

Important information

Re-tuning your digital TV recorder



digitaluk

The digital TV switchover

Television services in the UK are going digital TV region by TV region, ending in 2012. The digital TV switchover is happening so that Freeview services (digital TV through an aerial) can be extended to people who can't currently get them.

Digital UK is the not-for-profit organisation responsible for leading the TV switchover. We're independent, which means that all the advice and information we give is unbiased.

When do I re-tune?

- At each of the two stages of switchover
- If at any time you find you have lost any TV channels
- Regular re-tuning will ensure your equipment is up to date and that it picks up new channels as they become available

To find out when you switch and need to re-tune, visit our postcode checker at digitaluk.co.uk



Any Freeview product, including Freeview HD, needs to be re-tuned.



How do I re-tune my Freeview TV or box?

Re-tuning only takes a few minutes, just follow the steps below:

- Switch on your Freeview television or box, using your remote control, press 'menu'
- Select the 'installation' option
- Select the option Auto Scan
- Press 'OK' if your equipment asks if you want to delete all your channels. Don't worry, this is normal
- If you are prompted for a code, try 0000
- Channels will be automatically installed. This may take a few minutes and your equipment may shut down and restart
- After re-tuning, you may have to reset your 'favourites' list

Please note: most digital TV recorders will keep your original recordings after running a re-tune but you will need to reset any future recordings.

When does switchover happen?

Border	Switched
West Country	Switched
Granada	Switched
Wales	Switched
West	Switched
STV North	2010
Channel Islands	2010
STV Central	2010/11
Central	2011
Yorkshire	2011
Anglia	2011
London	2012
Meridian	2012
Tyne Tees	2012
UTV	2012



To find out which transmitter group you are likely to receive your TV signal from, visit our postcode checker† at digitaluk.co.uk or call us on 08456 50 50 50

get set for digital

†This is a predictive coverage database and should be used as a guide only. * Calls are free for BT customers within inclusive calling plans. Call charges from other providers may vary. The standard business hours for Digital UK's contact centre are 8am to 7pm Monday to Friday and 10am to 4pm on a Saturday. Opening hours will be extended during switchover in each area. Digital UK, PO Box 266022, Kirkcaldy KY2 9AQ.

TABLE OF CONTENTS

Notice	7
License Notice	8
1. Before You Begin	11
1.1 Features	11
1.2 Accessories	12
2. Controls and Functions	13
2.1 Front Panel	13
2.2 Rear Panel	14
2.3 Remote Control Unit	15
3. Connections	18
3.1 Connecting to the Antenna	18
3.2 Connecting to TV	19
4. Menu Overview	23
4.1 Menu Instruction	23
4.2 Menu Help	23
4.3 Menu Structure	24
5. Menu Operation	25
5.1 First Installation	25
5.2 Installation	26
5.3 Settings	29
5.4 PVR	32
5.5 Advanced	34
5.6 Information	37
6. Viewing General Information	38
6.1 Banner Information	38
6.2 Changing between TV & Radio	39

6.3 TV or Radio Channel Lists	39
6.4 Language	42
6.5 Display and Video Format	43
6.6 Favourite	43
6.7 GUIDE	44
6.8 Search	44
7. PVR	46
7.1 File List	46
7.2 PVR Banner	48
8. Multimedia	58
8.1 Media Player	58
8.2 MP3 Player	58
8.2 Photo album list	58
Additional Information	59
A.1 Troubleshooting	59
A.2 Technical Specifications	61
A.3 Remote Control Code List by TV Manufacturer	63

Notice

- For your safety, please do not proceed without care.

Warnings, Cautions and Notes

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



Caution

Indicates a situation which, if not avoided, could damage the equipment or apparatus.



Warnings

Indicates a hazardous situation which, if not avoided, could result in serious injury.



Note

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



Correct Disposal of This Product

(Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they 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 should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

License Notice

Manufactured under license from Dolby Laboratories.

Dolby and the double-D symbol are trademarks of Dolby Laboratories.

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

ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit www.divx.com for more information and software tools to convert your files into DivX video.

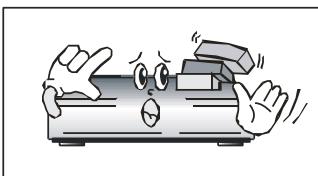
ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content. To generate the registration code, locate the DivX VOD section in the device setup menu. Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.

"DivX Certified® to play DivX® video, including premium content"

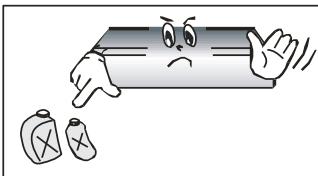
Safety Information

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

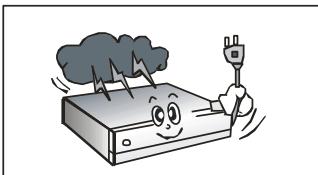
Safety Instructions and Precautions



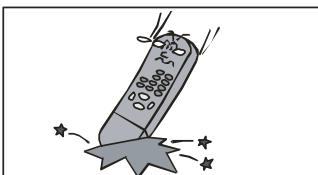
Avoid placing heavy items on the unit. Ensure that ventilation holes are not blocked, as this constitutes a serious fire hazard.



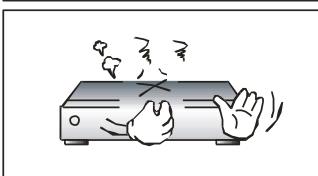
Do not clean the unit with petroleum-based cleansers as this can damage the paintwork. Use a dry, dust-free cloth.



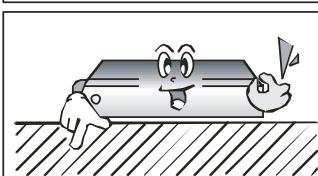
Disconnect the power and antenna cables during long absences or during electrical storms.



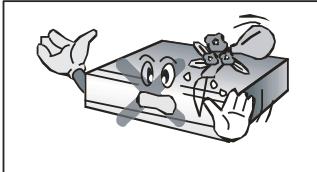
Avoid dropping the Remote Control Unit.



If there is smoke or a burning smell, turn off & unplug the unit immediately. Contact your local repair centre for advice or call 08712 003 191.



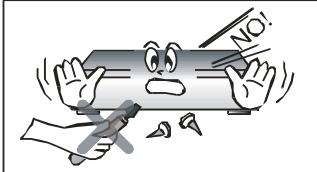
Avoid placing the unit on slippery or sloped surfaces.



Keep the unit away from all moisture sources.



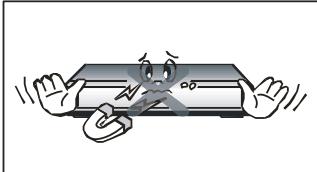
Keep the unit free of dust. Dust or metallic particles that find their way into the unit can cause fire or electric shock.



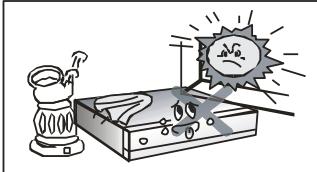
Do not open the unit. It contains no user-serviceable parts.



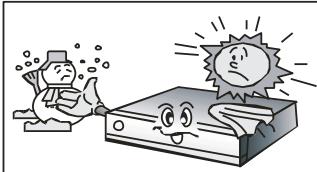
Do not unplug the unit by grabbing the cord. Turn off the power at the point, and firmly pull the plug. Do not move the unit while the power cord is plugged in.



Ensure that the unit is kept well away from magnetic sources such as speakers. These can cause data loss (from the HDD).



Ensure that the unit is placed in a position that is well-ventilated and away from direct sunlight or sources of humidity.



Avoid use if the room air temperature exceeds 30 C, or drops below 5 C. Remember that temperatures inside an enclosed cabinet can be much higher. The maximum operating temperature is 45 C.

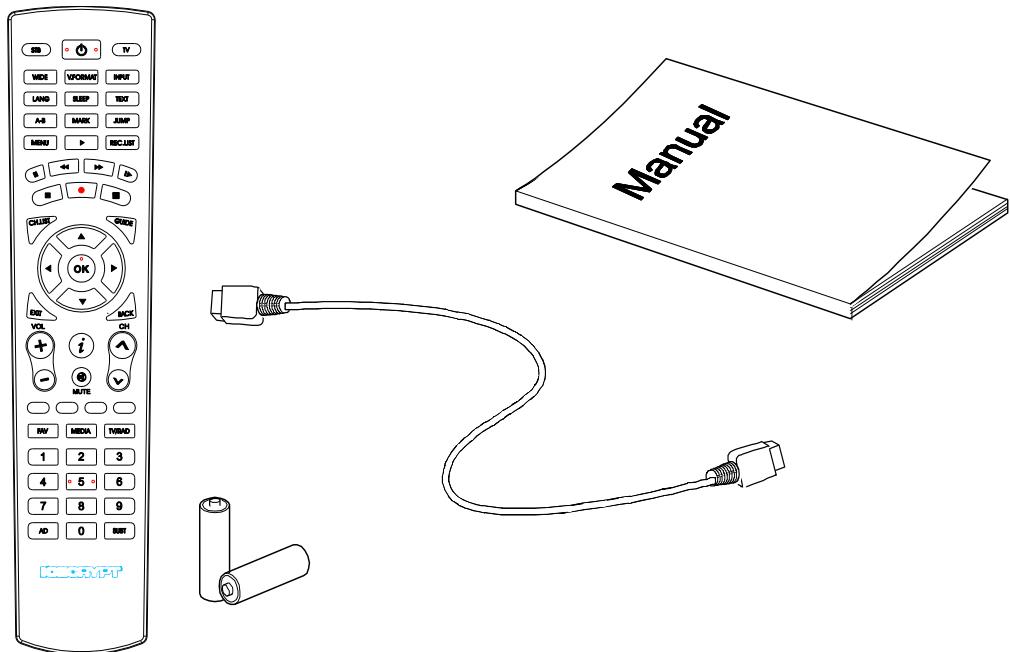
1. Before You Begin

1.1 Features

- Freeview High Definition Twin Tuner PVR
- Integrated Hard Disk Drive available with 500GB, 1TB and 2TB options (WD Green Drives)
- Records up to 500 hours with 1TB HDD (Up to 250 hours for HD content)
- 8 day Electronic Programme Guide (EPG)
- Time Shift function, 2 channel recording and 1 channel viewing
- Series recording and Recommendation
- Search by Genre and Search by Keyword
- Free HD Channels from BBC, ITV and Channel 4
- Up to 50 Digital TV channels and 24 Radio stations
- MPEG-4/MHEG5 Digital and fully DVB-T/T2 compliant
- Dolby Digital Plus Audio output
- Alphanumeric VFD with 16 characters and symbols
- Under 1W in passive mode standby power consumption (Clock 2W)
- Supports MP3 jukebox and DivX/AVI movie playback
- Full High Definition video resolution: 1920 x 1080P
- Click-Wheel control from front panel
- 2 x USB for external storage and data transfer
- 100MBit LAN connection for data transfer
- Vector Font and 256 colour GUI (Graphic User Interface)
- Variable aspect ratio with Full Screen, Centre Cut and Letter Box
- Teletext, Subtitles and Audio Description supported (VBI and OSD)
- Favourite Channel and Parental Lock Function

1.2 Accessories

- ◆ HDMI cable
- ◆ User's Manual
- ◆ Remote Control
- ◆ AAA dry cell batteries x 2
- ◆ Quick Start Guide



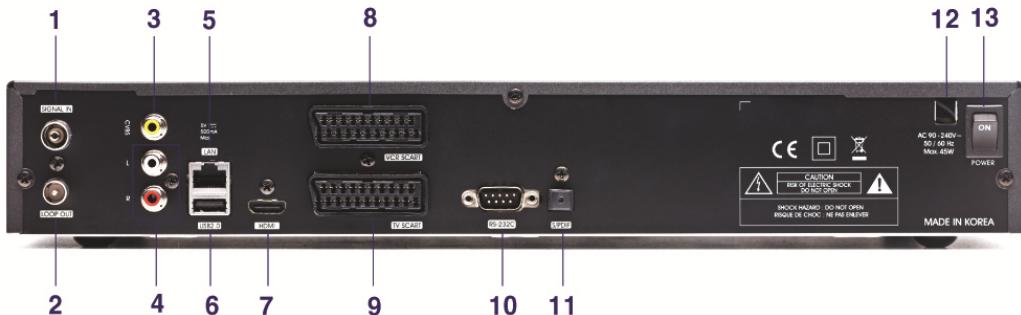
2. Controls and Functions

2.1 Front Panel



Item	Description
1. Power Button	Turns the receiver On/Off (Standby mode).
2. Jog Shuttle	<ul style="list-style-type: none">① Increases/Decreases the volume levels in viewing mode.② Push this to go to the channel list in viewing mode.③ Moves the cursor up/down or left/right in menu mode. To transfer moving the cursor between up/down and left/right, push the Menu button.
3. Menu Button	Shows the Main menu in viewing mode.
4. EXIT Button	Exits from the current menu or cancels the current operation if applicable.
5. Display (VFD module)	Shows channel information and indicates operating status. In STAND BY mode, the display shows local time.
6. USB 2.0 port	USB 2.0 Host port is behind the panel door

2.2 Rear Panel



Item	Description
1. SIGNAL In	Connect the Antenna In Cable.
2. LOOP Out	Pass-through connector for your antenna signal. Connect other equipment needing an antenna connection to this connector.
3. CVBS	Use this to connect a composite video cable (CVBS - Yellow). Standard definition only (576i resolution).
4. Audio L/R	Connect L/R (White/Red) analogue audio cables to your TV or amplifier.
5. LAN	Network Interface
6. USB 2.0	USB 2.0 Host port
7. HDMI	Connect to an HDMI input of TV. (1080p, 1080i, 720p, 576p resolutions supported)
8. VCR SCART	Connect a conventional VCR.
9. TV SCART	Connect a conventional TV.
10. RS-232C	Connect to a PC serial port (for software upgrade).
11. S/PDIF	Digital audio output for connection to an amplifier (or TV).
12. Electric Inlet Lead	90~240V AC (Auto-selectable), 50~60Hz
13. Power Switch	Turn Power to the unit On/Off.

