

MP3 & HiFi



Compressed Audio Recording System

English Manual

CE Declaration

We:

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

hereby declare that the product:

C.A.R. 4000

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

1. EN 55020
2. EN 50013 /+A12
3. EN 60065

The following are the stipulated operating and environmental conditions for said compliance:

Residential, business and commercial environments and small-company environments.

This declaration is based on:

Test report(s) of the EMC testing laboratory



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Package Contents.

First of all, please check the contents of your package to make sure that you have received the complete C.A.R. 4000 package.

You should have the following items:

- the C.A.R. 4000 (the big black device ☺),
- a remote control including batteries,
- an AC power cable,
- a cinch cable,
- a USB cable,
- an installation CD with the PC software and some extras,
- this manual,
- and a registration card.

Please contact us if anything is missing. See "Service at TerraTec." on page 65 for contact information.

You need to be aware of some basic information before you start ...

Setup, safety and care information.

- Please place the player on an even, dry surface to prevent fire and electrical shock hazards as well as possible damage to the player itself.
- Keep it away from radiators and ensure that the player is at a safe distance from other HiFi devices to prevent overheating.
- Do not stack (HiFi) devices without feet on top of the player and be especially careful not to place objects filled with liquids such as vases or bottles on your C.A.R. 4000.
- Be sure that the voltage is correct before connecting the power supply. (110 – 230V)
- If you are not going to use the device for an extended period, disconnect it from the power supply. To avoid short circuits, never pull on the cable itself.
- In addition, be sure to unplug the device from the AC outlet in the event of a thunderstorm.
- If the device has been exposed to extreme differences in temperature, allow it to adjust to the room temperature for one hour before plugging it in. Condensation may have formed inside the device which could impair the functionality of the C.A.R. 4000.
- Note: The C.A.R. 4000 uses a CD drive, which operates with invisible class 1 laser beams.
- Use a dry or slightly moistened, lint-free cloth to clean the C.A.R. 4000. Do not use cleaning products as they may damage the finish of the unit.

The battery.

A button cell of the following type is used on the motherboard inside the C.A.R. 4000:

Designation: CR2032
Type: Lithium
Primary: Yes
Number: 1
Weight: 3g

Please replace the battery only after consultation with one of our technicians (see page 65) and always make sure that you insert it correctly ('+' upwards). Never throw a battery into an open fire or expose it to excessive heat. It may leak or explode. If you need to dispose of it, use only approved disposal methods.

The power supply unit.

The used switching power adapter has a power consumption of 40 W at an input voltage of 110 to 230 volts at 50 to 60 hertz. The power adapter is internally protected and uses a 250 V/2A fuse. Never change the fuse yourself without consulting one of our technicians (see page 65).

In brief: just use the device sensibly. The warranty does not cover deliberate damage to the device. Thank you.

Introduction.

We congratulate on your purchase of a TerraTec device. We are proud to present the C.A.R. 4000, a HiFi component that combines the functions of an audio recorder, a CD player, a filling station for memory cards, and a digital music box in an attractive 19" case. We have placed great emphasis on ease of operation, even with the many different functions. You should be familiar with many of the basic functions and controls with their similarity to other stereo components.

We hope this manual will make it easy for you to familiarize yourself with your 'Compressed Audio Recorder' (C.A.R.).

Enough chat—now it's time to set up, connect, record, and most of all to listen ... enjoy yourself

...your TerraTec Team

The device.

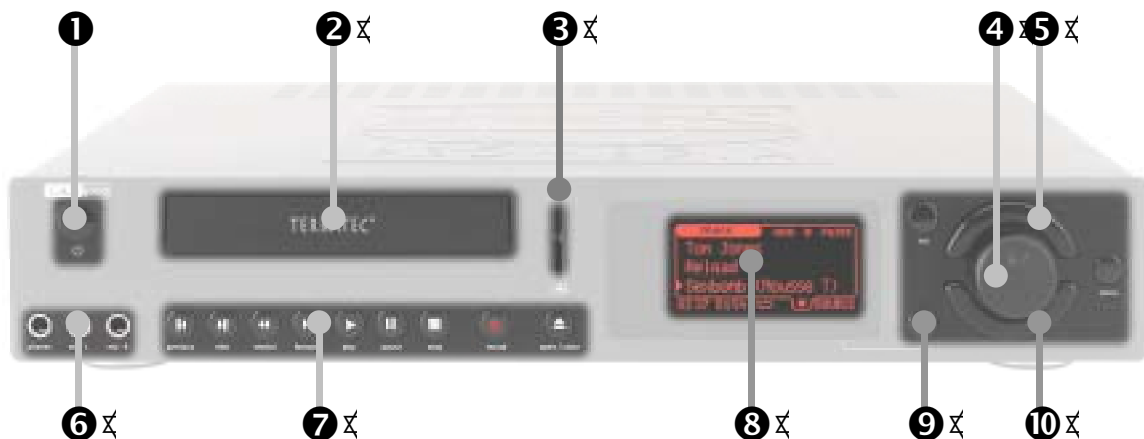
Setup and connection Carefully remove the device from its packaging and place in a dry spot on a level surface—preferably on a HiFi rack. Connect one end of the cinch cable to the LINE OUT sockets of the C.A.R. 4000 and the other end to a free input on your HiFi amplifier. Use the CD or the AUX input. Never use the phono input (if you have one), because this has a different input voltage! Pay attention to the color codes on the plugs and sockets: red generally indicates the right side, white (or black) indicates the left side.

If you want to connect the C.A.R. 4000 to the digital input of an amplifier, you will need an optical cable. Use the output on the device labeled DIGITAL OUT OPTICAL.

If necessary, see the manual for your amplifier for alternative connection options.

Finally, connect the C.A.R. 4000 to a standard power socket with the power cord included in the package.

Your Compressed Audio Recorder 4000 looks like this.

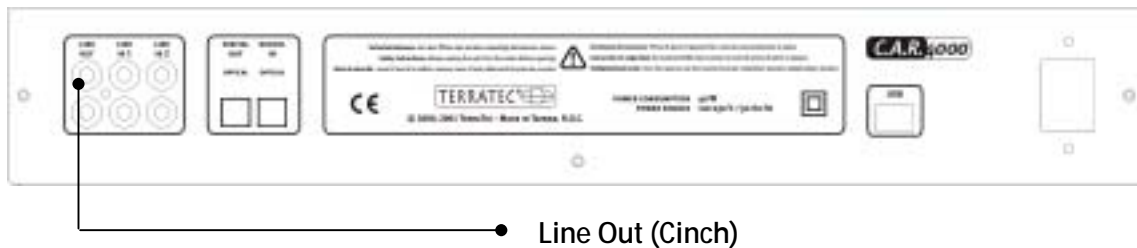


- | | |
|--------------------|---|
| ❶ On/Off switch | ❹ Headphone output and microphone input |
| ❷ CD drawer | ❺ Standard control panel |
| ❸ Memory card slot | ❻ Display |
| ❹ Rotary selector | ❼ Soft key |
| ❺ Up button | ❽ Down button |

The following pages have more information on the audio inputs and outputs and how they can be connected.

Analog in and out.

The line output.

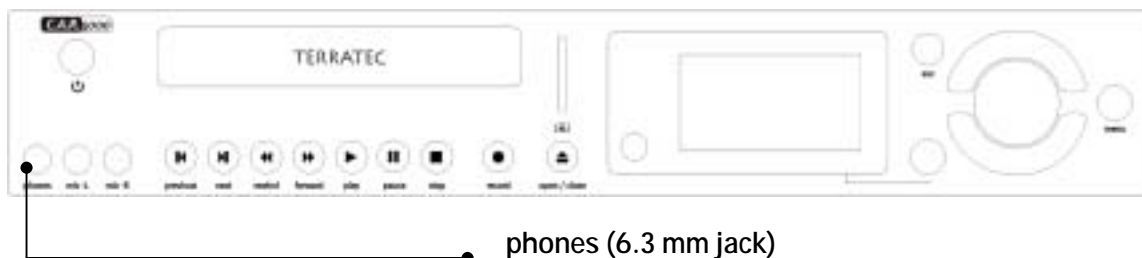


The line output is on the back of the device. As previously noted, this output is generally connected to a line input on a HiFi amplifier. If you don't use a cassette tape deck and you have a tape deck connector on your amplifier (generally labeled TAPE IN), it makes sense to use this input. A matching connection to the line output of your amplifier will allow you to use the C.A.R. 4000 to record all devices (radio, etc.) connected to the amplifier with a line input to the C.A.R. 4000. We will tell you more about this later ...

Your C.A.R. 4000 can also be directly connected to active speakers (with integrated preamplifier). It could also be connected to the line-in input of a computer sound card, even though this is not really advisable (we have designed our device for a relaxed living room environment rather than a computer workstation).

The output is designed for a voltage level of 1 VRMS.

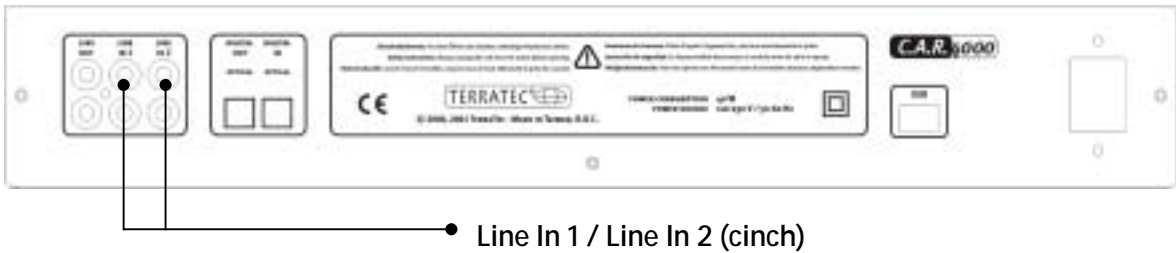
The headphone output.



You can connect headphones to this 6.3 mm jack. You will need an adapter to use headphones with the smaller jack (3.5 mm), such as those from a walkman or diskman. Any good electrical components supplier will have adapters. Please ensure that you use a stereo adapter.

The headphone amplifier has an output of 60 milliwatts.

The line inputs.

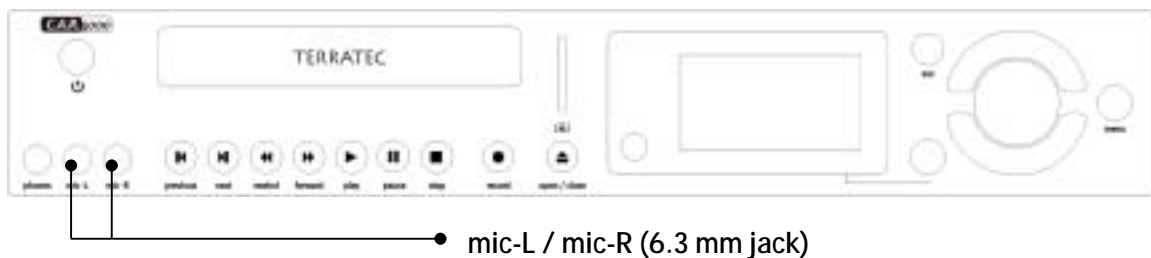


There are two separate line inputs that can be used on the back of the C.A.R. 4000. Analog devices with a line output, such as the audio output of a radio or a video recorder, can be connected here. If you do not use a tape deck, the best connection for such devices would be the TAPE OUT connector of your amplifier. The advantage of this arrangement is that it makes it easy to use the amplifier to determine which of the connected devices will send a signal to this output. The rotary selector on the amplifier generally has a selection for TAPE RECORD SELECT or similar.

See page 38 for information on recording from one of these inputs.

The input is designed for a voltage level of **2 VRMS**.

The microphone input.

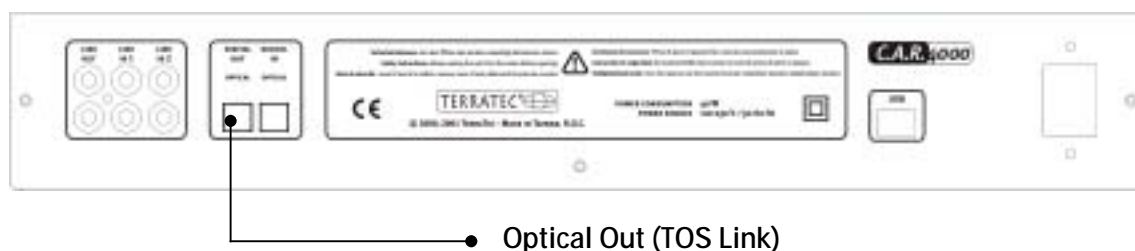


You can connect one stereo microphone with a stereo > 2 x mono adapter or two mono microphones to these two 6.3 mm jacks. Of course, you can also connect a mono microphone to only one of the two inputs. The mono signal is automatically sent in equal parts to the left and the right channel—see page 38 for more information. You should be able to obtain the adapter from an electronic components supplier. Take this manual with you and show it to the salesperson to ensure you get the correct part.

The inputs have an input sensitivity of 125 mV.

Digital in and out.

The optical digital output.

