

# MAG



**Digital to Analog Converter Box  
CCB7707  
User Manual**

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## Safety Information

### SAFETY INSTRUCTIONS

#### Federal Communications Commission Statement



This equipment has been tested and found to comply with the limits of a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient/Relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit which is different from what the receiver is connected to.
4. Consult the dealer or an experienced radio/TV technician for help.



Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user authority to operate the equipment.

## Safety Information

### Important Safety Instructions

In a separate booklet or sheet, or be located before any operating instructions.

The important safety instructions shall be entitled "Important Safety Instructions". The following safety instructions shall be included where applicable and when used, shall be verbatim as follows. Additional safety information is not prohibited from being included by adding statements after the end of the following safety instruction list. At the manufacturer's option, a picture or drawing that illustrates the intent of a specific safety instruction is not prohibited from being placed immediately adjacent to that safety instruction.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the apparatus combination to avoid injury from tip-over.



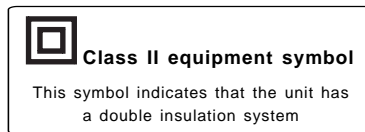
13. Unplug this apparatus during lightning storms or when unused for long periods of time.

## Safety Information

### SAFETY WARNING

- 14 Refer all servicing to qualified service personnel .Servicing is required when the apparatus has been damaged in any way ,such as power supply cord or plug is damaged ,liquid has been spilled or objects have fallen into the apparatus ,the apparatus has been exposed to rain or moisture ,does not operate normally ,or has been dropped .
- 15 .The MAINS plug or an appliance coupler is used as the disconnect device ,the disconnect device shall remain readily operable .
- 16 .The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids ,such as vases ,shall be placed on the apparatus .

**WARNING:** To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.



The lightning flash with arrowhead symbol inside an equilateral triangle is intended to alert the user to the presence of uninsulated "hazardous voltage" within the product's enclosure, which may be of sufficient magnitude to induce a risk of electric shock to persons.

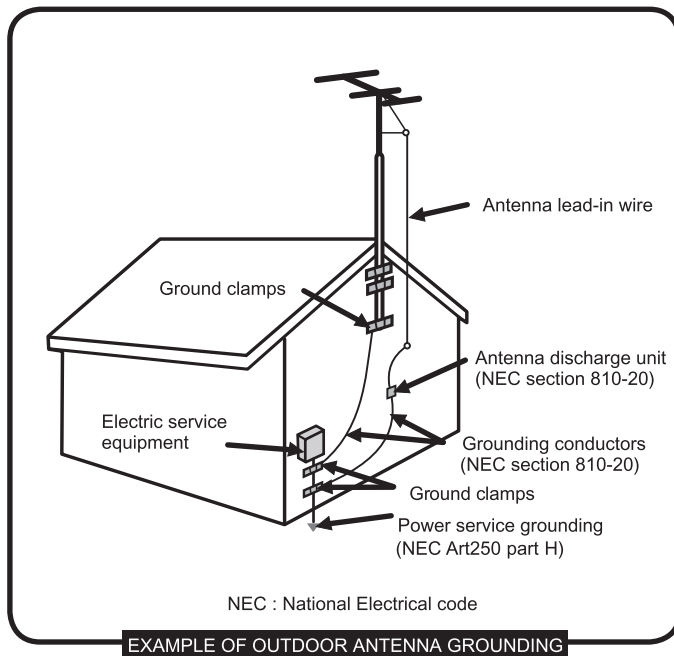


The exclamation mark inside an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

## Safety Information

### Antenna Safety Instructions

Section 810 of National Electrical Code (NEC) provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

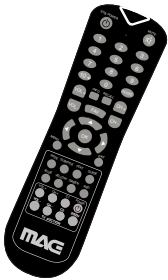


## What's in the box

Inside your set top box package you should have :



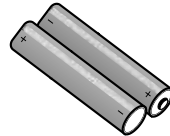
The Set Top Box



Remote Controller



RF Cable



AAA /7 # Batteries



User Guide



Quick Start Guide

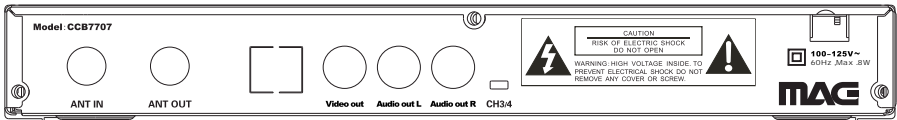


Make sure all of the above contents are included in the package. If you are missing any items, please contact the customer support department.

