Xtrend

The gateway for Smart Linux TV

User's Guide

HD Digital Satellite Receiver

HD
REC PLAY 250525 HDD
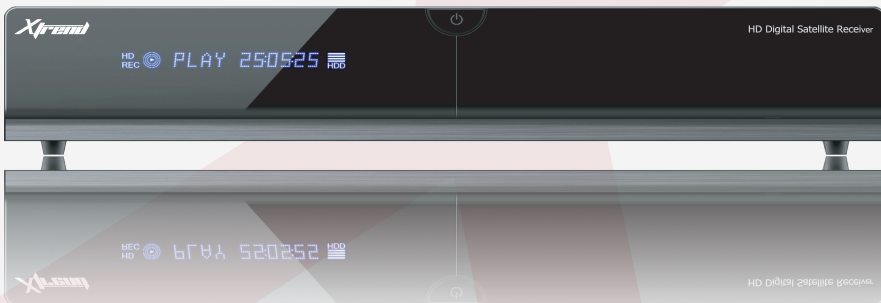
Before Operation, Please read entire Manual thoroughly and retain for future reference.

Contents

(A) Safety Instructions

ET9000 has been designed and manufactured in compliance with EU consumer safety requirements (CE). Please read the following safety precautions carefully

1. Connecting Power

• This product operates only in the range of AC 100V~250V and 50Hz/60Hz. Please check first your power supply to see if it fits this range.
• Please be noted that you need to disconnect from the mains before you start any maintenance or installation procedures.
• Make sure that the power cord is placed in a position where it is easy to unplug it from the mains in an emergency.

2. Overloading

• Do not overload a wall outlet, extension cord or adapter as this may cause electrical fire or shock.

3. Liquid

• This product is not water-proof and should not be exposed to dripping, splashing, or any type of liquid.
• No objects filled with liquid such as base shall be placed on the product.
• Please do not clean the product with wet cloth, which may cause a short circuit.
• No wet objects should be placed near the product.

4. Ventilation

• Allow a sufficient space between the product and other objects to make sure air ventilation of the product.
• Do not block the top or rear of the product with an object, which will close the ventilation holes and lead to a high temperature of the system. This may cause a failure of the product.
• Do not stack other electronic devices on top of the product.
• Do not insert any kind of pointed objects like screw, gimlet, etc. into the ventilation holes of the product. This will damage the product.

5. Connecting the Satellite Cable.

• Disconnect the power of the product before you connect the satellite cable to the product.
Otherwise, it may cause damage to the LNB.

6. Grounding

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

7. Location

• Place the product indoor.
• Do not expose the product to rain, sun or lightening.
• Do not place the product near any heat appliances as a radiator.
• Ensure that there is more than 10 cm distance from any electrical devices & wall.

8. Lightening, Storm or Not In Use.

• Unplug the product and disconnect the antenna cable during a thunderstorm or lightening, especially when left unattended and unused for a long period of time. This will prevent possible damages from power surges or lightening.

9. Replacement of Parts

• Unauthorized part replacements, especially by one who is not a qualified technician may result in damage to the product.
• Ensure that when part replacements are necessary qualified technicians perform the task using the components specified by the manufacturer.

10. Hard Disk Drive

• Do not move the product or turn the power off suddenly while the Hard Disk Drive (HDD) is still running. This may result in damage to the HDD and thus the system.

• The company shall not be liable for any corruption of data on the HDD caused by careless use or misuse of users.

11. Battery

• There is danger of explosion if batteries are incorrectly replaced.
• Replace batteries only with the same or equivalent type.

Disposal "WEEE" Symbol instructions.

This product should not be disposed with other house hold 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 help prevent harm to the environment or human health from uncontrolled waste disposal.

(B) Packaging Contents
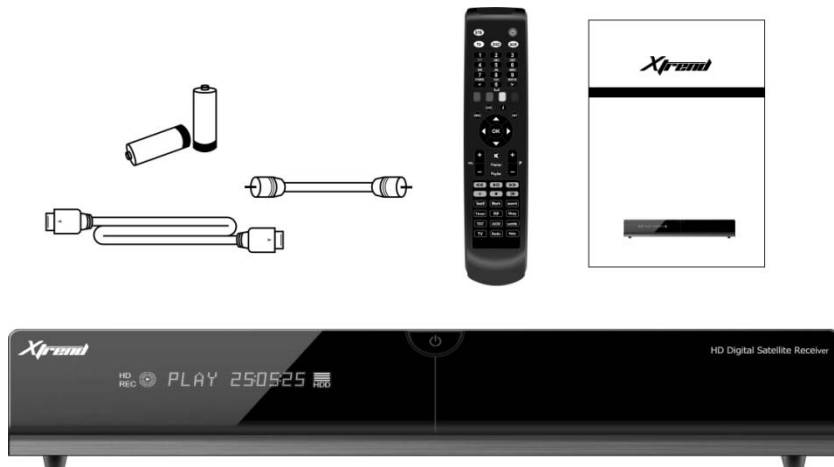
Please check all package contents before using your product.

• ET9000
• Remote Control
• Batteries
• HDMI cable
• Loop-through cable
• User Manual

(C) Product Descriptions

Front Panel
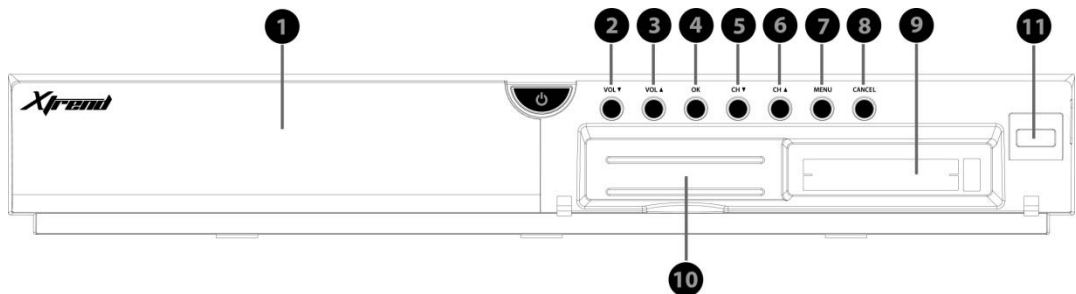
① Display : Displays the current menu information. 12 character dot matrix VFD
②~③VOL▲/ VOL▼: Volume control
④OK: Select
⑤~⑥CH▼/ CH▲: Switches channel
⑦Menu: Shows main menu
⑧Cancel: Cancel the menu
⑨CI Module Slot
⑩Smartcard slot
⑪USB Host: Connect a USB storage device

Rear Panel
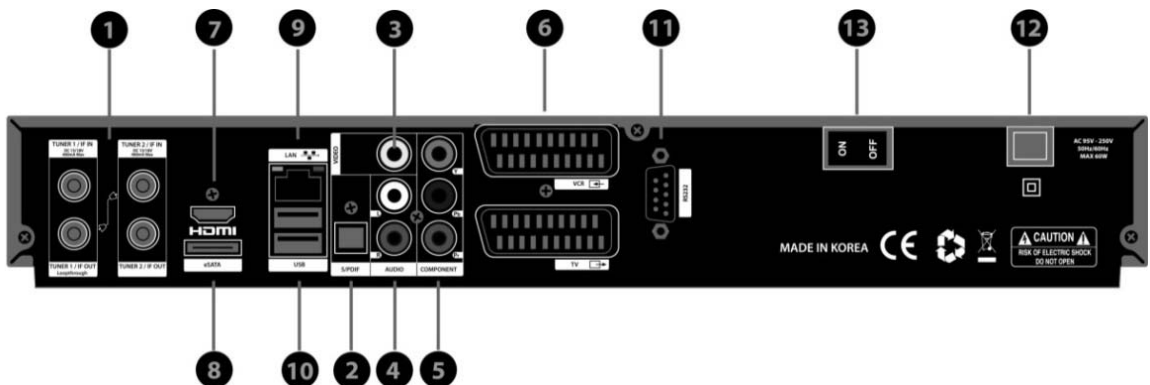
1. LNB 1 In / LNB 2 In
   Two Satellite cables can be connected.

2 S/PDIF
   Connects to a digital audio system using S/PDIF cable.

3 Video output
   Connects to TV using RCA cable.

4 Audio output
   Connects to TV using RCA cable.

5 Component (YPbPr)
   Connects to TV using a component cable

6 SCART
   Two SCART connectors are provided for TV and/or VCR using SCART cables.

7 HDMI
   Connects to TV using a HDMI cable for both audio and video signals.

8 e-SATA
   Connects the external HDD using e-SATA cable.

9 Ethernet
   Connects the PC or another set top box of ET.

10 USB
   Connects the USB memory stick or external HDD.

11 RS232
   RS232 data port is provided.

12 Power Inlet
   Connects the detachable power cord.

13 On/Off Switch
   Powers on/off.

(D) Conditional Access

Amongst the channels that are scanned via ET9000, some channels can be properly tuned in only with the corresponding Smartcard and/or CAM (Conditional Access Module). ET9000 provides two Smartcard Reader slots and two Conditional Interface slots and users need to purchase those Smartcards and CAMs that are required for viewing such subscription based services.

Insertion of Smartcard

1 Open the door on the right side.
2 Insert Smartcard as in the following instruction.
3 Make sure that the Smartcard remain inserted while viewing.

Insertion
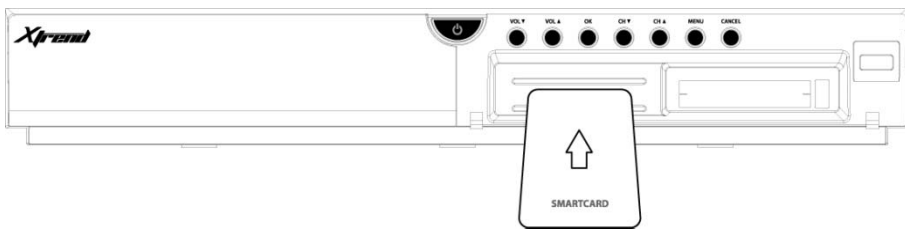
✧   Smartcard

Insertion of CAM (Conditional Access Module)

There are several Conditional Access Systems (CAS) that ET 9000 supports. To be able to watch channels that are encrypted in such CAS as Nagravision, NDS, Irdeto, Viaccess, etc, users need to purchase a CAM that is corresponding to each CAS, as well as Smartcard to decrypt those encrypted channels.

1   Insert a Smartcard into the CAM as in the below picture.

2   Once the Smartcard inserted into the CAM, insert the CAM into the CI slot.

3   Make sure that the CAM remain inserted while viewing.
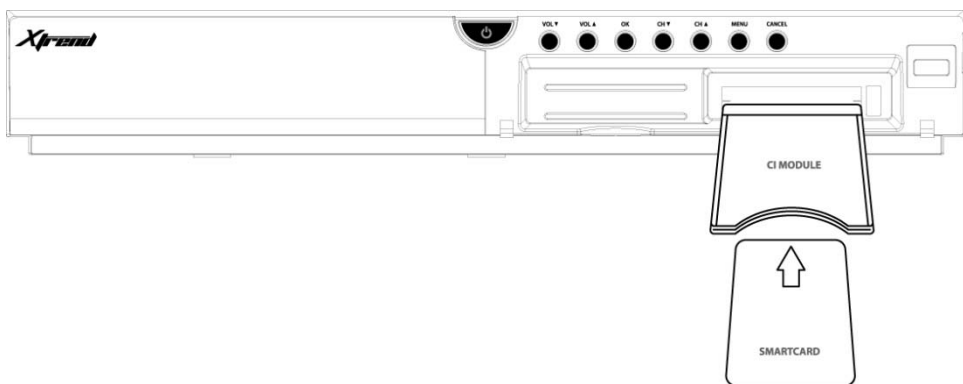
✧   CI-Module

✧   Smart Card

(E) Remote Control
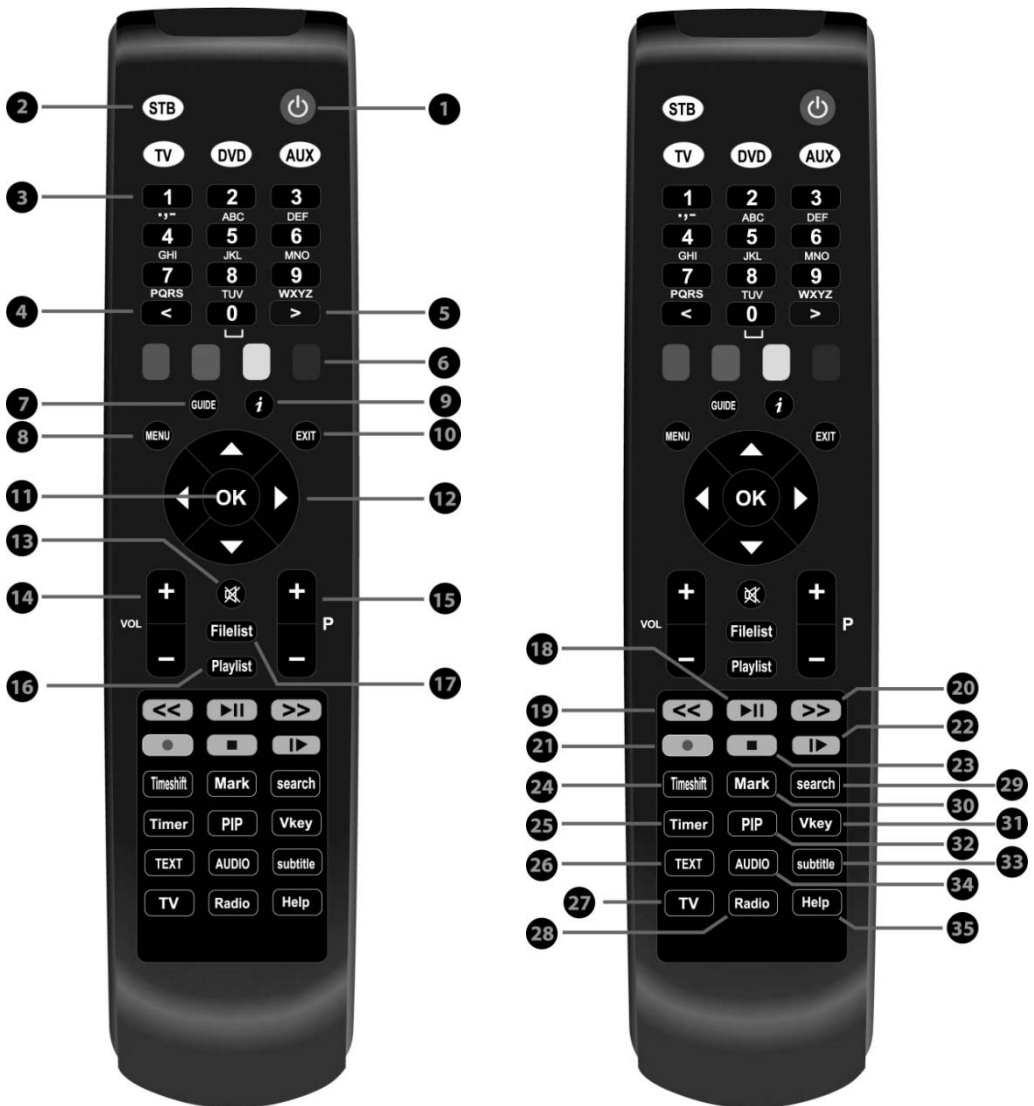
1. Power ⏻ : To switch the receiver in and out of stand-by mode.

2. STB, TV, DVD, AUX:

   STB: To switch the remote control to receiver mode.
   TV: To switch the remote control to Television mode.
   DVD: To switch the remote control to DVD mode to operate your DVD player.
   AUX: To switch the remote control to operate your audio system.
3. Numeric Keys: Enters a service number for service change or to specify values for menu options.
4. <: Navigates left on the menu options.
5. >: Navigates right on the menu options.

