User Manual

Digital TV Tuner
H-STB-QAM-ATSC

Universal Dual Modulation Standard Integrated Receiver Decoder With PVR Recorder

Cable TV QAM Digital TV Converter Set-Top Box & Off AIR ATSC Digital TV Converter Set-Top Box

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Safety Instructions

Dear Customer,

Thank you for purchasing this QAM/ATSC STB Receiver. Please read this manual carefully before operating your product and pay close attention to the precautions which are mentioned below.

This product only can be operated for power supply is 110~230V, 50Hz.

To avoid fire and electric shock, do not expose this equipment to rain or moisture.

To reduce the chance of fire, electric shock, or annoying interference, use only the recommended accessories.

Please allow airflow around the apparatus for sufficient ventilation.

The ventilation should not be impended by covering the openings with items such as newspapers, table-cloths, curtains, etc.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

Batteries shall not be exposed to excessive heat such as sunshine, fire or the like;

The label was silk-printed on the exterior of the bottom of the apparatus.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product to an environmental safe recycling.

This product has been manufactured to conform to the International Safety Standards.
Please peruse the following safety precautions before use it.

OVERLOADING

Do not overload a wall outlet, extension cord or adapter as this may result in fire or electric shock.

CLEANING

Disconnect the product from the wall outlet before cleaning. Do not use any aerosol products to clean the product. Dust the outer surface with a cloth lightly dampened with water (no solvents).

CONNECTING TO ANTENNA

Disconnect the product from mains before connecting or disconnecting to antenna. Otherwise, it may damage the product and antenna.

CONNECTING TO TV SET

Unplug the power cord when connecting or disconnecting to TV Set. Otherwise, it may damage the product and antenna

LOCATION

The STB is designed for indoor use only. Do not install the product where it may expose to bright light or direct sunlight.

Precautions

Power Cord Protection

Make sure to connect and disconnect the power cord without touching the metal plug.

Do not connect or disconnect the AC power with wet hands.

The AC power cord should not be near any heating appliances.

Do not stack any heavy objects on the AC power cord .

Do not repair or reconstruct the AC power cord without authorization.

Cut off the power and disconnect the AC cord immediately if the product has been dropped or damaged.

Cut off the power and disconnect the AC cord immediately if you find the product is smoking, burning or noisy.

Do not insert fingers or other objects into the STB Keep water and magnetic things away from the electronic device

Contact with liquid may cause serious damage, please keep the product away from it.

Keep product far away from magnetic things, such as speaker and so on.

Product Placement

Place the product on a horizontal surface. Do not stack heavy things on it.

Do not place the product beneath the magnifier or other devices that emit heat.

Signal Interference

Under certain conditions, the while receiving ATSC- OFF air from an antenna the TV, the TV Set may get signal interference when you are watching a TV program with the ATSC on. This does not mean that the product is not working, it means there is interference from other electronics.

Do not Place in Poor Locations

Where it may expose to direct sunlight or heat resources such as heat register and stove.

Ambient temperature over 35°C or ambient atmospheric moisture over 90%. Dusty places.

Where it may influence by magnetic field or static electricity.

Where it may subject to physical shock, vibration or damage from being dropped.

Non-use Periods

Switch the product to standby status or turn off the power when the product will not be used. Unplug the power cord from the AC outlet when the product will be idle for a long period of time.

THOR
Features

H-STB-QAM-ATSC

- Compliant with ATSC Standards MPEG-1/MPEG-2/MPEG-4
- HD/H.264/DivX(free version) AUTO/PAL/NTSC
- 4:3 & 16:9
- Intelligent Operation Menu (OSD) Electronic Program Guide（EPG）
- Multi-language Subtitles
- User-friendly Graphical Interface
- Auto scan/ Manual Scan, no less than 600 programs can be stored
- HDMI resolution up to 1080p

The Thor Broadcast H-STB-QAM-ATSC is a unique universal dual-standard Set Top Box - IRD Integrated Receiver Decoder and PVR Recorder - Digital TV Converter

1) CATV RF Off-Air Antenna digital ATSC Signal Tuner Decoder
2) CABLE TV Digital DVB-C Annex B QAM 64/256 Tuner decoder

The decoder Set Top Box has 4 Major Outputs:

1) HDMI output up to 1080p60
2) YPbPr component Audio Video Output up to 1080i (RCA connectors)
3) CVBS Analog Baseband Video and Audio output (RCA connectors)
4) CATV RF Analog Output NTSC/PAL channel 3 and 4 (Application - Digital RF to   Analog NTSC/PAL converter)

Popular applications to use this device for:

1) Decoding ATSC Off Air signal from an Antenna
   ATSC to HDMI
   ATSC to YPbPr
   ATSC to CVBS Digital to Analog conversion
   ATSC to ANALOG RF CH 3/4 as a Digital to Analog converter

