

TX-21AD2DP/M Operating Instruction



Panasonic



TX-21AD2DP/M

(U.K. Standard)



Quintrix

King of Pictures
GAOO



Please read these instructions completely before use and retain them for future reference.

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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 tell you how to have the TV operating quickly; the following pages will then explain how to utilise the advanced features.



This television has a low power consumption making it very cost effective to run. To this end, the standby power consumption is merely 1 watt.

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
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WARNINGS and PRECAUTIONS

- This TV is designed to operate on A.C. 220 – 240V, 50Hz.
- This TV is capable of receiving the following transmission standard, PAL I.
- 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.
- 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 TV even when it is placed inside a cabinet or between shelves.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a fitted three pin mains plug for your safety and convenience. A 5 amp fuse is fitted in this plug. If the fuse is replaced then the replacement fuse must be 5 amp rated and should be approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the fitted plug has a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. Replacement fuse covers can be purchased through your local Panasonic dealer.

The plug fitted to this appliance incorporates a mains filter circuit. If this is removed or replaced with a non-filtered plug this television will no longer meet the European standards for Electromagnetic Compatibility (EMC). If the fitted plug is unsuitable for the socket outlet in your home an appropriate adapter should be used.

Nonetheless, if the fitted plug is replaced, the fuse should be taken out and the cut-off plug disposed of safely. There is danger of severe electrical shock if the cut off plug is inserted into any 13 amp. socket.

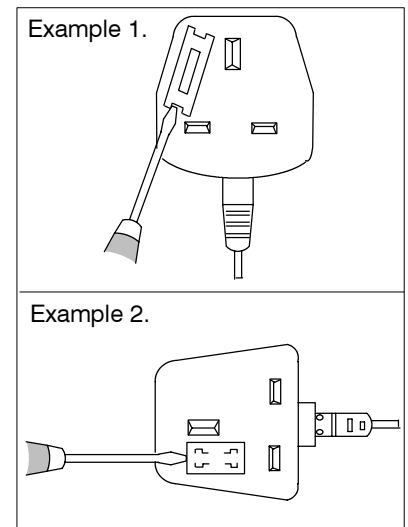
If a new plug is to be fitted please observe the wiring code as shown below. If in any doubt please consult a qualified electrician.

How to replace the fuse (for plug type shown in example 1) :

Lift out the removable fuse compartment with a screwdriver and replace the fuse, then refit securely into the mains plug (See example 1).

How to replace the fuse (for plug type shown in example 2) :

Lift open the fuse compartment, in the mains plug, with a screwdriver, and replace the fuse, then press the fuse cover down securely. (See example 2).




IMPORTANT :- The wires in the mains lead of this appliance are coloured in accordance with the following code :-

BLUE : NEUTRAL

BROWN : LIVE

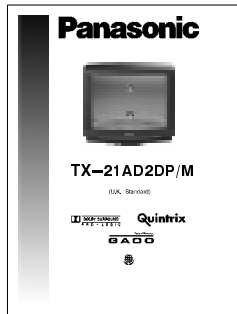
As the colours of the wires in the mains lead of this appliance may not correspond to the markings identifying the terminals in your plug, proceed as follows :-

1. The BLUE wire must be connected to the terminal marked 'N' or coloured black.
2. The BROWN wire must be connected to the terminal marked 'L' or coloured red.

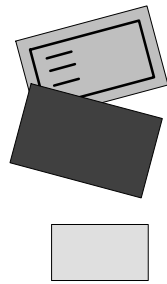
IMPORTANT NOTE : Under no circumstances should either of these wires be connected to the Earth terminal of the three pin plug, marked with the letter 'E' or the earth symbol. 

ACCESSORIES

Check that you have the accessories and items shown



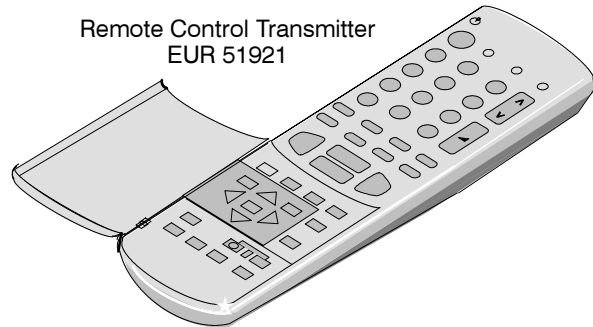
Operating Instruction book



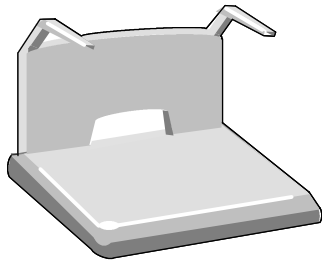
TV Guarantee

CRT Guarantee

Questionnaire



Remote Control Transmitter
EUR 51921

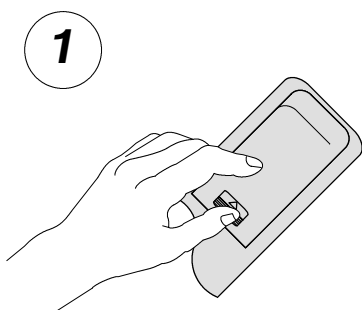


Stand TS-2840
Assembly instructions are included in the packaging

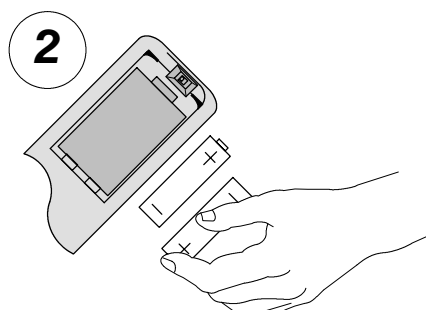


Batteries for the Remote Control Transmitter.
(2 x R6 (UM3) size)

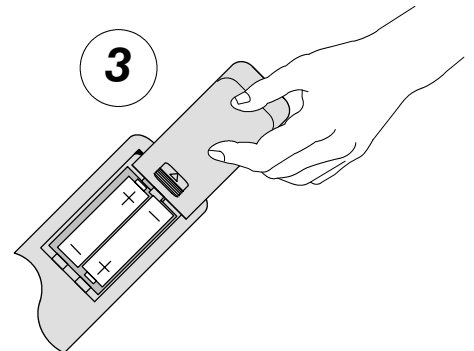
FITTING REMOTE CONTROL BATTERIES



1 Slide off the battery cover



2 Insert batteries – note correct polarity



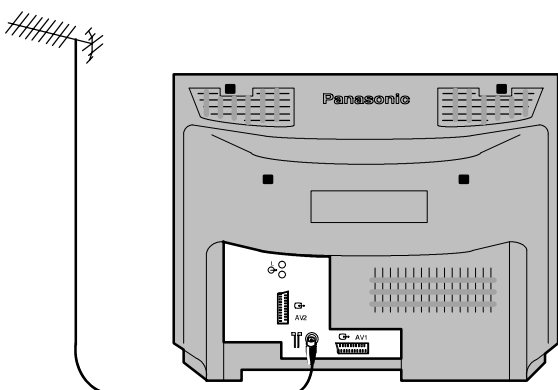
3 Replace the cover

Note:

- 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. Do not use rechargeable (Ni-Cad) batteries.

QUICK START GUIDE

1. 2. 3.



1

TV only

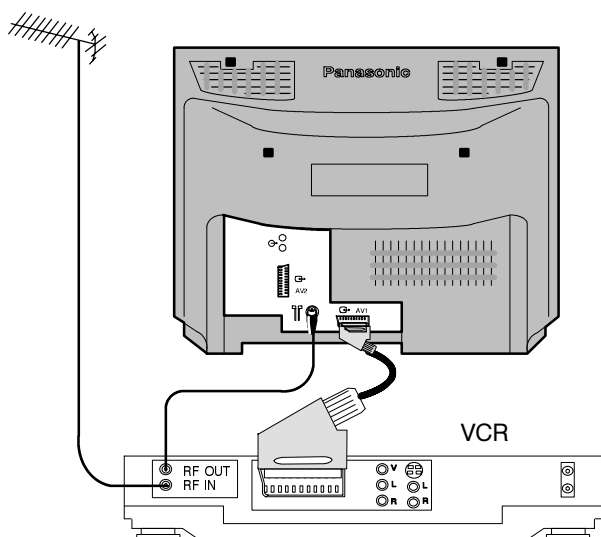
Connect Aerial co-axial cable direct to TV RF IN socket.

OR

USING A VCR

Connect Aerial co-axial cable to RF Input socket of VCR and a RF coaxial cable from VCR RF Out socket to TV RF IN socket.

The VCR can also be connected to the TV using a SCART to SCART lead if you are using a stereo VCR. Use the AV1 21 pin terminal for a VCR. To connect an S-Video VCR use the AV2S 21 pin terminal.



Further information for VCR and Satellite Receiver installation with this TV can be found on page 27.

OR

USING A VCR AND SATELLITE RECEIVER

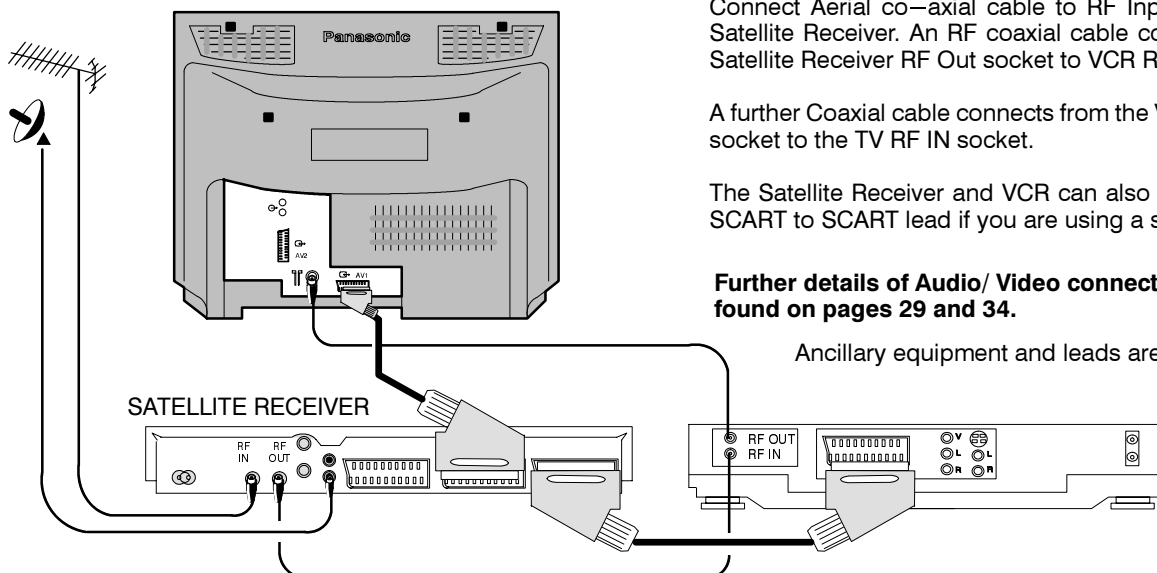
Connect Aerial co-axial cable to RF Input socket of Satellite Receiver. An RF coaxial cable connects from Satellite Receiver RF Out socket to VCR RF IN socket

A further Coaxial cable connects from the VCR RF OUT socket to the TV RF IN socket.

The Satellite Receiver and VCR can also be linked by SCART to SCART lead if you are using a stereo VCR.

Further details of Audio/ Video connections can be found on pages 29 and 34.

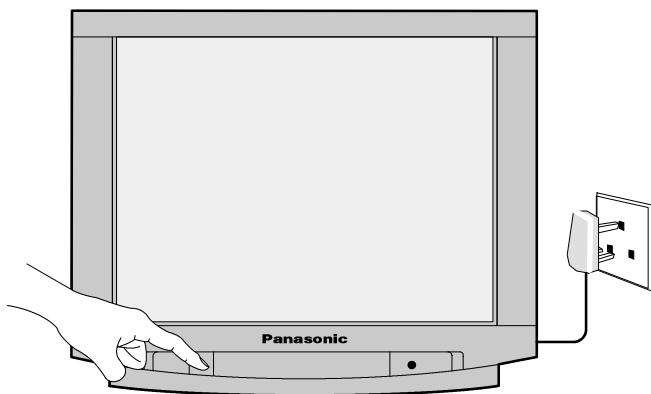
Ancillary equipment and leads are not supplied.



QUICK START GUIDE

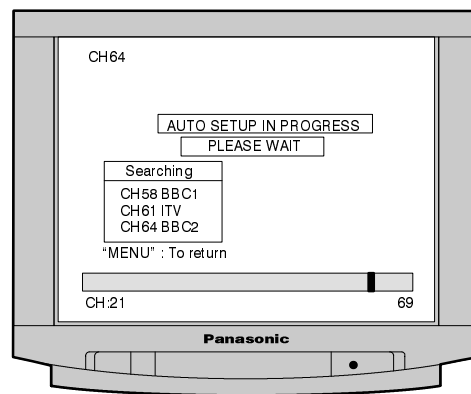
2

Switch ON your VCR *1.
Switch ON your Satellite Receiver*2.
Plug the TV into mains socket and switch on.



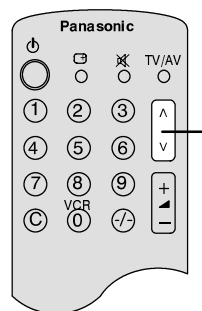
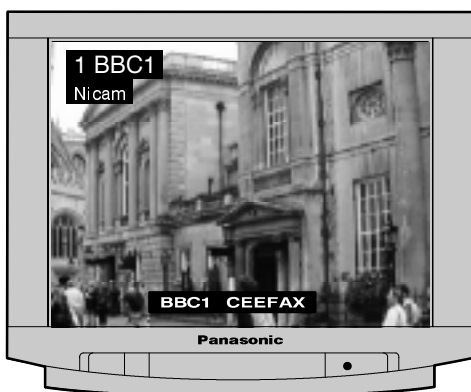
3

Programmes will appear immediately if your dealer has programmed the TV for you. If the TV has not been programmed for you then **Auto setup** will begin. TV stations will be located, sorted into order and stored ready for use*3.
Switch the VCR Test Signal 'off'*4.

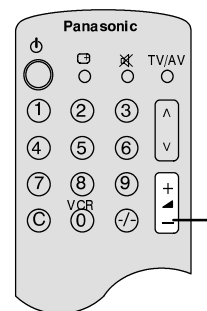


4

... READY TO GO!



Change Channel



Adjust Volume

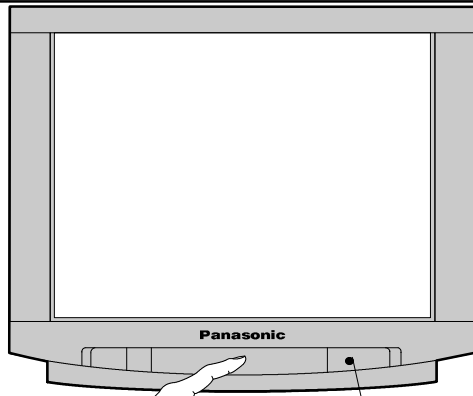
- *1 We recommend that you have the VCR's test signal 'on' – refer to your VCR instruction book to locate the VCR Test Signal switch (usually on the rear of the VCR).
- *2 The Satellite Receiver must be tuned to either SKY ONE or SKY NEWS before starting Auto Setup. When Auto Setup has finished, the satellite position that has been stored will be listed as 'SAT'.
- *3 The sorting order depends upon the TV signal, the broadcasting system, and reception conditions. If the order is not to your preference it can be rearranged. Refer to the Programme Edit menu – see page 17 for details.

Programme Position	All stations available	No CH5	No CH5 / S4C	No CH4 / CH5	No S4C	No CH4 / S4C	No CH4 / S4C / CH5
1	BBC1	BBC1	BBC1	BBC1	BBC1	BBC1	BBC1
2	BBC2	BBC2	BBC2	BBC2	BBC2	BBC2	BBC2
3	ITV	ITV	ITV	ITV	ITV	ITV	ITV
4	CH4	CH4	CH4	S4C	CH4	~	~
5	S4C	S4C	SAT	SAT	CH5	CH5	SAT
6	CH5	SAT	●	●	SAT	SAT	●
7	SAT	●	●	●	●	●	●

Note :
● The next available channel will appear, if no other stations are available then the Programme position will remain unused.

