

# HV-110 DVB-T HAM TV Receiver Box Quick Installation Guide

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## Package Contents

- HV-110 Receiver Box
- 5V DC adaptor
- CVBS & Line-out cable
- Remote Controller

## Front Panel View

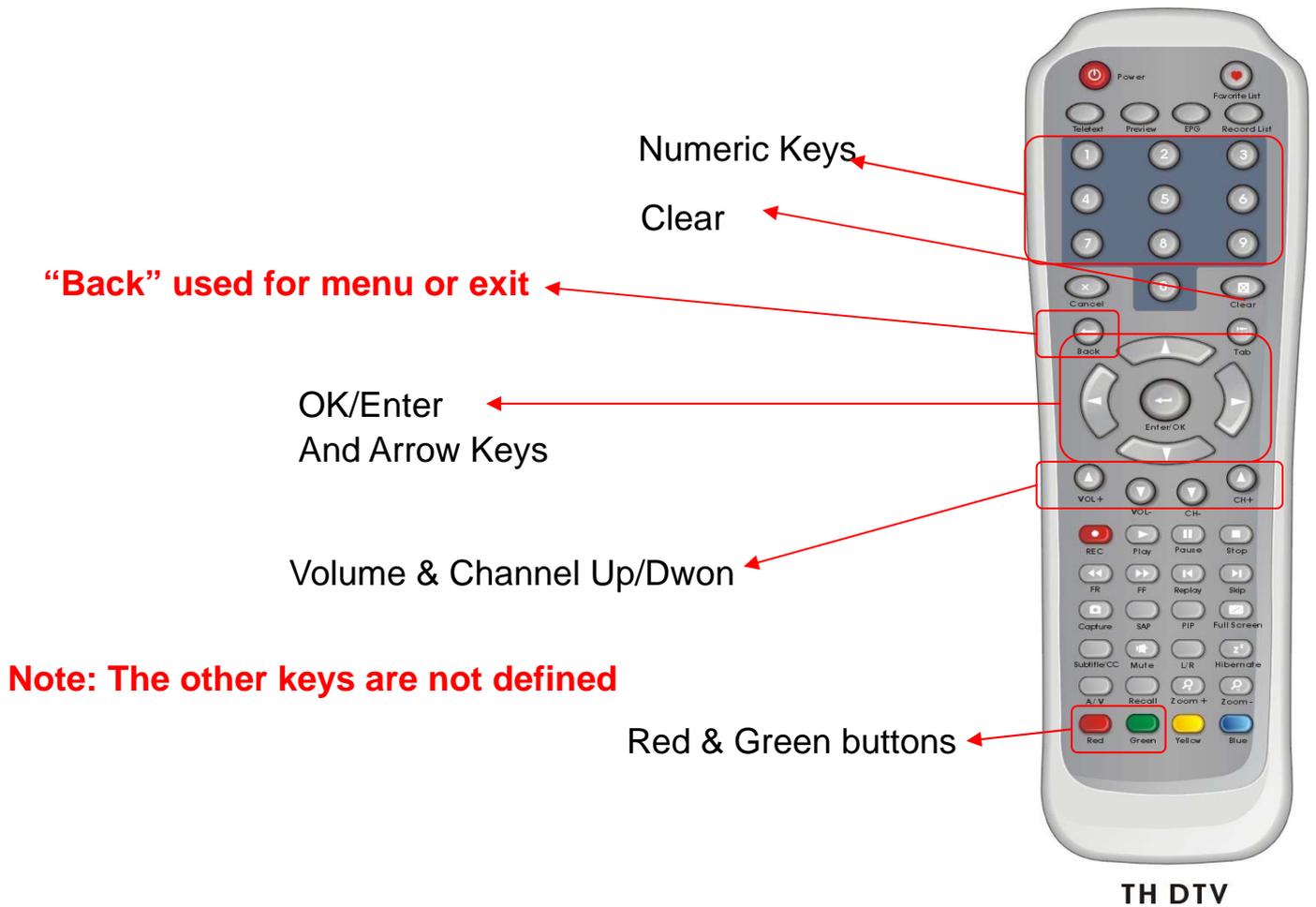


## Back Panel View





### IR Remote Controller



**Note: The other keys are not defined**

### Fill Battery to IR Controllers: AAA x 2 pcs

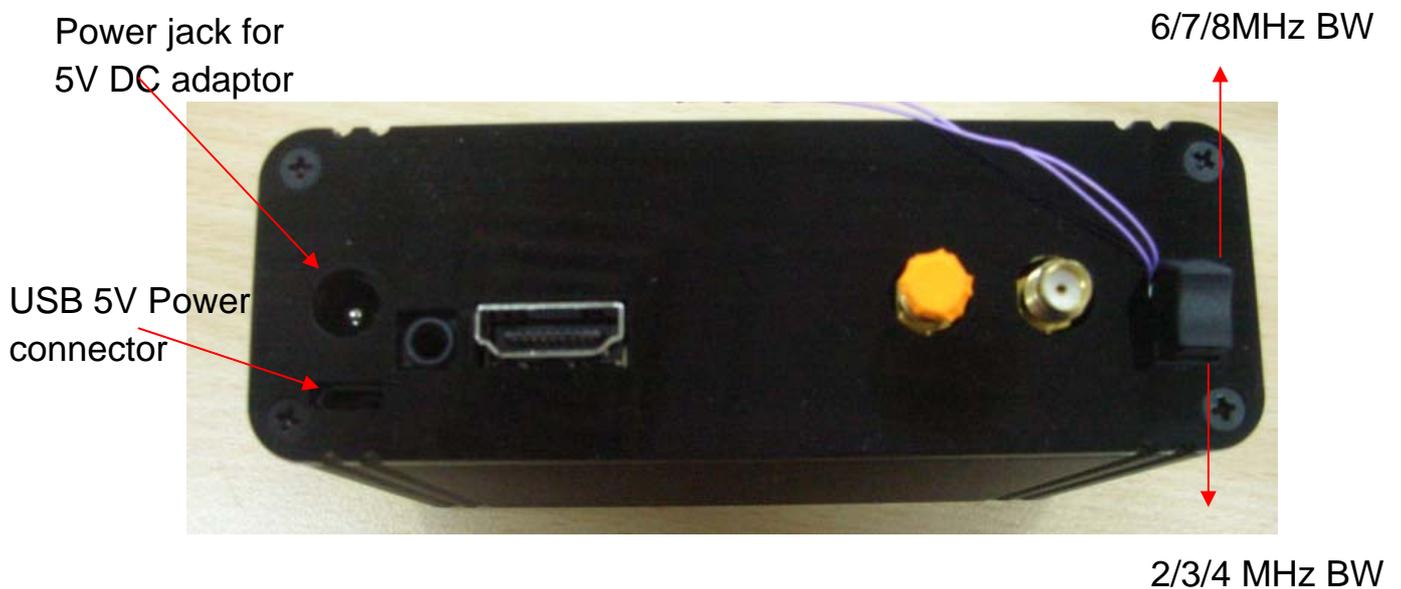


## Set Bandwidth and Power on

First of all, please set the bandwidth first.

HV-110 can support 2/3/4 MHz or 5/6/7/8 MHz bandwidth DVB-T signal, but the mode should be selected before power on the box. Bandwidth mode can not be changed after powered on. If you want to change bandwidth support, please power off and power on the receiver box.

Apply DC 5V to either the power jack or the micro-USB connector. One and only one DC power source is enough. Power jack and the micro-USB connector are connected together.



## Connect RF-in and the display output

Feed the RF-in to the right SMA connector.

Both HDMI and CVBS output are supported simultaneously, but the mechanical design allows only one to be connected.



CVBS and

Line-out

HDMI

output

RF-in

## Channel Scan

It's necessary to do channel scan in the first time usage.

