



SkyStar PCI/ USB User's Guide

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Chapter 1: Introduction

Defining SkyStar PCI/ USB

SkyStar PCI is a small board that plugs into the PCI slot of your computer. The SkyStar USB is the USB version that you can connect to the USB port of your computer. It gives you unprecedented, high-quality access to internet service and any freely broadcast digital satellite television, movies, audio, or teletext.

The SkyStar product requests all information by ground-based Internet. In response, Internet data is delivered by satellite at high speeds.

Using Printed and Online Help

The SkyStar product includes the User's Guide and comprehensive Online Help. Online Help buttons appear on Setup4PC, for you to use while adjusting SkyStar settings. In the TV application DVBCViewer TechniSat Edition is also a manual with help function integrated.

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 aside to nearby text.



This icon designates a warning, which is an important aside to nearby text.

User Task Summary

Steps to perform basic user tasks are summarized below.

First step: Installation of SkyStar PCI respectively SkyStar USB

Follow the steps in chapter 2: “Installation of SkyStar PCI” or “Installation of SkyStar USB” to connect the DVB device to your computer.

Step two: Installation of Driver and Software

Follow the instructions in chapter 2: “Installation Of Driver” and “Installation Of Software”

Step three: Basic Settings

Follow the steps in chapter 3: “Basic Settings”. In this chapter the basic settings for your satellite equipment is described. You also learn more about your LNB and DiSEqC.

Step Four: Data Services and TV

Follow the steps in chapter 4: “Data Services” to get in touch with your Data Services Provider or internet access. To watch TV you have to follow instructions in chapter 5: “Watching TV”.

Chapter 2: Installing SkyStar PCI

Summary

This chapter consists of two parts. In the first part the installation of SkyStar PCI and SkyStar USB is described. The second part shows you how to install the software for receiving data service and TV channels. The following applications are integrated in the software for the SVB equipment:

- **Server4PC:** This application is required for receiving Data and controls the data traffic on your computer
- **Setup4PC:** This application is also required for receiving Data and is used for setup data service.
- **DVBViewer:** This application is a complete software for digital TV reception.

System Requirements

- IBM compatible PC with Pentium III 700 MHz or higher
- Operating System: Windows 98, Windows ME, Windows 2000 or Windows XP
- 128 MB RAM or more
- 30 MB free hard disk space
- 1 available PCI slot / USB port
- 3D graphics card with hardware overlay support and up to date driver
- Sound Blaster compatible audio card
- Microsoft Internet Explorer 6
- Microsoft DirectX 9
- Microsoft MediaPlayer 9

Note



For best results, a screen resolution of 800 X 600 pixels with 16 bit color resolution or higher is recommended for viewing SkyStar PCI applications.

Package Contents

Each SkyStar PCI/USB package should contain the following items:

- SkyStar DVB product
- Installation CD (contains User Guide) with driver and software
- Quick Install



Static Electricity Warning

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

Touch an anti-static or grounded surface such as a large metal object to discharge static 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 the golden pins that plug into the slot.

Installation of SkyStar PCI

To install the SkyStar PCI board, first see that the computer is turned off. Following your PC manufacturer's instructions, do the following:

1. Turn the PC off.
2. Open the side panel 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 near AGP slot. So you make sure, that the board first will be checked for functionality. Then place the SkyStar PCI in. Unscrew the slot's metal dust protector located on the back cover of the case. Lay the protector on the ground to one side.
4. Hold the SkyStar PCI board so that the board's IC chips are facing downward, the metal contacts are toward the PCI slot.
5. Insert the SkyStar PCI board firmly into the PCI slot.



Figure 2.1: Inserting the DVD board into PCI slot

6. Tighten the screw on the SkyStar PCI board.
7. Replace the side panel of your computer case.

Your hardware is now installed.

Installation of SkyStar USB

You can connect the SkyStar USB with your computer by using the USB cable. It's not necessary to open your computer. Connect your SkyStar USB directly with USB port of your computer and not over a USB Hub.

Installation of Driver



The installation of SkyStar PCI and SkyStar USB distinguishes only in finding the new hardware. The SkyStar PCI will be found as new PCI hardware and the SkyStar USB will be found as new USB device.

In this chapter the installation of SkyStar is exemplary described for the operating system Windows 2000. The installation for the operating systems Windows 98, Windows ME and Windows XP is nearly the same. For installing Windows 98 you need the installation CD, because some files must be loaded from this disk.



For installing driver under Windows 2000 and Windows XP you must be logged in as Administrator or you must have Administrator rights.

When you start your computer for the first time after installing the SkyStar PCI card, a message appears that a new hardware component was found. The SkyStar PCI is declared as a Networkcontroller. This is how the operating system identifies the SkyStar product. The SkyStar USB will be found as new USB device.



Figure 2.2: New Hardware was found

1. The Hardware Wizard for installing the driver software starts.



Figure 2.3: Hardware Wizard for installing driver for new hardware

2. Click **Next** to continue.



Figure 2.4: Installing hardware driver

The SkyStar will be found as network controller. It is recommended to search for new driver. With **Next** you continue to the next dialog.

3. The Hardware Wizard requests you to choose the destination of driver.

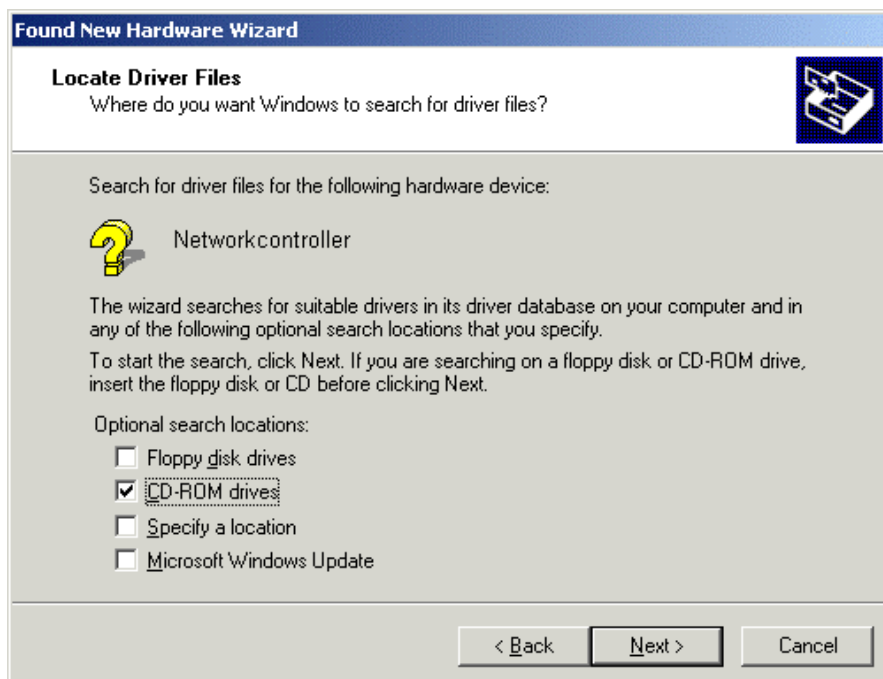


Figure 2.5: Destination of hardware driver

If you want to install the driver from CD Rom select the CD Rom Drive and put the software CD into drive. Click **Next** to continue the installation.

4. The Hardware Wizard finds the driver on the CD.



Figure 2.6: Driver were found

Click **Next** to continue.

5. The operating systems clarifies that there was not found a digital signature for this driver.

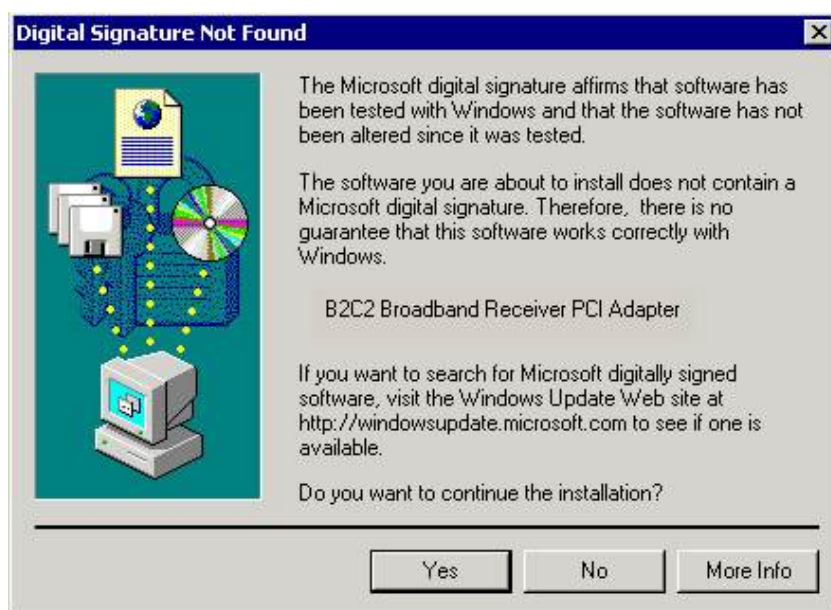


Figure 2.7: Digital signature

Continue the installation by pressing the **Yes** button.

6. The drivers for the SkyStar are installed.



Figure 2.8: Selecting the CD-ROM drive

You have finished the installation of driver for SkyStar product. Now you are ready to install the applications.

Installation of Software

The procedure of software installation contains two different operations. First you have to install the TechniSat DVB software and then you have to install the TV application TechniSat PVR (DVBViewer TechniSat Edition). In the following the installation is described for the operation system Windows 2000. The installation for the operating systems Windows 98, Windows ME and Windows XP is exactly the same.

1. Put the TechniSat software CD to your CD Rom drive. The installation starts automatically. Otherwise you have to start the installation manually by clicking on **setup.exe** in the root of the CD Rom. A message box appears and requests you to select a setup-language for the installation.

2. Choose a language and continue with **OK** . The welcome screen of the software appears. Click **Next** to proceed to the Software License Agreement.

