

Audacity 2.0.5 Guide

A guide for users of the Jaws screen reader, written by David Bailes. More guides are available on the [Jaws Guides page](#) of the VIP Software Guides website.

Introduction

This is a guide for the 2.0.5 version of Audacity, which is a free multi-track audio editor. You can use it for recording, simple editing of single tracks, or more advanced editing involving multiple tracks.

Audacity 2.0.5 can be downloaded from the [home page of Audacity's website](#).

If this is the first version of Audacity that you've run on the Computer, please read the next section on the Install VST Effects dialog.

The following sections of the introduction introduce projects and the cursor in Audacity, and then describe the welcome message box and how to get help. There's also some important information if you using a non us/uk keyboard.

Note that the previous version of Audacity had the option of using the WDM-KS audio interface which has very low latency. Due to a small number of problems with this, this isn't supported in this version of Audacity, but it will hopefully be reinstated in a future release.

Install VST Effects dialog when you first run Audacity

If you have not used previous versions of Audacity on the computer, then the first time that you run Audacity 2.0.5, the first window which appears is an Install VST Effects dialog. Just press **Enter** to press the default OK button. You won't see the dialog again, unless you start to use VST plug-ins with Audacity.

For those of you that do use VST plug-ins with Audacity, see the [Install VST Effects dialog section](#), which is later in the guide.

Projects

The objects which Audacity edits are known as projects. So projects are equivalent to documents in Microsoft Word, and workbooks in Microsoft Excel.

An Audacity project simply consists of a number of tracks. There are a number of different types of track in Audacity: audio, label, and time. However, the latter two are inaccessible to Jaws users, and so this guide will only describe the use of audio tracks. For many simple tasks you'll probably only have one track in a project.

You can save an Audacity project using the Audacity project file format, and this preserves all the tracks in the project. However, you only need to save a project in this format if you intend to continue working on the project in the future.

Cursor

Audacity has a cursor to specify a particular time during the audio, and this is similar to the cursor in Microsoft Word. The cursor in Audacity is used for defining times such as: the start of playback, the position where you want to start selecting a time range, and the place where audio is pasted from the clipboard.

Using keyboards other than US, UK, or Irish

If you're using a keyboard other than a US, UK, or Irish keyboard, then a couple of important keystrokes won't work if you're using Audacity's default settings. To fix this,

see the [The \[and \] shortcuts on keyboards other than US, UK or Irish section](#) which is in the Customizing section.

Welcome message box

When you open Audacity, a Welcome message box opens, and this contains an HTML window which contains some information on how to obtain help for Audacity. Unfortunately the links in this text can't be opened using keyboard navigation, but details of the available help are given in the next section. The message box also contains a "Don't show this again at startup" check box. To stop the message box appearing in future, just check the check box, and press the OK button.

Help

Audacity is an extremely powerful program, and this is only an introductory guide. For more information see:

- [The Audacity Wiki](#).
- The installed Audacity user manual which can be opened in your default browser by choosing Manual on the Help menu.
- The [Audacity4Blind mailing list](#). On this web page you can subscribe to the mailing list: type your email address into to the "your email address" edit box, **Tab** to the Go button and press it. You will receive an email to confirm the subscription. Simply reply to this email without adding any additional text.

Main window

Main components

- Title bar. When the window contains an unnamed project, for example, when you first start Audacity, then the text in the title bar is Audacity. When the window contains a named project, then the text is the name of the project. To read the title bar press **Insert + T**.
- Menu bar.
- [Toolbars](#).
- [Track table](#). This contains the tracks which make up the project.
- [Selection bar](#). This contains controls for reading and setting the cursor position and the start and end/length of any selected time range.
- Status bar. When the mouse is over a control in the interface then often the status bar gives help on using the control, though this is of little interest to Jaws users. During a recording, the status bar gives the disk space which remains for recording. When there is no text in the status bar, then if you read the status bar, then Jaws reads the contents of the controls on the selection bar (together with a spurious "graphic 60034"). To read the status bar, press **Insert + Page Down**.

Moving around the window

- As in any window, to move to the menu bar press **Alt**, and to leave it press **Esc** or **Alt**.

- Pressing **Ctrl + F6** moves you around the following components: Toolbars, Track table, Selection bar, Toolbars, etc. Pressing **Ctrl + Shift + F6** moves you around in the opposite direction.

Opening an audio file

To open either an audacity project file or a standard audio file, use the Open dialog, which is on the File menu (**Ctrl + O**). The dialog's title is "Select one or more audio files...", and its structure is similar to the standard Windows XP Open dialog. The types of standard audio files which Audacity can open described in the next section.

When you first open Audacity, the window contains an empty track table, and so when you open an audio file, it opens in this initial window. After opening a standard audio file, the track table contains a single track, whereas after opening an Audacity project file, the track table contains all the tracks in the saved project. If you then open any other audio files, then they each open in a new window. (If you want to deliberately create a new window with an empty project, choose New from the File menu, or press **Ctrl + N**.)

In addition to opening standard audio files, you can also import one or more standard audio files into the current project. In this case, a new track is added to the track table for each of the files. For details, see the [Importing audio files section](#).

Opening standard audio files

The default installation of Audacity can open audio files in the following standard formats: WAV, AIFF, AU, MP3, MP2/MPEG, Ogg Vorbis, and FLAC. In addition, you can open files in some other formats, including wma and m4a if you download and install the FFmpeg library, as described in the [FFmpeg library section](#). This is not included in the installation of Audacity due to legal issues about patents.

An alternative to using the FFmpeg library for opening files in other formats is to use another program to convert the file to one of the formats the default installation of Audacity can open. There are several audio format conversion programs available, for example, [Switch](#) which is free in its basic version, or [dBpoweramp Music Converter](#).

If you open a compressed file, such as an MP3 file, then after you press the open button in the Open dialog an Import dialog opens which gives the progress of Audacity decompressing the file.

Saving audio

You can save the audio in a project in either the audacity project format, or one of the standard audio formats, as described in the following sections. The Audacity project format preserves all the tracks in the project. You only need to save a project in the audacity project format if you intend to continue working on the project in the future. In contrast, when you save in one of the standard audio formats, Audacity automatically mixes all the tracks down to a single track.

When you close Audacity, if you haven't saved your changes to an Audacity project file, then a Save changes? dialog opens asking you whether you want to save

changes before closing. The default button is Yes, but unless you want to save the project as an Audacity project file, just **Tab** to the NO button and press it.

Saving audio in the audacity project format

To save in this format, choose Save Project... from the File menu. The first time you do this, you get a Warning dialog box telling you that only Audacity can read these project files. The dialog box contains a check box which you can check if you don't want this warning again. If you press the OK button, you then get a Save Project As dialog.

Saving audio in one of the standard audio formats

The default installation of Audacity can save in the following standard formats: WAV, Ogg Vorbis, FLAC, and MP2. In addition, you can save in some other formats if you download and install some additional libraries which are not included with Audacity because of legal issues with patents:

- You can save in the MP3 format if you download and install the LAME MP3 library, as described in the [LAME MP3 encoder library section](#).
- You can save in formats including wma and m4a if you download and install the FFmpeg library, and described in the [FFmpeg library section](#).

To save audio in one of the standard audio formats:

1. To save all the audio, choose Export from the File menu. Alternatively, to save only the selected audio, choose Export Selection from the File menu.
2. The Export File dialog opens, and its structure is very similar to a standard Windows XP Save As dialog.
3. To set the file format which you want to use for saving the audio, there's a Save as type combo box, which is the next control after the File name edit box, which is the initial focus. Note that all the formats which use the FFmpeg library, have FFmpeg in parenthesis after their name.
4. After choosing the file format, you can set the options for the encoding used by that format by tabbing to the Options button and pressing it. An Options dialog for the encoding opens. Since the MP3 format is often used, the numerous options for MP3 encoding are described in the following section.
5. The Metadata editor dialog opens. This enables you to edit various items of information about the audio data, such as the Artist name, and the Track title, and is described in detail in the [Metadata editor section](#) later in the guide. If you don't want to edit any of the information, then you can just press **Enter** to press the default OK button. Note that if you press **Esc** to cancel the dialog, as well as cancelling any edits in this dialog, this also cancels the saving of the audio. If you don't want the Metadata editor to automatically open each time you save audio, then you can turn this option off, as described in the [Metadata editor opens during export section](#), which is in the Preferences section.
6. Note that if you've tried to save in the MP3 format, but haven't installed the Lame MP3 library, then a Locate Lame dialog opens. Similarly, if you've tried

to save in any of the formats included in the FFmpeg library, then a message box opens telling you that it needs to be configured.

