

# User's Manual

## FOXSAT-HD

The default password is 0000.



**HUMAX**

# 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.

## **Copyright (Copyright © 2010 HUMAX Corporation)**

Not to be copied, used or translated in part or whole without HUMAX's prior consent in writing except approval of ownership of copyright and copyright law.

## **Warranty**

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

## **Trademarks**

- Manufactured under license from Dolby Laboratories.  
'Dolby' and the double-D symbol are trademarks of Dolby Laboratories.

## **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.

## **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.

# Notice



## **Instruction about the 'WEEE' Symbol**



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.

# 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**

90-250V a.c., 50/60Hz

- 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. 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.

### **8. 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.

### **9. EARTHING**

- The LNB cable must be earthed to the system earth for the satellite dish.

### **10. 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.

# Safety Warning



## 11. 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.

## 12. EXTRANEEOUS OBJECTS

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

## 13. 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. Unauthorised substitution may result in additional damage to the unit.

## 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 to it. Make sure to contact your local retailer if the product is out of order.

# Contents



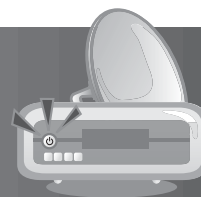
<b>1. Before Using the Product</b>	<b>GB7</b>
1.1 Package Contents	GB7
1.2 Front Panel	GB8
1.3 Rear Panel	GB9
1.4 Remote Control	GB10
1.5 Remote Control Batteries	GB12
<b>2. Connections</b>	<b>GB13</b>
2.1 Connecting the Antenna	GB13
2.2 Connecting the TV and VCR	GB13
2.3 Powering On	GB18
<b>3. First Installation</b>	<b>GB19</b>
3.1 User Settings	GB19
3.2 freesat detection	GB19
3.3 Postcode	GB20
3.4 Search Channels	GB20
3.5 Result	GB21
3.6 Installation Checklist	GB21
<b>4. Basic Operation</b>	<b>GB22</b>
4.1 Switching Channel	GB22
4.2 Volume Control	GB22
4.3 Resolution	GB22
4.4 Wide	GB23
4.5 Audio	GB23
4.6 Subtitle	GB24
4.7 Text and Interactive Services	GB24
4.8 Programme Information (i-plate)	GB25
4.9 Option List	GB26
<b>5. Channel List</b>	<b>GB27</b>
5.1 My TV List	GB27
5.2 Favourite List	GB28
5.3 HD TV List	GB28
5.4 Genre List	GB29
5.5 Non-freesat Channel List	GB29
<b>6. TV Guide</b>	<b>GB30</b>
6.1 Table Guide	GB30
6.2 List Guide	GB31
6.3 Schedule	GB31
6.4 Find	GB32

# Contents



<b>7. Settings</b>	<b>GB33</b>
7.1 TV Setup	GB33
7.2 Language	GB35
7.3 Time	GB36
7.4 Parental Control	GB37
7.5 Other	GB38
7.6 STB Mode	GB39
<b>8. Edit Channels</b>	<b>GB40</b>
8.1 Edit Channel List	GB40
8.2 Edit Favourite List	GB42
8.3 Edit Customisable Channels	GB43
<b>9. Setup</b>	<b>GB44</b>
9.1 Freesat Tune	GB44
9.2 Manual Tune	GB44
9.3 Software Update	GB45
9.4 Factory Reset	GB46
<b>10. System</b>	<b>GB47</b>
10.1 Diagnostics	GB47
10.2 Network	GB47
<b>11. Software Update</b>	<b>GB48</b>
11.1 OTA (Over the Air)	GB48
<b>12. Appendix</b>	<b>GB49</b>
12.1 Menu Map	GB49
12.2 Trouble Shooting	GB50
12.3 Error Message	GB51
12.4 Specification	GB52
12.5 Glossary	GB54
12.6 Service and Support	GB56
12.7 OPEN SOURCE SOFTWARE NOTICE	GB57

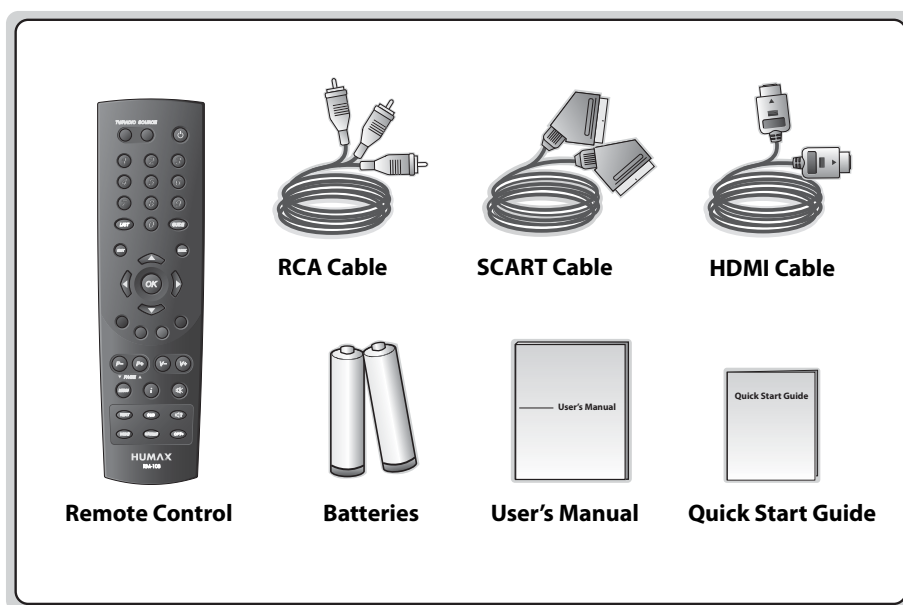
# 1. Before Using the Product



This chapter provides detail instructions on the product and its accessories.

## 1.1 Package Contents

Please check all package contents before using your product.

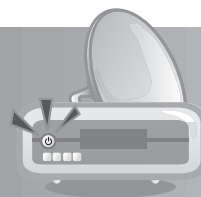


### Note:

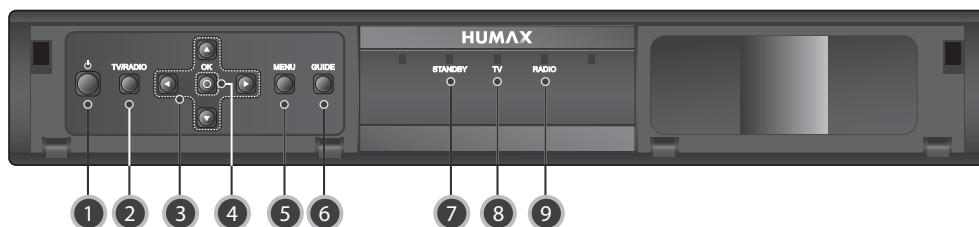
- Faults may occur if the remote control is left without battery for a long time. Always keep the battery inserted in the remote control.
- Package contents may vary according to area.



# 1. Before Using the Product



## 1.2 Front Panel



### 1. **STANDBY BUTTON**

Switches between operation and standby modes.

### 2. **TV/RADIO BUTTON**

Switches between TV and radio modes.

### 3. **ARROW BUTTONS**

Changes the channel or moves the cursor up, down, left or right.

### 4. **OK**

Selects a menu or confirms the selected operation.

### 5. **MENU**

Displays the main menu.

### 6. **GUIDE**

Displays the programme guide.

### 7. **STANDBY LED**

Red light is emitted when the product is in standby mode.

### 8. **TV LED**

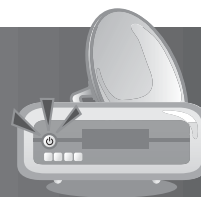
Green light is emitted when the product is in TV mode.

### 9. **RADIO LED**

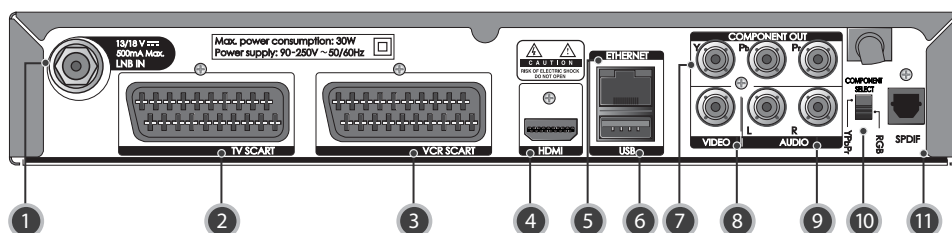
Green light is emitted when the product is in radio mode.

