



SkyStar PCI/ USB User's Guide

Chapter 1:Introduction	1
Defining SkyStar PCI/ USB	1
Using Printed and Online Help	1
User's Guide Conventions	1
User Task Summary	3
To Start Receiving TV and High-Speed Internet	3
To Add Channels to Your Existing TV Service	3
To Add a Satellite	3
To Delete a Channel	3
To Delete a Satellite	4
If You Change Your Antenna Hardware	4
Chapter 2: Installing SkyStar PCI/ USB	5
System Requirements	5
Package Contents	6
Static Electricity Warning	6
Installing Board	6
Installing Driver	7
Windows 98	7
Windows 2000/ XP	10
Windows NT 4.0	11
Chapter 3: Basic Settings	16
Overview	16
Connecting DVB device	16
Your Antenna's Position	16
Starting to Receive Satellite Signal	18
Options Settings	18
Application Settings	20
Graphics Card Settings	20
Database Options	20

Chapter 4: Satellite Settings	21
Overview	21
Editing the Satellite List	22
Adding Satellites	22
Deleting Satellites from the List	23
Transponder Management	23
Updating Channel Listing Information	23
Scanning a transponder	23
Manually Adding, Editing, or Deleting an Individual Transponder	26
Verify Signal Reception	28
Program Management	30
Using Channel Management	30
Adding and Removing Channels	31
Removing Channel Information for a Satellite	32
Data Services	33
Configure Unicast	34
Configure Multicast	34
Add New Data Transponder	34
Configure Dialup Connection	35
Receiving Data	36
Status	36
Performance Measurement Statistics Indicators	38
 Chapter 5:Using Satellite TV	 39
Opening the Viewer	39
Enjoying Radio and Television	40
Viewing Channel listings by Satellite	40
Selecting Radio or Television	41
Navigating Channel Listings	41
Playing a Channel	41
Selecting Broadcast Language	41
Using Play, Stop, Full Screen, and Volume	41
Using the Favorites List	41
Using Teletext (Television only)	42

Appendix A: Troubleshooting	43
Overview	43
Quick User Tests	43
Stage One: Signal	44
Stage Two: Data Reception	44
Data Streams	45
Confirming DiSEqC and LNB Settings	46
 Appendix B: Glossary	 47

Chapter 1: Introduction

Defining SkyStar PCI/ USB

SkyStar PCI/USB is a small board that plugs into the PCI slot/ USB connector 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, and on the TV4PC viewer.

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-> TV4PC

The path shown in this example launches TV4PC.

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.

To Start Receiving TV and High-Speed Internet

Carefully follow directions in Chapter 2: "Installing SkyStar PCI", Chapter 3: "Basic Setup", and Chapter 4: "Satellite Settings" and Chapter 5: "Using Satellite TV".

To Add Channels to Your Existing TV Service

Add channels or transponders to existing service as follows:

1. To update channel listings for the satellite database that shipped with SkyStar PCI, skip to Step 3. To add channels or transponder for a satellite other than the default, confirm that your antenna equipment will let you receive the signal for the new satellite. Consult Chapter 3: "Basic Setup" and the satellite chart for more information.
2. Unless it is already present, add the satellite to the list, as described in "Editing the Satellite List" on page 21.
3. To update channels, or to add a typical channel or transponder, see "Updating Channel Listing Information" on page 22. To add a channel or transponder that is not DVB-compliant, or that cannot be scanned for any other reason, see "Using Channel Management" on page 29.

To Add a Satellite

To add a new satellite to your service, first confirm that your antenna equipment will let you receive its signal, and change local hardware settings if you need to. See "Confirming DiSEqC and LNB Settings" on page 45 and consult the satellite chart.

Second, see Chapter 5: "Satellite Settings" to perform the following tasks:

- Add the new satellite to the Satellite list, if the information is not already present.
- Scan the satellite into the Satellite Database.

To Delete a Channel

To delete a channel, see "Adding and Removing Channels" on page 30.

To Delete a Satellite

To clear a satellite from the Satellite list, see “Adding and Removing Channels” on page 30. To clear all channel information for a particular satellite from the Satellite Database, see “Removing Channel Information for a Satellite” on page 31.

If You Change Your Antenna Hardware

See that you also adjust your LNB and DiSEqC settings as necessary, as described in Chapter 3: “Basic Setup”. Consult your antenna dish manufacturer for more information.

Chapter 2: Installing SkyStar PCI

System Requirements

- Either of the following IBM-compatible PCs (or a greater model) is recommended: Pentium III 500 MHz, with modem installed.
- Microsoft Windows 98, Windows ME, Windows 2000, Windows XP or Windows NT 4.0 (Service Pack 6 recommended) operating system
- 128 MB minimum of system memory
- 30 MB of disk storage for application program and driver
- 2D graphics card (3D graphics recommended)
- Sound Blaster compatible Audio card, for playback of TV channels
- Satellite dish
- Microsoft Internet Explorer (web browser) version 5.5 or later installed
- Microsoft Windows Media Player Version 7 or later
- Microsoft DirectX 7 or later.



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 package should contain the following items:

- SkyStar DVB product
- Installation CD (contains User Guide)
- 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.

Installing Board

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 the PCI slot with the designation "0". (first PCI 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.

Installing Driver

Directions follow for installing the SkyStar PCI driver on Microsoft Windows 98, 2000 and NT platforms.

Windows 98 SE

When you start your computer for the first time after installing the SkyStar PCI card, a window will appear that mentions a 'B2C2 Broadband Adapter.' This is how Windows 98 identifies the SkyStar product. When you see the window, do the following:

1. Click Next and follow all remaining prompts, accepting defaults, until you see the following window:



Figure 2.2: Add New Hardware Wizard

See that your CD ROM drive is selected. Click Next to continue the installation.

2. Continue following prompts, until you see the following window:

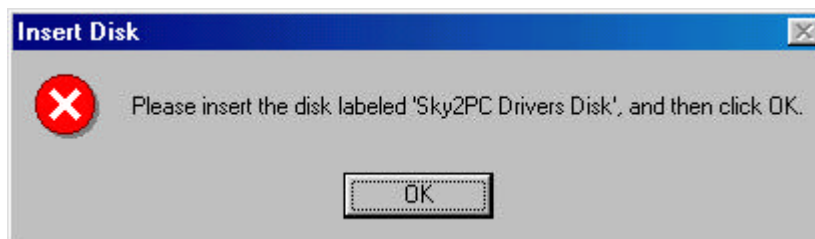


Figure 2.3: Prompt for inserting Driver Disk

Click **OK** to continue the installation.

3. See that your computer's CD-ROM drive is selected in the following window:

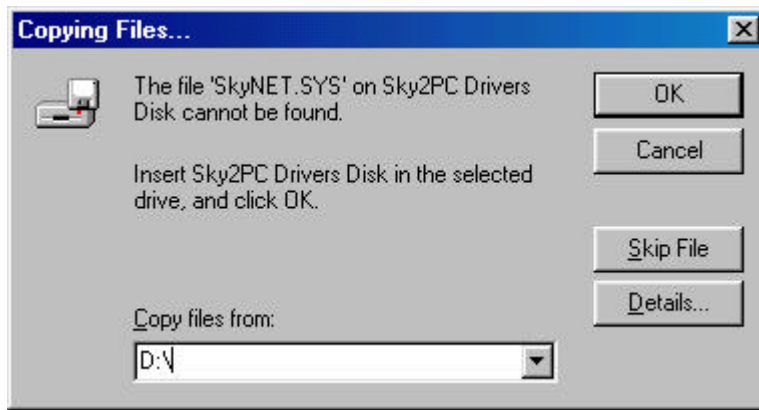


Figure 2.4: Selecting the CD-ROM drive

Click **OK**. Next you have to insert the Windows 98 Installation CD to complete the driver installation.

4. Reboot when prompted.

You have finished the installing driver for SkyStar product. You are now ready to install the applications.

Windows 2000/ XP

To install the SkyStar PCI driver on Windows 2000/ XP, you must be logged on as an administrator or have Administrator Privileges.

