

Audacity(R): A Free, Cross-Platform Digital Audio Editor

WWW: <http://audacityteam.org/>

We welcome feedback on Audacity, suggestions for new or improved features, bug reports and patches at:

[feedback@audacityteam.org](mailto:feedback@audacityteam.org) .

Personal support with Audacity is not provided by e-mail, but on our Forum:

<http://forum.audacityteam.org/> .

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Version 2.1.2

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## 1. Licensing

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## 2. Changes since version 2.1.1:

### Changes and Improvements:

#### \* Interface:

- \* Spectrogram settings are now available per track.
- \* Clearer (sharper) display of pitch (EAC).
- \* New 'Spectral Reassignment' option in spectrogram. Good for vocal work.

#### \* Other Changes:

- \* Upgraded the wxWidgets library from wx 2.8.12 to wx 3.0.2. This is the main change in this release.

### Bug fixes:

#### \* Crashes

- \* Crash using 'space' in Selection toolbar context menu fixed.
- \* Crash setting equalization effect parameters in chains fixed.
- \* Crash when pressing both mouse buttons over toolbar buttons fixed.
- \* (Rare) crash or freeze in sound activated recording fixed.
- \* (Rare) crash on using plot spectrum for first time fixed.

#### \* Interface

- \* Equalization effect settings are now saved.
- \* Oversized Export Options window (FFmpeg) now OK on smaller screens
- \* FLAC import/export fast again.
- \* Can now set undefined frequency in Spectral Selection bar.
- \* Imported presets on custom FFmpeg export fixed.

- \* Text input boxes working with VAMP
- \* Keyboard playback commands now work again.
- \* Import Raw Data now works when in Polish language.

\* Mac OS X

- \* Mouse preference bindings now show 'command', not 'ctrl'

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### 3. Known Issues in 2.1.2:

For known issues at release of 2.1.2 please see:

[http://wiki.audacityteam.org/wiki/Release\\_Notes\\_2.1.2#known](http://wiki.audacityteam.org/wiki/Release_Notes_2.1.2#known)

Please also check:

[http://wiki.audacityteam.org/index.php?title=Known\\_Issues](http://wiki.audacityteam.org/index.php?title=Known_Issues)

for details of any issues that have been identified after release of this version.

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### 4. Source Code, Libraries and Additional Copyright Information

Source code to this program is always available; for more information visit our web site at:

<http://audacityteam.org/download/source>

Audacity is built upon other free libraries; some of these libraries may have come with Audacity in the lib-src directory. Others you are expected to install first if you want Audacity to have certain capabilities. Most of these libraries are not distributed under the terms of the GPL, but rather some other free, GPL-compatible license. Specifically:

expat: BSD-like license.

Provides XML parsing. Included with Audacity.

FFmpeg: GPL or LGPL (according to how you obtain/configure it)

Provides decoding/encoding of additional formats. Optional separate download.

libid3tag: GPL

Reads/writes ID3 tags in MP3 files. Optional separate download as part of libmad.

libflac: Xiph.Org BSD-like licence (the parts we use)

Decodes and Encodes Free Lossless Audio Codec files. Optional separate download.

libmad: GPL

Decodes MP3 files. Optional separate download.

libnyquist: BSD-like license.

Functional language for manipulating audio; available within Audacity for effects processing.

libogg: BSD-like license.

Optional separate download, along with libvorbis.

libsndfile: LGPL

Reads and writes uncompressed PCM audio files.

Included with Audacity.

libsoxr: LGPL

The SoX Resampler library performs one-dimensional sample-rate conversion.

libvamp: new-style BSD

Plug-in interface and support library for audio analysis plug-ins.

Included with Audacity.

libvorbis: BSD-like license.

Decodes and encodes Ogg Vorbis files. Optional  
separate download.

lv2: a merging of the lilv (ISC license), lv2 (LGPL), msinttypes, serd (ISC),  
sord, sratom, and suil libraries to support LV2 plug-ins.

portsmf: BSD-like license.

library for reading and writing midi files. Included with Audacity

sbsms: GPL v2

Pitch and tempo changing library. Included in Audacity

SoundTouch: LGPL

Changes tempo without changing pitch and vice versa.

Included in audacity

Twolame: LGPL

Encodes MPEG I layer 2 audio (used in DVDs and Radio). Optional separate download.

wxWidgets: wxWindows license (based on LGPL)

Cross-platform GUI library - must be downloaded and compiled separately.

For more information, see the documentation inside each library's source code directory.

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Additional copyright information:  
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Nyquist

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## 5. Compilation instructions

First you must download wxWidgets. Audacity 2.1.2 requires wxWidgets 3.0.x, preferably 3.0.2, which can be obtained from:

<http://www.wxWidgets.org/> .

The libsndfile library is also required and is included in Audacity obtained from GitHub.

CMake ( <http://www.cmake.org/> ) is required to build the local copy of the libsoxr resampling library used by Audacity, unless you install libsoxr-dev and use that system library.

Installation of other libraries is optional, see:

[http://wiki.audacityteam.org/wiki/Developing\\_On\\_Linux#optional](http://wiki.audacityteam.org/wiki/Developing_On_Linux#optional) .

If you install libraries using a package management system like Apt or RPM, you need to install the "dev" (development) packages for each library.

To compile on Linux, Mac OS X and other Unix systems, execute these commands:

```
./configure  
make  
make install # as root
```

To see compile-time options you can set, you can type

```
./configure --help
```

If you want to do any development, you might want to generate a configure cache and header dependencies:

```
./configure -C
```

make dep

To compile on Windows using MSVC++, please follow the instructions in win\compile.txt in the source code.

To compile using Xcode on Mac OS X, see the instructions in mac/compile.txt.

For more information on compilation, please visit:

[http://wiki.audacityteam.org/wiki/Developer\\_Guide#Platform\\_Specific\\_Guides](http://wiki.audacityteam.org/wiki/Developer_Guide#Platform_Specific_Guides)

or ask at:

<http://forum.audacityteam.org/viewforum.php?f=19> .

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## 6. Previous Changes going back to version 1.1.0

Changes in version 2.1.1:

Bug fixes:

- \* Crashes
  - \* Crash using Undo while dragging sample points
  - \* Crash using File > Close on project window when Screenshot Tools was open.
  - \* FFmpeg Custom Export: Crashes importing presets.
  - \* (OS X) Crash closing Track Gain or Pan adjustment box.

- \* (OS X) Crash closing project window between save project dialogues
- \* (Linux) TAL VST (but not other VST's) crashed if previewing built-in effect
- \* (Linux) SPACE could not be used/could crash in context menus that have a checkbox.

#### \* Interface

- \* LV2 effects did not use parameters when using Chains.
- \* Built in Generators were not usable in Chains.
- \* Plot Spectrum could not change values without losing focus.
- \* Track dropdown menu settings could affect other tracks.
- \* Slight mismatch of vertical scale with linear spectrogram view.
- \* RTP effect Play/Stop button remained deactivated after built-in preview ended.
- \* Contrast: "Move forward or backward through active windows" did not refocus Contrast.
- \* LADSPA and LV2 generate plug-ins failed when white space selected.

#### \* Mac OS X

- \* Confusing behaviour importing / exporting AU presets. In particular, Apple Audio Units silently applied an imported preset.

#### Changes and Improvements:

##### \* Effects:

- \* Built in effects now support presets.
- \* New Limiter effect replaces Hard Limiter effect.
- \* New Crossfade Clips effect to apply a simple crossfade to a selected pair of clips in a single audio track.

- \* Can now add/remove effects from Generate and Effects menus.
- \* New version of Vocal Removal Effect.
- \* Classic Filters' now included as an opt-in effect.

\* Interface:

- \* Much faster editing with larger projects, thanks to a faster method for storing the autosave recovery file.
- \* Performance improvements for Draw Tool and zooming of Spectrogram views.
- \* Zero-padding Spectrograms Preference smooths the image for short window sizes.
- \* Scrubbing and Seeking, including backwards play.
- \* Quick-Play from Timeline enhancements, particularly for looping.
- \* (Windows) Language of Audacity user interface is now set in installer.
- \* More VI usability enhancements for track focus & navigation.

\* Other Changes:

- \* Upgraded to Nyquist 3.0.9 and libflac 1.3.1.
- \* Upgraded LV2 libs, LV2 GUIs on Linux, LV2 factory Presets.
- \* Crash report integration.
- \* Modules can be enabled in Preferences. Mod-nyq-bench available as an experimental module (but not in the default download).

Changes in version 2.1.0:

Bug fixes:

\* Interface:

- \* Typing "j" or "k" in a label track activated the "move cursor" shortcut.
- \* Spectrogram log (f) view displayed incorrectly until vertically zoomed.

- \* Fixed crash after zooming out on vertical scale beyond +/-1.0.
  - \* Selections made with Selection Toolbar were not restored after Undo.
  - \* Undo could fail silently if a selection included/touched a clip boundary.
- \* Imports and Exports
- \* If there were invalid FFmpeg libs in system PATH this prevented Audacity recognising the installed FFmpeg or the FFmpeg specified in audacity.cfg.
- \* Mac OS X:
- \* Fix uninitialized buffer - this should correct playback buzz or crackle where the upper of multiple tracks started with or contained white space.
  - \* Device names were corrupted when using system language other than English.
  - \* Fixed crashes using (external program).
  - \* Waves v9 Audio Units should now work correctly.
- \* GNU/Linux:
- \* Fix "Audacity already running" error when using the command-line or context menu to open multiple or further files.
  - \* Fix segfault exporting an FFmpeg format to an unwritable folder.
  - \* Fix silent failure exporting FFmpeg, MP2 or OGG to an unwritable folder.
  - \* Fix ENTER activated an effect when OK button was greyed out.
- \* Operating system and sound device support:
- \* (Windows) Audacity 2.1.0 requires Windows XP SP3 (32-bit) or XP SP2 (64-bit), Vista, Windows 7, Windows 8 or 8.1.
  - \* (Windows) Audacity is now compiled using Visual Studio 2013.
  - \* (Windows) Recording with WASAPI host now includes experimental support for physical inputs (up to 24-bit depth) as well as loopback recording.
  - \* (OS X) 10.10 (Yosemite) is now supported including Apple Audio Units.

