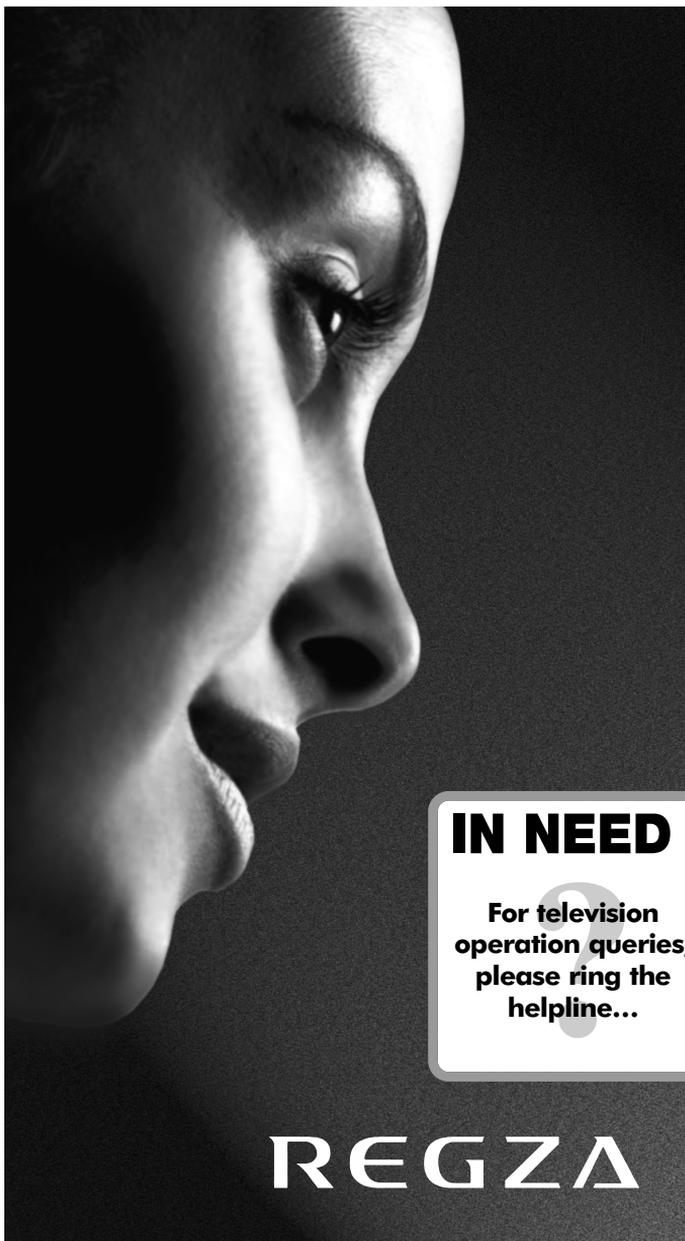


TOSHIBA
Leading Innovation >>>



RV55*
Digital
Series

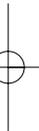
IN NEED OF HELP

For television
operation queries,
please ring the
helpline...



REGZA





Contents

SETTING UP

Safety precautions – Some <i>do's</i> and <i>don'ts</i> for you to be aware of	4
Installation and important information	5
The remote control – an at-a-glance guide	6
Connecting external equipment – a guide to connecting external equipment to the back of the television	7
Connecting an HDMI or DVI device to the HDMI input	8
Connecting a computer via RGB/PC – connecting a computer to the RGB/PC terminal on the back of the television	9
Connecting a computer via HDMI – connecting a computer to the HDMI terminal on the back of the television	10
Connecting REGZA-LINK – connecting Toshiba REGZA-LINK equipment	11
Controls and input connections – switching on the television, standby, using the controls on the television, headphone socket, connecting equipment to the side input sockets	12

TUNING THE TELEVISION

DIGITAL – tuning the television for the first time	13
DIGITAL – auto tuning, analogue switch off	14
DIGITAL – programme sorting, manual tuning	15
ANALOGUE – tuning analogue mode for the first time, language, country	16
ANALOGUE – manual tune, broadcast system	17
ANALOGUE – auto tune	18
ANALOGUE – programme skip, sorting programme positions	19

CONTROLS AND FEATURES

General controls – changing programme position	20
Stereo and bilingual transmissions – stereo/mono or dual language broadcasts	20
Time display (analogue only)	20
Sound controls – volume, sound mute, bass/treble/balance, bass boost	20
Sound controls – super woofer, dual (analogue only), headphone mode, stable sound®	21
SRS WOW® sound effects – SRS 3D, FOCUS and TruBass	21
Widescreen viewing	22
Picture controls – picture position (analogue only), x.v.colour selection (HDMI only)	24
Picture controls – backlight, picture preferences (contrast, brightness, colour, tint, sharpness)	25
Picture controls – black/white level, cinema mode, film stabilization, Active Vision M100, colour temperature, reset	26
Picture controls – 3D colour management, base colour adjustment, active backlight control, auto contrast, MPEG noise reduction (MPEG NR), digital noise reduction (DNR)	27
Picture controls – automatic format (widescreen), 4:3 stretch, blue screen, side panel adjustment, picture still	28
Panel lock – disabling the buttons on the television	28
DIGITAL – programme timer	29
Sleep timer	29
DIGITAL – on-screen information and programme guide	30
DIGITAL settings – parental controls (setting the PIN, mode), reset TV	31
DIGITAL settings – favourite programmes, locked programmes, encrypted programmes	32
DIGITAL settings – audio languages, audio output, subtitles, audio description and level, common interface	33
DIGITAL settings – software upgrade (version, automatic upgrade, searching for new software)	34
PC settings for RGB/PC connections – picture position, clock phase, sampling clock, reset	35
REGZA-LINK controls – general information, input source selection	36
REGZA-LINK menus – enable REGZA-LINK	37
REGZA-LINK menus – TV auto input switch, TV auto power, auto standby, speaker preference	38
Input selection and AV connections – input and output sockets for connected equipment, PC audio, HDMI1 audio, lip sync	39

TEXT SERVICES

ANALOGUE text – setting up, general information, Auto. and LIST modes	41
ANALOGUE text – control buttons	42
DIGITAL interactive services – general information	42

PROBLEM SOLVING

Questions and Answers – answers to some of the more common queries including manual fine tuning and colour system	43
--	----

INFORMATION

Notes – for your own records	46
Specifications and Accessories – technical information about the television, supplied accessories	47

Safety Precautions

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken to obtain the best results and for safety to be assured. Please read the points below for your own safety. They are of a general nature, intended to help with all electronic consumer products and some points may not apply to the goods you have just purchased.

Air Circulation

Leave more than 10cm clearance around the television to allow adequate ventilation. This will prevent overheating and possible damage to the television. Dusty places should also be avoided.

Heat Damage

Damage may occur if the television is left in direct sunlight or near a heater. Avoid places subject to extremely high temperatures or humidity. Place in a location where the temperature remains between 5°C (41°F) min. and 35°C (94°F) max.

Mains Supply

The mains supply required for this equipment is 220-240v AC 50/60Hz. Never connect to a DC supply or any other power source. DO ensure that the television is not standing on the mains lead. DO NOT cut off the mains plug from this equipment, this incorporates a special Radio Interference Filter, the removal of which will impair its performance. In the UK, the fuse fitted in this plug is approved by ASTA or BSI to BS1362. It should only be replaced by a correctly rated and approved type and the fuse cover must be refitted. IF IN DOUBT PLEASE CONSULT A COMPETENT ELECTRICIAN.

Do

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and inter-connections between pieces of equipment) are properly made and in accordance with the manufacturers' instructions. Switch off and withdraw the mains plug before making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

DO NOT REMOVE ANY FIXED COVERS AS THIS WILL EXPOSE DANGEROUS AND 'LIVE' PARTS.

THE MAINS PLUG IS USED AS A DISCONNECTING DEVICE AND THEREFORE SHOULD BE READILY OPERABLE.

Do not

DO NOT obstruct the ventilation openings of the equipment with items such as newspapers, tablecloths, curtains, etc. Overheating will cause damage and shorten the life of the equipment.

DO NOT allow electrical equipment to be exposed to dripping or splashing or objects filled with liquids, such as vases, to be placed on the equipment.

DO NOT place hot objects or naked flame sources, such as lighted candles or nightlights on, or close to equipment. High temperatures can melt plastic and lead to fires.

DO NOT use makeshift stands and NEVER fix legs with wood screws. To ensure complete safety, always fit the manufacturers' approved stand, bracket or legs with the fixings provided according to the instructions.

DO NOT leave equipment switched on when it is unattended, unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off by withdrawing the plug, make sure your family know how to do this. Special arrangements may need to be made for people with disabilities.

DO NOT continue to operate the equipment if you are in any doubt about it working normally, or it is damaged in any way – switch off, withdraw the mains plug and consult your dealer.

WARNING – excessive sound pressure from earphones or headphones can cause hearing loss.

ABOVE ALL – NEVER let anyone, especially children, push or hit the screen, push anything into holes, slots or any other openings in the case.

NEVER guess or take chances with electrical equipment of any kind – it is better to be safe than sorry.

Installation and important information

Where to Install

Locate the television away from direct sunlight and strong lights, soft, indirect lighting is recommended for comfortable viewing. Use curtains or blinds to prevent direct sunlight falling on the screen.

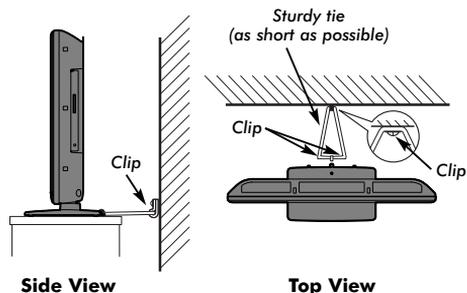
Place on a sturdy platform, the mounting surface should be flat and steady. It should then be secured to the wall with a sturdy tie using the clip on the back of the stand, or secured to the platform using the fixing strap located underneath the table top stand, this will prevent it from falling over.

The LCD display panels are manufactured using an extremely high level of precision technology, however sometimes some parts of the screen may be missing picture elements or have luminous spots. This is not a sign of a malfunction.

Make sure the television is located in a position where it cannot be pushed or hit by objects, as pressure will break or damage the screen, and that small items cannot be inserted into slots or openings in the case.

Cleaning the screen and cabinet...

Turn off the power, clean the screen and cabinet with a soft, dry cloth. We recommend that you **do not** use any proprietary polishes or solvents on the screen or cabinet as this may cause damage.



Please Take Note

The digital reception function of this television is only effective in the countries listed in the "COUNTRY SET UP" section of the "DIGITAL MENU". Depending on country/area some of this television's functions may not be available. Reception of future additional or modified services can not be guaranteed with this television.

If stationary images generated by 4:3 broadcasts, text services, channel identification logos, computer displays, video games, on screen menus, etc. are left on the television screen for any length of time they could become conspicuous, it is always advisable to reduce both the brightness and contrast settings.

Very long, continuous use of the 4:3 picture on a 16:9 screen may result in some retention of the image at the 4:3 outlines, this is not a defect of the LCD TV and is not covered under the manufacturers warranty. Regular use of other size modes (eg. Superlive) and varying the "side panel" brightness (if available on the model) will prevent permanent retention.

EXCLUSION CLAUSE

Toshiba shall under no circumstances be liable for loss and/or damage to the product caused by:

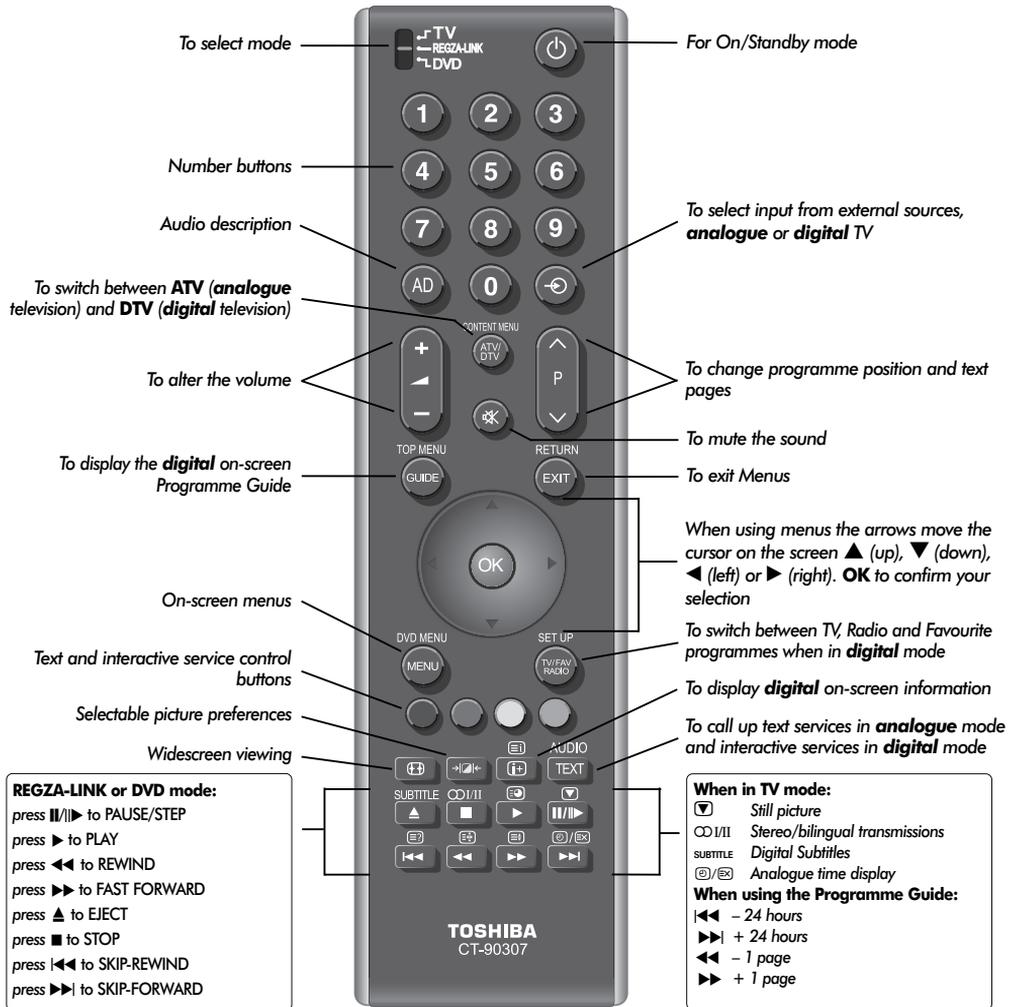
- i) fire;
- ii) earthquake;
- iii) accidental damage;
- iv) intentional misuse of the product;
- v) use of the product in improper conditions;
- vi) loss and/or damage caused to the product whilst in the possession of a third party;
- vii) any damage or loss caused as a result of the owner's failure and/or neglect to follow the instructions set out in the owner's manual;
- viii) any loss or damage caused directly as a result of misuse or malfunction of the product when used simultaneously with associated equipment;

Furthermore, under no circumstances shall Toshiba be liable for any consequential loss and/or damage including but not limited to the following, loss of profit, interruption of business, the loss of recorded data whether caused during normal operation or misuse of the product.