# Main unit



Front view



Rear view

## Installation of Batteries

### Installation of batteries:

Open the battery cover on the back of the Remote Controller and put two new AAA /7 # batteries into the battery slot according to the signs. After this, please close the battery cover.

### Notice on battery use:

This product is low power-consumed; two new batteries can last for approximately 12 months. Improper use may reduce batteries' life. Please do not use a new and an old battery together. If batteries leak, please replace them with new ones immediately. If the remote controller will not be used for a long time, please pick the batteries out and keep them apart from the remote controller.

## Setting of Learning Keys

There are seven learning keys on this remote controller for TV set, VOL+/VOL-, CH+/CH-, POWER and two custom design keys, C1/C2. All the other keys are for Set Top Box. Make sure that the TV set's remote controller is working properly, and then set the learning keys as following steps:

1. Hold the "STUDY" key down for 3 seconds. After the signal LED shines, leave it up and go to step 2;
2. Point the signal sender of TV remote controller to the one of this remote controller directly, and keep the two in 1 to 3 centimeters approximately. Press the key on the TV remote controller you want to learn (the POWER key, for example), the signal LED on this remote controller will flash for a while and then keep on shining after receiving this signal, and then press the key on this remote controller you want to record this signal. After the red LED flash thrice and keep on shining, this signal is recorded. Please go on to learn another key.
3. Set all the seven learning keys under instruction 2), and then press the "STUDY" key to finish setting.



1. After setting the learning keys, please check whether this remote controller is able to control the TV set. If not, please adjust it and set again;
2. Make sure that the window of signal sender of TV remote controller points to the window of signal receiver of remote controller directly; and place the two remote controller as near as possible;
3. Don't move any of the two remote controllers during setting, you'd better place them on desk thus to keep them stable;
4. If the "STUDY" key is pressed, the process of setting will be terminated;
5. If there is no operation is 30 seconds, the process of setting will be terminated Automatically.

## Solution of Problems

If you have any problem in setting or using this remote controller, please try the following approaches:

- 1、 Check whether the TV set's remote controller is working properly;
- 2、 Make sure that the window of signal sender of TV remote controller points to the window of signal receiver of remote controller directly;
- 3、 Check whether the batteries are installed correctly and have enough power;
- 4、 Check whether there is no obstacle between the remote controller and Set Top Box or the TV Set.

## Parameters of Remote Controller

Effective Distance:	within 6 meters
Power:	DC 3.0V
Battery Type:	AAA/U4/R7
Size:	179*50*29mm
Weight:	75g(without battery)