6. Color Keys : Each key is assigned a specific function that may be different in each menu.
• Red - mainly used for REC, Cancel, etc.
• Green - mainly user for OK
• Yellow

9

• Blue

7. GUIDE: Displays the Electronic Program Guide (EPG) information if provided.

8. MENU: Displays the main menu.

9. *i*: Displays the service information box. It is also used to display more information about a program.

10. EXIT: Exits the current menu option into the live mode, or switches one step back of the menu.

11. OK: Confirms the selected menu option.

12. Navigation Keys: Navigates up/down and left/right on the menu options.
                     Up/down keys are used to call up the channel list.

13. Mute ⊠ key: Mutes the audio.

NOTE : When Teletext is activated, ⊠ key is also used when toggling between the Teletext page and the live mode.

14. VOL +/-: Adjusts the audio volume.

15. P +/-: Navigates through the scanned channel list

16. Playlist: Displays channel list during viewing mode.

17. Filelist: Displays the list of recordings stored on the internal HDD if any.

18. ▶ll : Play and Pause

19. << : Fast Rewind
        Fast rewinds at up to 128 times faster than the normal speed
        (x2 / 4 / 8 / 16 / 32 / 64 / 128)

20. >>: Fast Forward

        Fast forward at up to 128 times faster than the normal speed
        (x2 / 4 / 8 / 16 / 32 / 64 / 128)

21. Recording : Displays the recording menu.

22. I▶ : Used to start slow motion playback. Subsequent presses change the playback speed.

23. Stop: Stops playing of a recording and goes to the live mode.

24. Timeshift: Used to start timeshift function.

25. Timer: Sets sleep timer

26. TEXT: Displays the teletext information of the current channel, if the channel provides teletext data.

27. TV: Displays the TV Channel list.

28. Radio: Displays the Radio channel list.

29. search: Used to start channel search.

30. Mark: Used to jump to next bookmark position.

31. Vkey: Changes video resolution.

32. PIP: Used to picture-in-picture mode.

33. subtitle: Displays the subtitle of the current channel if the channel provides   subtitle.

34.AUDIO:Displays the audio track option to choose (e.g. ACS, Stereo)

35. Help: Displays major important operation methods of ET9000. This provides users with a quick guide of using ET9000.

(F) Main Features

• 400 MHz MIPS Processor

• Linux Operating System

• Media Player

• Downloadable Plug-ins supported

• 2 x Smartcard Readers

• 2 x Common Interface

• MPEG2 / H.264 Hardware Decoding

• DVB-S2 Twin Tuners

• 12 character Dot Matrix VFD

• 128MB NAND Flash / 512MB DDR Memory

• External SATA supported

•10/100MB Ethernet Interface

•3 x USB 2.0

• RS232

• HDMI

• YPbPr

• Composite Video (RGB)

•2 x SCART

• SPDIF for digital bit stream out (optical)

• EPG supported

• Automatic & Manual Service Scan supported

• Multiple LNB control (DiSEqC) supported

• Skin change supported

• Stable SMPS integrated

(G) Technical Data

ET9000 Technical Specifications		
Front Panel	Display	12-digit Dot Matrix VFD display with status icons displaying channel names and program information
	Smart card slot	2
	Common Interface	2
	USB 2.0	1
	Key	Power, Channel up/down, Volume up/down, Cancel, OK
Rear Panel	Power Switch	1
	Sat-IF input/output	2 x F-type socket
	Connection TV/VCR	2 x Scart socket
	Video output(analogue)	3 x RCA socket (YPbPr)/1 x RCA
	Video/audio output (digital)	1 x HDMI
	Audio output (analogue)	2 x RCA
	Audio output (digital)	Standard optical (SPDIF)
	USB	2 x USB 2.0
	eSATA	1
	Ethernet	1
	RS 232	1
Power	Mains voltage	950-250/50-60 V/Hz
	Power consumption (Max./typ. operation/stand-by)	65/35/1 W
RF	RF range	950-2,150 MHz
	Modulation, FEC, de-multiplexer	DVB-S/DVB-S2 standard
Video	Video resolution	CCIR 601 (720 x 576 lines), 576p, 720p, 1080i
	Video decoding	MPEG-2, MPEG-4 compatible
	Input data rate	2-45 MSymb/s
	S/N	> 53 dB
Decoding	Decoding	AC 3, MPEG-4 (AAC-HE), MPEG-1, Layer 1, 2 and 3
	Sampling rate	32/4.1/48 kHz
	S/N	> 65 dB
LNB	LNB supply(horiz./vert.)	14/18; Max. 400 V/mA
	Control signal	22kHz ; ToneBurst ; DiSEqCTM1.0/1.1/1.2
General	Dimensions (W x H x D)	380 x 60 x 240 mm
	Weight (without HDD)	App. 3.0kg

NOTE: *i* means Remote control operation order.

I. Installation of ET 9000

This chapter will guide you through the whole installation process of ET9000. Please read each section carefully to make sure that the system run properly.

1. Connecting Satellite Cables

ET9000 is integrated with twin satellite tuners, and one of the first steps is to connect satellite cable(s) to ET9000 in order to gain optimal signal quality. You can either choose one of the following connection methods depending on the equipment you have.

A. Two Separate Satellite Cables

In case you have two separate satellite cables providing different broadcast signals, you can configure LNB 1 Input and LNB 2 Input independently.
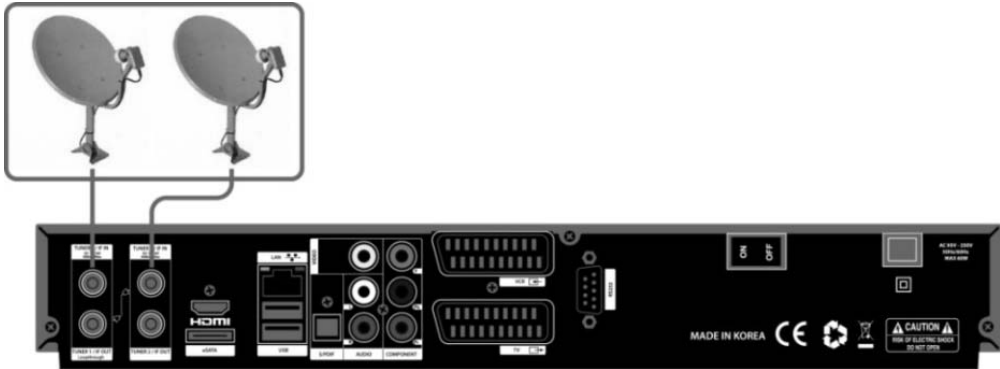
B. Internal Loop through

In case you have only one satellite cable, connect the cable to LNB 1 Input.
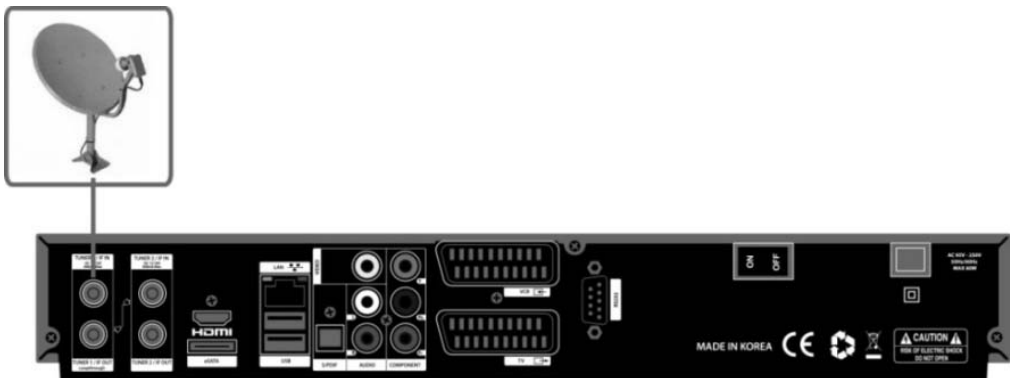
2. Connecting the TV (and VCR)

ET 9000 provides a variety of audio/video connection methods.

A. Connecting TV via HDMI cable

For the sake of the best picture quality, especially for digital TV, HDMI connection is recommended.
Most HDTVs have HDMI connectors to ensure the highest picture quality. In the rear panel of ET 9000
one HDMI connector is available for this purpose. Connect your TV to ET 9000 using a HDMI cable as follows.
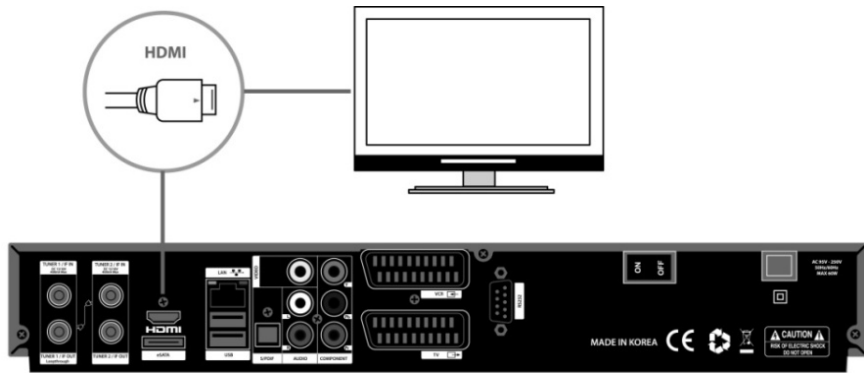
B. Connecting TV via Component Cable

The secondly recommend TV connection for digital TV is via component cable (YPbPr). However,
unlike the HDMI connection which delivers audio and video signal at the same time, YPbPr
connection requires additional audio connection either via RCA cable (Stereo L/R) or S/PDIF as follows.
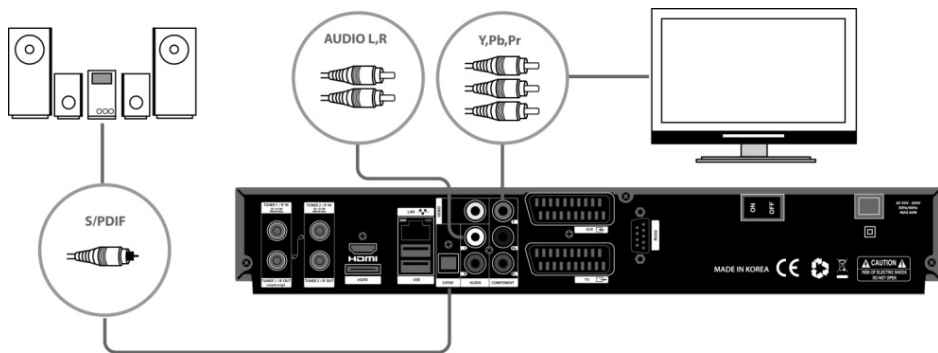
NOTE : When you have an A/V receiver with S/PDIF digital audio input, this connection is recommended to enjoy
the best audio quality, especially for the Dolby Digital sound.

C. Connecting TV via RCA (Video) Cable

ET 9000 provides Composite video connection as well. Composite cable has normally
three connectors
at the both end; one Video (Yellow) and two Audio (White / Red). Connect your TV to
ET 9000 as follows:
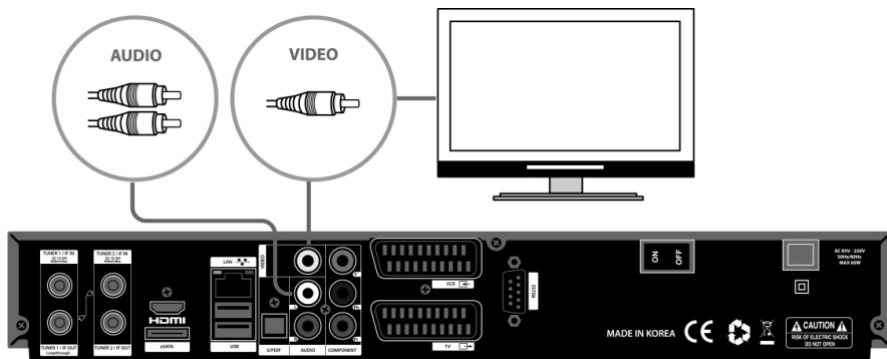
D. Connecting TV(and VCR) via SCART cables.

In case your TV is analogue TV, SCART cable is the most common method. Connect
your TV to ET 9000 using SCART cable as follows.
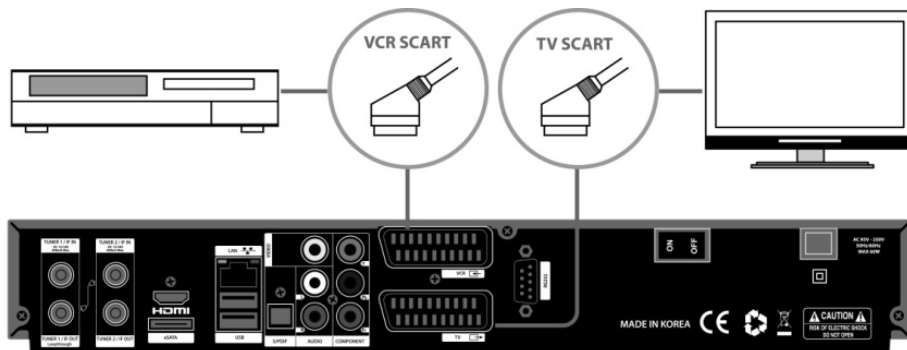
3. Connecting Power

A power cord is provided as one of the basic accessories of ET 9000.

1. Connect the power cord to the connector at the rear panel of ET 9000

2. Connect the power cord to a power outlet.

3. Turn on the power switch at the rear panel.

NOTE : AC input condition

• Nominal Voltage Range: 100 - 240 VAC
• Maximum Voltage Range: 90 - 264 VAC
• Nominal Frequency: 50 / 60 Hz
• Maximum Frequency Range: 47 - 63 Hz

NOTE: *i* means Remote control operation order.

4. Power ON/OFF

[*i*: Press Power key / Press MENU > Select Standby/Reset]
There are several ways to turn your ET9000 ON or OFF

● Complete Power Shutdown

There is a Power Switch in the rear panel and once it is ON, you do not need to turn it on or off each time. It takes a longer time to boot the system if you turned it off by this switch.

● Standby Mode

POWER key is normally used to turn the power of ET9000 on or off. If you press POWER, it instantly switches your ET9000 off or on. In this mode, the system is not completely shutdown and thus it takes a shorter time to turn it on and off.

● Deep Standby Mode [i : Menu > Standby/Restart > Deep Standby]

Deep Standby is used to reduce the standby power consumption. ET 9000 is designed to be energy efficient and to guarantee the power consumption to be under 1W in the deep standby mode.

II. First Time Installation (using Wizard)

When you turn on ET9000 for the first time after purchase, an installation wizard will begin step by step.

NOTE : OK key is used for confirmation and turns to the next step. Pressing EXIT key to return to the previous page.

Step 1. Language Selection

ET9000 provides various languages and here you can choose the main language for your ET 9000 . Use UP/DOWN key to scroll up and down to find the language you want.

Step 2. Configuring Satellite Connection

From now on you need to configure the satellite connection. You have two options:

        • Use wizard to set up basic features
        • Exit wizard

You are strongly recommended to use wizard as it is designed to guide you through the configuration process.

A. Configuring Tuner

Using LEFT/RIGHT key, you can choose one of the following Configuration Modes:

- Nothing connected
- Simple
- Loop through to: mode to make the LNB1 be internally connected to the LNB2 in.
- Equal to: mode to use the same configuration as that of Tuner B.
- Advanced: for an advanced user configuration.