NOTE: A Toshiba wall bracket or stand, where available, must be used. If a non Toshiba wall bracket or stand is used the product's BEAB approval will become void and the equipment is then used at the consumers own risk.

The remote control

Simple at-a-glance reference of your remote control.



Inserting batteries and effective range of the remote



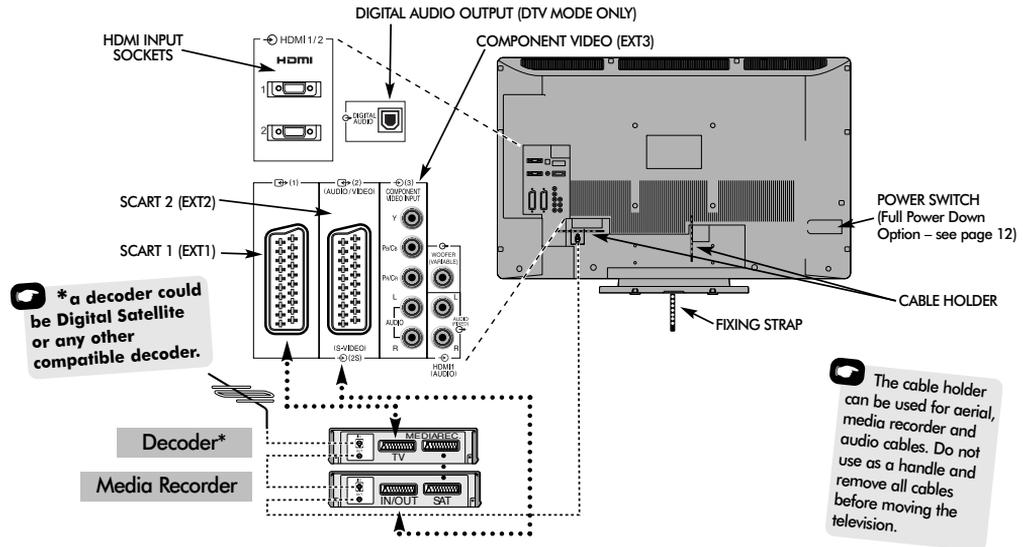
Remove the back cover to reveal the battery compartment and make sure the batteries are inserted the right way round. Suitable battery types for this remote are AAA, IEC R03 1.5V.

Do not combine a used, old battery with a new one or mix battery types. Remove dead batteries immediately to prevent acid from leaking into the battery compartment. Dispose of them in a designated disposal area. **Warning:** batteries must not be exposed to excessive heat such as sunshine, fire or the like.

The performance of the remote control will deteriorate beyond a distance of five metres or outside an angle of 30 degrees from the centre of the television. If the operating range becomes reduced the batteries may need replacing.

Connecting external equipment

Before connecting any external equipment, turn off all main power switches. If there is no switch remove the mains plug from the wall socket.



Aerial cables:

Connect the aerial to the socket on the rear of the television. If you use a decoder* and/or a media recorder it is essential that the aerial cable is connected through the decoder and/or through the media recorder to the television.

SCART leads:

Connect the video recorder **IN/OUT** socket to the television. Connect the decoder **TV** socket to the television. Connect the media recorder **SAT** socket to the decoder **MEDIA REC.** socket.

Before running **Auto tuning** put your decoder and media recorder to **Standby**.

The phono sockets alongside the COMPONENT VIDEO INPUT sockets will accept L and R audio signals.

In addition there is a fixed external audio output which enables the connection of a suitable Hi-Fi unit.

The Digital Audio Output socket enables the connection of a suitable surround sound system. **NOTE: this output is always active.**

HDMI (High-Definition Multimedia Interface) is for use with a DVD, decoder or electrical equipment with digital audio and video output.

REGZA-LINK will only work through HDMI when using other Toshiba equipment with REGZA-LINK capability.

NOTE: It is recommended that an HDMI cable with the HDMI logo (**HDMI**) is used. When connecting other equipment to this television if the connection is capable of 1080p and/or supports Deep Color™ a Category 2 cable will be required. Conventional HDMI/DVI cable may not work properly with this mode. It is recommended that DVI cable or DVI/HDMI adapter with cable is less than 2m long.

PLEASE NOTE: Although this television is able to connect to HDMI equipment it is possible that some equipment may not operate correctly.

A wide variety of external equipment can be connected to the back of the television, therefore the relevant owners manuals for all additional equipment must be referred to.

We recommend SCART 1 for a decoder and SCART 2 for a media recorder. If connecting S-VIDEO equipment, set the **INPUT** for EXT2. See page 39.

If the television automatically switches over to monitor external equipment, return to normal television by pressing the desired programme position button. To recall external equipment, press **⏪** to select between **DTV, EXT1, EXT2, EXT3C, HDMI1, HDMI2, HDMI3, PC** or **ATV**.

HDMI HDMI, the HDMI logo, High-Definition Multimedia Interface and Deep Color are trademarks or registered trademarks of HDMI Licensing, LLC.

Connecting an HDMI or DVI device to the HDMI input

The HDMI input on the television receives digital audio and uncompressed digital video from an HDMI source device, or uncompressed digital video from a DVI (Digital Visual Interface) source device.

This input is designed to accept HDCP (High-Bandwidth Digital-Content Protection) program material in digital form from EIA/CEA-861-D-compliant [1] consumer electronic devices (such as a set-top box or DVD player with HDMI or DVI output). For acceptable signal formats, see page 10.

NOTE: Some early HDMI equipment may not work properly with the latest HDMI TV, due to the adoption of a new standard. Please unplug the HDMI cable first and then try setting the **HDMI setting (Deep Color, x.v.Colour and Lip Sync) to Off**. See page 40.

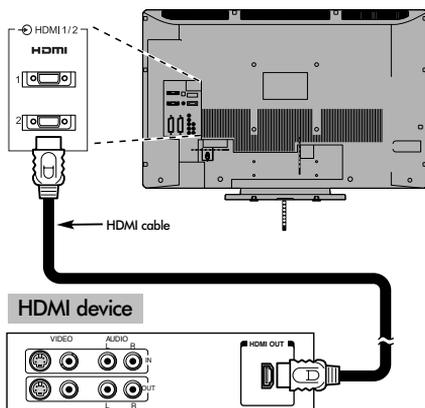
Supported Audio format: Linear PCM, sampling rate 32/44.1/48kHz.

Connecting an HDMI Device

Connect an HDMI cable (type A connector) to the HDMI terminal. For proper operation, it is recommended that an HDMI cable with the HDMI Logo (**HDMI**) is used.

If the HDMI connection is capable of 1080p and/or the television is capable of refresh rates greater than 60Hz or supports Deep Color, a Category 2 cable will be required. Conventional HDMI/DVI cable may not work properly with this mode.

HDMI cable transfers both video and audio. Separate analogue audio cables are not required. See "HDMI1 Audio" on page 40.

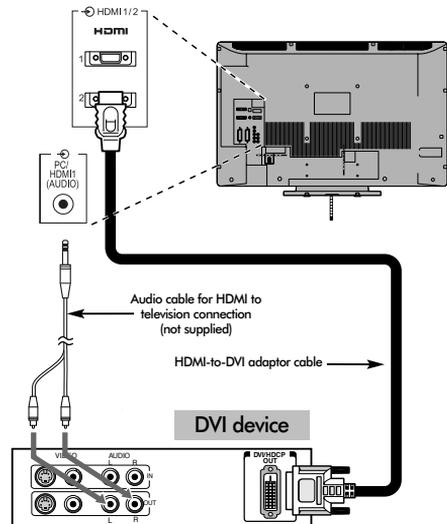


To view the HDMI device video, press the  to select HDMI1 or HDMI2 mode.

Connecting a DVI Device

Connect an HDMI-to-DVI adaptor cable (HDMI type A connector) to the HDMI1 terminal and audio cables to the HDMI1 (AUDIO) socket. The recommended HDMI-to-DVI adaptor cable length is 6.6 ft (2m).

An HDMI-to-DVI adaptor cable transfers video only. Separate analogue audio cables are required. See "HDMI1 Audio" on page 40.



NOTE: To ensure that the HDMI or DVI device is reset properly, it is recommended that these procedures are followed:

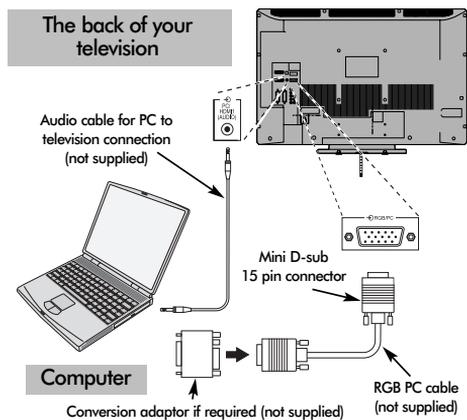
When switching on electronic equipment, switch on the television first and then the HDMI or DVI device. To switch off, first switch off the HDMI or DVI device and then the television.

[1] EIA/CEA-861-D compliance covers the transmission of uncompressed digital video with high-bandwidth digital content protection, which is being standardised for reception of high-definition video signals. Because this is an evolving technology, it is possible that some devices may not operate properly with the television.

HDMI, the HDMI logo, High-Definition Multimedia Interface and Deep Color are trademarks or registered trademarks of HDMI Licensing, LLC.

Connecting a computer via RGB/PC

Before connecting any external equipment, turn off all main power switches. If there is no switch remove the mains plug from the wall socket.



Connect the PC cable from the computer to the PC terminal on the back of the television, then the audio cable to the PC/HDMI1 Audio socket on the back of the television. Select **PC** from the **PC/HDMI1 audio** options in the **AV connection** menu located in the **SET UP** menu.

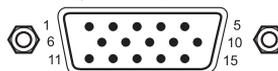
Press the to select PC mode.

IMPORTANT NOTE: Some PCs when connected they may not display correctly.

PLEASE NOTE:

Some PC models cannot be connected to this television.

Pin assignment for RGB/PC terminal



Signal information for Mini D-sub 15 pin connector

Pin No.	Signal name	Pin No.	Signal name
1	R	9	NC
2	G	10	Ground
3	B	11	NC
4	NC (not connected)	12	NC
5	NC	13	H-sync
6	Ground	14	V-sync
7	Ground	15	NC
8	Ground		

An adaptor is not needed for computers with a DOS/V compatible mini D-sub 15 pin terminal.

A band may appear at the edges of the screen or parts of the picture may be obscured. This is due to scaling of the picture by the set, it is not a malfunction.

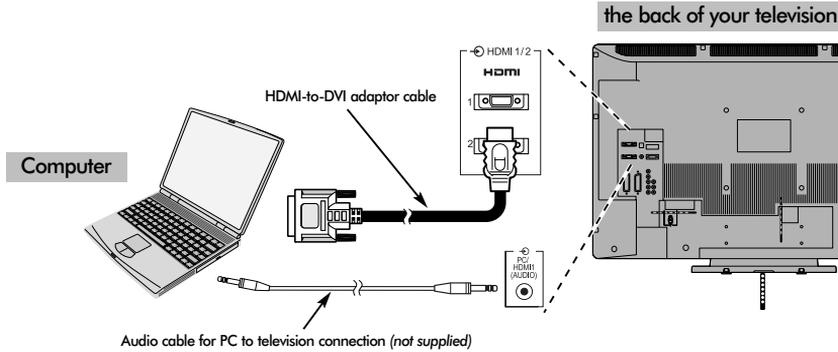
When PC input mode is selected some of the television's features will be unavailable e.g. **Manual setting** in the **SET UP** menu, **Colour**, **Tint**, **DNR** and **Black Stretch** in the **Picture settings** menu.

Acceptable PC signals through the PC terminal

Format	Resolution	V. Frequency	H. Frequency	Pixel Clock Frequency
VGA	640 X 480	59.940Hz	31.469kHz	25.175MHz
		72.809Hz	37.861kHz	31.500MHz
		75.000Hz	37.500kHz	31.500MHz
SVGA	800 X 600	60.317Hz	37.879kHz	40.000MHz
		72.188Hz	48.077kHz	50.000MHz
		75.000Hz	46.875kHz	49.500MHz
XGA	1024 X 768	60.004Hz	48.363kHz	65.000MHz
		70.069Hz	56.476kHz	75.000MHz
		75.029Hz	60.023kHz	78.750MHz
WXGA	1280 X 768	59.995Hz	47.396kHz	68.250MHz
		59.870Hz	47.776kHz	79.500MHz
		74.893Hz	60.289kHz	102.250MHz
	1360 X 768	60.015Hz	47.712kHz	85.500MHz
SXGA	1280 X 1024	60.020Hz	63.981kHz	108.000MHz
		75.025Hz	79.976kHz	135.000MHz

Connecting a computer via HDMI

With the HDMI connection, you can watch your computer's display on the television and hear the sound from the television's speakers.



When connecting a PC to the HDMI terminal on the television, use an HDMI-to DVI adaptor cable and an analogue audio cable.

If connecting a PC with an HDMI terminal, use an HDMI cable (type A connector). A separate analogue audio cable is not necessary). See page 8.

PLEASE NOTE:

It is possible that some PCs when connected may not display correctly. Some PC models cannot be connected to this television.

