

DVB-T DIGITAL RECEIVER

DVB-T (MPEG-4/AVC, H.264)



INSTRUCTION MANUAL

Table of Contents

1	Safety Instructions-----	1
2	About the Set Top Box-----	3
3	Front and Rear panel illustration-----	4
4	Remote Control-----	5
5	Connecting to TV-----	7
6	Connecting to an Audio Amplifier-----	8
7	Connecting to a Video Recorder-----	9
8	First time installation-----	10
9	Basic Operation-----	11
10	Teletext and EPG Operation-----	12
11	Menu Operation-----	13
	TV Channel -----	13
	Radio Channel-----	13
	Installation-----	14
	Edit Program-----	15
	Setting-----	17
	System Info-----	19
12	Technical specifications-----	20

Safety Instructions

1. Always read the safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Keep this equipment away from humidity.
4. Lay this equipment on a reliable flat surface before setting it up.
5. Do not stand it on soft furnishings.
6. If any of the following situations arise, have the equipment checked by a qualified service technician:
 - The equipment has been exposed to moisture.
 - The equipment has been dropped and damaged.
 - The equipment has obvious sign of breakage.
 - The equipment has not been working well or you cannot get it work according to User's Manual.
7. To prevent the risk of fire or electric shock, please
 - Do not open the cover or the back of the receiver.
 - Do not block the ventilation holes of the device. Leave appropriate gap above and around it to allow for adequate ventilation.
 - Do not place the device in an unventilated cabinet or on top of a unit which emits heat.
 - Do not expose this apparatus to rain or colds.

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Disclaimer

Information in this document is subject to change without notice. The manufacturer does not make any representations or warranties (implied or otherwise) regarding the accuracy and completeness of this document and shall in no event be liable for any loss of profit or any commercial damage, including but not limited to special, incidental, consequential, or other damage.



This symbol indicates that this product incorporates double insulation between hazardous mains voltage and user accessible parts. When servicing use only identical replacement parts.

About the Set Top Box

This DVB-T TV Receiver is a Free-To-Air digital terrestrial receiver allowing you to access all free-to-air digital terrestrial TV channels and radio broadcasts on your TV set. Its digital reception covers VHF & UHF band. Compared with the analog TV programs, digital TV programs eliminate the noise and interference but offer high quality video and audio.

Main Features

- Fully compliant with DVB-T standard
- COFDM demodulation
- Bandwidth of 6/7/8MHz supported
- Variable aspect ratio (4:3, 16:9) 4:3 Pan Scan or Letter Box modes
- S/PDIF AC3 audio (via coaxial connector)
- User-friendly OSD and menus
- Automatic/manual channel search
- Channel edit, sorting and deletion
- Favorite Channel function
- Parental Lock function
- (Up to) 7 day EPG (Electronic Program Guide) for onscreen information
- Teletext and Subtitles supported (VBI & OSD)
- 4 digits LED indicates channel number and time
- Capacity for storing up to 1000 channels,
- Video decode: MPEG-2 MP@HL/ML
MPEG-4/H.264 MP@level 3.1
- Audio decode: MPEG-1/2/2.5 Layer I&II&III, AC-3 (Dolby Digital), AAC
- Antenna loop-through
- RS232 port for upgrading system software
- Full function remote control

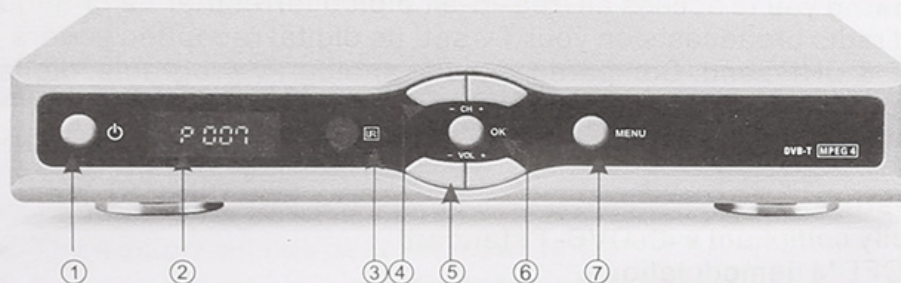
Package Contents

Before installation, please check the items of the package.
The package should contain the following items:

- | | |
|---|---------|
| - DVB-T TV Receiver | x1 pcs |
| - Remote Control | x1 pcs |
| - AAA Battery for the remote control unit | x1 pair |
| - Instruction Manual | x1 pcs |
| - AV Cable | x 1 pcs |

