



DVB-PC TV Stars

User's Guide Part 1 Installation

User's Guide Part 2
Setup4PC/Server4PC

User's Guide Part 3
DVBViewer TE

User's Guide Part 4
Troubleshooting

This manual matches the following products:

TechniSat SkyStar 2 PCI / USB
TechniSat AirStar 2 PCI / USB
TechniSat CableStar 2 PCI

Document Release Date: 03/2006
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Version 4.4.0

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Table of contents

Chapter 1: Introduction.....	1
Defining the TechniSat DVB-PC TV Stars	1
Defining SkyStar 2 PCI/USB.....	1
Defining AirStar 2 PCI/USB	1
Defining CableStar 2 PCI.....	1
Using IP services with a DVB-PC TV Star Device.....	1
Using printed help	1
User's guide conventions	1
User task summary	2
Step one: Installation your DVB-PC TV device	2
Step two: Installation of driver and software components	2
Step three: Connect to the services.....	2
Chapter 2: Installing the DVB-PC TV device.....	3
Summary.....	3
System requirements.....	3
Additional system requirements for PCI devices	3
Additional system requirements for USB devices.....	3
Recommended system requirements for HDTV reception	3
Important information.....	4
Package contents.....	4
Static electricity warning	4
Installation of the DVB-PC TV Device.....	5
Installation of the PCI device	5
Installation of the USB device.....	5
Chapter 3: Installing the driver and software components	6
Summary.....	6
Install the driver	6
Update the driver.....	10
Installation of additional Software packages	13
Installation of the DVB-PC TV Stars applications.....	14
Chapter 4: Connect to services	17
Summary.....	17
SkyStar 2 USB/PCI	17
How to connect to a satellite.....	17
AirStar2 PCI/USB	19
How to connect to terrestrial services	19
CableStar 2 PCI	19
How to connect to cable services	19
Appendix A: Additional information.....	A
Technical support / contact:.....	A
Germany.....	A
International.....	A
Appendix B: Glossary.....	B

Chapter 1: Introduction

Defining the TechniSat DVB-PC TV Stars

Defining SkyStar 2 PCI/USB

SkyStar 2 PCI is a small board that is plugged into a PCI slot of your computer. The SkyStar USB is the USB version that is connected to a USB1.1 port of your computer. It gives you unprecedented access to Internet services and any "Free To Air" broadcast digital satellite television channel (DVB-S).

Defining AirStar 2 PCI/USB

AirStar 2 PCI is a small board that is plugged into a PCI slot of your computer. The AirStar USB is the USB version that is connected to a USB1.1 port of your computer. It gives you unprecedented access to any free to air broadcast digital terrestrial television channel (DVB-T).

Defining CableStar 2 PCI

CableStar 2 PCI is a small board that is plugged into a PCI slot of your computer. It gives you unprecedented access to any free available broadcast digital cable television channel (DVB-C).

Using IP services with a DVB-PC TV Star Device

The TechniSat DVB-PC TV Stars products will request all information by ground-based Internet. In response the requested data will be delivered using satellite, broadband cable or terrestrial systems at high speed.

Using printed help

The DVB-PC TV Stars product range includes the 4 parts of the Users Guide (Part 1: "Installation" / Part 2: "Setup4PC/Server4PC" / Part 3: "DVBViewer TE" / Part 4: "Troubleshooting").

User's guide conventions

For clarity, the User's Guide employs the following conventions:

1. Navigation paths are represented as follows:

"Start" => "Programs" => "TechniSat DVB" => "Setup4PC"

The path shown in this example launches Setup4PC

2. Pay attention to the following:



This icon designates a note, which is an important information to the description above.



This icon designates a warning, which is an important information to the description above.

3. The DVB-PC TV Stars TV application "DVBViewer TechniSat Edition" is designated in the following as "DVBViewer TE"

User task summary

Steps to perform basic user tasks are summarized below.

Step one: Installation your DVB-PC TV device

Follow the steps in chapter 2 “Installing the DVB-PC TV device” to connect the DVB device to your computer.

Step two: Installation of driver and software components

Follow the instructions in chapter 3 “Installing the driver and software components” to prepare your computer for data and audio/video reception.

Step three: Connect to the services

Follow the steps in chapter 4 “Connect to the services”. In this chapter you get information about how to connect the DVB device correctly to your reception equipment.

Chapter 2: Installing the DVB-PC TV device

Summary

In this chapter the system requirements and the installation of the DVB-PC TV PCI and USB device are described.

System requirements

- IBM compatible PC with Pentium III 700MHz or higher
- At least 256MB RAM
- At least 30MB free hard disc space
- Sound Blaster compatible audio card
- 3D graphic card recommended (with hardware overlay support, up to date drivers)
- Supported operating systems:
 - Windows 2000 Professional/Server (Service Pack 4 required)
 - Windows XP Home/Professional (Service Pack 2 required)
 - Windows XP Professional x64 Edition
- Windows Server Systems 2003
- Additional requirements:
 - Internet Explorer 6 or higher
 - DirectX 9 or higher
 - MediaPlayer 9 or higher
 - at least 10GB or more hard disc space necessary for PVR functionality

Additional system requirements for PCI devices

- 1 available PCI slot for each PCI card (do not use the one directly under AGP graphic card connector).
If you use a multiple number of PCI cards, you have to calculate with a current of 4A on the 5V rail for each of the used TechniSat DVB-PC TV Stars PCI card.

Additional system requirements for USB devices

- 1 available USB1.1 port (must be connected directly to PC, not by using a USB1.1 hub). You require one USB host controller for each USB device, if more than one USB device should be used.