2) Decoding Clear QAM CABLE TV RF
   QAM to HDMI
   QAM to YPbPr
   QAM to CVBS - Digital to Analog conversion
   QAM to ANALOG RF CH 3/4 as a Digital to Analog converter

The unit also comes equipped with a built-in PVR Recorder using an external USB storage source like a USB stick

Application Drawing

HD- SD Set Top Box Tuner – Decoder for ATSC and QAM
Application Example

HDMI to CATV RF MODULATOR
H-HDMI-RF-PETIT

HDMI

OFF AIR ANTENNA

GND | DC 12V | NMS | HDMI IN | HDMI OUT | RF OUT | RF IN

RF OUT **QAM** **ATSC**   **ATSC**

CATV COAX RF DISTRIBUTION FULL HD

C004

Power Button | Control Buttons | Display | USB IN

HD Set Top Box Tuner/Decoder ATSC and QAM   H-STB-QAM-ATSC

C004

ATSC / QAM RF IN

H-STB-QAM-ATSC

IR

ANALOG RF OUT | **HDMI OUT** | **CVBS Video OUT** | **YPbPr Video OUT**

HDMI

CVBS
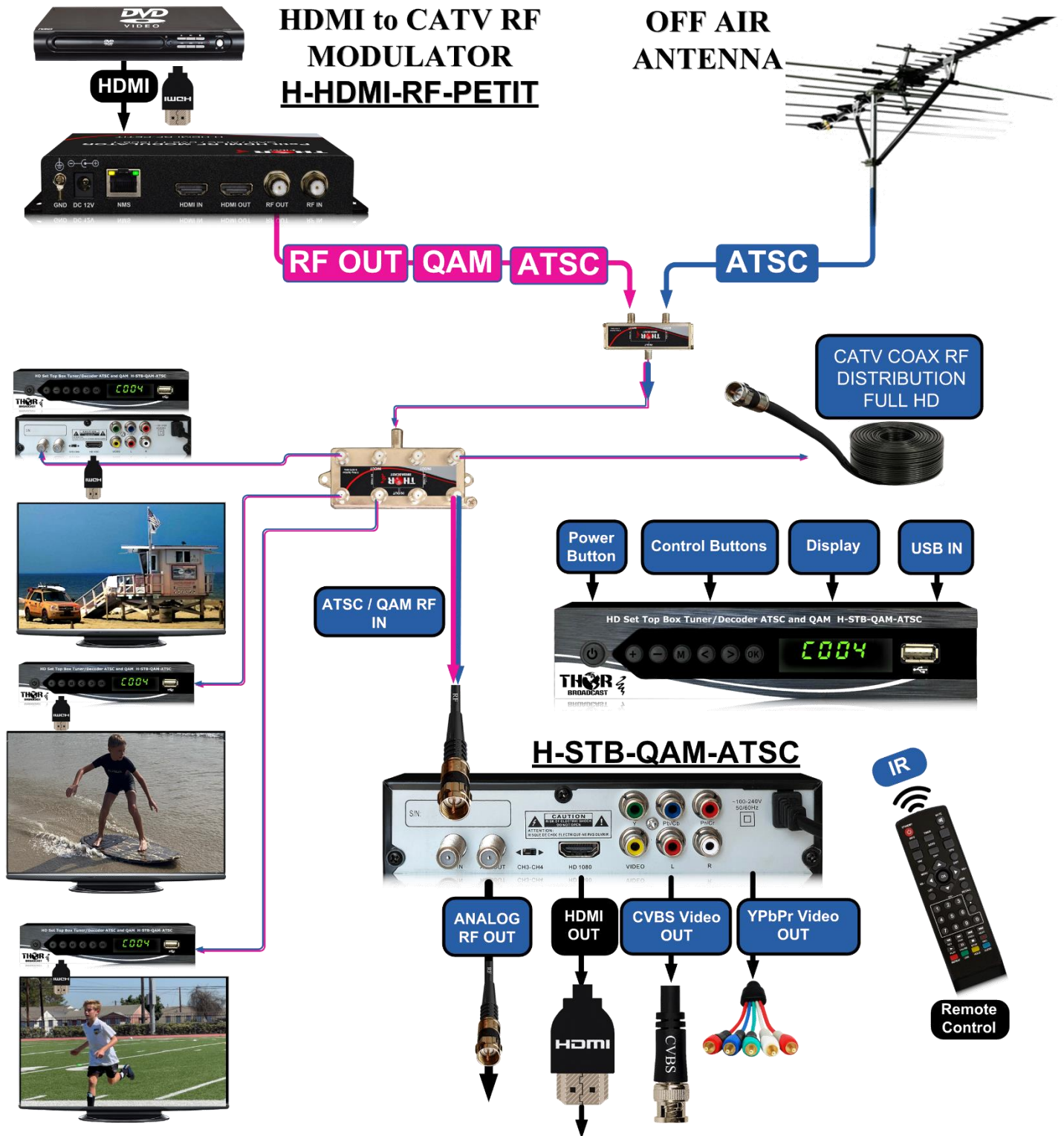
Remote Control

Overview Of The Equipment

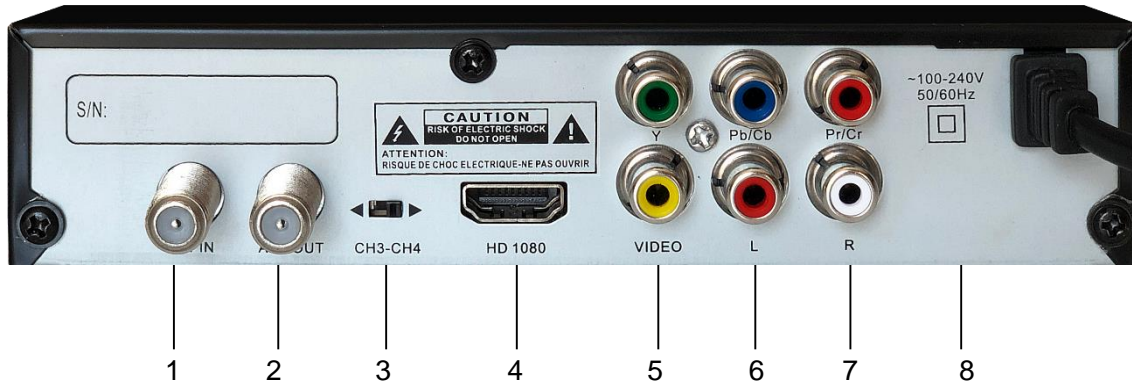## 1. Front Panel

1 IR: Remote control receiver
2 LED indicator

2. Rear Panel

1. **ANT IN**

2. **ANT OUT**

3. **CH3-CH4**

4. **HDMI up to 1080**

5. **VIDEO**

6. **L-AUDIO**

7. **R-AUDIO**

8. **S/N**

Overview Of The Equipment

3. Remote Control Unit

The remote key list:

- **STANDBY:** Press to turn on or standby
- **HDMI:** Adjust resolution
- **MUTE:** Press to mute the sound of TV audio, press again will restore the sound
- **0 – 9:** Press to enter the required numbers in the input box or select a channel to watch
  Press directly to tune a particular channel.
- **REC:**
- ▪ : Press to stop playback or recording
- **MENU:** Press to display the Main Menu on the screen
- **EXIT:** Press to return to the previous menu
- ▲/▼/**CH+/-:** Move cursor up/down ; Channel + / -
- ◄/►/**VOL+/-:** Move cursor left/right ; Volume + /-
- **OK:** Confirm
- ⏮/⏭: Prev / Next
- ◄◄/►► : Rev / Fwd
- **FAV:** Press to display the favorite channel's list for setting
- **EPG:** Electronic Program Guide
- **SUBT:** Press to turn on/off closed captioning
- **INFO:** Show/Hide service info:
  Press once a Service Info Bar will appear
  Press again to show Detail Info
  Press again to show Program Info
