

ReceiverSystem



TV Tuner & Video Recorder

Manual (English)

Version: 18.02.2005

CE Declaration

We:

TerraTec Electronic GmbH, Herrenpfad 38, D-41334 Nettetal, Germany

hereby declare that the product:

ReceiverSystem TerraTec Cinergy 400 USB

to which this declaration refers is in compliance with the following standards or standardizing documents:

EN55022

EN55024

The following are the stipulated operating and environmental conditions for said compliance: residential, business and commercial environments and small-company environments.

The Cinergy 400 USB is solely intended to be connected to devices that comply with the EN60950 safety standard.

This declaration is based on:

Test report(s) of the EMC testing laboratory



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Contents

Welcome!.....	6
The connections at a glance.....	7
Using the Cinergy 400 USB for the first time.....	8
Driver installation under Windows XP	8
Connecting external devices to the TV card.	9
Connecting an external device equipped with antenna-out.	9
Connecting an external device with video output (composite).	10
Connecting an external device with S-video output.	10
Connecting an external device equipped with Scart-out.	11
The TV software.....	12
Installation.....	12
Launching the TV software for the first time.	13
The main menu.....	18
The TV window.....	21
Context menu.....	22
Teletext.....	26
The configuration menu.	28
Configuration: Playback settings.	28
Configuration: capture settings.....	30
Configuration: Still image capture.....	32
Configuration: Stations.....	33
Configuration: Options	33
Configuration: About	33
Service at TerraTec.....	33
Hotline & Internet.....	34
Broken?!.....	35

Welcome!

We're pleased that you have chosen a TerraTec ReceiverSystem and would like to congratulate you on this decision. With the USB TV card of the TerraTec Cinergy series you've purchased a sophisticated product representing the state of the art of PC/TV technology. We're convinced that our product will prove extremely useful to you and provide you with a great deal of entertainment.

Before we go into detail, here's a foretaste of what you can expect:

Superior picture clarity. TerraTec's TV cards of the Cinergy series offer your eyes a needle-sharp TV picture that is always comfortably calm. This quality is created by a powerful receiver component, not to mention a function that automatically reduces the so-called “picket-fence effect” using a combination of modern chip technology and software-controlled deinterlacing.

Comprehensive software equipment. From current video drivers for Microsoft's WDM technology and a powerful operating software with numerous settings and recording functions, to useful bundled software programs, the Cinergy software package is both highly functional and comprehensively designed. The flexible software concept of the Cinergy TV cards supports the installation of additional video compressors codecs—by third-party vendors that are often available free of charge and which provide a range of fascinating options.

Multiple connections. Your Cinergy is equipped with a coaxial antenna jack for TV reception, as well as a composite input and an S-video input for connecting other video units and high-quality SVHS components. To complete the connection options, the unit is also equipped with audio input jacks.

We hope you enjoy your Cinergy TV card and would like to suggest that you browse this hopefully entertaining manual when you get the chance. In addition to the important information about its technology, we have outlined a number of typical applications wherever appropriate. We're convinced that even experienced users will profit from this guide.

Thanks for your attention—enjoy!

...your TerraTec Team

The connections at a glance.



- 1** Composite video input
This input is used to connect external devices like video recorders and satellite receivers. We recommend using this input if your device features an S-video output.
- 2** S-video input
This input is used to connect analog video sources such as video recorders and satellite receivers. We recommend using this input if your device features an S-video output. Audio is not transferred via this connection, only video data.
- 3** Stereo audio output
If you are connecting analog video sources using the Composite or S-video input terminal, you also have to establish an audio connection. Use this connector to do so.
- 4** TV antenna input
This input connects the Cinergy to your household antenna or cable outlet.

Using the Cinergy 400 USB for the first time

The Cinergy is extremely simple to install. The installation can be completed without shutting down your computer. Connect the USB cable to the Cinergy 400 USB. Insert the included installation CD into your CD drive. Connect the Cinergy 400 USB to a free USB port on your computer with the USB 2.0 cable. Your computer will recognize the new hardware and launch the installation wizard.

Driver installation under Windows XP

1. The next time you start your computer, Windows XP will recognize the Cinergy 400 USB and will launch the hardware installation wizard. Next, select “Install the software automatically [Recommended]” and click “Next”.
2. Windows XP will automatically find the correct driver on the installation CD.
3. Conclude the installation by clicking “Finish”.

This completes the installation of the drivers and you can now start installing the application programs.

Note: if you are using Windows XP SP1, we urgently recommend that you install the Microsoft USB update KB822603. This update resolves the “Availability of the Windows XP SP1 USB 1.1 and 2.0 Update” issue. The update can be found on the installation CD under “USB hotfix”, or on the Microsoft website

<http://www.microsoft.com/downloads/details.aspx?FamilyID=733dd867-56a0-4956-b7fe-e85b688b7f86&displaylang=en>

When updating, take care to choose the correct language for your operating system.

Connecting external devices to the TV card.

This chapter tells you everything you need to know about connecting external devices, like video recorders, video cameras and satellite receivers.

Generally, you can connect most external devices to the TV card using the antenna-in, composite-in and S-video-in jacks. Which jack you need to use depends on the model of the device that you are trying to connect. So, first check which outputs your device is equipped with. Take a look at the following illustrations:



Antenna Out



Video-out (composite)



S-video-out



Scart Out

Compare the illustrations with the connection jacks on your device. Then, to connect the device, follow the instructions of one of the following sections.

Connecting an external device equipped with antenna-out.

You can connect an external device with an antenna-out jack to the antenna-in jack of the Cinergy using a common, 75 Ohm antenna cable.



75 Ohm antenna cable

Tip: Usually it is recommended that the antenna cable connection be used only for connecting an antenna or cable network. If other terminals are present (composite, S-video or Scart outputs), we recommend using them because they provide better quality.

Connecting an external device with video output (composite).

You can connect an external device with a video-out jack (composite) using a cinch/cinch cable to the video-in jack (composite) on the TV card.



Use such a cinch cable to connect a device equipped with a video-out jack (composite).