**Note:** The front of the product is subject to change without notice.

# 1. Before Using the Product



## 1.3 Rear Panel



- 1. LNB IN**  
Connects a satellite antenna cable.
- 2. TV SCART**  
Connects to the TV using a TV SCART cable.
- 3. VCR SCART**  
Connects to the VCR or DVD using a VCR SCART cable.
- 4. HDMI**  
Connects to the TV using an HDMI cable.
- 5. ETHERNET**  
Ethernet port (for future use).
- 6. USB**  
Connects to the USB memory.
- 7. COMPONENT(YPbPr)**  
Connects to the TV or VCR using a component cable.
- 8. VIDEO**  
Connects to the TV or VCR using an RCA cable.
- 9. AUDIO**  
Connects to the TV or VCR using an RCA cable.
- 10. COMPONENT SELECT**  
Switch for changing video. (default: YPbPr)
- 11. SPDIF**  
Connects to the audio system using an S/PDIF cable. (digital audio)

**Note:** The rear panel of the product is subject to change without notice.

# 1. Before Using the Product



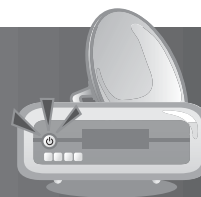
## 1.4 Remote Control

**Note:** The remote control of the product is subject to change without notice.



- 1. SOURCE**  
Controls the output of TV SCART.
- 2. TV/RADIO**  
Switches between TV and radio modes.
- 3. NUMERIC(0-9) BUTTONS**  
Enters a TV/radio channel number or menu option number.
- 4. LIST**  
Displays the channel list.
- 5. EXIT**  
Exits all On-Screen Display (OSD) screens.
- 6. ARROW BUTTONS**  
Navigates through the menu options.
- 7. COLOUR BUTTONS(R/G/Y/B)**  
Select the colour keys for interactive applications.
- 8. P-/P+ or PAGE▲/PAGE▼**  
Changes the channel or page.
- 9. MENU**  
Displays the main menu.
- 10. i (INFORMATION)**  
Displays the channel and programme information.
- 11. TEXT**  
Enters digital text service.
- 12. WIDE**  
Sets the display format.

# 1. Before Using the Product



## 13. STANDBY

Switches between operation and standby modes.

## 14. GUIDE

Displays the programme guide.

## 15. BACK

Closes and returns to the previous menu and screen.

## 16. OK

Selects a menu or confirms the selected operation.

## 17. V-/V+

Adjusts the audio volume.

## 18. MUTE

Mutes or unmutes the audio temporarily.

## 19. SUB

Displays the subtitle language list.

## 20. AUDIO

Displays the audio list.

## 21. OPT+

Displays the channels attributes while watching a programme.

## 22. V-FORMAT

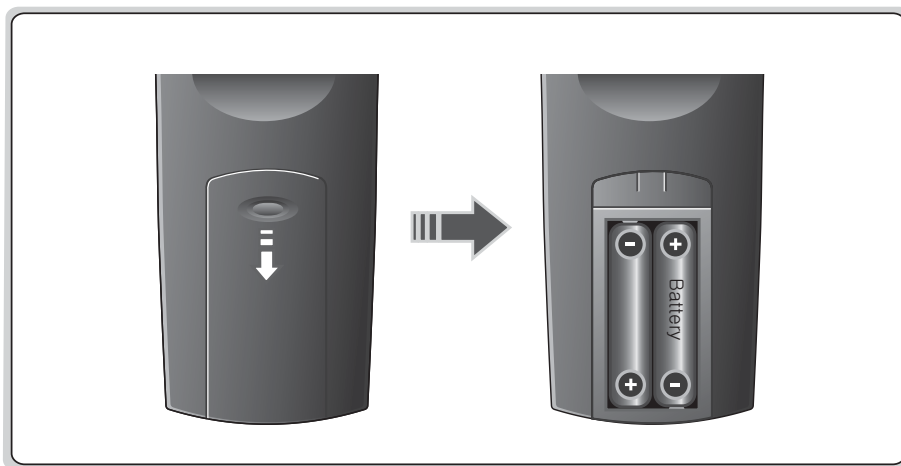
Changes the resolution of video.

# 1. Before Using the Product

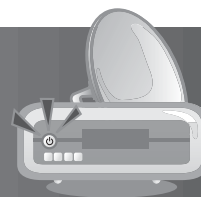


## 1.5 Remote Control Batteries

1. Press down the top of the battery cover and slide the cover off.
2. Insert the new batteries. Make sure the plus (+) ends meet the plus markings on the battery case.
3. Slide the cover back into place.



## 2. Connections

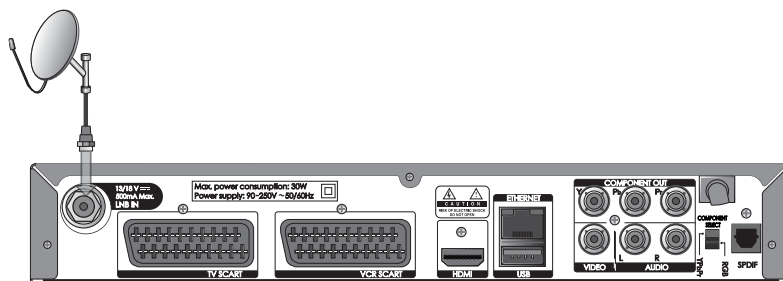


This chapter describes how to connect your product to the TV with the particular equipments for gaining optimum signal quality. The product provides various interfaces to connect to the TV, VCR or other devices. Select the most appropriate procedure depending on the equipment you have.

**Note:** If you encounter any problems setting up your product, please contact your local retailer.

### 2.1 Connecting the Antenna

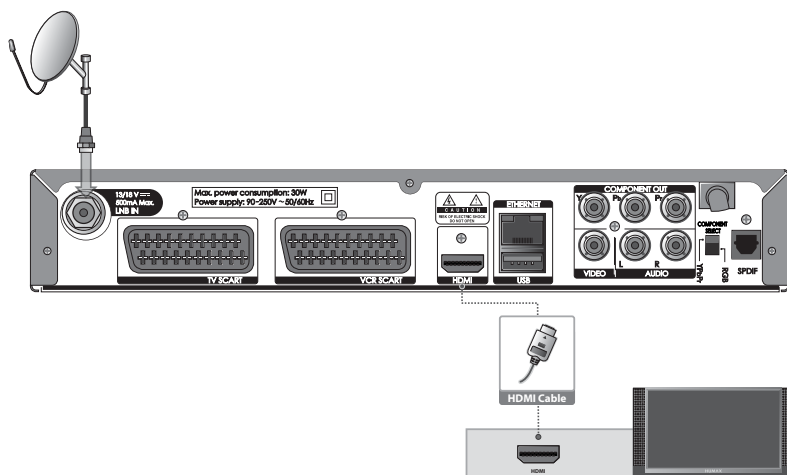
Connect the antenna cable to LNB IN.



### 2.2 Connecting the TV and VCR

#### 1. Using HDMI Cable

The HDMI connection, a special all-digital interface that provides the highest picture quality, is suitable for Digital TV. If the TV has a HDMI input, connect the product & TV using a HDMI cable as follows.



