV.
See page 16.

Select
Access
TV/AV — Exit

Setup menu

Teletext	FLOF
Off timer	Off
Q-Link	Off
Tuning menu	Access
OSD Language	

Manual tuning

The Manual tuning menu allows individual programme positions to be tuned manually. See page 17.

Fine tuning

Small adjustments to tuning can be made using the Fine tuning function.

Colour system
● ○ ○ ○

The Colour system menu allows you to decide the correct choice of transmission standard.

Volume correc.

Volume correction allows you to adjust the volume level of individual stations.

1
CH41

Select
Access
Return —
TV/AV — Exit
STR — Store

Tuning menu

Programme edit	Access
Auto setup	
Manual tuning	
Fine tuning	
Colour system	AUTO
Volume correc.	
Decoder (AV2)	Off

Decoder (AV2)
● ○

This option is used when a decoder is connected via AV2. Set to On if a scrambled signal is to be processed by the decoder. Set to Off after use.

The Programme edit menu allows you to edit the programme position settings

Open the Setup menu

SET UP

Move to Tuning menu

Access Tuning menu

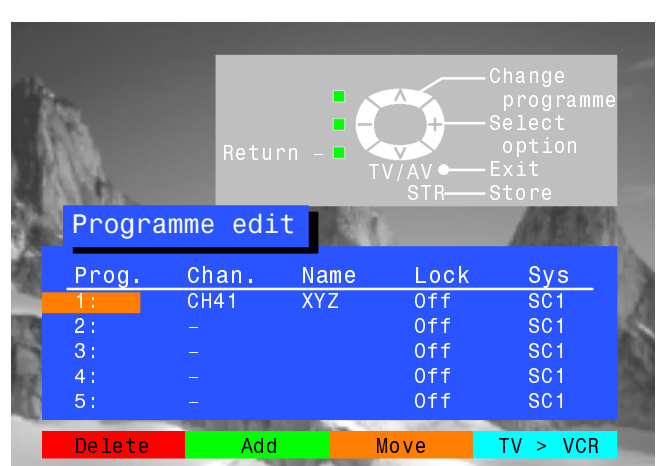**Move to Programme edit menu**

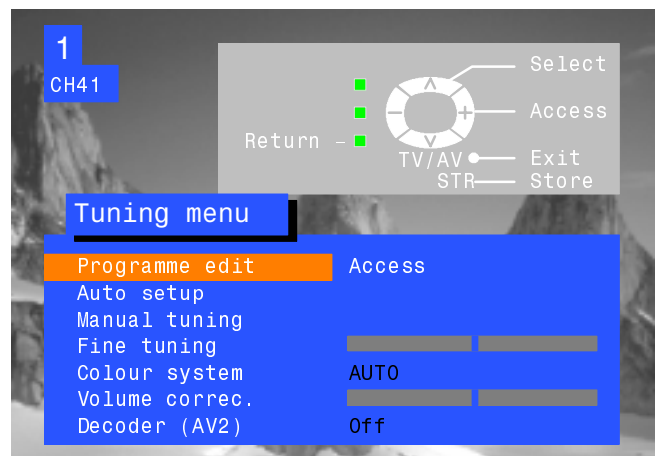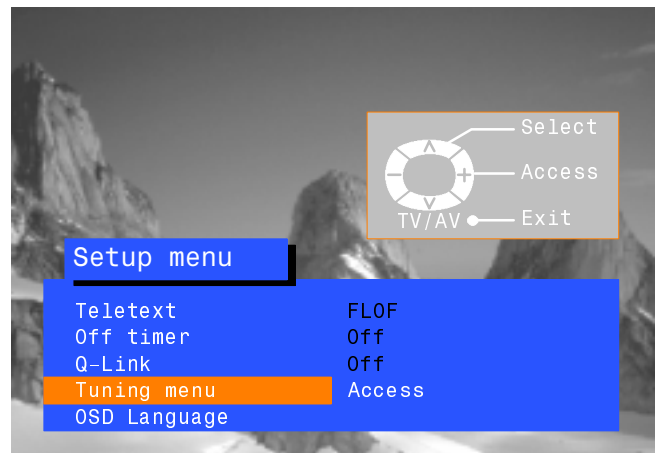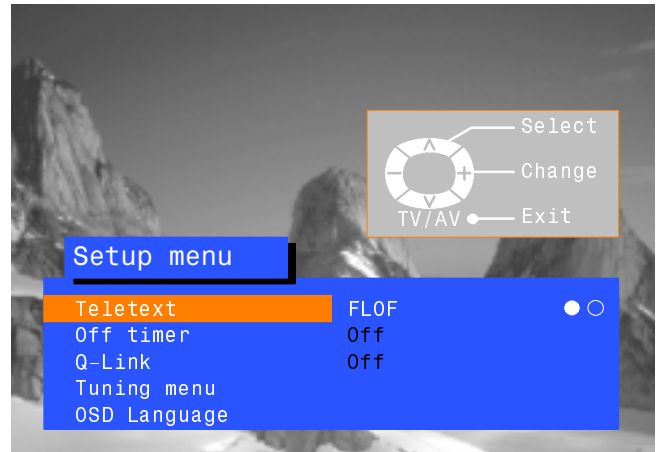**Access Programme edit menu**

**Make required changes
(see sections below)**

**Press STR button to store
changes**

STR

**If you have finished in the
Programme edit menu, press the
TV/AV button to exit**

TV/AV

To delete an unwanted programme position

**Ensure that the cursor is in the
Prog. Column**

Choose the programme position

**Press the Red button on remote
control**

**Press the Red button again to
confirm**

**If you have finished in the
Programme edit menu, press the
TV/AV button to exit**

TV/AV

Select
Change
TV/AV — Exit

Setup menu

Teletext	FLOF	● ○
Off timer	Off	
Q-Link	Off	
Tuning menu		
OSD Language		

Select
Access
TV/AV — Exit

Setup menu

Teletext	FLOF
Off timer	Off
Q-Link	Off
Tuning menu	Access
OSD Language	

1
CH41

Select
Access
Return —
TV/AV — Exit
STR — Store

Tuning menu

Programme edit	Access
Auto setup	
Manual tuning	
Fine tuning	
Colour system	AUTO
Volume correc.	
Decoder (AV2)	Off

