

Steinberg WaveLab 6.0

New Product Guide
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Tagline

“Audio Editing and Mastering Suite”

Positioning Statement Short

WaveLab is the editing software of choice in top-flight mastering and restoration facilities yet its affordability has made it the ideal choice for the experienced engineer or discerning musician. WaveLab 6 builds on the outstanding reputation of previous versions, adding even more next-generation features and capabilities to one of the world’s best editing and mastering solutions.

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This new version of WaveLab continues in the tradition of introducing new powerful and exciting features while maintaining the ease of use and workflow that makes WaveLab such a fast and powerful application. WaveLab 6 defines a new standard in professional audio editing and mastering while integrating seamlessly into your existing studio environment, including full integration of outboard effect processors and hardware remote controllers.

The new features add a new dimension to audio restoration and processing and include the new WaveLab Spectrum Editor with its extremely accurate linear phase filters, the new loudness-corrected SmartBypass system, outstanding DIRAC time stretch and pitch shift as well as the new SRC Crystal Resampler. Together with its best-in-class PQ editing and DVD-Audio authoring capabilities, WaveLab clearly marks its position in top of the line audio mastering.

Top 10 Features

- § Sample accurate audio editor with crystal clear audio processing at up to 384 kHz and 32 bit floating point resolution
- § Spectrum Editor with sonogram view for frequency domain-based restoration
- § Stereo and multi-channel non-destructive editing with versatile clip grouping over multiple lanes and video support
- § Superior audio processors including Dirac time stretch and pitch shift algorithms
- § Redbook compatible PQ editing including Audio-in-Pause, CD-Text and track sheet export
- § DVD-Audio authoring and burning including menu editor
- § Powerful real-time engine with integration of clip-based and global effect plug-ins with support for external gear
- § Powerful media management and batch processing features
- § Integration of external effects and recording through plug-ins
- § Powerful metering tools including K-Metering

WaveLab product highlights:

CD Mastering

- § Complete red-book CD mastering including accurate PQ editing, CD Text, Audio-in-Pause, track-sheet export and CD cover layout tools
- § Extended CD burning for ISO and mixed-mode formats

DVD-Audio Authoring

- § Complete DVD-Audio authoring toolset, including play list editing, on-screen video menu design, picture slide shows and DVD text
- § User definable surround-to-stereo down-mix coefficients
- § DVD-Audio burning, including video data
- § DVD-Audio extraction, conversion, and archiving

Processing

- § Clip based as well as global real time plug-in effects with VST and DirectX plug-in support
- § Audio restoration with dedicated DeNoiser and DeClicker plug-ins
- § Support of a multitude of different audio file formats (WAV, AIFF, SD II, AU, MP3, MP2 (M.U.S.I.C.A.M.), RAW, Windows Media 9, etc.) and resolutions (8/16/20/24/32 bits with up to 384 kHz) and W64 and RIFF 64 file formats

- § AES-31 import and export of projects
- § Import of Steinberg Nuendo markers as WaveLab CD markers
- § Powerful batch processing and scripting features
- § Audio database support with drag and drop to Nuendo and other applications
- § Support for surround plug-ins, e.g. Steinberg's Surround Edition

Editing

- § Audio Montage for clip based non-destructive editing
- § Real time fades and cross fades with overlapping waveforms that follow fades
- § Versatile grouping of clips across single or multiple lanes
- § Supports any combination of mono stereo files
- § Multipurpose mouse function based on position in each lane
- § Fast dragging of clips with various snap functions

Applications

Audio Editing (Stereo, Multi-Track, Surround)

WaveLab 6 is one of the most powerful and versatile audio editing and processing applications on the market today and combines the facilities of many other products within one, intuitive, flexible application.

WaveLab 6 features sample-accurate stereo or multi-track audio editing combined with impressive effects for sound design. Depending on the editing task, users may choose between a destructive stereo editor and the powerful non-destructive, clip-based Audio Montage for stereo or multi-track projects. In addition, WaveLab 6 supports any surround format with up to eight channels, as well as surround plug-ins like the Steinberg Surround Edition.

