User Guide

V1.4

For

TBS DVB-T/T2 Series TV Tuner Cards/Boxes

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Chapter 1. Introduction

1.1. Overview

TBS6220 is a single tuner PCI-Express interface DVB-T2/T TV Tuner Card. TBS6280 is a dual tuner PCI-Express interface DVB-T2/T TV Tuner Card which supports watching or recording two different channels from two different frequencies simultaneously. TBS6281 is also a dual tuner PCI-Express interface DVB-T2/T Tuner Card. TBS6284 is a quad tuner PCI-Express interface DVB-T2/T TV Tuner Card which supports watching or recording four different channels from four different multiplexes simultaneously. TBS6285 is a also a quad tuner PCI-Express interface DVB-T2/T TV Tuner Card. TBS5880 is a hybrid digital TV external box with both DVB-T2/T tuner and DVB-C tuner. You can use it for watching or recording digital terrestrial or cable TV on PC. All of them are ready with windows BDA driver and Linux driver. The high sensitivity NIM tuner makes reception with weak signal possible. They are compatible with Windows7 Media Center and other player software like TBSViewer, DVBDream. It's ideal for watching UK Freeview SD and HD channels on your PC.

1.2. Features

TBS6220 PCI-E DVB-T2 TV Tuner Card:

1. Watch free-to-air Digital Terrestrial TV on PC
2. Both DVB-T2 and DVB-T are supported
3. Low Profile Size
4. High-Definition Video, Real-Time and Scheduled Video Recording
5. High Sensitivity DVB-T2 Tuner for The Best Digital TV Reception

TBS6280 PCI-E DVB-T2 Dual Tuner TV Card:

1. Dual Channel Receiving simultaneously
2. Dual Channel Receiving simultaneously
3. Both DVB-T2 and DVB-T are supported

4. Low Profile Size
5. High-Definition Video, Real-Time and Scheduled Video Recording
6. High Sensitivity DVB-T2 Dual Tuner for The Best Digital TV Reception

TBS6281 PCI-E DVB-T2 Dual Tuner TV Card:

1. Dual Channel Receiving simultaneously
2. Dual Channel Receiving simultaneously
3. Both DVB-T2 and DVB-T are supported
4. Low Profile Size
5. High-Definition Video, Real-Time and Scheduled Video Recording
6. High Sensitivity DVB-T2 Dual Tuner for The Best Digital TV Reception

TBS6284 PCI-E DVB-T2 Quad Tuner TV Card:

1. Quad Channel Receiving Simultaneously
2. Both DVB-T2 and DVB-T Supported
3. High-Definition Video, Real-Time and Scheduled Video Recording
4. High Sensitivity DVB-T2 Tuner for The Best Digital TV Reception
5. Windows BDA Driver and Linux Driver Ready

TBS6285 PCI-E DVB-T2 Quad Tuner TV Card:

1. Quad Channel Receiving Simultaneously
2. Both DVB-T2 and DVB-T Supported
3. High-Definition Video, Real-Time and Scheduled Video Recording
4. High Sensitivity DVB-T2 Tuner for The Best Digital TV Reception
5. Windows BDA Driver and Linux Driver Ready

TBS5880 USB DVB-T2/T/C TV Box

1. Watch Digital TV & listen to Radio on PC
2. DVB-T2/T/C SD or HD TV Receiving

3. Real Time and Scheduled Program Recording(PVR)
4. Time Shifting to Pause Live TV
5. Common Interface Support

1.3. Device Specifications

1. Receiving Channel: VHF Band and UHF Band
2. Channel Bandwidth: 6, 7, 8 MHz
3. DVB-T2/ T Modulation Type: QPSK, 16QAM, 64QAM, 256QAM
4. FFT Mode: 1K, 2K, 4K, 8K, 16K, 32K
5. Code Rate: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8
6. Guard Internal:1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 19/128, 19/256
7. Intermediate Frequency

   IF mode: Low IF

   Center IF Frequency: 3 ~ 5 MHz

   Note: default 4MHz
8. RF-Input Impedance 75Ω (IEC-DIN female)
9. RF-Output Impedance 75Ω (IEC-DIN male)
10. Single CI(for TBS5880)

1.4. System Requirements

1. Windows XP / Vista/ 7, Linux
2. Pentium 4 2.0 GHz, Pentium M 1.3 GHz
3. For HDTV: 2.6 GHz multi core processor
4. Hard disk with min. 1 GB free capacity
5. Sound and graphics card with support for DirectX 9 or higher
6. One free PCI Express slot
7. CD/DVD drive for software installation

Chapter 2. Installation

2.1 Hardware Installation

For installing TBS 6280/6220/6284 DVB-T/T2 TV Card, insert the card into PCI Express x1,x4, x8 or x16 slot, then connect rooftop or mini aerial to card "**RF IN**" port. For TBS6284, a loop through cable is provided to connect one tuner's "**RF OUT**" to the second tuner's "**RF IN**". For installing the TBS5880 USB DVB-T2/T/C TV Box, you can connect the TBS5880 with the computer directly via USB

Note:

1) An indoor antenna is provided to watch Freeview in the areas where the signal is strong. Change of orientation of the antenna or using amplified antenna may improve reception. Standard or special aerial from the roof should help to achieve the best reception quality.
2) A power cable is provided with some model, but it's only necessary when the tv tuner card can't get sufficient power supply from the PCI Express slot.

2.2 Software Installation

Before you begin, make sure your computer qualify the system requirements.

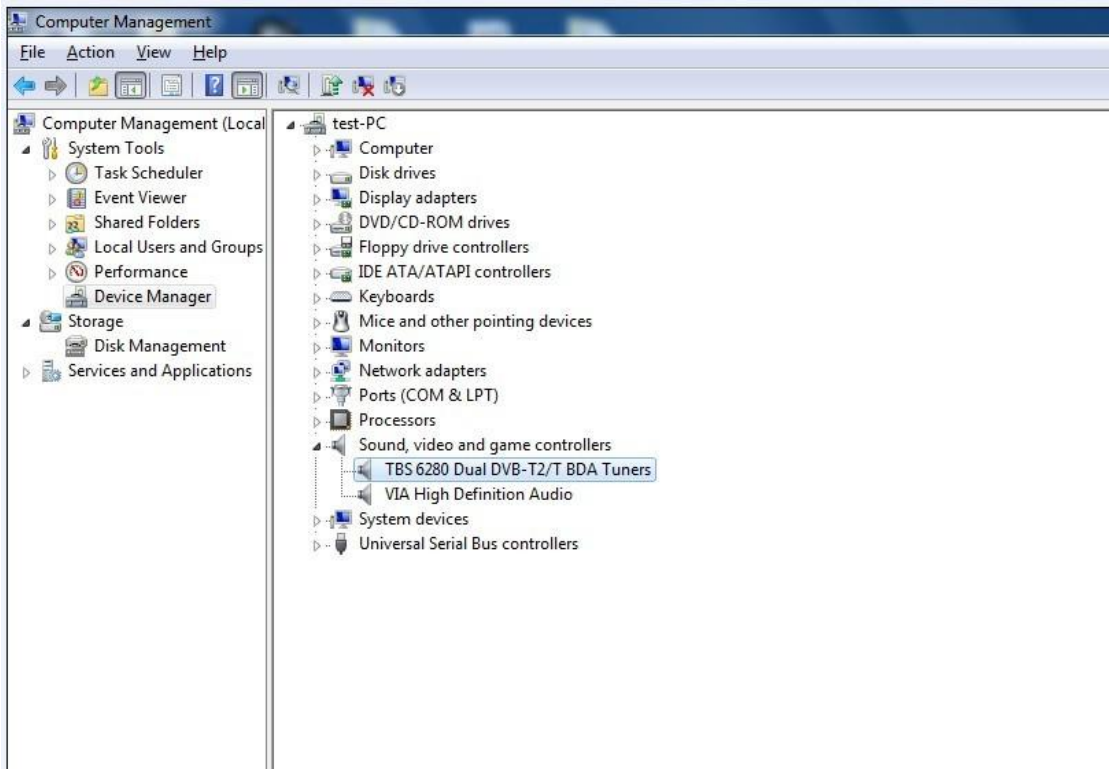
Insert the Installation CD into your CD/DVD-ROM. Click "Install Driver" while auto-run appears.

