



# Audio Cleaning Lab 17 deluxe

Record • Edit • Restore • Burn  
Recordings from LPs, tapes, and MP3s

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# Preface

Congratulations! You now own a high-performance digital audio lab, which is perfect for cleaning your records, tapes, CD tracks, MP3 collections, audio or video files, enhancing the sound, combining your media in any order, and burning or exporting everything in optimum quality directly onto CD or DVD.

The volume and sound on each track can be perfectly synced and equalized. Various audio formats can be combined, simultaneously edited, and burned. The method is especially easy and clear, since automatic settings, assistants and step-by-step instructions make sure that the process goes smoothly and easily. Neither previous experience using the software nor long processing time are necessary.

The print manual provides an introduction and tutorial that explains all the most important features with step-by-step instructions.

In addition, an electronic manual is supplied in PDF, which systematically explains all of the program's components one after the other. You can also use the program's help file by pressing "F1". If you prefer to discover the many possibilities of the program by yourself, then use the PDF manual and help file simply as a reference. An alphabetical index is included for this purpose.

Have fun with MAGIX Audio Cleaning Lab SE.

The MAGIX team.

**Please note:** This document describes the functionality of the full version of your SE version. Please note that not all functions listed in this document are available in your version.

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# Before you start

## Package contents

### Program CD

The MAGIX Audio Cleaning Lab SE installation manager is included on this CD.

### Printed manual

The print manual contains all necessary information for a quick start with the program. It includes installation hints, a quick introduction (tutorial), and an overview of the functionality of the program with useful hints & tips.

**Hint:** The complete documentation is included in the MAGIX Audio Cleaning Lab SE folder as a PDF file. You can read it on your screen or print it. You will need the "Adobe Acrobat Reader" application, and you can download it for free from the Internet if it is not yet installed on your PC.

## System requirements

### Operating system:

For Microsoft® Windows® XP | Vista® | 7

### Computer:

- 1 GHz processor or higher
- 512 MB RAM
- 500 MB free hard disk space
- graphics card: resolution 1024 x 768
- 16-bit sound card
- CD-ROM drive

### Optional:

- Burn CDs/DVDs with CD/DVD±R(W) recorder

## Installation

**Step 1:** Insert the program disc into the drive. The installation program starts

up automatically. If the disc doesn't run automatically,

- open Windows Explorer and click the letter of the CD-ROM drive
- or double-click on "Start.exe" to start the installer.

**Step 2:** To begin the installation of MAGIX Audio Cleaning Lab SE, click on "Install". The MAGIX Audio Cleaning Lab SE installation program will appear.

**Hint:** During installation, you will be asked (in case there are multiple users on your computer) if you would like to set up for the administrator. The option "Administrator only" restricts use of the program to the specified administrator. The "All users" option allows all users of the computer to use the program.

Simply follow the on-screen instructions to complete the installation process, and then click "Continue". All files are now copied onto the hard drive.

**Step 3:** Once the installation is complete, confirm the message by pressing "Finish". Now you can start the program at any time from the Windows "Start" menu.

### Uninstalling the program

If you would like to uninstall MAGIX Audio Cleaning Lab SE, you can do so via the control panel under "Software". Or go to "Programs > MAGIX > MAGIX Audio Cleaning Lab SE > Service and Support > Uninstall MAGIX Audio Cleaning Lab SE".

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Reporting evident program errors is exempt from this regulation.

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<http://support.magix.net/>

**Mail (Europe):** MAGIX Development Support, P.O. Box 20 09 14, 01194 Dresden, Germany

**Mail (North America):** MAGIX Customer Service, 1105 Terminal Way #302, Reno, NV 89502, USA

**Please have the following information at hand:**

- Program version
- Configuration details (operating system, processor, memory, hard drive, etc.), sound card configuration (type, driver)
- Information regarding other audio software installed

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**Phone:** 1-305-722-5810

## Serial number

A serial number is included with each product, and although it is not required for the installation of the software, it does enable access to additional bonus services. Please store this number in a safe place.

### What can a serial number do?

A serial number ensures that your copy of MAGIX Audio Cleaning Lab SE is clearly assigned to you and only you, and it makes improved and more targeted customer service possible. Abuse of the software can be prevented with a serial number, since it ensures that the optimum price/performance ratio continues to be offered by MAGIX.

### Where can the serial number be found?

The serial number can be found on the reverse side of your CD/DVD case. If your product, for example, is packed in a DVD box, then you'll find the serial number on the inside.

For versions that have been especially optimized for the Internet (download versions), you'll receive your serial number for activating the software directly after purchasing the product via email.

### When will you need the serial number?

The serial number is required when you start or register MAGIX Audio Cleaning Lab SE for the first time.

**Note:** We explicitly recommend registering your product, since only then are you entitled to get program updates and contact MAGIX Support. Entering the serial number is also required for activating codecs.

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You can access [magix.info](http://magix.info) online at <http://www.magix.info>

# Introduction

## What is MAGIX Audio Cleaning Lab SE?

MAGIX Audio Cleaning Lab SE is a gentle but powerful cleaner for all kinds of acoustic material including records, tapes, CD tracks, recorded speech, video sound, and MP3s. Digital cleaning features remove everything from light cloudiness to the worst sound abominations on noise-filled tapes, scratched records, and on MP3s that have been compressed to death. A fine polish of the sound brings new life to every song and the burning function encapsulates your sensitive sound material on audio or data CD, protecting it from any further damage.

Individual tracks, even individual passages within a track can be given their own effect settings. In addition, the entire sound can be cleaned up, refreshed and – especially important for compilations – the volume can be balanced.

MAGIX Audio Cleaning Lab SE is fast, easy-to-use and very gentle: Nearly all effects are calculated in realtime during playback without damaging the recorded material in the least. The original recordings and songs remain untouched on the hard drive. You can therefore experiment to your heart's content without having to worry about causing any lasting damage to your audio material.

## What's new in MAGIX Audio Cleaning Lab SE?

### Intelligent start dialog

Within the new start dialog, you can choose typical tasks and start to work on them directly. The most intelligent thing about this is that after choosing the tasks, all recording presets, assistants and effect dialogs of MAGIX Audio Cleaning Lab SE are already tuned to the tasks. Following tasks are available: Restore vinyl sound, clean tapes, optimize voice or audio books and edit digital files.

### Direct spectral cleaning

Spectral Cleaning: Spectral cleaning detects and removes specific noises such as coughs and cracklings based on a colorful display of the frequency spectrum. With the new version you are also able to filter out the frequencies directly from the track with the eraser tool.



## Improved overview on the overview track

Separated objects on the main track normally represent different songs. They are presented in different color shadings. Especially in longer projects, it helps the user to locate the transitions between the objects and songs much faster and simplifies navigation during the project.

## Features

### Import

You can either import existing audio files in many conventional formats into MAGIX Audio Cleaning Lab SE, or simply use MAGIX Audio Cleaning Lab SE to record your own music. No matter whether cassette, tape reel, LP, or via streaming Internet, with only a few clicks, you can digitize your music and edit it further with MAGIX Audio Cleaning Lab SE.

### Cleaning

The heart of MAGIX Audio Cleaning Lab SE is its ability to remove unpleasant noise in music and enrich the overall sound. To do this, there are numerous professional tools available like the "DeClicker", "DeCrackler", "DeClipper", "DeNoiser" (including DeRumbler preset), "DeHisser", and "spectral cleaning". You can also add a number of sound effects to your music. Resampling and timestretching help adjust the speed and pitch of pieces so that they match, and reverb/echo adds professional reverb to your music. The possibilities are nearly endless, as you will see. For more detailed information about the tools, please read MAGIX Audio Cleaning Lab SE's help file.

### Mastering

So that your recordings sound optimal, a selection of mastering tools are available to you once you have cleaned up the audio material. Try them out yourself to see which settings are the best, or let MAGIX Audio Cleaning Lab SE do the work for you by searching for the best settings automatically. For more detailed information about the tools, please read MAGIX Audio Cleaning Lab SE's help file.

### Export

Of course, you can also export your recordings. There is a wide range of formats available which enable you to enjoy your recordings anywhere you like.

## Supported formats

### Import:

[www.magix.com](http://www.magix.com)

**Audio:** WAV, MP3, WMA, AIFF, AAC, OGG Vorbis, M3U, CUE, CD-A, FLAC  
**Video sound import:** AVI, WMV, MXV, MOV, DV-AVI, MPEG-2<sup>1</sup>

**Export:**

**Audio:** WAV, MP3<sup>2</sup>, MP3 Surround<sup>2</sup>, AAC3, WMA, AIFF, OGG Vorbis, CD-A, FLAC, MP3 DVD, Data DVD, DVD Audio,  
**Video sound export:** AVI

<sup>1)</sup> Activate MPEG 2 decoder (fee-based)

<sup>2)</sup> Activate MP3 encoder for free

<sup>3)</sup> Activate AAC encoder (fee-based)

## Tutorial

In this chapter, we introduce all the most important features of MAGIX Audio Cleaning Lab SE. You don't need any special experience; just some time for recordings and hard drive space.

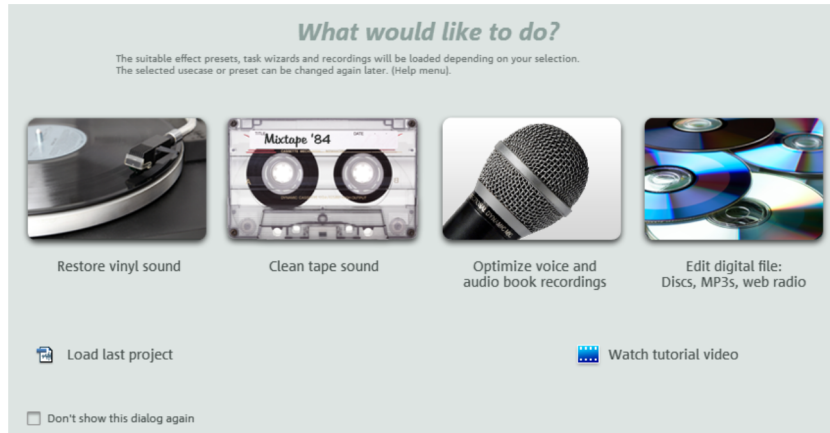
With MAGIX Audio Cleaning Lab SE you can load audio material from a number of different sources into projects in order to clean it up, edit it, export it as an audio file/CD or burn it to disc using just some of the special functions that come in the package.

First of all, you'll need suitable audio material. You can load your records or tapes, or even, for example, audio files from the Internet as MP3s.

Analog material like records or tapes have to be digitized first so that it can be processed by the computer. The recording function in MAGIX Audio Cleaning Lab SE can be used for this purpose. It's used to record analog material via the computer's sound card.

## Program start

After starting the program, a selection dialog including several tasks will appear.



Choose from:

- **Restore vinyl sound:** for LPs.
- **Clean tape sound:** for tapes.
- **Optimize voice and audio book recordings:** for speech.
- **Edit digital files:** for MP3 files, web radio recordings and many more.

For all these options you will require relevant material. In the following we assume that you already possess digitized material which you would like to free from any bothersome noise.

**Note:** If you wish to digitize an LP, you should use a USB phono pre-amp in order to connect your record player to your PC. By doing so, you ensure best sound quality all the way through. You can find a suitable USB phono pre-amp in our MAGIX Online Shop at [www.magix.com](http://www.magix.com).

## Load and play audio files

After choosing a suitable task, MAGIX Audio Cleaning Lab SE will show up with an empty project window. You are in the "Import" section, which is recognizable by the lit button below the project window.



The workflow in this section is very easy:

- You can load your audio files, e.g. in MP3 format by clicking the "Audio files" button.
- You can record LPs or tapes via the "Record" button.
- You can import audio CDs via the "CDs" button.

After import, a waveform display of the audio track appears in the main window.



The waveform display gives you an idea of the audio track's progression. You can even detect noises. Crackling for instance creates a clearly visible peak in the waveform.

Below to the right, you will find the transport controls for playback, stop and winding. You will be familiar with these functions from other playback devices.

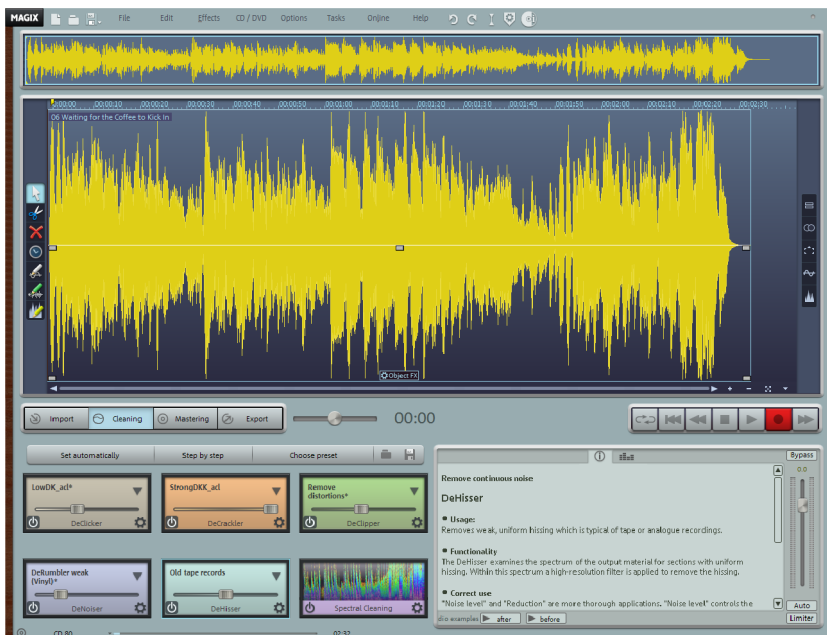


Use the mouse for quicker navigation: If you click into the waveform display with the mouse, the playback marker will be moved exactly to this position. You can start and stop the track by pressing the spacebar of your keyboard.

## Cleaning

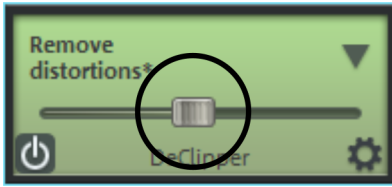
There are many types of noises. Let's start with the easiest ones: constant humming or irritating hissing. This kind of noise is usually caused by tape recorders, record players or microphones and are audible throughout the complete track. Find out how to get rid of these irritating distortions:

- Switch to the "Cleaning" section.

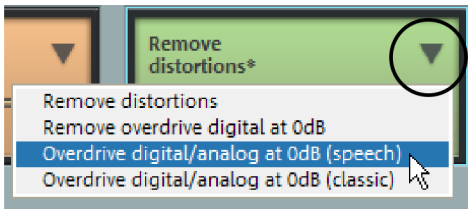


Most of the elements that are displayed here are identical to the ones in the "Import" section, but the function area in the lower left hand corner has changed decisively. Six different functions for removing audio disturbances are available here, which are adjusted differently depending on your selection in

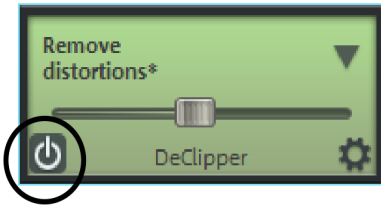
the start dialog. The modules are "DeClicker", "DeCrackler", "DeClipper", "DeNoiser", "DeHisser" and "Spectral Cleaning". If you click on one of these modules, you will find explanations regarding purpose and workflow of the individual module on the info monitor located in the bottom right-hand corner.



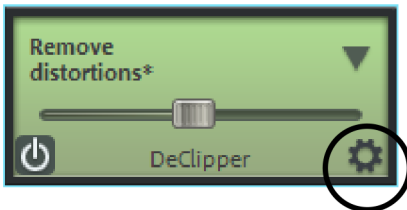
The slider lets you regulate the strength of all of the "cleaning" effects (except for Spectral Cleaning, which we will deal with later).



If you are not satisfied with the presets of the start dialog, you can choose further presets using the arrow menu.

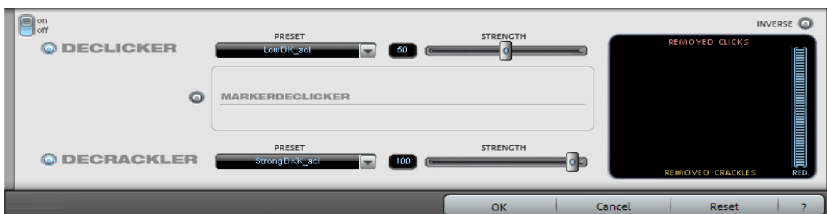


To get an idea of how the selected effect affects your audio material, you can turn it on and off by clicking on the symbol in the left-hand corner.



Click on the symbol in the bottom right-hand corner to open a user interface where you can set all of the available parameters for the effect.

In a way, this symbol represents the effect's engine hood. The interface located behind it was designed to simulate professional audio editing devices.



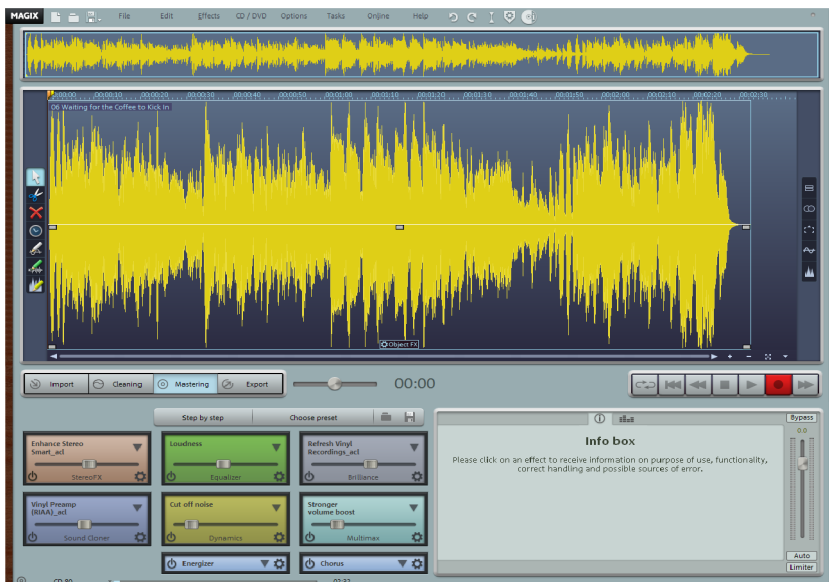
Depending on the effect device, you can specify very effective audio editing

settings here. To do so, it's necessary to know a bit about audio editing though. Usually, however, you will not need these special functions, but they can be useful in complex cases. If you need them or if you're interested, please read the complete documentation (either the PDF manual or the program's help file).

## Mastering

"Mastering", the second effects area aims at optimizing the audio material.

- Click on the "Mastering" button.



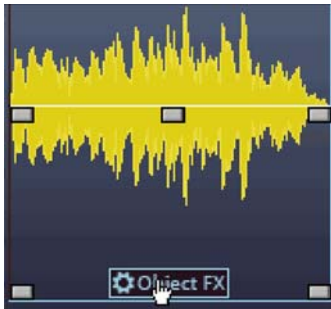
You will find the following effects modules here: "StereoFX", "Equalizer", "Brilliance", "Sound Cloner", "Dynamics", "Multimax", "Energizer" and "Chorus".

The functionality of the optimization effects is the same in principle: Adjust the strength of the effect via the slider, switch the effect on and off to compare the original with the edited audio material and access the actual operation console by clicking on the symbol in the bottom right-hand corner.

## Object effects

If you combine the audio material from various sources, it's normally not sensible to apply cleaning and mastering effects to all objects in the same way. Tape recordings typically have other audio disturbances than LP recordings. Therefore, there are two different ways you can use the effects: Master effects and object effects.

The master effects are set centrally in the cleaning section. The settings made here are applied to the entire sound, i.e. for all objects in the master track.



Each object can also have its own individual effect settings. Click on "Object FX" on the object itself in the master track.

The "Object FX" screen (object editor) opens in a new dialog and displays additional effect devices. These effects can be set separately for every object in the master track.

The "Object FX" dialog also contains an echo/reverb device for adding Surround Sound to individual objects, and in addition to the multi-band compressor ("MultiMax"), a "simple" compressor is also included ("Dynamics").

## Spectral Cleaning

Up until now, the workflow was extremely easy: Load your material, adjust your effects – finished. Now let's take a look at an application that requires a bit more preparation, but can also solve complicated problems. This includes filtering out individual audio disturbances.

Spectral Cleaning in the "Remove" section can be useful for editing live recordings, where a single cough in the audience threatens to ruin an



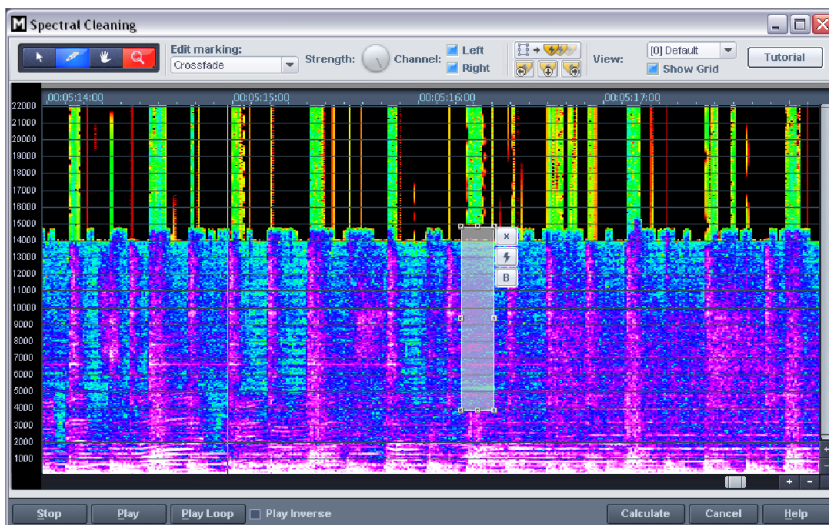
otherwise beautiful pianissimo effect. It can also be used to remove short distortions such as coughing, passing cars, a whistle, crackling or short drop outs.

Spectral Cleaning can be applied directly onto the track per mouse click. Here, however, we will explain the functionality within the effect module, which offers more possibilities.

Here's how it works: The clearly audible noise has a different acoustic signature than the rest of the material, otherwise it would not be clearly audible. Based on this signature, the noise can be identified and filtered. After it has been identified, the audio material's frequency spectrum is analyzed before and after the disturbance. Based on this "acoustic environment", frequencies are calculated that can be used to fill the gap that was created after filtering out the disruptive signature. Ideally, a simulation of the "normal" background acoustics replaces the cough, almost as if it was removed magically.

Here's how it works:

- First, set the play cursor roughly to the position of the distortion.
- Open the Spectral Cleaning Editor.



- Try to select the distortion using the selection tool in the editor.

- Once you've selected the distortion, click on "Play". The algorithm becomes active immediately: The selected area is filtered out and replaced with frequency material from the surrounding "acoustic environment".
- Can you hear an improvement? If not, change the selection. The selection should be as small as possible. Localize the audio disturbance by trial and error.
- Once you are satisfied with the result, click on "Calculate". Up until now, you merely experimented, but now the settings will be applied.

**Tips:** For information on the individual buttons in the editor, please read the entire documentation (available as PDF manual or program help file). You can also access a tutorial video that explains the workflow directly from within the Spectral Cleaning Editor.

The Spectral Cleaning Editor might seem a bit complicated, but it's a very effective tool that previously was reserved for pros. Therefore, it's worth investing some time to familiarize yourself with this tool.

## Cut out undesired passages

Now let's take a look at some special kinds of audio disturbances. A typical example would be the noise of a microphone knocked against something by mistake or even any kind of crackling, crashing, rustling, which can't be removed satisfactorily with Spectral Cleaning, because it's too irregular.

These kinds of noises as well as longer undesired passages can be cut out using the scissors tool in the left-hand corner of the track window.



- Select the scissor mouse mode.

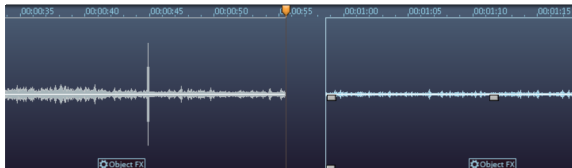
The mouse pointer turns into a pair of scissors. If you move it across the track, the playback marker moves with it.

- Play the audio track and search for the section that you want to cut out.
- Click before and after the section to cut at these points.

This way, three separate objects are created on the track.

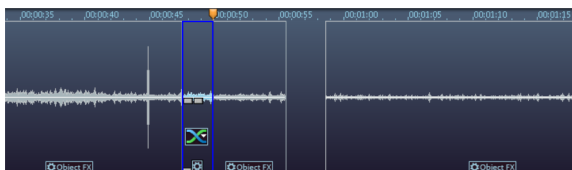


- Switch back to standard mode, select the object in the middle and delete it by pressing the "Delete" key.



A gap is created in the audio track. The problem is that where the disturbance used to be there is now absolute silence, which is irritating, too. It's not enough to simply cut out the audio disturbance, you have to add another sound into the gap, even if it's only a quiet hissing that is audible throughout the rest of the material, i.e. the room sound. Therefore, fill the gap with quiet material that features only hissing, for example.

- Search for a suitable passage in a different section of the audio track that is roughly as long as the gap. Cut the audio track before and after the passage.
- Switch back to standard mode and select the passage. Copy it to the clipboard (Ctrl + C or "Edit > Copy").

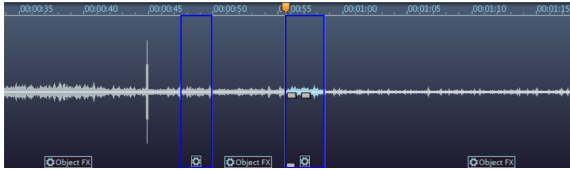


- Set the position line to the beginning of the gap and insert the passage (Ctrl + V or "Edit > Insert").

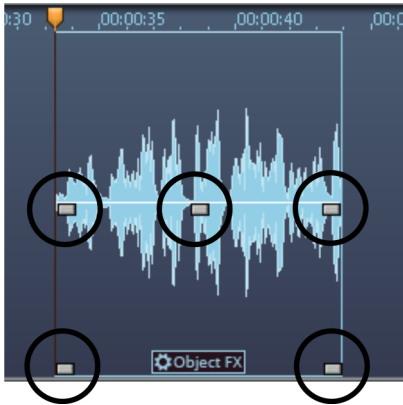


- Move the bottom right handle on the inserted object to adjust its length to the [www.magix.com](http://www.magix.com)

gap (It will latch into the cut edges).



That way, the distortion is "patched". All of the cuts can be fine tuned retroactively using the object handles to avoid crackling at the transitions.



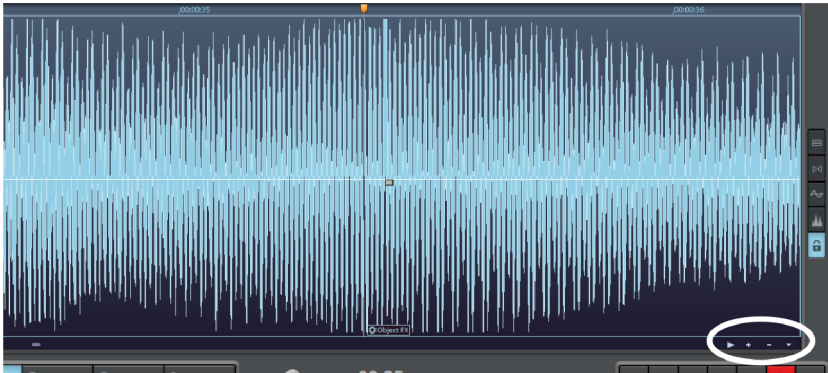
- There are handles at the top left and right hand corners, which allow you to create fade ins and outs.
- The handle at the top center is for adjusting the volume. If you pull it downwards, the volume of the object is reduced.
- The handles at the bottom left and right corners adjust the object's borders. You can fine tune your cuts by extending or contracting the object.

## Retouch short distortions such as cracks

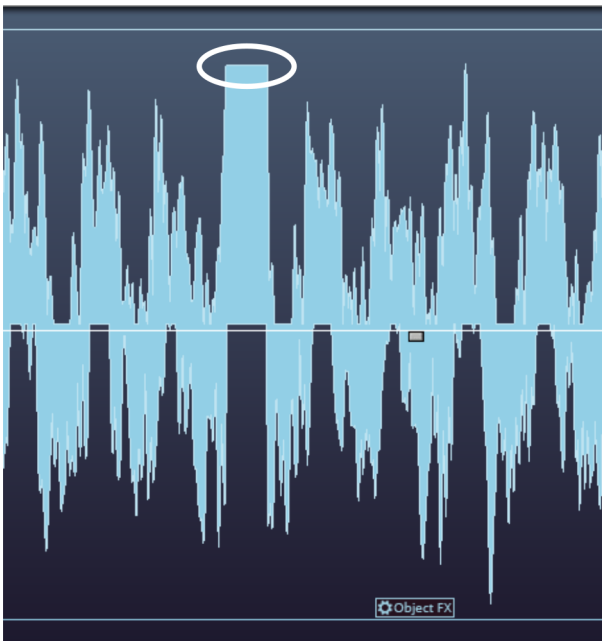
Let's take a look at a quick and elegant way of retouching short distortions such as cracks and clicks using a pen tool.

**Note:** You can't undo editing that you did with the "Draw wave shape" tool (no "Undo" function). After selecting the pen tool, you can decide whether, for safety purposes, you want to edit in a copy of the file or directly in the original material.

- Search for a section in the material where you hear cracking and set the play cursor to that position.
- Zoom into that section so that you can see the details of the waveform display. You can use the zoom button at the bottom right of the track window.



- Take a close look. Can you see the crack? Look for a "mountain" that is flat on top or exceeds its surroundings.



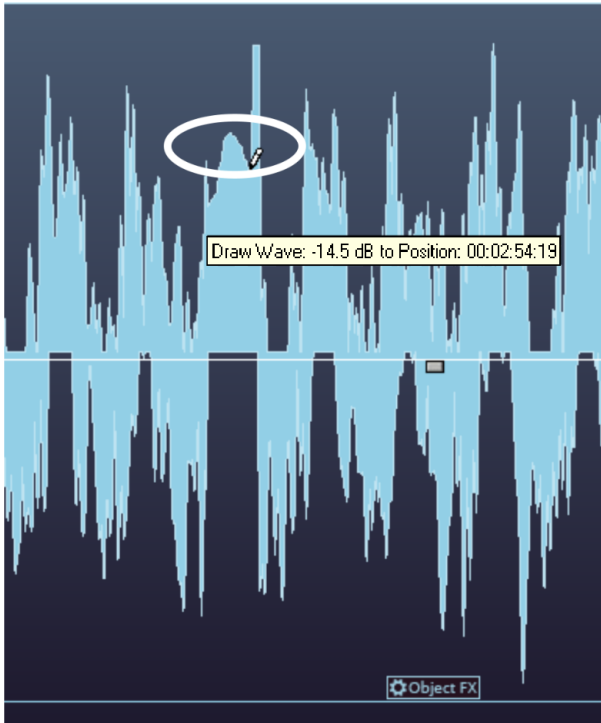


- Select the "Draw wave shape" mode.

