# User Guide

V1.1

For

TBS6220 PCI-E DVB-T/T2 TV Card TBS6280 PCI-E DVB-T/T2 Dual Tuner TV Card TBS6284 PCI-E DVB-T/T2 Quad Tuner TV Card

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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. 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. 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-S2 Dual Tuner TV Card:

- 1. Dual Channel Receiving simultaneously
- 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 Dual Tuner for The Best Digital TV Reception

#### TBS6284 PCI-E DVB-S2 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

#### **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  $75\Omega$  (IEC-DIN female)
- 9. RF-Output Impedance 75Ω (IEC-DIN male)

#### **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

computer PCI-Express, then connect rooftop or mini aerial to card "RF IN" port.

Note: 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.

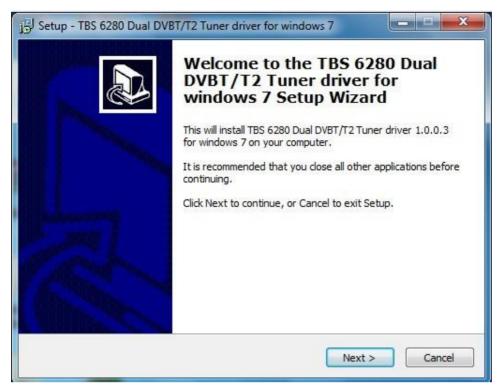
## 2.2 Software Installation

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.



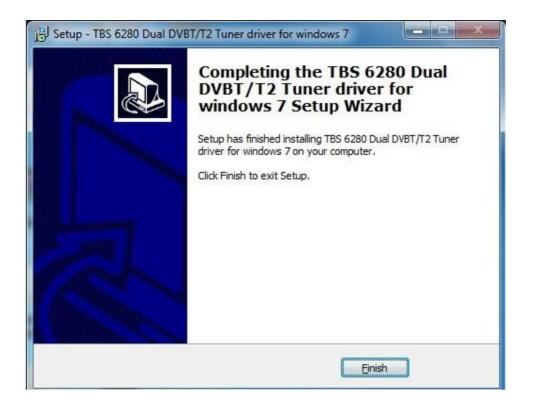
A setup window will pop up. Click "**Next** " to continue.



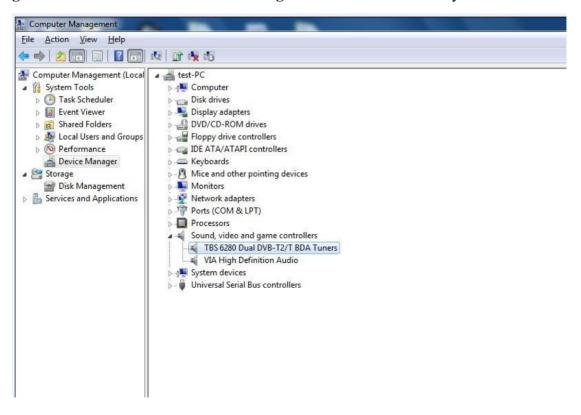
#### Then click "Install".

Setup - TBS 6280 Dual I Ready to Install				
	begin installing TBS 6280 D Iputer.	oual DVBT/T2 Tur	er driver for	Ċ
Click Install to continue	with the installation.			
		< Back	install	Cancel

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**

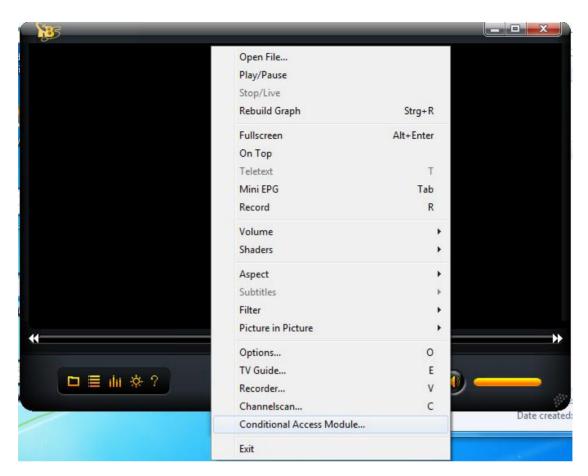
## 3.1. Install TBSViewer

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





Double click the icon **TBSWewer** 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.