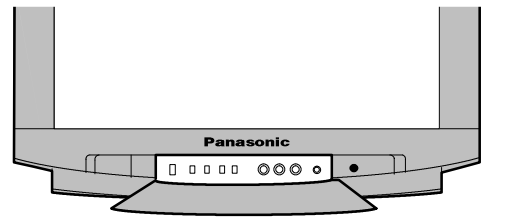
- *4 If your VCR Test Signal appears as a programme position it can be deleted using the Programme Edit menu. **IT IS IMPORTANT THAT** you use only programme position '0' for your VCR. If your VCR does not appear to operate on programme position '0' (the VCR position), refer to page 27 for guidance.

BASIC CONTROLS

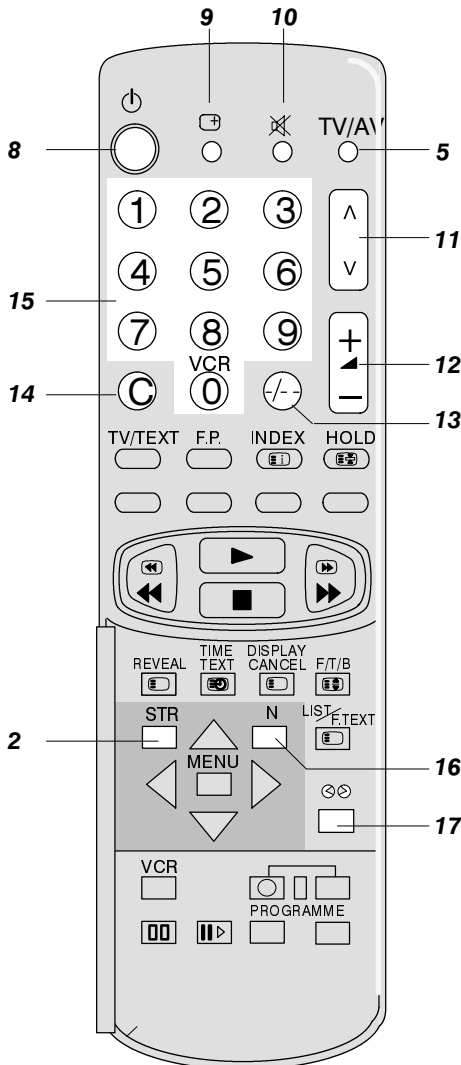


Press to release latch and open lid

Red light indicates Standby mode



1 2 3 4 5 6 7



- 1 **Mains On/Off** switch
- 2 **Normalisation Store (STR)** adjust the Volume, Contrast, Brightness, Colour, Sharpness, (Tint – in M.NTSC/NTSC), Bass, Treble and Dolby Surround mode to your normal settings. Press STR when either the Main or Sound menus are displayed to store them in memory.
- 3 **Function select (F)** Displays the on screen functions. Press repeatedly to select from the available functions of Volume, Contrast, Brightness, Colour, Sharpness, Bass, Treble and Tuning mode (see note below).
- 4 **- / + / ^ / v** Increase or decrease the channel settings. If a function is displayed you can adjust the level.
- 5 **TV/AV** switches between TV and Audio/Video operations.
- 6 **RCA Audio/Video sockets** for the connection of Audio/Video equipment, e.g. VCR.
- 7 **Headphone socket** for connection of stereo headphones with 3.5mm plug.
- 8 **Standby to switch** TV on or off Standby mode. TV can also be switched on from Standby by pressing a 0–9 programme button or by pressing **- / + / ^ / v** on the front control panel.
Note : TV cannot be switched on using the Mains On/Off switch if it is in Standby mode.
- 9 **Status** displays the Programme position, name and channel number also the time and Teletext system (if available) and Audio Systems. Whilst in Status mode press **◀ ▶** to display Programme / Channel table for 1–31 plus VCR, again for 32–63, again for 64–95 and again for 96–99. Pressing once more will clear the screen.
- 10 **Sound Mute** to instantly mute or restore sound. Screen will display 'Mute' if in use.
- 11 **Programme Up/Down** to increase or decrease programme position.
- 12 **+ / -** Increases or decreases the **Volume**.
- 13 **Programme position** to select programme positions from 10–99.
- 14 **Direct channel access** allows direct access to local channels via the 0–9 keys.
- 15 **0–9** to select programme numbers or Teletext pages.
- 16 **Normalisation (N)** to recall the levels previously set with the store (STR) key.
- 17 **Surround On/Off** switches between 2 channel stereo and the last selected surround mode. Screen displays the option set. Also switches on/off the Test Signal provided in Speaker level setup menu.

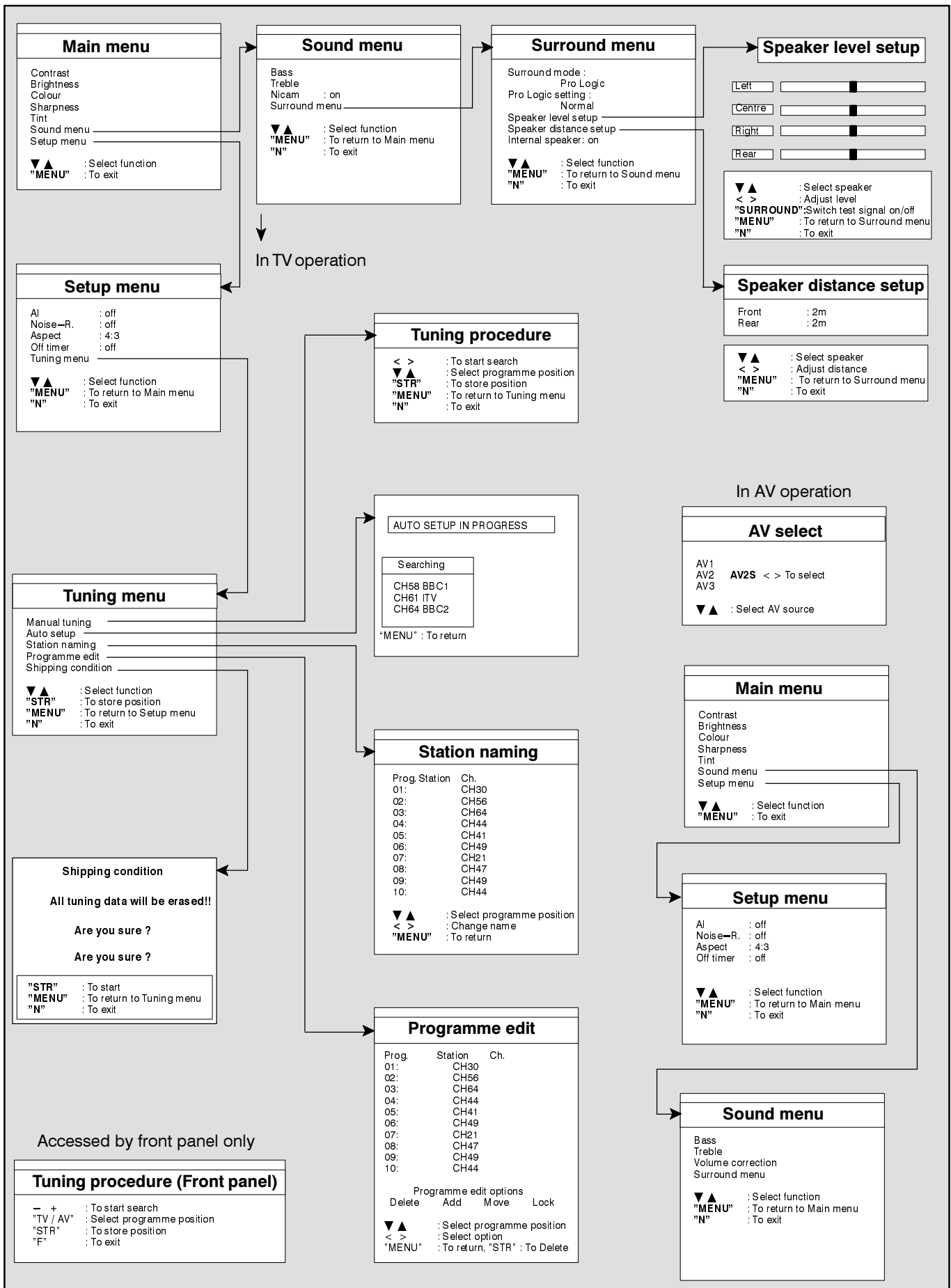
Although you will normally use tuning methods provided by the tuning menus that appear later in this book, it is possible to operate basic tuning control by repeatedly pressing the 'F' key on the front panel until the **Tuning mode** is reached. Pressing the front panel **-** or **+** keys will lead to the **Tuning procedure** menu. Following the on screen instructions will allow you to tune and save any programme positions.

Tuning procedure (Front panel)

-	+	: To start search
"TV / AV"		: Select programme position
"STR"		: To store position
"F"		: To exit

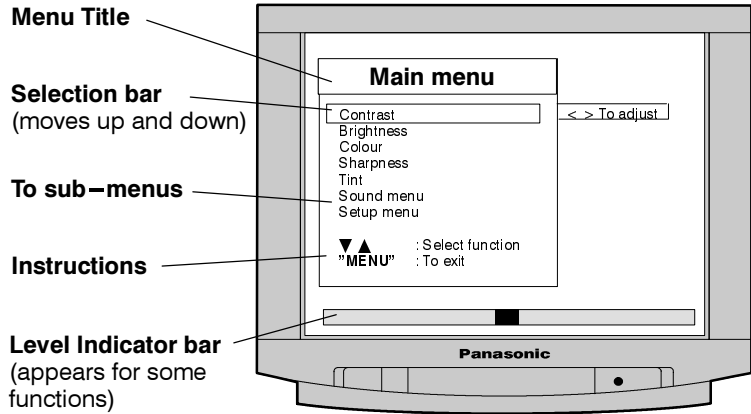
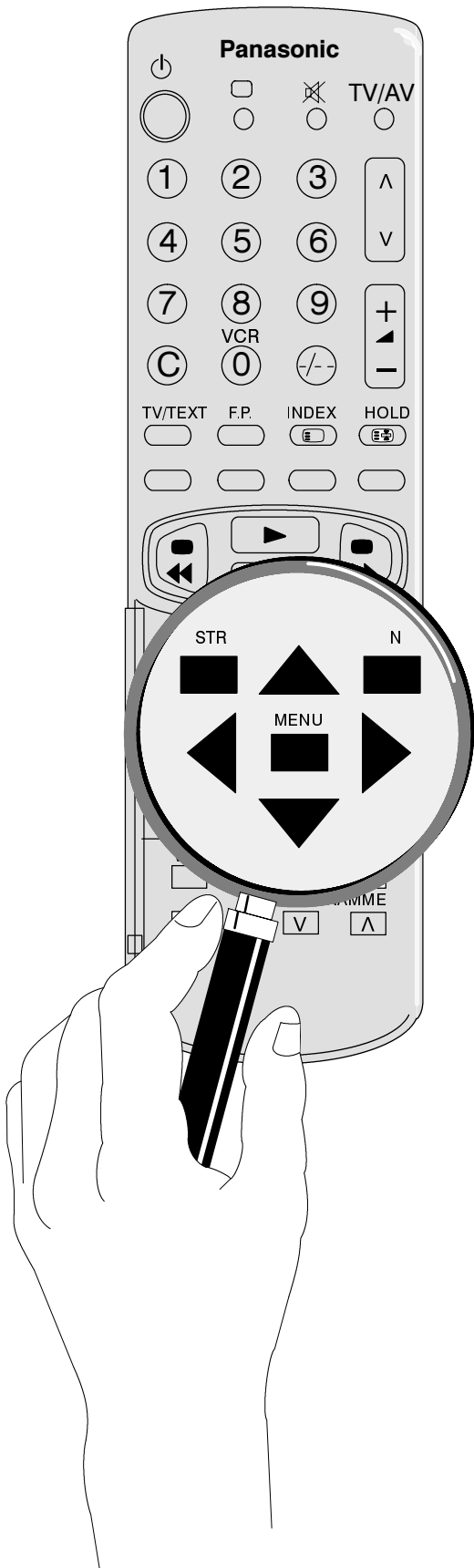
ON SCREEN DISPLAY MENUS

The advanced features of this television are set up using on-screen menus, which are contained in the menu structure starting from the Main menu as shown below.



ON SCREEN DISPLAY MENUS

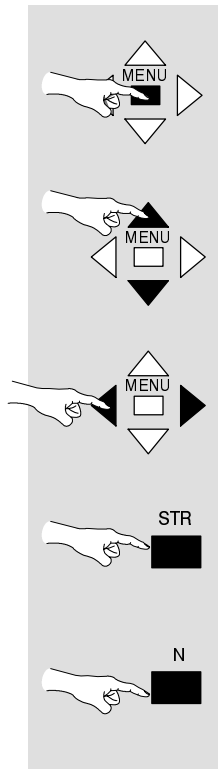
This TV has a comprehensive system of On Screen Display menus to access adjustments and options. All menus (except AV select and Tuning procedure (Front panel)) start from the Main menu. If you follow the on screen instructions you will be able to move to further menus. The menu structure is shown on the previous page.



The following remote control keys can be used to access and adjust settings from the On Screen Display menus.

Some selections, for example, **Contrast**, **Brightness**, **Colour** and **Sharpness** will display a coloured adjustment bar.

Some selections, for example, **Mode**, allow a choice to be made.



The **MENU** key is used to open the Main menu and also to return to either the Main menu or a previous menu.

The **▲▼** keys are used to move the selector up and down the menu.

The **◀▶** keys are used to access your selected function and either adjust levels or to make a choice.

The **'STR'** key is used to store settings after your adjustment or choice has been made.

The **'N'** key is used to leave the menu system and return to the normal viewing screen.

MAIN MENU

Notes :


The levels of **Contrast, Brightness, Colour, Sharpness** and **Tint** are adjusted by using the coloured bar, that will appear on selection, as a guide. **Tint** function will only appear on the **Main** menu if M.NTSC or NTSC inputs are connected.

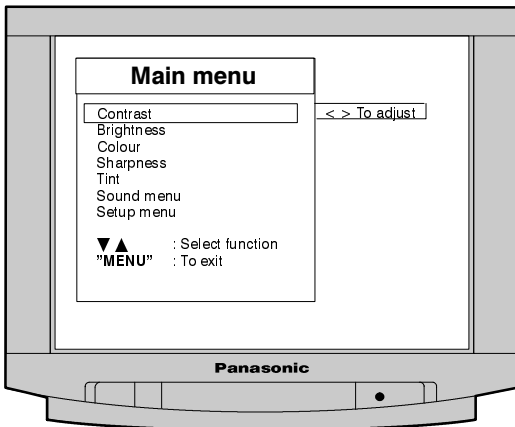
Pressing **STR** (whilst in either the **Main** or **Sound** menus) after making adjustments to the Contrast, Brightness, Colour, Sharpness, (Tint in M.NTSC / NTSC), Volume, Bass, Treble and/or the Dolby Pro Logic mode will store these adjustments in memory as your normal settings. Pressing the **N** button at any time will restore the TV to these settings.

The coloured adjuster bars will disappear after a short time if no adjustment is made.

If **Sound** or **Setup** menus are selected then they will lead to further menus as detailed on pages 11 and 12.

