

User's Manual

HDR-FOX T2

The default password is 0000.

Thank you for purchasing a Humax HDR-FOX T2 Freeview+ HD product.

Freeview+ HD explained:

- **Accurate recording**
The start and end times of scheduled recordings will track the signal meaning the recording will start and stop at the times sent by the broadcasters. If a programme starts early or runs late the record time will automatically be adjusted to record the whole programme.
- **Series Link**
If a programme you wish to record is in a series, you can now record the whole series. If the programme changes to a different day or time the product will track these changes and still record the programme.
- **Alternate Instances**
If a scheduled recording(s) overlap with other programmes set to record you will be given the option to record one of the programmes later that day or week, on the same channel or a different channel.
- **Split Recordings**
If a programme has two parts split by another entry in the Guide (e.g. a film divided in to two parts by a News programme) you will be given the option to set both parts to record.

Note: The above Freeview+ HD features are available on channels where the correct and accurate data is being broadcast. Some channels may not support all of the Freeview+ HD services.

For more information on Freeview+ HD please visit <http://www.freeview.co.uk/HD>.

Notice

Thank you for purchasing a HUMAX product. Please read this user's manual carefully to be able to safely install, use and maintain the product at maximum performance. Keep this user's manual next to your product for future reference. The information in this user's manual is subject to change without notice.

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Warranty

The warranty does not cover parts which may become defective due to misuse of the information contained in this manual.

Meaning of Symbols



To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.



This symbol indicates dangerous voltage inside the product that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the product.

Warnings, Cautions and Notes

Throughout the whole manual, pay special attention to the following marks that indicate hazardous situations.

Warning

Indicates a hazardous situation which could result in serious injury.

Caution

Indicates a situation which could damage the equipment or other apparatus.

Note

Indicates additional information to make the user aware of possible problems and information of any importance to help understand, use and maintain the installation.

'WEEE' Instructions



This product should not be disposed with other household wastes at the end of its working life. Please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. This will prevent possible harm to the environment or human health from uncontrolled waste disposal.

Domestic users:

Please contact either the retailer where you purchased this product or their local government office for details of where and how they can take this item for environmentally safe recycling.

Business users:

Contact your supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

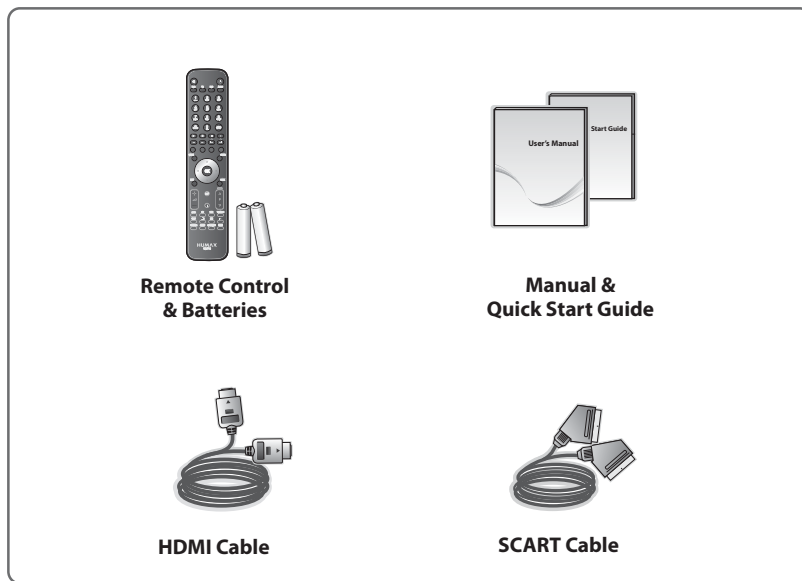
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Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks of registered trademarks of HDMI Licensing LLC.

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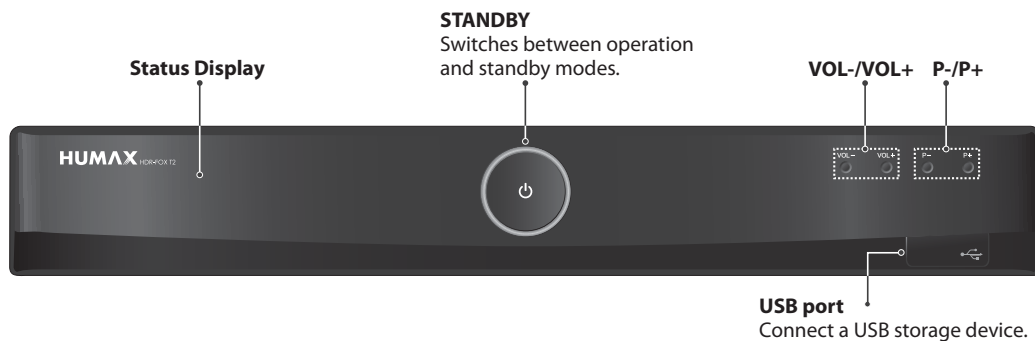
1. Checking Accessories



Note: The accessories may vary according to area.

2. Product Overview

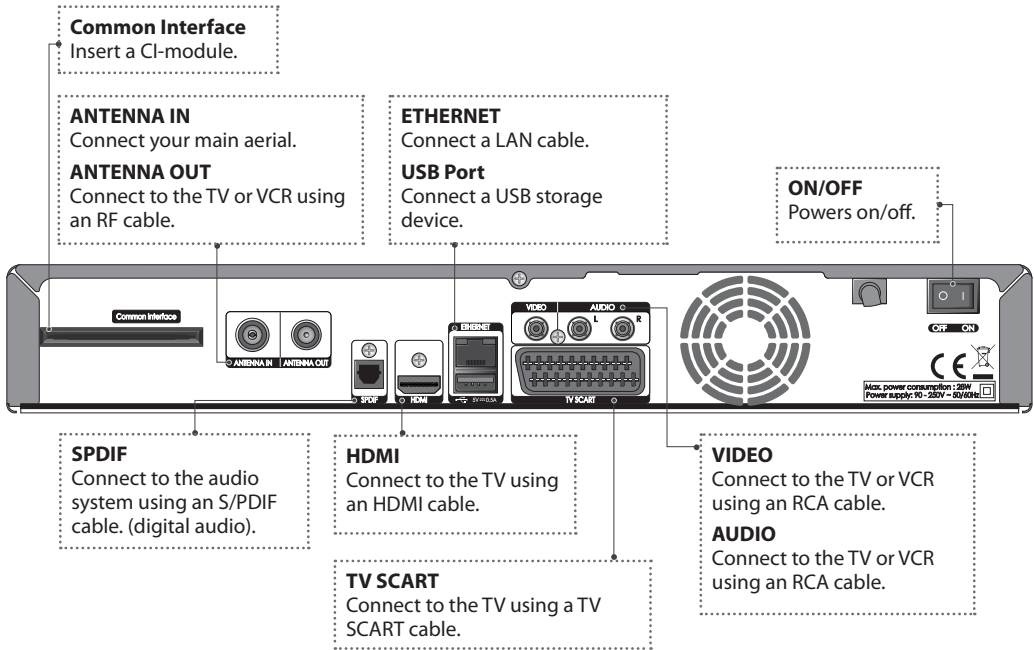
Front Panel



Note: The image shown may differ from the actual product.

Quick Start Guide

Rear Panel



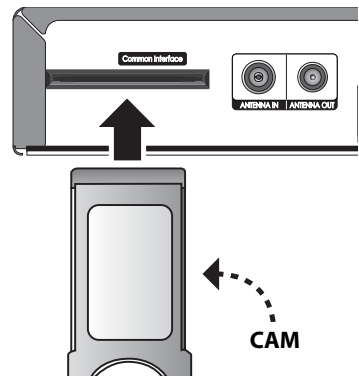
Note: The image shown may differ from the actual product.

Conditional Access

Although most TV and radio services are free to air, others are available on a subscription basis and can only be enjoyed via a Conditional Access Module (CAM) and smartcard.

Insert the CAM into the Common Interface slot.

Note: The CAM and smartcard are not provided with the product and are available from the Pay TV provider.

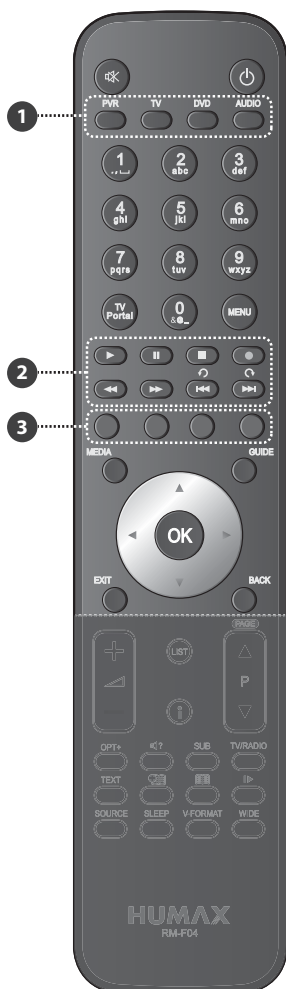


Quick Start Guide

English

Remote Control

To control the product please make sure that the PVR mode is selected on the remote control.



MUTE Mutes audio

STANDBY Switches between operation and standby modes.

1 MODE Changes the mode of remote.

NUMERIC (0-9)

TV Portal Access to Humax TV Portal.

MENU Displays the main menu.

2 Playback Control Buttons ▶ Play, II Pause, ■ Stop, ● Record ◀◀Rewind, ▶▶Fast Forward, ◀◀ Previous, ▶▶Next, ⌂ Instant Replay, ⏭ Skip

3 COLOUR Buttons Colour keys for interactive applications.

MEDIA Displays the media list.

GUIDE Displays the programme guide.

ARROW Buttons Moves the cursor up, down, left or right.

OK Selects a menu or confirms.

EXIT Exits all On-Screen Display (OSD) screens.




BACK Returns to the previous screen.

Note:

- The image shown may differ from the actual product.
- Some playback control buttons may not function depending on the content/media files you are viewing.

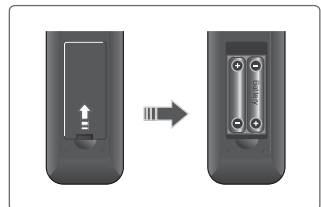
Quick Start Guide



- VOLUME** Adjusts the audio volume.
- P▲/P▼** Changes the channel or page.
- LIST** Displays the channel list.
- i (Information)** Displays the channel and programme information.
- OPT+** Displays the channels attributes.
- AUDIO** Displays the audio list.
- SUB** Displays the subtitle language list.
- TV/RADIO** Switches between TV and radio modes.
- TEXT** Enters the digital text service.
- SOURCE** Controls the output of TV SCART.
- SLEEP** Sets the sleep timer.
- V-FORMAT** Sets the resolution of video.
- WIDE** Sets the display format.
-   Add Bookmark/Show Bookmark List.
-  Slow Play

Inserting Batteries

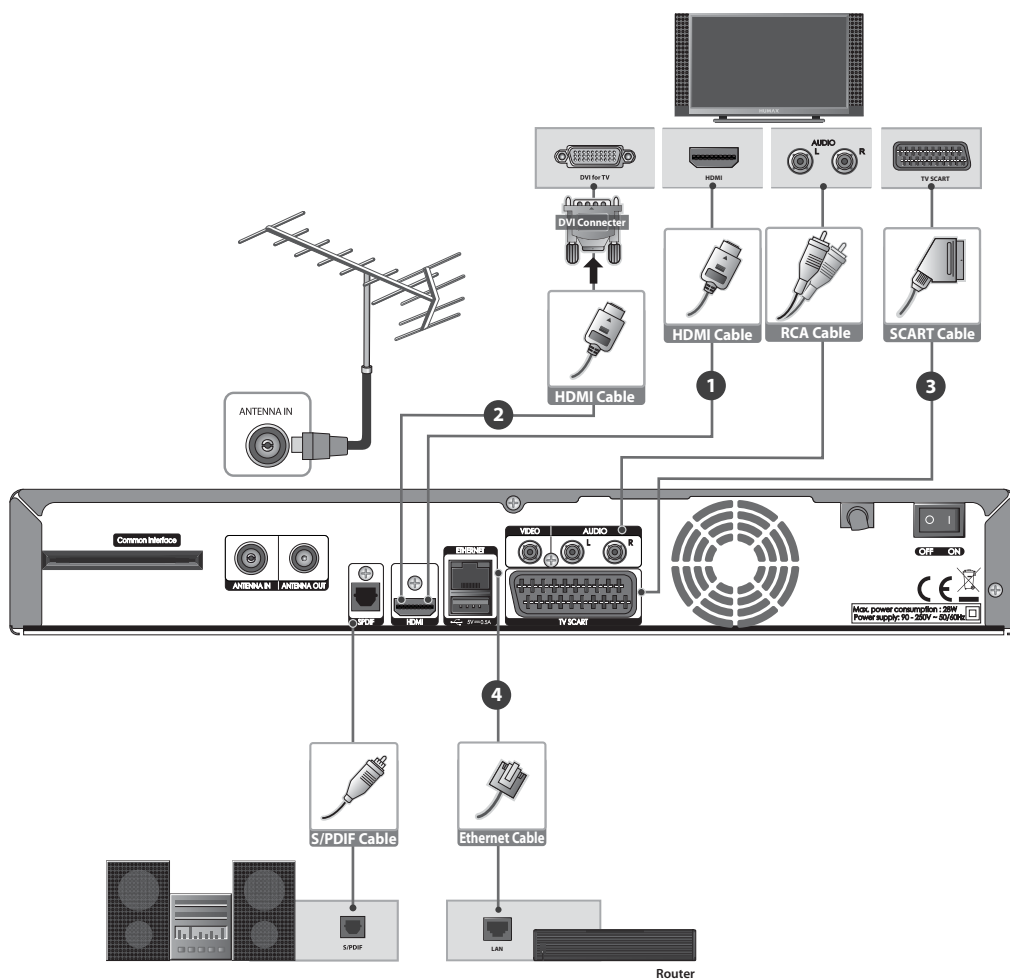
1. Press the hook upward and lift the battery cover off.
2. Insert the batteries (supplied) matching the plus(+) and minus(-) at each end.
3. Close the cover.
4. Press the **PVR** button at the top of the remote control.