The Audio Montage allows real-time fades and cross fades, clip-based effects with effect morphing between adjacent clips and track-based effects through the Master Section. With unlimited undo/redo and the powerful batch processing and archiving features no other single software tool can match the truly exceptional WaveLab 6 feature set in its price range.

CD Mastering

CD Mastering is more than just squeezing maximum loudness out of music tracks and putting these into the right order for creating a CD. A mastering studio has to match and adjust levels, equalization, spatial integration and many other audio aspects between different audio tracks in order to create a coherent acoustic experience across the entire CD.

WaveLab 6 makes the creation of complex transitions and cross fades between titles very easy. WaveLab provides

intuitive track assembly, audio editing and applying effects or cross fades down to accurate CD marker and PQ editing is very fast and intuitive. WaveLab can create a CD image file or burn the project directly to CD and optionally compares the final CD to the master image for error checking and repair. With WaveLab one can create CD reports and export track sheets. One can even create full colour CD covers and labels right out of the project. No other audio editing software offers such a complete set of CD mastering features.

DVD-Audio Authoring

DVD-Audio is acknowledged to be the standard for high resolution audio media, combining uncompressed or lossless compressed multi-channel audio with video, text and DVD-ROM content. WaveLab 6 offers DVD-Audio authoring support on top of its powerful audio processing and Mastering capabilities. It combines all of its powerful graphical editing and processing features with full DVD-Audio authoring, including graphic menus, DVD Text, multiple track groups and even import/burning of DVD Video content in one intuitive window. The seamless integration of these new features in addition to the support in WaveLab 6 for multi-channel audio makes it particularly easy for existing WaveLab users to explore DVD-Audio creation.

Audio Restoration

WaveLab 6 not only allows for complex and precise equalization or dynamics processing. It also includes powerful audio restoration tools. The DeNoiser plug-in is based on acoustic fingerprint analysis and analyzes recorded audio in real-time to remove unwanted background noise while maintaining the ambience of the recording. The DeClicker plug-in also operated in real-time by analyzing the original material, detecting clicks and then removing those clicks. For offline and manual restoration WaveLab 6 includes a fast and flexible interface to detect and navigate to disturbances. The extremely powerful interpolation algorithms replace problems like clicks, clipping or drop-outs intelligently with appropriate material from other parts of the audio files. Combined with the brand new spectral editor WaveLab 6 is an excellent choice for serious restoration work. WaveLab 6 also fully supports Algorithmix' renovator plug-in for the highest demands of restoration.

Audio-for-Video

With its "smart" video thumbnail track, WaveLab 6 is the perfect tool for audio-for-video editing. WaveLab allows for far more accurate and detailed audio editing than the typical video editing software. From trimming and editing audio clips to complex sound design – WaveLab 6 offers the full spectrum of audio editing and processing tools needed to turn a flat-sounding movie soundtrack into a powerful and impressive sonic experience. WaveLab 6 can be used to

create sound effects, looped background music beds, impressively clear and “in the face” dialog or even complex multi-track edits using the Audio Montage window. With up to eight audio channels, WaveLab 6 can also serve as a soundtrack mastering tool for all popular surround formats, including 5.1 and 7.1.

Use WaveLab 6 to edit the audio track of a video clip extracted from the video file. Or run WaveLab 6 as the audio editing front-end of your preferred video editor. With XSend and XReceive, WaveLab 6 can be integrated seamlessly into any AV workstation, e.g. Pinnacles Liquid Edition.

Broadcast Production

Besides outstanding sound quality and data integrity, workflow optimization and system integration are some of the key requirements in professional broadcast facilities. WaveLab 6 offers state-of-the-art 24-bit / 384 kHz resolution and 32-bit floating-point precision, which results in exceptional sound quality and processing accuracy. Furthermore, WaveLab 6 supports the MPEG 1 Layer 2 (M.U.S.I.C.A.M.) file format, which is commonly used in digital broadcast systems, as well as Broadcast WAV, the extended WAV format that includes additional information in the file header.