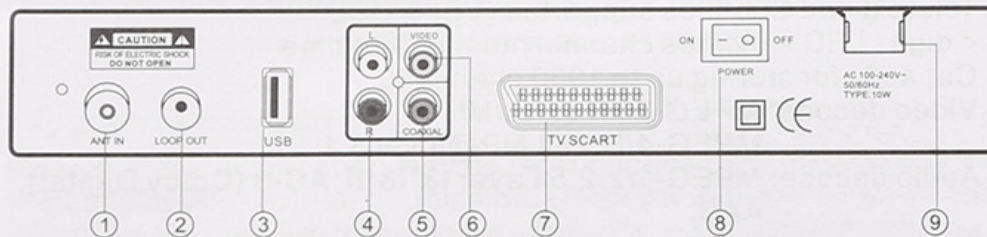
Front and Rear panel illustration

1. Front panel



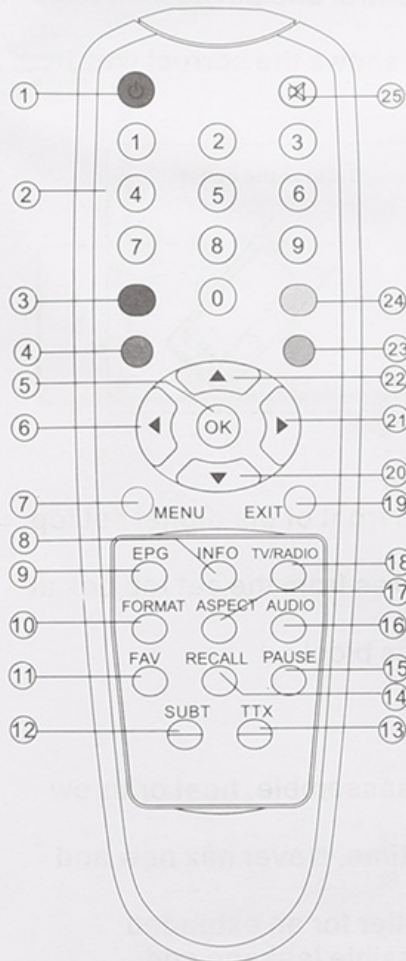
1. **POWER (STANDBY) BUTTON:** Used to turn on / off the mains power supply.
2. **LED DISPLAY:** To display the time and channel number information.
3. **IR:** To receive the IR signal from remote control.
4. **CH-/+:** To change the channel downward and upward.
5. **VOL-/+:** To decrease and increase the volume level.
6. **OK:** To confirm the choice with the highlighted menu item.
7. **MENU:** To enter the main menu. Press the button again to return to previous menu.

2. Rear panel



1. **ANT IN:** This socket connects to your external aerial.
2. **LOOP OUT:** This socket will pass-through the RF signal to either your TV or another video system.
3. **USB HOST:** Connects to the USB 2.0 disk for software upgrading.
4. **AUDIO L/R:** This two jacks (white/black) output analog audio signal.
5. **COAXIAL output:** For digital audio output for connection to an amplifier (or TV)
6. **VIDEO Output:** This jack outputs composite video signal. Standard definition only (480i and 576i resolution)
7. **TV SCART:** Connects to the TV using a TV SCART cable.
8. **Mains power switch:** To turns the power to the unit on/off.
9. **Power lead in:** AC~ 100-240V (Auto-selectable), 50-60Hz.

Remote Control



Buttons functional description:

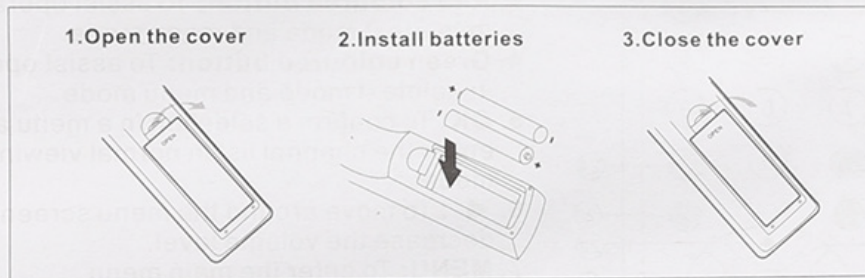
1. **STANDBY:** To switch the set top box to on and off.
2. **NUMERIC buttons:** To select a channel by direct number input.
3. **Red coloured button:** To assist operation In teletext mode and menu mode.
4. **Green coloured button:** To assist operation In teletext mode and menu mode.
5. **OK:** To confirm a selection in a menu and enter the channel list in normal viewing mode.
6. **◀ :** To move around the menu screens and decrease the volume level.
7. **MENU:** To enter the main menu.
8. **INFO:** To display current program information.
9. **EPG:** To provide the user with TV programming information.
10. **FORMAT:** To switch the video resolution 480i, 576i
11. **FAV:** To access your favourite channels list.
12. **SUBT:** To switch between different subtitles that are broadcasted.
13. **TTX:** To turn on or off teletext which is available in the broadcasted stream.
14. **RECALL:** To switch between the last viewed channel and the current channel being viewed.
15. **PAUSE:** To freeze the image being viewed.
16. **AUDIO:** To switch between different audio languages that are broadcasted or set the sound mode.
17. **ASPECT:** To switch the video aspect ratio.
18. **TV/RADIO:** To switch between TV channels and Radio channels.
19. **EXIT:** To exit to the previous screen or menu.
20. **▼ :** To move around the menu screens and select a channel in normal TV view mode.
21. **▶ :** To move around the menu screens and increase the volume level.
22. **▲ :** To move around the menu screens and select a channel in normal TV view mode.
23. **Blue coloured button:** To assist operation in teletext mode and menu mode.
24. **Yellow coloured button:** To assist operation in teletext mode and menu mode.
25. **MUTE:** To turn the sound on or off.

Remote Control

Installing the Batteries

Remove the battery cover from the remote control and put 2 X AAA size batteries inside the compartment.

The diagram inside the battery compartment shows the correct way to install the batteries.



Using the Remote Control

To use the remote control, point it towards the front of the digital set top box.

The remote control has a range of up to 7 metres from the set top box at an angle of up to 60 degrees.