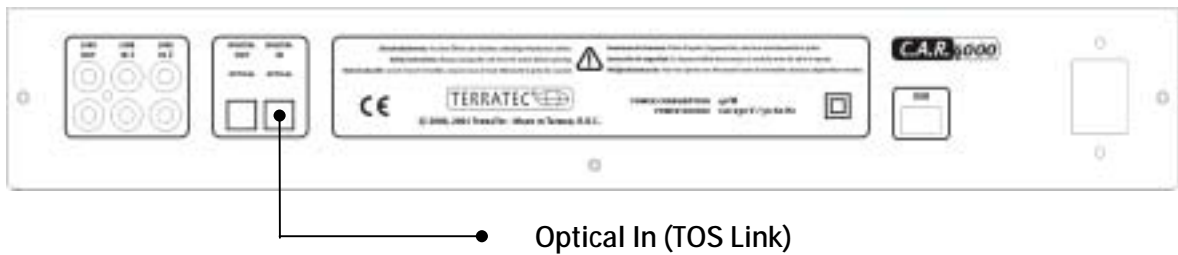


The digital output is on the back of the C.A.R. 4000. You can connect an optical cable (also known as a fiber optic cable) for a device such as a digital amplifier. One of the advantages of digital transmission of the audio signal from the C.A.R. 4000 to an amplifier is that interference cannot affect the signal and reduce the quality as can occur with analog transmission. You can also connect the optical input of a minidisk recorder to this output to save the C.A.R. 4000 playback on MD.

This output uses the **S/PDIF** (Sony / Philips Digital Interface) protocol. If this term does not mean anything to you, don't worry; it is **THE** standard protocol for digital transmission of audio signals and almost all devices with digital interfaces support it.

At this point please note that you must switch on the digital output separately. For quality reasons you must switch the audio output between analog and digital modes with the device menu. Check this setting if you cannot hear anything. To make this setting, press "MENU" to open the main menu, then select "Settings" with the selection wheel and press the wheel to open the submenu. Here select "Playback", then "Output menu". You can select the desired output here. The factory setting is "Line (analog)"—select "S/PDIF (digital)" to activate the digital output. Please ensure that playback is not active during this process. If you accidentally change the language settings, see page 64 for instructions on resetting the language to the desired setting.

The optical digital input.



The digital input is also on the back of your C.A.R. 4000. You can connect the output of a digital amplifier to this input with an optical cable (also known as a fiber optic cable) to record the playback of devices connected to the amplifier with the C.A.R. 4000. You can of course also connect the optical output of a minidisk recorder to this input to save material from old minidisk treasures on disk.

Like the digital output this input also uses the **S/PDIF** (Sony / Philips Digital Interface) protocol. If this term does not mean anything to you, don't worry; it is **THE** standard protocol for digital transmission of audio signals and almost all devices with digital interfaces support it.

Now a bit in advance: for technical reasons this input cannot be automatically synchronized with an external signal. Therefore you will need to make this setting manually in the menu. All standard sample rates (32, 44.1 and 48 kHz) are supported. See page 40 for more information. If you accidentally change the language settings, see page 64 for instructions on resetting the language to the desired setting.

The function.

An introduction.

Less is more. As the name 'Compressed Audio Recorder' indicates, one of the advantages of the C.A.R. 4000 is that it can process compressed audio data. As we all know now, compressing audio data can be very advantageous. A 40 GB hard disk can hold as much as 680 hours of music of virtually CD quality. This means a compression ratio of **1 to 10**, thus **1 minute of music** compressed requires around **1 MB** of memory, while the same piece uncompressed will take up 10 MB.

You can't have everything—but almost. "Near-CD quality" indicates that the compression process does not operate entirely without loss. Although complex mathematical methods make it virtually impossible for the "average ear" to distinguish "near-CD quality" from genuine CD quality, there are ways to adapt the compression to the material at hand. The quality levels are referred to as the bit rate (kbps). Thus MP3s with a bit rate of 128 kbps offer this "near-CD quality" with a small file size, while at 192 kbps the quality is significantly higher but the files are much larger. The trick is to change the bit rate as required when creating a compressed audio file. For example, voice recordings and radio plays can be enjoyed at a bit rate of 56 kbps—but classics and other demanding types of music only sound good at 192 kbps or better.

Fact: the higher the bit rate, the higher the quality but also the higher the memory requirement.

As a beginner, you really don't have to deal with these numbers; you only need to remember three words instead of lots of numbers: low is 64 kbps, standard is 128 kbps and high is 192 kbps.

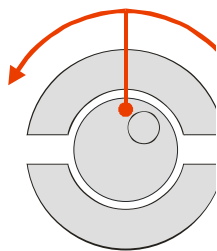
As you like it. In any case you are in the right place with the C.A.R. 4000, because it supports any bit rate during playback, including variable rates, and fixed bit rates from 48 to 320 kbps during recording. If you don't need to save space, you can record and playback without compression and thus without loss of quality. See "More Input." on page 35 for more exciting details.

Tree. Forest. Jungle. As you can well imagine from the impressive figure of 680 hours of sound, depending on your tastes this can be a wide variety of different musicians, albums and titles. We have tried to make it as easy as possible for you to manage such a huge amount of data by basing the entire user interface on a powerful database. This means that when you view your sound collection, you don't see directories, folders or file names—only database entries. In addition to the unified and easily understandable treatment of the data, this allows more complex database actions. We deal with them in more detail in "The Filters." on page 49. But be careful, this is not easy for beginners. It is intended more for advanced users and pros.

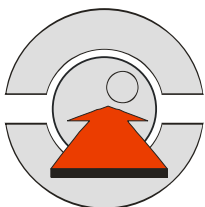
Switch on. Playback. Record CD—this summarizes our instructions for the next few pages. However, please note that we deal with playback, recording, and import and export functions in detail in later chapters.

Switch on.

The first time. Press the switch (⏻) to switch on your C.A.R. 4000. After all the devices have been initialized, you will first be asked what language you want in the menus

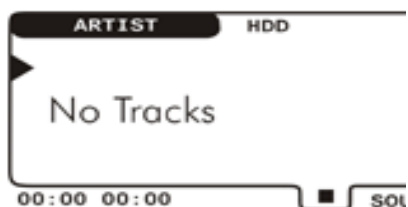


Press the button above the wheel up and down until the desired language has been highlighted.



Now confirm your selection by pressing the wheel.

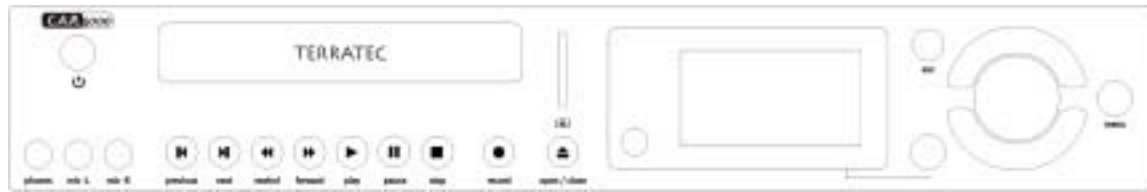
Your C.A.R. 4000 comes from the factory with no music on the hard disk. You now have a huge amount of space for your own personal sound material.



This message is shown on the display and shows that there is no music on the hard disk.

Getting started.

Before you start recording, think of the C.A.R. 4000 for a moment as a standard CD player, because the standard control panel not only looks very similar but also has the same functions.



These are the buttons in detail ...

Icon Meaning

- ▶ The **PLAY** button starts playback
- ⏮ / ⏭ Press to skip to the previous or next track
- ⏪ / ⏩ These buttons are for rewind and fast-forward
- ⏸ **PAUSE** stops playback
- **STOP** interrupts recording and playback
- THE button for starting recording
- ⏏ This button—a real sensation—opens and closes the CD drawer

To insert an audio-CD: press "EJECT", insert the CD, press "EJECT" again to close the drawer—you can also press the front of the drawer lightly on occasion.

Automatic recognition of an audio-CD.

Do we know each other? Magic! You may have been surprised to see that the C.A.R. 4000 displays the musician, the album and the track names immediately after you have inserted the CD. This does not mean that the information was read from the CD, as is done with detection via CD-Text® or similar processes. In contrast, the C.A.R. 4000 uses a technology developed by gracenote®: a special process uses data such as the number of tracks, their length and sequence to generate a number. Then this number is used to check more than half a million CD entries in a CDDB® database. The entries in this database include information such as the names of the artists, the album and the tracks. CDDB—as you have certainly guessed—stands for Compact Disc Database. You will be pleased to learn that the internal hard disk of the C.A.R. 4000 contains a copy of this database. This method of recognition has the advantage that even older CDs, which did not include such information on the CD itself because of the state of the art at the time, can be identified. Of course, CDs that are yet to be released are not included in the database, so we have made it possible for you to update it. See page 59 in “Updating the CDDB® database.” for how to do this.



see also <http://www.gracenote.com/>

Sometimes a CD may not be recognized in spite of the comprehensive database, even after it has been updated. In this case you can also enter the relevant information into the database manually (see “The Track Info.” on page 27).

The playback modes.

The C.A.R. 4000, like other stereo devices, offers various types of playback. In its factory setting the C.A.R. 4000 operates exactly the same as any other CD, record or tape player. This means that you can insert your (virtual) CD, play it and that's it.



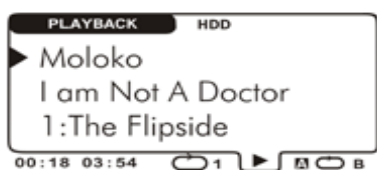
This icon, "Repeat", shows whether another playback mode is active—in "Normal" mode no icon is shown.

When you press the "MENU" button, then select "Playmode" with the wheel and then open the submenu by pressing the wheel, you can select the following modes:

Repeat.

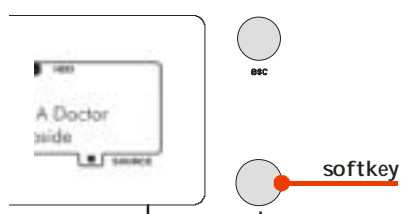
This selection repeats the current collection in a loop until you press STOP.

Repeat 1 / A B.



In this playmode you can repeat exactly one track, and you can also use an "AB Repeat" function. This means that you can select a range within an item and repeat this in a loop.

Now we see the "soft key" for the first time.



This button is referred to as the soft key because it can have different functions depending on what the C.A.R. 4000 is doing. The bottom right corner of the display always shows the current function of the button. You use the soft key for instance to select the marks for "AB Repeat": press once to set the starting point (A), press again to select the end point (B). If you press again, both marks will be deleted. The current function can also be read by the change of the soft key label.

Random.

If this mode is active, the compilation is randomly sorted, played back and then stopped.

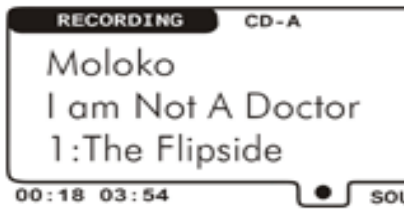
Repeat Random.

In this setting the compilation is played back repeatedly and resorted after every playback cycle.

If you accidentally change the language settings, see page 64 for instructions on resetting the language to the desired setting.

The first recording.

Now back to the matter at hand ... we will now record an audio-CD as MP3 to save the first data to the internal hard disk. This is done as follows—to summarize again:



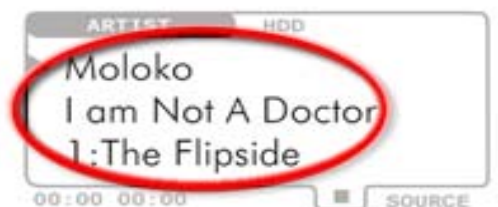
- Open the drawer with **EJECT** (▲)
- **Insert the CD**
- Close the drawer with **EJECT** (▲)
- Wait until the contents of the CD are displayed
- Press **Recording** (●)
- Wait while the CD is recorded (it will also be played back)
- **Finish**

We invite you to repeat this process with other CDs in your collection.

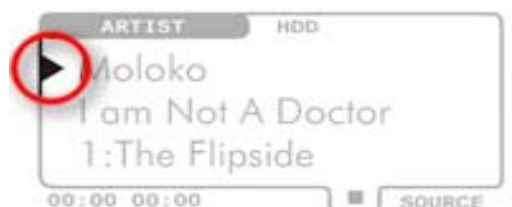
During recording all buttons except **STOP** (■) are disabled to prevent any interference with the recording process but to allow it to be stopped if absolutely necessary. The selected recording format in the default settings is MP3 in near-CD quality (i.e. 128 kbps or Normal quality for beginners). If you want to find out more about the numerous options for settings, see page 35 in "More Input."

The browser: your navigation system.

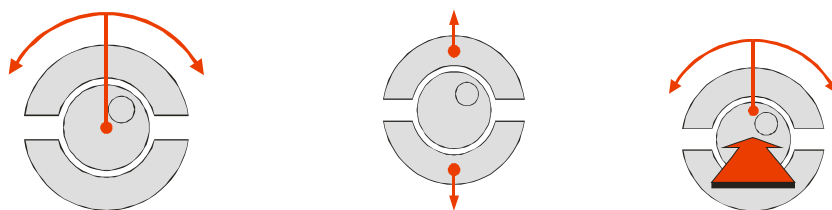
Once you have completed your first recording, you are automatically returned to the functional center of the device: the database browser. This browser helps you find exactly what you need quickly and easily.



The actual information on the stored data is shown here. Top line ARTIST (Moloko), then COMPILATION (I am Not A Doctor), then TRACK (The Flipside). Artist means the singer or instrumentalists, Compilation means any combination of tracks, such as albums, and also samplers and your own playlists, and finally Track denotes the title of the current track.



This marker shows the current level.



Use the wheel or the up and down buttons to move through your data base. Rotating the selection wheel to the left and right changes selection to the next or previous entry on that level (Artist or Compilation or Track). Use the up and down button to move through the three selection levels (Artist, Compilation, Track). On the Artist and Compilation levels the entries are sorted alphabetically and by title numbers on the Track level.

