



DVB-PC TV Stars

User's Guide Part 1
Installation

User's Guide Part 2
Setup4PC/Server4PC

User's Guide Part 3
DVBViewer

User's Guide Part 4
Troubleshooting

This manual matches the following products:

TechniSat SkyStar 2 PCI / USB
IP reception

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TechniSat DVB-PC TV Stars - Users Guide Part 2: Setup4PC/Server4PC

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Chapter 1: Introduction

Defining the TechniSat DVB-PC TV Stars

Defining SkyStar 2 PCI/USB

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

Using IP services with a DVB-PC TV Star Device

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

Using printed help

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

User's guide conventions

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

1. Navigation paths are represented as follows:

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

The path shown in this example launches Setup4PC

2. Pay attention to the following:



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



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

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

User Task Summary

Steps to perform basic user tasks are summarized below.

Step one: Configuring Setup4PC and Server4PC for data reception

Follow the steps to learn about the functionality of Setup4PC and Server4PC for your device (SkyStar 2, SkyStar USB)

Chapter 2: Describing the functionalities

Overview

This chapter explains the functionalities of Setup4PC/Server4PC in combination with your DVB-PC TV device and which settings you have to make to setup for data reception.



Server4PC is necessary for data reception only. If you want to know, how to configure software for TV reception and don't want to know how to setup your card for data reception, continue with the third part of this manual.



If you operate a number of TechniSat DVB-PC TV Stars devices, there will appear one Server4PC icon for each device installed to the system. The data service handling of all devices is independent from each other.



The MAC address of each device assigned to a Server4PC icon is shown within Setup4PC device selection and as hover tool tip text of Server4PC. Each TechniSat DVB-PC TV stars will have one IP address assigned to.



For data reception services, like "Internet via DVB-T" you also need provider or service specific software, which receives the data from the DVB device. This software is not shipped within the DVB-PC TV Stars package. For further information contact your Internet service provider.



For most Internet services you need a return channel, which can be a PSTN, ISDN, GSM/GPRS/UMTS or network connection to the Internet. Ask your Internet service provider for further information about the return channel, which is required for the service.



Data reception is not possible if you are using Server4PC and the TV application DVBCViewer at the same time. If you want to receive data, you have to close the active DVB TV application.

SkyStar2 PCI/USB

Open Setup4PC


You reach Setup4PC by right clicking onto the Server4PC Icon  and select the Setup4PC option:



Figure 2.1: Server4PC Context Menu



Possible states of Server4PC (SkyStar 2 TV PCI / SkyStar USB)



Transponder tuned. The Server4PC is ready to receive data from the satellite using the settings of the selected data profile or TV/radio using the running TV application.



No channel tuned. This might be possible, if no transponder is tuned by a TV application, no data profile is selected or no data profile is available.



No TechniSat DVB TV Stars device available. In this case you should check, if the driver for the PCI card or USB box is installed correctly and if the device is working properly.

Now, the Setup4PC window appears:

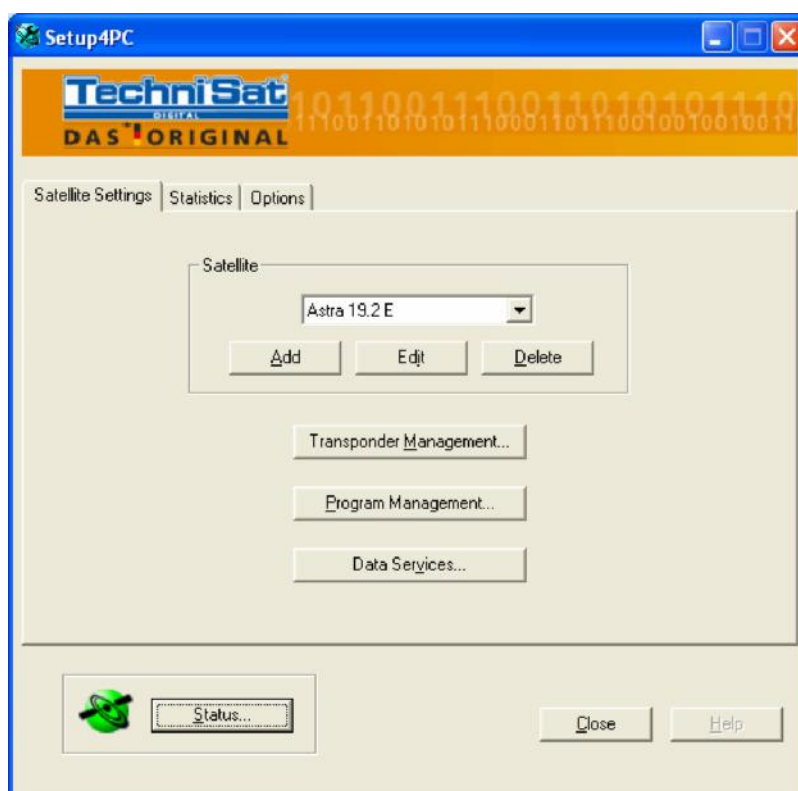


Figure 2.2: Setup4PC - Satellite Settings

Configuring satellite settings

The first options you have to configure are your satellite settings. A number of satellites are already preconfigured, so that you have to choose them only. If your satellite is not preconfigured, you have to setup this manually.

If you are using a DiSEqC multiswitch, you have to change the DiSEqC settings to your needs.

For a correct satellite configuration you need the LOF1, LOF2 and the switch frequency. If you are using DiSEqC switch components, you also need to know the DiSEqC port the LNB is connected. If no DiSEqC is used, choose "None".

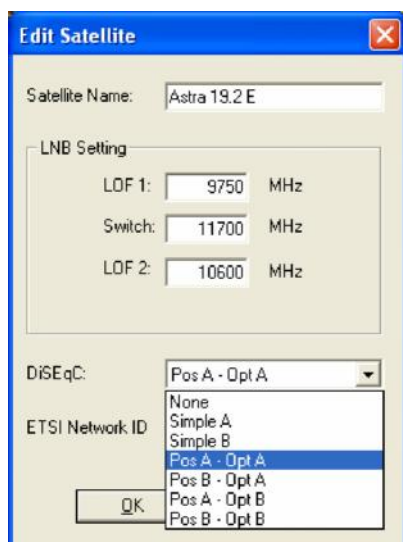


Figure 2.3: Edit Satellite

Press “OK” to confirm the settings.

Managing transponder

Next step is the configuration of the transponder management. Therefore you have to use the “Transponder Management” button in Setup4PC “Satellite Settings”.

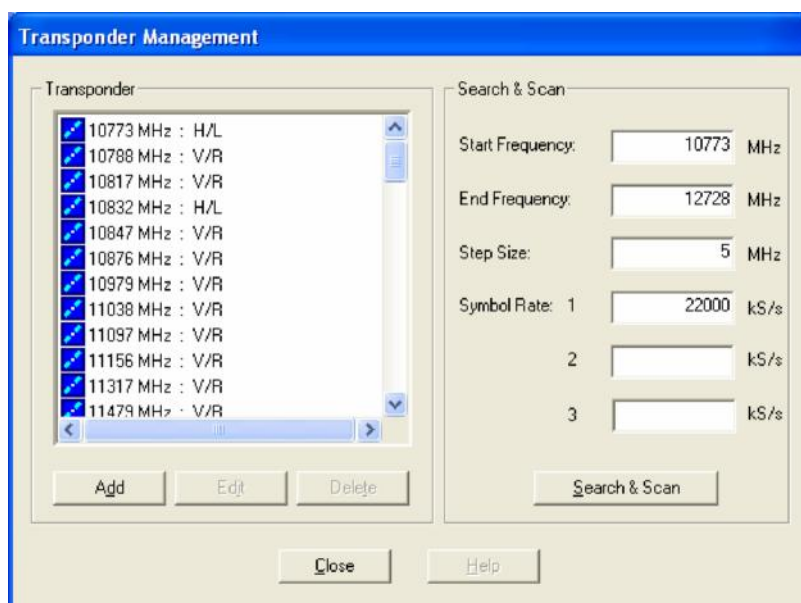


Figure 2.4: Transponder Management

If you choose a preconfigured satellite, those settings have already been made. If not, you have to set those options.

There are two ways of adding new transponders: adding the transponder manually and by automatic scan.