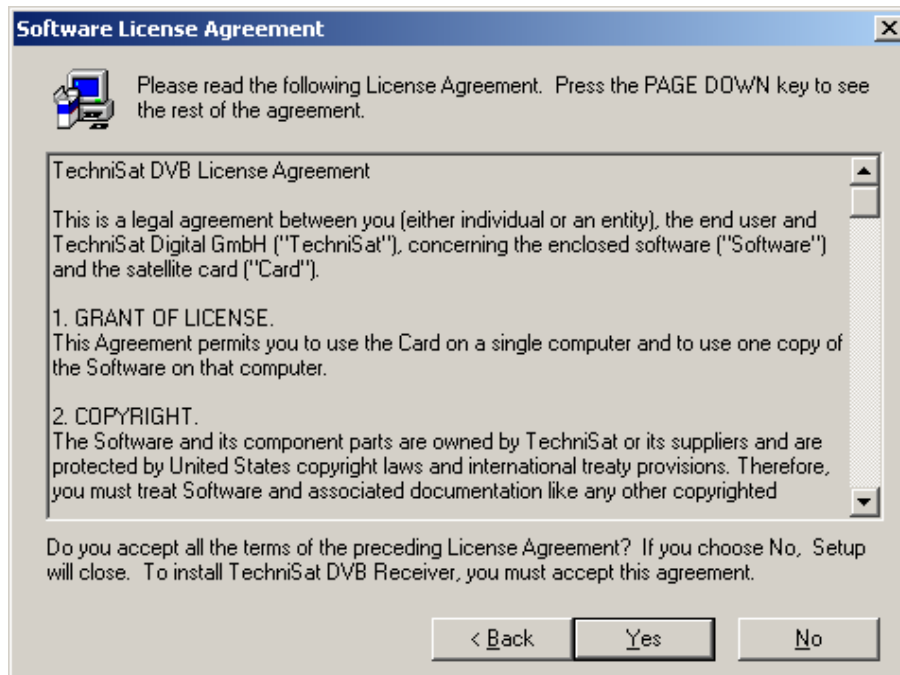


Figure 2.9: Software License Agreement

3. If you accept this License Agreement you can go on with the installation by clicking on **Yes** . Now you are requested to choose a destination location for the DVB software. It is recommended to use the default selection.



Figure 2.10: Choose Destination Location

4. Continue with **Next** . Now you can select a Program Folder for the software. Here it is also recommended to use the default settings.

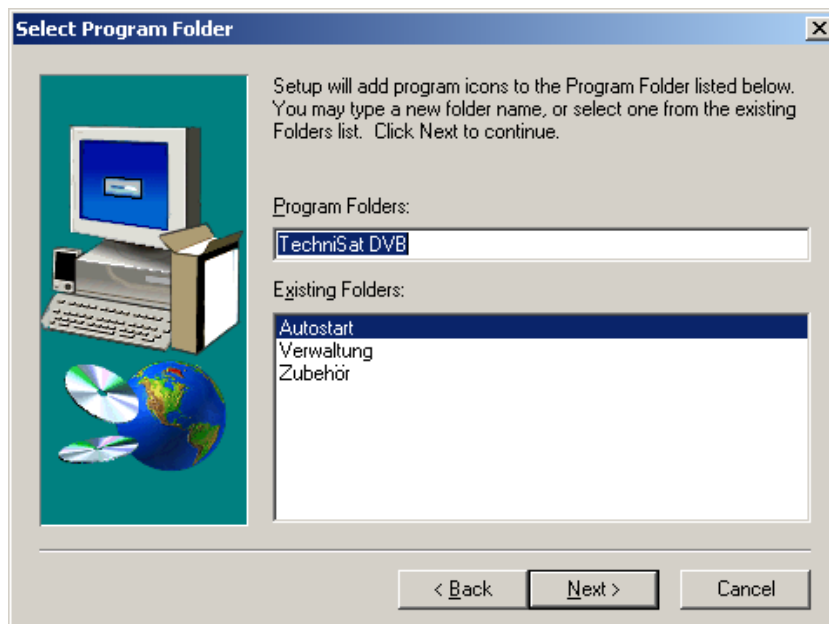


Figure 2.11: Select Program Folder

5. Now the Program Files are copied.

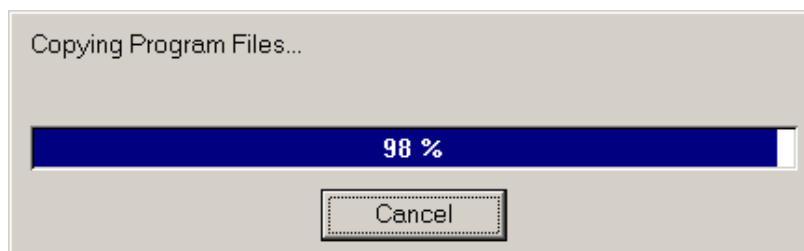


Figure 2.12: Copying Program Files

6. Now you have the possibility to read the Readme file with information about the software. Otherwise the installation of the TechniSat DVB software is finished.

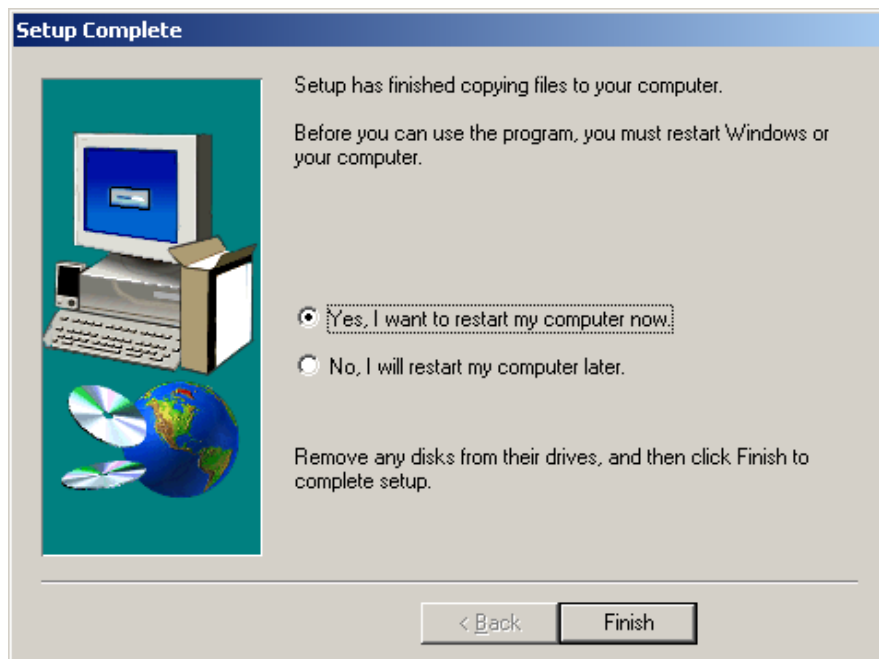


Figure 2.13: Installation of DVB Software is finished

7. Restart your computer by choosing this selection and click on **Finish** . After the restart the installation continues automatically with installation of TV application DVBViewer TechniSat Edition.



Take care, that the software CD is in your CD Rom drive, because after restart the installation starts from there.

8. After the restart the Welcome screen of the DVB viewer software appears. Otherwise you have to start the installation manually by clicking on **setup.exe** in the DVBViewer folder of the CD Rom.



Figure 2.14: DVBViewer Installation starts

9. Click on **Next** to proceed to the selection of Destination Directory for the DVBViewer software.

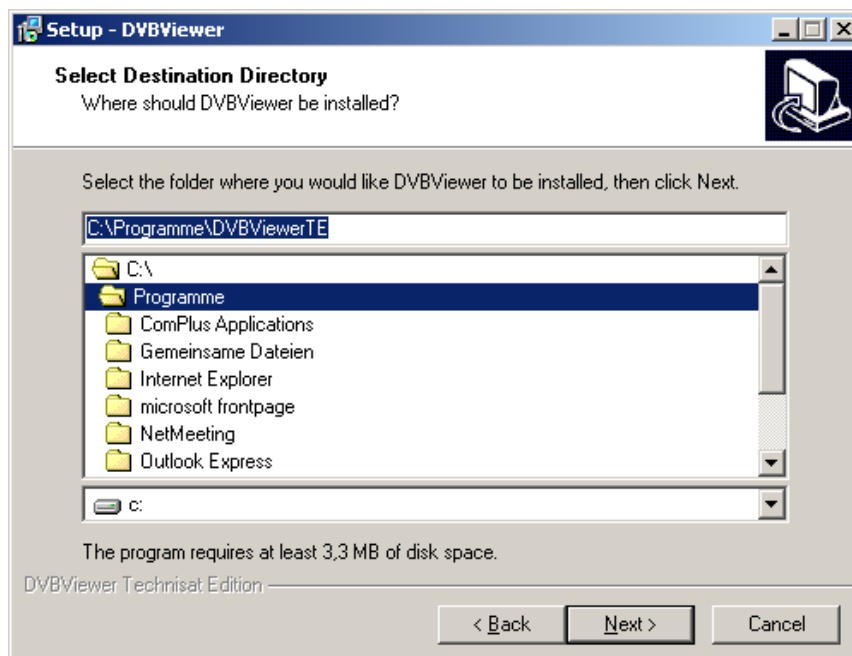


Figure 2.15: Select Destination Directory

10. It is recommended to use the default settings. Click on **Next** to proceed to the selection of components that should be installed.

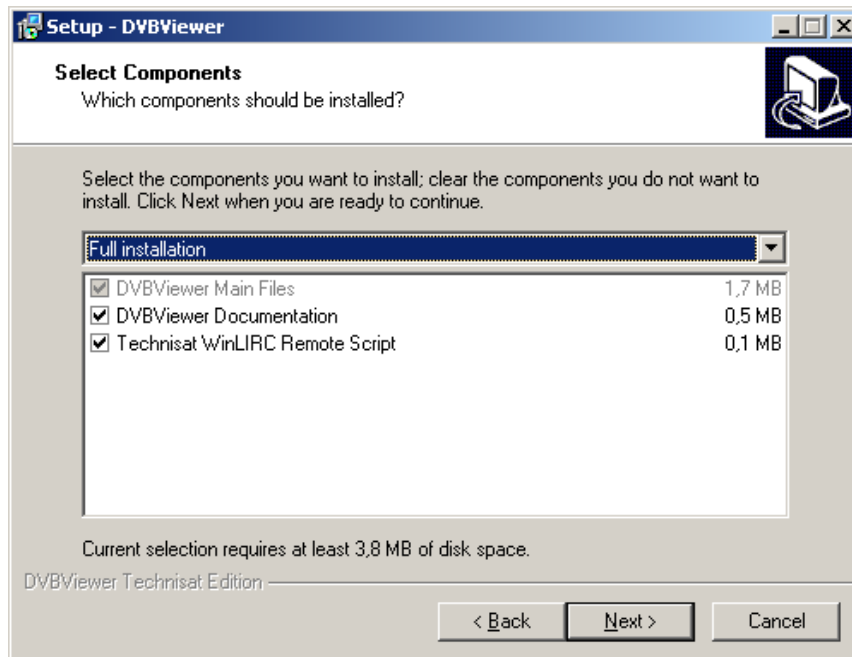


Figure 2.16: Select Components

11. It is recommended to choose the **Full Installation**. Click on **Next** to proceed to the selection of Start Menu-folder.