Recommended system requirements for HDTV reception

- TechniSat SkyStar 2 TV PCI / AirStar 2 TV PCI / CableStar 2 TV PCI
- IBM compatible PC with Intel Pentium 4 or AMD Athlon XP CPU with 2400MHz or higher
- 3D AGP or PClexpress graphic card recommended (with MPEG2 hardware acceleration, hardware overlay support and up to date drivers)
- Recommended operating systems:
 - Windows 2000 Professional (Service Pack 4 required)
 - Windows XP Home/Professional (Service Pack 2 required)
 - Windows XP Professional x64 Edition

Important information



For best results, a screen resolution of 800 x 600 pixels with 16 bit color depth or higher is recommended for use with DVB applications. A screen resolution of at least 1280x1024 pixels with 24 bit color depth or higher is recommended for HDTV.



You should update all your system drivers (mainboard, graphics, sound and network adapter drivers) to the current version before installing the driver for the DVB-PC TV device. You also should update your operating system with all service packs and hot fixes available.



Before starting the TV application DVBViewer TE or any other multimedia application on a system running Windows Server Systems 2003, please ensure that you enable the DirectX and DirectSound environments first. Consult the product documentation of your Windows Server Systems 2003 product version for further information.



If you are operating a SMP (simultaneous multi processing), HT (hyper-threading) or DualCore system, it is recommended that you are using the latest driver version, SMP, HT and Dual Core CPU's are not supported by drivers which are older than the version 4.2.11. See User's Guide Part 4 (Troubleshooting) for further information.



If you use a multiple number of PCI cards, you have to calculate with a current of 4A on the 5V rail for each of the used TechniSat DVB-PC TV Stars PCI card.

Please ensure, that the used power supply provides the required current for the used number of PCI cards and that the mainboard is capable to handle the required current. Otherwise the high current load might cause a system breakdown or permanent damage at the used components.

Package contents

Each TechniSat DVB-PC TV device package should contain the following items:

- SkyStar 2/ AirStar 2/ CableStar 2 PCI card
- or
- SkyStar / AirStar USB box with power supply and USB cable
- Installation CD (contains User's Guide) with driver and software
- Quick Install
- Optional:
remote control with IR receiver

Static electricity warning



To prevent static damage to electronic components, observe the following precautions:

- Touch anti-static or grounded surface such as a large metal object to discharge static electricity from your body before you remove the electronic components from their packaging and before touching system components.
- Handle system components only at the corners. Never touch any of the metal parts of the electronic components, such as golden pins.

Installation of the DVB-PC TV Device

Installation of the PCI device

To install the DVB-PC TV Stars PCI board make certain that the computer is turned off. Proceed the following steps to install the PCI card into your PC system:

1. Turn off the PC.
2. Open the case of your computer to expose the PCI slots.
3. Now you have to choose a free PCI slot. If possible choose a different slot than the slot next to your AGP connector.
4. Unscrew the metal dust protector of the slot you have chosen.
5. Put the DVB-PC TV PCI board into the PCI slot as you can see from the picture below.



Figure 2.1: Inserting the DVB board into a PCI slot

6. Tighten the screw on the DVB-PC TV PCI board.
7. Repeat the steps 3 to 6 for any additional PCI card you want to install.
8. Close the case of your computer case.

Your DVB-PC TV PCI hardware is now installed.

Installation of the USB device

If you want to use a USB1.1 port, connect the DVB-PC TV Stars USB box directly to the root hub of your computer.

After this you also have to connect the power supply to the USB box, if the power supply is part of the package.

If you want to connect multiple TechniSat DVB-PC TV Stars USB boxes onto one computer, you have to connect each device to a separate host controller. The operation of two USB boxes attached to one host controller is not possible.

Your DVB-PC TV USB hardware is now installed.

Chapter 3: Installing the driver and software components

Summary

In this chapter the installation of SkyStar 2 PCI is exemplary described for the operating system Windows XP Professional Service Pack 2. The installation for the other operating systems as Windows 2000, Windows XP Professional x64 Edition and Windows Server Systems 2003 is nearly the same. The installation process for the other DVB-PC TV Stars is similar to the installation of SkyStar 2 PCI.

Install the driver



Please use the update description if you already installed a prior version of the driver/software release for the TechniSat DVB-PC TV Stars devices.



The installation of PCI and USB DVB-PC TV devices distinguishes in finding new hardware only. The PCI devices will be found as new PCI hardware and the USB devices will be found as new USB hardware.



If you installed multiple DVB-PC TV Stars devices to your system, the “Found New Hardware Wizard” will prompt for each device. You have to process the driver installation for each device. After the last device driver is installed, you can start the software installation.



If you install more TechniSat DVB-PC TV Stars PCI or USB boxes after the software 4.4.0 is installed to the system, the “Found New Hardware Wizard” will appear for the new devices only. After the driver installation has been completed, you have to restart the system and the devices are ready for use.



For installing driver and software components using Microsoft Windows 2000, Windows XP, Windows XP x64 Edition or Windows Server Systems 2003, you have to be logged in as the local user “Administrator”. If you install the components using another user account with local administrative rights, this might cause trouble during the installation or while operating the device.

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

When you start your computer for the first time after installing the DVB-PC TV PCI card or after you plugged in the USB box, the message “Found New Hardware” appears. All DVB-PC TV PCI devices are declared as “Network Controller”, all USB devices are declared as “B2C2 Broadband Rcvr USB Adpt.”

1. The “Found New Hardware Wizard” starts the driver installation process. Select the option “No, not at this time” within the dialog “Can Windows connect to Windows Update to search for software?” and click “Next” to continue.



Figure 3.1: Welcome to the Found New Hardware Wizard

For CD installation you should put the installation CD into the CD drive first. Then choose the option “Install the software automatically (Recommended)” and click “Next” to continue.

