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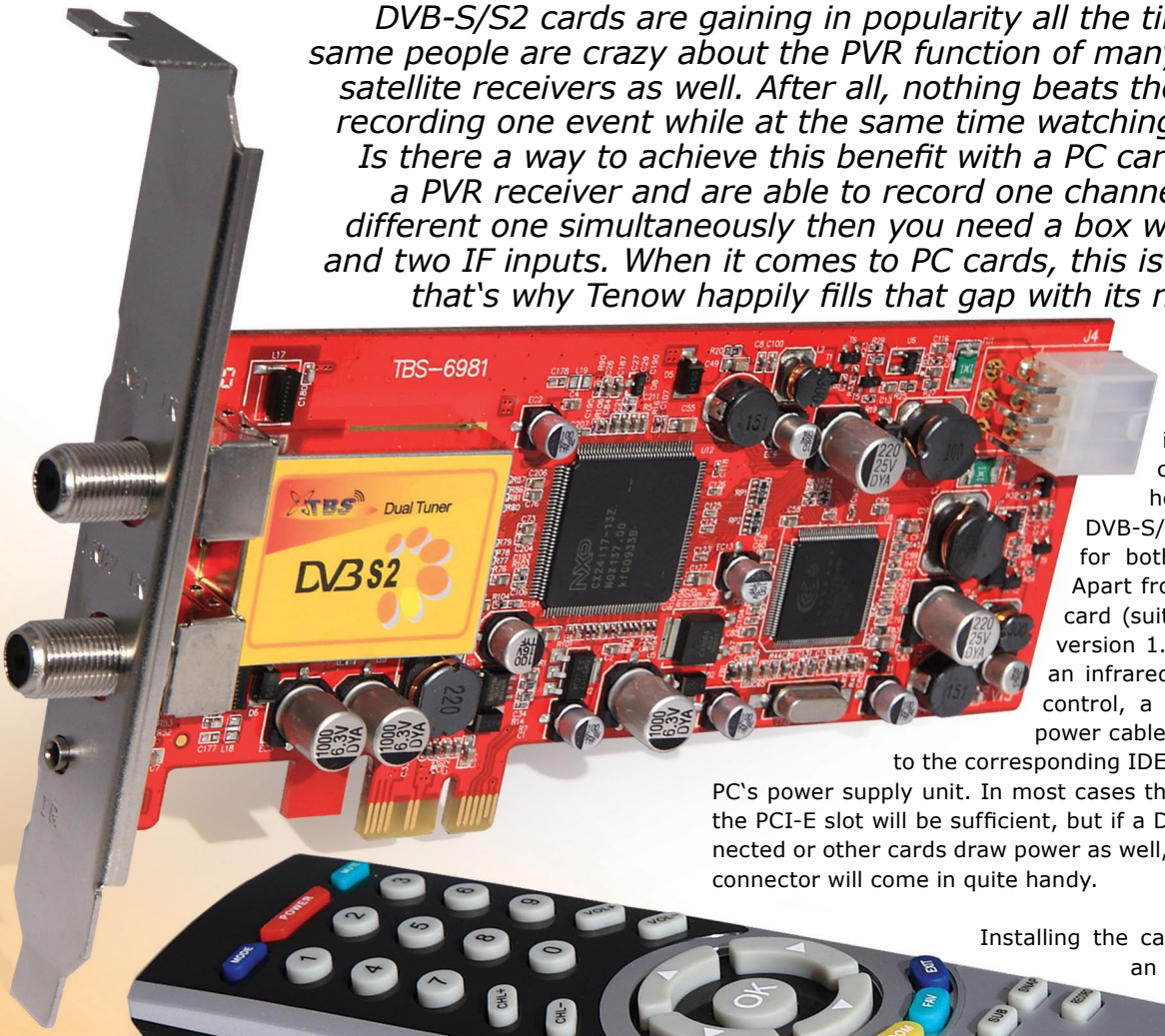
TENOW TBS 6981 DVB-S/S2 DUAL TUNER
PC card with PVR and all the features you'll ever need. Ideal also for feedhunters.

Tenow TBS 6981 DVB-S/S2 Dual Tuner

PC Card With Twin Tuner Function

DVB-S/S2 cards are gaining in popularity all the time, but at the same people are crazy about the PVR function of many conventional satellite receivers as well. After all, nothing beats the possibility of recording one event while at the same time watching another one. Is there a way to achieve this benefit with a PC card? If you have a PVR receiver and are able to record one channel and watch a different one simultaneously then you need a box with two tuners and two IF inputs. When it comes to PC cards, this is very rare and that's why Tenow happily fills that gap with its new TBS 6981.