A setup window will pop up. Click **"Next "** to continue.

Then click **"Install"**.

After that, click **"Finish"** and the installation is completed.

To verify if driver was correctly installed, you could check computer device manager. You will see **"TBS 6280 DVB-T2/T BDA Tuners"** under the **"Sound, video and game controllers**" bar of "**Device Manager**" if the driver is correctly installed.



You may also install TBSViewer or DVBDream for TV reception.

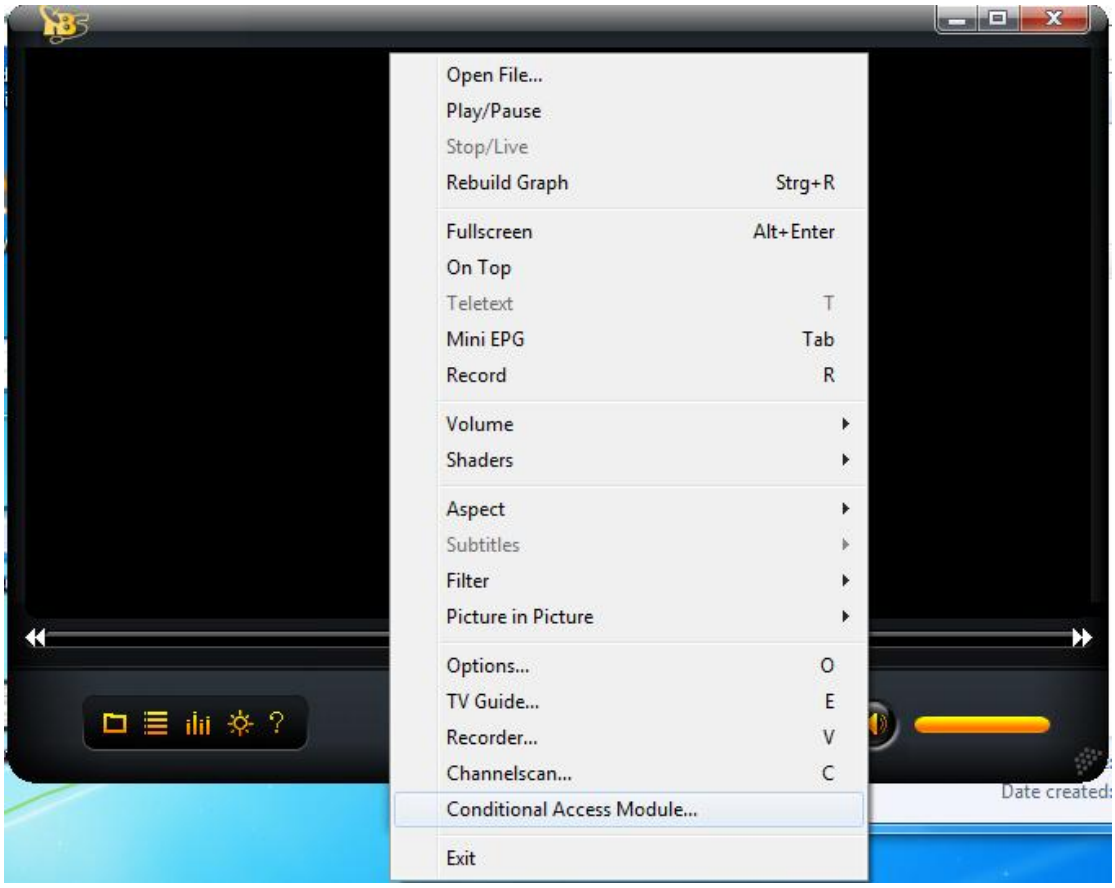
Chapter 3. Watch TV with TBSViewer

3.1. Install TBSViewer

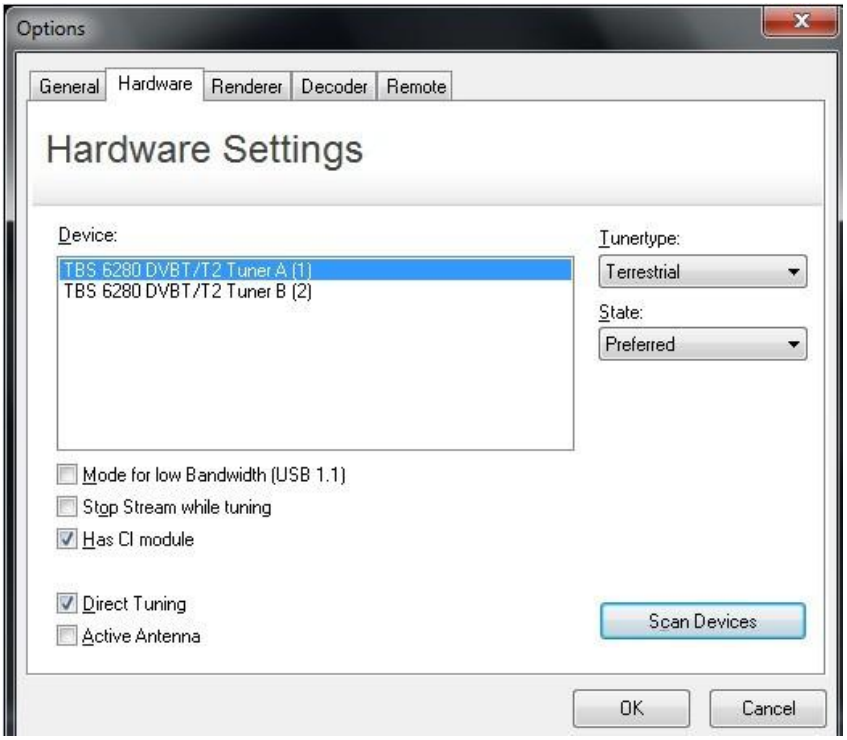
Click "**Install TBSViewer**" from CD auto-run to start installation, click **"Next"** until installation is completed.

Double click the icon

to launch TBSViewer, right-click on the application window to pop up menu and click the **"Options"** .