2.3 Remote Control Unit

All receiver features can be controlled with the remote controller.

Button	Description
POWER (⊕)	To turn the STB On/Off
STB	To switch to STB control mode
TV	To switch to TV control mode
WIDE	To select the Aspect ratio (4:3 and 16:9)
V.FORMAT	To select the video output mode to 1080p, 1080i, 720p, 576p or 576i (HD Mode only)
INPUT	To switch the output of the TV SCART between the PVR's picture and the device connected to the VCR SCART
LANG	To select the audio language
SLEEP	To put the STB in Standby mode
TEXT	To activate Text or Interactive services
A-B	To set the block to Repeat, Copy and Cut
MARK	To set a bookmark
JUMP	To jump to bookmarked points
MENU	To display the main menu of the STB and come out from inner level to viewing mode (Exit all)
Play (►)	To resume playback of the recorded file
REC.LIST	To display programmes to be recorded
Pause (II)	To pause playing mode, recording mode and Time Shift
REW (◀◀)	To rewind playback
FF (►►)	To fast forward playback
SLOW (I►)	To playback in slow mode
STOP (■)	To stop playing mode, recording mode and Time Shift
REC (●)	To record the live channel



Button	Description
LIST (■)	To display the recorded file list in HDD
CH.LIST	To display the channel list
GUIDE	To show MHEG5 Electronic Programme Guide (EPG) - The Freeview Guide.
◀/▶	To move left/right or change settings in menu mode
▲/▼	To move up/down in menu mode
OK (OK)	To confirm the choice and/or selections of the highlighted menu item
EXIT	To go back step one menu level, cancel an operation, or exit from menu
BACK	In EPG mode, returns to the previous screen. In full screen mode, toggles between the currently tuned-to and previously tuned-to channels.
VOL +/-	To change the volume level in viewing mode.
INFO (z)	To show the information of the Banner and EPG.
MUTE	To turn the sound on/off
CH+/-	To change channels in viewing mode.
F1, F2, F3, F4 ()	To function as the corresponding colour option shown on screen
FAV	To select the favourite group list
MEDIA	To display the media contents (MP3, DivX, etc.) stored in the USB memory when the USB memory is connected to the USB port
TV/RAD	To switch between TV and Radio
NUMERIC Buttons (~)	To select channels or use as an alphabetic search key in the sorted channel lists
AD	To show the audio description when the audio description function is supported in the live channel
SUBT	To show the subtitle

< Program Remote Control for TV >

To switch the RCU between TV Control mode and PVR Control mode:

1. Press the **TV** or **STB** button at the bottom of the remote control.

To check which RCU control mode is active:

1. Simply look at the **TV / STB** buttons, which light up whenever one of the other remote control buttons is pressed.
2. In TV Control mode, the **TV** button will only illuminate when the button pressed actually sends a remote signal to the TV.

As an example - when the RCU is in TV Control mode:

1. If the **VOL+ / -** buttons are pressed, the **TV** button lights up.
2. Pressing the **STOP** button is not relevant to the TV so the **TV** button doesn't light up.

Programming the RCU to Control Your TV (Entering an RCU code from the code list):

1. Look in the code table (found in the A-3. Remote Control Code List by TV Manufacturer) for your TV.
2. Manufacturers often use several codes for different TV models, so you may need to try a number of codes.
3. Press - and hold - both the **OK** and **TV** buttons on the RCU for 3 seconds. The **TV** button will turn on.
4. Enter the 4-digit code.
5. If the remote code is correctly recognized, the **TV** button will turn off. If the **TV** button still turns on, please re-enter the code.
6. When the **TV** button turns off, press the **OK** button.
7. The **TV** button will flash three times and the programming will be finished.
8. Test your setup by sending a few commands to the TV.
9. If the TV doesn't respond, repeat the procedure with another code.

Resetting the Remote Control Unit

1. Input code '0000' to reset the remote control to the original factory setting.
2. The RCU does not support all TV models.



TVs are often made by other manufacturers, and therefore use different codes to those listed for the manufacturer (brand).

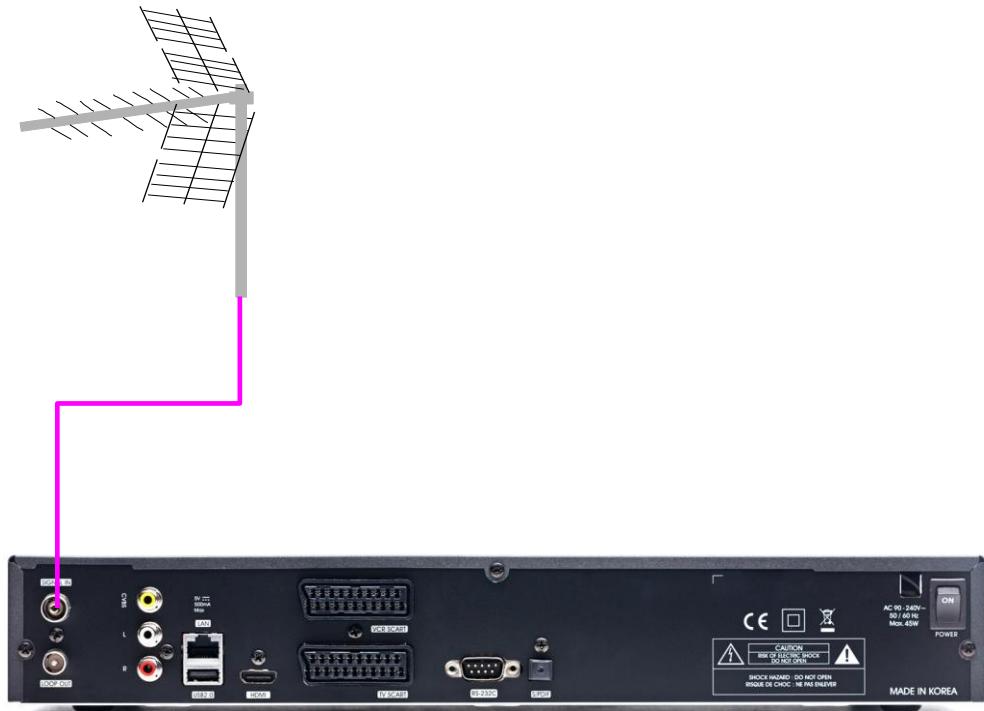
If no buttons are pressed for 5 seconds, the setup (learning) mode is cancelled.

3. Connections

3.1 Connecting to the Antenna

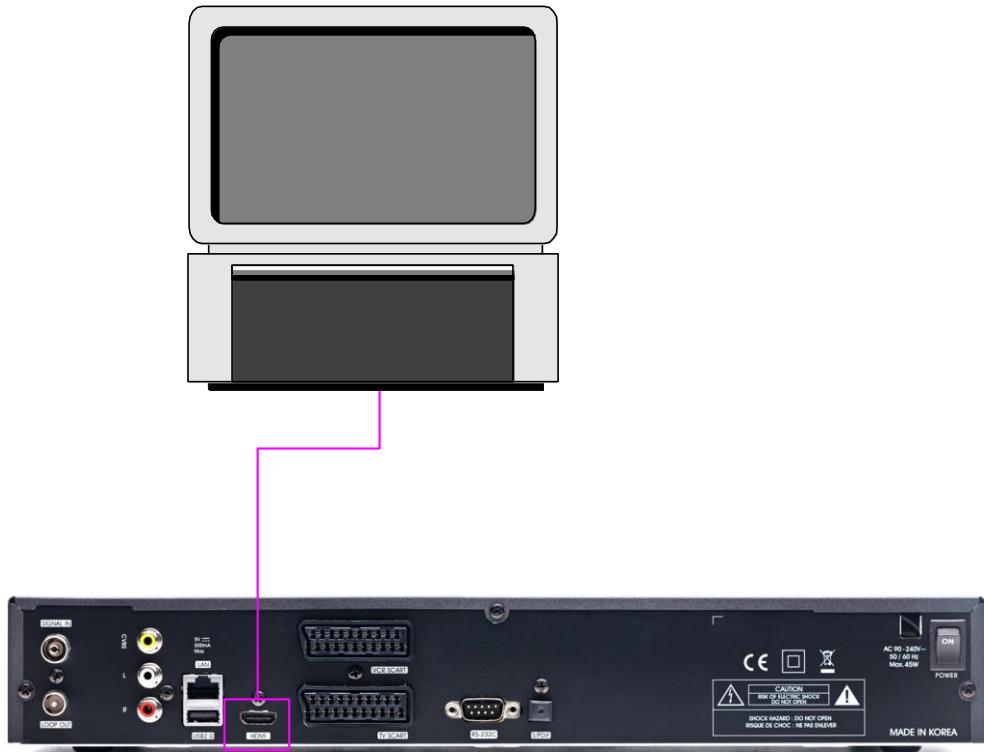
<Making Antenna connections>

1. Connect the antenna cable (75 ohm co-axial) to the SIGNAL IN connector.
2. To pass the antenna signal through to another device (such as a VCR and your TV), connect an appropriate 75 ohm co-axial cable from the Loop Out connector of the STB
(The Loop Out connection will pass the antenna signal through to your Device even when the STB is in Standby mode (or turned off at the switch)



3.2 Connecting to TV

<Connecting to a Digital TV that has an HDMI input port>

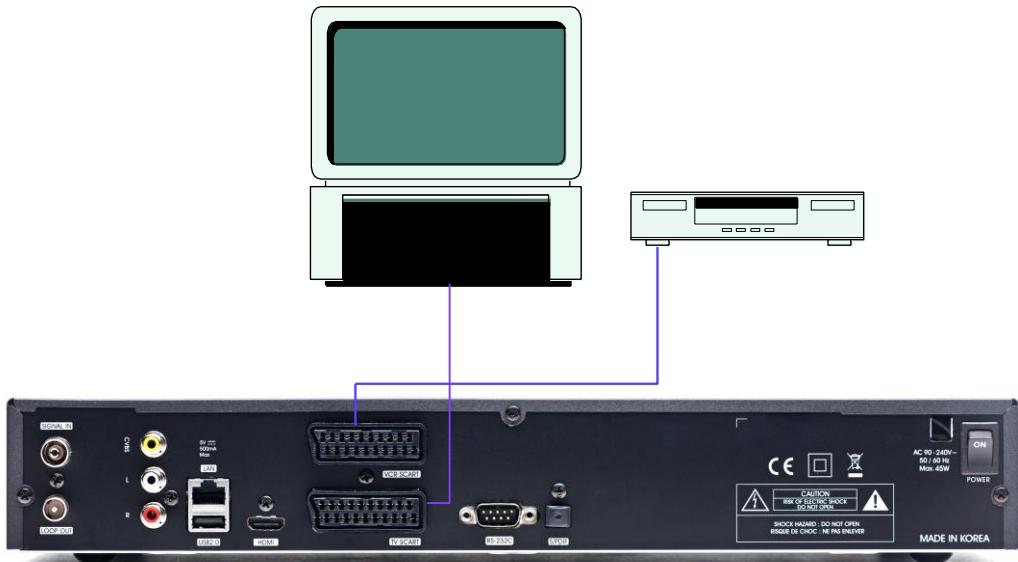


1. Connect the HDMI output on the STB to the HDMI input on your monitor or TV.
2. Select HD mode and set the video output mode to 1080p, 1080i, 720p, 576p or 576i by pressing the **V.FORMAT** button on RCU.



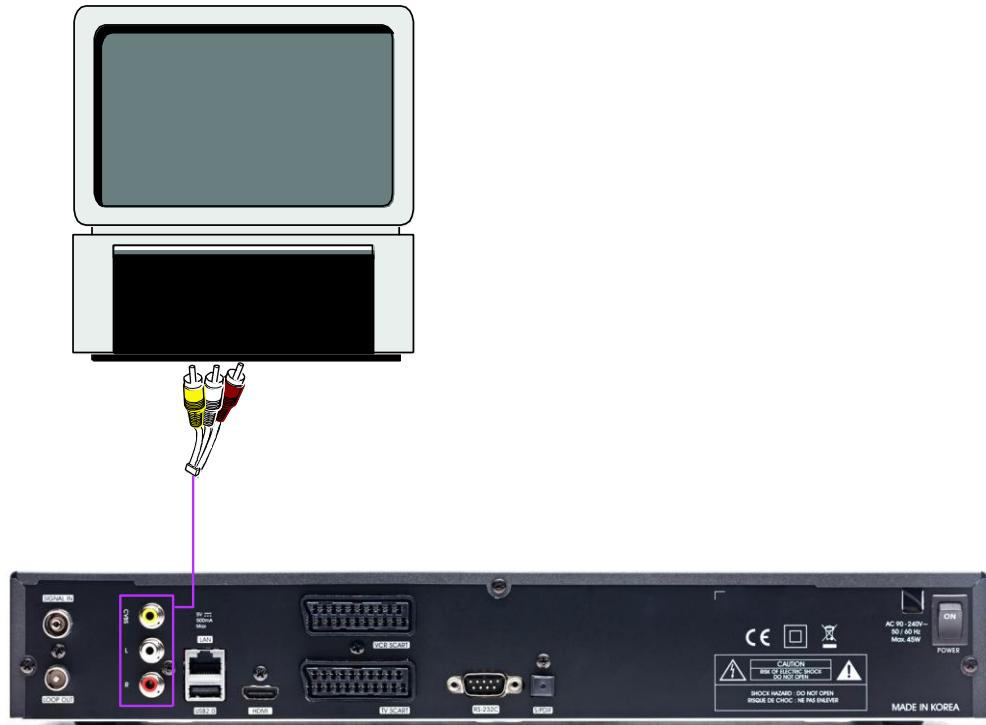
For access to HD programming at the highest available resolution, use this connection method.