- \* Please report any issues with WASAPI recording/playback or Yosemite to <http://audacity.sourceforge.net/contact/#feedback> .
- \* (Linux Ubuntu) Under Unity, keyboard shortcuts are not visible in the Audacity menus. Keyboard shortcuts are visible if you install the classic GNOME Flashback interface or under Unity if you open Audacity with the `UBUNTU_MENUPROXY=0` environment variable. Audacity compiled from source will ship with `src/audacity.desktop.in` set to `UBUNTU_MENUPROXY=0` but it will remain up to distributions to use this desktop file.

#### Changes and Improvements:

##### \* Effects:

- \* LADSPA, VST and Audio Unit (OS X) effects now support real-time preview, save/load of user presets and saving effect settings across sessions.  
Note: Real-time preview does not yet support latency compensation.
- \* VST effects now support import/export of FXB preset banks.
- \* Shell VST effects that host multiple plugins are now supported.
- \* All Effect Menu items (built-in or plugin) can now be used in a Chain.
- \* Items in the Effect, Generate or Analyze Menus can be sorted or grouped by name, publisher or class of effect.
- \* Noise Removal is improved and renamed to "Noise Reduction".
- \* Change Speed has new time controls for current and new length. You can now enter the speed change as a multiplier e.g. "2" is twice as fast.
- \* New "Crossfade Tracks" effect can be used for crossfading two tracks.  
This replaces Cross Fade In and Cross Fade Out.
- \* Nyquist Prompt and most shipped Nyquist effects now have Preview button.

##### \* Interface:

- \* Redesigned Meter Toolbars: The default shows separate Record and Playback

Meters, half-height so they can be wider while docked, in gradient style.

- \* A frequency selection can now be made (and spectral edit effects applied to those frequencies) when in a spectrogram view. You can also create or adjust frequency selections in a new "Spectral Selection Toolbar" (available at View > Toolbars).
- \* Transcription Toolbar (Play-at-speed) can now loop play and cut-preview.
- \* Timer Record now saves recordings automatically into an existing project.
- \* New Armenian translation.

Changes in version 2.0.6:

Bug fixes for:

\* Interface:

- \* Region Restore did not restore the region after using Preferences.
- \* Dragging selections with the keyboard or Selection Toolbar digits was very slow.
- \* (Windows) Help > About Audacity crashed when run in Magyar language.
- \* (OS X) Some full and reduced Menu Bar items were not translated.
- \* (OS X and Linux) Fixed various interface crashes.

\* Effects:

- \* Reverb and Paulstretch were missing from Chains.
- \* Analyze > Contrast could report very inaccurate rms levels.
- \* Noise Removal: Attack and decay times were half as long as set.
- \* (OS X and Linux) Nyquist effects ran much more slowly than on Windows.

\* Click or drag on the Timeline after Loop Play continued to loop.

\* Transcription Toolbar did not play slower than 0.1x speed.



- \* (Linux) Audacity did not build if python 2 was not available.
- \* Projects did not reopen correctly if they contained tracks having  $2^{31}$  samples or greater of audio (just over 13.5 hours at 44100 Hz).

#### Changes and Improvements:

##### \* Interface:

- \* Redesigned, searchable Keyboard Preferences with Tree, Name and Key views.
- \* Edit Menu: "Cut" and "Delete" are now in the top level of the menu.
- \* Transport Menu now includes "Play/Stop" and "Play/Stop and Set Cursor" (use Keyboard Preferences to create shortcuts for "Play" and "Stop").
- \* Tracks Menu now includes "Mix and Render to New Track".
- \* Track Drop-Down Menu now has Move Track To Top and Move Track To Bottom.
- \* New right-click menu choice "Delete Label" to remove single labels.
- \* "Snap To" now offers choice of snap to the "closest" or "prior" position.  
Note: the previous "Snap To On" keyboard shortcut will no longer work.
- \* "Snap To" settings are now independent for each project.

##### \* Effects:

- \* Truncate Silence: redesigned with simpler option "Truncate Detected Silence" to shorten to the specified length without compressing silence.
- \* VST effects: New "Settings" dialog lets you specify buffer size (for faster processing) and enable buffer delay compensation (to prevent inserted silence). Compensation may cause a crash in a few plug-ins.
- \* VST effects now support standard FXP presets.
- \* LV2 effects are now supported on all platforms (textual interface only).

- \* Import or export using FFmpeg now requires FFmpeg 1.2 or later (or libav

0.8 or later). For recommended downloads of recent FFmpeg please visit:

[http://manual.audacityteam.org/o/man/faq\\_installation\\_and\\_plug\\_ins.html#ffdown](http://manual.audacityteam.org/o/man/faq_installation_and_plug_ins.html#ffdown) .

- \* New Tamil translation (largely complete).
- \* (Windows) FLAC exports can now exceed 2 GB in size.
- \* (OS X) Easier Audacity installation using the DMG: drag the Audacity folder to the /Applications shortcut.
- \* (OS X) Audacity 2.0.6 will not officially support OS X 10.10 Yosemite when released (in particular, Apple Audio Units may not open in Audacity).
- \* (Linux) Self-compiled builds of Audacity now search for system LADSPA effects in /usr/lib/ladspa.

Changes in version 2.0.5:

Bug fixes for:

- \* Shaped dither was corrupted and too loud on all stereo exports except FLAC.
- \* Keyboard Preferences: some Edit and Align commands for different sub-menus showed the same name.
- \* Recordings stopped with "Stop and Set Cursor" shortcut could not be undone.
- \* In locales that use comma for decimal separator:
  - \* Text boxes with slider in Nyquist effects only produced whole numbers when using comma to enter a fractional number. Text boxes without slider still have this problem.
  - \* Built-in generators produced silence after running a Nyquist effect.

- \* (Windows) When first changing to Windows WASAPI host, the input volume slider in Mixer Toolbar was enabled when it should have been permanently disabled.
- \* (Windows) On some machines, launching Audacity then recording from the current Device Toolbar input would not record until the input was reselected.
- \* (OS X) Frequent crashes occurred on importing audio files on some machines.
- \* (OS X) Files did not open using Finder "Open with", double-clicking the file or dragging the file to the Audacity icon.
- \* (Linux 64-bit) Fixed a crash when using Equalization.
- \* (Linux) It was not possible to open an effect or other dialog then navigate through the dialog using TAB.
- \* (Linux) The Play shortcut did not play a read-directly WAV, AIFF or FLAC import if the warning for importing uncompressed files appeared.

#### Changes and Improvements:

- \* Tracks Menu:
  - \* The separate commands that aligned track start or end with the cursor or with selection start are combined into "Cursor/Selection Start" commands.
  - \* "Align and Move Cursor" renamed to "Move Selection when Aligning".
- \* Label Tracks:
  - \* Labels Editor now allows empty labels to be saved on closing the editor.

\* TAB and SHIFT+TAB when the label track has focus now always move forwards or backwards respectively to the nearest label.

\* (Windows) On a very few machines, the Windows WDM-KS low latency audio host introduced in Audacity 2.0.4 caused Audacity to hang or the computer to crash. WDM-KS has been removed from 2.0.5 until it can be safely enabled.

\* (Windows and OS X) Screen reader improvements for Install VST Effects dialog.

\* (OS X) Audio Unit plug-ins detected by Audacity on launch are now not loaded until chosen from the Effect menu. This should speed up launch and avoid crashes at launch due to misbehaving Audio Units.

\* (Linux) Update to PortAudio r1910 fixes memory and other bugs under ALSA.

\* (Linux) Applied fix for wxGTK 2.8.12 bug which resulted in loss of Audacity's menu bar (or visual corruption under Unity) on Debian-based systems.

Changes in version 2.0.4:

Bug fixes for:

\* Keyboard Preferences: Shortcuts for Generators, Effects and Analyzers were not exported. All imported shortcut changes were discarded.

\* Equalization curves were corrupted in Graphic EQ mode after switching to/from Draw Curves or after running the effect then reopening it.

\* Change Pitch displayed corrupted values when reducing pitch or editing "from" Frequency. Detection was very inaccurate at high sample rates.

- \* Bass Boost no longer clips if the track contains 32-bit audio.
- \* Auto Duck was excessively slow on older machines.
- \* (Windows) Exported MP3 comments tags were not seen by Windows programs.
- \* (Windows and OS X) Audacity crashed if you used system quit before file import was complete.
- \* (Linux) Equalization crashed Audacity if the XML file was corrupted.
- \* (Linux) When configuring effect parameters in "Edit Chains", "Preview" (not intended to be functional) caused a crash.
- \* (Linux) LICENSE.txt and README.txt were wrongly installed in /usr/local/share/doc instead of /usr/local/share/doc/audacity/ .
- \* Accessibility: ENTER did not toggle selectedness of a label track unless a label was selected.
- \* Numerous other interface fixes.

#### Changes and Improvements:

- \* New "Reverb" effect to replace GVerb, based on the original "Freeverb".
- \* New View > Go to Selection Start and Go to Selection End commands.
- \* New "Align End to End" command to append existing tracks to each other.
- \* Change Tempo now supports fractional BPM.
- \* Plot Spectrum now supports FFT sizes up to 65536.
- \* WAV files now support "Album Title", "Track Number" and "Genre" LIST INFO tags and also support ID3 tags.
- \* Handle a bug in older iPods or some OS X applications that cause them to refuse AIFF files whose metadata contains an uneven number of characters,
- \* (Windows) Added support for "Windows WDM-KS" host which can provide very low latencies if you reduce "Audio to Buffer" in Recording Preferences.
- \* (Windows Vista and later) You can now record computer playback by choosing

the new "Windows WASAPI" host in Device Toolbar then a "loopback" input.

