GRABSTER AV400MX

Manual (English)

Declaration of CE conformity

We, TerraTec Electronic GmbH, Herrenpfad 38, 41334 Nettetal, Germany declare in our own responsibility, that the product

TerraTec Grabster AV 400 MX

corresponds with the following norms and normative documents :

- EN55022 : 1998 +A1 : 2000
- EN55024: 1998
- IEC 61000-4-2: 1995 +A1: 1998 +A2: 2000
- IEC 61000-4-3: 1995 +A1: 1998 +A2: 2000
- EC 61000-4-4: 1995 +A1: 2000
- IEC 61000-4-6: 1996 +A1: 2000
- IEC 61000-4-8: 1993 +A1: 2000

According to this document, the utilisation of the CE label is confirmed.

Guideline 89/336/EWG.

Heiko Meertz

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Preface

Thank you for choosing a TerraTec product. Congratulations on your decision to buy this sophisticated piece of state-of-the-art technology, the Grabster AV 400. This is one of the most powerful products for video applications. We are convinced that the Grabster AV 400 will be both very useful and a lot of fun for you for a long time to come.

Scope of delivery

- Grabster AV 400
- USB cable
- Composite cable
- S video cable
- Stereo audio cinch cable
- Scart-composite/S video/audio cinch (RCA) adapter
- Software CD
- Hardware and software manual
- Registration card with the serial number

Product description

Product illustration

❶ 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.
❷ Stereo audio input	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.
❸ 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.

Setting up your Grabster AV 400

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

Installing the drivers under XP

Driver installation under Windows XP

Please choose "Install from a list or specific location (Advanced)". Click "Next".
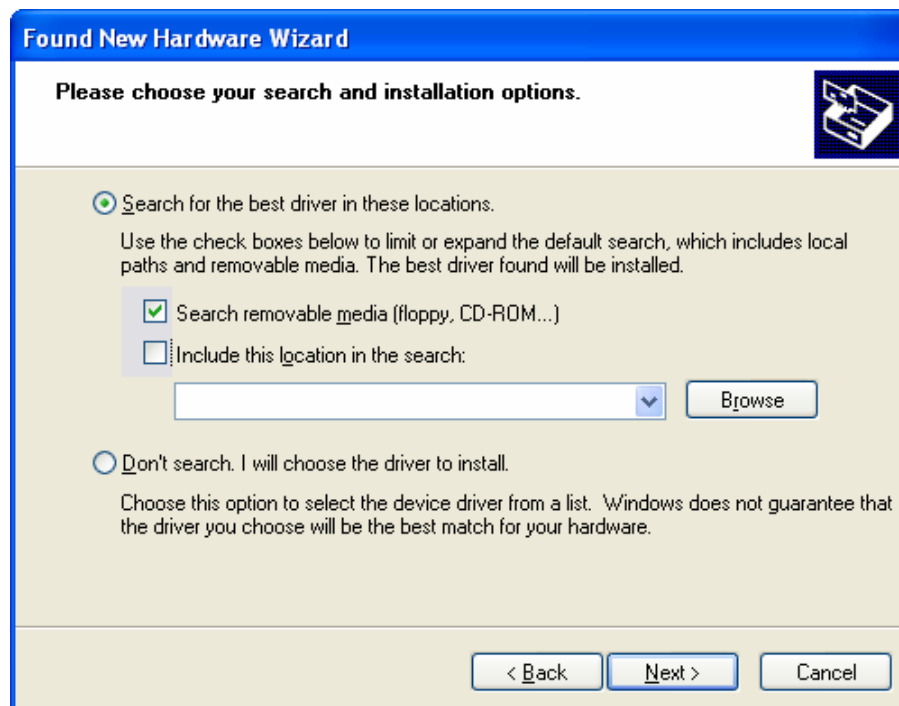
Select the upper item and browse your installation CD.