3. Connections

This section describes how to connect your product to match your particular devices setup and to gain optimum signal quality. The product provides various interfaces to connect to the TV, VCR or other devices. Select the most appropriate procedure depending on the device you have.

Note: If you encounter any problems setting up your product, please contact your local retailer or Humax Customer Helpline.



Quick Start Guide

Connecting the Antenna

Connect the aerial to the **ANTENNA IN**.

Connecting the TV

You can select one of the following connections depending on the device you have.

❶ TV with the HDMI connector;

For the best picture quality, connect the product and TV using a HDMI cable.
When using a HDMI cable it is not necessary to also use a scart cable.

❷ TV with the DVI connector;

For very good picture quality, connect the product and TV using a HDMI cable and a HDMI-to-DVI converter for video.

You will also require a RCA cable(Audio L/R) connected to the necessary connection(s) on your TV/Display for Audio.

Please refer to your TV/Display user manual for further information on the connections required for Audio.

❸ TV with the SCART connector;

For good picture quality, connect the product and TV using a SCART cable.

For additional audio connections you can either

1. Connect the product and TV using an RCA cable (Audio L/R).
2. When using the digital audio system, connect the product and the digital audio system using a S/PDIF cable.

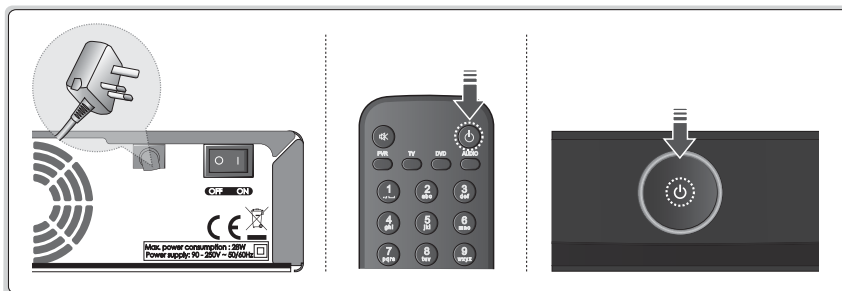
Connecting the Network

❹ Connecting to the LAN;

Connect one end of the Ethernet cable to the receiver and the other end to the LAN router.

4. Powering On

1. Connect the power cord of the product to a wall outlet.
2. Ensure the power switch at the rear of the product is switched to **ON**.
3. Power on by pressing the **STANDBY** button on the remote control or touching the **STANDBY** button at the front of the product.



Note: To control the product please make sure that the PVR mode is selected on the remote control.

Quick Start Guide

5. Installation Wizard

When powering on your product for the first time after purchase or performing the factory default in menu, the Installation Wizard will appear on your TV screen.

If you do not see the Installation Wizard please check:

1. Your TV is switched on.
2. The cables between the product and your TV are connected correctly.
3. Your TV is on the correct input (AV channel) for the connection you are using. (Please refer to your TV/Display user manual for further information to select the correct Input/channel.)

Note: If you exit the installation wizard without fully completing the channel searching procedure, you may not have all of the channels available. In this case, you can use the **Settings > Installation** menu to search for more channels.

1. Preferred Language

Select a language for audio and subtitles and press the **OK** button.



2. Display

Set the video output settings you require. To continue to the next step select **Next** and press the **OK** button.

Screen Ratio:

- 16:9 - Widescreen TV
- 4:3 - Traditional TV

Display Format:

Select your Required Display Format, the image at the bottom of the screen will indicate how the picture will appear on your TV.

Resolution:

Select your Required Video Resolution (576i, 576p, 720p, 1080i, 1080p)



Note: Some TVs/Displays may not support all Video Resolutions, to change this in the future please use the **V-FORMAT** button on your remote control.

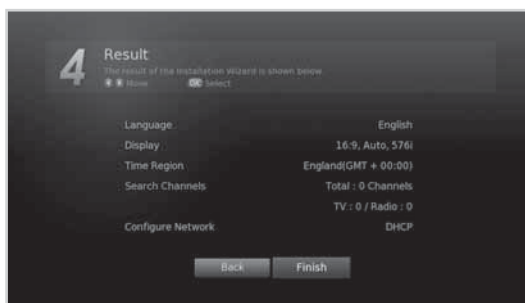
3. Automatic Search

Channel search will begin automatically.
When the search has completed press the **OK** button to save the channels found during the search.



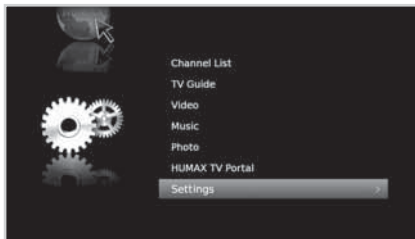
4. Result








The results of the Installation Wizard are displayed on screen.
Select **Finish** and press the **OK** button to complete the Installation Wizard.



Quick Start Guide

6. Menu Overview



	Channel List
	TV Guide
	Video
	Music
	Photo
	HUMAX TV Portal
	Settings

Preferences

- Parental Control
- Language
- Time
- Video
- Audio
- Recording
- Screen Display

Edit Channels

- Edit Favourite List
- Edit Channel List

Installation

- Automatic Search
- Manual Search
- Software Update
- Antenna Power
- Factory Default

System

- System Information
- Signal Detection
- Power Management
- Common Interface
- Data Storage
- Internet Setting

How to Navigate



Displays the Menu OSD



Moves among menus or options



Selects (Enters) a menu or confirms a selection



Changes or adjusts the option



Goes back to the previous screen



Enters the number (0~9)



Exit all On-Screen

Changing Channels

You can change the channels in several ways.

- ❖ Press the **P▲/P▼** button.
- ❖ Enter the channel number directly. **(0-9)**
- ❖ Go to the channel list or TV guide and select a channel.

Note: Press the **TV/RADIO** button to switch between TV and radio channels.

Volume / Mute / Audio

- ❖ To adjust the audio volume, press the **▲+ / ▲-** button.
- ❖ To mute the audio temporarily, press the **MUTE** button.

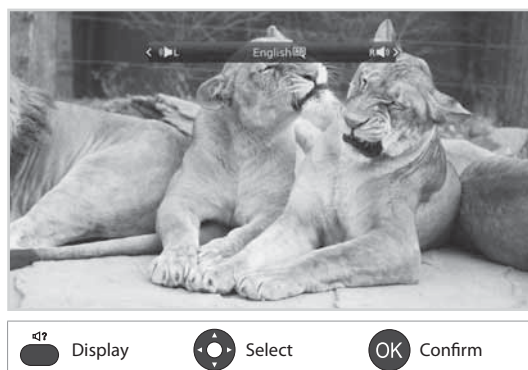
Setting Audio Options

Audio options are available only when the programme supports multiple audio languages.

1. Press the **AUDIO** button.
Each time you press this button, the audio language changes or the Audio Description soundtrack will be selected.
2. Select the audio direction (if available) using the **◀/▶** arrows.

Note:

- The mute function remains set while you change channels.
- You cannot set the audio direction when the programme is broadcast in Dolby Digital.



Basic Operation

Display Format / Resolution

Setting Display Format

Press the **WIDE** button to set the display format according to the screen ratio. Each time you press this button, the value changes.

- Screen ratio 4:3: **Auto - Letterbox 16:9 - Letterbox 14:9 - Centre**
- Screen ratio 16:9: **Auto - Pillar Box - Zoom**

Note: Refer to *Display Format* for details.



Setting Resolution

Press the **V-FORMAT** button to set the resolution of the screen. Each time you press this button, the value changes.

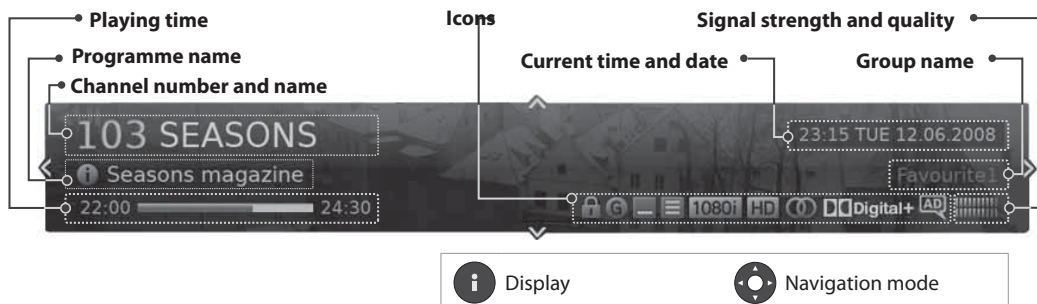
- **576i - 576p - 720p - 1080i - 1080p**

Note: When connected with an HDMI cable you may only be able to change to the resolutions that the TV supports.



Programme Information (i-plate)

The i-plate is an information banner that is displayed for a certain period of time whenever you change channels. Press the **i** button while watching a programme to display the i-plate. Press the **EXIT** button to hide.



- **Viewing detailed programme information**
Press the **i** button again while the i-plate is displayed.
- **Viewing previous/next programme information**
Press the **◀/▶** button while the i-plate is displayed. Press the **OK** button to set reminders for future programmes.
- **Viewing programme information of other channels**
Press the **▲/▼** button while the i-plate is displayed. Press the **OK** button to change to the selected channel.

Icons

The icons represent the information and services provided.

	Locked programme		Series Programme
	Pay TV / encrypted programmes (CAS icons)		Resolution
	Parental guidance programme		HD programme
	Scheduled programme (Red: Record, Blue: Reminder)		Multiaudio
	Subtitle		Dolby Digital audio
	Audio Description		Dolby Digital Plus audio

Note: Programme information is not displayed when there is no programme information.

Basic Operation

Sleep Timer

Press the **SLEEP** button to set the automatic turn off time.
Each time you press this button, the value changes.


- **Sleep Off - 10 - 20 - 30 - 60 - 90 - 120 minutes**



Subtitle

You can select the subtitle language when subtitle information is provided.
Press the **SUB** button.
Each time you press this button, the subtitle language changes.

Note:

- You can choose to always display the subtitle when available.
- The  icon appears when the DVB subtitle is supported.



Option

You can set the options for the watching channel.

1. Press the **OPT+** button.
2. Select an option.
 - **Favourite** : Select the favourite group to add the channel
 - **Lock** : Select **On** or **Off**.
 - **Delete**: Press the **OK** button.
2. Select **OK** to save and exit.



Text and Interactive Services

If your chosen channel has digital text features, you can access them. Digital text services often load automatically shortly after the digital text window is displayed. In which case, simply follow the on screen instructions. (Press colour buttons)

1. Press the **TEXT** button to access digital text.
2. Press the **TEXT** button again to return to normal viewing.
3. Press the **P▲/P▼** button to exit this service.

Channel List

The channel list will help you find the channel you want to watch quickly and easily.



You can access the channel list in several ways.

- ❖ Press the **LIST** button.
- ❖ Press the **MENU** button and select **Channel List**.

Changing Channels

Select the channel you want to watch and press the **OK** button. The displayed channel will change.

Note:

- : Locked channel, : Pay TV / encrypted programmes (CAS icons)
- Press the **i** button to view the detailed programme information.
- Press the **LIST** or **EXIT** button to exit.

Advanced Options

Changing Group

You can display the list of the selected channel group.

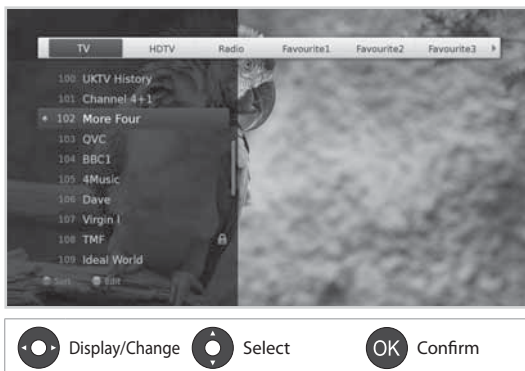
➤ **TV, HDTV, Radio, Favourite 1~5, Recent**

1. Press the **▶** arrow.
2. Select a channel group.
3. Press the **OK** button.

Note: Press the **TV/RADIO** button to switch between TV and Radio groups.

Sorting Channels

Press the **RED** button to sort the list in numerical or alphabetical order.



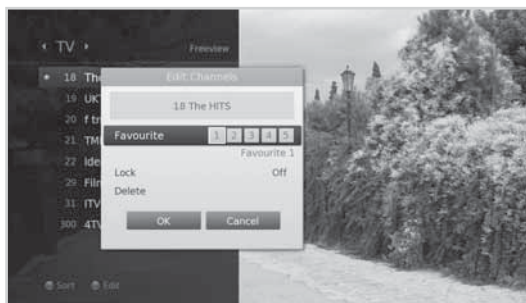
Editing Channels in Channel List

You can lock or delete each channel in the channel list, as well as in menu. To edit the multiple channels, go to **MENU >Settings > Edit Channels**.

Locking / Deleting Channels

1. Select a channel you want to edit and press the **GREEN** button.
2. Select an option.
 - > **Lock**: Select **On** or **Off**.
 - > **Delete**: Press the **OK** button.
3. Select **OK** to save and exit.

Note: The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.



Setting Favourite Channels

You can select your favourite channels and include them in the five favourite groups.

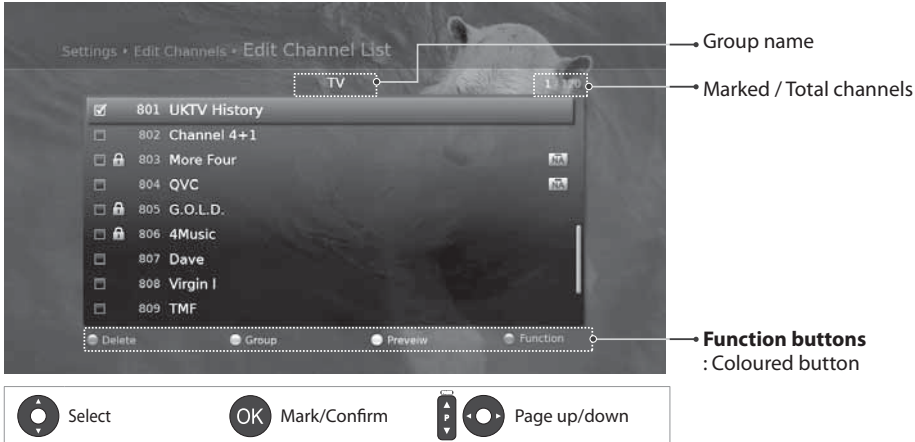
1. Select a channel and press the **GREEN** button.
2. Select **Favourite**.
3. Select a favourite group you want to include the channel in and press the **OK** button.
To remove a channel from a favourite group, select the group and press the **OK** button again.
4. Select **OK** to save and exit.