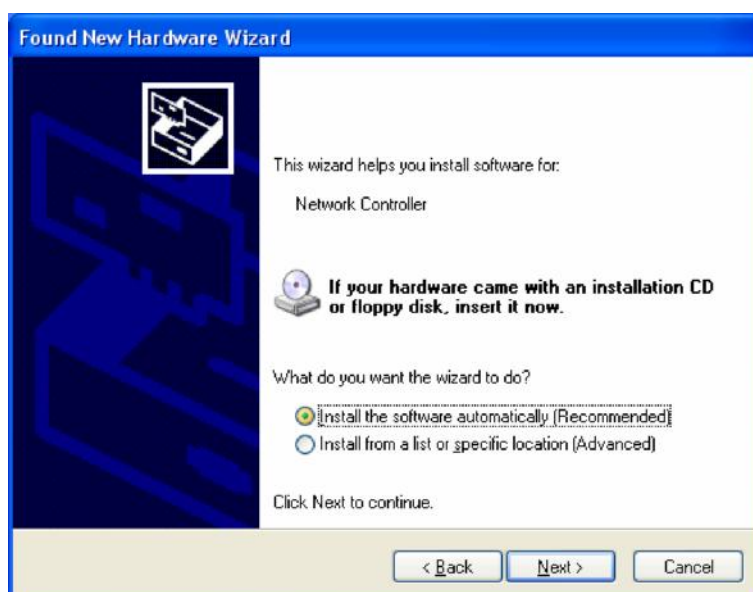


Figure 3.2: Install Hardware Device Drivers

To install the drivers from another media or directory, select “Install from a list or specific location (Advanced)” and select the folder, in which the driver is

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

located. The procedure after this selection is identical to the driver installation from a default source.

2. Now the “Found New Hardware Wizard” will find a suitable driver at the specified location (e.g. CD-ROM drive).



Figure 3.3: Please wait while the wizard searches...

3. Now this message appears.



Figure 3.4: Digital Signature Not Found

Drivers for the TechniSat DVB-PC TV Stars contain no driver signature from Microsoft. This should be no problem at all. Click “Continue Anyway” to complete the driver installation process.

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

4. After those few steps the driver is installed correctly.

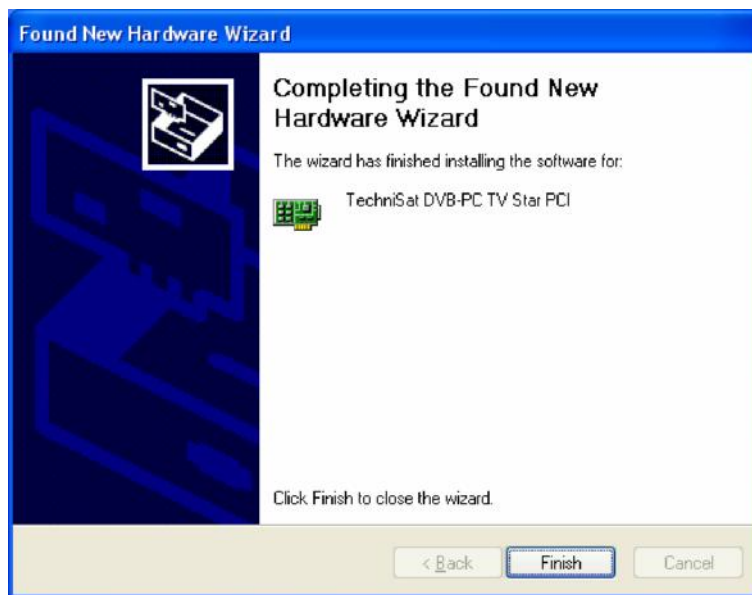


Figure 3.5: Completing the Found New Hardware Wizard



If any problem occurs during this procedure, read the FAQ in Part 4 of the installation documents for help.

Update the driver



The installation of PCI and USB DVB-PC TV devices distinguishes in finding new hardware only. The PCI devices will be found as new PCI hardware and the USB devices will be found as new USB hardware.



For installing driver and software components using Microsoft Windows 2000, Windows XP, Windows XP x64 Edition or Windows Server Systems 2003, you have to be logged in as the local user “Administrator”. If you install the components using another user account with local administrative rights, this might cause trouble during the installation or while operating the device.



If you have installed a multiple number of TechniSat DVB-PC TV Stars devices, you have to perform the driver update for each device installed to your system.

After system startup you have to close the application Server4PC, which is located in system tray.



Figure 3.6: Server4PC

Then start the control panel “System” within Windows “Control Panel”. Then switch to the “Hardware” tab.

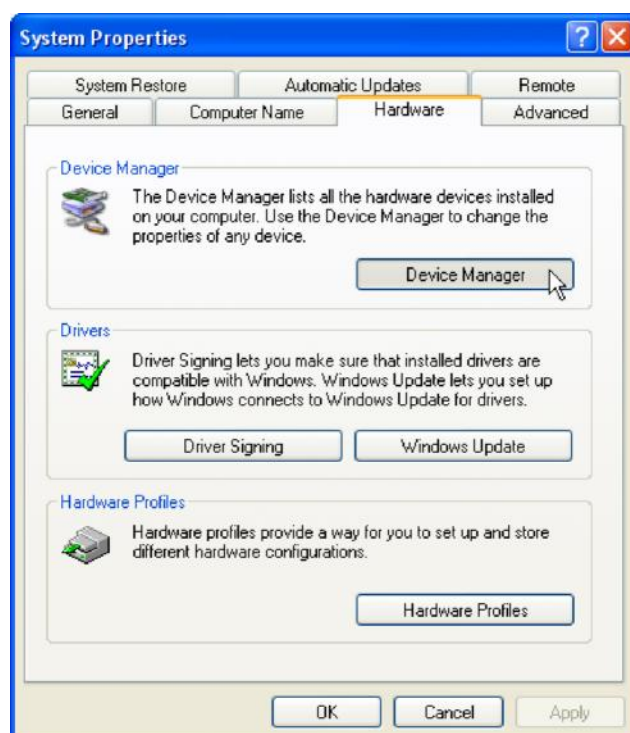


Figure 3.7: System Properties “Hardware”

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

Now you have to start the “Device Manager” and open the tree “Network adapters”.