## Driver installation under Windows 2000
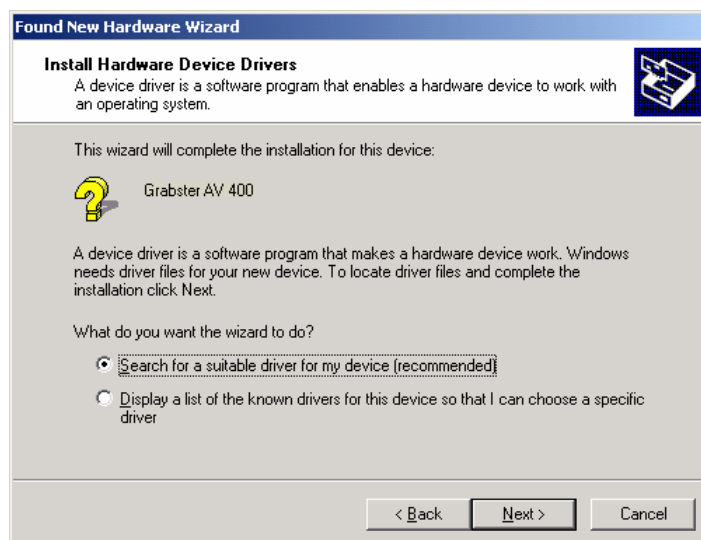
Let your system search for a suitable driver. Confirm by clicking "Next".
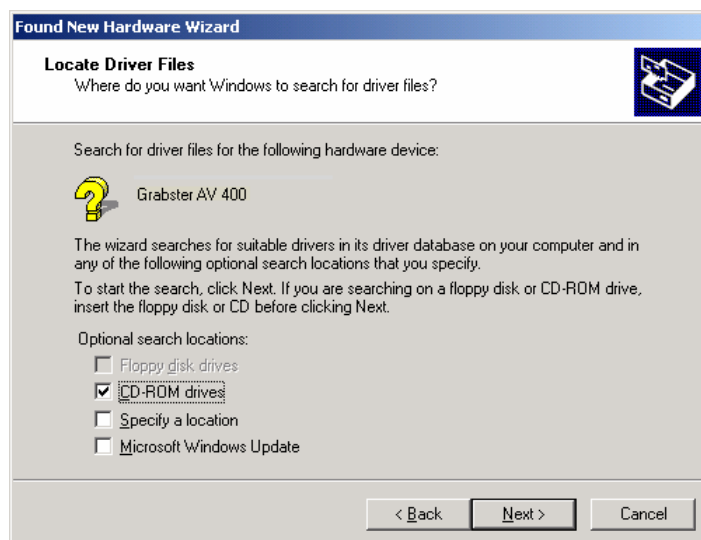
Choose your CD-ROM drive and confirm with "Next".

Digital signature in Windows XP and 2000
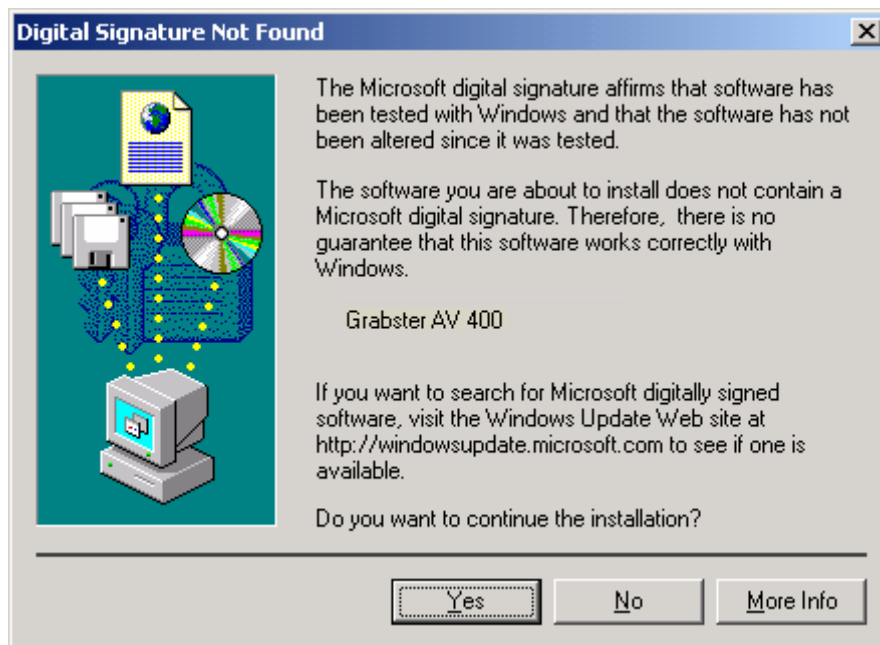
Continue the installation. The driver can be installed despite the lack of signature. The missing signature has no effect on the quality or functionality of the driver.

Installing drivers under Windows Vista

1. When connecting the Grabster AV 150 MX for the first time, Windows Vista will recognize it and will launch the hardware installation wizard. Click "Locate and install drivers software (recommended)", followed by "Next".

2. Windows Vista will automatically find the correct driver on the installation DVD. Windows will now ask whether you really want to install the driver software. Click "Install" to start the installation.

3. Conclude the installation by clicking "Close".

This completes the installation of the drivers and you can now start installing the MAGIX software.

Installing Magix Movies on CD & DVD application

To install the software, insert the DVD and wait for the autostarter to launch. Select your language and the Software item. Click the MAGIX Software button to start the installation of Magix Movies on CD & DVD TerraTec Edition. Follow the instructions on the screen until the software is completely installed.

For a detailed manual and a brief video introduction to the software, use the online help after the installation is complete.