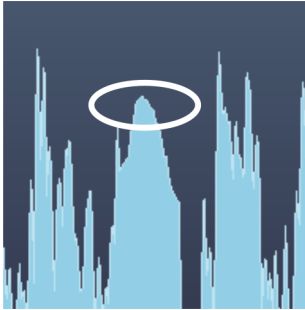
The mouse pointer turns into a pen that you can use to draw directly into the waveform. If you click, the zoom level increases automatically and you can draw.

It's about trying to turn the flat form a bit more into a peak and moving it slightly towards the bottom.

This way, for example:



The critical section should then look like this at the end:



If you play back the material now, the cracks have disappeared.

## Export

After you have "cleaned up" the material, you can export your material: either song by song as MP3 or WAV file or all songs of the track as audio CD, DVD, or data disc.

Switch to the "Export" workspace: Only the functions in the bottom left-hand corner of the screen are changed.

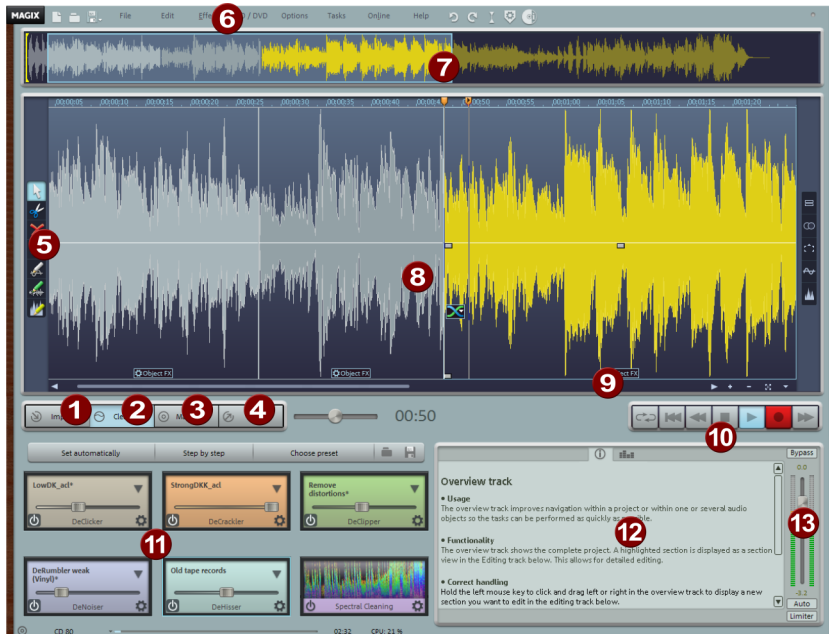


If you haven't split each song on the track into a separate object, you will require track markers to specify the beginning of every new piece. With the help of the track marker assistant, you can control and change all track beginnings. If you need any help with burning CDs, use the CD assistant.



To save the project click on the floppy disk icon.

# Overview of the program interface



- 1 Import:** Add new audio material here such as audio files from your hard disk, LPs or tapes via the record function, as well as songs from an audio CD.
- 2 Cleaning:** You can remove audio disturbances in the track via the "Cleaning" screen.
- 3 Mastering:** Use the "Mastering" screen to optimize the audio material in the track.
- 4 Export:** Export audio material as an audio file and burn it directly onto CD or DVD via the "Export" screen.
- 5 Mouse modes:** Select a suitable tool here: Arrow (Move mouse mode), Scissors (Cut mouse mode), "X" (Delete mouse mode), Clock (Resampling mouse mode), Pen 1 (Draw volume curve mode) or Pen 2 (Draw wave shape) and Pen 3 (Draw spectral cleaning shape).
- 6 Menu bar:** Here you'll find all functions of MAGIX Audio Cleaning Lab SE.



- 7 Overview track:** View the complete project. The area which is currently being edited by the user is highlighted.
- 8 Track:** Make detailed changes to the audio material here.
- 9 Object FX:** Access the object effects for the selected song in the track here.
- 10 Transport control:** Controls playback of the track.
- 11 Effects section:** Here you can access the individual cleaning and mastering effects.
- 12 Info Box/Analyzer:** Switch between information on the currently selected function and the visualization screen here. The visualization screen displays the output signal graphically. You can choose between the following display options: peak meter, oscilloscope, phase correlator, spectroscopy, and spectrogram.
- 13 Master volume:** Set the total volume of the track here. The limiter hinders overmodulation, and the auto function enables the volume to be automatically optimized.

# Track window and constant control elements

This chapter describes the display and control elements which are available to you independently from the selected section in MAGIX Audio Cleaning Lab SE

## Upper buttons

The buttons located above the track display provide quick access to the most important program functions.



Using this option you can set up a new MAGIX Audio Cleaning Lab SE project (view page 63).

Key: E



Using this option you can load previously saved projects (view page 63).

Key: O



This button provides access to the most important save functions: You can either save -project (view page 63) or export the project as a wave or MP3 file.



In the project you can undo the last changes you made. This way, it's no problem if you want to try out critical operations. If you don't like the result, you can always revert to the previous state using "Undo".

Keyboard shortcut: Ctrl+Z



Redo "undoes" a previous Undo command.

Keyboard shortcut: Ctrl+Y



Set a track marker at the actual playback position.



Opens a menu with different functions to set track markers automatically. Additional information can be found via the CD/DVD menu (view page 149).



Opens a menu with different functions to automatically recognize track names. By doing so the online database freedb (view page 153) and mufin Audio ID (view page 155) functions are used.

## MAGIX News Center

The MAGIX News Center features links to current online tutorials and tips & tricks on the software application examples. The "News" is indicated by color according to content:

- Green indicates practical tips & tricks for the software
- Yellow reports the availability of new patches and updates
- Red for special offers, contests and questionnaires

If no new messages are present, the button will appear gray. When the MAGIX News Center is clicked, all of the available information will be displayed. Click the messages to reach the corresponding website.

## The master track

### Audio material display

All of a project's audio material is displayed in the master track of the track window as a waveform. The waveform corresponds with the acoustic properties of the material. This means that there isn't anything to listen to at places where there isn't anything visually; higher waves mean high volumes. The tracks waveform display forms the most important basis for locating specific passages.

The display is compressed, meaning that the waveform is displayed as a ratio of loud passages to quiet passages. This ensures correct display for quieter sections at the beginning or end of a song.

### Position line

During playback a thin line will move horizontally from the left to the right over the master track. This is the position line, which indicate, which part of the wave form is currently reproduced.

The last starting point of the playback is indicated by a small triangle in the master track. The position line will jump back to that position, once playback has finished.

## Timeline

The timeline is located above the track. It shows the time position in the project. The measurement units can be selected from the "Options" menu. You can choose from: samples, milliseconds, hours/minutes/seconds, and CD frames.

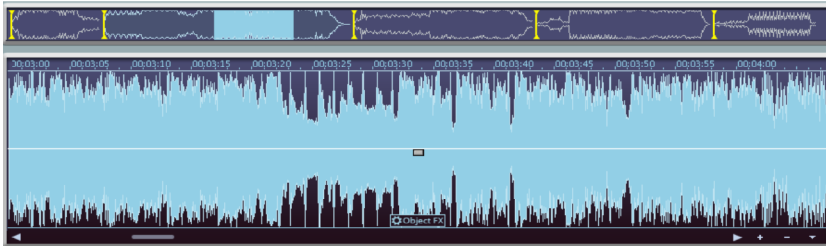
The markers are also displayed in the timeline. They can be accessed, moved or deleted with the mouse.

## Navigation

The task of the transport controls is to help you navigate through the audio material in the master track. Here you can find functions that you will already know from your old tape recorder. You can get more information in the chapter Transport controls (view page 42).

The simplest solution, however, is to navigate directly in the track: a mouse click on the time ruler will set the starting point for the playback (even if playback is already running!) The space bar starts and stops playback.

## Overview track



*The overview track lets you select the project section which is displayed in the track display (displayed in blue).*

The tracks window now includes an additional overview track with a reduced display of the complete project. Now you can work at a certain position or on a certain song and keep an overview of the complete project and quickly navigate to areas that need work. In the overview track, you can also select the song or position in the material to be depicted in the track window.

Move the section to the part of the project simply by clicking in the overview track; the zoom level remains the same. Define a new range in the overview track by clicking and dragging. Vertical yellow lines indicate the markers in the overview track.

Use the "Overview mode" entry in the "Options" menu to show/hide the overview track.

## 2 tracks



Use the "2 tracks" button to create a second stereo track, for example, if you want to create transitions between two songs or to "park" a song on the additional track for the meantime.

An additional track provides a better overview when there are multiple objects in play. All objects can be moved randomly between the tracks. If moved between tracks while holding the "Shift" key, the horizontal position will be retained, i.e. only the track is changed. On the lower "shunting" track you can move the objects without moving the subsequent ones as well. Materials which are placed over one another will be played back simultaneously and burned on CD. If this is desired, then the volume level at this position should be monitored, since objects which are playing back simultaneously add to the overall volume.

## Stereo



If the stereo button is activated, the waveform display of the audio material for both stereo channels will be displayed separately.

This view is useful to visually monitor processing of the material in the stereo panorama, or to locate precise crossover points during editing operations.

## Surround



Opens the Surround editor.

Read more on this topic in the "Additional sound effects (view page 107)" chapter!

## Volume curve



You can activate a volume curve (view page 69) with the **Volume curve** button.

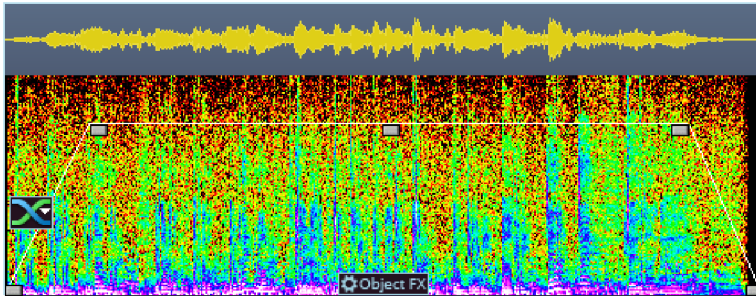
## Spectral display



In addition to the waveform display, this button allows a spectral display of the audio material to be shown as well.

Spectral display equates the X axis (horizontal) to the time dimension. In contrast to the waveform display, whereby the height of the waveform only

indicates the total level of the signal, the spectral display shows the level of each of the audio signal's individual frequencies. The actual level of each frequency is indicated by the color of the points in the spectrogram image.



Different color palettes can be selected in the menu "Options -> Spectral waveform display". "Display values scale" in the same menu ("#" key) shows an object's frequency scale.

Spectral cleaning is significantly more processor-heavy than the normal waveform display, so redrawing after a section changes is always slightly delayed. This delay is increased the further the zoom is extended, since MAGIX Audio Cleaning Lab SE needs to include more and more data for calculation of the display. For this reason, spectral display is only available from a certain zoom level.

Spectral display of the audio enables specific disturbances in the audio to be detected. Clicking can be recognized by vertical lines across the entire frequency spectrum; continuous disturbing sounds can be detected by horizontal lines.

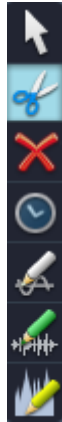
More detailed explanations can be referenced in the section "Spectral cleaning (view page 85)".

This display also makes it easier to find sections in a song quickly, since instrumental changes can be clearly seen in the spectrum. On the other hand, the waveform display will not indicate changes if the volume level does not fluctuate.

## Mouse mode

"Mouse modes" are your tools when working in the track window of MAGIX Audio Cleaning Lab SE. Depending on which mode you choose, the mouse pointer will look differently and have a different function in the track window.

The following modes are available: scissors (for cutting), magnifying glass (for zooming), eraser (for deleting), arrow pointer (for standard operations), a clock (for changing playback speed) and two pens (for drawing a volume curve or a waveform).



## Move mouse mode



The shift mode is preset. It allows you to handle all-important tasks:

Select objects in the track window with a left-click. Selected objects can be moved or deleted in move mode. All subsequent objects are also moved so that no unwanted gaps develop later in the track. The object can be removed from the track with the Del key. All subsequent objects are moved so that no gaps occur.

In move mode you can use the 5 handles to fade or shorten all objects or to change the master volume.

Right-clicking on an object opens the so-called context menu from which you can select important editing options for the object.

Keyboard shortcut: V

## Cut Mouse mode



The cutting mode converts the mouse pointer into scissors. Every object can be cut on the mouse position.

This creates two separate objects that can be edited separately.

Moving the mouse over the wave form depiction of the audio material you move the Position Bar along with the mouse pointer. So you can control exactly the point where you want to cut. To perform precision editing we recommend zooming the wave shape display before using the cut mode.

Like in move mode, right-clicking on an object opens the so-called context menu from which you can select important editing options for the object.

This mode is suitable for dividing a recording into different parts in order to apply object effects to each of the passages.

Key: H

## Delete Mouse mode



The "Delete Objects" mode turns the mouse pointer into an eraser. In this mode you can delete objects from the project.

Following projects are drifted automatically with the Track Markers in the position of the deleted object.

In Move mode you can also mark an object and press the Del key on the keyboard to delete it.

Keyboard shortcut: O

## Resampling/Timestretch mouse mode



This mode lets you change the playback speed of objects with the mouse so that they are better aligned.

You can use this mouse mode by stretching or squashing the object at the rear object handle below. The mouse cursor turns into a clock.

Resampling mode (preset) can be used to change speed and pitch just like on a tape, i.e. speed and pitch are changed together as one. If an object is



compressed with the mouse, the speed and pitch increase just like a tape when it is played faster.

In the timestretch mode, the pitch remains unchanged, if the object length and with it the speed are changed.

You can switch modes by opening the Object FX page (view page 68) of an object, switching to the cleaning effects, and then selecting timestretching from the tempo/resampling effects presets list.

## Draw volume curve mouse mode



With the **Draw volume curve mode** you can "draw" any volume curve using the mouse.

This way, you can create irregular volume progressions quickly.

To delete volume curve points, double-click on the corresponding point or click on a point in the erase object mode (view page 40). You can delete multiple points by holding the Shift key and clicking the first and last points so that all points in between are selected.

Selected volume points have a blue frame. You can now delete the points with the **Delete** key.

## Wave drawing mode



Repair short distortions such as crackling directly in the wave form of the audio file by using the Wave drawing mode. Such distortions usually only last a few sample values, so you can use the mouse and try to draw along the original waveform without the distortion.

There is an automatic zoom function in the wave form display when you switch into the Wave drawing mode, so sample values become visible.

Warning: Unlike other editing of the master track which only affects the project, this mode lets you work directly with the Wave audio file, i.e. on the recorded raw material, which is changed directly and permanently. Create a backup copy to undo changes. Back up copies are created automatically when working with MP3 and other compressed formats, since such files have to be converted into the Wave format for this function.

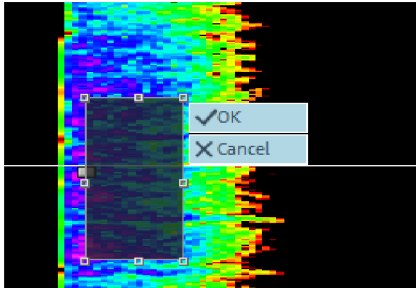
## Spectral edit mouse mode



You can remove individual noises within the sound spectrum of the audio material with the help of the spectral edit mouse mode.

In that case, it is a simplified version of Spectral Cleaning (view page 85) that is integrated into the master track.

The view of the master track changes to Spectral display (view page 37) and you can create an area around the noise with your mouse. Its size is still adjustable afterwards by simply stretching the handles at the frame.

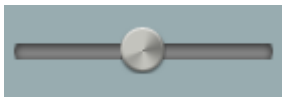


You can hear the impact of the effect straight after playing the corresponding passage. Two buttons are located at the frame of the disturbances. By clicking "OK" the editing will be calculated into the audio material instantly. A copy of your original material has been automatically saved beforehand so you can undo any editing (Strg + Z).

By clicking "Cancel" you delete the frame and end the filtering process.

## Transport control

Use the transport control to control the playback position in the project. The position line, which indicates the current playback position, is a thin vertical line located in the track window.



Quickly move the position line within the project by using the position slider.

00:02

The time display indicates the current playback position (using the measurement unit selected via Options > Measurement units (view page 161))



Use the transport control to start and stop playback, move forward and backward within the project and set the position line back to the very beginning.



**Loop:** Clicking on the loop button starts playback an endless loop.

This function is useful if you wish to monitor transitions or effect settings in critical sections and therefore want to listen to certain ranges or objects repeatedly. You can extend or shorten the loop range in the Timeline by using the mouse or by entering changes numerically in the "Playback parameters" window (options menu).



**Return to start:** Resets the position line to the start of the project (also works during playback).



**Rewind/Fast-forward:** Rewind/fast-forward first starts slowly, then quickly speeds up if you continue to hold the rewind or FF button. This corresponds to the functionality of a tape recorder which also takes some time to gain speed.



**Alt + Click** on this button lets you jump to the next or previous marker.



**Stop:** Stops playback, the position line jumps back to the starting position.



**Play:** Starts playback, clicking again stops playback at the current position.



**Recording:** Opens the record dialog where you can set the recording format, level etc. The actual recording is started in the record dialog.

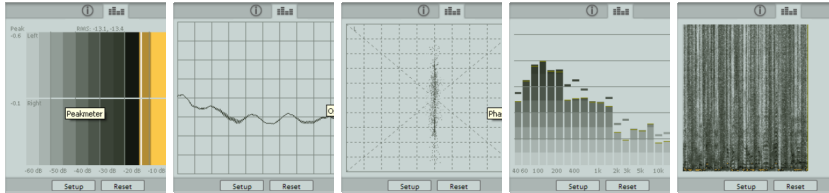
### Control functions of the keyboard and mouse:

- The space bar starts or stops playback.
- A simple mouse-click in the timeline above the track moves the position line to the corresponding position (also works during playback).
- The Pos 1 key moves the position bar back to the start of the project.
- Use the position slider to quickly move the playback cursor within the project.

- Other special keyboard commands are available to jump between markers and object borders quickly, see Zoom commands (view page 46).

## Analyzer

Audio material being played is graphically illustrated in the visualizer. You can choose between the following display options: Peak Meter, Oscilloscope, Phase Correlation, Spectroscope and Spectrogram.



The visualizer can be modified to your taste. Click "setup" and in the context menu, choose from a number of options, including the update speed, color, etc.

### Setup

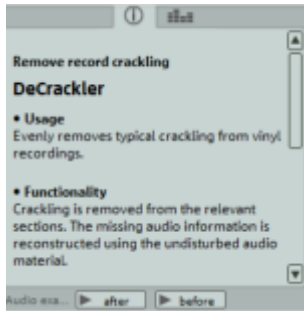
**Value range/display:** You can adjust the minimum and maximum values for the display of the visualization in all modes. The numeric peakmeter display is activated and deactivated via the Peakmeter value menu item. The option "Non-linear dB scale stretches the range of interest slightly below 0dB. An additional **RMS** value display (visible as a small white bar in the peakmeter) can be activated and deactivated via the **RMS** menu item.

**Speed:** Here you can define the speeds of all visualization modes. However, you can also customize the speeds. The measurement units for a drop are specified in 10 dB (ms/dB).

**Peak hold:** Here you can enter a time value for holding and dropping of the peak levels. You can also enter these time values manually in "ms".

**Frequency bands:** Here you can enter the number of frequency bands displayed in the spectroscop. Warning: Higher band numbers means a higher CPU load and thus reduced PC performance or portable visualization display.

## Info Box



The Info Box offers fast and immediate help when working with MAGIX Audio Cleaning Lab SE.

Please click on an effect to receive information on purpose of use, functionality, correct handling and possible sources of error.

With the help of sound examples, you can listen to the result of the effect. "Before" plays the effect previously to the application and "After" the result with the applied effect.

Clicking on an object displays the applied Object effects (view page 75), if available. The Info Box also offers useful tips for other program areas.

## Zoom

The waveform display allows you to recognize certain parts of the material from the shape. For many tasks it is quite useful to enlarge the waveform display. For detailed editing, e.g. editing with the scissor tool, there are several zoom options:

**Quick zoom:** For quick zooming it is sufficient to click with the mouse in the timeline, keep the mouse button pressed down and move it up or down. This way, you can quickly zoom the cursor in and out at any position without releasing the mouse.



The +/- zoom button at the bottom right corner of the track window zoom in/out the display.

This enlarges the central area of the track window. Clicking on the adjacent triangle opens the zoom menu. Here you can open different zoom and navigation commands (view page 46).

By selecting an area in the overview track (view page 36), you can also determine the visible section of the project. The overview track is located above the track window and displays the entire project irrespective of the selected zoom level.



You can click on this symbol or the "a" key to quickly restore the fullscreen view of the project.



Moving the scroll bar forward and backward allows you to quickly navigate through the project. Dragging the scroll bar ends adjusts the size, which also zooms in and out of the project.

## Zoom settings

Command	Keyboard shortcut	Description
<b>Play/Position marker</b>		<b>Commands for quickly editing the playback position</b>
Marker left	Alt + right	The play marker can be moved quickly between the markers.
Marker right	Alt + left	
Object border left	Shift + Alt + right	The play marker can be quickly moved from object edge (object start and end) to object edge.
Object edge right	Shift + Alt + left	

## Zoom ranges

Show all	A	The entire project is visible.
Zoom 1s	1	The visible section of the project is quickly set to the selected value.
Zoom 10 s	0	
Zoom 60 s	6	

Zoom 4 min	4
Zoom 10 min	Shift + 0

### Vertical zoom

Zoom into waveform	Ctrl + Cursor down
Zoom out of waveform	Ctrl + Cursor up

Vertically zooms in and out of the wave shape. This is useful for locating the crossover point (for precise sample editing).

## Volume controller/auto button

This controller sets the playback level of the track. Before exporting, the project should be set as loud as possible in order to receive an optimally calibrated recording level. The "Auto" button below the volume control is for automatically optimizing the volume (normalizing).

In order to set the volume of the project as high as possible, place the position line just before the loudest part of the project and start playback (the loudest position can be found by locating the highest peak of the wave shape display).

After you have played the loudest part, click on the "Auto" button below the master volume control. MAGIX Audio Cleaning Lab SE automatically adjusts the volume so that the loudest part of the range that was just played is exactly 0 dB, i.e. the maximum volume.

**Note:** The volume controller adjusts the volume of the project, i.e. the volume that is finally used for exporting. If you want to set the level lower here (e.g. because you are talking to someone), the project will also be exported quieter. It is better to adjust the monitor volume with the sound card mixer or directly on your stereo system (e.g. monitor speakers) and to leave the volume control at the position recommended by the "Auto" button.

To adjust the monitor volume in the sound card mixer, you can click on the loudspeaker symbol in the tray (at the right bottom corner of the screen). However, you can also adjust it directly in the "Playback parameters" (view page 159) dialog.

## LED Display

The LED display is a peakmeter and shows you the maximum peaks during the playback of the audio material on the track. In the stereo tracks, the left LED-chain will indicate the level of the left channel and the right LED-chain the level of the right channel. Both chains will show the same values while working with mono tracks.

## Bypass FX

Switch all effects on or off with this button to directly compare the original with the processed audio.

## Limiter



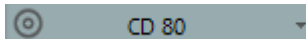
The limiter can be switched on to reduce clipping. This device works sound-neutrally and provides a final guard against extreme levels.

## Status line

On the lower edge you will see a display of the remaining capacity (depending on the storage medium selected for export), and the current system resources.

## Used space indicator:

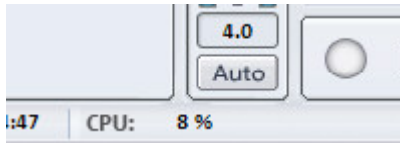
The storage medium display compares the allocation of the master track to the capacity of a defined output medium, for example, of an audio CD or of a data DVD.



By clicking on this symbol you can adjust the storage medium display of different output media such as CDs, audio/video or data DVDs (MP3s).



## System display

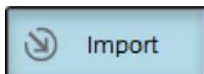


The system resources are very important while writing a CD in real time. Once the process has been started, it cannot be interrupted. When writing "on the fly", the computer has to calculate the playback including all real time functions and write them on the CD at the same time. If the system is not fast enough, the process will be aborted and the CD will be useless.

The system display of the MAGIX Audio Cleaning Lab 11 helps you to prevent such problems when writing a CD.

If your system is overcharged, activate the "Create an Image file" option in the "Make CD" dialogue. This will create a stereo file, which will be the source for the writing process. This file includes all effects and object settings, as well as the tracks and track markers, so that the system doesn't need to calculate them again while writing various copies (see Write CD parameters (view page 123)).

## Import



## Audio files



MAGIX Audio Cleaning Lab SE can import audio files in the formats WAVE, QuickTime (\*.aif), Ogg Vorbis (\*.ogg), MP3, WMA, FLAC, and AVI (soundtrack only).

To do this, click the corresponding button **"Audio files"** in the import section and the "Load audio file" dialog will open.

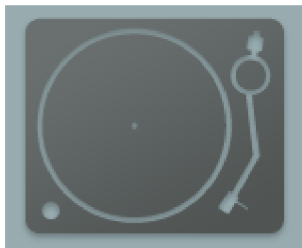
Select any folder containing audio files. Every file listed can be previewed and loaded into MAGIX Audio Cleaning Lab SE. The selected file is attached to the last object following a pause of 2 seconds.

You can also load several files simultaneously. Just as in Windows Explorer, you can extend your selection with "Ctrl" + click, or select a series of files with "Shift" + click.

The pause inserted between the files (2 seconds by default) can be changed in the CD/DVD menu with Automatic pause settings (view page 150). If you have tracks which blend over one another and which are distributed on several files then you should change this value to "0".

Keyboard shortcut: W

## Record



The "Record" button opens the audio record dialog.

## Basic knowledge about recording with the PC

The record function converts analog audio signals – records, tapes, sounds, speech – into digital data, which can be saved on the PC and edited with MAGIX Audio Cleaning Lab SE.

The device which is used to digitalize the audio signals is already built into most sound cards and aptly called an analog-digital converter, often abbreviated with A-to-D, ATD or A/D. In order to record sounds, the A/D converter takes samples of the sound to be digitalized at fixed intervals by measuring the voltage level of the signal. The frequency of the sampling is called the sample rate and naturally lies within the kHz frequency range; several thousand times per second. The higher the sample rate, the more samples are recorded by the A/D converter, thus making the sound conversion closer to the original.

The precision with which the A/D converter measures the voltage level of the analog signal is determined by the sample resolution. The same principle applies here: The finer the resolution, the better and more natural the digital conversion.

Audio recordings in CD quality are recorded with a sample rate of 44.1 kHz and a resolution of 16 bits.

## Connecting the source for recording

First of all, the source of the audio material must be connected to the sound card input. Again, there are several possibilities which primarily depend on the type of equipment you have.

If you are recording from a microphone, then please connect the microphone to the microphone jack on your sound card (usually red).

If you want to record material from a stereo system, then you can use the line-out or AUX out jacks on the back of your amplifier or tape deck. This involves connecting them to the sound card input (usually red).

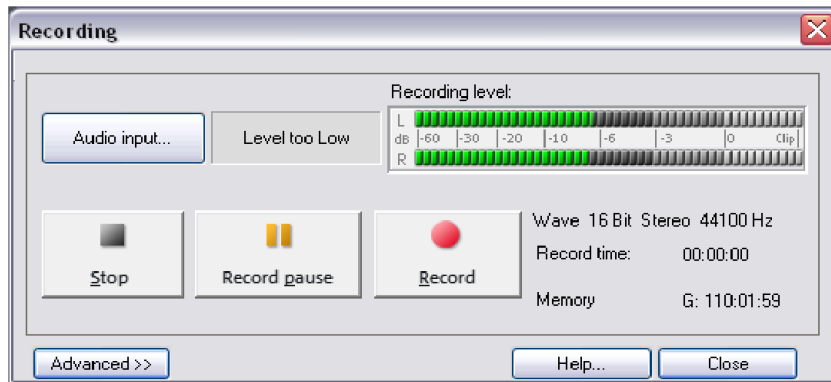
If your amplifier has no separate output (other than for the speakers), then you can use the connection intended for headphones for your recordings. In most cases, you will need a cable with two mini-stereo jacks. This type of connection has the advantage of being able to set the headphone input signal level with a separate volume. As headphone connections generally are not the best, it is advised that you use the line outputs if possible.

When recording cassettes from a tape deck, you can connect the tape deck's line out directly to the sound card input.

When recording from vinyl records, you should not connect the record player's output directly with the sound card because the phono signal needs to be pre-amplified. A more suitable method would be to use the headphone connection or an external pre-amp.

## Record dialog

The "Record" button in MAGIX Audio Cleaning Lab SE opens the record dialog. However, the recording source must be connected to the input of the sound card with a suitable cable first. For more information, please read the "Recording basics" (view page 51) chapter.



**Audio input:** Opens the input and level automation (view page 55) for automatic selection of the correct input signal and level.

**Recording level:** Displays whether the level of the signal you want to digitize is correct. To set the level, play the **loudest part** of the material you want to record and monitor the display. Like with analog recordings, the sound of digital recordings has to be optimized as well. Too low level settings will have adverse effects on sound quality, distortions lead to unpleasant "clippings".

**Recording:** This button starts the actual recording. During recording, recording time and remaining space on your hard disk are indicated. Monitor the recording level on the LED display. If the display reaches the upper LEDs, there was a distortion at some point. In this case, you should definitely check the recording for clippings and, if necessary, repeat the recording using a lower recording level. At the end of the recording you will be asked if you want to use the recording. The newly-recorded material will be placed at the current position of the playback marker in the arrangement.

**Recording pause:** Pauses the recording. Click the button again to resume.

**Stop:** This button ends recording. The recorded material is then inserted into the upper track as an object. If objects are already in the track, the recording is attached to the last object after a pause of 2 seconds.