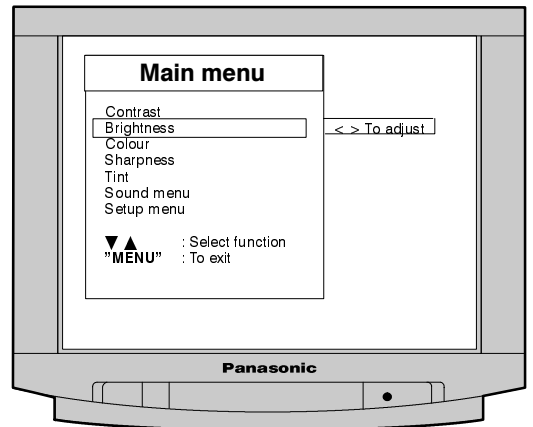
1

MENU  To open **Main** menu



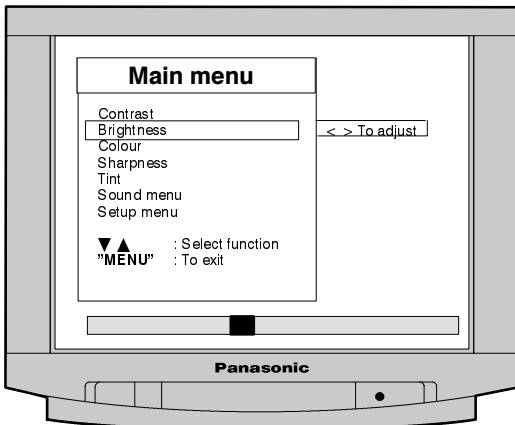
2

▼ ▲ To move selector up or down to the function that you wish to access
◀ ▶ To access your choice




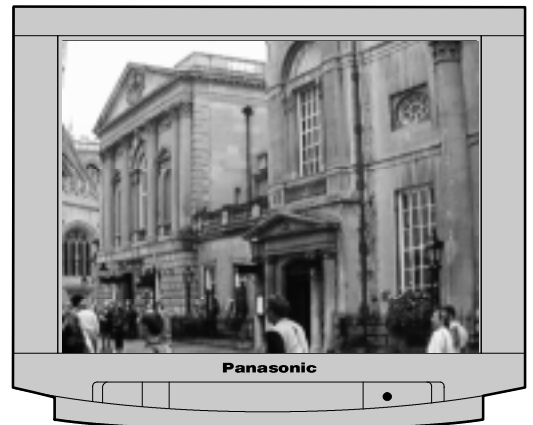
3

◀ ▶ To increase or decrease level using colour bar as guide or to access **Sound** or **Setup** menus



4

MENU  To return to viewing screen



Notes :

Bass – adjusts the bass response.

Treble – adjusts the treble response.

Volume Correction – (in AV mode only) allows different volume levels to be set for TV and AV signals.


Nicam – Select either **Nicam : on** for stereo sound reproduction or **Nicam : off** for FM Mono sound output.

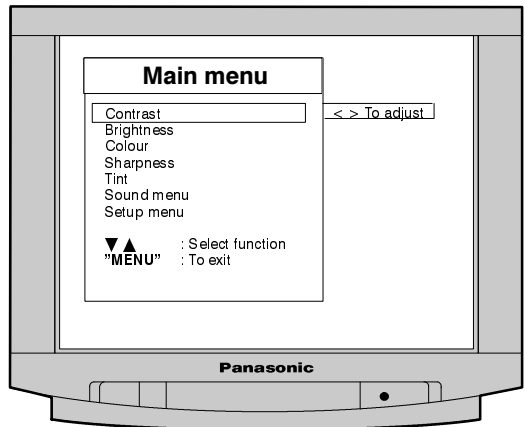
If **Nicam Mono** is being transmitted select either FM Mono, NICAM Mono I (M1) or NICAM Mono II (M2). The outputs depend upon the signal being transmitted. It is advisable to switch to FM Mono if reception deteriorates. When NICAM transmissions are not being received the sound will be FM Mono only.

Surround menu – leads to the **Dolby Pro Logic Surround menu** as described on page 21.





Pressing **STR** (whilst in either the **Main** or **Sound** menus) after making adjustments to the Volume, Bass, Treble, Contrast, Brightness, Colour, Sharpness, (Tint in M.NTSC / NTSC), and/or the Dolby Pro Logic mode will store these adjustments in memory as your normal settings. Pressing the **N** button at any time will restore the TV to these settings.

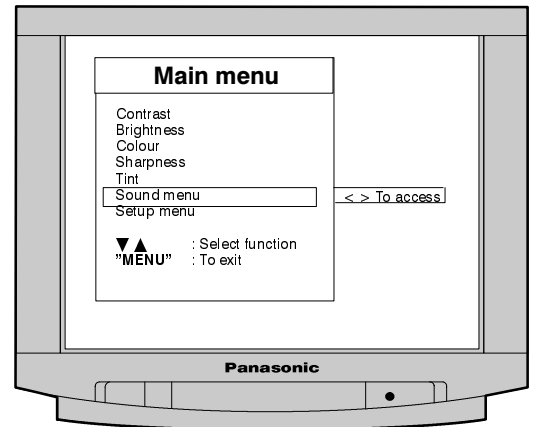
1

MENU
 Press to open **Main** menu







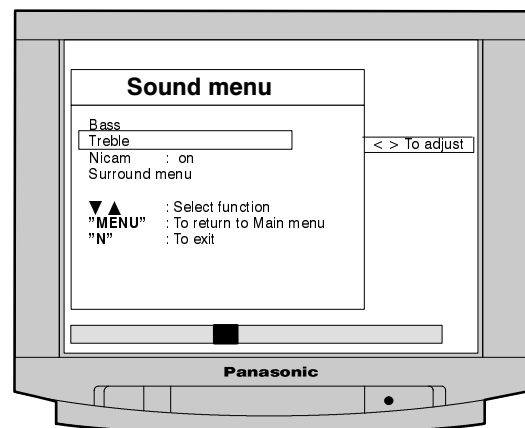
2

  To move selector to the **Sound** menu
  To access Sound menu





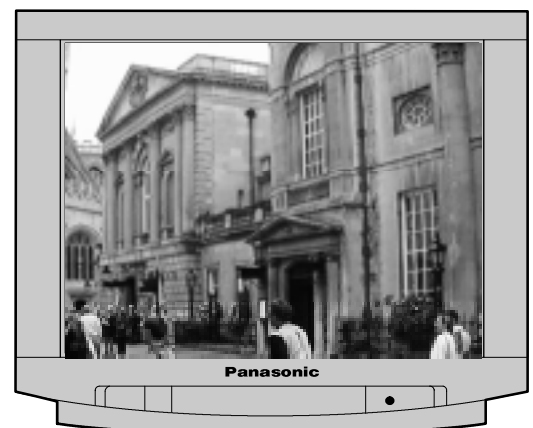
3

  To move to required function
  To increase or decrease level using colour bar as guide or to choose from options



4

MENU
 To return to **Main** menu
N
 'N' to return to viewing screen



SETUP MENU

Notes :


A.I. (Artificial Intelligence) allows the TV to automatically analyse the incoming picture and process it to give the best contrast, optimum field of depth and vivid colour tones.

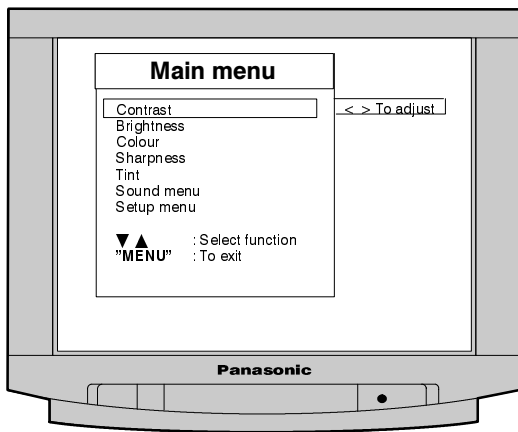
Noise-R (Picture Noise Reduction) automatically reduces unwanted picture interference.





Aspect (Picture Format) select 16:9 if receiving a 16:9 format signal through the AV1 21 pin terminal. Select 4:3 for normal picture format.

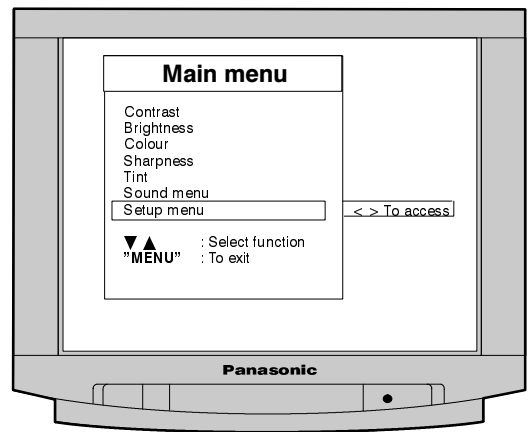
Off Timer allows you to select either 30, 60 or 90 minutes time before TV switches off to Standby mode.





Tuning menu allows access to the tuning menu detailed on next page.

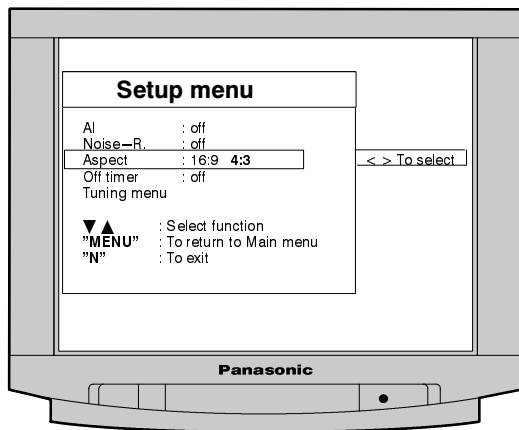
1 MENU  Press to open **Main** menu





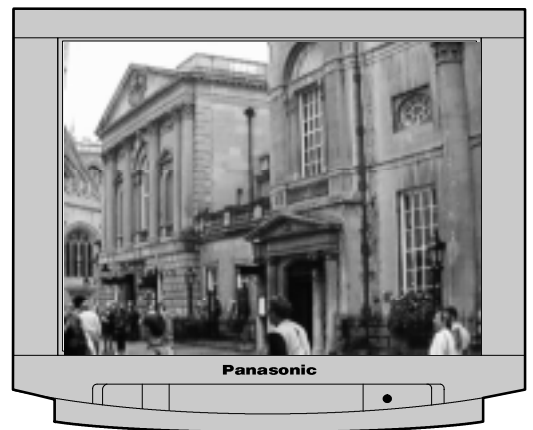
2   To move to **Setup** menu
  To access **Setup** menu



3   To move to required function
  To access options or Tuning menu



4 MENU  To return to **Main** menu
OR N  'N' to return to viewing screen




Notes :

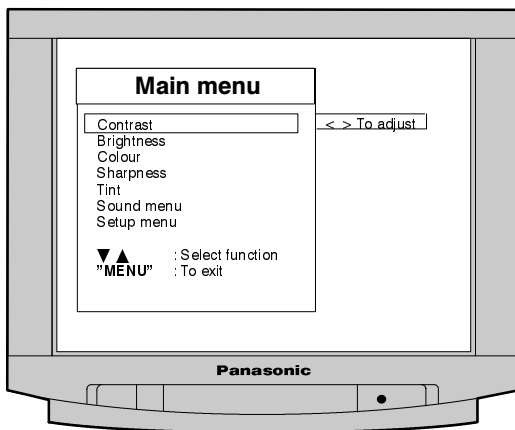
This TV will either have been programmed by your supplier ready for use or it will have automatically tuned itself to your local stations when it was installed.

There may be circumstances when you want to either re-initialise the auto tuning or to tune in known stations manually.

Both methods of tuning, **Auto setup** and **Manual tuning**, as well as **Station naming** and **Programme edit** are accessed through the **Tuning** menu.

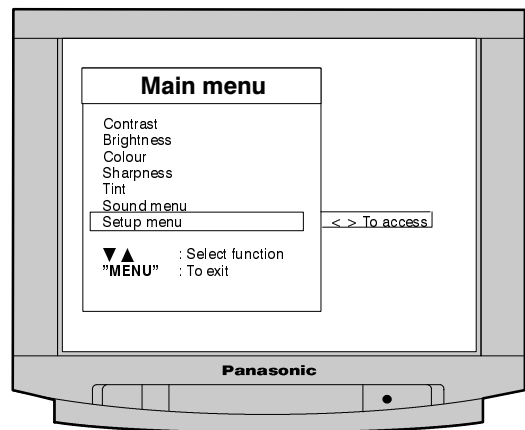
1

MENU
 Press to open **Main** menu



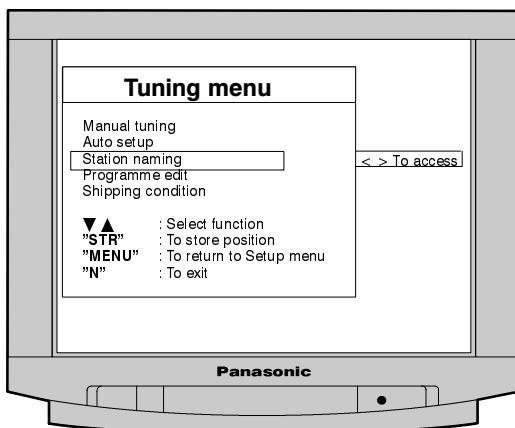
2

▼ ▲ To move to **Setup** menu
 ◀ ▶ To access **Setup** menu
 ▼ ▲ To move to **Tuning** menu
 ◀ ▶ To access **Tuning** menu



3

▼ ▲ To select function
 ◀ ▶ To access the required function



4

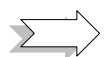
Proceed to your choice ;

Manual Tuning is described on page 14.

Auto Setup is described on page 15.

Station Naming is described on page 16.

Programme Edit menu is described on page 17.



MANUAL TUNING

Notes :

The required channels can be manually stored by either searching for the required channel using the on screen display or by keying in the channel number if known.

IT IS IMPORTANT that you only use TV programme position '0' to view your VCR. If your VCR picture does not appear on programme position '0' (the VCR position), refer to page 27 for guidance.

1 MENU To open **Main** menu
 ▼ ▲ To move to **Setup** menu

2 To access **Setup** menu
 ▼▲ To move to **Tuning** menu
 ◀▶ To access **Tuning** menu
 ▼▲ To move to **Manual tuning**
 ◀▶ To access **Manual tuning** menu

3 ◀▶ To start search
 ▼▲ To choose required programme position

Programme position and current channel are displayed top left of screen

OR **4**

If you know the channel number – select the programme position. Press 'C' followed by the channel number using the numeric keys (within 6 seconds).

STR To store position
 MENU To return to **Tuning** menu
OR N To return to viewing screen

STR To store position
 MENU To return to **Tuning** menu
OR N To return to viewing screen

AUTO SETUP MENU


Notes :

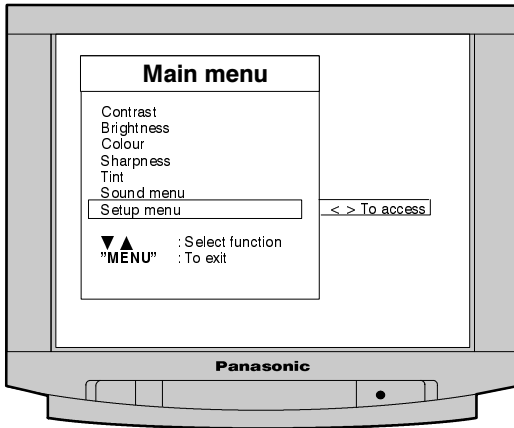
Your supplier may have programmed the TV ready for use. If this has not been done then the **Auto setup** menu will have run automatically the first time that you switched the TV on. Under normal circumstances there will be no need to access this menu. However if, for example, you move to a different area then you will probably want the TV to tune itself to your new local stations.

This can be done either through the **Auto setup** menu or through the **Shipping condition** menu. Details of **Shipping condition** menu appear on page 19.

It is possible, especially in areas where you are able to receive more than one transmitter, that you may prefer to rearrange the order of the selection of stations. This can be achieved through the **Programme edit** menu, as detailed on page 17.