Connect the cable as described below:

1. Connect the cinch (RCA) cable to the video output (composite) of the external device and the video input (composite) of the TV card.
2. In the TV software, select the “Composite” option as incoming signal, so that the video image of the external device can be displayed (see For further information on the TV software, please refer to the manual on the installation CD → TV software).

Connecting an external device with S-video output.

You can connect an external device with an S-video-out socket using an S-video/S-video cable to the TV card. (please refer to the following illustration).



S-video/S-video cable

Connect the cable as described below:

1. Connect the S-video cable to the S-video output of the external device and the S-video input of the TV card.
2. In the TV software, select the “S-video” option as incoming signal, so that the video image of the external device can be displayed (see For further information on the TV software, please refer to the documentation (Autostarter → Documentation → TV software)).

Connecting an external device equipped with Scart-out.

If you want to connect a device that is equipped with a Scart-out jack, you will need a special adapter for establishing the connection to the TV card.



Scart adapter

The required adapter has a Scart jack on one side, which you plug into the external device, and three cinch jacks on the other. The three cinch jacks provide the video, audio-left and audio-right signals.

Y cable

Connect the cable to the TV card as described below:

1. Using a cinch/cinch cable, connect the cinch jack that carries the video signal (usually yellow) to the composite-in jack on the multi-connector cable provided.
2. Connect the audio-left (usually white or black) and audio-right (usually red) jacks to their corresponding jacks on the multi-connector cable using a stereo cinch cable.
3. In the TV software, select the “Composite” option as incoming signal.

When purchasing an adapter, check the signal direction that it is designed for. There are adapters designed for sending signals into the video device (video-in), and those that are designed for signals being sent by the video device (video-out). **In this case, you want an adapter with a video-out signal direction!** To be certain of your purchase, you may want to buy an adapter that lets you switch between both directions. You can find such products in various specialty shops.

The TV software.

The heart of your Cinergy TV card is its TV software. You use it to program stations, optimize the picture, adjust the sound to your needs and much more. You can also use the TV software as a simple-to-use video recorder, capture individual frames and surf conveniently through teletext pages!

Installation.

To install the Cinergy TV software, select the appropriate item on the autostart menu of the included CD-ROM. If the autostart program does not appear automatically when you insert your Cinergy Installation CD, start it manually by running the "AUTORUN.EXE" file located on the root directory of the Cinergy Installation CD.

As an alternative to the version on the included CD-ROM, you can also download the current version of the Cinergy TV software from <http://www.terratec.com/>. Double-click the downloaded file to start the installation.

The language selected for the installation will also be used in the Cinergy TV application. It can be changed at any time, however. The Cinergy TV icon will be present on your desktop if you accepted the defaults during the installation.

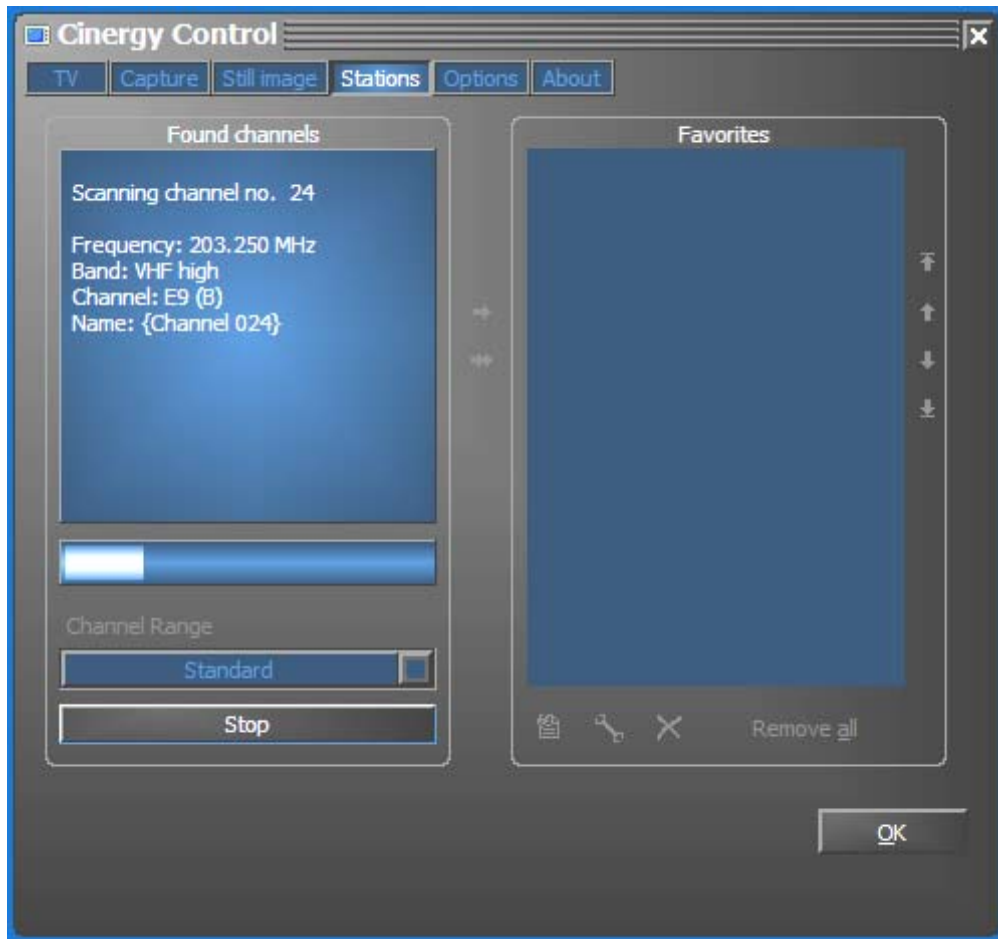
Note: Cinergy 600 TV Radio owners will find an additional "ActiveRadio" icon on their desktops with which to launch the radio application.

Launching the TV software for the first time.

The station manager will open automatically the first time you start the Cinergy TV application.