**Advanced...:** Opens the Advanced view of the record dialog (view page 53) with access to additional settings options.

**Help:** Opens the program's help file for the record dialog.

**Close:** Closes the record dialog.

Keyboard shortcut: R

## Advanced settings in the record dialog

**Marker:**

Recording source:  Auto recording stop  Save automatically into individual files  
 Auto CD track recognition

Vinyl

**Capture format:**

Wave  Resolution:  16-bit  24-bit  Stereo  Mono Sample rate: 44100 Hz

**Audio input:**  Mikrofon (Maya44 MKII Audio)

**Timer:** Start recording: 12:00  active Record length: 01:00:00 HMS  active

**File path:** C:\...\Documents\MAGIX\Audio\_Cleaning\_Lab\_17\_deluxe\NEW01.wav

Shut down computer after automatic recording stops

**Automatic recording stop:** If this button is activated, recording will cease automatically after approx. 16 seconds of silence. This way you won't have to worry about stopping the recording once the source you're recording from, an LP, for instance, has reached the end.

**Automatic CD track recognition:** If this feature is activated, then track markers are automatically placed at the end of the pauses after a track. In order for

pause recognition to function seamlessly, you will have to set the proper source in the selection box (LP, cassette, CD, or Internet). You can specify the detection parameters even further in the Options menu via >Automatic track marker recognition options (view page 161).

**Save automatically in individual files:** If this feature is active, then every individual track that is recognized will be saved as an individual file.

**Set CD track marker/marker:** Even during recording, you can set CD track markers or simple markers by clicking the corresponding button in the recording dialog.

**Start new file:** If you want to record for very long sessions or from multiple sources one after the other, then the recording file can become extremely large. This button will create a new sequentially numbered file.

**Recording format:** Set the sample rate and bit resolution (deluxe version only) of the recorded audio file, and also whether the recording should take place in stereo or mono.

24-bit recordings requires a high-quality audio card with 20 or 24-bit conversion, plus a 24-bit capable MME driver. Audio cards with SPDIF digital interfaces can also record audio material in 24-bit quality.

You can also record directly in compressed formats such as MP3 or OGG Vorbis. Select the format you want to use from the list box, and use "Format options" to specify details such as the bit rate and compression method.

**Audio input:** The button "Sound card settings" opens a dialog with special settings (view page 58) for whatever sound card is present. The name of the selected sound card is also displayed. If you are using several sound cards (or ones with several inputs), you can select one from the menu.

**Timer:** Enter a specific time to start the recording, plus the recording length. The recording won't begin immediately after pressing the "Record" button, but rather at the specified time. This way, time-delayed recordings (for example, at night or when you're out) are now possible. Of course, the system clock has to be set correctly. If "Recording length" is active, then the recording will end automatically after the indicated period.

**File name/file path:** The name of the audio file to be created and the preset directory path are displayed at the bottom of the recording window. Both can be changed by clicking the folder button.

**Shut down computer automatically after recording:** If you are working with timer recordings, you might as well have the computer shut down automatically after the recording has been completed.

**Basic...:** Basic version of the record dialog.

## Input and level automation

Every sound card has at least two inputs (microphone and line), as well as various "internal" inputs for the CD drive or the signal from another program, for example, Internet radio. With input and level automation you can automatically select the correct input for your recording without having to search and adjust the input level in order to avoid distortions.

To do so, click on "Audio input" in the record dialog. If you had already connected your source and begun playback, the correct input will be determined immediately. Otherwise do this now and click on "Search channel again".

If this didn't work, use the "Windows mixer" button to open the Windows Mixer and select the channel manually.

Adjusting the recording level is essential when recording digitally via sound cards in order to achieve optimum sound quality. If the adjustment is set too high, distortion occurs and the incoming signal must be reduced. If you reduce input sensitivity, the resolution at which the analog signal is digitized is also reduced. The level controllers of your sound card should generally be set as high as possible in order to achieve optimum results. A yardstick for an optimal level is the loudest part of the material. The loudest part should be adjusted to the maximum. You can now adjust the recording level with the help of the LED display in the record dialog.

You can adjust the level of the source manually using the "Volume" controller. If you activated "Automatic level adjustment", the level controller will automatically be set to the correct value.

## Monitor while recording

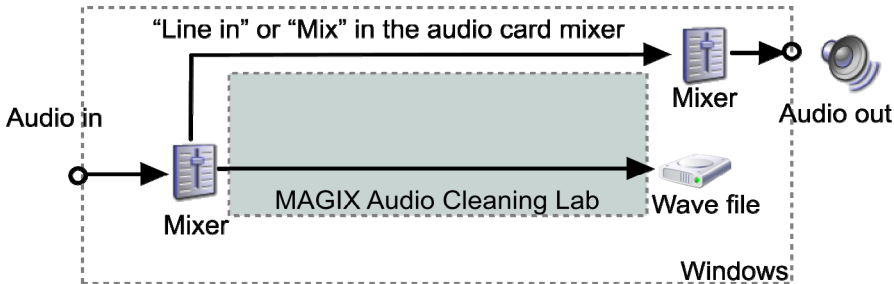
Do you want to listen to your digitizer while you are recording? It may not work from the start for the following reason:

Most sound cards, including the ones integrated in a PC ("onboard sound") offer help for the Windows sound card mixer. You can change the different input and output levels of the sound card or choose a digitizer.

You will also find a signal route within the mixer. This route passes an input signal through to the output of the sound card. The corresponding volume controls within the mixer are called line -In, microphone or stereo mix.

The functions, as well as the descriptions of the input and output controller within the Windows mixer, may differ depending on the sound card and sound card driver. Windows mixer is only a standardized "interface" for the sound card driver.

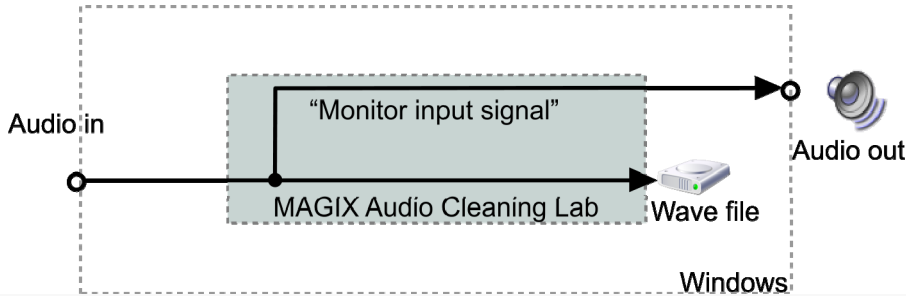
Regardless of MAGIX Audio Cleaning Lab SE, Windows and the sound card driver enable you to listen while you record.



*Recording: Sound card with Windows mixer support*



Many sound cards or audio devices, such as USB record players offer either an incomplete or no mixing support at all. In that case, you don't have the option of monitoring while recording. If you go to "sound cards properties (view page 58)" within the advanced recording dialog you will find the option "Listen to the sound during the recording". If you activate this, MAGIX Audio Cleaning Lab SE will conduct the input signal to the output.



Recording: sound card without Windows mixing support

## 24 bit audio support

Audio files in MAGIX Audio Cleaning Lab SE can not only be recorded in 16 bit quality, but also in far superior 24 bit resolution. Simply select the "24 bit" option under "Resolution". 24 bit recordings require a high quality audiocard with 20 or 24 bit converters, as well as a 24 bit-compatible NME drive. 24 bit audio material can also be transmitted via audiocards with SPDIF digital interfaces.

We have had positive experiences with the 24 bit audiocards produced by Marian, RME, SEKD and Terratec.

The high resolution audio files are stored and edited in the 32 bit "floating point" file format by MAGIX Audio Cleaning Lab SE. This ensures the full 24 bit quality independent of the gauge. The dynamics may increase to over 140 dB, while the recording's jamming transmission sinks, according to the type of audiocard, to 110 dB and more. Thanks to floating point processing, there is no need to worry about internal editing being distorted. Floating point processing only starts to distort at around 1,500 dB above zero – in contrast to a 16 bit signal that distorts immediately once the zero dB line has been traversed.

Even in cases whereby audio material is intended for burning onto a 16 bit CD, it is worth selecting 24 bit recording because all effects calculations are made in a higher quality and therefore no "rounding" mistakes can be detected in the audible 16 bit range.

24 bit recordings (via storage as 32 bit float files) take up twice as much storage space on the harddisk as 16 bit recordings. But with current harddisk storage capacities, it works out as a good compromise when one considers the increase in quality.

High resolution audio files can be imported and exported as 24 bit WAV files, enabling trouble-free file exchange with other high quality audio systems, such as MAGIX Samplitude.

## Digital transfer

With the recording function, digital audio data can be transferred to the hard drive through a digital interface (e.g. S/PDIF or ADAT).

ADAT or DAT recorders normally produce data with a sampling rate of 48 kHz. For a CD project with 44.1 kHz you must convert the sampling rate. This is carried out in real time by MAGIX Audio Cleaning Lab SE. The digital signal is read at 48 kHz, but is automatically converted and inserted into the project as an audio file at 44.1 kHz.

For this to occur correctly, you must first set the sample rate of the incoming signal in the recording dialog. Click on the "Dev." button in the recording dialog. In the following dialog (sound card characteristics), set the audio recording formats supported by the sound card.

Now, connect the digital output of your recorder to the digital input of your sound card, and now start recording!

## Record properties

This dialog provides you with information regarding the currently selected sound card. Supported audio formats of the sound card and the sound card driver's information is also displayed.

**Driver system:** Here you can switch between driver types (MME and WDM).

Note: Adjust this setting only if you have problems with audio playback or recording.

**Special:** Some sound cards or audio devices (for example, USB turntables) do not offer mixer support. With the "Monitor input signal" option you can listen to the sound during recording (monitoring).

"Filter DC offset" allows you to remove the DC offset section (view page 85) of the input signal, even during recording.

## CDs



With **CDs** you can import music from a CD into the program.

### Import CD

You can import entire Audio CDs or individual CD tracks into the project. Unlike data CDs, audio CDs require special treatment while importing ("grabbing" or "ripping"). The data is imported digitally, thus eliminating loss in sound quality.

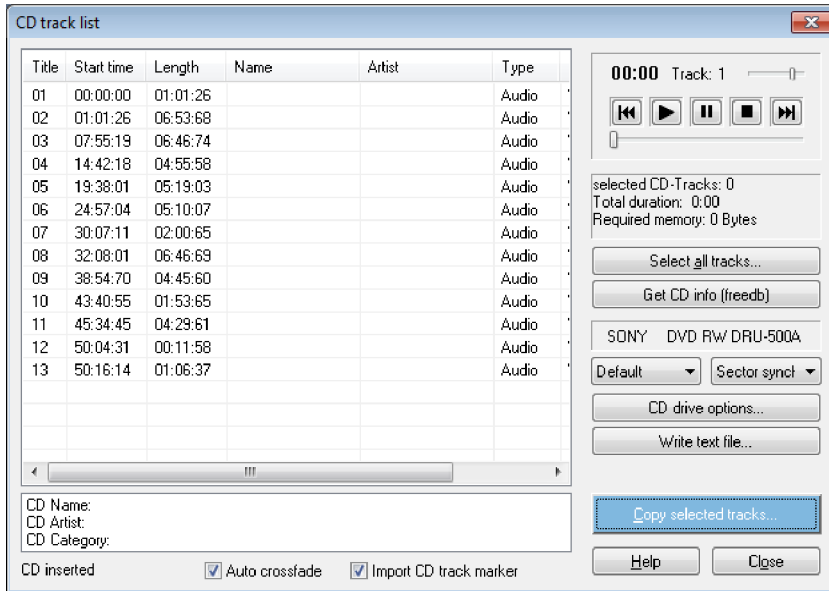
To import audio tracks you should proceed as follows:

1. Insert an audio CD into the drive and click on "Import CD". A dialog with a list of the CD tracks will open. If you have more than one drive, you may have to first select the drive containing the CD. You can do this in CD drive options.
2. Select the desired tracks (multiple selection by Ctrl + mouse-click).
3. Click on "Copy selected track(s)."
4. The "Import project" dialog will now appear. Here you can enter the file name and select the target directory.
5. The audio material is then copied from the drive onto the hard disk. A progress bar is displayed.

Once ripping is complete, the dialogs will be closed and the tracks are inserted into the project as individual objects.

Keyboard shortcut:     D

## The track list dialog



**Copy selected track(s):** This button starts audio copy. A new object is created for every track in the arrangement and the corresponding track marker is created.



**Transport control:** This lets you start and stop playback just like on a real CD player and skip forward and backward in the playlist.

Details on the total length and the memory capacity of the selected track are displayed below.

**Select all tracks:** All tracks are selected, for instance, to copy the entire CD. Several subsequent tracks can also be selected by holding the "Shift" key and left-clicking; "Ctrl + mouse-click" selects several tracks.

**Get CD Info (freedb):** Request title information from the [freedb Online CD database](#) (view page 153)

In the right selection box you can select the read speed, and in the left one you can select the export mode (see [Configuring the CD-ROM](#) (view page 62)).

**CD drive options:** Here you can change the settings and select the drive for importing the CD if you have installed several CD drives (see also CD-ROM drive dialog).

**Write text file:** Title list including the exact names and times can be exported as a text file for archiving purposes.

### Dialog: Load audio file

The "Import project" dialog appears after you have selected the option "Copy selected tracks". Here you can specify name and target address of the audio files. The audio files are subsequently numbered depending on their names (name -> name\_1.wav, name\_1.wav...).

Audio tracks (CDA files) are imported as WAV files by default. However, they can already be converted into MP3s during import. To do this, select the corresponding audio format in "file type" of the dialog "Import project" and then make the corresponding "format settings" (for more info on the audio formats please also read "Loading audio").

### Copy-protected audio CDs

According to the copyright act it is forbidden to copy a CD with copy protection, but the owner of a CD may create a backup copy. The problem with copy-protected CDs is that they cannot be imported using conventional PC drives. In order to create a backup of such a copy-protected CD you have to play it on an audio CD player and record it as a regular analog recording via the sound card.

### Drive list dialog

You can select and configure the disc drive if you have more than one drive.

**Configuration:** This button opens the configuration dialog (view page 62) where you can make various special settings, SCSI IDs, etc.

**Reset:** Restores the default settings of the drive.

**Add drive:** Creates a new drive letter in the list which still requires special settings.

**Delete:** Deletes the selected drive.

**Save setup:** Saves the current drive list and all configuration data in a \*.cfg file.

**Load setup:** Loads the current drive list and all configuration data from a \*.cfg

file.

## The CD-ROM configuration dialog

**Drive name:** Lets you edit the name of the drive in the list. This is useful if you create more than one entry accessing the same physical drive.

**Host adapter number:** Lets you specify the number of your SCSI adapter - normally "0".

**SCSI-ID:** Lets you set the ID of your CD-ROM drive. Be sure to set the correct ID; there is no error checking!

**SCSI-LUN:** Select the SCSI-LUN parameter, normally "0".

**Alias:** Lets you select the manufacturer type of your CD-ROM drive.

**Normal copy mode:** Copies the audio data without any software correction.

**Sector synchronization copy mode:** Copies the audio data using a correction algorithm. This is especially useful, since many CD drives have problems finding an exact position again and gaps can occur.

**Burst copy mode:** Optimizes the speed of the copy process; no software corrections made.

**Sectors per cycle:** Defines the number of audio sectors that should be read from the audio CD in a read cycle. The higher the number of sectors, the faster the copying process. Many SCSI systems have problems with more than 27 sectors.

**Sync sectors:** Sets the number of audio sectors that will be used for software correction. A higher number results in a better synchronization but also in a slower copying process.

## Copy-protected Audio CDs

It is forbidden to copy an Audio CD, whether it is with or without copy protection. Each owner of a CD may however produce a backup copy of copy-protected CDs. The problem is that one cannot create a copy from copy-protected CDs since the CD cannot be read in with a conventional PC disc drive. In order to create a backup copy of a copy-protected CD, you must play it in an Audio CD Player and record it as a "normal" analog recording via the soundcard.

# Editing in the track view

## What is an object?

Objects provide you with a wave form-interpretation of your audio material. The starting point of each object is related to one single point in the audio file. The length of the object determines the length of the excerpt from the audio recording. So, an object does not represent the audio material itself, it is just a replay command. While editing objects you just define additional commands which will be executed in real time each time you listen to the object. For this reason, the original audio material never gets altered and nevertheless your personalized settings are permanently saved. This kind of data treatment is known as "non destructive-editing".

As objects are merely replay commands and they only indicate which audio material has to be played, you can move them to any desired position within the track window or even delete them without changing the content of your audio file.

Objects are important for differentiated sound editing of single tracks or loops.

Objects are subdivisions of your audio material which can be edited separately. Tracks are in contrast simple markers for an audio CD.

Objects can be cut into an arbitrary number of smaller objects, and they can be moved to the master track or even deleted.

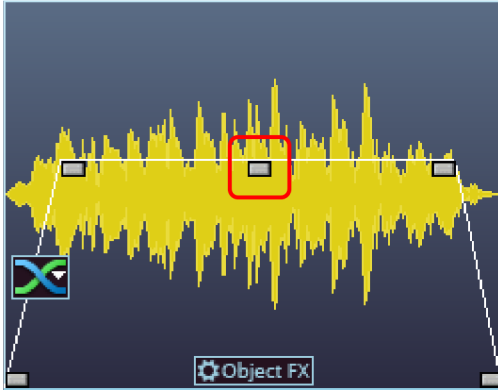
Should you move or delete an object in the track, all objects that appear after the deleted object will move up one position including their track markers, so that the pause between the songs will be preserved.

You do not have to move the objects themselves to change the sequence of the songs. As the following objects will all move up one position, this would only be possible using a second track. It is much easier to move the corresponding track markers in front of or behind another track marker. Doing this will regroup the corresponding objects. The most comfortable solution is to use the arrow keys in the CD track list.

## Project

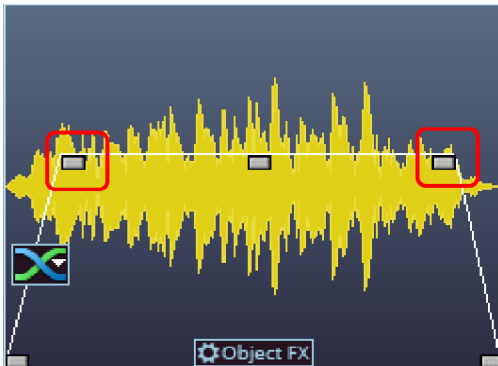
The project (\*.vip file) contains all data MAGIX Audio Cleaning Lab SE uses. It does not contain audio data but only the names of the imported and recorded audio data and the saved locations on the hard drive, all edits, reductions and most effects processing. Furthermore, the object display on the tracks is referred to as a project.

## Adjust object volume



The handle at the top center can be used to adjust the volume of the objects. This handle is particularly important for synchronizing the volume of songs originating from different sources. The volume of audio CDs may also differ.

## Fading objects in and out



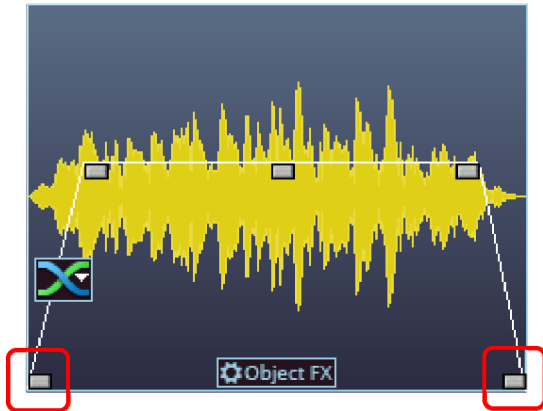


At the top corners of every object there are two fade handles that can be adjusted to fade an object in or out. It is particularly useful to use the fade handles when you have cut passages out of a recording to avoid hard transitions or crackling.

## Duplicate objects

Objects may be duplicated very easily. Click on the object to be copied with the mouse while holding down the "Ctrl" key. This generates a copy, which you can immediately drag to the desired position or cut separately.

## Reducing and increasing the length of objects



All objects can be shortened by moving the mouse to the right corner of the object until the mouse pointer turns into a double arrow symbol. You can now reduce the size of the object. This way the songs or recordings are shortened without having to be edited.

Drag the handle to the right to make the object longer again. If you can't move the object borders further, it means that no audio material is available.

If a few seconds silence were accidentally recorded at the beginning, you can easily remove them by moving the left handle. If too much audio material was removed, you can restore it by moving the object border back in the other direction.

## Deleting and moving objects

Every object can be removed from the the track with the "Eraser" tool (or the Del key). No gap will be created in the project, i.e. the subsequent objects are moved.

All subsequent objects will be moved along in unison automatically so that no gaps appear.

## Cut objects

Use the commands "Remove object beginning" or "Remove object end" (keys **D** and **U**) in the "Edit" menu to remove superfluous beginnings and ends of a recording.

To do so, set the object's position line to the beginning of the part of the object you want to keep (i.a. the music) and press **D**. **Now, set the position line to the end and press U.**

Alternatively, you can use the scissors mouse mode. Use it to click on the parts of the wave shape where you want to split the recording. No longer required objects can now be removed from the track with the Delete tool or Del key.

If you cut objects, a short fade is created automatically at the cut position to prevent crackling.

If you separate the material into small objects, you can rearrange the order entirely. For such arrangements we recommend using the second track (view page 158), which can be used for shifting the objects.

To find the best parts for object cuts, we recommend working with an enlarged view of the wave shape display. The magnifying glass is an ideal tool for such purposes. Left-click into the wave shape display with the magnifying glass tool to enlarge it, right-click to reduce the size again.

## Join and mix objects

When you push an object from the right over the object to its left, it will cover it like one sheet of paper covers another (completely or just in part). The invisible part of an object will not be played.

The program automatically inserts a crossfade between the two joined objects if the fader-handle of the second object is dragged a bit to the right. This is another method to remove clicks.



A fade in a selected object is represented by a Crossfade symbol.

The shape of the crossfade curve can be changed by clicking on this symbol. You can also apply the Surround Transitions here.

You can make the invisible part of the second object visible (and audible) again just by moving the second object to the right.

You can do the same using the second track. Passages that are overlapping on two tracks will be played as overlapping. Now you can search for your ideal mix using the volume and the length handle, cutting your object and moving it.

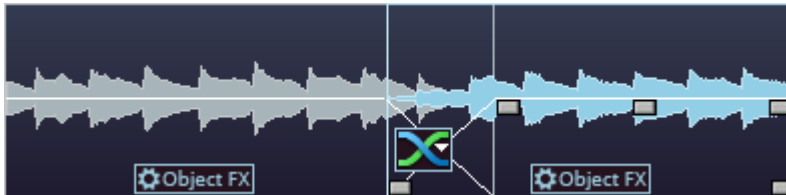
## Fading objects

With every cut the two objects that are created are slightly crossfaded in order to avoid crackling. This is called Auto crossfade. A crossfade is also added if two objects in a track are moved into each other or overlap each other.



A crossfade symbol is added to each crossfade. By clicking on the symbol, you can change the curve of the transition.

The top handle of the right object allows you to regulate the fading in and out of both objects.



The bottom handle controls the length of the two objects. If you move them, one of them is extended whereas the other is shortened. The length of both objects together remains the same.

## Change song order

You do not have to move the objects themselves to change the sequence of the songs. As the following objects will all move up one position, this would

only be possible using a second track. It is much easier to move the corresponding track markers in front of or behind another track marker. Doing this will regroup the corresponding objects. The most comfortable solution is to use the arrow keys in the CD track list (view page 152).

## Automatic insertion of pauses between objects

When importing individual songs (or other audio material) one after the other, they will be presented in the track as a sequence of objects. The program automatically introduces a 2 second break (space) between each of the objects.

You can change the default pause length in the "CD" menu > "Set automatic pause length"

## Several songs in a single long object

When you record an LP for example, one complete side of the LP will appear as one single object in your track window. If you want to split such an object into individual song-objects, you will have to search for the transitions in the waveform presentation and cut them "by hand".

In most cases however, it is not necessary to create an individual object for each song. Placing track markers at the beginning of the songs is normally sufficient.

## Object FX

All FX can be used on all objects independently from the other objects. Cut the object into several smaller objects and edit them individually in the Object FX mode.

Highlight the "Object FX" button of the object by clicking on it.

If you want to return to the normal "Master FX" mode you can do this by simply clicking on the close button ("x") in the upper right corner of the Object FX dialog.

Read more on Object FX in the chapter "Cleaning FX (view page 75)!"

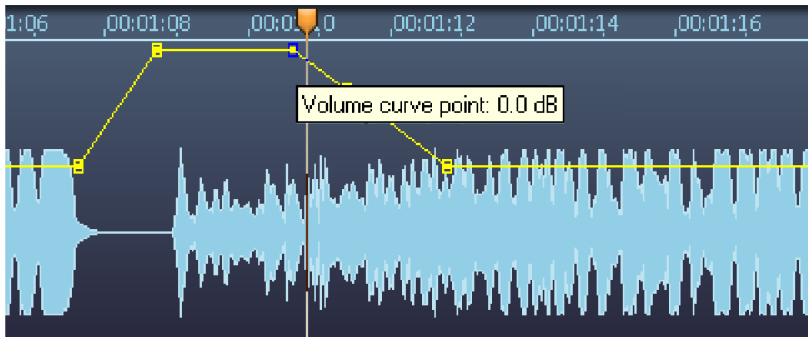
## Draw volume curve



Use the **Volume curve** button to activate a volume curve.

You can use it to add volume curves to your audio material, for instance, for compensating volume fluctuations or increasing the volume of quiet passages.

Volume changes are immediately visible in the waveform display so that it is very easy to visually align the volume of different passages.



There are two ways to edit these volume curves:

A "handle" is created by clicking on the curve (in standard mode). You can then move it with the mouse and create volume progressions. This method should preferably be used if gradual volume changes over longer passages are needed.

Additionally, you can use the Volume curve mouse mode (view page 41). This allows you to "draw" any volume curve using the mouse and lets you create irregular volume progressions quickly.



Tip: The Voice over effect (view page 119) creates volume curves for automatic fading in/out based on the audio material in the second track.

## Quick zoom

For many tasks it is quite useful to enlarge the wave shape display.

For quickly zooming it is sufficient to click in the timeline, keep the mouse button pressed and move it up or down. This way you can quickly zoom the

cursor in and out at any position without releasing the mouse.

## Set track markers

In many occasions you will not load single songs, one after the other, into a project, but a certain number of them at the same time, for example while recording one side of an LP.

If you want to record this LP on a CD, you should first set track markers at the beginning of each song. The track markers can already be set while recording in the Record dialogue – "by hand" or automatically by the automatic CD Track detector (see below). It is however also possible to set, move and delete the track markers afterwards by using the 1click-Burn-Automation (view page 125).

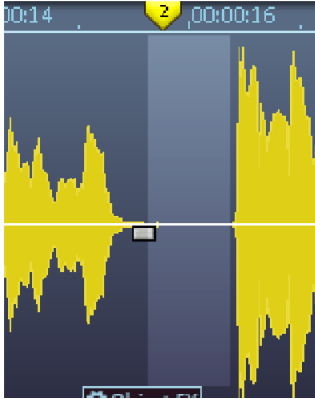
It is furthermore possible to set the track markers directly in the master track. Place the position line on the beginning of a new song and press the m key (or select the option "set track marker" in the CD menu). The new track marker appears just above the position line on the time ruler.

## Automatic track recognition

There are multiple options for automatically separating the material into CD tracks:

1. during recording in the Record dialog (view page 53)
2. via the option "Automatically set track markers" (view page 149) (CD menu)
3. with the help of the burning wizard

MAGIX Audio Cleaning Lab SE searches for positions where new songs start, i.e. the end of a pause. Pauses are normally 0.5 - 3 seconds long.



However, normally a pause isn't completely silent, but might include noises from the record or hissing from the cassette. For this reason, MAGIX Audio Cleaning Lab SE only detects pauses if the recording falls below a certain level (threshold) for a specified period of time.

The higher this level, the more often a pause will be detected, but this can lead to incorrect detection of pauses at quiet sections in songs. However, if this level is set too low, pauses which feature a lot of noise like hissing or crackling may not be detected.

*The pause section with marked level, and pause length*

The second step checks to make sure the interval between the pauses is long enough. For example, it is very improbable that a recording of the top ten will contain pauses a minute long. If this sort of thing is detected, then marking for the second pause is removed.



*Incorrectly detected pause which was removed automatically because the interval to the previous pause was too short*

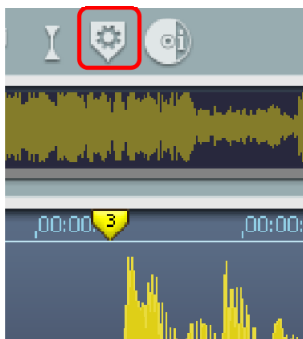
The third step examines the start and end of the audio material more precisely: Records always feature a loud bump when the needle is placed on the record and another one when it is removed from the record at the end of the recording. MAGIX Audio Cleaning Lab SE attempts to recognize these noises and to exclude them, i.e. object edges are automatically moved inwards to match the start and end of the actual music.

There are sensible presets for thresholds and times in the track marker

automation which depend on the selected recording source (records, cassettes, CDs/DVDs, Internet, etc.). If these don't work properly, you can change them in the Track marker recognition options (view page 161) dialog ("Options" menu).

Sometimes it is helpful to place the first one or two markers manually and to separate the objects using the "T" key, especially if the volume levels are very different. MAGIX Audio Cleaning Lab SE will examine the objects individually.

Of course, MAGIX Audio Cleaning Lab SE can't recognize the correct track markers in every case (e.g. during live recordings or with classical music). If you've tried using a number of different settings and still aren't satisfied with the results, then you should set the track markers manually.



*Setting a track marker manually in MAGIX Audio Cleaning Lab SE*

You can change the presets for the automatic track recognition in the options menu.

## Check and move track markers

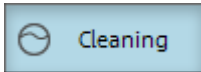
Before writing your audio material on the new CD, you should check if all track markers are located on the correct places. The Track Wizard ("1 Click Track Creation and Burn") offers you an easy to read list, which includes all track markers that can be selected, moved or deleted individually.

Move the position line from marker to marker pressing the Alt- and the cursor key (arrow keys of the numeric key pad) in order to select the track markers directly in the track window, and replay the material from that starting point on. If the marker should be unnecessary or placed at the wrong position, just click on it and delete it or move it by holding the mouse button.