When you start your computer for the first time after installing the SkyStar , a window will appear that mentions a 'B2C2 Broadband Adapter.' This is how Windows 2000/ XP identifies the SkyStar. When you see the window, do the following:

1. Follow prompts, accepting all defaults, until the following window appears:

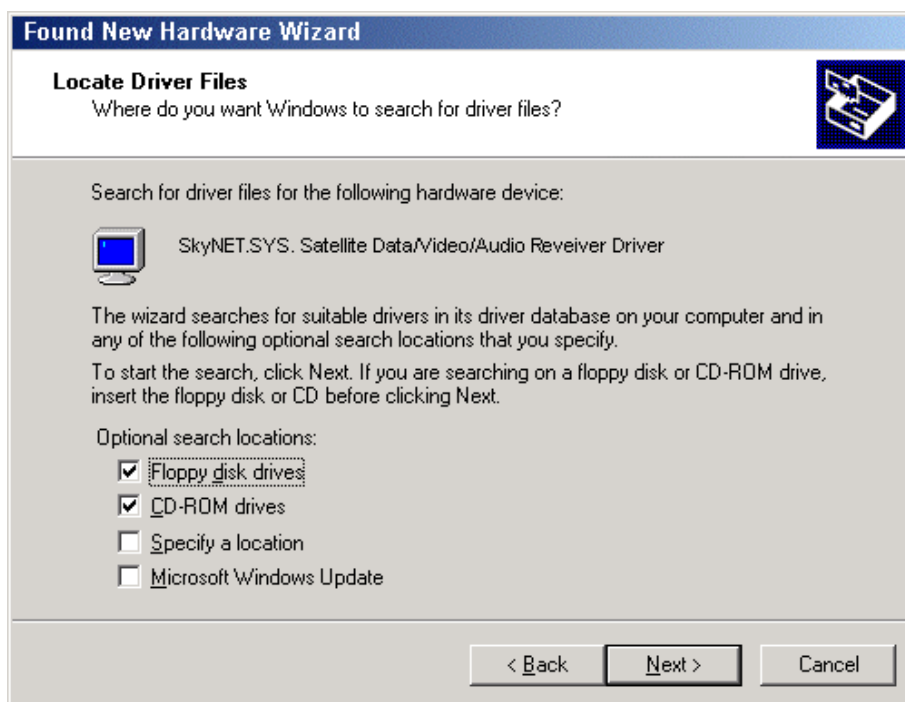


Figure 2.5: Hardware Wizard in Windows 2000

See that 'CD-ROM' is selected, and click Next.
For USB you have to install the skynetu.sys.

2. A browse box appears. Select the file SkyNet.inf and click **OK**.
3. Continue following prompts, until you have to insert the manufacturer's installation disk. Select the correct drive and path and click OK.
4. Continue following prompts until you have completed the installation.

You have installed the driver and are ready to install the applications.

Windows NT 4.0 (no USB device supported)

To install the SkyStar PCI driver on Windows NT, you must be logged on as an administrator or have Administrator Privileges.

To install the SkyStar PCI driver on a Windows NT platform, do the following:

1. Open the Windows NT Control Panel and double-click the Network icon to open it.
2. The network control panel appears. Select the Adapters tab.

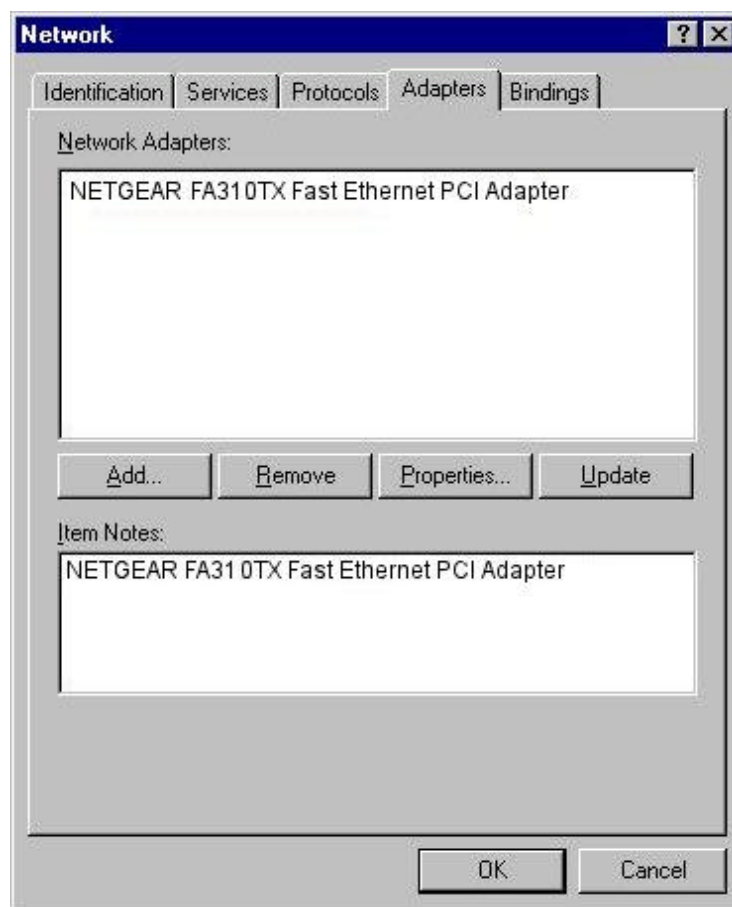


Figure 2.6: Network control with Adapters tab

Click **Add**, then 'Have Disk.'

3. The Insert Disk window appears:

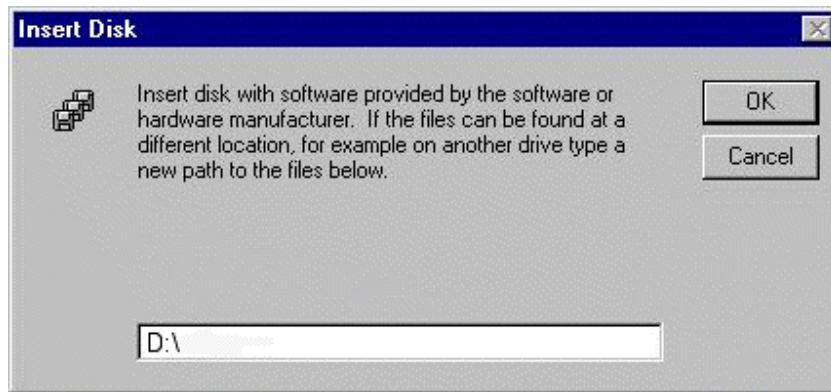


Figure 2.7: Insert disk window

Type in the drive or directory where the SkyStar PCI CD-ROM resides. The typical directory path is circled in the illustration. Click **OK**.

4. The Select OEM Option window appears.

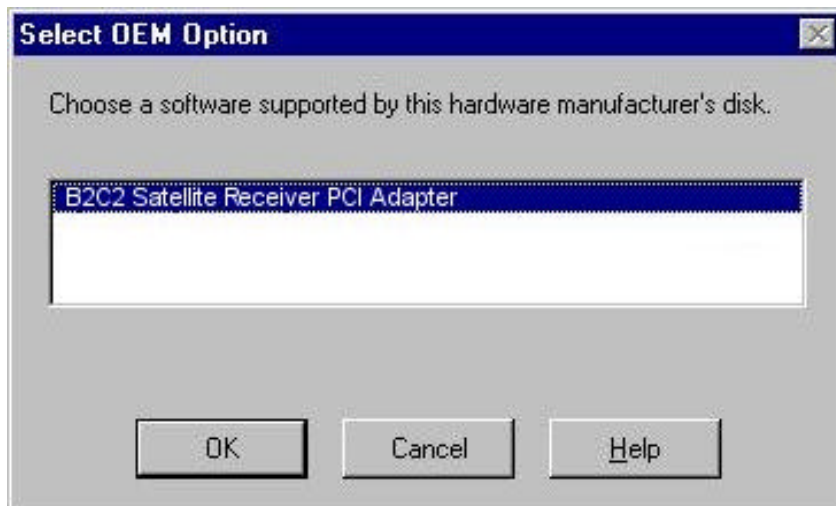


Figure 2.8: Selecting the OEM Option

To advance the installation, select the driver highlighted and click **OK**.