Change
programme
Select
option
Return —
TV/AV — Exit
STR — Store

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	–		Off	SC1
4:	–		Off	SC1
5:	–		Off	SC1

| Delete | Add | Move | TV > VCR |

To add a programme position

Choose the programme position where the new programme is to be inserted

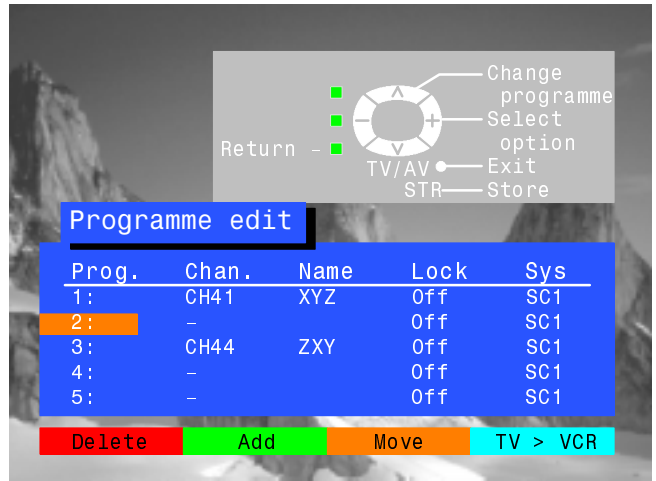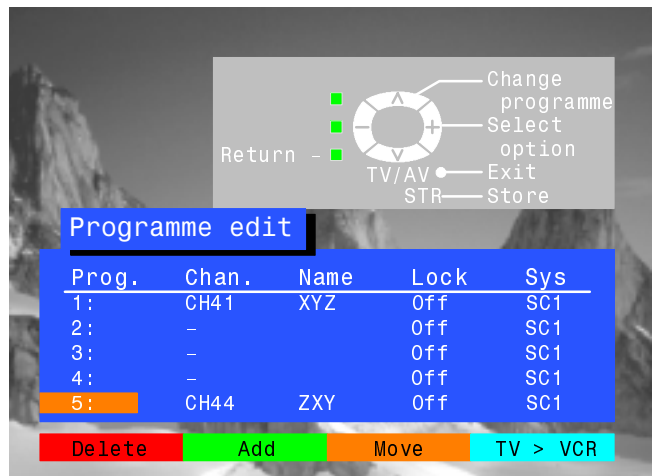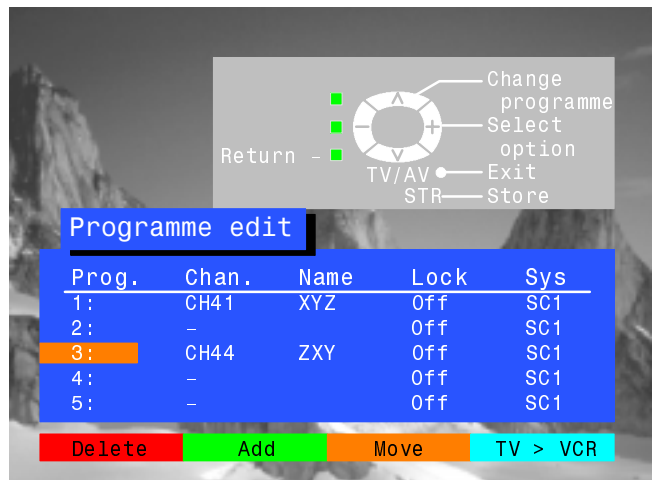**Press the Green button**

Press the Green button again to confirm

This blank programme can then be tuned, named or locked

Press STR to store

STR

If you have finished in the Programme edit menu, press the TV/AV button to exit

TV/AV

```
                              Change
                              programme
                     +        Select
Return —                      option
              TV/AV •         Exit
              STR             Store
```

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	CH44	ZXY	Off	SC1
4:	–		Off	SC1
5:	–		Off	SC1

| Delete | Add | Move | TV > VCR |

To move a programme to another position

Choose the programme position to be moved

Press the Yellow button on remote control

Choose new position

Press the Yellow button again to confirm

If you have finished in the Programme edit menu, press the TV/AV button to exit

TV/AV

```
                              Change
                              programme
                     +        Select
Return —                      option
              TV/AV •         Exit
              STR             Store
```

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	CH44	ZXY	Off	SC1
4:	–		Off	SC1
5:	–		Off	SC1

| Delete | Add | Move | TV > VCR |

```
                              Change
                              programme
                     +        Select
Return —                      option
              TV/AV •         Exit
              STR             Store
```

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	–		Off	SC1
4:	–		Off	SC1
5:	CH44	ZXY	Off	SC1

| Delete | Add | Move | TV > VCR |

13

To tune a programme position

Choose the programme position
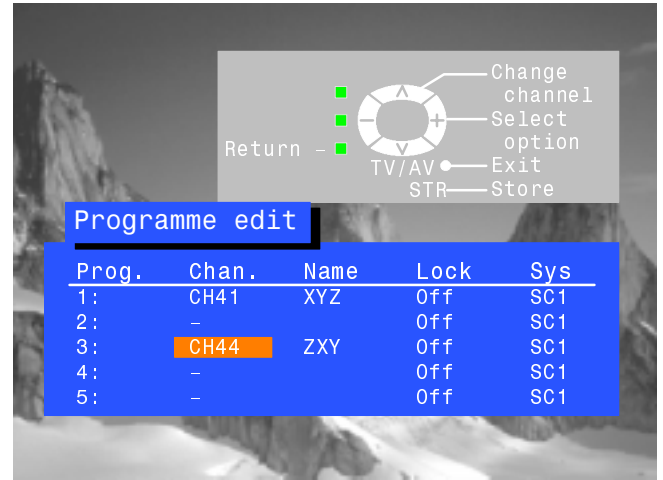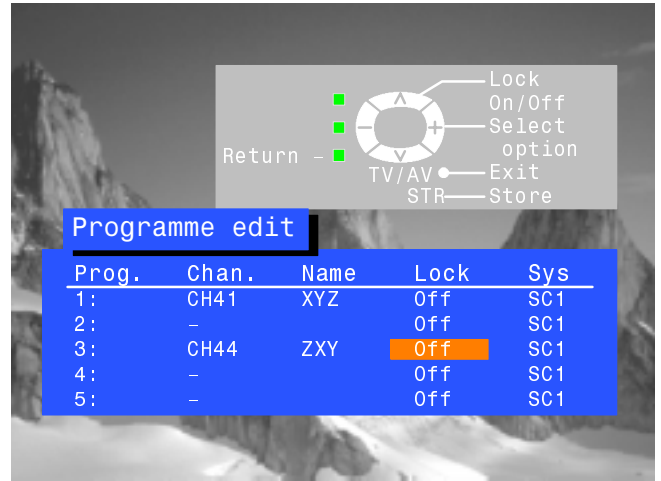
∧
∨

Move to the channel column

− +

Increase or decrease channel number or use the 'C' key for Direct Channel Access (see page 5)

∧
∨

Press STR to store

STR

If you have finished in the Programme edit menu, press the TV/AV button to exit

TV/AV

Change channel
Select option
Return
TV/AV — Exit
STR — Store

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	CH44	ZXY	Off	SC1
4:	–		Off	SC1
5:	–		Off	SC1