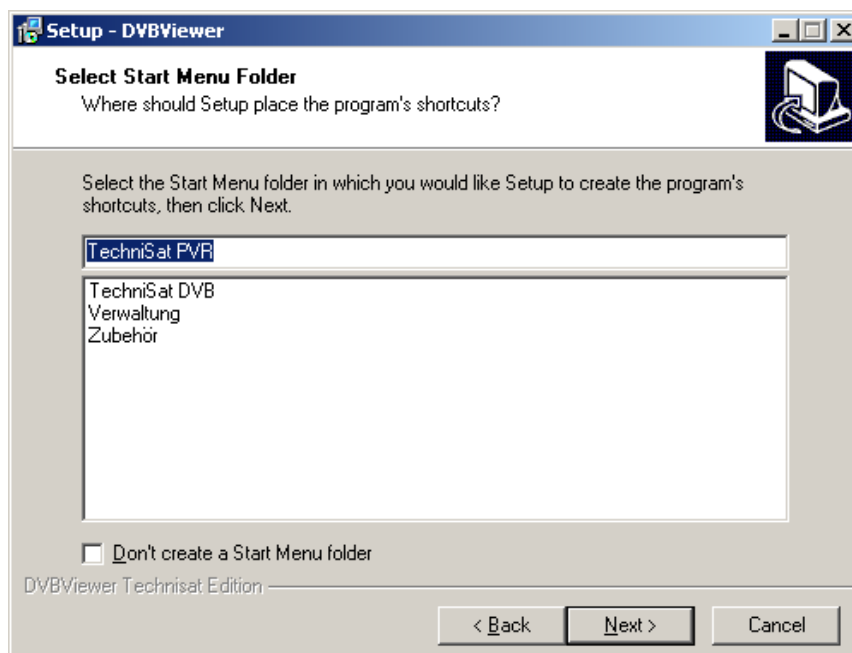


Figure 2.17: Select Start Menu Folder

12. Select the Start menu Folder in which you would like Setup to create the shortcuts. The default selection is TechniSat PVR. Click on Next to proceed to the selection of additional tasks for the installation.

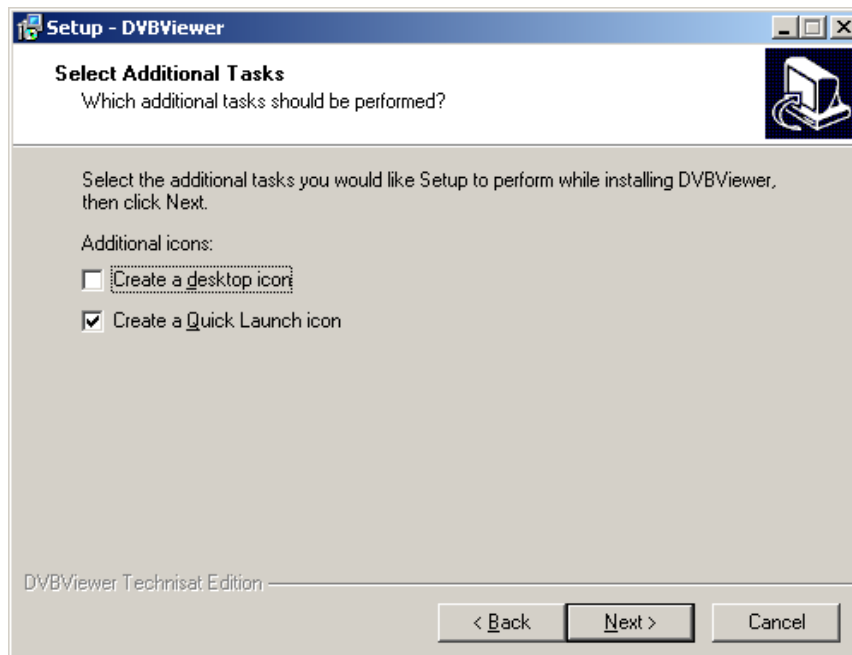


Figure 2.18: Select Additional Tasks

13. With **Next** you continue to the summary of this installation.

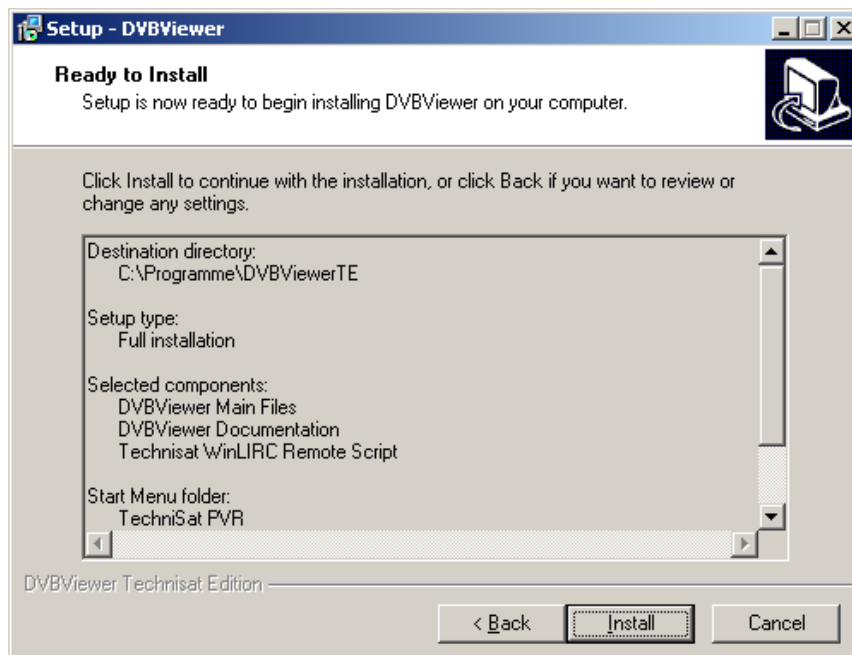


Figure 2.19: Summary of installation

14. Click on **Install** to start the copying of files.

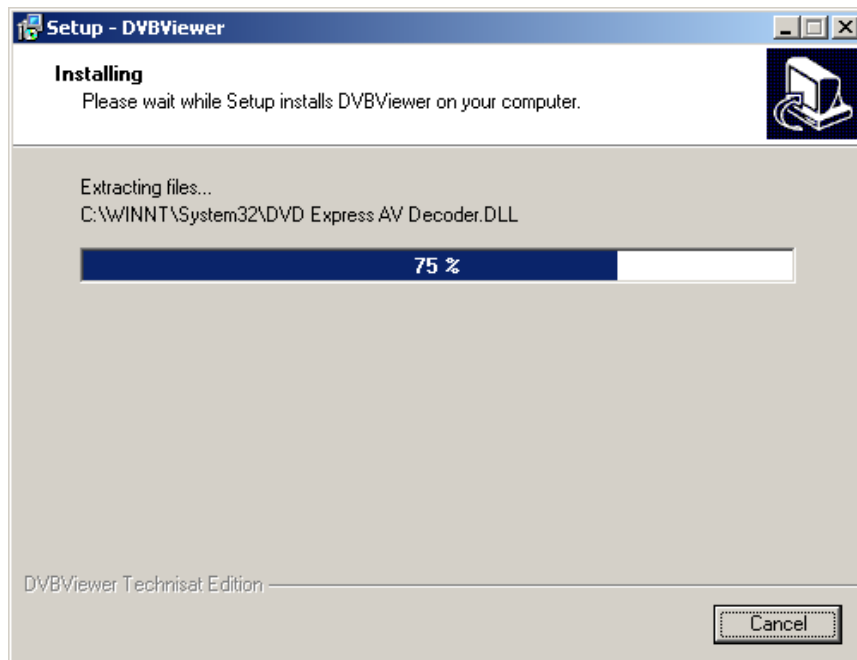


Figure 2.20: Copying Files

15. Setup has finished the installation. Click on **Finish** to exit the Setup Application.

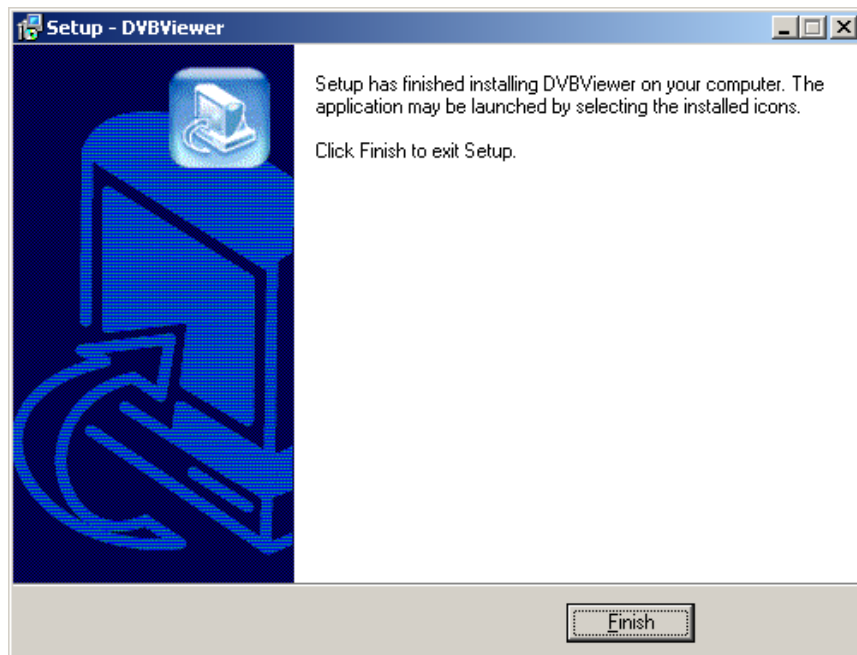


Figure 2.21: Installation of DVBViewer is complete

Chapter 3: Basic Settings

Overview

To gain access to TV and high-speed internet, first connect your antenna equipment to the SkyStar PCI board or SkyStar USB box. Check with your ISP to determine how to configure your browser to receive internet. If your satellite service provider is separate from your ISP, confirm your unicast, multicast, and proxy server settings. Ordinarily, these values are defaulted.

The software of the SkyStar PCI/USB offers presetting of different actual ISP. You can select them directly with right click on the satellite icon in the system tray.

You may also need to adjust the satellite, the transponder and the channels. This is described in this and the following chapters.

Connecting SkyStar PCI Board or SkyStar USB box

Connect the satellite dish coaxial cable to the female plug on the SkyStar PCI/USB that you previously have installed.

Your Antenna's Position

Depending upon your equipment type and the satellite or satellites whose signal you want to receive, your equipment will look like one of the following illustrations.