The remote control will not operate if its path is blocked.

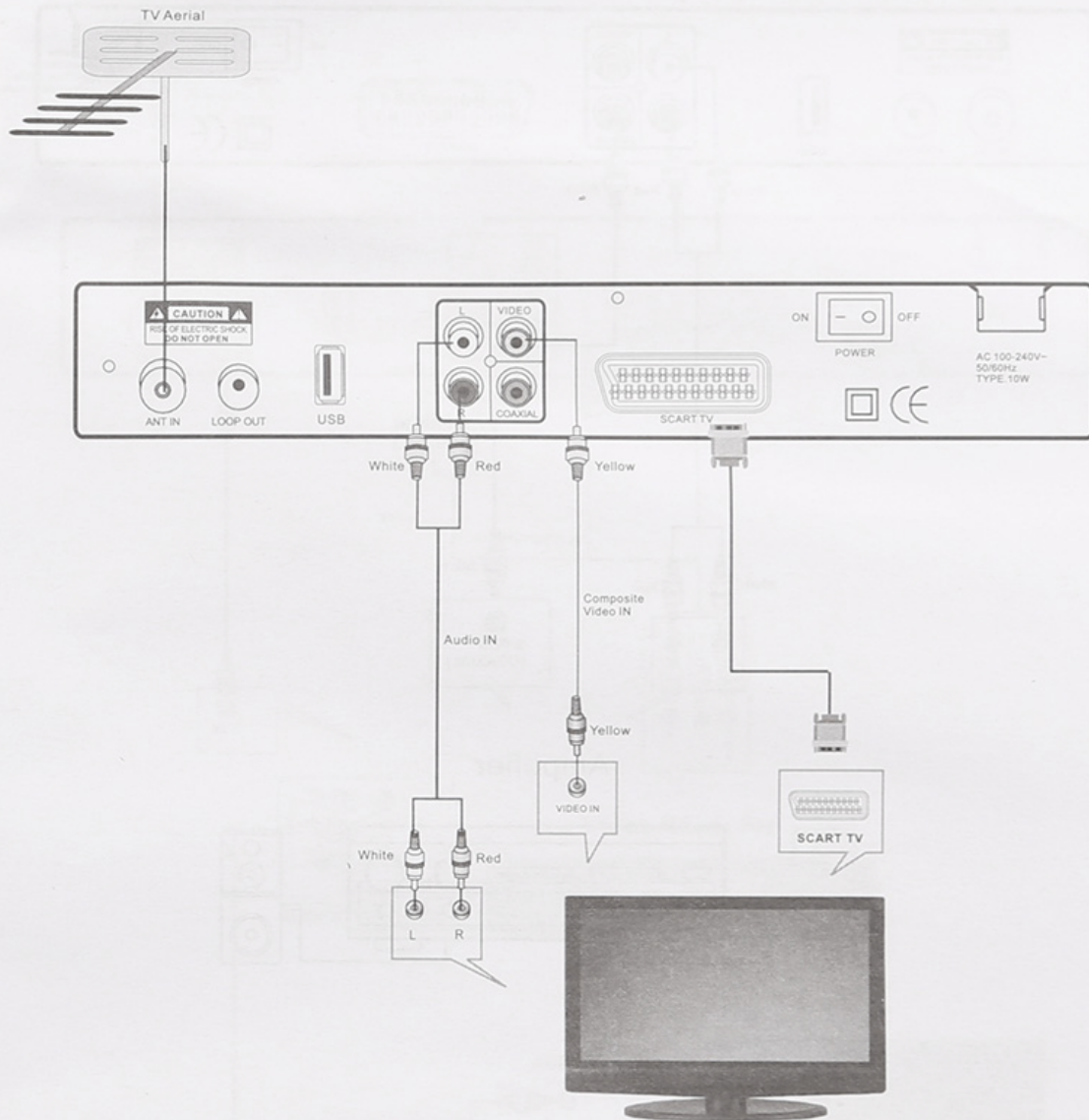
Caution:

1. Keep batteries out of children's reach.
2. Don't attempt to recharge, short-circuit, disassemble, heat or throw the batteries into the fire.
3. Always replace both batteries at the same time. Never mix new and old batteries or batteries of a different type.
4. If you don't intend to use the remote controller for an extended period, remove the batteries to prevent possible leakage and corrosion.
5. Do not drop, apply shock or step on the remote control.
6. Do not spill water on the remote control.



If the receiver does not operate when operating the remote control from a close range, you need to replace the batteries.

Connecting to TV



NOTE:

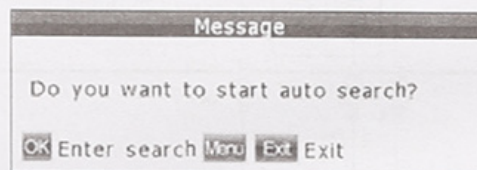
1. The video system for 480i is NTSC and the video system for 576i is PAL, please refer to your TV instruction manual and set your TV set to the correct TV system or set the TV system to AUTO.

First Time Installation

1 Switch on the unit for the first time

Ensure all connections have been made following the diagrams on the previous pages for reference. To switch on the set top box, press the **POWER** button on the set top box. If you are using the receiver for the first time, a message will be displayed to ask if you want to start auto channel search (Figure 1). Use the remote controller to finish the channel search.