Add transponders manually:

Click the “Add” button on transponder management and this window appears:

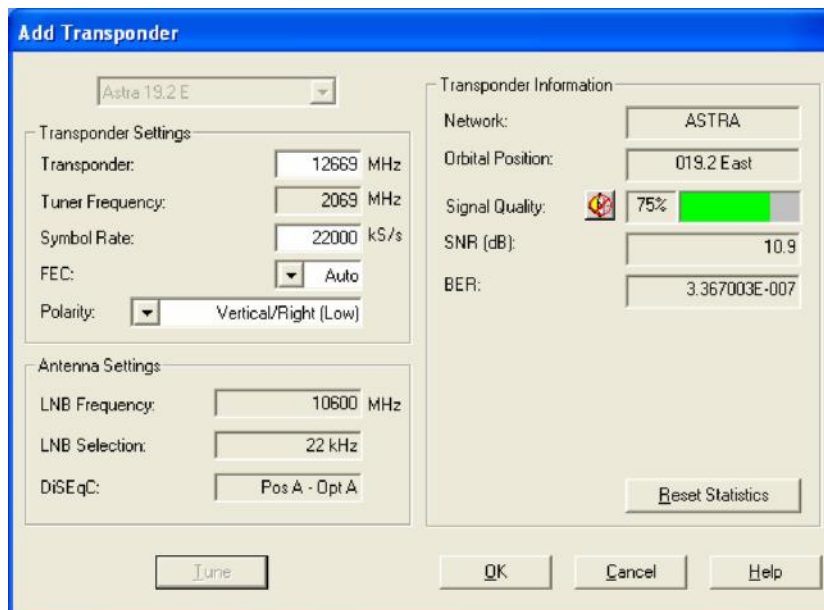
The 'Add Transponder' dialog box is divided into several sections. At the top, a dropdown menu shows 'Astra 19.2 E'. Below this, the 'Transponder Settings' section includes input fields for 'Transponder' (12689 MHz), 'Tuner Frequency' (2069 MHz), 'Symbol Rate' (22000 kS/s), 'FEC' (Auto), and 'Polarity' (Vertical/Right (Low)). The 'Antenna Settings' section includes 'LNB Frequency' (10600 MHz), 'LNB Selection' (22 kHz), and 'DiSEqC' (Pos A - Opt A). On the right, the 'Transponder Information' section shows 'Network' (ASTRA), 'Orbital Position' (019.2 East), 'Signal Quality' (75% with a green bar), 'SNR (dB)' (10.9), and 'BER' (3.367003E-007). A 'Reset Statistics' button is located below this section. At the bottom, there are 'Tune', 'OK', 'Cancel', and 'Help' buttons.

Figure 2.5: Add Transponder

Enter the necessary values of the transponder you would like to add and click “OK” to confirm.

Scan for transponders

In this case you have to enter the start and end frequencies, the step size and up to three symbol rate values, which should be tested. After these values are entered, press “Search & Scan” to start the process.

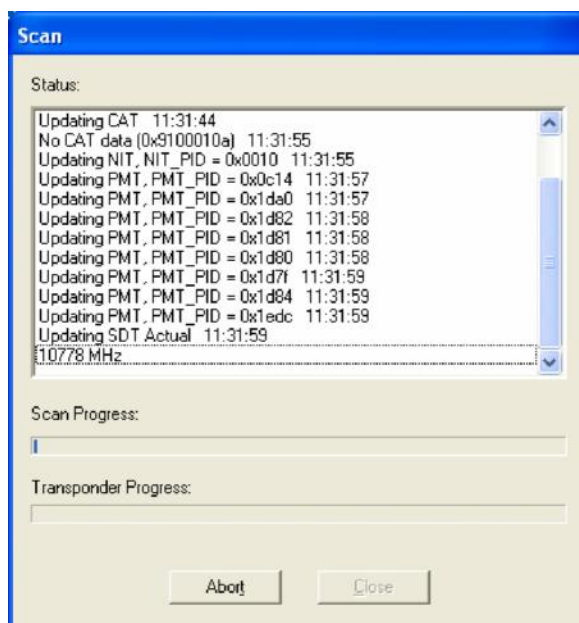
The 'Scan' dialog box features a 'Status:' section with a text area displaying a log of updates: 'Updating CAT 11:31:44', 'No CAT data (0x9100010a) 11:31:55', 'Updating NIT, NIT_PID = 0x0010 11:31:55', 'Updating PMT, PMT_PID = 0x0c14 11:31:57', 'Updating PMT, PMT_PID = 0x1da0 11:31:57', 'Updating PMT, PMT_PID = 0x1d82 11:31:58', 'Updating PMT, PMT_PID = 0x1d81 11:31:58', 'Updating PMT, PMT_PID = 0x1d80 11:31:58', 'Updating PMT, PMT_PID = 0x1d7f 11:31:59', 'Updating PMT, PMT_PID = 0x1d84 11:31:59', 'Updating PMT, PMT_PID = 0x1edc 11:31:59', and 'Updating SDT Actual 11:31:59'. Below the log, the frequency '110778 MHz' is displayed. The 'Scan Progress:' and 'Transponder Progress:' sections each have a progress bar. At the bottom, there are 'Abort' and 'Close' buttons.