Managing Channels

Editing Channels

The **Edit Channel List** menu will help you delete or lock multiple channels.

MENU → **Settings** → **Edit Channels** → **Edit Channel List**



Note:

- : Locked channel, : Pay TV / encrypted programmes (CAS icons)
- Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Deleting Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **RED** button.

Locking / Unlocking Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **BLUE** button.
3. Select **Lock**. To unlock, select **Unlock**.

Advanced Options

Changing Group

To list the channels of other groups, press the **GREEN** button and select a group you want.

Note: Press the **TV/RADIO** button to switch between TV and Radio groups.

Changing Background

You can change the channel displayed in the background while editing.

1. Select the channel you want to watch.
2. Press the **YELLOW** button. The displayed channel will change.

Selecting / Releasing All Channels

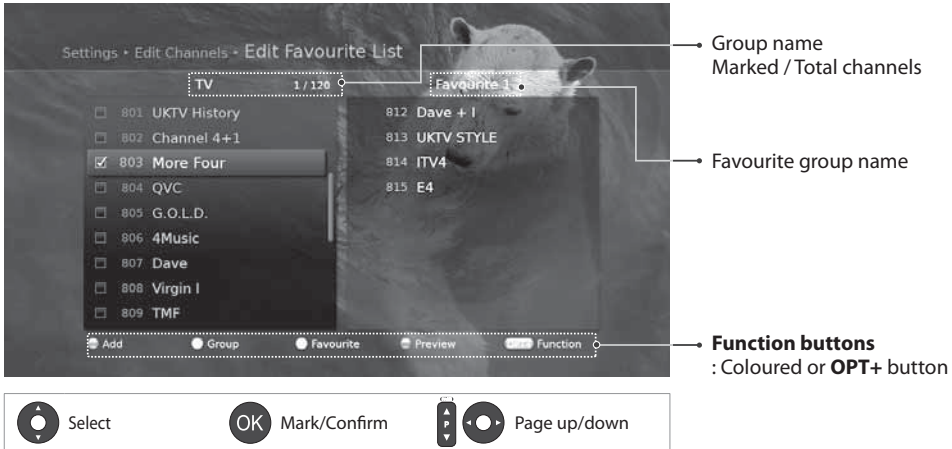
1. Press the **BLUE** button.
2. Select **Select All**.
3. To release all, select **Release All**.

Managing Channels

Editing Favourite Channels

The **Edit Favourite List** menu will help you add or remove channels from the favourite groups.

MENU → **Settings** → **Edit Channels** → **Edit Favourite List**



Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Adding / Removing Favourite Channels

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. To add channels to the favourite list, select the channels you want to add using the **▲/▼** and **OK** button in the left column and then press the **RED** button. The added channels will appear in the right column.
3. To remove channels from the favourite list, select the channels you want to remove in the right column and then press the **RED** button.

Moving Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **RED** button.
3. Move the selected channels to the location you want using the **▲/▼** and **OK** button.

Note: You can move the channels in the right column only.

Renaming Favourite Groups

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. Press the **OPT+** button
3. Select **Rename**.
4. Enter the name in the keyboard.

Advanced Options

Changing Group

To list the channels of other groups in the left column, press the **GREEN** button and select a group you want.

Note: Press the **TV/RADIO** button to switch between TV and Radio groups.

Changing Background

To list the channels of other groups in the left column, press the **BLUE** button and select a group you want.

Selecting / Releasing All Channels

1. Press the **OPT+** button.
2. Select **Select All**.
3. To release all, select **Release All**.

TV Guide

The TV guide is an on-screen guide of grid type which displays the programme information of channels in time and date order.

You can access the TV guide in several ways.

- ❖ Press the **GUIDE** button.
- ❖ Press the **MENU** button and select **TV Guide**.

Note: Press the **GUIDE** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

The screenshot shows a TV Guide interface with the following elements:

- Preview:** A large preview window at the top left showing a program image and details for 'Mimic: Weatherview' on Channel 4+1.
- Current time and date:** A box at the top right showing '07:18 TUE 12 JUN 2009'.
- Information of the selected programme:** A box pointing to the preview window, containing channel number & name, programme name, simple information, favourite group, and icons.
- Time bar:** A horizontal bar at the bottom of the grid showing time slots (06:00, 07:00, 08:00).
- Function buttons:** A row of buttons at the bottom: Guide, Find, Schedule, and Group.

Below the screenshot is a control panel with three buttons:

- Select:** A directional pad button.
- OK:** A circular button labeled 'Tune/Reserve'.
- Page up/down:** A vertical button with up and down arrows labeled 'Page up/down'.

Note:

- Press the **i** button to view the detailed programme information.
- : Scheduled programme (Red: Record, Blue: Reminder), : Recording programme, : Present time

Watching Programmes

1. Select a programme and press the **OK** button. The programme will be displayed in the preview.
2. Press the **OK** button again to exit the TV guide and watch the programme.

Setting Reminders

1. Select a future programme and press the **OK** button.
2. Select **Reminder** and press the **OK** button.
Press the **OK** button again to cancel the reservation.
The reserved programmes will be added automatically in **Schedule**.

Note:

- If the programme is overlapped with another programme, adjust the reservation appropriately.
- If the channel is locked, you will be prompted to enter your password before watching.
The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.
- In standby mode the product will switch on to the channel when the programme starts.
- You can reschedule reminders or recordings. (Refer to **Scheduling Reminders and Recordings**.)

Advanced Options

Quick Navigation

Press the ◀/▶ button to move to the previous/next programme.

Press the ◀◀/▶▶ button to jump back/ahead two hours.

Press the ◀◀/▶▶ button to move to the previous/next day.

Changing Group

To list the channels of other groups, press the **BLUE** button and select a group you want.

Note:

- Press the **TV/RADIO** button to switch between TV and Radio groups.
- To search specific programmes, go to **Find** by pressing the **GREEN** button. (Refer to **Finding Programmes**.)

TV Guide

Finding Programmes

Find will help you find the programmes more specifically using the keyword or genre.

By Keyword

1. Press the **GREEN** button.
2. Select **Keyword** and press the **►** button.
3. Select a keyword and press the **OK** button.
4. Press the **YELLOW** button to confirm.

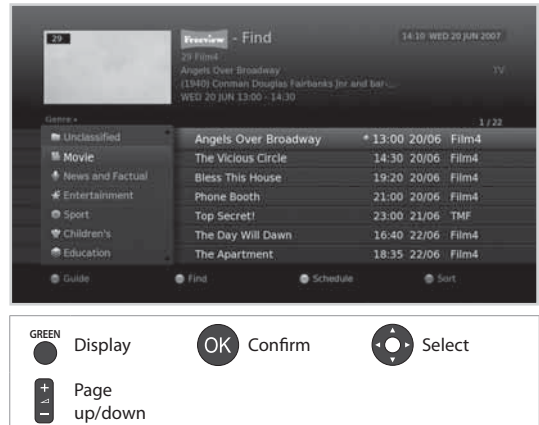
Note: To enter a new keyword, select **New Keyword**.

By Genre

1. Press the **GREEN** button.
2. Select **Genre** and press the **►** button.
3. Select a genre and press the **OK** button.
4. Select the specific genre and press the **OK** button. (if provided)

Note:

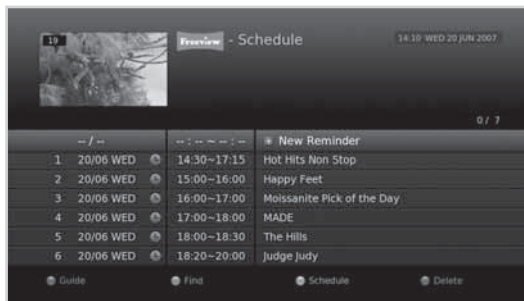
- Press the **i** button to view the detailed programme information.
- Press the **OK** button to watch a found programme. (Refer to **Changing Channels**.)
- You can set reminders or recordings for future programmes. (Refer to **Setting Reminders or Recordings**.)



Scheduling Reminders and Recordings

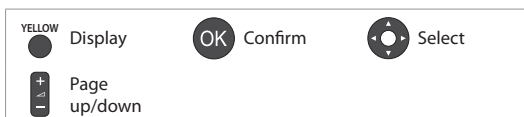
Schedule lists reminders and will help you manage them in more detail.

1. Press the **YELLOW** button.
2. You can add, edit or delete your reminders.
 - To add, select **New Reminder** and press the **OK** button.
 - To edit, select a reminder and press the **OK** button.
 - To delete, select a reminder and press the **BLUE** button.
3. **Reservation** will pop up. You can change the options you want using the ▲/▼/◀/▶, **NUMERIC(0~9)** and **OK** buttons.
4. Select **OK** to save and exit.



Note:

- Press the **i** button to view the detailed programme information.
- You can easily set reminders or recordings in **TV Guide**, **Find** or **i-plate** navigation mode.



Recording and Playback

You can record programmes in the built-in hard disk drive and playback the recorded programmes whenever you want.

Recording

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

Instant Recording

You can record the currently watching programme instantly and change the recording duration.

To instantly record the current programme you are watching, press the **RECORD** button. The recording will start from the current broadcast point and the record banner will be displayed for a few seconds.

Press the **STOP** button to stop recording the programme.

The recording will continue till the end of the current programme. However, if the programme ends in less than ten minutes, it will continue till the end of the next programme. When no programme information is provided, the recording will continue for two hours.

Note: You can also press the **Record** button while in the Guide to start recording a current programme on a different channel.



Delayed Recording

You can record the scenes of a live broadcast you have been watching until now by rewinding with the time shifted recording function.

Find the starting point you want to record by using the **REWIND**, ◀ or ▶ buttons, then press the **RECORD** button.

The recording will start from the point you select.

Changing Recording Duration

1. Press the **RECORD** button on the currently recording channel.
2. Set the duration manually or select till the end of the current programme or the next programme.

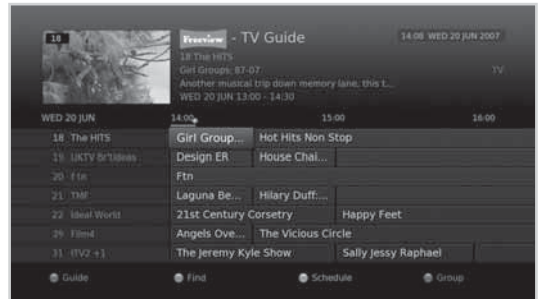


Record Select OK Confirm Enter 0~9

Scheduled Recording

You can easily set the recording reservations in **TV Guide**, **Schedule** or i-plate navigation mode.

- ❖ While in the **TV Guide** highlight a future programme and press the **OK** button.
- ❖ Select from:
 - Record Whole Series
 - Record the Whole Programme
- ❖ Press the **OK** button on a future programme in i-plate and select either **Record Series** or **Record the Whole Programme**. (Refer to **Programme Information**.)



The recording will start at the scheduled time and the record banner will be displayed for a few seconds. Press the **STOP** button to stop recording the programme.

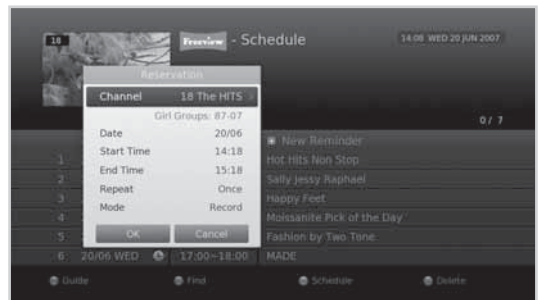
Note:

- Press the **GUIDE** button to go to **TV Guide**.
- Press the **GUIDE** button and press **YELLOW** button to go to **Schedule**.
- Press the **i** button while watching a programme to display the i-plate.

Editing Recording Schedule

You can edit or delete your reservations in **Schedule**.

- To edit, select a reservation and press the **OK** button. You can change the options such as channel, date, time, repeat mode, etc.
- To delete, select a reservation and press the **OPT+** button.



Record



Select



Confirm



Enter 0~9

Recording and Playback

Recording Conflict

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

Recording Duration Conflict

When an instant recording conflicts with one of the scheduled recordings (or reminders), you can either;

- Record for the automatically modified duration.
- Cancel either of the scheduled recordings (or reminders).
- Cancel the previous recording.



Watching Conflict

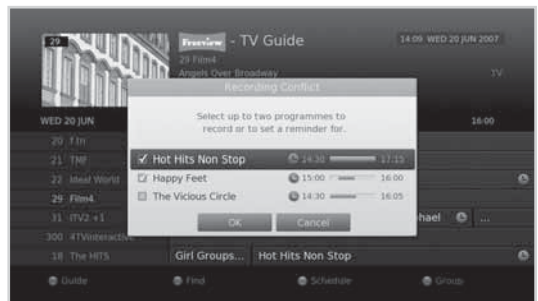
When a scheduled recording starts on a different channel while you are watching a channel and recording another channel, a record notice will pop-up 30 seconds before the scheduled recording starts.

- **OK:** The channel will change at the start time and the scheduled recording will start automatically.
- **Cancel:** The scheduled recording will be canceled.



Scheduling Conflict

When a new scheduled recording conflicts with one of the previously set recordings (or reminders), you will be prompted to select up to two programmes you want to keep. Select the programme using the ▲/▼ and OK button.