5. The Network window appears. Click Bindings tab.

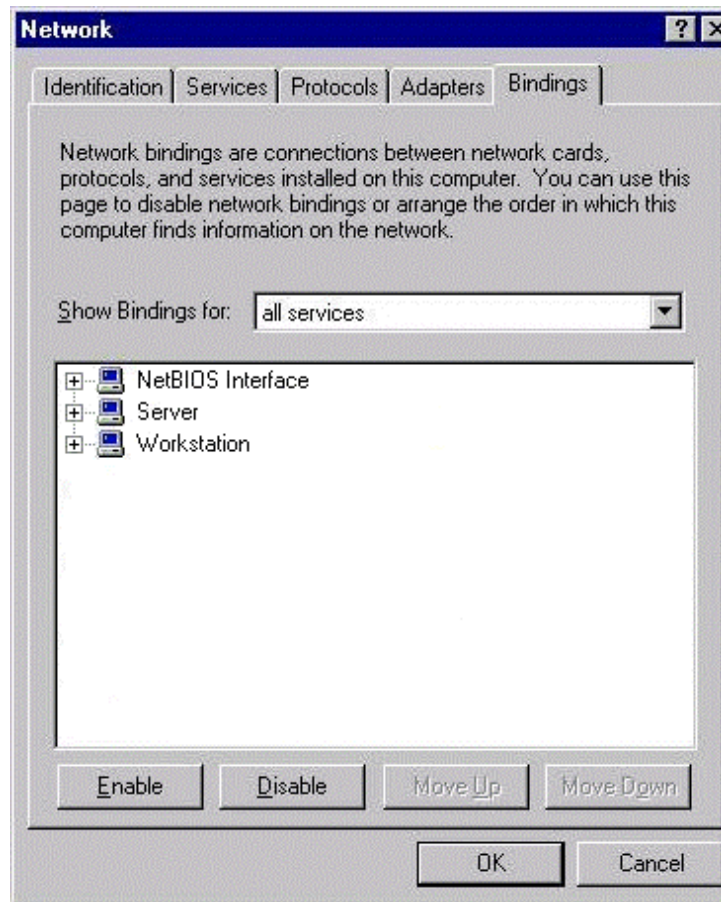


Figure 2.9: Network window with binding tab

After the Bindings tab, click on Protocol tab.

6. At Protocols, click Properties.

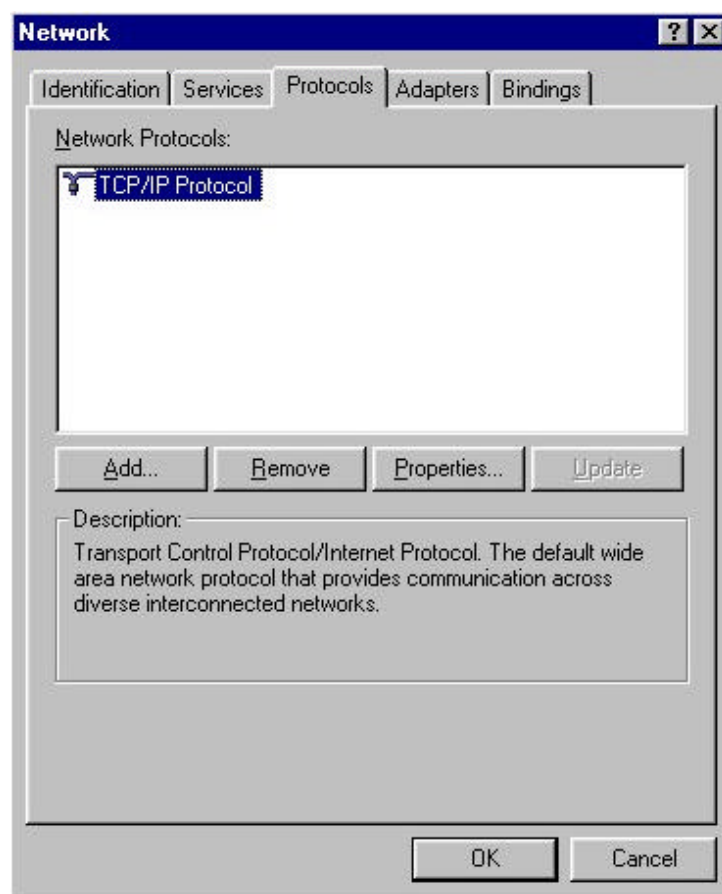


Figure 2.9: Network window with protocols tab

The Properties window appears.

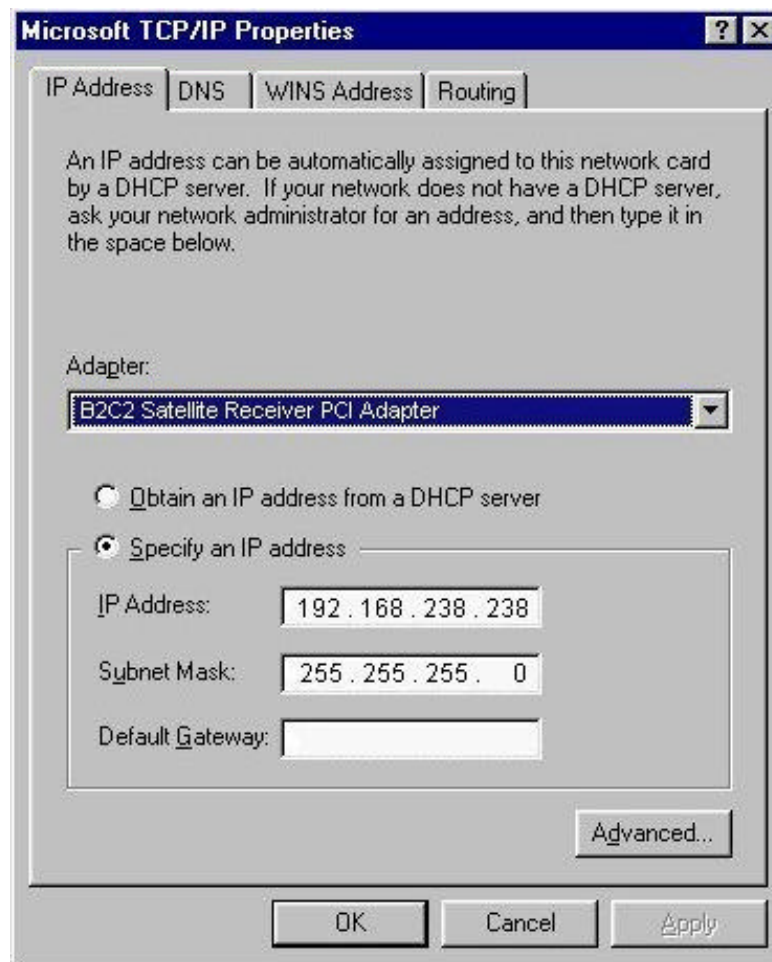


Figure 2.10: Properties window

The Microsoft TCP/IP Properties window appears. At 'Adapter,' pick the selection shown. At 'Specify an IP Address,' enter the IP Address and Subnet Mask and leave Default Gateway empty, exactly as they are shown in the example. Click **OK**. Next you have to insert the Windows NT Setup CD.

7. Click Close to close the Network control panel, and reboot when prompted.

You have installed the SkyStar PCI driver. You are now ready to install the applications.

Chapter 3: Basic Settings

Overview

For your convenience, SkyStar ships with a current channel listing database for the Astra satellites, enabling you to view TV programs with minimal setup.

To gain access to TV and high-speed internet, first connect your antenna equipment to the SkyStar PCI board. 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 uni-cast, multicast, and proxy server settings. Ordinarily, these values are defaulted.

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

Connect the satellite dish coaxial cable to the female plug on the SkyStar PCI board that you previously 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.