If you choose Simple configuration mode, the following picture will appear.
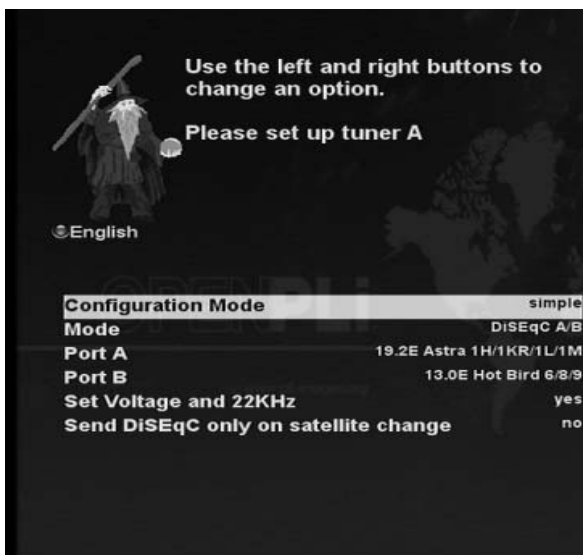
The five modes are available for the satellite cable connection between LNB and your ET 9000 as below :

• Single

This option is used to receive a single satellite with a single LNB. The cable from LNB is directly connected to ET 9000.
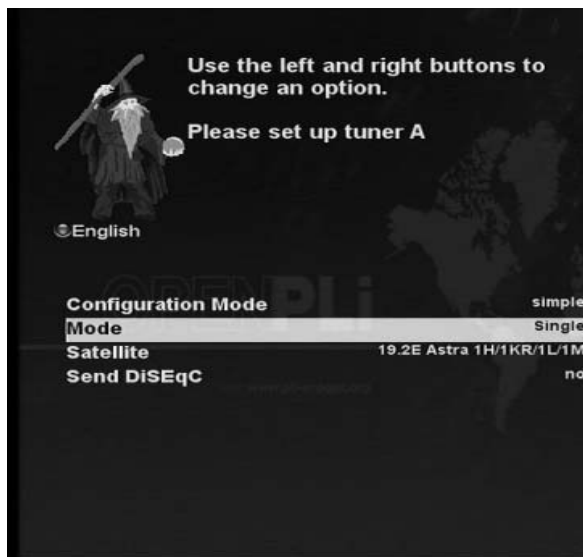
• Toneburst A/B

This option is used if you want to receive two satellites using a Toneburst switch.
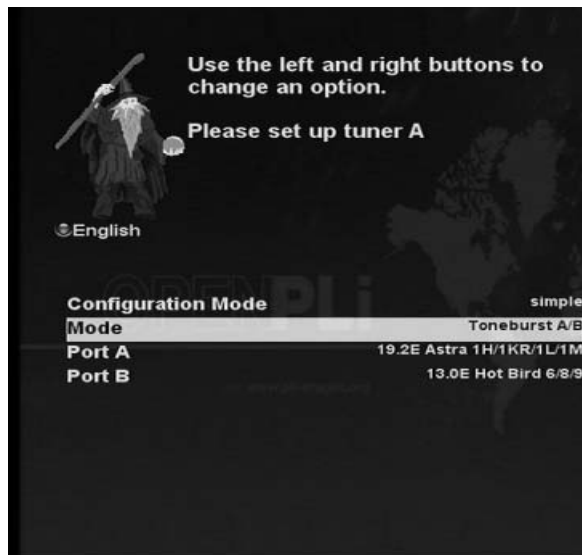
• DiSEqC A/B

This option allows you to configure two satellites in Port A and Port B.
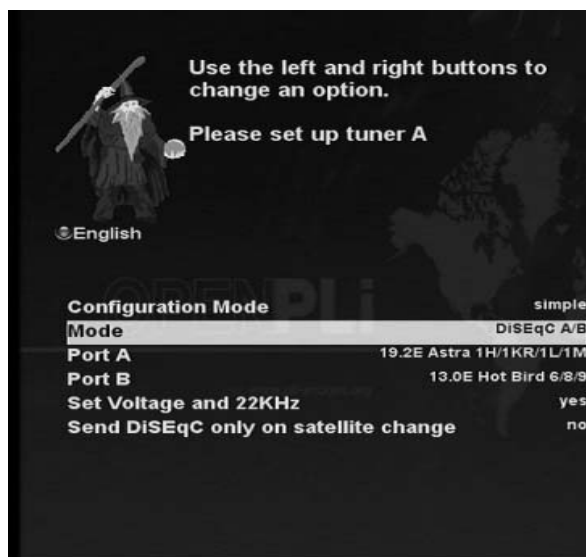
• DiSEqC A/B/C/D

This option allows you to configure four satellites in Port A, Port B, Port C and Port D.
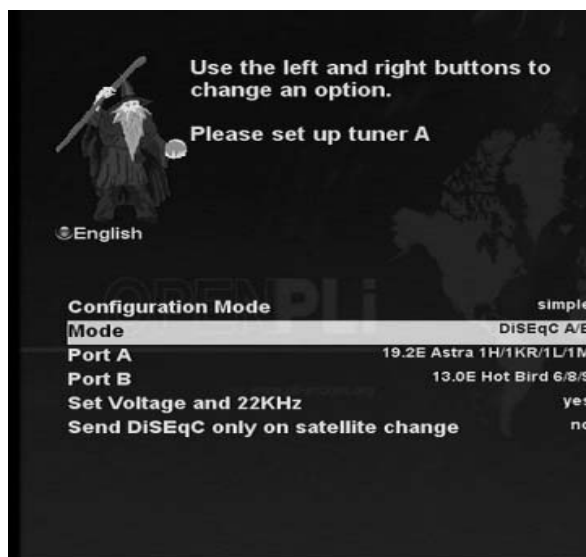
• Positioner

This option is used when you have a motorized satellite antenna.
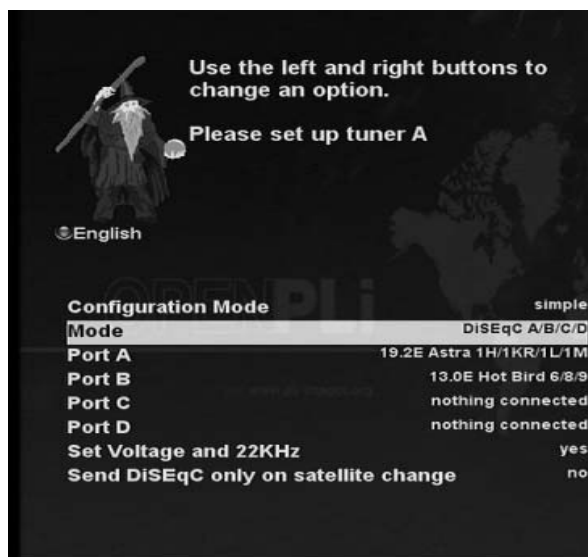
B. Configuring Tuner B

This step is for the configuration of Tuner B (LNB 2 Input), and the process is same as that of Tuner A. For further information please refer to the above "Configuring Tuner A" section.

Step 3. Installing Default Satellite List

Here you will be asked following questions :-

Do you want to install default sat list? (YES/NO)

And by pressing OK, then following message will appear.

Please choose the default service lists you want to install. (e.g. Astra, Hotbird etc)

Step 4. Parental Control Option

Here you can choose whether to enable the parental control option. If you press OK, you will be asked to enter PIN number

III. Basic Operations

1. Switching Channel

[i: Press ▲/▼ , CHANNEL **+/-** key / Press ◀/▶ to move to the next channels]

ET 9000 offers various channel zapping methods. You can switch the current channel by pressing

• UP/DOWN key

If you press UP or DOWN key, Channel Selection menu appears.

You can move up and down to select the channel that you want to tune into

• LEFT/RIGHT key

If you press LEFT or RIGHT key, the previous or subsequent channel of the current channel is tuned in.

• CHANNEL +/- key

If you press CHANNEL + or - key, this will call up the Channel Selection menu.

• Channel Number

Enter a channel number, and it will instantly tune into the channel.

NOTE : If channel change is not done, it is probably because the selected channel is encrypted and you do not have a proper smartcard.

2. Volume Control

[i: Press VOLUME +/- key]

You can adjust the audio volume by pressing VOLUME +/- key. You can also mute or unmute the audio

temporarily by pressing MUTE key (![mute icon])
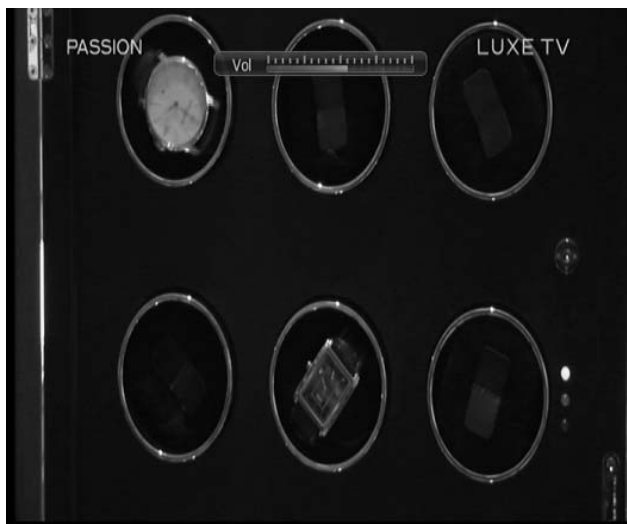
*Mute icon is on when the audio is muted.
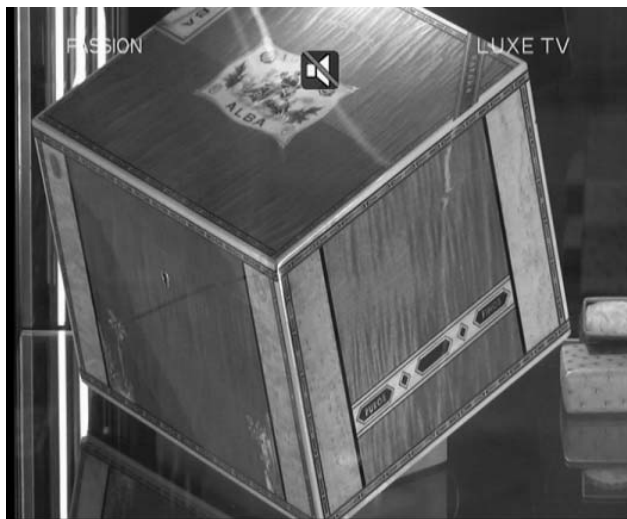
3. Selecting Audio Track

[i: Press AUDIO key]

You can check what audio tracks are available to choose by pressing AUDIO key.
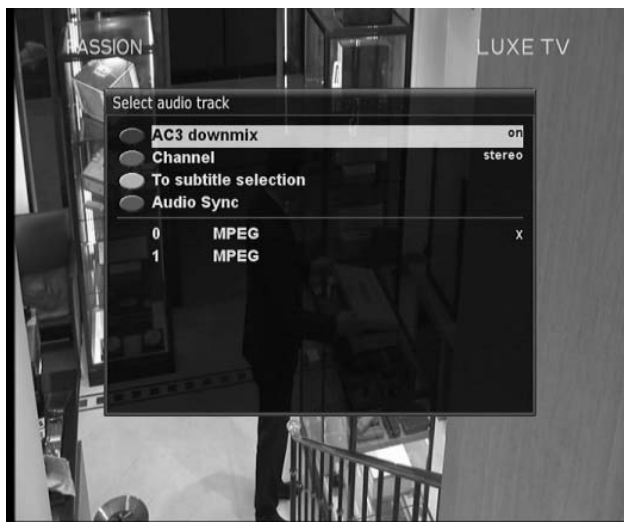
By using UP/DOWN key and Color key, you can select a different audio language or Stereo sound.

NOTE : Available options on this menu will differ depending on the service.

4. Subtitle

[i: Press SUBTITLE key or Press MENU > Subtitle]

You can view the subtitle of the current program if the program provides the subtitle. Press SUBT key, Subtitle selection menu appears as below.

Available subtitles, if any, will display. By using UP/DOWN navigate the list to select a subtitle that you want to play and press OK to activate it.

5. Teletext

[i: Press TEXT key]

You can call up Teletext information by pressing TEXT key. It will take some time to load all the

information.

You can navigate through the Teletext page by using UP/DOWN key to select a text page. Also, just simply enter the page number that you want to read.

• MUTE key

Once you activated Teletext, you can toggle between the live mode and the Teletext page by pressing

MUTE ( ) key instantly. In this case, loading of the Teletext page takes place instantly.

• VOLUME +

If you want to enlarge the page, press VOLUME + key.

• VOLUME -

If you want to reduce the page size, press VOLUME - key.

6. Program Information (Infobar)

[i: Press OK key]

Whenever you change the channel, infobar is always displayed for 5 seconds (default setting). Infobar is designed to provide you comprehensive information of the channel that you are currently watching.

• Press OK to call up infobar.

1   A : The tuner being used for the current channel.
2   SNR (Signal to Noise Ratio) : Signal Level
3   AGC (Automatic Gain Control) : Signal Strength
4   The name of the current channel
5   Remaining time of the current program
6   The current program
7   The next program
8   REC : Highlighted in red when recording is in progress.
9   CAS (■) : Encrypted program
10 Text : Highlighted when the program provides Teletext.
11 16:9 : Screen ratio
12 RED : to activate recording
13 GREEM : to call up Subservices, if available
14 YELLOW : to activate Timeshift
15 Extensions : to call up a menu for Sleep Timer and Graphical Multi EPG

7. Channel List (Channel Selection Menu)

[i: Press   ▲/▼ , CHANNEL+/- key]

If press UP/DOWN key, this will activate Channel Selection Menu as below.

Four types of the channel lists are available to help you manage your channel selection.

• RED displays the list of all scanned channels.

• GREEN displays the list of all satellites scanned.

Per each satellite, channels are arranged according to Services, Provider, and New.

• YELLOW displays the list of providers.

• BLUE displays the list of your favorite channels.

In order for you to add certain channels to this Favourites list,

1 Call up the Channel Selection list by Pressing UP or DOWN key.

2 Go to the list of All channel by pressing RED.

3 Select the channel that you want to add to the Favourites list.

4 Press MENU key on the selected channel and the following menu appears.
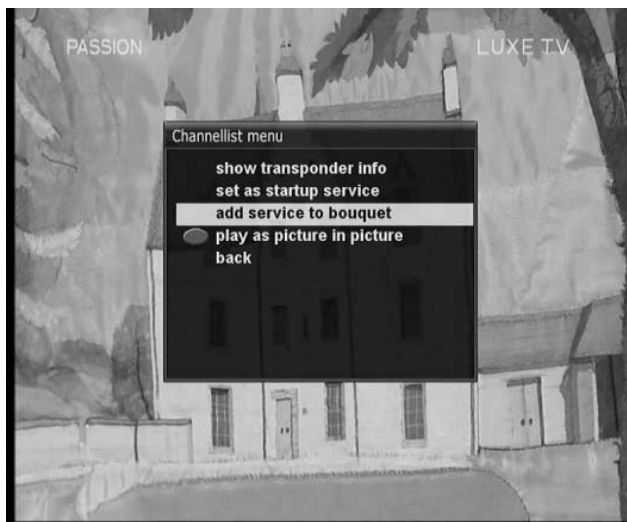
5   Choose "add service to favourites" and press OK.

6   Go to the Favourites list by pressing BLUE to confirm that the selected channel is correctly included
in the list.

8. Electronic Program Guide (Event View)

[i: Press EPG key]

The Electronic Program Guide (EPG) displays the program information of each channel, if provided, in time and date
order. You can view the detailed program information by pressing EPG key and the following
menu, Eventview appears.

Detailed information of the current channel will be displayed on EPG. On this menu, three options are provided.

• RED (Similar)

This option helps you find similar programs. If there are one or more programs that are similar to the current program,
EPG Selection window displays them as below.

• GREEN (Add Timer)

If you press GREEN key, Timer entry menu appears as below. This option is used to set up a new timer for recording or
zapping.

- Name

Displays the name of the selected program.

- Description

Displays a short description of the selected program.

- Timer Type

• Select Zap for channel tuning reservation.

• Select Record for recording reservation.

- Repeat Type

• Select Once for one time of zapping or recording reservation.

• Select Repeated for repeated zapping or recording reservation.

• Repeats - This option is given only when you selected "Repeated" in the Repeat Type.
You can reserve zapping or recording per Daily / Weekly / Mon-Fri / User-defined.

- Date

Displays the current date. This entry is on when you selected Once, in the Repeat Type. - Start Time

You can set the time to begin recording or zapping.

- End Time

You can set the time to end recording or zapping

- Channel

This entry allows you to change the channel. Press LEFT/RIGHT key to call up Channel Selection menu. You can select a different channel from this list using this option. To return to Timer entry menu,
press EXIT.