But clearly the most exciting features for broadcast users are the new scripting capabilities in combination with user presets and batch processing functions. When combined, these functions allow for perfect integration of WaveLab 6 into the existing workflow, including automated file import, format conversion and signal processing. Using the new API scripting interface WaveLab 6 can run even difficult processing tasks in the background without even being touched.

Editing for Sampler

Many studios still rely on their trusted MIDI hardware samplers and their extensive sound libraries. However, editing samples on small LCD displays can be tedious and time-consuming. WaveLab 6 supports more than 30 popular samplers and sample formats. It can communicate directly with hardware samplers via MIDI and SCSI, send and receive samples and convert between different formats.

Multimedia Sound Design

Besides its powerful editing and processing features, WaveLab 6 supports major multimedia audio file formats like Windows Media, WMA Pro, and various MPEG formats. Instead of inconvenient importing or exporting, WaveLab 6 natively supports all of these formats and allows for direct opening and saving of files in any of its supported formats. In combination with the powerful batch processing functions, WaveLab 6 becomes the tool of choice for any file-conversion task.

Institutional Applications

WaveLab 6 has many applications beyond mastering or music- and audio-for-video production. Its powerful recording and processing features have made it the number one choice for scientific audio archiving and restoration, as well as more sophisticated laboratory applications including forensic analysis. WaveLab is known for its reliability and its ease-of-use. Its highly customizable workflow and the powerful user-preset and batch processing features, plus its compatibility with many different file formats leave enough room for a perfect integration into practically any thinkable audio laboratory environment.

What's new in WaveLab 6

Top 10 New Features

- § All new Spectrum Editor with sonogram view for frequency base restoration
- § New accurate Waveform displays (standard, spectrum and loudness)
- § Superior Dirac time stretch and pitch shift algorithms
- § Enhanced Master Section with SmartBypass, multi region processing and save presets with file
- § New set of audio processors including Crystal Resampler, Loudness Normalizer and Smart Silence
- § Enhanced Audio Montage handling including clip and cross-fade editing, batch processing and plug-ins
- § Extended audio file handling and manipulation system including files sizes > 2 GB, improved performance and batch renaming
- § External effects and recording through plug-ins
- § Remote control support
- § Enhanced metering tools including K-System metering

Reasons to Update

WaveLab 6 offers over 120 new features and improvements to its well respected version 5. Version 6 contains all the beloved editing functionality of version 5 while adding a brand new Spectrum Editor, introducing the DIRAC time stretch algorithm and significantly improving the editing capabilities in the Audio Montage,

WaveLab 6 has many new or improved functions to manage audio files and Meta data with full batch processing capabilities including...

Version 6 provides an all new Spectrum Editor with sonogram view to remove disturbances and unwanted noise in the

frequency domain. The extremely versatile editor offers very high quality linear-phase filters and flexible replacement options. Its surgical mode is dedicated to audio correction and allows the user to Copy and Paste the selection or the 'ambiance' of that selection to another place in the time/frequency domain, or applies some specific processes to the selection with full undo and redo functionality.

The handling of audio I/O is completely redesigned. While ASIO support was already included in version 5, WaveLab 6 features a high level of integration with existing environments. WaveLab 6 now records through the Master Section with all available plug-ins if desired. The Master Section can also integrate external effect processors to bring outboard gear into the processing chain within WaveLab.

WaveLab 6 has many new tools with a strong focus on psycho-acoustic treatment and monitoring of the audio signal. K-System metering, a very smart loudness corrected bypass tool, a loudness normalizer and a loudness distribution display support the user to achieve the best sounding results.

All functions of WaveLab 6 can be controlled via freely assignable MIDI remote controllers or keyboard shortcuts. WaveLab 6 can now also function as a time code slave via ASIO Positioning Protocol.

What's new since version 5?