MP3 options

This section describes the controls in the Specify MP3 options dialog, and then gives some recommendations for setting them. The dialog has the following controls:

- Bit Rate Mode, a set of 4 radio buttons: Preset, Variable, Average, and Constant.
- Quality combo box.
- Variable Speed combo box, which only appears for some of the bit rate modes.
- Channel mode, a set of two radio buttons: Joint Stereo, and Stereo. This does not appear if the bit rate mode is set to Preset.

These are some recommended settings:

- For music:
 - Set the Bit Rate Mode to Variable
 - the Quality to either 6, 5, or 4 (the lower the number the higher the quality).
 - Variable Speed to Fast
 - Channel Mode to Joint Stereo.
- For speech, or when there's a requirement for small file sizes:
 - Set the Bit Rate Mode to Average
 - The Quality to 64, 80 or 96 kbps (the higher the number the higher the quality).
 - Channel Mode to Joint Stereo.

For a full description of the options for the LAME MP3 encoder see the [Lame page of the Hydrogen Audio wiki](#).

Playback

Playback depends on whether there is a time range selected (see the [Selecting audio section](#)): if there is no selection, then playback starts at the cursor position; if there is a selection, then playback starts at the start of the selection, and stops at the end of the selection.

The volume of the playback is controlled by the output slider which is on the Mixer toolbar in the Toolbars. This volume slider is in sync with the Windows main volume slider, and so also affects the volume of Jaws.

Keystrokes for playback:

- To start or stop, press **Spacebar**.

- To start or stop and move the cursor, press **Shift + A**. When you use this keystroke to stop playback, the cursor is moved to position where the playback was stopped.
- Pause or resume, press **P**.
- Seeking/Jumping. Whilst playing, if the focus is in the Track table, you can jump forward or backward by either a short or long period. To jump backward or forward by a short period press **Left Arrow** or **Right Arrow** respectively. To jump backward or forward by a long period, press **Shift + Left Arrow** or **Shift + Right Arrow** respectively. The size of both the short and long periods can be set in the Preferences dialog, as described in the [Seek times section](#).
- To play looped, that is to continuously repeat, press **Shift + Spacebar**.

Toolbars

The Toolbars section contains several different toolbars. You can navigate to all the controls in the Toolbars just by using the **Tab** key.

These are the different toolbars:

- Control. This contains buttons for playback and recording, and all the commands are also available on the Transport menu, and have keyboard shortcuts.
- Tools. This contains tool buttons for editing which involve the use of the mouse.
- Meter. This contains both an input and an output level meter but both of these are inaccessible to Jaws.
- Mixer. This contains output and input volume sliders.
- Edit. This contains buttons for Cut, Paste, etc. These commands are also available on either the Edit or View menu, and all have keyboard shortcuts.
- Transcription. This contains a play at selected speed button and a playback speed slider.
- Device. This contains combo boxes for Audio host, the output and input device, and the number of channels of the input device. Note that if one of these combo boxes is the focus, and you press a character key which is an Audacity shortcut, then the key is used for the shortcut, rather than selecting an option beginning with that character. So selecting an option using its first character is not recommended. In addition, if you start playback or recording, then the focus is then automatically moved to the Track table.

All these settings can also be made either in individual dialogs, or in the Devices category of the [Preferences dialog](#). The keystrokes for the individual dialogs are **Shift + H** for audio host, **Shift + O** for output device, **Shift + I** for input device, and **Shift + N** for number of channels.

You can show and hide all these toolbars using the Toolbars sub-menu on the View Menu. Only showing the toolbars you're likely to use, such as the Mixer Toolbar, has the advantage of greatly reducing the number of **Tabs** needed to find a particular control.

You can press any of the buttons in the toolbar by pressing **Enter**. However, you can't use **Spacebar** as this key is used for starting and stopping playback.

Track table

The Track table contains the tracks which make up the project. The table just has one column, and a row for each of the tracks. Each track has a name, and Jaws reads this when you move to the track, or press **Insert + Up Arrow** to read the current line.

An audio track is a container for audio data, and this is displayed as a waveform. Often the audio data starts at time zero, but after editing, this is not always the case. At the left hand end of an audio track there is a small area containing various controls, which include a menu, and controls for track gain and pan. Using these controls is described in the [More advanced editing section](#) of this guide.

The Cursor is displayed in the track table as a vertical line, as is the playback position during playback. The positions of both the cursor and the playback position are available to Jaws users via the Selection Start and Audio Position spin boxes in the [Selection Bar](#).

Track focus

Whenever the focus is within the track table, and the table contains one or more tracks (rows), then one of the tracks has the focus, and you can move between tracks by using **Up Arrow** and **Down Arrow**.

Track selection

You need to be able to select tracks:

- For operations such as aligning tracks which can be found on the Tracks menu.
- As part of the process of selecting some audio, as described in the [Selecting audio section](#).

You can select or deselect tracks using the following keystrokes:

- To toggle the selection of the focused track, press **Enter**.
- To select all the tracks (and all the audio, as described in the [Selecting audio section](#)), press **Ctrl + A**
- To deselect all the tracks (and any time-range), press **Ctrl + Shift + A**.

Jaws tells you whether a track is selected, if you do any of the following:

- Move the focus to the track.
- Press **Insert + Up Arrow** to read the current line.
- Toggle the selection of the track, by pressing **Enter**.

More precisely, if you do any of the above, then:

- If the track is not selected, then Jaws says table “the name of the track” row

- If the track is selected, then Jaws says table “the name of the track” select on row.

Selection bar

There are six controls on the Selection bar, and you can cycle forwards or backwards around these controls using **Tab** or **Shift + Tab** respectively.

- End/Length radio buttons, which determine whether the second edit spin box, described below, shows the length or end of the selection.
- Project Rate edit-combo box. This is the sampling rate of the project.
- Snap To check box, which is described below.
- Selection Start edit spin box. If there is a time range selected then this gives the start of the selection, otherwise it gives the position of the cursor.
- Either a Selection End or a Selection Length edit spin box, depending on the setting of the End/Length radio buttons described above.
- Audio Position edit spin box. This gives the position of playback or recording.

Edit spin boxes

Each of the spin boxes contains a time which can be in a number of different formats. You can change the format by choosing on the options on a spin box's context menu, and this changes the format of all the spin boxes. The default format is hh:mm:ss, but the format hh:mm:ss + hundredths is normally more useful, as it allows you to change the time by smaller amounts. Nearly all the examples in this guide will use this format.

The time can be considered to be made up of one or more sections, depending on the format used. For example, when using the hh:mm:ss format, the time consists of three sections each consisting of two digits: hours, minutes, and seconds. Alternatively, when using the hh:mm:ss + hundredths format, the time consists of four sections: hours, minutes, seconds, and centi-seconds (hundredths of seconds), again each consisting of two digits.

If you move to a spin box by tabbing, then Jaws reads the entire contents of the spin box, for example, 00h13m04.73s, that is 0 hours, 13 minutes, and 4.73 seconds.

Within a spin box, one of the digits is the focus. When you first move to a spin box after opening Audacity, the first digit is the focus, but if you subsequently return to the spin box, then the digit which was the focus when you left the spin box is the focus. The keystrokes for moving the focus are:

- **Home** or **End** move you to the first or last digit in the spin box respectively.
- **Left Arrow** or **Right Arrow** cycle you through the digits to the left or right respectively.

When you use one of these keystrokes, Jaws reads the digit which is now the focus. In addition, if you've moved to a different section of the time, then Jaws reads the new section before reading the digit. For example, if the time is 01h42m38.46s and the focus is the second of the minutes digits (the digit 2), then if you press **Right**

arrow Jaws says 38s, 3. Alternatively, if you press **End** then Jaws says 46 centi-seconds, 6.

There are a couple of ways of changing the value of the time:

- Increasing or decreasing the value of the control by one unit of the focussed digit using **Up Arrow** or **Down Arrow**. This is a way is useful for increasing or decreasing the value by a given amount of time. After each of these keystrokes, Jaws reads the value of the current section. For example, if you want to increase the time by 3 tenths of a second, and assuming that the format is set to hh:mm:ss + hundredths: press **End** to move to the last digit, press **Left arrow** to move to the tenths of a second digit, and press **Up Arrow** three times.
- Type in digits. This way is useful for setting a time which not connected to the current value. If you type a digit (0 to 9), then the value of the focussed digit is replaced by this, and the next digit becomes the focus. If the last digit is the initial focus, then after you type a digit, then the first digit is the focus. After typing a digit, Jaws reads the section containing the focussed digit. For example, if you want to set a control to 32 minutes, and again assuming the control has the hh:mm:ss + hundredths format: press **Home** to move to the first digit, and then type the following 8 digits: 0,0,3,2,0,0,0,0. This completely replaces the existing time with the time of 32 minutes.