The Tenow PCI-E is DVB-S and DVB-S2 compatible and hence features two DVB-S/S2 satellite inputs for both SDTV and HDTV. Apart from the TBS 6981 PC card (suitable for PCI-E slots version 1.0a and 1.1) you get an infrared receiver, a remote control, a software CD and a power cable to connect the card to the corresponding IDE power supply of the PC's power supply unit. In most cases the power supplied by the PCI-E slot will be sufficient, but if a DiSEqC motor is connected or other cards draw power as well, this auxiliary power connector will come in quite handy.

Installing the card does not require an engineering degree and thanks to its compact size it will even fit into devices with restricted space. Once the two tuner inputs are connected to the signal input cables all you need to do is connect the IR receiver to the socket next to the IF inputs to get started.

The remote control that comes with the card sits nicely in your hand and allows controlling the TBS 6981 without having

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Available online starting from 3 December 2010

to get up from your lounge room sofa. The manual is available on the mini CD in PDF format.

Tenow lists the following specifications for DVB-S reception: Intel Pentium III 1 GHz with 256MB RAM and a graphics cards with 16MB RAM. If you're after DVB-S2 signals you need to make sure to provide at least an Intel Pentium IV 3 GHz processor with 1GB RAM and a graphics card with a minimum of 64 MB RAM. Tenow made the card compatible to the Windows XP, Windows Vista, Windows 7 and even Linux operating systems - the latter even for the latest Linux kernel.

Now that we had installed the card in our test PC and connected all required cables we proceeded with driver installation. Shortly after the CD is inserted an autostart wizard opens up on screen with all available options. A single mouse click is all it takes to start driver installation and a short while later Windows displays a message stating that new hardware was detected and is ready for use.

For all the Linux enthusiasts out there: Tenow even provided Linux drivers and made the card fully compatible to the latest Linux kernel.

On the software front Tenow supplies its own TBSViewer presentation application, but also offers the DVB Dream software on the CD as an alternative. We should not fail to mention at this stage that the card worked flawlessly with the hugely popular ProgDVB application as well and the manufacturer provides all necessary configuration files on the included CD. Windows Media Center (as included with Windows 7, for example) is supported, too.

It's basically up to the end user which software is paired to the Tenow card, and this is one of the major benefits of PC card solutions as opposed to set-top boxes, which – in most cases – can only be used with a single manufacturer-supplied firmware. For the purpose of this test report, however, we decided to stick to the software shipped by Tenow. In our case the TBSViewer came with a prestored channel list of ASTRA 19.2° East, HOTBIRD 13° East, ASTRA3 23.5° East and ASTRA2 28.2° East which meant we were ready to party right away.

The OSD can be displayed in the following languages: English, German, French, Czech, Hungarian, Italian, Polish, Portuguese, Russian, Finnish and Ukrainian. A list of 176 European, Asian and American satellite positions complete with their transponder data is available, even though this information is not completely up-to-date.

All LOF parameters can be set manually, so that the PC card will work with all available LNBs. If your reception system includes a DiSEqC 1.0 switch for reception of up to four satellite you will be happy to find out that the Tenow card will nicely deal with this setup.

Surprisingly, the Tenow TBS 6981 even works smoothly with the SCR single cable solution, which is supported. The 22 kHz signal to switch between the upper and lower frequency band and the supply voltage for the LNB (13V for vertical/left circular signals and 18V for horizontal/right circular signals) work as expected and required.