To rename a programme position

Choose the programme position

∧
∨

Move to the Name column

− +

Choose the new character

∧
∨

Move to the next character position

− +

Continue until renaming is done

Press STR to store

STR

If you have finished in the Programme edit menu, press the TV/AV button to exit

TV/AV

Change character
Select option
Return
TV/AV — Exit
STR — Store

Programme edit

Prog.	Chan.	Name	Lock	Sys
1:	CH41	XYZ	Off	SC1
2:	–		Off	SC1
3:	CH44	ZXY	Off	SC1
4:	–		Off	SC1
5:	–		Off	SC1

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
+ − .   0 1 2 3 4 5 6 7 8 9

14

To lock a programme position to prevent access

Choose the programme position

Move to the lock column

Choose between Lock On or Lock Off

Press STR to store

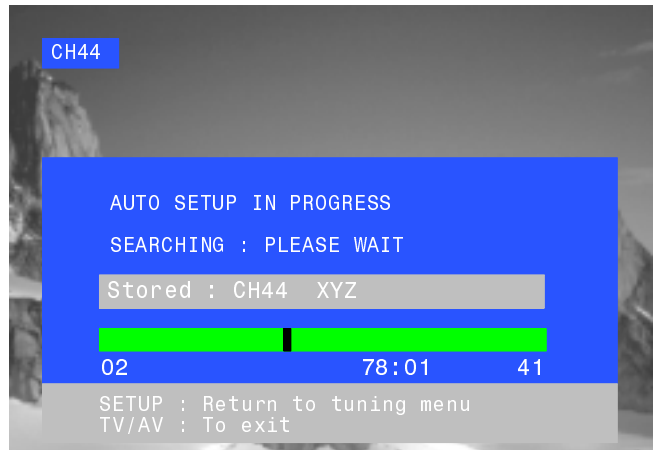**If you have finished in the Programme edit menu, press the TV/AV button to exit**

STR

TV/AV
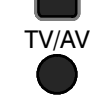
Note :
When a programme position is locked, Direct Channel Access using the 'C' and numeric keys on the remote control is not available

```
                              Lock
                              On/Off
                              Select
                              option
        Return              Exit
                    TV/AV   Store
                    STR

Programme edit

Prog.   Chan.   Name    Lock    Sys
1:      CH41    XYZ     Off     SC1
2:      –               Off     SC1
3:      CH44    ZXY     Off     SC1
4:      –               Off     SC1
5:      –               Off     SC1
```

To change the TV–system for a programme position

Choose the programme position

Move to the Sys column

Choose the required sound system:
SC1 : PAL B, G, H / SECAM B, G
SC2 : PAL I
SC3 : PAL D, K / SECAM D, K
F : SECAM L/L'

Press STR to store

STR

TV/AV

If you have finished in the Programme edit menu, press the TV/AV button to exit
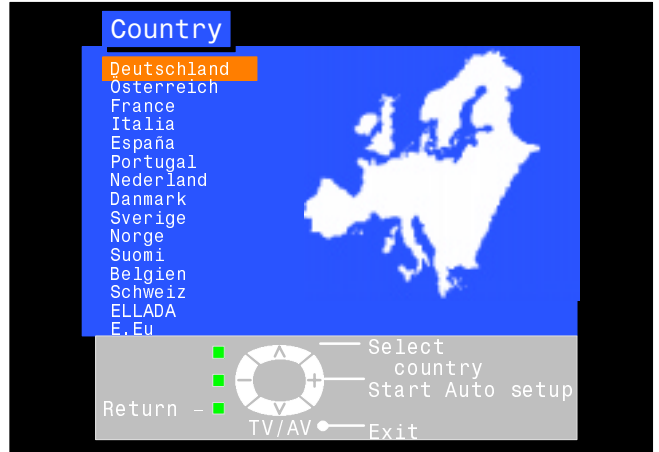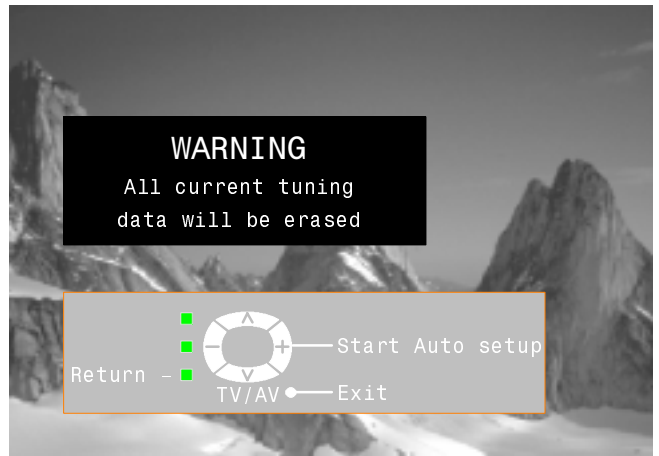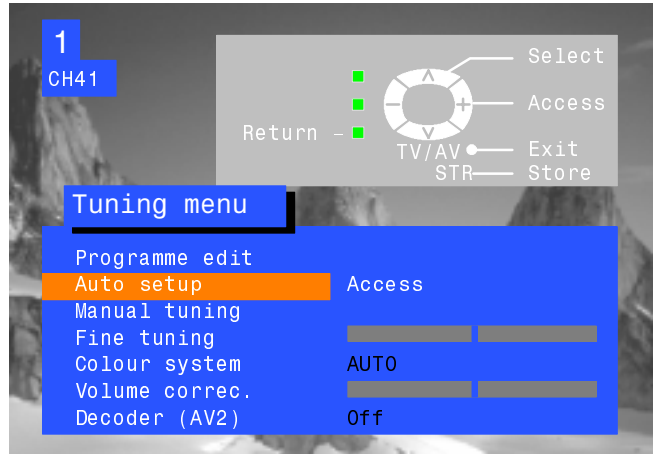
```
                              Change
                              TV system
                              Select
                              option
        Return              Exit
                    TV/AV   Store
                    STR

Programme edit

Prog.   Chan.   Name    Lock    Sys
1:      CH41    XYZ     Off     SC1
2:      –               Off     SC1
3:      CH44    ZXY     Off     SC2
4:      –               Off     SC1
5:      –               Off     SC1
```

To copy programme information to a compatible VCR connected to AV2

Move to the Prog. column

Press the Blue button on the remote control.
Programme data will now be sent to the VCR. This might take a few seconds, depending on the number of stations stored. If the message "Unable to download, check your VCR" appears on the screen, the television is unable to send the programme information to the VCR. See the VCR handbook for further information
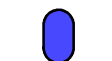
If you have finished in the Programme edit menu, press the TV/AV button to exit