<Connecting to Standard Definition TV and VCR using the SCART output>



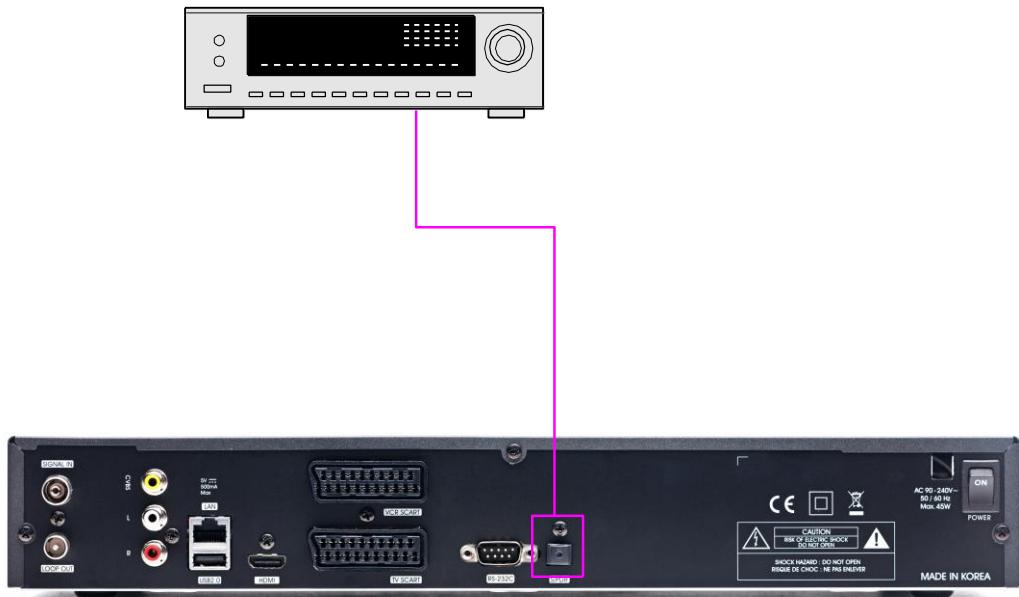
- 1.** Connect the Video TV SCART of STB to TV with fully featured SCART cable. Select SD mode in Installation menu.
- 2.** Connect the VCR SCART of STB to VCR with fully featured SCART cable.

<Connecting to Standard Definition TV using the composite output>



1. Connect the Video and Audio of TV to the Video and Audio. Select SD mode in Installation Menu
2. Connect Red and White connector to Audio R and Audio L, and Yellow into Video port respectively.

<Connecting to A/V receiver (Dolby Digital amplifier)>



1. Connect the optical digital audio out on the STB to A/V receiver.
2. Set the audio out mode as 'AC3'.

4. Menu Overview

4.1 Menu Instruction



Press the **MENU** button to display the menu. You can select the sub menu using **▲/▼/◀/▶** buttons. The selected sub menu becomes highlighted.

1. When you have selected the sub menu you want, press **OK** button.
2. If you want to return to the live screen, press the **MENU or EXIT** button.

4.2 Menu Help

In the menu, short information is displayed at the bottom on screen.



- ▲ : Using **▲/▼** buttons
- ◀ : Using **◀/▶** buttons
- OK : Using **OK** button
- Color Circles : Using the corresponding colour option shown on screen
- Exit : Using **EXIT** button
- 0~9 : Using numerical button

4.3 Menu Structure

In the menu, the short information is displayed at the bottom of the screen.

Please note that some menus are not available whilst a recording or playback is in progress.

Installation

- ◆ Antenna: To select the Antenna power settings (for Mast Head Amplifiers)
- ◆ Auto Scan: To search all channels automatically without specifying parameters
- ◆ Manual Scan: To search the channels manually by specifying parameters
- ◆ Reset to factory default: To restore the receiver to the default values

Setting

- ◆ AV Setting: To select the video or audio output
- ◆ Language: To select the display language, audio language, and subtitle language
- ◆ Parental Control: To change the password and select the censorship classification
- ◆ Power Setting: Select the Power save mode
- ◆ OSD Display: To set OSD display time and transparency

PVR

- ◆ Record Setting: To change Record Setting
- ◆ Scheduled Recordings: To move Timer List.
- ◆ Library: To move File list.
- ◆ Format HDD : To format HDD

Advanced

- ◆ OTA : To upgrade the receiver to the latest software version (subject to broadcast)
- ◆ USB Upgrade : To transfer the system software between receiver and USB drive
- ◆ Media Setting: To set media file play.
- ◆ Network Setting: To set the network parameter to use network functions via LAN port
- ◆ EDIT channel: Channel Delete, Channel Rename, Fav Delete, Fav Group Rename

Information

- ◆ System Information: To check the STB version
- ◆ HDD Information: To check HDD information.
- ◆ Network Message: To check Network information.

5. Menu Operation

5.1 First Installation

You can install the receiver using First Installation for your convenience.

'First Installation' allows you to set up your receiver following a simple procedure.

1. Select the desired language using the **▲/▼** buttons.
2. Press the **OK** button to confirm and begin scanning.



1. Use the **▲/▼** buttons to select HD (when using HDMI) or SD (when using SCART connections).
2. Press the **OK** button to confirm.



1. Select the desired screen ratio using the **▲/▼** buttons.
2. Press the **OK** button to confirm.



1. Select the desired display format using the **▲/▼** buttons.
2. Press the **OK** button to confirm.



1. Select the desired video format using the **▲/▼** buttons.
2. Press the **OK** button to confirm.

This is only available in HD mode.



1. Select Auto or Manual Scan using the **▲/▼** buttons.
2. Press the **OK** button to confirm.



- ◆ Previous Step button: If you want to go to the previous step, press the **Red** button and then you can reset options.
- ◆ Menu button: Resets options to default for that menu.
- ◆ Cancel and Exit button: If you want to skip 'First installation' press the **EXIT** button.

5.2 Installation

1. Press the **Menu** button to display the main menu.
2. Press the **OK** button on the sub menu such as Auto Scan. Manual Scan on the Installation is locked by password, and the password pop-up window appears. The default password is "0000".



5.2.1 Antenna

1. Select Antenna Power type using the **◀/▶** buttons. Antenna Power is defaulted to Off, if the antenna needs power supplied from receiver, you can select Antenna Power value as 'On'. (for external Masthead amplifiers).



Off is the default value in this option. If you have an internal distribution amplifier, you should not enable this option.

5.2.2 Auto Scan

1. The left window shows TV channels and the right window shows Radio channels during the scanning process. White channel names are new channels downloaded to your receiver. Grey channel names are already existing channels.



1. Choose Auto Scan menu and press **OK** button to begin scanning
2. You can press Exit at any time to stop scanning. A pop-up menu appears.
3. If you allow the complete scan, the same pop-up menu appears.



5.2.3 Manual Scan

1. Set the desired values (see right) to scan. Use the numeric keys (0-9) and **◀/▶ ▲/▼** buttons.
2. Press the **OK** button to start the manual scan.



- ◆ Channel: The target channel number for the manual scan
- ◆ Frequency: The transmitter frequency of the channel
- ◆ Modulation: The modulation type for the manual scan



Transmitter frequencies and other channel details for your area can be found on-line, simply type "local transmitter details" into your search engine.

5.2.4 Multiple Region

If you use Auto Scan or Manual Scan menu, and you receive signals from two or more transmitters the Multiple Region menu will open.

1. To perform a Multiple Region selection, simply press **OK** button.
2. Use the Multiple Region menu to select which transmitter you would like to use.



5.2.5 Reset to Factory Default

1. To perform a full factory reset to default value, simply press **OK** button. A dialogue will open.
2. Use the numeric button (0~9) to type the password.
3. The confirmation window shown in the image will appear.
4. If you select 'Yes', the STB will be reset to default factory values.



5.3 Settings

5.3.1 A/V Settings

1. Select the desired TV output options with the **▲/▼/◀/▶** buttons.
2. Press the **OK** button to save your chosen settings and exit the dialogue.



- ◆ HD/SD: Select HD for HDMI or SD for SCART/Composite.
- ◆ SCART: Select the SCART type (option only enabled in SD mode)
- ◆ Screen Ratio: Select the screen ratio (16:9 or 4:3)
- ◆ Display Format: Select the display format (Auto, Pillarbox or Zoom) (16:9)
- ◆ Video Format: Select the video format (1080p, 1080i, 720p, 576p, 576i or auto). HD Mode only.
- ◆ Dolby Digital (DD): If you set it to enabled, you can hear Dolby Digital audio in preference to other audio formats when the broadcasting contents are encrypted with Dolby-Digital audio format.
- ◆ Digital Audio: If you set it to enabled, you can hear Dolby Digital audio through AC-3 decoder connected by RCA output.
- ◆ Audio Delay: Select the audio delay time to synchronize the audio with the video.

5.3.2 Language

1. Select the language options using the **▲/▼/◀/▶** buttons.
2. Press the **OK** button to save your chosen language.



- ◆ Display: Change the language used for the OSD and Menus.
- ◆ Audio 1-2: Choose the preferred audio language for broadcast.
- ◆ Subtitle 1-2: Choose the preferred subtitle language.

5.3.3 Parental Control

You can block access to particular channels by age level. The user needs to enter a password in order to watch a blocked channel.

1. To change the password, press the **◀/▶** buttons, a dialogue will open.
2. Use the numeric buttons (0-9) to type in the new password.
3. You will be prompted to reconfirm your password. Type it in a second time.



1. Set the desired rating level with **◀/▶** buttons.
2. Press the **OK** button to save and exit.



- ◆ View All: All channels can be watched.
- ◆ 7: Channels rated over the age of seven are PIN protected.
- ◆ 12: Channels rated over the age of twelve are PIN protected.
- ◆ 15: Channels rated over the age of fifteen are PIN protected.
- ◆ 18: Channels rated over the age of eighteen are PIN protected.



You have to enter the password to watch the channels which are blocked by the age level.

1. Set the guidance option with **◀/▶** buttons. If this option is 'On', when unsuitable material is on TV from 05:30 to 21:00, a blank screen will be displayed.
2. Press the **OK** button to save and exit.



5.3.4 Standby Settings

1. Choose the desired options with the **▲/▼/◀/▶** buttons.
2. Press the **OK** button to save your setting and exit the dialogue.



- ◆ Power save Mode: Select the Power save mode.
- ◆ Power save mode for Clock: Select on/off (only applicable if first option is "On").
- ◆ Auto OTA: Select the Auto OTA mode.
- ◆ Auto OTA Start Time / End Time: Set the Auto OTA time zone.

5.3.5 OSD Display

1. Choose the desired options with the **▲/▼/◀/▶** buttons.
2. Press the **OK** button to save your setting and exit the dialogue.



- ◆ Banner display time: Banner will remain onscreen for the selected time. (1~9 seconds).
- ◆ Screen Saver: The Screen Saver function protects the screen from image burn on static images.

The following options can be selected.

(Disable, 5, 10, 20, 30, 60 and 120 Minutes)

- ◆ Radio Screen Saver: The Radio Screen Saver function protects from image burn when listening to a Radio channel.

The following options can be selected.

(Disable, 10 seconds to 120 Minutes)

- ◆ OSD Transparency: Select the OSD transparency level. (Low, Medium, High).
- ◆ Teletext Transparency: Select the Teletext transparency level. (Low, Medium, High).
- ◆ VFD Display : Select VFD display mode (Channel number + Name or Channel Name)

5.4 PVR

5.4.1 Record Setting

You can enable or disable the Time shift function in this window. The Timeshift buffer is set to 2 hours, if enabled, this cannot be changed.

1. Select the desired options with the **▲/▼/◀/▶** buttons.
2. Press the **OK** button to confirm your choice, and exit the dialogue.



- ◆ **Hard Drive:** If this option is 'on', the hard disc is always 'spun up' (i.e. operating). If the option is 'off', the hard disc goes into sleep mode. Whenever you perform a disc-based operation (i.e. recording or playback), the disc is spun-up. This saves *minimal* power, but it takes time for the drive to 'wake from sleep'.
- ◆ **Time shift:** If selected 'on', the STB will automatically record the channel being watched (to a temporary buffer – not a file). You can pause, rewind etc. 'live TV' in this mode. If selected 'off', press the **PAUSE** button to activate the temporary record buffer.
- ◆ **Jump time:** If 'Yellow' key is pressed during file playback (when time bar is displayed), the file playback will jump the set time.

5.4.2 Scheduled Recordings

Scheduled Recordings shows the programmes that are being recorded now and have been booked for recording but have not yet been recorded.

1. Guide Setting: Single, Series, Recommendation recording. Refer to chapter 7.2.3.
2. User manual Setting: Refer to chapter 7.2.3.

No.	Mode	Date	Start	End	Title
1	DAILY	---	18:15	18:15	BBC ONE
2	WEEKLY	Mon	17:16	18:16	BBC THREE
3	WEEKDAY	---	17:17	18:17	BBC ONE
4	SERIES	Mon 25/10	20:00	20:30	EastEnders [BBC ONE]
5	SINGLE	Mon 25/10	20:00	20:30	University Challenge [BBC TWO]

Buttons at the bottom: Exit, Move, Information, Guide, Delete, Add, Edit, Sort. Date '25/Oct/17/16' is in the top right corner.