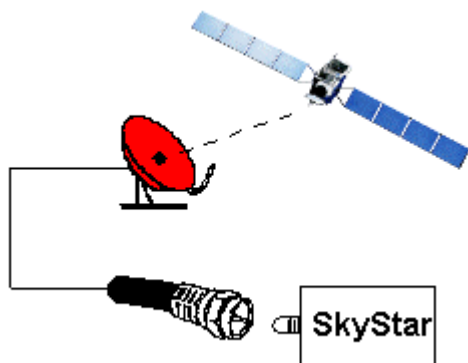


Figure 3.1: Simple Antenna Arrangement

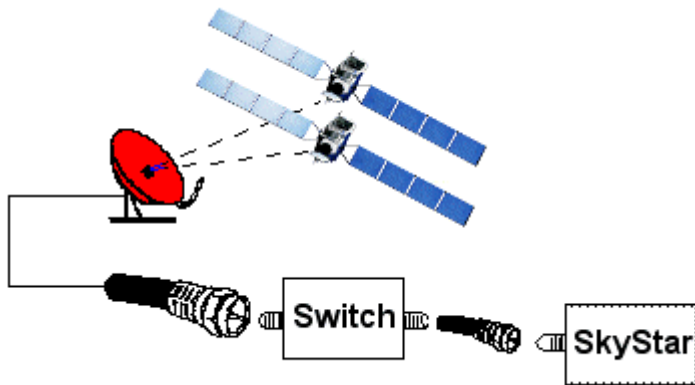


Figure 3.2: One antenna with 2 LNBs

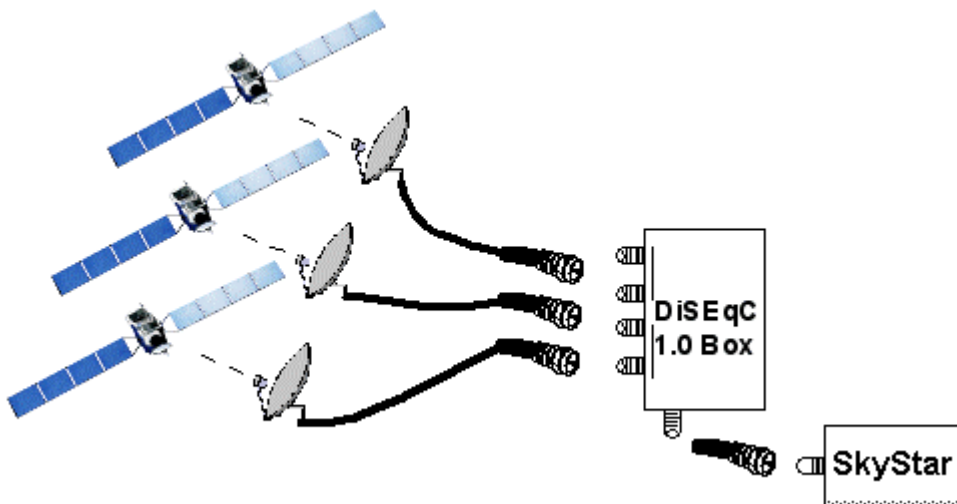


Figure 3.3: One or more antennas

Starting to Receive Satellite Signal

In most cases, you will be ready to receive satellite signal immediately after following steps in Chapter 2: "Installing SkyStar PCI" or "Installing SkyStar USB" and the early part of the next chapter.

In special situations, additional setup may be necessary. If you have an unusual hardware arrangement, for example, you may need to change preset LNB and DiSEqC values for your equipment.

Options Settings

You do **not** need to change Options settings in most cases. To see the Setup4PC's Options window, do the following steps:

1. Launch Setup4PC as follows:

Start->Programs->TechniSat DVB->Setup4PC

You also can reach Setup4PC by right clicking on the Setup4PC in the system-tray.

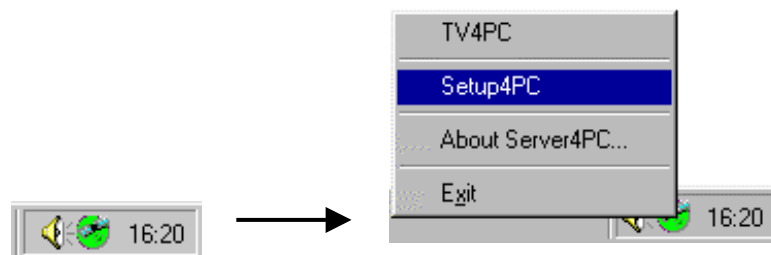


Figure 3.4: Starting Setup4PC over System Tray

The Setup4PC Satellite Settings window appears:

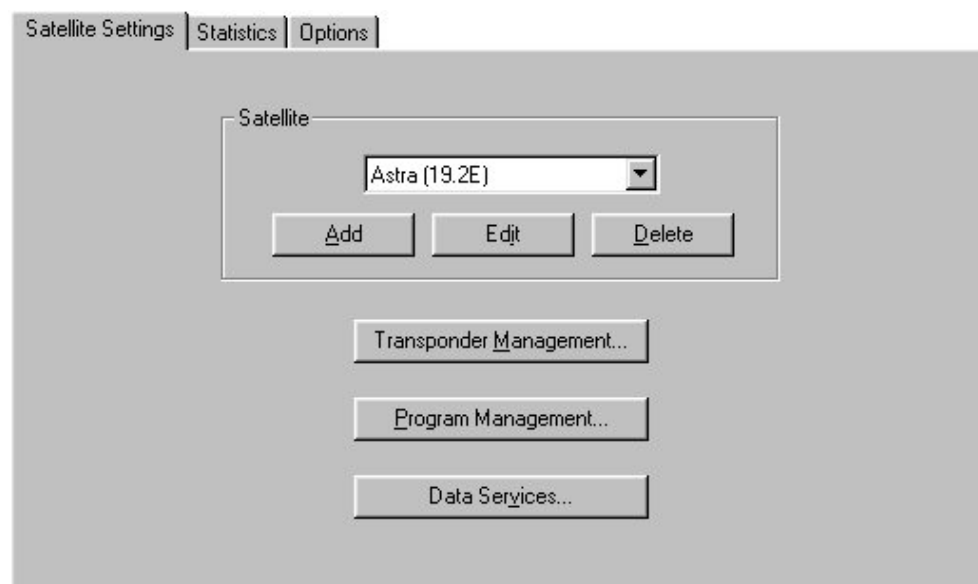


Figure 3.5: Satellite Settings tab.

2. Click on the Options tab

You see the Options tab.

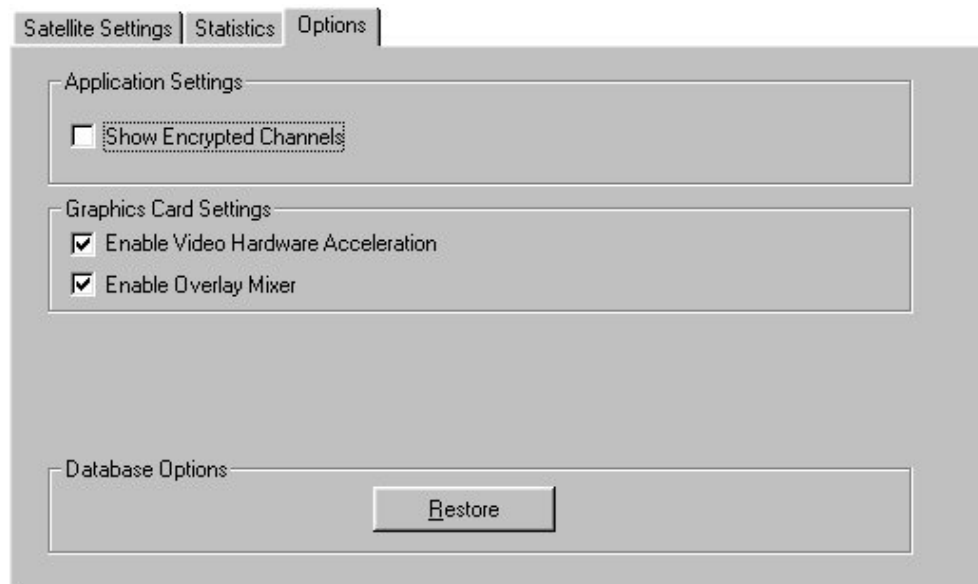


Figure 3.6: Options tab

Graphics Card Settings

Your digital receiver card is compatible with video cards approved by your service provider. When your digital receiver card is used with a video card that is not approved or a video card that has an out-of-date software driver, you may have problems receiving video. If this happens, download the video card's most recent software driver from the video card manufacturer's web site. Follow the instructions on the video card manufacturer's technical support web site. If video problems persist, disable the hardware acceleration and/or the video overlay mixer from the Options tab or replace the video card.

Database Options

Click Restore to permanently delete all current settings and restore antenna, program, and channel settings to installation defaults set by the service provider. Please reboot machine after this operation.

Chapter 4: Data Services

Overview

This chapter explains which settings you have to make to receive data services with the SkyStar PCI/USB. To this settings belong all functions involved in maintaining the Satellite Database. As software you need the already installed applications **Server4PC** and **Setup4PC**. **Server4PC** is a server that allows you to receive data. **Setup4PC** is also required for receiving Data and is used for setup data service.

All modification of the Satellite database is made from Setup4PC's Satellite Settings tab. Reach the tab as follows:

Start-> Programs-> TechniSat DVB-> Setup4PC

You also can reach Setup4PC by right clicking on the Setup4PC in the system-tray.



Figure 4.1: Starting Setup4PC over System Tray

The Setup4PC Satellite Settings window appears:

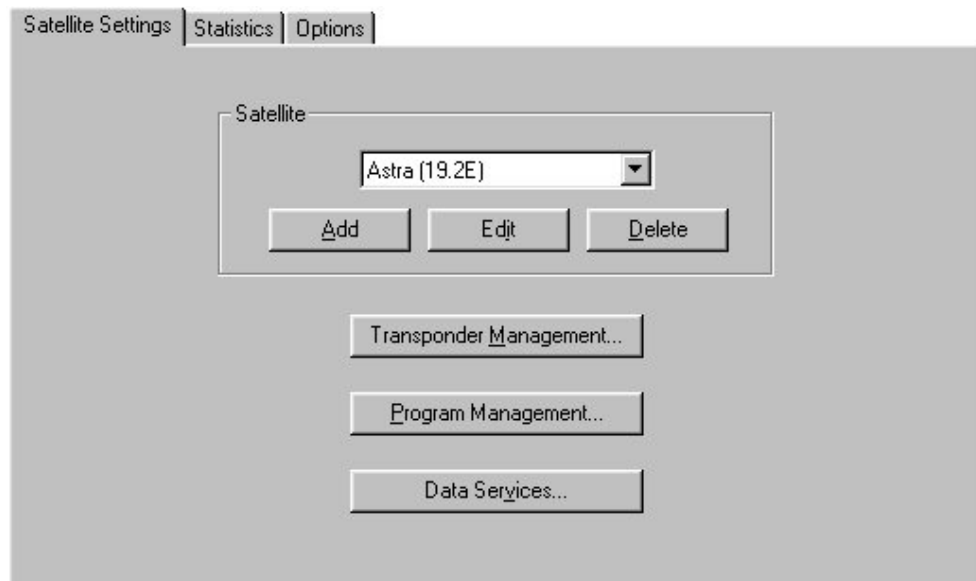


Figure 4.2: Satellite Settings tab.