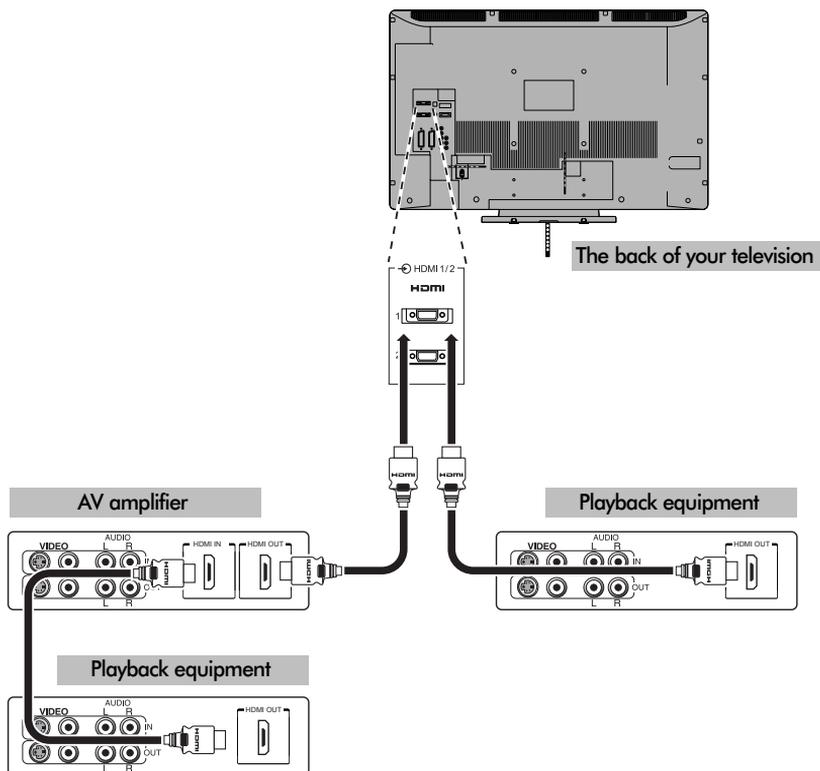
A band may appear at the edges of the screen or parts of the picture may be obscured. This is due to scaling of the picture by the set, it is not a malfunction.

Acceptable signals through HDMI terminals

Format	Resolution	V. Frequency	H. Frequency	Pixel Clock Frequency
480i	720 X 480i	59.940/60.000Hz	15.734/15.750kHz	27.000/27.027MHz
576i	720 X 576i	50.000Hz	15.625kHz	27.000MHz
480p	720 X 480p	59.940/60.000Hz	31.469/31.500kHz	27.000/27.027MHz
576p	720 X 576p	50.000Hz	31.250kHz	27.000MHz
1080i	1920 X 1080i	59.940/60.000Hz	33.716/33.750kHz	74.176/74.250MHz
1080i	1920 X 1080i	50.000Hz	28.125kHz	74.250MHz
720p	1280 X 720p	59.940/60.000Hz	44.955/45.000kHz	74.176/74.250MHz
720p	1280 X 720p	50.000Hz	37.500kHz	74.250MHz
1080p	1920 X 1080p	59.940/60.000Hz	67.500kHz	148.500MHz
1080p	1920 X 1080p	50.000Hz	56.250kHz	148.500MHz
1080p	1920 X 1080p	24.000Hz	27.000kHz	74.250MHz
VGA	640 X 480	59.940Hz	31.469kHz	25.175MHz
		72.809Hz	37.861kHz	31.500MHz
		75.000Hz	37.500kHz	31.500MHz
SVGA	800 X 600	60.317Hz	37.879kHz	40.000MHz
		72.188Hz	48.077kHz	50.000MHz
		75.000Hz	46.875kHz	49.500MHz
XGA	1024 X 768	60.004Hz	48.363kHz	65.000MHz
		70.069Hz	56.476kHz	75.000MHz
		75.029Hz	60.023kHz	78.750MHz
WXGA	1280 X 768	59.995Hz	47.396kHz	68.250MHz
		59.870Hz	47.776kHz	79.500MHz
		74.893Hz	60.289kHz	102.250MHz
SXGA	1280 X 1024	60.015Hz	47.712kHz	85.500MHz
		60.020Hz	63.981kHz	108.000MHz
		75.025Hz	79.976kHz	135.000MHz

Connecting REGZA-LINK

The basic functions of connected audio/video equipment can be controlled using the television's remote control if a REGZA-LINK compatible device is connected.



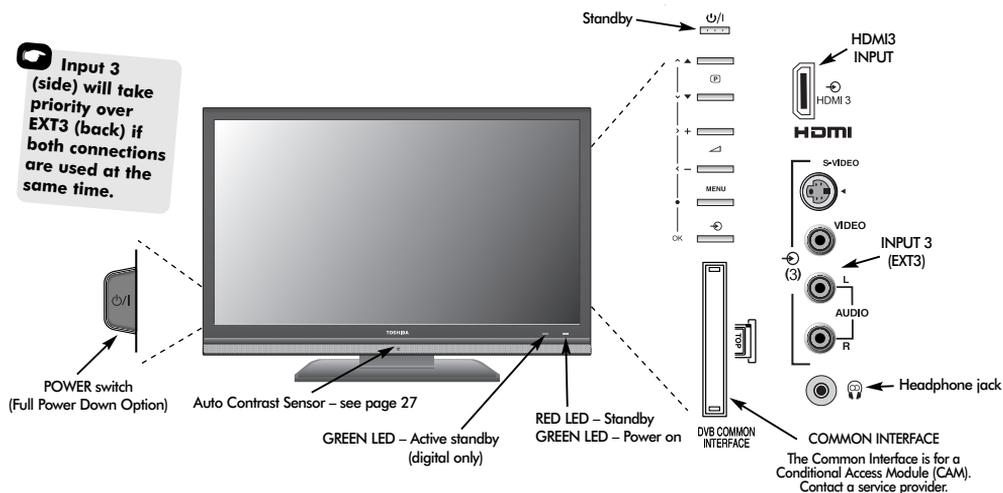
NOTE: It is recommended that for correct operation all audio/video devices are connected using HDMI cables branded with the HDMI logo (**HDMI**). If several devices are connected, the REGZA-LINK feature may not operate properly.

After connecting the equipment use the REGZA-LINK menus to setup the desired options. The connected equipment must also be set. For details see the operation manual for each connected device.

NOTE: The REGZA-LINK feature uses CEC Technology as regulated by the HDMI standard. This feature is limited to models incorporating Toshiba's REGZA-LINK. However, Toshiba is not liable for those operations. Refer to individual instruction manuals for compatibility information.

Controls and input connections

A wide variety of external equipment can be connected to the input sockets on the side of the television. Whilst all the necessary adjustments and controls for the television are made using the remote control, the buttons on the television may be used for some functions.



Switching on

If the RED LED is unlit check that the mains plug is connected to the power supply and press the POWER button on the left side of the television. If the picture does not appear press on the remote control, it may take a few moments.

To put the television into Standby press on the remote control, the GREEN active standby LED will appear (see 'Software Upgrade' section) next to the RED for a few moments then disappear. To view the television press again. The picture may take a few seconds to appear.

NOTE: When the POWER switch is turned off, the digital channel position you previously viewed may not be memorised in the television memory.

Using the Remote Control

Press the **MENU** button on the remote control to see the menus.

In **digital** mode the menu bar at the top of the screens will show three different topics shown in symbols. As each symbol is selected by pressing the or button on the remote control, its respective options will appear below.

In **analogue** mode the menu appears as a list of five topics. As each symbol is selected by pressing the or button on the remote control, its respective options will appear below.

To use the options press the and button on the remote control to move up and down through them and or to select the required choice. Follow the on screen instructions. The functions of each menu are described in detail throughout the manual.

Using the Controls and Connections

To alter the volume press .

To alter the programme position press .

Press **MENU** and , , or to control the sound and picture options.

Press **MENU** twice to finish.

When connecting sound equipment to **EXT3**, connect the audio output of the equipment to the phono sockets on the television.

To select the Input, press until the display shows **EXT3** as described on page 39. The television will automatically sense the type of signal.

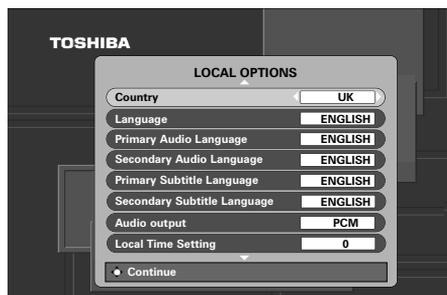
Please always refer to the owner's manual of the equipment to be connected for full details.

Please note: Inserting the headphone plug will mute the sound from all speakers.

Tuning Digital television for the first time

Before switching on the television put your decoder and media recorder to **Standby** if they are connected and ensure the aerial is connected. To set up the television use the buttons on the remote control as detailed on page 6.

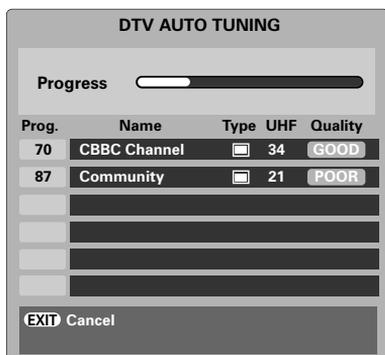
- 1 Press the  button, the **LOCAL OPTIONS** screen will appear. This screen will appear the first time that the television is switched on and each time the television **Reset TV** is selected.



- 2 Press  to highlight **Country** and  or  to select. The television will now tune the stations for your country.
- 3 Using  highlight **Language**, then  or  to select.
- 4 Press **OK** to start tuning.

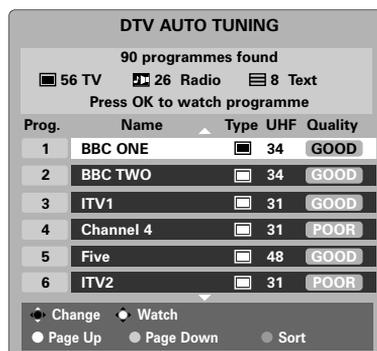
The **DTV AUTO TUNING** screen will appear and the television will start to search for available stations. The progress bar will move slowly along the line.

You must allow the television to complete the search.



When the search is complete the television will automatically select programme one.

The **DTV AUTO TUNING** screen will display the total number of services found.



- 5 Use  or  to move through the list to select a programme then press **OK** to view.

NOTE: The time will be set automatically by transmission but can be advanced or decreased by up to 3 hours using **Local Time Setting**.

PLEASE NOTE

The **Reset TV** menu can also be accessed at any time from the **SETUP** menu.

Digital auto tuning, analogue switch-off

NOTE: As new services are broadcast it will be necessary to re-tune the television in order to view them.

Auto Tuning

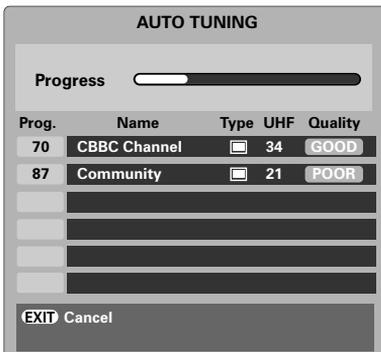
Auto tuning will completely re-tune the television and can be used to up date the channel list.

It is recommended that Auto tuning is run periodically to ensure that all new services are added. All current programmes and settings, i.e. favourites and locked programmes, will be lost.

- 1 Press **MENU**, the **SETUP MENU** will appear. Use **▼** to highlight **Auto tuning**. Press **OK**.
- 2 A screen will appear warning that previous digital programmes and settings will be deleted. Press **OK** to continue with the **Auto tuning**.

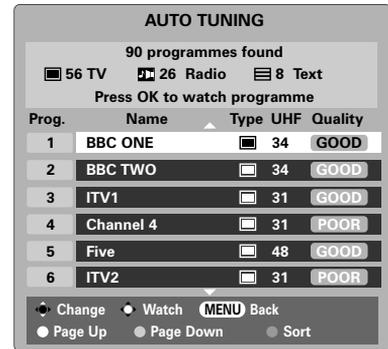


The television will start to search for all available stations.



You must allow the television to complete the search.

When the search is complete the **Auto tuning** screen will display the total number of services found.



- 3 Use **▼** or **▲** to move through the list to select a programme then press **OK** to view.

Analogue Switch-off

This is a **digital** television which is integrated to allow the use of both **digital** and **analogue** services. However, during the lifetime of this set it is very likely that **analogue** services will be switched off to allow for more new **digital** services.

This 'switch-off' will happen in a number of phases, which will be advertised in your area well in advance. It is recommended that at each phase the television is re-tuned to ensure that existing and new **digital** services can be viewed without disruption (see the 'Auto tuning' section).

Digital programme sorting, manual tuning

NOTE: When the television is switched off the mode being viewed at the time will automatically be selected when the television is switched back on.

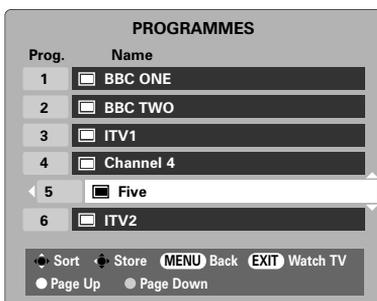
Programme Sorting

- 1 The station order may be changed to suit personal preference. Press **MENU**, the **SETUP MENU** will appear on screen.
- 2 Use **▼** to move down through the list and highlight **Programmes**. Press **OK**.

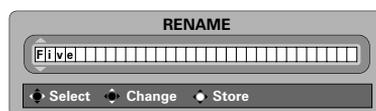


- 3 With the list of stations now showing use **▼** or **▲** to highlight the station you want to move and press **►**.

The selected station will be moved to the right of the screen.



- 4 Use **▼** or **▲** to move through the list to your preferred position. As you do so the other stations will move to make room.
- 5 Press **◀** to store your move. Repeat as necessary, then press **EXIT**.
- 6 It is possible to rename the channel. Press **OK** to select the **Rename** screen.



- 7 Use **▼** or **▲** to select a different name. Press **OK** to store, then **EXIT**.

Manual Tuning

This feature is available for service engineers or can be used for direct channel entry if the multiplex channel is known.

- 1 Select **Manual tuning** from the **SETUP MENU** and press **OK**.
- 2 Enter the multiplex number using the number buttons and then press **OK**. The television will automatically search for that multiplex.

When the multiplex is found any channels not currently on the programme list will be added and the programme information at the top of the screen will be updated.

- 3 Repeat as necessary. Press **EXIT** to finish.

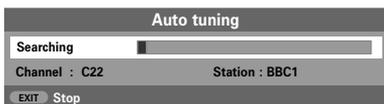
Tuning Analogue mode for the first time

The **Quick Setup** feature will tune all **analogue** channels currently available in the area. To put the television into **ATV** mode press the **ATV/DTV** button.

- 1 Select **ATV** mode. The **Quick Setup** screen will appear.



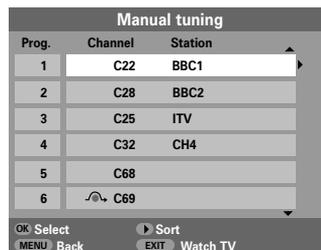
- 2 Using ◀ or ▶ select your **language**, then press **OK**.
- 3 Then press ◀ or ▶ to select your **country**.
- 4 To start **Auto tuning** press **OK**.



- 5 The search will begin for all available stations. The slide bar will move along the line as the search progresses.

You must allow the television to complete the search.

When the search is complete the television will automatically select programme position 1 and the **Manual tuning** screen will appear.