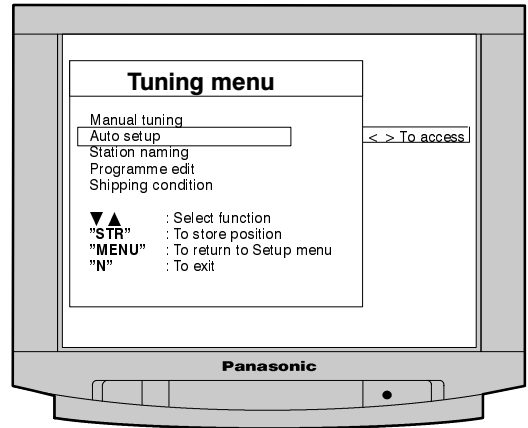
1

- MENU  Press to open **Main menu**
 ▼ ▲ To move to **Setup menu**
 ◀ ▶ To access **Setup menu**



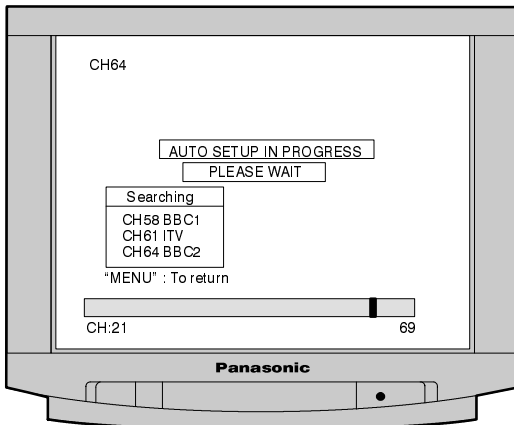
2


- ▼ ▲ To move to **Tuning menu**
 ◀ ▶ To access **Tuning menu**
 ▼ ▲ To move to **Auto setup** menu
 ◀ ▶ To start **Auto setup**



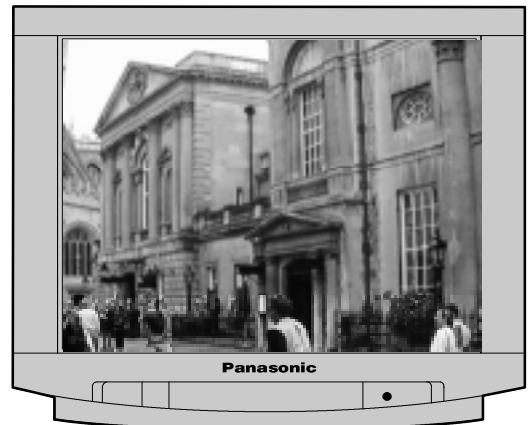
3

Auto setup tuning will begin, stations will be located, sorted and stored ready for use



- MENU  To stop **Auto setup** at any time

4




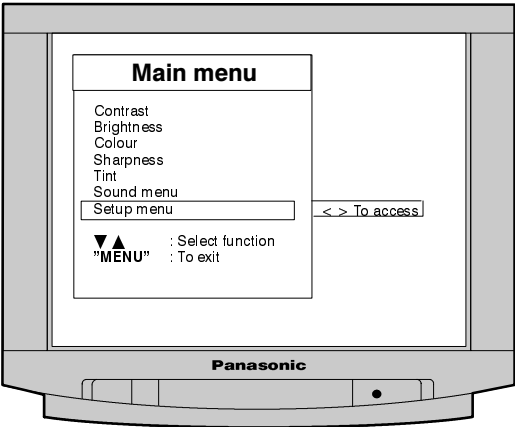
STATION NAMING

Notes :

Each channel may be given an individual name so that you can remember the channels by name as well as programme number. For example you could rename 'BBC-1' to 'ONE' if you wished.

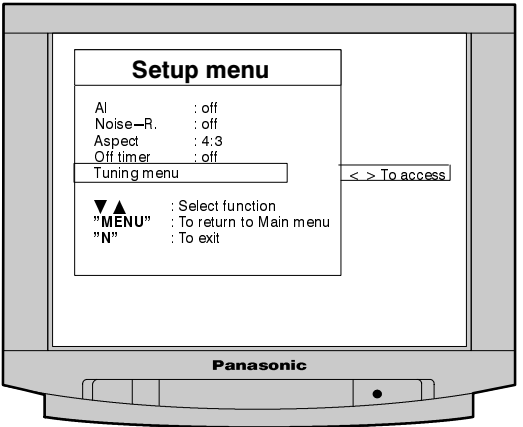
1

MENU  Press to open **Main menu**
 ▼ ▲ To move to **Setup menu**
 ◀ ▶ To access **Setup menu**



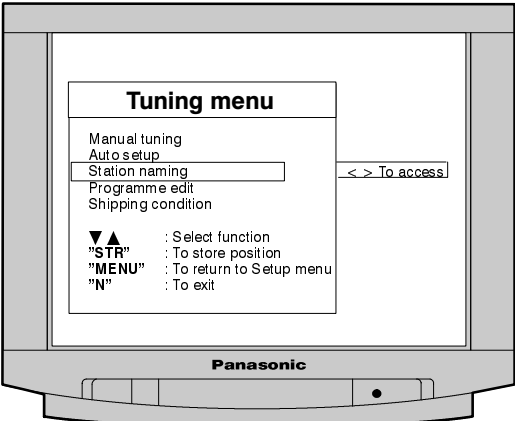
2

▼ ▲ To move to **Tuning menu**
 ◀ ▶ To access **Tuning menu**




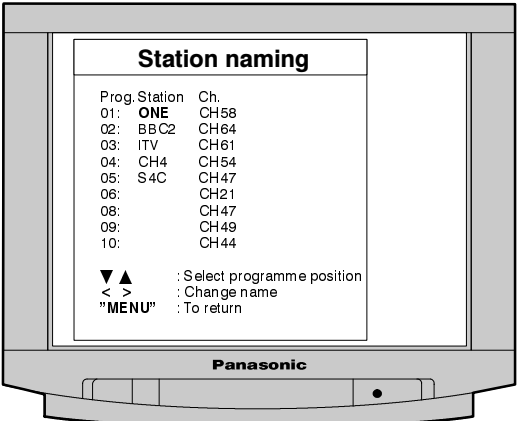
3



▼ ▲ To move to **Station naming menu**
 ◀ ▶ To access **Station naming menu**



4 Repeat previous two steps until renaming is completed

STR  To store new name








MENU  To return to **Tuning menu**
 OR N  To return to viewing screen

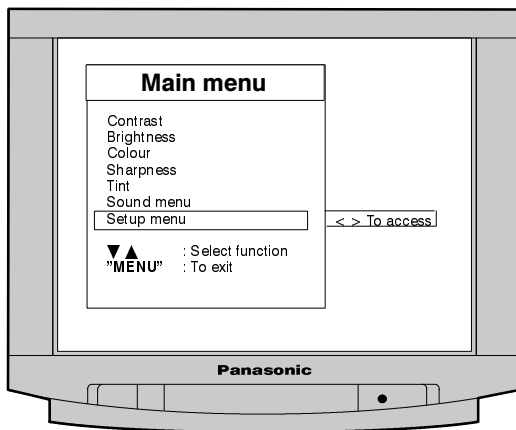
PROGRAMME EDIT





Notes :

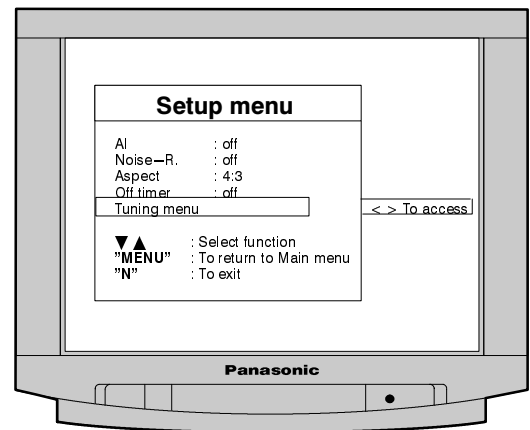
The named programme positions can be moved to another place in the programme order or deleted from the order. New programmes can be added to the order. Programme positions can also be locked to prevent access.





Access to programme position '0' VCR is prevented in this menu.

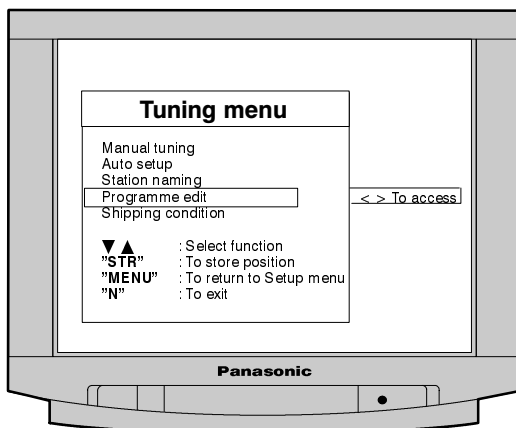
- 1**  Press to open **Main** menu
  To move to **Setup** menu
  To access **Setup** menu





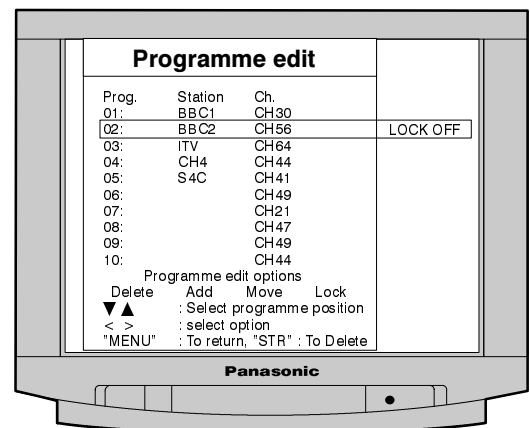
- 2**   To move to **Tuning** menu
  To access **Tuning** menu



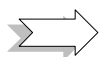
- 3**   To move to **Programme edit** menu
  To access **Programme edit** menu



- 4**   To select the desired programme position. Programme position '0' is reserved for VCR operation.





Continue to options 5,6,7 or 8

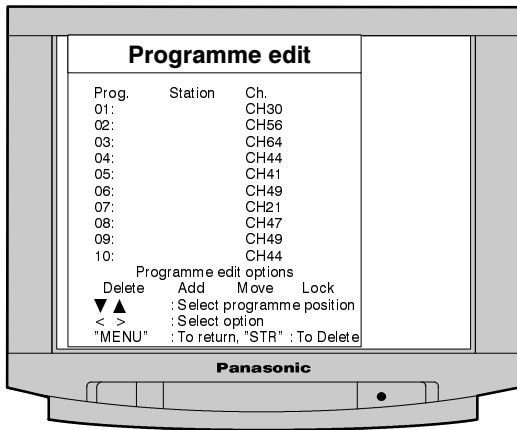



PROGRAMME EDIT



Notes :

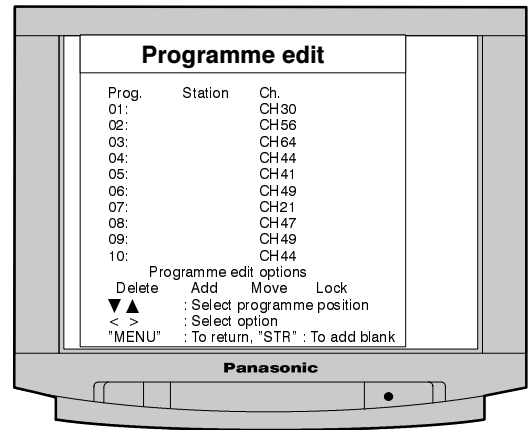
- Option 5** allows station names and channels to be **deleted**
- Option 6** allows new programmes and channels to be **added**
- Option 7** allows programme positions to be **moved**
- Option 8** allows programme positions to be **locked**


5  To select **Delete**
 Press twice to delete selected station and channel






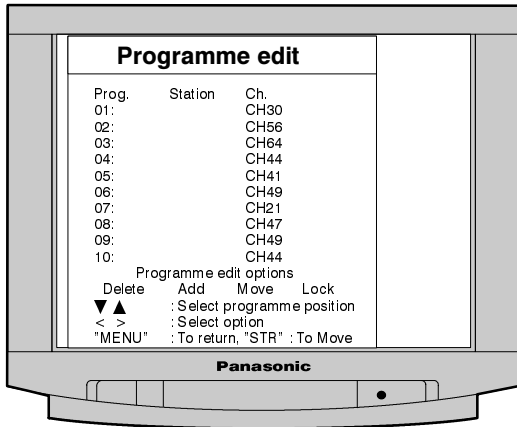
 To return to normal TV operation.



6  To select **Add**
 Press twice to insert a blank channel in the current programme position.





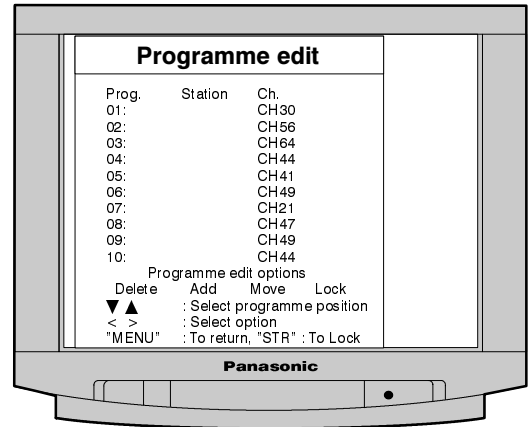
 To return to normal TV operation.
The channel can then be tuned as described under Manual tuning on page 14.


7  To select **Move**
 To move
 To select the new programme position for the current channel.



 To end move operation.
 To return to normal TV operation.

8  To select **Lock**
 To lock or unlock the current programme position.



 To return to normal TV operation.

Notes :


Your supplier may have programmed the TV ready for use. If this has not been done then the **Auto setup** menu runs automatically the first time that you switch the TV on. Under normal circumstances there will be no need to access this menu. However if, for example, you move to a different area then you will probably want the TV to tune itself to your new local stations.



This can be done either through the **Shipping condition** menu or through the **Auto setup** menu.



The **Shipping condition** menu will reset all data, clearing all tuning information and resetting all control levels back to factory settings. You may need to adjust your VCR or programme position '0' VCR after operating the **Shipping condition** menu since this programme position will be reset to channel 32 – refer to page 27.

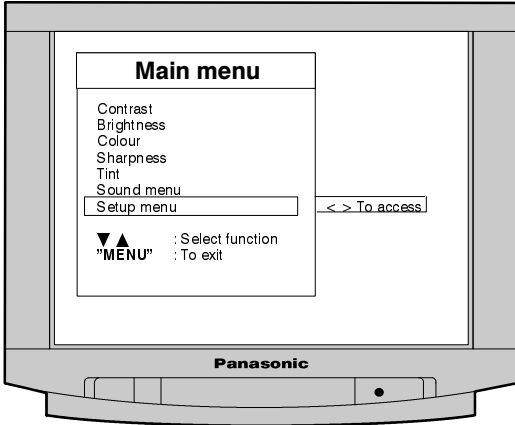
It is possible, especially in areas where you are able to receive more than one transmitter, that you may prefer to rearrange the order of the selection of stations after you have operated the **Shipping condition** menu. This can be achieved through the **Programme edit** menu, as detailed on page 17.