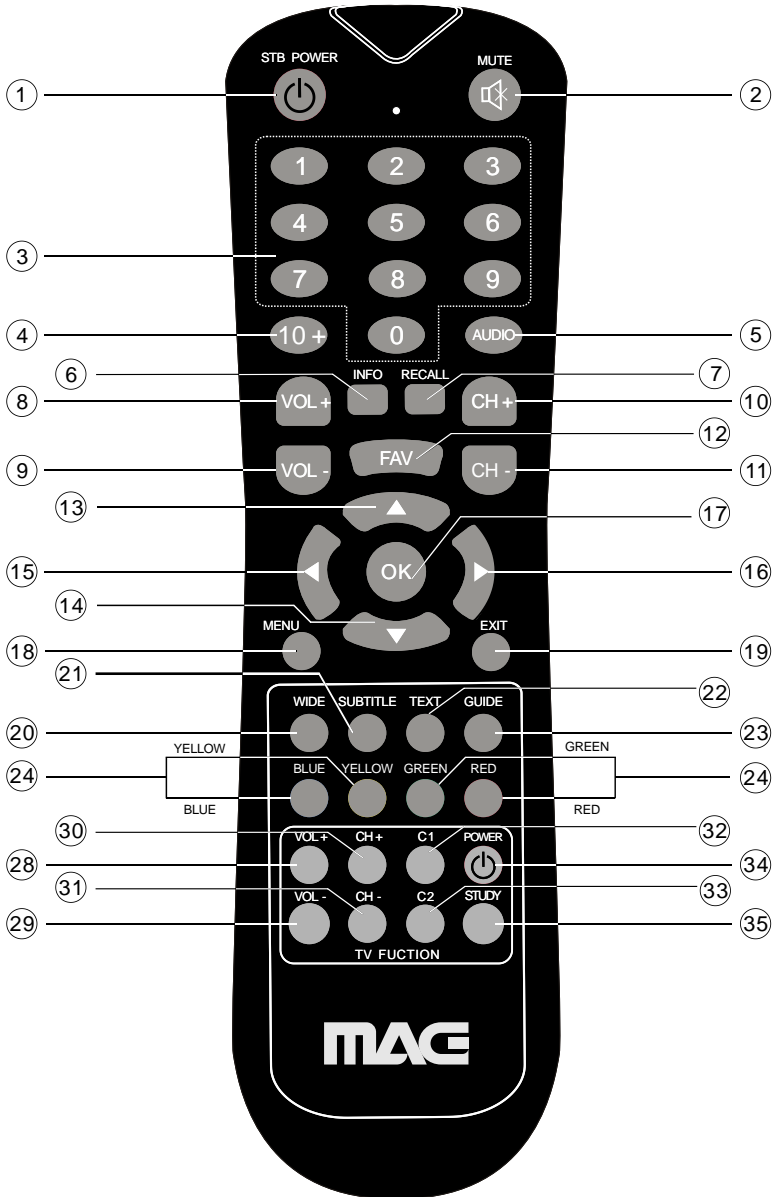
## Remote controller key actions

Ref	Key on remote.	Action on the receiver
1	STB POWER	Enter/Exit standby mode
2	MUTE	<ul style="list-style-type: none"> <li>◆ Set volume to mute</li> <li>◆ Acts as toggle key to mute-on / mute-off audio</li> </ul>
3	0—9	Numeric key to change channel number or numeric value
4	10+	Not use
5	AUDIO	Select Audio
6	INFO	Invokes the info banner
7	RECALL	Switch to previously viewed channel
8	VOL+	Increase volume
9	VOL-	Decrease volume
10	CH+	Switch to next channel
11	CH-	Switch to previous channel
12	FAV	<ul style="list-style-type: none"> <li>◆ Invokes the Channel List menu</li> <li>◆ User can press Left/Right to move between channel List and Favorite List</li> </ul>
13	UP Arrow	Move focused item in menu or channel list
14	DOWN Arrow	Move focused item in menu or channel map
15	LEFT Arrow	<ul style="list-style-type: none"> <li>◆ Switch to Favorite Channel List in Channel List menu</li> <li>◆ Change selection in menu</li> <li>◆ Switch to Next channel in EPG screen</li> </ul>
16	RIGHT Arrow	<ul style="list-style-type: none"> <li>◆ Switch to Favorite Channel List in Channel List menu</li> <li>◆ Change selection in menu</li> <li>◆ Switch to Previous channel in EPG screen</li> </ul>
17	OK	Select a channel or menu option
18	MENU	<ul style="list-style-type: none"> <li>◆ Invokes the Main menu screen</li> <li>◆ Exit to previous Menu item</li> </ul>
19	EXIT	Exit from Menu
20	WIDE	Select Picture Shape
21	SUBTITLE	Select Closed Caption
22	TEXT	Not use
23	GUIDE	Invokes the EPG screen
24	COLOUR KEYS	Used to operate different functions in TEXT screen or other menus

## TV FUCTION

25	VOL+	Increase TV volume
26	VOL-	Decrease TV volume
27	CH+	Switch to next TV channel
28	CH-	Switch to previous TV channel.
29	C1	Custom define key1
30	C2	Custom define key2
31	POWER	Enter/Exit TV standby mode
32	STUDY	Enter study mode

# Remote Controller Codes



## How do I turn the set-top box on and off?

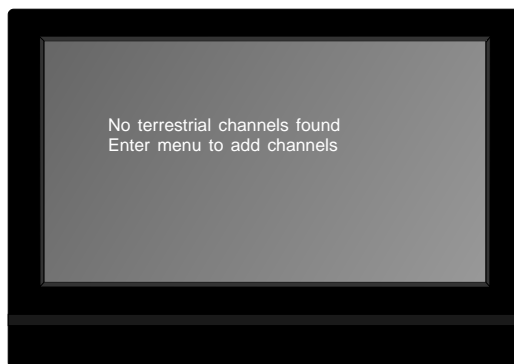
When you have connected your set-top box to the TV, you are ready to use it.

- 1 . Switch on the TV.
- 2 . Set the source to the input channel you have connected the set-top box (AV1, for example).
- 3 . Switch on the set-top box.
- 4 . The front panel window will flash green.
- 5 . Usually the first channel in the channel list will be displayed. However, if this is the first time you have connected the set-top box, your TV will display the 'No terrestrial channels found' and 'Enter menu to add channels' screen. See the topic 'How do I tune-in TV Stations' for details of how to install the set-top box at this stage.