- ⏯ : Press to pause playback or recording
- ⟳ **RECALL:** Press to switch between current & last TV channel
- **USB:** Press to view content of connected external HDD or Flash drive
- **L/R:** Switch Audio channel

Notes:
1. Some buttons may not work or a few buttons have the same function as this kind of remote is used for all a variety of products, not just the STB it is an accessory to.
2. Some functions can be activated both by buttons on remote control and front panel.

Start

Battery installation

Install the batteries and make sure the positive (+) and negative (-) polarities matches as shown in Figure A.

Service life of batteries

The batteries normally last for about one year despite that it depends on how often and in what way the remote control is operated.

Replace the batteries if the remote control fails to work even when if it is operated near the ATSC receiver.

Use 2 pieces of (AAA) batteries.

Notes

Do not use rechargeable (Ni-Cd) batteries.

Do not attempt to recharge, short circuit, disassemble, heat the batteries or dispose of in fire.

Do not drop or step on the remote control unit or subject it to electrical shocks. Otherwise the parts of the remote control unit may get damaged and lead to malfunction.

Do not use new and old batteries together.

Please remove the batteries if the remote control is not going to be used for a long period of time. Otherwise, it may cause electrolyte leakage and lead malfunction, even fire. Carefully wipe the electrolyte out of the remote control compartment and replace with new batteries. If any electrolyte happens to touch your skin, wash it off thoroughly with clean water immediately.

Operation range of remote control

Point the remote control to the IR receiver window. The remote control shall be effective within a distance of about 5 meters and an angle of about 60 degrees as shown in Figure B.

The effective range may vary slightly with the brightness of the room.

Notes

Do not shine bright lights into the remote control sensor.

The remote control unit may not work if there are obstacles between the remote control and the sensor.