1



MENU  Press to open **Main menu**



  To move to **Setup menu**



  To access **Setup menu**





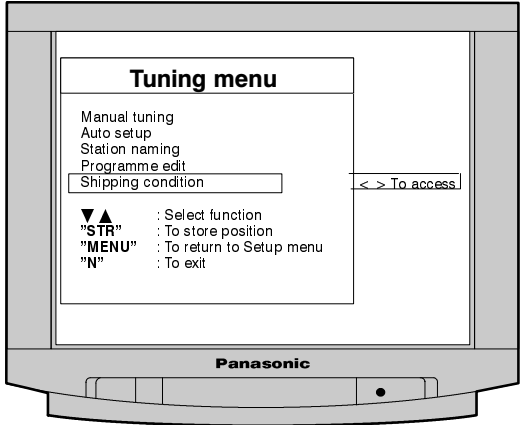
2

  To move to **Tuning menu**


  To access **Tuning menu**

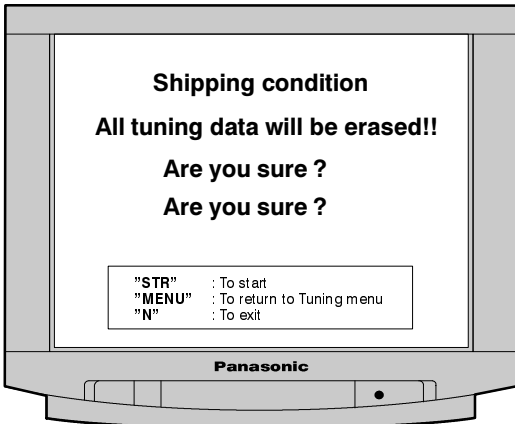
  To move to **Shipping condition**

  To access **Shipping condition**





3

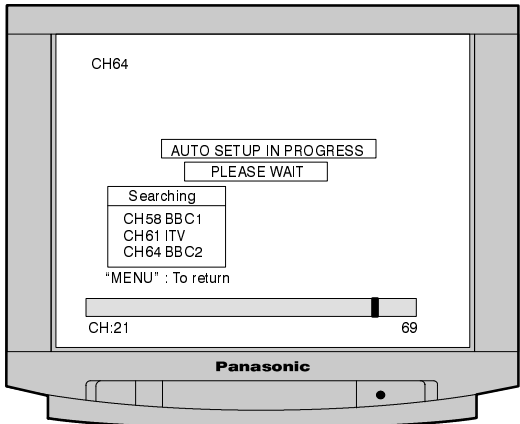
STR  To start **Shipping condition**. Press again, to confirm, when you are asked, "Are you sure?"



4

  To start **Auto setup**

Auto setup tuning will begin, stations will be located, sorted and stored ready for use.



Wait for Tuning menu to reappear

AV SELECT and SETUP

Notes :

Some items of Audio/Visual equipment will automatically switch AV1 and AV2 into AV mode – in these circumstances the screen will display EC1 or EC2.

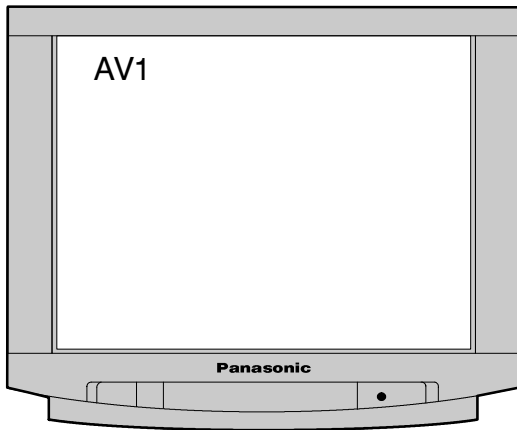
AV2S is suitable for S–VHS video cassette recorders.

NTSC is the United States colour broadcast system (also used in some other countries). If you are using the AV function to replay an NTSC recording from a VCR the TV will automatically recognise the signal.

Examples of AV connections are shown on pages 29 and 34.

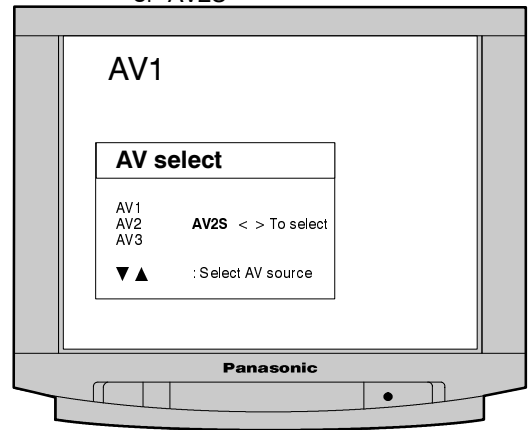
1

Press 'TV / AV' to switch to Audio/Video mode



2

- ▼ ▲ To select the desired AV source
AV1, AV2 or AV3.
- ◀ ▶ When AV2 is selected, to choose AV2
or AV2S



The menu will clear within a few seconds
Press 'TV / AV' if you wish to return to TV mode

3

You may wish to make adjustments within the **Sound** and **Setup** menus.

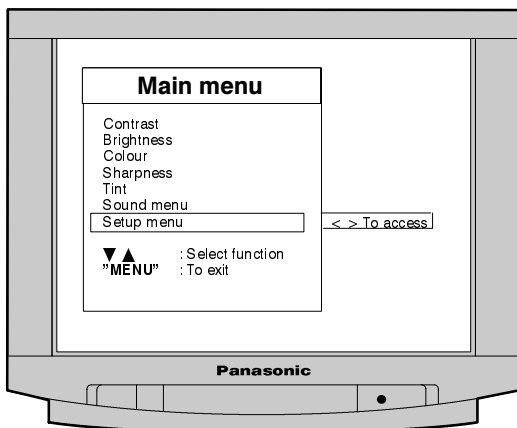
MENU



Press to open **Main** menu



To move to **Setup** or **Sound** menus



4

By accessing the **Sound** menu and adjusting the **Volume Correction** you can set a different volume level for the AV inputs

Notes :

Normally stereo reproduction uses left and right speakers, but **Dolby Pro Logic Surround** also uses a centre channel and a rear channel. The centre channel sharpens sound perspective and dialogue clarity whilst the rear channel is used to immerse the viewer in ambience and special effects.

This TV incorporates a Dolby Pro Logic decoder and Panasonic 3D Active circuitry to create clearer positioning of sounds and a full effect over a wider listening area, and this can be enhanced further by using the audio out sockets with external amplifiers and speakers as shown on pages 30 to 33.

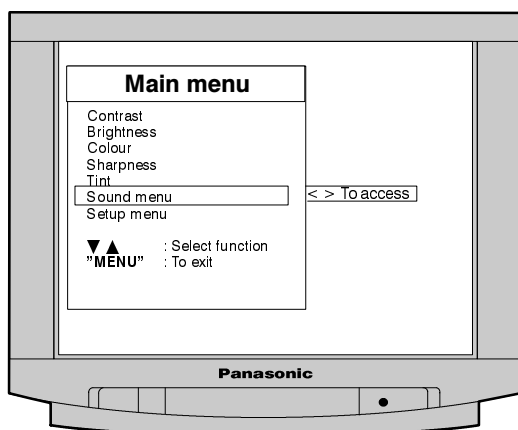
Dolby Pro Logic Surround will operate with videos, laser discs and TV programmes that bear the Dolby Surround logo :



Internal Speaker on/off – If you wish to install separate external, amplified front speakers then the internal speaker can be switched **off**, otherwise it will normally be set to **on**.

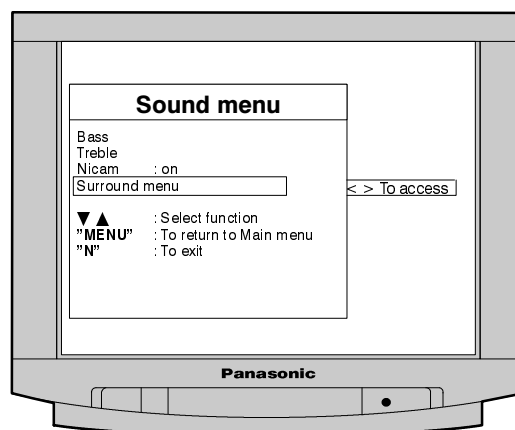
1

- MENU Press to open **Main menu**
- To move to **Sound menu**



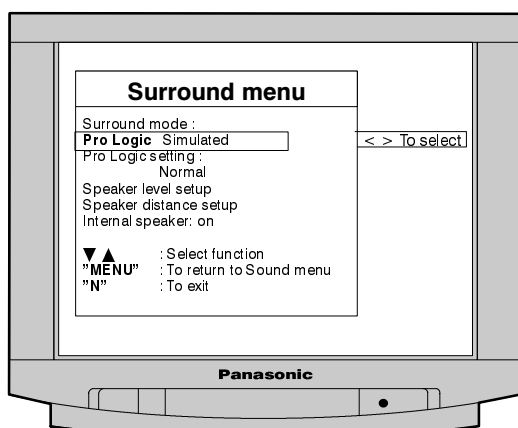
2

- To access **Sound menu**
- To move to **Surround menu**
- To access **Surround menu**



3

- To move to required function
- To make choice or move to sub-menu



4

Proceed to your choice ;

- Pro Logic mode
- Simulated mode
- Speaker level setup
- Speaker distance setup

PRO LOGIC MODE

Notes :

To use Dolby Pro Logic Surround when receiving television programmes that have been produced with the Dolby Pro Logic Surround information, you must be able to receive NICAM Stereo transmissions, if NICAM Stereo transmissions are not transmitted in your area then the Dolby Pro Logic Surround information will not be present and it will not be possible to use Pro Logic operation (unless you are playing back from a NICAM stereo VCR).

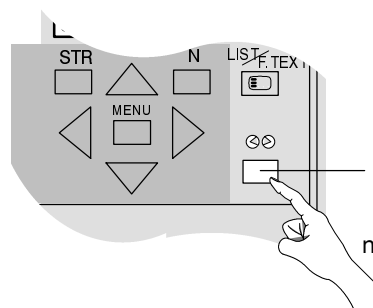
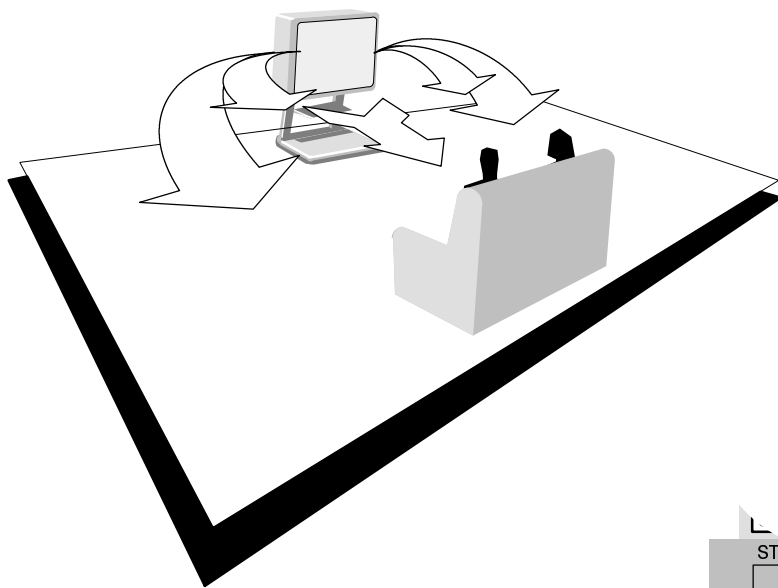
Dolby Pro Logic Surround mode allows two possible types of operation :

Normal, Phantom and 3 Stereo require the connection of additional amplifiers and external speakers. Refer to pages 30 to 33 for examples of connecting additional amplifiers and external speakers.

The other, **3D Active**, uses built in circuitry to simulate the surround speakers. Use this setting until such time as additional amplifiers and speakers are connected.

3D ACTIVE MODE

Dolby Surround Pro Logic **3DACTIVE** mode using 3D Active circuitry to simulate surround speakers.



Surround switch
Press to switch between surround mode and 2 channel stereo (and vice-versa).

Note :

Speaker distance setup is not alterable in 3D Active mode.

SIMULATED MODE

Simulated surround modes allow various types of surround effects to be produced by mimicking both the direct sound, as heard by the audience, and the sound reflected back from the surrounding walls e.g. ceiling and floor space in a space such as a Disco. There are three different effects to choose from, each reflecting a different atmosphere.

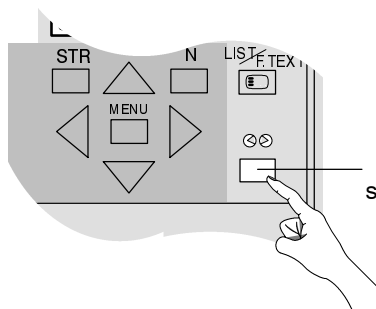
Setting	Effect	Appropriate sources
Disco	A room so full of music that it seems to engulf the listener.	Disco, Dance or Jazz music.
Movie	Playback of software (films) not encoded with Dolby surround.	All movies or music software recorded without Dolby surround.
Stadium	A large sports stadium packed for a live game.	Any live sports occasion.

SPEAKER LEVEL SETUP

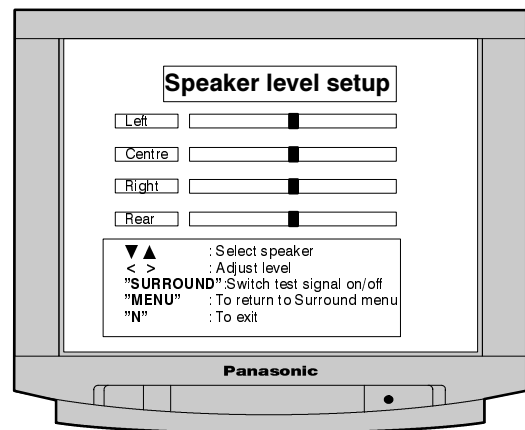
Notes :

The speaker output levels from the different options, e.g. Left, Centre, Right and Rear should be adjusted, from your usual listening position, to obtain the best results. The level can be set using either the TV sound or the provided test signal.

The adjustments available will vary according to the mode chosen.



Speaker level setup shown in Pro Logic mode

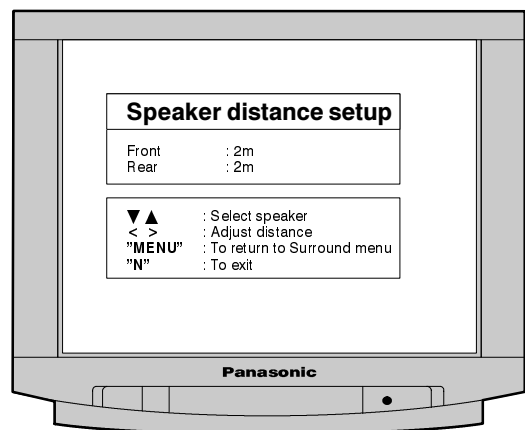


SPEAKER DISTANCE SETUP

Notes :

The **Speaker distance setup** menu allows the distance from your listening position to the Front and Rear speakers to be electronically adjusted to suit your usual listening position. If the distances are not correctly set and the rear surround speakers are nearer to you than the centre speaker, you may hear "leakage" of the dialogue from the rear surround speakers. To prevent this, the **Speaker distance setup** menu allows a delaying of the signal to the surround channel, making them seem further away than they actually are, so allowing the dialogue from the centre speaker to be heard first.

Speaker distance setup is not alterable in 3D Active mode.



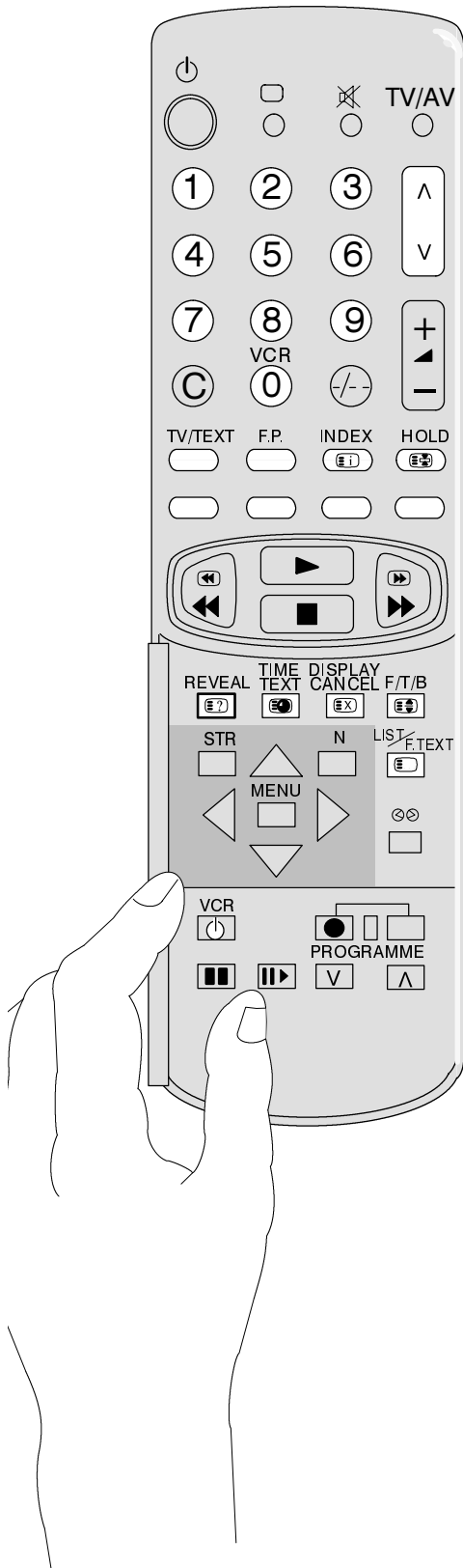
TELETEXT OPERATION



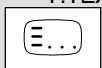
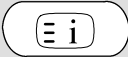

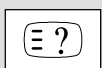
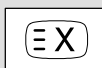

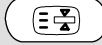


Notes :

Teletext features may vary depending on the Broadcasting Companies and is only available if the channel selected is transmitting Teletext.