- ◆ **Information:** Display Scheduled Record Programme information
- ◆ **Guide:** Go to Guide Mode
- ◆ **Delete:** User can Delete Scheduled Recordings

- ◆ **Add:** User can Add New Scheduled Recordings manually.
- ◆ **Edit:** User can Edit Scheduled Recordings and additional data.
- ◆ **Sort:** Sort Scheduled Recording list.

5.4.3 Library

1. Pressing Library once displays the Recorded files.
2. Pressing Library twice allows you to select storage device, including external if connected.

- ◆ **▲ / ▼ button:** Select the File with the ▲/▼ buttons.
- ◆ **◀ / ▶ button:** Change the functions (Play, Delete, Rename, Lock)
- ◆ **+/- PG button:** Change the Previous Page / Next Page.
- ◆ **OK:** Operate the functions with selected File
- ◆ **I:** Display selected File information.
- ◆ **RED button:** Delete the selected file.
- ◆ **Green button:** Copy and Move data to USB.
- ◆ **Yellow button:** Create folder.
- ◆ **Blue button:** Sort the selected file.



5.4.4 Format HDD

1. If you press the **OK** button in this dialogue all files on the HDD will be erased.
2. You will need to enter your PIN and confirm.



TAKE EXTREME CARE WITH THIS OPTION AS THERE IS NO WAY TO
RECOVER YOUR RECORDINGS AND MEDIA FILES!
IT TAKES ABOUT 5 MINUTES TO FORMAT HDD.

5.5 Advanced

5.5.1 OTA Upgrade

1. You can upgrade to the latest software. The receiver checks whether the new S/W is released on the OTA TP.

- ◆ Channel: Select the OTA TP Channel.
- ◆ Frequency: Select the OTA TP frequency.
- ◆ Modulation: Select the TP modulation (DVB-T or DVB-T2).
- ◆ Scan Mode: Select Scan mode (Auto, Manual)
 - Auto mode can scan all frequencies
 - Manual mode can scan the OTA data in the selected frequency.



5.5.2 USB Firmware Upgrade

You can transfer the system software (firmware) between the STB and a USB drive ("memory stick" or HDD).

1. Connect the USB device to the Host port on the front or back panel of the STB.



1. Select "USB to STB" and "Yes" to begin data transfer. The warning dialogue shown below will remain onscreen during the update.
2. The STB will reboot automatically once the firmware has been updated.
3. We recommend performing a Factory Reset after upgrading the software.



DO NOT DISCONNECT THE USB CABLE / DEVICE UNTIL THE TRANSFER IS COMPLETED!

5.5.3 Media Settings

1. You can set the Media Settings



- ◆ Slide Show Time: Set the display time of the Image viewer
- ◆ MP3 Play Mode: Set the MP3 Play Mode
- ◆ Media Format HDD: Separate the Media HDD Area and the Recording HDD Area
- ◆ DivX Certification: Select the DivX Registration or the DivX Dereistration

ABOUT DIVX VIDEO: *DivX® is a digital video format created by DivX, Inc.*

This is an official DivX Certified device that plays DivX video.

Visit www.divx.com for more information and software tools to convert your files into DivX video.

ABOUT DIVX VIDEO-ON-DEMAND: *This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content.*

To generate the registration code, locate the DivX VOD section in the device setup menu.

Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.

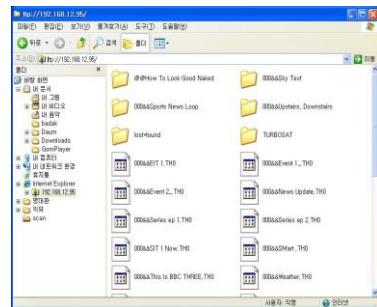
5.5.4 Network Setting

1. To use the network functions via LAN port, set the network parameters correctly. Those parameters are similar to the network environment setting in your PC.



Connect to PC

1. When you have finished Network Setting, select the  button.
2. Select the Network Setting menu for IP setting.
Check the IP Address.
3. Play the windows search of your PC for contact
FTP site of STB. Put in IP address of STB.



5.5.5 Edit Channel

1. You can choose edit channel Group. Select the Group or FAV (If you have made Favourite Lists)



2. If you choose The Channel Group, you can delete the selected channel list on the Mode



3. If you choose The Favourite Group, you can delete the selected favourite list on the Mode



5.6 Information

5.6.1 System Information

You can check system information such as; Model ID, Hardware version and Software version in this dialogue.



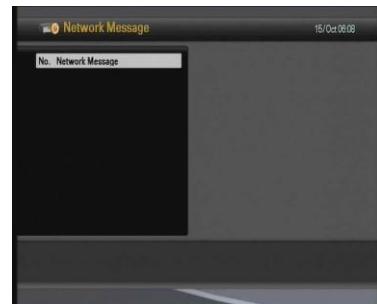
5.6.2 HDD Information

This window allows you to see the following HDD details: Total size, Free size, Used size.



5.6.3 Network Message

This window allows you to see the Network Message at the booting time



6. Viewing General Information

6.1 Banner Information



1. Press the **INFO** button to display the channel Information bar for a few seconds. The display duration is set in the OSD Display MENU.
* The output resolution is also shown on the top left corner of the screen.



To view the extended programme information:

1. Press the **INFO** button (while channel information bar is visible) to display the extended programme information. The information bar remains onscreen when extended information bar is shown.
2. Press the **◀/▶** buttons to view further programme information page.
3. Press the **EXIT** or **INFO** button to hide the information bar and extended programme information.

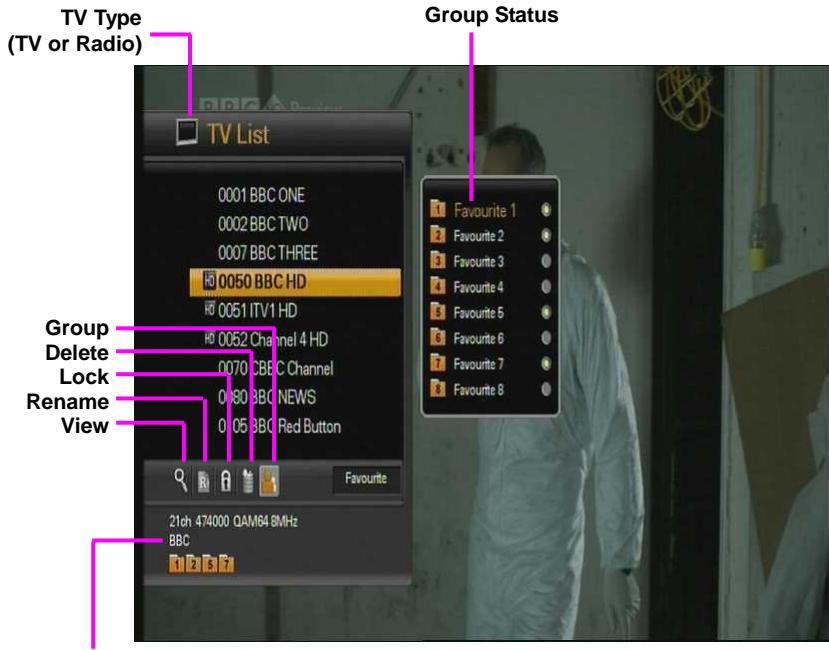


6.2 Changing between TV & Radio

Press the **TV/RAD** button to switch between TV and Radio channels.



6.3 TV or Radio Channel Lists



Note: HD channels will only be shown if available in your area

6.3.1 Displaying and using the channel list

1. Press the **CH.LIST** button to show the channel list.
2. Press the **▲/▼** buttons to move the selection cursor up and down the channel list.
3. Press the **OK** button to choose / watch the highlighted channel.
4. Press the **EXIT** button to close the channel list window.

1. To choose a channel with the numeric buttons.
2. Simply press the '3' button to watch channel 3, or '1' and '0' (in quick succession) to select channel 10.

A \$ symbol next to a channel name denotes Pay TV and a subscription is required.



6.3.2 Understanding and Using Mode Commands

The icons shown at the bottom of the channel list provide access to a number of "modes". Modes are used to perform particular types of operations in the open window.

1. Press **◀/▶** buttons to select the desired mode.
2. The selected mode icon is highlighted, and the active mode name is shown on the label to the right of the icons.
3. View mode is automatically selected when you open the channel list.

Delete Mode

1. Select the Delete mode (Trash) icon with the **◀/▶** buttons.
2. Select channel you want to delete with the **▲/▼** buttons.
3. Press the **OK** button, and a tick will be shown to the right of the channel name.
4. Press the **EXIT** button to delete the channel, and exit the dialogue.



Rename Mode

1. Select the Rename mode (R) icon with the the ◀/▶ buttons.
2. Select the channel you want to rename with the ▲/▼ buttons, and press the **OK** button. A small name editing window will be displayed.
3. Choose each letter of the new channel name with the ▲/▼/◀/▶ buttons.
4. Press the **OK** button to enter each letter.
5. After renaming, press the "Save" icon (see right)
6. Press the **EXIT** button to leave the dialogue.



Lock Mode

1. Select Lock mode (Padlock) icon with the the ◀/▶ buttons.
2. Select the channel that you want to lock with ▲/▼ buttons, and press the **OK** button.
3. Set the password. A Lock icon will appear on the left of the Channel name. This can be cancelled by pressing the **OK** button.
4. Press the **EXIT** button to save and exit.



Favourite Mode (Creating Favourites)

1. Select the Favourite mode (Two people) icon with the ◀/▶ buttons.
2. Press the **OK** button, and a small Favourite Window will appear to the right of the channel list.
3. Choose the group number with the ▲/▼ buttons, and confirm by pressing the **OK** button. To cancel the confirmation, press the **OK** button again.
4. Use the ▲/▼ buttons to choose, and press the **OK** button to add them to the Favourite group. Press the **OK** button again if you accidentally assign a channel to a group.
5. Press the **EXIT** button (twice) to save and exit.



6.4 Language

While watching TV or listening to Radio, press the **LANG** button. You can select an option (Audio and Subtitle Language). If you want to change the option mode, press the **◀/▶** button.

6.4.1 Audio Language

1. Select the 'Audio' using the **◀/▶** buttons.
2. Press the **▲/▼** buttons to select a desired audio language.
3. Press the **OK** button to change the audio language.



6.4.2 Subtitle Language

1. Select the 'Subtitle' using the **◀/▶** button.
2. Press the **▲/▼** button to select a language.
3. Press the **OK** button.
4. If the selected language is different from what is available, you can't watch the subtitle.



Audio Delay Pop up: This function is to set synchronization for surround sound/amps.



6.5 Display and Video Format

While watching TV or listening to Radio, you can select an option (Display and Video Format).

6.5.1 Display Format

1. Press the **WIDE** button to set display format of the STB. (Auto, Pillarbox or Zoom)
2. Press the **OK** button to save and exit.



6.5.2 Video Format

1. Press the **V.FORMAT** button to set Video format of the STB. (1080p, 1080i, 720p, 576p, 576i or Auto)
2. Press the **OK** button to save and exit.

This option is not available in SD mode.



6.6 Favourite

While watching TV or listening to Radio, press the **FAV** button. You can see a small pop-up window. You can select a Favourite group.

1. Select the 'Favourite' using the **◀/▶** buttons.
2. Press the **▲/▼** buttons to select a group.
3. Press the **OK** button, then you can watch the channel list of selected group.



6.7 GUIDE

Press the **GUIDE** button and the electronic channel guide appears if applicable. Time intervals are arranged in a row and Channel lists are shown in a column.

6.7.1 GUIDE Information

1. Press the **◀/▶** buttons to change time interval.
2. Press the **▲/▼** buttons to change the channel, and then the detailed GUIDE information will appear. The small screen in the left will only be changed if you press the **OK** button on the channel list.
3. Press the **EXIT** button to exit.



Press the **REC** button to reserve channels by event. If you want to know the detailed description about scheduling a recording, refer to the description in chapter 7.2.3.

6.8 Search

6.8.1 Keyword Search

1. Press the **Search (Green)** button and then small dialogue will appear.
2. Select the **Keyword Search** option.



1. A small editing window will be displayed.
2. You can enter the Keyword using the **▲/▼/◀/▶** /numeric buttons and **OK** button.
3. Select save icon to search the EPG.
4. Scroll through list and press **OK** button on desired programme to set a recording or reminder.



6.8.2 Genre Search

1. Press **Search (Green)** button and then small dialogue will appear.
2. Select the **Genre Search** option.



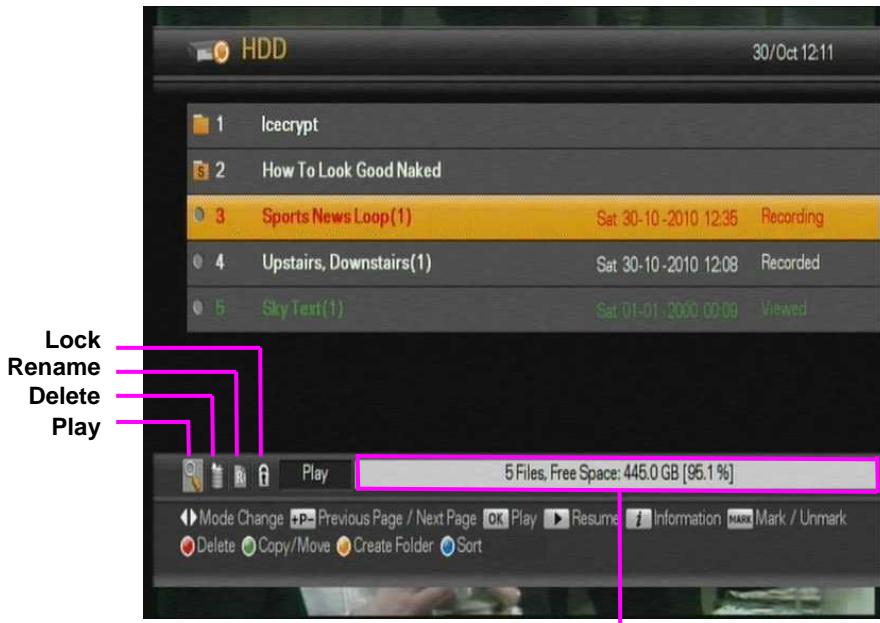
1. A small window will be displayed.
2. You can select **Genre** using the **▲/▼** buttons and press **OK** button.
3. Scroll through list and press **OK** button on desired programme to set a recording or reminder.