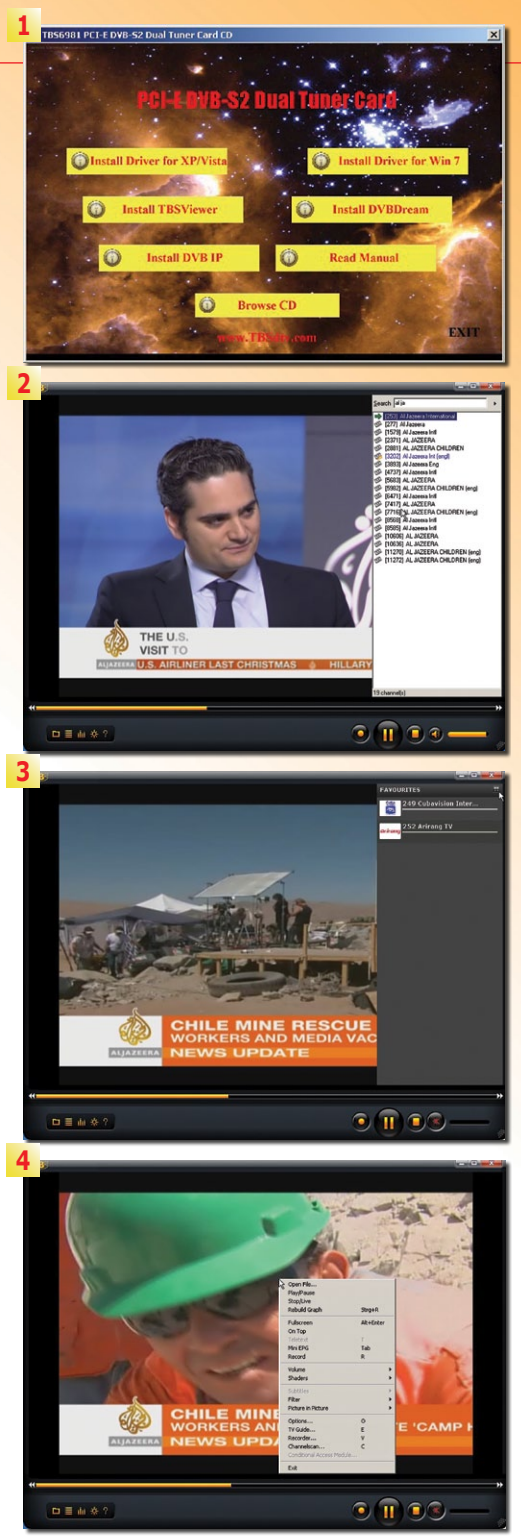
Tenow offers three search modes: Automatic search looks for all transponders on the pre-stored list, manual search can be used to scan a single transponder which will then be locked.

We were impressed with the search speed of the TBS 6981, which only took three and a half minutes to scan 1.734 TV and radio channels on HOTBIRD at 13° East. Every search can be restricted to free-to-air channels only, which is particularly helpful as the PC card does not come with a CI slot for pay TV reception.

You might wonder now what the third search mode is, since we have only mentioned automatic and manual so far. It's a kind of blind scan mode and requires a start and end frequency plus the preferred scanning step parameter as well as all symbol rates that should be used. For our test we tried out this feature for the complete frequency range of the HOTBIRD satellites at 13° East with steps of 5 MHz and for symbol rates of 27.5 and 22 Ms/s.

It turned out that this search mode really detected all active transponders in the pre-defined frequency range, but it also seemed to be an endless procedure and after one hour we were only halfway through our frequency range so that we decided to cancel the search. By that time close to 2,000 TV and radio channels had been detected and stored in the memory.

We recommend using this feature for checking smaller frequency ranges only (in order to look for feeds, for example), as it is a great way of keeping your channel list completely up-to-date.



1. Right after inserting the CD its content is presented in a pleasing design
2. Clearly arranged channel list of the TBSViewer
3. Favourites list for finding your preferred channels with a single mouse click
4. All functions can be called up by right-clicking your mouse

When we checked out EBU feeds on EUTELSAT W3A a 7° East we were able to detect all active feeds in about a minute's time. We should also give special praise to the software's update feature which keeps the channel list up-to-date and adds newly found channels without messing up the existing list. You may even create a dedicated section which saves all new channels according to the date on which they were detected. This

1. Windows Media Center detects and support the PC card
2. DiSEqC 1.0 is available
3. Automatic satellite search in Windows Media Center
4. Manual search Windows Media Center

helps tremendously when you look for a channel that was added to your overall list only recently. Once the channel list is filled to the brim with all offerings from the sky you can leave the settings menu with another single mouse click to change to the TBSViewer which shows the first available channel.

The software can be activated automatically by moving the cursor to the upper right corner of the window. A tree structure lists all channels according to satellites and providers, so that your desired channels can be found in next to no time at all. Alternatively, you can always use the search field to look for your favourite station. A favourites list can be opened by clicking on a small button next to the search window and there you can save all those channels you watch on a regular basis.

We hugely appreciated the way Tenow has implemented audio selection. As soon as you select a channel from the list all available audio tracks are shown right beneath the channel entry. You don't have to go to a dedicated menu to switch between audio tracks but have all the information right in front of your eyes.

It seems the Tenow software developers had user-friendliness in mind when implementing this feature, and if you want to watch a movie in its original language every once in a while you'll be very thankful for that.

Channel editing and sorting can also be done right in the selection window which means all options are available right when and where you need them. You may filter channels according to certain characteristics (AC3 audio, for example) or according to provider, satellite or category. If you want to add even more clarity to your overall channel list you may hide all encrypted channels with a singe mouse click.