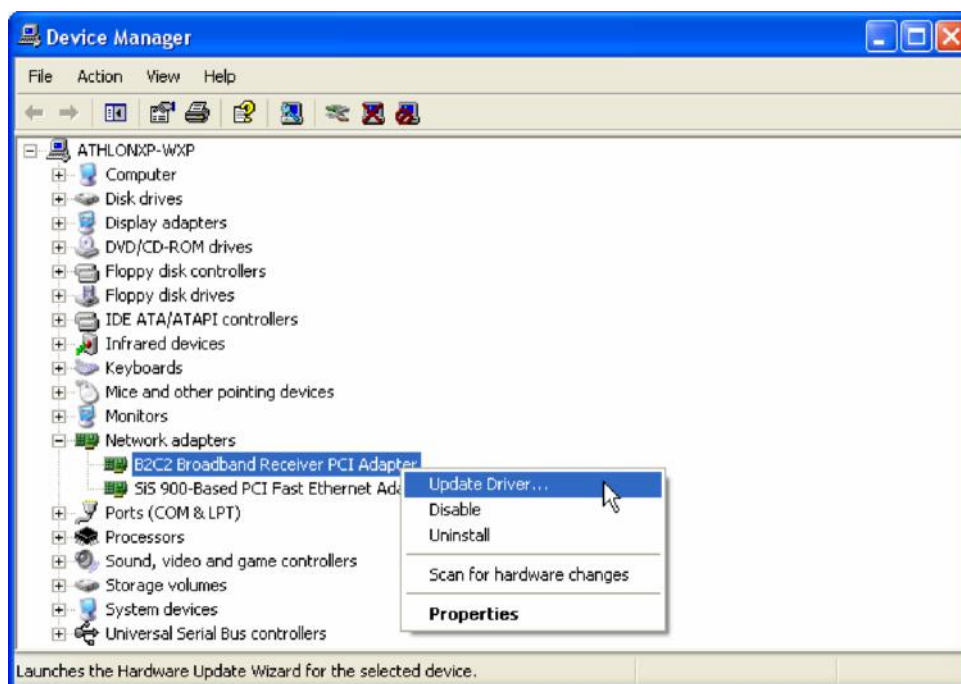


Figure 3.8: Device Manager

Then select the device you want to update. The TechniSat DVB-PC TV Stars devices are called “B2C2 Broadband Receiver PCI Adapter”, B2C2 Broadband USB Adapter”, “TechniSat DVB-PC TV Star PCI” or “TechniSat DVB-PC TV Star USB”. To update the drivers for the device you have to click the right mouse button onto the device and select the option “Update Driver...”. Then the driver installation wizard will be started.



Figure 3.9: Welcome to the Hardware Update Wizard

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

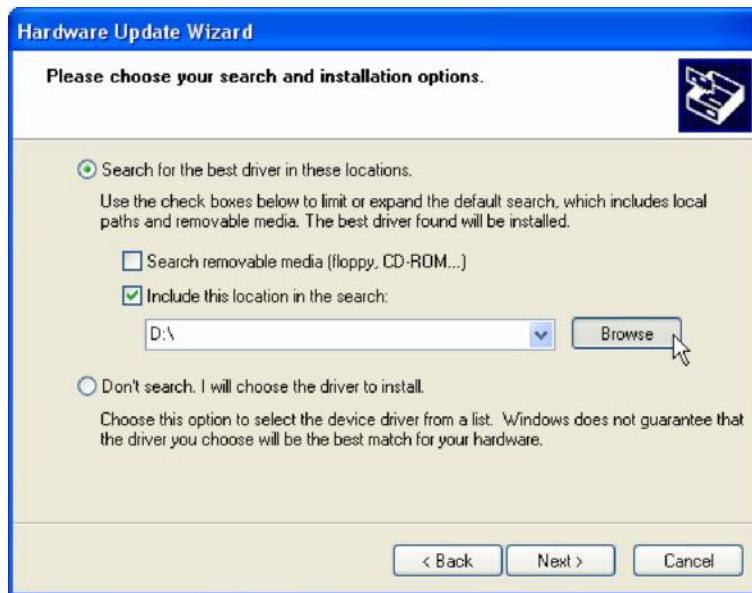


Figure 3.10: Please choose your search and installation options

The “Hardware Update Wizard” will behave similar to the “Found New Hardware Wizard”.



Do not start the software installation for the new release before all DVB-PC TV Stars installed to your system are updated to the latest driver release. Otherwise this might cause problems during operation.

The behavior of the software installer during the software update will be similar to the normal software installation. The only difference is, that the TechniSat DVB software will be removed during setup and the system has to be restarted, before setup will resume.

The next step after updating the drivers will be the installation routine as described as follows.

Installation of additional Software packages

Currently there are two software products shipped with your DVB-PC TV device: Server4PC and DVBViewer TE. You start the installation process by pressing the "Installation" button in the auto start application.



Figure 3.11: DVB-PC TV splash screen

Using the splash screen you also will get access to the manuals folder on the CD. Here you will find the current manuals in several languages.

If you press the "Software Tools" button, you will get access to the software tools folder on the CD. Here you will find clients for several data services client applications and other DVB related tools.

The "Exit" button will close the splash screen.

If this screen does not appear, start the Explorer and browse into the "Install" directory on your CD drive. Start the application "setup.exe" to start the installation process.

Installation of the DVB-PC TV Stars applications

The installation of the data reception application Server4PC is a run trough installation.