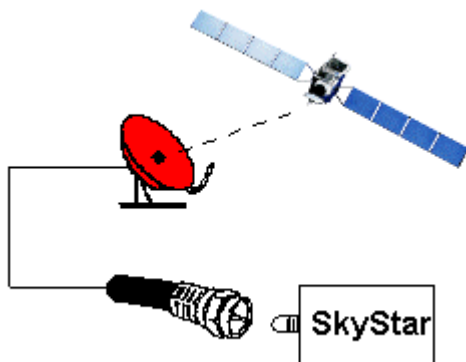


Figure 3.1: Simple Antenna Arrangement

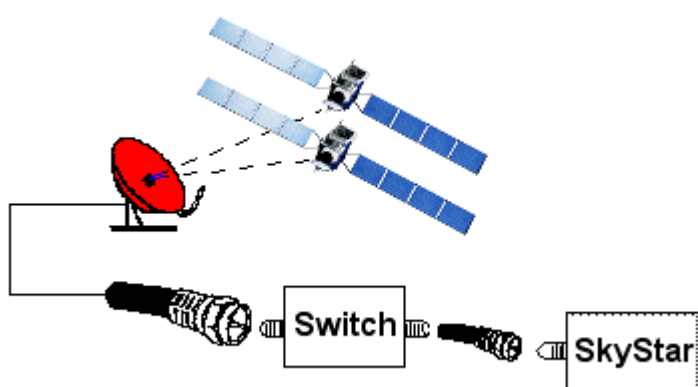


Figure 3.2: One antenna with 2 LNBs

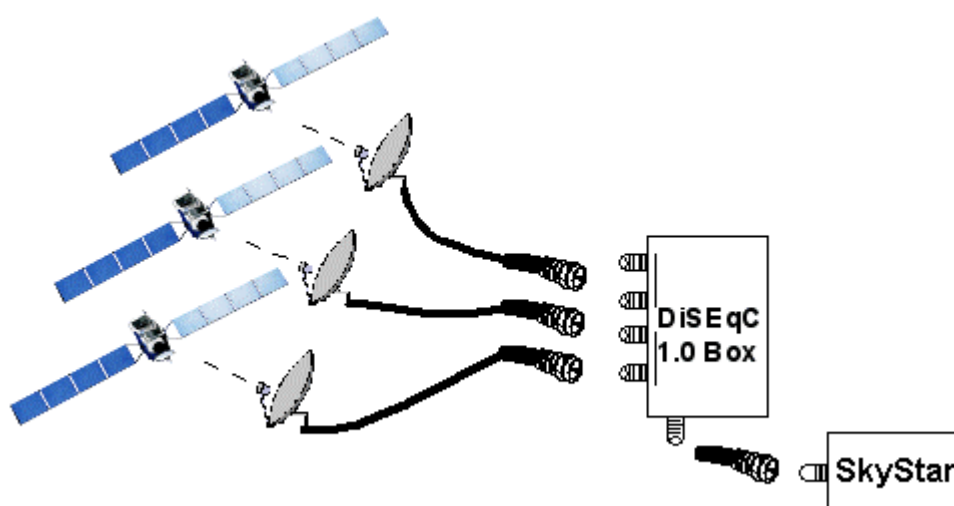


Figure 3.3: One or more antennas

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" 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 rightclicking on the Setup4PC in the system-tray.

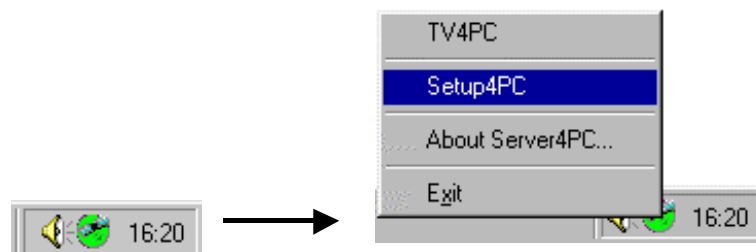


Figure 3.4: Starting Setup4PC over System Tray

The Setup4PC Satellite Settings window appears:

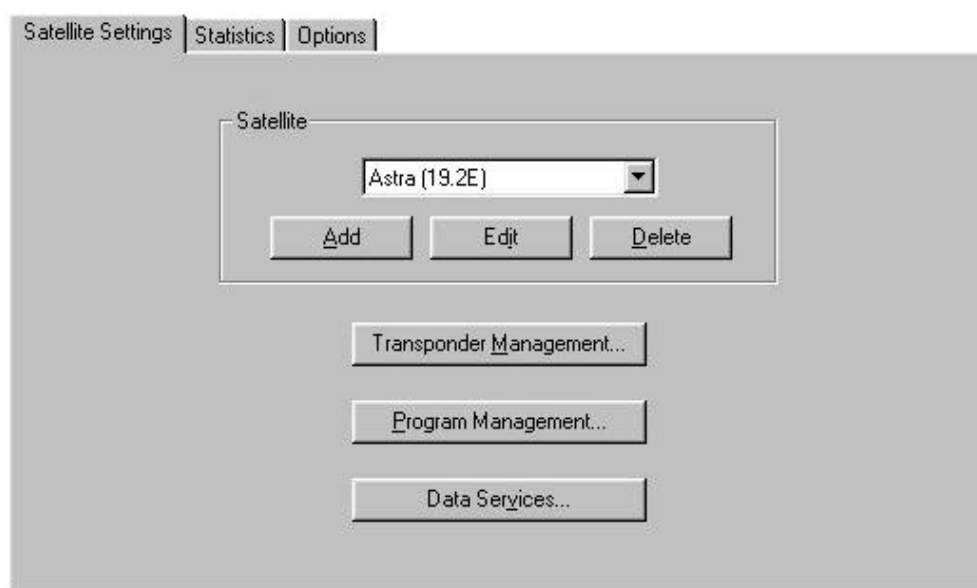


Figure 3.5: Satellite Settings tab.

2. Click on the Options tab

You see the Options tab.

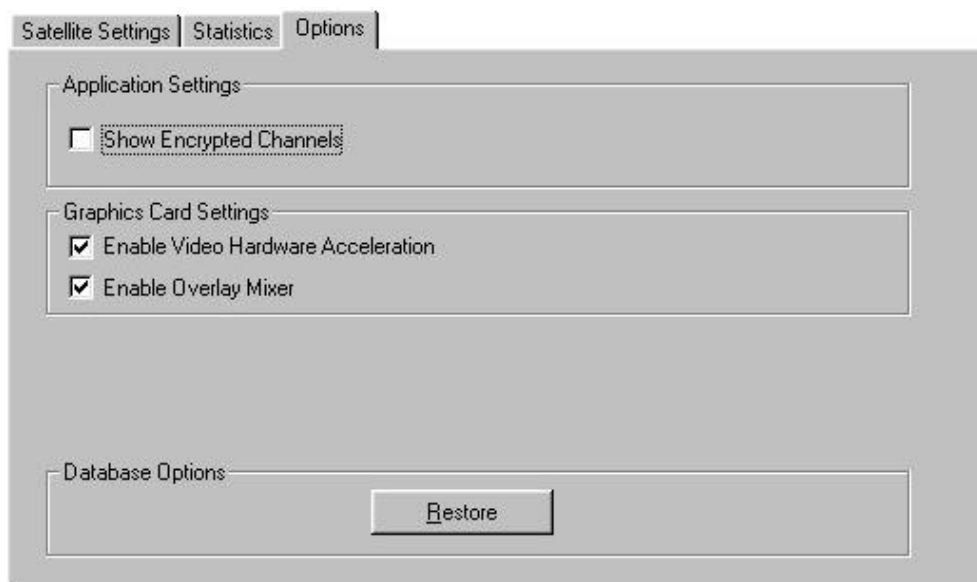


Figure 3.6: Options tab

Application Settings

If you want to be able to view listings for encrypted subscriber material in your viewer, select 'Show Encrypted Channels.'

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: Satellite Settings

Overview

This chapter explains all functions involved in maintaining the Satellite Database. 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 rightclicking on the Setup4PC in the system-tray.

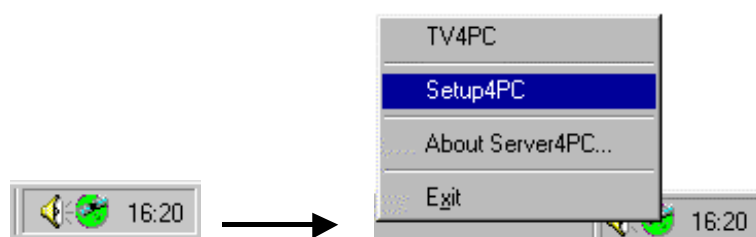


Figure 4.1: Starting Setup4PC over System Tray

The Setup4PC Satellite Settings window appears:

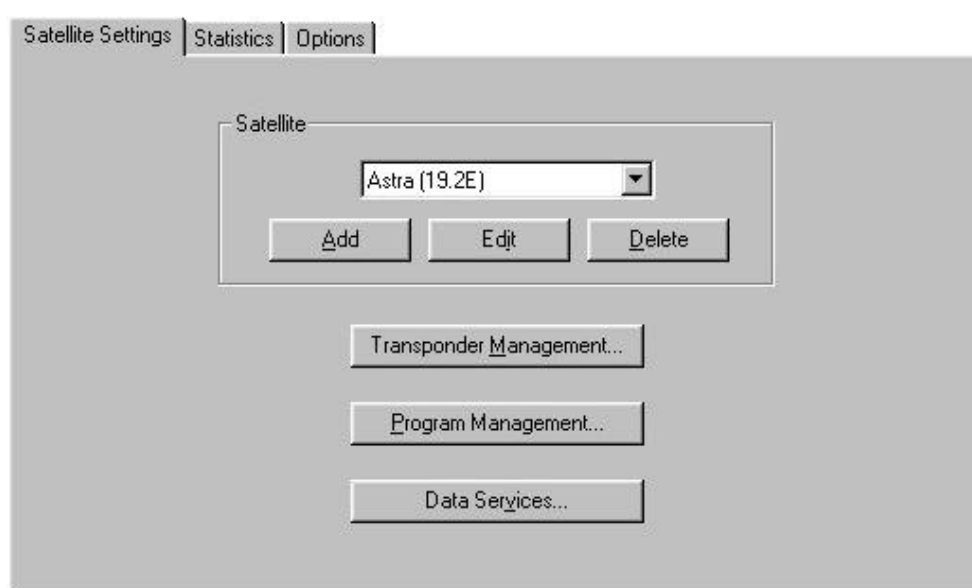


Figure 4.2: Satellite Settings tab.