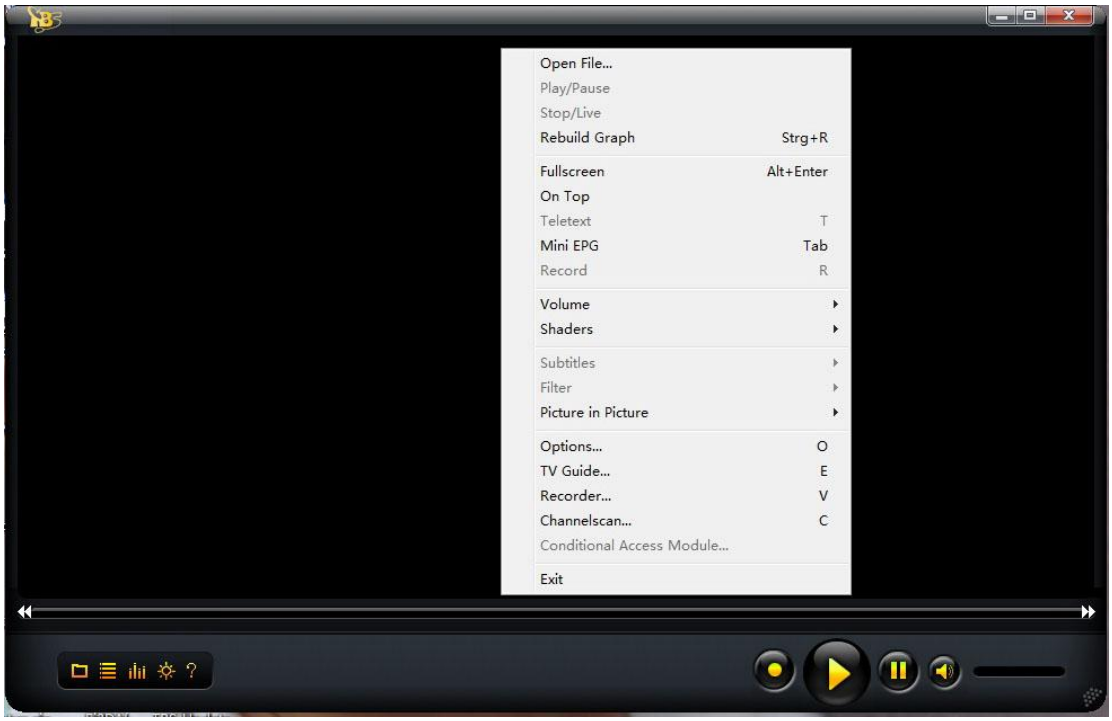
Click "**Hardware**" on option window. If TBS6280 is well installed in the computer, you will see **"TBS 6280 DVBT-T2 Tuner A (1)"** and **"TBS 6280 DVBT-T2 Tuner B (2)** on a window as follows.



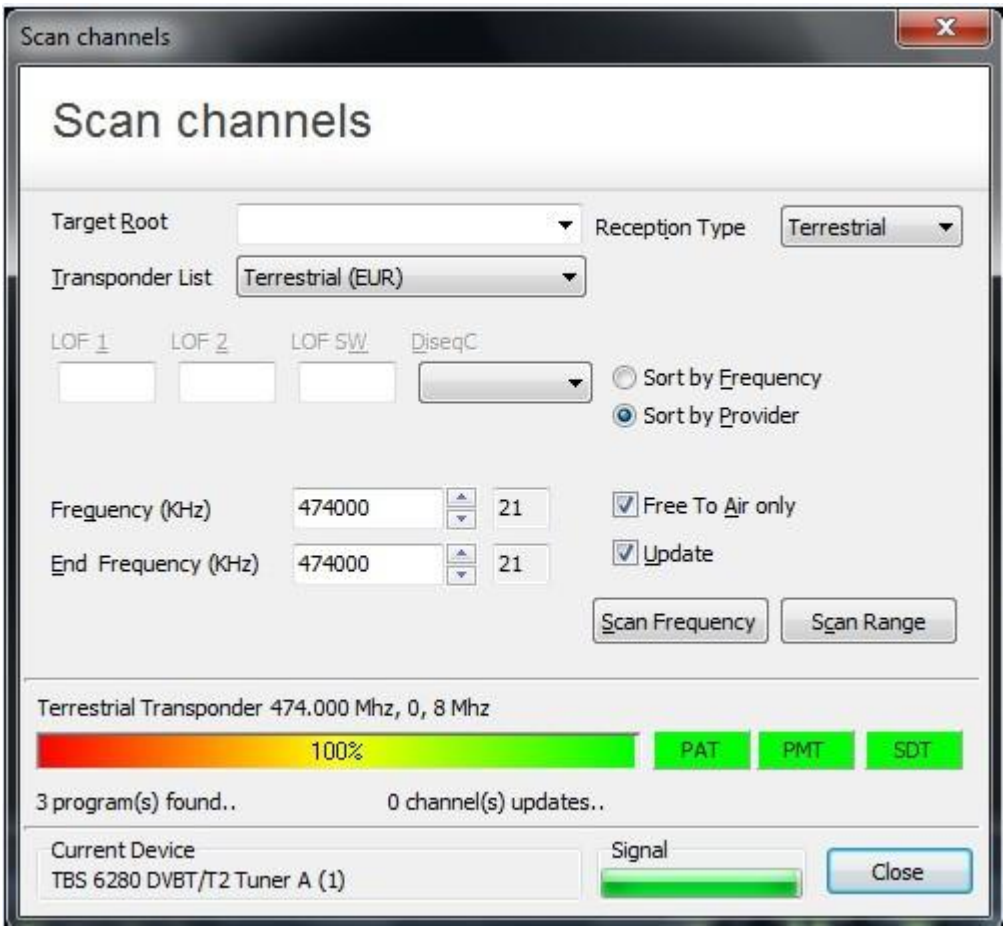
Select one Tuner as “**Preferred**”.

3.2. Scan Channels

Back to the menu and click “**Channel scan**”.



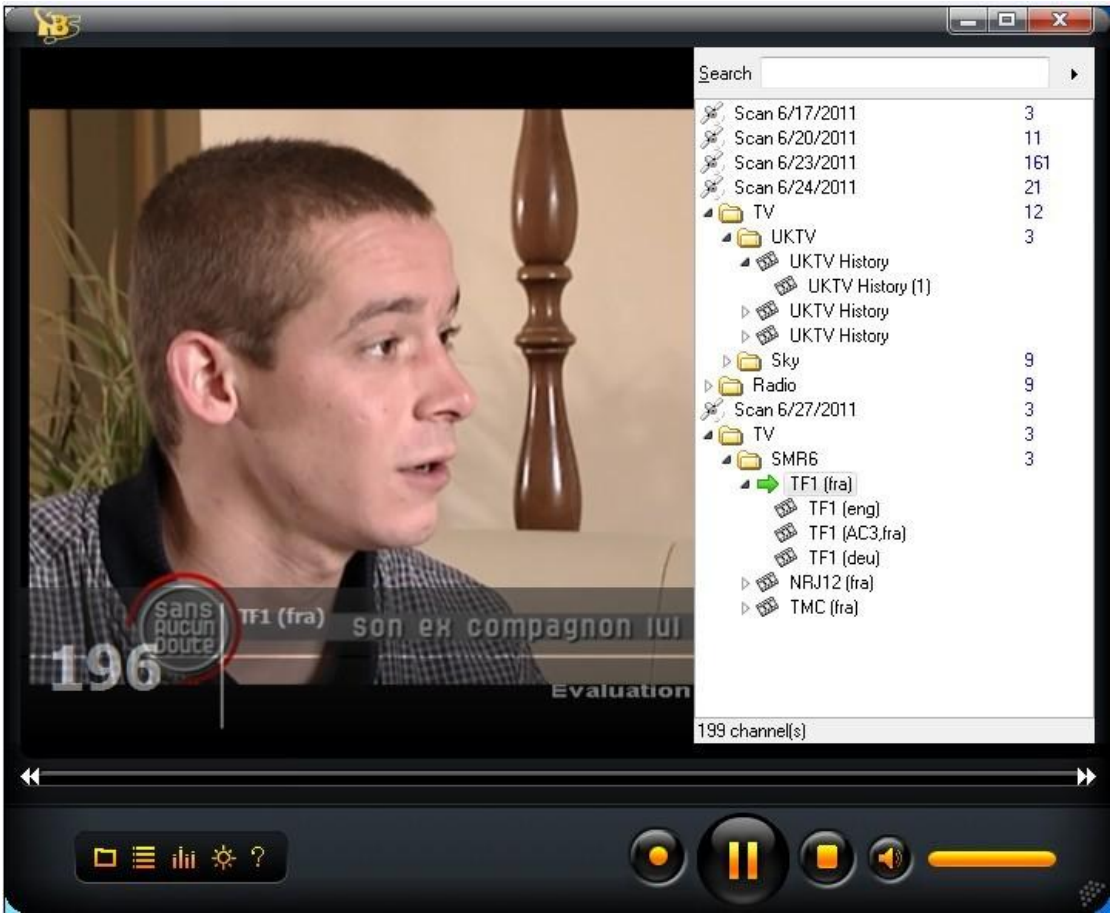
The windows of “**Scan channels**” will pop up. Select Reception Type as “**Terrestrial**” and Select Transponder List basing on where you are. Normally “**Fullscan**” is recommended if you don’t know your terrestrial TV frequency. “**Fullscan**” is relatively slow but it ensures you won’t miss any frequency. Then click “**Scan Range**” to start scan. If you do know your terrestrial TV frequency and you may input that frequency and click “**Scan Frequency**” directly.