1. First the language menu appears. Choose your language (e.g. English) and click “OK” to proceed.

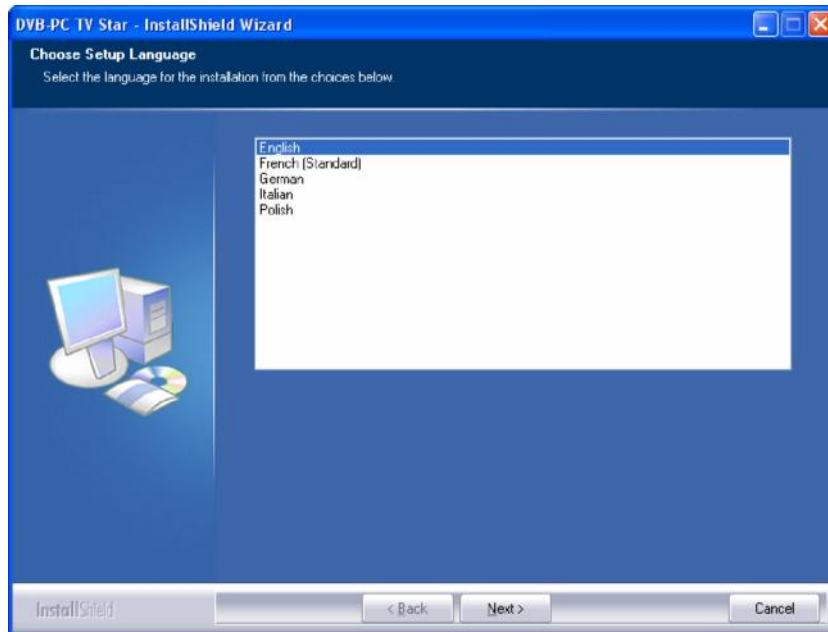


Figure 3.12: Choose Setup Language

2. Now the installation process will start. Click “Next” to proceed.

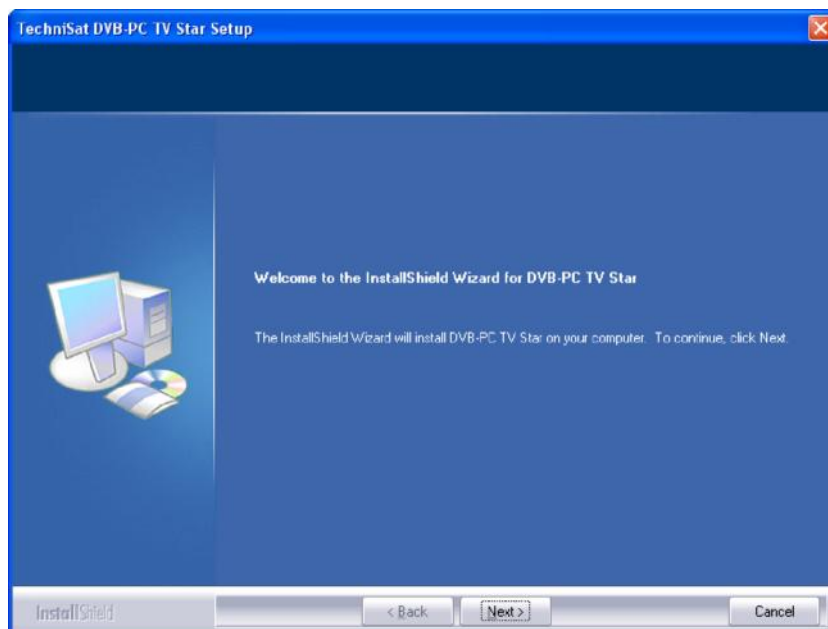


Figure 3.13: Welcome

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

3. Read the TechniSat DVB License Agreement and click “Yes” to accept this agreement.

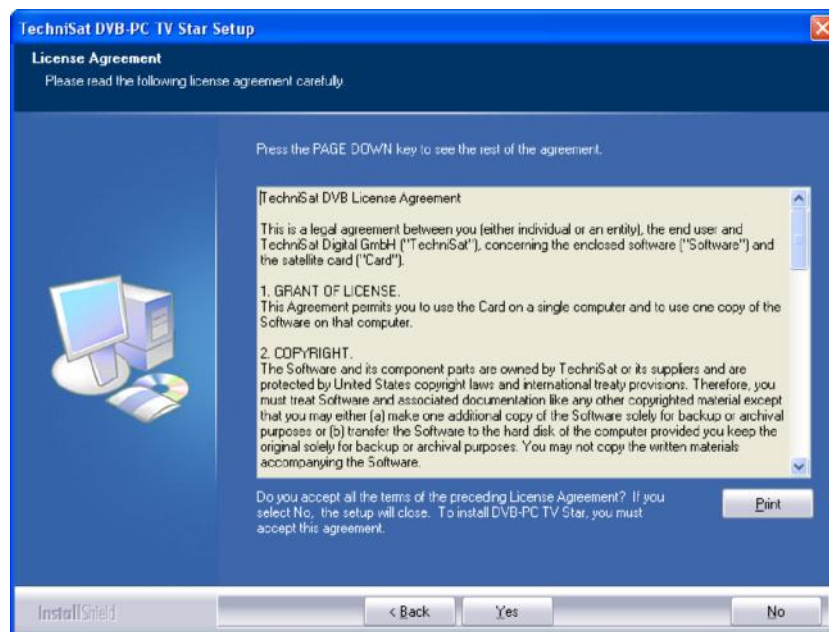


Figure 3.14: Software License Agreement

4. Use the default destination folder or choose your program destination path by using the “Browse” button. Press “Next” to proceed.