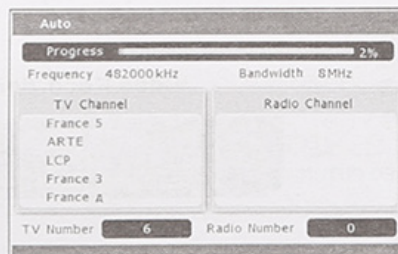
NOTE: Please ensure the mains power switch on the rear of the unit is set at ON position.



(Figure1)

2 Channel search

Press the OK button to enter Auto search menu (Figure 2). In case you want to stop the searching, press the **EXIT** button to stop searching, the channels already found will still be stored.



(Figure2)

When the scanning is finished, all active channels found will be stored automatically. The last found channel will then be played.

Now you are ready to watch digital terrestrial TV channels and radio broadcasts.

In case you skip the **First Time Installation** screen, you can still specify your **Channel Search** via the on-screen setup menu. Please refer to **Installation** paragraph on page 14 to finish the channel search.

Basic Operation

Change Channels

1. Press the numeric buttons (0~9) on the remote control to select the channel number you want.
2. Press the ▲ or ▼ button on the remote control or the front panel to change the available channels upward/downward.
3. Press the **RECALL** button to view the last viewed channel.

Adjust the volume control

Press the ► button to increase the volume level and press the ◀ button to decrease the volume level.

Mute the sound output

Press the **MUTE** button to temporarily cut off the sound output, press the **MUTE** button again to cancel.

Freeze image

Press **PAUSE** button to freeze the current image being viewed and press the the **PAUSE** button again to resume playback.

Change an audio language and audio mode

Press the **AUDIO** button and press the ◀ ▶ ▼ ▲ buttons to select the available audio languages and audio mode in STEREO, RIGHT and LEFT.

NOTE: the audio languages depend on the program providers.

Change TV/Radio mode

Press the **TV/RADIO** button to change the program list mode between TV and Radio.

View program information

1. Press **INFO** button to view the detailed information of current Program being viewed.
2. Press the **INFO** or **EXIT** button to exit.

Subtitle

Press the **SUBT** button to switch subtitle on/off.

NOTE: the subtitle depends on the program providers.

Teletext and EPG Operation

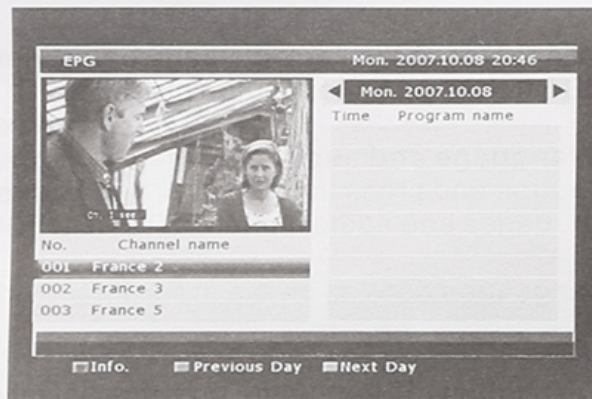
View teletext

1. Press **TTX** button to open a teletext page (if the teletext is Transmitted), press again to exit.
2. Press the 4 colour buttons and numeric buttons(0-9) to assist the Operation.
3. Press the ▲ button to page up and press the ▼ button to page down.
4. Direct to enter the required pages by using the numeric buttons.

EPG(Electronic Program Guide)

The EPG menu is used to look at what is being broadcast on a DTV or Radio channel at a later point in time.

Press the **EPG** button to access the EPG menu (Figure 3) , the detailed program information of your current viewed channel will be displayed in the right area and the stored channels display on left window.



(Figure 3)

Press the ◀ button to skip to the left window where list the stored channels and press the ▼▲ buttons to select different channels. Press the ▶ button to skip to the right window where list the programs schedule and press the ▼▲ buttons to move up and down. Press the red coloured button to view detail channel information, which is dependant on program providers. Press the green coloured button to view last day program schedule. Press the blue coloured button to view next day program schedule. Press the **EXIT** button to exit the EPG menu.

NOTE: The EPG information depend on program providers.

Menu Operation

Main Menu

Press the **MENU** button to enter the main menu (Figure 4), Press the **EXIT** button to exit the main menu.

The main menu has six items which includes TV Channel, Radio Channel, Installation, Edit Program, Setting and System Info.



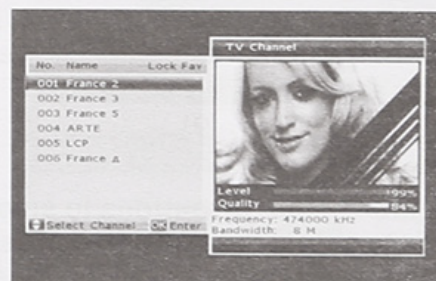
(Figure 4)

1. TV Channel

Press the **MENU** button to enter the main menu then select the **TV Channel** (Figure 5) by pressing the ▼ and ▲ buttons and press the OK button to access the TV channel list (Figure 6), press the ▼ and ▲ buttons to select the TV program you want to view, press OK button to enter normal view mode.