To read the entire time, press **Insert + Up Arrow**.

Snap To check box

If this check box is unchecked, then the positions of the cursor, and start and end of any selection can effectively have any value.

However, if the check box is checked, then the positions of the cursor, and the start and end of any selection can only be at times which are exactly specified by the current edit spin box format. For example, if format of the edit spin boxes is set to hh:mm:ss, then the cursor can be at 2 minutes and 10 seconds exactly, but not 2 minutes and 10.1 seconds. In other words, the cursor always snaps to the nearest time that can be exactly specified by the edit spin box format.

Moving the cursor

Audacity has a cursor to specify a particular time during the audio, for example, the start of playback, the position where you want to start selecting a time range, or the position where audio is pasted from the clipboard.

Reading the current position of the cursor is described in the next section, and the ways of moving the cursor are as follows:

- To move the cursor to the start of the tracks (time zero), press **Home**.
- To move the cursor to the end of all the audio, press **End**.
- To move the cursor to the start or end of the audio in the selected tracks press **J** or **K** respectively.
- You can move backward or forward by either a short or long period, as long as the focus is in the Track table. To move backward or forward by a short

period, press **Comma** or **Period** respectively. To move backward or forward by a long period, press **Shift + Comma** or **Shift + Period** respectively. These short and long periods share the same values as the short and long periods used for seeking/jumping during playback, which was described in the [Playback section](#). The size of both the short and long periods can be set in the Preferences dialog, as described in the [Seek times section](#).

- **Left Arrow** and **Right Arrow** keys. If the focus is in the Track table, then pressing **Left Arrow** or **Right Arrow** moves the cursor to the left or right by a small amount respectively. Adjusting the step size is described in the [Step size of the left an right arrow keys](#) section below.
- The **[** key during playback. If during playback you press **[** and then **Spacebar** to stop, the cursor is moved to the point in the audio where you pressed the **[** key. In practice, the following method is more flexible:
 1. During playback, press **P** to pause when you reach the position where you want to move to cursor to.
 2. If you're unhappy with this position, pres **P** to resume and using the Seeking/Jumping keys have another attempt to pause in the right place.
 3. Press **[** to mark the new cursor position.
 4. Press **Spacebar** to stop.
- Pressing **Shift + A** stops playback, and moves the cursor to the position where the playback stopped. You can also use this keystroke to start playback.
- The Selection Start spin box on the [Selection bar](#). This is described in detail in the [Moving the cursor with the selection start control](#) section below.

Reading the position of the cursor

There are a couple of ways of reading the cursor position. The first is to read the Selection start control on the Selection bar:

1. Assuming that the Track table is the focus, press **Ctrl + F6** to move to the Selection bar.
2. If necessary, **Tab** until you get to the Selection start control, which contains the cursor position, and which Jaws reads out. Note that when returning to the Selection bar, the control that was previously the focus is the focus again, so you often don't have to **Tab** to the Selection start control.
3. Press **Ctrl + F6** twice or **Ctrl + Shift + F6** to return to the Track table.

The second way of reading the cursor position is to open the Set left selection boundary dialog:

1. Whilst there is no playback, press the **[** key to open the Set left selection boundary dialog.
2. The position control is the initial focus, and its value is the cursor position. Press **Esc** to close the dialog.

Moving the cursor using the selection start control

1. Press **Ctrl + F6** to move to the Selection bar.
2. **Tab** to the End/Length radio buttons, and make sure that the Length option is selected. If it's set to end, then you can accidentally select a time range, instead of moving the cursor, as described below.
3. **Tab** to the Selection start control, and change its value, as described below.
4. To return to the Track table, press **Ctrl + F6** twice.

As described in the [Edit spin boxes section](#), there are a couple a ways of changing the values of the controls like the start control:

- Incrementing or decrementing the value of the control by one unit of the focussed digit using **Up Arrow** or **Down Arrow**. For example, to move the cursor forward by 2 minutes, assuming that the format is set to hh:mm:ss + hundredths: press **End** to move to the last digit, which is hundredths of seconds, then press **Left Arrow** 4 times to move to the minutes digit, and then press **Up Arrow** 2 times.
- Typing in digits. For example, to move the cursor to the time 45 minutes, again assuming the format is set to hh:mm:ss + hundredths, press **Home** to move to the first digit, and then type the following 8 digits: 0,0,4,5,0,0,0,0.

Reason for setting the length option

With no time range selected, consider the two cases:

- Length/End radio buttons set to Length. The selection start control displays the cursor position, and the selection length control displays zero. If you change value of the selection start control, then the selection length control always remains unchanged at zero.
- Length/End radio buttons set to End. The selection start and end controls both display the same value, which is the cursor position. If you increase the value of the selection start control, then the value of the selection end control is automatically increased to the same value. However, if you decrease the value of the Selection start control, then the selection end control remains unchanged. So you've accidentally selected a time range.

Step size of the left and right arrow keys

This section describes how the step size of the left and right arrow keys depend on the horizontal zoom of the audio data, and how to set the amount of zoom so that the step size has suitable values. The same step sizes are also used by the **Shift + Left or Right Arrow** and **Ctrl + Shift + Left or Right Arrow** keystrokes for expanding or contracting selected time ranges.

Audacity has the ability to vary the amount by which the audio data is zoomed in the horizontal direction. This allows sighted users to view the audio data in either more or less detail, depending on the task.

Pressing **Right Arrow** or **Left Arrow** moves the cursor by the same physical distance on the screen, whatever the amount of horizontal zoom. So if the amount of zoom is increased, then the time by which the cursor is moved is decreased.

Similarly, if the amount of zoom is decreased, then the time by which the cursor is moved is increased.

After opening or importing a file, the horizontal zoom is adjusted so that the longest track in the project takes up the available space in the track in the window. So the initial amount of zoom, and so the step size of the arrow keys depends on the length of the tracks.

However, you can set the horizontal zoom to a predefined amount. You can do this by choosing Zoom normal from the View menu (**Ctrl + 2**). When the zoom is set to normal, then the left and right arrow keys move the cursor by slightly more than one hundredth of a second. This step size is normally too small to be useful. However, you can easily adjust the step size using the zoom in and zoom out commands which are available on the View menu:

- Zoom In (**Ctrl + 1**). This doubles the zoom, and so halves the step size of the left and right arrow keys.
- Zoom Out (**Ctrl + 3**). This halves the zoom, and so doubles the step size of the left and right arrow keys.

So, for example, after setting the zoom to normal (**Ctrl + 2**), which sets the step size to slightly more than one hundredth of a second, if you zoom out (**Ctrl + 3**) three times, this multiplies the step size by 8, resulting in a step size which is slightly less than a tenth of a second. As another example, if you press **Ctrl + 2**, and then **Ctrl + 3** 7 times, then the step size is about one and a half seconds.

Selecting audio

In the case of an audio editor which can only edit a single audio track, then selecting audio simply consists of specifying the start and end times of the audio which you want to select, that is, a time range. For example you might want to select the audio between the times 1 minute 2 seconds and 5 minutes 23 seconds.

However, Audacity is a multi-track editor. If the project consists of a number of tracks, then you may want to select the audio on only some of the tracks for a given time range. So in Audacity, as well as having to select a time range, you also have to specify which tracks are selected. If you've selected some audio, tried to edit it, and nothing's happened, it may well be because none of the tracks are selected. The selection of tracks was described in the [track selection](#) section above, and selecting a time range is described in one of the following sections.

Select all audio option

There is an option to select all the audio in the project, if none is selected, and this option is on by default. This option affects what happens, for example, if you try to apply an effect when no audio is selected, that is either no tracks are selected and/or no time range is selected. If this option is off, then the commands on the Effects menu are unavailable, so stopping you from applying an effect. However, if this option is on, then even though no audio is selected the commands on the Effects menu are available, and the effect is applied to all the audio in the project. In addition, after the effect is applied, all the tracks are selected, and a time range which covers all the audio in the project is selected.

Because the automatic selection of tracks and time-ranges occur with no audible feedback, then for users of screen readers it's recommended that you turn this option off, as described in the [Select all audio section](#) of the Preferences section. All the instructions in the remainder of this guide assume that the option is off.

Selecting a time range

A quick way of selecting all of the audio in the project is to use the shortcut **Ctrl + A**: this selects all the tracks, and selects a time range which includes all the audio.

The general way of selecting a time range consists of two steps:

1. Move the cursor to where you want to start or end the selection, using one of the methods described in the [Moving the cursor section](#) above.
2. Set the other end of the selection using one of the methods described below.

Note that when a time range is selected, playback plays the selected time range. In addition you can have a preview of what the audio would sound like if the audio in the selected time-range were deleted by using the Play cut preview command (**C**). This command plays the audio from a short time before the selected time-range to a short time after it, but omitting the selected time range itself.