• YELLOW (Single EPG)

Press YELLOW while Eventview menu is on, to call up the program event schedules of the selected channel.

In this state, you can sort the list according to A-Z order or Time by pressing YELLOW.

NOTE : To add a timer for recording or zapping, press GREEN.

• BLUE (Multi EPG)

Press BLUE to activate EPG Selection Multi EPG window.

- You can move the previous or next program within the same channel by using YELLOW (Previous)/BLUE
(Next).

NOTE : Not all channels provide EPG information and thus in case of no EPG data, nothing will be displayed except for the channel name.

- You can switch to another channel by using UP/DOWN key.

- RED key is used to instantly tune into the selected channel.

- GREEN key is used to reserve recording or zapping of the selected program.

9. Timeshift

[i: Press YELLOW key]

For your information, Timeshift is an instant recording of the current program that you are watching. Press YELLOW or PAUSE key, it will instantly pause the audio and video of the program, and a small window displaying elapsing time information will appear on the left upper side of the screen as below.

*elapsing time information

In this state, Timeshifted recording is running until you press either PLAY or PAUSE again. You can restart viewing of the program.

If you want to stop Timeshifted recording and to return to the live mode, press STOP key.

You will be asked of Yes or No to stop Timeshift.

NOTE : What is different from normal recording is that Timeshifted recording is not meant to be stored on HDD. If you stop Timeshift, you cannot replay the Timeshifted recording.

10. Recording

ET 9000　is a Personal Video Recorder with two integrated DVB-S2 tuners. You can record multiple programs at the

same time. There are two ways to operate and manage recording.

1   Instant Recording

[i: Press RED or REC key]

Press RED or REC key to start the recording of the current program.

Five recording options are given.

- Add recording (stop after current event)

This option is used when you want to end recording when the current program ends.

- Add recording (enter recording duration)

This option is used when you want to manually set the length of recording by entering a certain number as below:

- Add recording (enter recording end time)

This option is used when you want to define a certain date and time when the recording is to stop.
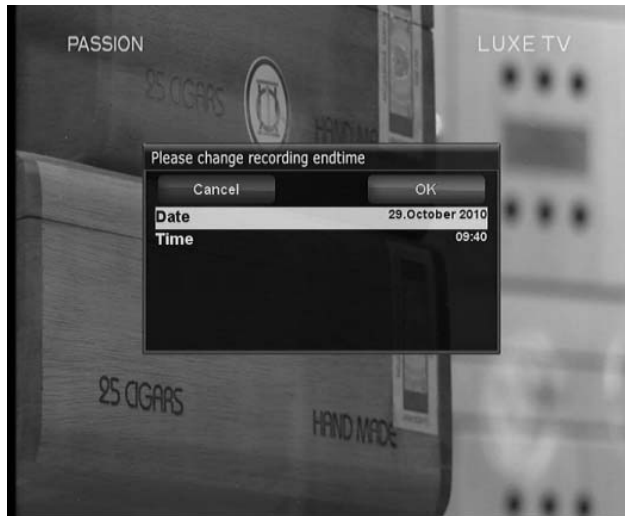
- Add recording (indefinitely)

This option is used when you want to keep recording running without a specific end time. Recording will continue unless you stop it.

- Don't record

This option is used to exit from this menu without recording.

2   Recording by Timer

[i: Press MENU key > Select Timer]

You can manage recording process using Timer List menu. Press MENU and select Timer on the menu.

In this menu, color keys are assigned for each different function.

- RED (Delete)

This option is used to delete a timer.

- GREEN (Add)

This option is used to add a timer.

- YELLOW (Disable)

This option is used to disable the timer and X mark will appear.
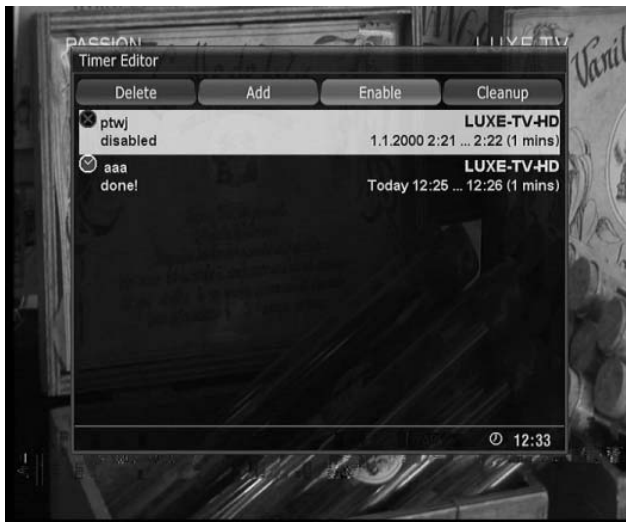
NOTE : if you want to enable the disabled timer, press YELLOW again.

- BLUE (Cleanup)

This option is used to remove those finished timers from the Timer List.

NOTE : Make sure that the HDD on your ET 9000   has enough free space available for recording. If the free space on the HDD is not sufficient, recording might stop before the defined end time.

- Stop Recording [i : Press RED or REC key > Select "Stop Recording"]

If you want to stop recording, press RED or REC again while recording is running. Select Stop Recording.
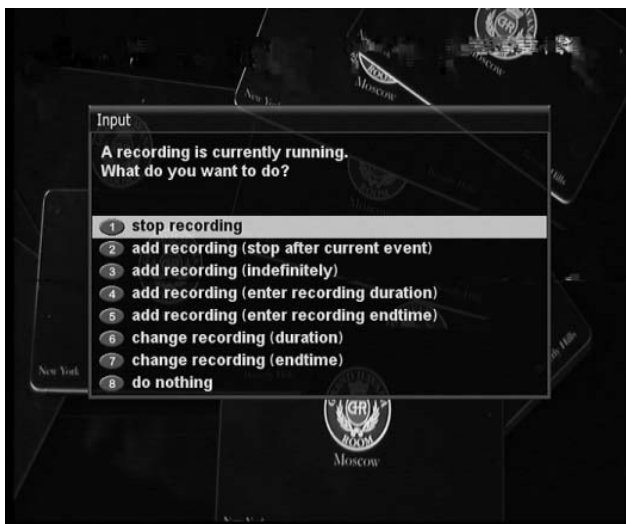
11. Recording Play

[¡: Press File list key]

You can view recorded files on the Recorded files menu. Press File list to activate this menu.

Select the file that you want to play. It will instantly replay the file and display the recording infobar.

This infobar gives you the following information of the recording.

1 Title of the recording
2 Total duration of recording
3 Remaining time
4 Progressive bar
5 Elapsed time

12. Managing Recording Files

[i: Press File list key > Press MENU key]

If you want to delete a recording file, press MENU key while Recorded file menu is on.

Select "Delete" and confirm OK to delete.

Other than "delete", in this menu, you have options in sorting and listing of the recording files.

- Sort by date
- List style default
- List style compact with description
- List style compact
- List style single line
- Hide extended description.

13. Media Player

[i: MENU > Media Player]

ET 9000 is truly a multimedia receiver capable of playing media contents. Using Media Player, you can enjoy

Music, Photo and Video contents stored on the internal HDD and/or a USB memory stick plugged into ET 9000 .

If you play Media Player, the following player will appear.

1. Go into any directory of the HDD or plugged USB.

2. Select a file to play and press OK

   * Supported formats are mainly JPG, MP3, AVI, etc.

3. In the same way, you can play the recording files stored on the HDD.

14. Plug-ins

[i: MENU > Plugins]

ET 9000 is integrated with standard 10/100Mbps Ethernet with RJ 45 connector. You are recommended to use this network capability of ET 9000 to fully enjoy the system. If your ET 9000 's network connection is established, you can directly download plug-ins from a designated website of ET 9000 .

1   Press MENU and select Plugins menu to active Plugin browser.

2   Press GREEN key to download a list of plug-ins available.

3   Once the download is done, a list of plug-ins will be displayed.

4   Select a plug-in to download.

5   You can check if the download is done properly on the Plugin browser

From this site, you can check available plug-ins to download as below.

15. Sleep Timer

[i: MENU > Standby/ Restart > Sleep Timer]

You can set a specific time when your ET 9000 goes into Standby mode or Deep Standby mode, using this menu. Three color keys are used to set up this sleep timer.

1   RED

This option is used to enable or disable Sleep Timer.

2   GREEN

This option is used to choose between Standby mode and Deep Standby mode.

3   YELLOW

This option is used to choose whether to be asked of confirmation before system shutdown.
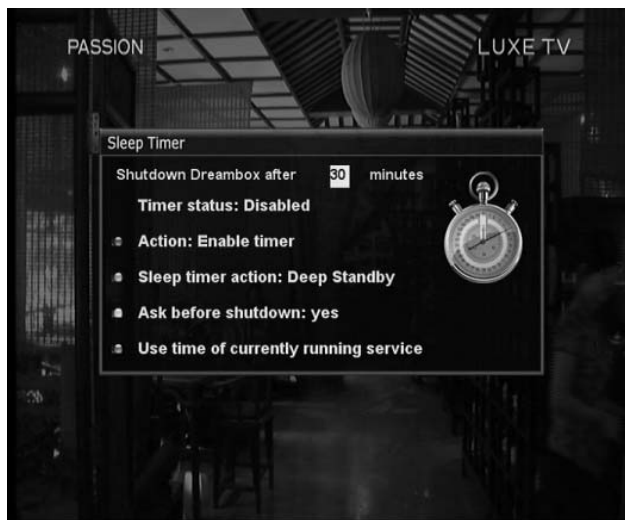
IV. System Configuration

ET 9000 is a very sophisticated device designed to allow users a variety of system setting options as detailed as possible. You can fine-tune your ET 9000 to be your OWN system to fit your taste. This chapter will guide you through the entire menu of system configuration.

Prior to System Configuration, please take a notice on the menu structure of ET 9000 first.

1. Main Menu

[i: Press MENU]

The main menu of ET 9000 consists of the following sub menus.

1   Subtitles

Displays Subtitle selection menu of the current program.

2   Media player

Activate Media player of ET 9000 . For more information, please refer to the page 38

3   VCR scart

Switches to VCR scart connection.

NOTE : If your ET 9000 is not connected to VCR scart, the screen will go black. In this state, just press EXIT to return to the previous state.

4   Information

Has two sub menus for Service / About. Service menu provides the detailed information of the current

channel. About menu provides the detailed information of the H/W and S/W system of your ET 9000 . For more

information, please refer to the 2-6. Checking HW/ & S/W information.

5   Plugins

Activates Plugin browser of ET 9000 . Using this browser, you can log onto the designated website and you can download a variety of new plug-ins. For more information, please refer to the page 39.

6   Setup

Provides all of the system settings. For more information, please refer to the page 44~65.

7   Standby / Restart

Provides options for power on/off and sleep timer. For more information, please refer to the page 14

2. System Setup

[i: Press MENU> Select Setup]

The Setup menu consists of the following sub-menus.

1 Service Searching

2 System

3 Common Interface

4 Parental Control

5 Default settings

6 Factory reset

2-1. Service Searching

[i: Press MENU> Setup > Service Searching]

Here you set up the tuners of your ET 9000 and run channel scanning automatically or manually.

A. Tuner Configuration

[i: MENU > Setup > Service Searching > Tuner Configuration]

If you run the First Time Installation process (refer to the II. First Time Installation), the Tuner A and B are already

configured. You can check the information of each Tuner and which satellites are scanned by each Tuner

as follows.

B. Loading Default Service Lists

[i: MENU > Setup > Service Searching > Default Service List]

In case there are service lists available for certain satellites, for example, Astra or Hotbird, you can install the lists in the channel list of your ET 9000 .

If default service lists are not available, you can run the service scan automatically or manually to add TV and radio channels to the channel list of your ET 9000 .

C. Automatic Scan of Services

[i: MENU > Setup > Service Searching > Automatic Scan]

The easiest way to scan services is to use Automatic Scan. In the Automatic Scan menu, there are two options to choose from as below.

• Clear Before Scan

YES is used when you want to delete the existing channel list before you start the automatic scan. If you want to keep the existing list, select NO.

• Scan Tuner A (DVB-S2) (or together with Tuner B)

If Tuner A and B are configured for the same satellite(s), only Tuner A will appear. If not, both Tuner A and B will appear, asking you which one you want to scan.

Press OK to activate the automatic scan. This will take some minutes. As the scan proceeds, you will see the progressive bar and the newly found services underneath.

D. Manual Scan of Services

[i: MENU > Setup > Service Searching > Manual Scan]

If you know well enough to configure each exact setting required for manual search of services, you can do manual scan as well. There are many parameter values that you need to decide as below.

For DVB-S2 (High Definition)
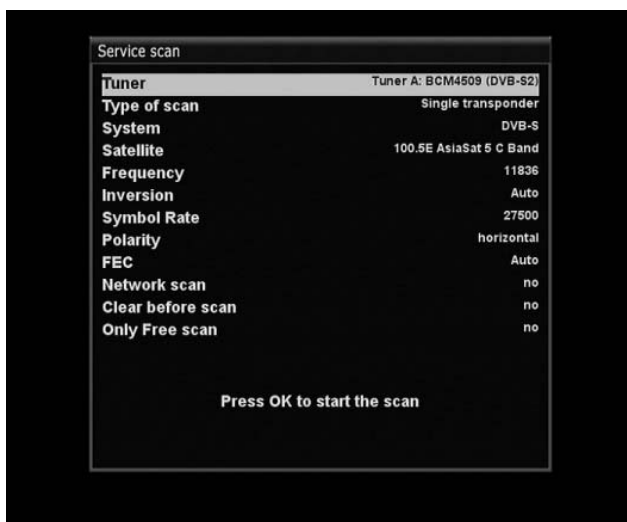
For DVB-S (Standard Definition)
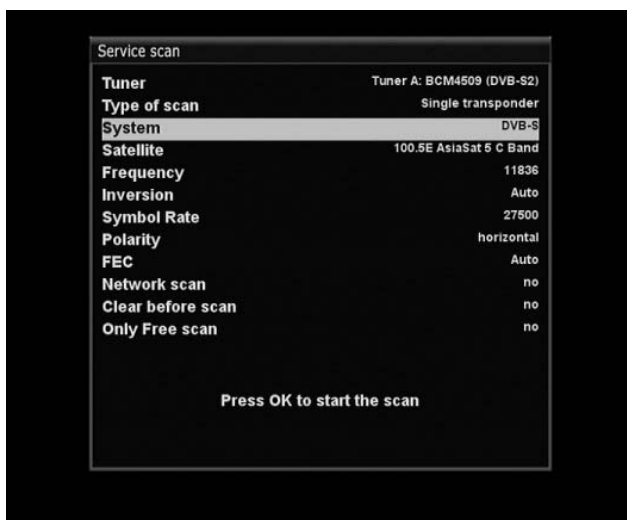
Amongst other things, the below parameters are what you need to decide prior to performing manual scan.

1   Tuner

You need to decide which tuner you want to use for manual scan.

2   System

Here you have two options between DVB-S (SD) and DVB-S2 (HD).

3   Frequency

You need to enter the exact frequency of the transponder that you want to scan.

4   Symbol Rate

You need to enter the exact symbol rate of the transponder that you want to scan

5   Polarity

Here, you have options for Horizontal, Vertical, Circular Left and Circular Right. You need to know the polarity of the transponder that you want to scan.

6   FEC (Forward Error Correction)

You need to enter the exact FEC value of the transponder that you want to scan

7   Modulation

Here you have two options for QPSK (SD) and 8PSK (HD).

 8   Network Scan

Here you have two options for YES and NO. NO is used to scan the transponder (TP) based on the data that your ET 9000 currently has. YES is used to scan the TP not just based on the existing TP data but also using new TP data, if there is TP data newly transported from the TP. Naturally, YES option takes longer while it may results in a better scan result.

9   Clear Before Scan

YES is used when you want to delete the existing channel list before you start the automatic scan. If you want to keep the existing list, select NO.

10 Only Free Scan

Here you have two options for NO and YES. If you want to scan only Free to Air channels without any encryption, select YES. Otherwise, select NO to scan all FTA and CAS channels.