- 6 Use ▼ or ▲ to move through the list to select a programme then press **EXIT** to view.

The station order may be changed using the **Manual tuning** screen (see the **analogue** 'Sorting programme positions' section).

Analogue manual tune

The television can be tuned-in manually using **Manual tuning**. For example: if the television cannot be connected to a media recorder/decoder with a SCART lead or to tune-in a station on another **System**.

Use ◀ and ▶ to move across the screen and select any of these Manual Tune options.

Programme	System	Colour system	Programme skip	Channel	Search	Manual fine tuning	Station

Programme: The number to be pressed on the remote control.

System: Specific to certain areas.

Colour system: Factory set to Auto, should only be changed if problems are experienced, *i.e.* NTSC input from external source.

Programme skip: means nothing has been stored or the facility to *skip* the channel is ON. See page 19.

Channel: The channel number on which a station is being broadcast.

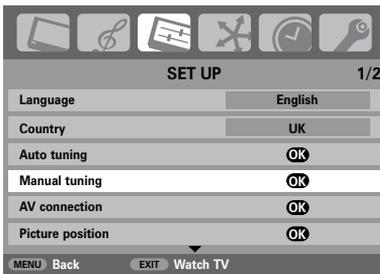
Search: Search up and down for a signal.

Manual fine tuning: Only used if interference/weak signal is experienced. See page 43.

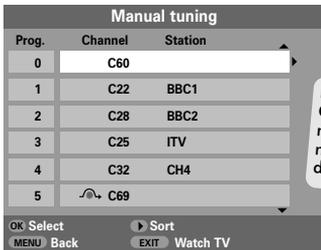
Station: Station identification. Use the ▲ or ▼ and ◀ or ▶ buttons to enter up to seven characters.

To allocate a programme position on the television for a decoder and media recorder: turn the decoder on, insert a pre-recorded film in the media recorder and press PLAY, then manually tune.

- 1 Press **MENU** and using ◀ or ▶ select the **SET UP** menu, with ▼ highlight **Manual tuning**, press **OK** to select.



- 2 Use ▲ or ▼ to highlight the programme position required e.g. we suggest **Prog. 0** for a media recorder.



Different **Channel** numbers may be displayed

- 3 Press **OK** to select. If the programme is skipped, **Programme skip** must be removed before storing.



- 4 Press ▶ to select **System** and use ▲ or ▼ to change if required.

- 5 Then press ▶ to select **Search**.

- 6 Press ▲ or ▼ to begin the search. The search symbol will flash.



- 7 Each signal will show on the television, if it is not your media recorder, press ▲ or ▼ again to restart the search.

Analogue manual tune (continued), Auto tune

- 8** When your media recorder signal is found, press **▶** to move along to **Station**. With **▲**, **▼**, **◀** and **▶** put in the required characters, e.g. **VCR**.



- 9** Press **OK** to store.
- 10** Repeat for each **programme position** you want to tune or, press **MENU** to return to the list of channels and select the next number to tune.
- 11** Press **EXIT** when you have finished.
- 12** To name external equipment, e.g. DVD on EXT2, press **↻** to select **EXT2**, then select **Manual setting** from the **SET UP** menu.
- 13** Press **▶** to select **Label** then using **▲**, **▼**, **◀** and **▶** put in the required characters. Press **OK**.

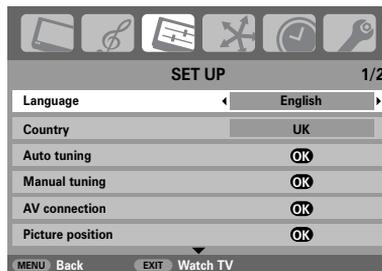


PLEASE NOTE

This television has direct channel entry if the channel numbers are known. Select the **ATV Manual Tuning** screen in **Step 3**. Enter the **Programme number**, the **System**, then **C** for standard (terrestrial) channels or **S** for cable channels and the **Channel** number. Press **OK** to store.

Using Auto Tuning

- 1** To set up the television using **Auto tuning**, press **MENU** and use **◀** or **▶** to select the **SET UP** menu.



- 2** Press **▼** to highlight **Language** and **◀** or **▶** to select.
- 3** Using **▼** highlight **Country**, then **◀** or **▶** to select. The television will now tune the stations for your country.
- 4** Press **▼** to highlight **Auto tuning**, then press **OK**.



- 5** To start **Auto tuning** press **OK**.

You must allow the television to complete the search.

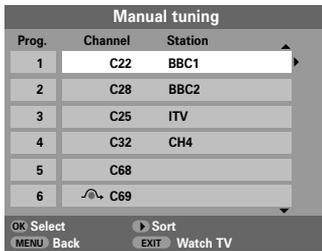
When the search is complete the television will automatically select programme position 1. This may not be a clear picture, so the station order can be changed (see 'Sorting programme positions' section).

Analogue programme skip, sorting programme positions

Programme Skip

To prevent certain programmes from being viewed, the programme position can be skipped. The remote control must be removed as the channels will still be available using the number buttons. Programmes can then be watched as normal using the controls on the television, but the television will not show the skipped programme position.

- 1 Select **Manual tuning** from the **SET UP** menu.



- 2 Use **▲** or **▼** to highlight the programme position to be skipped and press **OK** to select.

- 3 Press **▶** to select **Programme skip**.

- 4 Use **▲** or **▼** to turn **Programme skip** on. Press **OK**.

 on the screen indicates a skipped programme position.



- 5 Press **MENU** and repeat from **Step 2** or press **EXIT**.

Each programme position has to be *individually* selected. To turn **Programme skip** off, repeat the procedure for each position.

Skipped programme positions **cannot** be selected by **P ▲** and **P ▼** or by the controls on the television, but **can** still be accessed by the number buttons on the remote control.

Sorting Programme Positions

Channels may be moved and stored on the programme position of your choice.

- 1 Select **Manual tuning** from the **SET UP** menu.
- 2 With the list of stations now showing use **▼** or **▲** to highlight the station you want to move and press **▶**.

The selected station will be moved to the right of the screen.



- 3 Use **▼** or **▲** to move through the list to your preferred position. As you do so the other stations will move to make room.

- 4 Press **◀** to store your move.

Repeat as necessary, then press **EXIT**.

General controls, stereo/bilingual transmissions, time display, sound controls

Selecting Programme Positions

To select a programme position use the numbered buttons on the remote control.

Programme positions can also be selected using **P** ^ and **P** v.

To display on-screen information i.e. programme position, channels or stereo/mono signal, press **[+]**. Press again to cancel. The information shown will vary depending on whether the television is in **DTV** or **ATV** mode.

Press the **ATV/DTV** button at any time to select between **ATV** and **DTV** modes.

Stereo and Bilingual Transmissions

If stereo or dual language broadcasts are transmitted the word **Stereo** or **Dual** will appear on the screen each time programme positions are changed, disappearing after a few seconds. If the broadcast is not in stereo the word **Mono** will appear.

Stereo... Press **[D]** to select **Stereo** or **Mono**.

Bilingual... Bilingual transmissions are rare. If they are transmitted the word **Dual** will display. Choose the required programme number and if the word **Dual** appears press **[D]** to select **Dual 1**, **Dual 2** or **Mono**.

Time Display (analogue only)

The time display facility allows the current (text service) time to be seen on the television screen.

Press **[E]** whilst watching a normal television broadcast to see a time display from the broadcaster. It will remain on screen for about 5 seconds.

NOTE: This display may not always be available.

Sound Controls

Volume

Press **[V]** or **[V]** + to adjust the volume.

Sound Mute

Press **[M]** once to turn the sound off and again to cancel.

Bass, Treble and Balance

The sound controls are accessible in **digital** and **analogue** modes, as are most of the television's features.

- 1 In **digital** mode, press **MENU** and using **[V]** highlight **TV setup** then press **OK**.
- 2 Use **[L]** or **[R]** to select **SOUND**.
- 3 In **analogue** mode, press **MENU** and **[L]** or **[R]** to select **SOUND**.

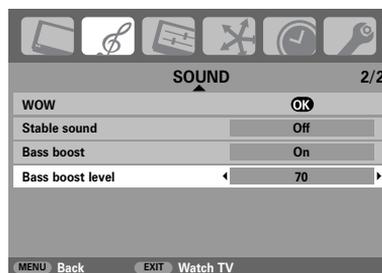


- 4 Press **[V]** to highlight **Bass**, **Treble** or **Balance** and **[L]** or **[R]** to change the setting.

Bass Boost

Bass boost enhances the depth of the sound on the TV speakers. The difference will only be noticeable on sound with a strong bass.

- 1 In the **SOUND** menu press **[V]** to highlight **Bass boost**. Use **[L]** or **[R]** to select **On**.
- 2 Then press **[V]** to highlight **Bass boost level** and using **[L]** or **[R]** adjust to suit your preference.

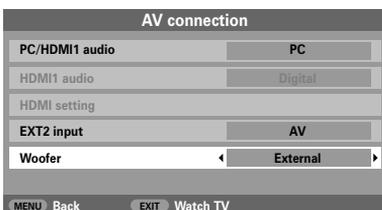


Sound controls (continued), SRS WOW® sound effects, dual (analogue only), headphones mode, stable sound®

Super Woofer

To use an external Super Woofer connect it to the Woofer connection on the back of the television.

- 1 Select **AV connection** in the **SET UP** menu.
- 2 Press ▼ to highlight **Woofer** and using ◀ or ▶ select **External**.



SRS WOW® Sound Effects

SRS WOW® is a suite of audio effects which use the stereo signals being broadcast to produce enhanced sound from the television's speakers. If mono sound is broadcast only **TruBass** will be available.

SRS 3D gives a rich sound experience, **FOCUS** concentrates the sound and gives the effect of it coming from the centre of the television, **TruBass** enhances the lower bass frequencies.

- 1 Press **MENU** and select the **SOUND** menu.
- 2 Use ▲ or ▼ to highlight **WOW** then press **OK**.



- 3 Press ▼ to highlight **SRS 3D** and using ◀ or ▶ select between **On** or **Off**.

- 4 Then press ▼ to highlight **FOCUS** and press ◀ or ▶ to select between **On** or **Off**.

- 5 Highlight **TruBass** and use ◀ or ▶ to select **Off**, **Low** or **High** to suit your preference.

NOTE: This feature is not available through headphones.

Dual – analogue only

If a programme or film is being broadcast with a soundtrack in more than one language, the **DUAL** feature allows selection between them.

- 1 Select the **SOUND** menu.
- 2 Use ▼ to highlight **Dual** then press ◀ or ▶ to choose between **Dual 1** or **Dual 2**.

Headphone Mode

This feature controls the volume through the headphones. In **Mode1** the television volume controls the headphones and the speakers.

In **Mode2** the headphones work independently and the volume is controlled by the **Headphone Level** only.

- 1 In the **SOUND** menu. Press ▼ to highlight **Headphone** then ◀ or ▶ to select **Headphone Mode2**.
- 2 Use ▼ to highlight **Headphone Level** then press ◀ or ▶ to adjust the volume.

Stable Sound®

The **Stable sound** feature limits high volume levels on the TV speakers, preventing the extreme changes in volume that can occur when channels are changed or a programme switches to a commercial.

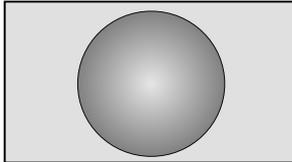
- 1 Select the **SOUND** menu.
- 2 Use ▼ to highlight **Stable sound** then press ◀ or ▶ to select **On** or **Off**.

SRS (●) WOW, SRS and (●) symbol are trademarks of SRS Labs, Inc.
WOW WOW technology is incorporated under license from SRS Labs, Inc.

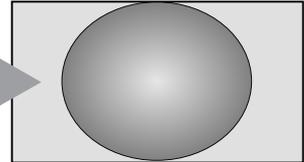
Widescreen viewing

Depending on the type of broadcast being transmitted, programmes can be viewed in a number of formats. Press the **[+]** button repeatedly to select between **Wide**, **Super Live 2**, **Cinema 2**, **4:3**, **Super Live 1**, **Cinema 1**, **Subtitle** and **14:9**.

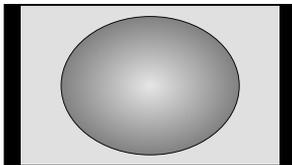
SUPER LIVE 1



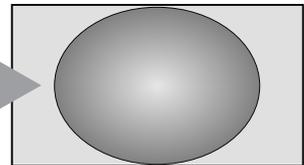
This setting will enlarge a 4:3 image to fit the screen by stretching the image horizontally and vertically, holding better proportions at the centre of the image. Some distortion may occur.



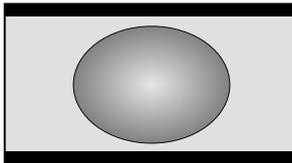
SUPER LIVE 2



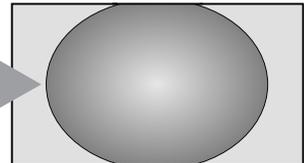
If a 'side panel format' signal is being received this setting will enlarge the image to fit the screen by stretching the image horizontally and vertically, holding better proportions at the centre of the image. Some distortion may occur.



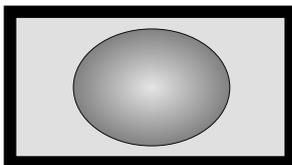
CINEMA 1



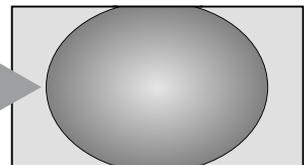
When watching 'letterbox format' films/video tapes, this setting will eliminate or reduce the black bars at the top and bottom of the screen by zooming in and selecting the image without distortion.



CINEMA 2

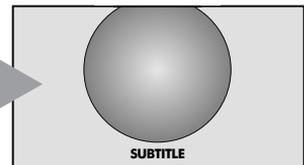


When watching 'all sides panel format' films/video tapes, this setting will eliminate or reduce the black bars at all sides of the screen by zooming in and selecting the image without distortion.



SUBTITLE

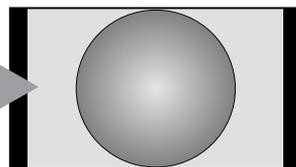
When subtitles are included on a letterbox format broadcast, this setting will raise the picture to ensure that all the text is displayed.



Widescreen viewing (continued)

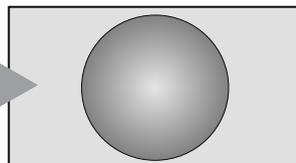
14:9

Use this setting when watching a 14:9 broadcast.