Setting Padding / Jump Time

MENU → **Settings** → **Preferences** → **Recording**

Setting Padding Time

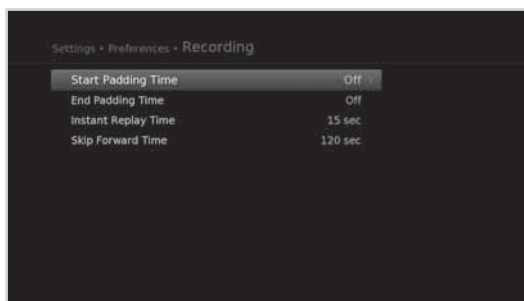
You can set the recording padding time in case the recording starts earlier or ends later than scheduled.

- **Start Padding Time** : Additional recording time before the recording starts.
- **End Padding Time** : Additional recording time after the recording ends.

Setting Jump Time

You can set the jump time to replay or skip scenes during playback or time shifted recording.

- **Instant Replay Time** : 7 sec, 15 sec, 30 sec
- **Skip Forward Time** : 30 sec, 60 sec, 120 sec, 240 sec



Note:

- You can record radio programmes also.
- The record banner will be displayed with the i-plate whenever pressing the **i** button.
- You can change the recording duration by using the **RECORD** button for instant recording or by going to **MENU > TV Guide > Schedule** for scheduled recording.
- When a new scheduled recording starts while a recording is already in progress, the record banner will be displayed for a few seconds to inform you that the recording has been started. If you are not watching the channel being recorded, a record notice will pop-up 30 seconds before the scheduled recording starts, and the channel will switch to the scheduled programme automatically at the start time.
- Pressing the **STANDBY** button while recording will not stop the recording. New recordings will start even in standby mode.
- While watching a recording programme, you can trick-play using the playback control buttons such as pause, fast rewind, instant replay, slow, etc.
- You can record the digital TV or radio programmes only. The external AV inputs cannot be recorded.
- Make sure that there is enough free space before recording. If the free space on the hard disk drive is insufficient, recording will stop. Recording HD programme requires more space than SD programme. Recording one hour of HD and SD programmes may require 8 GB and 2~3 GB of hard disk space, respectively. The space for recording one hour programme may differ depending on the programme.
- To view the recorded programme list, press the **MEDIA** or **MENU** button and select **Video**. (Refer to **Using Video List.**)



Recording and Playback

Playback

You can playback the recorded programmes that are stored in the built-in hard disk drive.

Playing Recordings (Video)

You can access the recorded file list easily and play the recorded programmes.












- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video**.

Select a file and press the **OK** button. Playback will start.

You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. The green playbar is displayed when pressing the **PLAY**, **FAST FORWARD**, **REWIND**, **SLOW** or **PAUSE** button while playing.



Playback Controls

	Play
	Pause the scene. Press the PAUSE button again to go back to play mode.
	Stop the playback of the current file and go to live TV.
	Fast Rewind
	Fast Forward
	Move to the previous chapter and replay the scenes.
	Move to the next chapter and skip scenes.
	Jump to the previous or next scene.
	Add or delete a bookmark in your desired scene. The bookmarked scene is shown as a yellow pointer.
	Jump to bookmarked scenes directly. The play pointer will first move to the nearest bookmark.
	Watch the recording in slow video.

Note:

- When you press the **BACK** button during playback, the playback stops.
- Chapters are made by dividing the recorded programme into eight portions.
- Bookmarks are available only when playing back the recorded programmes.
- Up to four bookmarks can be used, and the bookmarks will remain even if you stop playback.
- Refer to **Media List > Using Video List** for more details about the recorded files.

Recording and Playback

Pausing and Rewinding Live TV (TSR)

Time Shifted Recording (TSR) allows you to pause a live broadcast and return to it later and continue where you left off.

The TSR function automatically saves the programmes you watch to the built-in hard disk drive temporarily.

TSR lasts for 120 minutes.



To pause the programme you are watching,

Press the **PAUSE** button. Press the **PLAY** button to return. Pause makes a time gap between the live broadcasting point and watching point. The time gap is equivalent to the period the programme has been paused.

Press the **STOP** button to close the time gap and go to live programme.

To rewind and watch missed scenes,

Press the **REWIND** button. Press the **PLAY** button at the point where you want to start watching. You can pause, rewind or fast forward within the programme.

You can fast rewind to the start point. If you reach the start point while rewinding, the programme is automatically played at the normal speed.

To fast forward and skip scenes,

Press the **FAST FORWARD** button. You can fast forward only when there is a time gap between the current watching point and the live broadcasting point caused by pause, slow motion or fast rewind. You can fast forward up to the current broadcasting point. If you reach the live broadcasting point while fast forwarding, the programme is automatically played at normal speed.

Note: Press the **PREVIOUS/NEXT** button to instantly replay or skip scenes at regular intervals you set in the menu. (Refer to Setting Jump Time.)

To record the Time Shift Recording buffer

Rewind to the point you wish to record and press the **Record** button on the remote control.

Note: The recording will not appear immediately in the Media list as time is required to transfer the buffer into a recording.



Media List

You can retrieve video, music or photo files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

You can access Media List in several ways.

- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video, Music** or **Photo**.
- ❖ Connect a USB storage device for media and select your desired media type.

Video	Lists TV/Radio recordings or XviD files.
Music	Lists MP3 files.
Photo	Lists JPEG files.

Note:

- Press the **MEDIA** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- When you connect a USB storage device, the media type menu is displayed automatically.
- Select **Copy** to copy the media files to the different devices. (Refer to **Using the Video List > Editing Files.**)

Switching Storage

1. Press the **BLUE** button to switch the storage.
2. Select the storage and press the **OK** button.
 - **HDD**: Displays the internal HDD.
 - **USB**: Displays each partition of the connected USB storage devices. Select a USB.
 - **Network**: Displays the connected DLNA compliant devices. Select the server.



Switching Media

1. Press the **YELLOW** button to switch the media type.
2. Select the media type and press the **OK** button.
 - **Video, Music, Photo**



Media List

Note:

- Please use only the USB storage device which was formatted with ext3, FAT or NTFS file system.
- Compatible USB devices include portable flash memory (particularly keydrives) and digital audio players (MP3 players) of format FAT12/16/32. It is not possible to connect this unit to a personal computer for USB playback.
- You can play back XviD/MP3/JPEG files (except files with copy-protection or restricted playback).
- **Supported features according to USB file system**
 - **ext3:** Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **FAT:** Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **NTFS:** Read (MP3, JPEG, XviD)
- USB ports on your product supply 800mA in total. This 800mA is shared among all devices connected to product.
- Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.
- Please connect a USB storage device with the cable offered by the device maker. If you use a cable which is not offered by the device maker or an excessively long cable (max 5m), the device may not be recognized.
- If the USB storage device is connected in standby mode, it will automatically be recognized when the product is turned on.
- A USB storage device using an automatic recognition programme may not be recognized.
- A USB storage device which uses its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not disconnect or turn off the USB storage device while playing back. When the USB storage device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Be sure to back up important files since data stored in a USB storage device may be damaged. We will not be responsible for any data loss.
- If your USB storage device has multiple partitions, or if you use a USB multi-card reader, you can use up to 4 partitions or USB memory devices.
- If the USB memory stick does not work properly, disconnect and reconnect it.
- Some USB storage devices may not be supported or operated smoothly.
- How fast a USB storage device is detected differs from device to device.
- USB storage devices below USB 2.0 are supported as well. But they may not work properly.
- The system may require a longer time to read large amounts of data stored in a USB device.
- Only one USB icon will appear even when there are more than one USB.
- The network icon is displayed only when the network has been connected.
- HUMAX cannot guarantee compatibility (operation and/or bus power) with all USB mass storage devices and assumes no responsibility for any loss of data that may occur when connected to this unit.



Using Video List

You can play TV/Radio recordings or XviD files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → Video

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.
- Press the **i** button to view the detailed programme information.



Note:

- : Recording icon, : Playing icon, : HD icon, : CAS icon, : Lock icon
- When you record the whole series of the programme, the programmes will be recorded in the same series folder.

Playing Files

Select a file and press the **PLAY** button. Playback will start from the recently viewed point. To play multiple files successively, select the files using the **RED** button and press the **PLAY** button.

Using Play Options

1. Select a file and press the **OK** button.
2. Select a play option.
 - **Resume Play:** Plays from the recently viewed point.
 - **Play from the Start:** Plays from the start.
 - **Delete:** Deletes the selected files.
 - **Rename:** Renames the selected file.
 - **Lock/Unlock:** Locks or unlocks the selected files.
3. Press the **OK** button.

You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. Refer to **Recording and Playback > Playback** for details on playback control and playbar.



Media List

Note:

- To play multiple files successively, select the files using the **RED** button and press the **OK** button. When multiple files are selected, **Resume Play** and **Rename** are not available in **Play Options**.
- You will be prompted to enter the password when playing the locked files or the files with guidance policy.
- Some playback control buttons may not function depending on the contents.

Editing Files

Sorting Files

1. Press the **OPT+** button.
2. Select **Sort** and press the **OK** button. The files will be sorted in alphabetical order.
3. To sort the files in time order, repeat the above procedure.

Note: Sorting files is available for video files only.

Deleting Files

1. Select the file(s) you want to delete and press the **OPT+** button.
2. Select **Delete** and press the **OK** button.
3. Select **Yes** and press the **OK** button.

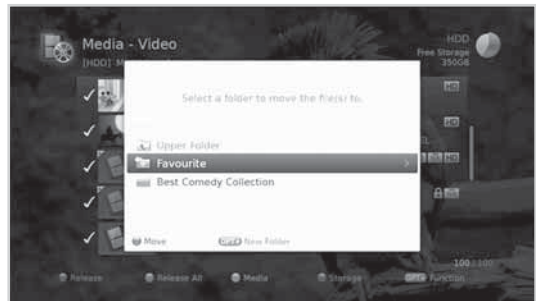


Locking Files

1. Select the file(s) you want to lock and press the **OPT+** button.
2. Select **Lock** and press the **OK** button.
3. To unlock, press the **OPT+** button again and select **Unlock**.
4. Enter the password.

Moving / Copying Files

1. Select the file(s) you want to move and press the **OPT+** button.
2. Select **Move** and press the **OK** button.
3. Select the folder or storage you want to move the file(s) to and press the **OK** button.
 - **Moving the file(s) within the same storage:** Select the folder you want to move the file(s) to and press the **OK** button.
 - **Copying the file(s) to another storage:** Select the storage and then select the folder to copy the file(s) to. Press the **OPT+** button to create the folder.



Note:

- When moving a locked file, you will be prompted to enter the password.
- When a file is moved to a different storage, it will be copied. However, video recordings cannot be copied to other storages.

Renaming Files

1. Select the file you want to rename and press the **OPT+** button.
2. Select **Rename** and press the **OK** button.
3. Enter the name of the file in the keyboard and press the **YELLOW** button.

Creating Folder

1. Press the **OPT+** button.
2. Select **New Folder** and press the **OK** button.
3. Enter the name of the folder in the keyboard and press the **YELLOW** button.



Media List

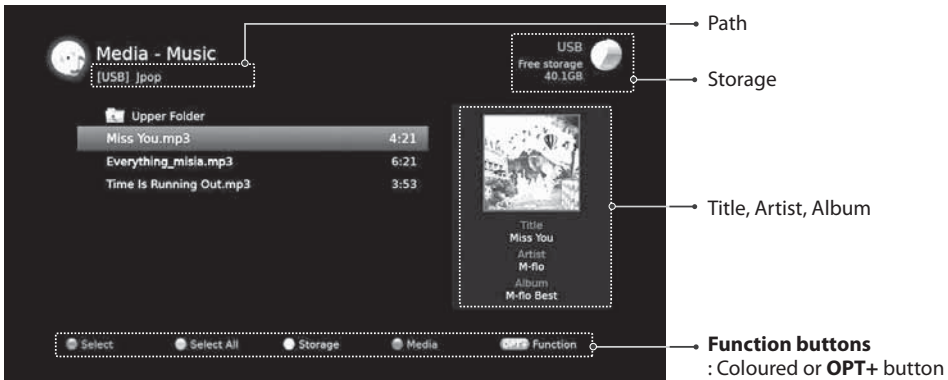
Using Music List

You can play MP3 audio files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → Music

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.

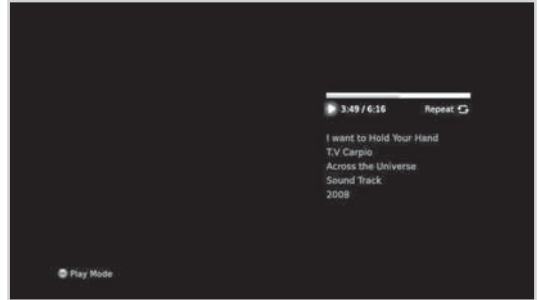


Playing Files

Select a file and press the **OK** or **PLAY** button. All files in the folder will be played successively. To play the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.

Music Player

The music player is displayed while playing the music file(s).



	Plays or pauses		Plays
	Plays the previous file		Pauses
	Plays the next file		Changes the play mode (once, repeat, repeat all, shuffle)
	Plays the first file		Stops the music player and displays the list
	Plays the last file		Exits the music player and goes to live TV

Editing Files

Deleting, moving, renaming the music files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.

Media List

Using Photo List

You can play JPEG photo files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → **Photo**

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.