Note: On the Artist level, if you press and hold the wheel while rotating it, you will skip to the next or previous letter of the alphabet and on the Track level you will skip five titles forward or back. This makes navigation through the data much faster.



In this section of the display you can read what medium is currently active ... as follows:

HDD – the internal hard drive

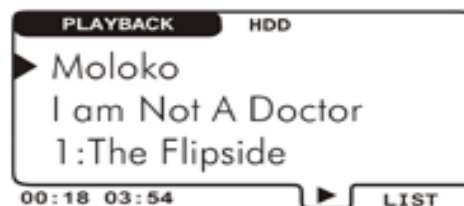
CD-ROM – the inserted data-CD

CD-A – the inserted audio-CD

MMC – the inserted memory card. When you wish to switch to a different medium, you can do this in the browser with the soft key labeled **SOURCE**.

Note: the initialization may sometimes take a moment; in this case a small arrow is displayed for the medium instead of the abbreviation for the medium (HDD, CD-ROM etc.).

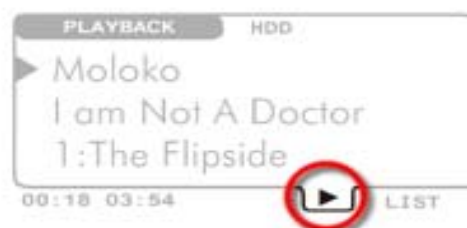
To start playback of the displayed title—'The Flipside' in our example—press the PLAY (▶) button on the control panel of the C.A.R. 4000.



After starting playback your display will look like this or similar. In the factory setting this compilation will be played once and then playback will stop.



The time of the current playback or recording is shown here, left time played, right remaining time. The time refers to the current title.



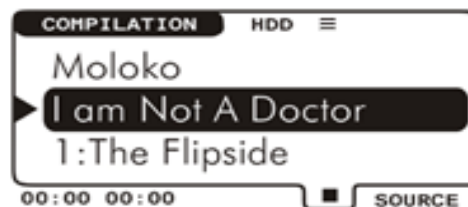
The icon shown here represents the current status of your C.A.R. 4000.

- | | |
|-------------------------------|---|
| ▷ Playback is being prepared | ◀◀ The title is being rewound or |
| ▶ Playback is running | ▶▶ or fast-forwarded, or being played back at a different speed |
| ● The device is recording | ■ No active recording or playback |
| The playback is in pause mode | ⏏ The EJECT button was pressed |

In contrast to most other HiFi devices, other titles can be preselected during playback with the C.A.R. 4000. If you have started playback and then you want to return to selection mode, you only need to press the wheel or the up and down buttons. The PLAYBACK displayed in the upper left corner disappears and the current selection level is shown again. If you want to return to the playback window, press the button labeled ESC or wait for 10 seconds.

A personal collection of titles.

Proceed as above and the titles in the selected compilation will be played back. In our example this is the complete album 'I am Not A Doctor'. But you can also compile your own playlist. First, proceed as described above and select a title with the browser, switch to the title level with the down button and now press the selection wheel. You have now selected this title and appended it to a list.



You can of course append complete albums, samplers or other previously compiled lists to this list. Press the selection wheel on the Compilation level. The illustration shows how your selection is acknowledged—the corresponding line is reversed for a moment. You can repeat this process for as many titles as you want and the list will be extended accordingly.

If you have selected several titles and want to start playing them, first press the “ESC” button in the browser and then PLAY (▶), because pressing ESC takes you automatically to the first entry on the list.



The icon (≡) to the right of the selected medium (HDD in this case) indicates that a list is activated in the memory of the C.A.R. 4000; pressing ESC is acknowledged by the reversed icon (≡). We are assuming that you have synchronized yourself to the selection list.

You can also start a compilation to compile your list without deleting the selection list. Whether you are playing back the selection list or a compilation independent of the selection list can be seen by the soft key label in the PLAYBACK window—if it is labeled ≡LIST, you are playing your selection list, but if LIST only without the icon is shown, you are playing a different compilation.

Your selection of titles can of course be taken from different media. This allows you to mix titles from audio-CDs, memory cards, or hard disk without problems—if you remove a medium, it will be automatically removed from the list.

Something to think about. If you have read up to this point in the manual you should be familiar with the basic functions of the device. The following pages deal with the advanced options of the C.A.R. 4000 in detail and we hope that we can show you the many exciting possibilities of this device. Have fun with it.

The details.

The User Level.

One moment. So the beginner does not become too confused with specialized details we have classified the various function levels into three different user levels. The complete details are only revealed at the professional level. We note this now because this manual is designed to conform to this classification into different levels. When we discuss the menu of the specific range at the end of a chapter, the menu entries are marked with the following icons



Beginner



Advanced



Professional

Increasing the user level from beginner to advanced to professional indicates increased functionality and more setting options, but the basic structure remains the same.

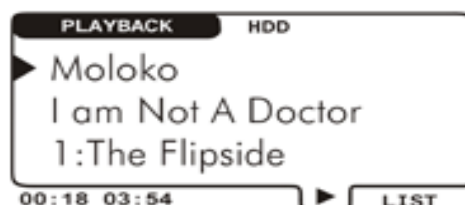
For this reason we show you now how to set the user level: Press “Menu” in the browser, rotate the selection wheel until the “Settings” entry is selected. Press the wheel to open the submenu, select “C.A.R.” and then “User Level”. You can select the user level in this menu.

If you make settings at a higher level and then return to a lower level later, the settings you made are retained. If you want to reset all settings and lose your personal settings, you can do this with “Default Settings” in the “System” menu, which you can open from the main menu (see also page 60).

If you accidentally change the language settings, see page 64 for instructions on resetting the language to the desired setting.

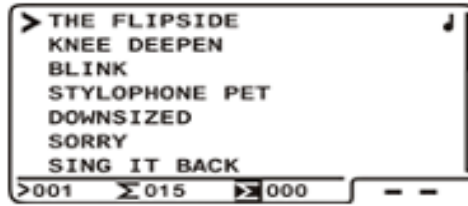
The List Info.

Another component in the C.A.R. 4000 world is the individual collection of titles mentioned above. This is not only important in playback but also, for example, if you want to transfer specific titles from CD to the hard disk or delete others from the database. The first thing to do is to create a list with the titles that you want to use. For this reason you will need to become familiar with the list and most of all editing it. Now we return to our example.



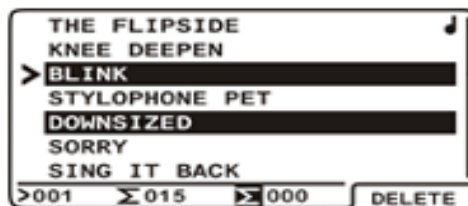
After starting playback, the playback window became active.

As shown in the illustration, the soft key in the playback window is labeled “LIST”. This means that you can use this button to open the 'List Info', i.e. the subject of this chapter—in this example the list of titles that are being played back.



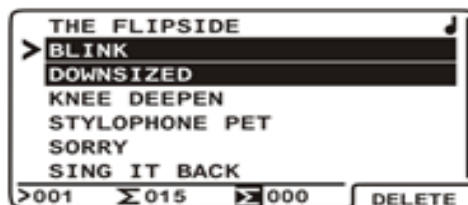
After pressing the soft key the actual List Info window is opened.

Here you can see an overview of the titles in your selection list. If you just allow the playback to continue now, all titles would be played from top to bottom. A small musical note icon (♪) shows what title is currently being played.



Now you can use the selection wheel to move the cursor on the left side up and down through the list. You select entries in the list by pressing the wheel.

Note: hold the wheel down while rotating it to select multiple titles.



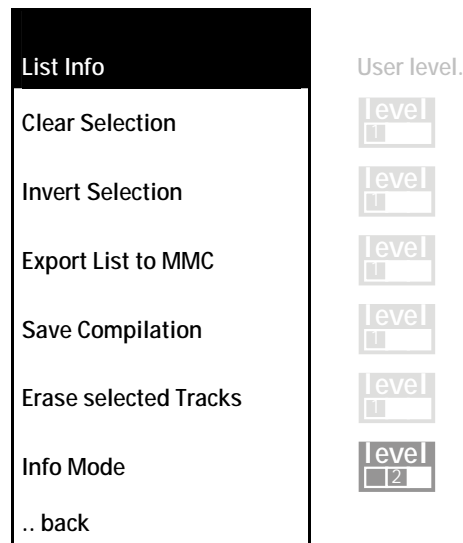
If you press the up button twice now, the following list is created. This means that you can move the selected titles in the list, i.e. change the playback sequence and also remove titles from the list with the DELETE soft key. Deleting a title only removes it from the selection but not from the database or the hard disk.

The playback switches immediately to the title to which the cursor is pointing when you press the Play button (▶).

When you press the buttons labeled MENU, the options menu of this list opens. Here you can decide what should be done with this specific list.

The menu: List Info.

If you press the menu button inside the List Info, a menu with the following entries opens ...



Clear Selection. Pressing the wheel allows you to select individual titles, as mentioned above—you can deselect your selections with this menu function.

Invert Selection. As you can easily guess, you can reverse the selection with this menu item, so select exactly the titles that were not previously selected. This is very helpful, for example if you want to delete all titles except for one.

Export List to MMC. If you have inserted an MMC into the memory card slot, you can transfer your selection of titles to the card. You can only transfer data from the hard disk (HDD) to the MMC, but not directly from the CD-ROM to the MMC. **If there is no MMC in the tray, this menu item is hidden.**

Save Compilation. At this point you have the option of saving your playback list in the database as your own compilation. After opening this menu item you are prompted to enter a name for your compilation. If the titles all come from the same original compilation—such as if you have only changed the playback sequence of the titles—the original name is automatically suggested, in this example 'I Am Not A Doctor'. If you don't change anything and confirm this, another dialog will ask you whether you want to overwrite the existing compilation of that name or append the new list to the existing list. In this way you can add appropriate titles to an existing compilation. If the titles of the list come from different artists, this compilation will be found in the browser under 'Various Artists'. The suggested new name will be "New Compilation". See "Character Entry" on page 33 for information on entering your own character string at this point.

Note: Compilation processing has been optimized to manage up to 200 entries (at 4 minutes per track, meaning more than 13 hours nonstop). Basically more titles can be managed, but in this case the compilation is managed on the hard disk and management is correspondingly slower.


Erase selected Tracks. Use this function to remove the current or all selected titles from the compilation from which they were selected. In every case a security prompt is shown—but be

careful—if the entries in question are the last remaining in the entire database, they will be completely deleted from the C.A.R. 4000 with no further warning.

IMPORTANT: Deleting titles with the menu thus has a different function than the DELETE soft key within the list. For example, if you have saved the song 'The Flipside' not just under Moloko (Artist), I Am Not A Doctor (Compilation) but also under Moloko (Artist), Very Best Of (Compilation), selecting the last entry and activating the function Erase Track would only delete it from your Very Best Of compilation. However, if the title was recorded under the first entry only, it would be completely removed. If you want to delete a specific title completely from all compilations, see page 27.

Info Mode. See below.

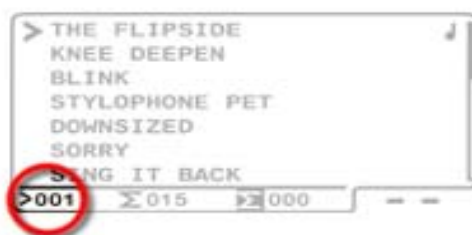
... **back.** This returns you to the current List Info.



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

Info Mode.

In this menu you can specify what type of information will be shown at the bottom edge of the List Info. You can select time, index or size.



Index. The information to the left always refers to the title to which the cursor is pointing. In this case the Info Mode Index is active; this title is the first in the list, i.e. number one. It is not surprising that if you select a compilation and leave it unchanged, this number matches the track number.



Time. The center shows the total of the relevant item. If you have set Time as Info Mode, our example would show the total duration of the 'I Am Not A Doctor' compilation, i.e. 1.03, which means one hour and three minutes. The dot as the separation symbol between the two numbers indicates that this is a time in hours and minutes, while a colon indicates minutes and seconds.

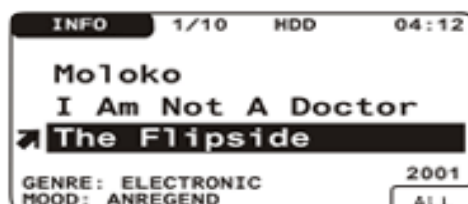


Size. To the right of the total based on the entire list is the total of entries marked in the list. In this case the two titles are 7.8 MB in size. The figure is shown in KB (kilobytes), MB (megabytes) and GB (gigabytes) depending on the amount of memory occupied.

The Track Info.

One of the great advantages of the above-mentioned database substructure is that you can link additional information on every title by the headings of artist, compilation and title. You can use the Track Info to open a window for processing information relevant to individual titles. If you open the track information on an audio-CD (CDA) or data-CD (CD-ROM), you can only display the information but not edit it.

Open Track Info by opening the main menu with the "MENU" button and selecting the "Track Info" entry with the wheel. If a track is currently being played back, the Info always refers to this title.



Use the up and down buttons to move the bar up and down to select the entry you want to edit. Press the selection wheel to edit an entry. The entry starts to flash to confirm your selection.