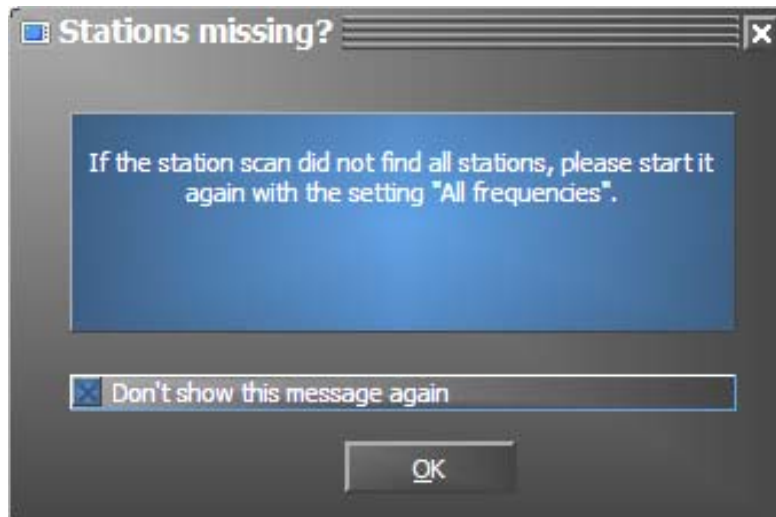
- Click “Scan”.

The automatic channel scan will enter its results in the left-hand “Found channels” window. The correct station names will be shown for most channels.



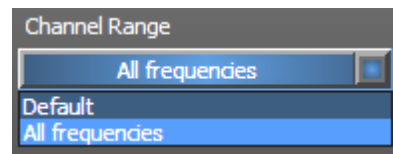
The channel scan in action.

Once the standard channel scan has completed, you will be asked whether any stations are missing.



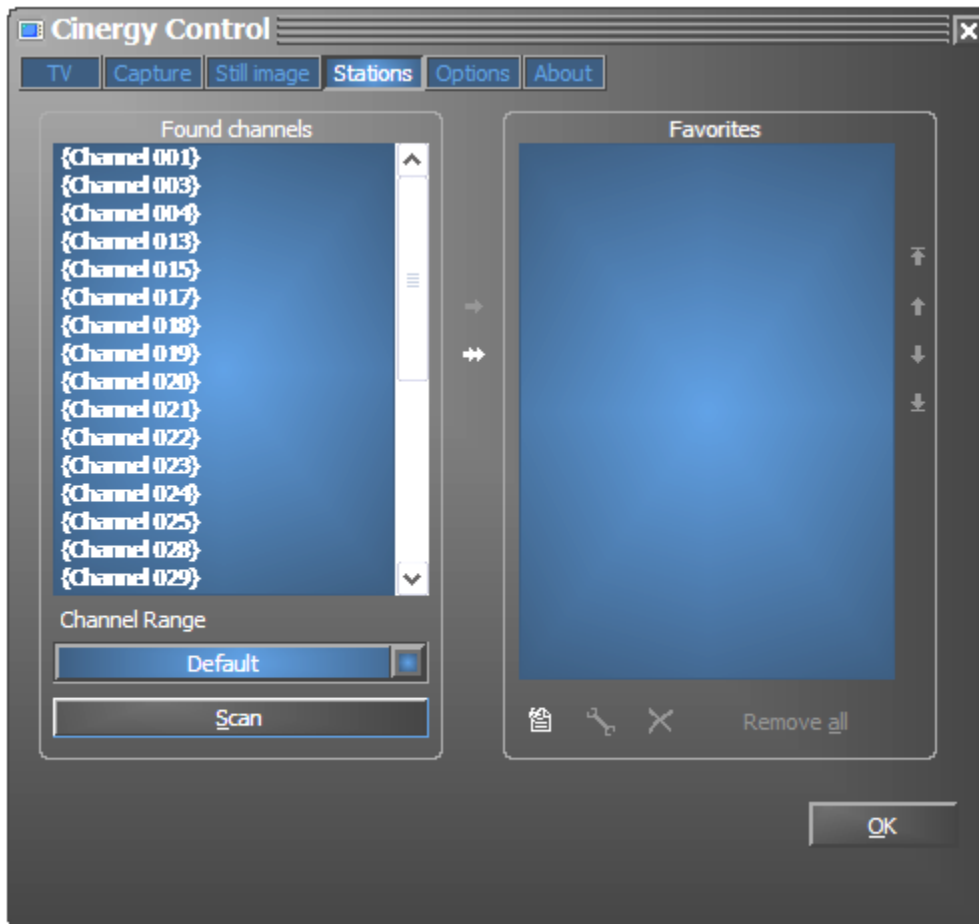
A friendly prompt.

If you find that you are missing stations that you would otherwise receive cleanly, repeat the search with the option “All frequencies”. Click on “Default” and this option will be displayed.



- Transferring stations to Favorites.

Finished? Good. Use the arrows between the left- and right-hand windows to move individual (>) or all channels (>>) to the Favorites list in the right-hand window. You will only be able to select channels that are in your Favorites list when using the program.



The detected stations that you want to save now have to be copied into the list on the right. To do so, use the center arrow buttons.

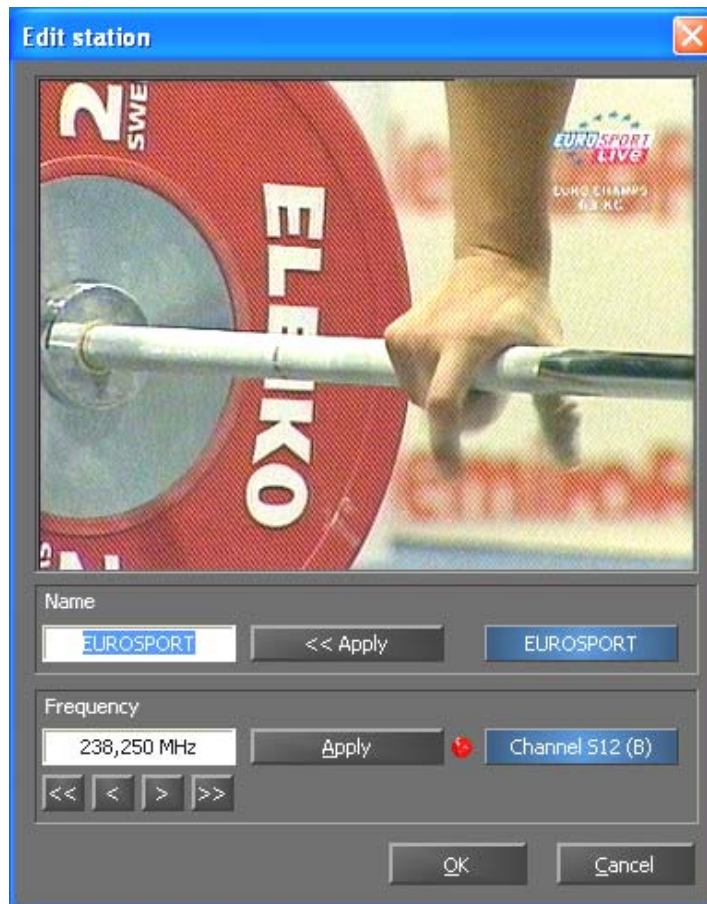
- Editing station names—fine-tuning.