## How do I tune-in TV stations?

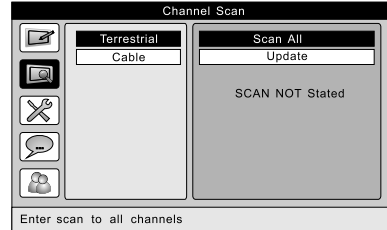
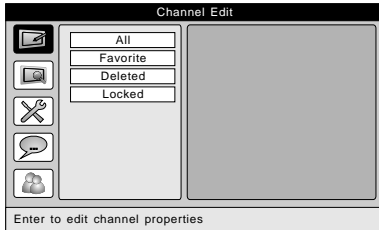
In the following description 'remote controller' and 'main unit', may replace 'set-top box'. All keys we refer to are on the remote controller.

1. Connect the set-top box to the TV and turn the set-top box on as we have explained on the topic 'How do I turn the set-top box on and off'.
2. Switch it on at the mains socket.
3. The front panel will flash green.
4. Turn on the TV.
5. Switch the TV to the input that the set-top box is connected to (such as AV1 or Av2).
6. If it is the first time you have switched the set-top box on, after a short delay your TV will show the 'No Off-Air Channels' screen, followed by 'No terrestrial channels found' and 'Enter menu to add channels' screen a few seconds later.

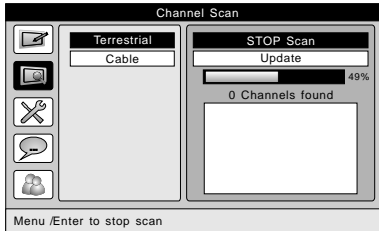


## How do I tune-in TV stations?

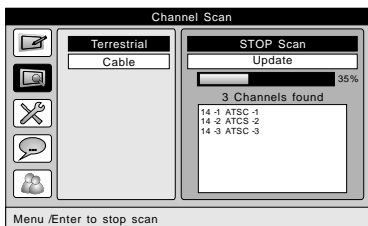
- 7 . Press the Menu key.
8. Your TV will display the main menu as shown below.



- 10 . Press the **OK** key to select the Terrestrial function and then press the **OK** key again to start scan all channels.



- 11 . You TV will display the Channel Scan page, and a progress bar will be displayed at the screen. The set-top box will search through channels 2 to 69 and the TV stations it finds will be listed on the page as it finds them. So the total number of TV stations it finds will be displayed on the page. The set-top box will store these stations in its memory in the order of the channel numbers. When the set-top box has finished scanning, the scan page will close and the set-top box will tune the TV to the first station in the list and display it. In case that want to stop the scanning, an **OK** key pressing just needed.



- 12 . If the set-top box couldn't find any channels, your TV screen will display the 'No terrestrial channels found' and 'Enter menu to add channels' screen.
- 13 . If this is not the first time you have switched the set-top box on, it will turn on and tune into the last channel being watched when it was last used.

## Basic Operations

Once channel search is completed, you can start to watch digital terrestrial TV channels and radio broadcasts. Some typical operations are given in this chapter.

### Switch On and Off

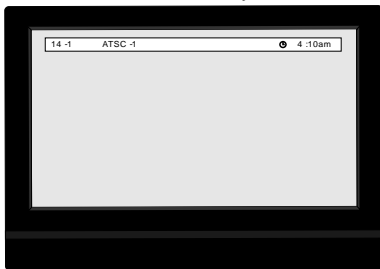
Whenever you are not using the receiver, press the **STAND BY** key on the remote controller to put it into standby mode. And you can press the **STAND BY** key on the remote controller again to switch on.

### Changing Channels

To switch between different channels, you can:

Press the **CH▲/CH▼** keys to go to the previous/next channel.

Use the **NUMERIC** keys to select a channel number.



Whenever you change a channel, a banner appears at the top of the screen displaying the basic information on the current channel.

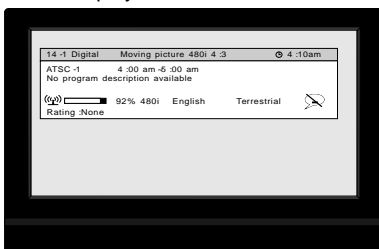
### Adjusting the Volume

Press the **VOLUME+ /VOLUME-** keys to adjust the volume.



### Displaying information

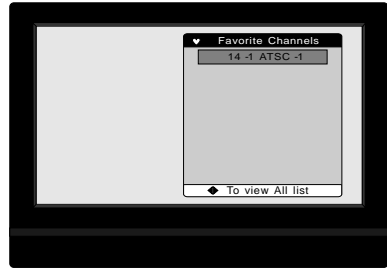
To display the detailed information of the current channel while playing, press the **INFO** key.