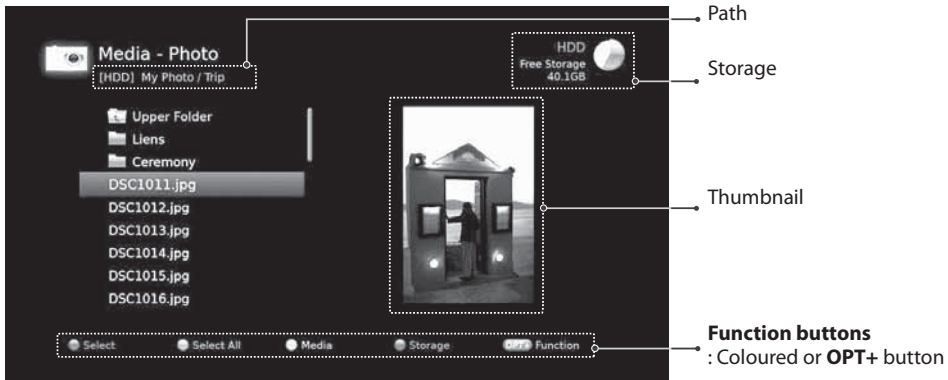
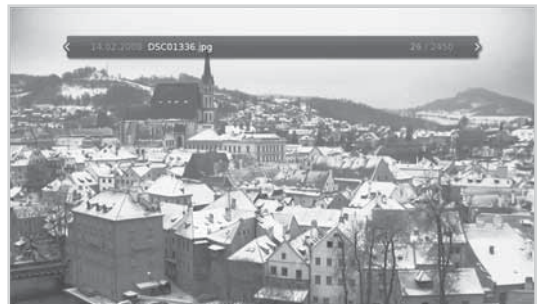


Photo Slideshow

Select a file and press the **OK** or **PLAY** button. All files in the folder will be shown successively. To slideshow the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.

The info banner is displayed while slideshow is paused.



	Pauses or plays		Plays
	Shows the previous photo		Pauses
	Shows the next photo		Stops slideshow and displays photo list
	Shows the first photo		Exits slideshow and goes to live TV
	Shows the last photo		

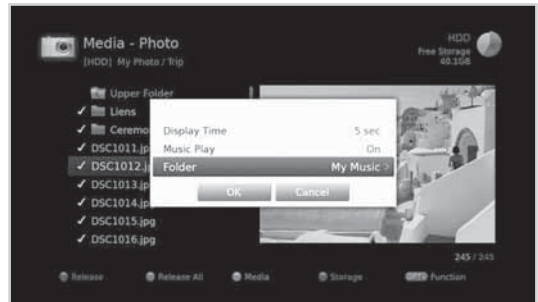
Editing Files

Deleting, moving, renaming the photo files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.

Slide Mode

You can play music files during slideshow.

1. Press the **OPT+** button.
2. Select **Slide Mode** and press the **OK** button.
 - **Display Time:** The duration a photo is displayed
 - **Music Play:** Select **On** to play music files during slideshow.
 - **Folder:** Select the folder the music files in located in using the **RED** button.
3. Select **OK** to save and exit.



HUMAX TV Portal

HUMAX TV Portal provides Catch-up TV services and various web applications.

You can access **HUMAX TV Portal** in several ways.

- Press the **TV Portal** button.
- Press the **MENU** button and select **HUMAX TV Portal**.

Note:

- Press the **TV Portal** button to return to TV Portal home while using the portal service.
- Press the **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- Press the **RED** button to enter the simple mode.
- Press the **BLUE** button to display the HUMAX Privacy Policy.
- HUMAX TV Portal is powered by independent service providers and the services are subject to change without notice.



Sky Player

You can watch live TV programmes and TV on demand with a monthly subscription. For more information please visit <http://www.humaxdigital.co.uk/skyplayer>

BBC iPlayer

You can watch live TV or radio programmes and watch them again for seven days after they are broadcast.

flickr / WIKI@TV

You can access Flickr to view photos on your TV. You can also browse Wikipedia on the TV screen.

Internet Radio

You can browse your favourite music and listen to them from the internet radio stations around the world with streaming audio technology.

Disclaimer: You agree that your use of the HUMAX TV Portal Service (“Service”) is at your sole risk and acknowledge that the Service and anything contained therein, including, but not limited to, content, services, goods or advertisements (the “Items”) are provided “AS IS” and that HUMAX makes no warranty of any kind, express or implied, as to the Items, including, but not limited to, merchantability, no infringement, title or fitness for a particular purpose or use. HUMAX is not responsible for the quality of the broadband, and any disruptions or discontinuation of the Services as a result of broadband provided by your Internet Service Provider (“ISP”). HUMAX does not warrant that the Service is compatible with your equipment or that the Service is free of errors or viruses and is not liable for any damage you may suffer as a result of such destructive features. You agree that HUMAX, its Suppliers and its third-party agents shall have no responsibility or liability for any injury or damages, whether caused by the negligence of HUMAX, its employees, subcontractors, agents, Suppliers or otherwise arising in connection with the Service and shall not be liable for any lost profits, losses, punitive, incidental or consequential damages or any claim against HUMAX by any other party or any fault, inaccuracy, omission, delay or any other failure in the Service caused by your equipment or arising from your use of the Service on such equipment. For any issues or questions about the compatibility with your broadband, please contact your ISP.



In this chapter you can set options for parental control, language, time, video, audio and screen display.

Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Parental Control

MENU → **Settings** → **Preferences** → **Parental Control**

You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.

Guidance Policy

You can set the guidance on the recordings or internet contents during the watershed which is the time period (21:00 to 05:30) for adult contents.

1. Select **Guidance Policy**.
2. Select an option.
 - > **All Content**
 - > **All Guidance Marked Content**
 - > **Internet Content Only**
 - > **Off**
3. Press the **OK** button.

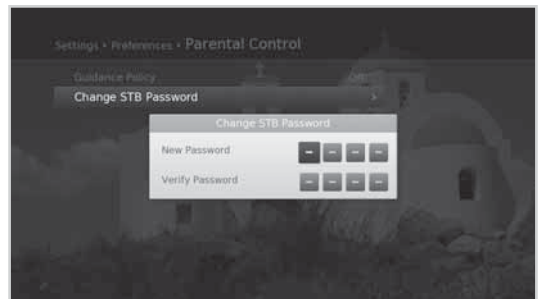
Note: The password is required to view the blocked programmes.



Changing Password

You can change the current password. This password is prompted every time a password blocked menu is accessed.

1. Select **Change STB Password**.
2. Enter the new password.
3. Enter the new password for verification.



Preferences

Language Setting

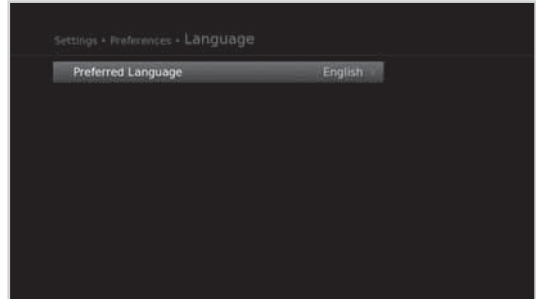
MENU → Settings → Preferences → Language

You can set the preferred language for audio and subtitle.

1. Select **Preferred Language**.
2. Select the language.

Note:

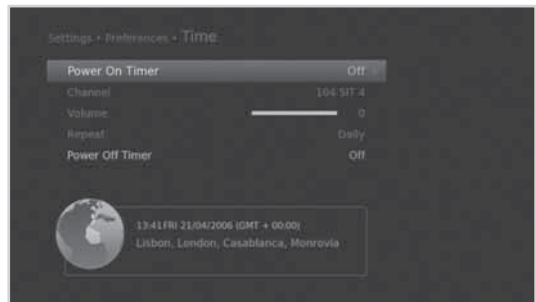
- You can change the audio or subtitle language by pressing the **AUDIO** or **SUB** button while watching a programme.
- The Preferred Language will be the priority when you change channels or restart the product.



Setting Power On/Off Timer

MENU → Settings → Preferences → Time

1. To turn on the product automatically, select **Power On Timer** and select **Set Timer**.
2. Enter the time.
3. Set the options for the power on timer.
 - **Channel:** Select the channel to be displayed when powering on.
 - **Volume:** Adjust the volume of the audio when powering on.
 - **Repeat:** Select the repeat mode of the power on timer.
4. To turn off the product automatically, select **Power Off Timer** and select **Set Timer**.
5. Enter the time.



Note: The power on time and power off time should be set different from each other.

Video Setting

MENU → **Settings** → **Preferences** → **Video**

Setting TV Screen Ratio

You can select the screen ratio of your TV.

1. Select **Screen Ratio**.
2. Select an option.
 - **16:9 - 4:3**










Setting Display Format

You can select the display format according to the screen ratio of your TV.

1. Select **Display Format**.
2. Select an option.
 - Screen ratio 4:3: **Auto - Letterbox 16:9 - Letterbox 14:9 - Centre**
 - Screen ratio 16:9: **Auto - Pillarbox - Zoom**

Note: You can set the display format by pressing the **WIDE** button while watching a programme. Refer to **Display Format / Resolution**.

Screen ratio	Display Format			
4:3	 Auto	 Letterbox16:9	 Letterbox14:9	 Centre
16:9	 Auto	 Pillarbox	 Zoom	

Setting TV SCART

You can select the video signal output option for the TV SCART.

1. Select **TV SCART**.
2. Select an option.
 - **CVBS - RGB**

Preferences

Audio Setting

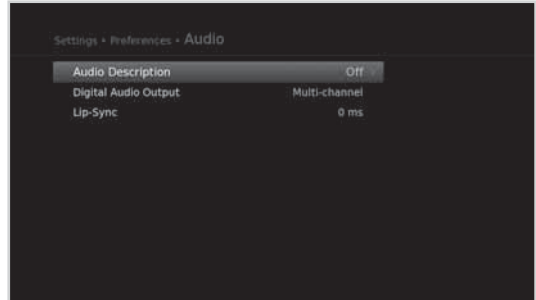
MENU → Settings → Preferences → Audio

Setting Audio Description

You can set to narrate the on-screen visuals which is used for visually impaired viewers.

1. Select **Audio Description**.
2. Select an option.
 - > **On - Off**

Note: Not all channels/programmes will provide Audio Description; for further information please contact the Broadcaster.



Setting Digital Audio Output

You can select the digital audio signal output of your product.

1. Select **Digital Audio Output**.
2. Select an option.
 - > **Multi - channel - Stereo**

Item	Audio	Digital Audio Output
Multi-channel	MPEG	PCM
	DD	DD
	DD+	DD
Stereo	MPEG	PCM
	DD	PCM
	DD+	PCM

Setting Lip-Sync

You can adjust the sound difference of audio and video.

1. Select **Lip-Sync**.
2. Adjust the lip-sync using the ◀/▶ button. Pressing the right button increases the audio speed and pressing the left button decreases it.

Screen Display

MENU → **Settings** → **Preferences** → **Screen Display**

Setting Info Display Time

You can set the duration the information box is displayed every time the channel is switched.

1. Select **Info Display Time**.
2. Select an option.
 - **Off - 1~20 sec**

Setting Transparency

You can set the transparency of the On-Screen Display.

1. Select **Transparency**.
2. Select an option.
 - **Off - 25% - 50% - 75%**

Setting Subtitle Display

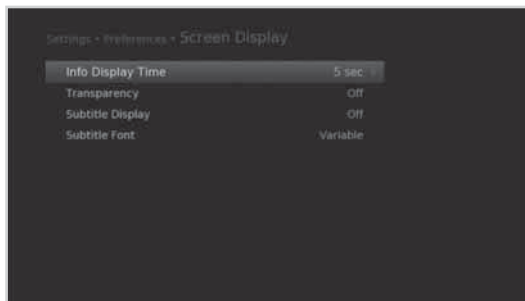
You can set to display the subtitle automatically or not.

1. Select **Subtitle Display**.
2. Select an option.
 - **On - Off**

Setting Subtitle Font

You can adjust the subtitle font.

1. Select **Subtitle Font**.
2. Select an option.
 - **Variable - Fixed**



Installation

Installation menu allows you to search the available TV and radio channels. Software update, antenna power and factory default setting are also available in this section.

MENU → **Settings** → **Installation**

Note:

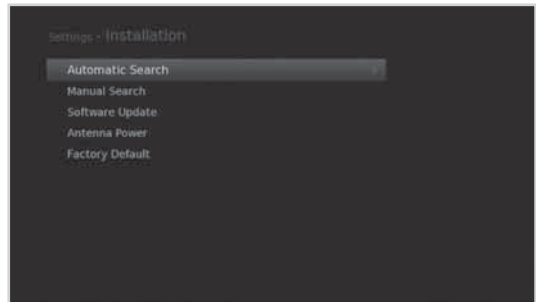
- You will be prompted to enter the password to access this menu. The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.
- Press the **BACK** button to save the changes and return to the previous screen. Press the **MENU** or **EXIT** button to exit.

Automatic Search

You can search channels automatically without entering any other information.

1. Select **Automatic Search**. Channel search starts.
2. Select **Save** and press the **OK** button to save the results.

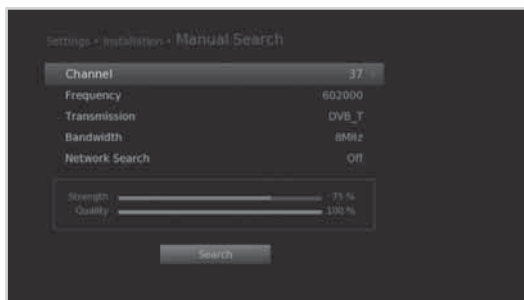
Note: Select **Stop** and press the **OK** button to stop the channel search.



Manual Search

You can search channels manually by searching parameters.

1. Select **Manual Search**.
2. Configure the search options.
 - **Channel:** Select the channel.
 - **Frequency:** Enter the frequency.
 - **Transmission:** Select **DVB-T** or **DVB-T2**.
 - **Bandwidth:** Select the bandwidth.
 - **Network Search:** Select **On** or **Off**.
3. Select **Search** and press the **OK** button.
4. Select **Save** and press the **OK** button to save the results.



Note:

- Select **Stop** and press the **OK** button to stop the channel search.
- For information on the correct channel numbers to use in your area please visit <http://www.digitaluk.co.uk>. Please select the "I am in the aerial installation trade" option when searching your postcode.

Software Update (OTA)

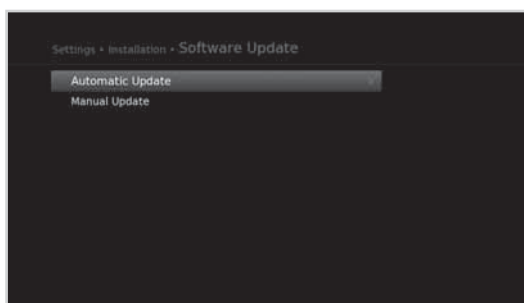
In order to maintain proper performance of the product, it is essential to have the most up-to-date software. Visit the HUMAX website to check the latest news and newly released software versions. (<http://www.humaxdigital.com>) It is recommended that you periodically check for the availability of software update.