You may find that the correct names could not be determined for some stations, or that they are not perfectly in tune. Select the station in the Favorites list and click on the tool icon below the list.



Edit stations

A dialog box will open in which you can change the name of the station and adjust the frequency manually.



Click the tool icon under the Favorites list to open the “Edit station” menu.

You can also change the station name and fine tuning at any time on the station management tab. There's no need to complete the whole job in one sitting.

- **Sorting stations.**
The stations are initially listed under Favorites in alphabetical order. As this probably does not correspond to your usual sorting, you can resort your Favorites with the arrow buttons on the right-hand edge of the list.
- **Removing stations.**
To remove stations from the Favorites, click the X icon below the list.
- **Switch from the “Stations” tab to the “TV” tab.** If you have connected the audio output of the Cinergy hardware to the line input of your sound card, you can adjust the preliminary settings here. If you have more than one sound card, or if you are not using the line input as your audio input, then adjust the settings in the “Audio” section under “Mixer” and “Source”.
- Click “OK” to close the configuration menu.
- Happy zapping!

The main menu.

The basic functions of the TV software are grouped in the main menu. To display brief descriptions of the individual functions, hover over the buttons with the mouse cursor.






The main menu contains




- a context-sensitive display for additional information
- input signal/station selection
- teletext functions
- display functions
- recording functions
- audio functions
- special functions (configuration, IPG, Besonic Mood Radio)

A number of the listed functions permit/require additional settings that can be found in the configuration menu. Please see the specified pages for detailed descriptions.





Station selection/input signal

	The antenna signal is the default input signal. The desired station can be chosen from the station list.	---
	Selects an external video source at the S-video input of the TV hardware as the input signal.	
	Selects an external video source at the composite video input of the TV hardware as the input signal.	





Display functions

	Enables and disables the TV picture.	Page 28
	Starts the multiple-channel preview mode. Thumbnails of the current programs of all stations in the Favorites list provide a quick overview.	
	If this function is active, the picture can be scaled horizontally and vertically without regard for the selected aspect ratio (4:3).	





Teletext function

	Displays the teletext pages of the selected station in their own window.	Page 28
	Displays the teletext pages of the selected station in the TV picture, optionally as a transparent image.	
	Field for the direct input of the desired teletext page. The teletext offerings of most stations begin on page 100.	
	Navigation keys for teletext.	




Recording functions

	Starts the playback of the last recording. This function usually launches the Windows Media Player, which is associated with .AVI files by default.	Page 30
	Starts video recording and saves the video in the “My Pictures” (“My Videos”) folder of the current user by default.	
	Stops recording or playback.	
	Takes a still picture of the current TV picture and stores it in the “My Pictures” folder of the current user by default.	Page 32

Audio functions

	Volume control (louder/softer).	Pages 28 and 30
	Enables/disables mute.	
	Stereo/mono selector (Cinergy 400 TV/Cinergy 600 TV Radio only).	
	Two-channel selector (Cinergy 400 TV/Cinergy 600 TV Radio only).	

Special functions

	Opens the configuration menu.	Page 28
	Opens the IPG (Internet Program Guide).	---
	Launches “BeSonic Mood Radio”.	---

The TV window.

Depending on the selected input signal, the TV window will display a TV or video picture. The first presupposes the availability of an antenna signal, the second an external video source on either the S-video or composite inputs.

If you have selected TV as your input signal, you also have the possibility of displaying the teletext offerings of the current station. Teletext can be displayed instead of the TV picture, as a transparent overlay or in a separate window. For more information, see the Teletext chapter starting on page 26.



IMAGE: The television picture opens by clicking the TV button.

Size. The size of the picture can be scaled freely with the mouse in either a specified (4:3) or free aspect ratio (“Free aspect ratio” button active). Place the mouse cursor on the edge of the window in such a way that it turns into a horizontal, vertical or diagonal double-headed arrow and enlarge or reduce the picture by dragging the edge.

Please note: As described later on page 28, you can custom adjust the number of displayed pixels. You may want to do this—especially on older computers—because the number of pixels affects the amount of information your CPU has to process. Your Athlon or Pentium processor has to work harder to display a large number of pixels. If you have a low resolution set, the TV picture may become “crumbly” when displayed in large scale or fullscreen.

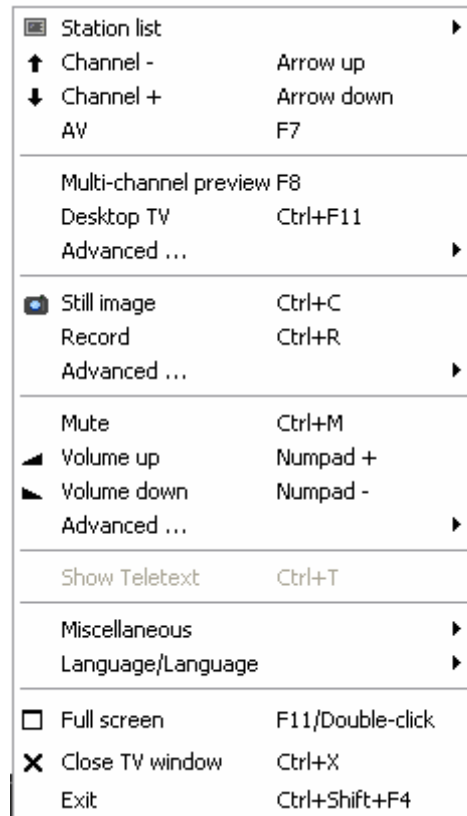
Position. Press and hold the left mouse button anywhere within the picture and move the window to the desired position.