TV/AV

```
        TV>VCR IN PROGRESS
          PLEASE WAIT
        Programme : 63
    Remote control unavailable
```

The Auto setup menu will allow you to automatically retune the TV to your local stations. It is useful if you move to a different region

SET UP

Open the Setup menu

Move to Tuning menu

Access Tuning menu

Move to Auto setup

Access Auto setup

Press to confirm start

Select your country

Press to start Auto setup (ATP)

The TV will search for, locate and sort into order your local stations. If a compatible VCR is connected via the AV2 socket, programme data will be sent to the VCR via Q–Link (see page 20)

Once this operation is completed the TV will display programme position 1

```
1
CH41
                              Select
                              Access
        Return              Exit
              TV/AV        Store
              STR
```

```
Tuning menu

Programme edit
Auto setup          Access
Manual tuning
Fine tuning
Colour system       AUTO
Volume correc.
Decoder (AV2)       Off
```

```
WARNING
All current tuning
data will be erased

        Return  —  Start Auto setup
              TV/AV  Exit
```

```
Country

Deutschland
Österreich
France
Italia
España
Portugal
Nederland
Danmark
Sverige
Norge
Suomi
Belgien
Schweiz
ELLADA
E.Eu
                    Select
                    country
                    Start Auto setup
        Return  —
              TV/AV  Exit
```

```
CH44

AUTO SETUP IN PROGRESS

SEARCHING : PLEASE WAIT

Stored : CH44  XYZ

02              78:01        41

SETUP : Return to tuning menu
TV/AV : To exit
```

Manual tuning of the programme positions is available either from the On Screen Display menu or from the front panel controls

Manual tuning menu

Open the Setup menu

SET UP

Move to Tuning menu

∧
∨

Access Tuning menu

− +

Move to Manual tuning

∧
∨

Access Manual tuning

− +

Select the programme position to be tuned

∧
∨

Press repeatedly until required station is found

− +

When the desired station is found, press STR to store.
The programme position will flash

STR

Press the TV/AV button to exit

TV/AV

```
1
CH41
                              Select
              ∧               Access
Return −    −   +
            ∨   TV/AV ●──── Exit
                STR ──── Store

Tuning menu

  Programme edit
  Auto setup
  Manual tuning        Access
  Fine tuning
  Colour system        AUTO
  Volume correc.
  Decoder (AV2)        Off
```

```
1
CH44

                              Programme
              ∧               down/up
            −   +             Search
            ∨                 down/up
Return −        TV/AV ●──── Exit
                'STR' Button ──── Store

Manual tuning

02              78:01        41
```
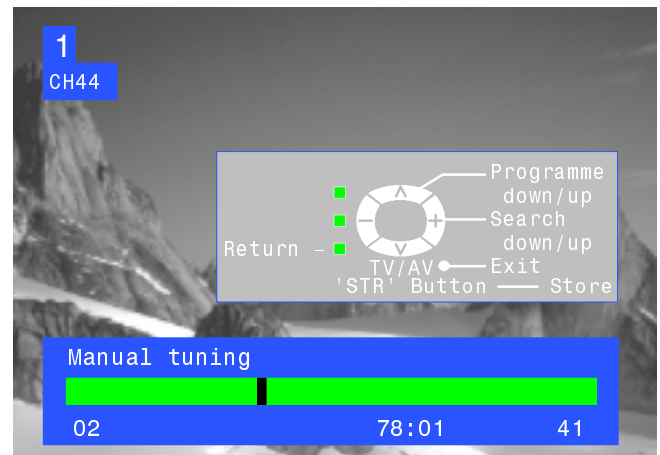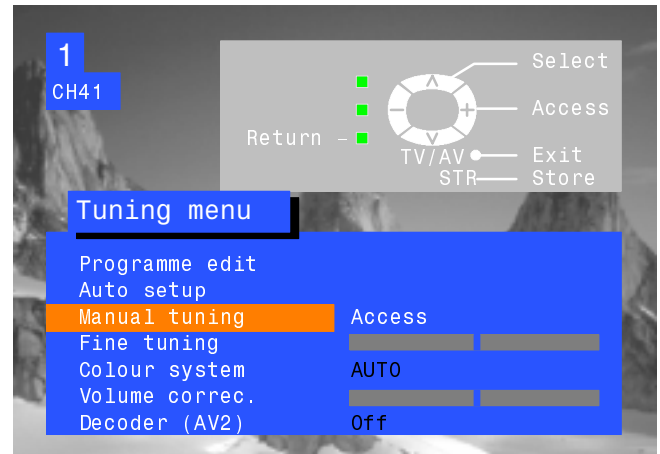
Manual tuning (Front panel)

Press the F button (Front panel) until "Tuning mode" is reached

F

Press the − or + button to access Tuning mode

−/∨ +/∧
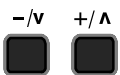
Press the TV/AV button to move between "Change programme", "Search" and "Change TV System"

TV/AV

Press the − or + button to change programme position or start search
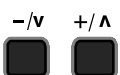
−/∨ +/∧

When the desired station is found, press STR to store.
The programme position will flash

STR

Repeat above procedure to tune additional programmes or press the F button to exit

F

```
1
CH44

SC1

Manual tuning (Front panel)

  -,+       :    Search
  TV/AV     :    Move cursor
  STR       :    To store
  F         :    To exit

  02              78:01        41

  STR  F  -/∨  +/∧ TV/AV
```
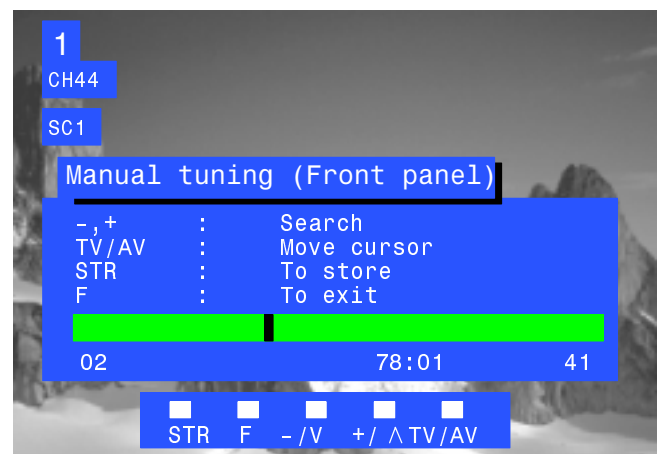
When you first installed the TV the On Screen Display language was set according to your choice of country. If you wish to use a different language then it can be chosen from the OSD language menu

Open the Setup menu	SET UP
Move to the OSD language menu	∧ ∨
Access the OSD language menu	− +
Move to your choice	∧ ∨
Press the TV/AV button to select and exit	TV/AV