Every time you switch to a new channels the software automatically inserts a cleverly-designed OSD bar with information on the current and next event, if provided by the channel. Switching times are fast, considering we're talking about a PC card solution here. A little over a second is all it takes for a new channel to be available on screen with synced video and audio.

The extended EPG is one more feature deserving special mention. Timer entries can be selected right in the EPG mode so that users have at their disposal an electronic TV guide in which events can be selected for recording without any detour.

What differentiates the TBS 6981 from most PC card competitors is its second tuner, and once you are aware of all its benefits you would not want to do without any more. It allows recording a channel while at the same watching another channel live. It is even possible to perform a search on tuner 2 while watching live TV on tuner 1.

With the integrated picture-in-picture feature it is easy to watch a second channel in a smaller window during a commercial break on your main channel, for example. No risk of missing a second of your favourite show anymore, and no more twiddling your thumbs when you wait for the break to finally be over.

Teletext is available as well and it is implemented flawlessly with all features you'd expect.

Still, all those nice and useful features would be plainly worthless without capable tuners in the first place, which are at the heart of any receiver or PC card. No need to worry about the TBS 6981, though, whose tuners effortlessly pulled in any DVB-S and DVB-S2 signal we threw at them. Weak signals close to the tuners' threshold – like the ones from BADR at 26° East at our location – posed no problems and did not cause any software freezes, even when the integrated Viterbi error correction had to work overtime for a prolonged period of time.

The SCPC test was passed with flying colours as well and the tuners managed to flawlessly lock and process signals from our test transponder on TURKSAT 42° East with a symbol rate of only 2.2 Ms/s.

In our test center we intentionally used a somewhat outdated Pentium IV processor for this report. After all, not all our readers will be equipped with the latest state-of-the-art computer. Even though our machine was on the lower end of the manufacturer's specifications we were still able to watch HDTV from a DVB-S2 signal while at the same time performing other office tasks on the PC. Obviously both the processor and the graphics card had to give their best, but they still had extra capacity for reasonably working with the machine. All video was always presented interference-free, no matter whether it was HD or SD.

If you prefer to use the remote control that comes with the package for software control rather than your keyboard and mouse you'll be pleased to learn that it works perfectly with the PC card. What's more, when we connected a 40-inch flat screen TV to the PC via DVI the presentation mode of the TBSViewer delivered excellent video quality on a par with conventional set-top boxes.

If required, the TBSViewer features a complex range of detailed setting options. To give just one example, different codecs can be selected for video playback, depending on the file format. This makes sure the TBSViewer is able to handle various video formats such as MPEG-2, H.264, DivX or XviD, among others.

It is even possible to process feeds that are transmitted in the MPEG 4:2:2

studio format after you have downloaded the Elecard codec which is available free of charge from www.elecard.com. This feature will probably put the Tenow card right in the top spot of any DXer's and feedhunter's pick list.

In the settings sections you can of course customise all the basic functions of the card to meet you individual requirement, like defining a lead and lag time for timer recordings, split recordings into files with identical size, and defining one of the two tuners as standard tuner.

When using the TBSViewer you will find out it is capable of processing a whole range of different formats, including MPEG, DivX, Video CD, AFS, WMV, WMA, OGG and OGM. This allows you to watch almost all video content, not just transport streams from satellites.

A time bar which is located on the bottom section of the video screen allows jumping to any sequence during playback of a recorded event, or indicates the progress of a live event. All satellite recordings are saved in the universally and generally used transport stream format so that they can easily be edited and saved on DVD, for instance.

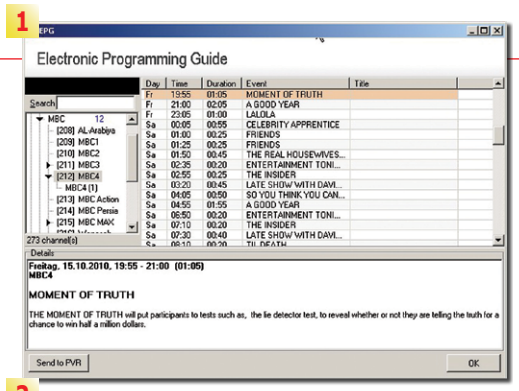
Apart from its in-house presentation software Tenow also supplies the DVB Dream software on CD, which is similar in features to the TBSViewer. In addition, the CD comes with configuration files for the popular ProgDVB application, making the TBS 6981 PC card a perfect match for that software as well.