Editing the Satellite List

Adding Satellites

To add a satellite that does not already appear in the Satellite list do the following:

1. Click **New** under the Satellite list on the Satellite Settings tab, enter the satellite's name, and click **OK**.
2. The **Add New Satellite** dialog-box appears:

Add New Satellite

Satellite Name:

LNB Setting

LOF 1: MHz

Switch: MHz

LOF 2: MHz

☐ 22 kHz Band

DiSEqC:

Satellite Color: ...

OK Cancel

Figure 4.3: Satellite Settings tab.

3. Enter the name of the satellite you want to add.
4. Under LNB Setting, enter the LNB settings of the antenna pointing at the desired satellite (see antenna manufacturer's information for numerical values.).
5. At DiSEqC, select None if you are not using a DiSEqC box, or select the antenna's DiSEqC position from the DiSEqC drop-down list. For more information about DiSEqC settings, see Appendix (confirming DiSEqC and LNB settings on page 39).
6. Select a color for display.

Now you have supplied all necessary information to add the new satellite.

Deleting Satellites from the List

To delete a satellite that you are no longer using from the database, highlight the satellite and click **Delete** under the Satellite list.

Transponder Management

Updating Channel Listing Information

Processes for updating the Satellite Database are explained below. Follow directions for scanning a satellite or multiple transponders to bring all your channel listings up-to-date, or to add a new satellite to your existing TV service. To add a new channel or channels to a transponder already in the Satellite Database, follow directions below. There are several ways.

Scanning a transponder

Rather than updating channels manually, Search and Scan automatically updates all of the programs in the Program list and updates the entire Transponder list, beginning at Start Frequency (the frequency of the first channel) and ending at End Frequency (the frequency of the last channel). To perform a Search and Scan:

1. On Satellite Settings tab select the satellite you want to scan.
2. Click on the **Transponder Management** Button. The Transponder Management dialog box appears. If you haven't edited the Transponder list until now, there were no transponders in the list.

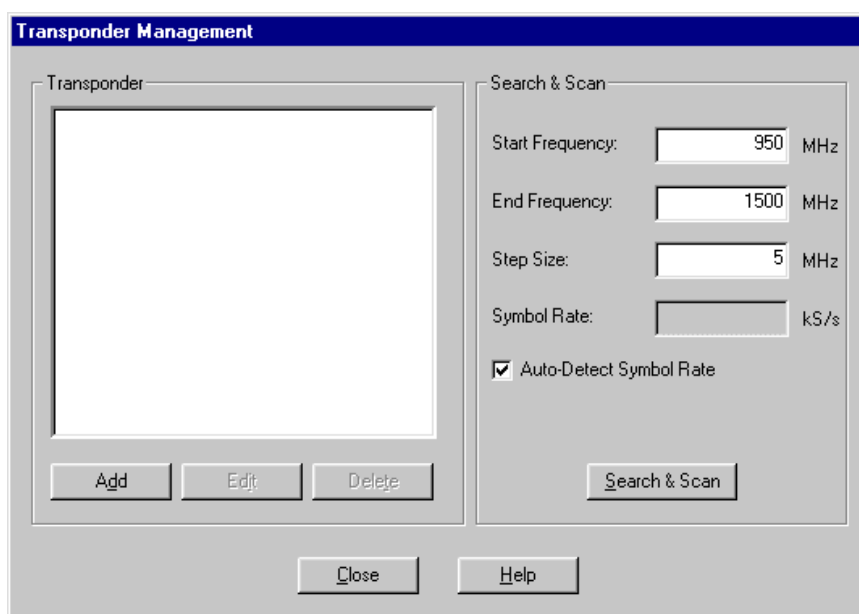


Figure 4.4: Transponder Management dialog box.

3. Insert the start and end frequency. The Start Frequency is the frequency of the first transponder on the satellite (or you can enter an arbitrary frequency that marks the beginning of the scan). The End Frequency is the frequency of the last transponder on the satellite (or you can enter an arbitrary frequency

marking the endpoint of the scan). Further you have to enter the Step Size. The Step Size is the scan increment. Search and Scan will scan every increment between the Start Frequency and the End Frequency.

4. Then you have to click on the Search and Scan Button. The scan progress indicator monitor appears.

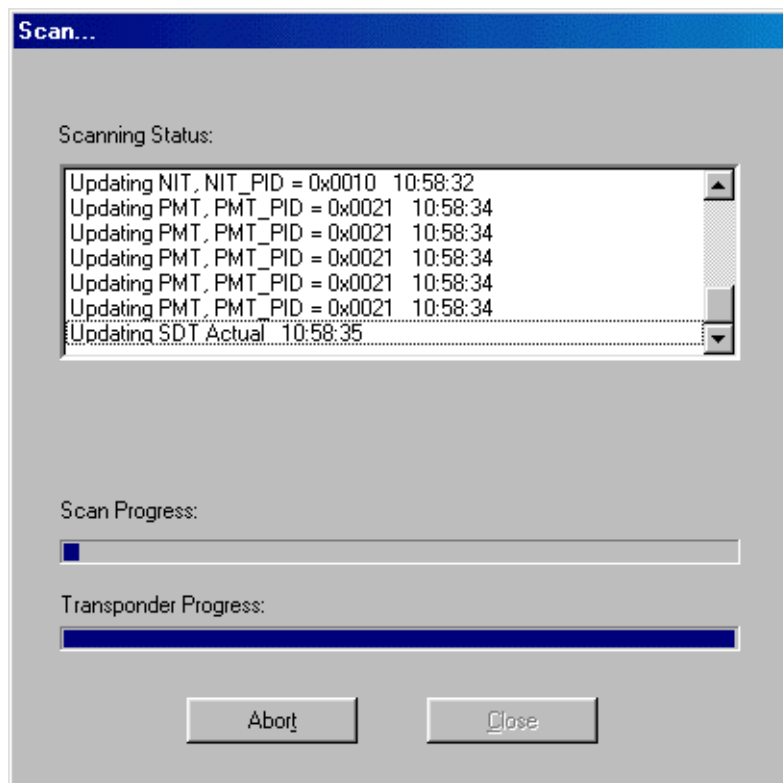


Figure 4.5: Scan progress indicator

5. The Scanning Status box describes the events of the scan as they happen in terms of a channel's PIDs (packet ID codes) or updating tables such as the NIT (network information table), PAT (Program Association Table), PMT (Program Management Table) or CAT (Conditional Access Table). The Scan Progress bar displays the progress of the scan relative to the whole satellite, which possesses many transponders. The **Transponder Progress Bar** displays the progress of the scan relative to the single transponder currently being scanned.
6. When Search and Scan is complete, the Transponder list will reflect newly updated or added digital TV, radio and data channels.

Manually Adding, Editing, or Deleting an Individual Transponder

Any individual channel can be tested for signal reception by clicking **Edit** on the **Transponder Management** dialog. New channels can be tuned and manually be added to the Transponder list.

To manually add a transponder to the list or to edit an existing transponder, you will need to know the frequency, symbol rate, and polarity of the transponder that you want to add. (If you do not have these settings, use Search and Scan.)

1. On the **Transponder Management** dialog, highlight the desired transponder on the Transponder list.

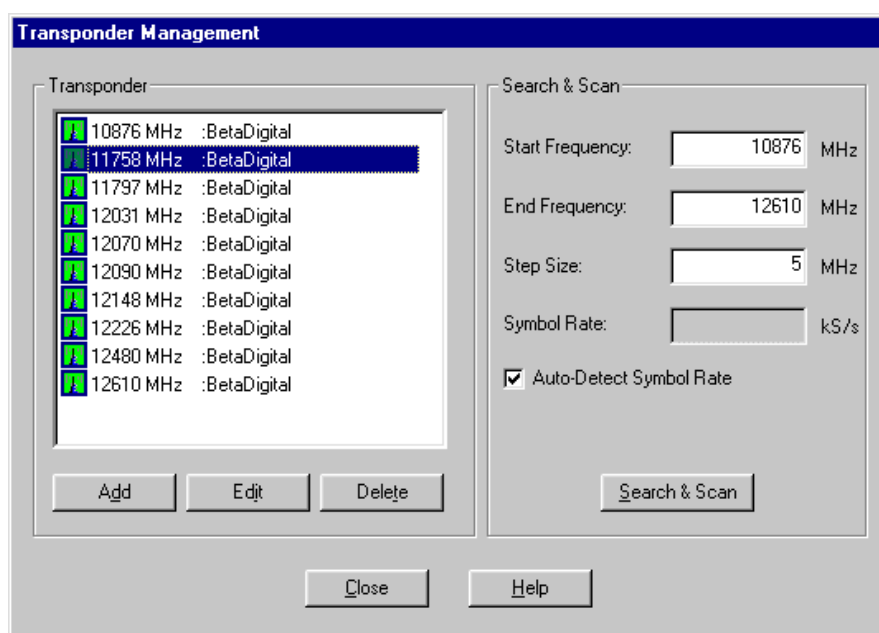


Figure 4.6: Transponder Management

2. To delete the transponder, click **Delete**.
3. Click **Add** or **Edit** to launch the **Add Transponder** or **Edit Transponder** dialog, which appears with the selected satellite's name in the greyed Satellite drop-down list.