Full screen/window view. A double-click switches the picture to fullscreen display; double-clicking once more restores the picture to its window.

- **Context menu/keyboard control.** The context menu plays such a central role in the use of the software that the following chapter is devoted entirely to it. Just read on.

Context menu.

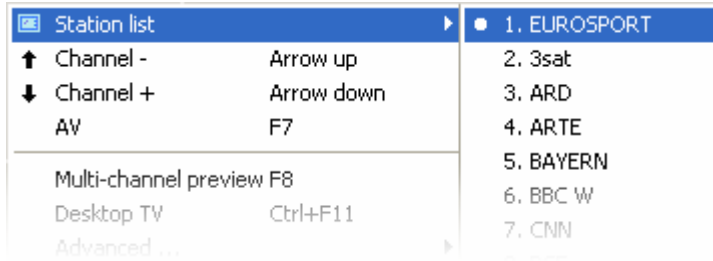
Right-click inside the picture window or in the main menu to open the context menu. Our reason for mentioning that the context menu is also available in the display of the main menu will become apparent when you try out the “Desktop TV” function. More about that later.



The context menu.

Like the main menu of the TV software, the context menu is organized in sections to group similar functions. The following sections cover only those functions that have not yet been explained as parts of the main menu.

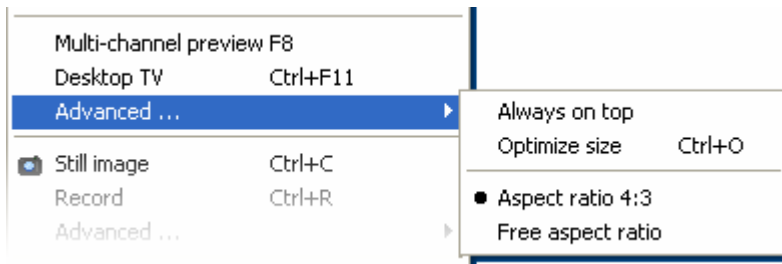
Station list/Input signal



Channel +/-. Changes one channel up or down.

AV. Selects the S-video or composite input, depending on where a signal is recognized.

Station list/Input signal



Desktop TV. Fixes the TV picture at its current position on the desktop. The TV picture will behave in the same way as desktop wallpaper, i.e. the icons and windows will always be visible in the foreground.

Advanced→**Always on top**. This setting ensures that the TV picture always remains in the foreground and cannot be partly or completely covered by other windows.

Advanced→**Optimize size**. Displays the TV picture with exactly the selected number of pixels. (see “TV” → “Video” → “Format” tab)

Recording functions

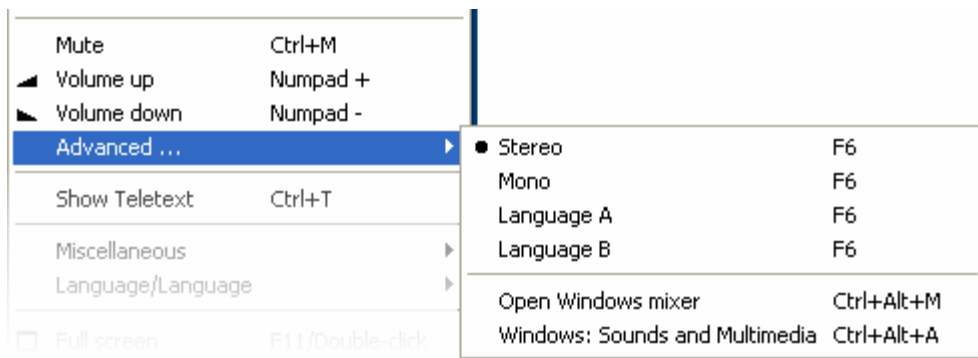


Advanced→**Open still image directory**. Opens the folder that you have selected for your still images.

Advanced→**Open video directory**. Opens the folder that you have selected for your videos.

Advanced→**Terratec Scheduler**. Opens the application for programming scheduled recordings. For more information on the Scheduler, see [Autostarter](#) → [Documentation](#) → [Scheduler](#).

Audio functions



Advanced→**Stereo**. Cinergy 400 TV, Cinergy 400 USB and Cinergy 600 TV Radio only.

Advanced→**Mono**. Single-channel audio.

Advanced→**2-channel audio (Language A/B)**. TerraTec Cinergy 400 and Cinergy 600 TV Radio only.

Advanced→**Open Windows mixer**. Opens the Windows mixer.

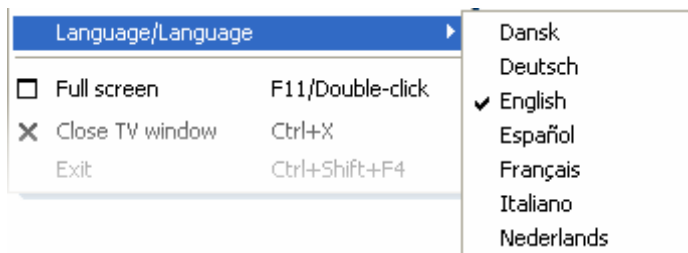
Advanced→**Windows: Sounds and Multimedia**. Opens the Windows “Sounds and Multimedia” Control Panel applet.

Misc.



DirectShow configuration. Here you can find information that can prove useful for your own troubleshooting measures or for support inquiries. For further useful information, see the "About" tab in the → Configuration menu.



Language selection



Language/Language. Sets the language of the software's user interface.

Teletext.