Do not recommend this remote control for use with other products.

Basic Connections

Preparation

All equipment **must be** connected according to this user manual.
Switch off this product and other equipment's before connecting
Read the User Manual carefully before connecting other equipment's
Plug the Audio and Video cables correctly
When connecting this product with a TV set, only one kind of video output format will be accepted. Please choose a corresponding video output mode for the product, otherwise the image will be distorted.

NOTE

Users can choose any proper video output formats according to the TV socket and personal requirements.

Connecting TV-set

1. Antenna (Not included)

2. TV Set (Not included)

3. ATSC Receiver

4. Digital Coaxial cable for connecting TV set and ATSC receiver (Not included)

5. HDMl cable for connecting TV set and ATSC receiver (Not included)

6. Y/Pb(Cb)/Pr(Cr) cables for connecting another ATSC receiver (Not included)

7. VIDEO, Left and Right Channel cables for connecting another ATSC Receiver (Not included)

8. Another ATSC Receiver (Not included)

9. AC IN

Connecting Amplifier or Decoder

1. ATSC Receiver

2. Digital Coaxial cable for connecting TV set and receiver (Not included)

3. Amplifier or Decoder which supports MPEG (Not included)

Fast Installation

Connect this unit and other apparatus according to Chapter "BASIC CONNECTIONS". Plug the power cord and wait "Installation Guide" window appears:

1. Use [CH▲/▼] buttons to select item and [VOL◀/▶] buttons to enter in its setup interface.
2. Select "Region" and "Language".
3. Select appropriate "Display Mode" and "Aspect Mode"
4. Press [OK] button to start auto search.
5. After channel search has been done, the channel will start playing automatically. Press [OK] button to display "all channel list", use [CH▲/▼] buttons to select channel and press [OK] button to enjoy watching.

If the Installation Guide does not appear:

6. Press [MENU] button, move cursor to "System Setup", press [CH▼] button to enter this setup interface. Use [CH▲/▼] buttons to select "Restore Factory Default" and press [OK] button to load factory default. Default password is "000000". (This step must be done at first use or after upgrade.)
7. After the factory default has been done, wait "Installation Guide" window and please operate according to step 1, 2, 3 and 4.

Read Advanced Operation for more details.

Advanced Operation

Menu Operation
Main Menu
Press [MENU] button to browse the Main Menu including 6 submenus which are listed below:
- Edit Channel
- Installation
- System Setup
- Tools
- Game
- Media Player

Use [▲/▼] buttons to select item, press [OK] button to enter in its setup interface. Press [EXIT] button to quit current menu.

Notes
1. The four navigation buttons (Up Left Down Right), [OK] and [EXIT] buttons have the same functions in all menus.
2. Some buttons have different functions in different menus. Please find out according to the screen.
3. Programmable buttons (with color) functionality depends on the menu that is active at the press moment. Please find out according to screen.

1. Edit Channel
Move cursor to "Edit Channel" and press [OK] button to enter in its submenu. There are 3 options which are listed below.
Edit TV Channel
Edit Radio Channel
Delete All

1.1 Edit TV Channel
Move cursor to "Edit TV Channel" and press [OK] button to enter its setup interface.

Use [CH▲/▼] buttons and press [OK] button to confirm. Use programmable buttons (with color) to set up according to screen.

Favor button works only when the favorite channels have been set. Default Password is: 0000.

Lock: Press [RED] button to lift the "Lock" icon. Use [CH▲/▼] buttons to select channel and press [OK] button to lock, press [OK] button again to cancel lock. Press [EXIT] button to quit current menu and save according to screen.

Skip: Press [Green] button to set the chosen TV program to be skipped when consecutive switching of programs.

Move: Press [YELLOW] button to move the channel. Choose channel first, move channel by pressing [CH▲/▼] buttons and [OK] button to confirm. Press [EXIT] to quit current menu after setup has been done. Save according to screen.

Edit: Press [BLUE] button to edit the program. In "Edit" interface, press [RED] button to sort channels by Name (A-Z)/Name (Z-A)/Free/Scramble/Lock/Default; press [GREEN] button to edit (rename) the chosen channel; press [BLUE] button to delete the chosen channel.

1.2 Edit Radio Channel
All found radio channels will be listed here.
Refer to the operation of Edit TV Channel (Item 1.1) for detailed instructions.

1.3 Delete All

Delete all TV and radio programs according to the screen.