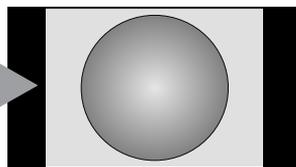
WIDE

Use this setting when watching a widescreen DVD, widescreen video tape or a 16:9 broadcast (when available). Due to the range of widescreen formats (16:9, 14:9, 20:9 etc.) black bars may be visible on the top and bottom of the screen.



4:3

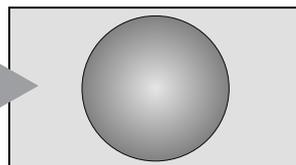
Use this setting to view a true 4:3 broadcast.



NATIVE

Native will appear in the list when using equipment connected via HDMI. This setting will show the picture without over scan.

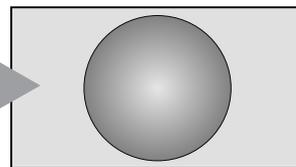
This option is only available when watching a video signal source.



EXACT SCAN

Exact Scan will appear in the list when using equipment connected via HDMI.

This option is only available when watching a 1080 source, it will display the image as transmitted without scaling or cropping the picture.



AV FORMAT

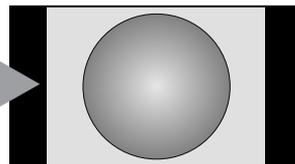
Press the  button and a list of all the widescreen formats will appear on screen. Use  and  to highlight the required format and **OK** to select.

Exact Scan
Native
Wide
Super Live 2
Cinema 2
4:3
Super Live 1
Cinema 1
Subtitle
14:9

Widescreen viewing (continued)

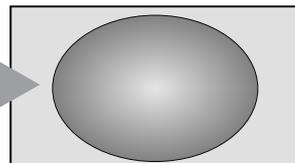
PC NORMAL

When using a PC connected via HDMI this setting will show the picture without over scan, i.e. WYSIWYG. This option is only available when watching a VGA signal source via HDMI.



PC WIDE

When using a PC connected via HDMI this setting will show the picture without over scan and side panels. This option is only available when watching a VGA signal source via HDMI.



VGA FORMAT

Press the button and a list of all the PC formats will appear on screen. Use and to highlight the required format and **OK** to select.



Using the special functions to change the size of the displayed image (i.e. changing the height/width ratio) for the purposes of public display or commercial gain may infringe on copyright laws.

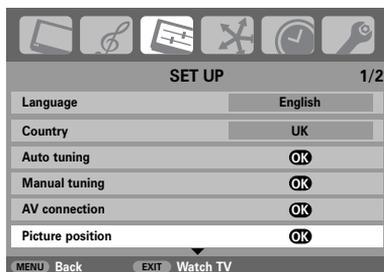
Picture controls

Most of the picture controls and functions are available in both **digital** and **analogue** modes. To access the required menus when in **digital** mode: press **MENU** and using select **TV setup**, press **OK** then or to select the desired menu. **PLEASE NOTE: features not available in digital mode will be greyed out.** To access the required menus when in **analogue** mode: press **MENU** and use or to select the desired menu.

Picture Position – analogue only

The picture position may be adjusted to suit personal preference and can be particularly useful for external inputs.

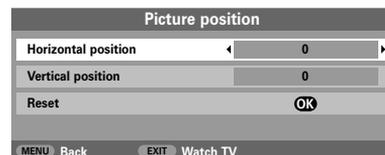
- 1 In the **SET UP** menu press until **Picture position** is highlighted.



- 2 Press **OK** to view the options available for the picture format that has been selected.
- 3 Press and to select an option, then or to adjust the settings.

The options alter depending on the widescreen format chosen and when viewing connected equipment.

In **Cinema 2:**



To return to the original factory settings select **Reset** in the **Picture position** menu and press **OK**.

Picture controls (continued)

Backlight

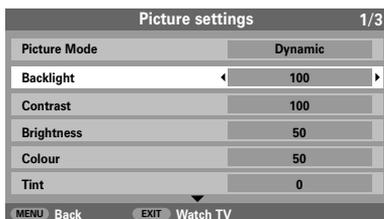
Adjusting the **Backlight** can improve the clarity of the screen when viewing.

- 1 In the **PICTURE** menu press ▼ to select **Picture settings**, then press **OK**.



- 2 In the **Picture settings** menu press ▼ to select **Backlight**.

- 3 Press ◀ or ▶ to adjust.



Picture Preferences

This television offers the choice of personalising the picture style. Press →↔← to view the different styles available:

Dynamic, Standard, Mild and Movie are preset options and effect many features/settings within the television.

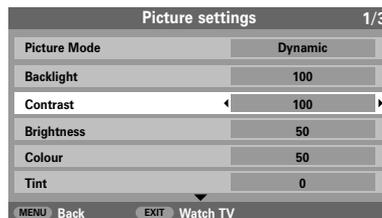
Options can be personalised as detailed, i.e. when in **Dynamic** and the settings (backlight, contrast, cinema mode, colour temperature etc.) are altered the new option settings will be stored as **Dynamic-user**.

Game option is available in external input mode (other than aerial input). When this option is selected pressing Ⓜ allows the selection of Wide, Native or Exact scan screen formats. This picture format will be held in the Game option until another format is selected. Exact scan is only available with a 1080 input.

PC option is available in RGB/PC and HDMI input mode.

PC Fine option is available when using a PC via REGZA-LINK with **Enable REGZA-LINK** set to **On**. In this mode **Black/White Level, Cinema Mode, Film Stabilization** and **Active Vision M100** will have an extra **Auto** option.

- 1 Select **Picture settings** from the **PICTURE** menu.

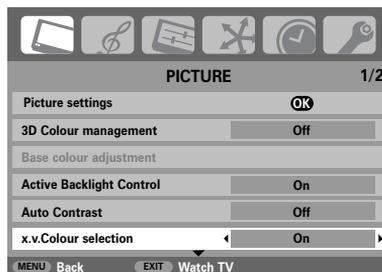


- 2 Use ◀ or ▶ to adjust the **Contrast, Brightness, Colour, Tint** and **Sharpness**.

x.v.Colour selection (HDMI only)

The colour range **x.v.Colour** is an international standard and enables a wider colour range than conventional signals. When set to **auto** the television will automatically detect images supported by **x.v.Colour**.

- 1 In the **PICTURE** menu press ▼ to select **x.v.Colour**.



- 2 Press ◀ or ▶ to select **On, Off** or **Auto**.

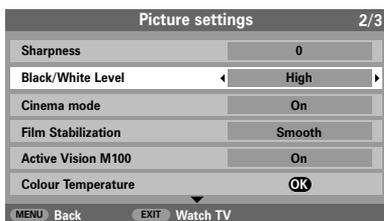
NOTE: This feature is only available with equipment connected via HDMI. If a non-HDMI input is selected or the **x.v.Colour** option in the **HDMI setting** menu is set to **Off**, this feature will be greyed out.

Picture controls (continued)

Black/White Level

Black/White Level increases the strength of dark areas of the picture which improves the definition.

- 1 In the **Picture settings** menu press ▼ until **Black/White Level** is highlighted.



- 2 Press ◀ or ▶ to select between **High**, **Off**, **Low** and **Middle**. The effect depends on the broadcast and is most noticeable on dark colours.

Cinema Mode

If there are lines or jagged edges in the film or programme being viewed, selecting **Cinema mode** can help correct this by smoothing out the picture.

- 1 In the **Picture settings** menu press ▼ to select **Cinema mode**.

- 2 Press ◀ or ▶ to select **On** or **Off**.

NOTE: When a DVD with subtitles is being played this mode may not work correctly.

Film Stabilization

The **Film Stabilization** feature allows the adjustment of motion smoothness.

- 1 In the **PICTURE** menu press ▼ to select **Film Stabilization**.

- 2 Press ◀ or ▶ to select **Smooth**, **Standard** or **Off**.

Active Vision M100

When **Active Vision M100** is selected this feature will reduce 'smearing' and on video sources will reduce picture judder.

- 1 In the **PICTURE** menu press ▼ to select **Active Vision M100**.

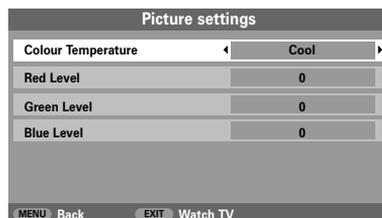
- 2 Press ◀ or ▶ to select **On** or **Off**.

Colour Temperature

Colour Temperature increases the 'warmth' or 'coolness' of a picture by increasing the red, green and blue tint.

- 1 In the **Picture settings** menu press ▼ until **Colour Temperature** is highlighted, press **OK**.

- 2 Press ◀ or ▶ to select between **Cool**, **Natural** and **Warm** to suit your preference.



- 3 Press ▲ and ▼ to select a colour level, then ◀ or ▶ to adjust the settings.

Reset

Reset returns the television to the default settings.

- 1 In the **Picture settings** menu press ▼ to select **Reset**.

- 2 Press **OK**.

Picture controls (continued)

3D Colour Management

When **3D Colour management** is selected it allows the 'Base colour adjustment' feature to become available.

- 1 In the **PICTURE** menu press ▼ to select **3D Colour management**.
- 2 Press ◀ or ▶ to select **On** or **Off**.

Base Colour Adjustment

The **Base colour adjustment** feature allows the adjustment of individual colours to suit personal preference. This can be useful when using an external source.

- 1 In the **PICTURE** menu press ▼ to select **Base colour adjustment**, then press **OK**.
- 2 Press ▲ and ▼ to select an option, then ▶ to adjust the settings.

Base colour adjustment			
	Hue	Saturation	Brightness
Red	0	0	0
Green	0	0	0
Blue	0	0	0
Yellow	0	0	0
Magenta	0	0	0
Cyan	0	0	0
Reset	OK		

To return to the original factory settings select **Reset** and press **OK**.

Active Backlight Control

When **Active Backlight Control** is activated it will automatically optimise the backlighting levels for dark scenes.

- 1 In the **PICTURE** menu press ▼ to select **Active Backlight Control**.
- 2 Press ◀ or ▶ to select **On** or **Off**.

Auto Contrast

When **Auto Contrast** is set to **On** a sensor located on the front of the television automatically adjusts the contrast according to ambient light levels.

- 1 In the **PICTURE** menu press ▼ to select **Auto Contrast**.



- 2 Press ◀ or ▶ to select **On** or **Off**.

MPEG NR – Noise Reduction

When watching a DVD the compression may cause some words or picture elements to become distorted or pixelated. Using the **MPEG NR** feature reduces this effect by smoothing out the edges.

- 1 Select **MPEG NR** from the **PICTURE** menu.
- 2 Use ◀ or ▶ to select a setting to suit your preference.

DNR – Digital Noise Reduction

DNR enables you to 'soften' the screen representation of a weak signal to reduce the noise effect.

- 1 In the **PICTURE** menu press ▼ to select **DNR** then press **OK**.
- 2 Use ◀ or ▶ to adjust. The differences may not always be noticeable (for the best result use lower settings as picture quality can be lost if the setting is too high).

Picture controls (continued), panel lock

Automatic Format (Widescreen)

When this television receives a true Widescreen picture and **Auto format** is **On**, it will automatically be displayed in Widescreen format, irrespective of the television's previous setting.

- 1 Press **MENU** and ◀ or ▶ to select the **FUNCTION** menu.



- 2 Press ▼ to highlight **Auto format**, then ◀ or ▶ to select **On** or **Off**.

4:3 Stretch

When **4:3 stretch** is activated the size switching system changes 4:3 programs into a full screen picture.

- 1 In the **FUNCTION** menu press ▼ to highlight **4:3 stretch**.
- 2 Press ◀ or ▶ to select **On** or **Off**.

Blue Screen

When **Blue screen** is selected the screen will turn blue and the sound will be muted when no signal is received.

- 1 In the **FUNCTION** menu press ▼ to highlight **Blue screen**.
- 2 Press ◀ or ▶ to select **On** or **Off**.

Side Panel Adjustment

The **Side panel** feature lightens or darkens the band each side of the screen when in 4:3 or 14:9 format. This helps prevent image retention of the band and can also make viewing in bright or dark conditions more comfortable.

- 1 In the **FUNCTION** menu press ▼ until **Side panel** is highlighted.
- 2 Press ◀ or ▶ to adjust.

Picture Still

This feature is used to hold a still image on the screen.

- 1 Press ▼ to hold an image on the screen, press ▼ again to cancel.

Panel Lock

Panel lock disables the buttons on the television. All buttons on the remote control can still be used.

- 1 From the **FUNCTION** menu select **Panel lock** and choose **On** or **Off** using ◀ or ▶.



When **Panel lock** is **On**, a reminder will appear when the buttons on the television are pressed. **If the standby button is pressed the television will switch off and can only be brought out of standby by using the remote control.**

The timers

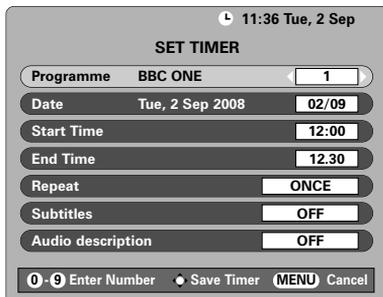
Programme Timer – digital only

This feature will set the television to go to a specific channel at a certain time. It can be used to view a particular programme, or by setting the mode to daily or weekly, can be used to view a series of programmes.

- 1 Press **MENU** and ◀ or ▶ to select the **TIMER MENU**.



- 2 Press ▼ to select **Programme Timers**, then press **OK** to select.
- 3 Press ▼ to select the first programme to be timed, then press **OK**. The **SET TIMER** menu will now appear on screen.
- 4 Press ▲ and ▼ to go through the list adding the details of the programme to be timed by using the number buttons and ◀ and ▶ to make selections.



- 5 When all the details have been entered press **OK** to save the timer.

PLEASE NOTE: When a timed programme is about to start, an information screen will appear offering the option of watching or cancelling the programme. The menus and other channels will not be available during the timed programme unless the programme timer is cancelled.

Sleep Timer

The television can be set to turn itself off after a certain time.

- 1 Press **MENU** and ◀ or ▶ to select the **TIMER** menu.



- 2 Press ▼ to select the **Sleep timer**. Use the number buttons to set the required time. For example, to switch the television off in one and a half hours enter 01:30, or press ◀ or ▶ to increase/decrease in steps of 10 minutes.
- 3 Press **EXIT** to finish.

Digital on-screen information and Programme Guide

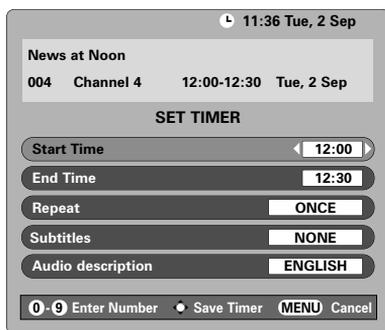
When viewing in digital mode, the on-screen information and programme guide give access to programme details for all available channels.