Modern media technology like the Internet made a widespread service offered by TV broadcasting establishments somewhat forgotten in recent years: teletext. Every day, however, competent editorial offices provide a selection of quickly and easily accessible information, which you can access for free, since it is constantly transferred along with the TV picture via the so-called vertical blanking interval of the picture signal.

Transparent, opaque or in a window of its own. A click on the  button displays teletext as a transparent overlay of the TV picture or covering the picture, depending on the settings of the “TV” tab of the configuration menu. Alternatively, click the  button to display teletext in a window of its own.



Transparent.



Opaque.



In its own window.

Size. The size of the display can be changed with the mouse in the same way as the TV picture.

Position. The teletext display cannot be moved when it is being shown in the TV window, as the left mouse button is needed to select teletext when copying to the clipboard or saving it in a text file.

Navigation. Thanks to the advance loading of teletext, the individual pages display almost without delay. To navigate the teletext pages, use the controls on the main menu (arrow buttons, page number), or click the page references with the mouse. The arrow/cursor keys on the keyboard will also do the trick. Owners of a Cinergy 400 TV or Cinergy 600 TV Radio will probably prefer the remote control.


Tip: Page 100 usually jumps to the start page of a teletext channel.

Context menu. Teletext also has its own context menu that can be opened by right-clicking the teletext window. The menu items are self-explanatory. We would nevertheless like to describe one option not offered by your TV.

Copy & Paste. You can select letters, lines, sections or whole pages with the left mouse button for further action using various context menu items. The following functions are available:

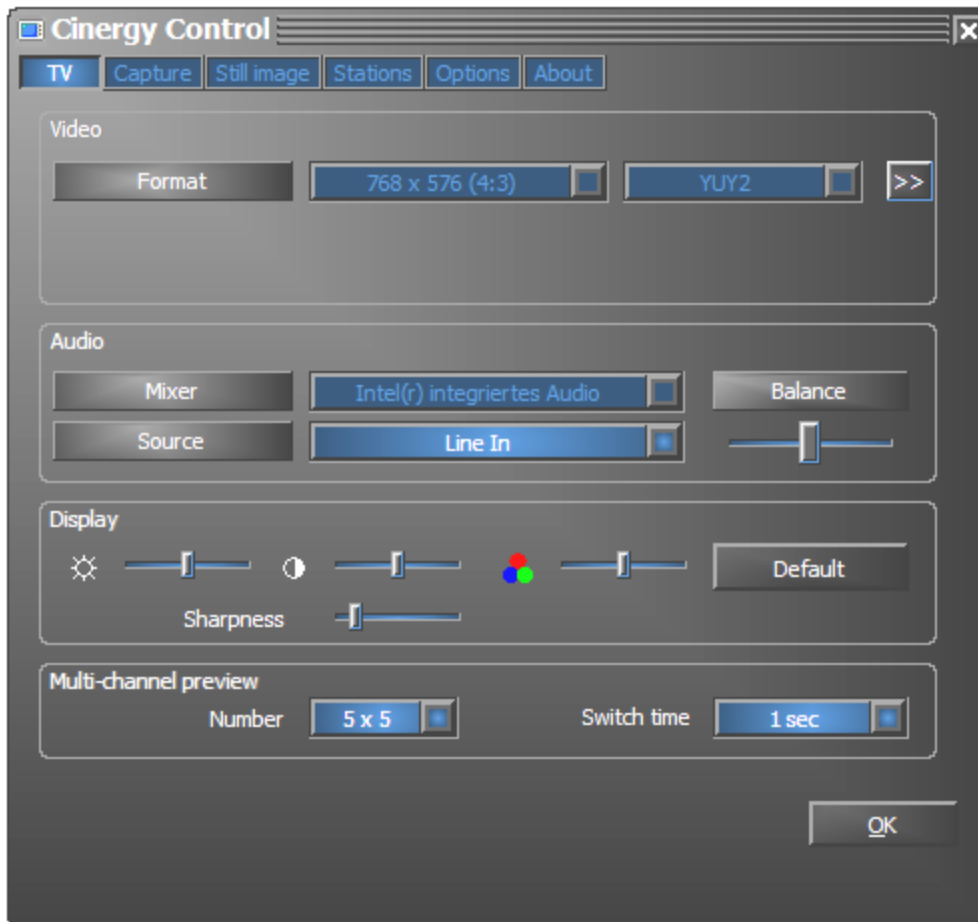
-
- Copy selection (Ctrl+C)
Copies previously selected teletext to the Windows clipboard.
 - Copy page (Ctrl+A)
Copies the complete content of the page to the Windows clipboard.
 - Save page (as) (Ctrl+S)
Saves the complete content of the page in a text file.

The configuration menu.

Click on the tool icon  in the main menu of the TV software to open the configuration menu. The various tabs contain a wide selection of additional configuration options. Each tab has an “OK” button with which the configuration can be completed at any time.

Configuration: Playback settings.



Configure the video and audio playback properties under “TV”.



The TV page of the advanced configuration menu.

Video→Format. Set the display format and color space of the picture under “Format”. The format specified here corresponds to the number of pixels used horizontally and vertically. Although the picture can be scaled freely or displayed in fullscreen mode, this is the maximum number of pixels that will be displayed at any time. In addition to the format, the color space can also be specified. The choices included uncompressed color spaces with 15 (RGB255), 24 (RGB24) and 32 bit (RGB32) color depth and compressed color spaces. Not every combination of format and color depth can be selected. In the YUY2 color space, *de-interlacing* can be enabled additionally to reduce the so-called “picket-fence effect”. This annoying effect occurs during rapid transitions as a result of horizontal shifts in the interlaced pictures.

Tip: Remember that various options also affect system speed which may or may not be noticeable depending on the combination of options that are active. For example, if you plan to have the TV picture run “on the side” in a small window, choose a smaller resolution. High resolution makes more sense if you want to watch TV in fullscreen mode.


Video→Teletext. Use this option to define whether teletext is displayed on a black background or is shown with a “transparent” background on top of the TV picture currently playing. This option only applies to the display of teletext in the TV picture , not to teletext in its own window .

Audio→Balance. Use this slider to adjust the left and right side audio output signals sent to your speakers.