LCN

Under the "Program" menu move cursor to "LCN" and press [OK] button to enter in its submenu. In LCN on mode, the system will automatically list the channels in the same order as in the signal stream; in LCN off mode, the system will list the channels in an ascending order according to the channel numbers. OFF/ON

-You can also sort by:

ONID
Service Name
Service ID

Just by moving the cursor left or right on the "By LCN"
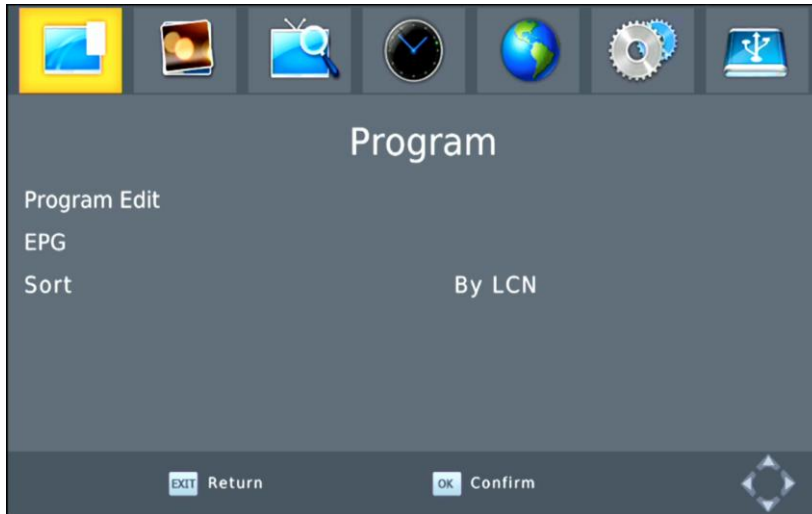
1.4 Picture Settings

1. **Aspect Size:** Auto/4:3PS/4:3 Full/16:9 Pillar Box/ 16:9 Pan & Scan/ 16:9 Wide Screen
2. **Video Resolution:** 480i/480p/720p/1080i/1080p (60Hz)
3. **TV Format:** NTSC and PAL

2. Installation

Move cursor to "Installation" and press [OK] button to enter in its submenu. There are 3 options which are listed below.

ATSC Channel Scan
ATSC Auto Scan
LCN

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2.1 ATSC Channel Scan

Scan Mode: By Channel/By Frequency
Scan Band: VHF/UHF
Channel No.: Only available in "By channel" mode.
Frequency: Only available in "By Frequency" mode.
Bandwidth: 6MHZ/7MHZ/8MHZ
Network Search: YES/NO
Search: Press [OK] button to start search. Press [EXIT] button to quit and system will automatically save the found channels.
Signal Intensity: Indication bar of the intensity of signal.
Signal Quality: Indication bar of the quality of signal.

2.2 ATSC Auto Scan

Country: Italian/Poland/Russia/Singapore/Spain/Sweden/Taiwan/United Kingdom/Iran/Argntina/Austria/China/Denmark/Finland/France/German/Hong-Kong
FTA Only: Yes/No
ATSC Signal Only: Yes/No
ATSC-Lite Support: Yes/No
Search: Press [OK] button to start search. Press [EXIT] button to quit and system will automatically save the found channels.

2.3 LCN

Move cursor to "LCN" and press [OK] button to enter in its submenu. In LCN on mode, the system will automatically list the channels in the same order as in the signal stream; in LCN off mode, the system will list the channels in an ascending order according to the channel numbers.
OFF/ON

3. System Setup

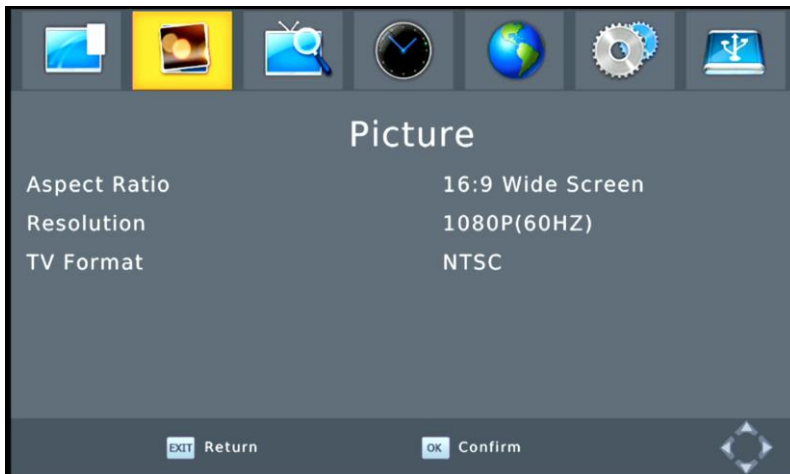Move cursor to "System Setup" and press [OK] button to enter in its submenu. There are 9 options which are listed below. Use [CH▲/▼] buttons to select submenu and press [OK] to enter in its interface, press [EXIT] button to quit.
Language
TV System
Display Setting
Time Setting
Timer Setting
OSD Setting

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Parental Lock
Favorite
Other