Information

- 1 Select information by pressing **i+**, the information screen will appear giving details of the channel and programme currently being viewed.



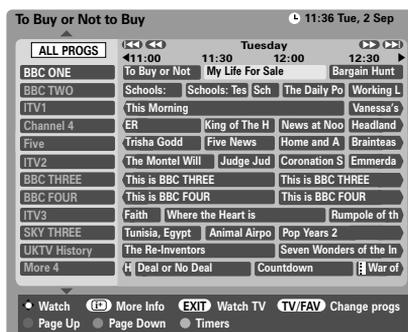
- 2 To see details of any of the other channels currently available, press **▲** and **▼** to scroll up and down the channel list. As the channel is selected details of the programme currently being broadcast will appear.
- 3 Pressing the **YELLOW** button will activate **Showing also**, giving details of programmes which have started on other channels.
- 4 To record the following programme, with the information guide showing, press **▶**. The **Tune** option in the bottom section of the screen will change to **Record**, press **OK**. The **SET TIMER** screen will appear.



- 5 The details of the programme will have been added to the screen. Press **OK** to save.

Guide

- 1 Select the on-screen guide by pressing **GUIDE**, the guide screen will appear highlighting details of the channel and programme currently being viewed. This may take a few moments to appear.



- 2 Press **◀** or **▶** for information of other programmes scheduled for the channel selected.
 - 3 For details of other channels currently available, press **▲** and **▼** to scroll up and down the channel list. As the channel is selected details of the programme currently being broadcast will appear, then press **◀** or **▶**.
 - 4 For information on a highlighted programme press **i+**. To set the timer for that programme press the **BLUE** button to bring up the **Programme timers** menu.
- NOTE:** Recording can be set from the guide. In order for the recording operation to work the media recorder must be set to the same time as the television. Refer to the the owner's manual for the recording equipment.
- 5 Press **▶▶** to move the **Guide** forward by 24 hours, press **◀◀** to go back. Pressing **▶▶** or **◀◀** will move the **Guide** forwards or backwards a page at a time.

Digital settings – parental control, reset TV

In order to prevent viewing of unsuitable films and programmes, channels and menus can be locked. These can then only be accessed with a security code PIN when in digital mode.

Setting the PIN

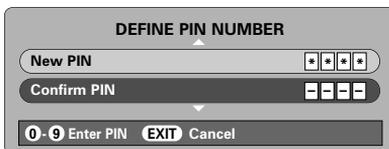
- 1 Press **MENU** and **▶** to select the **FEATURE MENU**.



- 2 Use **▼** to select **Parental Control** then press **OK**.
- 3 Press **▼** to highlight **Change Pin** then press **OK**.



- 4 Using the number buttons enter a four digit number, when these have been entered the screen will ask you to confirm them by entering them again.



The PIN number is now set. To activate put the television into standby.

Mode

This feature locks various menus to prevent the television being returned or the settings being overridden.

- 1 In the **PARENTAL CONTROL** menu press **▼** to select **Mode**.



- 2 Use **◀** or **▶** to choose between **ON**, **LOCK MENU**, **LOCK INSTALL** and **OFF**.

When menus that have been locked are now selected they will only become available when the PIN is entered.

Reset TV

*Selecting **Reset TV** will delete all stored **digital** channels, settings and the chosen PIN number. The television will return to factory settings and then auto tune.*

- 1 In the **SETUP MENU** press **▼** until **Reset TV** is highlighted.
- 2 Press **OK** to select. A screen will appear warning that all digital settings will be lost, press **OK** to continue.

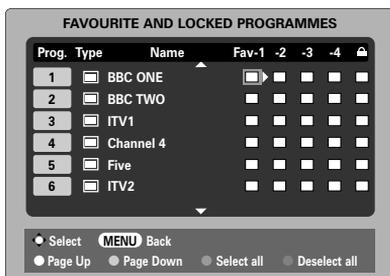
The Welcome screen will appear, press **OK** to continue, the television will then auto tune.

Digital settings – favourite programmes, locked programmes, encrypted programmes

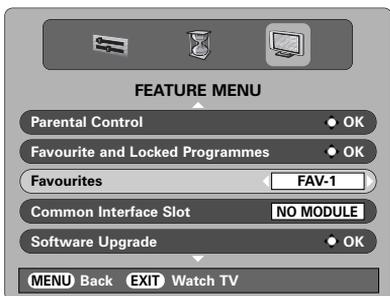
Selecting Favourite Programmes

Favourite Programmes creates a list of the digital channels that are watched most. Four lists can be created, these can be a mixture of television, text and radio channels.

- 1 From the **FEATURE MENU** press **▼** to select **Favourite and Locked Programmes**.



- 2 Use **▲** and **▼** to go through the list of channels pressing **OK** to select the ones required, a tick will appear in the box.
- 3 Press **▶** to select **List 2**. Follow the same procedure to make the selection. When all favourites have been selected press **MENU** to return to the **FEATURE** menu.
- 4 Use **▼** to highlight **Favourites** and **◀** or **▶** to select between **ALL PROGS, TV, RADIO, FAV-1** and **FAV-2**. The number of favourites available depends on how many lists have been created.



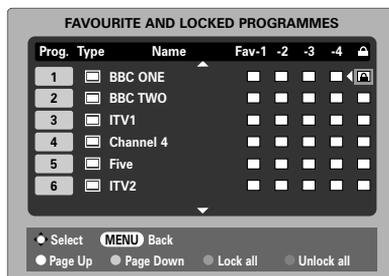
- 5 Press **EXIT**.

Using the **▲ P ▼** buttons will now only access those channels in **Favourite List 1** when **FAV-1** is selected.

Locking Programmes

Locked Programmes stops the viewing of digital channels, they can only be accessed by entering the PIN.

- 1 From the **FEATURE MENU** press **▼** to select **Favourite and Locked Programmes**.
- 2 Press **▶** repeatedly to select the **Locked Programme** list.
- 3 Use **▲** and **▼** to go through the list of channels pressing **OK** to select the ones required, a padlock will appear in the box.



- 4 Press **EXIT** and put the television into standby.
- 5 When the television is switched back on and any of the channels in the **Locked Programme** list are selected the PIN must be entered before they can be accessed.

Encrypted Programmes

Selecting **Encrypted Programmes** allows all encrypted programmes to be shown in the programme list even if they are not available to select.

- 1 In the **FEATURE MENU** press **▲** or **▼** to select **Encrypted Programmes**.
- 2 Use **◀** or **▶** to select **ON** or **OFF**.

NOTE: CAMs (Conditional Access Modules) are available from service providers (see 'Common Interface' section).

Digital settings (continued) – audio languages, audio output, subtitles, common interface

Audio Languages

This feature allows a programme or film to be viewed with a choice of soundtrack language, provided they are currently being broadcast.

- 1 In the **SETUP MENU** press ▼ to select **Local Options**.
- 2 Press **OK**, then press ▲ or ▼ to highlight **Primary Audio Language** or **Secondary Audio Language**.



- 3 Use ◀ or ▶ to select an option.

NOTE: If more than one soundtrack is available, use /II to select between them.

Audio Output (optical)

When connecting a surround sound amplifier to the digital audio optical output (Sony/Philips Digital Interface Format [S/PDIF]) on the back of the television, the following options can be selected.

PCM: this mode outputs PCM format to the digital audio output socket.

BITSTREAM: this mode outputs audio format (eg. Dolby Digital) to the digital audio output socket providing it is being broadcast. It will automatically mute the speakers.

- 1 In the **LOCAL OPTIONS** menu press ▼ to select **Audio output**.
- 2 Use ◀ or ▶ to select **PCM** or **Bitstream**.

Subtitles

This feature will show subtitles on the bottom of the screen in the selected language provided they are being broadcast.

- 1 In the **LOCAL OPTIONS** menu press ▼ to select **Primary Subtitle Language** or **Secondary Subtitle Language**.
- 2 Use ◀ or ▶ to select an option.

Audio Description and Level

This feature provides a detailed narrative sound track for the visually impaired, provided it is being broadcast. The function is available through the speakers or headphones and is activated by pressing the **AD** button. The volume is altered by using the **Audio description level**.

- 1 In the **LOCAL OPTIONS** menu press ▼ to select **Audio description**.
- 2 Use ◀ or ▶ to select either for sound from the speakers and headphones or for sound from the headphones only.
- 3 Press ▼ to select **Audio description level**, then use ◀ or ▶ to adjust.

Common Interface

The Common Interface Slot, situated on the back of the television, enables the insertion of a CAM (Conditional Access Module) and card. These are purchased from a service provider and allow additional subscription broadcasts to be viewed. For information contact a service provider.

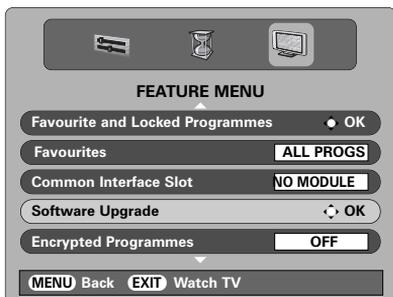
- 1 Insert the CAM and card into the Common Interface Slot, following the instructions provided with the CAM. A box will appear on screen to confirm that the CAM is loaded.
- 2 In the **FEATURE MENU** press ▲ or ▼ to select **Common Interface Slot**.
- 3 Details of the CAM should now be available. Use **OK** to select it.

Digital settings (continued) – software upgrade

Version

This feature can be used to check the version of software currently installed.

- 1 From the **FEATURE MENU** press ▲ or ▼ to select **Software upgrade**. Press **OK**.



- 2 Press ▲ or ▼ to select **Version**. Use ◀ or ▶ to select. When the software has been updated there will be a choice of two versions available.



Auto Upgrade

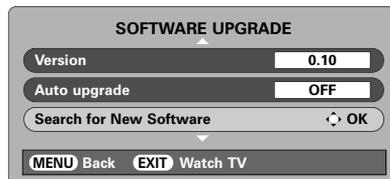
If **Auto upgrade** is selected the software will automatically update as each version becomes available, provided the television is on or in standby. If the television is on, a screen prompt will appear showing the software download taking place.

- 1 In the **SOFTWARE UPGRADE** menu press ▲ or ▼ to select **Auto upgrade**.
- 2 Use ◀ or ▶ to select **ON** or **OFF**.

Searching for New Software

If preferred, software upgrades can be searched for manually using **Search for New Software**.

- 1 In the **SOFTWARE UPGRADE** menu press ▲ or ▼ to select **Search for New Software**.



- 2 Press **OK**. The television will automatically start searching for a software upgrade, the progress bar will move along the line.



If an upgrade is found the television will automatically start downloading, if not a screen will appear stating that an upgrade is unavailable.

NO UPGRADE AVAILABLE

- 1 There is no upgrade available at this time.

Continue

PC settings for RGB/PC connections – picture position, clock phase, sampling clock, reset

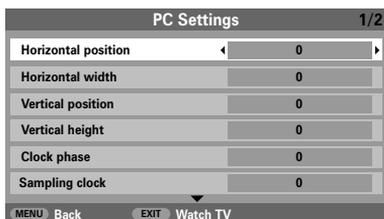
Picture Position

Connect the PC (as shown in the 'Connecting a PC via RGB/PC' section) and ensure that a picture is showing on the television screen. The picture position may now be adjusted to suit personal preference.

- 1 Press to select **PC**, then select **PC Setting** from the **SET UP** menu.



- 2 Press **OK**. Press **▲** and **▼** to select an option, then **◀** or **▶** to adjust the settings.



Clock Phase

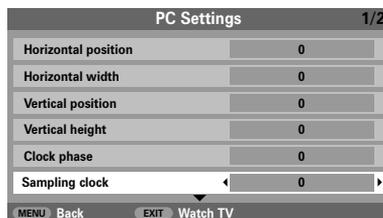
The **Clock phase** matches the PC signal with the LCD display. Adjusting this can clear horizontal stripes and picture blur.

- 1 In the **SET UP** menu press **▼** until **PC Setting** is highlighted.
- 2 Press **OK** to select, then **▼** to highlight **Clock phase**.
- 3 Use **◀** or **▶** to adjust until the picture clears.

Sampling Clock

Adjusting the **Sampling clock** alters the number of pulses per scan, this will clear vertical lines on the screen.

- 1 In the **SET UP** menu press **▼** until **PC Setting** is highlighted.
- 2 Press **OK** to select, then **▼** to highlight **Sampling clock**.



- 3 Use **◀** or **▶** to adjust until the picture clears.

Reset

To return to the original factory settings.

- 1 In the **SET UP** menu press **▼** until **PC Setting** is highlighted.
- 2 Press **OK** to select, then **▼** to highlight **Reset**.
- 3 Press **OK**.

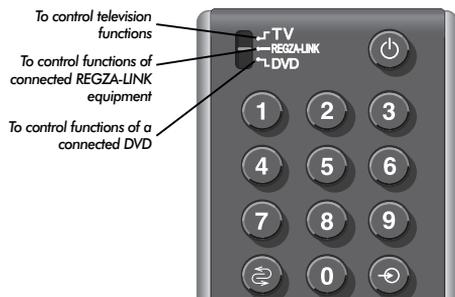
PLEASE NOTE

When a PC is connected using HDMI none of these functions will be available.

REGZA-LINK controls

This feature uses CEC (Consumer Electronics Control) technology and allows the control of Toshiba REGZA-LINK compatible equipment from the television remote control. Note: not all Toshiba products currently support REGZA-LINK.

REGZA-LINK Equipment Control



REGZA-LINK mode on the television remote control allows the control of connected REGZA-LINK equipment being watched.

To control the REGZA-LINK input source first select the equipment with REGZA-LINK input source selection, then switch the mode on the remote control to REGZA-LINK and press any buttons.

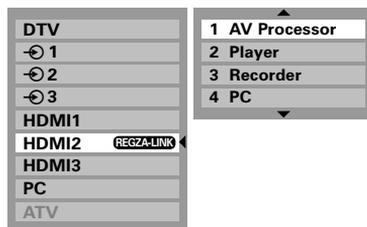
The available functions depend on the equipment connected. Not all the remote control keys may be available. Please refer to the operation manual for each piece of equipment connected.

The television features that can be controlled by the connected equipment are: Standby, Volume, Channel, Sound mute, Display information, Number buttons and Previous programme.

REGZA-LINK Input Source Selection

When any equipment using CEC technology is connected the REGZA-LINK icon will show in the input source list allowing selection of individual devices.

- 1 Press and a list will appear on screen showing modes and all stored external equipment.
- 2 Press to highlight the input source showing the REGZA-LINK logo.
- 3 Press and a second selection screen will appear showing all connected REGZA-LINK equipment.