After scan is completed, the found program numbers will be shown and the program list will be automatically saved. You can close the "**Scan channels**" window.

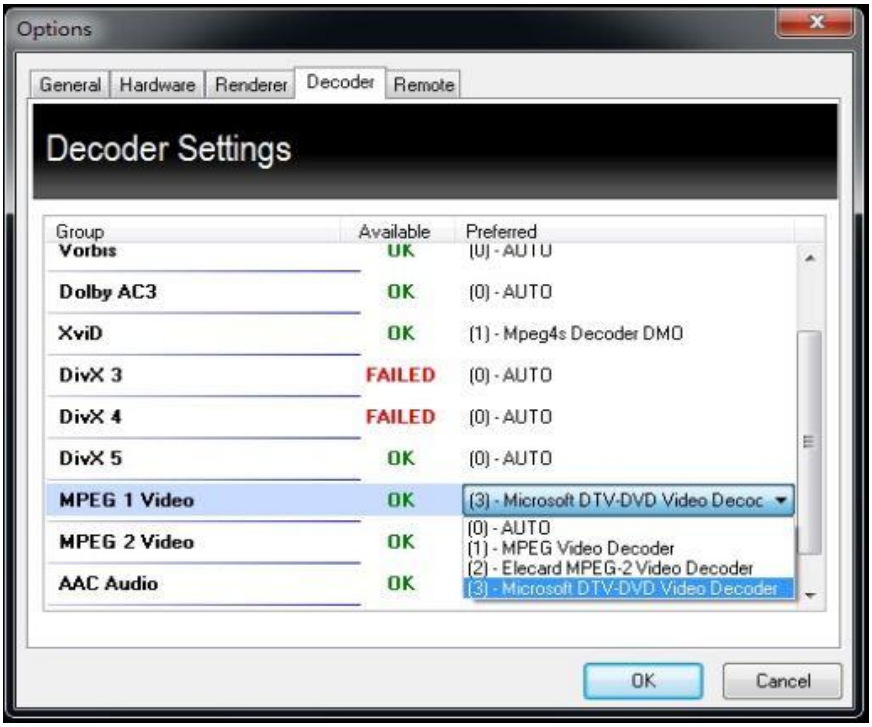
3.3. Watch and Record TV

Move the mouse to the edge line of TBSViewer main window on the right, and a channel list window will appear. Double click a channel to watch. You may also use the record button to record live TV.



TBSViewer allows links to different Video/Audio codecs. To change Video/Audio codec, right click to pop up menu window and click the "**Options**", enter the "**Decoder**" menu. Double click related options to select different codecs.

If your system is Windows 7, you can select **"Microsoft DTV-DVD Video Decoder"** which is bundled in the system.