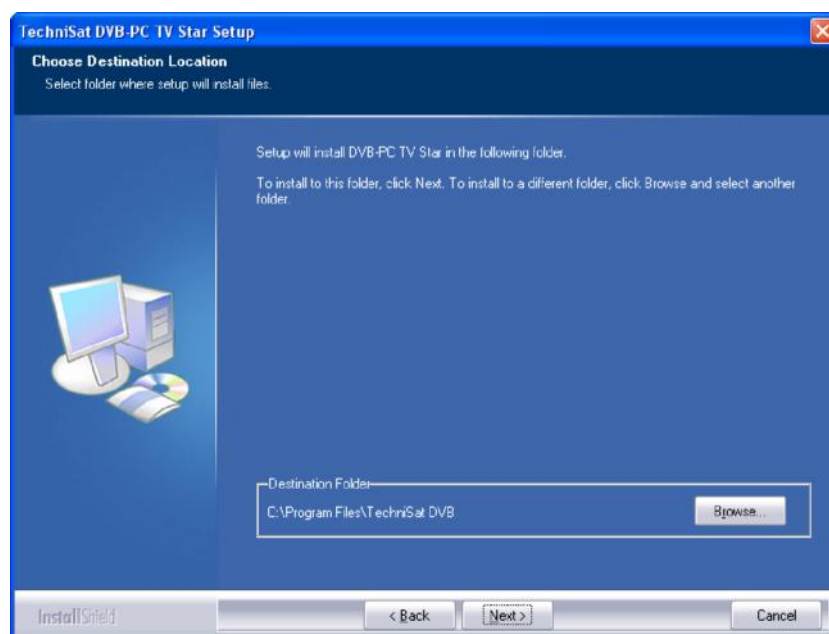


Figure 3.15: Choose Destination Location

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 3: Installing the driver and software components

5. Press “Next” to proceed.

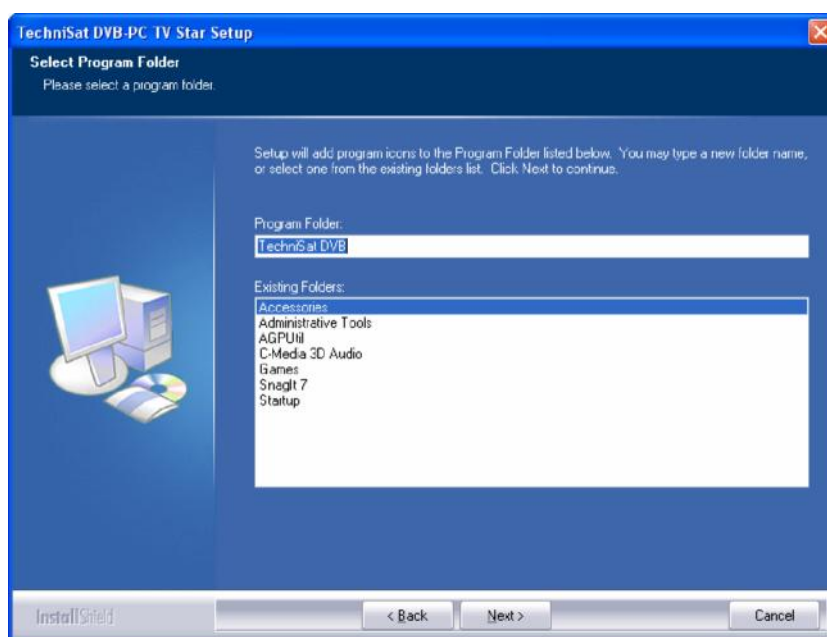


Figure 3.16: Select Program Folder

The setup will now perform the software installation.

6. After this, the installation of Server4PC and DVBViewer TE has been completed. You **have** to restart your computer system to activate the changes. Please save your data and close all applications first. Then click “Finish” to complete the setup and restart your computer.

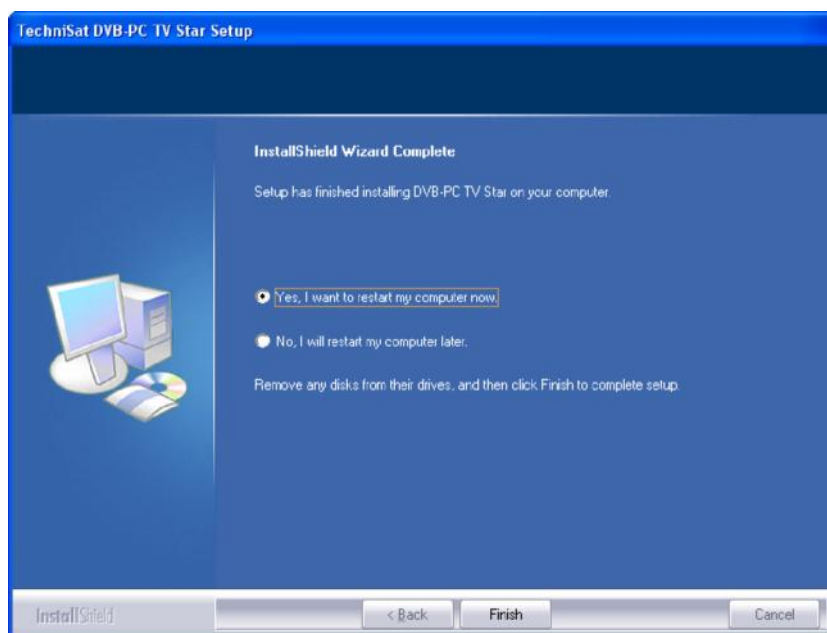


Figure 3.17 Setup Complete

The functionality of Server4PC is described in part 2 of the DVB-PC TV Stars documentation set. The functionality of DVBViewer TE is described in part 3 of the DVB-PC TV Stars documentation set. If any problem occurs, read the part 4 of the DVB-PC TV Stars documentation set, please.

Chapter 4: Connect to services

Summary

In this chapter you will get all information about the needed connection of your DVB-PC TV device with the reception equipment. You learn about the different connection methods used in combination with DVB-S (satellite), DVB-C (cable) and DVB-T (terrestrial) reception devices.