## 2. Connections

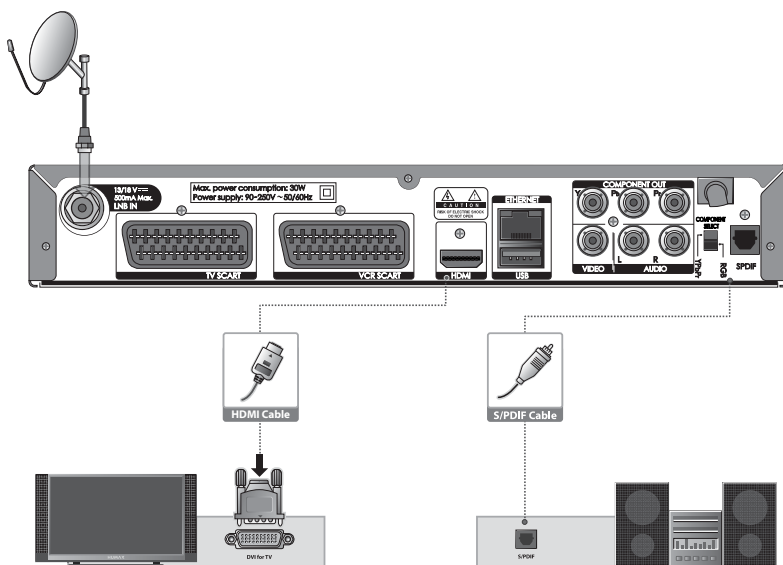


### 2. Using DVI Connector

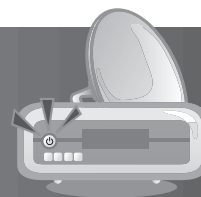
The DVI connection using an HDMI to DVI converter is suitable for Digital TV. If the TV has the DVI input connector only, connect the product to the TV with an HDMI cable using an HDMI to DVI converter as follows.

#### When equipped with an A/V receiver,

1. Connect one end of the HDMI cable to the HDMI input on the product and the other end to the HDMI to DVI converter.
2. Connect the DVI converter to the TV.
3. Connect the product and the Dolby Digital decoder using an S/PDIF cable.



## 2. Connections

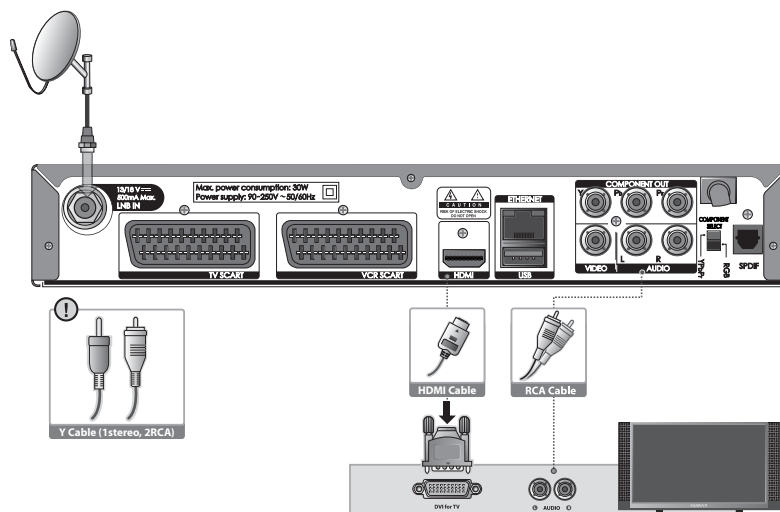


### **When there is no A/V receiver available,**

1. Connect the product and the TV using an RCA cable.
2. Connect one end of the HDMI cable to the HDMI input on the product and the other end to the HDMI to DVI converter.
3. Connect the DVI converter to the TV.

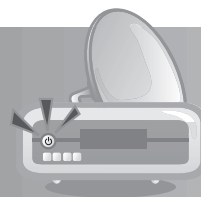
**Note:** You can also connect the product to the TV using the **3.5 Stereo Jack Cable to 2 RCA Y Cable**.

**Caution:** DO NOT CONNECT TO HEAD PHONE CONNECTOR ON TV!





## 2. Connections



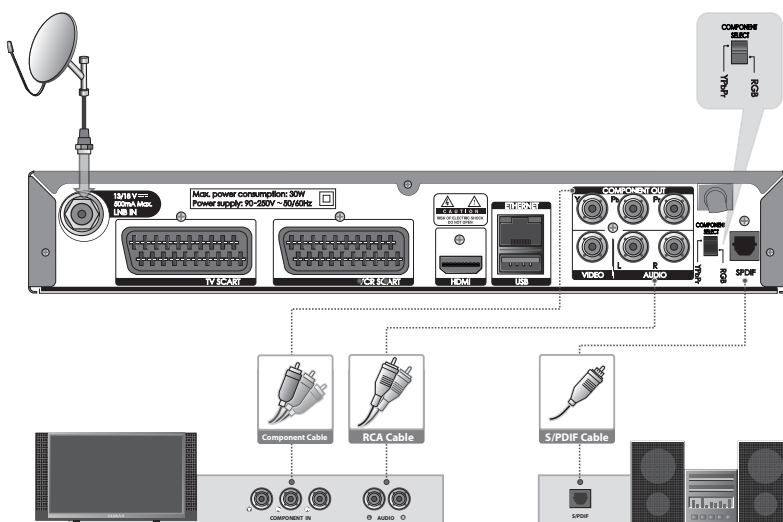
### 3. Using Component Cable

The component connection is suitable for Digital TV. Connect the product and the TV using a component cable as follows.

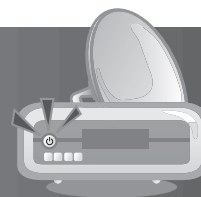
**You can either:**

- 1-1 Connect the product and the TV using an RCA cable (Audio L/R).
- 1-2 Connect the product and the Dolby Digital decoder using an S/PDIF cable.

**Note:** The **Component Select** switch should be on YPbPr when using the component cable.



## 2. Connections

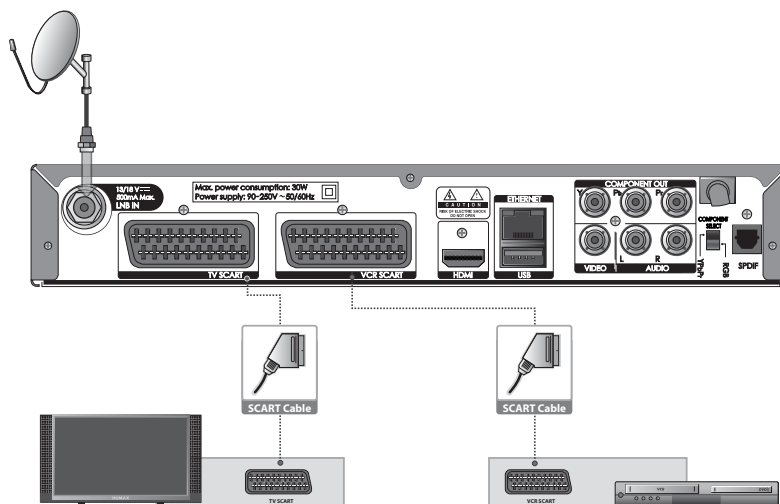


### 4. Using SCART Cable

A SCART cable connection is recommended for analogue TV or VCR.

1. Connect the product and the TV using a SCART cable.
2. Connect the product and the VCR using a SCART cable.

**Note:** The **Component Select** switch should be on RGB when using the SCART cable.

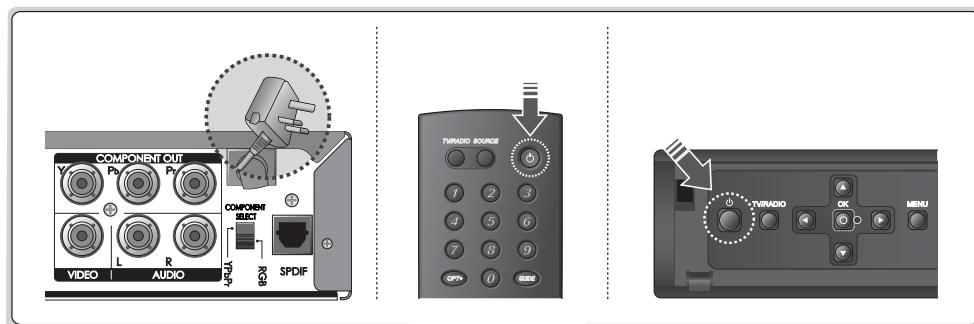


## 2. Connections



### 2.3 Powering On

1. Connect the power cord of the product to a wall outlet.
2. Power on by pressing the **STANDBY** button of the remote control or the **STANDBY** button at the front of the product.



## 3. First Installation



When powering on your product for the first time after purchase, the first installation will operate automatically.

**Tip:**

- The default password is **0000**.
- If you have forgotten your password, please contact your local retailer.