Press OK to activate the manual scan. This will take some minutes. As the scan proceeds, you will see the progressive bar and the newly found services underneath.
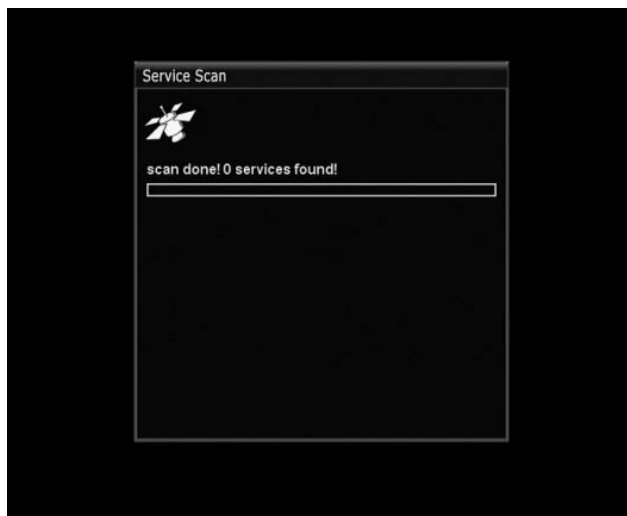
2-2. System Configuration

[i: Press MENU> Setup > System]

Here you can find most of the necessary settings that you might need to optimize your ET 9000 in the way you

like it. Please read the followings carefully.

A. A/V Settings

[i: MENU > Setup > System > A/V Settings]

Here you will find options necessary to set up the audio and video configuration of your ET 9000.

NOTE : RED is for cancel and GREEN is OK. OK key of RCU is not working in this mode.

Amongst the parameters given in this menu, the following ones are generally what you need to decide for the audio and video.

1   Video output

Here you need to decide which video output you want to use between your TV and ET 9000 . The available options are as below.

• CVBS

• S-Video

• RGB

2   Mode

You need to decide which resolution to use according to the video output above and your TV amongst the following options.

	Scart
Resolution	PAL NTSC Multi

3   AC3 Default

YES is used when you want to set Dolby Digital audio as the default audio. If the program you are watching has AC3 and Stereo, AC3 is used.

On the other hand, NO is used when you do not want to set Dolby Digital audio as the default audio. If the program you are watching has AC3 and Stereo audio, Stereo audio is used.

4   AC3 Downmix

YES is used when you want to set the audio output to be down-mixed from AC3 to Stereo. NO is used

when you do not want to set the audio output to be down-mixed from AC3 to Stereo. If NO is on and you are using only HDMI or SCART connection, there can be no audio sometimes, if the program that you are watching provides AC3 only. This option is recommended when you are using S/PDIF connection.

B. Language Selection

[i: MENU > Setup > System > Language]

A variety of languages are available for the OSD of ET 9000 .
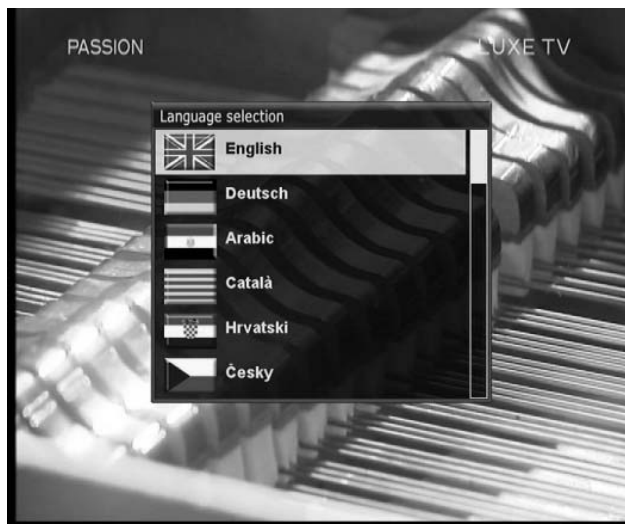
C. Customization

[i: MENU > Setup > System > Customize]

In this menu you will find various customization options and this menu can be displayed in three different

formats: Simple, Intermediate, and Expert.
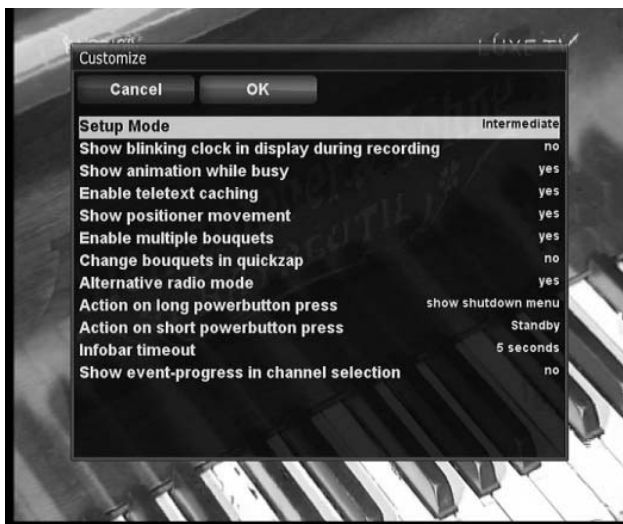
NOTE : RED is for cancel and GREEN is OK. OK key of RCU is not working in this mode.

Amongst the options given in this menu, the following ones are generally what you may need to know.

1   Recording always have priority

YES option is used to set the recording to have a priority over any existing timer. If there occurs a

conflict between a timer and a recording in progress, the recording has a priority over the timer. If you set this option at NO, you will be asked whether to switch to the service to record or not.

2   Margin before record (minutes)

If you enter a number here, for example, 5, the recording will begin 5 minutes before the defined time. If it is "0", it means that the recording starts exactly at the defined time. This option comes in handy, just in case that a program starts earlier than the original schedule.

3   Margin after record

If you enter a number here, for example, 5, the recording will stop 5 minutes after the defined time. If it is "0", it means that the recording stops exactly at the defined time. This option comes in handy, just in case that a program ends later than the original schedule.

4   Show Message when Recording starts

If you set this option of YES, a message saying that a record has started appears as below.

5   Enable multiple bouquets

If you set this option at YES, it will enable multiple bouquets.

D. Selecting Time Zone

[i: MENU > Setup > System > Timezone]

You can set your time zone in this menu.

Using LEFT/RIGHT key, you can find a time zone that you want to use for your ET 9000 . After selecting a

time zone, press GREEN to confirm and save the changed setting.

E. Hard Disk Set Up

[i: MENU > Setup > System > Harddisk > Harddisk setup]

You can set the duration of time after which HDD is to be put into standby mode.
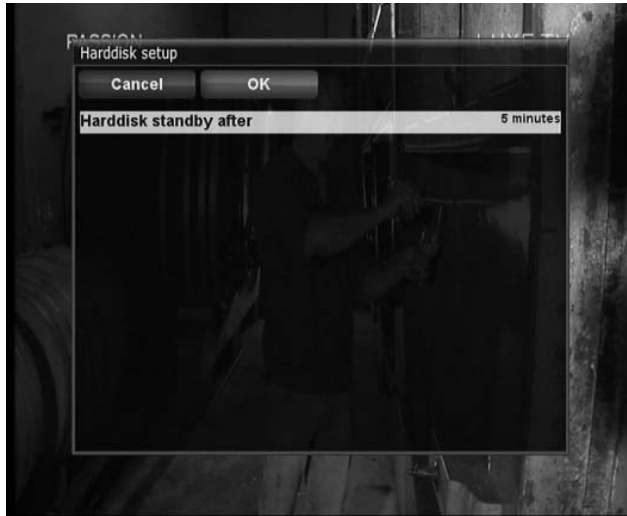
Here, you can choose from No standby

10 or 30 seconds

1, 2, 5,10, 20, 30 minutes

1, 2, 4 hours.

Once you set this option, press GREEN key to confirm the change.

F. Front Display Setup

[i: MENU > Setup > System > Display Setup]

There is a 16 character dot matrix VFD display on the front panel of ET 9000 . This display shows various information like the current menu, channel, HD icon, and so on. You can adjust the brightness of this display using this menu.
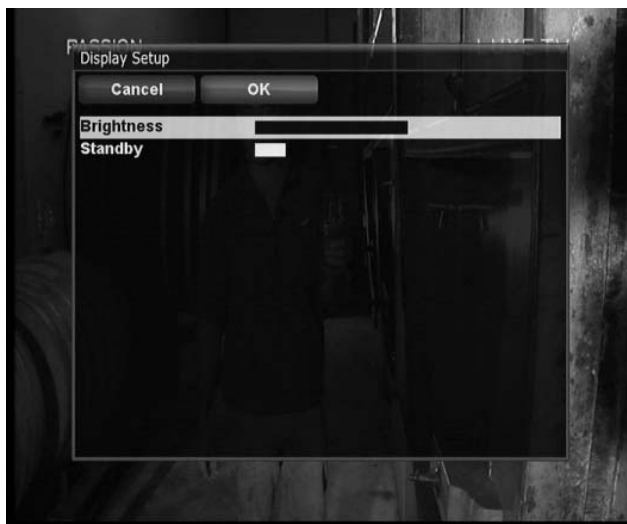
- **Brightness**

You can change the brightness of the front VFD display using LEFT/RIGHT key when the set is in use.

- **Standby**

You can change the brightness of the front VFD display using LEFT/RIGHT key when the set is in standby mode.

Once you completed this option, press GREEN key to confirm the change.

G. Network Setup

[i: MENU > Setup > System > Network]

ET 9000 is integrated with standard 10/100Mbps Ethernet with RJ 45 connector standard. You are recommended to use this network capability of ET 9000   to fully enjoy the system. You can set up the network settings through this Network Configuration menu.
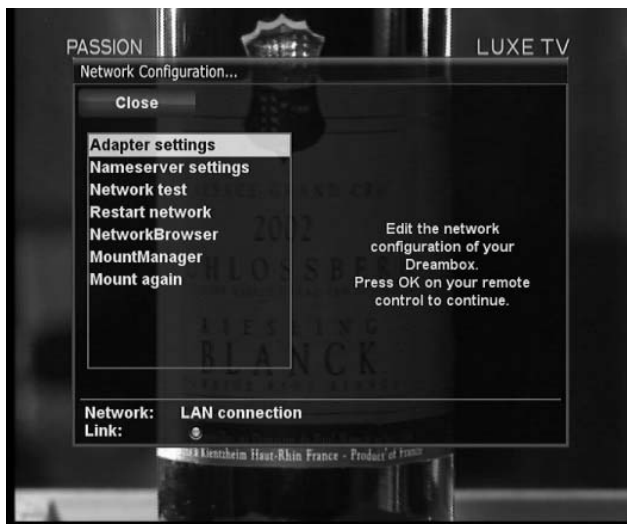
In the Network Configuration menu, you will see five sub menus as follows:

1   Adapter settings

Through this menu, you can set the basic Ethernet configuration.

User Interface

YES is used to activate the Ethernet. If you set this option at NO, the Ethernet will not work.

Use DHCP

YES is used to use DHCP (Dynamic Host Configuration Protocol). If you set this option at YES, it   will automatically detect the correct IP address. NO is used when you want to use a certain fixed IP address. In this case, you need to enter correct addresses in each field.

2　Nameserver settings

This option is required if you selected not to use DHCP. You need to enter the address of the Nameserver.

3　Network test

When you are not sure whether the network configuration has been done correctly or not, you can run this test.
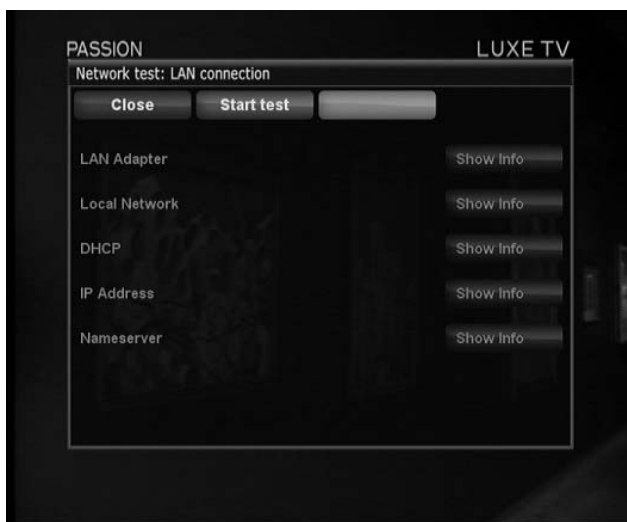
4   Restart Network

This option is used when you want to reboot the Ethernet of your ET 9000 .

H. Skin

[i: MENU > Setup > System > Skin]

ET 9000   is a Linux based set top box and there are a lot of Skins available for Linux set top box. Using this menu, you can use a different Skin other than the default one.

NOTE : It takes some minutes since the change of Skin requires a complete system shutdown. Please wait patiently until the system reboots with a newly selected Skin.

2-3. Checking CAM

[i: MENU > Setup > Common Interface]

To be able to watch CAS channels, you need to have a proper CAM and a Smartcard. ET 9000 is integrated with two Common Interface slots. If you have two CAM modules and keep them inserted in your ET 9000, it will reduce the trouble of changing CAM. Please refer to the page 8.

If you have inserted one or two CAMs, you can check the information of the inserted CAMs, through this menu as below:

2-4. Parental Control

[i: MENU > Setup > Parental Control]

If you want to prevent certain channels from being accessed by others, you can do so using this menu.

1   Go to Parental Control menu by pressing MENU > Setup > Parental Control.

2   Set the parental control option at YES using LEFT/RIGHT key. The menu will change as below.

Protect setup

If you set this option at YES, you will be asked to enter PIN code when you enter this Parental
setup menu.

Change setup pin

If you want to change the existing PIN code for Parental setup, you can do so using this menu.

You need to enter a new PIN code twice.

Protect services

You need to set this option at YES, if you want to lock certain channels with PIN code.

- Parental control type

This option will be activated only if you set Protect services at YES. Here there are two options:

- White list : This option is used to block all channels except those channels in the parental control list.
- Black list : This option is used to block only those channels included in the parental control list.

●   Change service pin

Here you can define a PIN code required to change services to be included in the parental control list.

NOTE: PIN code here is used for Change service and thus you are recommended to use a PIN code different from that used for Protect services.

●   Edit service list

Here you can add services that you want to lock with PIN code. Services will be arranged in the alphabetical order and you can select an alphabet to enter into the list where you can find the channel that you want to lock.
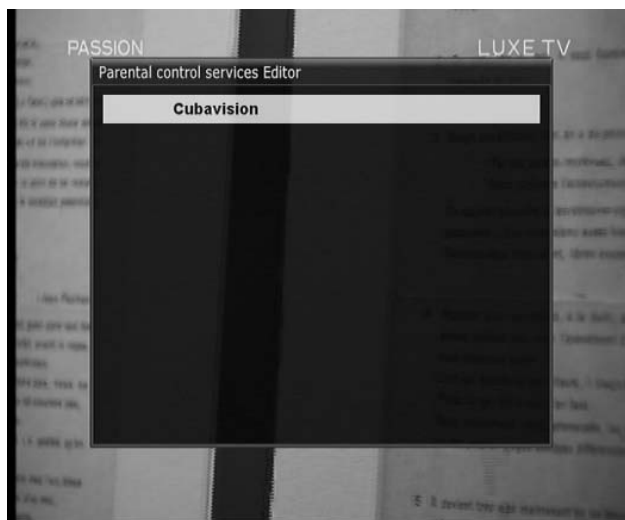
Here, T is selected and TV5 is locked in the list as an example.

Next time when you or anyone else want to tune into this service, the menu asking for PIN code will appear instantly as

below.

NOTE : It is very important not to lose this PIN code.

2-5. Factory Reset

[i: MENU > Setup > Factory Reset]

If you want to erase all installed service list as well as all configurations, run the Factory Reset process. Select YES in the below menu to run the factory reset.

Upon the completion of factory reset process, your ET 9000 will reboot automatically and start the First Time Installation process.

NOTE : If you do this factory reset, all of your configuration data including bouquets, service lists, satellite parameters, and so on will be erased.