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.

Your first move should be to check our website **http://www.terratec.com/** for current answers to frequently asked questions and the latest drivers.

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

- your registration number,

- this documentation,

- the manual of your motherboard, and

- a screen shot of your BIOS configuration (if possible).

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 your 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.

Glossary

AVI—A Windows video format.

Bit rate—The bit rate indicates the volume of the data stream per second. A higher bit rate results in higher quality. A distinction is made between constant bit rates (e.g. for ·› VCD) and variable bit rates, e.g. for ·› SVCD and ·› DVD. Unlike constant bit rates, variable bit rates adjust the size of the data stream according to the video material.

Blue screen—A variation of ·› Chroma keying

Capture—Recording.

Chroma keying—Chroma keying uses a surface with a single color in front of which an actor, for example, is filmed. This color area is then made transparent during subsequent editing and can be replaced by a different background.

Chrominance—Chrominance refers to the color signal in ·› YUV, which is comprised of two color components: U, the balance between red and cyan, and V, the balance between yellow and blue.

Clip—A short piece of video material.

Composite video—Composite video is a transmission method common in the consumer sector that is generally realized using cinch connectors and which is frequently used, for example, on TVs. In this process, all signals (chrominance and luminance) share a single cable. The quality of composite video is lower than that of ·› S video, in which chrominance and luminance are transferred separately.

CPU—Central processing unit. The part of your computer (processor, e.g. Pentium or Athlon), that does the actual computing.

D8—Digital 8 is the successor to the Hi8 and VHS-C camcorder formats. Hi8 or D8 cassettes are still used, but the video data is recorded digitally in DV format.

Data throughput—see Data transfer rate

Data transfer rate—The data transfer rate describes the speed at which a hard drive can read or write data over a sustained period. The data transfer rate is usually measured in seconds, e.g. 7 MB/s.

Device control—In DV terms, this refers to the ability to control your camcorder from your PC.

DirectDraw—DirectDraw is a graphics standard initiated by Microsoft. Its features include the capability to write graphics data directly to the memory of the graphics board for the fluid display of video material.

Dropped frames—These are individual images missing from the video data stream, usually due to a slow hard drive.

DVD—abbreviation for Digital Versatile Disk. The diameter of a DVD is the same as that of a CD-ROM. Storage capacities of 4.7 GB (DVD-5) to 17 GB (DVD-18) and data rates between 600 and 1300 KByte/s are currently specified. In addition, distinctions are made between a variety of formats such as DVD Video, DVD Audio, DVD-ROM, DVD-R, DVD-RW and DVD-RAM.

DV—DV stands for Digital Video. The DV standard uses a compression rate of 5:1. This corresponds to a data rate of 3.125 MB/s, which can be handled by virtually any modern hard drive. The quality of the DV standard is very high; it is therefore frequently used in professional productions. A number of different cassette types exist in the DV sector, which vary in size and maximum playing time, but which are compatible with one another in terms of video data. MiniDV is designed for the consumer sector and

supports playing times of up to one hour. The DV format used in the professional sector supports playing times of up to three hours.

DV-In—Usually, the DV jack of a camcorder can transport video data in both directions— to and from the camcorder. Many camcorders in Europe do not feature DV-In, however. Also see ·› Enabling.

Enabling—Due to European import duties, imported digital video recorders are more expensive than imported digital video playback devices. For this reason, manufacturers of camcorders have begun to modify their products for the European market and to disable the digital input ·› DV-In. Needless to say, clever developers found a way around this restriction very quickly. This is known as "enabling". Enabling the DV camcorder is a precondition for sending video material back to the camcorder. Enablers are available for almost all camcorders and can be purchased freely.

Fading—Fades are soft transitions, often involving special effects, from one clip to the next.

Fields—Rather than displaying 25 frames per second (as per the PAL standard), 50 fields are displayed per second to reduce TV display flicker. These fields consist of either the odd-numbered rows (these are sent first) or the even rows of the image being displayed.

FireWire™—Apple's name for ·› IEEE -1394

Frame rate—The number of frames within a given period of time. The frame rate is frequently stated in frames per second (FPS).

Hi8—Analog video recording system that separates color and brightness information, thus offering quality better than that of VHS-C, for example.

Hosiden connector—a small connector with four conductors used for ·› S video signals.

IEEE-1394—This is a universal bus system originally developed by Apple for digital data communications. The devices are connected by cables with a maximum length of 4.5 m. The system supports transfer rates of up to 400 Mbps. However, a standard has not been established for video data due to the lack of specifications for the format of video data using this bus. Sony got down to brass tacks and closed this gap by installing FireWire™ sockets in its digital camcorders and developing its own protocol. Thanks to FireWire™ and the Sony protocol, the dream of loss-free video editing has finally come true.

iLink—Sony's name for ·› IEEE -1394

Interlacing—see Fields.