Environment

- § WaveLab now supports Windows XP Styles for windows, menus and dialogs
- § MIDI command support allows triggering WaveLab functions as well as audio scrubbing
- § Smarter navigation between document windows
- § Upper and lower pane can be synchronized
- § Save screenshot of active window including plug-ins
- § Audio file information can be copied to the Windows clipboard
- § RMS reference to the AES17 standard
- § Mouse wheel control of Master Section faders on/off
- § Waveform/Track "point and drag" scrolling with the mouse wheel button
- § Improved Preference dialog
- § Improved VST plug-in management
- § Maximum number of files in the 'recent' menus can be defined
- § Zoom selection by a click on the length indicator in the status bar
- § Create Windows file links of WaveLab documents from within WaveLab
- § Create file type associations from within WaveLab

File Management

- § Read and Write performance of audio files drastically improved
- § No limitation on audio file size; support of the w64 and RIFF 64 file formats
- § Smart 'Audio File Rename' to update all file references in other documents such as Audio Montages, as well as peak and attribute files.
- § Smart 'Audio File Delete' from within WaveLab to delete relative peak and attribute files.
- § Automated renaming of files in batch processor
- § Documented plug-in architecture to allow third parties to write audio file format converters.
- § File list manager to access and sort up to 200 hundred recent files
- § File list manager to access all open files from one dialog
- § Erase peak files from within WaveLab
- § Folder manager to set default folders and how they should be kept or updated on file open/save.
- § Define up to 3 temporary file folders, with smart usage by WaveLab at run time to improve file performances
- § Audio peak files can now be created in a separate folder

- § Automatically save settings associated to an audio file (view, scroll position, Master Section preset) in an attribute file.
- § Option to display the full file path in the window caption bar
- § Audio files with a header error can be opened without warning message
- § Auto-split audio files to specific file length
- § Auto-split audio files according to values imported from an external text file (xml support)
- § Auto-split audio files to Audio Montage clips
- § Optional fades in the Auto-split tool.

Playback and Transport

- § Time code slave to ASIO positioning protocol for sample accurate sync
- § Jog and shuttle with keyboard shortcuts to set cursor or selection edges
- § Cursor can return to the start play position on stop
- § Fade-out when stopping playback to avoid click

Recording

- § Optional recording directly through the Master Section
- § Optional recording through plug-ins in Master Section
- § ASIO Device as Audio Input Device in Master Section
- § New button 'Split now' to close the current recorded file while continuing recording in a new file
- § When recording into a montage track, the time indicator displays the position of the end of the recording in the track.
- § Gap between the current position and the last inserted marker is now displayed during recording

Spectrum Editor

- § Extremely versatile Spectrum editor for powerful manipulation of audio files in the frequency domain
- § Extensive set of specialized manipulation tools
- § High quality linear-phase filters for processing spectrogram selections both in the time domain and frequency domain through the Master Section.
- § Extremely flexible filtering and replacement option
- § Surgical mode dedicated to audio correction allows Copy and Paste the selection or the 'ambiance' of that selection to another place in the time/frequency domain, or apply some specific processes to the selection
- § Source / Destination mode to replace frequency ranges of audio

Audio Analysis

- § Option to monitor file rendering to disk using the various meters within WaveLab
- § Bob Katz' K-System support for loudness metering
- § Waveform scope shows the signal which is currently rendered or recorded
- § Loudness distribution window to visualize loudness distribution in an audio file
- § Phase scope has an option to disable the auto-size rendering
- § Improved Editor for audio error detection and restoration

Audio File Editing

- § Upper and lower Wave panes can be set independently to display loudness envelope, spectrogram or waveform display and be synchronized.
- § Peak files provide sample accurate representation
- § Peak file display speed massively enhanced for large files
- § Peak files background creation with graphical progress monitoring.
- § Advanced 'Insert silence' function generates 'ambiance' background noise rather than digital silence, with optional cross-faded insertion.
- § Smooth delete: remove an audio range and perform a small cross-fade at the edge, for a smooth transition.
- § Rubberband envelope to control the volume
- § Selections can be saved as Audio Montage audio clips
- § Info field in the status bar to indicate the mouse position and values in the time and level domain