## Basic Operations

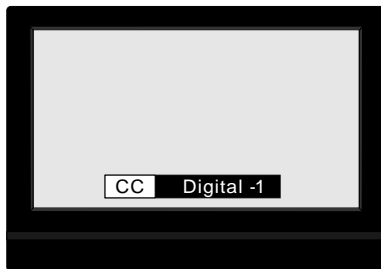
### View All/Favorite Channel list

You can press the **FAV** key on the remote controller to view All/Favorite Channel list, and then you switch between the Favorite Channel list and All Channel list with the **LEFT/RIGHT** keys.



### Choosing Subtitle

You can press the **SUBTITLE** key to select or close subtitles on the screen. The available subtitles depend on the broadcaster.

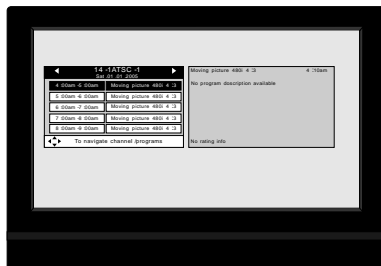


### Displaying EPG

The EPG contains one-day program information of the program in the channel list.

To view the EPG provided by the content provider:

1. Press the **GUIDE** key and then a EPG picture of one days' program will be shown as following:
2. Press **UP/DOWN/LEFT/RIGHT** keys to navigate the lists, The highlighted EPG details will be shown on the right detailed EPG screen as below:
3. Press the **EXIT** or **GUIDE** key to exit the EPG, otherwise, the EPG page will timeout several seconds later.



## Basic Operations

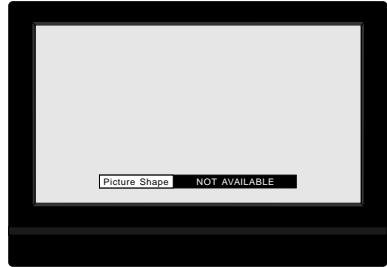
### Mute

Press the **MUTE** key to enable or disable the audio output.



### Wide

Press the **WIDE** key to switch the Picture Shape, **FULL**, **ZOOM1**, **ZOOM2**, or **LETTER BOX**.



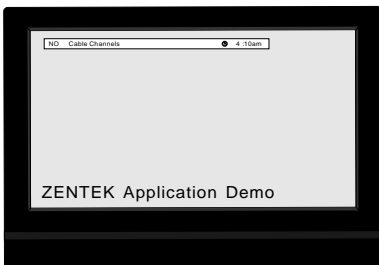
### Stereo Effect:

Press the **RED** key to switch the Stereo Effect among **SRS TruSurround**, **SRS TruSurround XT**, **SRS TruBass**, **SRS Focus** and **None**.



### Switch between TV and Radio

You can press the **TV/RADIO** keys to switch between TV and Radio program.  
(Not available)



### Audio

Press the **AUDIO** key to select the audio language.



EPG is broadcast by individual channels and is subject to the discretion of the broadcaster.

## Main Menu

The receiver features an on-screen menu providing access to a variety of setup and management controls. Use the remote controller to navigate through the menu and activate required settings.

When you are in the set-up mode of the main menu, press the **MENU** key if you want to go back a stage at any time. If you keep pressing **MENU** key you will eventually close the main menu. Press the **EXIT** key if you want to close the main menu straight away.

How to display the Main Menu:

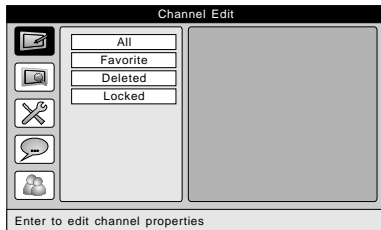
1. Press the **MENU** key.
2. Your TV will display the main menu.



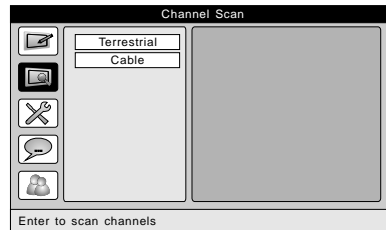
If you have not pressed another key for 30 seconds after pressing the **MENU** key, it will automatically close.