If a track marker is dragged in front of or behind another track marker, the corresponding objects will change their position in the track. This allows you to quickly change the sequence of the songs. This is even more easily done if you use the arrow keys in the CD track list (view page 152).



# Cleaning



Most cleaning functions are activated via the Cleaning FX section – either as master effects on the main screen or as object-related effects on a separate "Object FX" page (not available in the MAGIX Music Editor).

All effects in the "Cleaning" section occur in real-time. You can switch them on and off during playback and change their parameters, so that the result of the change can be heard immediately.

Additional cleaning functions can be found in the "Edit" menu.

## Choose preset

A mouse click on "Select presets" opens the "Cleaning effects" menu. Here (or via the "Editing" menu) you can save and load your favourite effect settings as "Cleaning effects settings" for your projects or objects.

With the "Open cleaning FX rack" command you can display the settings dialog for all of the cleaning effects as a large effects rack.

Different presets (for example, "Restore a poor quality record") are supplied with the product and can be tried out right away.

Cleaning FX presets can also be applied on the "Object FX" page for individual objects, as well as for the entire sound via master FX (main screen).

## Using the effect modules

**On/Off:** Individual effects modules can be turned off and on via the buttons to the left.

**Slider:** Each function has a slider that controls the intensity of the cleaning effects.

The effects of the "Cleaning" section include a selection of useful presets which can be chosen from a flip menu. Click on the arrow... In most cases it is sufficient to select a preset here in order to achieve good results.

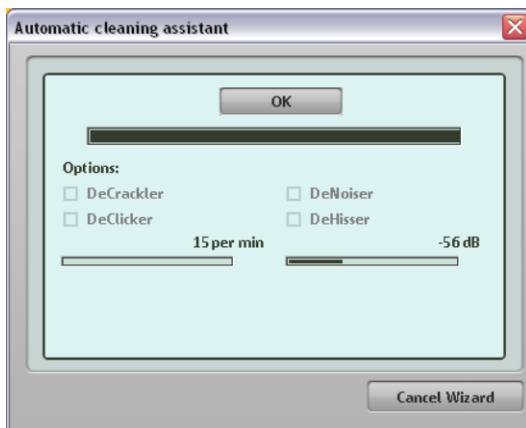


**Info field:** Instead of the analyzer, you can use a help field to explain how the selected effect should be used.

**Edit button:** The meticulous can add special settings to the cleaning effects. For this the "Effect device" is opened via the button on the right of the module. Now the cleaning effects can be edited.

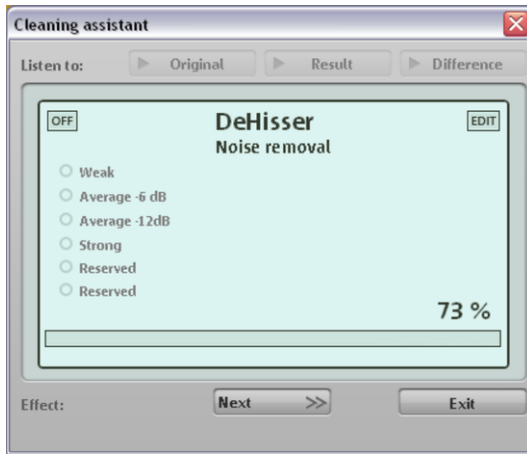
All effects devices can be activated and deactivated via the "On/Off" button. With "OK" you can apply the settings, "Cancel" closes the effects device without applying the settings. "Reset" returns the settings to their defaults.

## Cleaning Wizard



This automatically analyses the audio material, selects the appropriate effects and applies settings. In the wizard dialog, you can choose whether audio objects should be analyzed individually (recommended for audio material from different sources or media) or whether all objects should be analyzed together (recommended, for example, for a vinyl recording with the same background noise disturbances).

## Step by step



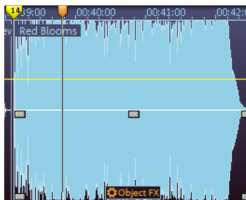
The results of the individual effects introduced are by means of example recordings, and then applied to the material in the track window. The cleaning assistant suggests the following series of effects:

1. DeHisser for analog tape hissing (white noise)
2. DeNoiser for uniform audio disturbances (humming)
3. DeClicker for popping sounds (scratched records)
4. DeCrackler for background crackling

Presets can be selected from the effects available and the output material (original) and the result of the effect (as well as the removed audio section, i.e. the "difference") can be monitored for comparison.

**EDIT** The settings dialog for each effect can be opened via this button.

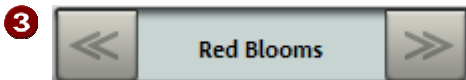
## Object FX page



Open the Object FX page using the "Object FX" button located directly on the objects in the track window. While the effects of the program interface are applied to all objects in the master track, the settings of the Object FX page are only applied to the individual object.



- 1 Just like on the main interface, you can switch between cleaning and mastering effects. All other controls, such as presets and step-by-step settings are available on the Object FX page as well.
- 2 All effects, except for Spectral Cleaning, are also available as object effects. In addition, you'll also find Reverb/Echo (view page 114) and Resampling (view page 89).



**Object name with Forwards/backwards buttons:** Use them to jump from object to object in the master track. The settings of the Object FX page are automatically adjusted to the settings of the selected objects. When moving from one object to the next, the Object FX button of the corresponding object in the master track flickers for a short while to indicate that the Object FX page now applies to a different object.

4



**Object play status** indicates that the activated object is being played. If you start playback by clicking on this button, the playback marker will automatically be set to the beginning of the activated object. This guarantees that you hear your Object FX as well (since you are only editing the selected object).

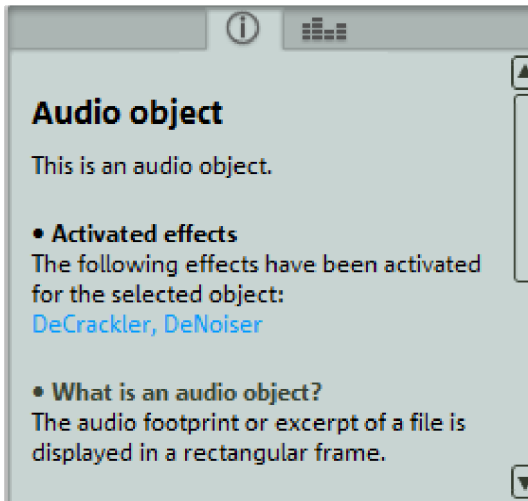
5

Adjust the level of the object here (the middle object handle). The auto button located at the level controller of the object performs a Normalization (view page 145) to 0dB.

In general the following applies: If in doubt, the blinking Object FX button in the master track always indicates which object the current settings apply to!



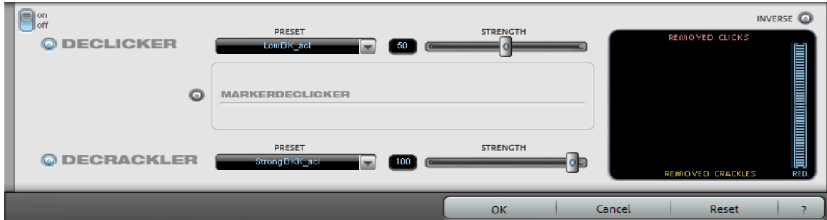
If the Object FX page is not opened, a red Object FX button indicates the active object effects.



If you click on the object, the info box (view page 45) displays which object effects are active.

## Declicker/Decrackler

The Declicker efficiently eliminates any crackling and clicking sounds, as they are typical in scratched LPs.



This function can be very efficiently used in the "Object FX" mode, if the clicking sounds are not present on a whole, but just in some isolated areas.

First, you will have to find the damaged areas using the track window. Once you've found a damaged area, make a cut in front of it and after it, using the scissors-tool, so that you obtain an independent object.

Activate the "Object FX" button of the small object, so that the Declicker will only be applied on the area with the clicking sound.

### Marker Declicker

Alongside normal crackling on a vinyl recording, there can be some more noticeable ones on a record which is scratched. If the DeClicker is set highly for those sections which are particularly distorted, then it can seem that several components of the desired signal will be treated by the DeClicker if they exhibit similar characteristics of the distortions.

To avoid this we recommend setting the DeClicker at a lower setting and removing the sharper pops/clicks with the help of the "Marker DeClicker". These sections can be set using a click marker (Set click marker). The special "Marker DeClicker" affects the audio material (when activated) at these positions, and the normal DeClicker can be used for the remaining material.

"Search clicks" allows you to search the entire project for especially strong clicks and have them marked automatically. With the "Sensitivity" controller you can set the sensitivity of the search, i.e. the higher the level the more clicks will be found (according to intensity).

Especially strong clicks and audio disturbances can be removed with Spectral cleaning (view page 85) (deluxe version only!)

## Decrackler

The Decrackler has been especially designed to smoothly eliminate the "crackle carpet" on old LPs. Stronger, isolated clicking sounds are better be eliminated using the Declicker.

If you think that "crackling" and "clicking" sounds are all the same, listen to the examples included in the Cleaning Wizard (view page 74).

**Removed:** With this Button the playback is switched into a mode, where you can hear the removed clicks and crackles. So you can test, if the Declicker/Decrackler removes only unwanted noise or parts of the original audio are removed yet

## Declipper

Should the input level of an audio recording be too high, overmodulation may result at the louder parts (the signal peaks). This digital distortion can also be called "clipping": At the overmodulated area, the values that are too high are simply cut off and the typical, quite unpleasant sounding crackling and distortions are heard.

MAGIX Audio Cleaning Lab SE includes a special function for the elimination of these digital clippings and analogue distortion.

The clippings are detected and eliminated, based on the material of the selected object. Lastly, the entire volume of the material can be reduced so that the interpolated parts can be played back without overmodulation.

The declipping-algorithm is especially useful in material, where the excessive recording level has caused distorted piano or chorus voices. Affected drumbeats however will normally not improve after the use of this function.



**CLIP LEVEL:** Here you can tell the algorithm from which level on the algorithm has to consider the sample as blasted and therefore corrects it. This is an important point, as the different sound cards have different clipping characteristics.

Choosing -6dB, for example, will cause that all samples that exceed half of the  
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maximum value will be considered blasted and therefore will be calculated again.

With GET CLIP LEVEL the CLIP LEVEL can be gaged automatically.

The interpolated signal peaks adjust the whole level, which must be balanced out with the GAIN fader so as to avoid new overmodulation. When doing so, you should observe the peak meter to the right of the dialog.

The option "LIMITER" switches on a limiter which reliably avoids overmodulation.

With the INVERSE button you can control whether or not undistorted parts of the wanted signal are interpreted as clippings and are filtered out unnecessarily.

## Dehisser

The Dehisser was especially designed to eliminate the band noise, which is all so typical for analogue tape recordings, micro-preamps or AD-transducers.



**Noise Level:** Here you will have to determine as exactly as possible the noise level at which the Dehisser starts to work. If you choose a level that is not high enough, the band noise will not be completely eliminated. In such a case you will notice tweeting sounds (the so called "melodic band noise"). An excessive value will result in a dull sound as part of the band noise and part of the original audio signal recording will be eliminated by the Dehisser as well (for example: air intake sounds of brass instruments) (see Artifacts (view page 84))

If the noise level on your recording is low, you should experience no problems while adjusting it.

**Adaptive:** The value for the noise level parameter is set automatically by determining the hiss contained in the signal. If the noise level value is changed, its effect is then relative, i.e. the resulting value is determined from the automation as well as the noise level fader settings.



One advantage is that you no longer have to set the noise level value manually and that this value can also be adjusted later if the noise share fluctuates, for example, if you use music tracks with differing hiss levels within one project.

If the noise level is constant, a better result may be obtained manually (Adaptive off). However, the noise level value must then be set precisely.

**Audio type:** Lets you set the audio material that is to be edited; the algorithm is adjusted accordingly.

**Noise Reduction:** this option allows you to adjust the damping of the band noise in decibel units. In many occasions it is the best solution, not to eliminate the noise completely, but to damp it only -3 - -6 dB, hence maintaining the natural sound of the original material.

**Quality:** The processing quality can be set in two stages. You can use this to precisely adjust the values in the dialog for standard quality adjustment without skipping playback, and can then select a higher quality for final burning.

**Removed:** This option allows you to listen to the music that would be filtered away by the Dehisser.

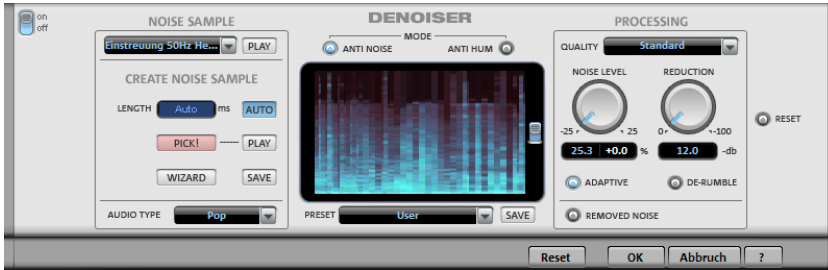
## DeNoiser

The DeNoiser removes persistent background noise like computer humming, hissing, noises from sound cards, disturbance from ground wires, interference from audio-equipment with high-impedance outputs (e.g. turntables), or other device noises. Subsonic noise or rumbling can be removed effectively from LPs with the rumble filter.

The DeNoiser requires a short section from your music which contains a sample of the audio distortion, usually from the start or end of the recording.

When the DeNoiser is activated in the project for the first time, a sample of the distortion will be searched for immediately after the playback marker. The automatically detected noise sample enables good results to be achieved even without opening the DeNoiser dialog.

For more specific results, open the dialog with the "Edit" button.



## Noise sample

**Noise sample:** If the automatic noise sample settings were not suitable for finding noisy material, then a noise sample can be selected from the list. There are several typical distortions available, e.g. camera noises or power mains humming.

An even more specific option is to create a noise sample yourself.

## Create noise sample

**Length:** The length can be set in ms if the "auto" button is switched off, otherwise the length of the noise sample will be determined automatically.

**Pick!** Generates a noise sample. A short noise sample is taken from the selected play range. The playback marker can be moved with the transport control when the dialog is open to search for a suitable position. If the playback position is between two objects, it's not possible to generate a noise sample. **Play** allows the noise sample to be previewed for testing purposes.

**Wizard:** This opens a wizard that helps to create the noise sample. The wizard mainly consists of a search function which helps you find the suitable noise sample in the audio material. Various distortion types can be selected.

**Save:** The noise sample created can be saved in the noise sample folder. It is then available as a new noise sample in the noise sample preset list for any other project.

**Audio type:** Set the type of edited audio material here, and the algorithm will be customized accordingly.

## Spectral view

"Spectral view" shows the spectrum of the noise sample by default. It can be switched to spectrogram view by pressing the corresponding button on the right-hand side. In this case, the played audio material is shown as a spectrogram. The spectral sections removed with by the DeNoiser are displayed in red.

## Mode

**Anti-noise:** In this mode, the DeNoiser works in an optimized mode to remove particularly "noisy" distortions.

**Anti-hum:** In this mode, the DeNoiser works in an optimized mode to remove tonal disturbances. This includes feedback from power cables, power humming, PC fans, video cameras, or ventilation noises.

If the option "Max. damp tonal noise" is active, then this type of distortion will be completely removed. The "Reduction" controller affects all possible existing disturbances. This is a sensible step, since tonal disturbances are much more annoying than other noise – a small amount of "extra" noise in the recording may be allowed in order to avoid a greater loss of highs throughout the desired signal.

This option can be found in "Hum" mode under the "Noise level" controller in place of the "Adaptive" parameter (not available in "Hum" mode).

## Processing section

**Quality:** The quality of the calculation can be set in two stages. You can set the values in the standard quality setting precisely without influencing the playback in any way and select high quality for burning once the material is ready.

**Noise level:** The threshold of the noise reduction function should be set as precisely as possible. Values that are too low will exhibit too low a distortion dampening level and result in artifacts like noise or "twittering" (see below). High settings produce dull results – useful signals that sound similar to hissing noises are also filtered away. Take your time to find the best setting for the individual case. If the "Adaptive" option is activated, the setting is relative, i.e. in addition to automation.

**Reduction:** This sets the balance between the original signal and the signal with the applied noise reduction.

It's often better to reduce interference signals by 3 to 6 dB rather than as much as is possible to keep the sound "natural". For buzzing, it's best to apply complete removal.

**Adaptive:** The value for the "Noise level" parameter is set automatically by setting the level of the hiss present in the signal. The advantage of this is that if a distortion is not constant, the noise level always adapts to the current distortion. If the noise sample is not calculated from the signal that is to be edited, but rather uses a preset to do so, the difference between the strength of the distortion in the audio material and in the noise sample will be equalized automatically. If the noise sample has been calculated from the signal being edited and the distortion is constant, then the "Adaptive" setting should not be used.

**Removed noise:** The part of music that was filtered out by the DeNoiser can be previewed for testing purposes.

**DeRumble:** Here you can activate a special filter for deep-frequency rumbling noises. Examples of such distortions are mechanical noises from old record players, wind, and subsonic noises in microphone recordings.

**Preset:** All the DeNoiser's settings, i.e. the noise sample applied and the settings of the processing section can be saved as a preset for later use.

## Artefacts

With incorrect settings, the DeNoiser and the DeHisser may leave behind a metallic chirping or twittering sound, the so-called artefact noise. The cause of this is the incomplete removal of the distortion. The ear is quite sensitive to this sound because of its synthetic character. This problem, in practice, only occurs in especially difficult cases.

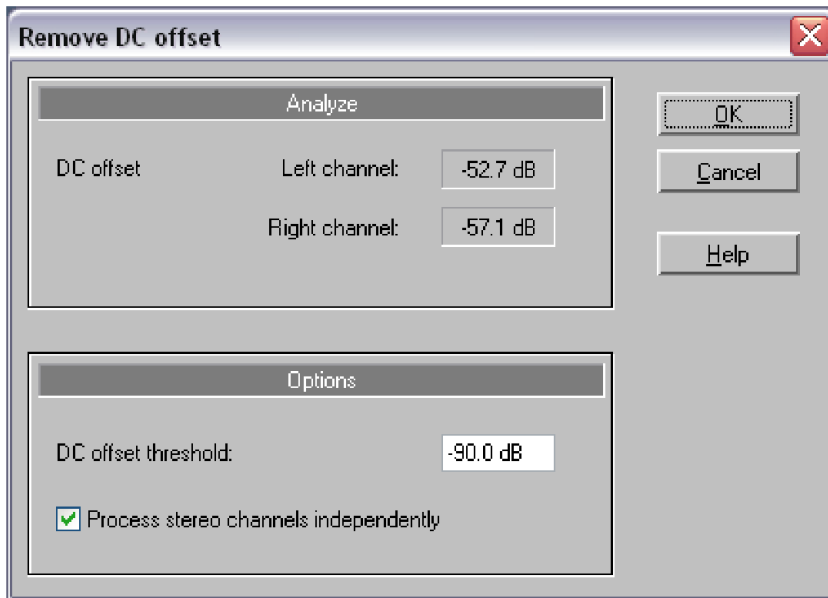
To achieve the best possible results you should pay attention to the following hints:

- First, select a preset from the selection menu. In most cases the result is satisfactory.
- Be careful when "denoising" the effect: Less is more! The distortion sound should no longer be audible, otherwise artefacts may be brought about.

We recommend removing any DC offset that may exist from the material before using it ("Effects" menu > Cleaning > "Remove DC offset" (view page 85)).

## Remove DC offset

This function can only be opened via the "effects" menu and can thus only be applied to selected objects. This can be useful if your sound card overlays your sample with a constant DC offset during recording, which leads to crackling during playback or editing. (This is basically always the case with recordings that use the integrated sound card of your PC).



**Options:** Here you can enter a minimum DC offset threshold, which indicates where DC offset removal will kick in. You can also edit stereo channels together to reduce computing time.

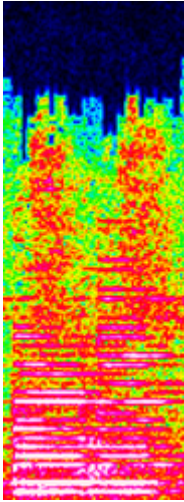
## Spectral Cleaning

MAGIX Spectral Cleaning removes background noise (such as coughing, whistling or clapping) from a recording without audibly influencing the signal.

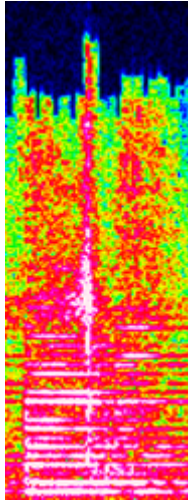
The music is displayed in the Spectral Cleaning Editor by means of a spectrogram (sometimes also referred to as a sonogram). This displays the frequency elements with regard to time (see illustration). The frequency level is then visualized by a color code or by its brightness, respectively.

Audible background noises are usually louder than the signal and are generally restricted to a certain frequency spectrum. They are therefore highlighted in [www.magix.com](http://www.magix.com)

the spectrogram in color and can be easily encircled and removed with the mouse.



Tone



Tone with noise

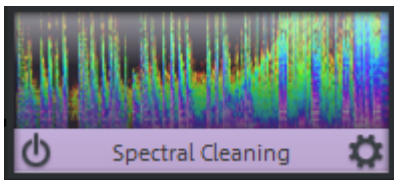
For example, you can recognize the held tone from a pattern consisting of horizontal lines that correspond with the harmonics of the sound (see illustration on the left). A pulsed noise is characterized by a vertical line. The right illustration displays a tone overlapping a short noise.

In MAGIX Spectral Cleaning Editor you can now simply mark and "remove" all noises with the mouse. Lost elements of the original frequency spectrum are then added from the signal surrounding the noise in order to avoid audible gaps.

MAGIX Spectral Cleaning is ideal for all short but clear sounds in the music, such as clicking, coughing and even short drop-outs, but NOT for permanent disturbances such as hiss or noise. In such a case please use the DeHisser or DeNoiser.

## Operation

Select the object and set the play cursor roughly to the position of the distortion. Then open the Spectral Cleaning Editor by clicking on the button or via the "Edit" menu -> "Spectral Cleaning".



To remove a distortion, you have to mark it as one. The selection tool can be used for this.



You can select as many distortions in the editor window as you want and remove them all in one go.

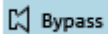
There are three small buttons visible at the position of your selection.



**Delete:** Removes the selection.



**View original:** Normally the result of the noise removal is depicted in the selection. If you click on this button however, you will see the original signal which contains the noise.



**Bypass:** Normally the result of the noise removal is played back in the Spectral Cleaning Editor. If you click on this button, it will play the original signal.

If you wish to perfect the result, set the play cursor in front of the selected distortions and listen carefully to the whole track (see playback section). If necessary, change the distortion selection. As a rule of thumb, as short a section as possible should be selected.

Sometimes it's necessary to modify the effects parameters (see Controls, Edit selection). If you are happy with the result, then press "Calculate".

The result of Spectral Cleaning is saved in the original audio file and the editor is then closed.

## Controls

### Toolbar

You can assign various tools to the toolbar using the left and right mouse buttons. The selected tools are marked in blue if selected with the left mouse button, in red for the right mouse button.



**Selection tool:** Use this tool to modify selections.



**Drawing tool:** Use this tool to select distortions or to modify the selection.

Double-clicking on the selection applies it to the entire frequency range.



**Navigation tool:** You can move the displayed range by holding down the mouse button and moving the mouse.



**Zoom tool:**

Left mouse button (click):

Zoom in

Left mouse button (click and drag):	Creates a zoom field
Right mouse button (click):	Zoom out

### Edit selection

With this setting you can specify how you wish to remove the distortion. All selected distortions can be edited in the same way. If you wish to use various editing methods in an audio file, you will have to do it in various procedures.

The following methods are available to you:

1. **Transition:** This method attempts to replace the distortion with the help of the bordering parts of the music selection.
2. **Transitions (hard):** Behave like a transition, but has a more powerful effect. This way stronger distortions can be better suppressed. The distortion, however, must be highlighted more clearly.
3. **Gap:** This mode should be used for very short drop-outs.
4. **Dampening:** This only makes the selected distortion quieter, surrounding audio material is not faded in. For this reason, ambient noises, unpleasant silences and even drop-outs may occur. Only use this mode if a distortion is present in a very narrow frequency range or if the surrounding noises are very quiet.
5. **Fading in:** Corresponds to dampening, only the music is faded back in towards the end of the marked selection (music becomes louder). This can be a useful mode, if, for example, an impulse-type disturbance is present at the beginning of the piece.
6. **Fading out:** Like fade-ins, but in reverse, i.e. this mode is useful for distortions at the end of a track.

**Strength:** Use this setting to meter your changes. A fader which is turned up all the way corresponds to a 100% change.

**Left / Right channel:** Shows and calculates each channel. If the distortion is only audible on one side simply switch off the other channel.

### View

In the "View" menu you can select from various view schemes. The schemes contain various color scales, but also contain varying time and frequency intervals.

**Show grid:** Displays a time and frequency grid.

**Click marker**



Click markers help identify especially persistent distortions. They can be created automatically using the Marker DeClicker (see Marker DeClicker (view page 78) in the DeClicker chapter) or with the "Set click marker" button.



With the "Next click marker" or "Previous click marker" buttons you can quickly move from one click marker to the next.

Use the "Apply to all" button to set the marking of the distortion on the current click marker to all click markers, i.e. the size as well as the position of the marker borders in relation to the click marker and in the spectrum.

If spectral cleaning is used in conjunction with the "Calculate" button, all click markers affected will be transformed into normal markers.

## Playback

**Stop:** Stops playback.

**Play:** Starts playback from the play position.

**Play Loop:** Repeats playback within a short range.

**Play Inverse:** Plays the signal difference, i.e. the removed sound elements.

**Calculate:** Performs the calculation and closes the dialog.

**Abort:** Aborts the editing.

**Help:** Opens the help window.

**Tutorial Video:** The tutorial video briefly explains the possibilities of Spectral Cleaning.

## Tempo/Resampling

This effect is only available as an object effect (view page 75).

The fader lets you change the playback speed of objects so that they are better aligned. The effect can be applied in two ways, either as resampling or as timestretching. You can change the mode in the preset list at the very bottom.

- **Resampling** mode can be used to change speed and pitch just like on a cassette. Use this mode to adjust LP recordings made at the incorrect speed.

- **Timestretching** mode applies a high-quality timestretching algorithm (universal HQ) to keep the pitch constant in spite of speed changes. Use this mode to adjust the tempo of different tracks to match each other without influencing the pitch, e.g. for a DJ mix.

The effect is also available as a mouse mode (view page 40) for changing the tempo across a larger range of values.

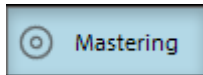
## Resampling for incorrect record speeds

If you want to record a record that was recorded at 78 rpm, then you normally have a problem: These older shellac LPs aren't able to be played back by most turntables. With the help of this resampling technology, it's possible to playback the record at the incorrect speed, record it, and then correct the speed with a single click.

Different presets have been provided for this. The first number indicates the speed at which the record was played back, and the second shows the speed that it should be played at. For example, if an older 78 rpm shellac record was played at 33 rpms, then you would use the "33/78" preset.

A second group of presets are for adjusting wave files with different sampling rates to the project. These are selected automatically when this sort of wave file is loaded into the project. The first number here is also the sample rate of the project (for playback, normally 44.1 kHz or CDs), and the second is the wave file (the target playback rate).

# Mastering



The mastering functions are activated via the Mastering section – either as mastering effects on the main screen or as object-related effects on a separate Object FX page (not available in the MAGIX Music Editor).

All of the mastering effects function in real time. This means that you can switch them on and off during playback and change their parameters so that the result of the adjustment can be heard immediately.

## Choose preset

A mouse click on "Select presets" opens the "Master effects" menu. Here (or via the "Editing" menu) you can save and load your favorite effect settings as "Mastering effects settings" for your projects or objects.

With the "Open mastering FX rack" command you can display the settings dialog for all of the mastering effects as a large effects rack.

Different presets (for example, to restore a poor quality tape recording) are supplied with the product and can be tried out right away.

Mastering FX presets can also be applied to the "Object FX" page for individual objects, as well as for the entire sound via master FX (main screen). Since the available object effects are different from the master effects, many settings may be ignored. For example: The echo/reverb settings will be ignored if the preset is loaded as a master effect (the master section does not include an echo/reverb device).

## Using the effect modules

Please read the section Using the effect modules (view page 73) in the Cleaning effects (view page 73) chapter.

## Step by step

The Mastering Assistant applies several mastering effects in a sensible sequence. All effects will now be introduced by means of a suitable recording example and then applied.

It is recommended that these effects are used in the following sequence:

1. Stereo processor
2. Graphic equalizer
3. Brilliance enhancer
4. MultiMax

Using the mastering assistant is the same as using the Step-by-step (view page 75) cleaning assistant.

## Object FX window

Read the section "Object FX window (view page 75)" in chapter "Cleaning FX (view page 73)"!

## Vitalizer

The Vitalizer enables the justification of the audio material in the stereo panorama to be adjusted. If stereo recordings sound unfocused and undifferentiated, an extension of the stereo base-width often provides increased transparency.

Use the maximize function to move the echo and improve the stereo picture, for example, into the foreground.



**Volume controller:** Adjusts the volume of every single channel to adjust the complete panorama. The reduction of left and right levels is displayed under the control buttons in dB.

**Pan-direction:** Use this controller to move the sound source from the middle into stereo panorama. The signals at the outer edges of the sound picture remain unchanged.

**Multiband:** This option switches from "Stereo FX" to "Multiband" mode. Stereo editing only applies to the middle frequency; the bass and highs remain unchanged.

**Bandwidth/maximize sensor field:** Adjusts the base width between mono (extreme left), unchanged base width (normal stereo), and maximum base width (wide, extreme right). Raising the base width (values over 100) diminishes mono compatibility. Recordings edited this way may sound slightly hollow when listened to in mono.

Maximize strengthens the spatial component of the recording, which also increases the stereo transparency without influencing the mono compatibility.

**Stereo meter (correlation gauge):** This provides a graphical display of the phase relation of the audio signal. Use this to review the orientation of the signal in the stereo balance and the effect of the stereo enhancer. To maintain mono-compatibility, the "cloud" shown should always be higher than it is wide.