### 3.1 User Settings

**User Settings** allows you to set the language, screen ratio, display format and resolution.

Select the value for **Preferred Language**, **Picture Format** and **Resolution**.

Select **Next** and press the **OK** button.

**Note:** If the product is connected to the TV using an HDMI cable, **Original** will not be displayed.



### 3.2 freesat detection

1. Confirm the antenna cable is connected and press the **OK** button to find freesat.
2. Please wait until freesat detection is complete.
3. When freesat is detected, press the **OK** button to go to the next step. When there is no freesat, check your satellite antenna cable connection.

**Warning:** To prevent electric shock, always POWER OFF all devices during setting up the connection.



## 3. First Installation



### 3.3 Postcode

Enter your full postcode (including a space) using the **NUMERIC(0-9)** button on the remote control.

To use on-screen keyboard, press the **OPT+** button. Press the **1** button to enter a space.



### 3.4 Search Channels

**Search Channels** will activate and the results will appear.

To stop the channel search, select **Stop** and press the **OK** button. Select **Save** and press the **OK** button to go to the next step.



## 3. First Installation



### 3.5 Result

After all setting is complete, you can view the result screen.

Select **Finish** and press the **OK** button to complete the first installation.



### 3.6 Installation Checklist

Before using the product, please make sure that you have completed the following steps.

Step	Page	Done?
Is the antenna connected correctly?	GB13	
Is the product connected to your TV?	GB13	
Is the power cord plugged in the wall outlet?	GB18	
Is the product in operation mode (not Standby mode)?	GB18	
Have you performed channel search in the first installation?	GB19	

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

## 4. Basic Operation



This chapter describes the basic functions the product provides such as switching channel, volume control and other common features.

### 4.1 Switching Channel

You can switch the current channel by pressing the **P-/P+** button or entering the channel number directly using the **NUMERIC(0-9)** buttons. Press the **TV/RADIO** button to switch between TV channels and radio channels.

**Note:** You can switch channels using the channel list or TV guide. To return to the previous channel, press the **BACK** button.

### 4.2 Volume Control

You can adjust the audio volume. Press the **V-/V+** button to adjust the audio volume. Press the **MUTE** button to stop the audio temporarily.

**Note:** The mute function remains set while you switch channels.



### 4.3 Resolution

You can set the resolution of the screen. Press the **V-FORMAT** button while watching a programme. The current resolution will be displayed.

Each time you press the **V-FORMAT** button, the resolution changes in the following sequence: 576i→576p→720p→1080i→Original.

**Note:** If the product is connected to the TV using an HDMI cable, **Original** will not be displayed.



## 4. Basic Operation



### 4.4 Wide

You can set the display format.

Press the **WIDE** button while watching a programme to change the display format.

Each time you press the **WIDE** button, the display format changes.

**Note:** For more information about display format, refer to **7.1.6 Picture Format**.



### 4.5 Audio

You can select the language you prefer in **Audio** if the current programme is available in multiple audio languages.

1. Press the **AUDIO** button.
2. Select the audio language you prefer.
3. Select audio direction (left, right, stereo) using the ◀/▶ button.
4. Press the **EXIT** button to close.

**Note:** If the programme is broadcast in Dolby Digital, you cannot set the audio direction.





## 4. Basic Operation



### 4.6 Subtitle

can select the language for the subtitle if the programme provides subtitle information.

1. Press the **SUB** button.
2. Select the required subtitle language and press the **OK** button. The subtitle will be displayed in the selected language at the bottom of the screen.
3. Select **Off** from the subtitle language list to hide the subtitle from the screen.

**Note:** When there is no subtitle available, **Off** does not appear.



### 4.7 Text and Interactive Services

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

1. Press the **TEXT** button to access digital teletext.
2. Press the **TEXT** button again to return to normal viewing.
3. Press the **CH+ / CH-** button to exit this service.

## 4. Basic Operation



### 4.8 Programme Information (i-plate)

The i-plate is always displayed for a certain period of time whenever you switch channels. You can view the programme information by pressing the **i** button while watching a programme. Press the **EXIT** button to hide the i-plate.

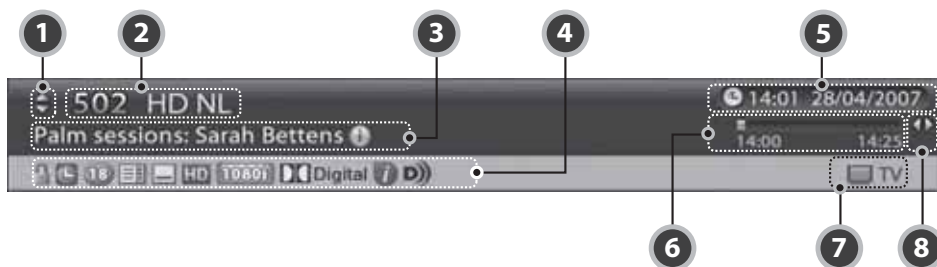
After switching to a channel, press the **◀/▶** button to display navigation mode.

Press the **◀/▶** button to view the previous/next programme information.

Press the **▲/▼** button to view the programme information of other channels.

#### 1. General Information

The general information is displayed on the screen as the following.



1. Next/previous channel
2. Channel number and name
3. Programme name
4. Icons



Displayed only when the channel is a locked channel.



Displayed only if the programme is reserved for watching.



Represents parental level. Indicates the minimum level of age for viewing the programme.



Displayed only when there is any teletext information.



Displayed only when subtitle information is available.



Displayed only when the channel provides HD programmes.



Displays the resolution of the current programme.



Displayed only when the programme is broadcast in Dolby Digital.



Displayed only when audio description is available.



Displayed only when the interactive service is available.



Displayed only when there is any guidance information.

## 4. Basic Operation



5. Current time & date
6. Programme broadcasting time and progress bar: Displays programme playing time and progress bar.
7. Group name: Displays the group the channel belongs to.
8. Previous/Next programme information: Displayed if previous/next programme information is provided. Press the ◀/▶ button to display previous/next programme information.

**Note:** If there is no programme information available, programme information is not displayed.

### 2. Detailed Programme Information

You can see the detailed information about the current programme.

Press the **i** button when the i-plate is displayed to view detailed information. Press the **i** button once more to hide the i-plate.

**Note:** If the detailed programme information is over one page, use the ▲/▼ button to move to the previous or next page.

## 4.9 Option List

You can view and confirm detailed information about the current channel and change the information if necessary.

**Tip:** The default password is **0000**.

1. Press the **OPT+** button.
2. To add the channel to the favourite group, select **Favourite**. Select the group using the ▲/▼ button and press the **OK** button.
3. To lock the channel, select **Lock** and press the **OK** button.
4. To delete the channel, select **Delete** and press the **OK** button. A popup will appear. Select **Yes** and press the **OK** button.
5. To rename the channel in the non-freesat channel mode, select **Rename** and press the **OK** button. Enter the name directly using the keyboard on the screen. Press the **YELLOW** button to complete.



**Note:** In the non-freesat channel mode, you cannot add the channel to the favourite group.

## 5. Channel List



This chapter will help you manipulate the channel list. You can display the channel list by pressing the **LIST** button while watching a programme.

Four types of channel lists are provided for quick and easy channel search.

<b>My TV (RED)</b>	The list of all TV channels. The list of all radio channels. The list of the recently viewed channels.
<b>Favourite (GREEN)</b>	The list of the favourite channels in five groups.
<b>HD TV (YELLOW)</b>	The list of all HD TV channels.
<b>Genre (BLUE)</b>	The list of channels including the sports, drama, movie and other genres.

### Note:

- Press the **EXIT** button to exit the channel list.
- The sub-groups of favourite channel list exist only after configuration.
- Each time you press the **i** button, the sorting order of the channels change in the following sequence:  
by channel number, by channel name.

## 5.1 My TV List

**My TV List** is the list of all channels available including TV, radio and recent channels.

1. Press the **LIST** button while watching a programme to display the channel list.
2. Press the **RED** button while the channel list is displayed.
3. Select the channel you wish to view and press the **OK** button. You can also enter the channel number using the **NUMERIC(0-9)** buttons.
4. Press the **RED** button again and select a sub group using the **◀/▶** button.
5. Select a channel and press the **OPT+** button.  
To add the channel to the favourite group, select **Favourite**. Select the group using the **◀/▶** button and press the **OK** button.  
To lock the channel, select **Lock** and press the **OK** button.  
To delete the channel, select **Delete** and press the **OK** button. A popup will appear. Select **Yes** and press the **OK** button.