- \* (Windows and Mac OS X): VST scanning dialog now replaced with a dialog for choosing which VST effects to load.
- \* (Linux) CTRL + ALT can now be used to smooth samples in Draw Tool.
- \* Modules Preferences replaced with a dialog on launch of Audacity enabling you to choose which modules to load.

Changes in version 2.0.3:

Bug fixes for:

- \* Crash using Undo whilst time-shifting a track.
- \* Crash using Repair if the selection extended into an empty track.
- \* Export Multiple didn't prevent export if there was no audio or all audio was muted. This allowed export of small invalid files.
- \* Time Track:
  - \* Loop Play of a speeded-up track inserted silence.
  - \* Playback and rendering was significantly inaccurate, creating audible and visual glitches.
- \* Accessibility:
  - \* The mnemonics character "&" was read out by screen readers in most of the Preferences choices.
  - \* NVDA did not read static text in most dialogs. Text can now be read by using INSERT + B.
  - \* JAWS and Window-eyes misread the "Duration" control in Silence Generator.

- \* Toolbar buttons could not be pressed by ENTER

- \* Other interface bug fixes.

#### Changes and Improvements:

- \* The SoX Resampler library (libsoxr) has replaced libresample in Audacity releases, offering both higher quality and greater speed. .

- \* Time Tracks new features:

- \* "Set Range" now changes only the range of the Time Track, preserving the pitch/speed set by any existing warp points.

- \* Vertical scale added with options for linear and logarithmic display and interpolation.

- \* Upper and lower speed limits will now be remembered when saving and reopening a project in 2.0.3. Warp points in projects saved by previous Audacity versions will be correctly restored in 2.0.3.

- \* Warp points saved in a 2.0.3 project will be preserved if opened in previous versions but playback and display will be incorrect.

- \* New effects:

- \* Studio Fade Out (uses a filtered "S" curve).

- \* Adjustable Fade (accessible effect for creating partial fades and adjustable fade shapes).

- \* Bass and Treble (replaces Bass Boost).

- \* Real sample rates up to 384000 Hz are now supported for playback and recording in high resolution devices (the maximum is up to

192000 Hz for Windows DirectSound host).

- \* Labeled Regions in Edit Menu is renamed to "Labeled Audio" and now allows splits to be placed at point labels. Labeled audio regions that touch without overlapping are treated as separate regions. Overlapping labeled audio regions are treated as a single region.

- \* Compilation: cmake is required in order to build libsoxr.

- \* New Croatian translation of Audacity.

Changes in version 2.0.2:

Bug fixes for:

- \* Interface:

- \* "Retain labels" Interface Preference did not retain labels for a region that snapped exactly to both label edges.

- \* Projects did not save the track selected state.

- \* (OS X, Linux) Timer Record: Interlinking of the Start, End and Duration controls was broken.

- \* (Windows) JAWS screen-reader did not read the "Draw curves" and "Graphic EQ" radio buttons in Equalization correctly.

- \* Envelopes and Clips:

- \* Exporting (or any render operation) on a track containing split lines could create clicks at the split lines.

- \* Dragging a clip into another track caused a crash if Sync-Lock



Tracks was enabled and there was also a label track.

\* Effects and Analysis:

- \* Normalize could crash if the track name contained "%".

Changes and Improvements:

- \* Duration controls when generating at a point now default to hh:mm:ss + milliseconds format. Selection Toolbar also defaults to that format on first installation or resetting preferences.
- \* Toolbars visual improvements:
  - \* "Snap To" in Selection Toolbar now has an explanatory tooltip.
  - \* Device Toolbar tooltips now display the selected device.
  - \* Increased default width of Device Toolbar and Meter Toolbar.
- \* Improvements and some bug fixes to Nyquist effects, including:
  - \* Delay (new option to prevent duration change)
  - \* Sample Data Export (new "L-R on Same Line" layout option)
  - \* Risset Drum (new "Amplitude" slider).
- \* Importing a labels file writes the file name to the name of the Label Track, and exporting a labels file offers the name of the last Label Track in the project.
- \* Removed the "Audio cache" option from Directories Preferences due to frequent crash reports. All data operations will now be written to disk and not to RAM.
- \* Removed the FFmpeg "On-Demand" option from Libraries Preferences (this fixes Audacity not building if configured --without-ffmpeg).
- \* Compilation: Progress on making the Modules feature mainstream. Modules can now be individually enabled and disabled in Preferences.

## Changes in version 2.0.1:

### Bug fixes for:

#### \* Interface:

- \* Selection Toolbar: a value for the previous whole second displayed if the value was close to a whole second.
- \* Finding zero crossings could cause the selection to expand into white space at either side of the clip.
- \* Clips did not drag to another track if mouse was over a selection.
- \* Mixer Board: Rendering four tracks resulted in a redundant Track Strip followed by a crash.

#### \* Imports, Exports and Files:

- \* Exporting to WAV or AIFF led to a "Libsndfile says" error or corrupted output due to order of metadata in imported files.
- \* (Mac) Fixed crashes importing MP3 files on PPC machines.
- \* (Linux Ubuntu) .Aup files could not be associated with Audacity (they opened in the web browser instead).

#### \* Effects and Analysis:

- \* Normalize: Fixed issues where normalization could be to wrong value if applied with DC offset correction, or if applied to "read-directly" WAV and AIFF files before On-Demand completed.
- \* Sliding Time Scale: fixed an audible discontinuity at the beginning of the processed selection; fixed a serious quality problem on Linux 64-bit.

- \* Other miscellaneous bug fixes, including fix to prevent zooming with mouse wheel or ball scrolling the content off-screen.

#### Changes and Improvements:

- \* Shortcuts can now be added in Keyboard Preferences to items in the Generate, Effect or Analyze menus, including user-added plug-ins.
- \* Nyquist Effect plug-ins can now be added to Chains.
- \* New "Paulstretch" effect for extreme slowdown without pitch change.
- \* New "Sample Data Export" Analyze effect for exporting a file containing amplitude values for each sample in the selection.
- \* New Preference (off by default) to import files On-Demand (without seek ability) when using the optional FFmpeg library.
- \* New Preference (off by default) to retain labels when deleting a selection that snaps to the label without extending past it.
- \* (Windows installer) New option to reset Preferences on next launch.
- \* (Mac) Audacity now has excellent compatibility with the VoiceOver screen reader. For details, please see:  
<http://manual.audacityteam.org/help/manual/man/accessibility.html#mac> .

- \* CleanSpeech Mode (no longer supported) will not now be enabled even if it was enabled by an earlier version of Audacity.

- \* Added Serbian (Latin and Cyrillic) translations.

Changes between version 1.3.14 Beta and 2.0.0:

Bug fixes for:

- \* Interface:

- \* Fixed playback speed and synchronization problems when dragging clips or tracks between tracks having different sample rates.

- \* (Windows) Removed a crash risk where shortcuts could be used to record or import in one project while importing or exporting in another.

- \* Imports and Exports:

- \* Fixed crashes when changing the sample format of read-directly WAV or AIFF files using the Track Drop-Down Menu.

- \* Fixed a crash importing MP3 files that had duplicate metadata tags (this is a bug in current libsndfile which has been patched in Audacity; MP3 files mislabeled as WAV which have duplicate tags will still crash Audacity on Linux if Audacity has been compiled against an affected version of system libsndfile).

- \* Fixed an issue where excessively high or corrupted sample values in the audio could corrupt exports from the start of the problem for the rest of the file, and could corrupt the rest of the project.

- \* (Linux) Fixed Audacity could not be compiled against FFmpeg

0.7.x and 0.8.x.

\* Effects and Analysis:

- \* Fixed crash on launch when using "Ambisonic Decoders (PC)" VST plug-ins and other plug-ins that enable additional floating point exceptions.
- \* Fixed Plot Spectrum background could be transparent on some machines.
- \* Bug fixes for Click Track, High Pass, Low Pass and Vocal Remover.
- \* Chirp, Tone and Silence generators now remember their settings.

\* Other miscellaneous bug fixes.

Changes and Improvements:

- \* New Interface preference to show the track name in the display (this is off by default).
- \* Longer default Playback preference for effects preview and preview before cut.
- \* Restored use of Page Up and Page Down to scroll horizontally.

Summary of bug fixes and new features between 1.2.6 and 2.0.0:

\* Bug Fixes:

- \* Labels now accept lower case "z".
- \* (Windows Vista/7) Pressing Stop after recording could cause a crash.
- \* (Mac OS X) Fixed shortcut keys activating when typing in file open or

save windows.

\* (Mac OS X) Audacity 2.0.0 fully supports Unicode, which fixes an issue where Audacity could not work with folders having non-English characters in their name.

\* (Linux) Playing existing tracks while recording in mono could cause recordings to be distorted or low-pitched.

\* New features: There are dozens of new features in 2.0.0, including:

\* Many effects significantly improved, especially Equalization, Noise Removal and Normalize. Vocal Remover now included plus GVerb on Windows and Mac. VAMP analysis plug-ins now supported.

\* Improved label tracks with Sync-Lock Tracks feature in the Tracks Menu. Multiple clips per track. Tracks and selections can be fully manipulated using the keyboard. Many more keyboard shortcuts.

\* New Device Toolbar to manage inputs and outputs. Timer Record feature. New Mixer Board view with per-track VU meters.

\* Automatic Crash Recovery in the event of abnormal program termination.

\* Fast "On-Demand" import of WAV/AIFF files if read directly from source. FLAC now fully supported. Added support for optional FFmpeg library for import/export of AC3/M4A/WMA and import of audio from video files.