Select
Access
TV/AV — Exit

Setup menu

Teletext	FLOF
Off timer	Off
Q-Link	Off
Tuning menu	
OSD Language	Access

Select
Select
Return
TV/AV — Exit

OSD language

Deutsch	Español	Nederlands
English	Norsk	Suomi
Français	Dansk	Türkçe
Italiano	Svenska	Português
ELLHNIKA		
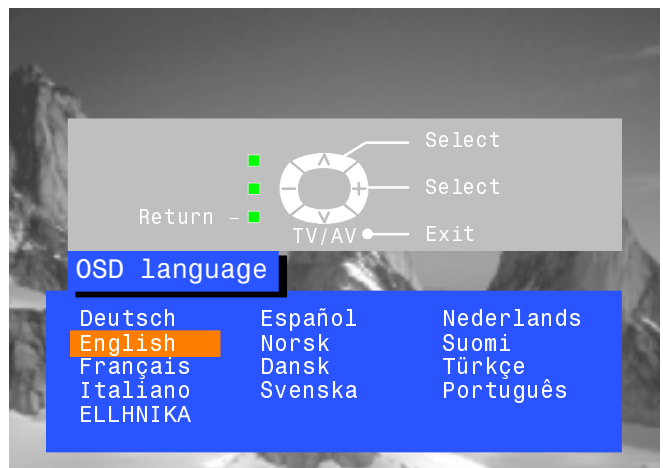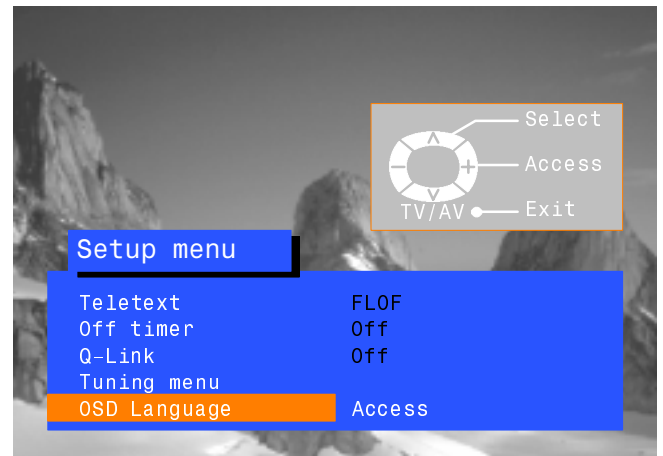
The AV Select menu will allow you to choose which AV source to view

TV/AV

Press the TV/AV button

**Press the appropriate coloured
remote control button(whilst the
options remain on screen)**

The options will disappear

**You may wish to make adjustments
in the Setup or Sound menus**
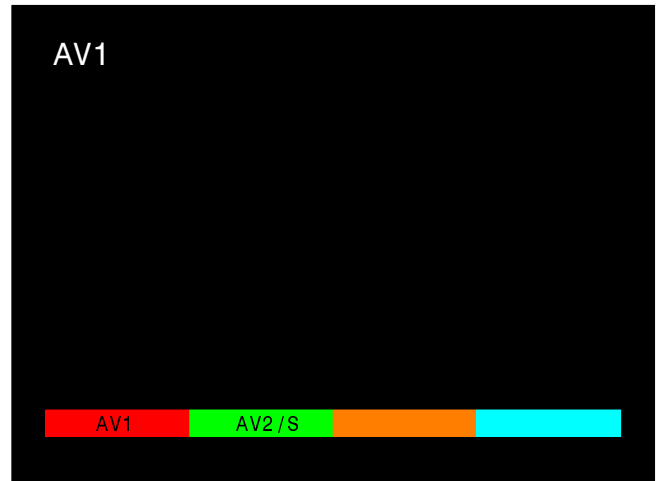
AV1   19

| AV1 | AV2/S | | |

Setup menu

Open the Setup menu

SET UP

Move to your choice

∧
∨

Access adjustments or options

− +

Press the TV/AV button to exit

TV/AV

Select
Adjust
TV/AV ●─ Exit

Setup menu

Teletext	FLOF
Off timer	Off
Colour system	AUTO
Volume correc.	
Q-Link	Off
OSD Language	
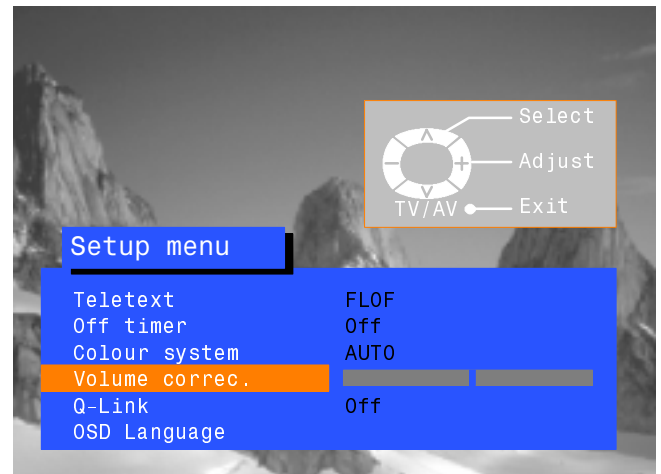
Sound menu

Open the Sound menu

SOUND
♪

Move to your choice

∧
∨

Access adjustments or options

− +

Press the TV/AV button to exit

TV/AV

Select
Adjust
TV/AV ●─ Exit

Sound menu

Volume	
Bass	
Treble	
Balance	
AI	On
Mode	Music
Ambience	Off

19

Q-Link allows the television to communicate with your VCR

SET UP

Open the Setup menu

∧
∨

Move to Q-Link

− +

Confirm Q-Link is set to "On"