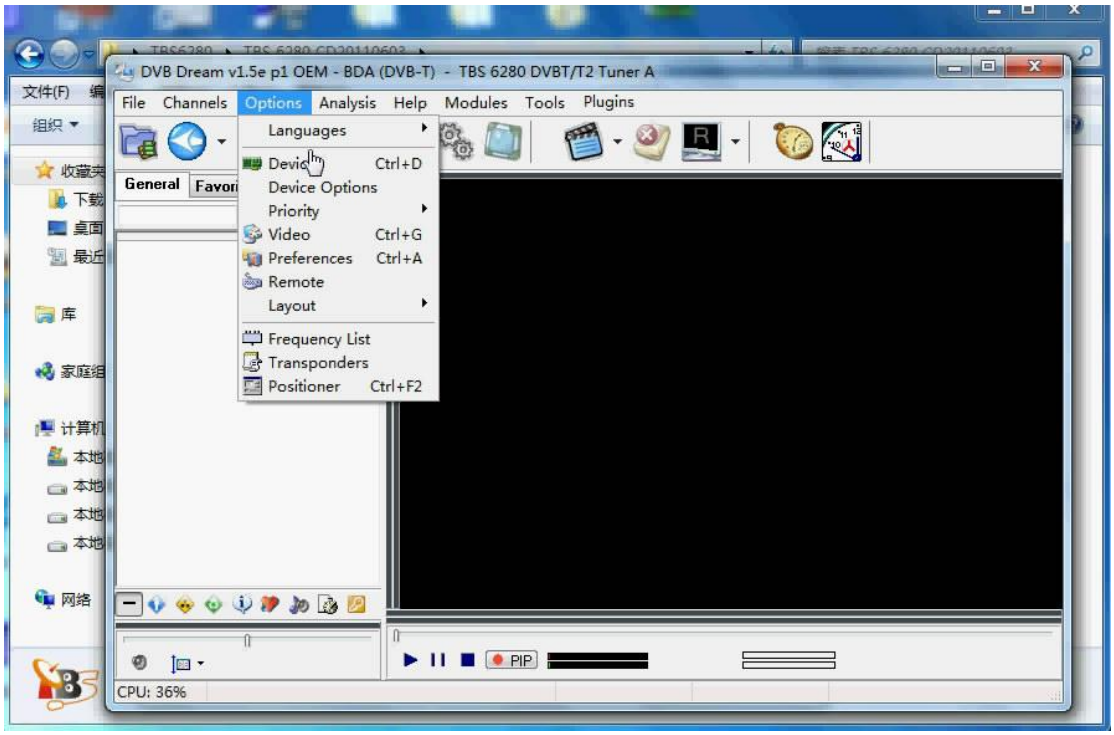


Chapter 4. Watch TV with DVBDream

4.1. Install and use DVBDream

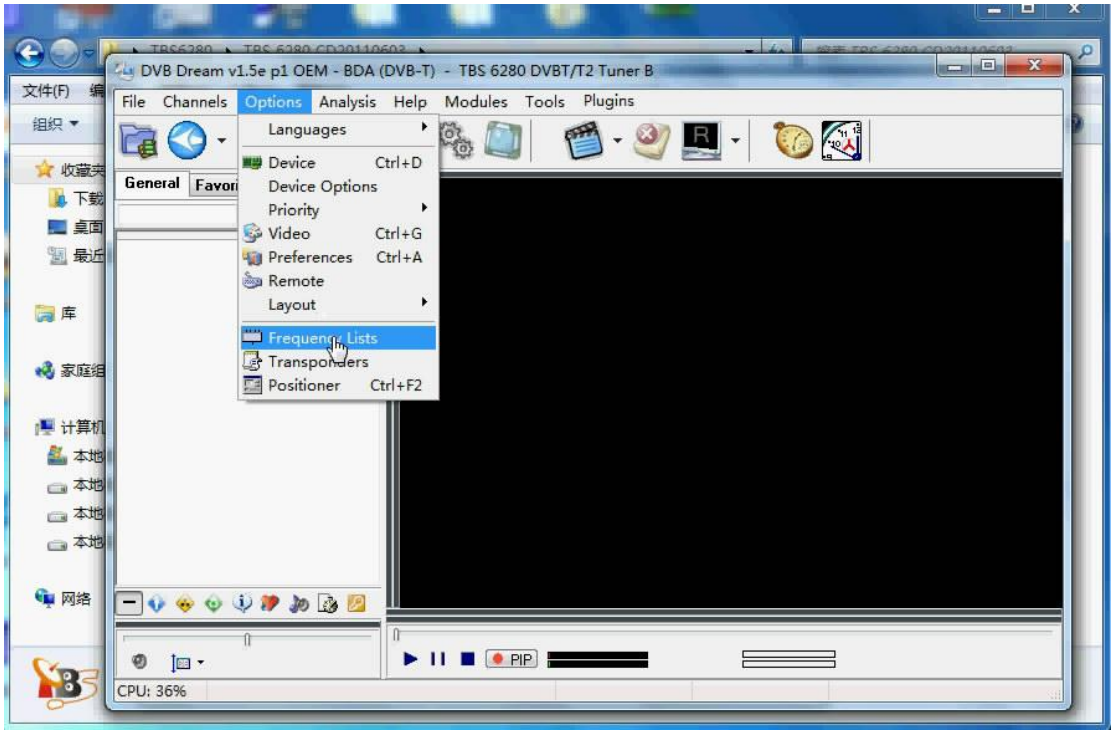
Click **"Install DVBDream"** to start installation, and then click **"Next"** until the installation is completed.

While TBS6220/6280 is installed in your PC, run DVBDream. Click **"Device"** under **"Options"** menu, and you will see TBS model name on the dialog.

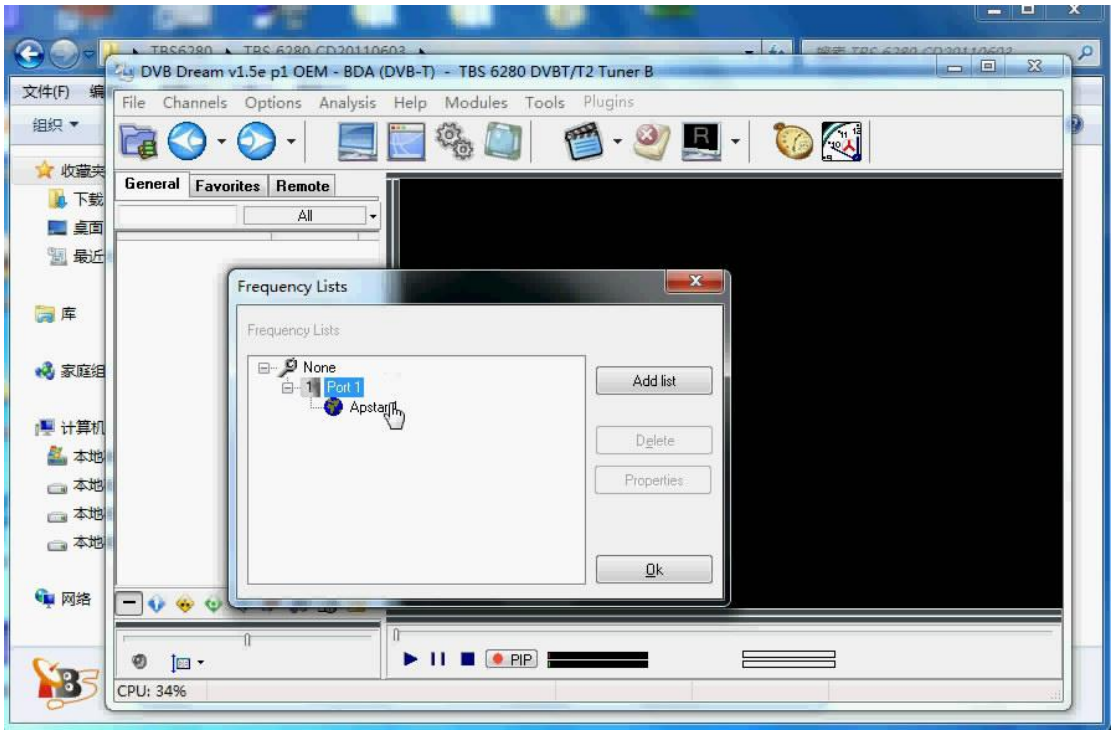


You may click ok or use the UP and Down arrow to select a different Tuner and click start.

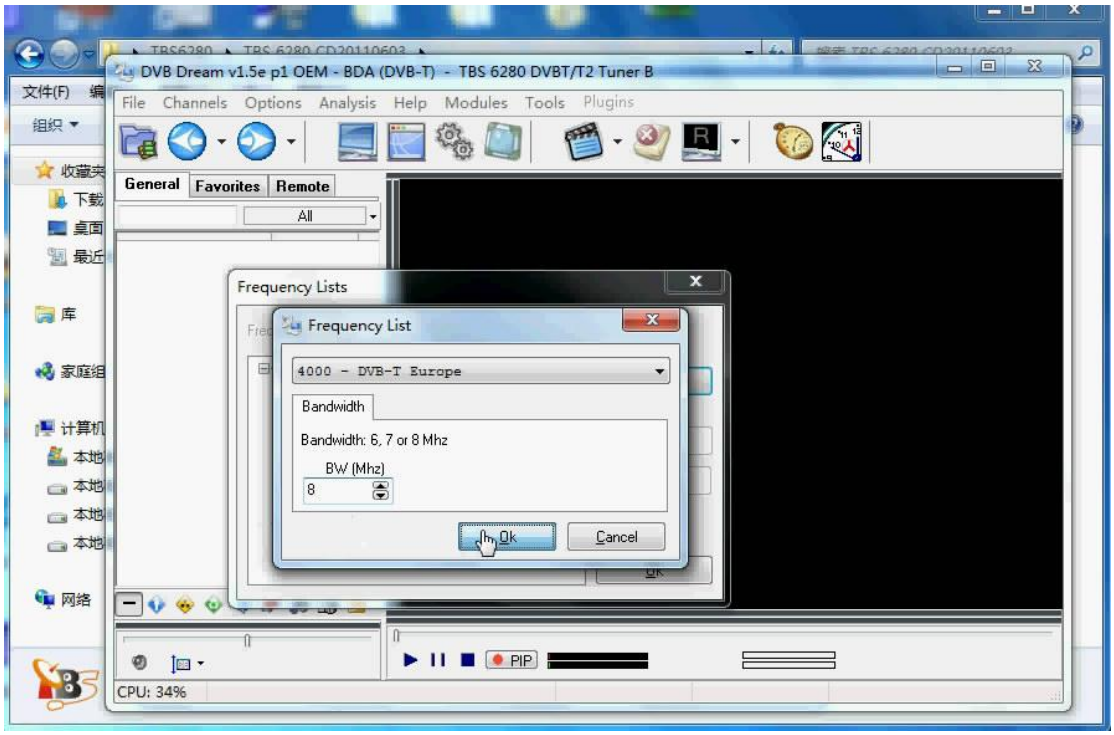
To set up frequency, you could click on **"Frequency Lists"** under "**Options**" menu.