Please visit <http://audacity.sourceforge.net/about/features> for a full list of features in 2.0.0. You can click Help > Manual (in web browser) in the program to read more.

Changes in version 1.3.14 Beta:

## Bug fixes for:

### \* Interface:

- \* Excessive delay occurred when typing into labels in long projects.
- \* Last digit of TimeText controls could not be manipulated in some formats.
- \* (Windows, OS X) Play and Record shortcuts did not work after clicking in Device Toolbar.
- \* (OS X, Linux) Crash occurred if Toolbars were reset during playback or recording.

### \* Imports and Exports:

- \* MP2 files were not importable without FFmpeg library or an import rule.
- \* Files that could only be imported using FFmpeg imported as noise with no error message if FFmpeg was not available.
- \* Files containing PCM audio but an incorrect extension (such as MP3) caused a freeze.

### \* Effects and Analysis:

- \* An empty command could be added to a Chain which then displayed a Nyquist error message when run.
- \* Plot Spectrum didn't preserve signal level if multiple tracks were analyzed.

### \* Other bug fixes:

- \* Audacity has been provisionally fixed so that it can no longer create block files longer than the sample format or project format allows, and can no longer delete these, which led to data loss. Any overlong blocks found are preserved but "orphaned", so will appear as silence.
- \* Orphan block files were wrongly reported if cutting or copying to

the clipboard then reopening the project in the same session.

- \* Fixed some crashes and incorrect movement of audio when dragging tracks.
- \* (Windows) Data loss is now prevented when encountering a corrupted .aup file created in ANSI builds.
- \* (Linux) Restore building if USE\_PORTMIXER is not defined.

#### Changes and Improvements:

- \* Normalize: Faster processing and improved interface. Left-right balance in unsplit stereo tracks is now preserved by default, with a checkbox option provided to process stereo channels independently.
- \* Spectrograms now allow window sizes up to 32768 and frequencies up to half the sample rate (the maximum possible).
- \* Mix and Render now preserves clip length by not rendering white space between time zero and first audio, and preserves audio before time zero. To retain silence before the audio starts, generate silence after render.
- \* Grouped some Edit Menu items into "Remove Audio" and "Clip Boundaries".
- \* CleanSpeech Mode removed from Interface Preferences (it still runs if it was enabled in a previous Audacity but can only be turned off there).
- \* (OS X) Added support for AudioUnit MusicEffects (but no MIDI support).
- \* (Linux) Set the per-user files directory per the program name set in configure.
- \* (Linux) Changed the default location of the Audacity temporary directory to be in /var/tmp not /tmp, so preserving the directory between reboots.

#### Changes in version 1.3.13 Beta:

#### Bug fixes for:



\* Interface:

- \* Cutting or copying from a track at a given sample rate into a track at another rate resulted in speed-changed audio.
- \* Generating inside a clip could modify the clip length or create spurious clips.
- \* Recorded stereo tracks were only half the height of imported or generated stereo tracks. Imported stereo files had a "1" appended to the track name.
- \* Edit > Region Save did not save the cursor position.
- \* (Windows) Projects crashed when clicking rapidly inside the interface or when applying repeated effects towards the end of audio tracks.
- \* (Windows) Some Unicode characters could not be typed into labels, or caused a freeze using some input methods.
- \* (OS X) Crash when quitting an empty project window, or when closing the main project window while a progress dialog was on screen.
- \* Numerous other interface fixes including Dependencies dialog, Keyboard Preferences and spurious lines drawn on waveform.

\* Imports and Exports:

- \* Support added for later versions of the optional FFmpeg library up to current FFmpeg HEAD. This should significantly improve FFmpeg support on Linux. FFmpeg downloads for Windows and Mac updated to v0.6. This fixes mono AAC files importing as stereo, though current 0.5 versions of FFmpeg will still work.
- \* Both FFmpeg and LAME should now be properly detected even when other versions of those libraries exist on the system.
- \* New warning (on by default) for importing uncompressed audio files. Better error messages when read-directly uncompressed files are missing.

- \* Imported ID3v2 metadata tags were removed when exporting without the Metadata Editor appearing (for example, when using an export command in Chains). Note: As a result of this fix, ID3v1 tags must now be written by exporting using (external program) and an installed LAME.
- \* U-Law/A-Law files with WAV headers now use the standard 18 byte fmt chunk, so should now be recognised by most telephony applications.
- \* Variable bit rate MP3s exported using "MP3 Files" were larger than necessary because using the bit reservoir was disabled.
- \* (OS X) Files imported from iTunes could create invalid characters in the .aup project file, causing an error when re-opening the project. Note: An error "reference to invalid character number" will still occur if re-opening a project created in previous Betas that contains such characters. To fix the issue, open a back-up copy of the .aup file in a text editor, turn off word wrap, then in the line indicated in the error message, remove the string of characters that starts with &# and ends with a semi-colon (;).
  
- \* Other bug fixes:
  - \* Nyquist effects: fixes for crashes, incorrect slider behaviour and better support for backslashes, double quotes and Unicode characters.
  - \* (Windows and OS X) Processing of VST effects was substantially slower than in previous versions of Audacity.
  - \* (OS X 10.5 PPC) A first-time installation of Audacity Beta would hang on launch if VST effects were detected.
  - \* (Linux) Recordings made with the pulse device crashed or stalled when using overdub and/or software playthrough.
  - \* (Linux) Play-at-Speed crashed at 0.08 speed or lower if Audacity was configured with libsamplerate.

## Changes and Improvements:

- \* Control Toolbar renamed to Transport Toolbar.
- \* Device Toolbar (on by default) now contains all input and output device choices, including host and recording channels. Input/output choices are no longer in Mixer Toolbar on Windows XP or some older operating systems.  
New Transport > Rescan Audio Devices menu item to refresh the device list.
- \* New "Sync-Lock Tracks" feature (turned on in the Tracks menu) to allow groups of audio and/or label tracks to retain synchronisation when the track length changes.
- \* Equalization: New "Manage Curves" dialog for importing and exporting curves.
- \* Noise Removal: New "Sensitivity" slider to adjust the noise threshold, and new option to isolate noise.
- \* New "Extended Import" Preferences for specifying different importers to open specific file extensions.
- \* Improved Automatic Crash Recovery with all project changes autosaved.
- \* MIDI tracks can be vertically zoomed, time shifted and display bar lines.  
Note: the channel selection buttons are not available in 1.3.13.
- \* (Windows and Linux) The window Close button and other system close or shutdown commands now quit on closing the last window. File > Close now always clears to a new, empty project.
- \* (OS X) Simpler installer with top-level "Audacity" folder.

## Changes in version 1.3.12 Beta:

### Bug fixes for:

- \* Imports and Exports:

- \* AAC files could not be exported at 48000 Hz
- \* When importing multiple native file formats using FFmpeg, all files after the first reverted to using the native importer
- \* FFmpeg custom export window too large on 800 x 600 resolution monitors
- \* Projects froze if files imported via On-Demand were no longer available
- \* (Linux) WAV/AIFF exports were corrupted if overwriting an aliased file which had been imported using the command line

\* Labels:

- \* Cutting or deleting a region in the waveform and label track did not move the labels in advance of the cut
- \* Incorrect behavior snapping to labels and boundaries when Snap To was enabled
- \* Labels can now be reversed if included with the audio selection

\* Other bug fixes:

- \* When using non-English languages, Generate effects truncated the selected region
- \* Mice with high-precision scroll-wheels could cause a crash
- \* Changing recording preferences using the Transport menu did not update the menu in other open projects
- \* (Windows 7) Clicking in a file open or save dialog caused files or folders to disappear from the list, and file filtering was broken

Changes and improvements:

- \* A hover tooltip is now provided if the Mixer Toolbar input selector

cannot control the system slider for the selected input.

- \* More intuitive behavior when moving and resizing labels by dragging
- \* Support added for importing lists of files (LOF) containing relative paths
- \* Export Multiple: new option to use a numerical prefix before existing label or track names; "Success" dialog now resizable
- \* New Equalization preset "Inverse RIAA", with new button to invert other curves
- \* Timer Record now remembers last scheduled duration
- \* Meter Toolbar can now be made much narrower, and so more suitable for vertical orientation
- \* New Preferences choice for "System" language which is used on first run instead of asking user to choose language
- \* Warning now provided if WAV/AIFF exports are not successfully completed
- \* (Linux) Improved icon set in compliance with freedesktop.org Icon Theme Specification 0.6

Changes in version 1.3.11 Beta:

Bug fixes for:

- \* Imports and Exports:
  - \* Bug when exporting partial selections caused too much audio to be exported is fixed.
  - \* Fix corrupt files exported through FFmpeg when metadata included, (metadata is now exported correctly in M4A files)
  - \* Prevent saving a new Audacity Project over an existing one as this

could corrupt both projects.

- \* Improved help for files that cannot be imported because the relevant optional library is missing.

\* Effects:

- \* Allow effects which change the length of the audio they work on to also be applied to selected label tracks, thus keeping them synchronized.
- \* Fixed inability in Nyquist plug-ins to add labels to an existing label track
- \* (Mac) Equalization window was corrupted after Preview
- \* (Linux 64-bit) Fixed crash Generating Click Track

\* Audio Devices:

- \* Fixed bug causing recording to stop short when the recording sample rate is not supported by the sound device and libsamplerate is used for resampling.
- \* Fix crash when opening Preferences on a machine where there are no available audio devices.
- \* Fixes for bugs using Timer Record and Sound Activated Recording

\* User Interface:

- \* Sizes of some dialogs adjusted to ensure they fit on the screen.
- \* Fix for supposedly "hidden" items appearing on screen with large monitors.
- \* Various keyboard shortcut and translation fixes.