(Figure 5)

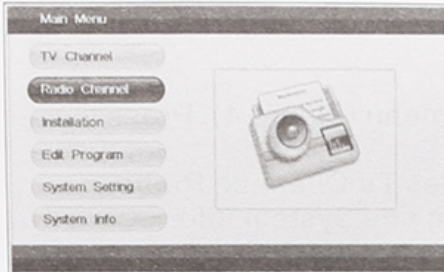


(Figure 6)

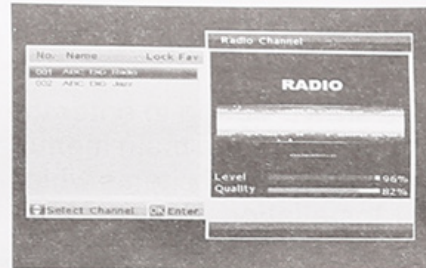
2. Radio Channel

Press the **MENU** button to enter the main menu then select the **Radio Channel** (Figure 7) by pressing the ▼ and ▲ buttons and press the OK button to access the radio channel list (Figure 8), press the ▼ and ▲ buttons to select the radio program you want to listen, press OK button to enter normal listen mode (Note: Image is not available for radio programmes).

Menu Operation



(Figure 7)

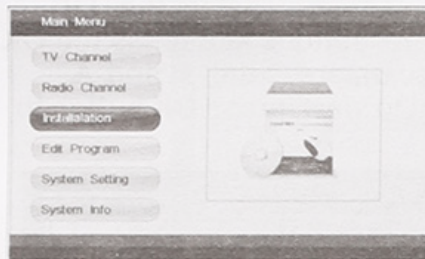


(Figure 8)

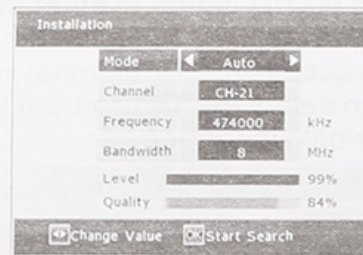
3. Installation

To search channels here, you can search channels by Auto and Manual. Press the **MENU** button to enter the main menu then select the **Installation** (Figure 9) by pressing the **▼** and **▲** buttons and press the **OK** button to access the Installation menu (Figure 10).

The password will be required to enter the Installation menu if the **Pin status** in **Pin Setting** menu is set to **Enable** mode, the default password is 0000. To change the password and pin status, please refer to **Pin Setting** paragraph on page 19.



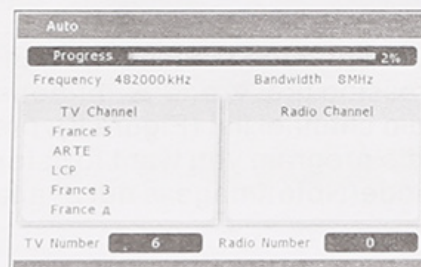
(Figure 9)



(Figure 10)

Auto Search

Press the **▼** and **▲** buttons to select **Mode** and press the **◀** or **▶** buttons to select the **Auto** and press the **OK** button to start searching channels automatically, all the found channels will be stored automatically (Figure 11), the first found channel will be viewed after the search is completed. To exit auto search, press the **EXIT** button.

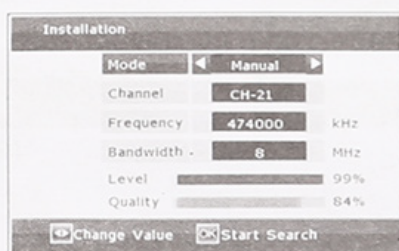


(Figure 11)

Menu Operation

Manual Search

Press the ▼ and ▲ buttons to select the **Mode** and press the ◀ or ▶ buttons to select **Manual** (Figure 12).



(Figure 12)

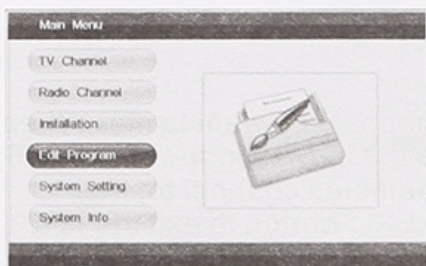
Press the ◀▶▼▲ buttons to select the desired , frequency or bandwidth, then press the **OK** button to start search.

4. Edit Program

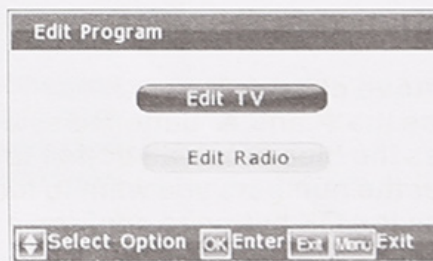
You can edit TV and radio programs in the these items: Delete, Favourite, LCN sort and Favourite sort.

Press the **MENU** button to enter the main menu then select the **Edit Program** (Figure 13) by pressing the ▼ and ▲ buttons and press the **OK** button to access the Edit Program menu (Figure 14).

The password will be required to enter the Edit Program menu if the **Pin status** in **Pin Setting** menu is setted to **Enable** mode, the default password is 0000. To change the password and pin status, please refer to **Pin Setting** paragraph on page 19.