When the wheel is rotated, the original selection disappears and you can select the first character by rotating the wheel to the left and right. Press the down button to confirm the first character and to insert the next character. **DO NOT press the wheel**, because this will confirm the complete entry and not just one character. You can control the cursor (flashing bar) with the up and down buttons and add new characters between others. Press **ESC** to cancel the operation. When you have finished processing the entry, confirm this by pressing the wheel, as noted above. See page 33 for more information (such as how you can enter characters with the remote control).

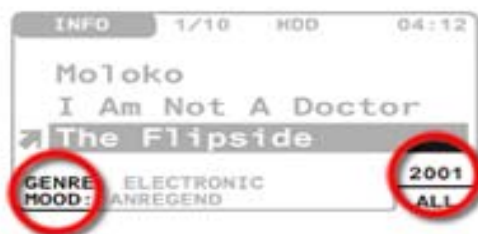


If you have changed the album entry for a title and you want to extend the change to the remaining titles of the compilation or your selection, press the soft key marked "ALL". The transfer of course only refers to the currently selected line—to import a track name for all relevant titles makes so little sense that we have disabled the soft key in this case.

In addition to the information shown in the browser (artist, compilation, track), you can also change or add other attributes to a title. Navigate to where you want to go with the up and down buttons, press the wheel, edit, press the wheel again. Finished.

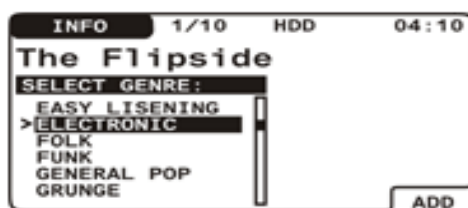


This arrow represents your personal evaluation of the title, the ranking. You have a total of five evaluation stages, from top (↑) to average (→) to flop (↓). If there is no ranking information, the title is automatically ranked as average.



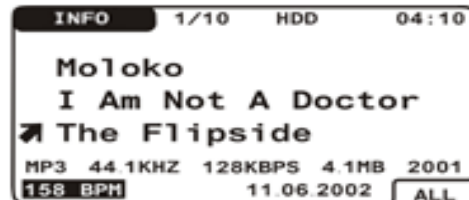
In the **genre** or **mood** range you can classify the title into a specific genre or mood from a list. If this information has not been set (in the case of a recording or import), it is set to other or neutral.

The Release year on the right (2001 in this case) is set to the year of recording or import if there is no other information. The range can be set from 1920 to today.



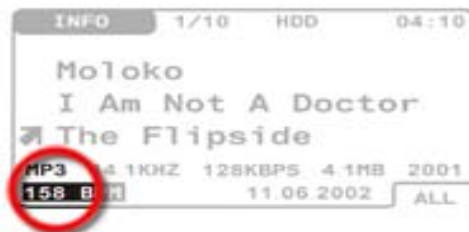
If you want to change the genre or mood, the following selection dialog is opened. The title is at the top and the list with the various styles is shown below. Press the soft key labeled **ADD** to add your own terms. The procedure for inserting characters has been described in detail on page 33.

If you have marked the year of release and press the down button again, you will get to even more specialized details.



You can find detailed information on the technical format of the title in the line below the track name: first, the compression process, MP3 in this case. WMA (Windows Media File) or WAV (uncompressed WAV file) may also appear in this position. Then you will see the sample rate (44.1 kHz), bit rate (128 kbps) and finally the file size (4.1 MB).

The next line down shows the "Entry Date", which is the date on which this title was saved on the hard disk.



In the bottom left corner the figure for the **Beats Per Minute (BPM)** is shown. In case of doubt this figure is set to 0 (zero)—i.e. if this information was not entered into the database when the data was imported from CD-ROM.

Note: The C.A.R. 4000 cannot analyze a title for the BPM itself. This information is also unfortunately not provided by the CDDB database, i.e. when recording an audio-CD with title detection. The information must be entered manually in almost all cases.

For the sake of completeness we would also like to note that the top line, beside **INFO**, shows the **track number** in the list or compilation, followed by the **total number of tracks**. To the right of this you will find the current medium. And to the right again the **total time** of the current active track is shown.



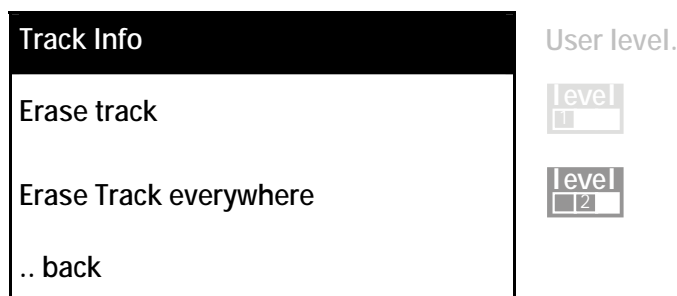
This icon indicates that you are currently transferring the track info into your selection list; if this icon is not present the reference is always to the current compilation.

Note: Please note that as soon as a title is played, the track info always refers to this title or the playback list. If you want to select specific titles to change their track information, proceed as follows:

- Select the corresponding list of titles in the browser **with the wheel**.
- Then press **ESC** to get to the first title of the list and to synchronize on the selection list (the list icon is reversed).
- Press **MENU** and select **Track Info**.

All changes that you make now to multiple titles with the soft key in Track Info are exactly related to your selection list. This is a very efficient way of correcting any mistakes in the spelling of an interpreter (ACDC, AC/DC, AC-DC etc.). Just select all the relevant entries in succession and change the **ARTIST** once, apply to the entire list and that's it.


The menu: Track Info.



Erase track. Use this function to remove the title from the compilation from which it was selected. If this entry occurs only once in the entire database, the entry will be completely deleted from the hard disk after a security prompt.

Erase Track everywhere. See below.

.. back This returns you to the current List Info.

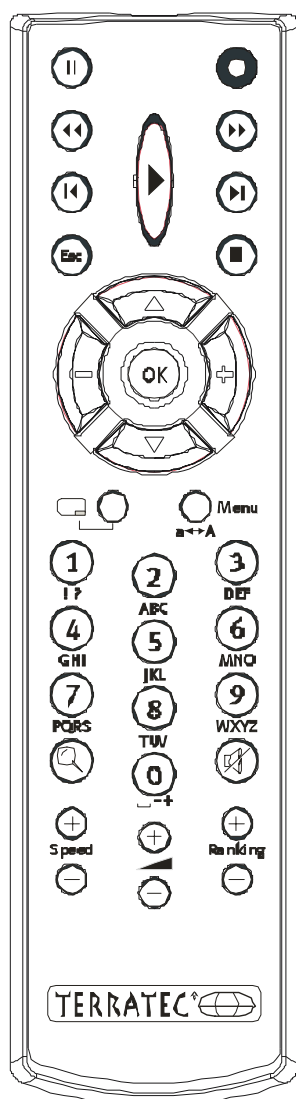
 The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

Erase Track everywhere. Here you remove this title from the entire database. Wherever this title appears it will be removed, never to be seen again. As you can imagine, this function should be used with great caution.


The remote control.

Once you have prepared the remote control for use by inserting the included batteries correctly, you can easily control your C.A.R. 4000 remotely.

Note: infrared remote controls like that supplied with the C.A.R. 4000 function better if the room in which the remote control and the C.A.R. 4000 are set up is not exactly flooded with daylight, because natural light includes spectral components that in excess can interfere with the transmission of the remote control signals. For this reason it is best not to expose the C.A.R. 4000 to direct sunlight. This of course has nothing to do with the C.A.R. 4000 as such but is the case with all devices with infrared remote controls.




The control panel in the upper section corresponds to the functions of the standard control panel of the C.A.R. 4000. (PLAY, STOP etc.)

The  button has the same function as the soft key on the C.A.R. 4000.

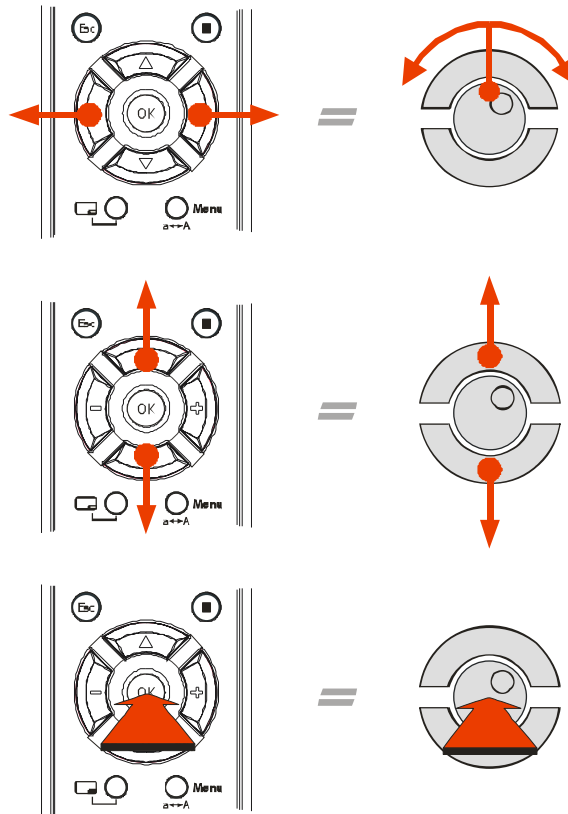
The number pad is primarily for character input—see the following chapter for more information.

SPEED allows you to increase or slow the playback speed. Press **PLAY** to reset it to the default value.

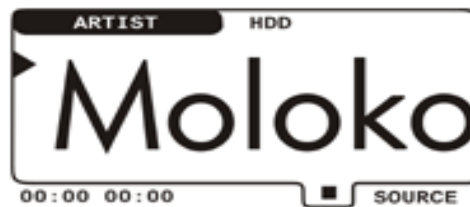
You can control the volume with the  (+) and (-) buttons. If a value of 100 is shown on the display, the signal is no longer attenuated, i.e. 0 dB is sent to the output in the case of correspondingly controlled material. To mute the sound press the crossed-out speaker icon once and press again to restore the previous volume.


Ranking allows you to set the ranking for the current title. See also "The Track Info." on page 27.

The navigation block in the center has the same functions as the input wheel on the device. See the diagram for more information ...



Left/right and up/down are only reversed for character input with the remote control and for navigation in List Info.



And it's gone ZOOM. To allow you to see what's going on from a distance or at least to see what you are doing, the playback window and the browser in the view can be enlarged, meaning that the information of the current selection level (ARTIST, COMPILATION or TRACK) is shown virtually filling the display. The button has the magnifying glass icon .

Character input.

As indicated earlier, you have two options for entering character strings, either directly on the device or with the remote control.

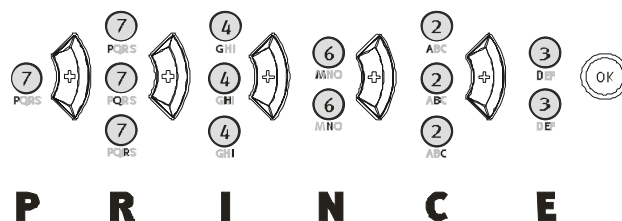
On the device. Rotating the selection wheel moves the selection through all possible characters; rotating the wheel to the left to move forward or to the right to move back. The characters are arranged in six blocks to make navigation faster.

- [1] a b c d e f g h i j k l m n o p q r s t u v w x y z
- [2] A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
- [3] 0 1 2 3 4 5 6 7 8 9
- [4] à á â ã ä å æ ç è é ê ë ì í î ï ð ñ ò ó ô õ ö ÷ ø ù ú û ü ý þ ÿ ß
- [5] À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ð Ñ Ò Ó Ô Õ Ö × Ø Ù Ú Û Ü Ý Þ
- [6] ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~ ¡ ¢
£ ¤ ¥ ¦ § ¨ © ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿

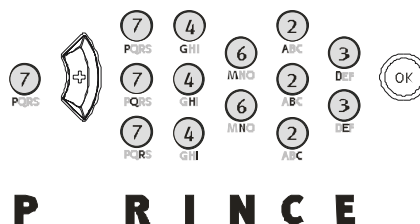
Press and hold the wheel while you select a character to skip to the next block, i.e. from a to A and from m to M.


To append the next character and to confirm the first press the **down button**—but **NOT the wheel**. Pressing the wheel will confirm the complete entry and not just one character. You can control the cursor (flashing bar) with up and down buttons and add new characters between others. Please use the soft key to delete a character. Press **ESC** to cancel the operation. When you have finished processing the entry, confirm it by pressing the wheel, as noted above.

About the remote control. As an alternative you can also enter characters with the numerical pad on the remote control. The basic principle is similar to that of creating SMS on mobile telephones and probably familiar to you. The letters A, B and C are on button (2) and you can scroll through them by pressing the button multiple times. The letters available on each button are shown below the buttons on the remote control. An example: if you want to enter the character string PRINCE, this would require the following sequence on the remote control ...



As with the mobile phone, you only need to confirm a character when it is on the same button.



If you want to switch a character between upper and lower-case, use the MENU button, which also has **a↔A** below it. If you want to delete a character, press the soft key, i.e. the  button on the remote control and then the OK button.

Volume control.

As mentioned briefly above, the remote control can be used to regulate the volume. However, you can also change the volume on the device with “Volume” in the main menu using the selection wheel. When you regulate the volume on the C.A.R. 4000, this only attenuates the signal. If a value of 100 is shown on the display, the signal is no longer attenuated and 0 dB is sent at the output with the material fully controlled.

Headphone volume. To set the headphone volume select **Settings** in the main menu and then **C.A.R.** and there **Headphone Volume**.. As you can see, this is a percentage figure—it describes the proportion of the headphone volume in the total sound level. So when you regulate the volume with the remote control the headphone output is also regulated correspondingly. The related amplifier has an output of 60 milliwatts.