\* Other bug fixes:

- \* Several timing-dependent crashes and minor incorrect behaviors have been fixed
- \* Windows installer now installs correctly over previous versions of Audacity

Changes and improvements:

- \* (Windows) Better icon file with higher resolution and transparency
- \* New SoundFinder plug-in to label regions of audio between silences, so allowing silences between tracks to be excluded when exporting multiple

Changes in version 1.3.10 Beta:

Bug fixes for:

- \* Imports and Exports:
  - \* Freeze importing audio files when Default View Mode set to Pitch (EAC)
  - \* Simultaneous On-Demand imports sorted incorrectly
  - \* WAV or AIFF files imported as noise if Preferences set to copy in the data at 24-bit quality
  - \* WMA exports corrupted if they contained metadata
  - \* Metadata Editor appeared before the Export window when exporting to any format
- \* Effects:
  - \* Crash or hang using Equalization on longer tracks
  - \* Reverse did not reverse clip boundaries
- \* Nyquist:
  - \* Excessive memory consumption led to slow processing or crashes
  - \* Values appearing in Nyquist effects text boxes were not

always the default or previously entered values

- \* Errors running Nyquist effects in European locales where comma used as decimal separator
- \* VST effects remained in Effect menu even when re-scanned and no longer available
- \* Truncate Silence produced incorrect results if silences spanned a block boundary
  
- \* Other bug fixes:
  - \* Spurious "not writable/disk full" errors when saving projects
  - \* Playing, rendering or exporting multiple tracks led to desynchronised playback or loss of audio data
  - \* Crash opening Preferences when no recording and/or playback devices enabled or connected
  - \* Preferences window: OK button did not respond to ENTER when a tab selected in left-hand panel
  - \* Mixer Board solo button handling
  - \* (Windows) After a period launching correctly, Audacity sometimes did not come up on top at launch
  - \* (Mac OS X) Correctly installed Help folder could not be found
  - \* (Mac OS X and Linux) Output slider could affect VU playback meter which then did not reflect actual waveform volume level
  - \* (Linux) Undoing or redoing a label edit could cause a crash

#### Changes and improvements:

- \* Linked audio and label tracks disabled until a future Beta version so they can be bug fixed
- \* Input volume slider will be disabled if it doesn't have proper



control of system slider; use the system slider instead

- \* Proper support for copying/pasting label-with-audio including label text; new Edit > Paste Text to New Label menu item to paste system clipboard
- \* Contrast Tool now modeless, more intuitive handling of multiple project windows, various other minor improvements

Changes in version 1.3.9 Beta:

Bug fixes for:

- \* Crash, slow launch or excessive CPU/memory use arising from automatic VST support:
  - \* VST instrument plug-ins should now be correctly ignored
  - \* VST effects now scanned only at start of first session that detects them, then cached; effects are now not loaded or opened until needed
  - \* New "Effects" tab in Preferences to enable/disable VST effects and enable VST rescan on next launch
- \* Default View Mode now works
- \* Chains now always apply their stored parameters rather than those last used in Effect menu
- \* Non-MP3 files imported via drag or Recent Files caused crash if filter in file open window set to MP3
- \* AAC exports (using the optional FFmpeg library) were silenced
- \* Generating audio always fitted the project in the window; fit now done only if generating in new track
- \* View menu items/shortcuts incorrectly disabled when playing

or recording

- \* DTMF generator defaulted to zero duration on open
- \* Unwanted interactions between linked audio and label tracks
- \* Noise Removal shifted clips if the selection region included white space
- \* (Windows XP) Failure to launch on some machines due to "incorrect configuration" issue
- \* (Windows) Crash importing a stereo file while a screen reader such as JAWS is running
- \* (Mac OS X):
  - \* Audio Units effects applied to all tracks in project even if not selected
  - \* QuickTime importer now handles files greater than 16-bit or 64000 Hz
- \* Various other interface bugs

#### Improvements:

- \* Compressor: new option to compress based on peaks, improved attack and decay time support
- \* Mixer Board: improved design, more responsive meters and now interacts fully with Track Panel in main window

#### Changes in version 1.3.8 Beta:

#### New Features:

- \* Effects and Analysis:
  - \* VST Effects now display GUI by default
  - \* Faster Equalization and Noise Removal; improved

## Truncate Silence and Click Track

- \* Chains applied to files now clear temporary data after processing each file
- \* Updated Nyquist implementation with support for SAL syntax and improved memory management
- \* Plot Spectrum now analyzes up to 237.8 seconds of audio, with separate windows for each project and improved display; new preferences for Spectrograms
- \* Contrast Analysis tool now modeless for easier use
- \* Interface:
  - \* Draft Manual/Quick Help included in Windows and Mac installers
  - \* New "Mixer Board" view with per-track VU meters
  - \* Mute, solo, gain, pan and track height saved in projects
  - \* More compact Preferences window with easier-to-use Keyboard tab and new toolbars shortcuts
  - \* New Screenshot Tools and improved screen reader support
- \* Other:
  - \* Record more than 16 channels (hardware/drivers permitting)
  - \* Improved support for non-mmap ALSA devices such as PulseAudio
  - \* 32-bit float data over 0 dB now handled without clipping
  - \* "Stop" option when importing preserves already imported data
  - \* AMR NB import/export now supported if the optional FFmpeg library is installed
  - \* Faster waveform drawing and better response in multi-track projects

## Bug fixes for:

- \* Export Multiple: failed with no export or warning if empty

- label encountered; silenced project and exported files if  
overwriting imported WAV files without copying the data in
- \* Metadata Editor hidden if it was on a now unavailable second monitor
  - \* Misaligned audio after "Split New" or Noise Removal effect
  - \* Incorrect label movement and paste with linked audio and label tracks
  - \* Equalization, Cut Preview and Advanced Mixing Options dialog
  - \* (Linux) Mixer Toolbar should now adjust levels and select input sources properly
  - \* "Audio cache" preference caused crashes - data is now only cached in memory if available RAM is above a level defined in preferences
  - \* Various other crashes

#### Changes in version 1.3.7 Beta:

##### Cross-platform Bug Fixes:

- \* Muting/soloing caused incorrect channel results in exported stereo files
- \* Noise Removal and all Nyquist effects pasted the original unmodified audio at the end of the modified region
- \* Noise Removal inserted a tail of low level noise at the end of the modified region
- \* Nyquist and Compressor plug-ins did not display moving bars in progress dialog and over-estimated "Remaining Time"
- \* Cancelling Nyquist effects deleted unprocessed audio
- \* Change Speed and Change Tempo failed to modify the original

selection length

- \* Cut lines invisible
- \* Fixed various bugs importing multi-stream files via FFmpeg
- \* File > Export as WAV could be corrupted if overwriting an imported WAV read direct from the file
- \* Export multiple "Other uncompressed files" choice always produced 16-bit PCM audio irrespective of chosen options.
- \* MP3 export usually produced a 128 kbps constant bit rate file irrespective of chosen options; reported length often incorrect
- \* MP3 ID3 Genre tag misread on import if the genre list in Metadata Editor was opened and saved
- \* Exported metadata tags in MP3, OGG and FLAC often not seen by player software - now substantially improved
- \* WMA exports (via FFmpeg) corrupted if metadata tags included
- \* Some multi-channel recording devices that previously recorded more than two channels no longer did so
- \* Generated audio did not fit in window
- \* No warning was given when saving an empty project
- \* Beep on completing longer process did not work on many systems
- \* fixed crashes importing lists of files (.LOF), in Meter Toolbar and Change Speed

#### Platform-specific Bug Fixes:

- \* Windows Vista: crash opening Preferences with no sound devices enabled and connected
- \* Mac OS X and Linux:
  - \* Spurious clipping at start of playback

- \* Labels did not accept certain legal characters
- \* Shortcuts did not work after running effects
- \* Project Rate did not change to respect rate of first imported file if that rate was unsupported
- \* Mac OS X only:
  - \* Crash resizing project window
  - \* Menu items became inactive or visibly corrupted
  - \* File > Open dialog did not always work on OS X 10.4
  - \* Impossible to set independent Command and Control shortcuts that shared the same key
  - \* Freeze importing uncompressed files via On-Demand (please report any remaining instances of this to: [feedback@audacityteam.org](mailto:feedback@audacityteam.org))
  - \* Portable settings were not picked up, instead settings were taken from the default location
  - \* Fixed unavailability of FFmpeg installer

#### New Features:

- \* F11 Full Screen mode
- \* High-quality "Sliding Time Scale/Pitch Shift" effect
- \* Audio Contrast Analyzer for testing audio on the internet for WCAG2 accessibility compliance.
- \* Windows: sound devices can now be opened using the more efficient DirectSound API

#### Other changes:

- \* Latency correction should be improved for many users by employing a fixed rather than variable correction
- \* Grouping of Effects into categories turned off until

a way is added for users to do so themselves

- \* Numerous minor interface improvements such as Metadata Editor navigation, new "hh:mm:ss + hundredths" selection format
- \* Note: Windows users wanting to export MP3 files will require the latest version of the LAME encoder from <http://lame.buanzo.com.ar/>

Changes in 1.3.6 Beta (since 1.3.6a6 Alpha):

Interface:

- \* "Save Compressed Copy of Project" saves in much smaller .OGG format to facilitate online transmission of projects
- \* Improved MIDI import and export routines, and clearer color for selection region
- \* Default temporary directory on Mac now accessible in Finder

Import / Export:

- \* Stability improvements in on-demand loading
- \* FFmpeg: support for latest version of library, improved version checks and error messages, stability improvements in custom exporter

Bug Fixes:

- \* Crash in "Get Noise Profile" step of Noise Removal at project rates below 20480 Hz.
- \* Underestimation of peak level in tracks with a small number of different peaks

- \* Truncate Silence could result in repeated or lost audio if applied to the whole of a track
- \* Other interface, generating, exporting and platform-specific fixes

#### Compilation:

- \* Added autoconf macro archive to CVS, enabling \*.nix users without this archive to build --with -MIDI