Options	×
General Hardware Renderer Decoder Remote	
Hardware Settings	
Device:	<u>I</u> unertype:
TBS 6280 DVBT/T2 Tuner A (1)	Terrestrial 👻
TBS 6280 DVBT/T2 Tuner B (2)	State:
	Preferred
<ul> <li>Mode for low Bandwidth (USB 1.1)</li> <li>Stop Stream while tuning</li> <li>✓ Has CI module</li> </ul>	
☑ Direct Tuning □ Active Antenna	Scan Devices
	OK Cancel

Select one Tuner as "Preferred".

## **3.2. Scan Channels**

Back to the menu and click "Channelscan".



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.

Scan channels		
Scan chan	nels	
Target <u>R</u> oot		▼ Reception Type Terrestrial ▼
Transponder List Terr	restrial (EUR)	
LOF <u>1</u> LOF <u>2</u>	LOF S <u>W</u> DiseqC	<ul> <li>Sort by Erequency</li> <li>Sort by Provider</li> </ul>
Freguency (KHz)	474000 21	1 Free To <u>A</u> ir only
End Frequency (KHz)	474000 21	1 Update
		Scan Frequency Scan Range
Terrestrial Transponder 4	74.000 Mhz, 0, <mark>8</mark> Mhz	
	100%	PAT PMT SDT
3 program(s) found	0 channel(s) u	updates
Current Device TBS 6280 DVBT/T2 Tune	er A (1)	Signal Close

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.

eneral Hardware Rendere	ar Decoder	Remote	3	
Decoder Setting	s			
Group	A	railable	Preferred	
Vorbis		UK	[U] - AUTU	
Dolby AC3		OK	(0) - AUTO	
XviD		ОК	(1) - Mpeg4s Decoder DMO	
DivX 3	F	AILED	(0) - AUTO	
DivX 4	F	AILED	(0) - AUTO	
DivX 5		ОК	(0) - AUTO	H
MPEG 1 Video		OK	(3) - Microsoft DTV-DVD Video Decoc 👻	
MPEG 2 Video		ок	(0) - AUTO (1) - MPEG Video Decoder	L
AAC Audio		OK	(2) - Elecard MPEG-2 Video Decoder (3) - Microsoft DTV-DVD Video Decoder	

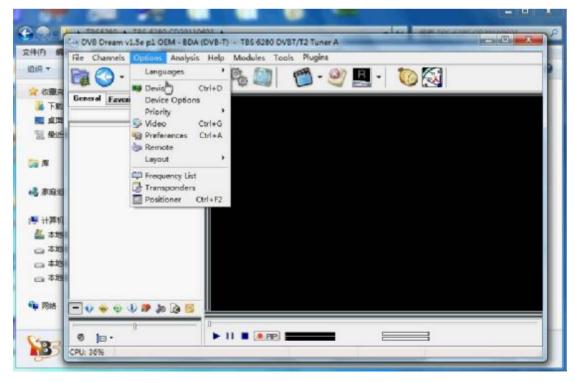
# **Chapter 4. Watch TV with DVBDream**

## 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.



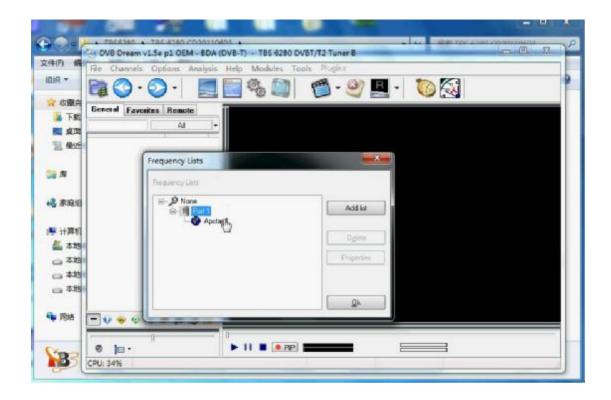
You may click ok or use the UP and Down arrow to select a different Tuner and click start.

BDA BDA	2.5.7	2.1.0		
			<u>S</u> tart Offset	

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.

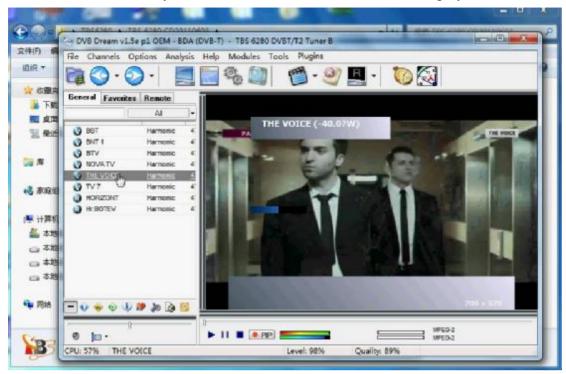


After you have completed the settings, you could click **"Scan"** or **"Manual Scan"** under **"Channels"** menu to search for channels. If you don't know the exact frequency, Auto Scan is recommended.