TV/AV

Press the TV/AV button to exit

Select
Change
TV/AV — Exit

Setup menu

Teletext	FLOF
Off timer	Off
Q-Link	On ○ ●
Tuning menu	
OSD Language	
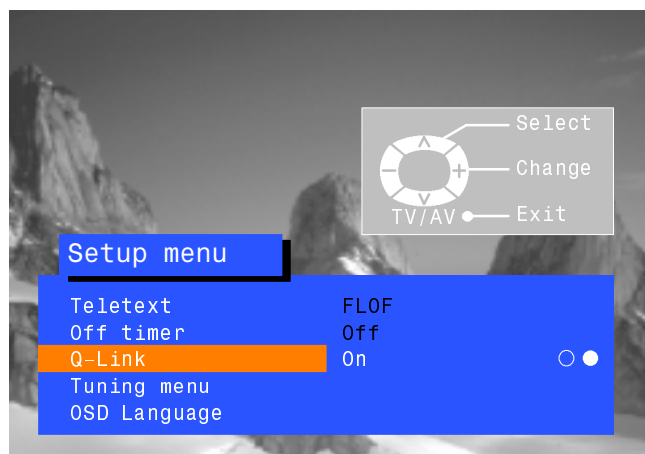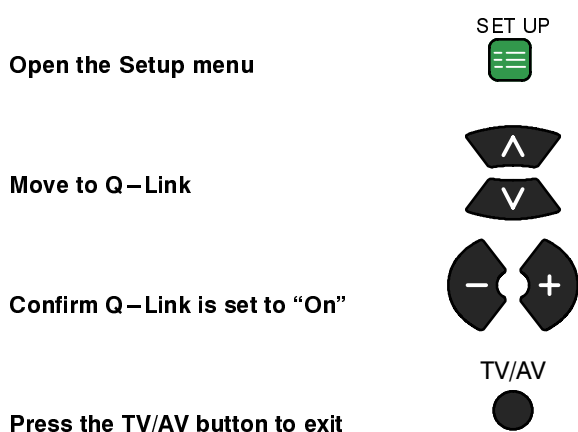
The VCR must be connected with a SCART lead (full function type) attached between the AV2 socket of the television and the appropriate socket on your VCR. See the VCR handbook for further information. Q-Link, NEXTVIEWLINK or similar technology allows the television to instruct a **compatible VCR** to record the programme that is currently being displayed on screen, regardless of the programme position set on the VCR, thus simplifying the process of recording programmes.

To record the programme you are currently watching

DIRECT TV REC

Press the DIRECT TV REC button on the remote control

If the VCR is off, it will automatically switch on when you press the DIRECT TV REC button.
A message, sent from the VCR, will appear on screen showing what is being recorded, or if it is not possible to record:

VCR recording preset prog

VCR recording own tuner

VCR is recording the programme signal from its own tuner. If you wish you can switch off the TV and leave the VCR recording in the normal way.

VCR recording TV source

VCR is recording the programme signal from the television. You must not change programme position or switch off the TV: if you do, the VCR will automatically stop recording and switch off.

No recording TAPE IS PROTECTED

The write protection tab on the back of the cassette has been removed.

Examples of other messages that might be displayed are:

No recording NO TAPE

No recording VCR IS PLAYING

VCR Recording VCR external

No recording VCR ALREADY RECORDING

No recording TAPE MAY BE DAMAGED

No recording NO SOURCE AVAILABLE

To share tuning information

To ensure correct recordings are made, the television and VCR should share tuning information – see page 15.

- Whenever the Auto setup (ATP) function is used, tuning data will be downloaded to the VCR.

Auto Power functions

With Panasonic Q-Link VCRs these additional features are available:

- If you insert a tape in your VCR and press the Play button, the television will automatically switch on and select the AV2 input so you can view the tape.
- If you switch off the television whilst the VCR is in Stop, Fast Forward or Rewind modes, the VCR will switch off automatically.

To turn off Q-Link communication

If you do not wish to use the Q-Link feature, go to the Setup menu and set the Q-Link option to "Off". See page 10.

Important Note:
Not all VCRs support this type of data communication system. Some may support certain features, but not others. See the VCR handbook for further information.
If Q-Link is inoperative, first confirm that your SCART lead is a full function type . Ask your dealer for further details.

The Remote Control is capable of operating some functions of selected Panasonic VCRs and DVD (Digital Versatile Disc) equipment. Some VCR and DVD equipment have different functions, so to ensure compatibility please refer to the equipment's instruction book or consult your dealer for details.

Standby

Press to switch the VCR or DVD to standby mode. Press again to switch back on.

VCR / DVD switch

Use this switch to select whether controls operate DVD equipment or your VCR.

Play

Press to playback the tape or DVD.

Stop

Press to stop the tape or DVD.

Skip / Fast Forward / Cue

VCR: Press to fast forward the tape. In Play mode, press to view the picture rapidly forward (Cue).
DVD: Press once to skip to the next track. In play mode press and hold to view the picture rapidly forward.

Skip / Rewind / Review

VCR: Press to rewind the tape. In Play mode, press to view the picture rapidly in reverse (Review).
DVD: Press once to skip to the previous track. In play mode press and hold to view the picture rapidly in reverse.

Pause / Still

Press in playback mode, the picture will pause. Press again to restart play.

Programme Up / Down

Press to increase or decrease the VCR programme position by one.

Record

Press this button to start recording.

TELETEXT OPERATION

- Teletext features may vary depending on the Broadcasting Companies and is only available if the channel selected is transmitting Teletext.
- Pressing the Picture button whilst in Teletext operation will display the brightness function with a white bar, press ◀ ▶ to alter the setting as required.
  Pressing the Setup button whilst in Teletext operation will display special function options at the bottom of the screen.
- When in Teletext mode, the volume may still be altered to the desired listening level.

What is LIST mode ?

In LIST mode, four differently coloured page numbers are situated at the bottom of the screen. Each of these numbers can be altered and stored in the TV's memory.

What is FLOF?

In FLOF mode, four differently coloured subjects are situated at the bottom of the display. To access more information about one of these subjects, press the appropriately coloured button. This facility enables fast access to information on the subjects shown.

TV / Teletext mode

Press the **TV/TEXT** button.
The screen will display the Teletext page.
Press again when you wish to return to TV. mode.

Page Selection

Pages can be selected in two ways :
a. Press the Up / Down buttons to increase or decrease the page number by one.
b. By entering the page number, using 0 – 9 on the remote control.

Full / Top / Bottom

Press the **SET UP** button to display special functions, followed by the **Green** button.
Press the **Green** button again to expand the BOTTOM half.
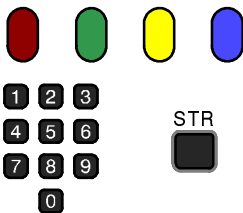Press again to return to normal (FULL) size.

Reveal

Press the **SET UP** button to display special functions, followed by the **Red** button to reveal hidden words e.g. quiz page answers. Press again to hide.

Red / Green / Yellow / Blue buttons

In FLOF mode these correspond to the differently coloured subjects.
In LIST mode they correspond to the differently coloured page numbers.

List Store

In LIST mode the four page numbers can be altered (programme positions 1 – 25 only).
To do this, press one of the four coloured buttons and enter the new page number.
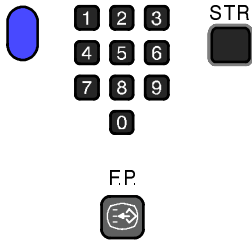Press and hold **STR**, the page numbers will change to white indicating that the page is stored.

Hold

To hold the Teletext page when viewing multi – page information.
Press again to return to automatic page update.

It is not possible to change the programme position when in News flash, Update or Sub Coded Page Access operation.

Favourite Page (F.P.)