2-6. Checking H/W & S/W Information

[i: MENU > Information]

If you want to check the H/W or S/W system of your ET 9000, this is the menu that you need to use. Also, here you can check very detailed information of a specific service.

A. Service Information

[i: MENU > Information > Service]

In this menu, you can see all the parameter data of the current channel. The service information is well arranged in four sections as below:

1   Service info

2   PIDs

3   Transponder

4   Tuner Status

B. System Information

[i: MENU > Information > About]

This menu is for you to check the current system of your ET 9000. You can see the following information:

1   S/W version

2   Detected NIMs for both Tuner A & B

3   Detected HDD

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VI. Menu Structure

Main menu				
1st level	2nd level	3rd level	4th level	5th level
Subtitles	Subtitle selection Window			
Media player	Media Player			
Timer	Timer List			
VCR scart	Switch to VCR scart			
Information	Service	Service info		
	About	About		
Plugins	Plugin browser			
Setup	Service Searching	Tuner Configuration	Tuner A	
			Tuner B	
		Default Service lists		
		Automatic Scan		
		Manual Scan	Service scan Window	
		Language	Service scan Window	
		Customize	Language Selection Window	
		Timezone	Customize Window	
		Harddisk	Timezone Window	
			Harddisk setup	Harddisk setup
			Initialization	Initialization
			Filesystem Check	Filesystem Check
		A/V Settings	A/V Settings Window	
		Display Setup	Display Setup Window	
		Network	Keyboard Setup Window	
		Keyboard		
		Skin		
	Common Interface			
	Parental control	Parental control setup		
	Default control			
	Factory reset			
Standby/Restart	Sleep Timer			
	Standby			
	Restart			
	Deep Standby			

VII. Troubleshooting

Before you contact your local service center, please read the following tips carefully.

NOTE : if the antenna is covered with snow or the RF signal is weakened by heavy rain, the quality of audio and video may become temporarily poor. If you experience poor audio and video quality due to bad weather conditions, please check if your satellite antenna is oriented in the original direction. And see if it is covered by snow. Also, check if your LNB is not damaged.

1. No video on TV

• Check first if the product is powered on and in operation mode.

• Check if the video cable is properly connected between TV and ET 9000.

• Check if the satellite cable is properly connected to ET 9000.

• Check if the selected channel is currently on air.

• Check if the selected channel is encrypted and if you have a corresponding access smartcard.

2. Problem with audio quality

• Check if your audio cable is connected correctly.

• Check the volume level of your TV and the product.

• Check if the product or TV is on mute.

• Check the audio option if it is correctly selected for the program that you are currently watching.

3. Remote control problem

• Check if the batteries are correctly mounted.

• If your remote control has been used for long, change the batteries.

• Point the remote control directly toward the product.

• Make sure that nothing blocks the front panel display.

4. Channel search problem

• Make sure if tuner configurations are all correctly made.

• Check if the antenna cable(s) are properly connected.

5. Encrypted channel viewing problem

• Check if you have the appropriate Smartcard and/or CAM.

• Take the Smartcard and CAM out and re-insert them to re-initialize.

• Check if your system correctly detects the smartcard and CAM.

6. Recording problem

• Check if the HDD has a sufficient space for recording.

• Check if there is a conflict between recording timer.

7. Noise

• When HDD is running, you may hear a noise.

VIII. Universal Remote Control

The universal remote control allows you to operate the most important functions such as power on/off and volume control on your television, audio-video receiver, or DVD player. To be able to control the device, you must adapt the remote control to the device first.

I. Setup method

1. Initial Settings

1.1 Device Default: STB

1.2 Remote Control Default Setting Code

1) STB: 001

2) TV: 001

3) DVD: 001

4) AUX: 001

2. Settings method

2.1 3-DIGIT Setup Method

1) Turn on the device that you want to setup (for example turn on TV)

2) Press and hold [DEVICE] + [OK] button more than 2 seconds until the device LED blinks.

If there is no key input for 20secnds, the Remote Control will exit the setting mode and return to normal mode.

3) Enter the 3-Digit setup code from the Brand list. (The LED will blink by Key input)

When the 3-Digit setup code is input, the designated Power Code will be output. (LED blinks)

Verify whether it operated properly by pressing the [Power] button.(If the device does not operate properly, press next 3-Digit setup code)

In case the 3-Digit setup code is not valid, the LED will off for 1.5seconds and revert to on status for input mode.

It does not answer against key input other than [OK], [0~9], [CH+], [CH-], [Power] key.

4) Press [OK] button to save and exit the setup model. (LED will blink 2 times and off)

2.2 Auto Search (CH+, CH-) Setup method

1) Turn on the device that you want to setup (for example turn on TV)

2) Press and hold [DEVICE] + [OK] button more than 2 seconds until the device LED blinks.

If there is no key input for 20secnds, the Remote Control will exit the setting mode and return to normal mode.

3) Press [CH+] or [CH-] button. By pressing the button, the power code of next

setting number will be output. (LED blinks)

It does not answer against key input other than [OK], [0~9], [CH+], [CH-], [Power] key.

4) Press [OK] button to save and exit the setup model. (LED will blink 2 times and off)

3. Setup Code Read Out (Number Call)

1) Press and hold [DEVICE] + [OK] button more than 2 seconds until the device LED blinks.

If there is no key input for 20secnds, the Remote Control will exit the setting mode and return to normal mode.

2) Press [INFO] *i* button. LED will blink the number of times as setup code.

0: LED blinks quickly 10 times.

1~9: LED blinks the number of digit.

4. Factory Reset

1) Press and hold [TV] + [0] button simultaneously for more than 5 seconds.

2) LED will blink in the following order of STB -> TV->DVD->AUX 3 times and turn off.

II. **TV Brand/Code list**

TV

BRAND NAME	CODE LIST													
ACCENT	049	063												
ACEC	112													
ACURA	195													
ADMIRAL	065	076	163	171	190	307	324	369						
ADYSON	379													
AGASHI	076	379												
AGEF	324													
AIKO	049	063	076	102	141	172	195	225	379					
AIM	049	063												
AIWA	376	377												
AKAI	019	049	050	055	063	076	102	107	123	133	139	141	150	172
	174	182	195	209	225	326	333	379	428	432	433	437		
AKIBA	006	049	063	123	380									
AKITO	049	063	106											
AKURA	006	049	076	096	123	195	419	426						
ALARON	042	334												
ALBA	018	044	049	050	107	123	134	163	179	184	195	225	228	232
	239	379	413	421	431									
ALBIRAL	121	326	372											
ALCYON	407													
ALLORGAN	050	094	236	334										
ALLSTAR	049	063												
AMPLIVISION	113	379	421	425										
AMSTRAD	004	011	049	063	076	123	131	172	195	225	426			
ANAM	049	063	195											
ANGLO	076	195												
ANITECH	049	063	076	195	407									
ANSONIC	045	049	063	107	112	195	210	242	391	413	421			
APOLLO	165													
ARC EN CIEL	029	034	074	182	186	415	424							
ARCAM	029	379	424											
ARDEM	392													
ARISTONA	049	050	063	065	079	112	158	160	188					
A.R.SYSTEM	049	063												
ARTHUR MARTIN	075	107	127	133	136	139	148	153	307	425				
ASA	003	020	065	078	080	091	117	146	171	197	235	307	319	324
	341	375	406	408										
ASBERG	049	063	407											
ASORA	195													
ASTRA	195													
ASUKA	006	050	076	123	379									
ATLANTIC	049	050	063	113	236	242	379							
ATORI	195													
AUCHAN	107	425												
AUDIOSONIC	031	049	063	074	076	195	213	379	392	421				
AUDIOTON	050	076	379	392	421									
AUSIND	075	090	407											
AUTOVOX	050	071	078	079	080	083	090	147	156	236	254	305	319	323
	324	379	407	413	416									
AWA	018	049	063	131	195	206	320	379	426	433				
AYOMI	411													
BAIRD	074	102	182	209	321	329	379	409						
BANG & OLUFSEN	324													
BARCO	107	355	371	372	422									
BASIC LINE	006	031	049	107	123	159	195	207	226					
BASTIDE	379													
BAUR	012	049	053	063	107	150	172	244	245	246	247	301	357	414
	416													
BAZIN	379													
BEKO	063	184	240	241	392	421	433							
BEON	049	063	163											
BEST	213	421												
BESTAR	049	063	421											

BINATONE	379												
BLACK STAR	413												
BLACKTRON	006												
BLACKWAY	006												
BLAUPUNKT	019	053	057	060	113	118	244	245	246	247	248	249	308
BLUE SKY	006	049	063	123	195	232							
BLUE STAR	006												
BONDSTEC	413												
BOOTS	050	106	379										
BPL	006	049	063										
BRANDT	074	182	218	415	424	436							
BRANDT ELECTRONIQUE	029	034	074	182	186								
BRINKMANN	049	063	163										
BRION VEGA	049	063	065	083	167	172	173	181	196	324	356		
BRITANNIA	379												
BROTHER	076												
BRUNS	056	065	324										
BSR	094	107	110	139	168	314							
BTC	123												
BUSH	006	018	049	076	094	106	107	123	134	139	142	143	172	179
	195	209	223	225	226	232	239	307	379	416			
BUSH(UK)	107	147	168										
CAPSONIC	076												
CARAD	049	063											
CARENA	049	063	380										
CARREFOUR	018	406											
CARVER	177												
CASCADE	049	063	064	195									
CASIO	049	063											
CATHAY	049	063											
CCE	049	063	379										
CENTURION	049	063											
CENTURY	044	054	065	163	189	324	411	413					
CGE	002	044	054	090	093	094	096	107	139	142	163	168	189
	369	407	413	421									
CIHAN	111												
CIMLINE	031	123	134	195									
CITY	195												
CLARIVOX	056	121	125	163	406								
CLATONIC	076	123											
CLATRONIC	031	045	049	063	076	113	123	195	225	379	407	413	421	431
CMS HIGHTEC	379												
COMTEL	111	125											
CONCORDE	195												
CONDOR	006	045	049	050	063	113	163	195	210	379	413	421	
CONTEC	018	131	195	206	302	320	379						
CONTINENTAL EDISON	029	034	074	182	186	232	415	424					
COSMEL	195	213											
CROSELY	044												
CROSLEY	054	065	090	093	094	104	107	139	324	407	413		

CROWN	049	063	154	163	170	195	209	232	372	407	419	421	431
CS ELECTRONICS	031	123	379	413									
CTC	413												
CTC CLATRONIC	045												
CURTIS MATHES	126	190	212										
CYBERTRON	123												
DAENYK	042												
DAEWOO	063	123	140	145	161	193	195	379					
DAINICHI	123	379											
DANSAI	063	076	141	195	379								
DANSETTE	426												
DANTAX	392	421											
DATSURA	209												
DAWA	049	063											
DAYTRON	049	063	195	226									
DE GRAAF	023	107	122	139	209	307							
DECCA	049	063	102	106	111	120	200	331	379				
DECCA(UK)	046	050	102	106	131								
DEITRON	049	063											
DENKO	076												
DENON	126	212											
DER	321												
DERWENT	105												
DESMET	049	063	113										
DIAMANT	049	063											
DIGILINE	049	063											
DIXI	063	195	379	413									
DOMLAND	423												
DORIC	104	105											
DREAN	049	063											
DTS	195												
DUAL	049	050	063	095	107	139	156	168	182	242	243	379	414	416
	423	424											
DUAL-TEC	195	168	050	040									
DUMONT	045	065	080	102	139	146	319	324	339	341	375	379	406	408
DUMONT-FINLUX	020	045	061	075	078	091	104	117	147				
DUX	049	063	112										
DYNATRON	049	063											
ELBE	049	063	107	121	123	172	194	210	242	337	368	369	391	411
	421	435											
ELBIT	111												
ELCIT	045	046	047	062	065	104	107	150	168	324	413		
ELECTA	006	076											
ELECTRO TECH	195												
ELEKTA	006	076											
ELEKTRONSKA	318												
ELG	049	063											
ELIN	003	020	049	063	107	139	172	195	379	408	416		
ELITE	031	049	063	123									
ELMAN	045	168											
ELTA	076	195	379										
EMERSON	004	006	042	044	049	063	065	113	225	324	327	406	413
EMPEROR	006												
ERRES	063	112											
ESC	049	063											
ETRON	049	063	107	139	195								
EURO-FEEL	076												
EUROMANN	049	063	076	379	421								
EUROPA	049	063											
EUROPHON	044	045	046	049	050	063	068	107	120	168	318	336	379
	413												
EXPERT	107	236	242	425									
EXQUISIT	049	063	413										
FAMILLY LIFE	049	063											
FENNER	063	195											

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FERGUSON	001	032	050	073	074	076	080	082	102	103	121	158	182	204
	218	244	245	246	251	306	319	321	322	328	329	344	409	
	411	436												
FIDELITY	049	050	063	076	107	158	225	307	364	379				
FIDELITY(UK)	133													
FILSAI	050	379												
FINHER	359													
FINLANDIA	033	122	139	172	197	209	223	307	375	419				
FINLUX	003	020	042	045	049	061	063	075	078	080	090	091	102	104
	107	117	139	146	147	163	197	210	235	319	324	339	341	
	375	379	406	407	408	428	429	437						
FIRST LINE	045	049	063	094	102	107	134	139	191	195	209	210	379	411
	413	416												
FISHER	018	041	050	056	065	069	102	104	107	117	139	143	156	172
	189	206	209	320	324	379	408	414	416	421				
FLINT	031	049	063	102	123	379	380							
FNR	045													
FORGESTONE	158													
FORMENTI	090	107	113	139	307	324	379	407						
FORMENTI−PHOENIX	050	075	104	113	148	307								
FORTRESS	190	324												
FRABA	049	063	421											
FRIAC	045	049	063	195										
FRONTECH	076	139	195	307	379	413	416							
FUJITSU	042	045	102	107	195	236	327	379						
FUJITSU GENERAL	195	379												
FUNAI	042	076	094	314	327									
GALAXI	045	049	063											
GALAXIS	045	049	063	163	421									
GBC	031	104	107	139	143	168	195							
GE	006	074	182	218										
GEANT CASINO	107	425												
GEC	049	063	102	104	107	120	171	172	192	307	379	416		
GEC(UK)	046	050	102	107	150	162	192							
GELOSO	031	047	062	104	107	139	168	171	195	307	413			
GENERAL	064	074	182											
GENERAL TECHNIC	195													
GENEXXA	049	063	123	307	426									
GOLDHAND	379													
GOLDLINE	213													
GOODMANS	018	042	063	076	102	134	139	141	143	155	182	195	218	225
	232	379	428											
GORENJE	124	189	421											
GPM	123													
GRADIENTE	049	063	170	177										
GRAETZ	049	063	090	104	136	139	153	159	162	171	172	198	225	307
GRANADA	013	018	033	041	063	102	104	105	112	120	148	164	165	171
	209	218	237	238	240	241	252	307	325	363	379	407	418	419
GRANADA(UK)	046	050	090	107	139	143	162	307						
GRANDIN	006	031	049	063	107	113	123	195	379	380	425	431	435	
GRONIC	045													
GRUNDIG	005	019	049	053	063	080	090	101	115	118	166	232	244	245
	246	247	248	249	308	340	341	406	407					
HALIFAX	076	379												
HAMPTON	379													
HANIMEX	094													
HANSEATIC	006	018	049	050	063	094	104	107	113	143	172	195	324	379
	391	416	421	423										
HANTAREX	045	046	049	063	195									
HANTOR	049	063												
HARLEY DAVIDSON	042													
HARWOOD	049	063	195	426										
HAUPPAUGE	049	063												
HCM	006	031	049	063	076	123	163	195	379	426				
HEMA	195	379												