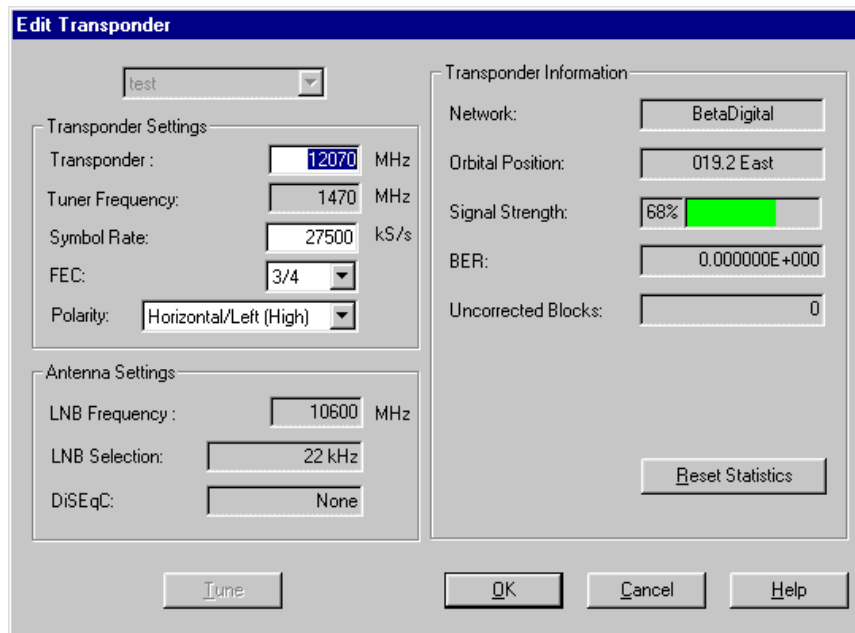


Figure 4.7: Edit Transponder

4. Under **Transponder Settings** enter signal parameter values to tune the tuner to the selected transponder; obtain these values from your service provider (or use the default values.)
5. Click Tune and monitor the Signal Strength indicator.
6. When you obtain a percentage Signal Strength over 30 percent and the signal strength column is yellow or green, click **OK** to return to the **Transponder Management** dialog. The new transponder now appears on the Transponder list.
7. Click Close to exit the **Transponder Management** dialog.

You have to check the signal strength of the transponder. This is described in the next part.

Verify Signal Reception

1. Ensure the antenna is attached to DVB receiver
2. Launch Setup4PC as described above.
3. Select a satellite from the Satellite drop-down list. If there's no satellite in the list, you have to add one as described above.
4. Click **Transponder Management**. The Transponder Management dialog box appears.

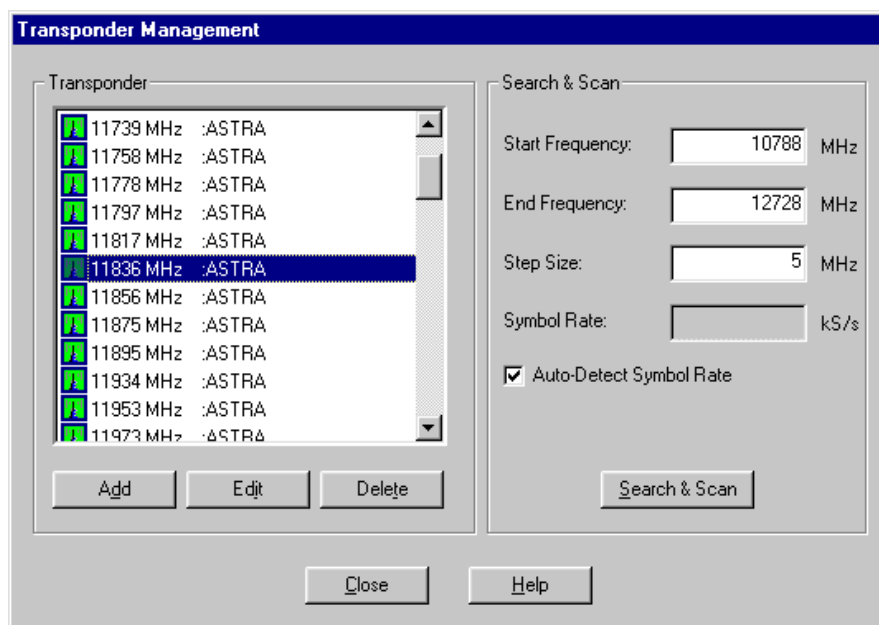


Figure 4.8: Transponder Management dialog box.

5. Select the transponder in the Transponder list you want to check..
6. Click on the **Edit** Button.

The Edit Transponder dialog box appears.

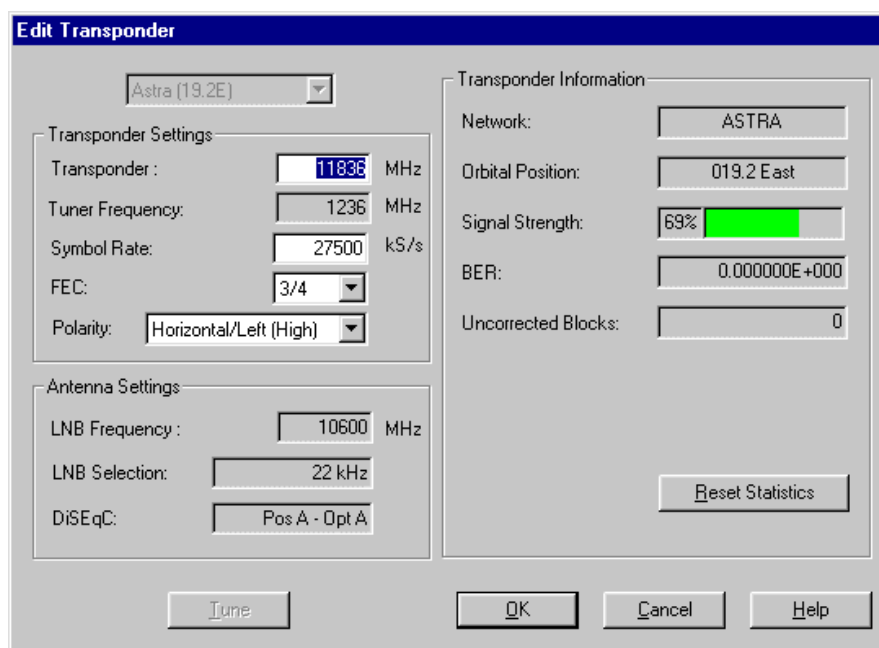


Figure 4.9: Edit Transponder dialog box.

7. On the right side you can see the tuner status. If the Signal Strength indicator is green, you receive a signal. Your antenna is pointed correctly and the LNB and DiSEqC settings are correct.
8. Otherwise, correctly point the antenna at the desired satellite. Using your service provider's instructions, have a friend manually point the dish antenna at the correct place in the sky while you check the Signal Strength indicator. Adjust the antenna until the highest percentage signal is indicated on the Signal Strength indicator. Verify that the satellite's Network and Orbital Position match your satellite service provider's instructions. When you obtain the maximum percentage Signal Strength, fix the position of the antenna.
9. If the Signal Strength indicator is not green and you have verified with your service provider that your Transponder settings were entered correctly, then your antenna is not pointed correctly or your LNB and DiSEqC settings are incorrect. Keep pointing and adjusting until you obtain the maximum percentage Signal Strength.

Configuration of Data Services

Use the Data Services dialog to configure high-speed Internet or multicast from a service provider. The Provider Name list selects the provider. The Transponder list displays (or adds/edits) the data channels available from the selected provider.

1. First verify signal reception from the desired satellite as above.
2. Return to the Satellite settings tab. Click Data Services.

The Data Services Window opens

The screenshot shows the 'Data Services' window with the following sections:

- Provider Name:** A text field with a dropdown arrow, and buttons for 'Add', 'Edit', and 'Delete'.
- Unicast MAC Filter:**
 - MAC Source:** A dropdown menu currently set to 'Receiver Card'.
 - MAC Address:** A series of six input boxes containing the hexadecimal values '00', 'D0', 'D7', '06', '24', and '47'.
- PID List:**
 - A checkbox labeled 'Hexadecimal' which is checked.
 - A text input field and buttons for 'Insert' and 'Remove'.
 - A checkbox labeled 'Auto-Set Multicast PIDs' which is unchecked.
- Transponder:** A large empty rectangular box with buttons for 'Add', 'Edit', and 'Delete' below it.
- Proxy Auto-Authentication:** A checkbox which is unchecked, with associated 'User Name' and 'Password' text input fields.

At the bottom of the window are buttons for 'Apply', 'OK', 'Cancel', and 'Help'.

Figure 4.13: Data Services Window

If your data service provider's name is not listed in the Provider Name drop-down list, use the **Add** button to add the name.

Configure Unicast

Under Unicast MAC Filter, select your data service provider's MAC addressing scheme from the MAC Source drop-down list. If you did not select DVB Card, at Unicast MAC enter the numerical MAC address value suggested by your service provider. If you selected Dial-up, Net Card or User Defined IP from the Options drop-down list, enter and define the MAC-prefix (usually 00-02).

Under PID list, unicast, multicast and broadcast PIDs are listed. To add a PID, enter the PID in the text field and click Add. To remove a PID, select the PID and click Remove.

Verify that your data service's transponder is listed in the Transponder list or add a transponder if necessary

Configure Multicast

If your service uses automatic multicast PID setting:

- Under PID list, select the Auto-Set Multicast PIDs checkbox.

If your service does not use automatic multicast PID setting:

- Under PID list, multicast PIDs are listed in the larger textbox. To add a PID, enter the PID and click Add. To remove a PID, select the PID and click Remove.

Verify that your data service's unicast transponder is listed in the Transponder list or add a transponder if necessary

Add New Data Transponder


1. On the Data Services dialog, if the data transponder is not listed, click Add under the Transponder list. (To remove a transponder, select the transponder from the Transponder list and click **Delete**. To edit an existing transponder, select the transponder and click **Edit**.)

The Add New Transponder dialog box appears

Figure 4.14: The Add New Transponder dialog box

2. In the **Add New Transponder** dialog, select the data transponder from the drop-down list of available transponders. (If the correct data transponder is not listed in the drop-down list of available transponders, check that the correct satellite is selected in the Satellite list on the Satellite Settings tab.

Then click **Transponder Management** and check that the desired data transponder is listed in the Transponder list. If the transponder is not listed, add it manually or use Search and Scan to add it.)

3. Enter the data channel's Name (any alias).
4.  *Participating service providers only:* Proxy settings: Enter the IP address and Port Number for the channel's proxy server as suggested by your service provider. If you want this channel to be your default data channel, select the Initial Locking Transponder checkbox. On the **Add New Transponder** dialog, click **OK**.
5. Repeat the above steps for each new data transponder you want to add.
6. To activate a data profile, right click Server in the system tray and select the profile from the menu.

Configure Dial-up Connection

1. Open your Internet Explorer web browser. From the top menu, select **Tools\Internet Options\Connections** and specify your dialup Internet connection as instructed by your dialup Internet service provider.
2. Restart your computer and open Internet Explorer.
3. Browse the Internet using your Internet Explorer web browser. To access high-speed Internet/data service, you have to launch Internet Explorer.