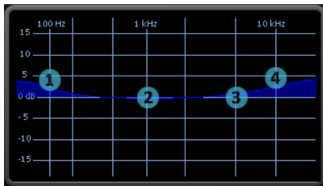
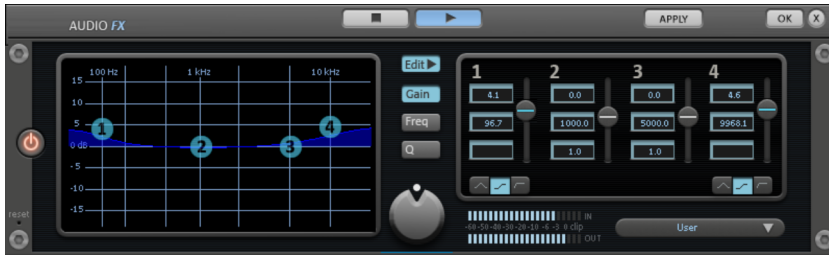
## Equalizer

The Equalizer consists of two modules, the Parametric 4-band Equalizer and the 10-band Graphic Equalizer.

### Parametric Equalizer

The parametric equalizer consists of four filter bands for adjusting the overall sound of the music track. Each band is a filter with a typical "bell shape". Within a certain frequency range and around an adjustable middle frequency, you can increase or reduce the signal level gain. The width of this frequency range is called bandwidth. The bandwidth is defined by the Q value. The higher the Q value, the narrower and steeper the filter curve.

You can influence the basic sound of the mix by increasing and decreasing the broadband to give it more "depth" (lower center = 200-600 Hz) or more "air" (highs = 10Khz). You can also decrease the narrow bandwidth (high Q value) in the frequency response, e.g. to remove disruptive frequencies.



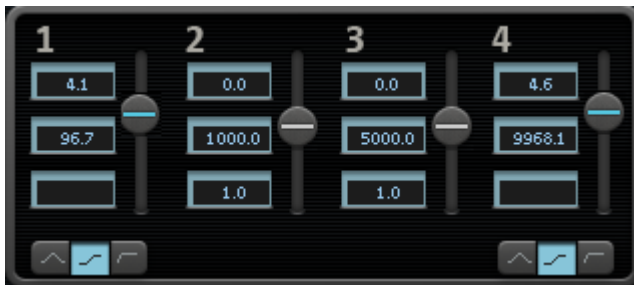
**Graphic:** The resulting frequency path of the equalizer is displayed in the graphic. The frequency is spread out horizontally, the increase or decrease of the respective frequency, vertically.

The blue bullets 1-4 symbolize the four wave bands. You can move them around with the mouse until you find your desired frequency response.



**Peak meter:** The peak meter gives you control over the output level of the equalizer. The adjacent master gain controller can be used to balance the level with the EQ.

**Edit** The "Edit" button opens the fine tuning for the four bands:






**Parameter selection:** With the buttons on the right you can select the parameter that can be adjusted with four faders of each band. Furthermore, there are number keys to enter every parameter of the bands.

**Gain dB:** These controllers allow you to raise or lower the filter. Setting the controller to 0 deactivates the filter and doesn't use CPU power.

**Freq. Hz:** The center frequency of the individual filters can be set between 10 Hz and 24 kHz with the frequency controllers. Freely choosing the frequency enables multiple filters to be set to the same frequency in order to have a greater effect.

**Q (bandwidth):** Set the bandwidth of the individual filters between 10 Hz and 10 kHz.

There is still a peculiarity among bands 1 and 4; The filter curve for these bands can be changed from a normal "peaking" EQ filter (  ) to "shelving" (  ) (this is the basic setting) and high (band 1) or high-cut (band 4) . When using the "shelving" filter, a soft increase or decrease in all frequencies happens above or below the filter frequency, and the Q parameter does not have a function here. With a low-cut or high-cut filter, all frequencies below (low-cut) or above (high-cut) the set frequency are filtered out.

## Graphic Equalizer

The 10-track equalizer divides the frequency spectrum into 10 areas (tracks) and supplies them with separated volume controls, which allows you to achieve many impressive effects, from the simple rising of the bass, to total sound transformation. If you raise the low frequencies too much throughout the whole level, it can cause distortions. In this case, lower the master volume using the master volume control on the main screen.



**Thumb Controls:** All of the 10 frequency areas can be raised or decreased separately by the 10 volume controls.

**Link Bands:** Using this switch you can match the frequency areas in a flexible way to avoid the overemphasizing of single frequency areas that sound artificial.

**A/B:** If you have selected a preset for the effect and later you change it

manually, you can compare the original-preset-sound with the new adjustments using the A/B-switch.

**Reset:** Reset inserts the sound effect into the neutral starting position where no processing power is used and where no effect is calculated in the sound.

**Touch-screen (right EQ-Section):** This is the "sensor-field" of the EQ: Use your mouse to draw a curve that will be transferred immediately into the corresponding EQ control adjustment.

## Brilliance Enhancer

The Brilliance Enhancer is a high-end audio tool with which, for example, losses in high frequencies, which occur with MP3 compression or while recording older records, can be regained.

In contrast to the equalizer, which only works on the currently available frequency, the brilliance enhancer calculates new harmonics and noticeably revitalizes the sound from residual material



**Soft:** Activating this option depends upon your own perception of sound. If you would like to produce a more lurid sound (such as grunge) you should deactivate the "soft" option. This option does, however, reduce eventual distortion.

**High Quality:** This option improves the results of the effects while demanding more of your computer's performance. As with the "soft" option, your own notion of sound should come into play when choosing this option.

## Sound Cloner

With the "sound cloner" you can determine the sound characteristic of a song and transfer it to your other recordings. This way you can, for example, create a Pat Metheny song in the style of Madonna. Load a track you really like, set the song's playback position and press the "Get sound" button in the sound cloner. The sound's characteristics are now calculated. As a preset sound clone, it is now immediately available to you and can also be stored via "Save" for later use.

By loading the "clone" from the preset menu, you can use it on the sound



material. With the slide control, you can regulate the intensity of the sound transmission.

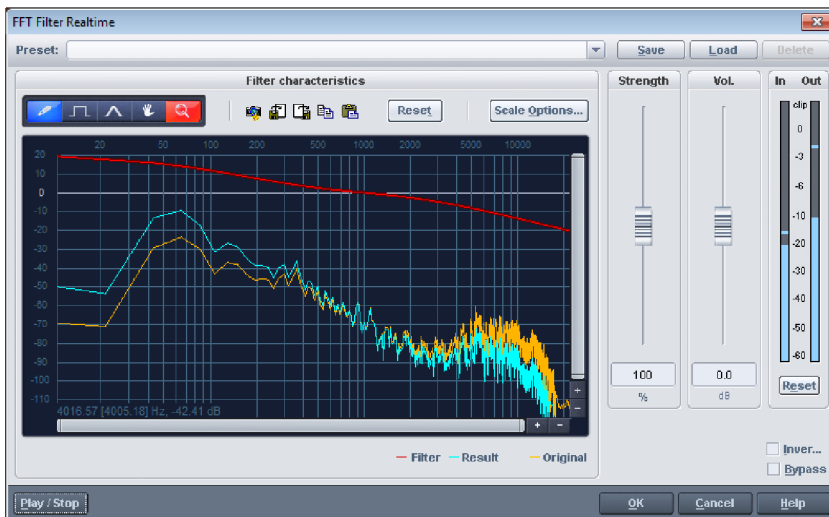


The sound cloner is a kind of automatic 1024 band equalizer. Its filter curve (compare the touch screen in the "normal" EQ) is a result of the mean of the cloned sound and output sound. When loading the preset, the sound cloner uses the audio material beneath the playback marker as the basis for filter settings which then apply to all objects in the master, but are actually only intended for this object. So if your output material on the track comes from various sound sources, the sound cloner should definitely be used as an object effect.

The "Settings" menu of the sound cloner also contains a few useful filter settings besides its "clone" presets. These are independent of the source material and can be used as a master effect.

## Sound cloner - FFT filter

Use **Edit** to open the dialog which contains the fine-tuning settings for the sound cloner's FFT filter.



A red line can be drawn in the graphic field using the mouse. The left side of the graphic is for the lower frequencies of the sound, the right for the higher. A "mountain" in the left part of the graphic creates a large increase in bass, and a

similar figure in the right increases the highs.

**Freehand:** With the pencil you can draw "freehand". Draw or rotate a straight line by pressing and holding the "Shift" key.

**Draw quantization:** This activates a quantization function to draw straight lines and angled figures. The farther away from the curve you are, the wider the bulge in the range. This effect can be increased with the "Ctrl" key.

**Reshape tool:** This drawing tool lets you bend existing curves. Deformed curves can be achieved by pressing the mouse button repeatedly.

**Navigation tool:** Drag the display area.

**Zoom tool:** With the left mouse button you can zoom into the selection; zoom back out with the right. Keep the left mouse button depressed to feed along the zoom area.

**Reset:** The "Reset" button quickly allows you to replace the filter curve with that present in the output state.

**Preset:** Access the presets for definite applications here.

**Strength:** The "Strength" slider allows you to enhance or diminish the intensity of curvatures. The result is a stronger or weaker modulation.

**Vol:**The "Volume" controller controls the volume of the material.

**Sound cloner:** With the sound cloner you can determine the sound characteristic of a song and transfer it to your other recordings. This way you can, for example, create a Pat Metheny song in the style of Madonna. Load a track you really like, set the song's playback position and press the "Learn" button.

**Scale options:** Accesses a settings dialog with the following options available:

**Freq:** This switch lets you choose between a logarithmic ("log") or a linear ("lin") frequency scale. The logarithmic display corresponds to the human perception of volume. Like on a keyboard of a key instrument, the (graphic) spacing of the intervals, i.e. halftones, is uniform across the entire range.

**Freq.log:** The upper labeling of the graphic can be switched between output in "Hz" or "Notes". Note output is only possible via logarithmic frequency display ("log").

**Value display:** Here you can set a logarithmic or linear display as well as an

enlargement of the filter curve.

**Value range:** Here you can set the displayed value range in dB.

**Curve display:** Here you can switch between a bar and a curved display.

## MultiMax



MultiMax is a compressor with three independent frequency bands. The dynamics are edited separately for each band.

The advantage of a multi-band compressor in comparison to a "normal" compressor is that the "pumping" tendency and other disturbing side effects are dramatically reduced while editing dynamics. For instance, it can prevent a bass top peak from "dragging down" the entire signal.

Multi-band technology also lets you specifically edit individual frequency ranges.

**Link bands:** When this button is activated and one fader is adjusted all faders are changed in the same ratio. The type of dynamic editing is not influenced.

**Limiter:** MultiMax includes a limiter that prevents clipping by automatically lowering the level. Quiet parts remain unaffected.

**High quality:** When the "High quality" setting is activated, an even more precise algorithm is used, but it also requires more processing power. We recommend that you switch on this setting before you export the project.

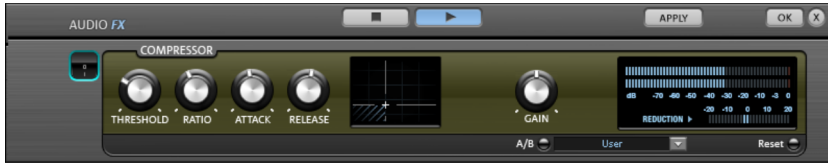
**Setting the frequency bands:** The settings of the frequency bands are changed directly in the graphic. Simply click on the separator lines and move them.

**Bass/Mid/High:** These knobs control the level of compression for each frequency band.

**Presets:** In MultiMax you can use the presets to open two more special functions.

- **Cassette NR-B decoder:** MAGIX Audio Cleaning Lab SE simulates decoding of Dolby B + C noise suppression if no Dolby player is available. Cassettes recorded with Dolby B or C sound more muffled and slurry if played back without corresponding Dolby.
- **DeEsser:** These special presets are for removing overstressed hiss sounds from speech recordings.

## Compressor



The compressor is an automated dynamic volume control. It limits overall dynamics, maintains the volume of loud passages so they stay loud, and increases the volume of low passages. A compressor can be put to good use for bass recordings and vocals, but also as a master effect in the mixer for subsequent editing of the overall sound.

Processing is carried out using a "look-ahead" method, similar to high-quality studio appliances. There are no peak overmodulations or other artifacts, as the algorithm can never be 'surprised' by sudden level peaks.

**Ratio:** This parameter controls the amount of compression.

**Threshold:** Set the volume threshold, below and above which compression is applied.

**Attack:** Sets the algorithm's reaction speed to increasing sound levels. Short attack times can create an undesirable "pumping" sound, as the volume is quickly reduced or increased correspondingly.

**Release:** Sets the algorithm's reaction speed to falling sound levels.

### Special presets

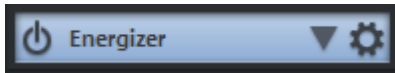
In the compressor you can use the presets to open further special functions.

**Dynamic expander:** Too high a compression rate will result in audible noise (usually defined as a pumping sound). Radio recordings in particular are recorded with very high compression rates to increase the perceived volume. Unfortunately, compression reduces the dynamics (interval between the quietest and loudest part). The expander enhances the dynamics of the recording.

**Noise Gate:** This cleaning function suppresses noises which are completely below a certain volume threshold. This lets you create, for example, song transitions that are entirely noise-free.

**Leveler:** This setting automatically sets the entire material to an identical volume level. The volume control knob is no longer required. You can use this function to equalize greater volume differences within a song. To equalize volume variations between different songs you can also use the function "Normalize loudness" in the "Effects" menu.

## Plug-ins



Microsoft's DirectX and VST-compatible plug-ins may be used for effects calculation in MAGIX Audio Cleaning Lab SE. This allows you to use almost any effect algorithms of third parties in addition to the effects integrated in MAGIX Audio Cleaning Lab SE.

Some of the supplied effects will be loaded as Plug-ins. These are:

- Tape simulation
- De-esser
- Energizer
- am-track SE
- Chorus

**Selection menu:** Select the plug-in via the selection menu on the right hand side of the module. For this, you will need to have plug-ins installed on your computer. The path to search for installed VST plug-ins can be set in the "Options" menu via -> "Set path settings". All recognized plug-ins will be added to the menu list.

**Edit:** The selected plug-in is opened to define specific effect settings.

## VST Plug-in Editor

The VST Plug-in Editor can be opened by right-clicking on the instrument's name in the MIDI Editor, via the corresponding plug-in slot in the Mixer, or via the "VST Instruments Editor" entry in the instrument list.

The Instrument Editor has two views, the so-called "GUI" of the plug-in (Graphical User Interface) and the parameter view. This is either automatically

activated when the VST plug-in does not have its own GUI or can be used if the GUI of the plug-in is too unclear or takes up too much space on the screen. The parameter view displays the eight parameters of the plug-in as sliders. In the File menu you can change between these views (plug-in dialog/plug-in parameter).

**Load/save patch/bank:** The instrument settings can be saved and loaded in the patch formats typical for VST plug-ins (\*.fxp) and bank formats (\*.fxb).

**Random parameters:** This function can be an important source of inspiration. However, before using it please save the current preset you've just created as this feature does not ask before it is applied.

**Menu program:** Here you can select the presets integrated into the plug-in or loaded via the File menu.

## Tape simulation (plug-in)

Tape simulation offers you the possibility of giving your recordings an "analog touch" by imitating typical aspects of a tape recording. In a lot of studios, 1" and 2" tape machines are still used because they are thought to create a fullness of sound, "warmth" and "saturation" that contrasts with the more neutral and analytical sound of digital technology.

There are numerous factors that are decisive for the sound expressiveness of tape-based recordings. Some of these are:

- Distortions that occur when the tape is played in the saturation range,
- changes to the frequency response, since recording and playback-side filter steps prepare the signal. All machines also feature more or less pronounced peaks in the frequency spectrum, above all in the bass range (so-called "head bumps"),

- loss of highs through self-erasure resulting from the HF stream ("bias", pre-magnetization) and intermodulation between the wanted signal and the HF signal.



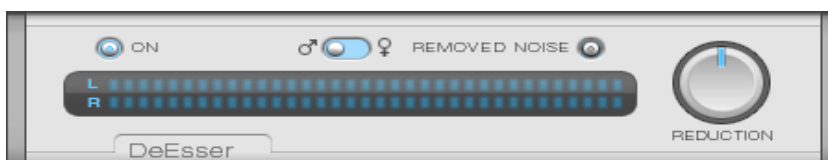
**Level:** Sets the input level. You decide when the "virtual tape" is saturated and how strong the effect of this color effect should be. The signal will gain more "loudness".

**EQ low/hi:** Adjusts the frequency response (spectral balance controller). You can choose whether you would like the output signal to have a richer bass level or whether it should have more highs. This adjusts the pre-filtering at the "recording end" as well as playback equalization.

However, please note that the frequency response of the simulation will not be neutral even if the "EQ low/hi" controller is set to neutral. There will always be some slight frequency-selective amplification.

The distortion resulting from use of the tape simulation can quickly create "acoustic fatigue", especially for material that is rich in highs. A direct 1:1 comparison with the tape section switched off reveals the differences more easily. Slight editing with the simulation is generally sufficient to achieve an "analog touch".

## De-Esser (Plug-in)



If you have ever edited or restored your own spoken or sung recordings, you've most certainly come across the occasional unpleasant loud "S" or "SSH" sound. This hissing can ruin an otherwise perfectly good recording.

The De-Esser works according to the "dynamic filter" principle, meaning that it contains a filter switch (band pass and high cut), whose frequency and implementation depends on the input signal and the recognized "problem area".

So-called detector circuiting reacts to the input peak levels in the mid and high areas. This level recognition occurs automatically in a comprehensive modulation area. For this reason the De-Esser can manage without having to set a threshold.

Using the De-Esser is quite simple:

You have to notify the detector circuiting which areas contain the "S" or other sibilant sounding distortions. A switch for **male and female voices** has been designed for this. Depending on the switch setting, it will select the internal parameters for the most exact recognition possible.

After you have set the switch, the Reduction fader has to be adjusted enough that the "S" parts of the signal are reduced to a normal level.

An overly strong reduction of "S" sounds in speech or song recordings can, however, result in a "lisp" sound. Often, a small reduction can be enough to balance the ratio levels.

The **Removed Noise** button can be used to control the recognition and adjustment of the De-Esser. With it you can pick up the detector circuitry and evaluate whether the switch is in the correct position.

You can also try to edit other sound sources, partially complete mixes and drum recordings with the De-Esser. For the latter, the adjustment control can bring about an improvement in the sound of cymbals and high hats that were too loud. For humming signals/complete mixes, the De-Esser (discreet setting) can be used to design the sound characteristics more softly.

For such 'forced adjustment' the correct setting for the switch can be found out quite simply by testing it out.



## Energizer (plug-in)

The Energizer belongs to the so-called psycho-acoustic processors genre. These devices are used in the studio, acoustic irradiation, and restoration areas in order to enhance the sound.

An effect like this usually can only be partially achieved with standard methods like equalizing since an equalizer can only compile the frequency parts that are already in the signal. Additionally an excessive increase in the signal (of the highs) increases the chances of hissing.

With bass the problem often arises that for each device in an analog processing chain (for example, tape deck, mixing desk, pre-amp) slightly delays the signal compared to the remaining spectrum. This type of phase lag cannot be restored with an EQ and increasing the depth often results in a washed-out and feebler sound.

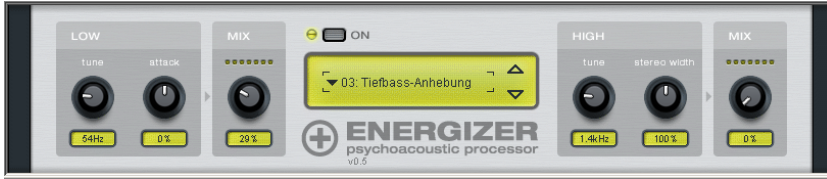
Psycho-acoustic devices are based on our hearing's ability to perceive attributes like "freshness", "liveliness" and "naturalness" in a recording as a result of various parameters. One of them is the harmony spectrum. The mid and high frequency ranges of a loudly played instrument are richer than those of a quietly played instrument. The "Exciter" tries to imitate this property with artificial harmonics. However, this type of method cannot function statically as the noise and low-level signals will be influenced otherwise.

The order in which individual frequencies are heard is just as important for lively sound.

The psycho-acoustic method used in the Energizer is based on a combination of frequency-dependent phase correction, additional harmonics creation and recognition of so-called transients (short signal peaks).

The Energizer is subdivided into a bass and middle/high area. In both of these areas, the audio can be enhanced independently of one another.

## The parameters of the Energizer



The available effect presets cover typical areas of usage and are already set up as presets in order to, for example, format a CD for playback on the car radio, use as a soundtrack for your home entertainment system or for restoring distorted frequency response curves of old records. The Energizer can have a drastic effect on the sound even if only small changes are made to the parameters. So that you know which faders to change to get the audio results you want, the following section describes the available faders in detail.

**Low tune:** Here you can tune the bass processor to a specific input frequency (between 50 and 150 Hz). This is the preferred frequency at which, for example, a kick drum or an acoustic/electric bass is played. The phase position of the bass range can be influenced according to the set frequency, resulting in deeper sounds sounding more "succinct" and "broader".

**Low attack:** Using the transient recognition fader the attack behavior of the tuned range can be increased (fader to the right) or decreased (to the left). You can use this to create a "hard" or "dynamic" bass foundation or have a range sound "legato" or "soft".

**Low mix:** Here the processed bass signal is mixed with the unprocessed input signal. Please note that material that is already highly modulated may become overmodulated/distorted. For strong increases in the bass you should, if required, reduce the source material in order to have enough reserves. It is also recommended that you use the Audio Cleaning Lab Limiter as the next step.

**High tune:** This fader specifies the input frequency of the high tone circuitry (between 1 and 10 kHz). A part of the input signal is filtered and a phase lag is created depending on its frequencies. Simultaneously, the dynamic harmony is enhanced. When turned to the left you can influence the mids and highs of the signal so that, for example, the "articulation" of speech and instruments can be edited. The further up the frequency you go, the more the harmonies or bright sounds, like drum cymbals, are registered. You can use this to add "shine" or "silkeness" to your recordings.

**High stereo width:** Use this fader to specify whether the signal that's added to the high tone processor should be edited in mono, stereo or as a broadened signal if at all. This way you can specify whether the range should be compiled from the stereo mids of a recording or from the parts of the pages (for example, room information)

**High mix:** Here you can specify the amount of data from the high-frequency processor that should be mixed into the original sound.

Tip: At the beginning when using psycho-acoustic devices there is a danger of overkill. We recommend regularly toggling from unedited signals to processed ones. In order to make subtle changes in the sound it is often enough that the change be just about audible or that when switching off the effect, you get the feeling that there's something missing. If the effect sounds like it's in the foreground, this usually means that it's exaggerated too much.

## am-track SE (plug-in)

am-track SE is a combination of an analog compressor and a tape simulator. This professional plug-in lends more power and vitality to your audio material.



Please click on the Help button located in the upper right-hand corner of the Plug-in dialog for more information about how to use the am-track SE compressor.

## Sound Effects

### Surround Mode

MAGIX Audio Cleaning Lab SE offers a convenient mode for creating surround sound. To play back surround sounds, you require a stereo system with a decoder compatible with Dolby Pro Logic, and loudspeakers positioned to the back. Surround sounds can even be burnt onto CD or exported as MP3 files!

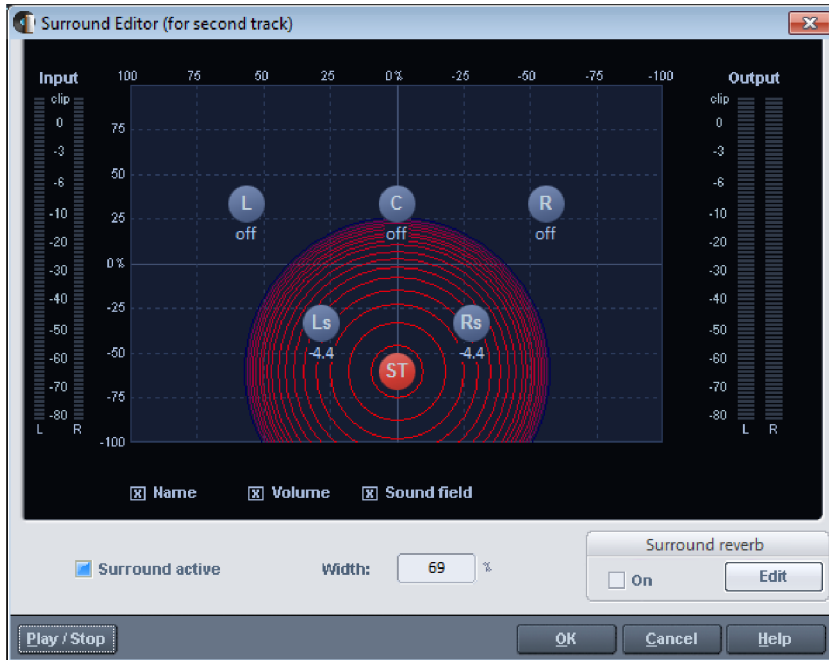


When the "Surround" button is activated, a second stereo track for audio material appears.

The Surround Panning window (view page 108) also opens at the same time. Here you can determine the position in the space from which the contents of the track should emanate. The default setting position is "Back – Centre".

Particularly practical is to combine the Surround mode with the Spatial Acoustics Simulator in MAGIX Audio Cleaning Lab SE. The simulator offers several surround reverbs whereby the back of the reverb automatically routed to the surround track. A fantastic special impression is the result – try it out for yourself!

## Surround Editor



**Graphics:** The blue circles are the loudspeakers -- three in front (right, left and center) and two at the back (right and left). The red circle is the position of the acoustic source, as perceived by the listener. Place the acoustic source in the space by shifting the red circle with the mouse; downward motion moves it to the rear, upward motion moves it forward. The preset position is at the back and centered. This is the "pure" surround signal.

**Surround active:** Activate the Surround Mode and the second track opens simultaneously. Audio material on the second track ('surround' in the track display) can now be positioned in the space.

**Width:** Determines the dimensions of the sound field. The sound field is made up of the concentric circles that clarify a drop in the signal level dependant upon the distance from the acoustic source. A circle corresponds a drop in the dB level. The smaller the width, the smaller the sound field (and the faster the signal level drops as the distance from the acoustic source increases)and

subsequently, the virtual space is perceived as being larger.

Switch different items of the display from visible/invisible:

**Output dB:** Relative level in dB at the individual loudspeakers (0db = full level, -90 dB = silence)

**Loudspeaker names:** Name of the loudspeakers according to their position in the space

**Sound field:** Concentric circles around the acoustic source that clarify a drop in the signal level dependant upon the distance from the acoustic source. A circle corresponds to a drop in the dB level (see width )

**Surround Reverb:** Reverb is added to the surround signal if this option is activated.

## Surround Transitions

MAGIX Audio Cleaning Lab SE can also create so-called surround transitions in addition to normal crossfades (see also Editing in Track View (view page 67)) In this case a movement of the music tracks within the room is simulated in addition to the volume change when crossfading. The old track will fly away, and the new one will come flying in.

You can create a surround transition by first creating a normal crossfade. Move an object backwards in the time line across the preceding object and then fade it by using the upper handle. The previous object is faded in the same manner and a so-called crossfade is created.

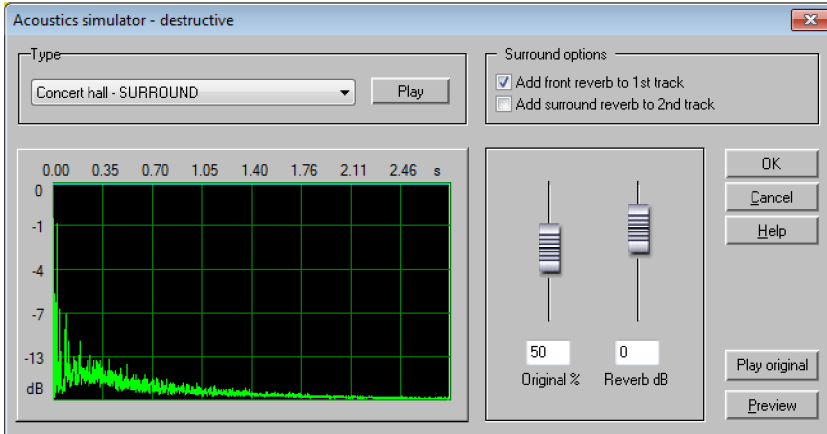


Different presets can be selected from the "Surround Transitions" submenu by clicking on the crossfade symbol.

This is done more easily by using the following menu command: "Edit" menu > "Create Surround Transitions". A surround transition is created for each object.

## Acoustics simulator

Open the acoustics simulator via the menu "Effects" > Reverb/Echo. You must select the object you want to apply the effect to first.



This very efficient high-end effect can transfer the sound characteristics of any room and effect device to your audio material. To do so, a so-called impulse response is extracted in the original room, this is like recording a "bang". There are several impulse responses to choose from; listen to the list and you will be able to identify the type of room easily. Different sound characteristics of rooms, such as reverb, reflections, echo, damping and resonance can be "copied" using this method.

Sophisticated algorithms can "add" your audio material to "this room" – after that a "dry" voice will sound like it was sung in a church. The quality of the reverberation and spatial impression is much higher than all standard synthetic reverb methods. No more undesired crackling, rattling, and rumbling.

Some impulse responses are available in surround format, that is, the reverb was recorded separately at the front and at the back of the original room. This way, MAGIX Audio Cleaning Lab SE can reproduce this surround reverb in your audio material. Simply activate the "Surround" option in the dialog.

MAGIX Audio Cleaning Lab SE automatically changes into the surround mode, the audio material with the surround reverb is placed on the 2nd track.

Functions of the controls:

**Preset:** Select the room impulse response you want to use for the room acoustics simulation. Click on "Play" to start playback of the impulse response

for testing purposes. Some presets have the word "surround" in their names, they contain separate impulse responses for the front and rear reverb share. The result is a very high-quality surround reverb.

**Apply to original object:** If you activate this option, the original audio object in the first track is edited and room reverb is added.