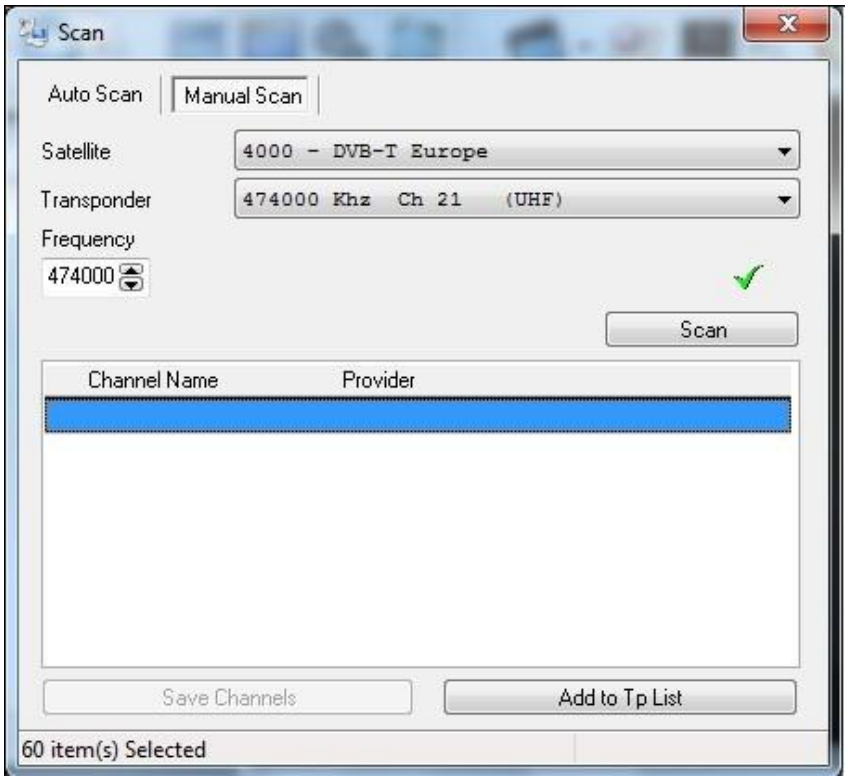
Click **"Add list"**.



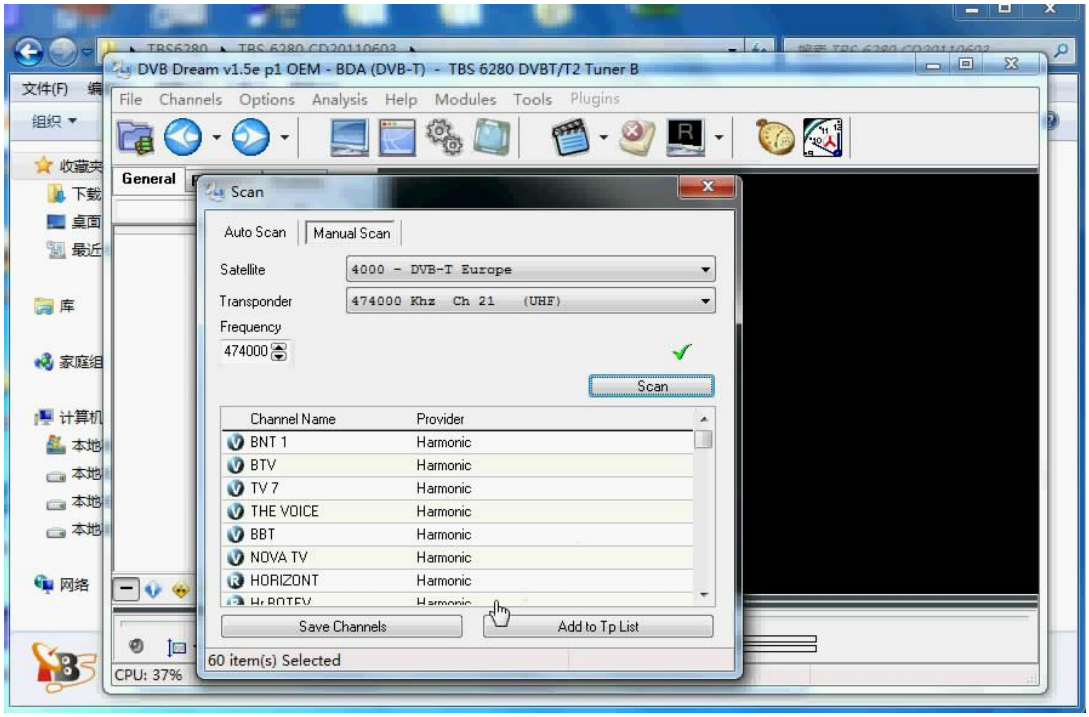
Choose correct location from scroll down menu, and set up Bandwidth. For example, if you are in the United Kingdom, you can choose "**DVB-T Europe**" and 8Mhz bandwidth.



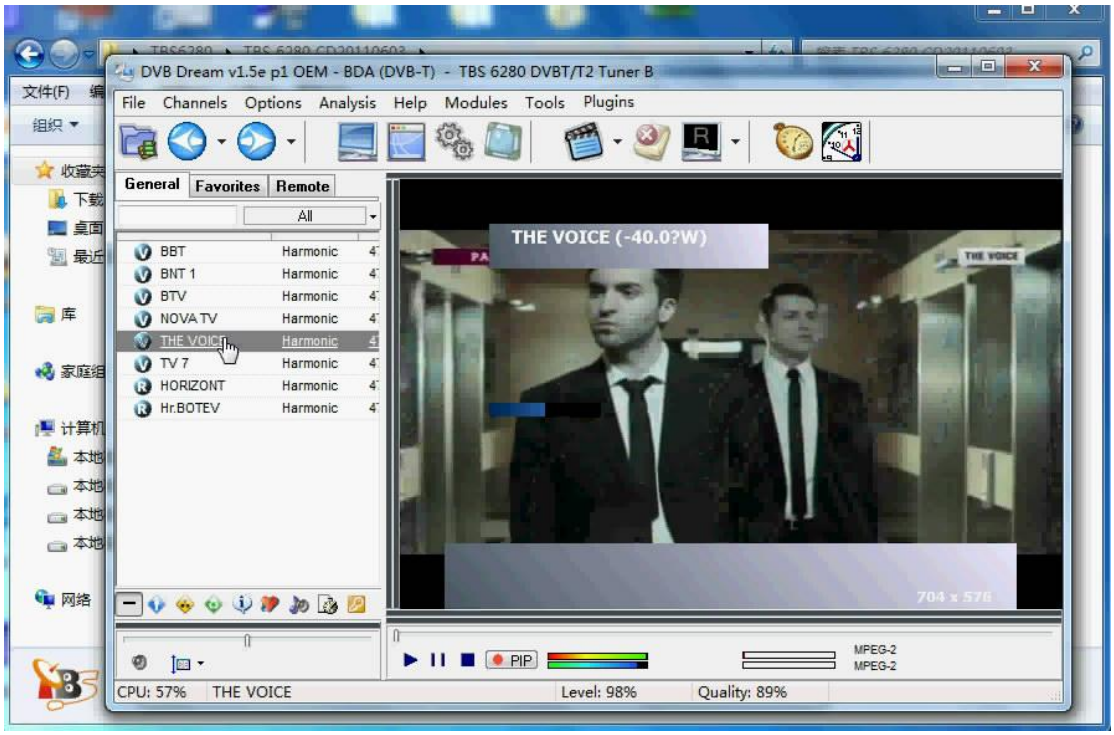
After you have completed the settings, you could click **“Scan”** or **“Manual Scan”** under **“Channels”** menu to search for channels. If you don’t know the exact frequency, Auto Scan is recommended.