Receiving Data

Once your data setup is complete, you can receive data anytime you are not watching TV or listening to radio.

Status

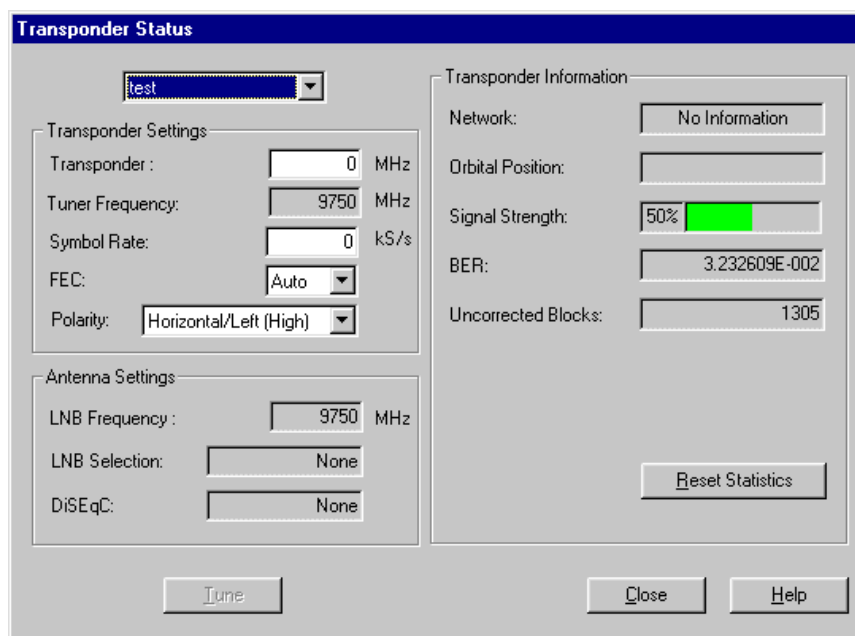
To check the tuner status, do the following:

1. Start Setup4PC. On **Satellite Settings** tab click status button.



Figure 4.15: Status Button

The **Transponder Status** window appears



The **Transponder Status** window displays the current status of the selected satellite. It features a dropdown menu at the top set to **test**. The window is divided into three main sections: **Transponder Settings**, **Antenna Settings**, and **Transponder Information**.

Transponder Settings:

- Transponder: 0 MHz
- Tuner Frequency: 9750 MHz
- Symbol Rate: 0 kS/s
- FEC: Auto
- Polarity: Horizontal/Left (High)

Antenna Settings:

- LNB Frequency: 9750 MHz
- LNB Selection: None
- DiSEqC: None

Transponder Information:

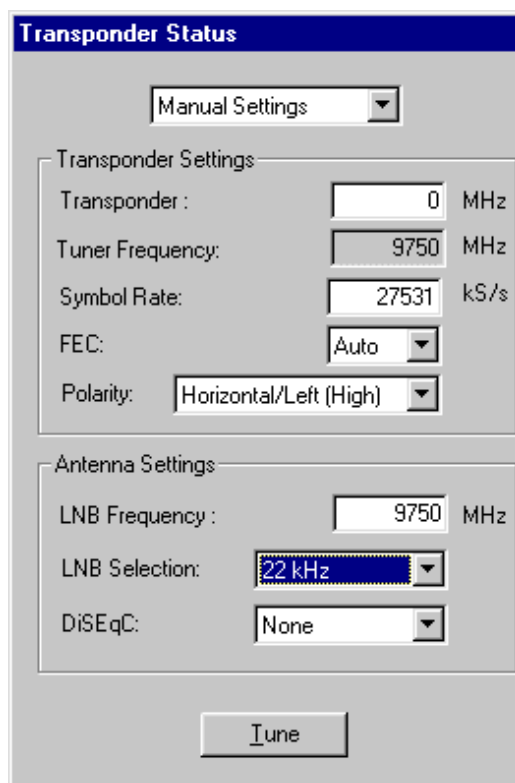
- Network: No Information
- Orbital Position: (empty field)
- Signal Strength: 50% (indicated by a green bar)
- BER: 3.232609E-002
- Uncorrected Blocks: 1305

Buttons at the bottom include **Tune**, **Close**, and **Help**. A **Reset Statistics** button is located within the Transponder Information section.

Figure 4.16: Transponder Status Window

You see the tuner status of the current selected satellite.

To manually control the tuner for troubleshooting purposes, select **Manual Setting** in the **Satellite** drop-down list. Enter values in the **Transponder settings** and **Antenna settings** textboxes.



The **Transponder Status** window is shown with the dropdown menu set to **Manual Settings**. The **Transponder Settings** and **Antenna Settings** sections are expanded, allowing for manual input.

Transponder Settings:

- Transponder: 0 MHz
- Tuner Frequency: 9750 MHz
- Symbol Rate: 27531 kS/s
- FEC: Auto
- Polarity: Horizontal/Left (High)

Antenna Settings:

- LNB Frequency: 9750 MHz
- LNB Selection: 22 kHz
- DiSEqC: None

The **Tune** button is visible at the bottom.

Figure 4.17: Transponder and Antenna Settings

2. Click Tune to check and monitor the signal strength.

Enter the Transponder Frequency, Symbol Rate, and Polarity for a transponder other than the one with which you are experiencing a problem; consult the satellite chart for more information. Click Apply.

3. Check the Signal Strength indicator. If the Signal Strength indicator shows green, you are receiving normal satellite signal; the previous transponder you entered caused your problem. If the indicator shows another color, or there is still no colored bar in the indicator, proceed.
4. Enter the Frequency, Symbol Rate, and Polarity for a different transponder on the same satellite, and check the Signal Strength indicator again. If you do not see a green bar in the Signal Strength indicator after you have repeated this process a few times, contact technical support.

Performance Measurement Statistics Indicators

Performance measurement indicators display a running count of the amount of digital information received, erroneous digital information received, the amount of errors corrected, and bit error ratio for troubleshooting purposes. The running count is reset when the Reset Statistics button is clicked.

BER

BER is the bit error ratio, the ratio of error bits to the total number of bits of data received. If only zeros were displayed, the reception is O.K.. If a value like 0.000000E-004 or bigger is displayed, then check settings of chosen transponder and adjustment and reception of your satellite equipment.

Total Blocks

Total Blocks is a running count of the number of 188-byte transport packets received.

Corrected Blocks

Corrected Blocks is a running count of the number of 188-byte transport packets that have been corrected.

Uncorrected Blocks

Uncorrected Blocks is a running count of the number of error packets that could not be corrected.



Values of SkyStar PCI and USB are not exactly the same.

Chapter 5: Watching TV

Summary

The software CD of SkyStar PCI/USB contains the TV reception software **DVBViewer TechniSat Edition**. This software allows reception of digital TV over satellite with the SkyStar DVB card.

Opening the Viewer

To receive channels, you have to start the TV application DVBViewer TechniSat Edition

Start->Programs -> TechniSat PVR -> DVBViewer

You also can reach DVBViewer by clicking on the Quick Launch Icon.

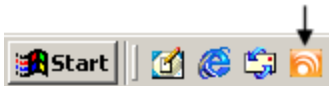


Figure 5.1: Starting DVB Viewer over Quick Launch Icon



Instructions how to work with DVBViewer you will find in the integrated manual inside the application.

Appendix A: Troubleshooting

Overview

The first part of this Appendix describes quick tests a user can perform to rule out easily managed difficulties.

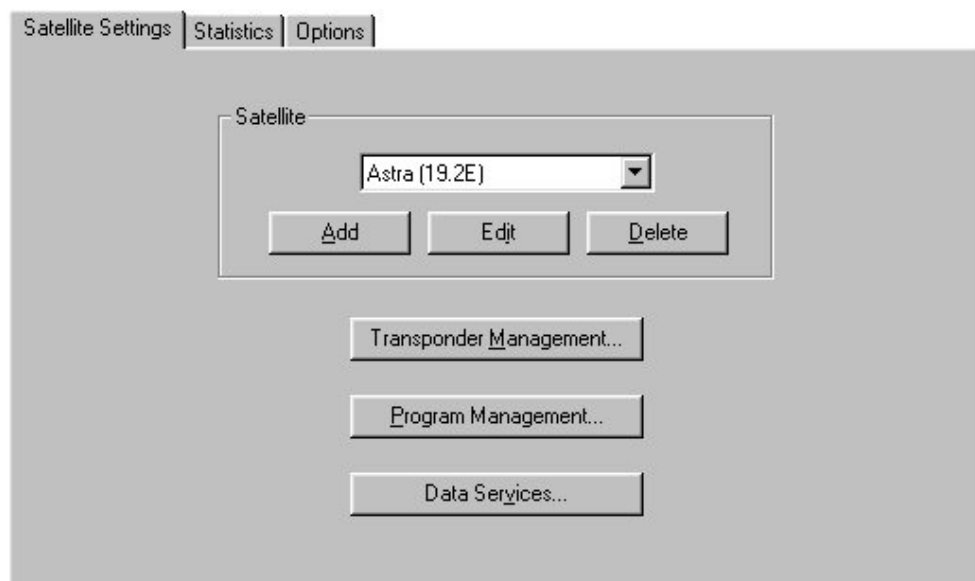
The latter sections of the Appendix are intended to help users work with technical support professionals in addressing other problems that might arise while using SkyStar PCI. Potential difficulties are discussed in order of seriousness.

Quick User Tests

To rule out easily managed problems as the cause of broadcast difficulties, first open Setup4PC as follows:

Start-> Programs-> TechniSat DVB-> Setup4PC

The Satellite Settings window appears.



Appendix Figure 1: Satellite Settings

If you have confirmed your LNB and DiSEqC settings, something may be wrong with the Transponder Frequency you are trying to receive (see chapter 4: Manually Adding, Editing, or Deleting an Individual Transponder on page 26).

If you are a Windows 98 user and are having trouble using your viewer, refer to Graphics Card Settings in the Setup4PC's Options window. Try deselecting first "Disable Video Hardware Accelerator" then the "Disable Overlay Mixer" to see if this corrects the problem.

Stage One: Signal

If you think that your equipment is installed and working properly, but your viewer is not working, use Setup4PC to do the following:

- Confirm whether the satellite signal is reaching your tuner
- Check characteristics for your transponder
- Check DiSEqC settings
- Checking Transponder Characteristics

To check Transponder Characteristics at the Tuner Status window, confirm the correct Transponder Frequency, LNB Frequency, Tuner Frequency, Symbol Rate, FEC, and Polarity with the satellite chart. side of the window. Look at the Signal Quality to see if you are receiving a signal. If not, check DiSEqC settings, , see "Confirming DiSEqC Settings" on page 39.