7. PVR

This chapter covers the time-shifting, recording, playback, book marking and editing functions.

7.1 File List



HDD Information

- ◆ Play: Select the file to play.
- ◆ Delete: Select the file to delete.
- ◆ Rename: Select the file to rename.
- ◆ Lock: Select the file to lock

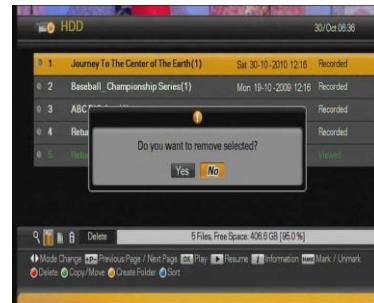
7.1.1 Playback mode

1. You can see the detailed file information.
2. Press the **INFO** button to see the information for the selected file.
3. Press the **EXIT** button to hide the information.



7.1.2 Delete mode

1. Select the 'Delete mode' using the **Red** button.
2. Select the file you want to delete using the **▲/▼** buttons.
3. If you decide to delete the file, press 'Yes' on the pop-up window.
4. Press the **EXIT** button to exit.



7.1.3 Copy/Move Mode

1. Select 'Copy/Move mode' using the **Green** button.
2. Select the file to copy/move and press the **OK** button. And then a small selecting window will be displayed.
3. You can select position to copy/move and the **OK** button.
4. Press the **EXIT** button to exit.



7.1.4 Create Folder Mode

1. Select 'Create Folder mode' using the **Yellow** button. And then a small editing window will be displayed.
2. You can write each letter of the folder name using the **▲/▼/◀/▶/numeric** buttons and select folder creation icon and **OK** button.
3. Press the **EXIT** button to exit.



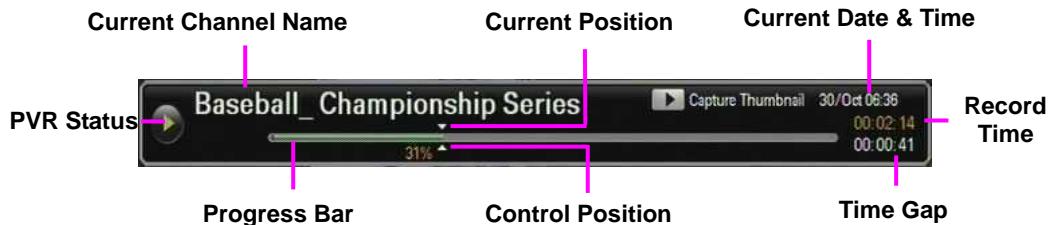
7.1.5 Sort Mode

1. Select 'Sort mode' using the **Blue** button.
2. Select date or file name (A-Z) to sort.
3. Press the **EXIT** button to exit.



7.2 PVR Banner

To access the PVR Information Bar, press the **▲/▼/◀/▶** buttons or any of the “trick play” buttons: **PLAY (▶)**, **FF (▶▶)**, **REW (◀◀)**, **SLOW (□▶)**.



- ◆ The description of icons

: Time Shift status
 : Recording status

: Playback and trick status

: Time Shift playback and trick status

: Playback the programme being recorded.

7.2.1 Time Shift

Time Shift function automatically records the current playing programme temporarily.

1. If Time Shift function is enabled in the PVR menu.
Time Shift is always working (default is 2 hours).
The buffer is reset if you change the channel. You
can not disable the Time Shift function in
“enabled mode” except when you choose to
record the channel.



1. If Time Shift function is set to disabled in the PVR menu. Time Shift will work only when you press the PAUSE (□□) button.



7.2.2 Recording on Live TV

1. Press the REC (●) button to record the channel you're watching, this will record the current programme only.
2. If you want to extend the recorded time, press ► to increase by 5 minute intervals. (The yellow time on the time bar increases to show this).
3. Record mode can only be cancelled by pressing the STOP (■) button.



One recording and playback the same channel simultaneously

1. Press the REC (●) button on the desired channel.
2. If a recording is already in progress press the REW(◀◀) button then use the ►►/◀◀/◀/▶ buttons to find the position you want to watch from.



1. Press the PLAY (▶) button at the desired position.
2. The recorded content will be played from that position until it has caught up with the live transmission.



One recording and view live channel simultaneously

1. You can watch another channel while recording.
Press the **REC(●)** button on the desired channel.
2. Press the **CH. LIST** button to view the channel list.
3. Select the channel you want to watch using the **▲/▼** buttons.
4. You can record two channels whilst watching another channel, however there may be restrictions due to the multiplex.

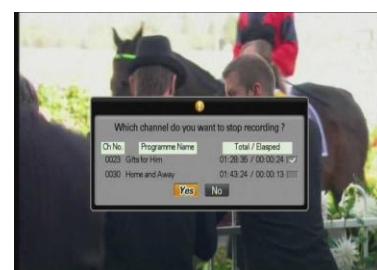


Two recordings

1. Press the **REC(●)** button on the desired channel.
2. When you change the channel, you can record another channel pressing the **REC(●)** button.
3. Two channels will be recorded simultaneously.



1. If you want to stop recording, press the **STOP(■)** button.
2. Select the desired channel using the **▲/▼** button, and press the **OK** button on the desired channel to select.
3. Press **OK** button on YES to confirm, or NO to cancel.



Two recording and playback one file simultaneously

1. Press the **REC(●)** button on the desired 2 channels as above.
2. Press the **FILE** button to open the file list.
3. Select the desired file using the **▲/▼** buttons.
4. Press the **OK** or **PLAY (►)** button to playback the file.
 - A. **OK** : Play from the start.
 - B. **PLAY (►)** : Resume Play from last point.
5. Press the **STOP (■)** button to stop watching the file and return to live TV.



7.2.3 Scheduled Recording



Series and Recommended recording options are available on condition that the broadcaster provides information.

Single Recording

1. In the EPG, select the programme you want to book for recording.



2. Press the REC(●) on your selected programme.
3. If you press the REC(●) on your selected programme again it deletes the recording.
4. If there are options for Series Record or a Recommended Recording you will be prompted, see next sections.



If you select a standard definition programme, a message asking to replace with its high definition version will appear – If HD broadcasting has the same data as SD.

1. A successful recording booking is listed in the Record List until the time that the programme has started recording.



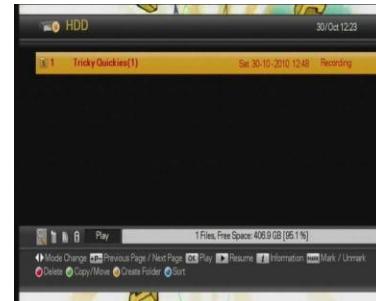
Series Recording

1. In the EPG, select the programme you want to book for recording. When you select a programme, the icon [S] may show.
2. Press the **REC (●)** button on your selected programme. When the icon [S] shows, a message, 'SINGLE REC' or 'SERIES REC' will pop up. If you select 'SERIES REC', the series will be booked for recording.
3. If there is an options for Recommended Recording you will be prompted, see next section.



If you select a standard definition programme, a message asking to replace with its high definition version will appear – If HD broadcasting has the same data as SD.

1. A successful booking is listed in the Record List until the time at which the entire series has started recording.
2. Recorded programmes move to and shows in a Series Folder for that programme.



Recommendation Recording

1. When you make a Single or Series recording, if the [R] icon shows you will be prompted to record other recommended programmes of the same genre.
2. The Recommended programmes will be listed in a pop up box, along with the options to record "with Recommendation" or "without Recommendation".
3. Select your preference and press **OK** to confirm. If you select "without recommendation" the original programme is recorded only. If you select "with recommendation" the original recording AND the recommended recording will take place.



If you select a standard definition programme, a message asking to replace with its high definition version will appear – If HD broadcasting has the same data as SD.

< Booking Conflict >

1. When you try to book more than two programmes at same time, the conflict message, 'Alternative Instance' and 'Manual Method' will pop up.
2. If you select 'Alternative Instance', the receiver will scan for alternative showing times of the programmes listed. It will automatically book this for you. If an alternative method cannot be found it will ask you to resolve conflict manually.
3. If you select 'Manual Method', you can select the programme that you want to delete in the record list to resolve the conflict.



< Programme Reminder >

Set a reminder message to view a programme, without recording.(Once set the programme will be highlighted in Yellow in the EPG).

1. In the EPG, select the programme you want to be reminded of.
2. Press the **REC** (●) button on your selected programme.
3. Select "Reminder" from the pop up menu.
4. Selected programme will be highlighted in yellow.
5. To delete reminder press **REC** (●) button again.



Adding a Manual Timer

You can set a manual timer from the Scheduled Recordings list (**REC.LIST** button).

1. Select **Green** button to Add a new timer.
2. Use **▲/▼/◀/▶** buttons to edit the timer details.
3. Once all details are entered use the **OK** button to save the timer.
4. To edit a manual timer use the **Yellow** button.
(You cannot edit any recordings made from the EPG).



7.2.4 Playback of a recorded programme

1. Press the  button to open the file list.
2. Select the file you want to watch using the / buttons.
3. Press the  or **PLAY (▶)** button.
 - A. : Play
 - B. **PLAY (▶)**: Resume



1. Press the / buttons or trick buttons such as REW, FF, etc., if you want to see the status of playback.



1. Press the numeric buttons (0~9) in Playback mode.
2. If you press "55", play position will jump to 55% of file duration.
3. Press the **STOP (■)** button to stop playback and return to File List.
4. Press **EXIT** to return to Live TV.



Jump in playback mode

1. You can locate the control position to the desired position using the **◀/▶** buttons.
2. By releasing the **◀/▶** buttons, playback continues from this position.
3. With the time bar displayed press the 'Yellow' button to jump the set time (default time is four minutes).



Bookmark

The bookmark function enables you to set bookmarks within the media file to continue from or target a special position in that file.

1. Play the file you want to watch.
2. Move the control position to the favoured position using the **◀/▶** buttons. Then press the **MARK** button and a small bar will be placed at that position.
3. To delete the Bookmark, move the control position using the **◀/▶** buttons to the desired Bookmark, press the **MARK** button again.
4. Press the **JUMP** button and the control position will jump to the next bookmarked position and playback starts from this point.

- ◆ The maximum number of Bookmarks is twenty in a file.
- ◆ The first Bookmark is always at the start position of the file.



7.2.5 FF/REW/SLOW mode

These functions are available in Playback mode and Time Shift mode.

Fast Forward / Speed: x2, x4, x8, x16

1. Press the **FF(▶▶)** button.
2. If you press the **FF(▶▶)** button continuously, speed will be increased up to 4 times.
 - ◆  : Fast forward icon on Playback mode.
 - ◆  : Fast forward icon on Time Shift mode.



Rewind / Speed: x2, x4, x8, x16

1. Press the **REW(◀◀)** button.
2. If you press the **REW(◀◀)** button continuously, speed will be increased up to 4 times.



Slow

1. Press the **SLOW(□▶)** button.
2. If you press the **SLOW(□▶)** button continuously, speed will be decreased up to 1/4 times.



7.2.6 Set Repeat, Copy and Cut block

You can set the block to Repeat, Copy and Cut the recorded file on the PVR Banner.

1. Play the recorded file.
2. Locate the control position to the favoured starting position using the **◀/▶** buttons.
3. Press the **A-B** button to set the start point and then move the end point using the **◀/▶** buttons.



1. Press the **A-B** button again on the end point and then a pop-up window is displayed.
2. You can select the function such as Repeat block, Copy block or Cut block using the **▲/▼** buttons.
3. Press the **OK** button to start repeating, copying or cutting block.
4. Press the **EXIT** button or the **A-B** button to cancel setting block.



- ◆ Repeat block: Select to play and repeat the desired section.
- ◆ Copy block: Select to copy the desired section as a new file on the HDD.
- ◆ Cut block: Select to cut the desired section from the recording, this file is not saved and cannot be restored once selected.

8. Multimedia

Press the **Media** button and Multimedia menu appears on screen.

You can select Multimedia function, press **◀/▶**

to select a category

- Media Player
- MP3 player
- Photo album

Press **▲/▼** to select the device.



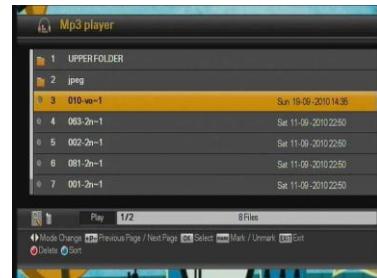
8.1 Media Player

1. Select the Media Player and Device
2. Select the File list.
3. Press **OK** to Play the file.



8.2 MP3 Player

1. Select the MP3 Player and Device
2. Select the File list.
3. Press **OK** to Play the file.



8.2 Photo album list

1. Select the Photo album and Device
2. Select the File list.
3. Press **OK** to Play the file.



Additional Information

A.1 Troubleshooting

There are many factors that can cause receiver problems. Please take a look at the troubleshooting table below.



Do not open the unit as this may cause damage to the STB, your property or yourself.