OTA, an abbreviation of **Over-the-Air**, means that the software can be downloaded through your aerial. The manufacturer reserves the right to decide when and where to release software by this process. You can also search and download new software manually.

MENU → Settings → Installation → Software Update

Automatic Update

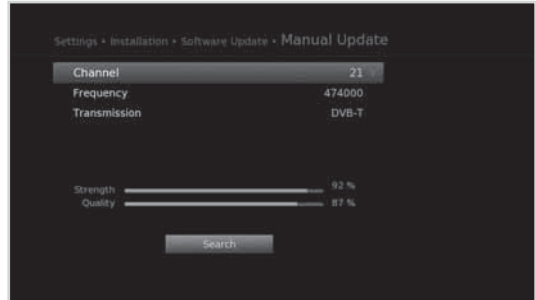
1. Select **Automatic Update** and press the **OK** button to search for new software
2. When new software is detected, select **Yes** to start the update process now.



Installation

Manual Update

1. Select **Manual Update** and press the **OK** button.
2. Enter the options manually
 - **Channel**: Select the channel.
 - **Frequency** : Enter the frequency. The corresponding frequency value will be automatically displayed.
 - **Transmission**: Select **DVB-T** or **DVB-T2**.
3. Select **Search** and press the **OK** button to search for new software.
4. When new software is detected, select **Yes** to start the update process now. Please wait until the update is complete. When completing the software update, the product is automatically powered off and on again.



Note:

- It may take 5~10 minutes to update software.
- Other functions such as scheduling programmes will not activate while software update takes place.
- The software updates will only be downloaded over air if you are receiving the HD channels available. If you do not receive the HD channels at the current time please visit <http://www.humaxdigital.co.uk/> update to upgrade via USB.
- Be sure to update software when the signal strength and quality is high. If the weather is not favorable and the signal strength and quality are not recommendable, perform the software update later.
- The product will search new software automatically during standby. If new software is detected, you can choose either to download immediately or later when you switch into operation mode. If you select **Later**, the message will be displayed again when you power on.

Caution:

- Please be careful to keep the power on and the power cord plugged in during software update. If the power is off during software update, fatal damage may be caused to the product.
- Please be careful not to pull out the signal line (RF cable) during software update. Update may be interrupted and the product may not operate.

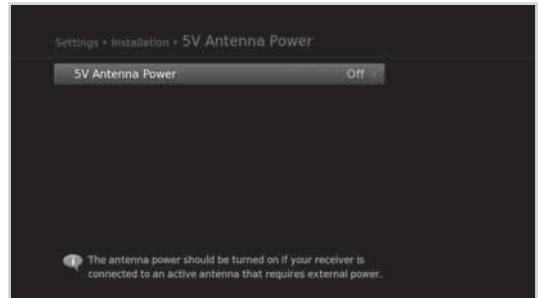
Antenna Power

MENU → **Settings** → **Installation** → **Antenna Power**

Active antenna is a portable or indoor antenna which needs power supply from the product because it does not have power cord for itself. Connect an active antenna to the **ANTENNA IN** on the rear of the product.

1. Select **5V Antenna Power**.
2. Select an option.
 - **On:** 5V power is supplied from the active antenna cable.
 - **Off:** No power supplied

Note: Most domestic aerial installation will not require the Antenna Power option to be switched on. Please check with your aerial installer if this is required for your aerial.



Factory Default

MENU → **Settings** → **Installation** → **Factory Default**

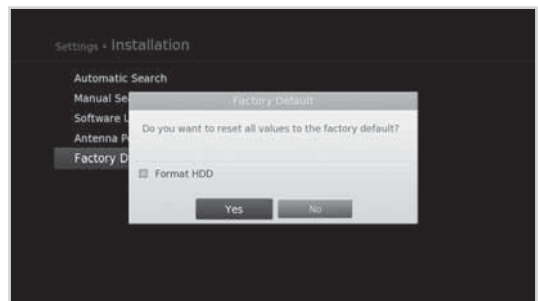
1. Select **Factory Default**.
2. A popup will appear. Select **Yes**.
3. You will be prompted to enter the password. Enter the password.

Note:

- The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.
- To format the HDD, mark **Format HDD**.

Warning:

- Please note that once you perform Factory Default, all user configuration/settings will be reset to the Factory settings. After completing the factory default, the installation wizard will appear automatically in a few seconds.



System

In **System**, system information, signal detection, power management , common interface, data storage and internet setting are available.

Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

System Information

MENU → **Settings** → **System** → **System Information**

The system information is displayed.

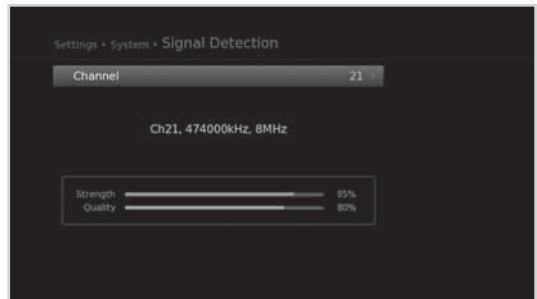


Signal Detection

MENU → **Settings** → **System** → **Signal Detection**

You can check the signal strength and quality of the searched channels.

Note: We recommend that the Signal Strength is above 30% and the Signal Quality is above 70% in order to receive the channels without picture/sound breakup.



Power Management

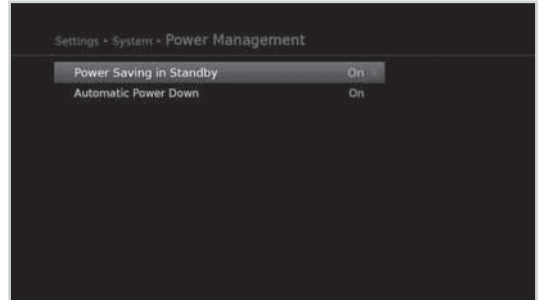
MENU → **Settings** → **System** → **Power Management**

Setting Power Saving in Standby

You can minimise the standby power consumption to below 1W.

1. Select **Power Saving in Standby**.
2. Select **On** to deactivate the certain features and minimise the power consumption.

Note: When **Power Saving in Standby** is switched **On** the Time on the front display will not appear when in standby, nor will the Antenna Out loop-through the signal to a connected device.



Setting Automatic Power Down

The receiver automatically enters standby mode for power saving if no user interaction occurs for 3 hours.

1. Select **Automatic Power Down**.
2. Select **On** to enter standby mode automatically if no user interaction occurs for 3 hours.

Note: The message will be displayed before entering standby mode. If no selection is made for 30 seconds, the receiver enters standby mode automatically.

Common Interface

MENU → **Settings** → **System** → **Common Interface**

The common interface information is displayed.



System

Data Storage

MENU → Settings → System → Data Storage

You can check the size of the internal HDD or external USB storage device.

1. Select storage to display the details for the storage.
2. To format the selected storage, select **Format Storage**. If you select **Yes**, you will be prompted to enter the password.

Note:

- The default password is 0000. If you have forgotten your password, please contact Humax Customer Support.
- Supported Features according to USB file system.
 - **Ext3**: Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **FAT**: Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **NTFS**: Read (MP3, JPEG, XviD)



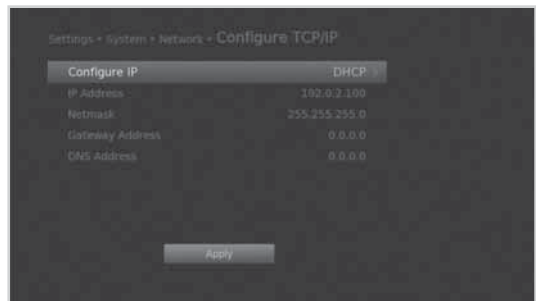
Internet Setting

MENU → Settings → System → Internet Setting

Configuring IP (LAN)

1. You can configure the Ethernet setting options.
 - **DHCP**: Apply the options according to the DHCP.
 - **Manual**: Enter the options manually,
2. Select **Apply** and press the **OK** button.

Note: When entering the IP address manually, enter 3 digits in a row.



Specification

Tuner & Channel	
Input Connector	IEC 169-2 Female
Frequency Range	470 MHz to 862 MHz
Signal Level	-70 to -10 dBmV
Demodulation	OFDM
Mode	DVB-T : 2K, 8K DVB-T2 : 1K, 2K, 4K, 8K, 16K, 32K
FEC Mode	DVB-T: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-T2: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Guard Intervals	DVB-T : 1/4, 1/8, 1/16, 1/32 DVB-T2 : 1/4, 1/8, 1/16, 1/32, 1/128, 19/128, 19/256
Audio/Video Decoding	
Audio Decoding	Dolby Digital Plus
Audio Mode	Single channel/Dual channel/Joint stereo/Stereo
Video Decoding	HD MPEG2 /SD MPEG2 / MPEG4(H.264/AVC)
Video Format	4:3, 16:9, Letter Box
Video Resolution	1080p, 1080i, 720p, 576p, 576i
Memory	
Flash Memory	32 MB
RAM	320 MB
EEPROM	8 KB
Audio/Video In/Out	
Video	TV-SCART, RCA, HDMI/HDCP
Audio	TV-SCART, Audio L/R, S/PDIF (Digital Audio Output)
Data In/Out	
USB	USB 2.0 Host (5 V \pm 500mA Max.)
RJ-45	Ethernet 10/100 Mbps
Hard Disk	
HDD	500 GB / 1 TB (Optional)

Appendix

Power Supply	
Input Voltage	90-250 V a.c., 50/60 Hz
Type	SMPS
Power Consumption	Max. 28 W (Standby: Under 1 W)
Protection	Separate internal fuse. The input should be protected against lightning.
Physical Specification	
Size (w/h/d)	380 mm x 55 mm x 252 mm
Weight	2.8 Kg
Operating Temperature	0 °C to +45 °C

Note: The specifications are subject to change without notice.

Service and Support

Information concerning troubleshooting, software upgrade and product support is provided in the following websites and call centers. Should your product require warranty service, please contact HUMAX to obtain the appropriate authorization.

HUMAX Call Center

UK	Tel: Opening Hours: E-mail: Website: Language:	0844 669 8800 Mon - Fri 09:00 – 17:30 (excluding Bank Holidays) uksupport@humax-digital.co.uk www.humax-digital.co.uk English
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Safety Warning

This product has been manufactured to comply with international safety standards. Please read the following safety precautions carefully.

Safety Instructions and Precautions

1. MAINS SUPPLY

- Operate this product only from the type of power supply indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your local power company.
- Disconnect the product from the mains before you start any maintenance or installation procedures.

2. OVERLOADING

- Do not overload a wall outlet, extension cord or adapter as this may result in electric fire or shock.

3. LIQUID

- The product should not be exposed to liquid of any kind. In addition, no objects filled with liquid should be placed on the apparatus.

4. CLEANING

- Disconnect the product from the wall outlet before cleaning.
- Use a light damp cloth (no solvents) to dust the product.

5. VENTILATION

- The slots on top of the product must be left uncovered to allow proper airflow into the unit.
- Do not stand the product on soft furnishings or carpets.
- Do not stack electronic equipments on top of the product.

6. ATTACHMENTS

- Do not use any unsupported attachments as these may be hazardous or cause damage to the product.

7. LIGHTNING, STORM OR NOT IN USE

- Unplug the product from the wall outlet and disconnect the antenna during a thunderstorm or when left unattended and unused for long periods of time. This will prevent damage to the unit due to lightning and power-surges.

8. EXTRANEIOUS OBJECTS

- Do not insert anything through the openings in the unit, where they can touch dangerous voltage points or damage parts.

9. REPLACEMENT OF PARTS

- When replacement of parts is required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part. Unauthorized substitution may result in additional damage to the unit.

10. CONNECTION

[Satellite] CONNECTION TO THE SATELLITE DISH LNB

- Disconnect the product from the mains before connecting or disconnecting the cable from the satellite dish. Failure to do so can damage the LNB.

[Cable] CONNECTION TO THE CABLE TV SIGNAL

- Connect all components before plugging any power cords into the wall outlet. Always turn off the product, TV and other components before you connect or disconnect any cables.

[Terrestrial] CONNECTION TO THE AERIAL

- Disconnect the product from the mains before connecting or disconnecting the cable from the aerial. Failure to do so can damage the aerial.

Appendix

11. CONNECTION TO THE TV

- Disconnect the product from the mains before connecting or disconnecting the cable from the TV. Failure to do so can damage the TV.

12. LOCATION

- Place the product indoors to avoid exposing it to lightning, rain or sun. Do not place it near a radiator or heat register.
- We recommend that the product has 10 cm clearance from any other appliances susceptible to electromagnetic influences, such as a TV or a VCR.
- Do not block the openings with any object, and do not place the product on a bed, sofa, rug, or other similar surface.
- If you place the product on a rack or a bookcase, ensure that there is adequate ventilation and that you have followed the manufacturer's instructions for mounting.
- Do not place the product on an unstable cart, stand, tripod, bracket, or table where it can fall. A falling product can cause serious injury to a child or adult, and serious damage to the appliance.

Warning

1. To avoid damage of the power cord or plug;

- Do not modify or process the power cord or plug arbitrarily.
- Do not bend or twist the power cord.
- Make sure to disconnect the power cord holding the plug.
- Keep heating appliances as far as possible from the power cord in order to prevent the cover vinyl from melting.
- The mains plug, as a disconnection device, shall remain readily accessible by the user.

2. To avoid electrical shock;

- Do not open the main body.
- Do not insert metal or inflammable objects inside the product.
- Do not touch the power plug with wet hands.
- Disconnect the power cord in case of lightning.

3. To avoid damage of product;

- Do not use the product when it is out of order. If you continue to use the product when defective, serious damage can be caused. Make sure to contact your local product distributor if the product is out of order.
- Do not insert metal or alien substance into the slots for the modules or Smartcards. (where applicable) It may cause damage to the product and reduce its life span.