3.1 Language/Audio/Teletext
Language
English/French/Spanish/Portuguese
First Audio: English/French/Spanish/Portuguese/.
Second Audio: English/French/Spanish/Portuguese/.
Teletext: English/French/Spanish/Portuguese/
Audio Language
English, French, Spanish, Polish, Persian, Russian, Dutch, Italian, Portuguese, Turkish and Arabic
Closed Captioning
4. CC Display**:** CC1-6 and OFF
5. CC Position: Auto, Top and Bottom
6. Font Size: Default, Small, Medium and Large
7. Font Color: Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan
8. BG Color: Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan
9. CC Transparency: Default, Solid, Translucent and Transparent
Digital Audio
PCM
RAW
RAW HDMI OFF

3.2 TV System
Video Resolution: 480i/480p/576i/576p/720p/1080i/1080p
Aspect Size: Auto/4:3PS/4:3LB/16:9
Multiview Setting: 3X3 Pictures/4+1 Pictures

3.3 Display Setting
Brightness/Contrast/Color/Hue: 0-100
Sharpness: 0-10
3.4 Time Setting
Region:Argntina/Australia/China/Denmark/Finland/France/German/Hong-Kong/Italian/Poland/
Russia/Singapore/Spain/Sweden/Taiwan/United Kingdom/Iran
Setting By: Transmitter/GMT/Manual
GMT Offset: Within the range of UTC+00:00-00:30.
Date: Use navigation buttons to move cursor and numeric button to input date.
Time: Use navigation buttons to move cursor and numeric button to input time.
Notes:
1. "GMT Offset" is available when "GMT" is selected in "Setting By" mode.
2. "Date" and "Time" are available when "Manual" is selected in "Setting By" mode.

Time

Time Offset	Auto
Country Region	Mountain
Time Zone	GMT -7
Sleep	Off
Power On/Off	

EXIT Return   OK Confirm
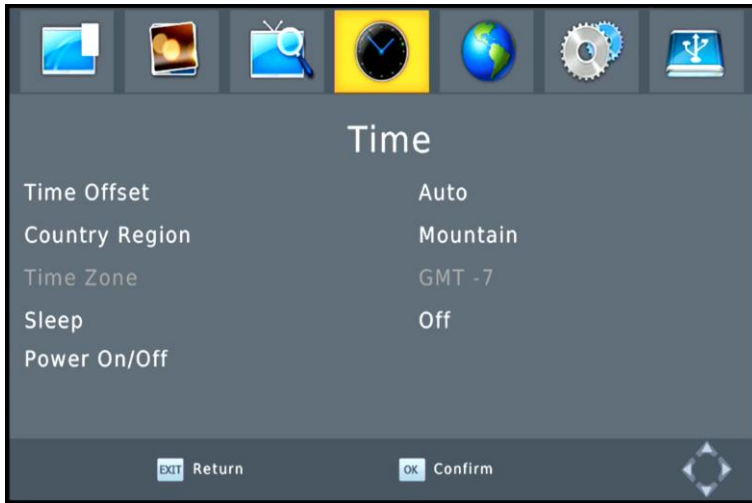
3.5 Timer Setting
There are 8 timers.
Timer Mode: Off/Once/Daily
Timer Service: Channel/Record
Wakeup Channel: Setup channel needs to be wake up.
Wakeup Date: Setup timer date. Use navigation buttons to move cursor and numeric button to input date.
On Time: Setup time for timer to wake up. Use navigation and numeric button to input time.
Duration: Setup long of the timer. Use navigation and numeric button to input time.
PS Record

Note: Timer function is deviated when the ATSC device is in green power mode.
3.6 OSD Setting

OSD Timeout: 1-10 seconds
OSD Transparency: Off/10%/20%/30%/40%

3.7 Parental Lock
Default password is "0000".
Menu Lock: On/Off.
Rating Lock: Off/Age 10/Age 12/Age 14/Age 16/Age 18
New Password: Input password by press numeric buttons.
Confirm Password: Input new password by press numeric buttons.

System

Parental Guidance

Set Password

Restore Factory Default

Information

Software Update

EXIT Return   OK Confirm

3.8 Favorite
   Press [OK] button to rename favorites.

3.9 Other
   Antenna Power: ON/OFF
   Beeper: ON/OFF
   Auto Standby: On/Off
   RF Loop Standby: ON/OFF

4. Tools

Move cursor to "Tools" and press [OK] button to enter in its submenu. There are 8 options which are listed below.
   Information
   Factory Setting
   SW Upgrade By OTA
   SW Upgrade By USB
   Remove USB device safely
   Calendar

4.1 Information
   Move cursor to "Information" and press [OK] button to display information of the device.

4.2 Factory Default
   Move cursor to "Load Factory Default" and press [OK] button to load factory default. The default password is "0000".This step must be done at first time use or after upgrade. Please operate according to screen.