(Figure 13)

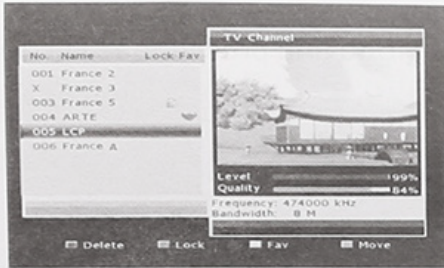


(Figure 14)

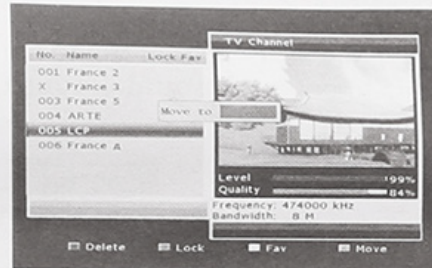
Edit TV channel

Press the ▼ and ▲ buttons to select **Edit TV** and press the **OK** button to enter Edit TV mode (Figure 14).

Menu Operation



(Figure 15)




(Figure 16)



To delete a TV channel

Press the ▼ and ▲ buttons to select the channel then press the red button, it will show a delete cursor on the left side of the selected channel (Figure 15), all the selected channels will be deleted after quit the edit menu. Press the **EXIT** button to exit the edit menu.

To lock channels

Press the green coloured button to lock the channel you selected. It will show a lock icon  on the right side of the selected channel, Press the **EXIT** button to exit the edit menu.

To set favourite channel

Press the ▼ and ▲ buttons to select the channel then press the yellow button, it will show  icon on the right side of the selected channel (Figure 15). Choose the FAV channel and press the green button again to cancel, the  icon will disappear. Press the **EXIT** button to exit the edit menu.

Once your favourite group is created, you can press the **FAV** button to quickly access your favourite channel list.

To move channels

Press the ▼ and ▲ button to select the channel you want to move then press the blue coloured button to bring up the move window (Figure 16), enter the numbers you want to move the selected channel to, then press the **OK** button to confirm, press the **EXIT** button to exit the edit menu.

Edit radio channel

Press the ▼ and ▲ buttons to select **Edit Radio** and press the **OK** button to enter Edit Radio mode.

The operations are same as editing TV channel.

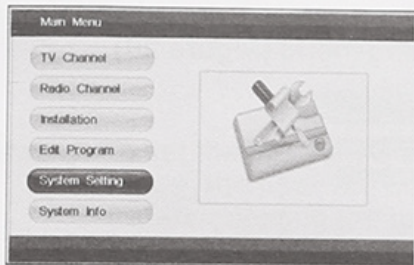
Menu Operation

5. Setting

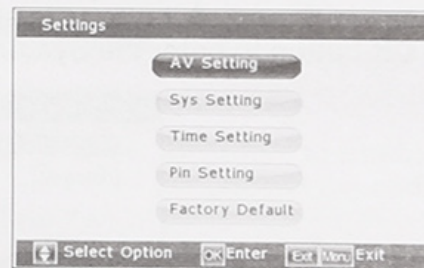
The Setting menu has five items which includes AV Setting, System Setting, Pin Setting, Timer Setting, Factory Default.

Press the **MENU** button to enter the main menu then select the **Setting** (Figure 17) by pressing the **▼** and **▲** buttons and press the **OK** button to access the Setting menu (Figure 18).

The password will be required to enter the Installation menu if the **Pin status** in **Pin Setting** menu is setted to **Enable** mode, the default password is 0000. To change the password and pin status, please refer to **Pin Setting** paragraph on page 19.



(Figure 17)

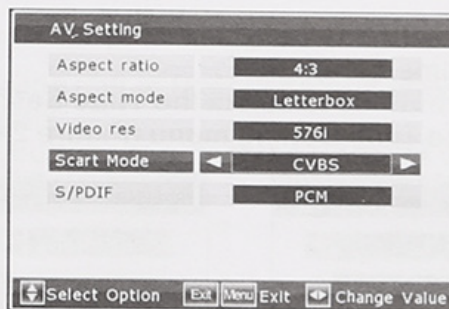


(Figure 18)

AV Setting

You can set these AV items: Aspect ratio, Aspect mode, Video resolution, Video output, SPDIF output.

Press the **▼** and **▲** buttons to select the **AV Setting** and press the **OK** button to enter the AV setting menu (Figure 19).



(Figure 19)

Aspect ratio: To set the image display aspect ratio in 16:9 or 4:3.

Aspect mode: To set the screen image format in 4:3 Pan Scan, 4:3 Letter Box or Full Screen.

Video res: To set the video resolution in 480i and 576i.

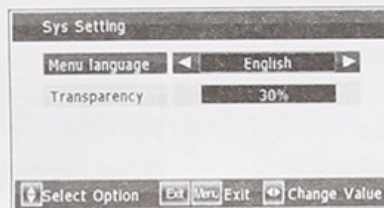
Menu Operation

S/PDIF output: To set the digital audio output format in PCM or Dolby AC-3. Select AC-3, You can listen to 5.1 channel Dolby Digital audio (if broadcast) through the audio amplifier (that has Dolby AC-3 decoder) by using the coaxial S/PDIF connection. Selecting PCM will limit this to 2.1 channel audio.

System Setting

You can set these items here: Menu language, PG block level, Time region, OSD transparency.

Press the ▼ and ▲ buttons to select the **System Setting** and press the **OK** button to enter the System Setting menu (Figure 20).



(Figure 20)

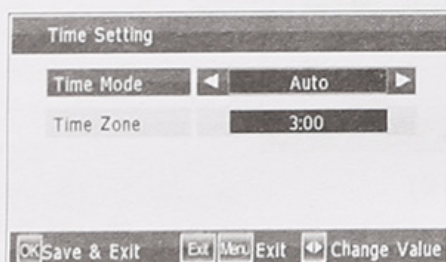
Menu language: To select menu language. The default language is English.