HEMMERMANN	150	416											
HIFIVOX	029	034	074	182	186	304	424						
HIGASHI	050												
HIGHLINE	049	063	076										
HIKONA	123												
HINARI	004	018	042	049	066	094	107	119	123	133	134	139	143	179
	195	209	232	307	327								
HISAWA	006	031	123	380	425								
HIT	342												
HITACHI	007	009	018	020	023	033	049	050	063	074	086	102	104	107
	110	126	127	139	143	150	162	168	171	176	182	185	186	192
	212	218	231	304	307	309	315	333	334	344	361	379	416	418
HITASHI FUJIAN	013	164	252										
HITSU	123	195	379										
HORNYPHON	049	063	112										
HOSHAI	123	379											
HUANYU	379												
HYGASHI	379												
HYPER	050	168	195	254	361	379	413						
HYPERSONIC	172												
HYPSON	006	049	063	076	379	380	411	425					
IBERRIA	049	063											
ICE	049	063	076	123	195	225	379						
ICES	123	379											
IMPERIAL	002	044	049	054	063	090	093	094	107	142	163	168	189	301
	307	369	407	413	416	421							
INDIANA	049	063											
INGELEN	090	104	136	139	153	159	162	171	198	232	435		
INGERSOL	195												
INNO HIT	044	046	049	050	063	066	102	123	155	195	217	379	407	413
INNOVATION	049	063											
INTERACTIVE	210												
INTERBUY	076	195	413										
INTERFUNK	049	063	065	067	074	090	104	107	112	139	150	153	159	172
	182	301	302	324	363	421							
INTERVISION	006	045	049	055	063	076	107	123	225	232	378	379	380	381
	382	384	385	386	387	388	389	413	421	423			
IRRADIO	031	049	063	066	075	090	123	155	195	254	407	413	
ISUKAI	006	049	063	123									
ITC	379												
ITS	006	031	049	063	076	123	225	379					
ITT	042	090	107	117	134	139	150	157	159	162	165	171	172	193
	197	198	209	301	307	343	350	375	416	428			
ITT-NOKIA	042	090	097	104	107	117	134	136	139	150	153	159	162	165
	171	172	185	193	197	198	209	301	307	343	350	375	416	428
	433	435	437										
ITV	049	063	076	413									
JEAN	018												
JEC	141												
JET POINT	365												
JVC	018	103	123	129	143	158	170	174	182	225	364	409	433	
KAISUI	006	031	049	050	063	123	195	207	379	380			
KAMOSONIC	050												
KAMP	379												
KAPSCH	107	172	236	242	408								
KARCHER	003	006	020	031	045	049	050	063	068	076	107	195	207	217
	421	435											
KATHREIN	124												
KAWASHO	379												
KB ARISTOCRAT	107												
KENDO	044	045	049	055	063	134	172	210	413	421	435		
KENNEDY	071	079	104	107	139	236	305	323	369				
KINGSLEY	379												
KLARMAX	371	372											
KNEISSEL	049	063	210	242	369	391	411	421	435				

Brand	1	2	3	4	5	6	7	8	9	10	11	12	13	14
KOLSTER	045	049	063	416										
KONKA	031	049	063	123	225	232								
KORPEL	049	063												
KORTING	027	065	094	113	324	421								
KOSMOS	049	063												
KOTRON	076	426												
KRAKING	411													
KRIESLER	050	063	065	079	112	158	160	188						
KTV	050	379												
KYOSHU	076	163												
KYOTO	107													
KYUSHU	426													
LECSON	049	063												
LEMAIR	210													
LENCO	049	063	107	195	408									
LENOIR	050	195												
LESA	413													
LEYCO	049	063	076	094	102	431								
LEYEO	076													
LG(GOLDSTAR)	023	049	050	055	063	107	139	152	155	168	172	195	202	203
	219	254	379	413	421									
LIESENKOTTER	049	063	112											
LIFETEC	049	063	076	123	195									
LLOYD'S	195													
LOEWE	049	063	089	324	391	421								
LOEWE OPTA	035	046	049	052	063	065	120	144	213	324				
LOGIC	331													
LOGIK	032	131	158	225	364									
LOGIX	195													
LUMA	063	107	110	133	171	172	195	210	236	242	307			
LUMATRON	049	063	076	107	172	236	242	329	379					
LUX MAY	049	063	195											
LUXOR	042	050	090	107	122	127	133	139	150	155	159	165	172	185
	197	209	307	312	330	416	418	428	429					
LYCO	076													
M ELECTRONIC	003	235	375											
MAAZ	371	372												
MADISON	049	063												
MAGNADYNE	045	046	047	062	065	104	107	120	139	150	168	318	324	413
MAGNAFON	045	046	050	068	075	090	120	235	336	379	407			
MAGNAVOX	018	042	049	063										
MANDOR	076													
MANESTH	063	076	094	113	134	141	379							
MANHATTAN	049	063	195											
MARANTZ	063													
MARELLI	324													
MARK	063	195	379											
MASUDA	123	195	225											
MATSUI	001	004	018	041	049	050	063	094	100	102	106	107	131	134
	141	143	150	171	179	180	195	209	218	225	229	232	244	245
	246	307	314	331	379	380	416	431						
MAXIMAL	119	139												
MAXWELL	371	372												
McMICHAEL	192													
MEDIATOR	049	063	112											
MEDION	049	063	195											
MEGAS	435													
MEGATRON	126	212												
MELECTRONIC	003	049	063	074	182	195	210	375	379	408	413	416	428	429
MELVOX	425													
MEMOREX	099	195												
MEMPHIS	102	195	213											
MERCURY	049	063	195											
METZ	019	049	051	053	065	067	070	092	118	244	245	246	247	324
	412													

MICROMAXX	049	063	195											
MINERVA	019	053	080	090	118	232	244	245	246	247	248	249	340	341
	406	407												
MINOKA	049	063	419	426										
MISTRAL	158													
MITSUBISHI	013	018	019	021	049	063	065	105	124	131	132	143	157	164
	183	190	244	245	246	252	326	330	331					
MIVAR	043	046	050	058	072	081	090	120	155	318	337	379	391	407
	421	434												
MONACO	195													
MORGAN'S	049	063												
MOTION	407													
MOTOROLA	190													
MTC	049	063	379	416	421									
MTEC	106													
MULTISTANDARD	045													
MULTITEC	049	063	195											
MULTITECH	031	045	046	049	050	063	120	189	195	379	392	413	416	421
MURPHY	102	104	105	107	117	171	254	307	379	408				
MURPHY(UK)	162													
MUSIKLAND	123													
NAD	172	209												
NAIKO	049	063												
NAKIMURA	049	063												
NAONIS	036	040	071	079	110	171								
NAT	085	149	151											
NATIONAL	033	085	104											
NEC	018	049	063	113	131	143	177	195	379	380				
NECKERMANN	002	012	049	050	063	065	107	133	139	163	180	189	210	247
	250	307	312	324	357	379	413	416	421					
NEDIATOR	063													
NEI	063	125	225											
NESCO	042	413												
NETSAT	049	063												
NETWORK	213													
NEUFUNK	049	063	195	435										
NEW WORLD	123													
NEWTECH	049	050	063	182	195	379								
NICAMAGIC	379													
NIKKAI	018	049	063	076	102	123	139	141	195	213	379			
NIKKIA	066													
NOBLEX	049	063	076	359	360									
NOBLIKO	044	045	050	075	080	090	235	379	406	407				
NOGAMATIC	029	034	074	182	186	424								
NOKIA	090	104	107	117	134	136	139	150	153	157	159	162	165	171
	172	193	197	198	209	301	307	330	343	350	416	419	428	429
	433	437												
NORDMENDE	017	029	034	038	049	063	074	083	130	150	165	174	182	186
	218	244	245	246	304	307	333	334	424					
NOVATRONIC	003	020	049	063										
OCEANIC	086	094	104	107	108	109	116	139	159	172	209	425		
OCEANIC(F)	150													
ODEON	076													
OKANO	049	063	076	102	421									
OMEGA	076													
ONCEAS	050													
ONWA	031	123	225	432										
OPERA	049	063												
OPTIMUS	099	315												
OPTONICA	190													
ORBIT	049	063												
ORION	004	042	045	049	051	063	076	094	113	131	134	139	150	179
	191	195	199	216	314	331	366	367	426					
ORLINE	049	063	123											
ORMENTI-PHOENIX	104													

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ORMOND	195													
OSAKA	066													
OSAKI	049	063	066	076	102	106	123	379	426					
OSIO	049	063	155											
OSO	123													
OSUME	018	102	123	302										
OTTO VERSAND	012	018	049	050	053	063	074	094	104	107	113	134	139	143
	172	190	244	245	246	247	250	312	357	362	379	413	414	416
P.T ACTRON	111													
PAEL	050	075	379											
PALLADIUM	012	049	063	107	163	210	247	324	357	379	413	416	421	
PALSONIC	049	055	063	076	379	426								
PANAMA	049	063	076	195	379	413								
PANASONIC	049	063	099	104	107	137	139	149	151	172	397	398	400	401
	405													
PANAVISION	049	063	210											
PATHE CINEMA	107	113	121	379	391	411	416	425						
PATHE CINEMA(F)	050	168												
PATHE MARCONI	029	034	074	182	186	415	424							
PAUSA	195													
PAUZA	195													
PERDIO	049	063	102	107	113									
PERFEKT	049	063												
PERSHIN	425													
PHILCO	002	016	044	049	054	063	065	090	093	094	104	107	126	142
	163	168	189	212	324	369	407	413	421					
PHILHARMONIC	379													
PHILIPS	015	022	049	050	063	065	079	089	111	112	157	158	160	175
	182	188	192	215	217	220	221	247	250	313	324	337	342	350
	363	374	427											
PHOENIX	049	050	063	075	102	104	107	113	148	324	379	392	421	
PHONOLA	022	050	063	065	079	112	158	160	188	250	324	379		
PILOT	049	063												
PIONEER	049	063	074	172	182	209	218	227	307	421	427			
PIONIER	392	421												
PLANTRON	049	063	076	195										
PLAYSONIC	379													
POLICOM	074													
POPPY	195													
POWERPOINT	232													
PRANDONI-PRINCE	044	046	075	090	120	171	172	307	407	413				
PRECISION	379													
PREMIER	142													
PRIMA	076	195	307											
PRINCE	044	046	075	171										
PRINZ	102	185	416											
PROFEX	107	139	195											
PROFI-TRONIC	045	049	063											
PROLINE	030	049	102	112	191	366	436							
PROSONIC	049	063	085	149	151	195	225	379	421	431				
PROTECH	045	063	076	139	163	195	379	413	416					
PROVISION	049	063												
PYE	050	063	065	079	112	157	158	160	188	250				
PYMI	049	063	112	195	324									
QUADRA VISION	425													
QUASAR	045	046	068	075	099	155	413							
QUELLE	003	018	019	020	049	050	053	063	074	075	076	078	080	090
	091	094	113	115	117	118	131	139	146	147	150	153	155	172
	195	206	235	244	245	246	247	254	301	319	320	340	341	379
	406	408	413	416										
QUESTA	018													
RADIALVA	049	063	074	107	123									
RADIOLA	050	063	065	079	112	158	160	188	250	342				
RADIOMARELLI	045	046	047	062	063	065	104	105	150	168	324	413		
RADIONETTE	003	020	117	150										

Brand														
RADIO SHACK	049	063												
RADIOTONE	049	063	076	163	195	421	426	431						
RAMK	341													
RANDT	029													
RANK	147	406												
RBM	341													
RBM(UK)	147													
RCA	190	218	436											
RECOR	049	063												
RECTILIGNE	049	063												
REDIFFUSION	018	059	105	139	171	172	307	343						
REDIFFUSION(UK)	150	162												
REDIFUSION	104	105												
REDSTAR	049	063												
REFLEX	049	063												
REVOX	049	063	421											
REX	036	040	063	071	079	095	107	110	171	210	236	242	243	305
	307	323	338	413										
RFT	076	102	390	391	392	393	394	395	421					
RHAPSODY														
R-LINE	049	063												
ROADSTAR	031	049	063	076	163	195								
ROBOTRON	056	065	324											
RODEX	049	063												
ROTEL	302													
ROWSONIC	050													
ROYAL LUX	421	426												
RTF	056	065												
SABA	014	017	029	034	038	046	065	074	077	107	120	133	139	172
	182	186	218	304	307	324	333	334	424	436				
SACCS	121													
SAGEM	006	380	435											
SAISHO	004	050	076	084	107	131	132	134	179	195	233	307	330	331
	379													
SALORA	033	075	107	127	133	136	139	148	150	153	171	172	185	198
	209	301	307	312		416	418	419						
SAMBERS	045	046	068	075	090	120	155	336	407					
SAMSUNG	050	063	066	076	102	155	189	195	217	359	360	365	379	421
SANDRA	379													
SANELA	411													
SANSUI	049	063	225											
SANTON	195													
SANYO	003	018	020	041	049	050	056	063	065	102	107	117	131	143
	189	195	198	201	206	209	302	320	325	331	351	379	391	408
	421													
SAVE	049	063												
SBR	063	112	157	158	192	313								
SCHAUB LORENZ	090	104	136	139	153	159	162	171	198	307	416	433		
SCHNEIDER	031	040	050	063	065	069	079	095	104	107	112	114	139	148
	156	158	160	168	172	182	188	195	225	242	243	250	307	
	328	342	379	413	414	416	423							
SCOTT	042	327												
SEARS	042													
SEG	018	045	049	050	056	063	076	107	172	195	232	379	413	
SEI	004	045	049	051	063	094	107	139	236	314	324	357		
	416													
SEL SINUDYNE	250													
SELECO	036	040	063	071	079	095	107	110	171	172	210	236	242	243
	305	307	323	338	339	369								
SENCORA	195													
SENTRA	123	139	141	195										
SERINO	380	435												
SHARP	018	094	143	170	190	206	214	302	362	364				
SHORAI	042	094												
SIAM	049	063												

Brand													
SIAREM	045	046	065	104	107	120	139		324				
SICATEL	121												
SIEMENS	003	018	019	023	049	053	063	066	113	118	206	244	245	246
	247	248	249	302	307								
SIERA	050	063	065	079	112	158	160	188					
SIERRA	049	063	112										
SIESTA	421												
SILVA	049	063	379										
SILVER	018	042	049	063	076	172							
SINGER	045	047	049	063	065	104	195	324	369	413	425		
SINUDYNE	004	031	045	051	063	065	094	104	107	134	139	150	172	210
	216	236	314	324	357	366	367	416					
SKANTIC	307	418											
SKY	049	063											
SOGERA	113												
SOLAVOX	066	102	107	123	139	172	307						
SONITRON	209	379	421										
SONNECLAIR	049	063											
SONOKO	006	050	063	076	195	379							
SONOLOR	012	107	139	159	172	209	357	425					
SONTEC	049	063	094	421									
SONY	012	018	028	045	131	143	204	208	211	331	357	358	370	
SOUND & VISION	031	045	123										
SOUND WAVE	049	113	163										
SOUNDESIGN	042												
SPECTRA	195												
SSANGYONG	195												
STANDARD	049	050	063	113	123	195	379						
STARLIGHT	049	063	076	107	195								
STENWAY	006	031	123										
STERN	036	040	063	071	079	095	107	110	171	236	242	243	305	307
	323	338											
STRATO	049	063	076	195									
SUNKAI	049	063	094	123	134	179	191	232	314	367			
SUNSTAR	049	063	195	225	431								
SUNWOOD	049	063	195										
SUPERLA	379												
SUPERTECH	049	063	123	195	379								
SUPRA	195												
SUSMU	218												
SUTRON	195												
SWISSLINE	413												
SYDNEY	379												
SYTONG	425												
TACTUS	106												
TANDBERG	065	074	078	172	182	210	213	304					
TANDY	050	096	102	123	190	307	379	413					
TASHIKO	018	050	107	143	177	192	201	379	419				
TATUNG	049	050	063	102	106	111	120	131	200	253	331	379	
TEAC	049	063	076	195	380	416	426						
TEC	040	050	064	168	195	213	218	242	243	379	413		
TECH LINE	049	063	195										
TECHICA	123												
TECHNEMA	113												
TECHNICS	099	315											
TEDELEX	379												
TEIRON	195												
TEKNIKA	042	327											
TELEAVIA	029	034	074	182	186	415	424						
TELECOR	049	063	107	123	242	379	423						
TELEFUNKEN	032	049	063	064	074	082	182	186	187	218	392	424	436	
TELEFUSION	049	063											
TELEGAZI	049	063	076	107	123	242							
TELEMEISTER	049	063	113										
TELESONIC	049	063											