When the box is powered on well, click on the IR "Back" key to popup the menu



Select Installation. There are two modes to scan channel, auto mode or manual mode.

The auto scan mode will scan a predefined channel frequency list to find TV service while the manual scan mode scans a channel specified by the user input.

## Channel Scan-Auto mode



1. You may select a Country to do auto scan
2. Country: ATV-2/3/4M is for DATV 2/3/4 MHz BW channel list auto scan
3. Country: ATV-6M is for DATV 6 MHz BW channel list auto scan
4. Click on Remote Controller “Red” button to start auto scan.

### ATV-2/3/4M Channel list

Frequency(MHz)	Bandwidth(MHz)
423.000	2
423.000	3
434.000	2
434.500	2
436.000	2
436.000	3
436.500	2
437.000*	2
440.000	3
440.000	2
515.000	2

560.000	2
604.000	2

\* 437/2M is added from version V0.0.1.71.4

### ATV-6M BW Channel list

Frequency(MHz)	Bandwidth(MHz)
515	6
525	6
535	6
560	6
580	6
604	6
612	6
624	6

## Channel Scan-Manual mode



1. In installation menu, if click on Remote controller “Green” button, Manual Scan menu pops up.
2. Select the bandwidth by arrow keys
3. Input the Frequency with numeric keys (0~9)
4. Don’t care about “End Frequency”, which will be ignored
5. Press “Enter/OK” to scan the specified channel



When scan is done and a service is found, it will start to play the first service found.

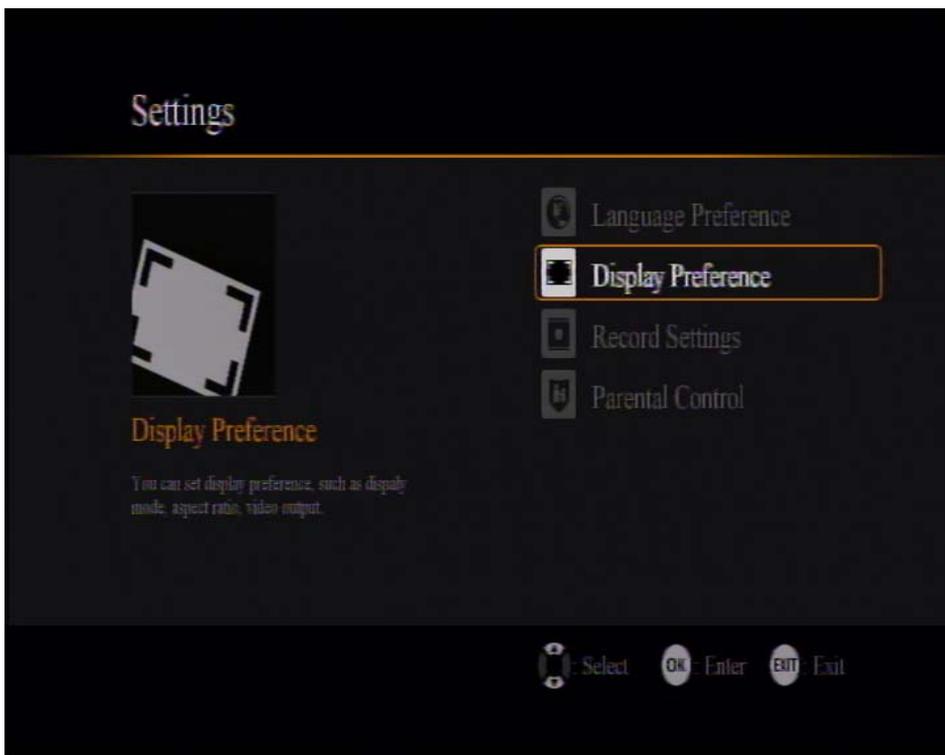


## Set Display Preference

You may set the display output resolution and aspect ratio in this configuration option. Click on the IR "Back" key to popup the menu