Problem	Cause	Solution
The front panel doesn't display any message.	The power cord is not plugged in or the unit is turned off.	Check that the power cable is plugged in to the socket and that the power switch is on. Also check the power switch on the back of the STB.
No picture or sound.	Poor (or Wrong) connection of the STB Audio/Video outputs to the TV.	Ensure that appropriate connectors are used, and are correctly connected.
	Incorrect antenna connection	Connect the antenna cable correctly.
	No or Bad signal message is displayed.	Check other devices connected between antenna and the STB, or adjust the antenna position.
	Audio muting	Press the MUTE button to unmute the sound. Also check amp or TV volume (and input) settings – if applicable.
	TV Power is off.	Turn on the TV.
	Wrong TV input	Select the correct TV input.
	The STB can't receive a signal.	Check antenna cable to ensure firm connection. Replace if necessary.
	Incorrect values for some tuner parameters.	Set the correct tuner values. Refer to the installation menu section of this manual.
No or bad signal.	Antenna is inappropriate for digital TV reception.	Replace the antenna. Consult a local aerial installer for advice.
	Antenna is underpowered.	Turn on the Antenna Power setting in the STB menu. Add an antenna power booster.

Problem	Cause	Solution
The remote control doesn't work.	Antenna is receiving non-TV signals from wireless devices etc.	Reduce the power being supplied to the antenna. Adjust (or replace) the antenna.
	Antenna is damaged.	Replace the antenna. Consult an engineer.
Poor picture or audio quality.	The batteries of the remote control are not inserted correctly, or are exhausted.	Check if batteries are correctly inserted. Replace batteries, if necessary.
	Low antenna power or signal loss in cabling.	Add an antenna booster or turn on Antenna Power in the STB menus. Check video cables, and replace if necessary.
Some channels are not found when scanning.	Broadcasting fault.	Wait until the broadcaster remedies the fault, or electrical storm etc. has passed.
	Low antenna power or signal loss in cabling.	Add an antenna booster or turn on Antenna Power in STB menus.
	Some channels may require a different type of antenna (UHF/VHF)	Replace the antenna. Consult a qualified engineer/local aerial installer for advice.

A.2 Technical Specifications

1. Tuner & Demodulator

Parameter	Specifications
Input Connector	1 X IEC169-2, female
Loop through Connector	1 X IEC169-2, male
Input Signal Frequency	VHF 174~230 MHz, UHF 470~860MHz
Input Signal Level	-90~-20dBm
Input impedance	75 Ohms nominal
IF Centre Frequency	36.167 MHz
IF Bandwidth	6.66 MHz, 7.61MHz
Waveform	OFDM
Transmission mode	2K FFT, 8K FFT
Constellations	QPSK, 16QAM, 64QAM
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
Guards intervals	1/4, 1/8, 1/16, 1/32
FEC decoder	Reed-Solomon Viterbi Decoder, for 16 parity bytes Block lengths 204 byte
MCPC and SCPC	Supported

2. MPEG

Parameter	Specifications
Transport Stream	MPEG-2 ISO/IEC 13818 Transport Stream Specification
Video	MPEG-2 MP@ML, MPEG-4 H.264/AVC
Audio	MPEG-1/2 Audio Layer 1/2/3, Dolby Digital Plus, MPEG-2/4 AAC
Video bit rate	1.5-15 Mbps
Active pixel	1920x1080p50, 1920x1080i, 1280x720p, 720x576p, 720x576i
Aspect ratio	4:3 or 16:9
Audio Mode	Stereo, Dual channel, Joint stereo, Mono
Audio Sampling frequency	32 kHz, 44.1 kHz, 48 kHz

3. Connector

Port	Specifications
RF in	IEC 169-2 Female type
RF out	IEC 169-2 Male type
Composite output	RCA (VIDEO) RCA (Audio L/R)
HDMI output	HDMI 1.3 compliant
S/PDIF	Optical type
SCART output	TV (RGB or CVBS, Audio L/R, Function SW) VCR (CVBS, Audio L/R, Function SW)
Serial port	RS232C
USB2.0 port	Host x 2ea
LAN port	RJ45

4. Power Supply

Parameter	Specifications
Input voltage	90~260VAC (SMPS type)
Power consumption	Operation: max. 28W Standby : under 1W (Power save mode without clock)
Protection	Separate internal fuse Lighting protection Lighting protection

5. Environmental

Parameter	Specifications
Operating temperature	0°C ~ 45°C
Storage	-10°C ~ +50°C
Storage humidity range	5 ~ 90% Rh Non condensing
Operating humidity range	10 ~ 85% Rh Non condensing
Weight	3.4 kg
Dimension(H x W x D)	60mm x 400mm x 270mm

A.3 Remote Control Code List by TV Manufacturer

A.R.Systems	0005	0173	0062	0039
	0047			
Accent	0001	0005	0062	
Acer	0140			
Adcom	0071			
ADL	0125			
Admiral	0009	0035	0043	0013
	0024			
Adyson	0019			
AEA	0005	0062		
AEG	0151	0067	0118	
Agashi	0019	0024		
AGB	0058			
Aiko	0001	0005	0062	0019
	0038	0003	0044	0033
	0016	0024		
Aim	0005	0042	0062	0092
	0018	0083	0100	
Aiwa	0082	0161	0149	
Akai	0033	0018	0038	0150
	0005	0044	0091	0016
	0003	0001	0092	0020
	0089	0085	0013	0058
	0086	0066	0062	0061
	0049	0072	0019	0024
	0015	0040	0067	0115
	0161	0048	0076	0129
	0163			
Akashi	0108	0001		
Akba	0020	0025	0047	0005
	0062			
Akira	0043			
Akito	0005	0062		
Akura	0005	0062	0080	0042
	0001	0020	0025	0024
	0085	0164		
Aaron	0019			
Aba	0005	0115	0062	0085
	0001	0043	0037	0038
	0080	0032	0020	0019
	0023	0013	0052	0004
	0161	0046	0163	
Akos	0003			
AI-Tel	0110			
Alstar	0005	0062		
Amplivision	0037			
Amstrad	0001	0058	0024	0038
	0020	0005	0062	0044
	0042	0034	0115	0076
	0164			
Anam	0005	0062	0001	0077

Anam National	0005	0062	0077	
Andersson	0118	0117		
Angb	0001	0024		
Anitech	0001	0024	0005	0062
	0025			
Ansonic	0037	0005	0062	0001
	0080	0039	0013	0041
	0023	0145		
Apolb	0048			
ArcenCiel	0012			
Arcam	0019			
Ardem	0051	0085	0005	0073
	0062			
Aristona	0062	0005		
Arthur Martin	0013			
ASA	0010	0165	0006	
Asberg	0005	0062		
Asora	0001			
Astra	0005	0062		
Asuka	0020	0019	0024	0025
ATD	0081			
Atlantic	0005	0062	0019	
Atori	0001			
Auchan	0013			
Audibsonic	0001	0005	0039	0103
	0062	0012	0085	0086
	0037	0024	0020	0051
Audioton	0051	0037	0024	
Audoworld	0081			
Autovox	0023			
AVP	0161			
AWA	0002	0004	0001	0039
	0042	0005	0062	0019
	0067	0011	0024	0142
Axxent	0001			
Axxon	0085			
B&D	0125			
Baird	0012	0175	0030	0007
	0018	0122		
Barco	0013			
BasicLine	0039	0005	0013	0080
	0062	0001	0020	0025
	0047	0029	0115	
Bauer	0100	0001		
Baur	0001	0060	0017	0057
	0005	0062	0016	0033
	0149			
Beaumark	0015			
Beko	0085	0003	0051	0037
	0005	0043	0115	0062
	0067	0086	0101	

Belson	0168	0166	
Bennett	0062	0005	
BenQ	0158		
Beon	0005	0062	0043
Berthen	0080		
Best	0037		
Bestar	0005	0062	0037
Bestar-Daewoo	0039		
BlackDiamond	0118	0103	0115
	0104	0092	
BlackStar	0023		
BlackStrip	0003		
Blackway	0025	0020	
Blaupunkt	0016	0060	0017
	0014	0004	
BlueSky	0005	0085	0115
	0080	0086	0162
	0020	0025	0047
	0161		
BlueSky	0168	0101	0141
BlueStar	0025		
Bondstec	0023		
Boots	0001		
BPL	0005	0062	0025
Brandt	0071	0012	0026
	0030	0063	
Brandt Electronique	0026	0028	
Brinkmann	0005	0062	0080
	0043	0051	
Briovega	0005	0062	0034
Britannia	0019		
Brother	0024		
Brunn	0051		
BSR	0013	0033	
BTC	0020		
Bush	0080	0020	0013
	0004	0005	0038
	0032	0035	0039
	0024	0033	0115
	0018	0151	0129
	0062	0085	0159
	0096		
Canton	0020		
Capsonic	0024		
Carad	0069	0005	0062
	0115		
Carena	0047	0005	0062
Carrefour	0004	0006	0005
Carver	0014		
Cascade	0001	0005	0062
Casio	0005	0062	0013
Cathay	0005	0062	
CCE	0005	0062	
Celestial	0102	0103	0104

Centrex	0097	0113	
Centrum	0115		
Centurion	0005	0062	
Century	0023		
CGE	0037	0013	0043
	0023		
Cimline	0001	0020	
Cnex	0076	0151	
City	0001		
Clarivox	0043	0005	0062
	0006		
Clatronic	0005	0037	0038
	0085		
	0020	0024	0062
	0023		
Clayton	0001	0076	0067
	0118		
CMS	0019		
Cobolt	0113		
Combitech	0161		
Concorde	0001		
Condor	0005	0062	0037
	0019		
	0001	0025	0023
	0043		
Conia	0093	0104	0166
	0103		
Conrac	0101		
Conrad	0005	0062	
Contec	0019	0001	0002
	0004		
	0024	0005	0062
Continental Edison	0012	0026	0052
Cosmell	0001	0005	0062
Crosley	0023	0013	
Crown	0001	0084	0037
	0051		
	0005	0062	0052
	0085		
	0067	0086	0043
	0018		
	0078	0029	0115
CS Electronics	0019	0020	0023
CTC	0023		
CTX	0158		
Curtis Mathes	0009		
Cybertron	0020		
Cytronix	0136		
D-Visön	0005	0164	0062
Daewoo	0074	0039	0162
	0055		
	0079	0005	0062
	0001		
	0019	0020	0116
	0161		
	0112	0138	0153
	0110		
Dainichi	0020	0019	
Daitsu	0132		
Dansai	0005	0062	0024
	0003		
	0019	0001	0004
	0018		
Dansette	0042		
Dantax	0037	0051	0085
	0067		
	0086	0161	
Datsura	0018		
Dawa	0001	0005	0062
Daytek	0081	0123	0083
	0142		

Dayton	0123
Daytron	0001 0039 0005 0062
deGraaf	0018 0013 0061 0035
DEC	0099 0108 0113
Decca	0058 0005 0062 0116 0161
Deutron	0005 0062 0039 0020
Denko	0024
Denver	0005 0062 0067 0121 0065
DER	0175
Desmet	0005 0062 0001
Diamant	0005 0062
Diamond	0024 0081 0001 0105 0019 0038 0108 0103
Digatron	0005 0062
Dighome	0117
Digiline	0005 0062 0010 0080
DigLogic	0005 0062
Digitek	0103
Digitor	0005 0062 0109
Digivision	0033
Digix	0112
DK	0005 0062
Diki	0001 0005 0062 0023
DL	0113 0097 0005 0065 0110
Dom eos	0080
Dom land	0174
Dream Vision	0155
DSE	0109 0151 0103
DTS	0001
Dual	0030 0059 0005 0062 0173 0174 0013 0116 0072 0117 0115
Dumont	0006
Dunai	0013
Durabrand	0005 0145 0062
Dux	0005 0062
DVX	0113
Dynatron	0005 0062
EasyLiving	0127 0129
Ecco	0095 0083
Edison-Minerva	0052
Ebe	0045 0034 0037 0013 0005 0062 0020 0016 0041 0069 0058 0033
Ebe-Sharp	0058
Ebit	0023 0058 0013
Elekta	0001 0005 0062 0024 0025
Elfunk	0124 0115
ELG	0005 0062

Elin	0019 0005 0062 0010 0061 0033 0013 0001
E lite	0020 0005 0062
E Ita	0001 0024 0019
Emco	0023
Emerson	0085 0015 0023 0005 0062 0038 0006 0025 0033 0162 0051 0037 0013 0080
Empor	0025
Enzer	0092
Erres	0005 0062
ESC	0005 0062
Est?le	0013
Etron	0000 0005 0062 0001 0013 0103
Euro-feel	0024
EuroLine	0005
Euroman	0019 0024 0005 0062 0037
Europa	0005 0062
Europhon	0005 0058 0013 0062 0023 0019
Evesham	0127
Excel	0005 0062
Expert	0013
Exquisit	0005 0062 0023
Fagor	0005 0062
FairTec	0168
FamillyLife	0005 0062
Fast	0160
Fenner	0039 0001
Ferguson	0007 0071 0026 0028 0175 0012 0063 0005 0062 0003 0030 0078 0011 0033 0061 0046 0115
Fidelity	0013 0057 0035 0005 0062 0038 0042 0175 0019 0024 0161 0033
Finlandia	0018 0165 0061 0033 0013 0035 0026 0030
Finlux	0010 0005 0062 0085 0165 0013 0058 0086 0006 0041 0072 0053 0049 0151 0048 0043 0067 0101
Firstline	0005 0062 0039 0080 0085 0013 0001 0019 0023 0162 0041 0018 0033 0115 0168 0101 0141 0118