3. The following options are available:

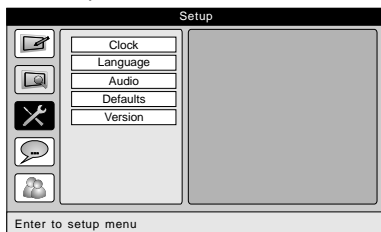
### Channel Edit



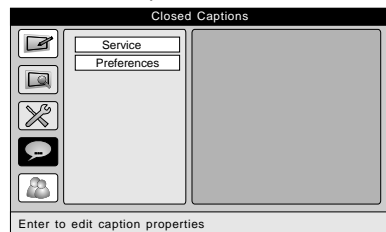
### Channel Scan



### Setup

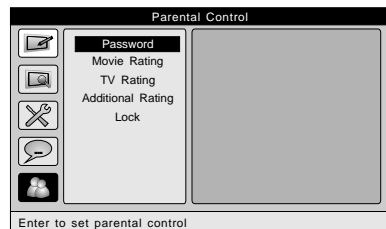


### Closed Captions



4. Press the **UP** and **DOWN** keys to select the option you want.
5. Press the **OK** key to select the item you have selected. Or you can close the main menu by pressing the **MENU** or **EXIT** key.

### Parental Control



1. There is a prompt for the item highlighted at the bottom of the Main Menu page.
2. And all menu page of the software will timeout several seconds later if no Operation is active.
3. You can back to previous menu in this topic with the **MENU** key.

## Channel Edit

The channel edit function let you choose to:

1. Edit all channel
2. Edit favorite channel
3. Delete channels
4. lock channels

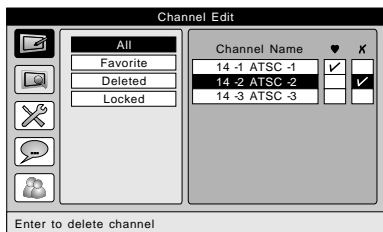
How to select the functions listed above in the edit channels function page:

1. Select 'Channel Edit' in the 'Main Menu'.
2. Press the **DOWN** key until the item you want is highlighted.
3. Press the **OK** key.

### All

Enter this function you can edit all channel list.

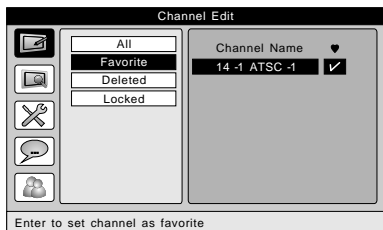
1. Press the **DOWN** key until 'All' is highlighted.
2. Press the **OK** key.
3. You can set channel as favorite or delete channel with the **LEFT/RIGHT/UP/DOWN** keys.



### Favorite

Enter this function you can edit favorite channel List.

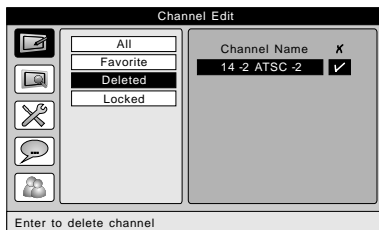
1. Press the **DOWN** key until 'Favorite' is highlighted.
2. Press the **OK** key.
3. You can delete a favorite channel with the **UP/ DOWN** keys.



### Deleted

Enter this function you can edit deleted channel list.

1. Press the **DOWN** key until 'Deleted' is highlighted.
2. Press the **OK** key.
3. You can recover the deleted-channel to the All Channel List with the **UP/DOWN** key.

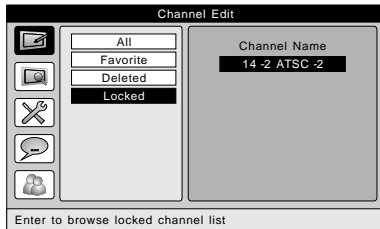


## Channel Edit

### Locked

Enter this function you can browse locked channel list.

1. Press the **DOWN** key until 'Locked' is highlighted.
2. Press the **OK** key.
3. The locked channel list will be shown if some channels have been locked in the sub-function lock of Parental Control menu.



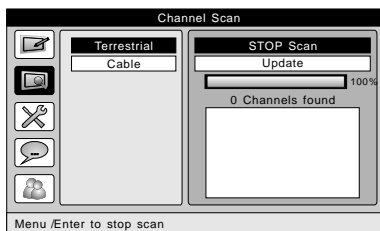
## Channel Scan

Enter the **Channel Scan** page via **Main Menu**. The channel scan function let you choose to:

1. Terrestrial channel scan
2. Cable channel scan (not available)

How to select the functions listed above in the channel scan function page:

1. Select 'Channel Scan' in the 'Main Menu'.
2. Press the **DOWN** or **UP** key until the item you want is highlighted.
3. Press the **OK** key.



### Terrestrial channel scan

Enter to scan terrestrial channel. In this function you can select 'Scan All' item with pressing **OK** key if you want to scan all channels, or press **DOWN** and **OK** keys to select 'Update' item if you just want to update with new channels.