#### Changes in 1.3.6a6:

#### Interface:

- \* Note Track now supports export as a MIDI file
- \* Linked audio and label tracks: improved support when source and target number of tracks differ and when cross-pasting different track types

#### Import / Export:

- \* On-demand now supports project saving during summarising; reverts to stripey background; fixed some crashes due to threading issues
- \* Exports: Single AAC filter (M4A LC profile) with quality settings slider; removed FFmpeg formats already supported by Audacity; added explicit GSM 6.10 (WAV) filter; current project rate now used for all exports, with check for format-invalid rates; improvements to metadata support

#### Effects:



- \* LV2 plug-ins: added support (OS X and Linux only) for using synths as tone generators, scale point labels, grouped controls and i18n translations

#### Changes in 1.3.6a5:

##### Interface:

- \* Note Track now builds on Windows
- \* Fixes/improvements for linked audio and label tracks (one desynchronisation bug remains when pasting audio into a greater number of tracks than were copied); now supports label shifting when changing pitch and tempo
- \* Added full label pasting support: now possible to paste multiple labels, region labels and labels with audio, and correct label text is now pasted

##### Import / Export:

- \* Added full "on-demand" support (now with minimum file length of 30 seconds): clicking moves summary calculation point; supports split and merge of stereo tracks; incompletely summarised tracks resume summary calculation automatically; text-based Status Bar progress indication and animated dummy waveform instead of embedded progress bar

##### Effects:

- \* Fixed a bug where previewing Equalization curves more than once previewed the unmodified audio

- \* Improvements to DTMF generator

#### Miscellaneous:

- \* Improved support for working with audio in excess of  $2^{31}$  samples (about 13.5 hours at 44100 Hz); some accessibility improvements

#### Changes in 1.3.6a4:

##### Interface:

- \* New Preference: Default View Mode, to choose type of waveform, spectrum or pitch view for new tracks
- \* Note Track: experimental support is now enabled by defining USE\_MIDI in config\*, but does not build out-of-the-box on Windows
- \* Bug fixes for linked audio and label tracks; now supports label shifting when changing speed and generating tones

##### Import / Export:

- \* Improvements/fixes for AAC exports including new M4A filter for compatibility with iTunes; RealAudio export support removed - FFmpeg does not support this properly
- \* Improved refresh of on-demand loading; fixed a phantom on-demand progress bar when time-shifting clips

##### Effects:

- \* Experimental support for LV2 plug-in architecture on Linux and Mac, but operation may be buggy; no LV2 support yet on

Windows, because the required slv2 library currently does not build

#### Changes in 1.3.6a3:

##### Import / Export:

- \* Experimental support for exporting a much wider range of proprietary audio formats via FFmpeg
- \* "On-demand" immediate loading of imported PCM WAV or AIFF files now has experimental "progress bar" embedded in the waveform until fully loaded

##### Interface:

- \* Note Track: experimental support for cut, copy and paste using Edit Toolbar; currently not available for Linux, where EXPERIMENTAL\_NOTE\_TRACK must be undefined in order to build
- \* New Transport menu for alternative access to play and record commands and some recording preferences
- \* Audio tracks are now linked to label tracks by being positioned above a label track, if linkage is enabled in the Tracks menu

#### Changes in 1.3.6a2:

##### Import / Export:

- \* Experimental support for importing a much wider range of audio formats via FFmpeg: support has to be enabled

in \*config when building and requires FFmpeg libraries

- \* Experimental support for "on-demand" immediate loading of imported PCM WAV or AIFF files (full waveform continues to load while you play or edit).

#### Effects:

- \* Built-in plug-ins now grouped into related hierarchical categories

#### Interface:

- \* New Debug Log window available in all builds
- \* Experimental support for linking a label track with any number of audio tracks so that labels shift with cuts and inserts in the audio track
- \* Default theme now reverted to that of 1.3.5
- \* Recording channels preference now defaults to stereo

#### Miscellaneous:

- \* Bug fixes for shortcut availability/tab order in Selection Bar, and for window focus issues when previewing effects
- \* Improvements in escaping and navigating fields in dialogs, and in stability when screen readers are used

#### Changes in 1.3.6a1:

#### Interface:

- \* Further improvements to menu navigation and wordings.
- \* All file dialogs are now resizable, and support "Places"

sidebar on Windows 2000 or later.

\* Preferences:

\* New "Theme" preference for modifying interface colours and images, with experimental new default colour scheme.

\* New "Smart Recording" preference automatically pauses recordings that fall below a pre-defined input level.

Compilation:

\* Simplified modular builds for Windows, removing static-linked configurations.

\* New shared configurations on Mac to support modular builds, and all builds are now Unicode.

Miscellaneous:

\* Default auto save interval reduced to 2 minutes.

\* Bug fixes to correct project rate initialisation on Linux, and file importing issues on PPC Macs.

Changes in 1.3.5:

Recording / Playback:

\* Several bugs fixed so that latency correction should be better, and more devices work correctly. Problems with invalid sample rates under Linux should be much rarer.

\* Newer version of Portaudio library.

\* New feature to record onto the end of an existing track (hold Shift while clicking Record).

#### Import / Export:

- \* Updated versions of Libogg, Libvorbis, Libflac, Libsndfile and Twolame libraries.
- \* Handling of unsupported file formats more informative.
- \* Handling of file names with slashes on OS X improved. New dialog allows replacement of illegal file name characters on all platforms.

#### Interface:

- \* Improved scaling and layout for rulers and VU meters.
- \* Envelope fixes/improvements including full control of undo/redo.
- \* New keyboard shortcuts and improved menu navigation.
- \* Preferences: More intuitive tab arrangement. New options for mute/solo and Metadata Editor behavior. Language can now be changed without restart.
- \* Expanded Build Information tab.

#### Effects:

- \* New Vocal Remover plug-in, improvements for Generate effects.

#### Compilation:

- \* Fixes when building Audacity with libraries disabled.
- \* Improvements to make Mac and Solaris builds easier.

#### Security:

- \* Full fix for issue CVE-2007-6061 on systems where temporary directories can be changed by other users (thanks to Michael Schwendt).

#### Miscellaneous:

- \* Updated translations for many locales.
- \* Several stability improvements.

#### Changes in 1.3.4:

#### New Features

- \* New Welcome Screen with introduction to Audacity
- \* Enhanced Windows Shell integration, so Audacity shows up in lots of Windows places such as "Open With".
- \* New keyboard command: 'Mix and Render to New Track' (bound to Ctrl+Shift+M).
- \* New keyboard shortcut: "Shift-A" starts playback when stopped, or performs "Stop and Select" when playing.
- \* Added support for VAMP audio analysis plug-ins.
- \* Solo button solos only one track at a time, and a track cannot be both mute and solo.

#### Interface:

- \* Keyboard shortcuts for making short/long jumps along the timeline.
- \* Added 'Snap To' in the Selection Bar.
- \* Made keyboard navigation easier when multiple menu items with the same first letter exist.
- \* Enhanced interface for label editing.
- \* Layout of OK/Cancel buttons consistency improved.
- \* Preferences:
  - \* "Select all audio in project, if none selected" (on by default)
  - \* "Beep on completion of longer activities" (system bell, not main output).

- \* Other preferences cleaned up and explanations improved.
- \* Envelopes: Many fixes when copying / pasting / repeating.
- \* Many translation updates.
- \* Track height fixed in several cases.
- \* CleanSpeech mode switching without closing and re-opening fixed.

#### Opening/saving formats:

- \* Metadata editor added for OGG, FLAC and WAV/AIFF exports, and general improvements in this area.
- \* Import of metadata improved.
- \* Muted tracks are no longer audible in the exported mix.

#### Effects:

- \* Truncate Silence: support for multiple and stereo tracks.
- \* Dtmf Generator:
  - \* added support for keypad letters
  - \* added an amplitude control.
- \* Compressor: variable decay time added.
- \* Equalization:
  - \* Clicks at start / end prevented
  - \* Improvements to saved curves being found
  - \* Preview works correctly
- \* 'Merge' command appears in Undo history.
- \* Clipping detected more reliably.
- \* Nyquist plug-ins reviewed and enhanced.
- \* Better (and more) progress bars.
- \* Cancelling effect always restores previous audio.
- \* Several improvement to effects in batch mode.



#### Recording / Playback:

- \* Improvements to latency correction.
- \* Updated version of portaudio-v19 library.

Note that Help is no longer built in, but accessible on the Web via links in Audacity.

#### Changes in 1.3.3:

##### Opening/saving formats:

- \* Import
  - \* Import of audio from QuickTime (mov, aac, m4a) files is now supported on OS X.
  - \* Broadcast Wave Format (BWF) wave files can now be imported.
- \* Export
  - \* Metadata can be added to OGG files
  - \* Improved export option selection
  - \* Additional export options added to MP3 and FLAC file formats
  - \* Command line exporter now supported on Windows and OS X

##### Effects:

- \* EQ effect
  - \* Responsiveness improved.
  - \* Several enhancements added.
  - \* Batch support added.
- \* New Auto Duck effect
- \* Added previewing to AudioUnit effects
- \* Much improved Noise Removal effect

- \* Effects previewing can now be canceled
- \* New DTMF Tone Generator effect
- \* Additional options available in Noise effect
- \* Improved the Tone Generation effects

Other features:

- \* Major speed improvement in Spectrogram rendering
- \* Increased support for drag and drop on OS X
- \* Support added for building against wxWidgets 2.8
- \* Support opening multiple Audacity Projects at once from Explorer on Windows
- \* Improved main window sliders
- \* New support for snapping while selecting and sliding
- \* Improved track focus handling and visual feedback
- \* Speed improvements and handling of resizing/zooming in tracks
- \* Spectrum view can now be zoomed.
- \* New internal file cache to improve handling of project files over networks

Also:

- \* Many improvements to language specific translations
- \* Numerous stability improvements

Changes in 1.3.1 and 1.3.2:

- o Improved accessibility for the visually impaired
  - + Improvements for screen readers, accessibility of tracks, and hot keys

- o Usability improvements
  - + New selection bar
  - + New features for label tracks
  - + Improved toolbar docking flexibility
  - + Menu renaming and reorganization
  - + Selection, ruler, and playback control improvements
- o Auto-save and automatic crash recovery
- o Many bug fixes and stability improvements
- o Major improvements to some built-in effects (Repair, Equalization) and fixes to others
- o New features and bug fixes for Nyquist
- o Restructured Preferences dialog
- o Improved batch processing
- o File format export improvements
- o Timer recording
- o Intel Mac support

Changes in 1.3.0:

#### New features

The new features in Audacity 1.3 have been grouped into the following six major categories.