- 4 Use or to highlight an input source, then press **OK** to select.

NOTE: When the television is switched on it will take a few minutes for the REGZA-LINK logo to appear in the list, when an HDMI cable is removed it will take a few minutes for the logo to disappear.

NOTE: If the HDMI cable from connected equipment is changed or HDMI equipment settings are changed **Enable REGZA-LINK** in the REGZA-LINK setup menu may need to be reset to **On**.

When the REGZA-LINK input source is selected some REGZA-LINK equipment may automatically switch on.

The following features are dependent on the connected equipment. For operating information refer to the operation manual for all connected equipment.

REGZA-LINK controls (continued), REGZA-LINK menus

By activating the Enable REGZA-LINK feature in the REGZA-LINK setup menu individual REGZA-LINK features can then be activated.

REGZA-LINK One Touch Play

When connected equipment is switched on REGZA-LINK will automatically detect the television through the input selection. If the television is in standby it will be switched on automatically. This feature is selected in the **REGZA-LINK** setup menu.

NOTE: Even if the equipment is showing a menu the television may automatically show the input source.

NOTE: This feature is dependent on the connected equipment and television setting.

REGZA-LINK System Standby

This feature automatically switches connected equipment into standby when the television goes into standby and conversely for the television to switch into standby when connected equipment goes into standby. It is selected in the REGZA-LINK setup menu.

NOTE: This feature is dependent on the connected equipment and television setting.

REGZA-LINK System Audio Control

Using the Speaker Preference feature allows the televisions remote control to adjust the volume or mute the sound of the speakers connected to the television via an AV amplifier.

Ensure that the connected AV amplifier and REGZA-LINK equipment are selected in the input source selection and that the **Speaker Preference** is set to **Amplifier** in the **REGZA-LINK** setup menu.

NOTE: When the AV Amplifier is switched on, its input source changed or the volume adjusted, the sound will be output from the AV Amplifier's speakers even if **TV Speakers** has been selected. Turn the television off then on again to output the sound from the TV's speakers.

The full function may not work and is dependent on the Amplifier being used.

REGZA-LINK PC link

This feature automatically adjusts suitable widescreen formats and picture preferences when connected to REGZA-LINK PC.

NOTE: This feature is dependent on the connected equipment.

Enable REGZA-LINK

When **Enable REGZA-LINK** is set to **On** it allows the following functions to be enabled by selecting **On**.

- 1 Press **MENU** and ◀ or ▶ to select the **REGZA-LINK** menu.



- 2 Press ▼ to highlight **Enable REGZA-LINK**, then ◀ or ▶ to select **On** or **Off**.

REGZA-LINK menus (continued)

TV Auto Input Switch

TV Auto Input Switch allows the television to automatically switch to the appropriate HDMI input when a connected HDMI device starts playing video or audio.

- 1 In the **REGZA-LINK** menu press ▼ to highlight **TV Auto Input Switch**.



- 2 Press ◀ or ▶ to select **On** or **Off**.

TV Auto Power

The **TV Auto Power** setting allows the television to be automatically switched on or off if a REGZA-LINK device is turned on or off.

- 1 In the **REGZA-LINK** menu press ▼ to highlight **TV Auto Power**.



- 2 Press ◀ or ▶ to select **On** or **Off**.

Auto Standby

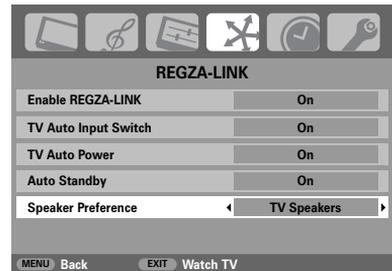
When the **Auto Standby** is enabled the television when switched off will automatically switch off all connected REGZA-LINK equipment.

- 1 In the **REGZA-LINK** menu press ▼ to highlight **Auto Standby**.
- 2 Press ◀ or ▶ to select **On** or **Off**.

Speaker Preference

This feature allows the audio output preference to be set to the TV speakers or AV amplifier speakers. The AV Amplifier option lets the televisions remote control adjust or mute the volume of the audio. This feature will be greyed out unless a REGZA-LINK compatible AV Amplifier is connected.

- 1 In the **REGZA-LINK** menu press ▼ to highlight **Speaker Preferences**.



- 2 Press ◀ or ▶ to select **TV Speakers**, **Amplifier** or **Off**.

Input selection and AV connections

Defining the INPUT and OUTPUT sockets so that the television recognises connected equipment. See page 7 for a clear view of the back connection recommendations.

Most media recorders and decoders send a signal through the SCART lead to switch the television to the correct *Input* socket.

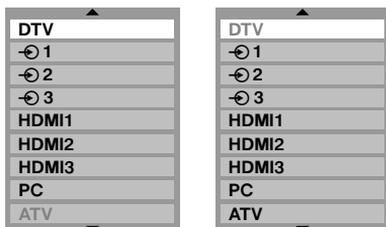
Alternatively press the external source selection button  until the picture from connected equipment is shown.

This button must be used to view equipment connected using the COMPONENT VIDEO INPUT (**EXT3C**).

An **S** in the display e.g.  **2S (EXT 2S)**, indicates the input is set for an S-Video signal.

Input Selection

- At any time by pressing  a list will appear on screen showing modes and all stored external equipment. Use  and  to highlight and **OK** to select.



NOTE: When in **digital** mode **ATV** cannot be selected, in **analogue** mode **DTV** cannot be selected. To switch between **DTV** and **ATV** press the **A/D** button.

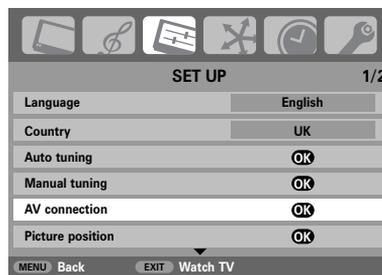
HDMI displays equipment connected to **HDMI** on the back of the television.

PC displays a computer connected to **RGB/PC** on the back of the television.

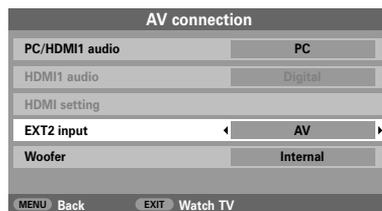
INPUT Signal Selection

This specifies the type of signal going into SCART 2 (**EXT2**) on the back of the television. Please refer to the manufacturers instructions for the connected equipment.

- In the **SET UP** menu press  until **AV connection** is highlighted, then press **OK**.



- With  or  select either **AV** or **S-VIDEO** as the required **input** for **EXT2**.



If the colour is missing try the alternative setting.

Input selection and AV connections (continued)

PC Audio

In order to receive sound from a connected PC, plug the audio cable into the back of the television (as shown in 'Connecting a computer' section), then use the **PC/HDMI1 audio** settings.

1 In the **AV connection** menu press ▼ to highlight **PC/HDMI1 audio**.

2 Use to ► select the **PC** option.

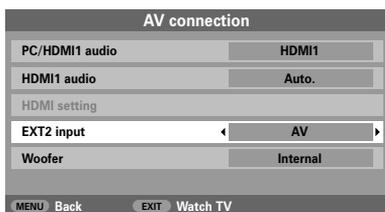
NOTE: Selecting the **PC** option will force HDMI into digital audio.

HDMI1 Audio

If the connected HDMI source does not support digital audio, plug the audio cable into **PC/HDMI1 audio** on the back of the television (as shown in the 'Connecting a computer' section), then use the **HDMI1 audio** settings.

1 In the **AV connection** menu press ▼ to highlight **PC/HDMI1 audio** and using ► select **HDMI1**.

2 Then highlight **HDMI1 audio** and using ◀ or ► select **Auto.**, **Digital** or **Analogue**.



If the sound is missing select an alternative setting.

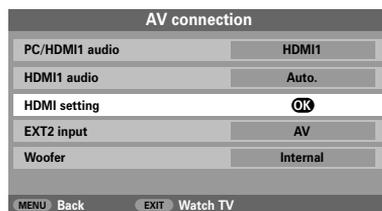
NOTE: HDMI1 supports digital and analogue sound, HDMI2 and HDMI3 are digital sound only.

Certain formats of DVD disk may not output from this TV (32/44.1/48kHz and 16/20/24 bits are acceptable).

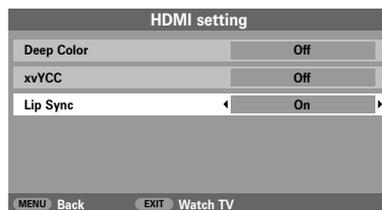
HDMI setting

Some early HDMI equipment may not work properly with the television. If so first unplug the HDMI cable then try setting the options in **HDMI setting** to **Off**.

1 In the **AV connection** menu press ▼ to highlight **HDMI setting** and press **OK**.



2 Press ▲ and ▼ to select an option, then ◀ or ► to adjust the settings.



Deep Color: This option will subtly enhance the colour.

x.v.Colour: This option expands the colour range in the HDMI signal.

Lip Sync: Enabling this option can synchronize the sound and picture.

NOTE: These features will only be available with connected HDMI equipment. If the HDMI source does not support these features the television may not work properly when they are enabled.

If the HDMI connection is capable of 1080p and/or the television is capable of refresh rates greater than 60Hz or supports Deep Color, a Category 2 cable will be required. Conventional HDMI/DVI cable may not work properly with this mode.

EIA/CEA-861-D compliance covers the transmission of uncompressed digital video with high-bandwidth digital content protection, which is being standardized for reception of high-definition video signals. Because this is an evolving technology, it is possible that some devices may not operate properly with the TV. HDMI, the HDMI logo, High-Definition Multimedia Interface and Deep Color are trademarks or registered trademarks of HDMI Licensing, LLC.

Analogue text services – setting up, general information, Auto and LIST modes

This television has a multi-page text memory, which takes a few moments to load. It offers two Modes of viewing text – Auto will display Fastext, if available. LIST will store your four favourite pages.

Selecting Modes

The text character set will be automatically chosen by the language setting in the **SET UP** menu.

- 1 Select **Teletext** from the **FUNCTION** menu.
- 2 With **◀** or **▶** choose **Auto.** or **LIST** then press **EXIT**.



Text Information

The **TEXT** button:

To view text services press **TEXT**. Press again to superimpose the text over a normal broadcast picture and again to return to normal viewing. Programmes cannot be changed until text is cancelled.

The first text page shown will be the *initial* page.

Any text page can be accessed by entering the 3 digit page number using the numbered buttons, pressing the coloured buttons or pressing **P ▲** to advance to the next page and **P ▼** to go back to the previous page.

Subtitles are available on page 888.

Sub-pages

If there are sub-pages they will automatically load into memory without changing the page on screen.

To access the sub-pages press **Ⓜ** then use **P ▲** and **P ▼** to view them. A bar with numbers will appear on the side of the screen.

The sub-page you are viewing will be highlighted and, as the television loads any additional sub-pages the colour of the numbers will change, indicating that these pages have been loaded.

These sub-pages will remain available to view until another page is chosen or, in normal TV mode, the channel is changed.

Navigating Pages using Auto.

If **Fastext** is available four coloured titles will appear at the base of the screen.

To access one of the four given subjects, press the relevant coloured button on the remote control.

For further information on your particular text system(s), see the broadcast text index page or, consult your local Toshiba dealer.

Navigating Pages using LIST

The four coloured choices at the bottom of the screen are numbers – 100, 200, 300 and 400, which have been programmed into the television's memory. To view these pages press the relevant coloured buttons.

To *change* these stored pages press the relevant coloured button and enter the 3 digit number. This number will change in the top left of the screen and in the coloured highlight.

Press **OK** to store. The bars at the bottom of the screen will flash white. **Whenever OK is pressed all four page numbers showing at the bottom will be stored and the previous ones will be lost.**

If **OK** is not pressed the selection will be forgotten when text is cancelled.

Other pages may be viewed by entering the 3 digit page number – but **DO NOT** press **OK** or these pages will be stored.

Analogue text services – control buttons, Digital interactive services

Below is a guide to the functions of the remote control text buttons.



To display the index/initial page:

Press to access the index/initial page. The one displayed is dependant on the broadcaster.

TEXT To display a page of text:

Press **TEXT** to display text. Press again to superimpose text over a normal picture. Press again to return to normal television viewing. Programmes cannot be changed until this has been done.



To access sub-pages:

For use with **P ▲** and **P ▼** to view sub-pages when available.



To reveal concealed text:

To discover the solutions on quiz and joke pages press the button.



To hold a wanted page:

At times it is convenient to hold a page of text. Press and will appear in the top left of the screen. The page will be held on screen until the button is pressed again.



To enlarge the text display size:

Press once to enlarge the top half of the page, press again to enlarge the bottom half of the page. Press again to revert to normal size.



To select a page whilst viewing a normal picture:

Enter the page number then press , a normal picture will be displayed. The television will indicate when the page is present by displaying the page number at the top of the screen. Press **TEXT** to view the page.

To display news flashes:

Select the news flash page for the chosen text service (see the index page of text service). Press , The news flashes will be displayed as and when they are broadcast. Press again to cancel the display.

The news flash page must be cancelled before changing programmes.



Remember to cancel text before changing channels – press the **TEXT button twice.**

Digital interactive services

The **digital** interactive services are the up-to-date way of viewing service information, using computer-style formats, incorporating pictures and interactive views.

They offer high quality on-screen images with multi-colour photographic still images, advanced text and graphics and are user-friendly. These services are free to anyone with a digital television, however, they are not available for all digital stations and are dependant on the broadcaster.

- 1 Ensure that **digital** mode has been selected. Press **TEXT**, it may take a few moments to load.
- 2 To navigate the pages and use the pull-down menus, use the coloured buttons and **▲**, **▼**, **◀** and **▶** as directed.
- 3 Press **TEXT** again at any time to cancel.

Questions and Answers

Below are the answers to some of the most common queries.
For more information go to www.toshiba.co.uk

Q Why is there no sound or picture?

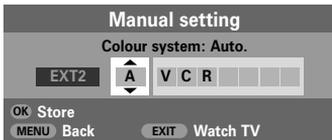
A Check the television is not in standby mode. Check the mains plug and all mains connections.

Q There is a picture, but why is there little or no colour?

A When using an **external** source, for instance, a poor quality video tape, if there is little or no colour, improvements may sometimes be achieved. The colour is factory set to **Auto.** to automatically display the best colour system.

To check that you have the best colour:

- 1 With the external source playing, select **Manual setting** from the **SET UP** menu.



- 2 With **▲** or **▼** choose between **Auto.**, **PAL**, **SECAM**, **NTSC 4. 43** or **3. 58**.