SkyStar 2 USB/PCI

This part explains how to connect the SkyStar 2 PCI/USB to your reception equipment and which components are required.

How to connect to a satellite



For reception of DVB services in combination with most common satellite systems (e.g. Astra 19.2°E) a universal LNB with a frequency range between 10.7 to 12.75GHz is required

There are three connection methods in combination with satellite reception possible:

- Using a Single-LNB/Twin-LNB/Quattro Switch-LNB
In this case the SkyStar 2 PCI/USB is connected directly to the LNB as shown in this picture:

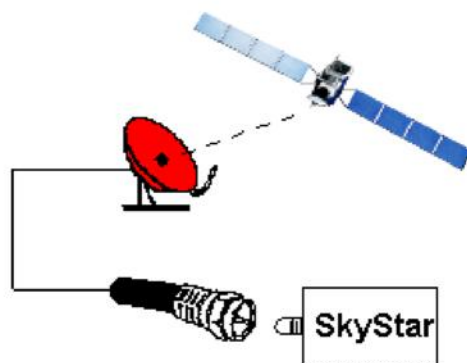


Figure 4.1: Connect a single LNB to SkyStar 2 TV PCI

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Chapter 4: Connect to services

- Using a multiswitch to increase the number of set top boxes, which uses one Quattro-LNB.

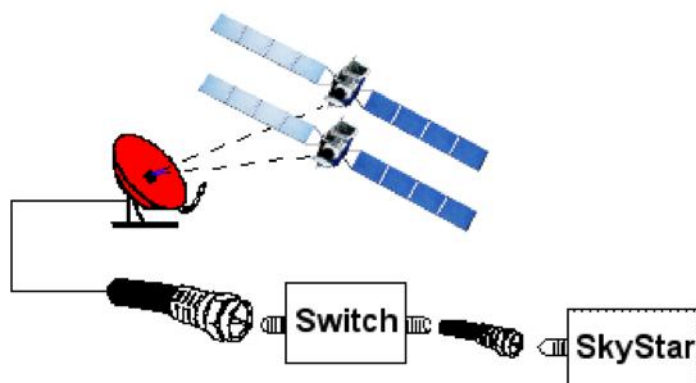


Figure 4.2: Connect two single LNB's to SkyStar 2 TV PCI

- Using a DiSEqC switch to receive multiple satellites with your SkyStar 2 / SkyStar USB.

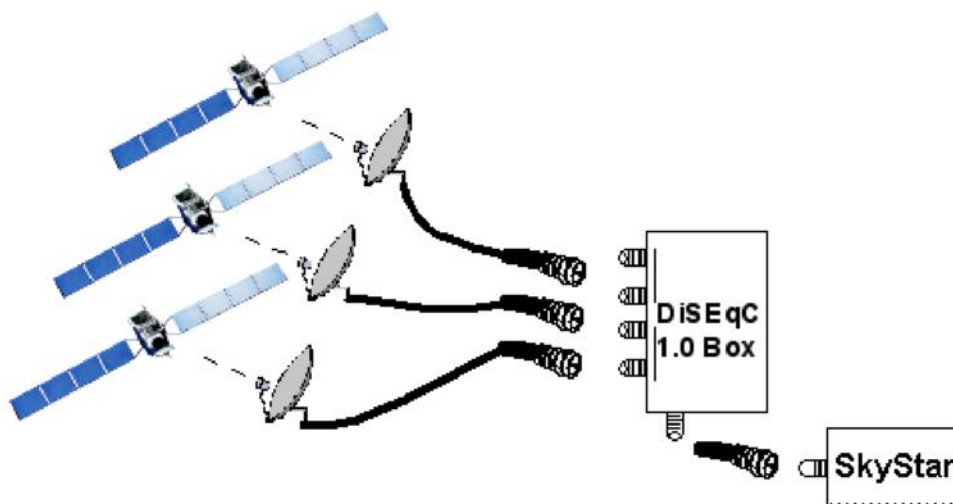


Figure 4.3: Connecting up to four LNB's to SkyStar 2 TV PCI



SkyStar 2 PCI/USB does support DiSEqC 1.0 only. With this DiSEqC Level it is possible to receive up to 4 satellites with 4 frequency areas per satellite. Almost all DiSEqC 2.0 switches are compatible to DiSEqC 1.0 devices, because DiSEqC 2.0 is backward compatible to DiSEqC 1.0.



The SkyStar 2 TV PCI / USB is not designed to be operated in combination with DiSEqC 1.2 / USALS satellite dish positioner systems. The usage of such systems will cause permanent damage to your DVB-PC TV device and possibly to your computer.

AirStar2 PCI/USB

This part explains how to connect the AirStar 2 PCI/USB to your reception equipment and which components are required.

How to connect to terrestrial services

You need at least a passive or active Antenna (e.g. TechniSat DIGIFLEX TT1) and connect this antenna to your AirStar 2 PCI card or USB box. If you need the information, which antenna type (passive or active) is required, ask your local reseller.

CableStar 2 PCI

This part explains how to connect the CableStar 2 PCI to your reception equipment and which components are required.

How to connect to cable services

If your building has a broadband cable wiring, you simply have to connect your CableStar PCI to your broadband outlet using an antenna cable. No additional equipment is required.