4. To avoid damage of the hard disk drive (PVR only)

- Do not move the product or turn the power off suddenly while the hard disk drive is running.
- The company shall not be liable for any corruption of data on the hard disk drive caused by carelessness or misuse.

Trouble Shooting

Before contacting your local service centre, please read the tips below carefully. If the problem persists after completing the following procedure, please contact your local product distributor or service centre for further instructions.

1. No message displayed on the front display. (The product will not switch on.)

- Check the main power cable and make sure it is plugged into a suitable power outlet.
- Check that the mains supply is switched on.
- Connect the power cable to a different power outlet.
- Check that the power switch is on at the rear of the product. (where applicable)

2. No picture

- Make sure that the product is powered on and in operation mode. (Press the **STANDBY** button)
- Make sure that the AV cable is firmly connected to the TV.
- Make sure that the antenna cable is properly connected to the product.
- Make sure that you have selected the correct AV Channel / Input on your TV set (refer to your TV user manual for more information)
- Be sure to activate channel search.
- Check the brightness level of the TV.
- Check if the channel is currently on air. Contact the broadcaster to ensure that the channel is running.
- Press the **SOURCE** button if the product is in external input mode. (where applicable)
- **Satellite:** Make sure that the antenna setting in the menu is correct.

3. Poor picture/sound quality

- Install the antenna in an obstacle-free place.
- Make sure there is no mobile phone or microwave oven near the product.
- Keep the power and the antenna cables apart from each other.
- Check the signal levels and adjust your antenna if the level is too low. The signal level may be affected by weather conditions.

Note: If the antenna is covered with snow or the RF is weakened by heavy rain, the condition of the sound and picture may temporarily be poor. However, the poor sound and picture quality due to weather conditions cannot be accepted as a malfunction of product.

- **[Satellite]** Check that your dish alignment is correct.
- **[Satellite]** Change the satellite dish for a larger one as this will increase the signal levels received.
- **[Satellite]** Replace the LNB with a lower noise factor in cases where the noise factor is too high.
- **[Satellite]** Replace the LNB with a new one in case it is damaged or out of order.
- **[Terrestrial]** Adjust the antenna direction to get a better picture.
- **[Terrestrial]** Set the antenna power in menu to On, if you use the active antenna to improve the reception. (where applicable)

4. No or poor sound

- Check that your AV cable is connected correctly.
- Check the volume levels of your TV set and the product.
- Check if the product or TV is on mute.
- Check audio type or soundtrack option in the AV menu. (where applicable)

5. Remote control does not operate.

- To control the product, the top end of the remote control should point directly towards the receiving part of the product.
- Remove and reinsert the batteries in the remote control.
- Replace the batteries in the remote control for a new set.
- Set the remote control to STB or PVR mode, if you are using the universal remote control. (where applicable)

Appendix

6. Cannot make reservations.

- Check that no previous reservations are conflicting with the new reservation.

7. No password information is given.

- The default password is always **0000**.

8. Channel search does not work.

- **Satellite:** Make sure that the antenna setting in the menu is correct.
- **Terrestrial:** Make sure that the antenna is connected correctly.
- **Terrestrial:** Use the appropriate antenna capable of receiving VHF or UHF channels for your area.

9. Cannot update new software.

- You can get an update. If the product does not show a message requesting update, this means no software is available.

10. The product makes a humming noise. (PVR only)

- The noise is from the fan; the hard disk is operating normally. This kind of noise is inevitable but seldom noticeable.

11. Cannot record programmes. (PVR only)

- The hard disk is full. Delete unnecessary programmes and make space for new recording.
- Check if recording is overlapped with another channel. Stop the current recording or wait until the recording is finished.
- Check that the product is switched on when recording starts.

12. Cannot operate TSR (Time Shifted Recording). (PVR only)

- TSR may not be available during recording. Wait until recording is finished.
- Delete unnecessary programmes and make space for new recording.

13. Cannot playback. (PVR only)

- To playback the recorded file of a scrambled channel, use the Smartcard. In case it has been a long time since you last recorded, this may not work. Contact the product distributor.
- The signal during recording may be weak or the hard disk too full.

14. Cannot change channels while recording. (PVR only)

- Certain channels may not be changed due to restriction of the tuner or connection type.

Error Message

Error message	Possible causes	What to do
No or bad signal [Satellite]	The satellite dish is not pointing at the satellite.	Adjust dish alignment.
	Signal is too weak.	Increase the LNB voltage or connect a signal amplifier.
	Satellite dish is too small.	Change to a larger dish.
	Problem with LNB.	Change the LNB.
	Wrong antenna setting.	Set the antenna correctly.
No or bad signal [Cable]	The cable is not connected.	Make sure the cable is connected correctly.
	The cable may be damaged or defective.	Exchange the cable.
	The channel is not broadcasting.	Exchange the cable.
No or bad signal [Terrestrial]	The aerial is not pointing properly.	Adjust aerial. Check the cable from the aerial. If you cannot resolve the problem, you may need to have your aerial and installation tested by a professional.
The channel is scrambled or not available.	The channel has a signal, but no audio or video.	Confirm if the channel is currently on air.
	The channel has been deleted by the broadcasting company.	Check if the channel is currently on air
	The channel is for data broadcasting.	Remove the channel from the channel list and check for new transponder details.
The audio is not available.	The channel has a video signal, but no audio.	Press the audio button to confirm that the channel has audio options.
No access	No access	Make sure you are subscribed to the channel.
	No authorization.	If the product has been turned off for a long time (standby or power off), please wait for authorization. It may take up to 60 minutes.

Appendix

Glossary

CVBS (Composite Video Baseband Signal)

A technology for transmitting video signals via a cable. Mixes luminance (brightness) and the chrominance (colour) signals together.

DiSEqC (Digital Satellite Equipment Control)

A DiSEqC compatible receiver relies on a switching box which detects the 22kHz tone pulsing rapidly on and off. In this way, a specially designed receiver can control numerous LNBs through a DiSEqC switching box.

Dolby Digital

An encoding system that digitally compresses up to 5.1 discrete channels of audio (left front, centre, right front, left surround, right surround) into a single Bitstream. A low frequency effect (LFE) channel is included providing the sound needed for special effects.

DVB (Digital Video Broadcasting)

Set of standards that define digital broadcasts using satellite, cable or terrestrial systems.

EPG (Electronic Programme Guide)

An electronic equivalent to a printed television listings magazine; it is an application used with digital set-top boxes and digital television sets to list current and scheduled programs that are or will be available on each channel, including a short summary or commentary for each program. The information supplied in the EPG is sent and updated by the channel broadcaster.

FEC (Forward Error Correction)

A technique for error control of data transmission.

Frequency

The property of a signal measured in cycles per second (=Hz).

FTA (Free- To-Air)

An unscrambled broadcaster allowing customers to view channels or services without paying any subscription.

HDD (Hard Disk Drive)

The primary computer storage medium, which is made of one or more aluminum or glass platters, coated with a ferromagnetic material.

HDMI (High-Definition Multimedia Interface)

An all-digital audio/video interface that supports standard, enhanced, or high-definition video, plus multi-channel digital audio on a single cable. It transmits all ATSC HDTV standards and supports 8-channel digital audio.

Hi-Fi (High Fidelity)

The characteristics of audio devices that can play back all the audio frequencies a person can detect, which is the range of 16Hz-20KHz. Sometimes it is used to indicate good quality of audio devices such as stereo tape recorders.

LNB (Low Noise Block)

A device that is mounted on an arm facing your satellite dish, focusing on satellite signals. A LNB converts signals received from satellite to a lower frequency and sends them to a satellite receiver via coaxial cable.

NVOD (Near Video On Demand)

A technology that allows customers to view the start of popular programmes or films within a short period from the time they make their selection. This is possible as the broadcaster sends multiple copies with staggered start times.

OSD (On Screen Display)

OSD displays the basic information necessary for the users to configure monitor or TV settings. OSD information may include brightness, contrast, tuning, RGB adjustment, and screen size and position.

OTA (Over the Air)

A standard for the transmission of software for equipment, through a broadcast system. Manufacturers reserve the right for deciding the release of the software for their products.

PID (Packet Identifier)

A set of numbers identifying stream packets contained within a single data stream.

Polarisation

The direction of the electrical and magnetic fields of a signal. Satellites use both vertical and horizontal polarisation. Means that a frequency can be used twice.

PVR (Personal Video Recorder)

Video recorder that can record and playback programmes directly using the embedded hard disk drive(s).

QPSK (Quaternary Phase Shift Keying)

Digital modulation technique in which the carrier phase can have one of four possible values.

RF (Radio Frequency)

Television signals are modulated onto RF signals and are then demodulated by your television's or STB's tuner.

RF Modulator

Enables you to output the receiver's digital signals to a TV's RF (Aerial) input, allowing you to connect the receiver to a TV set without a SCART connection.

RGB (Red – Green – Blue)

A technology for transmitting video signals via a cable. RGB is a system to represent red, green, and blue colours on a TV or monitor display. Red, green, and blue can be combined in various proportions to obtain any colour.

RS-232C

A connection to allow you to connect to a PC to update receiver's software.

SCART

A 21-pin connector standard to connect two pieces of Audio-Visual equipment such as a TV and a VCR. Each device will have a 21-pin female connection; a cable with male connection at both ends is used for connecting the devices.

Smartcard

A credit card sized card that contains updateable chip memory. It is used for accessing Pay TV (encrypted) channel or services when inserted into an appropriate receiver.

S/PDIF (Sony/Philips Digital Interface format)

A standard format for the transfer of digital audio signals. It allows the transfer of digital audio between two devices without any conversion to and from analogue, which could degrade the signal quality.

S-Video (Super-Video)

Sometimes referred to as Y/C video; a technology for transmitting video signals via a cable. It is a video signal transmission in which the luminance (brightness) and the chrominance (colour) signals are transmitted separately to achieve superior picture clarity.

Transponder

A satellite is divided up in parts called transponders. A transponder is one distribution section of the satellite. Each transponder can be used for distribution of several channels or services.

Trick-Play

Pause, Fast Forward/Fast Rewind, Slow Motion, Instant Replay, Commercial Skip, Repeat A-B.

TSR (Time Shifted Recording)

A function that records the present programme temporarily to support trick-play.

Appendix

Remote Control Code List

1. Using the Universal Remote Control

1. Select the mode(PVR, TV, DVD, AUDIO) you want to set by pressing the corresponding button on the remote control. The button will blink once.
2. Keep pressing the button for 3 seconds until the button lights on.
3. Enter the 3-digit code. Every time a number is entered, the button will blink. When the third digit is entered, the button will blink twice.
4. If a valid 3-digit code is entered, the product will power off.
5. Press the **OK** button and the mode button will blink three times. The setup is complete.
6. If the product does not power off, repeat the instruction from 3 to 5.


Note:

- When no code is entered for one minute the universal setting mode will switch to normal mode.
- Try several setting codes and select the code that has the most functions.

Remote Control Function List

The keys on the remote control function as in the list below.

Note: Some keys may not function depending on the product.




Button	TV	DVD	AUDIO
STANDBY	POWER	POWER	POWER
	MUTE	MUTE	MUTE
PVR			
TV			
DVD			
AUDIO			
1	DIGIT 1	1	INPUT 1
2	DIGIT 2	2	INPUT 2
3	DIGIT 3	3	INPUT 3
4	DIGIT 4	4	INPUT 4
5	DIGIT 5	5	INPUT 5
6	DIGIT 6	6	INPUT 6
7	DIGIT 7	7	INPUT 7
8	DIGIT 8	8	INPUT 8
9	DIGIT 9	9	INPUT 9
0	DIGIT 0, 11	0	INPUT 0
TV Portal			
MENU	MENU	MENU	MENU/MODE

Appendix

English

Button	TV	DVD	AUDIO
▶	TEXT EXPAND	PLAY	PLAY
	TEXT HOLD	PAUSE	PAUSE
■	PIP INPUT	STOP	STOP
●	PIP MOVE	RECORD, OPEN CLOSE	RECORD
◀◀	PIP OFF	REWIND, SEARCH REVERSE; SCAN	DVD SEARCH REW, CD SEARCH REW, REW
▶▶	PIP	FAST FORWARD, SEARCH FORWARD; SCAN	FAST FORWARD, DVD SEARCH REW, CD SEARCH REW, REW
◀◀	TEXT MIX	SKIP -, TRACK -, CHAPTER -	DVD SKIP -, CD SKIP -, SKIP -
▶▶	TEXT OFF, TV	SKIP, TRACK +, CHAPTER +	DVD SKIP+, CD SKIP +, SKIP +
RED	RED	RED	RED
GREEN	GREEN	GREEN	GREEN
YELLOW	YELLOW	YELLOW	YELLOW
BLUE	BLUE	PROGRAMME	BLUE
MEDIA			
GUIDE	GUIDE	GUIDE	DSP MODE
OK	OK	OK	OK
UP	UP	UP	UP
LEFT	LEFT	LEFT	LEFT
RIGHT	RIGHT	RIGHT	RIGHT
DOWN	DOWN	DOWN	DOWN
EXIT	EXIT	EXIT, RETURN	EXIT
BACK	LAST, RECALL; PP; LAST CHANNEL	CLEAR	REPEAT
VOL+	VOL+	VOL+	VOL+
VOL-	VOL-	VOL-	VOL-
i	INFO, OSD; DISPLAY	INFO, OSD; DISPLAY	INFO
LIST		LIST	
P+	P+	P+	P+
P-	P-	P-	P-
TEXT	TEXT	PVR MENU	
		AUDIO, LANGUAGE	SURROUND
SUB	SUBTITLE, LANGUAGE; CC	SUBTITLE	

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Button	TV	DVD	AUDIO
TV/RADIO	TV/DTV ATV/DTV; D/A; DTV/TV; DTV; DIGITAL	HDD, DVD/HDD	BAND
OPT+			RANDOM
	TEXT SUBPAGE TEXT TIME		RANDOM
	TEXT INDEX	TITLE	
	TEXT POSITION TEXT CANCEL; TEXT UPDATE	SLOW; STEP	
SOURCE	SOURCE, AV, 55INPUT; TV/AV	SOURCE, TV/DVD, TV/DISK	SOURCE, FUNCTION
SLEEP	SLEEP	SLEEP	SLEEP
V-FORMAT	TEXT SIZE; TEXT EXPAND; FTB		
WIDE	WIDE, FORMAT, 16:9, ASPECT; ZOOM	ZOOM	