Transparency: To set a level of transparency for the OSD(On Screen Display) menu.

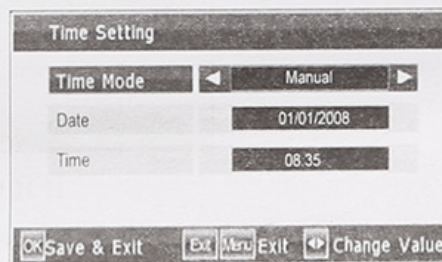
Time Setting

You can set system time here.

Press the ▼ and ▲ buttons to select the **Time Setting** and press the **OK** button to enter the Time Setting menu (Figure 21, Figure 22).



(Figure 21)



(Figure 22)

Auto: To set the system time automatically, depend on broadcasters.

Manual: To set the system time manually.

Time Zone: To set the Time Zone.

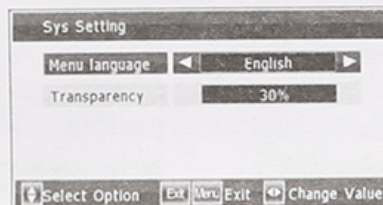
Menu Operation

S/PDIF output: To set the digital audio output format in PCM or Dolby AC-3. Select AC-3, You can listen to 5.1 channel Dolby Digital audio (if broadcast) through the audio amplifier (that has Dolby AC-3 decoder) by using the coaxial S/PDIF connection. Selecting PCM will limit this to 2.1 channel audio.

System Setting

You can set these items here: Menu language, PG block level, Time region, OSD transparency.

Press the ▼ and ▲ buttons to select the **System Setting** and press the **OK** button to enter the System Setting menu (Figure 20).



(Figure 20)

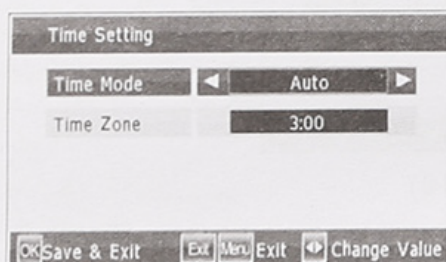
Menu language: To select menu language. The default language is English.

Transparency: To set a level of transparency for the OSD(On Screen Display) menu.

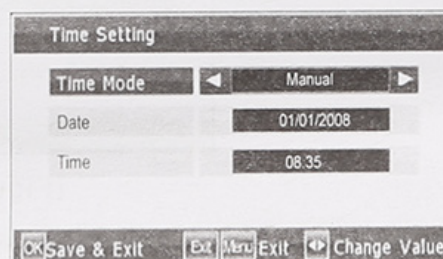
Time Setting

You can set system time here.

Press the ▼ and ▲ buttons to select the **Time Setting** and press the **OK** button to enter the Time Setting menu (Figure 21, Figure 22).



(Figure 21)



(Figure 22)

Auto: To set the system time automatically, depend on broadcasters.

Manual: To set the system time manually.

Time Zone: To set the Time Zone.

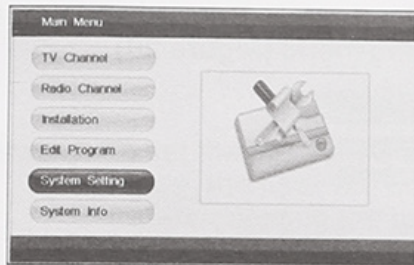
Menu Operation

5. Setting

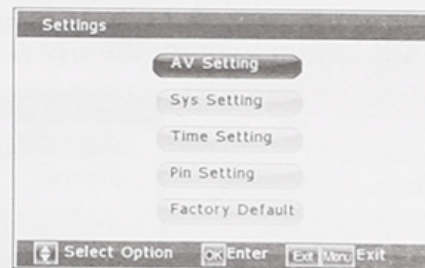
The Setting menu has five items which includes AV Setting, System Setting, Pin Setting, Timer Setting, Factory Default.

Press the **MENU** button to enter the main menu then select the **Setting** (Figure 17) by pressing the **▼** and **▲** buttons and press the **OK** button to access the Setting menu (Figure 18).

The password will be required to enter the Installation menu if the **Pin status** in **Pin Setting** menu is setted to **Enable** mode, the default password is 0000. To change the password and pin status, please refer to **Pin Setting** paragraph on page 19.



(Figure 17)

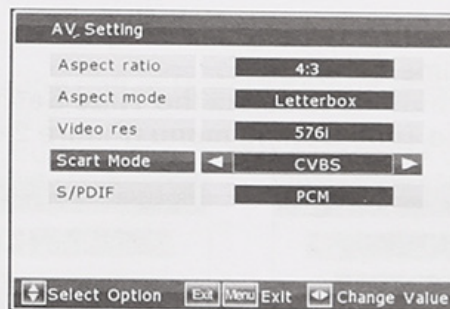


(Figure 18)

AV Setting

You can set these AV items: Aspect ratio, Aspect mode, Video resolution, Video output, SPDIF output.

Press the **▼** and **▲** buttons to select the **AV Setting** and press the **OK** button to enter the AV setting menu (Figure 19).



(Figure 19)

Aspect ratio: To set the image display aspect ratio in 16:9 or 4:3.