Fisher	0004	0018	0037	0033	
	0013				
Flint	0005	0062	0069	0020	
	0047	0024			
Force	0117				
Forgestone	0175				
Fomenti	0013	0005	0062	0051	
	0019				
Fomenti-Phoenix	0019				
Fortress	0009				
Fraba	0005	0062	0037		
Frac	0001	0005	0062	0037	
	0055	0069			
Frontech	0023	0024	0035	0001	
	0013				
Fujim aro	0110				
Fujitsu	0013	0001	0173	0005	
	0062	0033	0107		
FujitsuGeneral	0001	0013			
FujitsuS iem ens	0136	0129	0118		
Funai	0080	0024	0042		
Furichi	0108				
Futronic	0024	0099	0108		
Future	0005	0062			
Galaxi	0005	0062	0033	0013	
Galaxis	0037	0043	0005	0062	
Galeria	0001				
GBC	0013	0001	0039	0020	
	0035				
GE	0030	0015	0025	0063	
	0026	0012	0028	0071	
G eantCasino	0013				
GEC	0013	0033	0005	0058	
	0062				
Gelso	0023	0001	0035	0013	
	0039				
General	0012	0026			
GeneralElectric	0030	0026			
GeneralTechnic	0001				
Genes is	0001	0005	0062		
Genexxa	0020	0005	0062	0042	
	0013	0001			
Gericom	0110	0136	0125	0112	
Goldfunk	0080				
Goldhand	0019				
GoldStar	0005	0001	0037	0000	
	0040	0015	0023	0019	
	0062	0013	0033	0012	
	0035	0067	0085	0086	
	0047				
Gooding	0052				
Goodmans	0074	0129	0115	0005	
	0055	0062	0085	0080	
	0162	0039	0004	0024	
	0058	0001	0052	0038	
	0030	0003	0049	0063	
	0028	0020	0161	0079	
	0159	0112	0139	0065	
	0142				
Gorenje	0037				
GPM	0020				
Gradiente	0078	0014	0005	0062	
Graetz	0085	0033	0038	0013	
	0005	0029	0062	0118	
GranPrix	0076				
Granada	0005	0062	0022	0011	
	0018	0004	0029	0058	
	0048	0028	0063	0013	
	0035	0021	0030	0061	
Grandin	0005	0062	0001	0013	
	0069	0085	0086	0080	
	0039	0025	0020	0047	
	0115	0110	0168	0112	
Gronic	0013				
G ründg	0017	0056	0060	0016	
	0006	0052	0005	0046	
	0083	0062	0065	0001	
	0004	0037	0163	0161	
	0139	0015	0142	0030	
Grunkel	0118				
H&B	0101				
Haaz	0083				
Haier	0081	0024			
Halifax	0024	0019			
Hammerstein	0024				
Hampton	0019				
Hanm ex	0020	0161			
Hanseatic	0005	0062	0055	0059	
	0013	0033	0025	0174	
	0074	0037	0079	0001	
	0040	0085	0101	0051	
Hantarex	0001	0005	0062	0058	
Hantor	0005	0062			
Harsper	0110				
Hawa	0095	0122	0133		
Hawood	0001	0042	0005	0062	
	0052				
Hauppauge	0005	0062			
HCM	0001	0042	0005	0062	
	0020	0043	0025	0024	
Hedzon	0062	0005			
Hema	0001				
H icon	0146				
H ifvox	0012				

H i gashi		0019		
H i ghline		0024	0005	0062
H kona		0020		
H hari		0018	0005	0062
		0020	0004	0013
		0046	0052	0024
H isawa		0025	0020	0047
		0161	0085	
H Isense		0141	0018	
H itachi		0021	0064	0004
		0048	0013	0030
		0050	0055	0005
		0012	0035	0061
		0074	0090	0015
		0010	0053	0147
		0057	0049	0115
		0117		
H itachi Fujian		0011	0021	
H itsu		0001	0069	0047
HM V		0175		
Hoher		0085	0151	0110
Hom eElectronics		0067		
Homyphon		0005	0062	
Hoshai		0020	0047	0025
Huanyu		0039	0019	
Hugoson		0167	0125	
Hygashi		0019		
Hyper		0001	0019	0023
Hypersonic		0033		
Hypson		0005	0062	0085
		0024	0025	0047
		0115	0080	0051
Hyundai		0005	0110	0062
		0108	0092	0153
beria		0005	0062	
ICE		0024	0005	0038
		0062	0020	0019
Ices		0020	0019	
ict		0005	0116	0062
IlSonic		0142		
iyama		0125	0167	
Imperial		0005	0013	0037
		0041	0033	0043
Indiana		0005	0062	
InFocus		0119		
Ingelen		0052	0069	0085
		0033		
Ingersoll		0001		
Inno Hit		0001	0005	0062
		0058	0023	0025
Innovation		0059	0005	0062
Innowert		0110	0136	
inotech		0095	0103	

Interactive		0005	0062	0057	0041
		0013	0033	0037	0012
Interbuy		0001	0005	0024	0023
		0057	0062		
Interfunk		0005	0062	0057	0023
		0013	0033	0037	0012
Internal		0005	0062	0055	0039
		0162			
International		0019			
Intervision		0025	0047	0005	0038
		0040	0059	0051	0037
		0174	0052	0020	0013
		0024	0023	0001	0062
Irradi b		0001	0005	0062	0020
		0023	0038		
Isuka i		0020	0005	0062	0025
		0047			
ITS		0005	0038	0020	0025
		0024	0019	0001	0062
ITT		0013	0049	0033	0048
		0061	0175	0165	0029
		0018	0069		
ITT Nokia		0033	0061	0013	0048
		0049	0165	0018	0029
		0067	0069	0072	0035
ITV		0024	0005	0062	0023
		0039			
JDV		0164			
Jean		0004			
JEC		0003			
JM B		0005	0055	0074	0039
		0062	0046	0161	
Jocel		0084			
Jubilee		0062			
JVC		0078	0004	0175	0038
		0020	0067	0043	0009
		0077			
Kaisui		0020	0025	0005	0062
		0019	0047	0001	
Kam brook		0040			
Kamp		0019			
Kapsch		0013	0033		
Karcher		0005	0062	0037	0069
		0013	0025	0024	0096
		0085	0151	0067	
Kathrin		0062	0005		
Kawa		0038			
Kawasho		0019			
KB Aristocrat		0013			
Kendo		0069	0005	0062	0013
		0059	0057	0037	0040
		0035	0041	0023	0034
		0076	0115	0145	0051

Kennedy	0013	0045
Kennex	0115	
Kenwood	0010	
Kingsley	0019	
Kiba	0000	
Kiton	0062	0005 0080
Kneissel	0005	0037 0069 0041
	0039	0055 0062 0045
	0034	0161
Kobra	0146	
Koster	0005	0062 0023 0020
Konichi	0001	
Konka	0005	0062 0038 0085
	0043	0020 0075 0065
	0093	0166
Kontakt	0052	
Korpel	0005	0062
Kortig	0037	
Kosmos	0005	0062
Kotron	0042	0024
Koyoda	0001	
Kuba	0013	
Kuba Electronic	0013	
Kyoshu	0042	0043 0024
Kyoto	0013	0019
L&SE electronic	0110	0085
LaSAT	0051	0037
Lavis	0115	0005 0013
Leader	0001	
Lecson	0005	0062
Legend	0001	
Lemair	0041	
Lenco	0005	0001 0013 0039
	0062	0065 0115
Lenoir	0001	
Lesa	0023	
Levis Austria	0005	0062
Lexsor	0122	
Leyco	0024	0005 0062
LG	0005	0015 0037 0001
	0040	0131 0000 0062
	0085	0019 0013 0067
	0012	0081 0086 0154
	0168	0144 0137 0023
	0033	
Liesenkötter	0005	0062
Liesenkötter	0005	0062
Life tec	0005	0001 0059 0039
	0080	0057 0115 0116
	0062	0020 0024 0127
	0085	
Libyd's	0000	0001
Lodos	0115	0117

Loewe	0057	0073 0098 0005
	0062	0037 0034 0058
Logik	0002	0081 0095 0001
	0175	0024 0038 0000
	0112	0125 0115
Logix	0080	0059
Luker	0164	
Lumina	0005	0035 0013 0041
	0062	0039 0001 0034
Lumatron	0035	0005 0062 0034
	0013	0033 0024 0007
Lux May	0005	0001 0062
	0118	0035 0049 0053
Luxor	0033	0018 0061 0013
	0165	0048 0115 0072
LXI	0015	
Madison	0005	0062
Magnadyne	0023	0058 0013
Magnafoon	0058	0019 0007
Magnavox	0005	0062 0004 0097
Magnum	0076	0085 0005 0062
	0086	0135
Mandor	0024	
Manesth	0005	0062 0024 0003
	0013	0035
Manhatttan	0005	0062 0080 0115
	0132	0013 0096
Marantz	0005	0062 0042
Mark	0005	0062 0019 0039
	0001	0085 0086
Master's	0055	0005
Masuda	0020	0038 0001 0024
Masuda	0005	0062
Matsui	0005	0062 0052 0001
	0002	0032 0004 0038
	0044	0046 0035 0047
	0013	0058 0003 0018
	0017	0016 0028 0085
	0161	0115
Matsushita	0077	
Matsuviam	0065	
Maxam	0024	
Maxdorf	0095	
Maxim	0164	0151
MCE	0001	
Mediator	0005	0062
Medion	0005	0085 0101 0059
	0080	0062 0057 0116
	0081	0161 0115 0145
	0159	0127 0112 0135
Megas	0069	
Megatron	0015	
MEI	0115	0005 0062

M e lectron ic	0165	0005	0057	0012
	0030	0023	0010	0039
	0001	0049	0053	0019
	0041	0013	0026	0062
	0074	0033	0016	0017
	0079	0085		
M em orex	0001	0015	0077	
M em phis	0001			
M ercury	0000	0005	0001	0062
M erritt	0061	0033	0013	
M etz	0179	0176	0177	0036
	0118	0017	0060	0016
	0005	0062	0065	0080
	0115	0178		
M GA	0015	0005	0062	0020
M icrom axx	0005	0062	0080	0115
	0101			
M icrostar	0101			
M icroTEK	0103			
M kom i	0117			
M inato	0005	0062		
M inerva	0052	0060	0017	0006
	0016	0058	0011	
M inoka	0042	0005	0062	
M irror	0159			
M istra E lectronics	0175			
M itsubishi	0011	0009	0057	0005
	0015	0004	0175	0060
	0062	0018	0115	
M itsubishiGeneral	0013			
M ivar	0037	0019	0068	0058
M onaco	0001			
M organ's	0005	0062		
M otorola	0009			
M TC	0037	0057	0013	0019
	0033			
M T logic	0085	0139		
M ultibroadcast	0175			
M ultitec	0005	0062	0051	0080
	0115	0151		
M ultitech	0001	0035	0051	0005
	0037	0062	0019	0023
	0024			
M urphy	0019	0013		
M usk land	0005	0020	0023	0062
M yCom	0142	0015		
M ryad	0062	0005		
NAD	0015	0033	0013	
Nako	0005	0164	0067	0062
Nakimura	0039	0005	0062	
Naonis	0035	0013		
Narita	0164			
NAT	0022			

National	0022			
NEC	0014	0065	0120	0134
	0004	0047	0001	0039
	0005	0062	0002	0155
	0055	0078	0079	
Neckermann	0005	0016	0037	0149
	0057	0062	0013	0035
	0043	0023	0041	
NEI	0005	0062	0038	0013
Neovia	0110	0142		
Nesco	0023	0161		
Netsat	0005	0062		
Neufunk	0005	0001	0062	0069
	0020	0025	0085	
NewTech	0005	0001	0062	0030
NewWorld	0020			
Nicamagic	0019			
Nikai	0020	0005	0062	0024
	0003	0019	0001	0004
Nikkei	0085			
NKKO	0015			
Nobuko	0006	0019		
Nogamatic	0012			
Nokia	0033	0013	0049	0061
	0053	0048	0029	0018
	0039	0072	0067	0165
	0069	0012		
Nordmende	0012	0085	0113	0026
	0063	0030	0017	0005
	0062	0028	0013	0129
Norfolk	0013			
Nomarel	0005	0062		
Novak	0005	0062		
Novatron ic	0005	0010	0039	0062
NU-TEC	0047	0081		
Numberg	0013	0033		
Oceanic	0013	0033	0018	0048
	0061	0049		
Odeon	0024			
Okano	0037	0005	0062	0024
	0001			
Oidata	0142			
Omega	0024			
Omnii	0097	0113	0081	
Onwa	0038	0066	0020	0044
Opera	0005	0062		
Optimus	0077			
Optonica	0009			
Orbit	0005	0062		
Orcom	0148			

Oribi	0005	0046	0032	0062
	0085	0002	0001	0024
	0042	0058	0161	0112
	0122			
Orlene	0005	0020	0062	
Ormond	0080	0115	0005	0062
Orsow e	0058			
O saki	0020	0024	0005	0042
	0039	0032	0062	
Osib	0005	0062		
Oso	0020			
Osume	0004	0020	0005	0062
OttoVersand	0149	0004	0009	0057
	0005	0062	0060	0017
	0016	0033	0012	0022
	0023	0001	0025	0030
	0058	0059		
Pace	0161			
Pacific	0005	0062	0116	0085
	0115	0046		
Pael	0019			
Palladium	0037	0005	0041	0085
	0116	0016	0149	0035
	0043	0062	0023	0059
	0013			
Paison ic	0024	0042	0005	0040
	0020	0081	0062	0095
	0000	0043	0096	0122
Panama	0001	0024	0019	0005
	0062	0023		
Panashba	0000			
Panasonic	0077	0011	0022	0033
	0036	0058	0005	0062
	0013	0061	0169	0000
	0107	0015		
Panavision	0005	0041	0062	
Papouw	0005	0062		
PathéCinéma	0013	0019	0037	
PathéMarconi	0012			
Pausa	0001			
Perdix	0013	0005	0019	0025
	0062			
Perfekt	0005	0062		
Philco	0062	0059	0043	0023
	0013	0037	0005	
Philex	0175	0013		
Philips	0062	0005	0016	0175
	0030	0039	0033	0001
	0158			
Phocus	0135	0139	0085	
Phoenix	0005	0062	0037	0051
	0013	0019		
Phonola	0005	0062	0175	0019