More Input.

Another foreword.

In this section of the manual, we would like to show you the various ways of feeding data into the C.A.R. 4000. First of all, we explain two terms a little more clearly. The term “recording” will be used at some points and the term “import” at others. Both terms ultimately mean an increased amount of data on your hard disk. The difference is that we use “import” when we refer to file-based operations, such as when you transfer MP3s from CD to hard disk, and “recording” when digitizing data from the line input. As soon as we transfer files to the hard disk, we talk of importing, while saving an external audio signal or an audio-CD on disk in real time is recording. But only one thing is important: data is saved on the disk. So let's get on with it.

The Audio CD.

There's nothing better. When you record or playback an audio-CD in the C.A.R. 4000, this is done completely digitally. This means that the data are not converted during recording but they are read directly from the CD. For example, if you connect another CD player with one of the line inputs, the signal would be converted twice during the recording. Once during output from the CD player (digital > analog, or DA) and again during recording in the C.A.R. 4000 (analog > digital, or AD). Unfortunately interference may occasionally become unpleasantly obvious during an analog recording and can even be heard—think of the noise in a mobile phone near a speaker. Interference can adversely affect a recording. You should pay attention to the original material if you want a perfect recording. If this is distorted, the C.A.R. 4000 can only make a “perfect” recording of the distortion.

Perfect playback: if you want use the C.A.R. 4000 in connection with a high-end end device including digital input, only the high-end converter of the end device will be used for standard playback, because the C.A.R. 4000 is completely digital.

Let us continue ... we have already reached the basic principles of CD recording on the first pages (“The first recording.” page 18) of the introduction. We will examine the subject a little more closely and technically at this point.

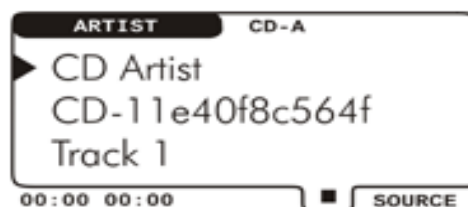


Copy protection. The C.A.R. 4000 functions best with standard audio-CDs that conform to the Redbook standard for audio-CDs. The audio-CD logo is shown to the left. All CDs manufactured to conform to this format can be played back and recorded with the C.A.R. 4000. Unfortunately, more and more record companies are deciding to implement copy protection mechanisms. In so doing they are actually violating the Redbook definition—such CDs should not carry the audio-CD logo. For this reason, some CDs have a small note somewhere such as the following: Cannot be played on the

computer. Because we use a computer CD-ROM drive with the C.A.R. 4000, such CDs can generally not be played with the C.A.R. 4000. But because computer drives are being used more and more often in consumer electronics (in CD and DVD players, car radios etc.), it is an open question whether the record industry will retain the copy-protection concept. If you purchase a CD with the audio-CD logo that has copy protection, you have the right to return it for a refund. Unfortunately the law requires us to respect the copy protection and we cannot break it.

Special formats: Mixed Mode and Enhanced CD. These special formats are a combination of data and audio tracks on one CD. In the Mixed Mode CD the first track is the data track and in the Enhanced CD the last track is the data track. Both formats can be read. You can access the audio section via CD-A and the data section via CD-ROM with the soft key in the browser (SOURCE). However, with the Enhanced CD one audio track more than is actually there is displayed. This has the title DATA and cannot be played back.

As described above, after insertion of an audio-CD you only need to press the red Recording button and recording starts.



If a CD cannot be identified by the CDDB database, you can of course still record it. You would ultimately find this CD under one of these entries on your hard disk. You can edit the entries with the Track Info; for more information see page 27.

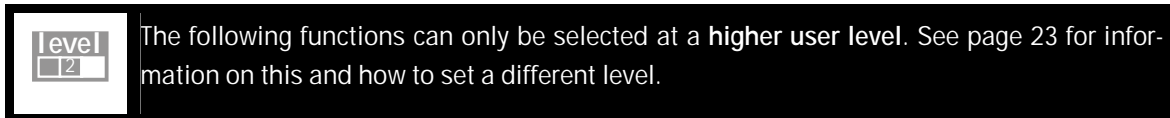
Stop recording. If you stop a recording midway through a title with the **STOP** button, the section recorded before you stopped it will also be in the database—i.e. all complete tracks and the last incomplete track.

Not the entire CD. If you do not want to record the entire CD, you have various options. If you want to record from **track 5** to the end, turn the wheel to this title and then start recording. If you only want to record specific titles on a CD, proceed in exactly the same way as you would to make selections for a playback list, i.e. select the individual titles with the wheel, synchronize on the beginning with **ESC** and then start recording by pressing the record button. If there are tracks on the list that are not on the audio-CD but on MMC or HDD, they will be ignored during recording and deleted from the list. You can also use the selection to select all the tracks on a CD but arrange them in a different sequence. As you know, you create a selection list and the position in this list will correspond to the later track number. See "The List Info." for the details of the list and how to edit it.

No duplication—no replacement. Note that a track that is already on the hard disk will not be recorded. If you want to record a title completely that you had previously only recorded incompletely, you will first need to remove the prior recording from the database. Do this with the Track Info function; see page 27 for more information.

CD Info. In the main menu you can find information on the inserted audio-CD via **CD Audio** and then **CD Info**. Here you will also see that the gracenote CDDb database specifies genre as well as information such as artist, compilation and track. This window also shows information on the total number of tracks and the duration of the complete CD. If you do not agree with these entries or you want to edit them after recording, see the Track Info again: see page 27 for more.

The quality. As we noted at the beginning of this manual (page 13), the recording quality can be reduced to save space, or the quality can be increased at the expense of requiring more memory. The C.A.R. 4000 allows you to make separate quality settings for recording from audio-CD and external sources. You may always want to record CDs at high quality, but only record the tuner at the line input at low quality. As always, to set the recording quality of audio-CDs, press the **MENU** button to open the main menu, then select **Settings** and finally **Record CD**. If you have selected the user level **Beginner**, you can select **Low**, **Normal** and **High** here.




The following functions can only be selected at a **higher** user level. See page 23 for information on this and how to set a different level.

If you have selected a user level higher than **Beginner**, this menu looks a little different. You can now select an actual bit rate between 48 and 192 kbps. The entry **uncompressed** allows you to record as **uncompressed**, i.e. as WAV without any loss of quality.

Recording from an external source.

The function is hidden in the **Beginner** user level. Please increase the level when you feel relatively secure working with the device—but of course it's not magic.

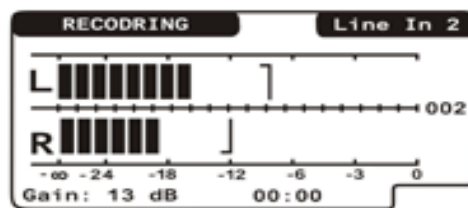
 The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

You also have the option of recording from external sources to be able to use the C.A.R. 4000 as a universal recording device. The following inputs are available for this

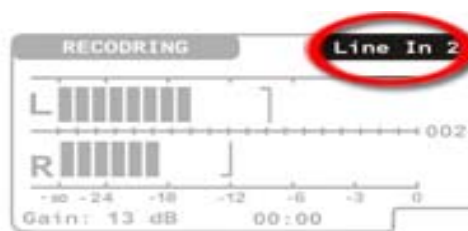
- 2 analog line inputs (see page 10)
- 1 stereo microphone input (or 2 mono inputs—see page 10)
- 1 optical digital input (see page 12)

First: you must first have the right cables to be able to record from the audio inputs (line-in 1/2, MIC, digital-in). See the above-mentioned pages for more information.

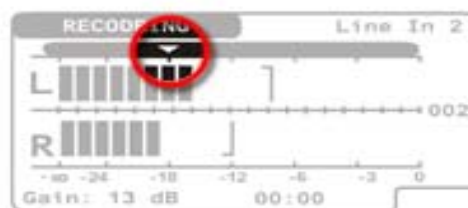
The full level. To open the control window from which you start recording, first make sure that you are on the hard disk (HDD).



Press the record button on the C.A.R. 4000 and this window will open. Once you are in the recording window, the analog input signal for monitoring will be sent to the output.

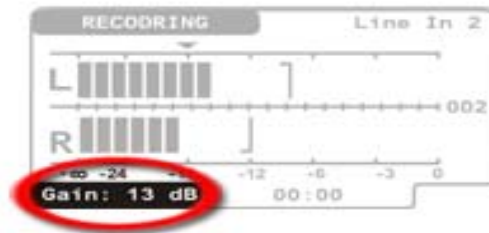


The source. Now rotate the wheel and scroll through all possible inputs in sequence.



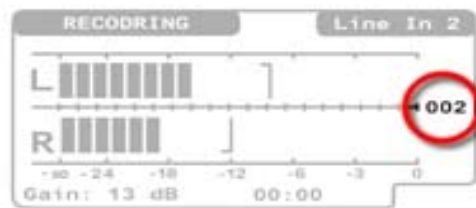
ASD. Now press the down button once; you can move the small pointer left and right with the wheel. It marks the threshold limit. The recording begins when it is exceeded. We refer to this

automatic start as **ASD**, meaning Automatic Signal Detection. You activate the ASD automatically as soon as you move the pointer from the position on the far left to right, and you correspondingly disable signal detection when you move the pointer to the extreme left position.



Gain. Press the down button again to get to Gain. Here you can amplify an input signal up to 22 dB. You also rotate the wheel left and right to set amplification. At the 0 dB setting there is no amplification. The Gain function is disabled at the digital input to prevent the signal from this source from being corrupted.

The time indicator to the left of Gain shows the duration of the recording. The display flashes to show that the recording is not running yet.

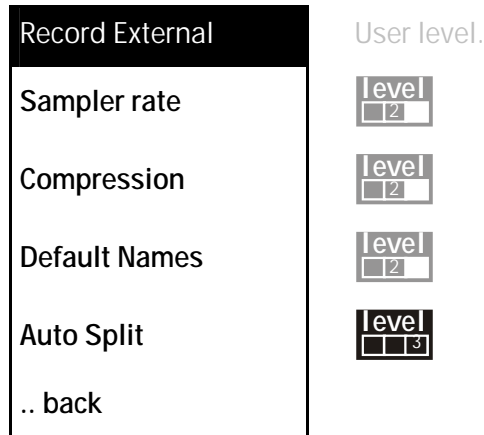


Clippings. Distortion during recording is also referred to as Clipping. If distortion occurs, the bars indicate that it is occurring and the number (002) shows that distortion has occurred twice in this session. During longer recording sessions you can see how often distortion has occurred—preferably not at all, of course.

After you have set the controls as required, press the record button again and recording starts or the ASD is switched on. Press the STOP button to interrupt recording. You enter the name of your recording with the corresponding settings menu; more on that now.

The menu for external recording.

To open the settings menu for external recording, open the main menu and select **Settings** and then **Record External**.




Sampler rate. You can set the Sampler Rate for recording in this submenu. You can select 32, 44.1 or 48 kHz. Standard audio-CDs, for example, operate at 44.1 kHz. The bit depth of the recording is always 16 bits. If you want to record from the digital input, it is important that the sampler rates match so both devices (C.A.R. 4000 and the source) can be synchronized to each other. For example, if you play a tape with a DAT recorder at 48 kHz, you must also set exactly this sampler rate here.

Compression. You can set the desired bit rate here from 48 to 320 kbps. You can also select uncompressed to record the signal as standard WAV without realtime compression.

Default Names. Here you can set a default identification (ARTIST, COMPILATION, TRACK) for recordings from external sources. The window looks very similar to that of the Track Info and navigation is also similar. Select the field with up and down buttons and start the input by pressing the wheel.

Note: It has proven very practical to enter something like *!Charlie (Artist) 1.3.2002 (Compilation) and Take (Track)*. The advantage is that the exclamation mark before Charlie places this entry at the top of the artist list in the browser. The various titles are automatically numbered with Take 1, Take 2 etc. . Very practical, isn't it?

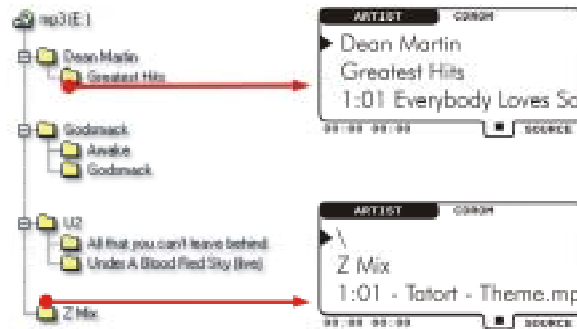
 The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

Auto Split. When you enable this option, a new recording is started after a pause of at least 1.5 seconds. You can set the threshold value for starting the recording with the pointer as described above. In this way you can update an old cassette set by digitizing it and have it all sorted into individual titles—if the material allows it.

A data CD with audio material.

As you have certainly suspected, data CDs are also supported for playback and import to the hard disk. You can directly play back MP3, WAV and WMA formats or sort them into the database according to any desired criteria. This section of the manual has more information.