See some more information in the 'How do I tune-in TV stations?' topic.

### Cable channel scan

Enter to scan cable channel. This function is disabled.

## Setup

Enter the **Setup** page via **Main Menu**. The item let you choose to:

1. Setup clock
2. Setup osd language
3. Setup audio
4. Set factory defaults
5. Check the software version

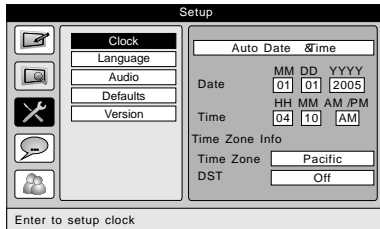
How to select the functions listed above in the Setup function page:

1. Select 'Setup' in the 'Main Menu'.
2. Press the **DOWN** or **UP** key until the item you want is highlighted.
3. Press the **OK** key.

### Clock

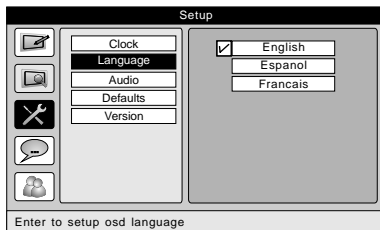
Enter to setup clock. You can change the Date & Time and Time zone.

1. Press the **DOWN** key until 'Clock' is highlighted.
2. Press the **OK** key.
3. You can press the **LEFT/RIGHT** keys to select an item and press the **UP/DOWN** keys to change the option of each item.



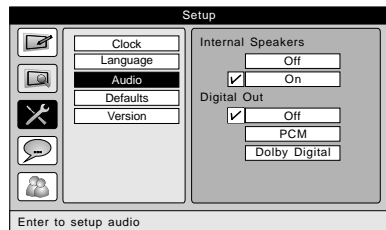
### Language

This function allows you to change the OSD Language. There languages are available, English, Spanish and French.



### Audio

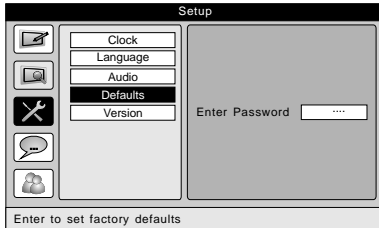
Enter to setup audio. You can switch Internal Speakers on or off. And you can switch Digital Out among PCM, Dolby Digital or Off.



## Setup

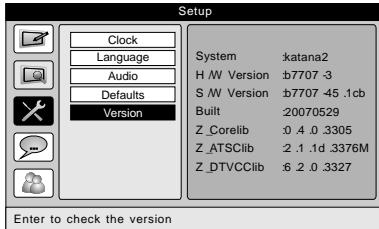
### Defaults

Enter to set factory defaults. This function needs a four-digit password.



### Version

Enter to check the software version.



## Closed Captions

Enter the **Closed Captions** page via **Main Menu**. This function allows you to edit caption properties, and let you choose to:

1. Service
2. Preferences

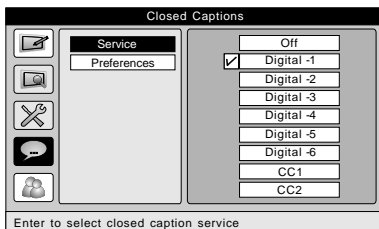
How to select the functions listed above in the **Closed Captions** function page:

1. Select **'Closed Captions'** in the 'Main Menu'.
2. Press the **DOWN** or **UP** key until the item you want is highlighted.
3. Press the **OK** key.

### Service

Enter to select closed caption service.

1. Press the **DOWN** key until Service item is highlighted.
2. Press the **OK** key.
3. You can press the **UP/DOWN** key to select an item. The services you can select are listed following: **Off, Digital-1, Digital-2, Digital-3, Digital-4, Digital-5, Digital-6, Cc1, Cc2**.

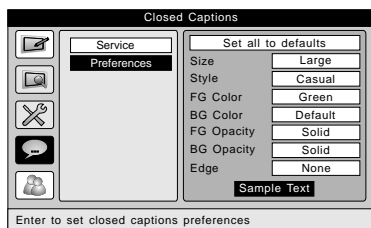


## Closed Captions

### Preferences

Enter to select closed caption preferences.

1. Press the **DOWN** key until Preferences item is highlighted.
2. Press the **OK** key.
3. You can press the **UP/DOWN** key to select an item and press the **LEFT/RIGHT** keys to change the function option of each item. When you select the 'Set all to defaults' item all function items listed following will be set to defaults. The function items are: **Size, Style, FQ Color, BQ Color, FQ Opacity, BQ Opacity** and **Edge**.
4. The closed caption preferences will be shown on the bottom of the sub-menu page after the function options are selected.