Select Settings



Select Display Preference



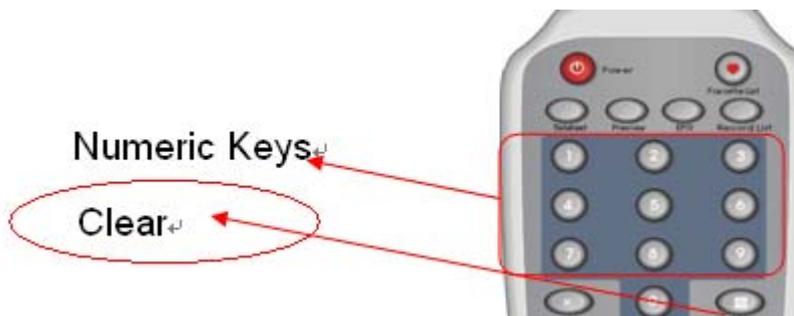
When using CVBS AV, the display mode should be 576i50(PAL) or 480i60(NTSC)

The video output should be “CVBS”

If only HDMI output is used, you may set any Display Mode.

**For firmware version from 1.71.2 (released on 2014/4/30):**

**If the display mode is set incorrectly, and the display is out of order, please click on the “Clear” key of the RC to reset the display mode to 720i50 PAL mode.**



## Reset to Default

If necessary, you can reset the receiver box to factory default.

The program list will be cleared and the display mode will be set to 720i50 PAL mode.

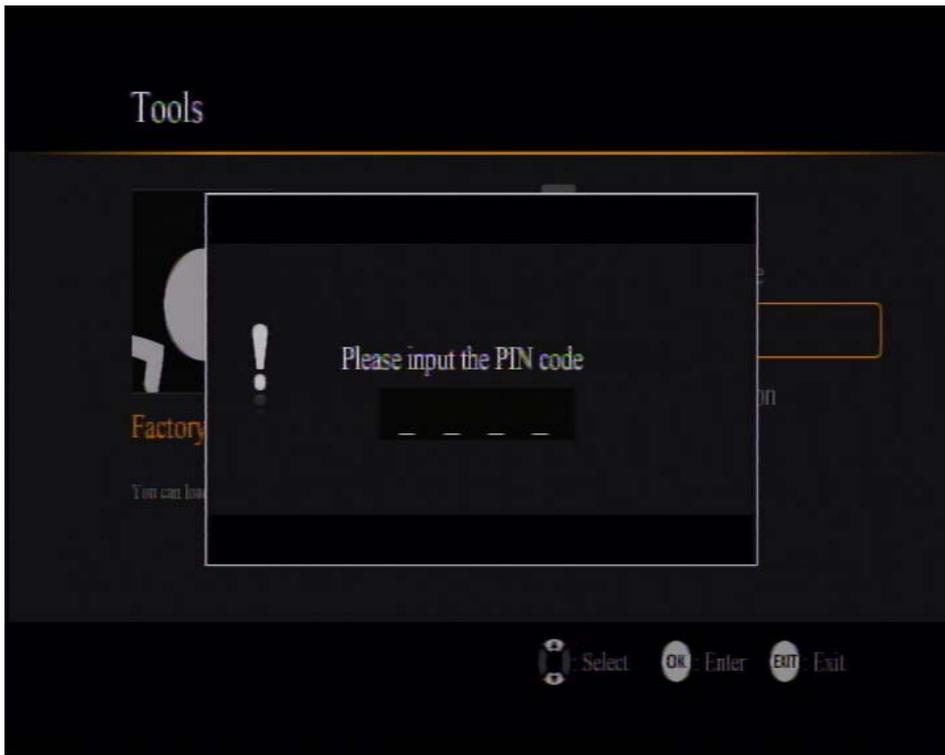
Click on the IR “Back” key to pop up the menu



Select Tools.



Select Factory Reset.



The default PIN is "0000".