Stores a favourite page in memory for instant recall. To store such a page, the TV must be in LIST mode, and the programme position must be from 1 – 25.
Press the **Blue** button, select the page number, then press and hold the **STR** button. The page number is now stored.

Press **F.P.** to recall this page.

Update Display

Press the **SET UP** button to display special functions, followed by the **Yellow** button to view the TV picture whilst searching for a Teletext page.
When found, the screen will display the page number at the top left.
Press the **Yellow** button to view the page.
Press **TV / TEXT** again to return to normal TV operation.

News Flash
When a news flash page has been selected, press **SET UP**, **Yellow**, to view the TV picture. When an update is received, the page number will be displayed on screen.
Press the **Yellow** button to display the News Flash
Press **TV / TEXT** to return to normal TV. operation.

Update
Press **SET UP**, **Yellow** to see the update of information on certain pages.
When an update is received, the page number will be displayed at the top left of the screen.
Press the **Yellow** button to view the page.
Press **TV / TEXT** to return to normal TV. operation.

Sub Coded Page Access

When Teletext information exceeds more than one page, it may take some time for the automatic changing of the sub pages to reach the sub page you require.
It is possible to enter your required sub page and continue watching the normal programme until the correct sub page is found.
Select the required page number using buttons 0 – 9.

Press the **SET UP** button followed by the **Blue** button; T**** will be displayed at the top right of the screen.

Enter desired sub page number before the T**** disappears.
To select page 6 enter 0, 0, 0 and 6.

(If in LIST mode, a 'T' will appear in the current box at the bottom).

Press the **Yellow** button to view a normal TV programme.
(Press **SET UP**, **Yellow** in LIST mode).

When the page is available, press the **Yellow** button to view the page.
To clear the page perform one of the following :
● Press **SET UP**.

● Select a new page number.

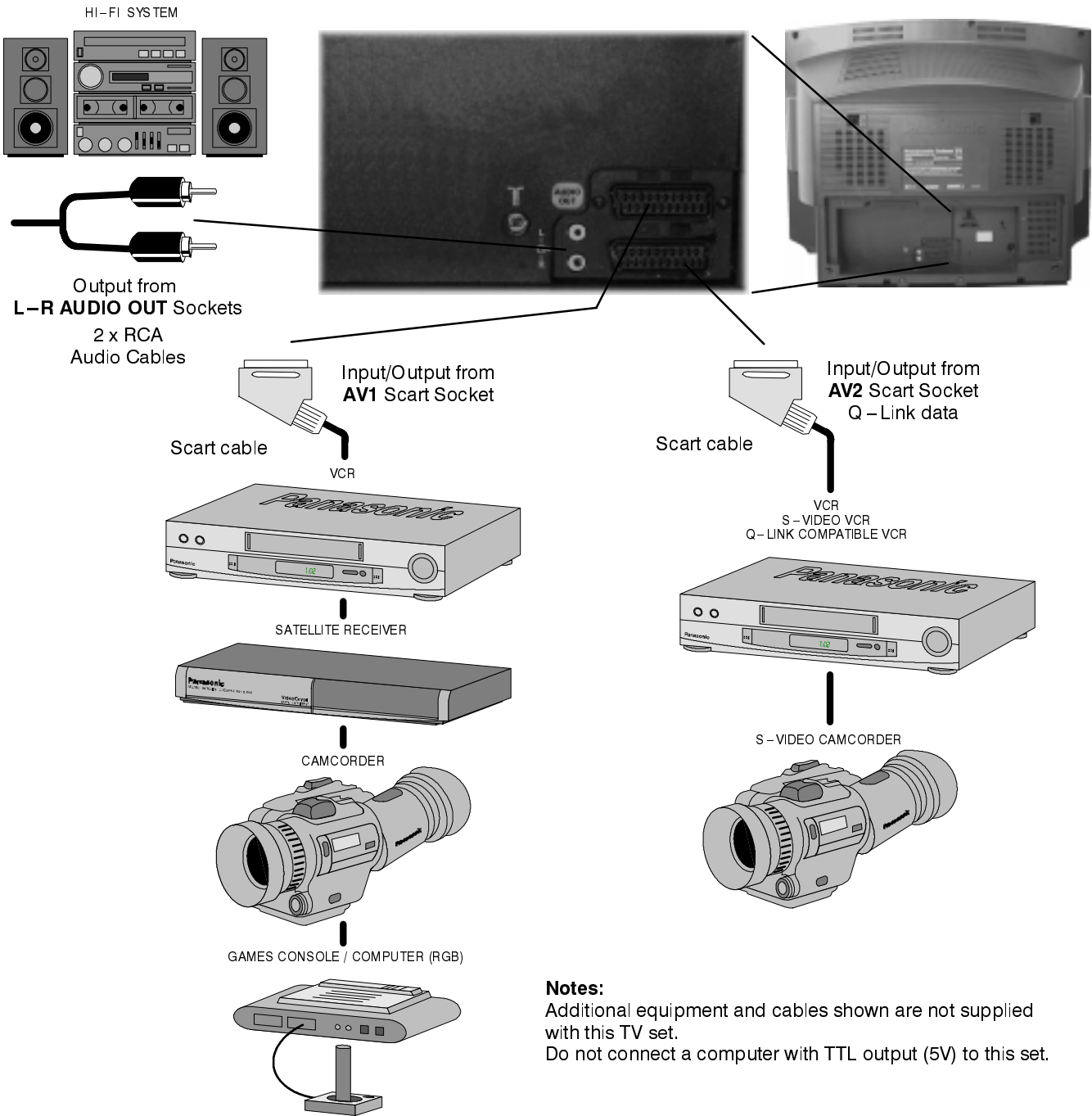● Press **TV/TEXT** to return to normal TV operation.

Index

When in FLOF operation
Press **INDEX** to return to the main index page.
Depending on the way information is transmitted, this may have to be pressed more than once to return to the main index page.
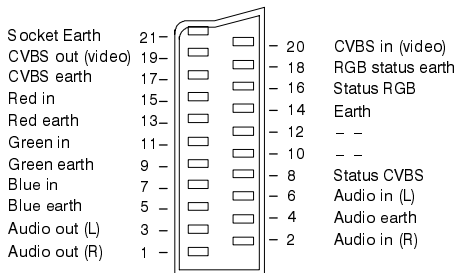
Rear AV1/AV2(S) 21 Pin Scart and RCA Audio Out Terminals

HI-FI SYSTEM

Output from
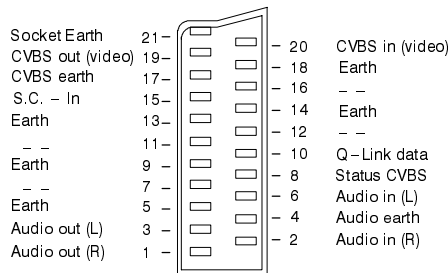**L-R AUDIO OUT** Sockets
2 x RCA
Audio Cables

Input/Output from
AV1 Scart Socket

Scart cable

VCR

SATELLITE RECEIVER

CAMCORDER

GAMES CONSOLE / COMPUTER (RGB)

Input/Output from
AV2 Scart Socket
Q-Link data

Scart cable

VCR
S-VIDEO VCR
Q-LINK COMPATIBLE VCR

S-VIDEO CAMCORDER

Notes:
Additional equipment and cables shown are not supplied with this TV set.
Do not connect a computer with TTL output (5V) to this set.