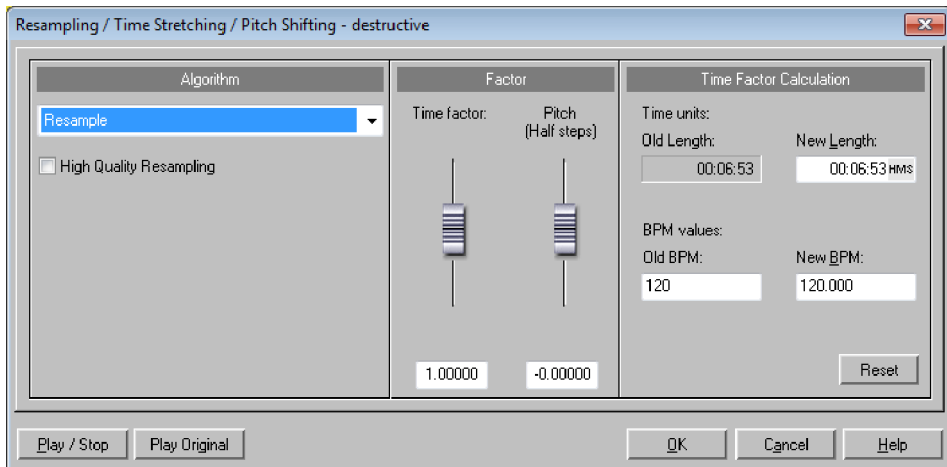
**Surround reverb:** If you activate this option, a 2nd object with the reverb is produced in the 2nd track. To do so, the 2nd track changes into surround mode, so you can hear the reverb from the rear via a Dolby pro Logic compatible stereo set.

**Reverb share:** Adjust the ratio of original sound to hall share here. To generate a surround reverb, deactivate the "Apply to original object" option, activate the "Surround hall" option, and set the controller to 100% reverb share.

**Reverb volume:** Adjust the volume of the reverb here. This is useful if you want to balance the different depths of impulse responses.

## Resampling/Timestretching

The pitchshifting/timestretching/resampling editor opens. This effect can change the tempo and pitch of the audio material separately. The effect is also available as a mouse mode or object effect. The dialog's advanced settings options and the pitch changing options are missing, however.



**Algorithm:** Selects the applied timestretching process.

**Time factor calculation:** All algorithms in this dialog apply a time factor as the

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input parameter. The input fields for the group "Time factor calculation" enable convenient detection of the time factor from the desired new length or a new tempo in BPM in relation to an old tempo (required beforehand).

**Pitch (semitones):** For any algorithm except resampling, the pitch can also be set independent of the tempo. Use the pitch fader beside the factor fader to experiment.

**Play/Stop/Play orig.:** "Play/Stop" can be used to immediately control the result of the algorithm. "Play orig." plays the unedited material for comparison.

## Algorithms for timestretching/pitchshifting

- **Standard:** Timestretching and pitchshifting in standard quality. This method is suitable for audio material without a pronounced beat. Beat markers are evaluated to improve audio quality.
- **Smoothed:** Timestretching and pitchshifting for audio material without pulsing elements. The method is suitable for polyphonic orchestral instruments, pauses, speech, and singing. Beat markers are not evaluated. In this case, a considerably more complex algorithm is used which requires more processing time. The material can also be processed with very large factors (0.2... 50) without causing serious artifacts. The material is "smoothed" to make the sound softer and emit it at an adjusted phase level. This smoothing is hardly audible, for example, with speech, singing, or solo instruments. Problems may arise with more complex spectra (sound mixes from various instruments or finished mixes). For smaller corrections (factors approx. 0.9... 1.1), we recommend setting the **smoothing level** as low as possible.
- **Beat marker slicing:** Beat-synchronous timestretching and pitchshifting via splitting and temporal repositioning. Exactly set beat markers are required at the beats or transients. The markers can be generated in real time (automatically) or read from the WAV file if available (patched). In the deluxe version's included MAGIX Music Editor, a patching tool is provided for users to set the markers themselves. The algorithm is suitable for rhythmic material that can be divided into individual beats or notes. This requires a low audio level before each beat or note.
- **Beat marker stretching:** Beat-synchronous timestretching and pitchshifting in standard quality. The material is stretched between beat markers positions so that the beats or attacks at the beat marker positions are not impaired by stretching. The markers can be generated in real time (automatically) or read from the source file if available (patched). This method is suitable for rhythmic material that can not be divided into individual beats or notes because the beats or notes overlap each other.
- **Universal HQ:** Universal methods for timestretching and pitchshifting in very high audio quality. Suitable for all types of audio material. Beat markers are evaluated to improve audio quality. This method requires a lot of time for



processing, so application of the "Calculate all real-time effects (view page 144)" function ("Edit" menu) is recommended.

- **Monophonic voice:** Timestretching and pitchshifting for vocal solos, speech, or solo instruments. The material must not contain background noise, and excessive reverb may also be detrimental to the use of this method. With suitable material the audio quality is very high. The "Correct formant factor" option preserves formants if pitches are changed. These are characteristic basic frequencies of the voice that are independent of the pitch that is sung. In other words, the characteristic discoloration of pitch ("Mickey Mouse") effect does not occur in this case. The formants, however, can be shifted by +/- 12 half tones. This achieves suitable vocal distortions. Beat markers are not evaluated.

**Resampling:** Pitch shift and tempo cannot be changed individually. This method requires considerably less CPU time. If the pitch is increased or the sample is shortened, then resampling is almost completely free of loss, and the sample material will suffer almost no damage. In other cases, resampling causes loss of overtones.

- For example, if the length of a 44.1 kHz sample is doubled, then the frequency level of the result will be limited to 11.025 kHz. The sound is the same as when the playback speed of a record player or tape recorder is changed.

## Reverb/Echo (object FX only)



The reverb effect device offers newly developed and very realistic reverb algorithms to add more room depth to your recording.

Reverb is probably the most important, but also the most difficult effect to generate.

### Fundamentals

Our everyday experience shows that not every room matches every instrument. Thus we have designed "virtual" rooms. However, it still remains important to find the correct parameters. Here are some examples of parameters that are decisive for the sound impression in real and virtual rooms:

- Size of room: The larger the room, the longer the sound travels between walls or objects. Our brain "calculates" the size from the time difference. The size impression is mainly determined from so-called first reflections and the discreet echo. We don't notice a (diffused) reverb.
- The reverberation time is mainly influenced by the composition of the walls, ceilings, and floors. This reverb time is highly frequency-dependent. For instance, the highs and mids are dampened more in rooms with curtains, carpets, furniture, and some corners than in an empty, tiled room.
- The density of the reflection. The sequence of the first reflection is particularly important. A room with many individually recognizable echoes feels alive, especially if they are quite far apart.

The diffusion. Simple reverb machines do not take into account that reflections become more and more complex as they develop. They blur the first echoes at the beginning, which sounds artificial and "two-dimensional" for many signals. Our reverb effect works like a real room instead where individual echoes can still be heard at the beginning of the reverb but then reflect amongst each other more and more until they disappear in the signal sustain as a so-called "diffused hiss".

The presets include many rooms that were designed for certain instruments and applications and whose internal parameters have been optimized for these

applications. However, you can influence most of the characteristics of the room using the provided sliders.

In addition to the rooms we have modeled two device types in the reverb effect that allow you to create an artificial reverb for a longer time: Plate Reverb and Spring Reverb.

## Plate reverb

A plate reverb consists of a large metal plate (often 0.5 to 1m<sup>2</sup> thick, or more) that is put into motion by a magnet and coil system (similar to a loudspeaker). On the reverb plate, so-called "taps" are positioned at different locations. These are pick-ups comparable to those on a guitar. Reverb plates have a very dense sound (high diffusion); no direct echo can be heard. They are therefore ideal for percussive metal. A plate reverb generates a smooth "pleasant effect" with vocals.

## Spring reverb

You probably remember spring reverb from guitar and keyboard amps, particularly the older ones. At the bottom of these amps, a unit consisting of two to four spirals is mounted on a vibration-free carriage. As with the reverb plate, it uses systems for transforming the electric signal into a mechanical one. There are different designs and sizes of spring reverb; however, they all have the same quite peculiar sound: the typical "bloing" sound when the springs are moved, similar to splashing. When the reverb dies away the basic pitch of the spring(s) can usually be heard quite clearly. Furthermore, the frequency range is considerably limited due to the losses in the spirals and in the used pick-up/transmitter. Despite this, the sound is special and some of the latest music styles (e.g. dub & reggae) would hardly be possible without spring reverb.

## Parameters

The reverb effect has the following parameters:

**Size:** Defines the size of the room (or the system for the plate and spring). With some low "size" settings, you can also reduce the distance between the individual reflections. This allows resonance to develop (accentuated frequency ranges), which can sound oppressive if the reverb sustain is too long. The proper size for each instrument can be gauged by taking into account the interplay between the room and the resonance.

**Time:** Reverberation time. This controller lets you define how far the echo will be absorbed, i.e. the time for the reverb to die away. Turning this knob to the left minimizes the time. You will then only hear the first reflection. Turning the knob to the right minimizes the absorption, and therefore results in a long sustained reverberation.

**Color:** Within certain limits, you can influence the sound characteristic of the effect. The effect of this controller depends on the used preset. In rooms, "color" controls the dampening of the highs in the reverb (from dark to bright) as well as pre-filtering of the signal. The controllers for plate and spring presets also determine the dampening of the basses.

**Mix:** This controller sets the mix ratio between the original and the edited signal. For rooms, you can quite easily move a signal further into the room by increasing the amount of effect. The last four presets are intended for use in an AUX channel of the mixer and are set to 100%.

## Presets

The presets are primarily sorted by instruments, but you can (and should) choose which preset you want to use for which instrument.

## Delay

This effect is like an echo which delays the signal and repeats it.

**Delay:** This sets the period of time between the individual echoes. The more the control is turned to the left, the faster the echoes will follow each other.

**Feedback:** This adjusts the number of echoes. Turn the dial completely to the left, there is no echo at all; turn it completely to the right and there are seemingly endless repetitions.

**Mix:** This fader determines how much of the unprocessed original sound (dry signal) is subjected to the echo (wet signal). Application of this effect in an AUX bus requires the controller to be set to 100% (all the way to the right).

## Chorus (Plug-In)

Chorus creates a "floating" sound typically associated with guitars and synth pads. It can acoustically "thicken" an instrument, making it sound fuller or creating the illusion that several instruments are playing.



**Speed:** Modulation speed. Low speeds create an even, continuous development. High speeds produce vibrato-like qualities but can also result in an 'under-water' effect.

**Depth:** Modulation depth. This determines how strongly the speed affects the pitch modulation.

**Mix:** This sets the balance between the direct signal and the effects signal.

### Mode:

- "Normal" is a combination of the direct signal and the detuned delay signal.
- "Normal, low cut" is designed for bass-heavy signals such as bass guitar. The bottom end of the signal stays clear and well-defined, the effect is only audible for the mid and treble frequencies.

- "Dual" makes the source sound more lively than a single 'part'. The sound is spread over the stereo panorama, which makes this mode seem 'wider'.
- "Quad, low cut" is ideal for creating sounds such as deep synth pads with tight bass frequencies.

Tip: Like on the stomp boxes our vintage effects are modeled on, there is a 'footswitch' below the pedal's logo that can be clicked to turn the effect on or off for A/B comparisons. All the effects of the Vintage Effects Suite have been designed like this.

## Distortion



The distortion pedal is a "high gain" distorter for crunch and lead guitar sounds. If you like typically "British" amp sounds and want to quickly record a guitar track with little effort, this pedal is for you.

An entire valve pre-amp circuit has been modeled, including the typical EQ curve. The amplification is "valve-typical", i.e. it doesn't start quickly but is harmonic and soft. Even at full power the pedal still reacts softly to a guitar and its settings (e.g. pick-up choice and tone controller). For instance, you can

influence the distortion even more by using the volume knob on the guitar.

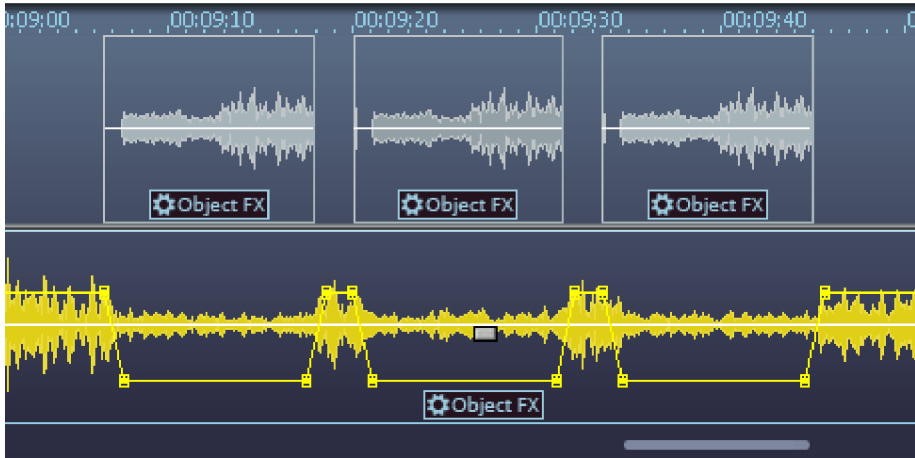
There are only three parameters on this effect; however, these interact with each other and can thus generate quite a variable sound:

- **Low:** the “bass” controller. This allows you to set the share of basses, even after the distortion. The type of prefiltering is important for guitar amps in particular, and is characteristic for the basic sound. You should set the bass controller depending on the basic sound of the guitar and the sound you are aiming for (“powerful” or “cutting”).
- **High:** Mainly controls the share of highs before and after the distortion. If you are not using an external guitar speaker as a monitor, we recommend setting the controller to the middle position or even moving it slightly to the right. This way the “sharp” highs disappear, which all guitar amps generate without the suitable loudspeaker. At the same time the mids stand out more, which gives the sound more “kick”. On the other hand you can further emphasize the highs if you want the sound to be more neutral.
- **Drive:** The level of distortion. This controls the amplification used to operate the “virtual valve circuit” (max. 60dB). As the level increases, the valve goes into overdrive and generates typical distortions. For a slightly distorted sound (“Crunch”) it is surely sufficient to set the controller to 10-11 hours at maximum. Furthermore the modeled circuit provides the usual “weight” for power rock chords and more. The further you turn this controller to the right, the more the mids of the signal move to the fore so that the “high-gain” lead sound is better heard.

## Voice over

The “Voice over” effect creates a volume curve for automatically fading background music during spoken sections. To do this, proceed as follows:

1. Record speech.
2. Load your background music.
3. Move the object containing the background music to the second track below the spoken portion. Note: The second track can be opened with the “2” key.
4. Place your speech recording at the correct position, then cut and edit it with the object handles to remove undesired noise or mistakes.
5. Now open the voiceover dialog via “Edit” and activate the voiceover effect.
6. A volume curve (view page 41) is created on the second track which automatically fades the background music at the correct positions.



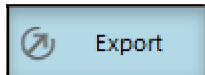
Use the faders to set by how much the volume of the background music should be reduced during speech passages and how quickly this should happen.

Use the selection list to apply the curve to the first track as well, should you have placed your background music there.

If you later want to move or shorten your voice recordings, click on the **"Update"** button to adjust the volume curve.



# Export



In the export section, you can either save the project as audio file(s) or burn it directly to an audio CD or DVD.

## MP3 files



Use the button "MP3 files" to export individual tracks into MP3 format.

This is a quick access option to the Export project dialog (accessible via "WAV and other file formats" (view page 128)), where all necessary settings for MP3 export have been defined already.

MAGIX Audio Cleaning Lab SE contains a high-quality and extremely fast MP3 encoder. Use it to quickly save complete LPs along with the cleaning effects as MP3 files. You can now use them on MP3 CDs, for instance. To do so, use the function "Burn data CD/DVD" (view page 130).

For good quality, we recommend a setting of at least 160 kbit high quality. Sound quality will hardly be affected despite the compression. If you have memory to spare, full CD quality can be retained at 256 kbit high quality – at approximately 1/5th of the original memory. This is ideal for building up a large high-quality music archive on your PC's hard disk.

**Note:** For exporting as MP3 format, you may need to activate your MP3 encoder first. Simply go to "Help" > "Activate additional functions" (view page 171).

## Format settings

**Output format:** Set the output bit rate and the stereo or mono format here. Bit rate is the data stream during playback of audio or video data. It is given in kilobyte per second (kbit/s or kbps) and also determined the file size. An MP3 file that is 3 minutes long and has a constant bit rate of 128 kbit/s is ca. 2.8 MB in size.

Bit rates for music are usually 192 kbit for good quality, 256 kbit and more for excellent quality. 128 kbit are sufficient for Internet streaming and speech (in mono).

**Encoder quality:** The included MP3 encoder can operate in three "gears": "Fast" mode is especially fast, "highest" mode is very powerful to achieve the best sound possible and takes a little more time, and the third "gear" is a compromise between the two.

**Padding options:** Leave this setting on ISO padding, unless you detect undesired pauses at the beginning of tracks during playback on certain players.

**Encoder settings:** These are optimizations that will only be used for low bit rates (smaller than 128 kbit) to reduce the file size. "Permit intensity stereo coding" or "mid/size stereo coding" will save certain parts of the audio material in mono to save bandwidth. The extend to which sound quality is improved depends on the material. "Permit mixdown in mono" allows the encoder to save in mono if it detects that the content of both stereo channels is identical, even if stereo was set as output format (e.g. introduction within a radio program).

**Content options:** The "Use CRC check" option adds an internal checksum to the MP3 file which checks whether the MP3 file is complete. The other options (private, copyright, original) are merely for your own labeling system, as they won't be evaluated in any form.

**VBR:** VBR (variable bit rate) adjusts the bit rate to the audio material, so a lower bit rate will be used for quiet parts. Therefore, VBR files are smaller than files of comparable quality without VBR. Thus, a constant bit rate setting doesn't exist, but rather a quality setting. Not all playback programs and devices can use VBR properly; problems may occur when displaying the track length and during winding (seeking).

## Audio CD



Open the burn dialog of MAGIX Audio Cleaning Lab SE via the "Audio CD" button in the export section. Burn any project in MAGIX Audio Cleaning Lab SE to an audio CD one-to-one.

For basic information about this, please read the section entitled "Burning audio CDs" (view page 125)!

### Make CD/DVD dialog

**Burn CD "On the fly", all effects are calculated in real time:** This option instantly starts the writing process if a new recordable CD is located in your CD-R-drive.

**Create image file before burning Audio CD:** This option will first create a stereo file, which already contains all object-settings, cleaning- and mastering functions, track-markers etc. before the writing process starts. This is recommended, when the system is too busy or too slow for creating a CD in real time ("On the fly"). Have a look on the System-information in the main menu! Multiply the displayed value with the intended burning speed (e.g 4x, 8x..). If the product is coming critically close to the 100%-mark, then we recommend you to create an image file before burning the new CD.

For example, when you want to burn an Audio CD with 8x speed, the CPU display shouldn't go over 12%

After image creation, the image is instantly burned in CD and deleted again after successful burning.

**Burn MP3 CD/DVD:** Burn a Data CD (view page 130) or DVD with MP3 files. The "Format Options" button takes you to the MP3 encoder settings.

**CD Title:** Type in a name for your new CD. The project name is preset. This title can be displayed by some of the CD-players if your CD-writer supports the CD Text function. (The supported CD-writer functions can be seen if you use the Display CDR-Drive Information option). If the writer supports CD Text, the track names will also be transferred to the new CD.

**Track list:** Option that allows you to control the track list (view page 152) – also accessible via the CD menu. All tracks can be played and markers can be shifted.

**freeDB CDinfo:** Query title information from freedb internet database (view page 153).

**Burn CD:** opens the burning dialog from where you can select the burning speed, the CD text to be burned on the CD, simulation of the burning process as well to assign the CD as a CD Extra Project. You can also compare the CD after burning with the project data to determine the error rate. If it is too high, the burning speed must be slowed down.

**Cancel:** closes the "Make CD/DVD" dialog without creating a disc.

Keyboard shortcut:                    b

## Track marker assistant

The automatic track marker assistant searches through the material for pauses in order to place a track marker at the end of a pause.

Each track marker is then displayed in a list where it can be easily and clearly checked, moved or deleted.

Track marker recognition is recommended if, for example, a side of an LP was recorded without track markers and the track markers then have to be set in order to be able to burn an audio CD. You can also use track marker recognition to check automatically created track markers afterwards.

**Play:** plays or stops the tracks in the list that are highlighted in gray, that is, that are selected. To select a different track, simply click on it in the list.

**Next track:** selects the next entry.

**Move:** You can move the beginning of the selected tracks forwards or backwards using the two arrow buttons.

**Keep marker:** Here you can remove the track marker of a selected track should it be superfluous. To do so, you will have to deactivate the check box for the selected track (is also possible in the list on the far left). Then, the marker is removed, so that the track is attached to the previous one.

**OK:** closes the list of available tracks. To make sure, the program asks you once again whether the settings you have chosen should be applied to the audio material on the track or discarded. If you choose "Apply", the track markers in the track window will be set according to the settings.

## CD assistant

The CD assistant helps creating an audio CD and positioning the track markers.

If a blank CD is in the CD burner, the CD assistant compares the length of the project with the capacity of the blank CD. If the project is too long for the CD, an error message is displayed.

As a second step the burn assistant checks the track markers by playing back the beginnings of the tracks one after the other. If you notice that track markers are positioned incorrectly, you can place new track markers via the burn assistant, or move existing track markers.

As a third step, the burn assistant checks the occupancy rate of your PC and calculates the write speed that is best suited.

Finally, either the CD is burned directly or an audio file is generated which then can be burnt at maximum speed.

## Make audio CDs

### Basics

In order to unify the data structure of the CDs and to facilitate the use of the CD-drives, different standards were created for the different types of CDs. The names for these standards refer to the colour of the books in which these standards were written down. Apart from the Red Book standard for audio CDs, there exists for example a Yellow Book standard for CD-ROMs and a White Book standard for video CDs in MPEG format. The term "Red Book" stands for "Compact Disc Digital Audio Standard".

The Red Book standard includes the Sampling rate of 44,1 kHz and the 16-Bit-resolution, which is supported by the commercial CD-Players and is also valid for the audio CDs. Furthermore the audio CDs have to count 1-99 tracks, which can be directly selected by the CD-players. The information concerning number and duration of the tracks as well as the breaks are transmitted from the CD to the CD-player through special sub-channels.

## 7. Data transfer

Writing a CD is especially demanding when transferring data from the hard disk to the CD-writer. The data has to reach the CD-writer in a constant flow. If at any time during writing the cache of the recorder runs out of data, the "Buffer Underrun"- error message will appear. This will make the CD useless. For this reason, it is recommendable to use modern SCSI- or IDE-hard drives. The average access time should be 15ms or faster and the steady Data-transfer rate should not be less than 800 Kbytes per second. This is the case for all modern hard disk drives.

### **The Burning Function**

The audio material on the audio CD is digital data, which the CD-player reads and transforms into analogue signals. The track markers indicate the CD-player, at which point the song starts. The MAGIX Audio Cleaning Lab SE can write an audio CD right away from the program. The track-markers are set in the track window before writing the CD. MAGIX Audio Cleaning Lab SE transforms the stereo sum and the indices into a data flow, which is directed to the CD-writer.

The CD-R-drive modifies a specially designed layer on the medium using a laser, so that the audio CD-player will be able to read this information later as digital audio data.

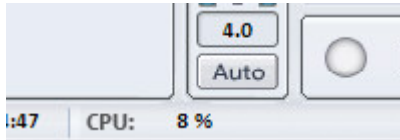
### **Audio CD creation**

1. For writing an audio CD, the track window must contain audio material. Edit the audio material using the real time functions of the MAGIX Audio Cleaning Lab SE deLuxe. The CD will sound exactly like the playback when you listen to it through your stereo sound card. All Cleaning and Mastering effects will also be present on the CD.
2. Mark the starting position of each song by setting (or moving) the track markers. All track markers can be moved using the mouse or the Track Wizard (1Click button)
3. Click on the "Make CD" button. In the "Make CD" dialogue you can choose, if you want to write the CD directly or if you prefer to create an Image file on the hard disk. The creation of an Image file is then recommendable, when the available system resources are not enough for writing the CD in real time ("On the Fly").
4. Now the CD can be written. You will only need a CD-R-drive, which is supported by MAGIX Audio Cleaning Lab SE connected to your computer and an empty CD in the drive. Clicking on "Write CD" starts the writing process. If you should have more than one CD-R-drive connected to your system, you will be prompted to select one of them.

## Track Length

According to the RedBook Standard, the minimum distance between two Track Markers is 4 seconds. Since Track Markers normally show the beginning of a song, no problems should arise. If you try to set the MAGIX Track Markers at a lesser distance, an error message will appear.

## System display



The system resources are very important while writing a CD in real time. Once the process has been started, it cannot be interrupted. When writing "on the fly", the computer has to calculate the playback including all real time functions and write them on the CD at the same time. If the system is not fast enough, the process will be aborted and the CD will be useless.

The system display of the MAGIX Audio Cleaning Lab 11 helps you to prevent such problems when writing a CD.

If your system is overcharged, activate the "Create an Image file" option in the "Make CD" dialogue. This will create a stereo file, which will be the source for the writing process. This file includes all effects and object settings, as well as the tracks and track markers, so that the system doesn't need to calculate them again while writing various copies (see Write CD parameters (view page 123)).

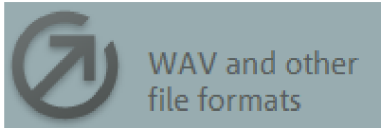
## CD tracks as separate wave files

In order to burn more CDs later, without having to produce a new image file, you can export all CD tracks as single .wav files. Select the option, "Each CD track in a file", in the Export dialog. Later, you can load the tracks and burn them directly. Exporting will make a play list file with the "m3u" extension. If, instead of opening each wave file, you open the Playlist File, all project tracks will be loaded in the right order, and the standard pause of two seconds will be inserted between songs. All effect editing is included in the wav files, so you can burn additional CD copies "on the fly".

## Checking Audio CDs

In the burn dialog it is advisable to activate the "Test and compare CD after burning" option in order to examine the error rate. If it is too high, the burning speed must be slowed down.

## Export audio



Via "Files" you can save the tracks from the current project as audio file(s) in different formats.

The "Export project" dialog will open. Here you can specify file name and path as well as the file's format.

### Options

**All tracks in one file:** Saves the project, named after the project name, in one audio file.

**Track only at playback position:** Saves the track that is currently placed at the playback position, namely the project area between the last track marker before the position line and the following track marker. This way you can cut out parts of an audio file and save them separately by simply placing markers.

Each track in its own file with names: Exports each track (i.e. the area between one track marker and the next) into a separate audio file list. If the tracks are saved individually, then a file (.m3u) will be created which contains the names of the individual audio files in the correct order. This is practical since you can open the list file again and load all of the tracks that belong to the project in the right order all in one go. The list file contains the name of the project; the list field allows different naming schemes for the audio files.

Scheme	Example
(File name)_(Track number)	CD_1.wav, CD_2.wav ,CD_3.wav
(Track name)	AAA.wav, BBB.wav, CCC.wav
(Track number) (Track name)	1 AAA.wav, 2 BBB.wav, 3 CCC.wav

*File names for a project "CD.vip" with the tracks AAA, BBB, CCC*

**Format settings:** This button opens another dialog where you can set export formats and adjust their settings. With compression formats like MP3 or OGG you can select codec compression rates.



**Wave:** The audio material is exported as a standard Wave file. This is the conventional format for further use on Windows PCs. These files are not compressed and retain their full sound quality.

**FLAC:** FLAC is the abbreviation for "Free Lossless Audio Codec". This is a freely savable format that can be used to compress your audio data to 50% of their original size. Unlike lossy compression methods like MP3 or OGG, the full sound quality is kept intact with FLAC.

**MP3:** Use the MP 3 files (view page 121) button to quickly access the export in MP3 format option.

**AAC:** This is a modern competitor format to MP3, which is primarily used for portable music players (iPod, etc.).

**Note:** To export in MP3 or ACC format, you may need to activate your encoder first. Simply go to "Help" >Activate additional functions (view page 171).

**OGG:**OGG Vorbis files have all of the important characteristics of MP3 files, except that they do not require any kind of licensing for their codecs. – They can be freely decoded and encoded. Not all portable devices support this format.

**AIFF:** The audio material is exported as an AIFF file. This is the most commonly used audio format for Apple™ computers.

**Windows Media:** Exports the arrangement in WMA format (Windows Media Audio). These are streaming audio files which are used on the Internet to guarantee real-time audio streaming. The sound quality is slightly diminished, but the files are extremely small.

Keyboard shortcut:                    K

## Create audio DVD

MAGIX Audio Cleaning Lab SE also burns DVDs, and there are essentially two different types of DVD that are possible:



**Stereo DVD:** These are normal video DVDs that can be played on any DVD player. Since they don't contain any video data, there is more room for the audio data. This can be stored either in CD quality with 16 resolution or in high-resolution 24 bit audio.

Surround information is encoded as two-channel stereo audio (Dolby Surround ProLogic compatible)



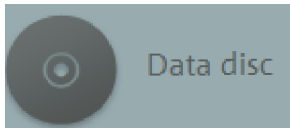
**4 channel DVDs:** These are so-called "audio DVDs" and require a special DVD player for playback. Music is recorded in true 4-channel Surround sound for these devices, and 16 or 24 bit resolution is also available in this case.

Burning 24 bit DVDs is only sensible, if the original audio material was also recorded in 24 bit quality.

Depending upon the format, different project lengths are possible.

DVD video	16 bit: 6h 33 min
	24 bit: 4h 23 min
DVD audio	16 bit: 3h 36 min
	24 bit: 2h 24 min

## Data disc



This option opens the CD burn dialog with the preset option "Burn MP3 CD/DVD". This option allows the project to be burned onto a data CD or DVD as MP3, OGG VORBIS or WMA format.

You can change the format settings of the respective encoder in the dialog.

If your project already contains files in compressed formats, then you have the choice to encode these files again or to use the original files. In this case, these files will lose all editing and effects changes which you have made.

## Batch conversion

Batch processing lets you automate work processes. You can extend a specific editing process from a single audio file to a list of files any size (i.e. the "batch"). The files are then executed automatically, over night, all day, or however you like.

Possible jobs may include:

- Normalization, volume adjustment, loudness
- Linear fading (in and out)
- All real-time cleaning and mastering effects
- Removing direct current
- Resampling/Timestretching (view page 111)
- Format conversions: Bit width (8/16/24-bit), sample rate, stereo/mono/left/right
- Save in all available export formats.