You can use any of the following methods for setting the other end of the selection:

- With the cursor at the position where you want the start of the selection, to set the end of the selection at the end of all the audio, press **Shift + End**.
- With the cursor positioned where you want the end of the selection, to set the start of the selection at the start of the tracks (time zero), press **Shift + Home**.
- Set the end of the selection using the **J** key during playback. If during playback you press **J** and then **Spacebar** to stop, the end of the selection is set at the point in the audio where you pressed the **J** key. In practice, the following method is more flexible:
 1. During playback, press **P** to pause when you reach the position which you want to be the end of the selection.
 2. If you're unhappy with this position, press **P** to resume and using the Seeking/Jumping keys have another attempt to pause in the right place.
 3. Press **J** to mark the position for the end of the selection.
 4. Press **Spacebar** to stop.
- To set one end of the selection to the start or the end of the audio in the selected tracks, press **Shift + J** or **Shift + K** respectively.
- Using the selection controls on the selection bar, as described in the next section.
- Using **Shift + Left Arrow** or **Shift + Right Arrow**. With the cursor positioned where you want the start of the selection, you can press **Shift + Right Arrow** one or more times to move the end of the selection to the right in small steps. Similarly, with the cursor position where you want the end of the selection, you can press **Shift + Left Arrow** one or more times to move the start of the selection to the left. Adjusting the step size is described in the [Step size of the](#)

left an right arrow keys section above. Note that Track table must be the focus to use these keystrokes.

Setting the start or end of the selection using the selection controls

With the cursor positioned where you want to start the selection, to set the end of the selection:

1. Press **Ctrl + F6** to move to the Selection bar.
2. **Tab** to the End/Length radio buttons, and set it to whichever option you like. If you increase the value of either Selection length, or Selection End, then the value of the selection start control remains unchanged at the initial cursor position.
3. **Tab** to the Selection End/Length control.
4. If it's the Selection End control, then increase its value. For example if you want to move the end of the selection to five seconds after the start of the selection, and assuming the format is set to hh:mm:ss + hundredths, then: press **End** to move to the last digit, press **Left Arrow** twice times to move to the seconds digit, and then press **Up Arrow** five times.
5. If it's the Selection Length control, then you can increase the value of the length by either by using **Up Arrow**, or by typing in digits, as described in the Edit spin boxes section, which is in the Selection bar section.
6. Press **Ctrl + F6** twice to return to the Track table.

With the cursor positioned where you want the end of the selection, to set the start of the selection:

1. Press **Ctrl + F6** to move to the Selection bar
2. **Tab** to the End/Length radio buttons, and set the End option. With this setting, when you decrease the value of the selection start control, the value of the selection end control remains unchanged at the initial cursor position.
3. **Tab** to the Selection start control, and decrease its value. For example, if you wanted to move the start of the selection to ten seconds before the end of the selection, and assuming that the format of the selection controls is set to hh:mm:ss + hundredths: press **End** to move to the last digit, then press **Left Arrow** three times to move to the tens of seconds digit, and then press **Down Arrow** once to decrease the time by 10 seconds.
4. Press **Ctrl + F6** twice to return to the Track table.

Adjusting a selected time range

There are a couple of ways of making small adjustments to a selected time range:

- Using the the Selection controls on the Selection bar, as described in the next section.
- You can use the following keystrokes to move the start or end of the selection by a small amount. Adjusting the step size is described in the Step size of the left an right arrow keys section above.

- To move the end of the selection to the right, so expanding the time range, press **Shift + Right Arrow**.
- To move the end of the selection to the left, so contracting the time range, press **Ctrl + Shift + Left Arrow**.
- To move the start of the selection to the right, so contracting the time range, press **Ctrl + Shift + Right Arrow**.
- To move the start of the selection to the left, so expanding the time range, press **Shift + Left Arrow**.

Note that the two keystrokes that use **Ctrl** contract the selected time range, and the other two keystrokes expand the selected time range.

Adjusting the selected time-range using the selection controls

1. If the current focus is the Track table, then press **Ctrl + F6** to move to the Selection bar.
2. **Tab** to the End/Length radio buttons, and set the End option. This allows you to adjust the Start or the End of the selection without affecting the other one.
3. **Tab** to either the Selection start or the Selection end control. If the format isn't already set to hh:mm:ss + hundredths, then you probably want to do this so that you can make small adjustments to the times. The format can be changed using the context menu of the control.
4. If, for example, you want to adjust the time in tenths of a second, press **End** to move to the last digit, and then press **Left Arrow** to move to the tenths of a second digit. You can then press **Up Arrow** or **Down Arrow** to increase or decrease the time by a tenth of a second respectively.
5. Adjust the other selection control if desired.
6. Press **Ctrl + F6** twice to return to the tracks.

Deselecting a selected time range

If you press any of the keys which move the cursor (**Home**, **End**, **Left Arrow** and **Right Arrow**), then any selected time range is deselected. After you have pressed **Left Arrow** or **Right Arrow**, then the cursor position is at the start or end of the selection which has just been deselected.

To deselect all the tracks, and deselect any time-range, press **Ctrl + Shift + A**. The new cursor position is at the start of the selection which has just been deselected.

Basic editing

Undo and redo

To undo press **Ctrl + Z**, and to redo press **Ctrl + Y**.

Deleting audio

To delete the selected audio, press the **Delete** key.

If you want a preview of the audio after deletion, press **C** which plays back from a short time before the selected audio to a short time after the selected audio, but omitting the selected audio. The length of the times of playback before and after the selection can be set in the Cut Preview section of the Playback category in the Preferences dialog.

Cut, Copy, and Paste

- To cut the selected audio, press **Ctrl + X**. For a preview of the audio after the cut, press **C**.
- To copy the selected audio, press **Ctrl + C**.
- To paste the audio on the clipboard into the selected track(s), move the cursor to where you want to insert the audio, and press **Ctrl + V**. Alternatively, if a time range is selected when you press **Ctrl + V**, the selected audio is replaced by the pasted audio.

Replace with silence

To replace the selected audio with the same length of silence, on the Edit Menu, open the Remove Audio sub menu, and choose Silence Audio (**Ctrl + L**).

Insert silence

To insert a period of silence into the selected tracks:

1. Move the cursor to where you want to insert the silence.
2. Choose Silence from the Generate menu.
3. A Silence Generator dialog opens, and the focus is a spin box which allows you to specify the length of the silence. The spin box is identical to the spin boxes used on the Selection bar, though the first non-zero digit is the initial focus, rather than the first digit.

Set the time that you want, and then press **Enter** to press the default OK button. The period of silence is inserted, and a time-range which covers this period is selected.

Note that all the commands on the Generate menu have the following behaviour. If one or more tracks are selected, but no time-range, then the generated audio is inserted at the cursor. However, if a time-range is also selected, then the selected audio is replaced by the generated audio. Also, all the spin boxes in the dialogs which are opened from the Generate menu have a default format of seconds, and the first non-zero digit is the initial focus, rather than the first digit.

Effects

Audacity provides a large number of effects which are available on the Effects menu. Some of the commands, like fade in or fade out, simply execute the effect on the selected audio, but most of them open a dialog box so that you can adjust the parameters for the effect.

Nearly all the effect dialogs contain a Preview button which allows you to hear a short sample of the effect applied to the selected audio. By default, the length of the

preview is 3 seconds, but you can change this in the Preferences dialog. In the Playback category there's a Length of preview edit box, and the units are seconds.

Deleting tracks

- To delete the focused track, press **Shift + C**.
- To delete the selected track(s), choose Remove Tracks from the Tracks menu. This provides a quick way of deleting all the tracks if you first press **Ctrl + A** to make sure that all the tracks are selected.

Avoiding introducing clicks when editing

If you delete or cut part of the audio in a track, and if the beginning or end of this part hasn't zero amplitude, then this can result in sudden changes in the amplitude of the audio. If the size of these sudden changes are large enough, then you'll hear them as clicks. A similar problem can occur if you copy and paste audio.

You can avoid introducing these clicks by using the Find zero crossings command, which is on the Edit menu, and has the shortcut **Z**. If a track is selected, but there isn't a selected time range, then if you apply this command, the position of the cursor is moved to the nearest position where the amplitude of the audio in the selected track is zero. The change in position is very small, so you don't have to worry that this will make a large change to the cursor position. In a similar manner, if there's a selected time range, the positions of both the start and the end of the time range are adjusted so that the amplitude of the audio in the selected track is zero.

So to avoid introducing clicks:

- After selecting part of the audio in a track, and before cutting, deleting or copying, Find the zero crossings.
- After you've positioned the cursor for pasting audio into a track, and before pasting, Find the zero crossings.