#### 1. Collapse/Expand Tracks

In Audacity 1.3, every track has an upward-pointing triangle at the bottom of the label area on the left side of the track.

#### 2. Multiple clips per track

In Audacity 1.2, there is one audio 'clip' per track. There is no easy way to time-shift part of a track without moving the rest. In Audacity 1.3, you can split a single track into multiple clips. You can move these clips around between different tracks, making it easy to construct complex compositions out of hundreds of smaller audio samples.

### 3. Selection Bar

In Audacity 1.2, the current selection is contained in a status bar at the bottom of the window. In Audacity 1.3, this is replaced by a fully functional Selection Bar, which displays and controls the current selection (your choice of Start and End, or Start and Length), and the current audio position. The selection bar is fully editable - just click in any field and type to change the current selection precisely. In addition, many formatting options allow you to view times in different units, such as samples, CD frames, or NTSC video frames.

### 4. Improved Label Tracks

Label Tracks are Audacity's way for you to create markings and annotations within your project. In Audacity 1.3, Label Tracks are much improved, with support for overlapping labels, and support for modifying both the left and right edge of the label region just by clicking and dragging.

### 5. QuickTime and Audio Units on Mac OS X

On Mac OS X, Audacity can now import and audio file supported by Apple's QuickTime technology. This includes .MOV and .MP4 (AAC) files. Unfortunately encrypted audio files (such as

those from the iTunes Music Store) cannot be imported directly into Audacity - Apple does not allow this to be done easily because it would be too easy to circumvent the encryption this way.

Also on Mac OS X, Audacity now supports Audio Unit plug-ins. Audacity searches for Audio Units in the usual location, in the system or user's Library folder.

## 6. Other features

Better performance with large projects

Project integrity check on open

Transcription toolbar

Upload

Batch

Cut lines

CleanSpeech

## Changes in 1.2.4:

\* The File menu now includes a list of recent files.

\* The "Generate Silence" effect now prompts for a length.

- \* Audacity is now built with Vorbis 1.1, which features better encoding quality and file compression.
  
- \* Dragging sound files into the Audacity window now works on Mac OS X and Linux, as well as Windows. (Before, it worked only on Windows.)
  
- \* The "View History" window can now discard old undo levels to save disk space on Windows. (This previously worked only on Linux and Mac.)
  
- \* "Preferences" command is now in Edit menu.
  
- \* "Plot Spectrum" command is now in Analyze menu.
  
- \* Opening a project file saved by a later version of Audacity displays an intelligent error message. Also, trying to import a project file (instead of open it) displays an intelligent error message.
  
- \* Audacity now compiles in Visual C++ .NET 2003.
  
- \* Other minor bug fixes.
  
- \* New or updated translations: Arabic (ar), Czech (cs), Finnish (fi), Hungarian (hu), Japanese (ja), Norwegian (nb), Slovenian (sl), Simplified Chinese (zh\_CN), Traditional Chinese (zh\_TW).

Changes in 1.2.3:

- \* Fixed a bug that caused recording to stop or display incorrectly after about 50 minutes on some Windows systems. (This was partly fixed in Audacity 1.2.2, but still didn't work on some systems.)
- \* The Change Pitch and Change Tempo effects have been upgraded to use a new version of the SoundTouch library by Olli Parviainen, with better speed and higher quality.
- \* libsndfile has been upgraded to version 1.0.11.
- \* Fixed a bug that caused the program to run slowly when using the Envelope tool.
- \* Shift-clicking on a mute or solo button now un-mutes (or un-solos) all other tracks.
- \* Nyquist plug-ins can now accept strings as input. Also, a "Debug" button has been added to Nyquist effect dialogs, which allows you to see all of the output produced by Nyquist, for aid in debugging.
- \* When the audio file referenced ("aliased") by an Audacity project is missing, Audacity will now always play silence. Before, Audacity would sometimes repeat the most recent audio that was played previously.
- \* VU Meters will now always reset when audio I/O has stopped.
- \* Fixed a major Mac-only bug that was causing Audacity to crash at seemingly random times, but especially during audio playback and recording.

- \* New or updated translations: Italian (it), Hungarian (hu), Ukrainian (uk), Spanish (es). Polish (pl), Simplified Chinese (zh), Norsk-Bokmal (nb), French (fr).

#### Changes in 1.2.2:

- \* VU Meters added for both playback and recording. Click on the recording meter to monitor the input without recording.
- \* Export Multiple - new feature that lets you export multiple files at once, either by track, or split based on labels.
- \* Attempt to automatically correct latency in full-duplex recordings. (This does not work perfectly, and is not yet supported on all systems. It will improve in future versions.)
- \* Fixed a serious bug that could cause data loss when you save and then reload and re-edit an Audacity project containing repeated or duplicate data.
- \* MP3 tags dialog will only pop up the first time you export as MP3; after that it will not pop up again as long as you have filled in at least one tag.
- \* You can now add a label at the current playback position - in the Project menu, with a shortcut of Ctrl+M.
- \* Clicking on a label now selects all of the tracks, making it



easier to use the label track to recall selections.

- \* Windows: Fixed a crash in the Time Track "Set Rate" command.
- \* Fixed a bug that caused problems with recordings over 45 minutes on some Windows systems.
- \* Mac OS X: Improved support for the Griffin iMic by fixing a bug that was causing it to always record in mono instead of stereo.
- \* Added support for Software Playthrough (listen to what you're recording while recording it, or while monitoring using a VU meter) - this makes it possible, for example, to record using one audio device while listening to it play through a separate device.
- \* Unix/Linux: Fixed freeze caused by captured mouse when audio device hangs. (Audacity may not respond, but it will no longer freeze all of X.)
- \* Fixed a cosmetic bug that caused improper waveform display if you tried to open an Audacity project saved on a different platform (e.g., copying a project from a Mac to a PC).
- \* Fixed bug that could cause instability when pasting, splitting, or duplicating a label track.
- \* You can now change the font of a label track by choosing "Font..." from the label track's pop-up menu.

- \* Basic printing support has been added. Currently it scales the entire project to fit exactly on one page. Try printing in landscape orientation for best results.
- \* Mac OS X and Windows: Audacity ships with a newer version (1.0.1) of the Ogg Vorbis encoder. Vorbis compression will now have higher quality and smaller file sizes.
- \* Fix a bug that occasionally caused crashes when applying effects to split tracks.
- \* Zoom In / Zoom Out now properly disable when they're not available.
- \* Fixed disk memory leak in Preview
- \* Other minor bug fixes and performance improvements.

#### Changes in 1.2.1:

- \* The following translations have been added or updated: Finnish, French, Hungarian, Italian, Japanese, Norwegian, Polish, Russian.
- \* Fix a bug that could cause data to be lost when pasting audio from one project into another, after the first project has been saved and closed.
- \* Fix a possible crash when opening or resizing the Equalization window, especially when using large system fonts.

- \* Don't allow percentages less than -100% in Change Pitch/Speed/Tempo effects (fixes a possible crash).
- \* Fix a crash when the temporary directory is not available on startup.
- \* Correctly load ID3 tags saved in Audacity project files.
- \* On Linux and OS X, store lockfiles in the temp directory instead of the user's home directory. This fixes problems in lab environments where users have restricted or network-mounted home directories.
- \* Fix a bug that prevented Nyquist effects from running when certain regional settings were activated.
- \* Fix a bug in the Quick Mix command that could cause old temporary files to not be deleted.
- \* Linux: Fix endianness problems in playback on PowerPC.
- \* Linux: Fix compilation problem in Nyquist on MIPS.
- \* Linux: Include a more recent PortAudio v19 snapshot (fixes compilation problems when building with the --with-portaudio=v19 option).
- \* Two new Nyquist plug-ins: "Cross Fade In" and "Cross Fade Out."
- \* Other minor bug-fixes.

## Changes in 1.2.0:

- \* New cross-fade effects.
- \* Fix problem where samples were drawn in the wrong position when zoomed all the way in. This caused the drawing tool to move a different sample than the one under the cursor.
- \* Don't use id3v2.4 tags, which are not yet supported by most players. (This was fixed in 1.2.0-pre2, but appeared again by accident in 1.2.0-pre3.)
- \* Correctly display translated messages in the status bar.
- \* When the cursor is on-screen, the Zoom In button now zooms to the area around the cursor.
- \* Mac OS X: Fixed audio problems on the Apple PowerMac G5.
- \* Linux/ALSA: Work around a bug in ALSA's OSS emulation that caused Audacity's playback cursor to move too quickly.
- \* Microsoft Windows: The Audacity source code should now compile out of the box on Windows.
- \* Many new/updated translations.