■ Scart socket information

AV1 Scart socket

Socket Earth	21	20	CVBS in (video)
CVBS out (video)	19	18	RGB status earth
CVBS earth	17	16	Status RGB
Red in	15	14	Earth
Red earth	13	12	– –
Green in	11	10	– –
Green earth	9	8	Status CVBS
Blue in	7	6	Audio in (L)
Blue earth	5	4	Audio earth
Audio out (L)	3	2	Audio in (R)
Audio out (R)	1		
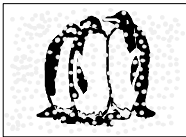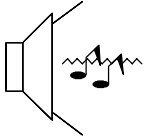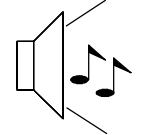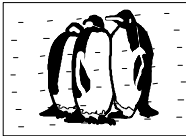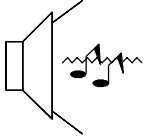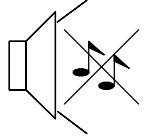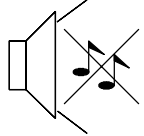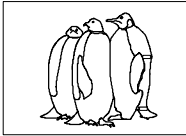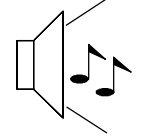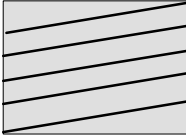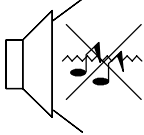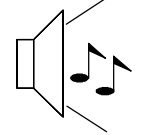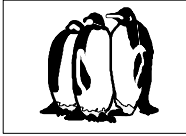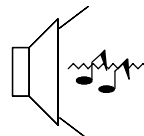
Suitable inputs for **AV1** include RGB (Red/Green/Blue).

AV2 Scart socket (S-Video, Q-Link)

Socket Earth	21	20	CVBS in (video)
CVBS out (video)	19	18	Earth
CVBS earth	17	16	– –
S.C. – In	15	14	Earth
Earth	13	12	– –
– –	11	10	Q-Link data
Earth	9	8	Status CVBS
– –	7	6	Audio in (L)
Earth	5	4	Audio earth
Audio out (L)	3	2	Audio in (R)
Audio out (R)	1		

AV2 – Pins 15 and 20 are dependent on AV2 S-VHS / VIDEO switching.

24

Symptoms		Checks
Picture	**Sound**	
Snowy Picture	Noisy Sound	Aerial location, direction or connection
Multiple Images	Normal Sound	Aerial location, direction or connection
Interference	Noisy Sound	Electrical appliances Cars / Motorcycles Fluorescent lights Switch on P−NR in Picture menu to reduce picture noise
Normal Picture	No Sound	Volume level Sound mute switched on
No Picture	No Sound	TV set to AV mode Not plugged into A.C. outlet Not switched on Picture / Sound controls set at minimum levels Check if in standby mode
No Colour	Normal Sound	Colour controls set at minimum levels
Poor or Distorted Picture	Weak or No Sound	Retune Channel(s)
Coloured Patches	Normal Sound	Magnetic Interference from unshielded equipment Receiver moved while switched ON, switch TV off for 30 minutes
Normal Picture	Weak or distorted sound	Sound reception may have deteriorated. Switch MPX setting (Sound menu) to Off until reception improves

FOR YOUR GUIDANCE

■ Service

Before requesting service, please refer to the trouble–shooting guide on previous page to determine the symptoms. To obtain service please contact your local Panasonic dealer quoting the model number and serial number (both are located at the rear of the TV).

■ TV Games / Home Computers

Extended use of TV games or home computers with any television set can cause a permanent 'shadow' on the screen. This type of irreversible picture tube damage, can be limited by observing the following points:

- Reduce the brightness and contrast levels to a minimum viewing level.
- Do not operate the television set for a continuous period of time while using TV games or home computers.
- This type of picture tube damage, is not an operating defect, and as such is not covered by the Panasonic warranty.

■ Sleep Feature

If the set is not switched off when the TV station stops transmitting , it will automatically go to standby mode after 30 minutes. This function will not operate when the TV is in AV mode.

■ Last Position Memory

Certain functions have a last position memory, i.e. the setting at the time of switch–off will be the setting used when the receiver is switched on again:

Programme	Tint (M.NTSC / NTSC only)
AV Position	Contrast
Volume	Sharpness
MPX	Aspect
Bass	Standby
Treble	Artificial Intelligence (AI) (Picture)
Balance	Brightness
Colour Balance	Colour
Status	P – NR
Teletext mode	Q – Link
Decoder (AV2)	Ambience
Volume correction	

SPECIFICATIONS

		TX – 28SL20F
Power Source		220 – 240V 50Hz A.C.
Power Consumption		121W
Standby Consumption		1,4W
Picture Tube Visible Diagonal		66 cm
Audio Output Music Power		Front Left / Right 2 x 15W
Dimensions	H W D	596,5 mm 778,0 mm 481,0 mm
Weight (Kg)		32
Receiving Systems/ Band name		**PAL B, G, H, I, SECAM B,G SECAM L/L'** VHF E2 - E12 VHF H1 - H2 (ITALY) VHF A - H (ITALY) UHF E21 - E69 CATV (S01 - S05) CATV S1 - S10 (M1 - M10) CATV S11 - S20 (U1 - U10) CATV S21 - S41 (Hyperband) **PAL D,K, SECAM D, K** VHF R1 - R2 VHF R3 - R5 VHF R6 - R12 UHF E21 - E69 **PAL 525/60** Playback of NTSC tape from some PAL video recorders (VCR) **M.NTSC** Playback from NTSC 4.43 MHz Videorecorders (VCR) **NTSC (AV input only)** Playback from NTSC Videorecorders (VCR)
Aerial – Rear		UHF / VHF
AV – Rear		**AV1** – 21 pin terminal – Audio / Video in / out, RGB in. **AV2** – 21 pin terminal – Audio / Video in/out, S – Video in, Q – Link 2 x RCA Audio Monitor Out.

Specifications are subject to change without notice. Weight and dimensions shown are approximate.

NOTES

99X