**Note:** You can switch between TV and radio by simply pressing the **TV/RADIO** button.

## 5. Channel List



### 5.2 Favourite List

**Favourite List** is the list of the favourite channels you can select yourself from the entire channel list. There are five favourite groups in total.

1. Press the **LIST** button while watching a programme.
2. Press the **GREEN** button to display the list of favourite groups.
3. Press the **GREEN** button again and select a sub group using the ◀/▶ button.



### 5.3 HD TV List

**HD TV List** is the list of all HD TV channels.

1. Press the **LIST** button while watching a programme.
2. Press the **YELLOW** button to display the HD TV list.



## 5. Channel List



### 5.4 Genre List

**Genre List** is the list of channels including the sports, drama, movie and other genres.

1. Press the **LIST** button while watching a programme.
2. Press the **BLUE** button to display the genre list.
3. Press the **BLUE** button again and select a sub group using the **▲/▼** button.



### 5.5 Non-freesat Channel List

Four types of channel lists are provided for quick and easy channel search in the non-freesat channel list.

<b>My TV (RED)</b>	The list of all TV channels. The list of all radio channels. The list of HD TV channels. The list of the recently viewed channels.
<b>Favourite (GREEN)</b>	The list of the most viewed channels.
<b>Satellite (YELLOW)</b>	The lists of channels classified by satellites.
<b>Scramble (BLUE)</b>	The lists of channels classified by CAS types.

## 6. TV Guide



The **TV Guide** displays the programme information of each channel, in time and date order. You can customize your own programme guide to list the channels or programmes of interest to you and schedule your viewing using the programme information.

**Note:** Press the **GUIDE** or **EXIT** button to exit the TV guide screen.

### 6.1 Table Guide

You can view the programme information of all channels in time and date order.

1. Press the **GUIDE** button.
2. Select the channel genre using the ◀/▶ button and select the sub channel genre using the ▲/▼ button.
3. Move to the previous/next programme within the same channel using the ◀/▶ button.
4. Move to another channel using the ▲/▼ button. If the contents are more than one page, use the **P-/P+** button to skip to the next page. Enter the number of the channel you wish to move using the **NUMERIC(0-9)** buttons.
5. Select the programme you want and press the **OK** button to view the programme.
6. Press the **RED** button to enter to the quick navigation mode. Jump back/ahead two hours using the ◀/▶ button. Move to the previous/next day using the ▲/▼ button.
7. Press the **OPT+** button to change the channel genre. Select the channel genre using the ◀/▶ button and select the sub channel genre using the ▲/▼ button.
8. You can reserve it if it is a future programme. Select a future programme and press the **OK** button. Select **Yes** and press the **OK** button. Select a reserved programme and press the **OK** button to cancel the reservation.
9. Press the **BACK** button to return to the current time.

**Note:**

- Press the **i** button to view the programme information.
- Press the **TV/RADIO** button to switch to TV or radio.
- In non-freesat mode, you cannot select the channel genre. Select the group using the **OPT+** button.
- You cannot reserve the programme in non-freesat mode.

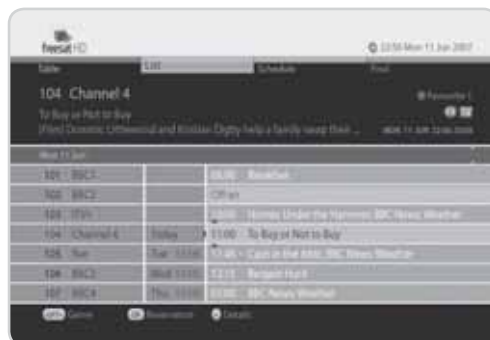


# 6. TV Guide



## 6.2 List Guide

1. Press the **GUIDE** button.
2. Select the channel genre using the ◀/▶ button and select the sub channel genre using the ▲/▼ button.
3. Press the **GREEN** button.
4. You can view the programme information for approximately a week. The features are similar as in grid guide.



## 6.3 Schedule

**Schedule** displays the list of the programmes reserved. You can modify, delete or make new reservations.

1. Press the **GUIDE** button.
2. Press the **YELLOW** button to display the schedule of reservations.
3. Select a reservation and press the **OPT+** button to delete the reservation.

### Note:

- Press the **BACK** button to sort the list in time or alphabetical order.
- You cannot reserve the programme in non-freesat mode.



## 1. Editing Reservations

1. Select a reservation you want to edit and press the **OK** button. The reservation popup will appear.
2. Select **Channel** and press the **OK** button to display the channel list. Select the channel.
3. Select **Date** and press the **OK** button to view the calendar. Select the date.
4. Select **Start Time** or **End Time** and enter the time using the **NUMERIC(0-9)** buttons.
5. Select **Repeat** and change the repeat frequency using the ◀/▶ button.
6. Select **OK** and press the **OK** button.



# 6. TV Guide



## 2. New Reservation

1. Select a blank space and press the **OK** button.
2. The reservation popup will appear. Enter the channel number, date, start/end time and repeat frequency and then press the **OK** button.

### Note:

- Reservations for deleted channels or past programmes are automatically deleted.
- In case the channel number has changed, reservation has to be done again.

## 6.4 Find

**Find** enables you to find the programme you want by entering the keyword, genre, time and day of the programme.

1. Press the **GUIDE** button.
2. Press the **BLUE** button to find programme.
3. Enter the keyword, genre, time & day of the programme and select **Search** and then press the **OK** button.
4. The search result of the entered values will appear.
5. To reserve a programme, select a future programme and press the **OK** button.

**Note:** Press the **OPT+** button to display seven of the most recent values that have been entered.



## 1. Search by Keyword

1. Press the **OK** button while the cursor is on **Keyword**.
2. A keyboard will appear. Enter the keyword.
3. Select **Language** and choose the language of the keyword.
4. Select **SMS** to switch to SMS keyboard.
5. Press the **YELLOW** button to complete.

## 2. Search by Genre

1. Press the **OK** button while the cursor is on **Genre**.
2. The list of genres will appear. Select genres and press the **OK** button. You can select up to two genres.

## 3. Search by Time and Day

1. Press the **OK** button while the cursor is on **Time & Day**.
2. The time & day popup will appear. Select the time and day using the **OK** or **◀/▶** button.
3. Select **OK** and press the **OK** button.

### GB32

# 7. Settings



In this chapter you can set TV setup, language, time, parental control and other configuration items to keep limitations where you want them for the viewers.

**Note:** Press the **EXIT** button to save the changes and return to the previous menu. Press the **MENU** button to exit the menu screen.

## 7.1 TV Setup

You can configure the audio and video output settings.

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **TV Setup** using the **▲/▼** button and press the **OK** button.



### 1. TV SCART

You can select the TV SCART output option.

1. Select **TV SCART** and press the **OK** button.
2. Select among **CVBS**, **S-Video** and **RGB** and press the **OK** button.

**Note:** You can select **RGB** only when the Component Select switch at the rear is on **RGB**.



### 2. VCR SCART

You can select the VCR SCART output option.

1. Select **VCR SCART**.
2. Select **CVBS** or **S-Video** using the **OK** or **◀/▶** button.

# 7. Settings



## 3. Audio

You can select the audio output option.

1. Select **Audio**.
2. Select **Stereo** or **Mono** using the **OK** or **◀/▶** button.

## 4. Dolby Digital

You can set Dolby Digital automatically. If you select **On**, Dolby Digital audio will be output via S/PDIF.

1. Select **Dolby Digital**.
2. Select **On** or **Off** using the **OK** or **◀/▶** button.

## 5. Lip-Sync

You can adjust the sound difference of audio and video.

1. Select **Lip-Sync** and press the **OK** or **▶** button.
2. Adjust the sync using the **◀/▶** button.
3. Press the **BACK** button to complete.

**Note:** Lip-Sync is applied to all channels when once adjusted.

## 6. Display Format

You can select the picture format.

1. Select **Display Format** and press the **OK** button.
2. Select among **Widescreen**, **Auto**, **16:9 Letterbox**, **14:9 Letterbox** and **Centre Cut Out** and press the **OK** button.