When you insert a CD-ROM, it is first read completely and searched for usable material. That means all files that have the following endings: ***.mp3**, ***.wav** or ***.wma** (upper and lower case). Then the C.A.R. 4000 interprets the imported CD based on the folder structure—ultimately in its factory setting the device assumes that the **filename.mp3** is the title, the name of the next higher folder is the name of the album and the name of the folder on the next higher level is that of the artist. Here's an example:



You can see the folder structure on the left side as would be shown for a CD in the Windows Explorer, and the right side shows how this classification of directories is transferred exactly to the C.A.R. 4000 browser. If you transferred all this (*Dean Martin*, *Godsmack*, *U2* ...) into a directory called *Compressed Audio*, in this case the C.A.R. 4000 would encrypt it somewhat differently: in the artist level all folders would be listed separated by a backslash (\), i.e. *Compressed Audio\ Dean Martin* etc. In this way you can always see exactly what subdirectory you are in. In contrast, in the folder *Z Mix* a backslash (\) is shown at the artist level because the CD does not have a corresponding folder depth. Thus a backslash (\) is also shown at the compilation level if there were any audio files in the main directly or the CD.

Playback. The procedure for playback and creation of selection lists is identical to that of the hard disk. However, if you have imported titles from a CD into a playback list and then you open the CD-drawer, this entry will be removed from the list and the playback will be stopped or continued with the remaining titles on the list. Please don't forget that you can change the media at any time during playback (CD or MMC)—unlike a standard CD player.

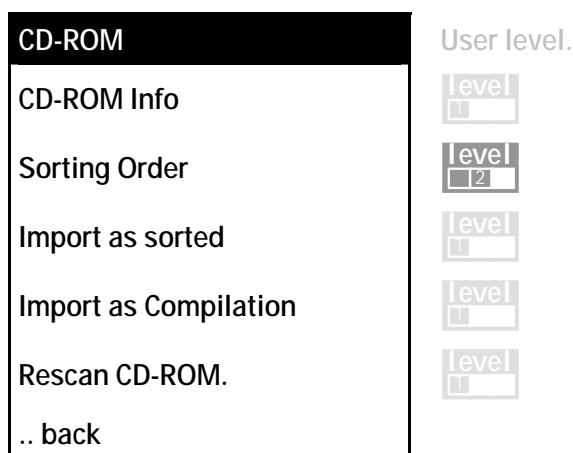
Get it on disk. Basically all data is imported (i.e. copied to the disk and sorted into the database) as displayed. In a higher user level you do have the option of influencing the Sorting Order, but we will consider this later. Without a prior selection the import is always based on the entire CD. If you want to import single titles or a compilation, you can create your own list, as described above. To import all audio files or the selected titles to the disk, use the **MENU** button to open the main menu and select the CD-ROM item and then **Import as sorted**. You will then see an overview of the status of the import.

Special formats: Mixed Mode and Enhanced CD. As previously mentioned with reference to audio-CDs, these special formats are a combination of data and audio tracks on one CD. In the Mixed Mode CD the first track is the data track and in the Enhanced CD the last track is the data track. Both formats are read, and you can open the audio section via CD-A and the data section via CD-ROM with the soft key in the browser (**SOURCE**). However, with the Enhanced CD one audio track more than is actually there is shown. This has the title **DATA** and cannot be

played back. To import the audio files from the data section to the C.A.R. 4000 proceed as with a standard CD-ROM—see above.

The CD-ROM menu.

To open this menu select CD-ROM in the main menu; if there is no CD-ROM in the drive, this menu item is not shown.



CD-ROM Info. This shows information on the number of titles and compilations and the space they require.


Sorting Order. See below.

Import as sorted. As noted above, you start the import process here.

Import as Compilation. Here you can import your selection or the entire CD as a compilation into the database. For example, if you have a CD labeled with the title "Our Graduation Trip", you can save the entire CD under this name.

Rescan CD-ROM. You must have noticed that a CD is scanned much faster the second time it is inserted than the first time. This is because the C.A.R. 4000 remembers the CDs that you have previously inserted. This identification is generally unique, but if you have the feeling: *"Just a moment, I know quite well that I have already burnt **this and this title!**"*, we recommend deleting this function temporarily so the CD will be completely re-indexed.


.. back Return to the main menu here.

 The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

Sorting Order. As previously noted, you can modify the sorting order so the folder or file structure only are not interpreted. You have various other options—select this menu item and a menu with the following entries will open:

Sort by Filesystem. This is the default setting, i.e. sorted by folder and files structure as described above

Sort by ID3 Tags. Here an attempt is made to read and use the ID-tag information from all MP3 files. ID-tags are a small range within the MP3 file in which various information on the title can be stored (among other information track number, genre, year of issue etc.). ID-tags in version 1 and 2 are supported. See <http://www.id3.org/> (English) for more comprehensive information on ID-tags. If you would like to find a good program for editing these tags on the PC, we can recommend <http://odin.mutschler.de/mp3ext/> (English).

by folders/ID3. This is a combination of the previously mentioned options. On one hand all information in the ID-tags is read but only the compilation name is derived from the folder. Why? You may have created your own collection of titles in which the complete information in the ID-tags still refers to the original albums from which the titles were taken. When you use this type of sorting order you will have all ID-tag information (genre etc.) but your own compilation.**Sort by Playlists.** Caution: this option can only be selected in the Professional user level. Sort by Playlists is based on play  lists (file ending *.M3U or *.PLS)—if you have selected this type of sorting, the sequence or combination will be imported from the play list.

Note: the title information from WAV and WMA files is currently not supported. The browser treats them independently from the sorting order setting, i.e. always as an MP3 file without an ID-tag: the sorting order is similar to **Sort by Filesystem**. If you want to check the format, you can use the Track Info to view it; see also page 27.

WYSIWYG. Because the data is always imported as you see it, you can easily monitor how it is sorted in the database. If you change the sorting order, it will be applied to every CD that you insert. This of course will extend the CD-reading process.

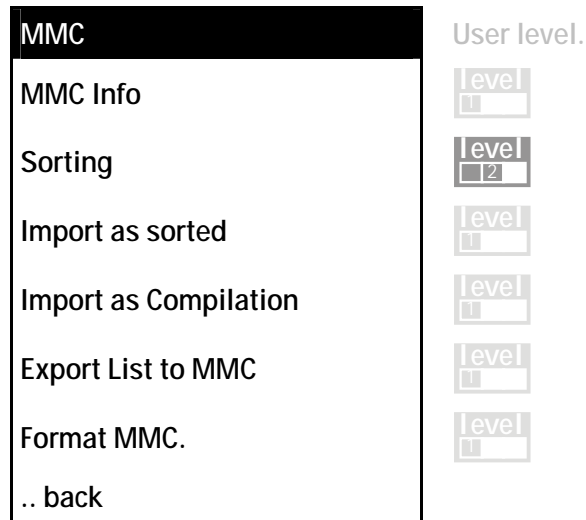
A memory card (MMC) with audio files.

The slot for memory cards (MMC) is to the right of the CD drawer. You can use memory cards to supply data from the C.A.R. 4000 to your mobile MP3 player, or to add titles from a card to the C.A.R. 4000. As you have probably noticed, the boot process takes longer when an MMC card is inserted, so we recommend removing the card before switching the device on or just unlock it by pressing it once.

Ultimately the MMC behaves very similarly to the other removable medium, CD-ROM. For this reason we refer you at this point to the previous chapter “The CD-ROM Menu” and now we go directly to the MMC menu.

The MMC menu.

To open this menu select **MMC** in the main menu; if there is no MMC in the slot, this menu item is not shown.



MMC Info. This item shows information on the number of titles, compilations, their memory requirements and an indication of the available free space on the MMC.

Sorting. Exactly the same as with a CD-ROM; see "The CD-ROM menu." above.

Import as sorted. Exactly the same as with a CD-ROM; see "The CD-ROM menu." above.

Import as Compilation. Exactly the same as with a CD-ROM; see "The CD-ROM menu." above.

Export List to MMC. You can transfer your selection of titles to the card here (see also "The List Info." on page 23). You can basically only transfer data from the hard disk (HDD) to the MMC. It is unfortunately not possible to transfer directly from the CD-ROM to the MMC.

Format MMC. This function allows you to delete all data from the MMC and thus to fill it with audio material. Caution: if any other data is still on the MMC (non-audio data invisible to the browser), it will also be deleted.

.. back Return to the main menu here.

The special functions

Influence on the speed.

As previously noted in the explanation of the buttons on the remote control, you also have the option of influencing the playback speed. You can also reach this function from the main menu with the two buttons on the remote control. Select **Speed**. Then you can increase or reduce the speed by rotating the wheel in the appropriate direction. Press the **PLAY** button to reset it to the normal factor of 1.0.

You can always go more slowly. Because this speed is technically implemented via the hardware of the C.A.R. 4000 (more precisely with the variation of the clock frequency of the codecs), this means that speed cannot be increased under all circumstances. Because we achieve the effect by changing the sampler rate, we cannot for example further increase the playback speed of the file at 48 kHz. In the same way you will not change the digital output when you use this effect, because the synchronization cannot be ensured. Because audio-CDs are read digitally during playback, you can also influence their speed of playback. In addition, the change in speed is retained throughout the entire title. For example, if you want to be accompanied by the C.A.R. 4000 while you practice an instrument, you can reduce the speed for the entire session.

The display.

If you have the feeling that the contrast of the display is not particularly good shortly after starting the device, this is because the display has not yet fully warmed up. When it has, its properties may change slightly. In the factory setting the display is optimized for operation after it has fully warmed up.

The **Backlight** function in the main menu allows to switch the background LED lighting of the display on and off. This allows you to switch off the backlight on the C.A.R. 4000 when you want a dark environment. The setting is not saved.

The Introscan mode.

You probably know this function on a normal CD player. If the Introscan is activated, it starts playback and plays all the titles of the current list or compilation for **15 seconds** and then switches to the next title. If you want to listen to the current title fully, press **PLAY** and playback will not be interrupted.

The automatic playback (Autoplay).



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

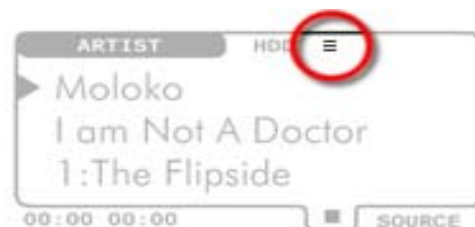
If you select Settings in the main menu, then select Playback and then Autoplay, you can have playback start automatically after switching the device on. Whatever was playing last time you switched the device off will be played. If a title is interrupted by a power failure, it will be continued from this point. This does not apply to removable media (CD-ROM, CD-A or MMC).

The DJ Mode.



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

Party Alarm: the DJ Mode. One of the most common uses for the C.A.R. 4000 is to provide sound at a function such as a party or celebration. One of the important questions during any sort of party is what to play next to keep everyone in the right party mood. This means that the DJ always needs to know what title is next in line to be played. To keep the playback list as clear and accessible as possible, in DJ Mode all titles that have been played disappear from the list and the current title is always at the top.



When DJ Mode is not active, the standard list icon is always shown on the display (≡) when there is an active list in the memory.



However, when DJ Mode is active, this icon (≡) is shown. We call this special type of list the DJ stack.

If you switch to the browser during playback, you can always return—as in other cases—to the currently played title and to the PLAYBACK window by pressing the **ESC** button. Pressing **ESC** is acknowledged by the reversed icon (≡).

Careful with fast fingers: Play always wins. To ensure the required speed of reaction, particularly in critical situations where the party mood could be spoiled, pressing the PLAY button (▶) starts the selected title playing immediately but it can also completely delete the DJ stack.

So here is the sequence:

1. Select the titles to be played one by one, press **ESC** and then **PLAY**.
2. To attach new titles, **search** with the wheel and **select**.
3. **ONLY** to play one title directly, **select** and **PLAY**—but then the DJ stack is gone.

An explanation of the DJ Mode. Now you only need to know how to activate the DJ Mode, i.e.: Open the main menu with the MENU button and select Settings and then DJ Mode. The following submenu allows to enable and disable it.

The Timer.



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

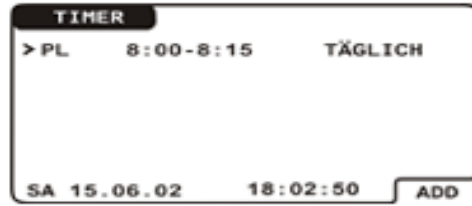
The Timer function allows you to start playback automatically at a specified time. In contrast to many other devices, the C.A.R. 4000 is completely cut off from the power supply when it is switched off, i.e. it is really switched off. The integrated Timer is powered by a battery and switches the device on and off as required. This means that a power failure will not affect your settings.

To open the Timer Settings select **Settings** in the main menu, then **C.A.R.** and here select **Timer**. You will initially find a relatively empty window, which only shows information on the current day of the week, the date and the time. Here the soft key has the function **ADD**.



Press the **ADD** soft key to open the option menu. As you know from previous menus, you can use the up and down button to select the option you want to edit.

For **Day** you can rotate the wheel to select a **Date**, a **Weekday**, the **Weekend**, **Workday** or **Daily**. What alarm clock can do all this? The start and stop time are below. Now press the **DELETE** soft key to remove the timer.

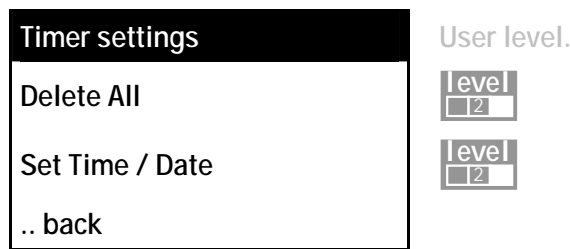


Confirm your settings by pressing the wheel and you will return to the timer overview. If you want to delete a previously set timer, select the relevant entry with the wheel, press the wheel to select it and then press the **DELETE** soft key.

If two timers overlap each other; the entries will be shown reversed in the overview. You can set a total of 10 different timers.

The Timer menu.