Display. Like on your television set, these options let you adjust the brightness, contrast, color and sharpness of the TV picture to your liking. Click “Default” to restore all of the sliders to their central positions.

Note: The later described settings apply globally for the entire TV software and are not stored individually for each channel.

Multi-channel preview. The multi-channel preview feature lets you take a glance at what is showing on all of the TV channels that you have stored. To accomplish this, the multi-channel preview function scrolls automatically through all of the channels and shows a recorded frame of each channel. If you see a program that interests you, simply switch to its channel with a mouse click. Double-clicking “opens” the station in the view that you are used to.

Set the number of “snapshots” displayed in the TV window using the Count option; the Auto option selects the size of the pictures automatically. Furthermore, you can enter the switch time in seconds. When the TV window is open, you can start the multi-channel preview by clicking its corresponding button  in the main menu.

Configuration: capture settings

Configure the video recording properties under “Capture”.

Video capture uses a number of Windows components, especially compression algorithms known as codecs. In addition to the default selection, additional codecs are available from third-party vendors. For sources, see “HotLinks!!!” in the autostart menu of the CD-ROM. For further information on installing and configuring the codecs, please refer to the vendor's documentation.

Note: *Some of the items in the “HotLinks!!!” topics are links to third-party providers (on the Internet), for which we expressly take no responsibility.*



Capture properties in the configuration menu.

Video→Format. Set the display format and color space of the capture under “Format”. The format specified here corresponds to the number of pixels used horizontally and vertically. In addition to the format, the color space can also be specified. The choices included uncompressed color spaces with 15 (RGB255), 24 (RGB24) and 32 bit (RGB32) color depth and compressed color spaces. Not every combination of format and color depth can be selected. The configuration selected here will directly affect the file sizes of the video capture. Considerable file sizes result in a short time even at low resolutions in compressed color space; additional compression algorithms should therefore be used.

Video→Compression. Select the compression algorithm mentioned above here. The quality of a codec is determined by the relationship between picture quality and data compression, as well as the processor load during data compression. The compression that can be achieved and the associated processor loads are not constant, but vary according to the resolution and color depth.

DivX ;-) is to video compression what MP3 is to audio. Based on MPEG-4, DivX ;-) delivers surprisingly high quality video despite high data compression—i.e. small file sizes—much to the pleasure of many video enthusiasts. The DivX ;-) codec (free of charge when this document was printed) can be downloaded from the Internet and is easy to install, after which it will appear in the list of available video codecs. At this point we should point out that not every codec listed in the TV software is actually suitable for capture.

Many codecs offer personal configuration options, which you can change by clicking the » button. As the options vary from one vendor to the next, please understand that we cannot go into detail on them here. Feel free to experiment—there's no way that you can “break” anything.

Audio→Compression. Our explanations above about the data volume resulting from video capture naturally also apply to your choice of audio compression. All of the audio codecs installed on your system are also available here.

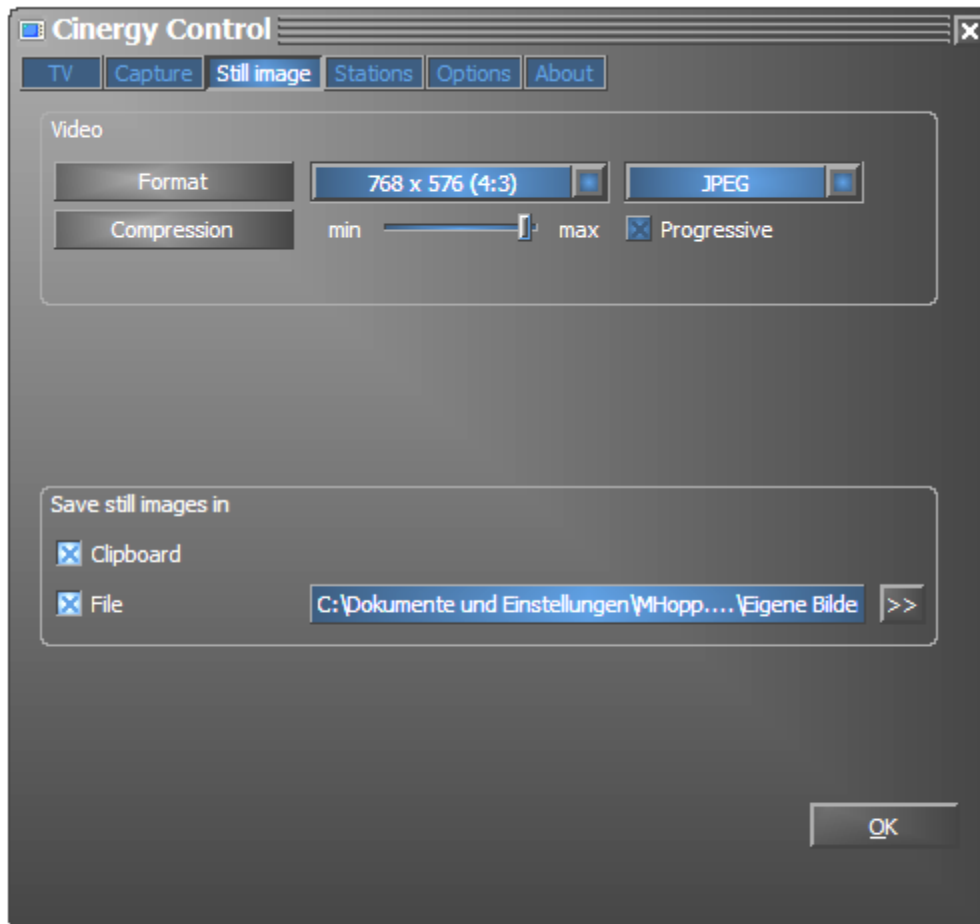
Save videos in. Use this to specify the directory on your hard disk where you want the video files saved. The default setting saves video in the “My Pictures” (“My Videos”) folder of the current user.

Tip: The file name is generated by the software automatically so that you can start recording without delay. If a file name is already in use, the TV software adds a number to its end sequentially to create a new file name.