## 7. HDCP Default

You can enable HD copy protection.

1. Select **HDCP Default** and press the **OK** button.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

**Note:** If disabled the broadcast signal can override this setting and protect the programme.

## 8. Analogue HD Output

You can choose to display a message indicating that there is no component output. The message is displayed when the **COMPONENT SELECT** switch of the rear is on **YPbPr** and the HD programme/event is protected.

1. Select **Analogue HD Output** and press the **OK** button.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

**Note:** If the HD programme/event is protected by the broadcaster the Scart output will change to CVBS. To view the programme/event you will be required to connect to a TV set via a HDMI (or DVI) connection on a HD Ready TV set.

# 7. Settings



## 7.2 Language

**Language** enables you to set the basic language and subtitle options.

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **Language** using the **▲/▼** button and press the **OK** button.



### 1. Preferred Language

**Preferred Language** allows you to choose from the given language options and set the language.

1. Select **Preferred Language** and press the **OK** button.
2. Select the language you want and press the **OK** button.

### 2. Subtitle Display

**Subtitle Display** allows you to display the subtitle automatically. This service is provided when subtitles are available.

1. Select **Subtitle Display**.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

### 3. Subtitle Font

**Subtitle Font** enables you to select the font of the subtitle.

1. Select **Subtitle Font**.
2. Select **Variable** or **Fixed** using the **OK** or **◀/▶** button.

<b>Variable</b>	Uses the horizontally variable subtitle font of the on-screen display.
<b>Fixed</b>	Uses the fixed subtitle font as in TEXT.

# 7. Settings



## 4. Audio Description

**Audio description** allows you to access content that is not otherwise accessible simply by listening to the audio. In audio description, narrators typically describe actions, gestures, scene changes, and other visual information.

1. Select **Audio Description**.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

## 7.3 Time

**Time** allows you to set the time you want to turn the product on or off.

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **Time** using the **▲/▼** button and press the **OK** button.



### 1. Power ON

You can set the time the product turns on automatically.

1. Select **Power ON** and press the **▶** button.
2. Enter the powering on time using the **NUMERIC(0-9)** buttons or select **Disable** using the **◀/▶** button.

### 2. Power On Channel

You can select the channel to watch when the product turns on at the preset wakeup time.

1. Select **Power On Channel** and press the **OK** button to display the channel list.
2. Select the channel and press the **OK** button.

### 3. Power OFF

You can select the time the product turns off automatically.

1. Select **Power OFF** and press the **▶** button.
2. Enter the powering off time using the **NUMERIC(0-9)** buttons or select **Disable** using the **◀/▶** button.

# 7. Settings



## 7.4 Parental Control

**Parental Control** allows you to set rating limits for each programme according to the age of the viewer or change your previous password. You can also lock the changes you have made using installation lock.

**Tip:** The default password is **0000**.

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **Parental Control** using the **▲/▼** button and press the **OK** button.
4. You will be prompted to enter your password. Enter the password using the **NUMERIC(0-9)** buttons.



### 1. Guidance Policy

You can choose to display a popup asking the PIN number when guidance information is available.

1. Select **Guidance Policy** and press the **OK** button.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

### 2. Age Limit

**Age Limit** enables you to place certain restrictions on the viewers by setting age limits.

1. Select **Age Limit** and press the **OK** button.
2. Select the age limit you wish to set.

**Note:** You must enter your password to watch programmes blocked by the age restriction.

### 3. Change Password

**Change Password** allows you to change the current password.

1. Select **Change Password** and press the **OK** button.
2. Enter the password in **New Password** using the **NUMERIC(0-9)** buttons.
3. Enter the password again in **Verify Password** to confirm.

# 7. Settings



## 4. Installation Lock

**Installation Lock** allows you to block access to the installation menu settings you have previously made.

1. Select **Installation Lock**.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

## 7.5 Other

You can configure other settings such as info display time, OSD transparency, power saving in standby and automatic standby.

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **Other** using the **▲/▼** button and press the **OK** button.



## 1. Info Display Time

You can set the automatic display time of the information box when the channel is switched.

1. Select **Info Display Time** and press the **OK** button.
2. Select a value between **Disable**, **1~20** seconds and press the **OK** button.

**Note:** When set to **Disable**, the i-plate will not be displayed when you switch the channel.

## 2. OSD Transparency

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

1. Select **OSD Transparency** and press the **OK** button.
2. Select among **Disable**, **25**, **50** and **75** and press the **OK** button.

<b>Disable</b>	Fully opaque screen
<b>25, 50, 75</b>	The bigger the number, the more transparent the screen.

## 7. Settings



### 3. Power Saving in Standby

You can select whether the product switches to power saving mode in standby.

1. Select **Power Saving in Standby**.
2. Select **On** or **Off** using the **OK** or **◀/▶** button.

### 4. Automatic Standby

The product automatically switches to the standby mode after the specified period of inactivity to help reduce the amount of electricity it uses when **Automatic Standby** is set as **Enable**.

1. Select **Automatic Standby**.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

### 5. Guide Channel Genre

You can choose to display the list of genre when entering the programme guide.

1. Select **Guide Channel Genre** and press the **OK** button.
2. Select **Enable** or **Disable** using the **OK** or **◀/▶** button.

## 7.6 STB Mode

1. Press the **MENU** button.
2. Select **Settings** using the **▲/▼** button and press the **OK** button.
3. Select **STB Mode** using the **▲/▼** button and press the **OK** or **▶** button to select **freesat** or **Non-freesat**.

**Note:** **STB Mode** is activated only in non-freesat mode.





## 8. Edit Channels



In this chapter you can edit all channels in the channel list or make changes to the favourite lists of the channels you have chosen.

### Note:

- Press the **EXIT** button to save the changes and return to the previous menu. Press the **MENU** button to exit the menu screen.
- Press the **TV/RADIO** button to move to TV or radio channel list directly.

### 8.1 Edit Channel List

**Edit Channels List** enables you to delete, select and lock/unlock the channels in the edit channel list conveniently.

1. Press the **MENU** button.
2. Select **Edit Channels** using the **▲/▼** button and press the **OK** button.
3. Select **Edit Channel List** using the **▲/▼** button and press the **OK** button.

**Note:** You can move and rename the channels in the non-freesat channel mode.



### 1. Deleting Channels

1. Select the channels you want to delete and press the **OK** button. You can select more than one channel.
2. Press the **RED** button to delete the chosen channels.



# 8. Edit Channels



## 2. Locking/Unlocking Channels

**Tip:** The default password is **0000**.

1. Select the channel you want to lock and press the **OK** button.
2. Press the **GREEN** button.
3. Select **Lock** and press the **OK** button.

**Note:**

- When all selected channels are locked, **Lock** is switched into Unlock. When you press **Unlock**, the locked channel is switched into an unlocked channel.
- To watch locked channels, you must enter the password using the **NUMERIC(0-9)** buttons.

## 3. Selecting a Channel Group

1. Press the **YELLOW** button to display the list of groups.
2. Select the group you want and press the **OK** button.

## 4. Select All/Release All

1. Press the **BLUE** button.
2. Select **Select All** and press the **OK** button.
3. To release one or more channels from select all, press the **OK** button while the cursor is on the selected channel.

## 8. Edit Channels



### 8.2 Edit Favourite List

You can add or remove channels from the favourite groups, move favourite channels and rename favourite groups.

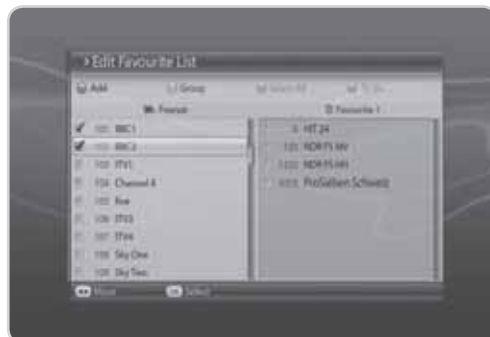
1. Press the **MENU** button.
2. Select **Edit Channels** using the **▲/▼** button and press the **OK** button.
3. Select **Edit Favourite List** using the **▲/▼** button and press the **OK** button.