Auto Scan	Manual Scan	
Satellite	4000 - DVB-T Europe	•
Fransponder	474000 Khz Ch 21 (UHF)	•
Frequency 474000 🕃		1
Channel Nar		ican

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

F) File Char	nels Options Analy	ais Help Modules Tools Plugin	5	
**	)· ()· [	- 🔊 🗞 🔄 👩 -	🥂 🖪 - 🚺	<b>S</b>
の調査 下記 「記	Sig Scan			
(二)	Auto Scan Marve	d Cate		
<ul> <li>単近</li> </ul>				
	Satelike	4000 - DVB-T Rurope	*	
<b>A</b>	Transponder	474000 Ehz Ch 21 (UHF)	-	
	Frequency			
	Concentration of the second se			
#r014	474000 📳		× 1	
RAB	474000 (\$)	-	Scan	
	474000 (g)	Provider	Scan	
andria Hanan Latera	Channel Name	Provider Hamoric	Scan	
11381) L #151			Scan	
计算机 本地3 	Channel Name	Hamonic	Scan	
计算机 本地 本地 本地	Channel Name Ø BNT 1 Ø BTV	Hamonic Hamonic	Scan	
计算机 本地3 	Channel Name BNT 1 BTV TV 7	Hamonic Hamonic Hamonic	Scan	
计算机 本地 本地 本地	Channel Name O BNT 1 O BTV O TV 7 O THE VOICE O BBT O NOVA TV	Harmonic Harmonic Harmonic Harmonic	Scan	
计算机 本地 本地 本地	Channel Name O BNT 1 O TV 7 O TV 7 O THE VOICE O BBT O NOVA TV O HORIZONT	Hamonic Hamonic Hamonic Hamonic Hamonic		
计算机 本18 本18 本18 本18	Channel Name O BNT 1 O BTV O TV 7 O THE VOICE O BBT O NOVA TV	Hamonic Hamonic Hamonic Hamonic Hamonic Hamonic Hamonic		



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 TBS6220/6280/6284 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.

Window: Media Center			10:50 AM	и 🌀
	Pictures + Music Movies TV			
I) shut down	Tasks	(ieam more)	Durn cd/dvd	© sync

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.

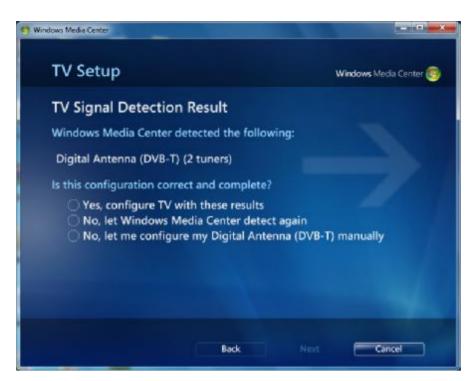
It will take several minutes, so please wait patiently.



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.



TV Setup	Windows Media Center
TV Channel Scan	
Windows Media Center is scanning for T process may take several minutes.	TV channels you receive. This
Stop Scan	
Scanning: 71% done	

The found channels will be listed below.

TV Setup	Windows Media Center
TV Channel Scan	
Windows Media Center has finished s	canning for TV channels you receive.
Scan again	Delete All
7 channel(s) found	
Clas Matter	
Sky News Sky Spts News	
Sky Travel	
UKTV History	
talkSPORT	
	1 of 7 🔨 🗸

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.

Thu,	Jun 23	3:14 PM	3:30 PM	9L 4:00 РМ	
43	Sky Spts News	Goc	No data available.		
94	talkSPORT	< Alar	No data available.		
95	3C	No dat	ta available.		
96	Premier Radio	Cinsg	No data available.		
	Sky Movies				
	Sports			2	
	Entertainment	-	19. 19. 19. 19. 19. 19. 19. 19. 19. 19.	2 2	-
		talkSPO On Now Press OK t	RT Alan Brazil and Graham to see more shows for this		3:14 P

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.

1234	5 6 7 8 9	10 11 12 13
● ≔ - +   !	=	 ▶   ♠> - +
(1) Record	6 Rewind	1 Mute
2 Guide	Skip Backward	12 Volume Decrease
3 Channel Decrease	8 Pause and Play	3 Volume Increase
④ Channel Increase	(9) Skip Forward	
(5) Stop	10 Fast Forward	

# **Appendix**

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