In the Timer window press the Menu button to open a menu with the following entries.



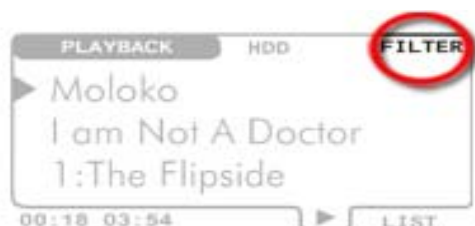
Delete all. If you select this menu item, you will delete all timers at once.

Set Time / Date. This item first shows the currently set date and time. If you want to reset the clock, press the EDIT soft key. First the date is marked—rotate the wheel to the left and right to change the day up or down. Hold the wheel down and rotate to change the month up or down. Press the down button to change the time. Turn the wheel to change the minutes and press and turn the wheel to change the hours. You can also make the same settings in the same way (six positions each) with the keypad on the remote control.

The Filters.

The following functions can only be selected at a higher user level. See page 23 for information on this and how to set a different level.

Even with the database interface it is possible to lose track of a large number of titles. For this reason you can use different database information to restrict what is viewed and to concentrate on specific aspects.



The browser window shows you whether a filter is currently active. There is of course no filtering active in the factory setting.



You can control the following items in a filter:

- Your personal evaluation (ranking)
- A style (genre)
- A mood
- The release year
- The date of recording or import (entry date)
- The artist
- The tempo (BPM)
- The recording quality

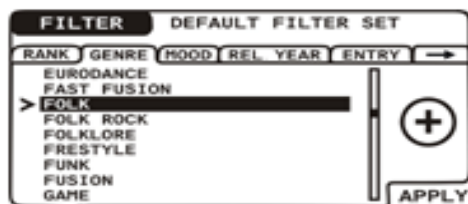
A filter always acts on the contents of the hard disk, never on the removable media. You can enable the filter by selecting **Filter** in the main menu.





The various criteria can be accessed by the tabs. The first filter view shows the dialog for setting the ranking range.

If you only want to see the absolute top titles with this filter, set the ranking range to "from  to ". Press the down button once. Now the arrow beside "from:" is selected. Rotate the


wheel to the right until this arrow also points completely up. Now press the soft key labeled APPLY to enable the filter.





Press the up button once and now you will see that the title of the tab is reversed again. Rotate the wheel to the right to set the other options on the remaining tabs. In this example you are setting the style to Folk.

Now take the settings for ranking and genre together and apply them to the database. The browser will now only show the titles that match the criteria folk and have the top ranking—i.e. for **RANK** "from  to  " and for **GENRE FOLK**. You can also refine the filter even more precisely with the other settings (mood, year of release etc.).

INCLUDE, EXCLUDE, ALWAYS? Er .. **OK, thank you.** But that's not all. To make this as flexible as possible, you can also link the various filter criteria together. The icon to the right in every filter setting shows what effect the current entry will have.

 **INCLUDE.** The plus in a circle, the default setting for the filter, means that what is selected will be included. In the above example, folk is included in the filtered view of the database.

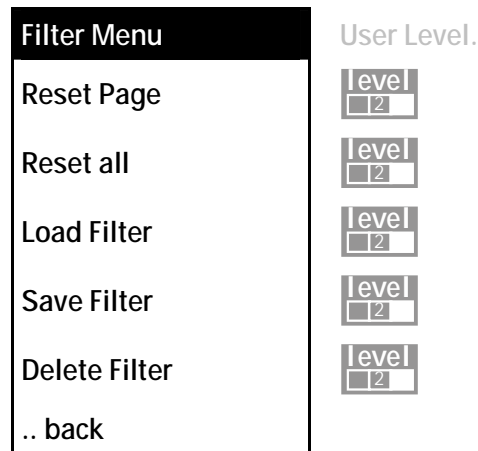
 **EXCLUDE.** The minus means the opposite. I want to see everything in the list except what I have selected—in this example everything except Folk. In effect, the selection is reversed.

 **ALWAYS.** The exclamation mark indicates that regardless of the meaning of the other criteria I always want to see all titles from the folk genre. Thus folk titles that would normally be excluded because of the ranking will be visible because of the ALWAYS setting.

Multiple filters are managed with the filter menu. More below ...

The menu: Filter.

If you press the menu button inside the Filter settings, a menu with the following entries opens ...



Reset Page. This function resets the tab that you are currently processing to the factory settings or to a state in which this filter setting will not restrict the view of the database.

Reset all. These options apply the reset described above to all filters, so the filter function is completely deactivated.

Load Filter. Here you can load a previously saved filter set. You can close the dialog for selecting the set with the BACK soft key and return to the filter settings.

Save Filter. Select this menu item and you will see the range where "Default Filter Set" was set begin to flash. You can now enter a character string as a title for your set. All of the filter settings will be saved.

Delete Filter. This item opens the same dialog as for load filter but you can now delete any filter sets that you no longer need. As with Load Filter, you can close the dialog for selecting the set with the BACK soft key and return to the filter settings.

.. back Return to the main menu here.

The C.A.R. 4000 Various Artists



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

If you make a new compilation with various titles from different artists, you will find it in the browser under Various Artists sorted by the artists. If you enable the **Insert VA** option, you can now find the individual titles of the compilation not only there, i.e. under Various Artists (VA), but also under the names of the artists. This means that if you have a compilation that contains the titles *(VA) AC/DC (Artist)*, *Best of Rock(Compilation)* and *Girls got rhythm (Track)*, you would still be able to find this title—by inserting at *AC/DC (Artist)*, *Best of Rock (Compilation)* and *Girls got rhythm (Track)*. So if you search for a title but you don't remember exactly what compilation it is on, you may be able to find it faster with the insertion.

Enable the insertion as follows: **Main menu > Settings > C.A.R. > Insert VA.**

The connection to the computer.

First. You have certainly seen from the technical specifications that the C.A.R. 4000 can be connected to the computer with a USB cable. Two conditions must be met before connecting the two devices:

1. You must install the software on the computer **BEFORE** the initial connection
2. The C.A.R. 4000 must be switched on

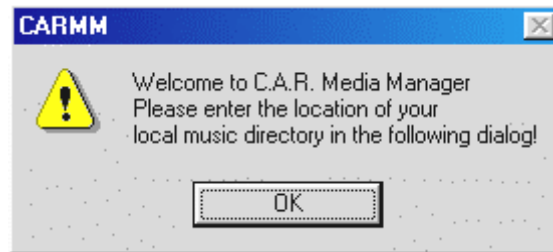


Installing the software.

Insert the CD that came with the device into your drive and it will start automatically. You can use this program to open the installation routine to set up the required drivers and the C.A.R. 4000 Media Manager. If the CD does not start automatically, you can start the file **SETUP.EXE** manually in the "Software/PCAPP" directory on the CD. After some confirmations, a copy process and restarting the computer, you will see a new icon on your desktop, the C.A.R. 4000 Media Manager.

The C.A.R. 4000 Media Manager.

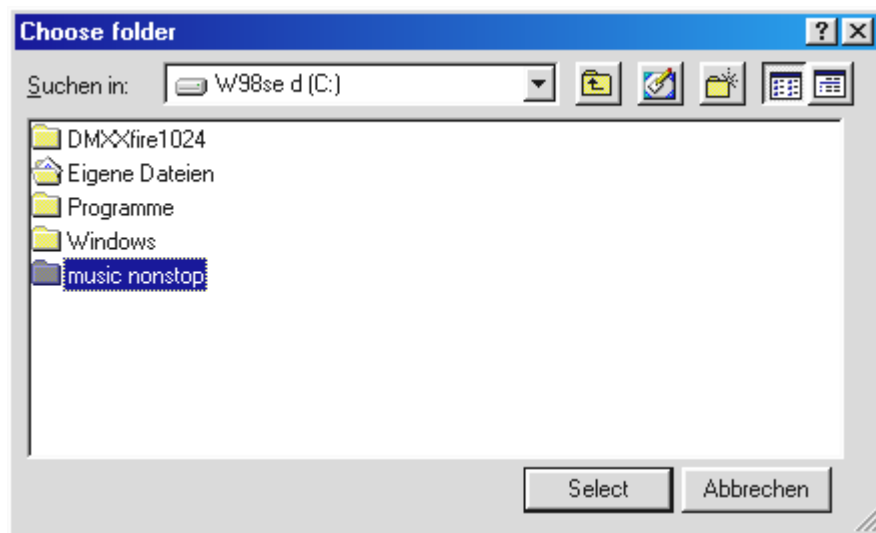
Double-click on the Media Manager icon on your desktop to open the application for comparing data with the computer, for remote control of the C.A.R. 4000, for managing the C.A.R. 4000 database on the computer and for updating the C.A.R. 4000 operating system.



After starting the program for the first time you will see this welcome window first. In the following window it requests you to indicate the location on your computer of the audio data required for the dialog with the C.A.R. 4000.



This window does not yet have any folders under Media Directories. Click the yellow plus sign (+) to add a folder.



Then this standard Windows selection dialog box opens. Select the desired folder here. First press Select if you are already IN the desired folder—if the selection is confirmed at this stage, you would have selected **C:**, not **C:\music nonstop**.

After you have completed the selection process, the application starts the dialog with the C.A.R. 4000. The database on the C.A.R. 4000 is first compressed and then transferred to the computer. Then it is decoded on the computer. The speed of this process depends on how powerful your computer is. During the process an overview of the duration of the process will be shown. Once all this is completed, your Media Manager is ready for use.



Now you will see the database on your computer on the left side, and that of the C.A.R. on the right. As you are familiar with from the C.A.R. 4000 itself, the view first displays the entries of individual artists and then the various artists compilations. But let's take a closer look at the various buttons and components of the manager.



*This button activates the play list display on the corresponding page.
Here it can be seen on the right with the C.A.R. 4000.*



The play list look like this in our example.



The database on the C.A.R. 4000 or the computer can be refreshed with the magnifying glass icon. For example, if you have added various titles to your audio data, they will also be displayed after you have refreshed the view. The display will be automatically refreshed after a restart.



With this button you can switch the C.A.R. 4000 Media Manager to a smaller view.



And this is what the smaller view looks like.



Use this wheel to set the volume for the current playback with the mouse, both for playback on the computer and on the C.A.R. 4000



These are the settings that you made when you started the application for the first time. Select the folders and media types that are to be imported on the computer. You can also set the language and update the firmware on the C.A.R. 4000 here.



As is standard in Windows, close the application by clicking the X.



This button switches the application to a full-screen view.



This minimizes the C.A.R. 4000 Media Manager to an icon in the taskbar.



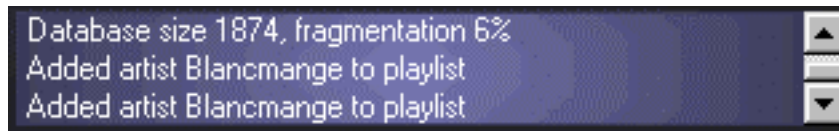
This switches the minimized view back to normal.



This control panel looks like the standard control panel on the C.A.R. 4000. The bars in the upper left side show the progress of the playback. The right side shows the time played and the remaining time of the current title.



The center bar that separates the computer and the C.A.R. 4000 from each other can be used to initiate a copy process in either direction. You can use the X DEL to delete the currently selected title from the database.

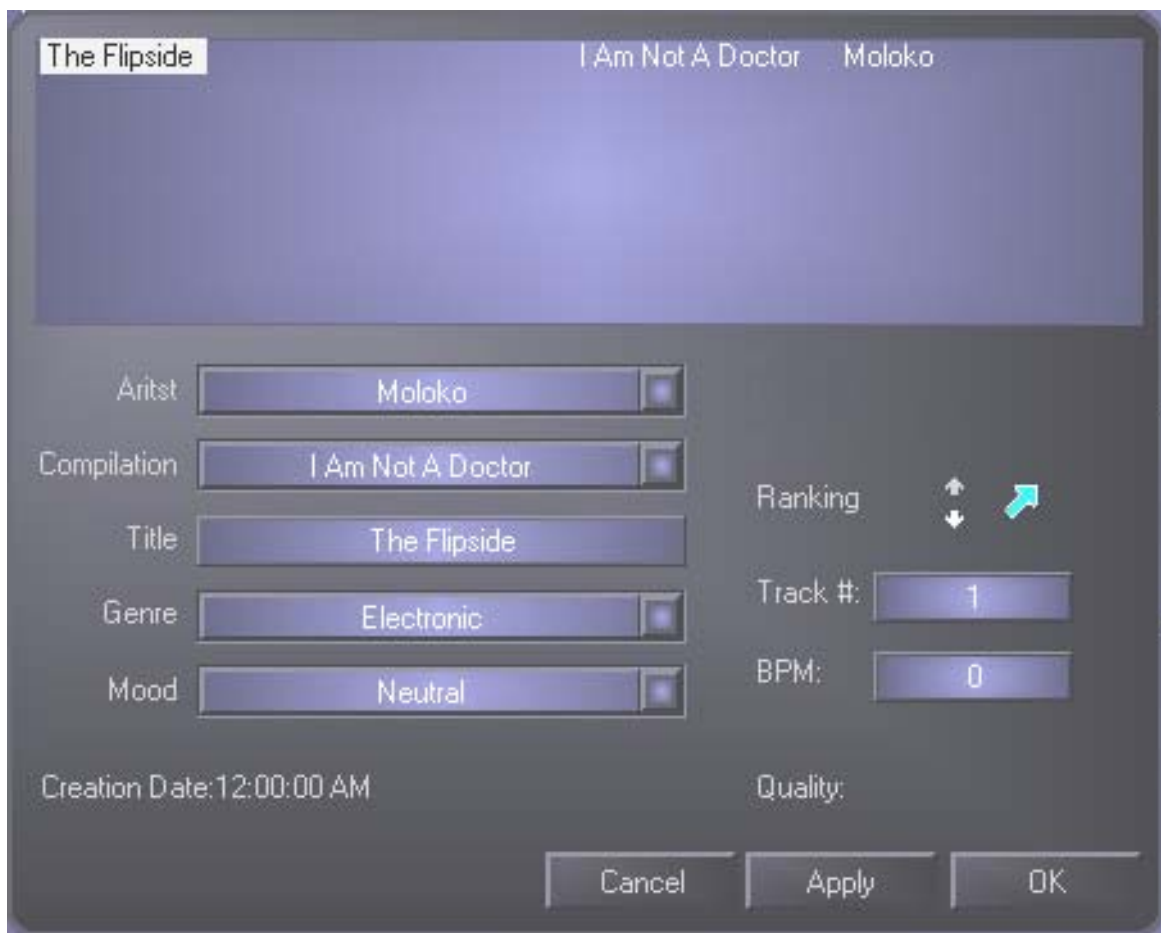


This window shows a type of logbook, which explains the last actions or error messages.