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:

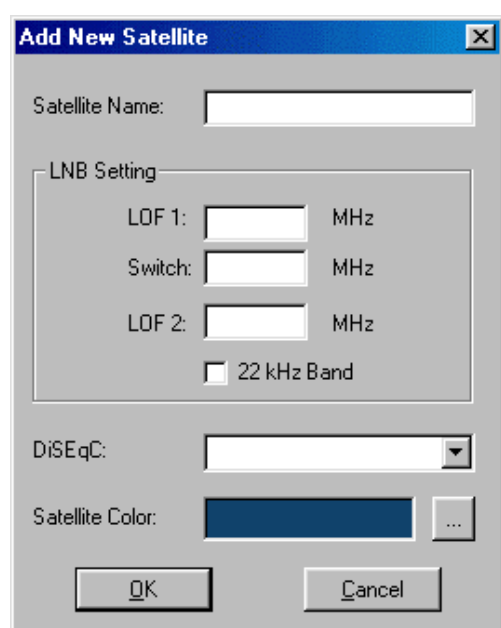


Figure 4.3: Satellite Settings tab.

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 45).
6. At Satellite Color, select the desired color for the TV4PC program listings for this satellite. Channels from color-coded satellites will appear in the TV4PC viewer in the shade you assigned. If you do not assign colors to individual

satellites, channel listings for all satellites will appear in the default color in the TV4PC viewer.

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 on TV4PC's program listings 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.

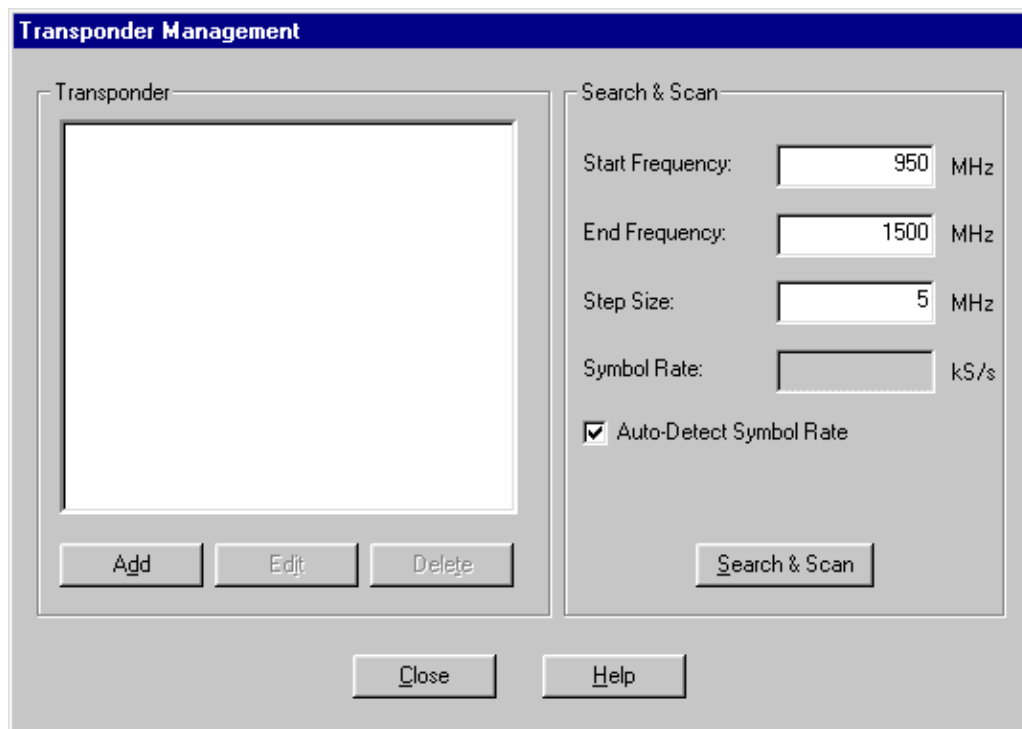


Figure 4.4: Transponder Management dialog box.

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.

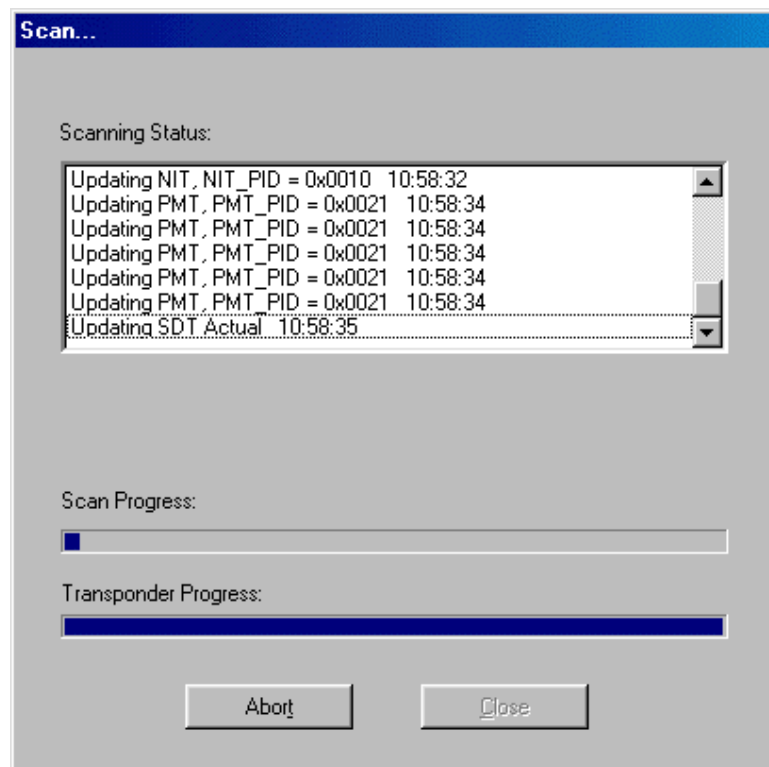


Figure 4.5: Scan progress indicator

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. TV4PC's program listing will automatically be updated.

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.

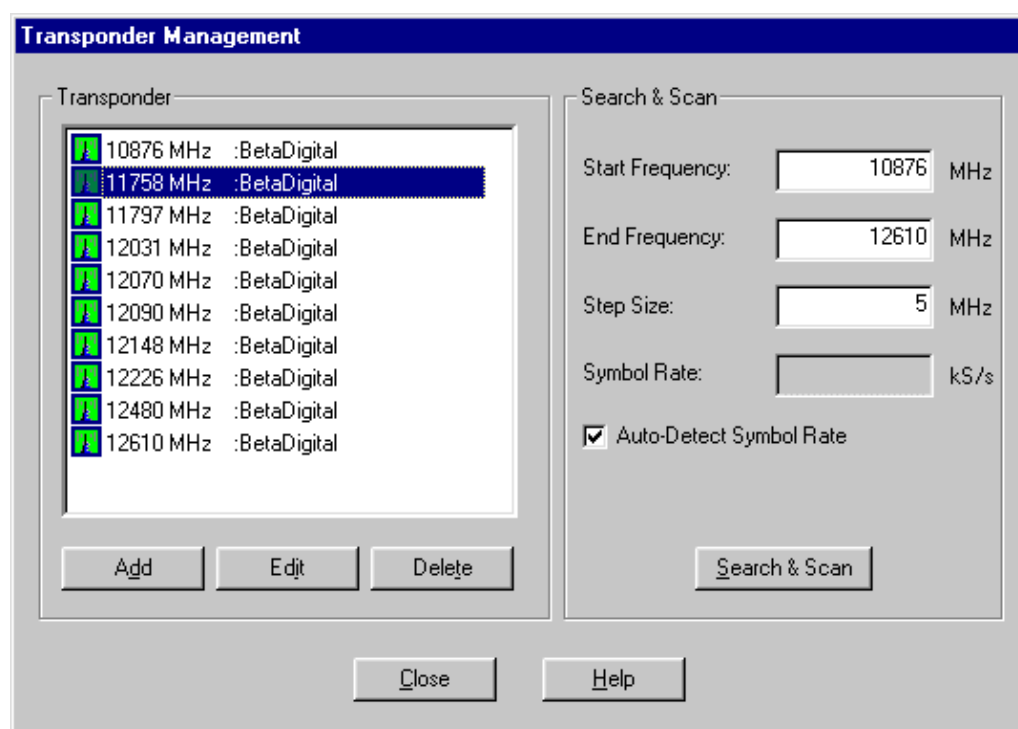


Figure 4.6: Transponder Management

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.