Aspect mode: To set the screen image format in 4:3 Pan Scan, 4:3 Letter Box or Full Screen.

Video res: To set the video resolution in 480i and 576i.

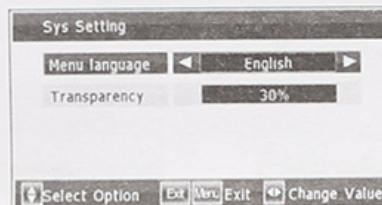
Menu Operation

S/PDIF output: To set the digital audio output format in PCM or Dolby AC-3. Select AC-3, You can listen to 5.1 channel Dolby Digital audio (if broadcast) through the audio amplifier (that has Dolby AC-3 decoder) by using the coaxial S/PDIF connection. Selecting PCM will limit this to 2.1 channel audio.

System Setting

You can set these items here: Menu language, PG block level, Time region, OSD transparency.

Press the ▼ and ▲ buttons to select the **System Setting** and press the **OK** button to enter the System Setting menu (Figure 20).



(Figure 20)

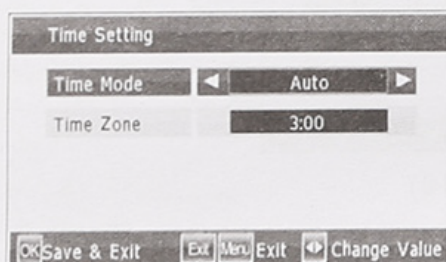
Menu language: To select menu language. The default language is English.

Transparency: To set a level of transparency for the OSD(On Screen Display) menu.

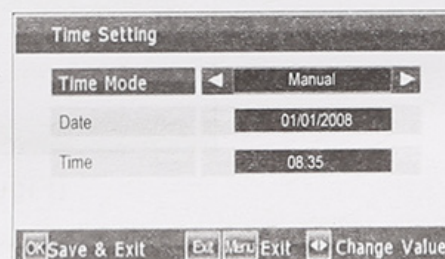
Time Setting

You can set system time here.

Press the ▼ and ▲ buttons to select the **Time Setting** and press the **OK** button to enter the Time Setting menu (Figure 21, Figure 22).



(Figure 21)



(Figure 22)

Auto: To set the system time automatically, depend on broadcasters.

Manual: To set the system time manually.

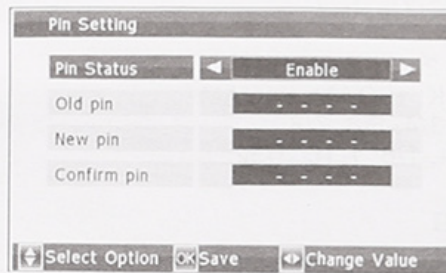
Time Zone: To set the Time Zone.

Menu Operation

Pin Setting

You can set pin status and change the pin code here.

Press the ▼ and ▲ buttons to select the **Pin Setting** and press the **OK** button to enter the Pin Setting menu (Figure 23).



(Figure 23)

Pin Status: To set the pin status enable or disable. (If set to Enable mode, the user will be asked to enter the correct pin code before entering the installation menu, edit program menu and Setting menu. It will be not allowed to enter these Menus without input the correct pin code.)

Change pin code:

1. Old pin: Enter your current valid pin code.
2. New pin: Enter new pin code in 4 digits.
3. Confirm pin: Enter again the new pin code in 4 Digits.

NOTE: DO NOT FORGET this new password, write it in a safe place. The default password is 0000.

Factory Default

Enable you to restore the unit to factory default and all the stored channels will be cleared.

Press the ▼ and ▲ buttons to select the **Factory Default** and press the **OK** button to start restore.

6). System Info

Enable you to reveal the software information of this unit.

Press the ▼ and ▲ buttons to select the **System Info** and press the **OK** button to display the system information.

Technical specifications

1. Tuner & Demodulator

Input Signal Frequency: VHF-High 174~230 Mhz, UHF 474~858M Hz
Input Signal Level: -81 ~ -20 dB
RF input : 75 Ohms IEC169-2, female
RF loop out : IEC169-2, male
Channel bandwidth: 6/7/8MHz
Modulation: COFDM
Transmission Mode: 2K FFT, 8K FFT
Constellations: QPSK, 16QAM, 64QAM
Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8
Guards Intervals: 1/4, 1/8, 1/16, 1/32

2. Video Decoding

MPEG-2 MP@HL/ML
MPEG4 AVC H.264 MP@level 3.1
PAL video output
Aspect ratio: 4:3 or 16:9
Active pixels: 720x576i, 720x480i

3. Audio Decoding

MPEG-1/2/2.5 Layer I&II&III, AC-3 (Dolby Digital), AAC
Analog audio output: Stereo L/R
Digital audio output: S/PDIF(Coaxial)

4. Connectors

Video port x 1
USB port x1
TV Scart x 1
Audio RCA (Audio L, R) x 1
S/PDIF (Coaxial) x 1

5. Power Supply

Input voltage: 100~240V AC~ (SMPS)
Power Consumption: 10W

6. Unit Dimensions

(W x D x H) 235mm x 170mm x38mm

* Specifications are subject to change without further notice.



This symbol on the product or in the instructions means that your electrical and electronic equipment should be disposed at the end of life separately from your household waste. There are separate collection systems for recycling in the EU. For more information, please contact the local authority or your retailer where you purchase the product.