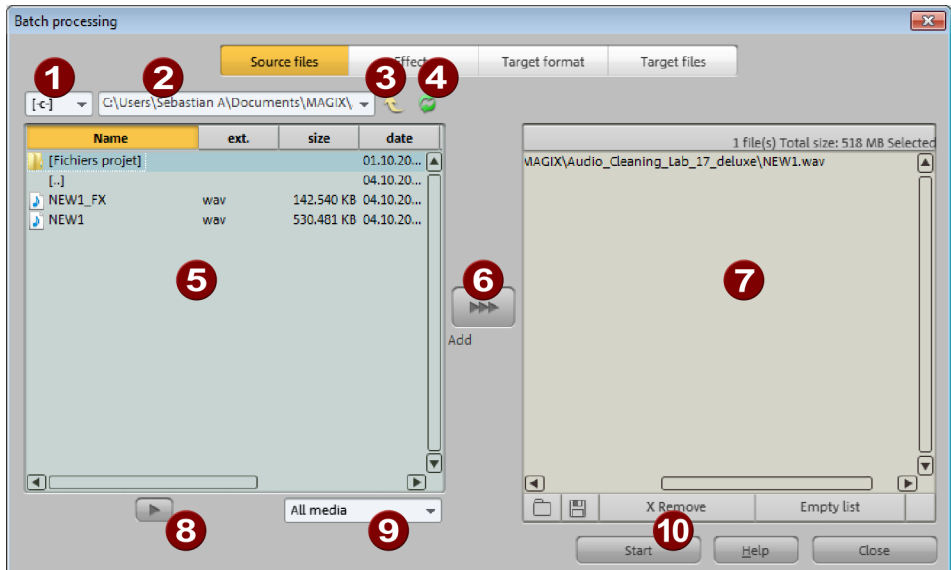
Examples of use:

- Encoding a large number of wave files into MP3 while simultaneously adjusting volume and freshening up higher frequencies
- Loss-free conversion of wave files into FLAC to save up to 50% hard drive space
- Correcting multiple LP recordings with incorrect speeds
- Denoising original sound tracks

The process for batch conversion is as follows:

1. In the "Source file" tab, select the files for editing.
2. In the "Effects" tab, select the required editing processes.
3. In the "Time format" tab, select the output format.
4. In the "Target files" tab, specify where and under what names the files should be saved.


## Source files




- 1 Drive
- 2 Path
- 3 Superior folder level
- 4 Refresh
- 5 File browser
- 6 Add to editing list
- 7 Editing list
- 8 Preview
- 9 File filter
- 10 Start editing

Create the list of files you want to edit. You will find a file browser on the right side. Select the files you would like to edit by clicking them; multiple selection is also possible (Ctrl + click for individual files, Shift + click for series, Ctrl + A to select everything). The view can be limited to certain audio formats via the file filter at the bottom. Every audio file can be pre-listened with the preview button.

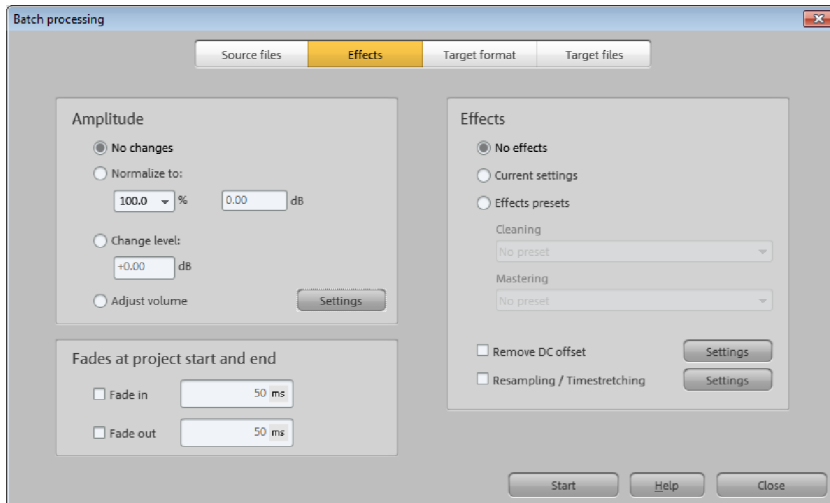
The "Add" button in the middle inserts all of the selected files into the editing list. If a folder has been selected, then all audio files in the folder, including all subfolders, will be added to the list.

 Loads a list (\*.m3u format).

 Saves the list in \*.m3u format for using your selection of files later.

"Remove" deletes all selected list entries. "Remove all" deletes the complete list.

## Effects



## Amplitude

**No changes:** The amplitude remains unchanged.

**Normalize/change level to:** You can normalize to a specific maximum value in %/dB or sink/raise the level by a certain value. Read more about this in the section "Edit menu -> Normalize object volume (view page 145)".

**Adjust loudness:** Loudness adjustment ensures a balanced average volume for each audio file. Read more about this in the section "Edit menu -> Adjust loudness".

## Fades at project start and end

Linear fades of any length can be added to the beginning and/or end of files.

## Effects

**No effects:** No effects editing takes place.

**Current settings/effects presets:** This section allows all cleaning and mastering effects in MAGIX Audio Cleaning Lab SE to be used for batch conversion (including plug-ins). The batch processing dialog does not in fact offer direct access to the extensive settings options for the individual effects; instead, there are two choices:

- "Current settings": All effects settings in the currently loaded project will be applied (except object effects). First you can load one of the edited files into a new MAGIX Audio Cleaning Lab SE project and make the required effects settings in real time there. Then you can open batch conversion and apply these settings to all of the other files.
- "Effects presets": You can select the cleaning or mastering effects presets included with the program or the ones you created yourself.

**Remove direct current:** Remove direct current noise from analog recordings; see "Remove direct current (view page 85)" in the "Edit" menu.

**Resampling/Timestretching:** Changes the playback tempo; see "Resampling/Timestretching (view page 111)" in the "Edit" menu.

## Target format

**File format:** All export formats available in MAGIX Audio Cleaning Lab SE are available here with their associated format options.

**Stereo/Mono:** You can convert in stereo (mono sources feature the same signal on both channels), save one of the stereo channels as a mono file, or mix both stereo channels together to create a mono file.

**Bit resolution/sample rate:** The bit resolution can be changed to 8/16/24-bit, and the sample rate to 11,025, 22,050, 32,000, 44,100, or 48,000 Hz.

**No changes:** This means that the output format is applied unchanged.

## Destination files

There are several ways to save edited files:

**Replace source files:** The original files are replaced by the edited files. If the file is used in a project, then the project will be closed first.

**Save files in source directory with changed name/save files in following directory:** The edited file is saved in the source directory or in any chosen directory. The specified suffix/prefix is added to the file name. Optionally, you can delete the source files after editing them.

**Keep source directory structure:** This option saves all files including the source path. The folder structure is preserved if the source files originated from different folders.

## File Menu

### New Project

Using this option you can set up a new MAGIX Audio Cleaning Lab SE project (view page 63).

Key: E

### Load project

Using this option you can load previously saved projects (view page 63).

Keyboard shortcut: O

### Save Project

The current project (view page 63) is stored under its given name. If there is no name chosen, the program opens a file requester, where the path and name can be determined.

Keyboard shortcut: S

## Save project as

It opens a file requester where you can determine the path and the name of the project (view page 63), under which it will be stored.

Keyboard shortcut:                      Shift + S

## Burn project backup onto CD/DVD / Burn data CD/DVD

In addition to the integrated audio CD burner routines, MAGIX Audio Cleaning Lab SE contains the CD burning program MAGIX Speed burnR. It can help you burn data CDs/DVDs, too.

**Burn project backup on CD/DVD:** The current project (including all audio files) can be burned directly to CD or DVD as a backup directly from the "File" menu in MAGIX Audio Cleaning Lab SE. Even extremely large files do not present a problem, since they are automatically distributed across several discs. The first of the backup discs contains a "Restore" program. This automatically begins the restore process to the hard disk as soon as it is placed in the drive.

**Burn data CD/DVD:** This command opens the MAGIX Speed burnR program with an empty burn queue for burning desired files to disc.

## Load audio file



MAGIX Audio Cleaning Lab SE can import audio files in the formats WAV, quicktime (\*.aif), Ogg Vorbis (\*.ogg), MP3, WMA and AVI (soundtrack only).

To do this, click on the corresponding button of the Import section (Import Audio), which opens the "Load audio file" dialog. Here you can select any folder containing audio files. Every listed file can be previewed and loaded into MAGIX Audio Cleaning Lab SE.

The selected file is attached behind the last following a pause of 2 seconds.



You can also load several files simultaneously. Just like in the Windows Explorer, you can increase your selection with Ctrl+Click and select a range of files with Shift+Click.

**Hint:** Due to peculiarities of the Windows Explorer, the line in the file selection dialog is created from back to front. Therefore, if you click it subsequently, you will see "Track 3", "Track 2" and "Track 1" in the input line. This is also the order in which the tracks will be loaded into MAGIX Audio Cleaning Lab SE. Therefore, if you want to load several titles, you should select them in the **opposite** order of how you want them to be later.

However, if you want to select a range in the Explorer (with Shift+Click), you should proceed as follows: first mark the **last** track of the list, then press Shift and mark the **first** track of the list. If you now click on "Open", all tracks are in the VIP in the correct order.

Keyboard shortcut: W

## Load audio CD

You can import entire Audio CDs or individual CD tracks into the project. Unlike data CDs, audio CDs require special treatment while importing ("grabbing" or "ripping"). The data is imported digitally, thus eliminating loss in sound quality.

To import audio tracks you should proceed as follows:

1. Insert an audio CD into the drive and click on "Import CD". A dialog with a list of the CD tracks will open. If you have more than one drive, you may have to first select the drive containing the CD. You can do this in CD drive options.
2. Select the desired tracks (multiple selection by Ctrl + mouse-click).
3. Click on "Copy selected track(s)."
4. The "Import project" dialog will now appear. Here you can enter the file name and select the target directory.
5. The audio material is then copied from the drive onto the hard disk. A progress bar is displayed.

Once ripping is complete, the dialogs will be closed and the tracks are inserted into the project as individual objects.

Keyboard shortcut: D

## Import DVD audio

This command imports the audio contents of a DVD into MAGIX Audio Cleaning Lab SE.

**Note:** Importing the audio track(s) from a video DVD is not possible!

## Record

With this command you can open the MAGIX Audio Cleaning Lab SE record dialog. More information on this topic can be found in the chapter Record audio (view page 50).

Keyboard shortcut: R

## Export audio

Read the section "Exporting audio" in the "Export section" chapter.

## Batch conversion

Opens batch processing to automatically edit multiple files. Read more about this in the separate chapter "Batch processing (view page 131)".

Shortcut: Shift + B

## Load video sound

MAGIX Audio Cleaning Lab SE gives you the option of editing the audio tracks of video files like audio files. The file selection dialog contains a video preview window for this purpose.

Permitted import formats are: QuickTime (\*.mov), MPEG (\*.mpg;\*.mp2), AVI (\*.avi), and Windows Media (\*.wmv).

After the video audio track has been loaded, a video window opens playing back the image and audio tracks of the video synchronously. Show and hide the video window via the "Options" menu.

Keyboard shortcut:                   j

## Export video sound

After editing the audio track of AVI video files, you can write it back into the video file.

**Video source:** This is where the loaded video file is usually displayed (only with AVI files, see below). If you wish to write the audio track back into a different video file, you can choose it here via the folder symbol.

**Audio length:** Displays the length of the audio track and video audio track. Their lengths should be identical.

**Audio format:** The audio track is always written as a WAV file, compressed storage formats, such as AC3 or MP2, are not possible. You can change the compression format of WAV files here provided that the corresponding compression codecs (ACM codecs) are installed. They must also be available on the computer used for playback of the finished video.

**Target file:** You can either replace the sound of the video in the original video file or create a new AVI video file. You don't have to recompress the video data, which is very time consuming, because the existing video data is connected to the new audio data.

Warning: The option of replacing the audio track in the loaded video or writing a new video file with new sound **only works with AVI videos**. Other video formats (MPEG, MOV, WMV) require a video editing program, such as MAGIX Movie Edit Pro, to save the new audio track in the video.

Keyboard shortcut:                   g

## Delete old projects

The command "Delete old projects" is a convenient method for deleting old projects with all affiliated audio files.

**Project:** All of your most recently saved projects as well as all projects contained in the Project folder (view page 163) are listed here. You can choose one that should be deleted. Use "Search for project" to add other project files from any folder to the list.

Select the project file (.vip) that should be deleted by clicking on it. Of course, a project can not be opened if it is to be deleted.

The "Open in Windows Explorer" option opens an explorer window with the folder of the selected project. Here you can...no longer required files manually.

**Used files:** Lists the files used in the project that you want to delete. Use the small boxes to select the files you wish to delete.

With "**Delete**" you can delete the project (.vip) and the files selected for deleting in the file list.

When you select a project you wish to delete, some files in the list, i.e. files located in the project folder are selected already. They are recording files, files that are automatically produced when importing specific formats, and back up copies. In other words, data which is used only within one project of MAGIX Audio Cleaning Lab SE.

Files which are not located in the project folder, MP3 files from music collections or videos, for instance, are not selected, as you will probably use them in other projects or with other programs. You can select them if you're sure you don't need them anymore. In general, it's quite sensible to have the preset apply to the project folder because it allows you to simply choose a project at the top and to click "Delete" at the bottom to delete files which are no longer needed in a project.

## Exit

Closes MAGIX Audio Cleaning Lab SE.

## Edit Menu

## Undo

In the project you can undo the last changes you made. This way, it's no problem if you want to try out critical operations. If you don't like the result, you can always revert to the previous state using "Undo".

Keyboard shortcut:     Ctrl+Z

## Redo

Redo "undoes" a previous Undo command.

Keyboard shortcut: Ctrl+Y

## Undo Lists

The last 20 editing steps are listed. You can return to a precise editing step without complication.

## Set marker

With this command you set a marker into the track to mark a certain time position in the project. You can jump between the markers with the keyboard commands Alt+Arrow left/right.

Keyboard shortcut             Alt+M

## Split

A selected object is split into two objects at the position line. This also works during playback.

Keyboard shortcut:     T

## Remove object beginning

This command removes the part of an object beneath the position line, chronologically located before the position line. The audio material following it

is moved forward to the initial position.

Keyboard shortcut:            D

## Remove object end

This command removes the part of an object beneath the position line, chronologically located after the position line. The audio material following it is moved closer.

Keyboard shortcut:            U

## Cut

The selected object is cut out from the project and placed on the clipboard. It can then be reinserted elsewhere.

Keyboard shortcut:            Shift + Del

## Copy

The selected object is copied from the project into the clipboard. It can then be re-inserted elsewhere.

Keyboard shortcut:        C

## Paste

The content of the clipboard is inserted into the project at the position line.

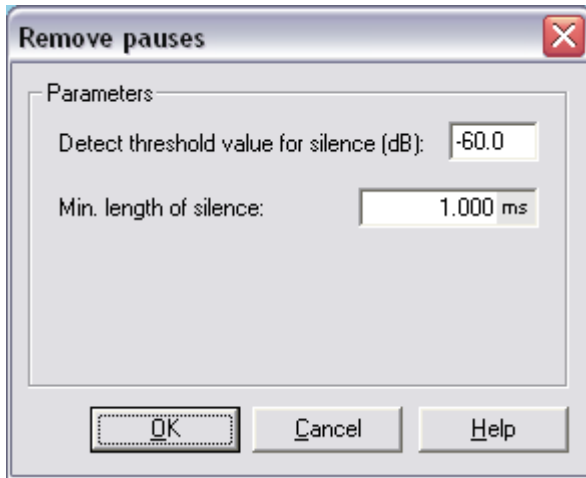
Keyboard shortcut:        Ctrl + V

## Delete

The currently selected object will then be deleted from current project. The subsequent objects are moved forward so that there is no gap in the track.

Keyboard shortcut:        Del

## Remove pauses



This function automatically removes sections without or with low audio level in the selected object. In the dialog, you can set a minimum time and threshold for recognition.

**Threshold (dB):** Here you can specify the threshold. The value is specified in decibels, 0db corresponds to the maximum level. Typically, you will enter negative values, the higher the numerical value, the lower the level and the less audio material is removed.

**Min. Time (ms):** Here you can specify the minimum time for recognition. If the function removes intended (musical) pauses in the music, increase the value.

**Apply to all objects:** If this option is activated, the function will be applied to all audio objects in the project.

## Voice-Over

More on this you can read in section "Voice-Over" (view page 119) in chapter "Sound FX"!

## Surround Editor

Opens the Surround Editor.

More on this you can read in section “Surround Editor” (view page 108) in chapter “Sound FX”!

## Create Surround Transitions

Creates a surround transition.

More on this you can read in section “Surround Transitions (view page 109)” in chapter “Sound FX”!

## Object FX Editor

This opens the Object FX page for the selected object.

More on this you can read in chapter “Cleaning FX (view page 85)!”!

## Load/save real-time effects

Effects settings can be saved or loaded here as “Mastering” or “Cleaning” FX presets in order to apply them to other projects or objects.

The FX presets can be applied from the Object FX window for individual objects as well as Master FX set for the whole sound (in the main screen).

Because the available object effects are discerned from the master effects, some settings may be ignored. For example, the echo/reverb setting is ignored when the FX preset is loaded as a Master FX from the main screen, because there is no echo/reverb device in the Master FX section.

## Apply all real time effects

If the effects settings become too full to manage or you just want to “summarize” your production, use this function to convert the entire audio arrangement into a single audio file. It will appear as a long object in a new project.

Once the effects have been added they will no longer require CPU power. Therefore, if the system monitor reaches the red area but you still require CPU-intensive plug-ins, you can use this function to release CPU power.



## Effects menu

Here you will find all effects of the "Cleaning" and "Mastering" tabs, as well as other effects in submenus, which are sorted according to different topics.

There is one decisive difference between the effects of the master track and the Object FX page and the ones accessed via the "Effects" menu: in the latter case, a copy of the original file is produced in WAV format, and the ending \_fx is added to its name. The effect is added to it directly.

The advantage is that the effect does not have to be calculated during playback and burning, which saves computing power. The disadvantage is that the effect's settings can't be changed later. However, since you are working with a copy, the Undo (view page 141) function is available, in case you made a mistake.

Just as was the case with the effects of the Object FX page, the effects don't affect the entire audio material of the master track, but only the selected object.

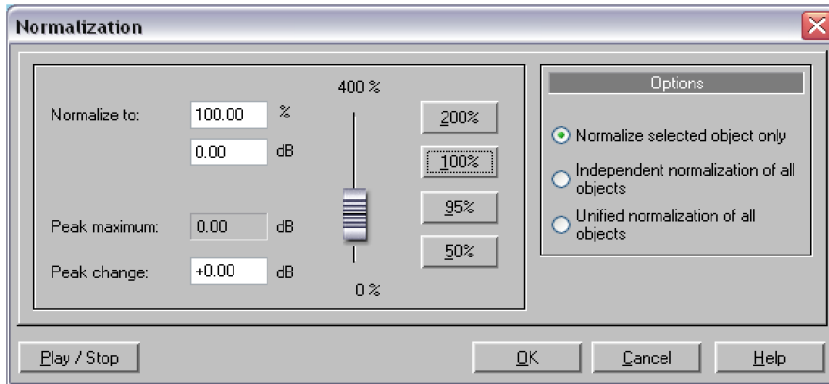
A description of the effects which are not explained in what follows can be found in the sections Cleaning effects (view page 73), Mastering effects (view page 91), and Additional sound effects (view page 107).

## Normalize object volume

This function raises the volume of an object to the maximum level without the material being clipped. This utilizes the dynamic range the best way possible.

First the highest levels are detected, and then the object level is adjusted so that the max. level amounts to 0 dB, i.e. the maximum volume (or another value between 1% and 400%).

**Note:** If you experience very slight clipping during recording and then proceed to normalize the material, then you won't achieve the same quality as if you produce a correctly clipped recording! For example, if you only modulate half of the material, then your recording will have a quality of 15-bit samples – normalizing to 100% doesn't change anything.



**Normalize to:** Here you can set the value to which the audio material should be normalized by entering it into the input field, moving the fader, or selecting one of the presets (50, 95, 100 or 200%). The value will be shown in % and dB (100% = 0 dB = max.). Values above 0 dB bring about digital clipping.

**Maximum level:** Displays the highest detected peak in the selected range/object.

**Level change:** Displays the level change in dB, in accordance with the selected normalize level and the detected maximum level.

Different methods can be specified under "Selection":

**Normalize the selected object only:** Normalization is only applied to the selected object. This function can also be executed in "Object FX" mode by clicking the "Auto" button below the volume controller (always normalizes to 100%).

**Normalize all objects separately:** Each object in the project is normalized according to its own maximum (peak) level. The level ratios between the individual objects changes for this reason.

**Normalize all objects as a single unit:** The maximum level is detected for all

objects in the project, and each object is normalized according to that value. The level ratios between the individual objects is preserved, but only the object that contains the maximum level is optimally clipped.

**Start loudness adjustment (RMS normalization):** Starts normalization including the average loudness (RMS) of objects, see Loudness.

Shortcut: N

## Adjust volume

This function unifies the volume of the individual tracks in the project. First all of the levels for every object are increased separately to the maximum without clipping the material (see Normalization (view page 145)). Depending on the musical production, however, each title may have a different volume at full level, since the relation between loud and quiet sequences within the track also influences how we perceive volume. In the second step, the average volume (RMS) of the song is determined and the object level is adapted accordingly.

Tracks with higher peak values but lower loudness may be normalized at a level above 0 dB (full clipping). To avoid overloads, the limiter is automatically activated (see MultiMax).

A target loudness (RMS) can be given in dB. Since this is the average value, the loudness value is always less than 0dB; -15 is the preset.

The degree of adjustment decides how strictly the loudness normalization is applied. At 0%, no adjustment is made to the target RMS. At a value of 50%, the level is raised to half the difference between the detected loudness and the target value. Volume differences remain between the tracks in this case. At 100%, the loudness of every track is raised to the RMS value. This is only recommended in seldom cases, since even in a single party mix, a dance hit will not have the same volume as a ballad.

**Tip:** Volume fluctuation within a song can be balanced with the MultiMax leveler presets.

Keyboard shortcut: Shift + N

## Isolate Stereo Channels

Displays a stereo file from two mono objects. The two mono objects are totally

independent, are located one above the other on two tracks and can be worked on separately. This option is particularly suitable for removing undesirable audio interference that can only be heard on one channel.

## Switch channels

This function switches the left and right stereo channels.

This is useful for correcting recordings with switched channels. This function can be reversed if you don't re-select the range; opening it again will bring back the original material.

## Invert phase

The sample data is inverted along the amplitude axis, which means that negative values become positive and vice versa. This function allows you to adjust recordings with different phases to one another.

An incorrect phase occurs if during an analog recording parallel cables are switched. To correct such errors, some mixers have a switch that can be used to invert the phase of an input. If you press the switch by mistake, errors might occur as well.

This function is reversible, so if you repeat it, the original signal is restored.

## Backwards

When Backwards is applied the sound file will be played in reverse. This way you can create very interesting effects, not to mention the "hidden messages" in many songs...

## Plug-ins

With this dialog you can use Microsoft's DirectX-compatible plug-ins for effect calculation in MAGIX Audio Cleaning Lab SE. This allows you to use almost any effect algorithm from 3rd-party producers.

The difference between these plug-ins and those in the mastering section is that here (as with the other effects in the "Effects" menu) the effects do not occur in real time. That's why here you can use plug-ins which can't be

applied in realtime due to lacking compatibility or system resources.

Keyboard shortcut: X

For more information, please read the chapter "Mastering effects" (view page 101).

## CD/DVD menu

The CD/DVD menu contains all special functions for audio CDs, DVDs and the CD/DVD mastering processes, e.g. setting CD tracks and subindexes as well as the "Create CD" function.

### Set track marker

Allows you to set a track marker at the current location of the position line. All the following markers will automatically receive a corresponding number. Each CD track needs a track marker. The minimum length for a track is 4 seconds, whereas the maximum length of a track is only limited by the capacity of the CD.

Keyboard shortcut: m

### Set Pause marker

This function lets you set pause markers. At these points some CD-Players switch to absolute silence during playback until the next track marker appears. The CD-player displays a countdown for the next title.

Keyboard shortcut: Shift + m

### Set track markers automatically

Use this function to set Track markers automatically by analyzing the audio.

For more information read the "Automatic track recognition (view page 70)" section in the "Editing in the track view" chapter!

Keyboard shortcut: Ctrl + m

## Set track marker to object edges

A track marker is set at every object start.

Keyboard shortcut:                      Alt + m

## Split objects at marker positions

This function will split all objects at the position of the track markers.

Key: Strg + t

## Set auto pause length

Audio files that have been loaded successively into MAGIX Audio Cleaning Lab SE are arranged consecutively in the project. Between the tracks, a standard pause of 2 seconds is preset. In this dialog, the value can be modified.

## Delete marker

This function deletes a track or pause marker. To select a marker, you have to place the position line to the marker position by clicking on it.

Keyboard shortcut:                      Del

## Delete all markers

This function removes all existing track and pause markers. This can be useful if you are going to use the "Set track markers automatically." function.

Keyboard shortcut:                      Ctrl+Del

## Delete CD track

This command deletes a selected track marker and the corresponding audio material from the position of the track marker to the next track marker. The audio material following it, is moved closer.

Keyboard shortcut: Alt + Del

## Create CD...

See "Make CD/DVD (view page 123)" dialog in "Export Section" chapter.

## Show CD-R drive information

This dialog shows you all available information on the active CD-writer. This includes the manufacturer, product name, product revision, cache and the features supported by the drive.

## Show CD-R disc information

Displays all available information on the CD inserted in the drive. The most important feature is the maximum length, which cannot be exceeded during production, for example: 74 minutes and 59 seconds.

## Create audio DVD

MAGIX Audio Cleaning Lab SE also burns DVDs, and there are essentially two different types of DVD that are possible:



**Stereo DVD:** These are normal video DVDs that can be played on any DVD player. Since they don't contain any video data, there is more room for the audio data. This can be stored either in CD quality with 16 resolution or in high-resolution 24 bit audio.

Surround information is encoded as two-channel stereo audio (Dolby Surround ProLogic compatible)



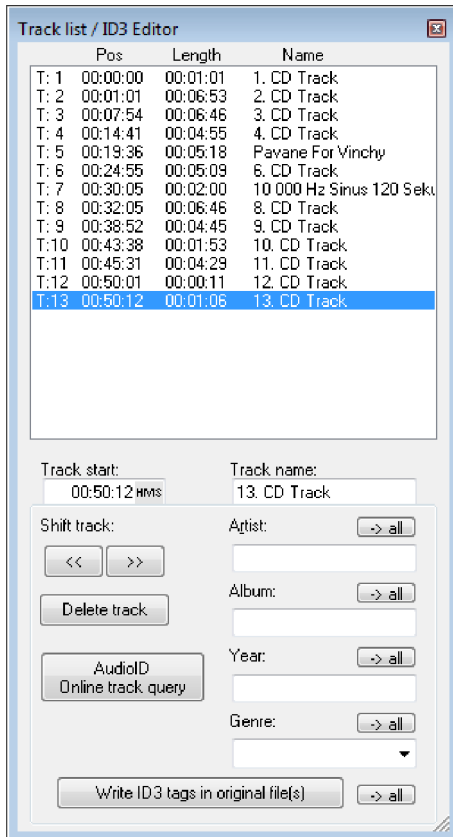
**4 channel DVDs:** These are so-called "audio DVDs" and require a special DVD player for playback. Music is recorded in true 4-channel Surround sound for these devices, and 16 or 24 bit resolution is also available in this case.

Burning 24 bit DVDs is only sensible, if the original audio material was also recorded in 24 bit quality.

Depending upon the format, different project lengths are possible.

DVD video	16 bit:	6h 33 min
	24 bit:	4h 23 min
DVD audio	16 bit:	3h 36 min
	24 bit:	2h 24 min

## CD track list/ID3 editor



In this dialog, all the CD tracks in the current project are displayed in a list. Every track can be given a name which is then shown in the master track. In addition, you can attach further information such as artist, album, year and genre. This will then be listed in the ID3 tags of the files when exporting to MP3. The data is used by database and search functions in programs like MAGIX Music Manager.

You can identify unknown titles based on their sound properties with the **audio ID online track query** within an online database. See audio ID (view page 155) for more information.

By choosing all tracks on the list, the corresponding objects are selected and the playback position placed at the track marker. The sequence of the tracks can be adjusted by using the "Move" button.

**Track start:** Displays the start time of the track, which can also be entered numerically. In the gray area next to the number, you can select the unit of measurement. The CD track list can be used for fine tuning the track markers. Track markers can be moved around directly in the track window by using Alt+ arrow buttons or by clicking and moving the mouse cursor.

**Track name:** Enter the name of the track here.



**Move track:** With the arrow buttons you can rearrange the sequence of the tracks and their corresponding objects.

**Delete track:** The track (marker and the corresponding objects) will be removed from the project.

**Track name/artist/album/year/genre:** More details about the tracks (ID3 tags). Use "All" to apply the entry to all tracks in the project. This way, you can standardize different spellings of an artist, which are imported from different MP3 files, for instance. Use "Write ID3 tags in original file(s)" to write this information back into the loaded MP3 file.

Keyboard shortcut: |

## MAGIX Xtreme Print Center

MAGIX Audio Cleaning Lab SE contains an easy-to-use CD print studio. Here, you can design and print not only simple track listings, but also sophisticated CD covers, CD booklets, and circular CD labels. The track information is automatically transferred from the playlist to the print studio. The print studio can be found in the "File" menu under > "Print Studio...".

## Get CD track information (freedb)

By online FreeDB query you can get complete title informations for an imported CD from the internet. The query is based on the exact combination of title lengths in a given order for a number of tracks. This is also working with tracks separately loaded into the the project (as MP3 files, for instance). The single play times of the tracks can even differ by some seconds, mostly the correct CD is recognized anyway.

Just put your Audio CD into the disc drive and select "Get CD track information (freedb)".

## CD info options

Here you can start different advanced options for "freedb CD Database".

### FreeDB > Submit CD to FreeDB

You can add CDs in the online CD database. The enormous FreeDB project

exists courtesy of the contributions made by worldwide users.

If you have a CD that is not in the database, you can enter the CD information.

- Make sure the right CD is in the drive.
- Select "Enter New CD in FreeDB "
- Enter the information, double-checking the details for possible errors.
- Press "OK"
- Within an hour or two, the new information will be online for everybody to access.

## **Freedb user preferences**

User info is entered here for MAGIX Audio Cleaning Lab SE to use when freedb is queried. Of course, using freedb is completely anonymous, but freedb often has to process several queries at once, so an i.d. is assigned to identify the user. If you have problems accessing info, maybe someone is using the same data; you can change the settings to avoid this problem.