4.3 SW Upgrade by OTA
   Move cursor to "S/W Upgrade by OTA" and press [OK] button to enter in its submenu.
   Frequency
   Bandwidth
   Download PID
   Start

4.4 SW Upgrade By USB
   Move cursor to "Upgrade by USB" and press [OK] button to enter in its submenu.
   Upgrade Mode
      - All Code: All software of this device.
      - Main Code: Logo of this device.
      - Radio back: Default setup of this device.
      - default db
      - Upgrade File
   Start: Move cursor to "Start" and press [OK] button upgrade.
Note: Do not cut off power supply while upgrading, otherwise it may destroy the device.

4.5 Remove USB Device Safely
   Choose "Remove USB Device Safely" and press [OK] button to carry out this action. A window will displayed to ask you confirm to remove the USB device. Press [OK] button to confirm remove, [EXIT] button to cancel.

4.6 Calendar

Move cursor to "Calendar" and press [OK] button to enter in its setup interface. Please operate according to screen.

5. Game

Move cursor to "Game" and press [OK] button to enter in its submenu. There are 6 options which are listed below.

Snake
Sudoku
Othello
Box
Tetris
HRD
Operate according to screen.

6. USB

Move cursor to "USB" and press [OK] button to enter in its submenu. There are 4 options which are listed below. Press [EXIT] button to quit.

Multimedia
Photo Configure
Movie Configure
PVR Configure

6.1 PVR

Use [▲/▼] buttons to select items and press [OK] button to start playing.

Rename: Press [RED] button to rename selected item.
Lock: Press [GREEN] button to lock selected item.
Delete: Press [YELLOW] button to delete selected item.
Switch: Press [SWAP] button to shift between media player submenus.

6.2 Video

Select "Video" and press [OK] button to enter in its setup interface.

Edit: Press [BLUE] button to edit the chosen item. In this submenu, press [RED] button to rename, press [GREEN] button to copy, press [YELLOW] button to delete and press [BLUE] button to open a new folder.
Switch: Press [SWAP] button to shift between media player submenus.
Sort: Press numeric button [1] to sort channels.
Repeat: Press numeric button [2] to choose play mode: Single repeated/All/Random.

6.3 Music

Select "Music" and press [OK] button to enter in its setup interface.

Play List: Press [RED] button to display play list.
FAV: Press [GREEN] button to set the chosen songs in Favorites.
FAV ALL: Press [YELLOW] button to set all songs in Favorites.
Edit: Press [BLUE] button to edit. In this submenu, press [RED] button to rename, press [GREEN] button to copy, press [YELLOW] button to delete and press [BLUE] button to open a new folder.
Switch: Press [SWAP] button to shift between media player submenus.
Sort: Press numeric button [1] to sort channels.
Repeat: Press numeric button [2] to choose play mode: Single repeated/All/Random.

6.4 Photo

Select "Image" and press [OK] button to enter in its setup interface.

Play List: Press [RED] button to display play list.
FAV: Press [GREEN] button to set the chosen songs in Favorites.

FAV ALL: Press [YELLOW] button to set all songs in Favorites.

Edit: Press [BLUE] button to edit. In this submenu, press [RED] button to rename, press [GREEN] button to copy, press [YELLOW] button to delete and press [BLUE] button to open a new folder.

Switch: Press [SWAP] button to shift between media player submenus.

Sort: Press numeric button [1] to sort channels.

Setup: Press numeric button [2] to enter in setup interface.

Mutliview: Press numeric button [3] to display in mutliview.

6.5 PVR Storage Information

Move cursor to "PVR Storage Information" and press [OK] button to browse information as listed below,

Volume/Total size/Free size/File system (/REC Size/TMS Size)

6.6 PVR Setting

Move cursor to "PVR Setting" and press [OK] button to enter in its setup interface.

Timeshift: ON/OFF

Jump: 30 sec/1 min/5 min/10 min/30 min

Timeshift to Record: ON/OFF

PS Record: ON/OFF

Appendix

Maintenance

- Unplug the power cord before maintenance.
- Keep the product surface clean. Please use a piece of soft cloth to clean the outer if it's dirty.
- Do not use any chemical products like Alcohol or dilution to clean the product.
- Refer all servicing to a qualified service agent.

Terminology

Name	Descriptions
ATSC	The abbreviation of Digital Video Broadcasting.
ATSC	One type of ATSC modes (T=Terrestrial).
MPEG	The abbreviation of Motion Picture Experts Group.
MPEG-2	The MPEG-2 standards are mainly used in digital TV signals.
Subtitles	The words appear at the bottom of the screen. They are usually recorded on DVD discs and have 32 languages at most.
FEC	FEC stands for Forward Error Correction, used to correct signal transmission errors between antennas and the receiver.
PID	The PID code (Packed Identification) is the identification number of audio and video signals in the digital data flow/stream of DVB MPEG-2 signals. It is used to transmit audio and video signals to a specific address.