Audio File Rendering

- § Monitor file rendering through meters
- § Multiple Marker regions can be rendered in just one operation, either in place or as new files
- § Automatic cross-fades can be applied at the edges of rendered audio ranges for smoother transitions
- § Updated MP3 encoder

Offline Processing

- § Superior Time stretching / Pitch correction (DIRAC, by Stefan M. Bernsee)
- § Loudness Normalizer (multi-pass) to adjust the loudness of a file to a given value (RMS)
- § Pan normalizer to balance the loudness of both channels

- § Effect morphing to gradually blend two processed audio ranges with a custom envelope for sample accurate effect transitions and emulate parameter automation.
- § EQ1 plug-in is now available as an offline process.
- § Pitch Quantize Processor

Master Section

- § Smart global bypass tool to compensate for the loudness change between the input and output
- § Master Section presets can be associated and stored independently within each audio file
- § Master Section preset associated with an Audio Montage can be saved automatically
- § New sub-menu structure for logical combination of plug-ins
- § Global Bypass indicator visible even with folded Master Section

Plug-ins

- § Crystal Resampler: professional sample rate converter providing exceptional transparency and preservation of the frequency content up to 384 kHz.
- § External gear: to process audio through some external device
- § Audio input replaces the 'Live input'. Signal can be recorded after processing through the Master Section
- § Resizer plug-in to limit or extend the size of an audio file in Batch processor
- § New generic user interface for plug-ins

Batch Renaming

- § Extremely powerful set of procedures to convert, remove, format, import and insert text, to virtually transform any file name to another one.
- § Automatic update of file name references in other documents such as Montage or Audio database, peak and attribute files.

Audio Database

- § Import of file attributes from text files
- § Export of database to text file
- § Audio Montage clip support

Audio Montage

- § Batch processing of Audio Montages
- § XML import/export of montages
- § Batch clip renaming with powerful user-defined rules and import of external information
- § AES31 import has search function for missing files

File tab

- § New pane to list all regions of an audio file with drag and drop insertion
- § Replacement of audio files used in the Audio Montage by other audio files
- § Renaming of files which are used in the Audio Montage
- § Export of the file list as text document

Plug-in tab (new)

- § Visualize and manage all plug-ins used in a montage in a variety of ways
- § Copy and paste plug-ins or plug-in presets between clips or tracks
- § Create and save plug-in chains

CD/DVD tab

- § Render CD/DVD tracks as new audio files, and replace or not the corresponding regions
- § Updated CD-Text dialog to ease operations
- § The CD-Wizard now allows creating CD-Track of at least 4 sec if the related clips are shorter than this.
- § CD report: the logo is now embedded to the report, hence the report can be moved with more ease to another computer

Editing

- § No limitation of clip size (in the same way as no limitation of audio file length)
- § Clip auto-grouping by automatically move all clips 'touching each other' as a group.
- § Fades of all selected clips can be edited simultaneously.
- § Edges of all selected clips can be adjusted simultaneously.
- § Move a cross-fade region while keeping its length.
- § Resize a cross-fade region symmetrically while keeping its centred position.

- § Move clips to their relative BWF time stamp position
- § Update all peak files of the montage's audio files
- § Each clip can now store a list of underlying audio files and switch from one to another
- § Clip volume/fade envelope can be pre or post effects send
- § Clip saving as independent file easier
- § Clip file insertion improved
- § Phase of clips file can be inverted

Audio montage rendering

- § Multi-region processing: all marker regions can be rendered in one operation as new files.
- § Option to perform a short cross-fade at the edges of rendered audio ranges for smoother transitions.
- § Shortcut to update a Master Section preset
- § Shortcut to render an audio file range in place.