#### Changes in 1.2.0-pre4:

- \* Fixed problems that could occur when importing certain non-seekable PCM audio files, such as GSM610.
- \* Fixed bug that was causing the samples to shift off-screen horizontally when zoomed in very far and the track had a time-shift offset.
- \* Fixed bugs in the new resampler that added noise to resampled audio on some systems. If you experienced noise when exporting to a WAV, MP3 or OGG file you may have been bitten by this bug.
- \* Fixed bug that led to occasional crashes when using the time-shift tool in conjunction with high zoom factors.
- \* Dithering is now only applied on export when it is really necessary (e.g. when converting float samples to 16-bit).
- \* Files that only contain mono tracks are now automatically exported to stereo files when they contain tracks which are panned to the left or the right.
- \* The Delete key can now be used to delete the current selection, in addition to the Backspace key.
- \* Fixed bug where Audacity didn't ask whether to save changes if you close the project or exit while recording.

\* Mac OS X: Supports Playthrough (listen to what you're recording while recording it) if your hardware device supports it.

\* Mac OS X: Audacity is now a package (you can right-click on Audacity.app and select 'Show Package Contents'). Launch time has improved significantly.

\* MS Windows: Fixed problem that caused Windows XP to use the short name of a file ("TESTFI~1.AUP"), which led to problems when the file was later opened again using the long file name.

\* MS Windows: Fixed bug that caused file exports to fail if the destination directory was the root folder of a Windows drive.

\* MS Windows: Audacity's application information which is written to the Windows registry now always contains the full path to the executable.

\* MS Windows: Fixed problems in trying to set the Windows registry as non-admin user, for file-type associations.

\* Make sure the "Save" command is enabled after changing gain and pan sliders.

\* Updated translations. Added translator credits to the "About" window in localized versions.

### Changes in 1.2.0-pre3:

- \* Fixed bug where Export is grayed out when nothing is selected.
- \* Fixed crash caused by opening Audacity on a computer with a high-end sound card with no mixer support.
- \* Fixed crash in Import Raw.
- \* Fixed New Stereo Track.
- \* Cosmetic fixes for Mac OS X.
- \* Support for the VST Enabler on Windows added.
- \* Fixed crash if you close Audacity while the Preferences dialog is open.
- \* Fixed duplicate-character bug in Mac OS X Label Tracks.
- \* The recording level control on Linux now adjusts the IGAIN, rather than the playthrough level of the recording source.
- \* Fixed bug that caused corruption to 16-bit stereo recordings.
- \* Fixed bug that caused data loss if you deleted all tracks in a saved project and then open a new file into the same window.

\* Added support for alternate audio button order (in Interface preferences)

\* Added preliminary support for wxX11

\* Added fully transparent Windows XP icon

\* Fixed crash if you try to record (or play) and no audio devices exist, or if the audio device doesn't support the mode you selected.

\* Audacity no longer sets the process priority to high while recording on Windows. Users can still do this manually using the Task Manager.

\* Fixed bug that caused last ~100 ms of the selection to get cut off on Windows.

\* Fixed FFT Filter and Equalization effects dialogs.

\* Fixed bugs in Unix build system (DESTDIR in locale directory, choosing libsamplerate instead of libresample)

\* Support for LADSPA plug-ins on Windows added, and three open source LADSPA plug-ins ported to Windows (GVerb reverb, SC4 compressor, and Hard Limiter)



## Changes in 1.2.0-pre2:

- \* Online help completed. The full manual is nearly complete and will be posted to the web site for online browsing shortly.
- \* Audacity will no longer let you do unsafe editing operations while playing or recording. This eliminates many potential crashes.
- \* Fixed ability to cancel Quit button.
- \* New resampling library, with no restrictions on the maximum or minimum rate of resampling.
- \* Audacity now supports LADSPA plug-ins on all platforms, and supports VST plug-ins through an optional LADSPA plug-in called the "VST Enabler", which you can download separately. Because of licensing issues, Audacity cannot be distributed with VST support built-in.
- \* Mac OS X keyboard shortcut problems have been fixed.
- \* Mac OS X audio muting problems have been fixed.
- \* Mac OS X playback/recording cursor sync problems have been fixed.
- \* Silence now displays a straight line again, instead of nothing.
- \* Added a vertical ruler to the Waveform dB display.

- \* Fixed crash in Change Pitch.
  
- \* You can now Paste if nothing is selected.
  
- \* Canceling an Import operation doesn't cause an extra error dialog to appear.
  
- \* Audacity now handles filenames with international characters correctly.
  
- \* Now outputs ID3v2.3 tags (instead of ID3v2.4), to be compatible with more MP3 players.
  
- \* Minor improvements to build system on Unix systems.

#### New features in Audacity 1.2:

- \* User Interface
  - Vertical zooming of tracks.
  - Improved look and placement of toolbars.
  - New custom mouse cursors.
  - Complete implementation of editable keyboard shortcuts.
  - Find zero-crossings.
  - Mouse wheel can be used to zoom in and out.
  - Multi-Tool mode.
  - Amplify using envelope.
  - Labels can store selections (like Audacity 1.0.0).

#### \* Effects

- Repeat Last Effect command
- Improved VST plug-in support
- Most effects now have a Preview button
- Compressor (Dynamic Range Compressor)
- Change Pitch (without changing tempo)
- Change Tempo (without changing pitch)
- Change Speed (changing both pitch and tempo)
- Repeat (useful for creating loops)
- Normalize (adjust volume and DC bias)

#### \* Audio I/O

- 1-second preview command.
- Looped play.

#### \* File I/O

- Audacity 1.2.0 opens project files from all previous versions of Audacity from 0.98 through 1.1.3.
- Open multiple files from the same dialog.
- Use a text file to specify a list of audio files to open with offsets.

#### \* Updated user manual

#### \* Bug fixes

- Project files with special characters are no longer invalid.
- "Scratchy" noises caused by bad clipping are fixed.
- Audacity no longer exports invalid Ogg files, and does not cut off the last few seconds of exported Ogg files.
- Mono MP3 files now export at the correct speed.

- Many incorrect results from the Envelope tool have been fixed.
- The "Export Labels" command now overwrites existing files correctly.
- The "Plot Spectrum" window displays the correct octave numbers for notes.
- Several memory leaks are fixed.

#### New features in Audacity 1.1.3:

##### \* User Interface

- New Mixer toolbar allows you to control the output volume, input volume, and input source directly from Audacity.
- Every track now has its own gain and pan controls.

##### \* File I/O

- Uses improved project file format. (Unfortunately reading previous formats, including 1.1.1, is not supported.)
- Block files (stored in Audacity project directories) now use the standard AU format. Though some Audacity meta-information is in these files, they can now be read by many other popular audio programs as well.
- Fixed some bugs relating to reading/writing audio files with more than 16 bits per sample.
- Import RAW is functional again, with a simpler GUI but support for far more file formats. The autodetection algorithms are much more accurate than in 1.0.

##### \* Audio I/O

- Completely rewritten audio I/O, with lower latency and minimal chance of buffer underruns while recording.

- \* Resampling

- Using high quality resampling algorithms, with the option of better quality for mixing than for real-time playback

- Preliminary support for Time Tracks, for changing playback speed over time.

- \* Many more bug fixes and new features

#### New features in Audacity 1.1.2:

- \* User Interface

- Fixed bug in Windows version, for track menu commands "Name..." and "Split Stereo Track"/"Make Stereo Track".

- \* Effects

- Nyquist support on Windows (supports plug-ins written in Nyquist, an interpreted functional language based on Lisp).

#### New features in Audacity 1.1.1:

- \* User Interface

- Tooltips appear in Status Bar.

- Vertical cursor follows play/record
- Pause button
- Drawing tool (with three different modes)
- Vertical Resizing of stereo tracks is more fun.
- Adjust selection by click-dragging selection boundary
- Toolbar button context-sensitive enabling/disabling
- Better zooming functionality (centers region)
- Multiple ways to display the cursor position and selection
- Snap-to selection mode
- Drag tracks up and down
- Align and group align functions
- Cursor save/restore
- Working history window

#### \* Effects

- Effects broken down into three menus: Generate, Effect, and Analyze
- Generate menu lets you generate silence, noise, or a tone
- Nyquist support (supports plug-ins written in Nyquist, an interpreted functional language based on Lisp)

#### \* Localization

- Improved localization support
- More languages available
- Language selection dialog on startup

#### \* Mac OS X

- Support for more audio hardware
- Support for full-duplex (play while recording)
- Support for MP3 exporting using LameLib Carbon

#### \* Unix

- Audacity now has a man page (it describes command-line

options and how to set the search path)

\* File Formats

- Uses libsndfile 1.0, which fixes some bugs and improves performance

\* Searching for Files:

- On Windows and Mac OS, Audacity now looks for translations in the "Languages" folder and all plug-ins in the "Plug-ins" folder, relative to the program.
- On Unix, Audacity looks for translations in <prefix>/share/locale and looks for everything else in <prefix>/share/audacity and also in any paths in the AUDACITY\_PATH environment variable

New features in Audacity 1.1.0:

\* Core audio processing:

- Support for 24-bit and 32-bit sample formats
- Automatic real-time resampling (using linear interpolation)

\* Effects:

- Support LADSPA plug-ins on Linux / Unix

\* File formats:

- New XML-based Audacity project format
- Full Ogg Vorbis support now (importing and exporting)
- Export to any command-line programs on Unix
- Support for reading and writing many more types of uncompressed audio files, including ADPCM WAV files.

\* Toolbars

- New toolbar drawing code; automatically adopts your operating system's colors
- New toolbar buttons (Skip to Start, Skip to End)
- New Edit toolbar
- Toolbar buttons disable when they're not available

\* User Interface

- Fully customizable keyboard commands
- Autoscroll while playing or recording
- New Ruler, used in main view and in FFT Filter effect
- The waveform now displays the average value in a lighter color inside the peak values

\* Localization

- Audacity can now be localized to different foreign languages.

New libraries in Audacity 1.1:

- \* libmad for fast MP3 importing
- \* libid3tag for editing MP3 file information
- \* libsndfile to read and write more audio file formats
- \* PortAudio for cross-platform audio playing and recording