**Note:** **Edit Favourite List** is deactivated in non-freesat mode.

#### 1. Adding/Removing Channels

1. Select the channels you want to add to the favourite channel list and press the **OK** button.
2. Press the **RED** button to add the channels to the favourite list you have chosen.
3. To remove channels from the favourite list, select the channels from the list and press the **RED** button.

**Note:** When the cursor is on the left column, the red button is marked **Add**; when the cursor moves to the right column, it becomes **Remove**.



#### 2. Selecting Favourite Groups

1. Press the **GREEN** button to display the list of groups.
2. Select the favourite group you want and press the **OK** button.

#### 3. Select All/Release All

1. Press the **YELLOW** button to select all channels in the favourite list.
2. To release all channels, press the **YELLOW** button again.

#### 4. Renaming Favourite Groups

1. Select the favourite group you want to rename and press the **OK** button.
2. Press the **BLUE** button.
3. Select **Rename Group** and press the **OK** button.
4. A keyboard will appear. Enter the name of the favourite group using the keyboard.
5. Press the **YELLOW** button to complete.

**Note:** The **YELLOW** and **BLUE** buttons become activated only when the cursor is placed on the right column.

## 8. Edit Channels



### 5. Moving Favourite Channels

1. Select the favourite channels to move within the favourite channel list and press the **OK** button.
2. Press the **BLUE** button.
3. Select **Move** and press the **OK** button.
4. Move the cursor to the destination using the **▲/▼** button, and press the **OK** button.
5. The selected channel is moved to the new location.

### 8.3 Edit Customisable Channels

You can customise the channels of your region or other regions.

1. Press the **MENU** button.
2. Select **Edit Channels** using the **▲/▼** buttons and press the **OK** button.
3. Select **Edit Customisable Channels** using the **▲/▼** buttons and press the **OK** button.

**Note:** This feature is provided for freesat channels only.



### 1. Customising Channels

1. Select a channel from the left column.
2. Move the cursor to the right column and select an alternative channel of the region you want and press the **OK** button.
3. The selected channel will be customised as the default channel of the chosen channel number.

## 9. Setup



In this chapter you can configure the installation setting and perform channel search. Menus such as freesat tune, software update and factory reset is included in this section.

**Note:** Press the **EXIT** button to save the changes and return to the previous menu. Press the **MENU** button to exit the menu screen.

### 9.1 Freesat Tune

1. Press the **MENU** button.
2. Select **Setup** using the  $\blacktriangle/\blacktriangledown$  button and press the **OK** button.
3. Select **Freesat Tune** using the  $\blacktriangle/\blacktriangledown$  button and press the **OK** button.
4. Enter your region code.
5. Please note that once you perform **Freesat Tune**, all freesat channels will be deleted. Select **Yes** and press the **OK** button to delete all freesat channels.
6. Select **Search** and press the **OK** button to search channels.
7. The channel search will start.
8. To stop the search, press the **OK** button during channel search.
9. The results will appear. Select **Save** and press the **OK** button.



**Note:** If there are no channels available, a message indicating the result will pop up.

### 9.2 Manual Tune

1. Press the **MENU** button.
2. Select **Setup** using the  $\blacktriangle/\blacktriangledown$  button and press the **OK** button.
3. Select **Manual Tune** using the  $\blacktriangle/\blacktriangledown$  button and press the **OK** button.
4. Select **Search** and press the **OK** button. The channel search will start.
5. To stop the search, press the **OK** button during channel search.
6. The results will appear. Select **Save** and press the **OK** button.



#### Transponder

Select **All** or the value in the transponder list and press the **OK** button. If the required value is not available, select **User Define** and enter the transponder value directly.

## 9. Setup



<b>Network Search</b>	Select <b>Disable</b> or <b>Enable</b> using the <b>OK</b> or <b>◀/▶</b> button.
<b>Scrambled Type</b>	Select <b>All</b> or <b>FTA</b> and press the <b>OK</b> button.
<b>Channel Type</b>	Select among <b>All</b> , <b>TV</b> and <b>Radio</b> and press the <b>OK</b> button.

**Note:** If there are no channels available, a message indicating the result will pop up.

### 9.3 Software Update

**Software Update** allows you to update the system software to maintain proper performance of the product.

1. Press the **MENU** button.
2. Select **Setup** using the **▲/▼** button and press the **OK** button.
3. Select **Software Update** using the **▲/▼** button and press the **OK** button.

**Note:** For more information about the software update, refer to **11. Software Update**.

#### 1. Automatic Update

1. Select **Automatic Update** and press the **OK** button.
2. When new software is detected, you can choose to download the software immediately or save for later.
3. When there is no new software to update, a popup will appear.



#### 2. Manual Update

1. Select **Manual Update** and press the **OK** button.
2. Enter the values for **Satellite**, **Frequency**, **Polarization**, **Symbol Rate** and **FEC**.
3. Select **Search** and press the **OK** button.
4. When new software is detected, you can choose to download the software immediately or save for later.

**Note:** When there is no new software to update, a popup will appear.

## 9. Setup



### 9.4 Factory Reset

**Factory Reset** enables you to restore the product to the factory default.

**Warning:** Please note that once you perform **Factory Reset**, all data such as the antenna setting information, channel list and all user configured data will be deleted.

1. Press the **MENU** button.
2. Select **Setup** using the **▲/▼** button and press the **OK** button.
3. Select **Factory Reset** using the **▲/▼** button and press the **OK** button.
4. Select **Yes** and press the **OK** button to restore all setting to factory default. To return to the previous menu, select **No** and press the **OK**.
5. You will be prompted to enter your password again before starting to load factory reset. Enter the password to proceed.
6. When factory reset is completed, the first installation pops up automatically and assists channel search.



**Tip:** The default password is **0000**.

**Note:** For detailed information about the first installation, refer to **Chapter 3. First Installation**.

# 10. System



## 10.1 Diagnostics

You can view system status information.

1. Press the **MENU** button.
2. Select **System** and press the **OK** button.
3. Select **Diagnostics** and press the **OK** button.
4. The system status information will be displayed.



## 10.2 Network

You can view the network information.

1. Press the **MENU** button.
2. Select **System** and press the **OK** button.
3. Select **Network** and press the **OK** button.
4. The network information will be displayed.
5. Select **Configure Ethernet** and press the **OK** button. Select **Configure IP** and press the **OK** or **◀/▶** button to select **DHCP** or **Manual**. When selecting **Manual**, you can enter the value for the network information. Select **Apply** and press the **OK** button to save the changes.



# 11. Software Update



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.

## 11.1 OTA (Over the Air)

OTA, an abbreviation of Over-the-Air, is a standard for the transmission of software through a broadcast system. OTA is simply an alternative method for downloading software versions. However, the manufacturers reserve the right for deciding the release of the software for their products by beaming the latest software versions over the air via satellite. Note that OTA is only limited to certain geographical regions mainly due to different antennas having different footprints (area where the signal can be received). The following factors must be true for the software update via satellite to occur:

1. The equipment has the appropriate loader software.

**Caution:** Please note that if the normal loader software is not equipped, the product may not be updated or operate properly after software update.

2. The manufacturer decides to release the software via a designated satellite.
3. The equipment is tuned properly to the same antenna equivalent to that of the manufacturer.
4. The signal strength and quality is high. If severe weather conditions are affecting reception, for example, the software update should be postponed until signal strength and quality are favourable again.

**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 (LNB cable) during software update. Update may be interrupted and the product may not operate.

**Note:**

- It may take 5~10 minutes to update software.
- Other functions will not activate while software update takes place.
- You cannot schedule programmes during software update.

### 1. Software update while watching a programme

When new software is detected, you can choose to download the software immediately or save for later. In case there is no software currently available, select **Next** and press the **OK** button to proceed to the next step.





### 2. Software update via USB host

Copy the software to the USB memory stick and connect the USB to the receiver. Press the **STANDBY** button and turn off the power. To power on, press the **STANDBY** button while switching on the receiver to start software update.