Miscellaneous

- § Export of clip and marker lists in various formats including XML
- § Batch marker renaming with powerful customisable rules and external importation of information.
- § Flexible marker type converter
- § CD grabber now provides new track renumbering options.
- § Signal generator with extended frequency range up to 96 kHz and linear or exponential sweeps.

Competitive Comparison

Feature	WaveLab 6	Samplitude 8 Professional	Soundforge 8
CD burning Audio / Data	Yes / Yes	Yes / No	With CD Architect / No
DVD-Audio Engine	Yes, w. menu editor	No	No
Destructive / Non Destructive Editing	Yes / Yes	Yes / Yes	Yes / No
Multi channel recording	Yes	Yes	No
Multi channel mastering	Yes	Yes	No
Multi-track Editing	Yes	Yes	No
Surround Bus	Yes (8 Channels)	Yes (6 Channels)	No
Extended Metering Tools	Yes	No	No
Batch Processing	Yes	No	Yes
Audio Looping Tool	Yes	No	Yes
Audio Restoration Tools Online / Offline	Yes / Yes	Yes / Yes	Yes / Yes
Plug-in Support VST / DX	Yes / Yes	Yes / Yes	Yes / Yes
ASIO Support for I/O	Yes	Yes	Yes
External Effects	Yes	No	No
Recording through Plug-ins	Yes	Yes	No
Spectral Editor	Yes	No	Analysis Display only
Loudness-compensated Bypass	Yes	No	No
Integrated File Management	Yes	No	No
Audio Database	Yes	No	No
MP3 / Layer2 Support	Yes / Yes	Yes / Yes (import only)	Yes / No
AES 31 Support	Yes	No	No
MIDI Remote Support	Yes	Yes	Yes
ASIO Time Code Slave	Yes	Yes	Yes
Windows Scripting Support	Yes	No	Yes
Hardware Sampler Support	Yes	No	Yes
Time Stretch / Pitch Shift Algorithm	DIRAC	Magix	Sony
Effect Morphing between files	Yes	No	n.a.
Algorithmix reNOVator interface	Yes	No	No
Suggested Retail Price (incl. 16% VAT)	649,-	999,-	399,-

DVD-Audio Competitive Comparison

Feature	WaveLab 6	Minnetonka diskWelder Chrome	Magix Sequoia
Audio Editing	Yes	No	Yes
Plug-in Effects / Mastering	Yes	No	Yes
Support for CD and DVD - A	Yes / Yes	No / Yes	Yes
Other CD and DVD formats	Yes / Yes	No	No
DVD-Audio grabber	Yes	No	No
Support for all DVD-A channel modes	Yes	No	Yes
Full PCM Audio Support	Yes	Yes	Yes
Support of split surround files w/ free routing	Yes	Yes	No
Support for 9 groups and 99 tracks	Yes	Yes	No
Support for track sub-indexes	Yes	No	No
Graphic menus with still images	Yes	Yes	No
Online Preview	Yes	No	No
MLP Support	No	Yes	No
Slide Show transition effects	Yes	Yes	No
Gap-less track transitions	Yes	Yes	Yes
Hidden tracks	Yes	Yes	No
Audio-in-Pause	Yes	Yes	No
User definably down-mix coeffs	Yes	Yes	No
Preview for down-mix coeffs	Yes	No	No
DVD Text support	Yes	Static only	No
Price (incl. 16% VAT)	649,- €	2995,- €	2.900,- €

System Requirements

Windows

Required:

Intel Pentium / AMD Athlon or Opteron 800 MHz

256 MB RAM

80 MB of free disk space

Windows 2000 or Windows XP

Graphic card with 24 bit or 32 bit resolution

Display Resolution 1024 x 768 pixels

Windows MME compatible audio hardware

CD or DVD-ROM drive

USB component port for copy protection key

Recommended:

Intel Pentium iV / AMD Athlon or Opteron 2.4 GHz or faster

1 GB RAM

Graphics card with 32 bit resolution

ASIO compatible audio hardware

DVD writer

Display Resolution 1280 x 1024 pixels, dual monitor setup

Internet Connection for future updates