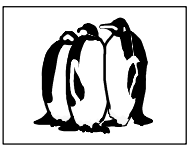
This TV set is capable of receiving German TOP Teletext transmissions; it will automatically switch to them if a German broadcast is being received, for example, from Satellite channels.

Pressing the 'MENU' key whilst in Teletext operation will allow the Contrast setting to be adjusted.

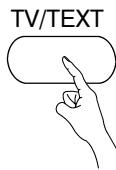


<p>TV/TEXT</p> 	<p>TV / TEXT Press the TV/TEXT key. The screen will display the Teletext page. Press again when you wish to return to TV mode.</p>
	<p>Page Selection The Teletext pages can be selected either by using the Up / Down keys or by entering the page number using the 0–9 keys.</p>
<p>LIST/F.TEXT</p> 	<p>List / FASTEXT See following pages.</p>
<p>INDEX</p> 	<p>Index Returns to main index page if in FASTEXT mode.</p>
<p>F/T/B</p> 	<p>F / T / B Expands page for easier reading.</p>
<p>REVEAL</p> 	<p>Reveal Reveals hidden words and clues for quiz pages.</p>
<p>DISPLAY CANCEL</p> 	<p>Display Cancel See following pages.</p>
<p>F.P.</p> 	<p>Favourite Page Stores a favourite page in memory for instant recall.</p>
<p>HOLD</p> 	<p>Hold Press to hold the current page.</p>
<p>TIME TEXT</p> 	<p>Time Text See following pages.</p>
	<p>Red / Green / Yellow / Blue Keys See following pages.</p>

TELETEXT OPERATION



TV

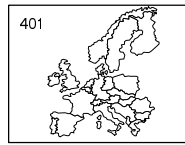
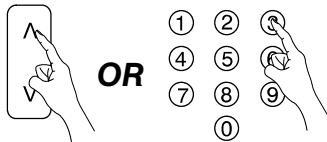


TV/TEXT



Teletext

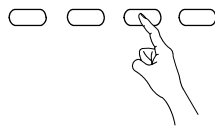
TV / Teletext mode



Page Selection

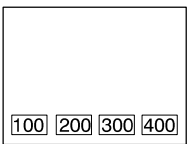


FASTEXT

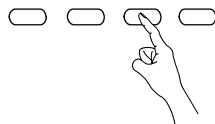


FASTEXT and LIST

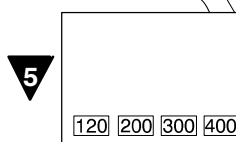
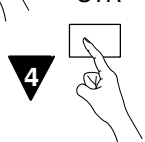
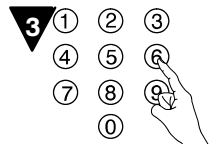
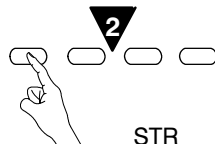
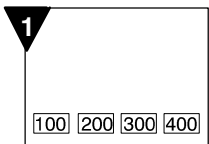
In **FASTEXT** mode the four differently coloured buttons Red / Green / Yellow / Blue are situated at the bottom of the display showing different subjects.



LIST



In **LIST** mode the four differently coloured buttons Red / Green / Yellow / Blue are situated at the bottom of the display showing different page numbers. Each of these page numbers can be altered and stored.

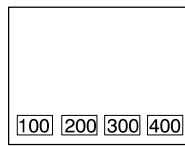
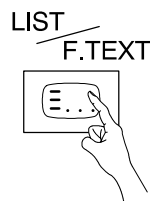


List Store

In **LIST** mode the four page numbers can be altered (for channel positions 1 – 25 only). To do this, press one of the coloured keys and enter the new page number. Press and hold **STR**, the page numbers will change colour.



FASTEXT



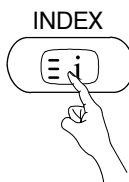
LIST

List / F.text

Press to change from **FASTEXT** mode to **LIST** mode and vice versa.

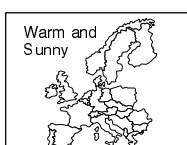


FASTEXT

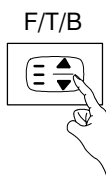


Index

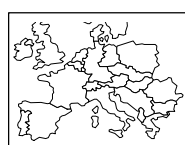
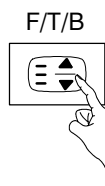
When in FASTEXT operation. Press **INDEX** to return to the main index page. Depending on the way information is transmitted, this may have to be pressed more than once to return to the main index page.



Full page



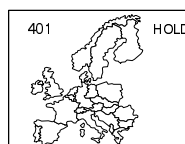
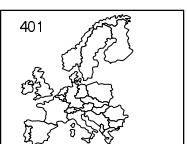
Top page



Bottom page

Full / Top / Bottom

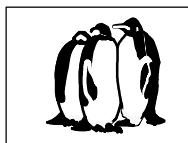
Press to expand the **TOP** half of the page. Press again to expand the **BOTTOM** half. Press again to return to normal (**FULL**) size.



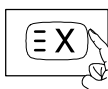
Hold

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

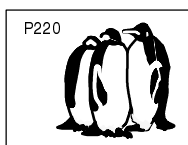
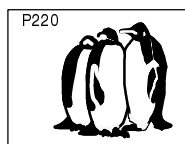
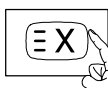
TELETEXT OPERATION



DISPLAY
CANCEL



DISPLAY
CANCEL



DISPLAY
CANCEL



Display Cancel

News Flash

When a news flash page has been selected, press **DISPLAY CANCEL** to view the TV picture, when an update is received, it will be displayed on screen.

Press **DISPLAY CANCEL** to remove updated news.

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

Press **DISPLAY CANCEL** 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 **DISPLAY CANCEL** to view the page.

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

Update

Press **DISPLAY CANCEL** 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 **DISPLAY CANCEL** to view the page.

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



①

②

③

④

⑤

⑥

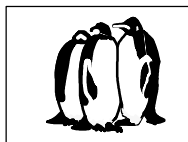
⑦

⑧

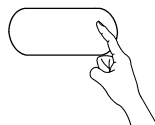
⑨

⑩

STR



F.P.



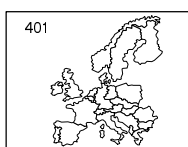
FAVOURITE
PAGE

Favourite Page (F.P.)

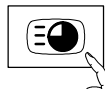
Stores a favourite page in memory for instant recall. To store such a page, the TV must be in LIST mode, and the programme position must be from 1 – 25. Press the **BLUE** key, select the page number, then press **STR**. The page number is now stored.

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

Note: Depending on the transmission sequence, when the F.P. key is pressed, the contents of the favourite page may take some time to appear. Only the page number is stored, not its contents.



TIME
TEXT



①

②

③

④

⑤

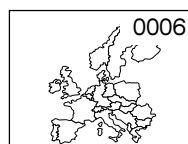
⑥

⑦

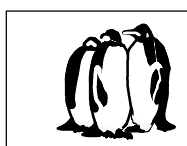
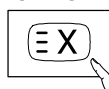
⑧

⑨

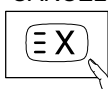
⑩



DISPLAY
CANCEL



DISPLAY
CANCEL



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 keys 0 – 9.

Press **TIMETEXT**, **** will be displayed (top right of the screen).

Enter desired sub page number before the **** disappears.

To select page 6 enter 0, 0 and 6.

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

Press **DISPLAY CANCEL** to view a normal TV programme.

When the page is available, press **DISPLAY CANCEL** to view the page.

To clear the page perform one of the following :

- Select a new page number.
- Press **TV/TEXT** to return to normal TV operation.

VCR and SATELLITE RECEIVER INSTALLATION

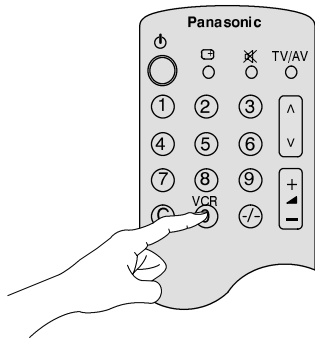
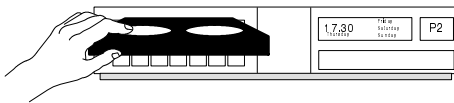
Your new TV is supplied with programme position '0' set to receive an RF signal from a VCR.

However, if for some reason the VCR is tuned to a different RF channel then you will not receive any picture or sound from the VCR on programme position '0' of the TV. It will be necessary to either adjust the RF channel of the VCR or to adjust the tuning of the TV's programme position '0' or both until the RF output channel of the VCR is received.

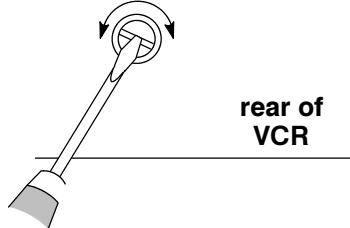
It is intended that this advice is used in conjunction with the instruction books for your ancillary equipment.

To connect a VHS VCR use the AV1 socket. To connect an S-Video VCR use the AV2 socket.

TO TUNE YOUR VCR TO THE TV



RF TUNING



**Insert
recorded tape
and select
playback**

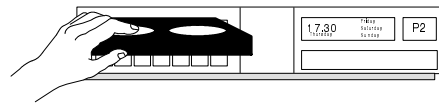
**Set TV to
programme
position '0'
VCR**

**Adjust
tuning**

**Operation
completed**

**See below for
installation of VCR
and
Satellite Receiver**

TO TUNE YOUR TV TO THE VCR

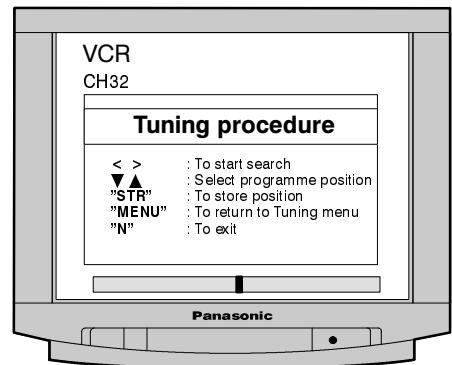


**Access the Manual tuning menu as
detailed on page 14**

▼ ▲ To select programme position '0'

◀ ▶ To start search for VCR playback

Programme position and current channel
are displayed top left of screen

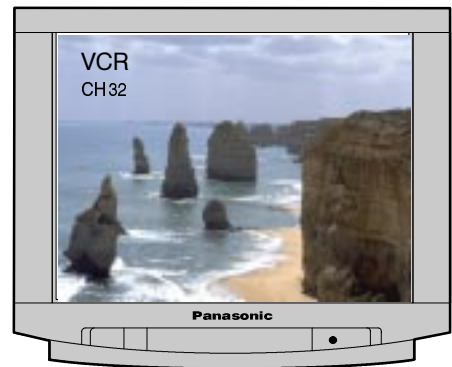


STR

■ To store position

N

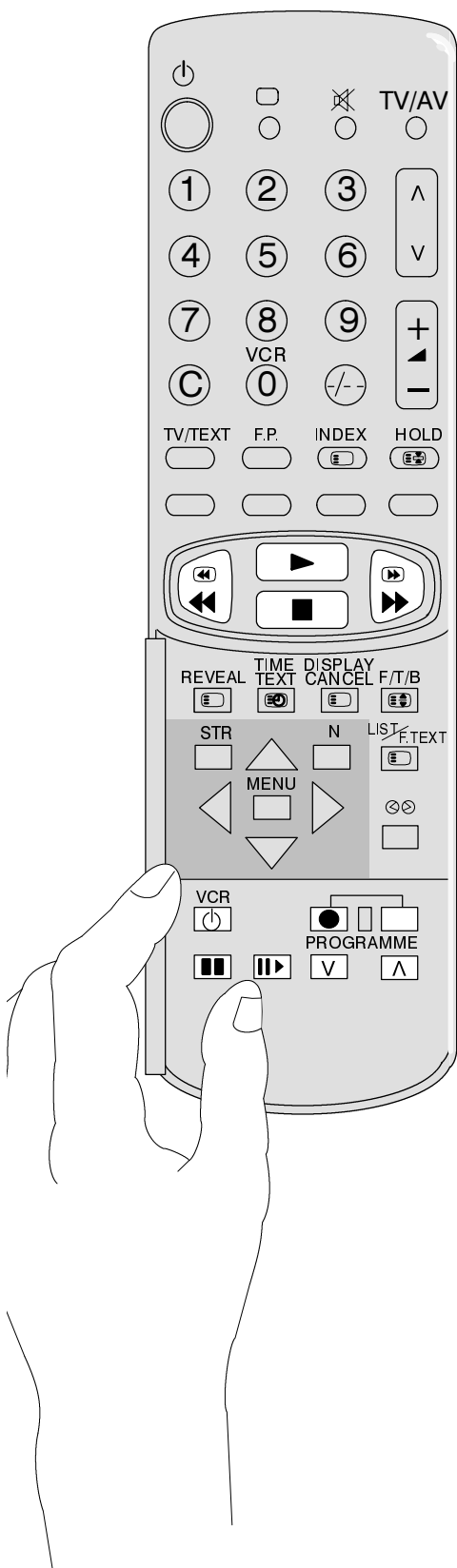
■ To return to viewing screen








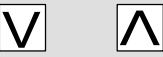

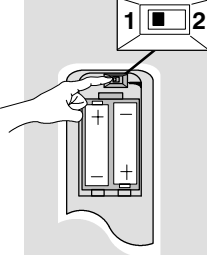


If you are going to use a Satellite Receiver and a VCR it is **important**, to avoid tuning problems, that they are both tuned to output their signals on different channels. For example, if your VCR is tuned to output channel 32, your Satellite Receiver could be set to output channel 34. Refer to your instruction books for precise tuning information.