# 12. Appendix



## 12.1 Menu Map

	<ol style="list-style-type: none"><li>1. TV Setup</li><li>2. Language</li><li>3. Time</li><li>4. Parental Control</li><li>5. Other</li><li>6. STB Mode</li></ol>
Settings	
	<ol style="list-style-type: none"><li>1. Edit Channel List</li><li>2. Edit Favourite List</li><li>3. Edit Customisable Channels</li></ol>
Edit Channels	
	<ol style="list-style-type: none"><li>1. Freesat Tune</li><li>2. Manual Tune</li><li>3. Software Update</li><li>4. Factory Reset</li></ol>
Setup	
	<ol style="list-style-type: none"><li>1. Diagnostics</li><li>2. Network</li></ol>
System	

# 12. Appendix



## 12.2 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 retailer for further instructions.

### 1. No message displayed on the front panel (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.

### 2. No picture on TV set

- 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 the antenna setting in the menu is correct.
- 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.

### 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 cable for the satellite 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.

- Check that your dish alignment is correct.
- Change the satellite dish for a larger one as this will increase the signal levels received.
- Replace the LNB with a lower noise factor in cases where the noise factor is too high.
- Replace the LNB with a new one in case it is damaged or out of order.

### 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.

### 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.

### 6. Cannot make reservations.

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

## 12. Appendix



### 7. No password information is given.

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

### 8. Channel search does not work.

- Make sure that the antenna setting in the menu is correct.

### 9. Cannot update new software.

- If there is no message displayed requesting an update, there is no software available for your product at that time.

## 12.3 Error Message

Error message	Possible causes	What to do
<b>No or bad signal</b>	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.
<b>The channel is scrambled or not available.</b>	The channel has a signal, but no audio or video is provided.	Confirm whether the channel is currently on air.
	The channel has not been deleted by broadcasting company.	Remove the channel from the channel list and check for new transponder details.
	The channel is for data broadcasting.	The channel can only be viewed with the appropriate model that supports data channels.
<b>Audio not available.</b>	The channel has a video signal, but no audio is provided.	Press the audio button on your remote control to confirm that the channel has audio options.
<b>Short LNB</b>	LNB cable is short.	Replace LNB Cable.
	LNB is internally short.	Replace LNB.
	Alien substance is inserted in LNB IN Port and port may be damaged.	Remove the alien substance and contact local Service centre in case damaged has occurred.

# 12. Appendix



## 12.4 Specification

Tuner & Channel	
Input Connector	F-Type, IEC 169-24, Female
Frequency Range	950MHz to 2150MHz
Signal Level	-25 to -65dBm
LNB Power & Polarisation	<ul style="list-style-type: none"><li>Vertical : +13.3V(+14.3V at high voltage)</li><li>Horizontal : +18.3V(+19.3V at high voltage)</li><li>Current : Max.500mA(Overload protection)</li></ul>
22KHz Tone	Frequency : $22 \pm 4$ KHz Amplitude : $0.7 \pm 0.2$ V
DiSEqC Control	Version1.0, 1.2, USALS, SCD (Single Cable Distribution)
Demodulation	QPSK, 8PSK
Input Symbol Rate	<ul style="list-style-type: none"><li>DVB-S : 2-45MS/s</li><li>DBV-S2 : 10-30MS/s(QPSK/8PSK)</li></ul>
FEC Mode	DVB-S: Auto,1/2,2/3,3/4,5/6,7/8 DVB-S2: Auto,1/2,3/5,2/3,4/5,5/6,8/9,9/10 (QPSK) Auto,3/5,2/3,3/4,5/6,8/9,9/10 (8PSK)
MPEG Transport Stream A/V Decoding	
Transport Stream	MPEG-2 ISO/IEC 13818 Transport Stream Specification
Profile Level	MPEG-2 MP@ML, MPEG4 HD HP@L4, PAL
Input Rate	15MB/s Max
Video Format	4:3, 16:9
Video Resolution	1080i, 720p, 576p, 576i
Audio Decoding	MPEG-1 Layer II, Dolby-AC3 Audio
Audio Mode	Single channel/Dual channel/Joint stereo/Stereo
Memory	
Flash Memory	16MB
RAM	256MB
EEPROM	8KB

## 12. Appendix



Audio/Video	
<b>Video</b>	TV-SCART(FBAS,S-Video,RGB) VCR-SCART(FBAS, S-Video) RCA-Typ(FBAS), YPbPr(RCA), HDMI/HDCP
<b>Audio</b>	TV-SCART, VCR-SCART, Audio L/R, S/PDIF(Digital Audio Output)
Data Port	
<b>USB</b>	USB 1.1/2.0 Host (5 V 100mA Max.)
Power Supply	
<b>Input Voltage</b>	90-250V a.c., 50/60Hz
<b>Type</b>	SMPS
<b>Power Consumption</b>	Max. 30W
<b>Protection</b>	Separate internal fuse. The input should be protected against lightning.
Physical Specification	
<b>Size</b>	280mm × 200mm × 45mm
<b>Weight (Net)</b>	1.5kg
<b>Operating Temperature</b>	0 °C to +45 °C
<b>Storage Temperature</b>	-10 °C to +70 °C

# 12. Appendix



## 12.5 Glossary

### 1. 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.

### 2. 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.

### 3. DVB (Digital Video Broadcasting)

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

### 4. 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.

### 5. FEC (Forward Error Correction)

A technique for error control of data transmission.

### 6. Frequency

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

### 7. FTA (Free- To-Air)

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

### 8. 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.

### 9. 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.

### 10. 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.

### 11. 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.

### 12. Polarisation

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

## 12. Appendix



### 13. PID (Packet Identifier)

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

### 14. QPSK (Quaternary Phase Shift Keying)

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

### 15. RF (Radio Frequency)

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

### 16. 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.

### 17. 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.

### 18. 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.

### 19. 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.



## 12. Appendix



### 12.6 Service and Support

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

#### UK

<b>Tel:</b>	0844 669 8800
<b>Opening Hours:</b>	Mon-Fri: 09:00-17:30 Excluding Bank holidays Calls charged at local rate from a BT landline. Other operators may vary.
<b>E-mail:</b>	freesat@humax-digital.co.uk
<b>Website:</b>	www.freesat.com / www.humax-digital.co.uk
<b>Language:</b>	English

# 14. Appendix



## 12.7 OPEN SOURCE SOFTWARE NOTICE

HUMAX products use certain open source operating system software distributed pursuant to GNU GENERAL PUBLIC LICENSE Version 2 and GNU LESSER GENERAL LICENSE Version 2.1 each as defined and published by the Free Software Foundation, Inc.

The following GPL and LGPL software source codes used in this product can be provided and this offer is valid for up to three years from the date of original download of the software or purchase of product containing such software. Please contact us at [gnu@humaxdigital.com](mailto:gnu@humaxdigital.com).

### **GPL Software**

linux  
busybox

### **LGPL Software**

uClibc

### **FreeType License (FTL) Software**

freetype

Portions of this software are copyright © <2007> The FreeType Project ([www.freetype.org](http://www.freetype.org)).  
All rights reserved.

# 14. Appendix



Use, modification and redistribution of the Open Source Software is governed by the terms and conditions of the applicable Open Source License. The GNU General Public License (GPL) v2 is shown below.

## **The GNU General Public License (GPL)**

### **Version 2, June 1991**

Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

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

### **Preamble**

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

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

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

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

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

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

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

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

### **TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".  
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.
1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.  
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
  - a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
  - b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
  - c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the

# 14. Appendix



distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

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

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

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
  - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.  
If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

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

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

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.  
Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software

# 14. Appendix



Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

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

## NO WARRANTY

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

## END OF TERMS AND CONDITIONS

### How to Apply These Terms to Your New Programs

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

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

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

Copyright (C) yyyy name of author

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

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

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

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

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

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

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

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

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989

Ty Coon, President of Vice

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

## GNU Lesser General Public License (LGPL)

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

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

## GB60

### User's Manual

# 14. Appendix



## Preamble

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

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

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

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

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

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

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

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

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

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

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

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License. In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

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

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

## TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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

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

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

# 14. Appendix



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

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.  
  
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
  - a) The modified work must itself be a software library.
  - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
  - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
  - d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

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

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

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

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

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

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

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

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

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

# 14. Appendix



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

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

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

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

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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

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

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
  - a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
  - b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

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



# 14. Appendix



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

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

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

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

## NO WARRANTY

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

## END OF TERMS AND CONDITIONS

### How to Apply These Terms to Your New Libraries

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

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.  
one line to give the library’s name and an idea of what it does.> Copyright (C) year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

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

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

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

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

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

signature of Ty Coon, 1 April 1990  
Ty Coon, President of Vice