Appendix A: Additional information

Technical support / contact:

Germany

Postal address:

TechniSat Digital GmbH
Julius-Saxler-Strasse 3
D-54550 Daun
Germany

Homepage:

<http://www.technisat.de>

Support hotline (german only):

mo-fr from 8:00h to 19:00h

0180-5005910 (0,12 EUR / min)*

Remaining time

0190-151576 (0,62 EUR / min)*

(* conventional german telephone network)

Support email:

service@technisat.de

International

Postal address:

TechniSat Data Services S.A.
11, rue Pierre Werner
L-6832 Betzdorf
Luxembourg

Homepage:

<http://www.technisat.com>

Support email:

support@technisat.com

Appendix B: Glossary

Band	Part of the radio spectrum occupied by a signal.
BER	Bit Error Rate
Carrier Frequency	Electromagnetic radiation that is modified to represent broadcast information for transfer across distances. See Modulation and Demodulation.
Converter	The device in the satellite dish, which amplifies the radiation from the satellite and converts it to an intermediate frequency (from 950 to 2,150 MHz), before the signal reaches coaxial cable that connects the antenna to the receiver so-called universal converter can receive signal from most european satellites.
DBW	Value in decibels of the signal broadcast by the transponder at the center of its footprint. The higher the value, the smaller the dish which is required for the reception of the signal.
Decibel (dB)	Logarithmic measurement used to indicate increase or decrease in signal quality.
Demodulation	The reconstruction of original signal from radiation that has reached the end user's reception equipment. This commonly occurs at the tuner. See Modulation.
Digital	Broadcasting system based on the mapping of images and sounds to binary data formats. In Europe, the DVB standard is used.
DiSEqC	Device that connects the receiver and other equipment in a satellite receiving system, using coaxial cable to transmit signals to each component.
Dish	The satellite antenna. It is a parabolic surface, which reflects the received signal towards the converter. The larger the dish, the better the signal quality.
Down-link	Signal path from satellite transponder to earth.
DSR (Digital Satellite Radio)	Digital audio broadcasting system used by some German channels. It requires a special receiver.
Dualband	Converter, which is able to receive two different frequency bands at the same time.
Dualpole	"Marconi" converter, which receives both polarities (horizontal and vertical). Users select polarities by means of a voltage change (13 / 18 Volt).

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Appendix B: Glossary

DVB (Digital Video Broadcasting)	The digital broadcasting standard for Europe, based on MPEG-2. Developed by an international consortium, it is available in three types: DVB-S for satellite, DVB-C for cable TV and DVB-T for terrestrial.
Encryption	Scheme for scrambling subscriber television or radio.
EPG (Electronic Program Guide)	An on-screen listing that lets digital television watchers see such information as time, channel, and content for current and upcoming programs.
FEC (Forward Error Correction)	Bits added to the transmitted data to check transmission errors and allow their correction at user's side. It is written as a fraction: the lower the value (e.g. 2/3 instead of 5/6), the higher the percentage of extra transmitted bits.
Feed	Antenna dish component, which aims the signal reflected by the dish towards the LNB.
Footprint	The area covered by the satellite or transponder signal.
GEO	Geo-stationary earth orbit, 36,000 km above the equator. Satellites at this altitude have the same angular rotation velocity as the Earth, meaning their signal can be received continuously at fixed points on the ground.
Geo-stationary Orbit	See GEO.
HDTV	High Definition Television
Intermediate frequency	Frequency band originated from LNB that the receiver can tune. The typical band is 950 - 2,150 MHz.
ISP	Internet Service Provider.
LNB (Low Noise Block converter)	See Converter.
Local Oscillator	Converter component, which shifts the converter, received frequency (from 11,000 to 13,000 MHz) to the intermediate frequency band.
MAC	Media Access Control. An addressing scheme for data.
Modulation	The process by which electromagnetic radiation is modified to represent digital or analog input for transfer across distances. In modulation, electromagnetic waves are typically altered as to phase and other characteristics, according to the type of information they convey.
MPEG-2	Digital data compression format, which uses powerful algorithms to greatly reduce the size of final data. Developed by an international research group (the Motion Picture Expert Group-MPEG), it is the system used to compress the digital

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Appendix B: Glossary

	data for the DVB signals.
Multi-feed	Two or more converters positioned on the same fixed antenna dish to get signals from two or more satellites whose orbital positions are sufficiently close to each other.
Oscillator	See Local Oscillator.
PID (Packet Identification Code)	A code assigned to a unit of data before it leaves the transmitter, based on such particulars as the program of which the data is apart, and the type of data, e.g., audio, video. The term 'PID' is also used to refer to the unit of data itself. A typical channel comprises several PIDs.
Polarization	Characteristic behavior of the electromagnetic waves. In satellite transmission the polarization can be horizontal or vertical.
Polarizer	Device on end-user equipment, which separates vertically and horizontally, polarized waves.
QPSK, QAM	Modulation schemes for satellite and cable TV, respectively. See Modulation and Demodulation.
Sampling	Conversion of analogue signal to numeric data, measuring an electric signal at a predefined pace.
Satellite Chart	A free, public source of information about each orbiting satellite, its channels, polarities, symbol rates, and the like. SatcoDX is an example of an organization that maintains such a chart.
Satellite Database	The database of channels that ships with SkyStar PCI. The factory database includes channels from the Astra satellite, and may be modified at anytime using Channel Management or by performing a scan.
Satellite List	The list of satellites available from the satellite database.
SDTV	Standard Definition Television
Symbol	Describes radiation that has been modified to represent digital information. Symbol characteristics such as phase represent particular configurations of binary data. A carrier frequency is manipulated into symbol. See also modulation and demodulation.
Symbol Rate	The speed at which the satellite sends symbol, or data, expressed in symbols per second. Different modulation schemes use different symbol rates.
Transponder	Device on the satellite, which can receive terrestrial input and transmit it back to earth in the form of a broadcast. Each transponder typically handles several channels.

TechniSat DVB-PC TV Stars - Users Guide Part 1: Installation

Appendix B: Glossary

Universal LNB

A converter equipped with two local oscillators. The low band one is at 9,750 MHz; the high band one is at 10,600 MHz. Using this LNB the maximum frequency in Ku band (12,750 MHz) is shifted to 2,150 MHz.

Up-link

Signal path from earth to the satellite transponder.