Edit Transponder

test

Transponder Settings

Transponder : 12070 MHz

Tuner Frequency: 1470 MHz

Symbol Rate: 27500 kS/s

FEC: 3/4

Polarity: Horizontal/Left (High)

Antenna Settings

LNB Frequency : 10600 MHz

LNB Selection: 22 kHz

DiSEqC: None

Transponder Information

Network: BetaDigital

Orbital Position: 019.2 East

Signal Strength: 68% 68%

BER: 0.000000E+000

Uncorrected Blocks: 0

Reset Statistics

Tune OK Cancel Help

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 21 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.

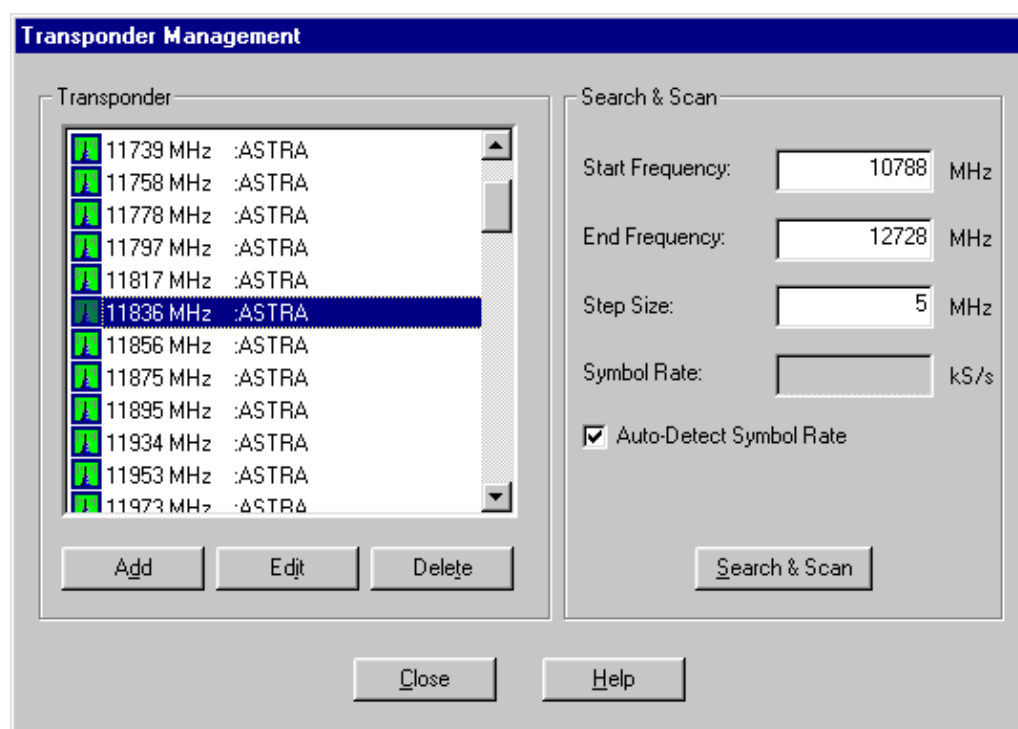


Figure 4.8: Transponder Management dialog box.

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

The Edit Transponder dialog box appears.

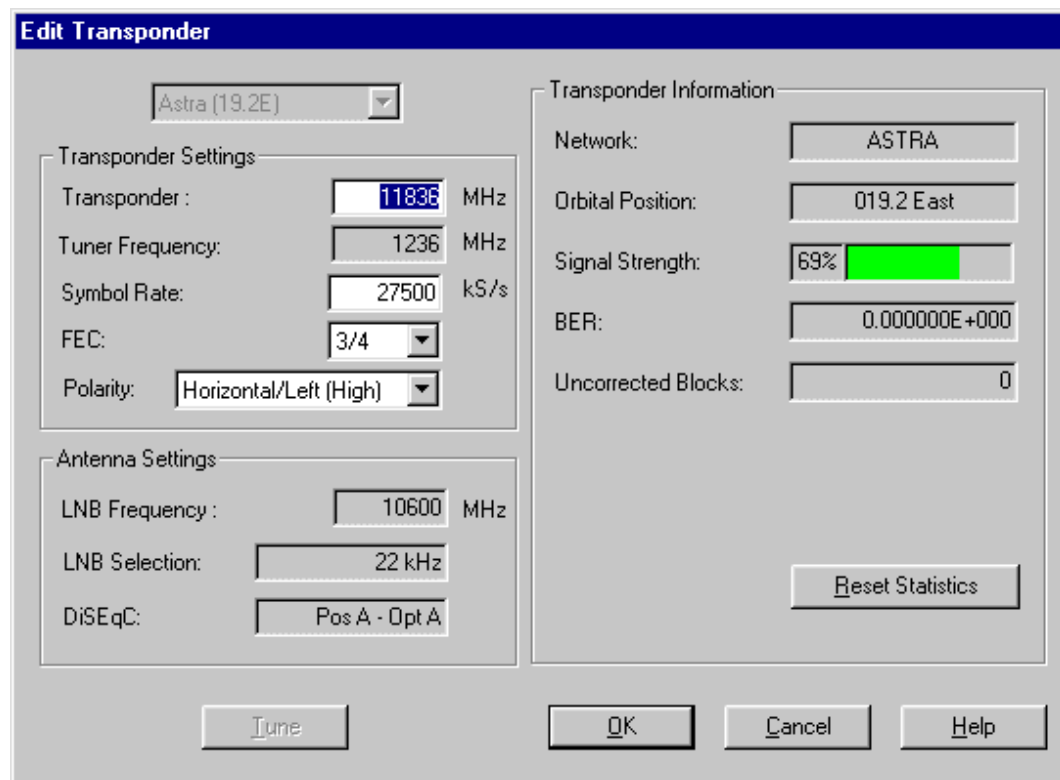


Figure 4.9: Edit Transponder dialog box.

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.

Program Management

Using Channel Management



The word program has the same meaning as channel.

You may add a single channel or transponder from any satellite in the Satellite list without performing a scan, using **Channel Management**. You may also use Channel Management to remove individual channels and transponders from the database, or to edit channel or transponder information. Do the following:

1. Unless it is already visible, open Setup4PC:

Start-> Programs-> TechniSat DVB-> Setup4PC

2. The Setup4PC appears.

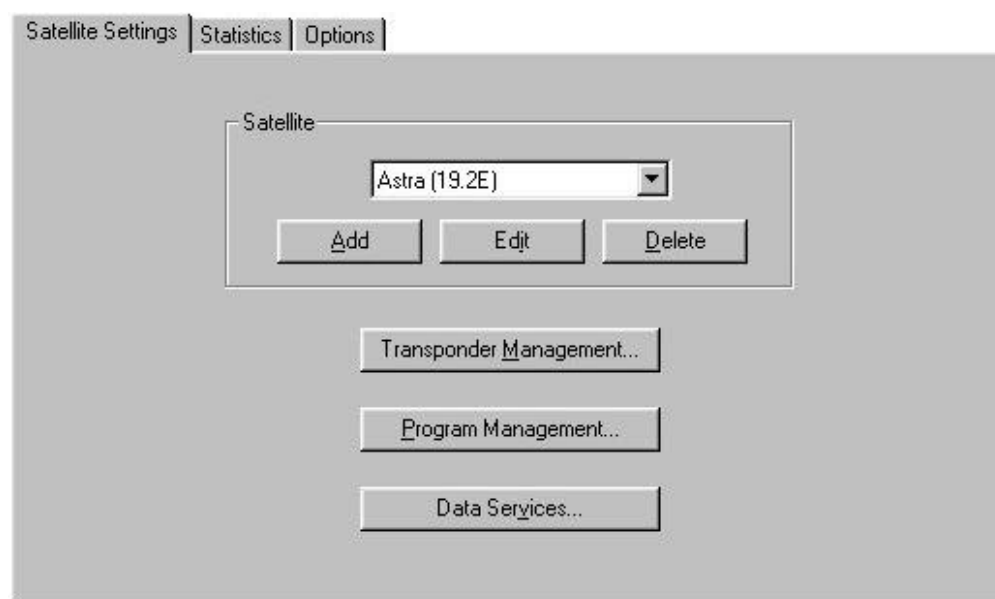


Figure 4.10: Satellite Settings window

3. In the Satellite list, select the satellite for the channel or transponder you wish to add.
4. Click on the **Program Management** Button. The Program list displays all the programs (or channels) available for the transponder selected in the Transponder drop-down list.