VCR CONTROL

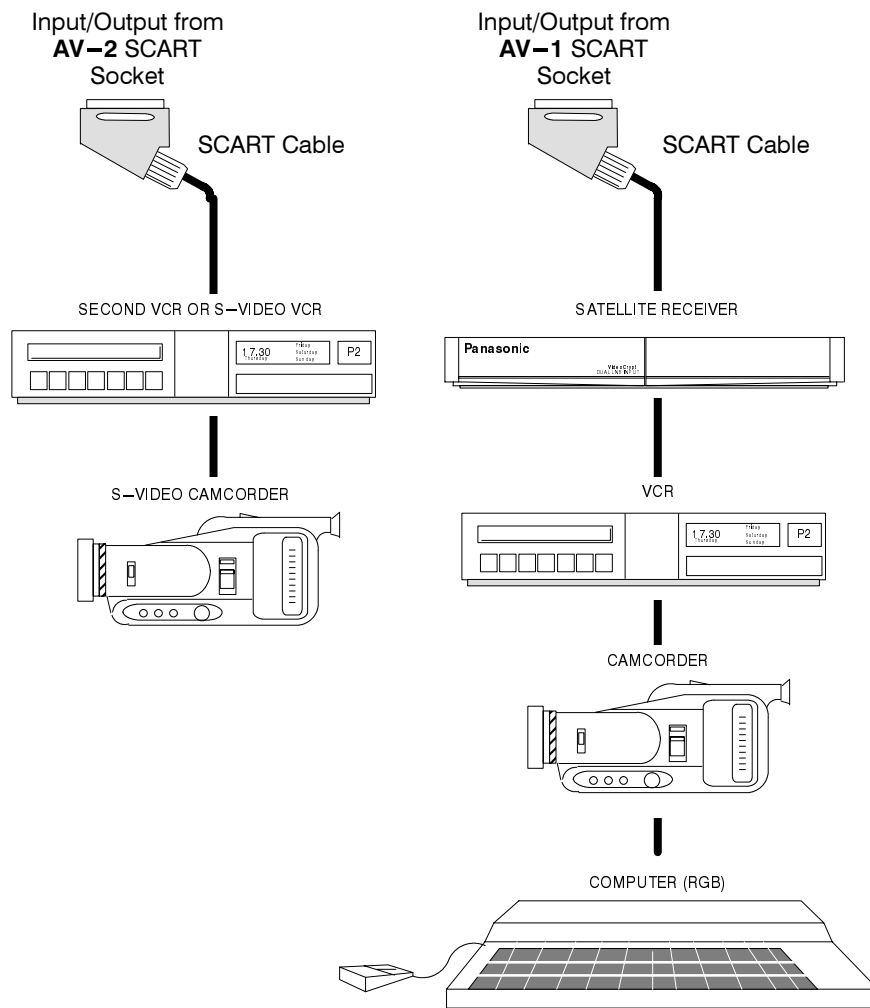
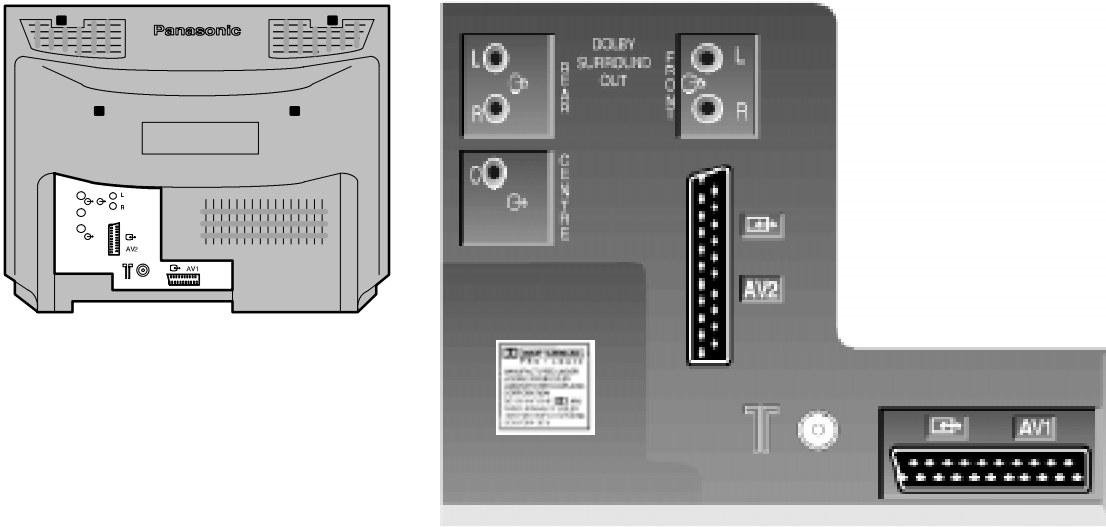
The Remote Control is capable of operating some functions of selected **Panasonic VCRs**, please consult your dealer for details. Some VCRs have different functions, so to ensure compatibility, please refer to the VCR's instruction book.



<p>VCR</p> 	<p>Standby Press to switch the VCR to standby mode. Press again to switch back on.</p>
	<p>Play Press to playback the tape.</p>
	<p>Stop Press to stop the tape.</p>
	<p>Fast Forward / Cue Press to fast forward the tape. In Play mode, press to view the picture rapidly forward.</p>
	<p>Rewind / Review Press to rewind the tape. In Play mode, press to view the picture in reverse rapidly.</p>
	<p>Pause / Still Press in playback mode, the picture will pause.</p>
	<p>Still Advance While in PAUSE / STILL mode, press to advance the picture one frame at a time.</p>
	<p>Programme Up / Down Press to increase or decrease the VCR programme position by one.</p>
	<p>Record Press these together to record.</p>
	<p>Operating Switch If any difficulty is encountered when using this remote control with Panasonic video cassette recorders please check the operation of the video recorder with the operating switch set at position one and again with the switch set at position two.</p>

AUDIO / VIDEO (AV) CONNECTIONS

Rear AV1 / AV2 (S) 21 Pin SCART Terminals



NOTES:

Ancillary equipment and cables shown are not supplied with this TV set.
Do not connect a computer with TTL output (5V) to this set.
Additional information can be found under **AV Select and Setup**.

DOLBY PRO–LOGIC CONNECTIONS

The **DOLBY SURROUND OUT** sockets on the rear of the TV allow you to create your own custom sound output system using additional external amplifiers and speakers.

These additions will be necessary to operate correctly in **Normal**, **Phantom** and **3 Stereo** modes.

There are three suggested set–ups when connecting external amplifiers and speakers to this television set :

Setup 1

If a hi–fi system is available, the amplifier and speakers may be used to allow separate front left and right channels, as illustrated on Page 31. With this setup we suggest using **3DActive** or **Phantom** mode.

Setup 2

By adding a separate amplifier and three speakers to allow separate centre and rear surround channels, as illustrated on Page 32. Selecting **Normal** mode will enable a full Pro Logic system to be achieved.

Setup 3

By combining both of the above set–ups to enable a full Pro Logic system with greater stereo separation of the front left and right channels, as illustrated on Page 33. Selecting **Normal** mode will enable a full Pro Logic system to be achieved.

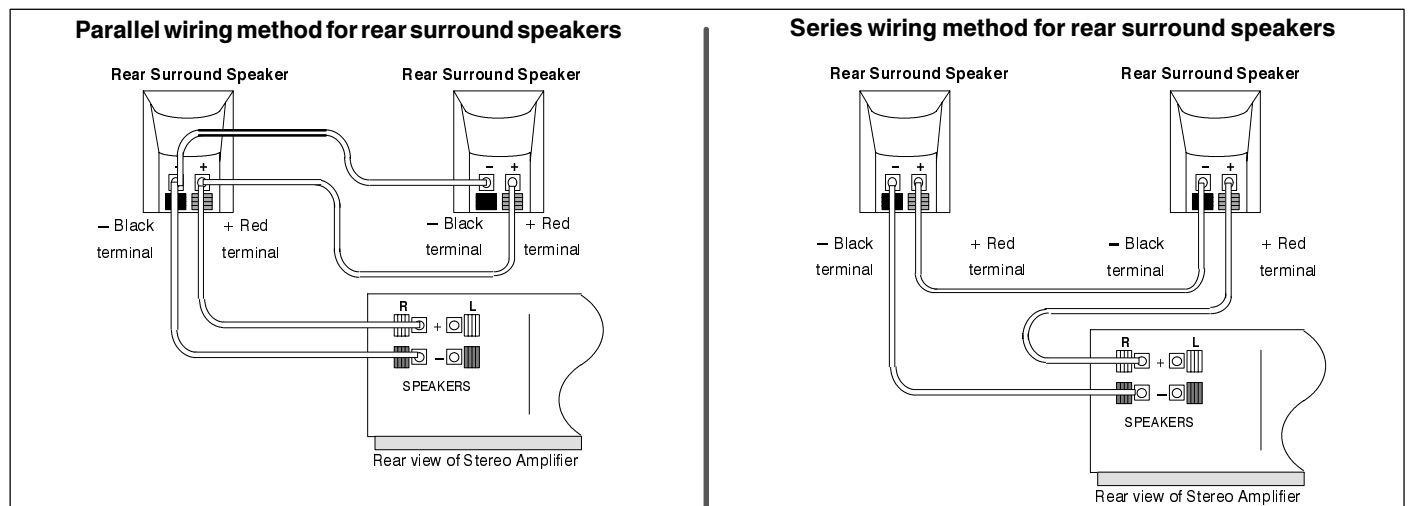
Connection of rear surround speakers (For Setups 2 and 3)

To connect the rear surround speakers to an amplifier there are two suggested methods, Parallel or Series. The method used depends on the impedance of the speakers and the impedance range of the amplifier.

The impedance of the speakers is usually stated on the actual speakers or in their operating instruction manual.

Amplifiers usually have their impedance range indicated near their speaker connection terminals.

Amplifier Speaker Impedance	Wiring Method	Rear Surround Speaker impedance	
		Left	Right
8 – 16Ω	Parallel	8Ω	8Ω
		12Ω	12Ω
		16Ω	16Ω
	Series	4Ω	4Ω
		6Ω	6Ω
		8Ω	8Ω
Under 8Ω / Over 16Ω	Not recommended for use		



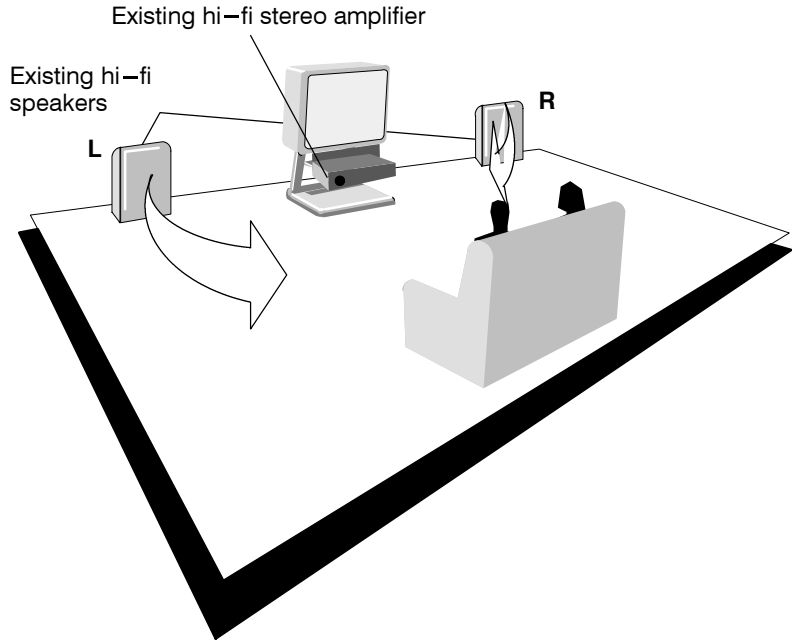
IMPORTANT NOTES :

- The DOLBY SURROUND OUT sockets require RCA connectors.
- The level of the signal from the sockets is controlled by the TV volume control, it may also be adjusted with the Speaker Level Setup option in the Surround menu.
- The amplifiers, speakers and cables shown in the illustrations are not supplied. The layout and rear views of the amplifiers and speakers shown are only for general guidance. For specific layout details consult their operating instruction manuals.
- To avoid damage to any additional speakers ensure that they are capable of handling the power output of the amplifier.

DOLBY PRO-LOGIC CONNECTIONS

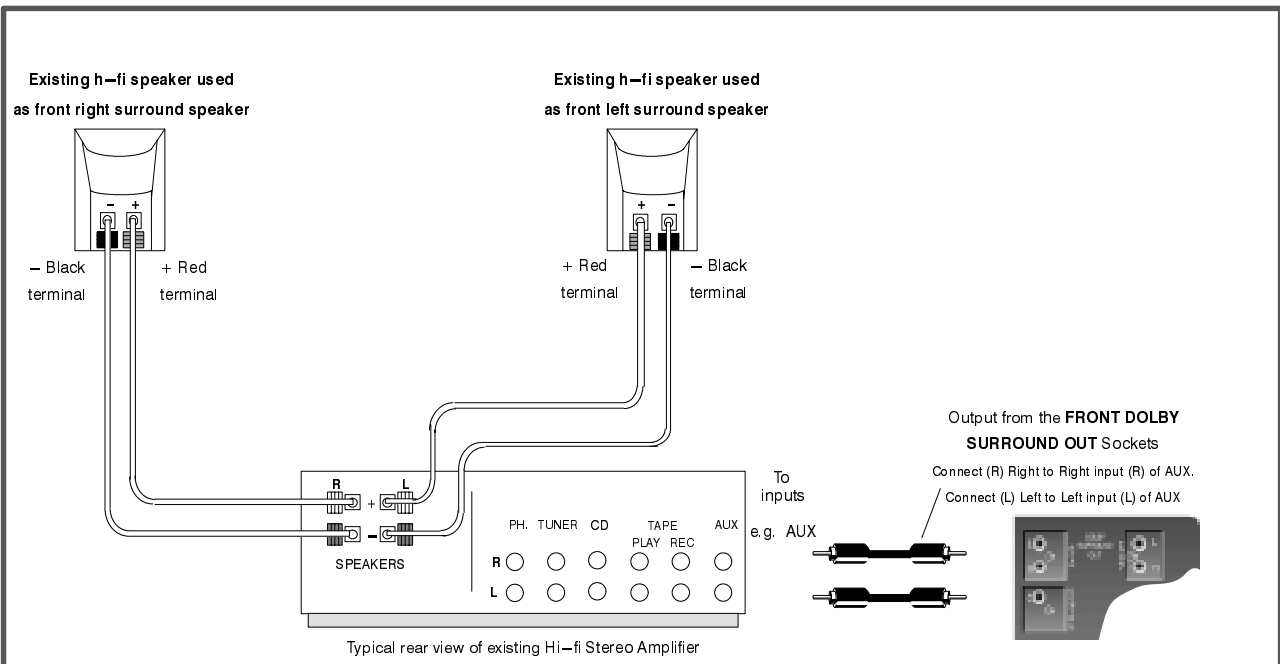
Setup 1

Utilising an existing stereo hi-fi system comprising one amplifier, connected to the FRONT DOLBY SURROUND OUT sockets and two speakers to allow separate front left and right channels.



Notes :

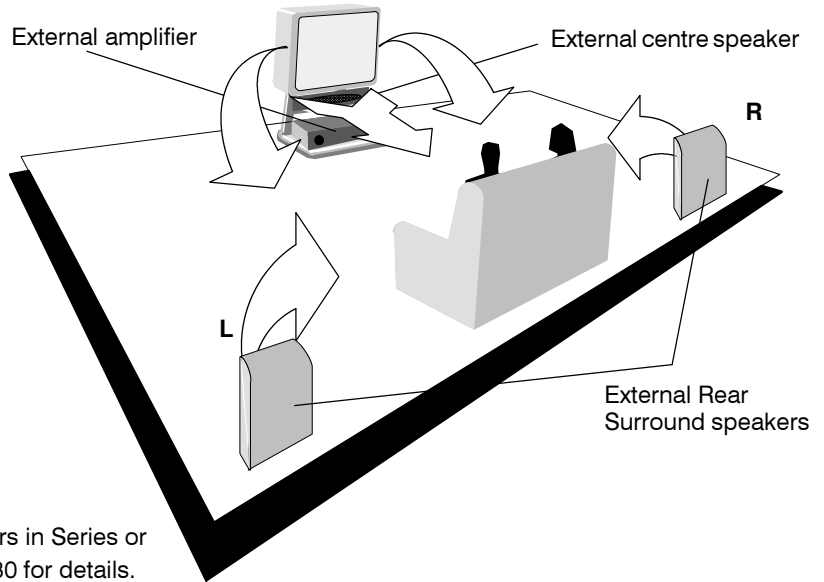
1. Switch the Internal speaker off.
2. Select 3DActive or Phantom mode.