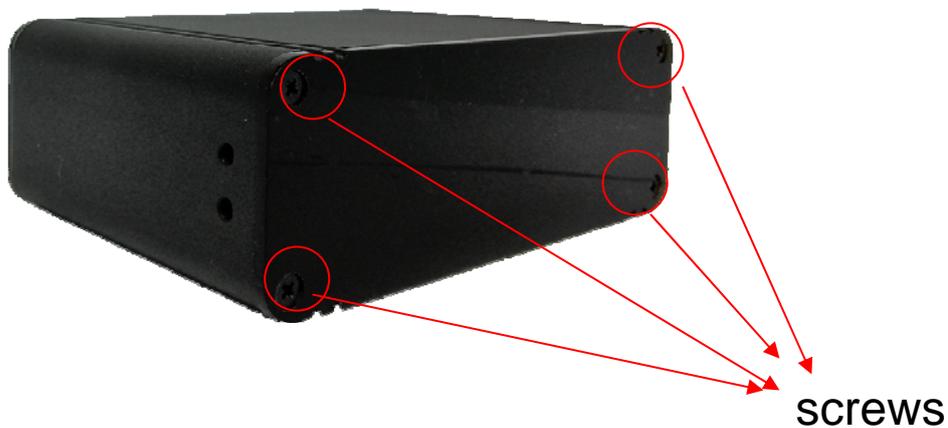
If reset successfully, all channels will be cleared and it pops up channel scan menu.



## Firmware Update-Method 1

There are two ways to update the firmware. You can choose either one to update the firmware of the box. If you can not control HV-110 well with remote controller or the display is not normal, please use Method 2.

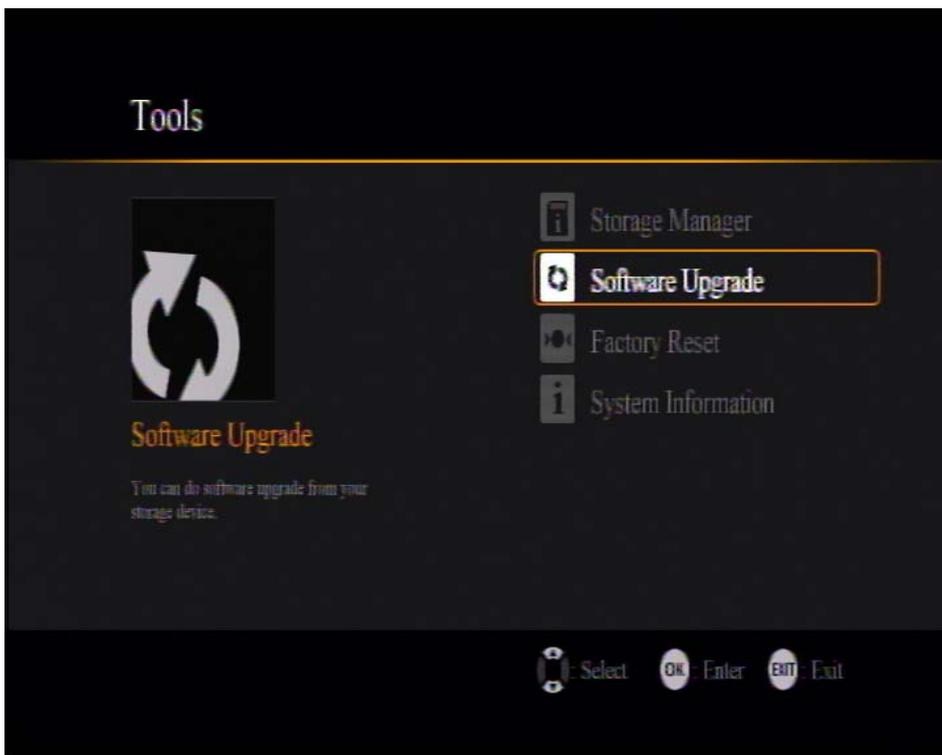
1. Copy the firmware image file “dtv.img” to the root directory of a micro SD card.
2. Power the receiver box down.
3. Open the front panel one the receiver box by removing the four screws.