Figure 2.6: Scan

This process can take several minutes to proceed. After the process has been finished all found transponders would be listed in the transponder list. Press “OK” to confirm the settings.

Managing programs



The option “Program Management” is not necessary for data reception. If you want to configure transponders for the purpose of watching TV and radio programs, you have to configure those options in the TV/PVR application DVBViewer TE. If you change the settings in Setup4PC, it has no effect to DVBViewer TE or any other applications.

Managing data services

As last configuration step, you have to perform is the configuration of the data service. To configure those options click onto the button “Data Services” in “Setup4PC Satellite Settings”.

Figure 2.7: Data Services

In this tab you have to enter a service name using the “Add” button. After this you have to assign the transponder the service is hosted on. The last step is to enter the service PID’s. Please pay attention to the numbering format of the PID values. They can be provided in decimal numbering (0-9) or in hexadecimal numbering (0-F). You can switch between both numbering systems by enabling/disabling the checkbox “Hexadecimal”. The PID values will be transferred into the other format while changing this option.

You will get those data service information from your service provider.

Other options of Setup4PC/Server4PC

Transponder Status:

On this tab the current used transponder settings and signal quality information are shown. Use this tab for checking the functionality of your satellite equipment.

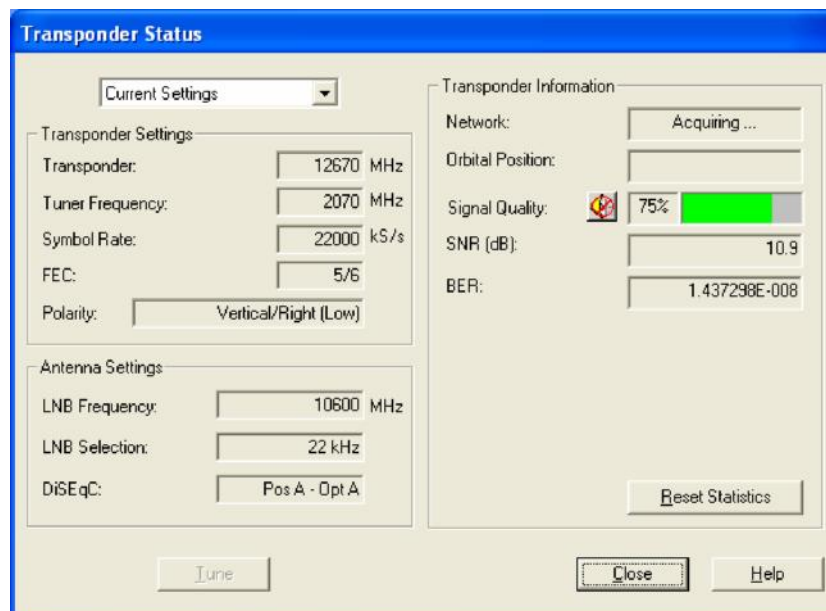


Figure 2.8: Transponder Status

Statistics:

To debug data reception, use the tab statistics. Here all assigned MAC addresses, active PID's and the data rates are shown.