More advanced editing

Adding a new empty track

To add a new empty track, choose an option from the Add New sub-menu which is on the Tracks menu.

Importing audio files

You can import one or more audio files, and these become new tracks in the existing project. To import standard audio file(s), open the File menu, and choose Audio from the Import sub-menu (**Ctrl + Shift + I**). A "Select one or more audio files" dialog opens, which has the same structure as a standard Windows XP Open dialog. Select one or more files, and press **Enter** to press the OK button.

Note that immediately after the import, the last track in the project is selected, and all other tracks are unselected.

Duplicate

To duplicate the selected audio into new track(s), choose Duplicate on the Edit menu. The duplicated audio retains the same timings as the original selected audio, so in the new track(s) the audio data starts at the start of the selected time range.

Align the audio in tracks end to end

If you select two or more tracks, you can align the audio in these tracks so that the audio in a track starts at the end of the audio in the previous track. To do this, open the tracks menu, open the Align tracks sub menu, and choose Align end to end.

Notes:

- The order in which the audio in the selected tracks is aligned is the same as the order of these tracks in the track table. If you need to change the order of the tracks in the table, you can do this using commands on a track's track menu.
- The position of the audio in the first selected track remains unchanged.

Time shift

You can time shift the audio data in one or more selected tracks so that either the start or the end of the audio is at some desired position. You can specify this position either with the cursor, or the start or end of a selected time range. All the commands for moving the audio are available on the Align Tracks sub menu which is on the Tracks menu, and some examples of using them are given below.

For example, to move the audio in one or more tracks so that it starts at some desired time:

1. Move the cursor to the desired time, using any of the methods described in the Moving the cursor section.
2. Select the tracks containing the audio you want to move, and make sure that the other tracks are not selected.
3. Open the Align Tracks sub menu on the Tracks menu, and choose Start to Cursor/Selection Start. Note that if more than one track has been selected, and the audio in these tracks start at different times, then the audio in all the tracks is moved by the same amount, so that the earliest audio in the tracks is positioned at the cursor.

If you'd wanted to move the audio in one or more tracks so that it ended at some desired time, then you'd simply change step three to use the End to Cursor/Selection Start command, instead of Start to Cursor/Selection Start.

As another example, if you want to time shift one or more tracks by a certain amount of time, then:

1. Select one or more tracks that you want to time shift, and make sure that the other tracks are not selected.
2. Press **J** to move the cursor to the start of the audio in the selected tracks.
3. Press **Ctrl + F6** to move to the Selection bar, and then **Tab** to the End/Length radio buttons. Make sure that the Length option is selected.
4. **Tab** to the Selection Start spin-box.

5. Depending on whether you want to time shift forward or backward, you now need to move the cursor forward or backward by incrementing or decrementing the time in the spin-box. For example, if you want to move the audio forward by 1.5 seconds, then use the following keystrokes to increment the time : **End** moves you to right most digit, which is hundredths of seconds; **Left Arrow** moves you to the tenths of second digit; **Up Arrow** five times increments this digit by five; **Left Arrow** moves you to the seconds digit; and finally, **Up Arrow** increments this digit by one.
6. Go to the Align tracks sub-menu on the Tracks menu, and choose Start to Cursor/Selection Start. This moves the data in the selected selected tracks, so that is now starts at the modified cursor position.

Note that if you're wanting to move a track which you've recorded and which doesn't line up with the existing tracks, then you may need to move the start of the audio to earlier than time zero. Because you can't move the cursor before time zero, the above method has to be modified so that in step two, you press **K** to move to the end of the audio in the selected tracks, and then in step five, you use the End to Cursor/Selection Start command. Note that Audacity does have an automatic latency correction.

Track menu

You can open the menu of a focused track by pressing either the **Application Key** or **Shift + M**. The commands on the menu include renaming the track, and moving the track up or down the track table.

Track gain

To change the gain of the focused track, press **Shift + G**. A Gain dialog opens which contains both an edit box and a slider for changing the gain. The range of gain (db) is -36 to +36.

Track pan

To change the pan of the focused track, press **Shift + P**. A Pan dialog opens which contains both an edit box and a slider for changing the pan. The range of pan is -1 to 1, corresponding to left and right.

Track Mute and Solo

Each track has a mute setting which can be on or off, and a solo setting which can also be on or off. These settings are used to control which tracks contribute to playback, and in addition the mute settings, but not the solo settings, affect which tracks contribute to audio saved in one of the standard formats. By default, the mute and solo settings for each track are off. After reading the name of the track, Jaws says mute on, if the mute setting is on, and solo on, if the solo setting is on.

Mute

If a track's mute setting is on, then it doesn't contribute to playback, or to the audio saved in one of the standard formats. You can either change the mute setting of an individual track or the settings of all the tracks:

- To toggle the Mute setting of the focused track, press **Shift + U**.

- To mute all the tracks, press **Ctrl + U**.
- To set mute off for all the tracks, press **Ctrl + Shift + U**.

Solo

If one or more tracks have their solo setting on, then only these tracks contribute to playback, regardless of the Mute settings of all of the tracks. To toggle the Solo setting of the focussed track, press **Shift + S**.

There are, in fact, a couple of options for how the Solo settings and the Mute settings of the tracks interact with each other. Using the default option, the Solo and Mute settings are completely independent: changing a mute setting has no effect on any Solo setting, and changing a Solo setting has no effect on any Mute setting.

The options for how the Solo and Mute settings interact can be found under the Interface category of the Preferences dialog. There's a solo button combo box in the Other interface choices section which has the options: standard (default), simple, and none. For users of screen readers, the simple option is not actually very simple, and the none option removes the solo option from the tracks.

Metadata editor

Metadata is data which describes other data, and the metadata for audio files consists of a number of tags, where each tag is made up of a tag name and a tag value. The Metadata editor in Audacity allows you both to edit the values of a number of preset tags, and also to create your own custom tags.

You can open the Metadata editor at any time by choosing Open Metadata Editor from the File menu. In addition, if you save audio in one of the standard formats, then unless you've turned the appropriate option off, the Metadata editor automatically opens, as described in the [Saving audio section](#) above.

The Metadata editor contains the following controls:

- A table which contains the names and values of the tags, and is described in the next section.
- Add, Remove, and Clear buttons which are used for editing the table. Pressing the Clear button deletes all the values of the preset tags, and all names and values of any custom tags. The Add and Remove buttons are described in the [creating and editing custom tags](#) section.
- A genres section, consisting of Edit and Reset buttons which are used for editing the preset list of genres, as described in the [Editing the list of genres section](#) below.
- A template section, which won't be described in this guide.

The table

The table has two columns: Tag and Value, and the first 7 cells in the Tag column contain preset tag names such as Artist Name and Track Title. Jaws indicates that these preset tag names are not editable by saying unavailable after their names.

To navigate the table:

- To move forward through the cells in the table, press **Tab** or **Right Arrow**. If you're in the last cell, pressing **Tab** moves you to the next control, which is the Add button.
- To move backwards through the cells in the table, press **Shift + Tab** or **Left Arrow**. If you're in the first cell, then pressing **Shift + Tab** move you to the previous control which is the Cancel button at the bottom of the dialog.
- From any cell in the table, you can move directly out of the table to the next or previous control by pressing **Ctrl + Tab** or **Ctrl + Shift + Tab** respectively.
- To move to the cell directly below or above the current cell, press **Down Arrow** or **Up Arrow**.
- To move to the first or last cell, press **Ctrl + Home** or **Ctrl + End** respectively.

Editing tag values

All the tag values except the genre tag value are edited using an edit box, but the genre tag value is edited with an edit combo box, which allows you to quickly choose from a list of genres.

To edit any tag value, except the genre tag value, there are two options: either overwriting or editing the current value, as described below. Both involve using the keystrokes **Enter** or **Tab** to confirm the edit. **Enter** moves you the cell immediately below the current cell, and **Tab** moves you to the next cell, which is the tag name in the next row.

- To overwrite the current value, simply type in some text, and then press **Tab** or **Enter** to confirm the edit, or **Esc** to cancel the edit.
- To edit the existing value, press **F2**, which selects the existing text. To deselect the text before editing, press **Right Arrow** or **End** which positions the current character immediately after the existing text, or press **Home** which makes the current character the first character in the text. To confirm the edit press **Tab** or **Enter**, or to cancel the edit press **Esc**.

To edit the genre tag value:

- As in the case of other tag values, you can start the edit either by just starting to type, or by pressing **F2**. However, in the former case Audacity loses the first letter, and you have to type it again.
- You can use the **Up Arrow** and **Down Arrow** keys to select a genre from the preset list of genres. To quickly find a genre beginning with a given letter, type this letter, and then press **Down Arrow** to move through all the genres beginning with that letter.
- To confirm the edit press **Tab** or **Enter**, and to cancel the edit press **Esc**.