The **Channel Management** window appears.

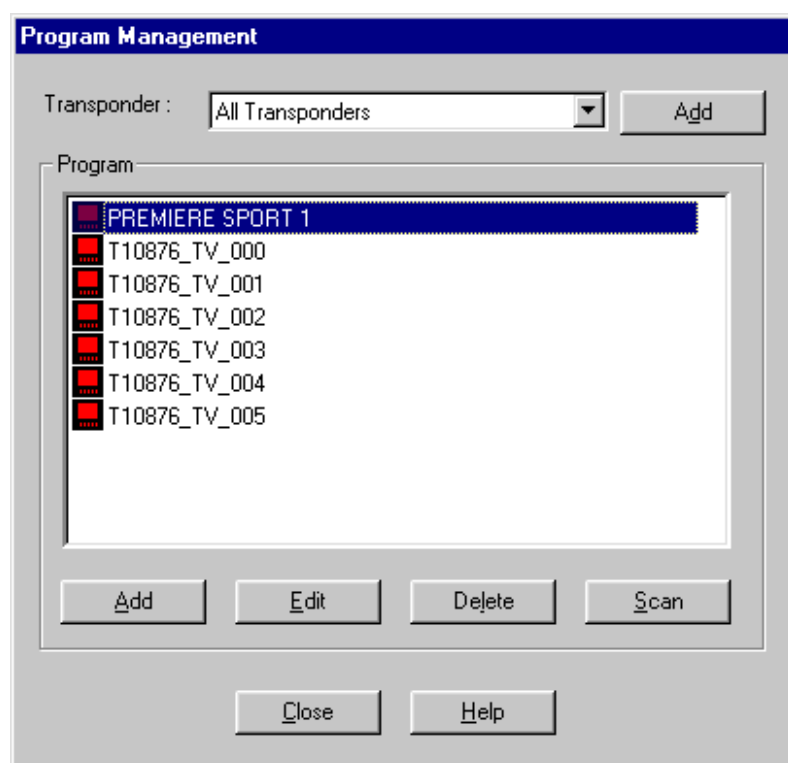


Figure 4.11: Channel Management

Directions follow for adding, removing, and editing information for channels and transponders.

Adding and Removing Channels

To add or remove a channel, do the following:

1. Select **All Transponders** from the Transponder drop-down list.
2. To delete a channel, select it in the list and click **Delete**. The channel will disappear from the list. You are ready to delete the next channel, or click the Close button and continue.
3. To manually add a new channel to the list, click Add.

The **Add New Channel** Window appears.

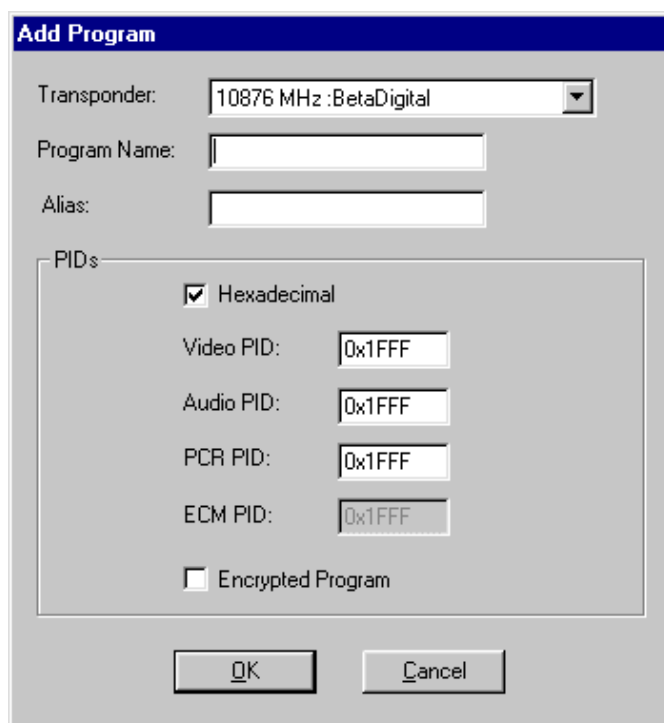


Figure 4.12: Add Channel

4. To add the program: Select the correct transponder from the Transponder drop-down list, and enter the PID and program Name information. Click **OK**.



Important: Once a TV program/channel has been added via **Program Management**, please verify the signal reception (chapter above) to make sure the signal can be received.

Removing Channel Information for a Satellite

To remove an entire satellite from the database, select the satellite in the Satellite list, click **Channel Management**, and click Clear All Channel Listings.

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 Data Services dialog box is shown. It features a title bar labeled "Data Services". The main area is divided into several sections. On the top left, there is a "Provider Name" section with a dropdown menu and three buttons: "Add", "Edit", and "Delete". Below this is the "Unicast MAC Filter" section, which includes a "MAC Source" dropdown menu (currently set to "Receiver Card") and a "MAC Address" field displaying "00 D0 D7 06 24 47". To the right of these is the "Transponder" section, which contains a large empty rectangular area for a list and three buttons: "Add", "Edit", and "Delete". Below the MAC filter is the "PID List" section, which has a "Hexadecimal" checkbox (checked), an "Insert" button, a "Remove" button, and an "Auto-Set Multicast PIDs" checkbox. To the right of the PID list is the "Proxy Auto-Authentication" section, which includes a checkbox, a "User Name" field, and a "Password" field. At the bottom of the dialog are four buttons: "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, rightclick 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 must exit TV4PC before launching 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

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 screenshot shows a window titled "Transponder Status". At the top, there is a dropdown menu set to "Manual Settings". Below this, the window is divided into two sections: "Transponder Settings" and "Antenna Settings".

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

At the bottom of the window is a button labeled "Tune".

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.

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.

Chapter 5: Using Satellite TV

Opening the Viewer

To receive channels, the Server4PC application has to be started. You will see a satellite icon in the system tray if the SkyServer is launched. Otherwise you can start the application out of the startup or as follows:

Start->Programs->TechniSat DVB->Server4PC

To watch satellite television, launch the TV4PC viewer as follows:

Start->Programs->TechniSat DVB->TV4PC

You also can reach TV4PC by rightclicking on the Setup4PC in the system-tray.

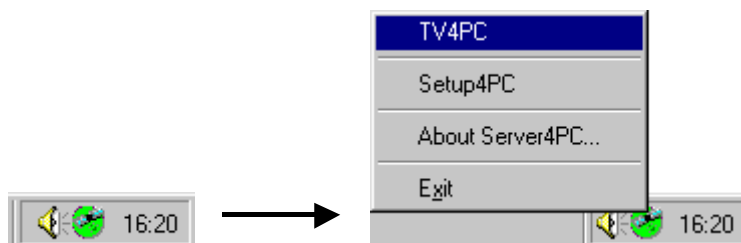


Figure 5.1: Starting TV4PC over System Tray

The TV4PC viewer appears.