Q Why doesn't the video/DVD being played show on screen?

A Make sure the VCR or DVD player is connected to the television as shown on page 7, then select the correct input by pressing **↶**.

Q Why is there a good video picture but no sound?

A Check all lead connections.

Q Why is there a picture but no sound?

A Check the volume has not been turned down or that sound mute has not been selected.

Q Why is the VCR/DVD picture in black and white?

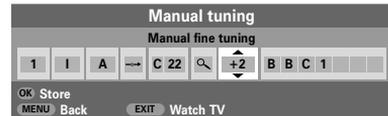
A Check the correct **input** has been chosen, **S-VIDEO** or **AV**. See **AV connections** page 39.

Q What else can cause a poor analogue picture?

A Interference or a weak signal. Try a different television station. **Manual fine tuning** may help.

- 1 Select the **Manual tuning** menu. Highlight the station and press **OK**, then press **▶** to select **Manual fine tuning**.

- 2 Using **▲** or **▼** adjust to get the best picture and sound. Press **OK** and then **EXIT**.



Q Why don't the controls on the front of the television work?

A Check that **Panel lock** is not **ON**.

Q Why doesn't the remote control work?

A Check the side switch on the remote control is in TV mode. Check the batteries aren't dead or inserted incorrectly.

Q Why is there a message permanently on the screen?

A Remove it by pressing **[i+]**.

Q Why is the **DTV** main menu unavailable?

A Another mode is selected. Press **A/D** to select **DTV**.

Questions and Answers (continued)

Q Why are some of the menus locked?

A **Lock Menu** has been enabled (see 'Parental Controls' page).

Q Why is the **digital** channel locked?

A The channel has been selected in **Locked Programmes** (see 'Digital Settings' section).

Q Why can only certain **digital** channels be viewed?

A A **Favourite** list has been selected (see 'Favourite Programmes' section), set the feature to **ALL PROGS** or change channels by using the number buttons.

Q Why are some of the **digital** subscription channels unavailable?

A Your subscription needs upgrading. Contact your service provider.

Q Why is the soundtrack in English when a different audio language has been selected?

A The programme is currently being broadcast with an English soundtrack only.

Q Why is there incorrect or no sound when in **DTV** mode?

A Press **CDI/II** to check if the hard of hearing option has been selected.

Q What can be done if the **PIN** number has been forgotten?

A Use the Master PIN code of 1276, then change to a number of your choice. Ensure that no-one else can use the Master PIN by removing the Owner's Manual.

Q Why are there vertical stripes on the screen when in **PC** mode?

A The **Sampling clock** may need adjustment. Select **PC Setting** from the **SET UP** menu, highlight **Sampling clock** and adjust until the lines clear.

Q Why are horizontal stripes and/or blurred images on the screen when in **PC** mode?

A The **Clock phase** may need adjustment. Select **PC Setting** from the **SET UP** menu, highlight **Clock phase** and adjust until the picture clears.

Q Why when **digital** subtitles have been selected are they not showing on screen?

A Subtitles are not currently being transmitted by the broadcaster.

Q Why is there no **digital** text service?

A The **digital** programme being viewed is not broadcasting digital text. Try another **digital** programme.

Q Why are there problems with **analogue** text?

A Good performance of text depends on a good strong broadcast signal. This normally requires a roof or loft aerial. If the text is unreadable or garbled, check the aerial. Go to the *main index* page of the text service and look for the *User Guide*. This will explain the basic operation of text in some detail. If further information is needed on how to use text see the *text* section.

Q Why are there no **analogue** text sub-pages?

A There are none broadcast or they have not yet loaded. Press the **TEXT** button to access. (See *text* section).

Q Why are the four coloured text numbers visible but no text?

A Text has been selected whilst viewing an external source i.e. DVD or VCR. No text will appear on screen or a box may appear stating no information is available. Select a broadcasting channel and press **TEXT** to access.

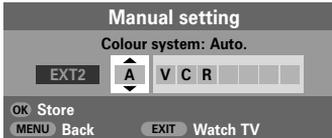
Q Why does the **GREEN** Active Standby LED sometimes take longer to go out?

A When put into standby the television's active standby will automatically search all available channels for downloads, provided **Auto upgrade** is **On**. The time it takes to do this may vary.

Questions and Answers (continued)

Q Why are the colours wrong when an NTSC source is played?

A Connect the source via a SCART lead and play. Select **Manual setting** from the **SET UP** menu.



- 1 Set the Colour to **Auto.** and exit.
- 2 Go to the **Picture settings** menu and adjust the tint.

Q Why doesn't REGZA-LINK work?

A If settings on connected REGZA-LINK equipment are changed the equipment may fail to work correctly with television. Removing the HDMI cable then replacing it may help. If not turn off the television, remove the power cable from the wall socket, then plug the television back in and switch on.

Q Why is there no sound or picture when in HDMI mode?

A Ensure that the cables used are HDMI displaying the HDMI logo (**HDMI**). Some early HDMI equipment may not work properly with the latest HDMI television products, due to new standard adoption. Try setting the **HDMI setting** options to **Off**.

DISPOSAL...

The following information is only for EU-member states:

Disposal of products

The crossed out wheeled dust bin symbol indicates that products must be collected and disposed of separately from household waste. Integrated batteries and accumulators can be disposed of with the product. They will be separated at the recycling centres.

The black bar indicates that the product was placed on the market after August 13, 2005.

By participating in separate collection of products and batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health.

For more detailed information about the collection and recycling programmes available in your country, please contact your local city office or the shop where you purchased the product.

Disposal of batteries and/or accumulators

The crossed out wheeled dust bin symbol indicates that batteries and/or accumulators must be collected and disposed of separately from household waste.

If the battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the Battery Directive (2006/66/EC), then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will appear below the crossed out wheeled dust bin symbol.

By participating in separate collection of batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health.

For more detailed information about the collection and recycling programmes available in your country, please contact your local city office or the shop where you purchased the product.



Notes

For your own records

Specifications and accessories

DVB-T Broadcast systems/channels

UK	UHF 21-68
France	VHF 05-10 (VHF 01-05) UHF 21-69
Germany	VHF 05-12 UHF 21-69
Austria	VHF 05-12 UHF 21-69
Switzerland	VHF 05-12 UHF 21-69
Italy	VHF 05-12 (D,E,F,G,H,H1,H2) UHF 21-69
Spain	UHF 21-69
Netherlands	VHF 05-12 UHF 21-69
Sweden	VHF 05-12 UHF 21-69
Finland	VHF 05-12 UHF 21-69
Greece	VHF 05-12 UHF 21-69

Video Input PAL, SECAM, NTSC 3.58/4.43

External connections

EXT1	Input	21-pin SCART	RGB, A/V
EXT2	Input	21-pin SCART	A/V, S-video Selectable
		Output fixed to television	
EXT3	Input	Phono jacks	Y, P _B /C _B , P _R /C _R
		Phono jacks	Audio L + R
EXT3	Input (Side)	Phono jack	Video, S-video
		Phono jacks	Audio L + R
HDMI 1/2	Input	HDMI (Audio LIP SYNC, Deep Color, x.v.Colour supported)	
HDMI 3	Input (Side)	HDMI (Audio LIP SYNC, Deep Color, x.v.Colour supported)	
PC	Input	Mini D-sub 15-pin	Analog RGB signal
PC/HDMI1 Audio		3.5mm mini jack	Audio
Digital Audio Output (S/PDIF)		Optical	
Output to Active Super Woofer		Phono jack	
Fixed Audio Output		Phono jacks	Audio L + R

Broadcast systems/channels

PAL-I	UHF UK21-UK69
PAL-B/G	UHF E21-E69 VHF E2-E12, S1-S41
SECAM-L	UHF F21-F69 VHF F1-F10, B-Q
SECAM-D/K	UHF R21-R69 VHF R1-R12

Stereo

Nicam
2 carrier system

Visible Screen Size (approx.)

Model 37	94cm
42	107cm
46	117cm

Display

16:9

Sound output (at 10% distortion)

Main 10W + 10W

Power consumption as specified in EN60107-1:1997

Model 37	203W
42	226W
46	287W

Standby (approx.)

Model 37	0.8W
42	0.8W
46	0.8W

Dimensions (approx.)

Model 37	64cm (H)	90cm (W)	26cm (D)
42	69cm (H)	101cm (W)	31cm (D)
46	75cm (H)	111cm (W)	31cm (D)

(Height dimension includes foot stand)

Weight (approx.)

Model 37	20.5kg
42	24.5kg
46	28kg

Headphone socket

3.5mm stereo

Operating condition

Temperature 5°C – 35°C
(41°F – 94°F)
Humidity 20-80%
(non-condensing)

Accessories

Remote control
2 batteries
(AAA, IEC R03 1.5V)
Cleaning cloth

DVB is a registered trademark of the DVB Project



Printed on recycled paper. 100% Chlorine free.

© Toshiba Information Systems (U.K.) Limited

All rights reserved.

Reproduction in whole or part without written permission is strictly prohibited.

Toshiba Information Systems (U.K.) Limited

Consumer Products Division,
European Service Centre,
Admiralty Way, Camberley,
Surrey, GU15 3DT, UK

Specification is subject to change without notice.

Originated by Zushi Illustration & Visualisation, Bristol, UK.



License Information
used with
Toshiba Televisions

Information

The software pre-installed in TOSHIBA Digital Televisions consists of multiple, independent software components. Each software component is copyrighted by TOSHIBA or a third party.

The TOSHIBA Digital Television uses software components that are distributed as freeware under a third-party end-user license agreement or copyright notice (hereinafter referred to as a "EULA"). Some EULAs require that the source code of the applicable component be disclosed as the condition for distributing the software component in executable format.

You can check the software components subject to such EULA requirements on the following Home Page:

URL: <http://tesc.toshiba.co.uk/Web/Website.nsf/ContentFrameSet?OpenFrameset>

In addition, some of the software components which are used in TOSHIBA Digital Televisions include the software that are made or developed originally by Toshiba. These software and accompanied documents are copyrighted by TOSHIBA, and protected by Copyright Act, an international treaty's articles and other governing laws.

The software components which are made or developed originally by TOSHIBA and not subject to EULAs are not a target of source code offering.

TOSHIBA provides a warranty for the TOSHIBA Digital Television you have purchased under conditions set forth by TOSHIBA. However, some of the software components distributed under an EULA are made available for use by the user on the assumption that they are not copyrighted or warranted by TOSHIBA or any third party. These software components are licensed to the user free of charge and therefore are not covered by a warranty within the scope of the applicable laws. These software components are not subject to any copyrights or other third-party rights and are provided in "as is" condition without any warranty, whether express or implied. "Warranty" here includes, but not limited to, an implied warranty for marketability or fitness for specific uses. All risks associated with the quality or performance of these software components are assumed by the user. TOSHIBA shall not be liable whatsoever for any cost of repair or correction or other incidental expense incurred in connection with a defect found in any of these software components. Unless specified under the applicable laws or in a written agreement, a party who changes or redistributes the software with consent from the copyright holders or based on the aforementioned licenses shall not be held liable whatsoever for any loss arising from the use of or inability to use such software. The same applies even when the copyright holders or relevant third parties have been informed of the possibility of such loss. "Loss" here includes normal, special, incidental and indirect loss (including, but not limited to, the loss of data or its accuracy; loss incurred by the user or any third party; and interface incompatibility with other software). Please read each EULA for details on the use conditions and items that must be observed regarding these software components.

The table below lists the software components pre-installed in TOSHIBA Digital Televisions, which are subject to EULAs. The user should read the applicable EULAs carefully before using these software components. The EULAs are exhibited in their original text (English) as exactly written by the respective parties other than TOSHIBA.

Pre-Installed Software	EULA
Linux Kernel Busybox	Exhibit A
uClibc	Exhibit B
ZBOOT	Exhibit C

Exhibit A

GNU GENERAL PUBLIC LICENSE Version 2, June 1991

Copyright © 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software – to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of the free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights you have. You must make sure that they too, receive or can get the source code. Also you must show them these terms so they know their rights.

We protect your right with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent license, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This license applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the terms "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the program or any portion of it, thus forming a work based on the program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these condition:
 - a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program, or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of the this License.
 - c) If the modified Program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the program itself is interactive but does not normally print such an announcement, your work based on the program is not required to print such an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative and collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a

claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance upon consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the general Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and use of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU, SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<One line to give the program's name and a brief idea of what it does.>

Copyright © 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode.

```
Gnomovision version 69, Copyright © 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type "show w".
This is free software, and you are welcome to redistribute it under certain
conditions; type "show c" for details.
```

The hypothetical commands "show w" and "show c" should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than "show w" and "show c"; they could even be mouse-clicks or menu items – whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program; if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the 'Gnomovision'
(which makes passes at compilers) written by James Hacker.
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

Exhibit B

GNU LESSER GENERAL PUBLIC LICENSE Version 2.1, February 1999

Copyright © 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software – to make sure the software is free for all its users.

This License, the Lesser General Public License, applies to some specially designated software packages – typically libraries – of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software or use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can link them with the library after making changes to the library and recompiling it. Also you must show them these terms so they know their rights.

We protect your rights with a two step method: (1) we copyright the library, and (2) we offer you this license which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that original authors' reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorised party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the terms "modification".)

Each licensee is addressed as "you".

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using a library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library

(independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the program or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these condition:
 - a) The modified work must itself be a software library.
 - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative and collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a Library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the Sections 1 and 2 above provided that you accompany it with the complete corresponding machine readable source code, which must be distributed under the terms of sections 1 and 2 above on a medium customarily used for software interchange. If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.
5. A program that contains no derivative of any portion of the Library, but is designed to work with the library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the Library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by the License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking the Library. A suitable mechanism is

one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means that you cannot use both them and the Library together in an executable that you distribute.

- 7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
 - b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
- 8. You may not copy, modify, sublicense, link with or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
- 9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying and distributing the Library (or any works based on the Library), you indicate your acceptance of the License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
- 10. Each time you redistribute the Library (or any works based on the Library), the recipient automatically receives a License from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipient's exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgement or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradicts the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstances, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents to other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance upon consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT

LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<One line to give the library's name and a brief idea of what it does.>

Copyright © 19yy <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.

Also add any information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990

Ty Coon, President of Vice

That's all there is to it!

Exhibit C

**/* zlib.h--interface of the 'zlib' general purpose compression library
version 1.2.3, July 18th, 2005**

Copyright © 1995-2005 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgement in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly jloup@gzip.org
Mark Adler madler@alumni.caltech.edu

*/





Printed on recycled paper. 100% Chlorine free.

VX1A00112700