Creating and editing custom tags

You can use the rows in the table after the preset tags to create your own custom tags. In these rows you can edit both the tag name and the tag value.

For a new set of metadata, there's one spare row after the preset tags. You can add and remove rows from the table using the Add and Remove buttons which follow the

table. The Add button appends a row, and the Remove button removes the current custom row.

Editing the list of genres

To edit the list of genres which is available in the edit-combo box when you edit the genre value:

1. Press the Edit button in the Genres section.
2. An Edit Genres dialog opens. The first control is a multi-line edit box which contains the genres, one genre on each line. Note that when you first open the dialog, all the genres are selected, so unless you type a text navigation keystroke first, for example **Right Arrow**, you'll overwrite all the genres. To move to the top or bottom of the list press **Ctrl + Home** or **Ctrl + End** respectively.
3. When you've finished editing, **Tab** to the OK button and press it.

To reset the list of genres to the default list of genres, press the Reset button in the Genres section. A Reset Genres message box opens, asking you whether you're sure that you want to reset the list. Press **Enter** to press the default OK button.

Recording

The next three sections on settings, recording controls, and adjusting the recording level cover material which is relevant to nearly all recording. After that there's a latency correction section, which describes how Audacity can correct for the delay in the recorded audio when recording a vocal track whilst listening to existing tracks.

Recording settings

There are a number of settings which may need changing before you make a recording, and they're described in the following sections. Note that a number of these settings can be made either in the Devices section of the Preferences dialog or an individual dialog, or the Device Toolbar.

Audio interface

Audacity provides a number of options for the software interface which Audacity uses to interact with the playback and recording devices:

- MME (Multimedia extensions). This is the default interface.
- Windows DirectSound. This may have lower latency on Windows XP.
- Windows WASAPI (Windows audio session API). This is only available in Windows Vista and later. The only recording devices available using this interface in Audacity are the so called loopback versions of the playback devices. Using these, you can record the audio which is sent to one of these playback devices. This offers an alternative to the "stereo mix" recording device which may or may not be provided by your sound card.

You can set this option using either the Interface host combo box in the Devices category of the Preferences dialog, or the Audio host combo box in the Select Audio Host dialog (**Shift + H**), or the Audio Host combo box on the Device toolbar. Note

that when you change this option, the settings of the recording and playback devices may change, and so you should check these settings.

The audio interface setting affects which controls affect the playback volume in Audacity:

- For MME and DirectSound, the playback volume is controlled by the output slider which is on the Mixer toolbar in the Toolbars. This volume slider is in sync with the Windows main volume slider, and so also affects the volume of Jaws.
- For WASAPI, the playback volume depends on both Audacity's output slider, and the Windows main volume slider. In this case the volume of Jaws is unaffected by Audacity's output slider.

Recording device

You can select the input device using either the recording device combo box in the Devices category in the Preferences dialog, or the input device combo box in the Select Input Device dialog (**Shift + I**), or the input device combo box on the Device toolbar.

If an onboard sound chip or an internal sound card has a number of possible inputs, such as microphone or line in, then each of these inputs is listed as a separate device in the combo boxes. In addition, if you're using either the MME or the DirectSound audio interface, then the available devices may also include either "Microsoft Sound Mapper - Input" or "Primary Sound Captive Driver", respectively. Both of these correspond to the device which has been set as the default recording device in Windows.

In Windows Vista and latter these combo boxes list all the recording devices which were plugged in and enabled when audacity was opened. If a device isn't listed, then check the Recording page of Windows Sound dialog to see if the device is enabled. This dialog is described in the [Sound dialog in Windows Vista, 7, and 8 section](#), for those unfamiliar with this dialog.

Recording level

This section describes which control to use to adjust the recording level. How to adjust the recording level so that you don't get too much noise or clipping is described in the [Adjusting the recording level section](#) below.

If Audacity can control the level of the recording device, then you can use either Audacity's input slider, or the appropriate Windows control. It's normally easier to use the input slider in Audacity, which is in the Mixer toolbar in the Toolbars section of Audacity's main window. To move to it from the Track table, press **Ctrl + F6** twice, and then **Tab** or **Shift + Tab** until you get to the input slider.

When Audacity can't control the level of the recording device, this is indicated by the input slider being unavailable. For sighted users, the slider appears greyed out, and for users of screen readers, you can't Tab to it. In these cases you have to use the appropriate control which is part of Windows, as described below.

Whether Audacity can control the recording level depends to a large extent on the audio interface which you are using:

- MME or Direct Sound. For many recording devices, you can use Audacity's input slider.
- WASAPI. For the loopback devices provided by the WASAPI interface, the recording level depends only on the volume levels set in the programs which are sending their output to the playback device which you're recording. It doesn't depend on the Windows volume of the playback device, or the input and output sliders in Audacity.

The location of the Windows' control to adjust the level of a recording device depends on the version of Windows. For Windows Vista and 7 this is described in the [Sound dialog in Windows Vista, 7, and 8 section](#). In Windows XP:

1. In the Control Panel, open the Sound and Audio Devices Properties dialog.
2. Move to the Audio page of this dialog, where there's a Sound recording default device combo box. Select the device in this combo box, and then **Tab** to the next control which is a Volume button, and press it.
3. A dialog opens, which contains a volume slider for the device.

Bug Warning: On some computers running Windows Vista, if Audacity is open and you change the input slider, then when you next start recording, the volume is reset to its original value. However, this reset does not occur if Audacity is in the process of recording a track. So there are two ways of working around this bug:

- Press **R** to start recording, and then change the input slider. Move to the Track table, and if necessary move to this recorded track which will be the last track in the table. Press **Shift + C** to delete this track.
- Close Audacity, change the volume in the device's properties dialog, and then reopen Audacity.

Number of channels

The number of channels of the recording device can be set using either the recording channels combo box in the Devices category of the Preferences dialog, or the input channels combo box in the Select Input Channels dialog (**Shift + N**), or the Input Channels combo box in the Device toolbar. If you're recording using a microphone, then the appropriate setting depends whether it's a mono or stereo microphone.

Sampling

The default sampling rate for a new project is 44100Hz, and the default sampling format is 32-bit float. These should be fine, but they can be changed in the Quality category of the Preferences dialog, as described in the [Sampling section](#) of the Preferences section.

Overdub option

The Overdub option controls whether Audacity plays any existing tracks while recording a new one. You can check or uncheck this option either on the Transport menu, or in the Recording category of the Preferences dialog.

Software Playthrough option

The Software Playthrough option controls whether Audacity plays the new track while it is being recorded. Normally this option should be off, but it's useful if you want to hear what you're recording from a device such a USB turntable. It can be checked or unchecked either on the Transport menu, or in the Recording category of the Preferences dialog.

Recording controls

- To start recording, with the recorded audio inserted into a new track, press **R** or choose Record from the Transport menu. A new track is automatically added to the project, and the default name of the new track is "Audio Track". Note that Jaws reads this name as Track n, where n is the row number of the track. The recorded audio is inserted at the cursor position. (If there are initially no tracks in the project, then the cursor position is normally at time zero.) The new track is initially not selected.
- To start recording, with the recorded audio appended to the audio in an existing track, press **Shift + R**, or choose Append Record from the Transport menu. If there's a single audio track in the project, then the recorded audio is appended to this track, whether or not the track is selected. If there's more than one audio track, then the recorded audio is appended to the selected track.
- To pause or resume recording, press **P**.
- To stop recording, press **Spacebar**.

Adjusting the recording level

There is an input level meter provided for helping to set up the recording level, but it isn't accessible to Jaws users. However, it's easy to set up the recording level by making some short test recordings and using the dialog box of the Amplify effect to measure the peak level of the recorded sound. Before giving a list of step by step instructions for making the test recordings, there's a description of how the Amplify dialog can be used to measure the level of the recorded sound.

If you select some audio, and then open the Amplify dialog on the Effects menu, then the initial focus is on an Amplification edit box. The initial value in this edit box is the amount of amplification in decibels needed so that the recording uses the full dynamic range, and it indicates if you need to change the value of the recording level. Normally a good value to aim for is about 6db. This should ensure that the recording level is both low enough so that distortion or clipping doesn't occur, and high enough so that you don't get an unnecessary amount of noise. So if the value's less than about 6, try lowering the volume, and if it's more than about 6, try increasing the volume.