If the VA option is enabled, you can direct the copy process to a Various Artists Compilation. This enables you to assemble your own mixture from the computer bit by bit. If you have not selected a VA compilation as the destination, you will be prompted to enter a name after starting the copy process. If this compilation does not exist, it will be created.

Now select an entry with the mouse on the computer or C.A.R. 4000 side (artist, compilation or track). You can open a window with the right mouse button (Track Info) in which you can edit the information on the various titles as in the Track Info on the C.A.R. 4000.



For example, the titles that you know from our other examples were selected here. If you wish to use an artist, a compilation, a track name or a mood that is not yet in the selection menu, click the corresponding selection bar with the right mouse button, select **Add** and input the name with the keyboard.

See page 62 for information on updating the operating system with the computer application.

System maintenance (the System menu).

Most of this chapter refers to the System menu, which you can open from the main menu by selecting System.

The System Info

The contents of the System Info are a very important source of information for system maintenance. The System Info is opened from the main menu by selecting System and System Info. The top line contains the current OS version to the right of the name of the product. OS stands for Operating System. The next line shows details of the version of the CDDB® database and the previously installed updates. Next, below the manufacturer's information, are details of the total size of the hard disk and the amount of free space. The bottom line shows the number of tracks available on the C.A.R. 4000, followed by information on the fragmentation of the database. More on this below.



see also <http://www.gracenote.com/>

Updating the CDDB® database.

As noted above, the database on the internal hard disk of the C.A.R. 4000 for automatic recognition of audio-CDs can be updated to recognize newly released CDs. See below for how easy it is to update the database:

- download the update file from our web page (<http://www.terratec.com/>) from the C.A.R. 4000 section,
- carefully read the attached documentation (**release notes**)
- the update data must be burnt onto a CD as directed in the release notes (**important**: always place the data in the root directory of the CD, never in a subdirectory)
- Insert the CD into the C.A.R. 4000 CD-drive
- Open the main menu with **MENU**
- Select **System** with the wheel
- Press the wheel to open the submenu
- Select **Gracenote CDDB Update**
- The update process will start.

The update may take a relatively long time, because the new datasets must be imported into a very large structure. The base database is approximately 500 MB in size. The following messages appear in succession during the process: Starting CDDB Update, then Installing CDDB Update, and finally CDDB Update Finished.

Load Default Settings.

If you select this item from the **System menu**, the complete device will be reset to the factory settings. After selecting this item you will be prompted for the preferred language of the menu entries. The Default Settings in detail are:

- The User Level is Beginner
- The output is switched to Analog

- The CD audio recording quality is 128 kbps
- The recording quality for external sources is 128 kbps
- The sample rate for recording external sources is 44.1 kHz
- The Auto Split is disabled


- The Playmode is Normal
- The Volume is 100 (no attenuation)
- The Headphone volume is 100%
- The DJ Mode is disabled
- The Sorting Order for CD-ROM and MMC is folder/file system
- The VA artists are not sorted
- Automatic Playback is disabled
- The List Info info mode is set to Index

Reset Genre/Mood Lists. You can use this function of the system menu to detach the genre and mood list from the entries that were placed in the database by import, i.e. by ID-tag information or your own input so they will now no longer be related. For example, if you mistyped when entering a genre and did not assign it to a title, you can delete this erroneous entry. Unfortunately MP3 files of obscure origin include ID-tags with corrupt or simply nonsensical content. In the earlier part of the MP3 age there was often only a number referring to an entry in a list instead of a character string for the genre. However, because conflicting versions of this list circulated around the Internet, people chose the safe way and used actual names instead of the numbers. Unfortunately, a small number of programs still use this number-oriented naming convention. To remove the cryptic numbers from the genre list assign the desired genre via Track Info, then activate Reset Genre/Mood List and it's done.

For your information: our standard lists (default setting in bold)...

Genre		Mood	
Alternative	Jazz	Chill out	Neutral
Big Band	Literature	Dancing	Other
Blues	Musical	Depressive	Party
Chanson	Oldies	Dinner	Quiet
Classical	Other	Emotional	Relaxed
Comedy	Pop	Erotic	Romantic
Country	Punk	Festive	Sentimental
Dance	Radio play	Good Night	Sad
Disco	Rap	Happy	Stoned
Electronic	Rock	Melancholy	Wild
Folk	Rock & Roll		
Funk	Soul		
Hard Rock	Soundtrack		
Heavy Metal	Techno		
Hip-Hop	World		

Defragmenting the database



The following functions can only be selected at a **higher user level**. See page 23 for information on this and how to set a different level.

The database becomes fragmented over time as various entries are deleted from it leaving empty datasets or when title information has been changed with Track Info. This means that this possibly very large database gradually acquires more and more holes, with the result that the total size of the database becomes excessive compared to the still usable data.

The defragmentation function is provided to eliminate the holes and to make the database more efficient. As you can imagine, with a large database this process can take some time. System Info shows information on the status of the database and its fragmentation, as described above.

It may seem a little surprising at first that a database that formerly had ten entries, five of which were deleted, shows a fragmentation level of 50%—however this is of course because it shows the level as a percentage—thus also 50% with originally 1000 entries and now 500.

In general, you should note that fragmentation is best when it's under 20%. The ideal status is of course 0%.

The database is basically limited to 10 000 entries; this is necessary to ensure that the device can still be operated easily.

Updating the operating system.

Before you update the operating system, you should check the version of the OS (Operating System) that you are currently using. You can do this by checking **System Info**. Open the main menu and select **System** and then **System Info**. The second line of the info window shows the version number after **OS**. The first thing you will need before updating the operating system is the current version. You can get it by going to our web page (<http://www.terratec.com/>) and then to the support pages of the C.A.R. 4000. The current version number should be obvious there. If a new version is available, please download it. The files are usually provided as self-extracting EXE archives. Run the file to extract them. Finally you should have a file with the name **C.A.R._4000.IMG**. If you do not have Internet access, please call our hotline. For more information see page 65.

Now you can proceed in two ways ...

You can run the update from your own recorded CD:

- Burn **C.A.R._4000.IMG** into the root directory of a CD.
- Please do not use a **Multisession CD**, because the reduced boot loader (the mini operating system for the update) does not support the OS file in any session other than the first.
- Switch off the C.A.R. 4000.
- Restart the device while holding down the **STOP** and **EJECT** buttons.
- Now your display should look like the one shown below ...




**CAR BOOTLOADER
CD ROM UPDATE
PLEASE WAIT**

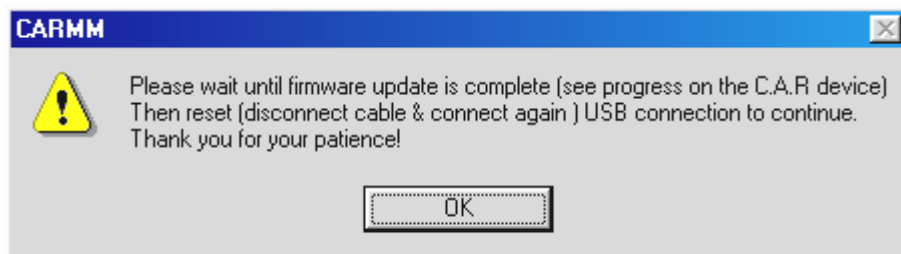
- The drawer will open automatically after a few seconds.
- Insert your previously created CD.
- **IMPORTANT:** Close the drawer with the **EJECT** button, **NOT** by pressing the drawer!
- Once the OS file has been properly identified, the OS will automatically start to install
- **Note:** It would be disastrous if this process was interrupted for any reason. Your device could even be permanently damaged by any interruption, so avoid any power failure during this period.
- After completion of the update the C.A.R. 4000 automatically switches off.
- **Finished.**

Update with the C.A.R. 4000 Media Manager

The second method is simpler and cheaper: update with the computer application and USB.

- Start the **C.A.R. 4000 Media Manager**.
- After the application has initialized, click on the **wrench** .

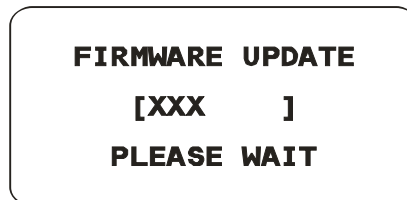
- Select tab **C.A.R. Setup**.
- Click on the field **Update**.
- Enter the path for the file **C.A.R._4000.IMG** and click **Open**.
- You will then see the warning window below. Unfortunately, for technical reasons the computer application cannot show any progress information on the status of the C.A.R. 4000 during the update process, it can only run the upload ...



- Watch the display.
- First the flash memory is deleted.



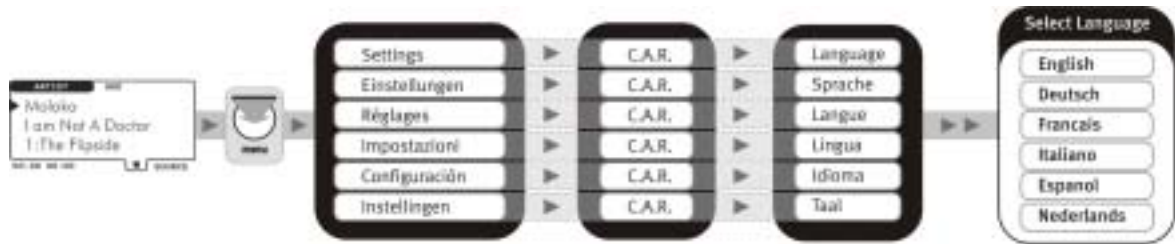
- Then the new operating system is written into the memory.



- **Note:** It would be disastrous if this process was interrupted for any reason. Your device could even be permanently damaged by any interruption, so avoid any power failure during this period. And the USB connection must not be interrupted under any circumstances before the device has switched itself off.
- After completion of the update the C.A.R. 4000 automatically switches off.
- **Finished.**

Help! The C.A.R. 4000 shows a foreign language.

If you have accidentally set the C.A.R. 4000 to a different language, this is how to reset it to the desired language.



Service at TerraTec.

“Rien ne va plus—nothing works” can happen to the best systems. In such a case, the TerraTec-Team is always ready to provide service and support.

Hotline, Mailbox, 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.

The first way should be the Internet: under <http://www.terratec.com/> you will always find current answers to frequently asked questions (FAQ) and the latest drivers. All of that is also accessible via our mailbox system. To call us: +49-(0)2157-8179-24 (analog) and +49-(0)2157-8179-42 (ISDN).

If these options do not provide the necessary help, please contact our phone hotline. You can also reach us online. To do so, visit us under <http://www.terratec.net/support.htm>. In both cases, please have the following information handy:

- Your registration number,
- this documentation,

In addition, it would be helpful to our technicians if you are at your computer during the phone call to directly carry out tips and tricks. 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 of a defect is present and your card needs to be mailed to us.

Broken?!

Before you send the device 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.

General terms and conditions of service

1. General

You accept our general terms and conditions of service by purchase and receipt of the goods.

2. Proof of warranty

You will require a copy of the purchase receipt or delivery slip as proof of warranty. If you do not supply the proof of warranty, we will charge for repairing the goods.

3. Description of fault

Shipments that do not include a description of the fault or an insufficient description ('defective' or 'for repair' is insufficient) will be returned for a processing fee, because this makes repair more difficult and could have been avoided.

4. Unfounded complaints

In the event of an unfounded complaint (no fault could be detected, probable operating error), we will return the goods and a processing fee will be charged.

5. Packaging

If possible, please use the original packaging for return shipment. Any warranty claim will be jeopardized by improper packaging. The warranty will not apply to damage caused by improper packaging.

6. Third-party products

Devices that are not manufactured or distributed by TerraTec Electronic GmbH will be returned and a processing fee will be charged.

7. Chargeable repairs

Repairs outside the warranty period are chargeable.

8. Shipping costs

The despatcher pays all costs associated with shipping and insurance for the goods for repair to TerraTec Electronic GmbH. If the goods are covered by warranty, TerraTec Electronic GmbH will pay the shipping costs for returning repaired goods. COD shipments will not be accepted for organizational reasons.

9. Final clause

TerraTec Electronic GmbH reserves the right to change or supplement the general terms and conditions of service at any time.

Otherwise the General Terms and Conditions of Business of TerraTec Electronic GmbH are considered to be accepted.