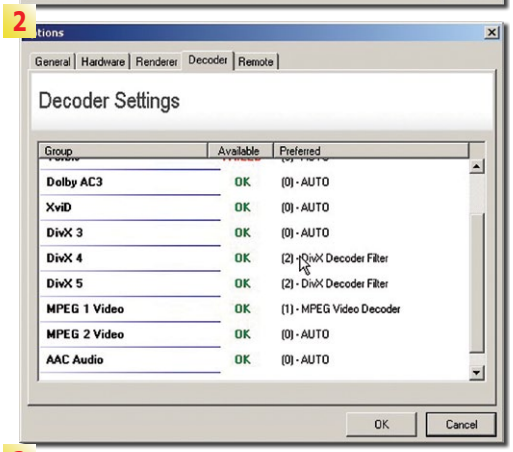
We truly loved that the new TBS card works with the Windows Media Center as well, a software suite that comes with Windows 7, for example. User preferring this well designed and fully integrated software are free to go for it, since our test proved this combination to be absolutely worry-free. That's how plug&play is supposed to work! In the end, it's up to the user to choose their preferred software. The main point is that the manufacturer presents us with various options, which is always welcome.

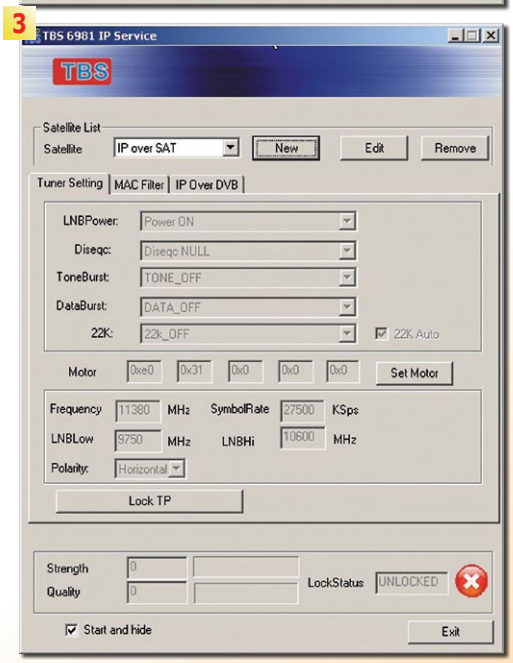
There's one more plus of the TBS 6981 dual tuner card which should not go unnoticed: One tuner can be set apart for Internet-via-satellite, while the second tuner takes care of TV and radio reception from satellites.

Readers using Internet-via-satellite will be aware of the constant struggle of deciding between Internet and TV, and finally the TBS 6981 makes this a thing of the past. The manufacturer provides specific software for Internet access which acts as a virtual network adapter in Windows and accesses the world wide web via satellite once all required parameters (frequency, polarisation, symbol rate, account data, etc.) are entered correctly. Naturally, we tried that out as well and can state that we found nothing to complain about.

Even when recording in the background the system was totally unimpressed, just as it was possible to watch a HDTV channel while surfing on the Internet via satellite at the same time.







1. Extended EPG with events for several days
2. Various codecs to choose from
3. Internet via satellite

Expert Opinion

Thomas Haring
TELE-satellite
Test Center
Austria

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The Tenow TBS 6981 DVB-S/S2 Dual is an extremely versatile PC card thanks to its second tuner. It allows simultaneous recording and watching of two different channels, or TV reception and Internet-via satellite at the same time. The provided software, which is not only usable with Windows but also with Linux, comes with a wide range of features and left us with a very stable and sophisticated impression. Thanks to its BDA compatibility the card can be used in combination with alternative viewing applications such as DVB Dream, Prog DVB or Windows Media Center. The Tenow TBS 6981 comes with a remote control for accessing all functions of the card from your living room sofa and delivers a top-quality signal for your LCD or plasma panel. You will not notice a difference to conventional set-top boxes.

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No audio output, no CI slot for pay TV reception.

TECHNICAL DATA

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Email	sales@tbsdtv.com
Website	www.tbsdtv.com
Online Shop	www.buydvb.net
Model	6981 DVB-S / DVB-S2 Dual Tuner
Function	PCI-E card for SDTV and HDTV with two separate tuners and PVR, compatible with Windows and Linux operating systems
Channel memory	unlimited
Satellites	176
Symbol rates	1-45 Ms/sec. (QPSK), 10-31 Ms/sec 8PSK
SCPC compatible	yes (tested > 2.2 MS/s)
DiSEqC	1.0, 1.1, 1.2
SCR	yes
EPG	yes
C/Ku-Band compatible	yes
Audio output	no