Pibit	0062	0005	0084	0083
Pioneer	0094	0002	0005	0014
	0062	0130	0037	0030
	0033	0012	0013	0026
	0051	0057		
Pionier	0037	0051		
Plantron	0005	0062	0024	0001
Playson ic	0085	0005	0029	0086
Policom	0012	0033	0013	0006
	0060			
Polytron	0025			
Poppy	0001			
Portland	0039	0162		
Powerpoint	0052	0005	0062	0081
Prandoni Prince	0023	0058	0033	0035
Prem ier	0001	0024		
President	0108			
Prima	0001	0024	0042	0133
Princess	0081			
Prinston	0115			
Prinz	0033			
Pro flex	0001	0013	0033	0035
Pro fi	0001			
ProfiTronic	0005	0062		
Proline	0005	0062	0071	0074
	0041	0142		
Proson ic	0005	0062	0037	0039
	0038	0080	0085	0019
Pro tech	0005	0062	0001	0023
	0024	0043	0080	0025
	0013	0051	0115	
Protot	0015			
Provision	0055	0005	0062	0115
	0085			
PVision	0168			
Pye	0005	0062	0039	0042
Pym i	0001			
Quadral	0020			
Quasar	0023	0077	0110	0001
Quelle	0005	0149	0002	0012
	0057	0060	0016	0033
	0004	0023	0165	0001
	0024	0115	0006	0010
	0080	0062	0017	
Questa	0004			
R-Line	0005	0062	0013	
Radialva	0012	0020	0013	0005
	0062	0026		
Radibla	0005	0062		
Radimarelli	0058	0023	0005	0062
RadibShack	0005	0062	0015	

Radio tone	0001	0005	0062	0037
	0043	0042	0076	0080
	0024	0115		
Rank	0006			
Rank Arena	0004	0066	0092	
RBM	0006			
RCA	0071	0009	0063	0028
	0030	0092		
Realistic	0015			
Recor	0005	0043	0062	
Rectiligne	0005	0062		
Rediffusion	0033	0061	0004	0165
Redstar	0005	0062		
Reflex	0005	0062	0115	0080
Relays	0110	0111	0123	0136
Reoc	0085	0074	0162	
Revox	0005	0062	0037	
Rex	0035	0041	0023	0013
	0024			
RFT	0037	0024	0005	0062
	0051			
Rhapsody	0019			
Ricoh	0005	0062		
Rhex	0095	0043		
Roadstar	0115	0001	0043	0005
	0062	0085	0080	0020
	0024	0025	0121	0159
Rodex	0005	0062		
Rover	0004	0111		
Rowa	0024	0081	0084	0001
	0019	0065	0005	0062
Royal Lux	0037	0042	0028	
RTF	1065			
Rukop ir	0062	0005		
Saba	0071	0012	0063	0030
	0026	0013	0058	0033
	0054	0028	0061	0077
	0085			
Sagem	0069	0047	0025	0106
	0070			
Sai sho	0058	0001	0002	0013
	0024			
Sai vod	0005	0164	0062	0118
	0080	0084	0115	
Saka?	0013			
Sakyno	0047			
Sabra	0013	0033	0058	0035
	0061	0029	0018	0049
Salsa	0028			
Sam bers	0058			

Sam sung	0070	0065	0005	0015
	0062	0128	0009	0126
	0001	0037	0024	0019
	0018	0059	0013	0071
Sandra	0019			
Sansui	0005	0089	0062	0083
	0038	0066	0047	0109
	0092			
Santon	0001			
Sanyo	0018	0124	0004	0002
	0037	0029	0019	0001
	0013	0005	0011	0062
	0051	0014		
Save	0005	0062		
Saville	0161			
SBR	0005	0062	0175	
Schaub Lorenz	0061	0085	0033	0067
	0051	0039	0168	
Schneider	0116	0005	0062	0059
	0174	0173	0030	0023
	0038	0033	0020	0080
	0115	0013	0076	0085
	0162	0161	0164	0006
Scotland	0013			
Scott	0121	0015		
Sears	0015			
Seaway	0074			
Seeker	0062	0115	0005	
SEG	0005	0062	0115	0145
	0080	0052	0001	0013
	0024	0074	0004	0023
	0034	0019	0118	0020
	0162	0160	0085	
SEI	0149	0013	0058	0005
	0062			
Sei-S inudyne	0058	0149	0005	0062
Seitech	0125			
Seleco	0035	0034	0013	0041
	0038	0004	0024	0165
	0045			
Sencora	0001			
Sentra	0003	0020	0001	
Serino	0069	0047	0019	0009
Sharp	0009	0004	0078	0175
	0058	0118	0094	0143
Shintoshi	0005	0062		
Shivaki	0005	0062	0046	0039
	0015			
Show	0043	0001		
Sarem	0013	0058		
Siemens	0016	0060	0033	0017
	0005	0062		
Si era	0005	0062	0065	

Siesta	0037
Silva	0005 0062 0019 0033
	0076
SilvaSchneider	0151
Silver	0004 0005 0047 0033
	0062 0086 0013
SilverCrest	0115 0005 0062
Singer	0001 0150 0005 0062
	0023 0045 0028 0013
Sinotec	0095
Sinudyne	0013 0033 0058 0149
	0005 0062 0161
Sky	0005 0025 0112 0015
	0062 0148
Skymaster	0010
Skysonic	0092
Sliding	0110 0112
SLX	0080
Sm argd	0052
Soem tron	0110 0136
Solavox	0033 0013 0061 0005
	0062
Sonawa	0020
Sonko	0005 0062
Soniq	0146
Sonitron	0018 0037 0029
Sonneclair	0005 0062
Sonoko	0005 0062 0001 0024
	0025
Sonobr	0018 0013 0149 0061
	0033 0025
Sontec	0005 0062 0037 0001
Sony	0149 0002 0156 0031
	0004 0005 0062
Sony	0009 0014
Sound&Vision	0020 0039 0005 0062
Sounddesign	0015
Sound Wave	0005 0062 0043 0086
Soyea	0095
Spectra	0001
Ssangyong	0001
Staksonic	0001
Standard	0005 0062 0115 0020
	0001 0039
Starlite	0001 0013 0005 0062
	0024 0042
Stenway	0025 0020
Stem	0013 0035 0024 0041
	0045
Stevison	0164 0151
Strato	0005 0062 0024 0001
Strong	0118 0117 0115 0005
	0062

SunicLine	0005 0062
Sunkai	0032 0047 0020 0069
	0005 0062 0052 0110
Sunstar	0038 0005 0062 0001
	0024
Sunwatt	0047
Sunwood	0005 0062 0001
Superla	0058 0019
Supersonic	0018 0062 0081 0024
	0100 0047
SuperTech	0001 0005 0062 0019
	0020
Supra	0015 0039 0001
Susumu	0028 0020 0026
Sutron	0001
Svasa	0100
Swissline	0023
Swisstec	0148 0112
Sydney	0019
Sysline	0005 0062
Sytong	0019
T+A	0176
Tandberg	0036 0041 0012 0034
	0033 0013
Tandy	0020 0023 0009 0013
Tashiko	0004 0014 0019 0013
	0035
Tatung	0151 0005 0062 0058
	0002 0161 0158 0129
	0168
TCM	0085 0135 0101
Teac	0081 0057 0005 0145
	0115 0062 0084 0080
	0047 0083 0024 0162
	0015 0001 0042 0025
	0043 0014 0085 0117
	0157
TEC	0001 0023 0028 0005
	0062 0033 0013
TechLine	0005 0062 0080 0145
	0118
TechLux	0121
Techica	0020
Technica	0164
Technics	0077
TechniSat	0005 0062 0013 0132
Technisson	0085 0135
Technosonic	0005 0062
Techwood	0118
Tecnomagen	0062
Tedelex	0043 0067 0150 0001
	0083 0018 0081 0065
	0113 0005 0062

Teltron	0001
Televia	0012 0026 0030
Telecor	0005 0062 0013 0020
	0174
Telefunken	0071 0063 0165 0065
	0012 0081 0030 0084
	0054 0103 0114 0093
	0148 0026 0104 0028
	0007 0005 0062 0051
	0085 0151
Telefusion	0005 0062
Telegazi	0005 0013 0020 0024
	0062
Telem eister	0005 0062
Tele sonic	0005 0062
Teles tar	0001 0005 0062 0042
Tele tech	0005 0062 0080 0001
	0023 0115
Tele ton	0013 0004 0035
Tele video	0013 0019
Tele view	0005 0062
Tem pest	0001 0005 0062 0024
Tennessee	0005 0062
Tensai	0020 0005 0062 0001
	0010 0039 0038 0040
	0023 0086 0013 0115
Tenson	0001
Tesla	0005
Tevion	0059 0166 0129 0136
	0005 0151 0062 0101
	0076 0080 0116 0085
	0115 0127 0135
Texet	0039 0001 0019 0020
Thom son	0071 0063 0030 0026
	0012 0028 0005 0062
	0019
Thorn	0011 0175 0012 0007
	0021 0030 0033 0149
	0006 0003 0055 0060
	0005 0062 0002 0028
	0057 0004 0039
Thom-Ferguson	0011 0012 0175 0033
	0028 0055 0007 0003
Thy	0122 0133
TMK	0015
Tob ishi	0020
Tokai	0005 0062 0080 0013
	0039 0001 0115
Toka ido	0115
Tokyo	0019 0003
Tom ashi	0025 0020
Tong tel	0097 0065
Top line	0115 0080

Toshiba	0056 0003 0135 0004
	0006 0085 0012 0087
	0017 0016 0070 0161
	0001 0081 0005 0119
	0118 0163 0151 0131
	0077 0155
Toyoda	0001 0038 0024
Trakton	0001 0024
TransConti nens	0080 0115 0005 0062
	0051
TRANSconti nents	0110
Transonic	0005 0062 0047 0065
	0057 0024 0081 0084
	0043 0001
Transtec	0019
Triad	0005 0062 0020
Trident	0058
Tristar	0024 0020 0175
Trium ph	0058 0165 0062 0005
Tsoschi	0025
TVTEXT95	0062
Uher	0005 0062 0039 0043
	0051 0037 0049
Ultravox	0039 0023 0019 0013
	0005 0062
Unic Line	0005 0062 0048 0047
United	0085 0005 0086 0062
	0161 0115 0065 0164
Universal	0005 0062
Universum	0165 0010 0017 0048
	0060 0033 0023 0053
	0049 0037 0070 0043
	0002 0005 0057 0004
	0006 0013 0024 0062
	0041 0145 0014 0118
	0149 0080 0012 0034
	0072 0001 0117 0160
	0115
Univox	0005 0062 0013
Utax	0013
V7Videoseven	0157 0015 0112 0142
	0125
Vestel	0005 0013 0062 0080
	0115 0118
Vexa	0001 0005 0062
Victor	0078
Video logic	0020 0019
Video logique	0019 0020
Videosat	0023
Video System	0005 0062
Video technic	0019 0039
Videoton	0013
Vi deotech	0004 0015

ViewSonic	0157
Visiola	0019
Vision	0005 0024 0062
Vistar	0033
Vortec	0005 0062
Voxson	0005 0062 0035 0043 0013 0015
Waltham	0043 0026 0005 0062 0080 0012 0115 0013 0046
Watson	0115 0127 0005 0062 0013 0001 0080 0020 0059 0174 0161 0145 0142
WattRadio	0013 0019
Wega	0005 0062 0004
Wegavox	0001 0005 0062
WelTech	0085
Weltblick	0005 0062
Weston	0005 0062
Wharfendale	0005 0109 0059 0114 0062 0151
White Westinghouse	0019 0005 0062 0162
Windsor	0080 0115
Windstar	0025
IndySam	0062
Intel	0085
World-of-Vision	0112 0167 0110 0135 0136 0111 0125
Worldview	0047
X-View	0168
Xenius	0074
XLogic	0081 0108
Xoro	0122 0125
Xrypton	0005 0062
Yamaha	0077 0152
Yamishi	0025 0047 0020 0005 0062
Yokan	0005 0062
Yoko	0005 0062 0020 0024 0001 0037 0029 0019 0023
Yorx	0020
Zanussi	0035
Zenith	0162
Zenor	0029
ZX	0161

Cover will be inserted

Amendment Page

Single EPG mode

1. Press the **GUIDE** button to open EPG.
2. Press the **GUIDE** button again to toggle EPG view.
3. Press the **▲/▼/◀/▶** buttons to toggle between channels and timeline.
4. Press the **INFO** button for more detailed information.
5. Press the **EXIT** button to return to EPG.
6. Press the **REC** button to set reminder or recording.



Changing the EPG time window

1. Press the **GUIDE** button to open EPG.
2. Press the **RED** button to change the time settings.
3. Press the **▲/▼** buttons to select time period.
4. Press **OK** button to select.
5. Press the **▲/▼/◀/▶** buttons to toggle between channels and timeline.
6. Press the **INFO** button for more detailed information.



Check Disc mode

1. Press the **MENU** button.
2. Press the **▲/▼/◀/▶** buttons to select HDD Check Disc.
3. Press the **OK** button.
4. A pop up message appears, select YES and press **OK** button.



Each time the PVR is switched on from being switched off at the mains or from Powersave Standby mode it automatically performs a HDD check. It is not necessary to perform this manually unless your unit has not been switched off for an extended period or you are not using Powersave mode and you are having problems.