4. Power on the box
5. Click on the IR “Back” key to popup the menu, and select “Tools”



6. Select "Software Upgrade"



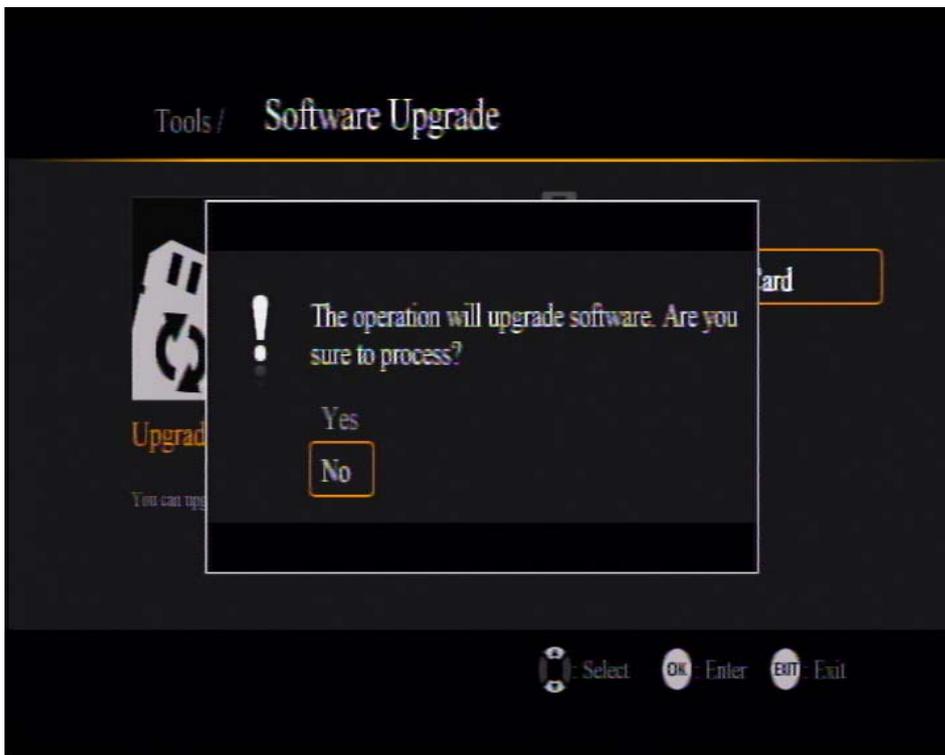
7. Plug in the micro SD card.



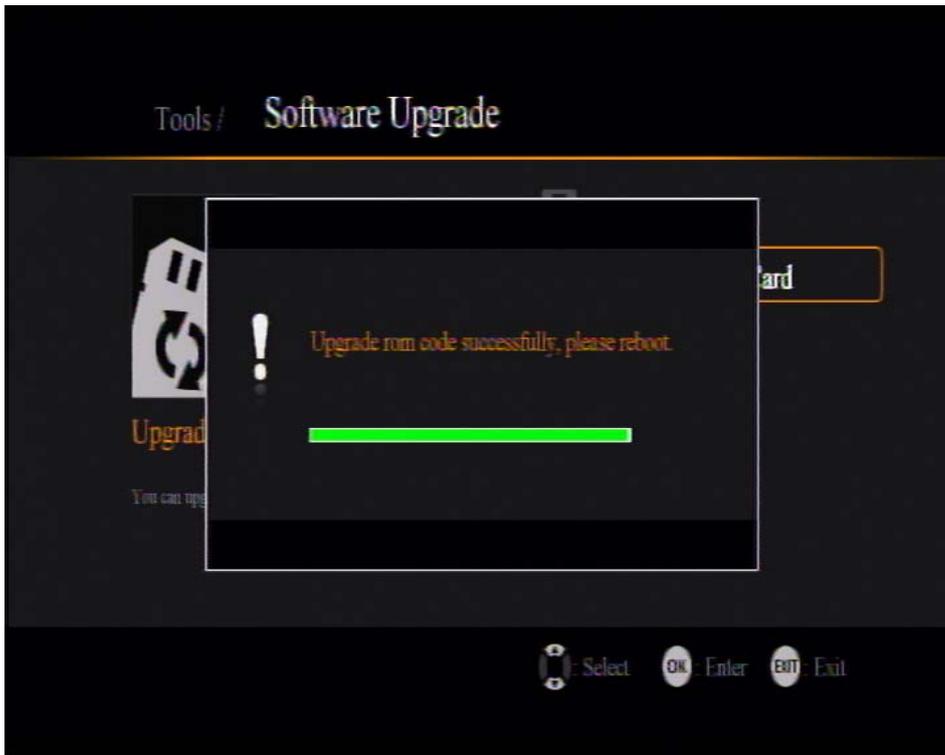
8. Select "Upgrade by SD Card"