Stop capturing by. You can stop recording without having to confirm a dialog box by pressing the ESC key. To do so, check the corresponding option. If you want to stop recording after a specific amount of time, manually enter the time in seconds or minutes.

Configuration: Still image capture.

The TV software of your Cinergy card lets you capture single snapshots at the touch of a button, which it saves using a preselected format. To view captures pictures, you can use, for example, the Paint program included with Windows or (for images saved as .JPG) just about any Internet browser.



The snapshot page of the advanced configuration menu.

Video→Format. Select the file format here. Choose between uncompressed bitmap (BMP) or the JPEG format, which is optimized for image compression. The amount of compression to be used for JPEG images can be adjusted using the **JPEG Compression slider**. Here, “min” indicates less compression, thus a larger file with an image quality that is close to the original. The “max” side produces the opposite effect.

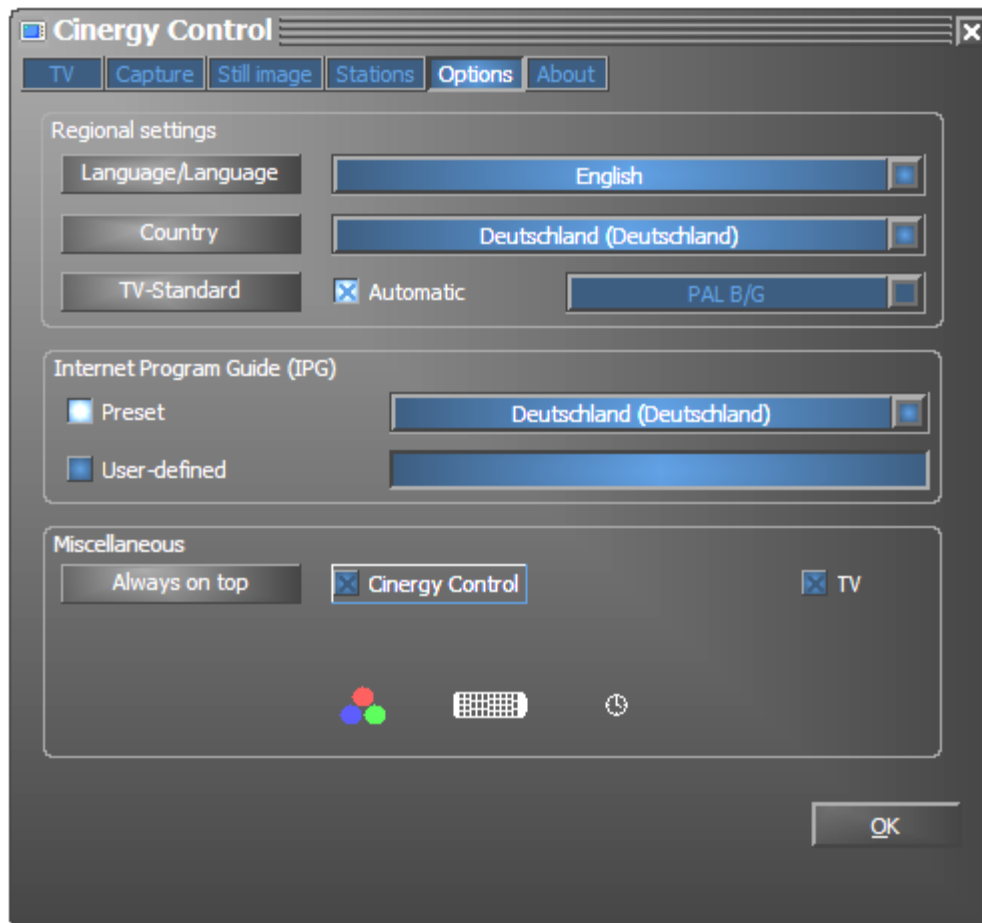
Save still images in. Here, specify whether you want the captured frame (snapshot) copied to the Windows clipboard or written to a file for later use. If you choose the file option, you can specify the location for the saved files under **File**. The default setting saves snapshots in the “My Pictures” folder of the current user.

Configuration: Stations

The station management was already described at the start of this manual. We don't want to bore you, after all.

Configuration: Options

“Options” mainly contains country- and language-specific settings. The “Miscellaneous” section lets you configure the appearance of the application. It also provides quick access to the Remote Control Editor (not Cinergy 400 TV mobile) and the Scheduler.



Options...

Configuration: About

Here you can find information that can prove useful for your own troubleshooting measures or for support inquiries.

Service at TerraTec.

“Rien ne va plus—Nothing's working” can happen to the best systems. If this happens to you, the TerraTec team is happy to offer its service and support.

Hotline & Internet.

In case of a serious problem—where you can neither solve the problem on your own nor with the guided help found in this manual, nor with the help of your dealer—please contact us directly.

If possible, try our Internet support system first: under <http://www.terratec.com/> you will always find current answers to frequently asked questions (FAQ) and the latest drivers.

If these options do not provide the necessary help, please contact our phone helpline or contact us online at To do so, visit us at <http://supporten.terratec.net/>. In either case, please have the following information handy:

- your registration number,
- this documentation,
- a printout of your configuration files,
- the manual of your motherboard, and
- a screen shot of your BIOS configuration.

In addition, it would be helpful to our technicians if you are at your computer during the phone call so that you can carry out our tips and tricks directly. Please do not forget to write down the name of the respective support technician if you contact our Support Team. You will need this name if a defect is present and your card needs to be mailed to us.

Broken?!

Before you send the card back, be sure to contact us! Make a note of the name of your support contact and follow these simple instructions:

- Please fill out the service request form provided with your card clearly and completely. The more clearly and detailed you describe the problem, the faster we will be able to help. Cards sent in without a description of the problem cannot be processed and will be returned to you at your expense.
- Be sure to include a copy of your purchase receipt (not the original) with the package. If we do not receive a copy of a receipt, we will assume that the warranty for the product has expired and will bill you for the repair.
- Please use a sufficiently strong and padded mailing package. We recommend using the original package. Remember that the card is a sensitive electronic component.
- Be sure to include enough postage—we will cover for the postage for the return to you.