## **Freedb proxy options...**

If you are having difficulties connecting to the freedb server, then you can choose another server from the list, or you can increase the "timeout" value. An increased work load causes the server to react slowly and a connection cannot be made properly.

## **FreeDB > Delete FreeDB Cache**

The FreeDB online database creates a cache on your hard disk, containing all data available via the FreeDB button. This allows you to access the data without having to go online. You can of course delete the cache, should it contain false data or when up-to-date current data is available.

## **Open CD track list online**

When recording cassettes or records onto your computer, one large file is created in which all tracks are arranged one after the other without track markers, much like a CD. You can, of course, use the function "Set track marker automatically" to analyze the audio material and, with the help of the pauses, separate the file into individual tracks. This does not work, however, when the tracks run into one another without a pause.

In this case you can ascertain the exact track division by querying the Online freedb CD database. To do so, proceed as follows:

1. Start up your Internet browser and go to the freedb search page by pressing the "Start Internet search" button.
2. Enter the name of the album or band into the search field. One or more albums, which match the search request, are listed. If you know that a certain album fits your recording, then click on "Details". It will display the CD track list you were looking for alongside other details.
3. Click on the link above the disc ID (a combination of 8-digits of numbers/letters, e.g. 7e120419). freedb data record is displayed for this CD.
4. Copy the URL (Internet link) from the address bar of your browser onto the clipboard.
5. Change back to MAGIX Audio Cleaning Lab SE and enter the Internet link into the text field in the lower portion of the dialog. Then click on "Apply CD data". The CD tracks will be added to the project.

Warning: Sometimes the first track may begin very quietly (for instance an intro or applause in live recordings) and the start of the recording occurs too late. Due to this, it may happen that the length of the first track does not correspond to the track length suggested by the database. As a result, all track markers will be a little bit too far back. In this case, move the second track marker forward while holding down the Ctrl-key; all subsequent track markers will then be moved by the same amount and should be positioned appropriately at the start of each track.

## Audio ID

With this function you can identify audio files. As opposed to the freedb search, the audio file doesn't have to make up part of an album or CD, it doesn't even have to be a complete recording.

MAGIX Audio Cleaning Lab SE analyzes parts of a song's typical sound characteristics and sends this information to an Internet server. The server then compares this "acoustic fingerprint" with song information in its database and responds with the track information.

You can apply this function either onto the selected object, onto the object at the current playback position or onto the object within the project.

An Internet connection is necessary. If you have a personal firewall, you may have to adjust the settings so that MAGIX Audio Cleaning Lab SE can access the Internet.

# Options menu

## Move mouse mode



The shift mode is preset. It allows you to handle all-important tasks:

Select objects in the track window with a left-click. Selected objects can be moved or deleted in move mode. All subsequent objects are also moved so that no unwanted gaps develop later in the track. The object can be removed from the track with the Del key. All subsequent objects are moved so that no gaps occur.

In move mode you can use the 5 handles to fade or shorten all objects or to change the master volume.

Right-clicking on an object opens the so-called context menu from which you can select important editing options for the object.

Keyboard shortcut: V

## Cut Mouse mode



The cutting mode converts the mouse pointer into scissors. Every object can be cut on the mouse position.

This creates two separate objects that can be edited separately.

Moving the mouse over the wave form depiction of the audio material you move the Position Bar along with the mouse pointer. So you can control exactly the point where you want to cut. To perform precision editing we recommend zooming the wave shape display before using the cut mode.

Like in move mode, right-clicking on an object opens the so-called context menu from which you can select important editing options for the object.

This mode is suitable for dividing a recording into different parts in order to apply object effects to each of the passages.

Key: H

## Zoom mode

**Right mouse button:** Zooms out of the project.

**Left mouse button:** Zooms into the project.

## Delete Mouse mode



The "Delete Objects" mode turns the mouse pointer into an eraser. In this mode you can delete objects from the project.

Following projects are drifted automatically with the Track Markers in the position of the deleted object.

In Move mode you can also mark an object and press the Del key on the keyboard to delete it.

Keyboard shortcut: O

## Resampling/Timestretch mouse mode



This mode lets you change the playback speed of objects with the mouse so that they are better aligned.

You can use this mouse mode by stretching or squashing the object at the rear object handle below. The mouse cursor turns into a clock.

Resampling mode (preset) can be used to change speed and pitch just like on a tape, i.e. speed and pitch are changed together as one. If an object is compressed with the mouse, the speed and pitch increase just like a tape when it is played faster.

In the timestretch mode, the pitch remains unchanged, if the object length and with it the speed are changed.

You can switch modes by opening the Object FX page (view page 68) of an object, switching to the cleaning effects, and then selecting timestretching from the tempo/resampling effects presets list.

## Draw volume curve mouse mode



With the **Draw volume curve mode** you can "draw" any volume curve using the mouse.

This way, you can create irregular volume progressions quickly.

To delete volume curve points, double-click on the corresponding point or click on a point in the erase object mode (view page 40). You can delete multiple points by holding the Shift key and clicking the first and last points so that all points in between are selected.

Selected volume points have a blue frame. You can now delete the points with the **Delete** key.

## 2 tracks



You can use the "Double track" button to create a second stereo track for your background music.

All objects can be moved randomly between the tracks. If moved between tracks while holding the Shift key, the horizontal position will be retained, i.e. only the track is changed.

**Important:** On the lower track you can move the objects without moving the subsequent ones as well. Therefore, if you want to exchange objects, you should do this in the second track.

Keyboard shortcut: 2

## Stereo display

Using this option you can switch the view of the wave shape, which splits up the material between the two stereo channels. This view is useful to visually control the material in the stereo panorama or to find zero-crossings for cutting operations.

Keyboard shortcut: Tab

## Surround Mode

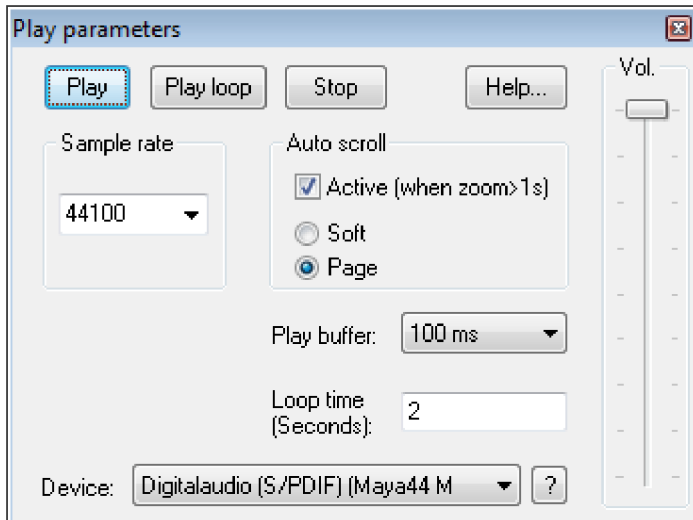
See "Surround Mode (view page 107)" in the "Sound FX" chapter !

## Activate Volume Curves

Activates volume curves (view page 69).

## Play parameter

This menu opens the window with the playback parameters.



**Sample rate:** Here you can adjust the play rate, if the sound card allows so.

**Device:** Here you can adjust the sound cards driver, which is in charge of playback, provided that the sound card allows this. This becomes especially important if there are several sound cards in the computer.

**?:** Here the supported audio formats of the sound card, as well as the sound card driver's information can be displayed. Furthermore you can switch between driver types (MME and WDM). Adjust this setting only if you have problems with audio playback or recording.

**Autoscroll:** Here you can activate a feature that is especially useful when working with long projects: the graphic turns over when the Position Bar leaves the visible part. So you never lose the overview. The scroll operation requires a certain calculation time (depending on the processor, the graphic chart and the resolution), so that the computer can become overloaded in critical cases, which produces dropouts during playback. In this case, deactivate the auto-scroll mode.

**Smooth / turn over:** You can choose between scrolling down a page or page turning.

**Playback Buffer:** To allow a smooth playback of a complex project, the MAGIX Audio Cleaning Lab 11 sets out a data buffer, into which current data areas are loaded. Hence, the whole project with all of its adjustments is calculated in a step by step procedure.

You can determine the size of the buffer in "buffer adjustments", which will be used for the playback of the whole arrangement or for the pre-listening of waves in the data manager.

**A rule of thumb:** in the case of long waiting and loading times, the buffer should be reduced; in the case of drop-outs or erroneous real time calculation of effects, the buffer should be extended.

**Loop time:** Here you can adjust the length of the endless loop, which will be used to play the project with activated loop mode. The loop mode itself is activated in the transport control (please see the "control consoles (view page 42)." chapter).

Keyboard shortcut: P

## Analyzer window

This command shows and hides the Analyzer window (view page 44).

Keyboard shortcut: Y

## Video window

Show/hide the video window (if a video file is loaded (view page 138)).



## Units of measurement

This sub-menu allows you to determine different units for the timeline. You can choose between samples, milliseconds hour/minute/second and CD frames.

Keyboard shortcuts:

Samples	Shift + 1
Milliseconds	Shift + 2
h:min:sec	Shift + 3
Min:Sec:CD frames	Shift + 4

## Mouse Grid Active

The mouse grid ensures that the objects, Handles and Markers cannot be moved accidentally. If activated, changes are made only if the movement of the mouse exceeds a certain minimum distance. If you want to work with a high precision without having to zoom in, you can deactivate this safety measure here.

## Auto crossfade mode active

With every cut the two objects that are created are slightly crossfaded in order to avoid crackling. This is referred to as "Auto crossfading" (for more info on crossfades please also see Crossfading objects (view page 67)). As all recorded and imported objects can be easily faded – which is not always desired – this option can be deactivated.

## Display values scale

The right edge of the track view shows a values scale. This indicates the level of waveforms in dB, and the spectral display indicates specific frequencies in Hz.

## Options for automatic track marker recognition

In this dialog you set the options for the function "Set track markers automatically" For more information read the "Automatic track recognition (view page 70)" section in the "Editing in the track view" chapter!

**Minimum length of pauses:** This is the time that the audio material must remain below a certain level in order to be recognized as a pause. The longer this value, the fewer pauses will be detected. If the value is shorter, there is a possibility that short silent sequences in a title might be recognized as a pause.

**Minimum length of tracks:** A new pause will only be recognized once this amount of time has passed since the last track marker. If you are recording a tape with a pop song and want to write it on CD, you can set this value to 3 minutes. But if the tape contains short sound samples, the value has to be consequently much shorter.

**Maximum level for pauses and Minimum level for pauses:** During the first step, the program searches for a suitable volume level for the pause detection. With these two parameters, you can limit the results before the process continues. If too many pauses were detected, then you should move both sliders more to the right. In the opposite case, move them to the left.

**Detection of LP and cassette sides:** In certain occasions you might want to record both sides of an LP immediately one after the other, without interrupting the recording at the computer. The result is normally a very long audio file that includes a very silent passage in the middle of the recording (the moment when you turned the LP or CD over). The program detects this as only one section and splits the object into two new objects and tries the same with both of the resulting objects. In the best case, even the noises produced while turning the LP or cassette over will be eliminated. You can increase the precision of this process, adjusting the minimum length of the side of your LP or MC. Here are a few proposals:

Single: 10 minutes

LP: 15 minutes

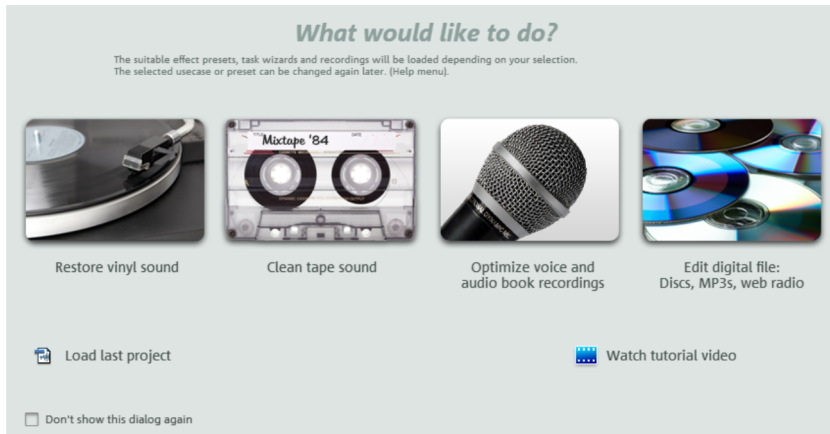
60 min MC: 25 minutes

90 min MC: 40 minutes

## Path settings

In this dialog, you can set the memory path for your recorded audio files (New projects) as well as the search path for VST plug-ins.

## Show start selection



Each time the program starts, it will show the start selection and offer presets for the most important program applications.

After choosing an option, a new, empty project (view page 63) and the right presets for all cleaning and mastering effects installed according to their individual applications will be added. This means, you will only have to activate them. On top of that, the settings for the automatic track recognition (view page 70) during the recording will be applied according to the chosen applications.

Furthermore, you can also reload the previous project or view the introduction video.

If you do not wish to use any defaults, you can just close the dialog by clicking on the "Close" button in the right-hand corner. When you activate the box "Don't show this dialog again", the start selection will not pop up the next time you start the program. You can reactivate this at any time via the menu "Options" > "Show start selection".

## Tasks menu

In this menu all the most important tasks can be selected with a simple mouse click. The selected effect opens to help you attain not just fast and professional results, but also to learn more about the most appropriate applications of the many effects available.

## Online menu

These are menu entries for all services available directly from within MAGIX Audio Cleaning Lab SE.

## Catooh – the Online Content Library

In the integrated online content library Catooh you'll have the opportunity to discover the right music, effects, video clips, DVD menus, and much more for your movies and discs.

### Import media backup

iContent (for example, 3D transitions) which you buy and download from Catooh is stored directly in your central **My files\MAGIX Downloads\Backup** directory. If you have downloaded these files from other MAGIX programs, then you can use the command "Import media backup" to make them accessible for use in MAGIX Audio Cleaning Lab SE.

## MAGIX Online Album

MAGIX Online Album is your personal multimedia album on the Internet. If you want to present slideshows or videos online, then MAGIX Online Album is the perfect service.

### Upload current project as MP3 ...

The project will be uploaded to your MAGIX Online Album. The individual tracks will be converted to MP3 during this process. You may then use them there for background music for your online presentation.

For export to MAGIX Online Album it is possible that the MP3 encoder (view page 171) must be activated first!

## Open MAGIX Online Album

With this command you can open the website with your MAGIX Online Album.

## magix.info

**Share your knowledge & get answers** This MAGIX service offers you and the MAGIX Community at large a central platform for exchanging knowledge, photos, videos, and music, for discussing and evaluating, for communicating with one another, for presenting yourself, and networking with other members.



You will find the sections "Questions & Answers", "Show & Discuss", "Online Training", and "Chat" where you can play an active or passive role in the MAGIX Community. For this there's not only the [www.magix.info](http://www.magix.info) <http://www.magix.info/uk> portal, but [magix.info](http://www.magix.info) directly in your product.

### Ask questions online

If you have questions or problems with your MAGIX program or you're looking for tips & tricks concerning multimedia, then you're at the right place.

### Display all questions & answers...

Use the questions which other community members have asked and the collective knowledge of the answers to improve your own working methods, to solve problems, and to get to know the details of MAGIX Audio Cleaning Lab SE.

### Launch the online training center

Learn not only theoretically, but also practically what the program is capable of: "learning by doing", quickly and uncomplicated.

### Let your friends view the contents of your MAGIX.info screen over the Internet on their PCs.

Ideal for viewing photos and videos together or for receiving support for questions arising during your creative workflow while using the program (a licensed client will be installed for this purpose).

## More online services

You can also launch the following online services via the "@Services" button in the start dialog:

- **MAGIX Online Print Service:** Uniquely design and order low-cost, high-quality photo albums online.
- **MAGIX Screenshare:** Let your friends view the contents of your PC's screen over the Internet.
- **magix.info:** Share your knowledge with other users directly from within the program.
- Present your stills and videos in Flash® design in your own **MAGIX Online Album**.

## MAGIX Website Maker

Not only is Internet surfing easy! Thanks to MAGIX Website Maker creating websites also becomes child's play!

### This service offers:

- Your desired domain (www.desiredname.com) and a subdomain (http://your-name.magix.net/website).
- 250 MB memory space with 5 email accounts, 1 GB each.
- Website Maker with website templates, intros. Also animations, text effects, form and design objects, picture and graphic templates, and buttons. And everything without any ad banners!
- Photo (\*.jpeg), video (\*.wmv) & music (\*.mp3) options.
- Additional software: MAGIX web mail for managing your email inbox.

MAGIX Website Maker offers 3 months of free, non-binding service. This way, you have enough time to find out everything about MAGIX Website Maker and all existing possibilities for editing and managing your homepage.

### MAGIX Website Maker offers everything for the perfect Flash® website:

- **Design templates:** Numerous high-quality website templates in the latest professional Flash® design with pre-finished, customizable subpages, start pages, profile pages, photo pages, video pages, and much more.
- **Text & text effects:** Freely positionable text fields with fantastic fonts and animated text effects can be added and individually formatted with ease.
- **Multimedia content:** Select your favorite photos, spectacular slideshows, videos and an online video player with your own background music, or integrate it all as an online music player with playlists.

- **Decorative elements:** Attractive design objects, plenty of vector shapes, background images, buttons, and much more offer more possibilities for designing unique websites than ever.
- **Animation objects:** Large selection of dynamic, impressive animation objects for breathtaking, moving websites.
- **Links:** Easily add links to your own or external websites.
- **Top extras:** Enhance your website with a visitor counter, guest book, contact form, and many other useful extras.  
**Export function:** Conveniently add individual components of your website (e.g. video player, slideshow, online music player) or even the entire website to external sites as an embedded website.

### Proceed as follows:

After registering your desired domain, you can start creating your website right away.

1. First, select a design for your website in MAGIX Website Maker
2. If you would like to place an intro (start animation) at the start of your domain, select your intro as a next step.
3. Now you can replace the mock text with your own text as you see fit. All free-standing elements on all webpages can also be moved as you please. To do so, click to select the element and move it using your mouse.
4. Once everything is just how you want it, you can put your page online, so that your domain can be accessed.

## MAGIX Blog Service

With MAGIX Blog Service, YOU make the news! Share your thoughts, experiences, and news with a worldwide audience in no time using your own interactive online multimedia journal. Invite family, friends, and acquaintances to join in and enter their comments! A free MAGIX Online Album belongs to the MAGIX Blog Service so that you always have full control over your contributions.

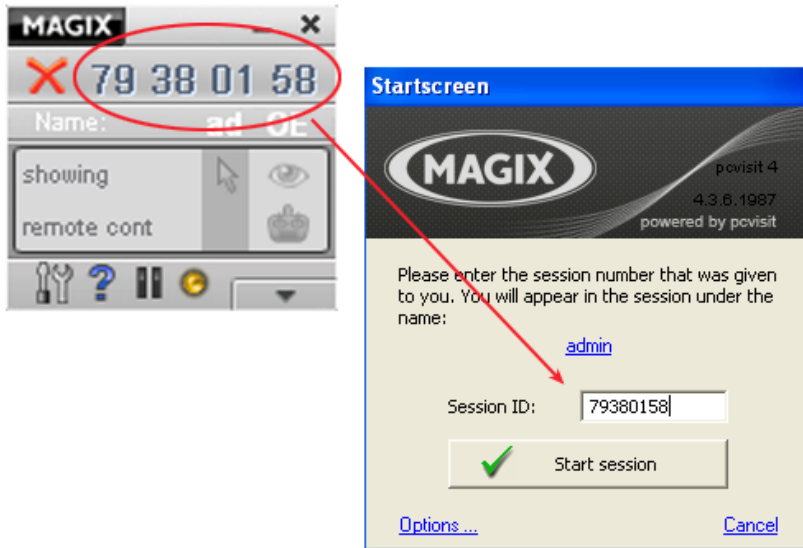
## Screen transfer - MAGIX Screenshare

MAGIX Screenshare allows you and other users to offer or accept help directly via the Internet.

MAGIX Screenshare can be used in two different modes; either as a guest or as a host. The user who offers the transfer (session) is the host, and the receiver is the guest.

As a host, start MAGIX Screenshare in your MAGIX software via the menu item [www.magix.com](http://www.magix.com)

"Online -> Screen transfer -> As host". This will require an online connection. Since you are taking the initiative as a host, an 8-digit number (session ID) will be displayed; this is required for any PC screenshare connection.



The host/guest either owns the same application as you, or quickly downloads the free guest module with just a mouse click. As soon as the number you passed on to them via email, phone, or chat is entered into the guest application's module, your guest will be able to see your desktop on his screen. You can now open any application on your PC and your guest will see the same screen content as you via the online connection.

**Tip:** In order for guests to know what is currently being shown, it makes sense to talk to them on the phone or via a chat tool while holding the demonstration.

## Register as host for a screen transfer

1. If you want to start a screenshare instance yourself, then you have to register as a host first. To do this, open the menu "Online" and then select "Screen transfer as host...".
2. In the dialog you can enter a name for the screen session. Your user account name is used here by default.
3. Now click on "Start session". A small window will now open in the bottom right corner which displays the status of your screen session. A number will also be displayed (session ID) which serves as a password for your guests.
4. Start the screenshare instance.



## Register as guest of a screen session

1. You have to register as a guest to view a screensharing instance. To do this, open the menu "Online" and then select "Screen transfer as guest...".
2. Enter the password you received from your host (8-digit session ID).
3. Now click on "Start session". A window will open displaying a smaller version of your host's screen.

## Online login details

In this dialog, you can save your login information (login and password) for MAGIX Online Album and all other MAGIX Online World as well as for Catooh, making it unnecessary to login each time you access MAGIX Online World.

The saved data are valid for all other MAGIX programs for the corresponding computer user.

## Help menu

### Help

Open the program's help file. The help file provides explanations of all functions in the program and step-by-step instructions.

Keyboard shortcut: F1

### Display tips

Determines whether the **tooltips** are displayed or not. If activated, a small help window will be displayed as soon as you hold the mouse over a button for a while.

### Show tutorial videos

MAGIX Audio Cleaning Lab SE comes with several tutorial videos for fast access. You can play them via this submenu.

## System information

Information on the current date and time appear in this Information window, in addition to the number of files that have just been opened, the total size of the memory in the system and the size of the memory used by the MAGIX Audio Cleaning Lab SE. In short, a list of all available drives and their available memory capacity.

## About MAGIX Audio Cleaning Lab SE

Copyright notices and version numbers are displayed.

## Register online

This option opens the MAGIX homepage for online registration where you can register yourself as a MAGIX user.

Registration grants you access to the MAGIX support website <http://support.magix.net> (see support) where various program updates and help programs can be downloaded.

With the registration form supplied (start menu under "MAGIX Audio Cleaning Lab SE -> Service and support -> Register") you can register via post or fax. Simply print it out, fill it in, and send it off!

## Update check

Links directly to the MAGIX online service page (for registered users only). This automatically patches and updates your MAGIX Audio Cleaning Lab SE version.

## Restore original program settings

Use this function to reset all program settings you made in MAGIX Audio Cleaning Lab SE to their original settings.

## Activate MP3/AAC encoder

With this menu command you can activate export as AAC or MP3 formats.

### Why does it have to be "activated"?

To import (decode) or export (encode) certain video and audio formats, you will require a specific codec. MAGIX Audio Cleaning Lab SE will ask you if you want to activate the codec as soon as you need it. The integration of decoders and encoders from third parties into programs usually costs money. These codecs are integrated via additional, voluntary activation in MAGIX programs which, according to usage and degree of prevalence, can be free or fee-based for special high-quality codecs. This way, MAGIX can continue to be able to provide you with optimum value for money for your software.

The following activations are available on MAGIX Audio Cleaning Lab SE for a small fee: **AAC encoder**.

Activating the **MP3 encoder** is free of charge.

### Free activation (MP3)

To be able to use the MP3 or MP3 surround encoder (audio export), you will have to activate it for free first.

Activation can be done online via telephone or via post/fax. The quickest and easiest way to order an activation code is via the Internet.

### Order activation code online

Click on "Order online..." (Field 1). Your Internet browser will open. Once you have registered, the activation code will be sent to the email address you supplied upon registration.

If your computer has no Internet access, you have the following options for activation:

**Order activation code in MAGIX Service Center**

Use this option to conduct activation from a different computer which has Internet access.

**Order activation code via telephone**

The telephone number and necessary details you will need to call to receive activation by telephone are displayed here.

**Order activation code via post/fax**

After clicking on "Order via post/fax" (field 2), your user code will appear. This automatically assigns your personal activation code to your PC. Click on "Continue to order form" to transfer your user code automatically to the post/fax form. Now send the completed form as a print out to the address/fax no. mentioned. Your activation code will be sent to you in just a few days via post or fax. It can also be sent by mail if an email address is state d.

**Enter activation code**

After receiving your personal activation code, you can use the activation dialog for the corresponding file format to start exporting for the respective format. if you receive the activation code via email, then copy it into the input field in the dialog and click "Activate...".

**Fee-based activation (MPEG-2)**

To be able to import video sound from MPEG2 videos, the corresponding codecs must be activated first (fee-based).

**Order activation code online**

Click on "Order online..." (Field 1). The web browser will open for you to register MAGIX Audio Cleaning Lab SE first (if you have not already done so). You will then be forwarded to a website where you can request the corresponding activation.

If your computer has no Internet access, then you have the following options for activation:

**Order activation code in MAGIX Service Center**

Use this option to conduct activation from a different computer which has Internet access.

**Order activation code via post/fax**

After clicking on "Order via post/fax" (field 2) your user code will appear. This automatically assigns your personal activation code to your PC. Click on "Continue to order form" to transfer your user code automatically to the post/fax form. Now send the completed form as a printout to the address/fax no. mentioned. Once payment has been processed successfully, your

activation code will be sent to you in the post/via fax in just a few days. Optionally, it can also be sent by email if an email address is stated.

### **Enter activation code**

After receiving your personal activation code use the export or burn function to reopen the activation dialog for the corresponding file format. Type or copy the activation code into the input field in the dialog and click on **"Activate..."**.

### **Fee-based activation (AAC)**

In order to export as AAC format, activation of the encoder is required:

Activation is fee-based and can be done online or via post/fax. The quickest and easiest way to order an activation code is via the Internet. Ordering the activation code takes just a few minutes via email. The order of your activation code via post/fax takes a few days.

### **Order activation code online**

Click on "Order online..." (Field 1). The web browser will open for you to register MAGIX Audio Cleaning Lab SE first (if you have not already done so). You will then be forwarded to a website where you can request the corresponding activation.

If your computer has no Internet access, then you have the following options for activation:

### **Order activation code in MAGIX Service Center**

Use this option to conduct activation from a different computer which has Internet access.

### **Order activation code via post/fax**

After clicking on "Order via post/fax" (field 2) your user code will appear. This automatically assigns your personal activation code to your PC. Click on "Continue to order form" to transfer your user code automatically to the post/fax form. Now send the completed form as a printout to the address/fax no. mentioned. Once payment has been processed successfully, your activation code will be sent to you in the post/via fax in just a few days. Optionally, it can also be sent by email if an email address is stated.

### **Enter activation code**

After receiving your personal activation code use the export or burn function to reopen the activation dialog for the corresponding file format. Type or copy the activation code into the input field in the dialog and click on **"Activate..."**.

## Activation problems

**Problem:** The entered code is incorrect (telephone activation)

Make sure your entry is correct; in most cases a typo is to blame. If the code is entered correctly, dial the number of our Call Center. Our support staff will help you personally.

### The MAGIX website won't open

Check your Internet connection; you may have to use manual dial-up.

### The form for ordering via post/fax won't open

- Check that an adequate text editing program is installed and activated (for example, MS Word).

### I still haven't received an email with the activation code

- Check that your inbox isn't full.
- Have a look in your spam folder.

You can always send questions via email to our support whenever you like. Please have the following information at hand so that we can assist you as quickly and as specifically as possible.

- Complete product name
- Exact version number (to be found in the about box in the "About" menu item of the "Help" menu)
- Encoder/Decoder name
- Your user code (accessible via the "Activate via post/fax" dialog)

**Problem:** I have installed MAGIX Audio Cleaning Lab SE on a new computer, installed a new hard drive in my old computer (sound card, memory...), or installed it multiple times on the same computer. My activation code is no longer accepted!

If the program cannot be activated again after it has been activated multiple times, please contact the MAGIX customer service (view page 11).

# Keyboard layout and mouse-wheel support

## Keyboard layout

### Menu functions

New project	E
Load project	O
Save project	S
Save project as	Shift + S
Load audio file	W
Load audio CD track(s)	Shift + D
Recording	R
Export audio (Wave)	K
Batch conversion	Shift + B
Load video sound	J
Save video sound	G
Finish	Alt + F4
Undo	Ctrl + Z
Redo	Ctrl + Y
Set marker	Alt + M
Remove object beginning	D
Remove object end	U
Split	T
Cut	Ctrl + X
Copy	Ctrl + C
Paste	Ctrl + V
Remove (delete)	Del
Normalize object volume	N
Adjust volume	Shift + N
Spectral Cleaning	Ctrl + D
Plug-ins	X
Object FX editor	Ctrl + O
Set track marker	M
Set pause marker	Shift + M
Set track marker automatically	Ctrl + M
Set track markers on object edges	Ctrl + Shift + M
Split objects at marker positions	Ctrl + T
Remove all markers	Ctrl + Del
Delete CD track	Alt+Del
Make CD	B
CD track list/ID3 editor	L
AudiID	Shift + U

Move mode	V
Cut mode	H
Zoom mode	Z
Delete mode	F
2 tracks	2
Stereo display	Tab
Playback parameters	P
Units of measurement	Shift+1..4
Mouse grid active	Ctrl + R
Display values scale	#, '
Help	F1

### Transporter functions

Playback/Stop	Space bar
Play as loop	Shift + space bar
Pause	,
"Emergency stop" during playback	Esc
Back to the beginning	Home
To the end	End
Fast forward (rewind)	Arrow left (right)
Playback position to next (previous) track marker	Alt + arrow left (right)
Playback position to the next (previous) object edge	Shift + Alt + arrow left (right)

Keyboard shortcuts for zooming the display, please see **Zoom commands** (view page 46).

## Mouse-wheel support

Middle mouse button	Start/Stop playback
Mouse wheel	Scroll horizontal
+ Ctrl	Zoom horizontal
+ Shift	Zoom vertical
+ Ctrl + Shift	Scroll vertical



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