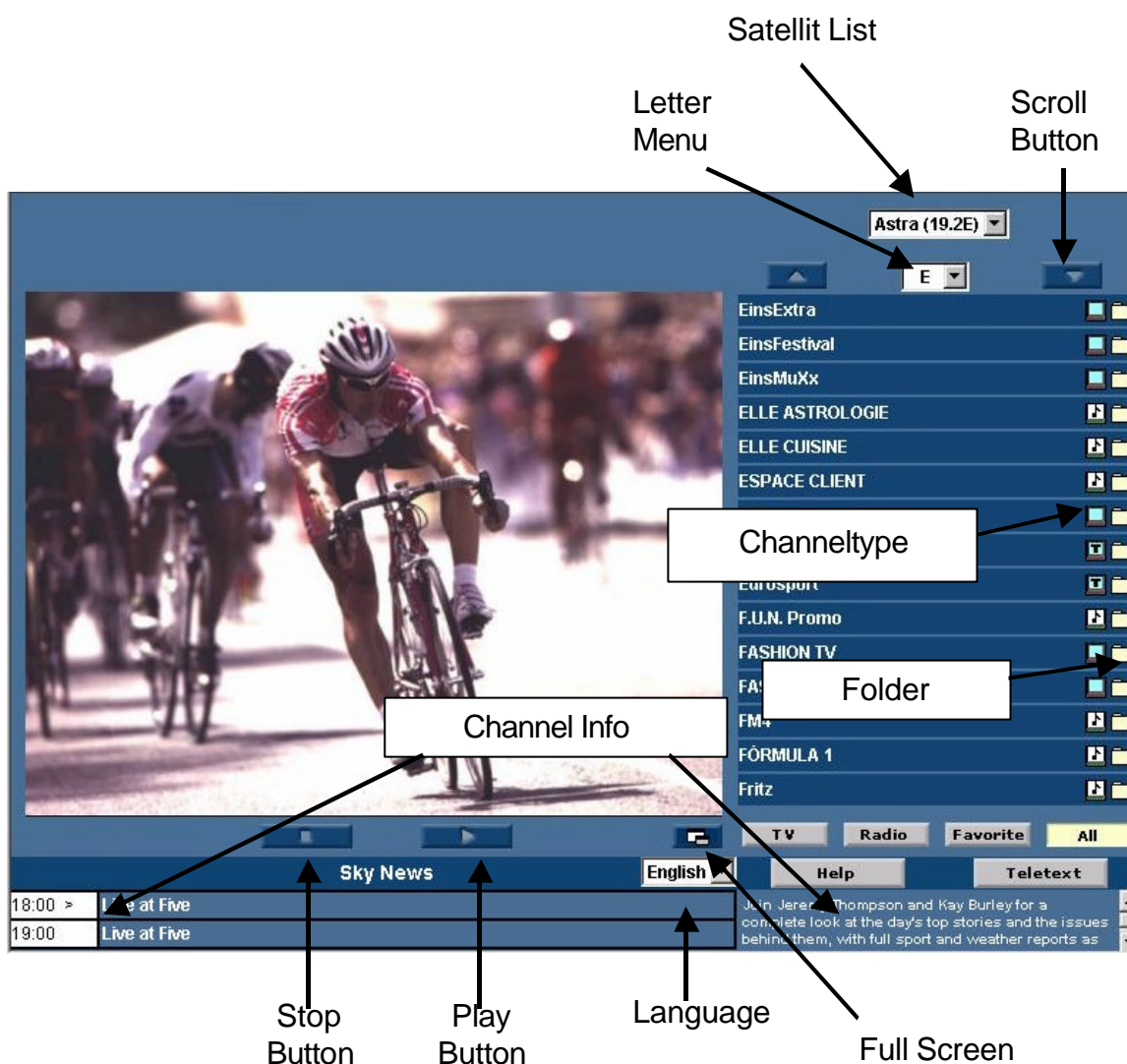


Figure 5.2: TV4PC Viewer

Enjoying Radio and Television

Following are guidelines for enjoying radio, television, and teletext.

Viewing Channel listings by Satellite

To view channel listings for all radio or television programs, select all satellites in the Satellite list. Channel listings for different satellites will appear in one color unless you color-coded satellites in SkySetup's Satellite list. To view channel listings for only one satellite, select that satellite in the pull-down menu.

Selecting Radio or Television

You can view Radio or Television channels for the satellite or satellites you selected in the Satellite list. To select radio listings only, click the Radio button, which appears in the menu bar. You will see radio programs in the right-hand list. To select TV listings only, click the TV button in the menu bar. To view both radio and TV listings, click the All button. The icon at right in the list indicates the kind of channel listing, TV or radio.

Navigating Channel Listings

Click Up or Down to scroll through the list of channels. To view channel names starting with a specific first letter, pick the desired letter in the Letter Menu. The names will appear, starting with those that begin with the letter which you have selected.

Playing a Channel

To play an individual channel, click its name. If you selected “Show Encrypted Channels” in Setup4PC’s options tab, a question mark (?) will appear near the channel name to show that the channel is encrypted.

At the base of the screen, you will see the title of the current channel and its summary to the right. The program title shown below is the next program that will air on that channel. Click it to see its summary.

Selecting Broadcast Language

If a television or radio broadcast is offered in multiple languages, you may select a language in which to receive it, using the pull-down menu.

Using Play, Stop, Full Screen, and Volume

Click the Full Screen icon for a large television picture; to minimize the picture, use the keyboard’s Escape key. Freeze and unfreeze television broadcasts using Play and Stop in the menu bar. Change the broadcast volume by using the standard Windows volume control.

Using the Favorites List

Add a video or audio channel to favorites by selecting the folder icon to the far right of the row in which the listing appears. An asterisk will appear, meaning the channel has been added to favorites. To remove the channel from favorites, click its asterisk. To view a list of all favorites, click the Favorites button, which appears in the menu bar.

Using Teletext (Television only)

A television channel listing will include a 'T' in its icon if the channel features Teletext. To see Teletext for a channel that's playing, click the Teletext button to the right of the broadcast language menu. The Teletext will appear in the channel listings column and will continue to run until you change channels. Click Guide to see the channel listings again.

Appendix A: Troubleshooting

Overview

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

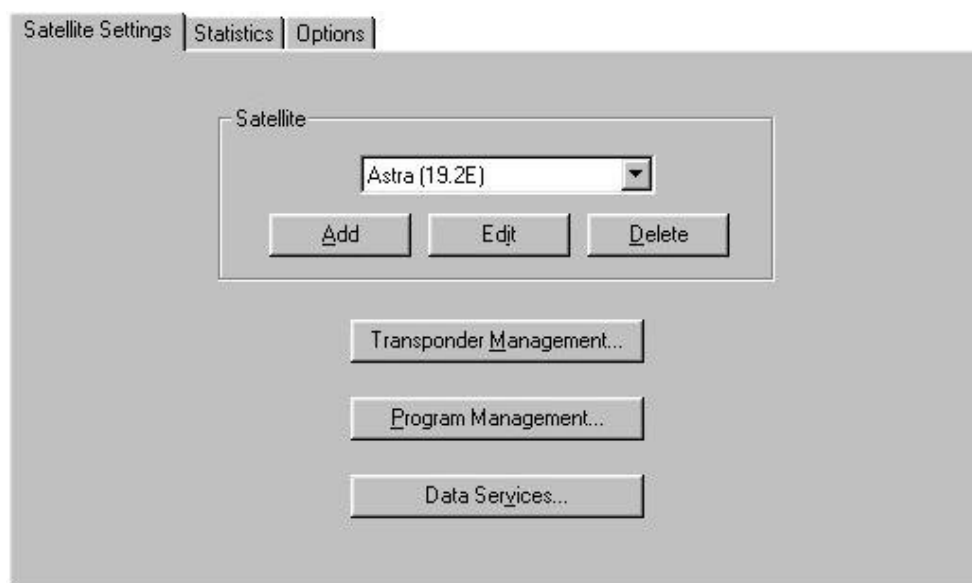
The latter sections of the Appendix are intended to help users work with technical support professionals in addressing other problems that might arise while using SkyStar PCI. Potential difficulties are discussed in order of seriousness.

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 25). 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 45.

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 systemtray by a rightclick. 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 33.

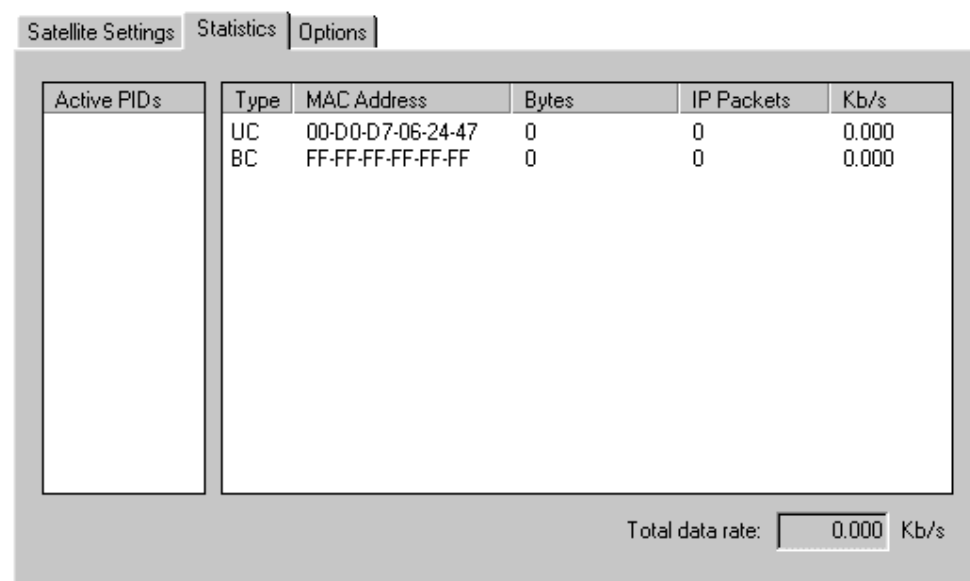
1. Open Setup4PC as follows:

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 packeted 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.

Appendix B: Glossary

ADR (Astra Digital Radio)	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.