To make some short test recordings so that you can adjust the recording level, start with an empty project. The location of the recording level slider depends on a number of factors and was described above in the [Recording level section](#). Note that the latter section describes a bug when setting the input volume which occurs on some computers running Windows Vista, so if that bug is present on your computer you'll have to incorporate one of the work arounds described in that section into the instructions below. Go round the following loop until you are happy with the setting:

1. Move to the appropriate level slider. If this is the first time round this loop, set the slider to your best guess. On subsequent times round the loop, adjust the slider on the basis of the Amplification value in the Amplify dialog the previous time round the loop. If the volume slider isn't in Audacity's main window, then switch back to the Audacity window for the remaining steps.
2. Press **R** to start the recording.
3. Make some representative noises for a short while, and then press **Spacebar** to stop.
4. Press **Ctrl + A** to select all the audio.
5. Choose Amplify from the Effects menu.
6. The Amplify dialog opens, and the initial focus is on the Amplification edit box. On the basis of this value, decide if you need to repeat this loop with a different setting of the recording level slider as discussed above.
7. Press **Esc** to close the Amplify dialog box.
8. Choose Remove Tracks from the Tracks menu to delete the test track.

Latency correction

If you record a vocal track whilst listening to one or more existing tracks, then due to various delays, the newly recorded track won't be in sync with the original tracks. The total delay is known as the latency and some of the factors which affect its size are: the recording and playback devices, the size of the audio buffers within Audacity, and the audio interface being used (for example, MME or DirectSound).

Audacity can automatically correct for the latency, once the latency has been measured, as described below. In the Preferences dialog, under the Recording category, there's a Latency correction edit box, where the units of the correction are milliseconds. If you record audio in a new track, then the audio is automatically moved later in time by this latency correction. So to shift the audio earlier in time to offset the latency, the number should be negative.

The default value of the latency correction is -130 milliseconds. The default value will be only roughly correct for a particular recording set up, and it's recommended that you measure the actual latency.

The following method for measuring the latency when using a microphone for recording is accurate to about 10ms, which normally should be good enough. It consists of the following three parts, which will be described in detail in the following sections:

1. Generate a click track, which consists of a series of clicks with 1 second spacing.
2. Record this click track. Due to latency and its current correction, the clicks in the recorded track may occur before or after the clicks in the original track.
3. With the help of the selection start spin box in the Selection bar, find the position of the click in the recorded track which corresponds to the click at 1 second in the generated track, and work out a new correction.

Generate a click track

1. Choose Click Track from the Generate menu.
2. The second control is the Tempo [beats per minute] edit box, and its default value is 120. Type 60, and then press **Tab** twice to move to the next edit box.
3. The Beats per measure [bar] edit box has a default value of 4. Type in the number 1, and then press **Enter** to press the default OK button.
4. The click track is created. The track is initially selected, and a time range is selected which includes all the audio.

Record the click track

To record the click track being played back through your headphones, you'll obviously need to take them off temporarily. If you're using a separate microphone, rather than a headset microphone, then position it close to the headphones so that it can pick up the clicks. Press **R** to start the recording, and then press **Spacebar** to stop the recording after a handful of clicks.

With the first track still being the focus, press **Shift + U** to mute it, and then playback the recorded track. If the clicks are very quiet compared to Jaws, then amplify the track:

1. Unselect the first track, and select the second track
2. Press **Home**, then **Shift + End** to select a time range.
3. Choose Amplify from the effects menu.
4. In the Amplify dialog, just press **Enter** to accept the default amplification.

Find the position of a click in the recorded track

The following instructions describe how to find the position of the recorded click which corresponds to the click which occurs at 1 second in the generated track, and then update Audacity's latency correction. It's assumed that the original track is still muted from when you checked the level of the recorded track above.

1. Press **Home** to set both the selection start and selection end/length spin boxes in the selection bar to zero.
2. Press **Ctrl + F6** to move to the selection bar. **Tab** to the End/Length radio buttons, and make sure that the Length option is selected.
3. Then **Tab** to the Selection Start spin box, and change the format to hh:mm:ss + milliseconds using its context menu.
4. To set the selection start to 1 second, press **End** to move to the last digit (milliseconds), press **Left Arrow** three to move to the seconds digit, and then press **Up Arrow** to increment it to one.
5. Press **Spacebar** to listen to the first few clicks. There are two cases: if the recorded click is later than the original click at 1 second, then time to the first click is much less than the one second spacing of the remaining clicks; if the recorded click is earlier than original click, then the time to the first click is roughly the same as the one second spacing between the remaining clicks. Finding the position of the recorded click, and modifying Audacity's latency correction is described for these two cases in the following steps.

6. To find the position of the recorded click when it's later than the original click, go round the loop of incrementing the selection start by 10 milliseconds and then pressing **Spacebar** to check the time to the first click. When you've just gone past the click, it will suddenly change to roughly a second. Decrement the selection start by 10 milliseconds so that you can still hear the first click almost immediately, and then press **Insert + Up Arrow** to read the number of milliseconds. Adjust the latency correction by subtracting this number from it. For example, if the initial correction was -130ms, and the recorded click was 40ms late, then the latency correction should be changed to -170ms.
7. To find the position of the recorded click when it's earlier than the original click, go round the loop of decrementing the selection start by 10 milliseconds, and then pressing **Spacebar** to check the time to the first click. When you move to just before the click, or during it, the click will suddenly sound immediately. Press **Up Arrow**, followed by **Down Arrow** to leave the time unchanged, but to get Jaws to read the number of milliseconds. Subtract this number from 1000 to get the number of milliseconds by which the recorded click was early. Then adjust the latency correction by adding this number to it. For example, if the initial correction was -130ms and the recorded click was 20ms early, then the latency correction should be changed to -110ms.

Install VST Effects dialog

VST plug-ins are not covered in this guide, but this section on the install VST Effects dialog has been included because Jaws does not read this dialog correctly.

This dialog opens when you open Audacity:

- The first time you run Audacity 2.0.5 if you haven't run previous versions of Audacity on the computer.
- If you've requested Audacity to rescan your VST effects by checking the appropriate check box in the Effects category of the Preferences dialog.

Notes on this dialog:

- If you want to load all the plug-ins, just press **Enter** to press the default OK button..
- The list view of plug-ins is a check box list view, and all items in the list are initially checked.
- Jaws doesn't read whether or not an item is checked, but **Spacebar** works as normal, and changes whether the item is checked.

Preferences

The Audacity Preferences dialog allows you to adjust many of the settings in Audacity. After a brief description of the dialog box, the following sections describe some of the more common settings.

Audacity Preferences dialog box

To open this dialog box, choose Preferences on the Edit menu (**Ctrl + P**).

On the left hand side of the dialog is a tree view which contains a list of categories. To the right of this tree view are controls for setting the options which correspond to the category which is selected in the tree view. The dialog's default button is the OK button.

Seek times

Whilst playing, you can jump (seek) forward or backward by either a short or long period. To set the values of the short and long periods:

1. In the Audacity Preferences dialog, select the Playback category.
2. **Tab** to the Seek Time when playing section which contains two edit boxes: Short period and Long period. Both times are in given in seconds.

Select all audio

The Select all audio option is described in the [Select all audio option section](#) of the Selecting audio section above. This option is on by default, but for users of screen readers, it's recommended that it is turned off. To set this option either on or off:

1. In the Audacity Preferences dialog, select the Tracks category.
2. In the Behaviors section, set the "Select all audio in project, if none selected" check box to be either checked or unchecked.

LAME MP3 encoder library

Due to legal issues about patents, the Audacity installation does not include an MP3 encoder. There are several patents covering MP3 encoding, and these are owned by a number of different companies. Up until very recently, the only company that has asked for royalties has been Thomson, and they are quite happy for people to use the free LAME MP3 encoder for private, non-commercial use. However, other companies are now fighting court battles over MP3 patents, and it remains to be seen how they view the private use of the LAME MP3 encoder.

Because of the way the audacity software is structured, it needs a copy of the lame encoder library that been compiled in a particular way, and so you have to use the LAME library which is available from the web page given in the instructions below – other versions of the LAME library don't work with Audacity 1.3.7 or later.

To download and install the LAME library:

1. Go the website whose address is lame1.buanzo.com.ar .
2. On this page, find the link which starts with lame and includes the word windows, and then open it to download a file which has the same name as the link.
3. Open the downloaded file, and a setup wizard opens. The default location for the LAME library is a newly created Lame for Audacity folder in the Program Files folder, which is on your Local Disk.

FFmpeg library

The FFmpeg library contains decoders and encoders which enable Audacity to open and save files in formats which are not supported by the standard installation of

Audacity. The FFmpeg library is not included with Audacity due to legal issues about patents. Nearly all encoders are covered by one or more patents, but these patents aren't recognized in all countries. The [FFmpeg License and Legal Considerations page](#) of the FFmpeg website contains a few comments on these issues.