9. Select "Yes"



10. When the progress bar reaches the end, the update is done.



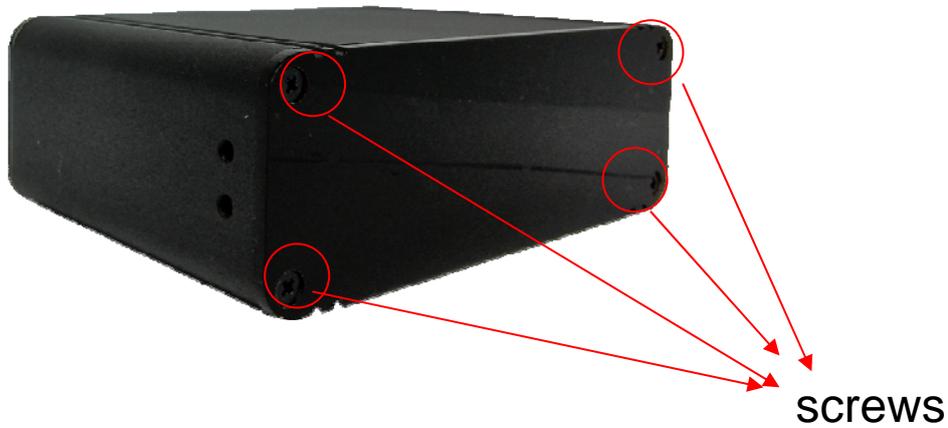
**11. Remove the micro SD card, power off, then power on the receiver box.**

**Note: If you do not remove SD card, the reboot will fail!**

## Firmware Update-Method 2

There are two ways to update the firmware. You can choose either one to update the firmware of the box. If you can control HV-110 well with remote controller and the display is normal, please use Method 1.

1. Copy the firmware image file "dtv.img" to the root directory of a micro SD card.
2. Power the receiver box down.
3. Open the front panel one the receiver box by removing the four screws.



4. Plug in the micro SD card.



5. Power on the receiver box and wait for about 60 seconds.

If the SD card is detected properly and DTV.IMG is found, the update progress will be started.

When the update is on going, it's possible there is no display or the display freezes and no response with remote controller.

If you can connect to the UART debug port (refer to next chapter), you will see the debug messages, "sd upgrade start" and "sd upgrade finish"

Note: From FW version number V0.0.1.71.4 on, the 7-SEG LED shows "88" when updating, and turns off when update is done.

6. **Remove the micro SD card, power off, then power on the receiver box.**



## Easy HD Expressway!

**Note:**

- 1. If you do not remove SD card, the reboot will fail!**
- 2. From** FW version number V0.0.1.71.4 on, dtv.img will be rename to dtv\_tmp.img when update is done.

## UART Debug Messages

The UART debug port is located in J5.

You may dump debug messages from this J5 pin2 UART Tx.

J5:

Pin 1: not used

Pin 2 :UART Tx

Pin 3: Ground

The communication parameters are 115200,n,8,1.