Specifications

Items		Features
High Frequency Tuner	Input Frequency Range	174 ~ 230, 470 ~~ 862MHz (VHF&UHF)
	Bandwidth	6, 7 or 8 MHz
	Input Signal Level	- 75 ~ - 20dBm
	RF Input Connector	IEC169 - 2, Female
	Input Impedance	75Ω
Demodulation Mode	Waveform	COFDM (Code Orthogonal Frequency Division Multiplexing)
	Demodulation	QPSK , QAM16 , QAM64
	Guard Interval	1/4, 1/8, 1/16, 1/32
	Code Rate	1/2, 2/3, 3/4, 5/6, 7/8
Video Decoding	Video Decoding Format	MPEG-1 ,MPEG-2 ,MPEG-4 HD ,H.264 ,DivX(free version)
	Video Resolution	480i/576i/480p/576p/720p/1080i/1080P
	Video Input Code Rate	45,5Mbit/s Max.
	Teletext	Support DVB-ETS300472
	Aspect Ratio	4:3/16:9
	Image Signal System	AUTO/PAL/NTSC
Audio Decoding	Audio Decoding Format	ISO/IEC13818 - 3 , MPEG-1、 MPEG-2(Layer I/II)、 MP3
	Audio Track	Stereo, Dual Track, Monophony (L, R),
USB 2.0	Format	MP3/JPEG/BMP
	File System	FAT32, FAT 16, NTFS
	Current	500mA Max
	Support software upgrade	
Power	Rated Voltage	~230V, 50Hz
	Rated Voltage Range	~176-264V, 50Hz
	Rated Power Consumption	≤ 8 W
	Power Consumption	≤ 13 W Max
	Standby Power Consumption	0,45W
Work Environment	Temperature	0~40℃
	Humidity	<90%
Dimensions	Weight	≤1,0 Kg
	Size	130(W)*113(D)*33(H) mm

Notes

The data for weight and size are approximations only.

Specifications are subject to change (by manufacturer) without notice.

Troubleshooting

Look through the following table about the possible issues and you may find answers before request service. It may help you to resolve the problems with some easy operations. If something goes wrong with the receiver and can't back to normal, please cut off the power for few minutes and restart the product. If the problem remains and proves to beyond your capability, you should contact Thor contact a qualified service agent.

The integrated circuits are easily broken down by static. Make sure the antistatic protection has been taken care of prior to maintenance.

Troubles	Possible Cause	Suggested Solutions
No power	The power cord has not been well connected	Plug the power cord into the outlet tightly and turn on the power; if still no power, turn off the power again, and wait for 5-10 minutes, then restart again.
Cannot scan programs	The antenna is not adjusted correctly	Adjust the antenna or use an outdoor antenna
	Antenna incorrectly placed	Use an antenna with 75 Ω impedance input
	Parameter input incorrectly	Input Frequency, Bandwidth parameter correctly
No picture	Output cord is connected incorrectly	Connect the output cord correctly. If the problem is still exit, the output cord may damage.
	The video output mode of the unit is different from the mode of monitor	Reset the mode
No Color	The video output system of the unit is different from the mode of monitor	Reset the color system
Image distortion at channel shift	normal	
The remote control fails to work	Batteries incorrectly installed	Install the battery correctly
	Batteries exhausted	Replace the battery
	Beyond the effective operation range	Operate within an effective range
	The remote sensor is pointed to by bright light.	Place the unit elsewhere for a change
Audio track and subtitle language are not the chosen items	Has not chosen the right sound track	Press the Audio button to shift the track
No sound	The unit is in a mute status	Cancel the mute
	Volume is too low	Augment the volume
	Cable is connected incorrectly	Connect the cable correctly
No sound	There might be a short circuit	Correct the output cable connection, and turn on again.
	In mute status	Cancel the mute
	In standby mode	Turn on the unit
Poor picture quality	Too much interferential signals	Adjust the position of antenna.
No response	May be interfered by static	Plug the power cord again
Flash Drive can't be read	The USB cable connected incorrectly	Connect the cable correctly.
	The flash drive's current is too heavy, the product wouldn't afford it.	Provide external power source.
	The flash drive runs self-protection program because of external device short circuit.	Change the short circuit device and restart the product.

Thor Support
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Los Angeles CA

HD- SD Set Top Box Tuner – Decoder for ATSC and QAM

Application Example

HDMI to CATV RF MODULATOR H-HDMI-RF-PETIT

OFF AIR ANTENNA

RF OUT — QAM — ATSC

ATSC

CATV COAX RF DISTRIBUTION FULL HD

HD Set Top Box Tuner/Decoder ATSC and QAM H-STB-QAM-ATSC

ATSC / QAM RF IN

| Power Button | Control Buttons | Display | USB IN |

HD Set Top Box Tuner/Decoder ATSC and QAM H-STB-QAM-ATSC

C004

H-STB-QAM-ATSC

IR

ANALOG RF OUT

HDMI OUT

CVBS Video OUT

YPbPr Video OUT

Remote Control