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Roadstar	066, 057, 062, 093, 110, 172
Ronin	091
Rotel	045
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Saba	039, 204
Saivod	082, 071
Salora	067
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Samsung	032, 042, 017, 022, 069, 099, 152, 166, 182, 197, 199, 219, 080
Sansui	059, 013, 070
Sanyo	056, 062
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ScanSonic	162
Schaub Lorenz	073, 075, 100, 104, 156
Schneider	038, 082, 052, 077, 061, 062, 075, 090, 110, 122, 214
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Shanghai	057
Sharp	058, 062, 090, 127
Sherwood	067, 064
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Trevi	082
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Vieta	061
Voxson	066, 082
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Walkvision	064
Waltham	062, 140
Welkin	082
Wellington	062
Weltstar	062
Wharfedale	077, 062, 070, 100, 124, 172
Wilson	082, 113
Windsor	062
Windy Sam	042
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Woxter	104, 109
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Xenius	077
Xomax	198
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Yakumo	094
Yamada	091, 094, 104, 106, 126, 135, 136
Yamaha	032, 038, 052, 079
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Audiosonic	216
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Adyson	009
Aiwa	003, 028, 001, 029, 002, 068, 102
Akai	028, 029, 023, 012, 020
Akiba	009
Akura	009
Alba	010, 021, 028, 001, 009, 029, 023
Allorgan	020
Allstar	010
America Action	021
Amstrad	021, 001, 009
Anam	021, 003, 019, 020
Anam National	019
Anitech	009
Ansonic	001
Aristona	010
ASA	010, 003
Asha	020
Asuka	010, 003, 001, 009
Audiolab	010
Audiosonic	021
Audiovox	003
AVP	001, 029
Awa	003, 024, 005
Baird	021, 001, 011, 012
Basic Line	021, 009, 011
Beaumarck	020
Beko	011

Bell & Howell	011
Bestar	021
Black Diamond	051
Black Panther	021
Blaupunkt	010, 019
Blue Sky	021, 003, 028, 051, 009, 029, 031, 068, 102
Bondstec	009
Brandt	024, 025
Brinkmann	028
Bush	010, 021, 028, 001, 051, 009, 029, 023, 068
Calix	003
Carena	010
Carrefour	006
Carver	010
Casio	001
Cathay	021
CCE	021, 009
Centrum	044
CGE	001
Cimline	009
Cineral	021
Citizen	021, 003
Clatronic	001, 009
Colt	009
Combitech	029
Condor	021
Craig	003, 009, 020
Crown	021, 003, 009, 031

Cybernex	020
Cyrus	010
Daewoo	021, 050, 051, 029, 006
Dansai	021, 009
Dantax	029, 068
Daytron	021
De Graaf	010, 011, 007, 004
Decca	010, 001, 029, 008
Deitron	021
Denko	009
Denon	004
Diamant	003
Dual	010, 021, 028, 001
Dumont	010, 001, 011
Durabrand	051, 044
Elbe	021
Elcotech	009
Electrophonic	003
Elin	020
Elsay	009
Elta	021, 009
Emerex	002
Emerson	021, 050, 003, 001, 009, 006, 005
ESC	021, 020
Ferguson	021, 028, 001, 024, 025, 068
Fidelity	001, 009, 029, 030, 020
Finlandia	010, 003, 001, 011, 007, 005, 004, 012, 019
Finlux	010, 001, 011, 004
Firstline	021, 003, 028, 009, 006, 005, 004, 031, 102
Fisher	011
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Frontech	009
Fujitsu	001
Funai	001, 044
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Galaxis	021
Garrard	001
GE	007, 020

GEC	010
General Technic	028
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GoldStar	003, 001, 031, 102
Goodmans	010, 021, 050, 003, 028, 001, 051, 009, 029, 020, 068
GPX	003
Gradiente	001
Graetz	011, 020
Granada	010, 003, 001, 011, 007, 004, 019, 020
Grandin	021, 003, 001, 009, 068
Grundig	010, 028, 009, 024, 029, 019, 068
Hanimex	029
Hanseatic	010, 003
Harley Davidson	001
Harwood	009
HCM	009
Hinari	021, 009, 029, 020
Hisawa	029
Hischito	006
Hitachi	010, 001, 004, 020, 044
Hoeher	021, 051
Hornyphon	010
Hughes Network Systems	004
Hypson	021, 003, 001, 009, 029, 031
Imperial	001
Ingersol	020
Inno Hit	009
Interbuy	003, 009
Interfunk	010, 011
Internal	021, 050
International	021, 003, 051
Intervision	021, 003, 028, 001
Irradio	010, 003, 009, 102
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JVC	008
Kaisui	009
Karcher	010, 021, 051
KEC	021, 003
Kendo	021, 003, 028, 051, 009, 023, 012
Kenwood	008
KLH	009
Kneissel	021, 003, 028, 029
Kodak	003
Korpel	009
Kyoto	009
Lenco	021
Leyco	009
LG	021, 003, 001, 031, 102
Lifetec	028
Lloyd's	001
Loewe	010, 144, 003
Logik	009, 012, 020
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Lux May	009
Luxor	009, 011, 007, 005, 023, 012
LXI	003
M Electronic	003, 001
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Magnavox	010, 001
Magnin	020
Magnum	051
Manesth	010, 009, 006
Marantz	010
Mark	021, 001
Mascom	051
Mastec	051
Master's	021
Matsui	003, 028, 029, 020, 068
Mediator	010

Medion	028, 051, 029
Memorex	003, 028, 001, 011, 007, 020
Memphis	009
Metronic	010
Metz	010, 144, 003, 019, 084
MGA	005, 020
MGN Technology	020
Micormay	028
Migros	001
Minolta	004
Mitsubishi	010, 051, 008, 007, 005, 031
Motorola	007
MTC	001, 020
Multitec	003
Multitech	001, 009
Murphy	001
Myryad	010
NAD	011
Naiko	028, 051
National	019
NEC	003, 011, 008
Neckermann	010
Nesco	001, 009
Neufunk	102
Nikkai	021, 009
Nikko	003
Noblex	020
Nokia	010, 021, 011, 007, 004, 023, 012, 020
Nordmende	051, 024, 008, 025
Oceanic	010, 001, 024, 011, 007, 012
Okano	021, 028, 009, 023
Olympus	019
Onimax	051
Optimus	007, 030, 044
Orbit	009
Orion	028, 029, 068
Orson	001
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Otto Versand	010
Pace	029
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Palladium	003, 028, 009
Palsonic	001, 009
Panasonic	144, 019, 084
Pathe Cinema	005
Penney	003, 004, 020
Pentax	004
Perdio	001
Philco	009
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Phoenix	021
Phonola	010
Pilot	003
Pioneer	010, 008, 004
Portland	021, 050
Prinz	001
Profitronic	010, 020
Proline	021, 001, 051, 024, 025
Proscopro	021
Prosonic	021
Protech	010, 009
ProVision	021
Pye	010
Quasar	021
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Radialva	010, 003, 009, 007
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RadioShack	003, 001
Radix	003
Randex	003
RCA	024, 007, 004, 020
Realistic	003, 001, 011, 007
Reoc	028
RFT	009
Roadstar	010, 021, 003, 009, 020, 068

Royal	009
Saba	021, 024, 025
Saisho	028
Salora	011, 005, 012
Samsung	006, 030, 020, 068
Sanky	007
Sansei	007
Sansui	001, 009, 008, 012
Sanyo	011, 008, 007, 020
Saville	021, 029, 020
SBR	010
ScanSonic	020
Schaub Lorenz	028, 001, 011, 023, 012
Schneider	010, 021, 003, 028, 001, 051, 009, 029, 004, 020, 102
Scott	005, 044
Sears	003, 001, 011, 004
Seaway	021
SEG	010, 021, 050, 051, 009, 020, 044
SEI	010
Sei-Sinudyne	010
Seleco	003
Semp	006
Sentra	009
Setron	009
Sharp	007, 040, 102
Shintom	009, 011
Shivaki	003
Shogun	020
Siemens	010, 003, 024, 011
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Silva	003
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Stern	021
Sunkai	021, 028
Sunstar	011
Suntronic	011
Sunwood	009
Supra	003
Sylvania	010, 001, 005
Symphonic	001, 044
Tandberg	021
Tandy	001, 011
Tashiko	010, 003, 001, 007, 020
Tatung	010, 028, 001, 029, 007, 005
Tchibo	028
TCM	028
Teac	003, 001, 051
Tec	009
Tech Line	009
Technics	010, 019
TechniSat	028
Technosonic	029
Teknika	003, 001
Telefunken	021, 024, 025
Telerent	019
Teletech	021, 001, 009
Tenosal	009
Tensai	021, 003, 001, 009
Tevion	028, 051
Textet	021
Thomas	001
Thomson	021, 024, 008, 025
Thorn	003, 011
TMK	020
Tokai	003, 009, 011

Topline	028
Toshiba	010, 029, 006, 005, 030, 068
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Towada	009
Tradex	010
Uher	020
Ultravox	021
Unitech	020
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Video Concepts	006
Video Technic	001
Videomagic	003
Videosonic	020
Villain	001
Wards	010, 001, 009, 006, 007, 004, 020
Watson	010, 051, 029
Weltblick	003
Wharfedale	044
White Westinghouse	021, 009
World	028
XR-1000	001, 009
Yamishi	021, 009
Yokan	009
Yoko	003, 009, 020
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Alba	029
Amstrad	001
Beko	011
Bestar	021
Blue Sky	021, 029, 068
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Ferguson	021, 001, 025, 068
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Firstline	021
Funai	001
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Goodmans	021, 050, 029, 068
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Grundig	010, 029, 068
Hanimex	029
Harley Davidson	001
Hinari	029
Hitachi	001
Hypson	003
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Kneissel	021, 029
LG	003, 031
Lloyd's	001
Magnasonic	021, 044
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Matsui	029, 068
Medion	029
Memorex	003
MGA	020
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Pace	029
Pacific	068
Penney	003, 020
Philips	010

Portland	050
Radiola	010
RCA	007, 020
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Sansui	001
Sanyo	020
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Schneider	010, 001
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Sharp	007
Siemens	010
Sinudyne	029
Sony	001, 002, 112
Sylvania	010
Symphonic	001
Tatung	029
Teac	001
Technics	010
Technosonic	029
Telefunken	021
Thomas	001
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Zenith	011

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Denon	012
Durabrand	089, 090
Goodmans	093
Hitachi	089
JBL	042
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Magnat	042
Magnum	094
Mustek	093
Optimus	014, 029
Pacific	094
Pioneer	014, 029
RCA	014
Sven	090
Tevion	094
Trice	090
upXus	078
Vieta	042
Yamaha	016, 030
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Acoustic Solutions	087
AEG	071, 072
AFK	071
Aiwa	005, 073
Akai	004, 021, 072, 087
Alba	087, 088
All-Tel	072
Amstrad	024, 072
Anam	021

Arcam	044
ASCOMTEC	071
Audiolab	043
Audiosonic	071
Audiotronic	043
Bang & Olufsen	028
Basic Line	088
Belson	071
Binatone	071
Blue Sky	072, 087
Bose	046, 099
Bush	027
Cambridge Audio	080, 101
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CCE	065
Centrum	045, 071
Clatronic	027, 071
Cosmotron	027
Daewoo	076
Dantax	018, 072
Denon	067, 025, 036, 075
Denver	071
DiK	027
Dual	045, 072
eBench	024, 027
Elta	024, 027, 072
EuroLine	098
Fine Arts	043
Firstline	027
Garrard	013, 018
Genexxa	010
Global Sphere	098
Goodmans	021, 024, 027, 071, 072
Grundig	043, 013, 027, 035, 087
Grunkel	024, 072
Hanseatic	072
Harman/Kardon	043, 056, 003, 011, 057, 060
Harwood	024

HCM	072
HE	071
Hitachi	088
Hitech	024
Hiteker	071
Home Tech Industries	071
Hyundai	087
Inkel	020
Intersound	024
JBL	056, 057
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Kenwood	033, 061, 091, 010
Kioto	027
Kompernass	027
KXD	071
LG	054, 086, 125
Lifetec	027
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Magnat	071
Magnavox	043, 035
Marantz	043, 049, 031, 035, 053
Matsui	024, 027
MBO	065
Medion	027, 087
MEI	072
Metz	088
Micromega	043
Microstar	027
MTLogic	087
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Mustek	065
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Myryad	043
NAD	015, 021
Nexius	072
Nikkai	071
Nikkei	024
Norcent	071
NTDE Geniesom	024

Onkyo	006, 063, 114
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Orion	018
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PCCW	128
Philips	043, 049, 031, 035, 048, 053, 117
Phonotrend	020
Pioneer	052, 032, 010, 039, 081, 097
PJ	071
Polk Audio	053
Prima Electronic	027
Proline	027, 072
ProVision	071
QONIX	072, 087
Radionette	054, 100
Recco	027
Redstar	071
Revox	007, 010, 035
Roadstar	027
Rotel	026
Samsung	013, 055, 119, 123, 083
Sansui	021, 035, 098
Sanyo	024
Schneider	003, 024, 045, 072
Scott	071
SEG	088
Sharp	010, 022, 070, 100
Sherwood	020, 022
Siemens	021
Silva Schneider	027, 072, 086
SilverCrest	087
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Teac	018, 021
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Techwood	088
Tedalex	098
Tevion	071
Thorens	043
Thorn	024
Tokai	072
Toshiba	092

United	072, 098
Universum	013, 021, 024, 027, 045, 072, 076, 095
Venturer	027, 072
Vestel	088
Victor	001
Waitec	065
Watson	027
Wellfund	024
Welltech	027
Wharfedale	072
Xenius	072
Yamaha	009, 002, 010, 017, 023, 041, 051, 064, 069, 112, 115, 120
Yukai	065
Zenith	024

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Appendix

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Appendix

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