Stage Two: Data Reception

If you are getting a signal and receiving channels, but having trouble receiving internet data, first confirm your browser settings with your internet service provider. Then check if your service is activated. For that you have to look in the system tray by a right click. The name of your activated Service must stand above in the menu. The service must be activated with a checkmark.

If these settings are correct, check unicast and multicast settings, as described on page 31.

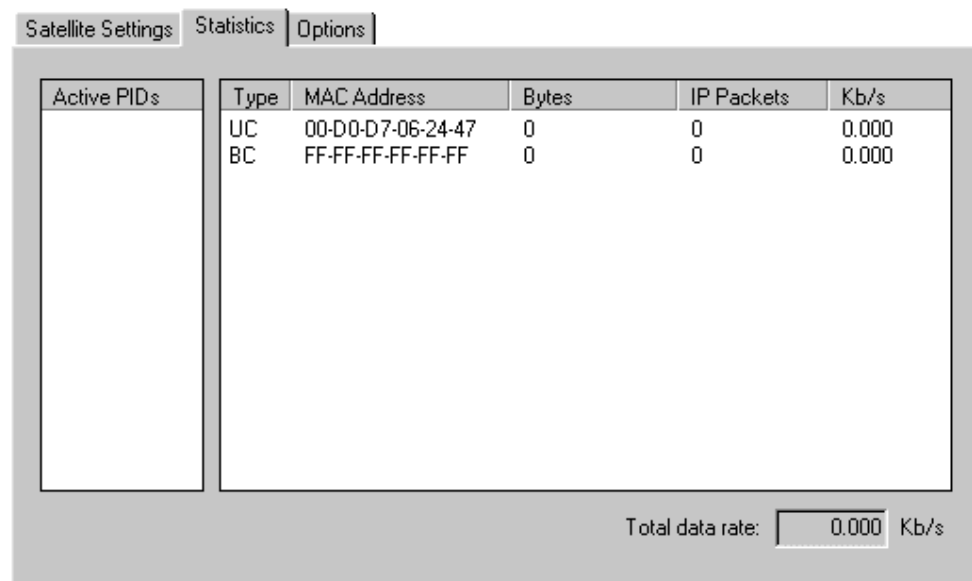
1. Open Setup4PC as follows:

Start-> Programs-> TechniSat DVB-> Setup4PC

The Setup4PC appears, as shown at Appendix Figure 1: Satellite Settings

2. Click on the statistics tab.

The Statistics window appears.



Appendix Figure 2: Statistics window

Use the Statistics tab to monitor the reception of individual data streams. The MAC-Address, the Packet ID Code (PID), and the transmission speed in kb/s are displayed for each stream. Unicast, Multicast or Broadcast are indicated for each stream as well as whether or not the PID is active.

Data Streams

To receive data from an Internet/data channel, the tuner tunes to specific streams of packed digital information. Each stream is identified by a code called a packet ID code, or PID. The digital receiver uses PID filters and MAC Address filters to select desired streams. There are three types of Internet Protocol packet streams received by the digital receiver card:

A unicast stream is a single stream meant to be received by the single user (receiver) who requested it. The difference between unicast and broadcast is the difference between receiving a personal letter and listening to public radio: one is uniquely addressed; the other isn't. The reason why you can view a web page on the Internet while the person next to you is viewing an entirely different web page is because your web page is addressed to you, while his or her web page is addressed to him/her: each person receives a different, uniquely addressed, unicast stream. A media access control address (MAC address) is a numerical code used to address the information in a unicast stream.

A multicast stream is one stream to be received by multiple users simultaneously. An example might be a concert being multicast over the Internet to fans worldwide. In multicast, rather than transmitting separately addressed unicast streams for each user, the multicast sent from the Internet to your network travels most of the distance as a single stream. At the latest possible instant the stream splits to reach the multiple users.

A broadcast stream is a transmission meant to be received indiscriminately by all users. When a conventional radio stations "broadcasts" a signal, the signal blankets every antenna in the area of the radio station: it does not take a specific addressed path.

Confirming DiSEqC and LNB Settings

Confirm that preset LNB and DiSEqC information in the **Transponder Management** matches your antenna equipment; consult your antenna manufacturer for more information. The antenna DiSEqC settings must be specified for each satellite in the Satellite list.

There are several possibilities:

If you Have One Dish with one LNB

Select None

If you Have One Dish with Two LNBs

For each LNB, select (exclusively) one of the following values from the pull-down list:

Simple A

Simple B

One of these values should match a designation on your hardware; consult your equipment manufacturer for more information.

If you Have Multiple Satellite Dishes

Select one of the following from the pull-down list:

Satellite 1 - PosA - OptA

Satellite 2 - PosB - OptA

Satellite 3 - PosA - OptB

Satellite 4 - PosB - OptB

One of these values should match a designation on your hardware; consult your equipment manufacturer for more information.

FAQ – Frequently Asked Questions

1. Installation

Problem: I want to start the installation by double click setup.exe but an error message pops up

Solutions: 1. TCP/IP

If error message regarding TCP/IP pops up please check your registry if following value exists:

"HKLM\\Software\\Microsoft\\Rpc\\ClientProtocols\\ncacn_ip_tcp"

If not create it and try to start installation process

2.Driver

The driver not loaded message occurs either when the driver is not installed or an old and incompatible driver is installed. The later problem can occur with v4.1.4 if the user manually uninstalls the old application first. This is because in version 4.1.4 we first checked the registry to determine if an old installation is present and if so, we manually copy the new driver file to the \\windows\\system32\\drivers directory and force a reboot. If an old installation is not present we assume that the driver was installed by the normal PNP detection. So the fix for this is to either copy the driver manually or simply delete the old driver and install the new one from the CD or the folder where it is located.

Problem: The installation of the software stops and says MediaPlayer and DirectX recommended

Solution: Please download from Microsoft the latest versions of MediaPlayer and DirectX and install it. Other requirements are up to date Internet Explorer (>5.5). Afterwards you can run the installation.

Problem: DVB Receiver and any network interface card cause IP address conflict.

Solution: Immediately assign a static IP address of 192.168.238.238 to the DVB device.

Problem: Sound Blaster Live Incompatibility

Solution: Change the IRQ settings to not conflict with the DVB device assigned IRQ

Problem: Starting Setup.exe results in a missing _setup.dll error message

Solution: It seems you downloaded the software and extracted the zip file Without the enclosed path-information. Check configuration of the tool

used to unzip the downloaded file and reconfigure it. Unzip and try installation again.

2. Operating

Problem: I installed the software but no channels are listed.

Solution: Perform a scan of the satellite or transponder. There are two ways to scan a satellite. NIT based (fast) or frequency range based (slow).

For NIT based scan do following (example Astra 19.2 E):

Note: Not all transponders/satellites support this.

1. Open Setup4PC
2. Create satellite, click Add and type Astra 19.2 E, LOF 1 9750, Switch 11700, LOF 2 10600, DiSEqC AA
3. Now go to Transponder Management and create one Astra Transponder
e.g. 12051, vertical, 27500, FEC auto
4. Click tune.
5. Now go to Program Management and select created transponder
6. From pull down menu and click scan button afterwards
during the scan of this single transponder all information about the other transponders available on this satellite are taken from the so called NIT
7. When finished select All transponders from pull down menu and click
8. Scan again
9. This will take some time now and at the end of the scan all channels of all transponders are in your program list

For a frequency based scan do following (example Astra 19.2 E)

1. Open Setup4PC
2. Create satellite, click Add and type
Astra 19.2 E, LOF 1 9750, Switch 11700, LOF 2 10600, DiSEqC AA
3. Now go to Transponder Management and type in scan range of satellite (right site) e.g. Start 10770, End 12730, Step size 5, Symbol rates 22000 and 27500
4. Click Search & Scan, this type of scan can take several hours

Problem: I have installed a new version of DirectX, but now I can't receive TV

Solution: Reason for this is that during DirectX 9 installation some settings are modified by the Microsoft installer that are required by SkyStar PCI/USB software. To reestablish a proper TV4PC function again, just do following:

- Go to control panel "Add/ Remove Programs"
- Select "TechniSat DVB receiver" and remove the software
- Reboot PC

- Insert SkyStar 2 installation CD (or 4.2.2 files from web) and install the user software again
- During software installation follow all given instructions.
- Reboot

After adjustment of the satellite settings (e.g. DiSEqC) TV4PC should work again. If you do not use the preconfigured channel list you have to reconfigure your satellite and all TV channels again. Review the manual to perform this steps

Problem: The video stops from time to time and little squares are seen

Solution: Please check the quality of the input signal. The min. satellite signal should be 50- 55 dbμV or the level indicator in Setup4Pc should be in. 55-65 % for proper TV function. Another possible source of trouble can be your graphic card, that must support hardware overlay. Please check the documentation of the graphic card if hardware overlay is supported and make sure latest driver for the graphic device is installed. Otherwise disable overlay function in Setup4PC section options.

Problem: My signal indicator drops from 0 % up to 70 % within a few seconds.

Solution: Check the valid function of your receiving equipment. If this is OK please check if your system is installed in ACPI mode. If yes, try to use the DVB card in a PCI slot named slot number 0 on your motherboard. If this does not solve the problem, you have to disable ACPI. This makes a new installation of the operating system necessary.

Problem: During scan I got some strange messages like No PAT Data (0x90000101)

Solution: This can be caused by invalid transmitted DVB tables by the TV channels or if you try to scan a data service that contains no TV or radio. For valid settings configure the specific program manually. Use the Program Management for this and type in the valid PID's

3. Other

Question: I have a motherboard with VIA chipset on it. Does it cause any problems?

Solution: Make sure you installed the latest software patch from the VIA webpage to enable full performance of your motherboard's chipset. Otherwise the bad PCI performance can cause data loss/ malfunction during operation of the DVB device

Question: I have a Europeonline entertainment pack and after proper installation I can not receive any data or TV. The tuner is in lock and working.

Solution: Make sure that you have proceed the activation of the card following The Europeonline instructions. In case of further problems contact the Europeonline Support, see contact details in the Europeonline documentation.

Appendix B: Glossary

ADR (Astra Radio)	Digital	Digital broadcasting system for radio stations which makes subscriber radio possible by allowing signal encryption.
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 Also-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 can receive 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).
DVB (Digital Video Broadcasting)	The digital broadcasting standard for Europe, based on MPEG-2. Developed by an international consortium, it is available in three flavors: 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.
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 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 data base includes channels from the Astra

satellite, and maybe modified at anytime using Channel Management or by performing a Scan.

Satellite List

The list of satellites available from the satellite database.

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 the Earth in the form of a broadcast. Transponders typically handle several channels each.

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 the Earth to the satellite transponder.