## Parental Control (V-chip)

Enter the **Parental Control** page via **Main Menu**. The **Parental Control** function lets you choose to:

1. Set Password
2. Movie Rating
3. TV Rating
4. Additional Rating
5. Lock

How to select the functions listed above in the **Parental Control** function page:

1. Select '**Parental Control**' in the 'Main Menu'.
2. Press **OK** key to select the 'Password' item to input the 4-digit parental control password. If the password you have entered isn't correct or you haven't entered the password, the other function items couldn't be highlighted.
3. Press the **DOWN** or **UP** key until the item you want is highlighted.
4. Press the **OK** key.

Now, following are some introduction for each function item of Parental Control.

# Parental Control

## Password

In this section you can **Enter Password** to set rating limits, **Change Password** and **Reset Password**.

Parental Control

Password  
 Movie Rating  
 TV Rating  
 Additional Rating  
 Lock

Enter Password: [Masked]

Change Password:

Old Password: [Masked]

New Password: [Masked]

Reset Password

Date: :00 :00 :00 :00 :00 :00

Count: :0 times

Enter to key in password

## Movie Rating

Enter to set movie rating. In this section you can allow or block different grade movies, the grades you can choose are **G, PG, PG13, R, NC-17** and **X**.

Parental Control

Password  
 Movie Rating  
 TV Rating  
 Additional Rating  
 Lock

Allow All

G Allow

PG Allow

Pg13 Allow

R Allow

NC-17 Allow

X Allow

Block All

Enter to set movie rating

## TV Rating

Enter to set TV rating. In this section you can allow or block different grade movies, the grades you can choose are **TV Y, TV Y7, TV G, TV PG, TV 14** and **TV MA**.

Parental Control

Password  
 Movie Rating  
 TV Rating  
 Additional Rating  
 Lock

Allow All

TV Y Allow

TV Y7 All Y7 FV

TV G Allow

TV PG All PG D L S V

TV 14 All 14 D L S V

TV MA All MA L S V

Block All

Enter to set TV rating

## Additional Rating

Enter to set additional rating.

## Lock

Enter to set channel as locked.

Parental Control

Password  
 Movie Rating  
 TV Rating  
 Additional Rating  
 Lock

Channel Name

14 -1 ATSC -1	<input type="checkbox"/>
14 -2 ATSC -2	<input checked="" type="checkbox"/>
14 -3 ATSC -3	<input type="checkbox"/>

Enter to set channel as locked

## Specification

### General

Size 230x188x29mm

Weight 0.5Kg

### System

Main CPU: Enhanced ST20 32-bit VL-RISC CPU 200 MHz

Main Memory: 256Mbit DDR SDRAM

Flash Memory: 16 Mbit NOR Flash

Menu System: Graphic User interface

Remote Controller: STB/TV integrated Infrared Remote Controller(minimum function)

Input Frequency: VHF/UHF:54MHz to 864 MHz

Transmission System: ATSC

Antenna Input: 75 Ohm Female FConnector

Power: AC 100~125V

Power consumption 8W

Standby mode power consumption <1.5W

## Help and advice

If you have difficulties using your set-top box and none of the suggestions below work, try switching your set-top box off, and then on again. If this does not work, contact the shop you bought your set-top box from or a qualified repair technician. Never try to repair your set-top box yourself.

Problem	Possible cause	What to do
Standby light not lit	Mains lead unplugged Mains fuse blown	Check mains lead Check fuse
No signal found	Aerial is disconnected Aerial is damaged /misaligned Out of digital signal area	Check aerial lead Check aerial Check with dealer
No picture or sound	Tuned to digital teletext channel	Retune to another channel
Scrambled channel message	Channel is scrambled	Select alternative channel
No response to remote controller	Receiver off Handset not aimed correctly Front panel obstructed Handset batteries exhausted	Plug in and turn on receiver Aim handset at front panel Check for obstructions Replace handset batteries
Forgotten channel lock code		Re-install channels to cancel channel lock
The remote controller will not operate your SET TOP BOX receiver	1.The batteries in your remote controller need replacing 2.There is an obstruction blocking the signal path between the remote controller and the receiver	1 Replace the batteries 2 Check that there is nothing blocking the path between the remote controller and the receiver
After moving the SET TOP BOX receiver to another room you find you are no longer able to receive the digital reception	The aerial feed from new point may come through a distribution system which may reduce the digital signal level to the SET TOP BOX receiver	Try a direct feed from the antenna

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