Linear editing—The origins of linear video editing date back to analog video. The original video data is generally present in the same sequence as the edited video clips. A simple form of linear video editing would be to copy material from an analog video camera to a VCR and discard a number of clips in the process. However, if you would like to insert a new clip in the middle, it would be necessary to copy all of the following clips again.

Luma keying—Unlike chroma keying, the transparency of the video is determined on the basis of brightness in luma keying.

Luminance—Luminance refers to brightness in ·› YUV. (Y)

Main memory—see RAM

MiniDVD—This is a process in which -› DVD data, including the DVD directory structure and navigation menu, is burned onto a blank conventional CD. Due to their lower capacity, MiniDVDs can only store around 18 minutes of video data. Unfortunately, not many DVD players can play MiniDVDs, making them mainly suitable for PC playback.

MiniDV—The consumer version of the DV format. Also see –› DV.

MJPEG—Motion JPEG is a compression process in which every single frame in the video data stream is compressed individually.

MPEG—The Motion Picture Experts Group is a consortium of leading manufacturers and developers of video technology that determines new standards such as MPEG-1 or MPEG-2.

Nonlinear editing—Unlike -› linear editing, individual clips can be edited without affecting subsequent clips. For example, with nonlinear editing, you can shorten or remove a clip at the beginning of a video project without having to edit the following clips as a result.

NTSC—NTSC is a video standard used in the USA and Japan. NTSC has a higher frame rate than PAL (30 frames or 60 -› fields per second), but a lower resolution (525 rows, with 480 visible). Color depiction in NTSC is realized in -› YIQ.

PAL—This is the most common video standard in Europe. PAL displays 25 frames (or 50 -› fields) per second and has a resolution of 625 rows, of which 576 are visible. Color depiction in PAL is realized in -› YUV.

Preview— The preview offers you a quick overview of your work. The final quality is normally considerably higher than that of the preview.

RAM—Random Access Memory is the main memory of your PC. Since video editing with effects is very memory-intensive, the old rule applies: you can never have enough RAM!

Rendering—this refers to the processing of video or audio clips after an editing operation has been completed, for example after the application of an effect or filter.

RGB color space—In the RGB color space, each visible pixel is made up of the three components R(ed), G(reen) and B(lue). To achieve the natural display of colors on a computer, each of these components must have at least 256 values. This corresponds to exactly one byte for each color component. A single complete video image would thus require 768 pixels x 576 pixels x 3 bytes = 1,327,104 bytes. This corresponds to around 1.2 MB per frame! One second of video in the RGB color space would therefore require around 31.6 MB of storage space. Using this process, a 2 GB hard drive would have a video capacity of around one minute. No current hard drive can deliver this volume of data in real time, but a number of options are available to reduce the data volume of the video signal substantially through transformation to a different color space (usually YUV) and compression (usually MJPEG).

S video—Unlike -› Composite video, chrominance and luminance are transmitted separately in S video, resulting in higher quality.

Saturation—Describes the ratio of color in the picture.

Storyboard—Unlike the -› timeline, the storyboard offers a thematic overview of your video project. Individual scenes can be identified easily, but it does not deliver a sense of the actual length of the project.

SVCD—Abbreviation for Super Video CD. SVCDs are similar to ·› VCDs, but they have a great advantage in that their data is in MPEG-2 format with a ·› variable bit rate. In addition, the resolution of 480 x 576 pixels is higher than that of the VCD. An SVCD generally can contain 45-50 minutes of video material. The bit rate (audio and video) of an SVCD may not exceed 2.6 Mbps. SVCDs can be viewed using many standalone DVD players.

Timeline—The timeline is the time axis upon which you position and edit your video clips.

Transition—see Fading

Trimming—This refers to adjusting the length of a video clip at the beginning and/or end.

VCD—Abbreviation for Video CD. The Video CD has a PAL resolution of 352 X 288 pixels and stores audio and video data in MPEG-1 format. VCDs use a constant ·› bit rate of 1.15 Mbps for video and 224 kbps for audio data. VCDs can be viewed in virtually any DVD player.

Video filter—Video filters let you influence your video material in a wide range of ways. For example, you can manipulate the colors of your video film or use complex filters to degrade your new, top-quality film to look like an old, silent movie.

Video for Windows—This is an old, but still commonly used, video concept for Windows.

YIQ—YIQ is a color space related to ·› YUV. It is also characterized by a brightness component ·› luminance (Y), but also by different color components, I (cyan-orange balance) and Q (magenta-green balance). YIQ is used ·› for NTSC, for example.

YUV—YUV is the designation for a color space characterized by a brightness component ·› luminance (Y) and two color components ·› chrominance (U, V).