TELESTAR	049	063												
TELETECH	049	063	195	213	413									
TELETON	018	067	107	236	242	379	416							
TELEVIDEON	050	075	104	107	113	148	379							
TELEVISO	425													
TEMCO	094													
TEMPEST	049	063	195											
TENNESSEE	049	063												
TENSAI	003	020	050	055	063	094	113	117	123	195	225	379	408	413
TETUNG	046													
TEVION	049	063	195											
TEXET	050	195	379											
THOMSON	008	010	017	024	029	034	049	063	064	074	134	147	174	182
	186	218	230	234	304	309	333	334	415	424	436			
THORN	049	053	063	103	106	141	158	218	222	321	329	408	409	411
	419													
THORN-FERGUSON	032	073	074	076	080	082	103	121	158	306	319	321	322	328
	329	357	358	364	375									
THRON	117													
TMK	143													
TOKAI	049	063	102	107	195	213	379							
TOKYO	141	379												
TOMASHI	006	031	123											
TOSHIBA	001	018	045	128	141	143	147	205	341	369	379	406		
TOWADA	045	379	416											
TOYODA	195													
TRAKTON	076													
TRANS CONTINENS	044	046	049	063	075	171	307	379						
TRANSONIC	049	063	380											
TRANSTEC	379													
TRIDENT	379													
TRISTAR	123	364												
TRIUMPH	004	046	049	063	128	147	197	235	339	375				
UHER	049	063	069	080	090	113	147	148	163	236	242	307	392	407
	414	421												
ULTRAVOX	044	045	047	049	050	063	065	104	107	133	139	324	379	413
UMA	305													
UNIC LINE	049	063	165											
UNITED	049	063												
UNIVERSUM	003	004	012	018	020	049	063	074	076	094	107	131	155	163
	165	172	195	202	206	210	213	235	244	245	246	320	357	375
	379	406	407	408	413	416	421	428	429	437				
UNIVOX	049	063	107	121	213	324	409	411						
UTAX	050													
VEGAVOX	163													
VESTEL	049	063	107	125	364	379								
VEXA	063	195												
VICTOR	174													
VIDEO SYSTEM	049	063												
VIDEOLOGIQUE	031	123	379											
VIDEO SYSTEM	049	063												
VIDEOTECHNIC	113	379												
VIDEOTON	107	418												
VIDIKRON	045													
VIDTECH	018													
VIPER	213													
VISIOLA	379													
VISION	049	063	113											
VISTAR	172	236												
VOLTEC	074													
VORTEC	063													
VOXSON	049	063	065	090	163	171	307	324	407					
WALTHAM	049	063	163	182	307	379	418							
WATSON	049	063	107	113	123	195	244	245	246	423	431			
WATT RADIO	045	050	068	104	107	121	139	150	336	379	416			

WEGA	018	049	063	139	143	324							
WEGA COLOR	065	088											
WEGAVOX	195												
WELTBLICK	063	113											
WESTINGHOUSE	063	094											
WESTON	168												
WHARFEDALE	049	063											
WHITE	045												
WHITE WESTINGHOUSE	049	050	063	113	213	379							
WINCO	426												
WINDSTAR	006												
WINTERNITZ	361												
XRYPTON	049	063											
YAMISHI	006	049	063	123	379	380							
YOKAN	049	063											
YOKO	049	050	063	076	123	195	379	413	421				
YORX	123												
ZANUSSI	036	040	063	071	079	095	110	171	236	305	307	323	338	379
ZOPPAS	036	040	071	079	110	171	307							

DVD

BRAND NAME	CODE LIST				
3 DLAB	072				
AIWA	075				
ALBA	087				
AMSTRAD	085				
A-TREND	086				
BLUE SKY	080				
BUSH	078	079	082	085	
CINE ULTRA	082				
CYBER HOME	086				
DAEWOO	083				
DENON	002	019	022	034	051
DENVER	082				
DENZEL	077				
DIGITOR	079				
DIVIDO	083				
DUAL	076	077			
ELTA	079				
ENZER	077				
GE	003	004			
GRUNDIG	072	080			
HARMAN KARDON	001	066			
HITACHI	077				
JMB	080				
JVC	006				
KENWOOD	007	034	043	050	069
KISS	077				
LAWSON	083				
LECSON	081				
LENCO	082				
LG(GOLDSTAR)	005	055	064	070	
LIFETEC	076				
LOGIX	083				
MAGNAVOX	009	033	056		
MANHATTAN	083				
MARANTZ	033	059	072		
MATSUI	076	080			
MEDION	076	083			
MICROMEDIA	009				
MICROMEGA	072				
MINOWA	083				
MITSUBISHI	023	036			
MONYKA	077				
NAD	010	062			
NEUFUNK	077				

ONKYO	009	015	048						
OPTIMUS	050								
ORION	080								
ORITRON	076								
PANASONIC	024	025	030	034	035	044	052		
PHILIPS	009	033	056	072					
PHONOTREND	082								
PIONEER	010	012	020	038	041	046	065	071	074
PROLINE	076								
PROSCAN	003	004	037						
PROVISION	082								
RAITE	077								
RCA	003	004	018	037					
REC	034	078							
REVOY	082								
ROADSTAR	078	079	082						
SANSUI	080								
SCAN	083								
SCHNEIDER	076								
SEG	077	085							
SHARP	021	028	050						
SHINCO	087								
SM ELECTRONIC	079								
SONY	015	029	043	045	067				
STANDARD	076								
TEAC	087								
TECHNICS	034								
TENSAI	076	079							
TEVION	076								
THOMSON	003	004	073						
TOKAI	077								
TOKIWA	083								
TOSHIBA	009	010	033	057	058				
TV PROJECT	008								
UNIVERSUM	085								
WALKVISION	087								
WESDER	082								
WHARFEDALE	081								
YAMAHA	016	017	030	034	063				
YAMAKAWA	077	084							
ZENITH	005	009	033	055	064	083			

MAKER(BRAND) NAME	CODE NUMBER(3 DIGIT) LIST										
ADCOM	082	092	225	161	023	148	149				
AIWA	170	018	104	202	203	213	211	188			
AKAI	189										
ANTHEM	127	128									
ARCAM	141	255									
ATLANTIC_TECHNOLOG	134										
AUDIO_FILE	071										
B&K	096	097									
BOSE	070	170	224	147	227	199					
BOSTON_ACOUSTICS	246										
CARVER	006	028	061	071	201	214	226	185	022	077	050
CLARION	026										
DELPHI	251										
DENON	109	215	230	234	002	121	133				
ELAN	057	090									
ESCIENT	229										
FISHER	047	214	182								
FLEXTRONICS	207										
FOSGATE_AUDIONICS	231	134									
GOLDSTAR	008										
HARMAN_KARDON	231	233	153	154	118	119					
HITACHI	020										
INTEGRA	029										
JVC	163	191	114	034	091						
KENWOOD	026	066	145	192	182	005	037	196	252		
KLH	123										
KRELL	150	072	197	222							
LEXICON	120	235	236	237	159	160					
LINN	124	206									
LUXMAN	137	139	052	165	115	004	009				
MAGNAVOX	086	164	152	208							
MARANTZ	006	028	031	040	063	185	186	015	056		
MCINTOSH	238	053									
MERIDIAN	100	012	013								
MITSUBISHI	242	243	204								
MONDIAL	157	158	042	043	081	112					
MYRYAD	030	099									
NAD	186	113	038	216	210						
NAKAMICHI	111	244	245	172	183	054					
NIRO	135										
NILES	241										
ONKYO	029	017	046	108	080	209					
OPTIMUS	026	041									
OUTLAW	134										
PANASONIC	032	195	219	177	098	221					
PARASOUND	129	130	132	003	103	105	125	126			
PHILIPS	249	250	063								
PIONEER	014	039	044	069	168	116	035	078			
POLKAUDIO	251										
PROCEED	144	021									

RCA	010	048	117	156	067	055						
REALISTIC	019	073	075									
ROTEL	074	083	085									
RUSSOUND	223	239										
SAMSUNG	016											
SANSUI	040	048	110	065	228	063						
SANYO	047	059										
SCOTT	019											
SHARP	026	094	131	175								
SHERWOOD	024	102	106	246								
SONY	018	247	248	166	101	184	218	025	179	180	220	
SOUNDESIGN	036											
SUNFIRE	142	143	146									
TEAC	005	019	049	111	212	217						
TECHNICS	122	193	219	178	177	200	254	007				
THETA_DIGITAL	136											
TOSHIBA	060	087	033									
YAMAHA	026	253	169	067	173	205	011	232	089	027	051	181
MEDIA PC Controls												
DELL	194	190										
GATEWAY	194	190										
HP	194	190										
SONY	194	190										
TOSHIBA	194	190										
WINBOOK	194	190										
XM Radios												
DELPHI	251											
KENWOOD	252											
POLKAUDIO	251											
SOLY	220											

VIIII. Glossary

8PSK	8-PSK is usually the highest order PSK constellation deployed. With more than 8 phases, the error-rate becomes too high and there are better, though more complex, modulations available such as quadrature amplitude modulation (QAM). Although any number of phases may be used, the fact that the constellation must usually deal with binary data means that the number of symbols is usually a power of 2 — this allows an equal number of bits-per-symbol.
CAM	Conditional Access Module is an electronic device, usually incorporating a slot for a smart card, which equips an Integrated Digital Television or set-top box with the appropriate hardware facility to view conditional access content that has been encrypted using a conditional access system. They are normally used with direct broadcast satellite (DBS) services.
Composite Video	Composite video is the format of an analog television (picture only) signal before it is combined with a sound signal and modulated onto an RF carrier. Composite video is often designated by the CVBS acronym, meaning "Color, Video, Blank and Sync". In German (with PAL being a German invention by Telefunken's Walter Bruch) the abbreviation FBAS (Farbe-Bild-Austastung-Synchron) means the same. It is usually in standard formats such as NTSC, PAL, and SECAM. It is a composite of three source signals called Y, U and V (together referred to as YUV) with sync pulses. Y represents the brightness or luminance of the picture and includes synchronizing pulses, so that by itself it could be displayed as a monochrome picture. U and V represent hue and saturation or chrominance; between them they carry the color information. They are first modulated on two orthogonal phases of a color carrier signal to form a signal called the chrominance. Y and UV are then combined. Since Y is a baseband signal and UV has been mixed with a carrier, this addition is equivalent to frequency-division multiplexing.
Conditional Access System	Several companies provide competing Conditional Access Systems; Irdeto Access, Nagravision, Conax, Viaccess, Verimatrix and NDS are among the most commonly used CAS systems.
DiSEqC	Stands for Digital Satellite Equipment Control. It is a special communication protocol for use between a satellite receiver and a device such as a multi-dish switch or a small dish antenna rotor. DiSEqC was developed by European satellite provider Eutelsat, which now acts as the standards agency for the protocol.
Dolby Digital	Dolby Digital is the common version containing up to six discrete channels of sound. The most elaborate mode in common usage involves five channels for normal-range speakers (20 Hz - 20,000 Hz) (right front, center, left front, right rear and left rear) and one channel (20 Hz - 120 Hz allotted audio) for the subwoofer driven low-frequency effects. Mono and stereo modes are also supported. AC-3 supports audio sample-rates up to 48 kHz. * Dolby Digital * DD (an abbreviation for Dolby Digital, often combined with channel count; for instance, DD 2.0, DD 5.1) * AC-3 (Audio Codec 3, Advanced Codec 3, Acoustic Coder 3.

EPG	Electronic Program Guide is a digital guide to scheduled broadcast television or radio programs, typically displayed on-screen with functions allowing a viewer to navigate, select, and discover content by time, title, channel, genre, etc. by use of their remote control, a keyboard, or other input devices such as a phone keypad. Content can also be scheduled for future recording by a personal video recorder (PVR). The on-screen information may be delivered by a dedicated channel or assembled by the receiving equipment from information sent by each program channel.
eSATA	A variant of SATA meant for external connectivity with the following characteristics: * Minimum transmit potential: Range is 500-600 mV. * Minimum receive potential: Range is 240-600 mV. * Identical protocol and logical signaling (link/transport-layer and above), allowing native SATA devices to be deployed in external enclosures with minimal modification.
FEC	Stands for Forward Error Correction. This is a system of error control for data transmission, whereby the sender adds redundant data to its messages, also known as an error-correction code. This allows the receiver to detect and correct errors (within some bound) without the need to ask the sender for additional data. The advantages of forward error correction are that a back-channel is not required and retransmission of data can often be avoided (at the cost of higher bandwidth requirements, on average).
HDMI	Stands for High-Definition Multimedia Interface. It is a compact audio/video interface for transmitting uncompressed digital data. HDMI connects digital audio/ video sources—such as set-top boxes, Blu-ray Disc players, personal computers (PCs), video game consoles (such as the PlayStation 3 and some models of Xbox 360), and AV receivers—to compatible digital audio devices, computer monitors, and digital televisions. As an uncompressed connection, HDMI is independent of the various digital television standards used by individual devices, such as ATSC and DVB, as these are encapsulations of compressed MPEG video streams (which can be decoded and output as an uncompressed video stream on HDMI).
LNB	Stands for Low-Noise Block converter. This is the (receiving, or downlink) antenna of what is commonly called the parabolic satellite dish commonly used for satellite TV reception. The LNB is usually fixed on or in the satellite dish. The purpose of the LNB is to take a wide block (or band) of relatively high frequencies, amplify and convert them to similar signals carried at a much lower frequency (called intermediate frequency or IF). These lower frequencies travel through cables with much less attenuation of the signal, so there is much more signal left on the satellite receiver end of the cable. It is also much easier and cheaper to design electronic circuits to operate at these lower frequencies, rather than the very high frequencies of satellite transmission.
PID	Stands for Packet Identifier. This is a set of numbers identifying stream packets contained within a single data stream
Polarization	The orientation of the electrical and magnetic fields of a signal. Satellites use mainly vertical and horizontal polarization.
S/PDIF	Stands for Sony/Philips Digital Interconnect Format. A common use for the S/PDIF interface is to carry

	compressed digital audio as defined by the standard IEC 61937. This mode is used to connect the output of a DVD player to a home theater receiver that supports Dolby Digital or DTS surround sound. Another common use is to carry uncompressed digital audio from a CD player to a receiver. This specification also allows for the coupling of personal computer digital sound (if equipped) via optical or coax to Dolby or DTS capable receivers.
SCART	A French-originated standard and associated 21-pin connector for connecting audio-visual (AV) equipment together. SCART is one of the most common method of connecting audio-visual equipment together. However, transferring analogue standard-definition content, SCART is becoming obsolete with the introduction of new digital standards such as HDMI, which can also carry high-definition content and multichannel audio.
Smartcard	A pocket-sized card with embedded Integrated Circuits which can process data. It can receive input which is processed and delivered as an output. The card may embed a hologram to avoid counterfeiting. It is used for accessing encrypted TV channels or services.
Teletext	A television information retrieval service developed in the United Kingdom in the early 1970s. It offers a range of text-based information, typically including national, international and sporting news, weather and TV schedules. Subtitle (or closed captioning) information is also transmitted in the teletext signal, typically on page 888 or 777.
YPbPr	A color space used in video electronics, in particular in reference to component video cables. YPbPr is the analog version of the YCBCR color space; the two are numerically equivalent, but YPBPR is designed for use in analog systems whereas YCBCR is intended for digital video. YPbPr is commonly called "component video", but this is a misnomer, as there are many other types of component video (mostly RGB with sync either on green or one or two separate signals). YPbPr is converted from the RGB video signal, which is split into three components, Y, PB, and PR. * Y carries luma (brightness) and sync information. * PB carries the difference between blue and luma (B - Y). * PR carries the difference between red and luma (R - Y). Sending a green signal would be redundant, as it can be derived using the blue, red and luma information.