To download and install the FFmpeg library:

1. Go the website whose address is lame1.buanzo.com.ar .
2. On this page, find the first link which starts with FFmpeg and includes the word windows, and then open it to download a file which has the same name as the link.
3. Open the downloaded file, and a setup wizard opens. The default location for the FFmpeg library is a newly created FFmpeg for Audacity folder in the Program Files folder, which is on your Local Disk.

Then, the next time Audacity is opened, it automatically finds the FFmpeg library.

Metadata editor opens during export

To set whether the Metadata editor automatically opens each time you export audio:

1. In the Audacity Preferences dialog, select the Import/Export category.
2. Move to the “Show Metadata Editor prior to export step” check box, which is in the When exporting tracks to an audio file section. This check box is checked by default.

Sampling

To set the sampling rate and format for a new project:

1. In the Audacity Preferences dialog, select the Quality category.
2. **Tab** to the Sampling: Default Sample Rate combo box. For music, set the rate to 44100 Hz, but for speech 22050 Hz is OK if you need to keep file sizes to a minimum.
3. **Tab** to the next control which is the Sampling: Default Sample Format combo box. Audacity recommend that you leave this on 32-bit float, but for speech 16-bit is fine.

Recording options

A number of recording options can be set in the Preferences dialog, and these are described in the [Recording settings section](#) of the Recording section.

Keyboard shortcuts

You can change the keyboard shortcut for any of the commands in Audacity. To do this, first select the Keyboard category in the Audacity Preferences dialog.

The first two controls are a Category combo box, and a List view which contains all the commands in the selected category, which by default is all. The other options in the combo box are each of menus in the menu bar, and the option “command” which includes all the commands not in these menus. The List view has two columns: Command and Key Combination.

To change a shortcut:

1. In the List view, select the command whose shortcut you want to change.
2. Then either:
 - To set a new shortcut: **Tab** to the edit box, and type the new shortcut; then **Tab** to the Set button and press it.
 - To remove the shortcut: **Tab** to the Clear button and press it.

To reset all the shortcuts to their default values, **Tab** to the Defaults button and press it.

The [and] shortcuts on keyboards other than US, UK or Irish

By default, the keyboard shortcuts for moving the cursor to the playback position and setting the end of the selection to be the playback position are [and]. These shortcuts can also be used to open dialog boxes when there is no playback.

On US, UK, and Irish keyboards, you can type [and] using the [and] keys, which are the two keys to the right of the P key. On nearly all the keyboards used in other countries, the keys used to type [and] are in different positions, and you often have to use modifier keys, such as **Ctrl + Alt** to type these characters. Unfortunately, using Audacity's default settings, [and] only work as the shortcuts when there are [and] keys to the right of the P key.

Fortunately, there is a straightforward solution to this problem. All you need to do is set the keyboard shortcuts for the two commands using the method described in the previous section. The letters G and H are currently not used as the shortcuts for any commands, so a suitable option is to set the shortcut for the Left at Playback Position command to be the letter G, and the shortcut for the Right at Playback Position command to be the letter H.

Note that you could set the shortcuts to be [and], but they often involve modifier keys and keys which aren't in very convenient positions.

Sound dialog in Windows Vista, 7, and 8

Vista's Sound dialog has three pages: Playback, Recording, and Sounds, and the dialog in Windows 7 and 8 have an additional communications page. The following sections describe how to open this dialog, the controls on the Recording page, and how to open a device's properties dialog where you can adjust the input level of the device.

Opening the Sound dialog

Here are a couple of ways of opening the dialog, and moving to the Recording page. Method one:

1. Press **Insert + F11** to open the Select a System Tray Icon dialog.
2. On Vista, select Volume, and on Windows 7 or 8 select headphones or whatever is appropriate. Then press **Enter** to press the default Right Single Click button.

3. The Volume's context menu opens. Choose Recording devices, which has the access key R, and the Sound dialog opens on the Recording page.

Method two:

1. On Windows Vista or 7, open the start menu. On Windows 8, press **Windows Key + W** to search for settings.
2. Type sound, then press **Down Arrow** until you get to Sound in the list of search results, and then press **Enter**.
3. The Sound dialog opens on the Playback page, so you then have to move to the Recording page.

Recording page

The recording page contains a list of devices, and when appropriate, one or more of the buttons: Configure, Set Default, and Properties. The commands provided by the buttons are also available on the context menus of the devices in the list, and it's normally easier to use these, rather than the buttons.

There are two options which control which devices appear on the list, and they appear on the context menu of any of the items in the list. The two options are Show Disabled Devices and Show Disconnected Devices, and by default both options are not checked. If you can't find a device which you think should be there, it may be disabled, and so will show up if the Show Disabled Devices option is checked.

For each item on the list there are three lines of text: its name, a short description, and its status, which can be working, disabled, or Not plugged in. Unfortunately, Jaws only reads the the first of these lines. If you need to read the other lines, then you can press **Insert + Numpad Minus** to route the Jaws cursor to the PC cursor, and then use **Up Arrow** and **Down Arrow**. To switch back to using the PC cursor, press **Numpad Plus** or **Insert + Numpad Plus**. One way of telling if a device is disabled without having to use the Jaws cursor, is to open its context menu: if there's an Enable item, then the device is obviously disabled.

Device properties dialog

To open the Properties dialog of a device which is selected in list on the Recording page, press **Spacebar**, or choose Properties from its context menu.

The input volume (level) can be set on the Levels page of this dialog. For many devices there's a single slider, but a microphone may also have a microphone boost slider.

Keystroke

General

Command	Keystrokes
Open audio file	Ctrl + O
Import audio file	Ctrl + Shift + I
New project	Ctrl + N

Save project	Ctrl + S
Preferences dialog	Ctrl + P
Cycle forward through Toolbars, Track table, and Selection bar	Ctrl + F6
Cycle backward through Toolbars, Track table, and Selection bar	Ctrl + Shift + F6
Zoom normal	Ctrl + 2
Zoom in	Ctrl + 1
Zoom out	Ctrl + 3

Playback

Command	Keystroke
Start/Stop	Spacebar
Start/Stop and move cursor	Shift + A
Pause/resume	P
Seek backward short period during playback	Left Arrow
Seek forward short period during playback	Right Arrow
Seek backward long period during playback	Shift + Left Arrow
Seek forward long period during playback	Shift + Right Arrow
Play cut/delete preview	C
Play looped	Shift + Spacebar
Output Device dialog	Shift + O

Track table

Command	Keystroke
Move to previous track	Up Arrow
Move to next track	Down Arrow
Toggle selection of focused track	Enter
Select all the tracks (and all the audio)	Ctrl + A

Deselect all the tracks (and any time-range)	Ctrl + Shift + A
Open menu of focused track	Application Key or Shift + M
Close (Delete) focused track	Shift + C

Audio track

Command	Keystroke
Change gain of focused track	Shift + G
Change pan of focused track	Shift + P
Mute/Unmute focused track	Shift + U
Mute all tracks	Ctrl + U
Unmute all tracks	Ctrl + Shift + U
Solo/Unsolo focused track	Shift + S

Moving the cursor

Command	Keystroke
Move to start of tracks (time zero)	Home
Move to end of all audio	End
Move to start of audio in selected tracks	J
Move to end of audio in selected tracks	K
New cursor position at playback position	[
Stop playback and move cursor	Shift + A
Move backward short period	Comma
Move forward short period	Period
Move backward long period	Shift + Comma
Move forward long period	Shift + Period
Cursor left by a small amount	Left Arrow
Cursor right by a small amount	Right Arrow

Selecting a time range

Command	Keystroke
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Select time range which includes all the audio, and select all tracks	Ctrl + A
Selection start at start of tracks (time zero)	Shift + Home
Selection end at end of all the audio	Shift + End
Selection end at playback position]
Selection start at start of audio in selected tracks	Shift + J
Selection end at end of audio in selected tracks	Shift + K
To move the end of the selection to the right by a small amount	Shift + Right Arrow
To move the end of the selection to the left by a small amount	Ctrl + Shift + Left Arrow
To move the start of the selection to the right by a small amount	Ctrl + Shift + Right Arrow
To move the start of the selection to the left by a small amount	Shift + Left Arrow

Editing

Command	Keystroke
Undo	Ctrl + Z
Redo	Ctrl + Y
Delete selected audio	Delete
Cut selected audio	Ctrl + X
Copy selected audio	Ctrl + C
Paste	Ctrl + V
Replace selected audio with silence	Ctrl + L
Close (Delete) focused track	Shift + C
Find zero crossings	Z

Recording

Command	Keystroke
Record	R

Append Record	Shift + R
Pause/resume	P
Stop	Spacebar
Audio Host dialog	Shift + H
Input Device dialog	Shift + I
Number of channels dialog	Shift + N