After scanning, the available channels in this frequency will be spotted, so you then could click **“Save Channels”** to save all of them.



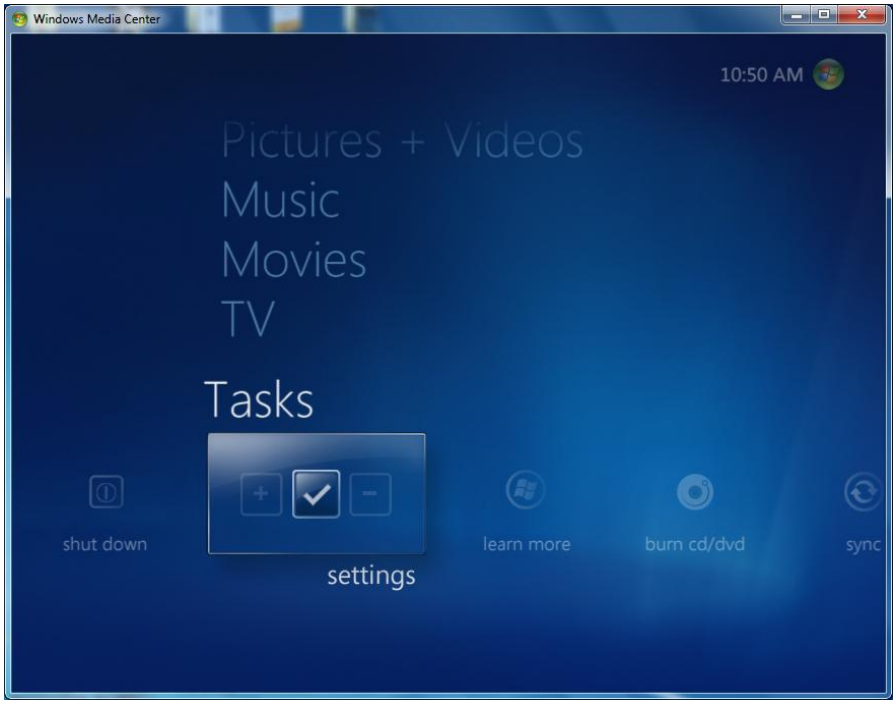
Click the channel name you want to watch from the channel list to play that channel.



You may also use the record feature to record live TV.

Chapter 5. Watch TV with Windows 7 Media Center

After TBS DVB-T2 TV tuner is installed in your computer, now you can launch Windows 7 Media Center. Click “settings” under “Tasks” column, and then a new window will prop up. See the screenshot below.



Click “**TV**” in the new window, and you will see the following window. Then, click **“Set Up TV Signal”** to proceed.

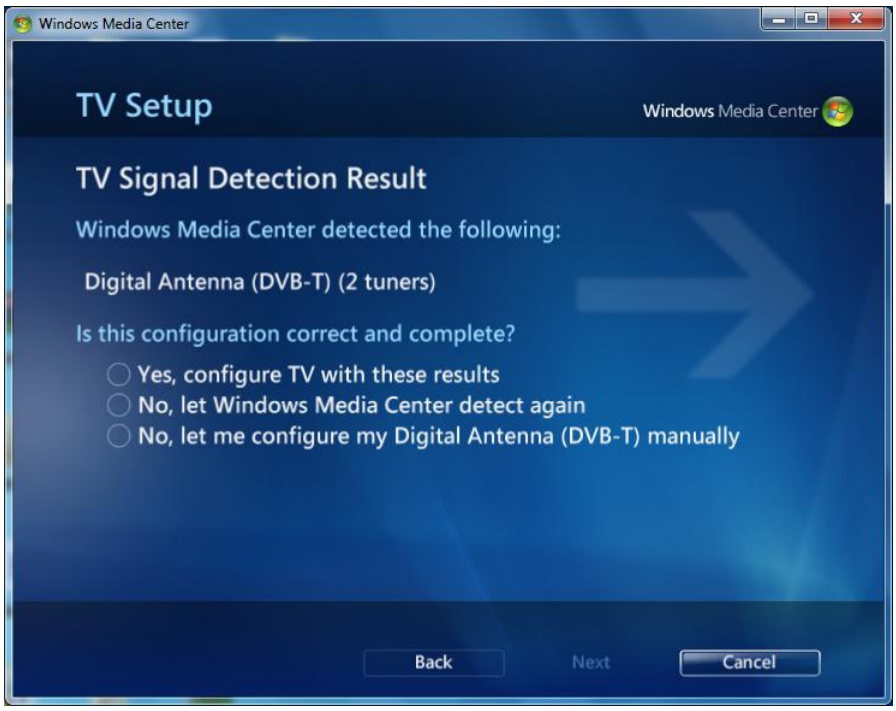
Then you will see the following window asking you to select your region and input your postal code. If the region is correct, please click "**Yes**" and "**Next**". Otherwise just click "**No**" and select the correct one again.

Then the window "**Program Guide Terms of Service**" will appear. Select "**I agree**" to continue.

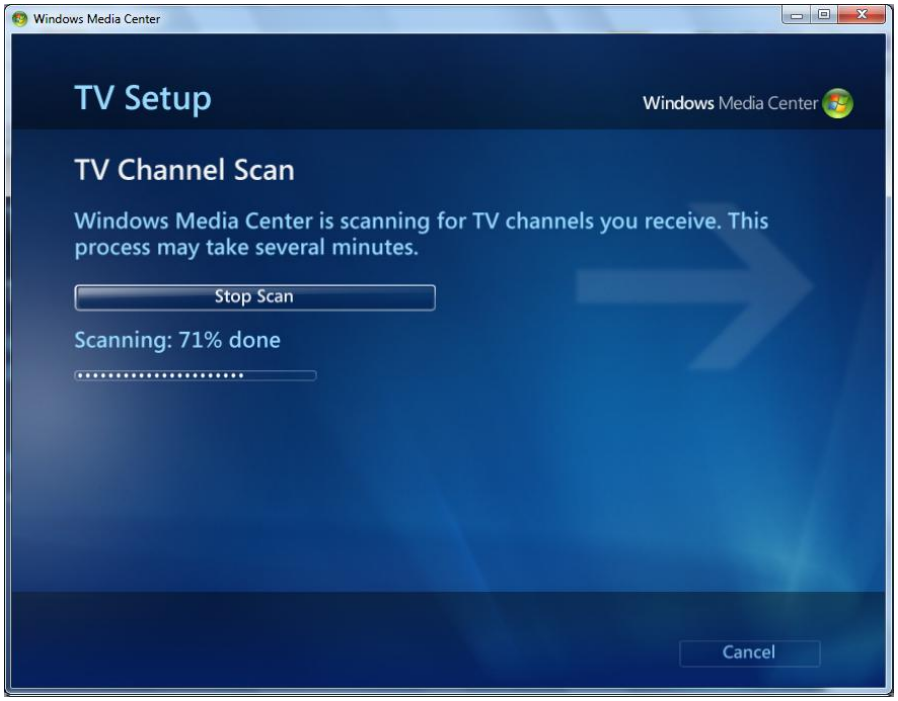
The Windows7 Media Center starts to download digital TV setup data for your region. It will take several minutes, so please wait patiently.