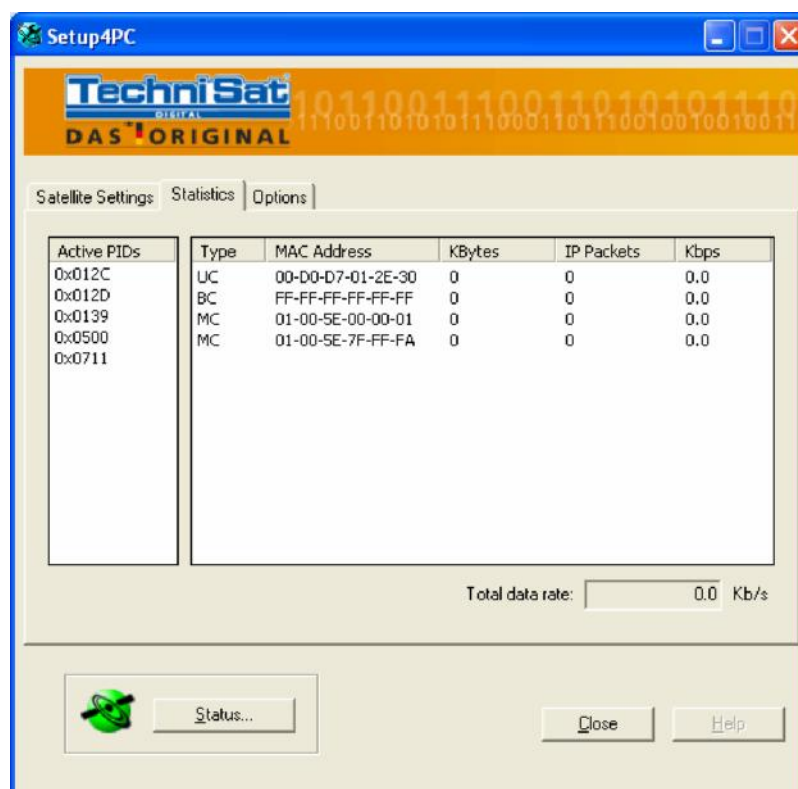


Figure 2.9: Setup4PC – Statistics

Options:

Within the options tab you will find the controls for the automatic tuning mechanism based on the INT (IP/MAC notification table) mechanism. Please read the separate documentation for the automatic tuning, if you want to use this mechanism.

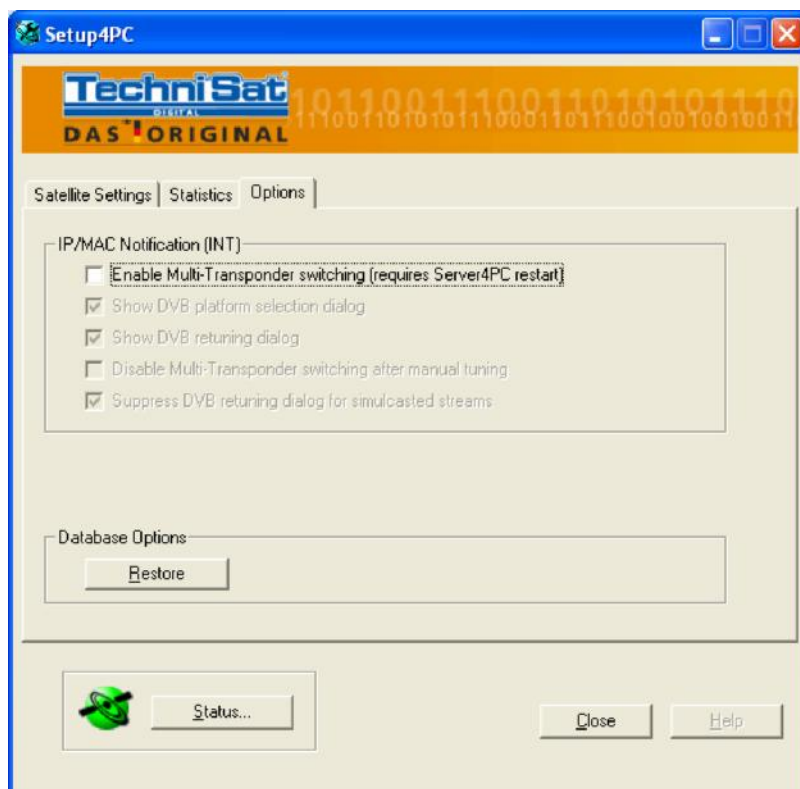


Figure 2.10: Setup4PC - Options

Appendix A: Additional information

Technical support / contact:

Germany

Postal address:

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

Homepage:

<http://www.technisat.de>

Support hotline (german only):

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

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

Remaining time

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

(* conventional german telephone network)

Support email:

service@technisat.de

International

Postal address:

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

Homepage:

<http://www.technisat.com>

Support email:

support@technisat.com

Appendix B: Glossary

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

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Appendix B: Glossary

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

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

Universal LNB

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

Up-link

Signal path from earth to the satellite transponder.