DOLBY PRO-LOGIC CONNECTIONS

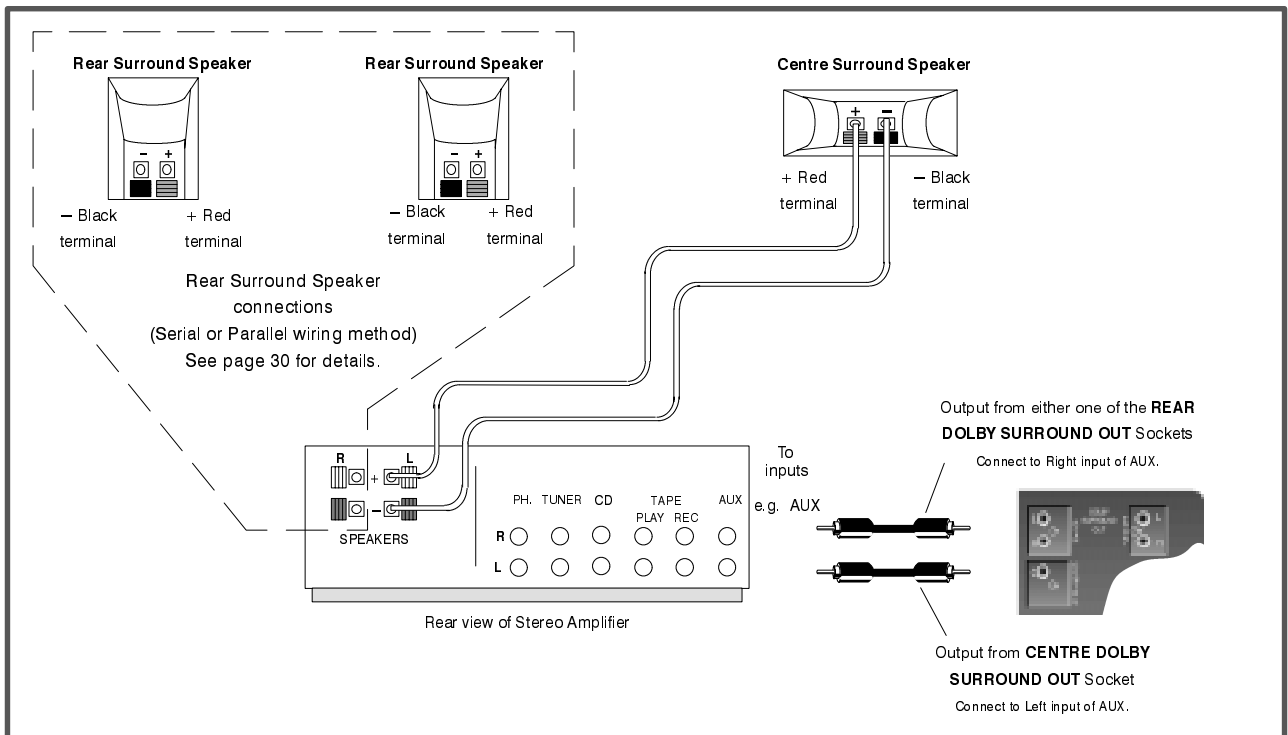
Setup 2

Adding an amplifier connected to the CENTRE and REAR DOLBY SURROUND OUT sockets, and three speakers to allow separate rear surround and centre channels.



Notes :

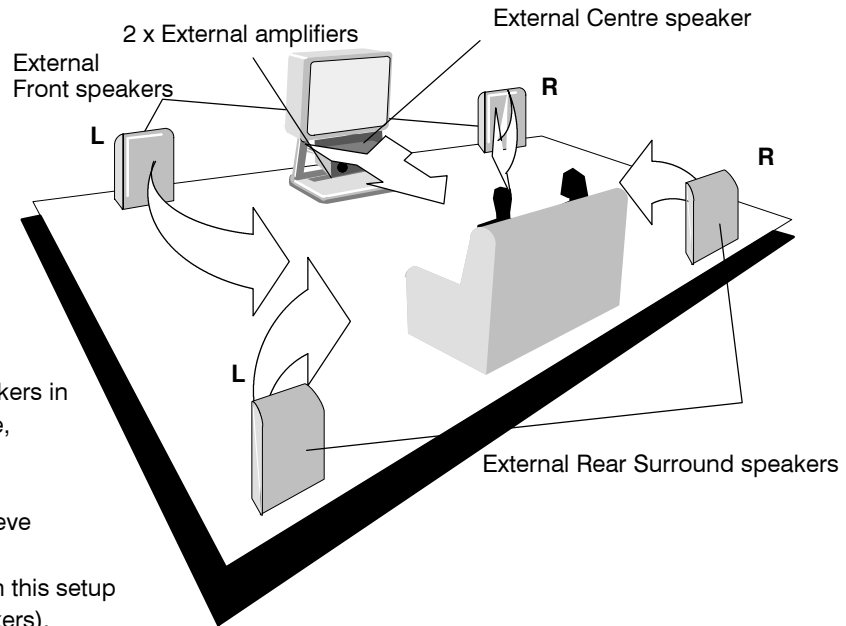
1. Connect the rear surround speakers in Series or Parallel as appropriate, see page 30 for details.
2. Switch the Internal speaker on, to provide front left and right channels.
3. Select Pro Logic Normal to achieve a full Pro Logic system.



DOLBY PRO-LOGIC CONNECTIONS

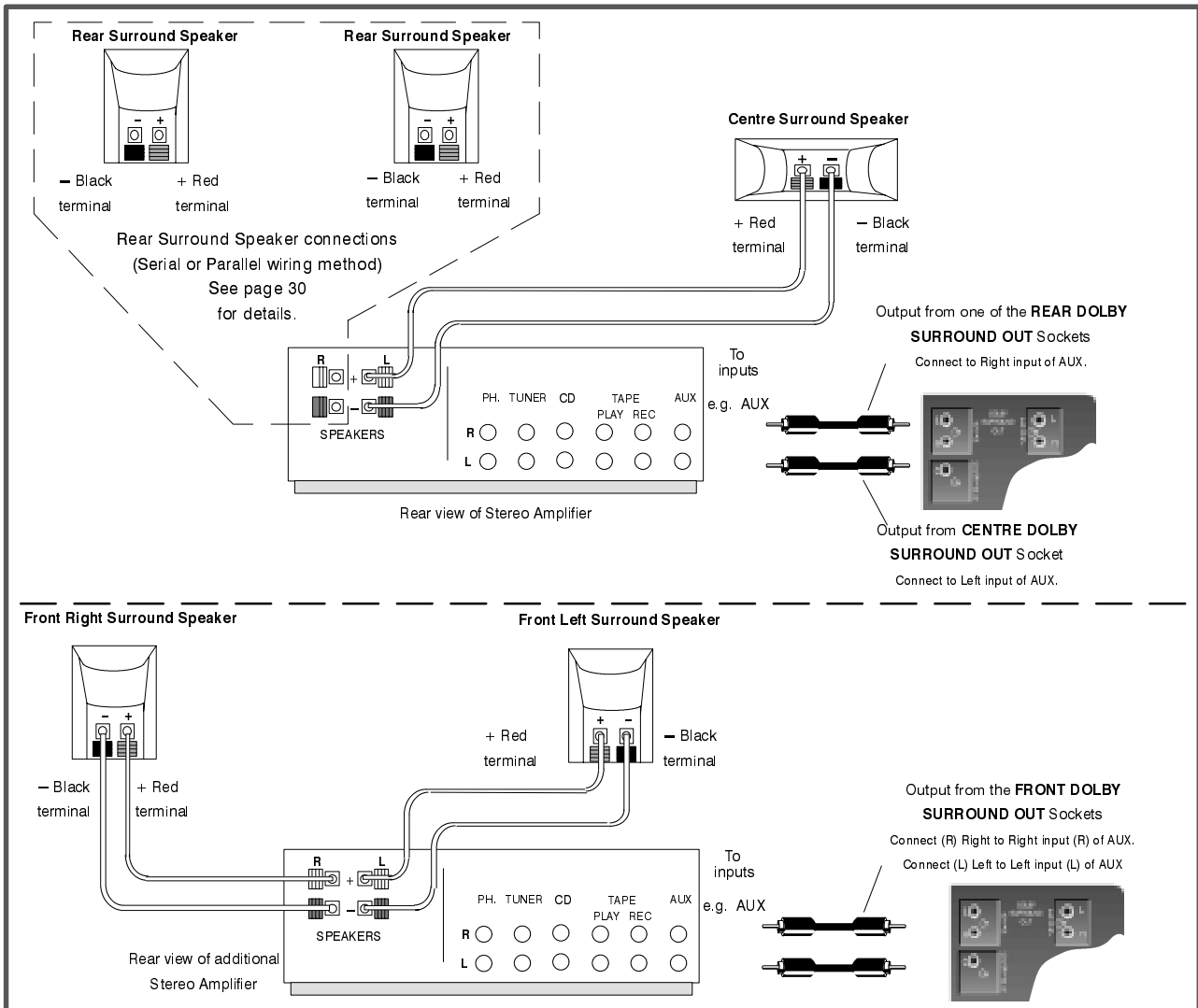
Setup 3

By combining Setups 1 and 2 to enable a full Pro Logic system with greater stereo separation of the front left and right channels.



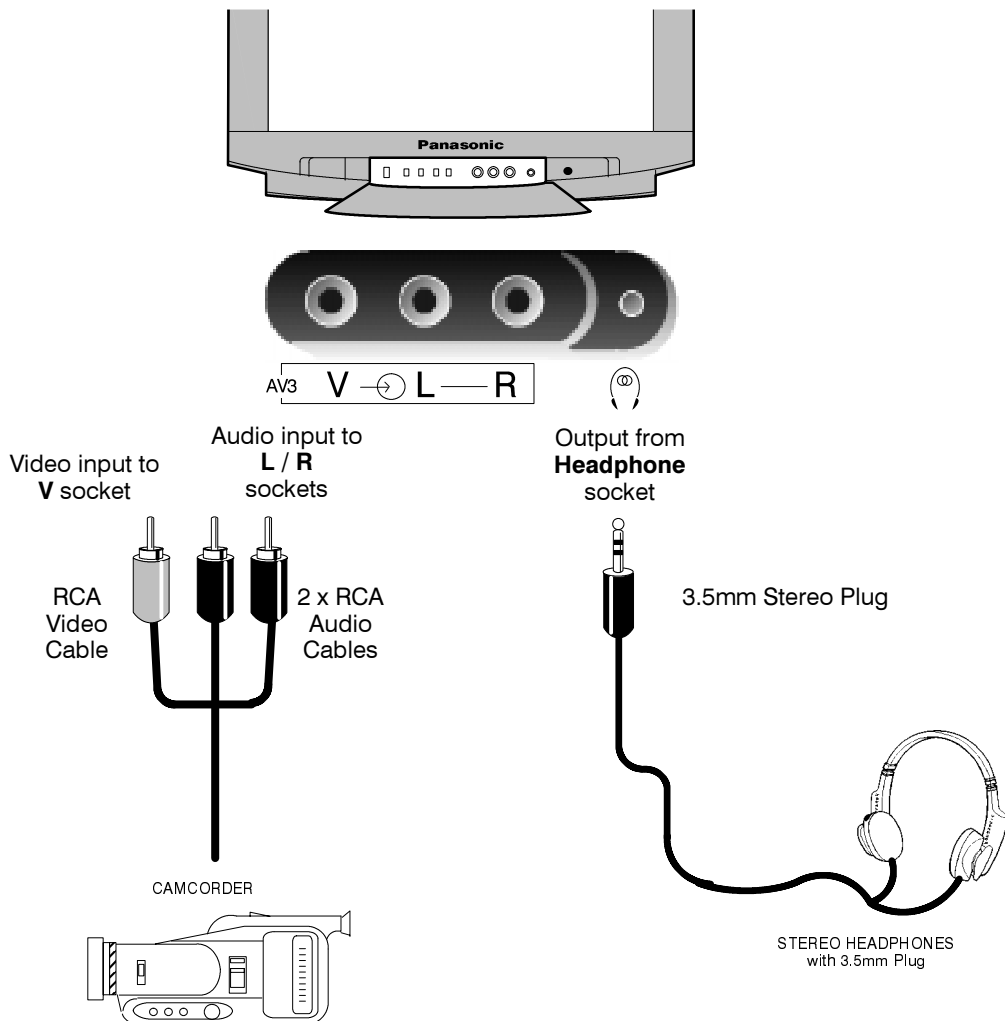
Notes :

1. Connect the rear surround speakers in Series or Parallel as appropriate, see page 30 for details.
2. Switch the Internal speaker off.
3. Select Pro Logic Normal to achieve a full Pro Logic system.
(3 Stereo may also be used with this setup using the front and centre speakers).



AUDIO / VIDEO (AV) CONNECTIONS

Front AV3 RCA Audio/Video and Headphone Sockets

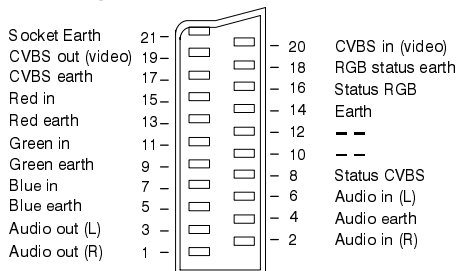


Note :

Ancillary equipment and cables shown are not supplied with this TV set.

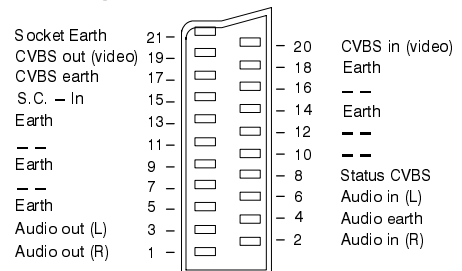
SCART Terminal Information

AV1 21 pin SCART terminal




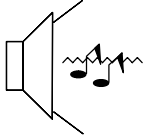
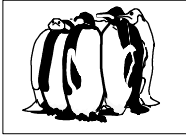
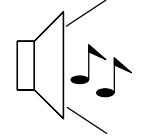
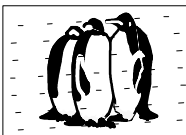
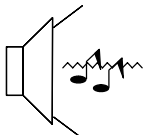
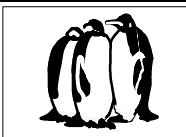
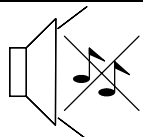

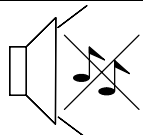
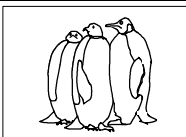
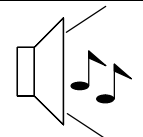

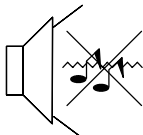

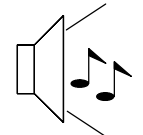
Suitable inputs for AV1 include RGB (Red/Green/Blue).

AV2 21 pin SCART terminal



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

TROUBLE-SHOOTING

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 Noise-R in Setup menu to reduce picture noise. Switch NICAM to Mono to improve sound.
 Normal Picture	 No Sound	Volume level too low 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.

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.

■ 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 (if previously set by remote control)	
Contrast	Volume
Sharpness	Surround mode
Aspect	Bass
Standby	Treble
Artificial Intelligence (AI)	Colour
Brightness	Status
Nicam mode	Speaker level setting
Speaker distance	Volume correction (in AV mode only)

■ 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.

SPECIFICATIONS

		TX-21AD2DP/M
Power Source		220 – 240V 50Hz A.C.
Power Consumption		75W
Standby Power Consumption		1W
Picture Tube FST visible diagonal		51cm
Audio Output (Music)		20W x 2
Dimensions	H	465 mm
	W	558 mm
	D	495 mm
Weight (Kg)		23
Receiving Systems / Band name		PAL I (UHF E21–69), PAL 525/60 Playback NTSC tape from PAL Video recorders (VCR) M.NTSC Playback from M.NTSC Videorecorders (VCR) NTSC (AV input only) Playback from NTSC Videorecorders (VCR)
Aerial – rear		UHF
Headphones – Front		3.5mm, 8Ω impedance
AV – Rear		AV1 – 21 pin terminal – Audio / Video in / out, RGB in. AV2 – 21 pin terminal – Audio / Video in / out, S–Video in. 5 x RCA Audio Out
AV – Front		AV3 – 2 x RCA Audio in, 1 x RCA Video in

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

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