After this, there will be an "**Examining TV Signals**" window popping up. This will also take a few minutes.

After completion, please click "**Next**" to continue. Then a "**TV Signal Detection Result**" window appears.



If you choose "**Yes**" and click "**Next**", it will start to scan channels. If you choose "**No, let me configure…**" then, there will be a "**TV Tuner Selection**" window appears for you to select the tuner. Select TBS6280 Tuner A or Tuner B to continue scan.



The found channels will be listed below.

Go back to the main menu of Windows 7 Media Center, click "**Live TV**" under the "**TV**" column. Relevant TV programs will start to show, and you can switch to different channels.

To switch channels, you can click the Stop button. Then a list of TV channels will pop up and you can select the one you want to watch.

Here is a picture which explains some shortcuts to control the Media center for you. If you don’t see some of the buttons, that’s simply because your Windows 7 Media Center window is not large enough. You should enlarge the window by dragging the window frame, or go to full- screen mode by clicking the Maximize button in the upper-right corner.

Charpter 6 How to Watch Encrypted Programs with CAM

Take TBS5880 for example,TBS5880 USB DVB-T2/T/C TV Box equipped with a CAM (Conditional Access Module) slot in one end of the box for plug-in CAM, which makes it possible to connect a CAM with a compatible Pay-TV subscription Smartcard to enjoy Pay-TV channels.

6.1. Installation

For installing TBS5880 USB DVB-T2/T/C TV Box ,. Connect aerial to TBS5880 “RF IN” with cable. Plug the power supply to “DC7.5V” connector. Then connect TBS5880 to your PC with an USB cord in “USB2.0” port as shown on the picture below.

To watch pay TV, you will need to subscribe to pay TV service and get the subscription pay TV smartcard first. Then you will need a CAM which is compatible with your smartcard encryption system.

Procedures:

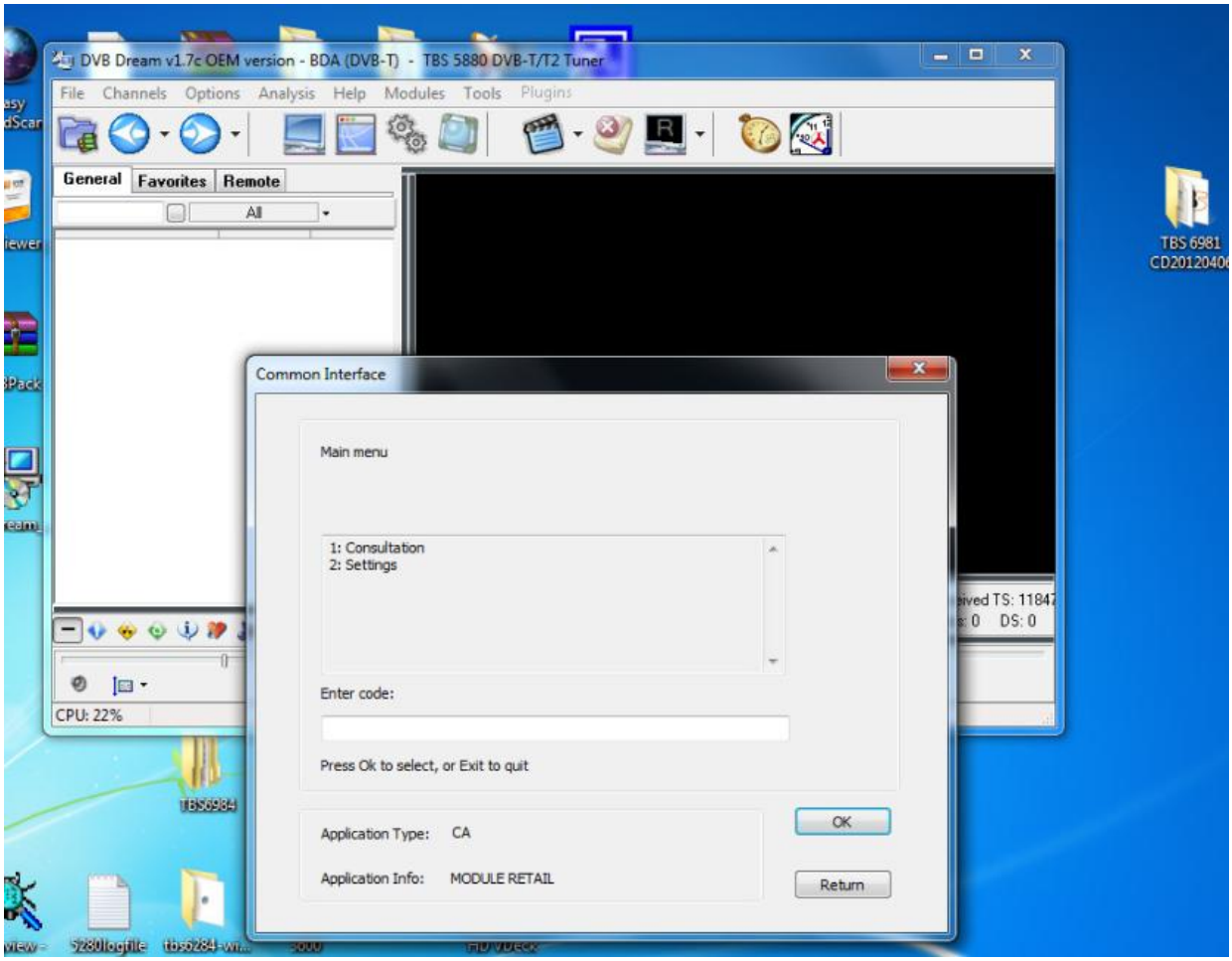
Step1: Insert the smartcard into the CAM. The smartcard should be inserted with the golden pin side facing the thicker side of the CAM as shown below.

Step2: Insert the CAM into the TV Box CI slot. The thicker side(normally the side with brand and model information) of the CAM should face the up side of the box. The CAM should be inserted with the correct side up otherwise it won't be recognized by the box.

6.2. How to check CAM information

After you have right installed TBS5880 driver and DVBDream, you can check CAM information as follows:

select "Module", then "TBS-CI",Then the "CAM Interface" window will pop out for your service. You can check the CAM information as shown in the picture.


DVB Dream v1.7c OEM version - BDA (DVB-T) - TBS 5880 DVB-T/T2 Tuner
File Channels Options Analysis Help Modules Tools Plugins
General Favorites Remote
All
CPU: 22%
Common Interface
Main menu
1: Consultation
2: Settings
Enter code:
Press Ok to select, or Exit to quit
Application Type: CA
Application Info: MODULE RETAIL
OK
Return
TBS 6981

Appendix

1. Check Freeview transmitters at your location and click the transmitter on the map to see Freeview frequencies and program list.
   http://www.ukfree.tv/txlist.php